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In cooperation with  
United States  
Department of  
Agriculture, Forest  
Service; United States  
Department of Interior,  
Bureau of Land  
Management, Bureau of  
Indian Affairs and  
National Park Service;  
and University of Nevada  
Agricultural Experiment  
Station and the University  
of Nevada Las Vegas

# Soil Survey of Clark County Area, Nevada



# How To Use This Soil Survey

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This survey is divided into two parts. Part I includes general information about the survey area; descriptions of the detailed soil map units and soil series in the area; descriptions on use and interpretations of soils, and various tables. Part II includes the maps.

The **detailed soil map units** follow the general information about the survey area. These map units can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**, note the number of the map sheet, and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Index to Map Units** in Part I of this survey, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Summary of Tables** shows which table has data on a specific land use for each detailed soil map unit. See **Contents** for sections of this publication that may address your specific needs.

A **U.S. General Soil Map (STATSGO)** is available for this survey area. This database consists of a soils map at a scale of 1 to 250,000 and descriptions of groups of associated soils. It replaces the general soil map published in older soil surveys. The map and the database can be used for multi-county planning, and map output can be tailored for a specific use. More information about the U.S General Soil Map for this survey area, or any portion of Nevada, is available at the local office of the Natural Resources Conservation Service, and on the internet at <http://soildatamart.nrcs.usda.gov/USDGSM.aspx>.

Some standards or values may change as more information is collected and analyzed. Thus, as older published interpretive information becomes outdated, new interpretive data must be generated and tailored to local conditions. This information is added to the Soil Data Mart and Web Soil Survey as needed. See the NRCS soils home page (<http://soils.usda.gov/>) for links to these applications and other information about soils and soil surveys.

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## National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This survey was made cooperatively by the United States Department of Agriculture, Natural Resources Conservation Service and Forest Service; United States Department of Interior, Bureau of Land Management, Bureau of Indian Affairs and National Park Service; and the University of Nevada Agricultural Experiment Station. The survey is part of the technical assistance furnished to the Conservation District of Southern Nevada.

Major fieldwork for this soil survey was completed in 2005. Soil names and descriptions were approved in 2006. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2006. The most current official data are available at <http://websoilsurvey.nrcs.usda.gov/app/>.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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### Cover Caption

Upper left corner: the northwest side of Charleston Peak looking up from Wallace Canyon. Map unit 915, Maryjane-Robbersfire-Kitgram complex is in the lower part of mountains and map unit 970, Rubble land-Charpeak-Rock outcrop complex is in the upper part. Upper right corner: view looking north from Mud Wash toward Virgin Peak. In the inset fan is map unit 151, Bluepoint-Arizo association and in the back ground on the fan remnants is map unit 240, Crosgrain-Irongold-Nickel association. Lower right

corner: Whitney Pocket area looking northwest toward the Virgin Mountains. Map unit 230, Wechech-Weiser association is in the foreground and map unit 320 Boxspring-Zeheme-Rock outcrop association is in the background. Lower left corner: view north from Kyle Canyon. Map unit 731, Purob-Irongold association, dominated by blackbrush, is in the foreground.

# Contents

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<b>Summary of tables</b> .....	xiii
<b>Foreword</b> .....	xv
General nature of the survey area .....	1
Climate.....	2
History.....	2
Physiography and geology .....	3
How this survey was made.....	5
<b>Detailed soil map units</b> .....	7
Map unit descriptions .....	8
100—Newera association.....	8
101—Glencarb very fine sandy loam, saline .....	10
105—Galehills extremely gravelly fine sandy loam, 15 to 50 percent slopes .....	11
106—Galehills-Zeheme association.....	13
107—Galehills-Calwash association .....	15
110—Tenwell-Crosgrain association .....	18
111—Tenwell-Shamock association .....	20
112—Arizo very gravelly loamy sand, flooded, 0 to 4 percent slopes.....	22
113—Arizo very gravelly fine sandy loam, gypsiferous substratum, 2 to 8 percent slopes.....	23
115—Whitebasin-Upperline-Hardbasin association.....	24
120—Crosgrain-Tenwell association.....	28
121—Sweetspring-Carrizo association .....	30
125—Bobzbulz-Snapcan association.....	32
134—Newera-Nipton association .....	34
135—Nippeno-Mountmcull-Newera association .....	36
140—Haleburu extremely gravelly sandy loam, 4 to 15 percent slopes .....	39
141—Nipton-Haleburu-Rock outcrop association .....	41
143—Haleburu association .....	43
144—Haleburu, extremely cobbly Hiddensun association .....	45
146—Haleburu-Nipton association.....	48
147—Haleburu-Nipton association, dry.....	50
148—Haleburu-Seanna association.....	52
150—Hypoint gravelly sandy loam, 0 to 4 percent slopes .....	55
151—Bluepoint-Arizo association.....	56
155—Bitterridge-Helkitchen association.....	58
160—Lanip-Kidwell association.....	60
165—Upperline-Weiser-Whitebasin association .....	63
167—Upperline-St. Thomas-Upperline association .....	65
168—Upperline very gravelly sandy loam, 8 to 30 percent slopes .....	68
170—Tenwell-Lanip association.....	70
175—St. Thomas-Rock outcrop complex.....	72
176—St. Thomas association.....	75

177—St. Thomas-Upperline-Whitebasin complex .....	77
178—St. Thomas-Iceberg-Rock outcrop association .....	80
180—Kidwell-Tenwell association .....	82
185—Lastchance-Commski association .....	85
186—Lastchance-Ferrogold-Commski association.....	87
190—Filaree-Lanip-Nickel association .....	90
191—Bluepoint-Grapevine association .....	93
192—Bluepoint association .....	96
195—Cruzspring-Schader-Rock outcrop association .....	98
200—Commski-Weiser-Threelakes association .....	100
201—Commski extremely gravely loam, 8 to 30 percent slopes .....	103
202—Commski-Lastchance association .....	105
203—Commski-Oldspan-Lastchance association.....	107
205—Callville-Badland-Guardian association .....	110
207—Callville association.....	112
210—Nickel-Arizo association.....	114
211—Nickel-Crosgrain association .....	116
220—Haymont-Bluepoint association .....	118
221—Haymont association.....	121
225—Baseline-Callville-Badland association .....	124
226—Baseline extremely gravelly fine sandy loam, 2 to 8 percent slopes .....	126
227—Baseline-Gypwash association .....	128
228—Baseline-Guardian association .....	130
230—Wechech-Weiser association.....	133
231—Wechech very gravelly fine sandy loam, 2 to 8 percent slopes .....	135
232—Wechech-Upperline association .....	137
233—Wechech-lfteen association.....	139
234—Wechech very gravelly fine sandy loam, 8 to 30 percent slopes .....	141
235—Gypwash-Callville-Carrizo association.....	143
237—Wechech association .....	146
240—Crosgrain-Irongold-Nickel association .....	148
241—Crosgrain-Typic Torriorthents-Nickel association .....	150
250—Mormon Mesa-Naye association .....	153
255—Tumarion-Nipton association .....	155
260—Naye-Bitter Spring association.....	157
261—Vace-Jean association.....	159
265—Azureridge very gravelly sandy loam, 15 to 50 percent slopes .....	162
270—Bard-Nickel-Limewash association .....	163
271—Moapa-Bluepoint association.....	166
272—Moapa-Bluepoint-Rock outcrop association .....	168
285—Heleweiser-Carrizo-Teebar association.....	170
286—Heleweiser-Carrizo association .....	173
287—Heleweiser association .....	175
288—Heleweiser-Teebar association.....	178
289—Heleweiser-Upperline-Nickel association .....	180
290—Rock outcrop-Moapa-Bluepoint association .....	183
291—Rock outcrop-Highland association .....	185
292—Rock outcrop-Nupper association.....	187
294—Rock outcrop, sandstone .....	188
298—Rock outcrop-Redneedle-Heleweiser association .....	189
310—Weiser-Arizo association .....	191
311—Weiser-Threelakes association.....	193
313—Weiser-Oldspan-Wechech association .....	196
314—Weiser-Wechech association.....	199

315—Weiser association .....	201
320—Boxspring-Zeheme-Rock outcrop association .....	203
321—Boxspring-Seralin-Rock outcrop association .....	205
322—Boxspring-Potosi-Rock outcrop association .....	207
323—Boxspring-Scrapy-Rock outcrop association .....	210
325—Sandpan-Rositas association .....	212
330—Ramshead-St. Thomas-Rock outcrop association .....	214
335—Teebar very cobbly fine sandy loam, 0 to 4 percent slopes .....	216
336—Teebar-Sandpan association .....	218
340—Zeheme-Rock outcrop association .....	220
341—Zeheme extremely gravelly fine sandy loam, 8 to 30 percent slopes .....	222
342—Zeheme-Potosi-Rock outcrop association .....	224
343—Zeheme-Rock outcrop-Boxspring association .....	226
351—Seralin extremely gravelly loam, 30 to 75 percent slopes .....	229
352—Seralin-Traley-Rock outcrop association .....	230
355—Seralin-Devilsthumb-Ednagrey association .....	233
360—Bracken-Arizo-Badland association .....	236
365—Callville-Gypwash-Badland association .....	238
375—Iceberg-Rock outcrop-Helkitchen association .....	240
376—Iceberg-St. Thomas-Rock outcrop association .....	242
380—Tonopah-Arizo association .....	245
390—Tipnat-Hypoint-Grapevine association .....	247
391—Tipnat-Bluepoint-Hypoint association .....	250
400—Arizo-Cafetal association .....	252
405—Oxyaquic Torrfluvents-Gypwash association .....	254
411—Bludiamond-Diamondhil association .....	256
415—Valatier-Goldbutte association .....	259
421—Moentria extremely gravelly loam, 15 to 50 percent slopes .....	261
422—Moentria-Purob association .....	263
430—Bluepoint-Tipnat-Grapevine association .....	265
431—Hypoint-Vegastorm association .....	267
441—Corbilt gravelly loamy fine sand, 0 to 4 percent slopes .....	270
450—Arizo association .....	272
451—Arizo-Peskah-Crosgrain association .....	274
454—Arizo-Riverwash association .....	277
455—Arizo-Tenwell association .....	279
460—Pahrump-Wodavar-Vegastorm association .....	281
461—Pahrump-Bluepoint association .....	284
470—Filaree-Seanna association .....	287
475—Guardian-Sunrock-Badland association .....	289
477—Guardian-Baseline-Guardian association .....	292
478—Guardian-Baseline association .....	294
480—Vace-Arizo association .....	297
481—Vace-Wechsch association .....	299
490—Ifteen extremely gravelly very fine sandy loam, 2 to 8 percent slopes .....	302
500—Playas .....	304
501—Dams, concrete .....	305
504—Pits, quarry .....	305
505—Pits, gravel .....	306
506—Pits-Dumps association .....	306
508—Landfill .....	307
510—Railroad association .....	307
520—Nolena-Rock outcrop association .....	310
521—Nolena-Nipton association .....	311

522—Nolena-Meadview association .....	314
523—Nolena association.....	316
530—Seanna-Botleg association .....	318
531—Seanna-Rock outcrop association .....	320
532—Seanna-Goldroad-Rock outcrop association .....	322
535—Blackmesa-Sunrock association .....	324
540—Sunrock-Rock outcrop association .....	326
541—Sunrock-Haleburu-Rock outcrop association .....	328
542—Sunrock-Callville-Badland association.....	330
550—Cheme-Riverbend-Carrizo association .....	333
551—Cheme-Carrizo-Huevi association .....	336
552—Cheme-Huevi association .....	339
560—Rositas-Riverbend association .....	341
565—Govwash-Guardian-Badland association .....	344
570—Carrizo association.....	346
571—Carrizo-Carrizo-Riverbend association .....	348
572—Carrizo very cobbly coarse sand, 2 to 8 percent slopes .....	351
573—Carrizo-Riverbend association .....	352
574—Carrizo-Sunrock association .....	355
575—Carrizo complex, 1 to 5 percent slopes .....	357
581—Threelakes-Weiser association.....	359
590—Riverbend-Carrizo association .....	361
591—Riverbend-Carrwash association .....	363
592—Riverbend-Carrizo, frequently flooded association .....	365
593—Riverbend-Cheme-Carrizo association .....	367
600—Huevi-Cheme association .....	370
601—Huevi association .....	372
603—Huevi extremely gravelly sandy loam, 8 to 30 percent slopes.....	374
604—Huevi-Hiller association .....	376
605—Huevi-Badland association .....	378
606—Huevi-Huevi-Cheme association.....	380
610—Goldroad-Rock outcrop association.....	382
612—Goldroad-Seanna-Rock outcrop association .....	384
613—Goldroad-Haleburu-Rock outcrop association .....	386
620—Arizo-Lanip association .....	388
621—Orwash gravelly loamy coarse sand, 2 to 4 percent slopes .....	391
622—Orwash-Arizo-Lanip association .....	392
630—Tenwell very gravelly sandy loam, 2 to 4 percent slopes .....	395
635—Aguachiquita-Azureridge association.....	397
640—Cetrepas-Nolena-Rock outcrop association .....	399
645—Goldbutte-Nolena association.....	402
646—Goldbutte-Jumbopeak-Rock outcrop association .....	404
650—Peskah-Crosgrain association .....	407
651—Peskah-Arizo association.....	409
660—Crosgrain extremely gravelly loam, 4 to 15 percent slopes .....	411
661—Crosgrain very stony loam, 8 to 30 percent slopes.....	413
662—Crosgrain-Arizo association .....	415
663—Crosgrain-Kidwell-Arizo association .....	417
665—Crosgrain-Vace association .....	420
670—Nipton-Highland-Rock outcrop association.....	422
673—Nolena-Newera association .....	425
674—Nipton-Rubble land-Railroad association .....	427
680—Lanfair-Hoppswell association .....	430
690—Hoppswell-Ustidur association.....	432

691—Hoppswell-Jetmine association.....	434
700—Mountmcull-Nippeno association.....	436
701—Nippeno-Nipton association.....	439
705—Charkiln-Woodspring-Buckspring association.....	441
710—Arizo-Lanfair-Riverwash association.....	444
715—Troughspring-Charkiln-Buckspring association.....	446
716—Troughspring very gravelly loam, 4 to 15 percent slopes.....	449
721—Corncreek-Badland-Pahrump association.....	451
723—Corncreek-Haymont association.....	454
725—Mackscanyon-Purob association.....	456
731—Purob-Irongold association.....	458
732—Purob extremely gravelly loam, 8 to 30 percent slopes.....	461
733—Purob extremely gravelly loam, 2 to 8 percent slopes.....	463
734—Purob-Niavi association.....	465
740—Varwash association.....	467
741—Varwash-Carrizo association.....	470
750—Haleburu-Crosgrain-Rock outcrop association.....	472
751—Nipton-Nolena association.....	475
752—Nipton-Newera association.....	477
753—Nipton-Hiddensun-Haleburu association.....	479
754—Haleburu-Hiddensun association.....	482
760—Searchlight extremely gravelly sandy loam, 2 to 4 percent slopes.....	484
772—Lamadre-Robbersfire association.....	486
775—Ladyofsnow-Robbersfire-Maryjane association.....	488
780—Prisonear fine sand, 2 to 8 percent slopes.....	492
781—Prisonear-Bluepoint association.....	494
790—McClanahan-Beerbo association.....	496
801—Nippeno-Newera association.....	498
805—Buckspring-Fletcherpeak-Seralin association.....	500
806—Buckspring-Scrapy association.....	503
810—Straycow-Newera-Rubble land association.....	505
815—Wheelerwell-Wheelerpass association.....	508
820—Newera-Rock outcrop association.....	510
821—Helkitchen-St. Thomas complex, 15 to 50 percent slopes.....	512
830—Puelzmine extremely gravelly fine sandy loam, 4 to 15 percent slopes.....	514
833—Virgin Peak-Rock outcrop association.....	516
840—Potosi-Zeheme-Rock outcrop association.....	518
845—Leecanyon-Goodwater association.....	520
850—Birdspring association.....	523
851—Birdspring-Zeheme-Rock outcrop association.....	525
852—Birdspring-Rock outcrop association.....	527
853—Birdspring-St. Thomas-Rock outcrop association.....	529
854—Birdspring-Birdspring, warm-Rock outcrop association.....	531
860—Straycow-Highland association.....	534
865—Mackscanyon very gravelly silt loam, 15 to 50 percent slopes.....	536
866—Goodwater-Doespring association, 15 to 50 percent slopes.....	538
867—Goodwater very gravelly sandy loam, 15 to 50 percent slopes.....	541
868—Mackscanyon-Goodwater association.....	543
870—Irongold extremely gravelly loam, 2 to 8 percent slopes.....	545
871—Irongold-Weiser association.....	546
872—Irongold-Wechech association.....	549
875—Kylecanyon-Goodwater association.....	552
880—Nonamewash-Rositas association.....	554
885—Luckystrike gravelly loam, 8 to 30 percent slopes.....	556

890—Ripley-Holtville complex.....	558
900—Urban land-Riverbend-Huevi association .....	560
905—Mountmummy-Thesisters-Maryjane association .....	562
910—Carrwash-Riverbend association .....	566
911—Carrwash association.....	568
915—Maryjane-Robbersfire-Kitgram complex, 30 to 75 percent slopes.....	570
916—Maryjane extremely gravelly loam, 8 to 30 percent slopes.....	574
920—Tanazza-Wechech-Wodavar association .....	576
925—Lastone association .....	578
930—Cololag-Badland association .....	581
940—Mesabase-Azsand association .....	583
941—Mesabase extremely gravelly sandy loam, 2 to 8 percent slopes .....	585
950—Drygyp association.....	586
951—Drygyp-Guardian-Baseline association.....	588
952—Drygyp fine sandy loam, 2 to 4 percent slopes .....	591
955—Drygyp-Bluegyp association .....	592
965—Azsand-Mesabase-Rositas association.....	595
970—Rubble land-Charpeak-Rock outcrop complex .....	597
980—Orrubo very gravelly loam, 15 to 35 percent slopes .....	599
981—Torriorthents-Haplocalcids-Lava flows complex, 10 to 40 percent slopes...	601
982—Winkel-Rock outcrop complex, 2 to 12 percent slopes.....	603
998—Miscellaneous water .....	605
999—Water.....	605
<b>Prime farmland and other important farmland.....</b>	<b>607</b>
<b>Classification of the soils.....</b>	<b>609</b>
Soil series and their morphology .....	610
Aguachiquita series .....	610
Arizo series .....	612
Azsand series .....	613
Azureridge series.....	615
Bard series.....	616
Baseline series .....	618
Beerbo series.....	619
Birdspring series.....	621
Bitter Spring series .....	622
Bitterridge series.....	624
Blackmesa series.....	626
Bludiamond series .....	627
Bluegyp series .....	630
Bluepoint series .....	631
Bobzbulz series .....	632
Botleg series .....	634
Boxspring series .....	635
Bracken series .....	636
Buckspring series .....	638
Cafetal series.....	639
Callville series.....	641
Calwash series .....	643
Carrizo series.....	644
Carrwash series.....	646
Cetrepas series.....	647
Charkiln series .....	648
Charpeak series.....	650
Cheme series.....	652

Cololag series .....	653
Commski series .....	655
Corbilt series .....	657
Corncreek series.....	659
Crosgrain series.....	661
Cruzspring series.....	662
Devilsthumb series .....	664
Diamondhil series .....	666
Doespring series.....	669
Drygyp series.....	670
Ednagrey series.....	671
Ferrogold series.....	673
Filaree series .....	674
Fletcherpeak series .....	676
Galehills series .....	678
Glencarb series.....	679
Goldbutte series.....	680
Goldroad series .....	681
Goodwater series.....	683
Govwash series .....	684
Grapevine series.....	686
Guardian series .....	688
Gypwash series .....	689
Haleburu series.....	691
Haplocalcids .....	693
Hardbasin series.....	694
Haymont series.....	696
Heleweiser series .....	697
Helkitchen series .....	699
Hiddensun series.....	701
Highland series .....	702
Hiller series .....	703
Holtville series.....	705
Hoppswell series.....	706
Huevi series .....	708
Hypoint series .....	709
Iceberg series .....	711
lfteen series .....	712
Irongold series .....	714
Jean series .....	716
Jetmine series.....	717
Jumbopeak series.....	718
Kidwell series.....	720
Kitgram series.....	722
Kylecanyon series.....	723
Ladyofsnow series .....	725
Lamadre series .....	728
Lanfair series .....	729
Lanip series .....	731
Lastchance series.....	733
Lastone series .....	735
Leecanyon series.....	736
Limewash series.....	738
Luckystrike series .....	740

Mackscanyon series .....	742
Maryjane series .....	744
McClanahan series .....	746
Meadview series .....	747
Mesabase series .....	749
Moapa series .....	750
Moentria series .....	752
Mormon Mesa series .....	753
Mountcull series .....	755
Mountmummy series .....	756
Naye series .....	757
Newera series .....	759
Niavi series .....	760
Nickel series .....	762
Nippeno series .....	764
Nipton series .....	765
Nolena series .....	766
Nonamewash series .....	768
Nupper series .....	769
Oldspan series .....	770
Orrubo series .....	773
Orwash series .....	774
Oxyaquic Torrifluvents .....	775
Pahrump series .....	777
Peskah series .....	779
Potosi series .....	782
Prisonear series .....	783
Puelzmine series .....	785
Purob series .....	786
Railroad series .....	788
Ramshead series .....	790
Redneedle series .....	791
Ripley series .....	792
Riverbend series .....	794
Robbersfire series .....	795
Rositas series .....	797
Sandpan series .....	798
Schader series .....	800
Scrapy series .....	801
Seanna series .....	803
Searchlight series .....	804
Seralin series .....	806
Shamock series .....	807
Snapcan series .....	809
St. Thomas series .....	810
Straycow series .....	812
Sunrock series .....	813
Sweetspring series .....	814
Tanazza series .....	816
Teebar series .....	819
Tenwell series .....	820
Thesisters series .....	821
Threelakes series .....	823
Tipnat series .....	824

Tonopah series .....	826
Torriorthents .....	827
Traley series .....	828
Troughspring series .....	830
Tumarion series .....	832
Typic Torriorthents .....	833
Upperline series .....	834
Ustidur series .....	836
Vace series .....	838
Valatier series .....	840
Varwash series .....	841
Vegastorm series .....	843
Virgin Peak .....	845
Wechech .....	846
Weiser .....	848
Wheelerpass .....	850
Wheelerwell .....	851
Whitebasin .....	853
Winkel .....	855
Wodavar .....	856
Woodspring .....	858
Zeheme .....	860
<b>Use and management</b> .....	<b>863</b>
Interpretive ratings .....	863
Rating class terms .....	863
Numerical ratings .....	864
<b>Crops and pasture</b> .....	<b>865</b>
Land capability classification .....	865
<b>Rangeland and forestland resource management</b> .....	<b>867</b>
Soil-site correlation .....	868
Ecological site descriptions .....	868
Rangeland and forestland management .....	869
Vegetation zones of Clark County Area, Nevada .....	870
Wildlife considerations .....	874
Rehabilitation of disturbed habitats .....	876
Forestland productivity and management .....	877
<b>Engineering</b> .....	<b>881</b>
Building site development .....	882
Construction materials .....	883
<b>Soil properties</b> .....	<b>885</b>
Engineering soil properties .....	885
Physical soil properties .....	886
Chemical soil properties .....	888
Water features .....	889
Soil features .....	890
<b>References</b> .....	<b>893</b>
<b>Glossary</b> .....	<b>897</b>
<b>Tables</b> .....	<b>919</b>

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# Summary of Tables

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Temperature and precipitation (table 1).....	919
Freeze dates in spring and fall (table 2) .....	922
Growing season (table 3).....	924
Acreage and proportionate extent of the soils (table 4).....	926
Rangeland productivity and characteristic plant communities (table 5) .....	931
Forestland productivity (table 6) .....	1156
Forestland site preparation (table 7).....	1161
Forestland planting and harvesting (table 8) .....	1169
Damage by fire and seedling mortality on forestland (table 9) .....	1178
Haul roads, log landings, and soil rutting on forestland (table 10) .....	1188
Hazard of erosion and suitability for roads on forestland (table 11) .....	1195
Source of gravel and sand (table 12).....	1202
Engineering properties (table 13) .....	1248
Physical soil properties (table 14).....	1453
Chemical soil properties (table 15) .....	1517
Water features (table 16) .....	1564
Soil features (table 17).....	1758
Taxonomic classification of the soils (table 18) .....	1799

# Foreword

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Soil surveys contain information that affects land use planning in survey areas. They include predictions of soil behavior for selected land uses. The surveys highlight soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

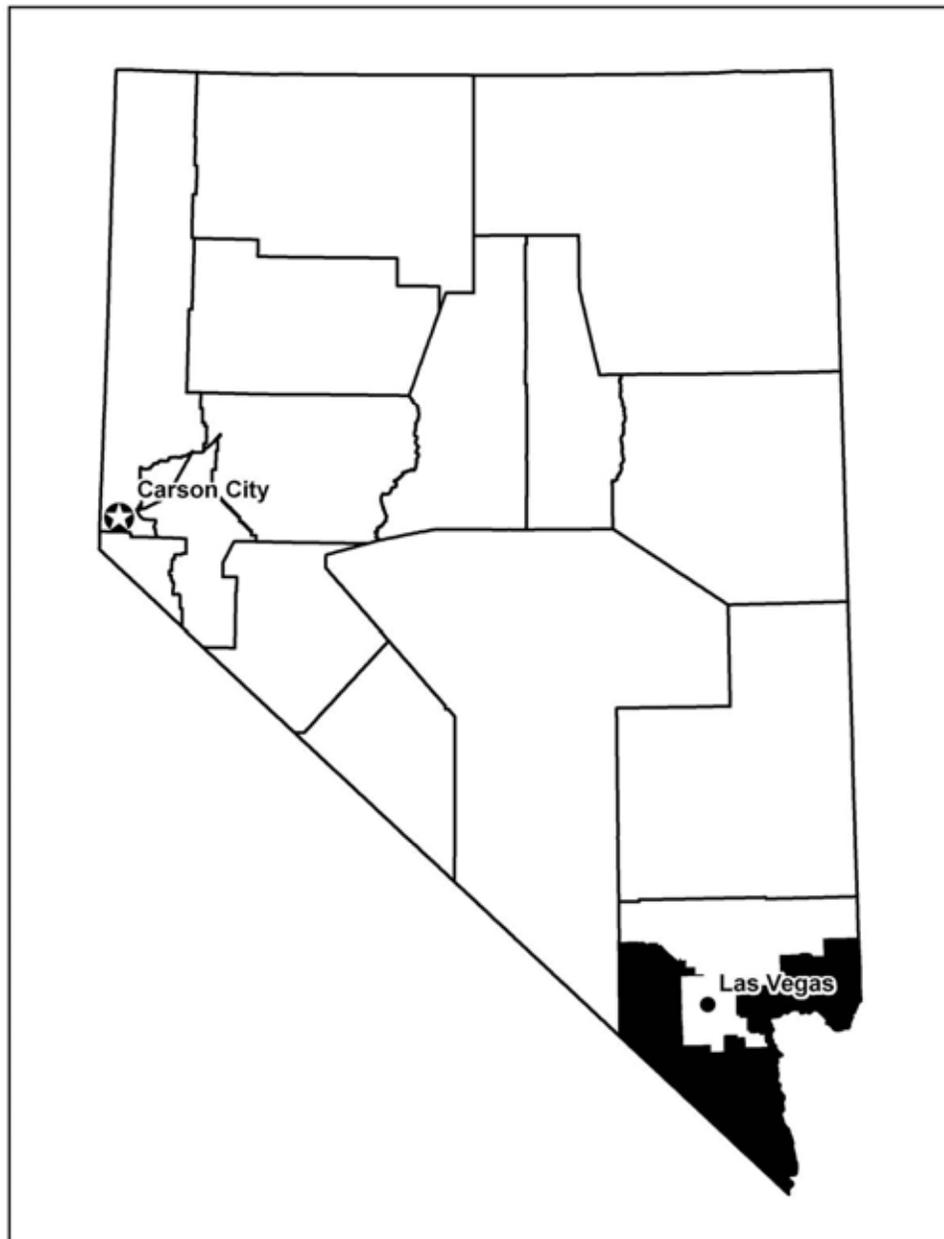
Soil surveys are designed for many different users. Farmers, ranchers, foresters, and agronomists can use the surveys to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the surveys to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the surveys to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described, and information on specific uses is given. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

Richard N. Vigil  
State Conservationist  
Natural Resources Conservation Service



Location of the Clark County Area, Nevada Soil Survey

# Soil Survey of Clark County Area, Nevada

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By Leon J. Lato, Natural Resources Conservation Service

Fieldwork by Leon J. Lato, Douglas Merkler, Jorge Lugo and Keith Harrington,  
Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service  
in cooperation with  
United States Department of Agriculture, Forest Service; United States Department  
of Interior, Bureau of Land Management, Bureau of Indian Affairs and National Park  
Service; and University of Nevada Agricultural Experiment Station

The map on the facing page shows the location of the Clark County Area, Nevada, soil survey. It includes the greater part of Clark County. The survey area is 3,015,296 acres or about 4,711 square miles in size. It is bounded on the west by the county line. In the northwest part, the Nellis Air Force Range and Desert National Wildlife Range define the extent of the area. In the northeast, the Virgin River Area, Nevada and Arizona soil survey is the boundary. To the east, the survey is bordered by the Arizona state line. The Las Vegas Valley Area, Nevada, soil survey is the limit of survey for the central part of the area.

The Clark County Area is of great diversity. High mountains, plateaus, broad fan piedmonts and valleys are all found in the area. The Colorado River, Lake Mead, and the Las Vegas Wash are significant features in the survey, providing drainage and lush greenery in the otherwise arid eastern part of the area. The Spring Mountains, to the northwest of Las Vegas, are the highest and most dominant landscape in the western part of the area. Much of the Spring Mountains is within the Toiyabe National Forest.

The area is sparsely populated, with large areas of federal land variously administered by the Bureau of Land Management, the National Park Service and the Forest Service. About 91 percent of the survey area is federally controlled. Communities include the towns of Laughlin, Jean, Goodsprings, Indian Springs and Searchlight.

A small part of the area was previously included in the Soil Survey of Las Vegas and Eldorado Valleys Area, Nevada, published in 1967 (USDA-SCS, 1967). This older survey was largely superseded by the soil survey of Las Vegas Valley Area, Nevada, (USDA-SCS, 1985). A small portion of the Eldorado Valley part was included in this survey. This area was updated and shown in greater detail than in the original mapping.

## General Nature of the Survey Area

This section provides general information about the survey area. It describes climate, history, physiography and geology.

## Climate

Climate data are provided in Table 1, "Temperature and Precipitation," Table 2, "Freeze Dates in Spring and Fall," and Table 3, "Growing Season." The data were recorded at the Desert Game Range, Logandale and Searchlight. Temperature and precipitation and growing season data are reported for the period 1971 to 2000. Freeze dates in spring and fall are reported for the period 1961 to 1990, the last period with data available. The climate varies widely across the survey area. Temperature and precipitation in the area are strongly affected by elevation. The higher mountains receive up to about 25 inches of total precipitation and are markedly cooler than the temperatures recorded at the climate stations in the tables.

At the Desert Game Range, in winter, the average temperature is 44.6 degrees F and the average daily minimum temperature is 30.5 degrees. The lowest temperature on record, which occurred on January 3, 1974, is 0 degrees. In summer, the average temperature is 81.8 degrees and the average daily maximum temperature is 99.3 degrees. The highest recorded temperature, which occurred on July 11, 2003, is 117 degrees. At Logandale, in winter, the average temperature is 47.1 degrees F and the average daily minimum temperature is 32.6 degrees. The lowest temperature on record, which occurred on December 23, 1990, is 0 degrees. In summer, the average temperature is 84.4 degrees and the average daily maximum temperature is 102.5 degrees. The highest recorded temperature, which occurred on July 9, 1989 is 119 degrees. At the Searchlight, in winter, the average temperature is 46.2 degrees F and the average daily minimum temperature is 36.8 degrees. The lowest temperature on record, which occurred on February 10, 1933, is 6 degrees. In summer, the average temperature is 81.8 degrees and the average daily maximum temperature is 95.2 degrees. The highest recorded temperature, which occurred on July 17, 1998, is 111 degrees.

Growing degree days are shown in Table 1, "Temperature and Precipitation." They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation at the Desert Game Range is about 4.8 inches. Of this, 1.9 inches, or 41 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than .02 inch. The heaviest 1-day rainfall during the period of record was 2.05 inches on December 12, 1951. The total annual precipitation at Logandale is about 5.37 inches. Of this, 2.1 inches, or 39 percent, usually falls in April through September. The heaviest 1-day rainfall during the period of record was 2.48 inches on July 8, 1990. At Searchlight the total annual precipitation is about 8.38 inches. Of this, 3.47 inches, or 41 percent, falls in April through September. The heaviest 1-day rainfall during the period of record was 4.5 inches on August 13, 1982.

In Searchlight, the average seasonal snowfall is about 1.1 inches. The greatest snow depth at any one time during the period of record was about 16 inches. On the average, 0 days of the year have at least 1 inch of snow on the ground. The number of such days varies greatly from year to year. At the Desert Game Range and at Logandale, snowfall is rare. The average total snowfall at the Desert Game Range is about 0.7 inch, and is about 0.6 inch at Logandale. Maximum snow depth at any on time during the period of record was about 6 inches at the Desert Game Range and about 3 inches at Logandale.

## History

As many as ten thousand years ago, native people were living on the land within the survey area. Ruins of prehistoric settlements and camps are scattered about the

survey area. It is thought that the native people practiced primitive farming centuries ago. Corn, beans, melons, pumpkins and squash were among the produce of small, irrigated tracts of land where water could be found.

Spanish explorers and missionaries were among the earliest Europeans in the area. The Old Spanish Trail traversed the area, linking the Santa Fe, New Mexico, region with missions in southern California. The meadows at Las Vegas were a significant camp and way station on the trail, and were the source of the name “Las Vegas”, meaning “the meadows”.

Mormon settlers made a significant entry into the region in 1855, when a group of about 30 settlers occupied the Las Vegas Valley, and subsequent settlements were located along the Virgin River in communities such as Overton and Moapa.

Mining was also important from the early years of settlement. The Potosi Mine, about 30 miles west of Las Vegas, was among the earliest mines. Mormon settlers in Las Vegas were told of the ore deposits on the west side of the Spring Mountains in 1856, and work was begun on the mine the same year. It was short-lived, and abandoned because of the poor quality of the ore. In 1861, silver discoveries again brought interest to the region and the town of Potosi was laid out. It too was abandoned shortly after, but periodic mining continues to the present (Carlson, 1974). Lead, silver, zinc, platinum and other minerals were mined from the region. Goodsprings and later, Searchlight, also developed as communities centered on mining of silver and other ores.

Ranching has been an important component of the settlement history of the area. Cattle- and sheep-grazing have been practiced over much of the area. Particularly during the mining boom periods, cattle, sheep, horses and burros were raised to meet the various needs of the mining communities.

Construction of Hoover Dam and Davis Dam on the Colorado River was an important part of the history of the area. Increased population from both the construction and resulting recreation and industry have helped shape the economy of the area.

## Physiography and Geology

*Brien Park, soil scientist, Natural Resources Conservation Service, is the author of this section.*

The Clark County Area is located in the Basin and Range Physiographic Province. The southern part of the area is in the Sonoran Desert section that is made up of widely separated short mountain ranges in desert plains. The remainder of the area is a part of the Great Basin section, consisting of isolated ranges separated by aggraded desert plains (Fenneman, 1931). Frederick F. Peterson has characterized the landscapes of the Basin and Range province as “visually dominated by isolated mountain ranges rising abruptly from broad, alluvium-filled desert basins” (Peterson, 1981). Typical features are the abrupt, narrow mountain ranges that trend north-south, the adjacent piedmont slopes and the basin floor. Many of the basins are internally drained, with large playas in the lowest part. These closed basins are known as “*bolsons*” as described by Peterson. Other broad basins are externally drained, and are termed “*semi-bolsons*”. The Muddy River, Virgin River and Colorado River are part of the drainage network that receives drainage from semi-bolsons in the Clark County area. The prominent playa in Eldorado Valley, near Boulder City is indicative of the bolson landscape of that area. Common landforms of the piedmont slope occur both in bolson and semi-bolson landscapes, and the same or similar soils repeat across the landforms. Fan remnants, inset fans, and ballenas landforms are examples of common landforms in both bolson and semi-bolson landscapes.

The mountains are mostly north-south trending fault blocks or *horst* ranges separated by down-dropping, or *graben*, valleys. Early Tertiary thrusting of the region thickened the stratigraphic section of Paleozoic sediments in the west. Extension later

exposed the thickened Paleozoic stratigraphy and Precambrian basement rock in horst and graben or half-graben mountain ranges. Volcanic activity associated with the continental extension produced volcanic complexes among basement rock mountain exposures.

Prominent mountain ranges form a series of north-south trending bolsons and semi-bolsons. In eastern Clark County semi-bolsons drain towards the Colorado River. Western Clark County bolsons form a series of disconnected valleys that in the past followed the historic drainage of Lake Mojave.

Mountain ranges rise abruptly from relatively flat valley fill deposits. Mountain range lithology is dominated by Paleozoic sedimentary deposits in the Virgin, Bird Spring, and Spring Mountains (Longwell et al., 1965). The McCullough, Lucy Gray, Newberry, Opal, Highland mountains and parts of the River and Black mountains are composed of Precambrian schist, gneiss, and coarse-grained igneous rock complex with Tertiary volcanics scattered throughout the area (Longwell et al., 1965). Soil parent materials reflect local bedrock lithology.

The Paleozoic bedrock section consists of carbonate rich dolomite and limestone with inter-bedded layers of sandstone, siltstone and shale. Much of the limestone and dolomite stratigraphy bears chert nodules. These nodules weather out of the carbonate adding to the weather resistant lithology of desert pavement cover on piedmont deposits. Gypsum- and halite-rich lithologies like the Moenkopi and Chinle Formations contain expansive clays that easily erode on the landscape. The Johnny and Sterling quartzite form topographic highs within carbonate exposed stratigraphy. Most of the county stratigraphy is dominated by carbonatic sediments.

The most recent stratigraphic units are the Holocene Horse Spring and Muddy Creek Formations. They are regionally extensive within Clark County and exposed in outcrops near mountain fronts and incision exposures of semi-bolsons. Most of the Horse Spring and Muddy Creek exposure is covered by valley fill alluvium. Local bounding mountain lithologies are reflected in the formations.

Precambrian schist, gneiss and coarse grained granite are exposed in ranges along the Colorado River drainage in eastern Clark County and extend as far as the Lucy Gray range in the west. Much of the exposed plutonic bedrock in the McCullough, Lucy Gray, Newberry, Opal, and Highland ranges is Precambrian basement rock with numerous coarse grained plutonic exposures. Tertiary volcanic complexes form extensive portions within many of the igneous dominant ranges. Volcanic complexes consist of basalt, dacite, andesite, tuff, ash, and glass. In isolated areas of Paleozoic stratigraphy Tertiary lava flows form a resistant cap rock like the Table Mountain andesite in the southern Spring Range.

Miocene landscape incision associated with the Colorado River drainage produced fluvial terraces along the Muddy, Virgin, and Colorado rivers. Incision of bolson piedmonts created a suite of fan remnant landforms, ranging from fan remnants and ballenas to fan skirts and inset fans, which extend from bounding mountains to the bolson floor.

Bedrock, alluvium and playa surfaces provide dust sources for eolian sedimentation on the landscape. Eolian dust accumulation is the source for much of the newly introduced lithology on the landscape. It is also the source for much of the pedogenic concentrations of clay, carbonate and salts found within catena soil profiles (Naiman et al., 2000; Reheis et al., 1995; Simonson, 1995). Landforms adjacent and down wind of eolian sediment sources (playas, alluvial deposits, and disturbed sites) receive increased dust sedimentation (Eash and Sandor, 1995; Slate et al., 1991) affecting pedogenic development in the landform. Much of the eolian sediment is fine-grained recycled piedmont material. Regional and global sources (Simonson, 1995) of eolian sediment contribute to pedogenesis on the landscape but to a smaller degree.

Bolson valleys in Clark County are characterized by well developed playas. Standing water on playas is intermittent and associated with large rain events.

Inundation of the playa surface does not last longer than a week or two before the re-desiccation of the surface.

Geomorphic and pedologic evolution on the landscape produced a suite of geomorphic surfaces that range from about 5 million years old to the present (Gardner, 1972; Machette, 1985; Sowers, 1986; Reheis et al., 1992; Reheis et al., 1995).

The maximum topographic relief in the county ranges from 450 feet on the Colorado River to 11,918 feet on Charleston Peak in the Spring Mountains. Valley floors average between 2,000 to 3,000 feet above sea level.

## **How This Survey Was Made**

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists

interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

# Detailed Soil Map Units

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The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown

on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Crosgrain very stony loam, 4 to 15 percent slopes is a phase of the Crosgrain series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or associations.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. St. Thomas-Upperline-Whitebasin complex is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Weiser-Wechech association is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Playas and Dam, concrete are two examples.

Table 4, "Acreage and Proportionate Extent of the Soils" lists the map units in this survey area. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The *Glossary* defines many of the terms used in describing the soils.

## Map Unit Descriptions

### 100—Newera association

#### *Map Unit Setting*

MLRA: 30

Landscape: Hills

Elevation: 2,560 to 4,300

Precipitation: 5 to 7 inches

Air temperature: 57 to 66 degrees Fahrenheit

Frost-free period: 180 to 270 days

#### *Composition*

Newera very gravelly sandy loam, 4 to 15 percent slopes—50 percent

Newera extremely gravelly sandy loam, 15 to 50 percent slopes—35 percent

Typic Haplocambids gravelly sandy loam, 2 to 4 percent slopes—6 percent

Typic Calcicargids very gravelly sandy loam, 2 to 4 percent slopes—4 percent

Rock outcrop—3 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—2 percent

#### *Component Description*

##### **Newera and similar soils**

Landform: Backslopes of mountains and hills

Slope: 4 to 15 percent

Parent material: Colluvium and/or residuum weathered from volcanic and metamorphic rock

Typical vegetation: Other perennial grasses, other perennial forbs, blackbrush, big galleta, other shrubs

##### **Typical profile:**

Surface rock fragments: About 80 percent gravel

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 6 inches; very gravelly sandy clay loam

Layer 3—6 to 16 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 0.4 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

#### ***Component Description***

##### **Newera steep and similar soils**

Landform: Backslopes of mountains and hills

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from volcanic and metamorphic rock

Typical vegetation: Other shrubs, desert needlegrass, big galleta, blackbrush

##### **Typical profile:**

Surface rock fragments: About 80 percent gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 6 inches; very gravelly sandy clay loam

Layer 3—6 to 16 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 0.4 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB076NV—Shallow gravelly slope 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Typic Haplocambids and similar soils**

Composition: 0 to 6 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids  
 Slope: 2 to 4 percent  
 Landform: Summits of inset fans  
 Typical vegetation: Other perennial forbs, big galleta, bush muhly, desert needlegrass,  
 other shrubs, blackbrush  
 Ecological site: R030XB057NV—Shallow granitic loam 5-7 P.Z.

**Typic Calciargids and similar soils**

Composition: 0 to 4 percent  
 Classification: Loamy-skeletal, mixed, superactive, thermic Typic Calciargids  
 Slope: 2 to 4 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: White bursage, winterfat, creosotebush, other shrubs, Indian  
 ricegrass, bush muhly, big galleta, other perennial grasses  
 Ecological site: R030XB039NV—Limy fan 5-7 P.Z.

**Rock outcrop**

Composition: 0 to 3 percent  
 Landform: Ridges  
 Ecological site: None

**Arizo and similar soils**

Composition: 0 to 2 percent  
 Slope: 2 to 4 percent  
 Landform: Drainageways  
 Typical vegetation: Other perennial grasses, big galleta, baccharis, white burrobrush,  
 creosotebush, other perennial forbs, bursage, other shrubs  
 Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

**101—Glencarb very fine sandy loam, saline**

***Map Unit Setting***

MLRA: 30  
 Landscape: Semi-bolson  
 Elevation: 1,500 to 2,400  
 Precipitation: 3 to 7 inches  
 Air temperature: 63 to 70 degrees Fahrenheit  
 Frost-free period: 240 to 300 days

***Composition***

Glencarb very fine sandy loam, 0 to 2 percent slopes—100 percent

***Component Description***

**Glencarb and similar soils**

Landform: Alluvial flats

Slope: 0 to 2 percent

Parent material: Mixed alluvium

Typical vegetation: Desertholly saltbush, fourwing saltbush, alkali sacaton, other shrubs, other perennial forbs, cattle saltbush, shadscale, wolfberry

**Typical profile:**

Layer 1—0 to 6 inches; very fine sandy loam

Layer 2—6 to 60 inches; stratified very fine sandy loam to silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 11 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Irrigated land capability: 3s

Nonirrigated land capability: 7s

Ecological site: R030XY040NV—Sodic terrace

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**105—Galehills extremely gravelly fine sandy loam, 15 to 50 percent slopes**

***Map Unit Setting***

MLRA: 30

Landscape: Hills

Elevation: 2,000 to 3,510

Precipitation: 3 to 5 inches

Air temperature: 64 to 69 degrees Fahrenheit

Frost-free period: 240 to 300 days

***Composition***

Galehills extremely gravelly fine sandy loam, 15 to 50 percent slopes—85 percent

St. Thomas very gravelly fine sandy loam, 15 to 50 percent slopes—6 percent

Bitterridge extremely flaggy loam, 4 to 15 percent slopes—4 percent

Rock outcrop—3 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—2 percent

### ***Component Description***

#### **Galehills and similar soils**

Landform: Backslopes of hills

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from conglomerate

Typical vegetation: Other shrubs, Fremont dalea, creosotebush, other perennial forbs, white bursage, other perennial grasses

#### **Typical profile:**

Surface rock fragments: About 70 percent subrounded gravel, 0 percent subrounded stones, 10 percent subrounded cobbles

Layer 1—0 to 2 inches; extremely gravelly fine sandy loam

Layer 2—2 to 7 inches; very gravelly fine sandy loam

Layer 3—7 to 17 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 3 to 8 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.4 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB124NV—Shallow hill 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **St. Thomas and similar soils**

Composition: 0 to 6 percent

Slope: 15 to 50 percent, southwest to southeast aspects

Landform: Southwest to southeast aspects on backslopes of mountains

Typical vegetation: Other perennial grasses, white bursage, creosotebush, Fremont dalea, other shrubs, other perennial forbs

Ecological site: R030XB124NV—Shallow hill 3-5 P.Z.

#### **Bitterridge and similar soils**

Composition: 0 to 4 percent

Slope: 4 to 15 percent

Landform: Hills

Typical vegetation: Fremont dalea, other shrubs, other perennial grasses, shadscale, desert globemallow, white bursage

Ecological site: R030XB127NV—Shallow sandstone slope 3-5 P.Z.

#### **Rock outcrop**

Composition: 0 to 3 percent

Landform: Cliffs  
Ecological site: None

**Arizo and similar soils**

Composition: 0 to 2 percent  
Slope: 2 to 4 percent  
Landform: Drainageways  
Typical vegetation: Other perennial grasses, big galleta, bursage, white burrobrush, creosotebush, other shrubs, baccharis, other perennial forbs  
Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
"Engineering" and "Soil Properties" sections

**106—Galehills-Zeheme association**

***Map Unit Setting***

MLRA: 30  
Landscape: Hills  
Elevation: 2,660 to 4,150  
Precipitation: 3 to 8 inches  
Air temperature: 59 to 69 degrees Fahrenheit  
Frost-free period: 190 to 300 days

***Composition***

Galehills extremely gravelly fine sandy loam, 15 to 50 percent slopes—55 percent  
Zeheme extremely gravelly fine sandy loam, 8 to 30 percent slopes—30 percent  
Rock outcrop—5 percent  
Irongold extremely gravelly loam, 2 to 4 percent slopes—4 percent  
Weiser very gravelly sandy loam, 2 to 8 percent slopes—4 percent  
Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—2 percent

***Component Description***

**Galehills and similar soils**

Landform: Backslopes of hills  
Slope: 15 to 50 percent  
Parent material: Colluvium and/or residuum weathered from conglomerate  
Typical vegetation: Other shrubs, other perennial forbs, white bursage, other perennial grasses, creosotebush, Fremont dalea

**Typical profile:**

Surface rock fragments: About 10 percent subrounded cobbles, 70 percent subrounded gravel  
Layer 1—0 to 2 inches; extremely gravelly fine sandy loam  
Layer 2—2 to 7 inches; very gravelly fine sandy loam  
Layer 3—7 to 17 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 3 to 8 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
Moderately rapid)

Available water capacity: About 0.4 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB124NV—Shallow hill 3-5 P.Z.

***Component Description*****Zeheme and similar soils**

Landform: Backslopes of mountains

Slope: 8 to 30 percent

Parent material: Colluvium residuum weathered from limestone

Typical vegetation: White bursage, blackbrush, other shrubs, other perennial forbs,  
other perennial grasses

**Typical profile:**

Surface rock fragments: About 10 percent cobbles, 70 percent gravel, 2 percent  
stones

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 9 inches; very gravelly fine sandy loam

Layer 3—9 to 19 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 7 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB128NV—Shallow Limestone hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of  
the Soils" section.

***Contrasting Inclusions*****Rock outcrop**

Composition: 0 to 5 percent

Landform: Cliffs

Ecological site: None

**Irongold and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Big galleta, other perennial grasses, other shrubs, blackbrush,  
other perennial forbs

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

**Weiser and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, creosotebush, white bursage, other perennial forbs,  
other annual forbs, other perennial grasses, big galleta, range ratany

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Other shrubs, creosotebush, big galleta, other perennial grasses,  
other perennial forbs, bursage, baccharis, white burrobrush

Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**107—Galehills-Calwash association**

***Map Unit Setting***

MLRA: 30

Landscape: Hills

Elevation: 2,000 to 2,990

Precipitation: 3 to 5 inches

Air temperature: 64 to 69 degrees Fahrenheit

Frost-free period: 240 to 300 days

***Composition***

Galehills extremely gravelly fine sandy loam, 15 to 50 percent slopes—50 percent

Calwash very channery sandy loam, 15 to 50 percent slopes—35 percent

Galehills extremely gravelly fine sandy loam, 15 to 50 percent slopes—6 percent

Weiser very gravelly sandy loam, 2 to 8 percent slopes—5 percent

St. Thomas very gravelly fine sandy loam, 15 to 50 percent slopes—2 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—2 percent

### ***Component Description***

#### **Galehills and similar soils**

Landform: Backslopes of hills

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from conglomerate

Typical vegetation: Other perennial grasses, desert globemallow, white bursage, other shrubs, Fremont dalea, shadscale

#### **Typical profile:**

Surface rock fragments: About 0 percent subrounded stones, 10 percent subrounded cobbles, 70 percent subrounded gravel

Layer 1—0 to 2 inches; extremely gravelly fine sandy loam

Layer 2—2 to 7 inches; very gravelly fine sandy loam

Layer 3—7 to 17 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 3 to 8 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.4 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB127NV—Shallow sandstone slope 3-5 P.Z.

### ***Component Description***

#### **Calwash and similar soils**

Landform: Backslopes of hills

Slope: 15 to 50 percent

Parent material: Colluvium derived from mudstone and/or Limestone, sandstone, and shale over residuum weathered from mudstone and/or sandstone and siltstone

Typical vegetation: Other shrubs, other shrubs, desertholly

#### **Typical profile:**

Surface rock fragments: About 70 percent channers, 3 percent cobbles

Layer 1—0 to 2 inches; very channery sandy loam

Layer 2—2 to 9 inches; very paragravelly silt loam

Layer 3—9 to 17 inches; bedrock

Layer 4—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 6 to 10 inches; Lithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 1.1 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 8  
 Ecological site: R030XB116NV—Shallow pediment 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Galehills and similar soils**

Composition: 0 to 6 percent  
 Slope: 15 to 50 percent  
 Landform: Hills  
 Typical vegetation: Other shrubs, other perennial forbs, Fremont dalea, creosotebush, shadscale, white bursage  
 Ecological site: R030XB125NV—Channery hill 3-5 P.Z.

#### **Weiser and similar soils**

Composition: 0 to 5 percent  
 Slope: 2 to 8 percent  
 Landform: Fan remnants  
 Typical vegetation: White bursage, other shrubs, creosotebush, range ratany, other perennial forbs, big galleta, other perennial grasses, other annual forbs  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **St. Thomas and similar soils**

Composition: 0 to 2 percent  
 Slope: 15 to 50 percent, southeast aspect  
 Landform: Southeast facing backslopes of mountains  
 Typical vegetation: Other perennial forbs, range ratany, big galleta, creosotebush, other shrubs, white bursage  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 2 percent  
 Slope: 2 to 4 percent  
 Landform: Drainageways  
 Typical vegetation: Other perennial forbs, other shrubs, big galleta, creosotebush, white burrobrush, baccharis, bursage, other perennial grasses  
 Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

## 110—Tenwell-Crosgrain association

### *Map Unit Setting*

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,660 to 3,710

Precipitation: 5 to 8 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 200 to 270 days

### *Composition*

Tenwell very gravelly loamy coarse sand, 2 to 4 percent slopes—45 percent

Crosgrain extremely gravelly fine sandy loam, 4 to 15 percent slopes—40 percent

Typic Argidurids very gravelly sandy loam, 2 to 4 percent slopes—8 percent

Newera family very gravelly sandy loam, 4 to 15 percent slopes—3 percent

Searchlight family very gravelly sandy loam, 2 to 4 percent slopes—3 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—1 percent

### *Component Description*

#### **Tenwell and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial forbs, bush muhly, desert needlegrass, other shrubs, creosotebush, white bursage, other perennial grasses

#### **Typical profile:**

Surface rock fragments: About 50 percent gravel

Layer 1—0 to 1 inch; very gravelly loamy coarse sand

Layer 2—1 to 4 inches; gravelly sandy loam

Layer 3—4 to 9 inches; sandy loam

Layer 4—9 to 22 inches; gravelly sandy clay loam

Layer 5—22 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 20 to 35 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB058NV—Granitic fan 5-7 P.Z.

### *Component Description*

#### **Crosgrain and similar soils**

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Mixed alluvium derived from metamorphic rock

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, other annual forbs

**Typical profile:**

Layer 1—0 to 2 inches; extremely gravelly fine sandy loam

Layer 2—2 to 11 inch; very gravelly loam

Layer 3—11 to 24 inches; cemented material

Layer 4—24 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 6 to 14 inches ; Duripan: 21 to 24 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Typic Argidurids and similar soils**

Composition: 0 to 8 percent

Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Argidurids

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Newera family and similar soils**

Composition: 0 to 3 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Lithic Haplargids

Slope: 4 to 15 percent

Landform: Summits of rock pediments

Typical vegetation: Other perennial forbs, big galleta, other shrubs, creosotebush, white bursage, range ratany

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Searchlight family and similar soils**

Composition: 0 to 3 percent

Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplargids

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Other perennial grasses, white bursage, winterfat, creosotebush, other shrubs, bush muhly, big galleta, Indian ricegrass

Ecological site: R030XB039NV—Limy fan 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 1 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Creosotebush, white burrobrush, baccharis, bursage, other perennial forbs, other shrubs, big galleta, other perennial grasses

Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**111—Tenwell-Shamock association**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,620 to 3,870

Precipitation: 3 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 200 to 300 days

***Composition***

Tenwell very gravelly loamy coarse sand, 2 to 4 percent slopes—50 percent

Shamock very gravelly loamy sand, 2 to 4 percent slopes—35 percent

Filaree very gravelly loamy coarse sand, 2 to 4 percent slopes—5 percent

Crosgrain family very gravelly fine sandy loam, 4 to 15 percent slopes—5 percent

Typic Haplodurids very gravelly fine sandy loam, 2 to 8 percent slopes—3 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent

***Component Description***

**Tenwell and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial forbs, white bursage, creosotebush, other shrubs, other perennial grasses, bush muhly, desert needlegrass

**Typical profile:**

Surface rock fragments: About 50 percent gravel

Layer 1—0 to 1 inch; very gravelly loamy coarse sand

Layer 2—1 to 4 inches; gravelly sandy loam

Layer 3—4 to 9 inches; sandy loam

Layer 4—9 to 22 inches; gravelly sandy clay loam

Layer 5—22 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 20 to 35 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB058NV—Granitic fan 5-7 P.Z.

***Component Description***

**Shamock and similar soils**

Landform: West facing fan remnants

Slope: 2 to 4 percent, west aspect

Parent material: Mixed alluvium

Typical vegetation: Other perennial grasses, other perennial forbs, other shrubs, creosotebush, white bursage, bush muhly, desert needlegrass

**Typical profile:**

Surface rock fragments: About 55 percent gravel

Layer 1—0 to 1 inch; very gravelly loamy sand

Layer 2—1 to 32 inches; gravelly sandy loam

Layer 3—32 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Duripan: 25 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB058NV—Granitic fan 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Crosgrain family and similar soils**

Composition: 0 to 5 percent

Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids  
 Slope: 4 to 15 percent  
 Landform: Partial ballenas  
 Typical vegetation: Other perennial grasses, other perennial forbs, white bursage, creosotebush, other shrubs, bush muhly, desert needlegrass  
 Ecological site: R030XB058NV—Granitic fan 5-7 P.Z.

**Filaree and similar soils**

Composition: 0 to 5 percent  
 Slope: 2 to 4 percent  
 Landform: Fan skirts  
 Typical vegetation: Big galleta, bush muhly, other perennial forbs, white bursage, creosotebush, spiny menodora, other shrubs  
 Ecological site: R030XB074NV—Cobbly loam 5-7 P.Z.

**Typic Haplodurids and similar soils**

Composition: 0 to 3 percent  
 Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids  
 Slope: 2 to 8 percent  
 Landform: Partial ballenas  
 Typical vegetation: Blackbrush, other shrubs, big galleta, other perennial grasses, other perennial forbs  
 Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent  
 Slope: 2 to 8 percent  
 Landform: Drainageways  
 Typical vegetation: White burrobrush, creosotebush, other shrubs, baccharis, bursage, other perennial forbs, other perennial grasses, big galleta  
 Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Engineering" and "Soil Properties" sections

**112—Arizo very gravelly loamy sand, flooded, 0 to 4 percent slopes**

***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 1,700 to 2,800  
 Precipitation: 5 to 7 inches  
 Air temperature: 57 to 70 degrees Fahrenheit  
 Frost-free period: 240 to 300 days

***Composition***

Arizo very gravelly loamy sand, 0 to 4 percent slopes—100 percent

### ***Component Description***

#### **Arizo and similar soils**

Landform: Southwest facing channels

Slope: 0 to 4 percent, southwest aspect

Parent material: Mixed alluvium

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, other shrubs, creosotebush

#### **Typical profile:**

Surface rock fragments: About 55 percent gravel, 10 percent cobbles

Layer 1—0 to 2 inches; very gravelly loamy sand

Layer 2—2 to 60 inches; stratified extremely gravelly loamy sand to cobbly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 2 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7w

Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **113—Arizo very gravelly fine sandy loam, gypsiferous substratum, 2 to 8 percent slopes**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,000 to 2,800

Precipitation: 3 to 5 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 240 to 300 days

### ***Composition***

Arizo very gravelly fine sandy loam, 2 to 8 percent slopes—95 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—5 percent

### ***Component Description***

#### **Arizo gypsiferous substratum and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial forbs, other annual forbs, creosotebush, other shrubs, white bursage

**Typical profile:**

Layer 1—0 to 2 inches; very gravelly fine sandy loam

Layer 2—2 to 40 inches; stratified very gravelly coarse sand to extremely gravelly loamy sand

Layer 3—40 to 60 inches; gypsiferous material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): — (Permeability class: Impermeable)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Arizo and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other shrubs, creosotebush, white burrobrush, baccharis, bursage, other perennial forbs, other perennial grasses, big galleta

Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**115—Whitebasin-Upperline-Hardbasin association**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,030 to 3,280

Precipitation: 3 to 7 inches

Air temperature: 64 to 69 degrees Fahrenheit

Frost-free period: 240 to 300 days

### ***Composition***

Whitebasin very fine sandy loam, 8 to 30 percent slopes—35 percent  
 Upperline very gravelly sandy loam, 4 to 15 percent slopes—30 percent  
 Hardbasin fine sandy loam, 0 to 4 percent slopes—20 percent  
 Wechech very gravelly fine sandy loam, 2 to 8 percent slopes—4 percent  
 Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—4 percent  
 Irongold extremely gravelly loam, 2 to 8 percent slopes—3 percent  
 Badland, 30 to 75 percent slopes—2 percent  
 Bitterridge extremely flaggy loam, 4 to 15 percent slopes—1 percent  
 Zeheme extremely gravelly fine sandy loam, 8 to 30 percent slopes—1 percent

### ***Component Description***

#### **Whitebasin and similar soils**

Landform: Backslopes of pediments

Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from gypsum

Typical vegetation: Other perennial forbs, other shrubs, Fremont dalea, Parry's sandpaperplant, Anderson's wolfberry, Torrey ephedra, white bursage

#### **Typical profile:**

Layer 1—0 to 1 inch; very fine sandy loam

Layer 2—1 to 11 inch; gypsiferous material

Layer 3—11 to 28 inches; gypsiferous material

Layer 4—28 to 38 inches; gypsiferous bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 20 to 30 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

### ***Component Description***

#### **Upperline and similar soils**

Landform: Rock pediments

Slope: 4 to 15 percent

Parent material: Alluvium and/or colluvium derived from limestone and sandstone over colluvium and/or residuum weathered from sandstone and siltstone

Typical vegetation: Creosotebush, other shrubs, spiny menodora, white bursage, other perennial forbs, big galleta, bush muhly

#### **Typical profile:**

Surface rock fragments: About 80 percent gravel, 1 percent cobbles

Layer 1—0 to 2 inches; very gravelly sandy loam  
 Layer 2—2 to 12 inches; very gravelly sandy loam  
 Layer 3—12 to 35 inches; very gravelly sandy loam  
 Layer 4—35 to 39 inches; very paragravelly sandy loam  
 Layer 5—39 to 49 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium

Depth to restrictive feature: Paralithic bedrock: 30 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB074NV—Cobbly loam 5-7 P.Z.

#### ***Component Description***

##### **Hardbasin and similar soils**

Landform: Summits of pediments

Slope: 0 to 4 percent

Parent material: Lacustrine deposits; Colluvium and/or residuum weathered from gypsum

Typical vegetation: Other shrubs, Anderson's wolfberry, other perennial forbs, Fremont dalea, Parry's sandpaperplant, white bursage, Torrey ephedra

##### **Typical profile:**

Surface rock fragments: About 5 percent fine rounded gravel

Layer 1—0 to 1 inch; fine sandy loam

Layer 2—1 to 7 inches; cemented material

Layer 3—7 to 12 inches; cemented material

Layer 4—12 to 31 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium

Depth to restrictive feature: Petrogypsic: 1 to 4 inches; Petrogypsic: 5 to 10 inches  
 Paralithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.2 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Wechech and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: White bursage, bush muhly, big galleta, other perennial forbs, creosotebush, spiny menodora, other shrubs

Ecological site: R030XB074NV—Cobbly loam 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, creosotebush, other shrubs, white burrobrush

Ecological site: R030XB028NV—Valley wash

**Irongold and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, blackbrush, other shrubs

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

**Badland**

Composition: 0 to 2 percent

Slope: 30 to 75 percent

Landform: Backslopes of eroded pediments

Ecological site: None

**Bitterridge and similar soils**

Composition: 0 to 1 percent

Slope: 4 to 15 percent

Landform: Hills

Typical vegetation: Other shrubs, creosotebush, other perennial forbs, white bursage, Fremont dalea, shadscale

Ecological site: R030XB125NV—Channery hill 3-5 P.Z.

**Zeheme and similar soils**

Composition: 0 to 1 percent

Slope: 8 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Other shrubs, blackbrush, other perennial forbs, desert needlegrass

Ecological site: R030XB030NV—Shallow Limestone slope 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Engineering" and "Soil Properties" sections

## **120—Crosgrain-Tenwell association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 2,920 to 3,510  
 Precipitation: 5 to 8 inches  
 Air temperature: 57 to 70 degrees Fahrenheit  
 Frost-free period: 200 to 270 days

### ***Composition***

Crosgrain extremely gravelly fine sandy loam, 2 to 8 percent slopes—55 percent  
 Tenwell very gravelly loamy coarse sand, 2 to 4 percent slopes—30 percent  
 Typic Petrocalcids very gravelly sandy loam, 4 to 15 percent slopes—7 percent  
 Typic Torriorthents very gravelly coarse sandy loam, 2 to 4 percent slopes—4 percent  
 Typic Haplocambids extremely gravelly coarse sandy loam, 2 to 4 percent slopes—4 percent

### ***Component Description***

#### **Crosgrain and similar soils**

Landform: Summits of fan remnants  
 Slope: 2 to 8 percent  
 Parent material: Mixed alluvium derived from metamorphic rock  
 Typical vegetation: Other perennial grasses, other shrubs, other annual forbs, creosotebush, range ratany, white bursage, other perennial forbs, big galleta

#### **Typical profile:**

Layer 1—0 to 2 inches; extremely gravelly fine sandy loam  
 Layer 2—2 to 11 inch; very gravelly loam  
 Layer 3—11 to 24 inches; cemented material  
 Layer 4—24 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Duripan: 6 to 14 inches; Duripan: 21 to 24 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.9 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Tenwell and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Indian ricegrass, creosotebush, Nevada ephedra, white bursage, other perennial forbs, other shrubs, winterfat, range ratany, spiny hopsage, big galleta, bush muhly, other perennial grasses

#### **Typical profile:**

Surface rock fragments: About 50 percent gravel

Layer 1—0 to 1 inch; very gravelly loamy coarse sand

Layer 2—1 to 4 inches; gravelly sandy loam

Layer 3—4 to 9 inches; sandy loam

Layer 4—9 to 22 inches; gravelly sandy clay loam

Layer 5—22 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 20 to 35 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB043NV—Claypan 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Typic Petrocalcids and similar soils**

Composition: 0 to 7 percent

Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Petrocalcids

Slope: 4 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, big galleta

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Typic Haplocambids and similar soils**

Composition: 0 to 4 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: White bursage, bush muhly, other shrubs, creosotebush, winterfat, other perennial grasses, big galleta, Indian ricegrass  
 Ecological site: R030XB039NV—Limy fan 5-7 P.Z.

**Typic Torriorthents and similar soils**

Composition: 0 to 4 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Typic Torriorthents

Slope: 2 to 4 percent

Landform: Alluvial fans

Typical vegetation: Other perennial forbs, big galleta, other shrubs, blackbrush, desert needlegrass, bush muhly

Ecological site: R030XB057NV—Shallow granitic loam 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**121—Sweetspring-Carrizo association**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,200 to 2,210

Precipitation: 3 to 5 inches

Air temperature: 69 to 76 degrees Fahrenheit

Frost-free period: 280 to 350 days

***Composition***

Sweetspring extremely gravelly loam, 2 to 8 percent slopes—80 percent

Carrizo extremely gravelly sand, 2 to 8 percent slopes—15 percent

Carrizo extremely gravelly very fine sandy loam, 2 to 8 percent slopes—5 percent

***Component Description***

**Sweetspring and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial forbs, other shrubs, other annual forbs, white bursage, creosotebush

**Typical profile:**

Surface rock fragments: About 85 percent subangular gravel

Layer 1—0 to 1 inch; extremely gravelly loam

Layer 2—1 to 4 inches; extremely gravelly loam

Layer 3—4 to 17 inches; extremely gravelly sandy loam

Layer 4—17 to 62 inches; stratified extremely gravelly coarse sand to extremely gravelly loamy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Salinity: Saline within 40 inches

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

***Component Description*****Carrizo and similar soils**

Landform: Drainageways

Slope: 2 to 8 percent

Parent material: Stratified sandy and gravelly alluvium

Typical vegetation: Creosotebush, white bursage, cattle saltbush, ephedra, other shrubs, white burrobush, other perennial forbs, other annual forbs, other perennial grasses

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 65 percent gravel

Layer 1—0 to 10 inches; extremely gravelly sand

Layer 2—10 to 60 inches; extremely gravelly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): Very high, (Permeability class: Very rapid)

Available water capacity: About 2 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Irrigated land capability: 6w

Nonirrigated land capability: 7w

Ecological site: R030XB050NV—Dry wash

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Carrizo and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Other annual forbs, big galleta, other perennial grasses, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

## **125—Bobzbulz-Snapcan association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 1,250 to 2,530  
 Precipitation: 3 to 5 inches  
 Air temperature: 68 to 73 degrees Fahrenheit  
 Frost-free period: 250 to 350 days

### ***Composition***

Bobzbulz very gravelly coarse sandy loam, 30 to 55 percent slopes—55 percent  
 Snapcan extremely cobbly fine sandy loam, 30 to 55 percent slopes—40 percent  
 Carrizo very cobbly coarse sand, 2 to 8 percent slopes—3 percent  
 Riverbend gravelly loamy sand, 15 to 30 percent slopes—2 percent

### ***Component Description***

#### **Bobzbulz and similar soils**

Landform: Northwest to northeast aspects on backslopes of ballenas  
 Slope: 30 to 55 percent, northwest to northeast aspects  
 Parent material: Alluvium and/or colluvium derived from granite and/or metamorphic rock  
 Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, big galleta

#### **Typical profile:**

Surface rock fragments: About 55 percent gravel, 15 percent cobbles, 5 percent stones  
 Layer 1—0 to 1 inch; very gravelly coarse sandy loam  
 Layer 2—1 to 9 inches; very gravelly coarse sandy loam  
 Layer 3—9 to 14 inches; very gravelly coarse sandy loam  
 Layer 4—14 to 30 inches; extremely gravelly coarse sandy loam  
 Layer 5—30 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High  
 Depth to restrictive feature: Paralithic bedrock: 22 to 32 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 1.5 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Component Description***

#### **Snapcan and similar soils**

Landform: Southwest to southeast aspects on backslopes of ballenas  
 Slope: 30 to 55 percent, southwest to southeast aspects  
 Parent material: Colluvium and/or residuum weathered from fanglomerate  
 Typical vegetation: Other shrubs, creosotebush, other perennial grasses, other perennial forbs, white bursage, white brittlebush

#### **Typical profile:**

Surface rock fragments: About 5 percent stones, 35 percent gravel, 25 percent cobbles  
 Layer 1—0 to 2 inches; extremely cobbly fine sandy loam  
 Layer 2—2 to 8 inches; very gravelly loam  
 Layer 3—8 to 15 inches; extremely gravelly loam  
 Layer 4—15 to 26 inches; extremely gravelly sandy clay loam  
 Layer 5—26 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High  
 Depth to restrictive feature: Paralithic bedrock: 22 to 30 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 1.5 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB099NV—Gravelly ridge 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Carrizo and similar soils**

Composition: 0 to 3 percent  
 Slope: 2 to 8 percent  
 Landform: Inset fans  
 Typical vegetation: Other shrubs, white brittlebush, sweetbrush, white bursage, other perennial forbs, big galleta, other perennial grasses, creosotebush  
 Ecological site: R030XB098NV—Gravelly outwash

**Riverbend rarely flooded and similar soils**

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Summits of fan remnants

Typical vegetation: Creosotebush, range ratany, white bursage, other perennial forbs,  
other annual forbs, other shrubs, other perennial grasses, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**134—Newera-Nipton association****Map Unit Setting**

MLRA: 30

Landscape: Hills

Elevation: 2,720 to 4,430

Precipitation: 5 to 9 inches

Air temperature: 57 to 66 degrees Fahrenheit

Frost-free period: 180 to 270 days

**Composition**

Newera extremely gravelly sandy loam, 15 to 50 percent slopes—55 percent

Nipton extremely gravelly sandy loam, 30 to 50 percent slopes—30 percent

Highland extremely gravelly sandy loam, 15 to 50 percent slopes—8 percent

Highland extremely gravelly loam, 30 to 50 percent slopes—5 percent

Rock outcrop—2 percent

**Component Description****Newera steep and similar soils**

Landform: Backslopes of mountains and hills

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from volcanic and metamorphic  
rock

Typical vegetation: Other shrubs, blackbrush, big galleta, desert needlegrass

**Typical profile:**

Surface rock fragments: About 80 percent gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 6 inches; very gravelly sandy clay loam

Layer 3—6 to 16 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 0.4 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB076NV—Shallow gravelly slope 5-7 P.Z.

### ***Component Description***

#### **Nipton and similar soils**

Landform: Northeast facing summits of hills  
 Slope: 30 to 50 percent, northeast aspect  
 Parent material: Colluvium and/or residuum weathered from metavolcanics  
 Typical vegetation: Big galleta, other perennial forbs, ephedra, Mojave buckwheat, other shrubs, desert needlegrass, bush muhly

#### **Typical profile:**

Surface rock fragments: About 55 percent gravel, 25 percent cobbles, 3 percent stones  
 Layer 1—0 to 1 inch; extremely gravelly sandy loam  
 Layer 2—1 to 5 inches; very gravelly sandy loam  
 Layer 3—5 to 15 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.3 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB071NV—Volcanic slope 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Highland and similar soils**

Composition: 0 to 8 percent  
 Slope: 15 to 50 percent, northwest to east aspects  
 Landform: Northwest to east aspects on backslopes of hills  
 Typical vegetation: Mojave buckwheat, other perennial forbs, other shrubs, big galleta, bush muhly, desert needlegrass, white bursage, ephedra  
 Ecological site: R030XB060NV—Granitic north slope 5-7 P.Z.

**Highland and similar soils**

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Backslopes of hills

Typical vegetation: Other perennial grasses, big galleta, other shrubs, creosotebush, range ratany, white bursage, desert globemallow, bush muhly

Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

**Rock outcrop**

Composition: 0 to 2 percent

Landform: Ridges

Ecological site: None

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**135—Nippeno-Mountmcull-Newera association*****Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 3,280 to 4,950

Precipitation: 5 to 9 inches

Air temperature: 51 to 66 degrees Fahrenheit

Frost-free period: 130 to 270 days

***Composition***

Nippeno very gravelly loam, 15 to 50 percent slopes—35 percent

Mountmcull extremely gravelly sandy loam, 30 to 75 percent slopes—30 percent

Newera very gravelly sandy loam, 8 to 30 percent slopes—20 percent

Highland extremely cobbly loam, 8 to 30 percent slopes—6 percent

Haleburu extremely gravelly sandy loam, 8 to 30 percent slopes—4 percent

Rock outcrop—3 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent

***Component Description*****Nippeno and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from metamorphic rock

Typical vegetation: Other shrubs, other perennial forbs, big galleta, black grama, desert needlegrass, Indian ricegrass, blackbrush

**Typical profile:**

Surface rock fragments: About 5 percent subangular cobbles, 70 percent subangular gravel

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 6 inches; very gravelly sandy clay loam

Layer 3—6 to 15 inches;

Layer 4—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 13 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 0.7 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB014NV—Shallow gravelly loam 7-9 P.Z.

***Component Description***

**Mountmcull and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Colluvium and/or residuum weathered from igneous and metamorphic rock

Typical vegetation: Other shrubs, other perennial forbs, big galleta, blackbrush, Indian ricegrass, black grama, desert needlegrass

**Typical profile:**

Surface rock fragments: About 1 percent stones, 80 percent gravel, 5 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 8 inches; very gravelly sandy loam

Layer 3—8 to 18 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 10 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB014NV—Shallow gravelly loam 7-9 P.Z.

***Component Description***

**Newera and similar soils**

Landform: Backslopes of mountains and hills

Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from volcanic and metamorphic rock

Typical vegetation: Other perennial grasses, other perennial forbs, other shrubs, big galleta, blackbrush

**Typical profile:**

Surface rock fragments: About 80 percent gravel  
 Layer 1—0 to 2 inches; very gravelly sandy loam  
 Layer 2—2 to 6 inches; very gravelly sandy clay loam  
 Layer 3—6 to 16 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 14 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 0.4 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Highland and similar soils**

Composition: 0 to 6 percent  
 Slope: 8 to 30 percent  
 Landform: Backslopes of mountains  
 Typical vegetation: Range ratany, big galleta, bush muhly, other shrubs, other perennial grasses, desert globemallow, white bursage, creosotebush  
 Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

**Haleburu and similar soils**

Composition: 0 to 4 percent  
 Slope: 8 to 30 percent  
 Landform: Pediments  
 Typical vegetation: Desert needlegrass, triangle goldeneye, other shrubs, creosotebush, Mojave buckwheat, white bursage, other perennial forbs, big galleta  
 Ecological site: R030XB070NV—Volcanic hill 5-7 P.Z.

**Rock outcrop**

Composition: 0 to 3 percent  
 Landform: Cliffs  
 Ecological site: None

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, big galleta, other shrubs

Ecological site: R030XB028NV—Valley wash

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**140—Haleburu extremely gravelly sandy loam, 4 to 15 percent slopes****Map Unit Setting**

MLRA: 30

Landscape: Hills

Elevation: 2,400 to 3,400

Precipitation: 4 to 7 inches

Air temperature: 61 to 70 degrees Fahrenheit

Frost-free period: 240 to 300 days

**Composition**

Haleburu extremely gravelly sandy loam, 4 to 15 percent slopes—85 percent

Rock outcrop—6 percent

Typic Argidurids extremely gravelly sandy loam, 2 to 8 percent slopes—4 percent

Hiddensun family extremely gravelly sandy loam, 4 to 15 percent slopes—3 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—2 percent

**Component Description****Haleburu and similar soils**

Landform: Backslopes of hills

Slope: 4 to 15 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 7 percent stones, 13 percent cobbles, 75 percent gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 11 inch; very gravelly sandy loam

Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
Moderately rapid)  
Available water capacity: About 0.6 inch  
Present flooding: None  
Present ponding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Rock outcrop**

Composition: 0 to 6 percent  
Landform: Ridges  
Ecological site: None

#### **Typic Argidurids and similar soils**

Composition: 0 to 4 percent  
Classification: Loamy-skeletal, mixed, superactive, thermic Typic Argidurids  
Slope: 2 to 8 percent  
Landform: Fan remnants  
Typical vegetation: Other shrubs, other perennial forbs, spiny hopsage, creosotebush, winterfat, range ratany, Nevada ephedra, Indian ricegrass, bush muhly, big galleta, other perennial grasses, white bursage  
Ecological site: R030XB043NV—Claypan 5-7 P.Z.

#### **Hiddensun family and similar soils**

Composition: 0 to 3 percent  
Classification: Loamy-skeletal, mixed, superactive, thermic Lithic Haplocalcids  
Slope: 4 to 15 percent  
Landform: Backslopes of mountains  
Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, big galleta  
Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 2 percent  
Slope: 2 to 4 percent  
Landform: Drainageways  
Typical vegetation: Bursage, creosotebush, white burrobrush, baccharis, other shrubs, other perennial grasses, big galleta, other perennial forbs  
Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
"Engineering" and "Soil Properties" sections

**141—Nipton-Haleburu-Rock outcrop association*****Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 2,400 to 4,500

Precipitation: 4 to 9 inches

Air temperature: 56 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Nipton extremely gravelly sandy loam, 15 to 50 percent slopes—40 percent

Haleburu extremely gravelly sandy loam, 8 to 30 percent slopes—25 percent

Rock outcrop—20 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—8 percent

Haleburu extremely gravelly sandy loam, 15 to 75 percent slopes—3 percent

Haleburu extremely gravelly sandy loam, 2 to 15 percent slopes—2 percent

Highland extremely gravelly loam, 30 to 75 percent slopes—2 percent

***Component Description*****Nipton and similar soils**

Landform: Northeast facing summits of mountains

Slope: 15 to 50 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from metavolcanics

Typical vegetation: Desert needlegrass, triangle goldeneye, other shrubs, creosotebush, Mojave buckwheat, white bursage, other perennial forbs, big galleta

**Typical profile:**

Surface rock fragments: About 3 percent stones, 55 percent gravel, 25 percent cobbles

Layer 1—0 to 1 inch; extremely gravelly sandy loam

Layer 2—1 to 5 inches; very gravelly sandy loam

Layer 3—5 to 15 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.3 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB070NV—Volcanic hill 5-7 P.Z.

***Component Description*****Haleburu and similar soils**

Landform: Backslopes of mountains

Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Other shrubs, creosotebush, white bursage, other annual forbs

**Typical profile:**

Surface rock fragments: About 7 percent stones, 75 percent gravel, 13 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 11 inch; very gravelly sandy loam

Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

***Component Description***

**Rock outcrop**

Landform: Crests and side slopes of mountains

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Arizo and similar soils**

Composition: 0 to 8 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs, big galleta

Ecological site: R030XB028NV—Valley wash

**Haleburu and similar soils**

Composition: 0 to 3 percent

Slope: 15 to 75 percent

Landform: Mountains

Typical vegetation: Other shrubs, triangle goldeneye, creosotebush, big galleta, other perennial grasses, other perennial forbs, white bursage, white brittlebush, Mojave buckwheat

Ecological site: R030XB072NV—Stony slope 5-7 P.Z.

**Haleburu and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 15 percent

Landform: Backslopes of hills

Typical vegetation: Other perennial forbs, creosotebush, other shrubs

Ecological site: R030XB084NV—Eroded slope

**Highland and similar soils**

Composition: 0 to 2 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Other shrubs, desert globemallow, creosotebush, range ratany,  
white bursage, other perennial grasses, big galleta, bush muhly

Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**143—Haleburu association*****Map Unit Setting***

MLRA: 30

Landscape: Hills

Elevation: 2,400 to 3,400

Precipitation: 4 to 7 inches

Air temperature: 61 to 70 degrees Fahrenheit

Frost-free period: 240 to 300 days

***Composition***

Haleburu extremely gravelly sandy loam, 15 to 50 percent slopes—60 percent

Haleburu extremely gravelly sandy loam, 4 to 15 percent slopes—25 percent

Newera family extremely gravelly fine sandy loam, 15 to 30 percent slopes—9 percent

Haleburu extremely gravelly fine sandy loam, 15 to 50 percent slopes—2 percent

Rock outcrop—2 percent

Nipton extremely gravelly sandy loam, 15 to 30 percent slopes—2 percent

***Component Description*****Haleburu and similar soils**

Landform: Backslopes of hills

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: White bursage, big galleta, other perennial forbs, range ratany,  
creosotebush, other shrubs**Typical profile:**Surface rock fragments: About 75 percent gravel, 13 percent cobbles, 7 percent  
stones

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 11 inch; very gravelly sandy loam

Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### ***Component Description***

##### **Haleburu dry and similar soils**

Landform: Backslopes of hills

Slope: 4 to 15 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: White bursage, other annual forbs, other shrubs, creosotebush

##### **Typical profile:**

Surface rock fragments: About 75 percent gravel, 7 percent stones, 13 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 11 inch; very gravelly sandy loam

Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Newera family and similar soils**

Composition: 0 to 9 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Lithic Haplargids

Slope: 15 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Mojave buckwheat, other shrubs, other perennial forbs, ephedra, desert needlegrass, bush muhly, big galleta

Ecological site: R030XB071NV—Volcanic slope 7-9 P.Z.

**Haleburu and similar soils**

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Backslopes of hills

Typical vegetation: Other shrubs, creosotebush, other perennial forbs

Ecological site: R030XB084NV—Eroded slope

**Nipton and similar soils**

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Summits of hills

Typical vegetation: Other perennial forbs, big galleta, Mojave buckwheat, creosotebush, white bursage, desert needlegrass, other shrubs, triangle goldeneye

Ecological site: R030XB070NV—Volcanic hill 5-7 P.Z.

**Rock outcrop**

Composition: 0 to 2 percent

Landform: Cliffs

Ecological site: None

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**144—Haleburu, extremely cobbly-Hiddensun association**

***Map Unit Setting***

MLRA: 30

Landscape: Hills

Elevation: 3,220 to 4,300

Precipitation: 4 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Haleburu extremely cobbly sandy loam, 8 to 30 percent slopes—55 percent

Hiddensun very cobbly fine sandy loam, 15 to 50 percent slopes—30 percent

Rock outcrop—4 percent

Bitter Spring very gravelly sandy loam, 8 to 15 percent slopes—4 percent

Typic Haplodurids extremely gravelly fine sandy loam, 8 to 15 percent slopes—4 percent

Arizo extremely gravelly sandy loam, 2 to 8 percent slopes—3 percent

### ***Component Description***

#### **Haleburu and similar soils**

Landform: Backslopes of hills

Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, big galleta

#### **Typical profile:**

Surface rock fragments: About 7 percent stones, 25 percent cobbles, 50 percent gravel

Layer 1—0 to 3 inches; extremely cobbly sandy loam

Layer 2—3 to 11 inch; very gravelly sandy loam

Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Component Description***

#### **Hiddensun and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Influenced by calcareous loess, residuum weathered from volcanic rock

Typical vegetation: Mojave buckwheat, winterfat, creosotebush, bush muhly, big galleta, ephedra, other shrubs, desert needlegrass, other perennial forbs

#### **Typical profile:**

Surface rock fragments: About 20 percent gravel, 20 percent cobbles, 2 percent stones

Layer 1—0 to 3 inches; very cobbly fine sandy loam

Layer 2—3 to 15 inches; very cobbly fine sandy loam

Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock, 14 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 1.2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB067NV—Bouldery hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Bitter Spring and similar soils**

Composition: 0 to 4 percent  
 Slope: 8 to 15 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Other shrubs, bush muhly, big galleta, other perennial grasses, desert globemallow, white bursage, range ratany, creosotebush  
 Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

#### **Rock outcrop**

Composition: 0 to 4 percent  
 Landform: Cliffs  
 Ecological site: None

#### **Typic Haplodurids and similar soils**

Composition: 0 to 4 percent  
 Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplodurids  
 Slope: 8 to 15 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, big galleta  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 3 percent  
 Slope: 2 to 8 percent  
 Landform: Fan aprons  
 Typical vegetation: Other annual forbs, creosotebush, big galleta, other perennial grasses, other perennial forbs, white bursage, range ratany, other shrubs  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

**146—Haleburu-Nipton association*****Map Unit Setting***

MLRA: 30

Landscape: Hills

Elevation: 2,790 to 3,810

Precipitation: 4 to 9 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Haleburu extremely gravelly sandy loam, 15 to 50 percent slopes—50 percent

Nipton extremely gravelly sandy loam, 15 to 50 percent slopes—35 percent

Haleburu extremely gravelly sandy loam, 2 to 8 percent slopes—8 percent

Bitter Spring extremely cobbly loam, 8 to 30 percent slopes—5 percent

Haleburu extremely gravelly sandy loam, 15 to 50 percent slopes—1 percent

Arizo extremely gravelly loamy coarse sand, 0 to 2 percent slopes—1 percent

***Component Description*****Haleburu and similar soils**

Landform: Backslopes of hills

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, big galleta, other perennial forbs

**Typical profile:**

Surface rock fragments: About 75 percent gravel, 13 percent cobbles, 7 percent stones

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 11 inch; very gravelly sandy loam

Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

***Component Description*****Nipton and similar soils**

Landform: Northeast facing backslopes of hills

Slope: 15 to 50 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from metavolcanics  
 Typical vegetation: Desert needlegrass, Mojave buckwheat, other perennial forbs, ephedra, other shrubs, big galleta, bush muhly

**Typical profile:**

Surface rock fragments: About 5 percent subangular stones, 25 percent subangular cobbles, 55 percent angular gravel  
 Layer 1—0 to 1 inch; extremely gravelly sandy loam  
 Layer 2—1 to 5 inches; very gravelly sandy loam  
 Layer 3—5 to 15 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.3 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB071NV—Volcanic slope 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Haleburu and similar soils**

Composition: 0 to 8 percent  
 Slope: 2 to 8 percent  
 Landform: Pediments  
 Typical vegetation: Creosotebush, other shrubs, big galleta, other perennial forbs, white bursage, range ratany  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Bitter Spring and similar soils**

Composition: 0 to 5 percent  
 Slope: 8 to 30 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Creosotebush, big galleta, other shrubs, range ratany, white bursage, desert globemallow, bush muhly, other perennial grasses  
 Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 1 percent  
 Slope: 0 to 2 percent  
 Landform: Drainageways  
 Typical vegetation: White burrobrush, big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, creosotebush, other shrubs

Ecological site: R030XB028NV—Valley wash

**Haleburu and similar soils**

Composition: 0 to 1 percent

Slope: 15 to 50 percent, northwest to east aspects

Landform: Northwest to east aspects on backslopes of hills

Typical vegetation: Ephedra, Mojave buckwheat, other shrubs, winterfat, Anderson wolfberry, Fremont dalea, other perennial forbs, desert needlegrass, bush muhly

Ecological site: R030XB085NV—Basaltic north slope 7-9 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**147—Haleburu-Nipton association, dry**

***Map Unit Setting***

MLRA: 30

Landscape: Hills

Elevation: 2,400 to 4,500

Precipitation: 4 to 9 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Haleburu extremely gravelly sandy loam, 15 to 50 percent slopes—65 percent

Nipton extremely gravelly sandy loam, 4 to 15 percent slopes—20 percent

Nickel family extremely gravelly sandy loam, 15 to 50 percent slopes—7 percent

Typic Calciargids extremely cobbly sandy loam, 8 to 30 percent slopes—5 percent

Mccullough family extremely gravelly fine sandy loam, 8 to 30 percent slopes—2 percent

Nipton extremely gravelly sandy loam, 4 to 15 percent slopes—1 percent

***Component Description***

**Haleburu and similar soils**

Landform: Backslopes of hills

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Other shrubs, white bursage, big galleta, other perennial forbs, range ratany, creosotebush

**Typical profile:**

Surface rock fragments: About 75 percent gravel, 13 percent cobbles, 7 percent stones

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 11 inch; very gravelly sandy loam

Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

***Component Description*****Nipton and similar soils**

Landform: Northeast facing summits of hills

Slope: 4 to 15 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from metavolcanics

Typical vegetation: Creosotebush, other shrubs, triangle goldeneye, white bursage, desert needlegrass, big galleta, other perennial forbs, Mojave buckwheat

**Typical profile:**

Surface rock fragments: About 55 percent gravel, 25 percent cobbles, 3 percent stones

Layer 1—0 to 1 inch; extremely gravelly sandy loam

Layer 2—1 to 5 inches; very gravelly sandy loam

Layer 3—5 to 15 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.3 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB070NV—Volcanic hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Nickel family and similar soils**

Composition: 0 to 7 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids

Slope: 15 to 50 percent

Landform: Backslopes of hills

Typical vegetation: Mojave buckwheat, white bursage, creosotebush, other shrubs,  
triangle goldeneye, other perennial forbs, desert needlegrass, big galleta

Ecological site: R030XB070NV—Volcanic hill 5-7 P.Z.

#### **Typic Calciargids and similar soils**

Composition: 0 to 5 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Calciargids

Slope: 8 to 30 percent

Landform: Backslopes of hills

Typical vegetation: Other shrubs, creosotebush, range ratany, bush muhly, big galleta,  
other perennial grasses, desert globemallow, white bursage

Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

#### **McCullough family and similar soils**

Composition: 0 to 2 percent

Classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic  
Torriorthents

Slope: 8 to 30 percent

Landform: Toeslopes of hills

Typical vegetation: Other shrubs, creosotebush, range ratany, big galleta, other  
perennial forbs, white bursage

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Nipton and similar soils**

Composition: 0 to 1 percent

Slope: 4 to 15 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on backslopes of hills

Typical vegetation: Big galleta, other shrubs, creosotebush, range ratany, white  
bursage, other perennial forbs

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and  
associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

## **148—Haleburu-Seanna association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Hills

Elevation: 1,800 to 3,940

Precipitation: 4 to 7 inches

Air temperature: 61 to 70 degrees Fahrenheit

Frost-free period: 200 to 300 days

### ***Composition***

Haleburu extremely gravelly sandy loam, 15 to 50 percent slopes—50 percent

Seanna extremely cobbly coarse sandy loam, 15 to 50 percent slopes—35 percent

McCullough family extremely gravelly sandy loam, 8 to 30 percent slopes—5 percent

Haleburu extremely cobbly sandy loam, 15 to 50 percent slopes—4 percent  
 Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—4 percent  
 Lanip family very gravelly sandy loam, 15 to 50 percent slopes—2 percent

### ***Component Description***

#### **Haleburu and similar soils**

Landform: Backslopes of hills

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Creosotebush, other shrubs, white bursage, range ratany, other perennial forbs, big galleta

#### **Typical profile:**

Surface rock fragments: About 7 percent stones, 13 percent cobbles, 75 percent gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 11 inch; very gravelly sandy loam

Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Component Description***

#### **Seanna and similar soils**

Landform: Backslopes of hills and mountains

Slope: 15 to 50 percent

Parent material: Residuum weathered from granite

Typical vegetation: Mojave buckwheat, Virgin River encelia, white bursage, other perennial forbs, bush muhly, desert needlegrass, range ratany, other shrubs, Nevada ephedra

#### **Typical profile:**

Surface rock fragments: About 5 percent stones, 25 percent cobbles, 35 percent gravel

Layer 1—0 to 2 inches; extremely cobbly coarse sandy loam

Layer 2—2 to 10 inches; very gravelly sandy loam

Layer 3—10 to 20 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 7 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB008NV—Shallow granitic hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****McCullough family and similar soils**

Composition: 0 to 5 percent

Classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torriorthents

Slope: 8 to 30 percent

Landform: Toeslopes of hills

Typical vegetation: Big galleta, other shrubs, creosotebush, range ratany, white bursage, other perennial forbs

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big galleta, other perennial forbs, other perennial grasses, bursage, other shrubs, creosotebush, white burrobrush, baccharis

Ecological site: R030XB028NV—Valley wash

**Haleburu and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent, southeast to southwest aspects

Landform: Southeast to southwest aspects on backslopes of hills

Typical vegetation: Other perennial grasses, desert globemallow, white brittlebush, creosotebush, other shrubs

Ecological site: R030XB077NV—Steep south slope

**Lanip family and similar soils**

Composition: 0 to 2 percent

Classification: Fine-loamy, mixed, superactive, thermic Typic Haplargids

Slope: 15 to 50 percent

Landform: Backslopes of hills

Typical vegetation: Creosotebush, bush muhly, big galleta, other perennial grasses, desert globemallow, white bursage, range ratany, other shrubs

Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Engineering" and "Soil Properties" sections

## **150—Hypoint gravelly sandy loam, 0 to 4 percent slopes**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Piedmont  
 Elevation: 1,710 to 2,300  
 Precipitation: 5 to 7 inches  
 Air temperature: 62 to 70 degrees Fahrenheit  
 Frost-free period: 240 to 300 days

### ***Composition***

Hypoint gravelly sandy loam, 0 to 4 percent slopes—90 percent  
 Arizo extremely gravelly sandy loam, 0 to 2 percent slopes—6 percent  
 Riverwash extremely gravelly coarse sand, 0 to 4 percent slopes—4 percent

### ***Component Description***

#### **Hypoint and similar soils**

Landform: Fan skirts  
 Slope: 0 to 4 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Other shrubs, other perennial grasses, big galleta, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush

#### **Typical profile:**

Surface rock fragments: About 20 percent gravel  
 Layer 1—0 to 2 inches; gravelly sandy loam  
 Layer 2—2 to 60 inches; stratified sand to very gravelly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 3 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Arizo and similar soils**

Composition: 0 to 6 percent

Slope: 0 to 2 percent

Landform: Fan aprons

Typical vegetation: Other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, other annual forbs, other perennial grasses, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Riverwash**

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Channels

Ecological site: None

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **151—Bluepoint-Arizo association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,670 to 2,620

Precipitation: 5 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 240 to 300 days

### ***Composition***

Bluepoint gravelly loamy fine sand, 0 to 4 percent slopes—65 percent

Arizo extremely gravelly coarse sandy loam, 2 to 4 percent slopes—20 percent

Filaree very gravelly sandy loam, 2 to 4 percent slopes—6 percent

Corbilt gravelly loamy fine sand, 2 to 4 percent slopes—5 percent

Riverwash extremely gravelly coarse sand, 0 to 4 percent slopes—4 percent

### ***Component Description***

#### **Bluepoint and similar soils**

Landform: Inset fans

Slope: 0 to 4 percent

Parent material: Eolian sands

Typical vegetation: Indian ricegrass, bush muhly, big galleta, other perennial forbs, other shrubs

#### **Typical profile:**

Layer 1—0 to 9 inches; gravelly loamy fine sand

Layer 2—9 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Negligible

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB034NV—Sandy plain 5-7 P.Z.

***Component Description*****Arizo and similar soils**

Landform: Drainageways

Slope: 2 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Creosotebush, other perennial grasses, other shrubs, white burrobrush, baccharis, bursage, big galleta, other perennial forbs

**Typical profile:**

Surface rock fragments: About 3 percent cobbles, 70 percent gravel

Layer 1—0 to 6 inches; extremely gravelly coarse sandy loam

Layer 2—6 to 60 inches; stratified very gravelly coarse sand to extremely gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Frequent

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7w

Ecological site: R030XB028NV—Valley wash

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Filaree and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 4 percent

Landform: Fan skirts

Typical vegetation: Other shrubs, bush muhly, winterfat, Indian ricegrass, big galleta, other perennial grasses, white bursage, creosotebush

Ecological site: R030XB039NV—Limy fan 5-7 P.Z.

**Corbitt and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, bush muhly, big galleta, other perennial forbs,  
other shrubs

Ecological site: R030XB034NV—Sandy plain 5-7 P.Z.

**Riverwash**

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Channels

Ecological site: None

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**155—Bitterridge-Helkitchen association*****Map Unit Setting***

MLRA: 30

Landscape: Hills

Elevation: 2,070 to 2,790

Precipitation: 4 to 7 inches

Air temperature: 64 to 69 degrees Fahrenheit

Frost-free period: 240 to 300 days

***Composition***

Bitterridge extremely flaggy loam, 4 to 15 percent slopes—65 percent

Helkitchen extremely flaggy sandy loam, 15 to 30 percent slopes—20 percent

Calwash very channery sandy loam, 8 to 30 percent slopes—8 percent

St. Thomas very cobbly fine sandy loam, 30 to 50 percent slopes—5 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—2 percent

***Component Description*****Bitterridge and similar soils**

Landform: Backslopes of low hills

Slope: 4 to 15 percent

Parent material: Colluvium and/or residuum weathered from limestone and sandstone

Typical vegetation: Other perennial forbs, other shrubs, range ratany, white bursage,  
Fremont dalea, shadscale

**Typical profile:**

Surface rock fragments: About 25 percent angular gravel, 40 percent flagstones, 2 percent stones

Layer 1—0 to 2 inches; extremely flaggy loam

Layer 2—2 to 12 inches; very gravelly sandy loam

Layer 3—12 to 16 inches; bedrock

Layer 4—16 to 26 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 10 to 20 inches; Lithic bedrock: 14 to 25 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB126NV—Gravelly pediment 5-7 P.Z.

#### ***Component Description***

##### **Helkitchen and similar soils**

Landform: Northwest to northeast aspects on backslopes of mountains

Slope: 15 to 30 percent, northwest to northeast aspects

Parent material: Colluvium and/or residuum weathered from limestone

Typical vegetation: Other perennial forbs, other shrubs, Anderson wolfberry, other perennial grasses, big galleta, desert needlegrass, white bursage, winterfat, creosotebush

##### **Typical profile:**

Surface rock fragments: About 40 percent channers, 15 percent stones, 15 percent flagstones

Layer 1—0 to 3 inches; extremely flaggy sandy loam

Layer 2—3 to 7 inches; extremely gravelly loam

Layer 3—7 to 12 inches; very gravelly fine sandy loam

Layer 4—12 to 22 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB123NV—Limestone slope 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Calwash and similar soils**

Composition: 0 to 8 percent

Slope: 8 to 30 percent

Landform: Backslopes of hills

Typical vegetation: Other perennial forbs, white bursage, ephedra, range ratany, creosotebush, whitestem paperflower, other shrubs, shrubby tiquilia

Ecological site: R030XB110NV—Tableland 3-5 P.Z.

#### **St. Thomas and similar soils**

Composition: 0 to 5 percent

Slope: 30 to 50 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on backslopes of mountains

Typical vegetation: Other shrubs, white bursage, range ratany, creosotebush, other perennial forbs, big galleta

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Creosotebush, white burrobrush, other shrubs, bursage, other perennial forbs, other perennial grasses, big galleta, baccharis

Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **160—Lanip-Kidwell association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,530 to 4,260

Precipitation: 5 to 7 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

### ***Composition***

Lanip very gravelly sandy loam, 2 to 4 percent slopes—65 percent

Kidwell very gravelly sandy loam, 2 to 4 percent slopes—20 percent

Tenwell very gravelly loamy coarse sand, 2 to 8 percent slopes—6 percent

Crosgrain stony sandy loam, 2 to 4 percent slopes—4 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—3 percent

Irongold extremely gravelly loam, 2 to 8 percent slopes—2 percent

### ***Component Description***

#### **Lanip and similar soils**

Landform: Fan remnants

Slope: 2 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Range ratany, winterfat, creosotebush, other shrubs, spiny hopsage, Nevada ephedra, Indian ricegrass, bush muhly, big galleta, other perennial grasses, other perennial forbs, white bursage

**Typical profile:**

Surface rock fragments: About 50 percent gravel

Layer 1—0 to 1 inch; very gravelly sandy loam

Layer 2—1 to 15 inches; gravelly loam

Layer 3—15 to 39 inches; clay loam

Layer 4—39 to 48 inches; gravelly sandy loam

Layer 5—48 to 60 inches; very gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 7 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7c

Ecological site: R030XB043NV—Claypan 5-7 P.Z.

***Component Description***

**Kidwell and similar soils**

Landform: Concave fluves on fan remnants

Slope: 2 to 4 percent

Parent material: Mixed alluvium derived from volcanic rock

Typical vegetation: Other shrubs, Indian ricegrass, creosotebush, winterfat, white bursage, other perennial grasses, big galleta, bush muhly

**Typical profile:**

Surface rock fragments: About 45 percent gravel

Layer 1—0 to 1 inch; very gravelly sandy loam

Layer 2—1 to 9 inches; gravelly sandy loam

Layer 3—9 to 15 inches; gravelly sandy clay loam

Layer 4—15 to 31 inch; gravelly sandy clay loam

Layer 5—31 to 60 inches; gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 8 inches

Present flooding: Occasional

Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB039NV—Limy fan 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Tenwell and similar soils**

Composition: 0 to 6 percent  
 Slope: 2 to 8 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Other perennial forbs, other perennial grasses, Nevada ephedra, white bursage, big galleta, bush muhly, Indian ricegrass, spiny hopsage, range ratany, winterfat, creosotebush, other shrubs  
 Ecological site: R030XB043NV—Claypan 5-7 P.Z.

#### **Crosgrain and similar soils**

Composition: 0 to 4 percent  
 Slope: 2 to 4 percent  
 Landform: Backslopes of fan remnants  
 Typical vegetation: Range ratany, winterfat, creosotebush, Anderson's wolfberry, other shrubs, white bursage, spiny hopsage, bush muhly, big galleta, other perennial forbs  
 Ecological site: R030XB053NV—Shallow hill 5-7 P. Z.

#### **Arizo and similar soils**

Composition: 0 to 3 percent  
 Slope: 2 to 4 percent  
 Landform: Drainageways  
 Typical vegetation: Other shrubs, baccharis, big galleta, other perennial grasses, other perennial forbs, bursage, creosotebush, white burrobrush  
 Ecological site: R030XB028NV—Valley wash

#### **Irongold and similar soils**

Composition: 0 to 2 percent  
 Slope: 2 to 8 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Other shrubs, other perennial forbs, big galleta, other perennial grasses, blackbrush  
 Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

**165—Upperline-Weiser-Whitebasin association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,970 to 3,250

Precipitation: 3 to 7 inches

Air temperature: 60 to 69 degrees Fahrenheit

Frost-free period: 210 to 300 days

***Composition***

Upperline very gravelly sandy loam, 4 to 15 percent slopes—40 percent

Weiser extremely gravelly fine sandy loam, 2 to 8 percent slopes—30 percent

Whitebasin very fine sandy loam, 4 to 15 percent slopes—15 percent

Badland, 30 to 75 percent slopes—6 percent

Wechech very gravelly sandy loam, 2 to 8 percent slopes—4 percent

St. Thomas very gravelly fine sandy loam, 8 to 30 percent slopes—3 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—2 percent

***Component Description*****Upperline and similar soils**

Landform: Rock pediments

Slope: 4 to 15 percent

Parent material: Alluvium and/or colluvium derived from limestone and sandstone over colluvium and/or residuum weathered from sandstone and siltstone

Typical vegetation: Other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, big galleta

**Typical profile:**

Surface rock fragments: About 80 percent gravel, 1 percent cobbles

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 12 inches; very gravelly sandy loam

Layer 3—12 to 35 inches; very gravelly sandy loam

Layer 4—35 to 39 inches; very paragravelly sandy loam

Layer 5—39 to 49 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Depth to restrictive feature: Paralithic bedrock: 30 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Component Description***

#### **Weiser and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Creosotebush, range ratany, other shrubs, big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage

#### **Typical profile:**

Layer 1—0 to 6 inches; extremely gravelly fine sandy loam

Layer 2—6 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Whitebasin and similar soils**

Landform: Backslopes of pediments

Slope: 4 to 15 percent

Parent material: Colluvium and/or residuum weathered from gypsum

Typical vegetation: White bursage, Fremont dalea, Parry's sandpaperplant, other perennial forbs, Torrey ephedra, other shrubs, Anderson's wolfberry

#### **Typical profile:**

Layer 1—0 to 1 inch; very fine sandy loam

Layer 2—1 to 11 inch; gypsiferous material

Layer 3—11 to 28 inches; gypsiferous material

Layer 4—28 to 38 inches; gypsiferous bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 20 to 30 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Badland**

Composition: 0 to 6 percent

Slope: 30 to 75 percent

Landform: Backslopes of pediments

Ecological site: None

**Wechech and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial forbs, other annual forbs, other perennial grasses, big galleta, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**St. Thomas and similar soils**

Composition: 0 to 3 percent

Slope: 8 to 30 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: Other shrubs, other perennial forbs, creosotebush, range ratany, white bursage, big galleta

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Hollyleaf bursage, Mojave buckwheat, burrobrush, range ratany, Anderson's wolfberry, other perennial forbs, other shrubs, other perennial grasses, big galleta, bush muhly

Ecological site: R030XB051NV—Upland wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**167—Upperline-St. Thomas-Upperline association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,940 to 2,950

Precipitation: 5 to 7 inches

Air temperature: 57 to 69 degrees Fahrenheit

Frost-free period: 210 to 300 days

### ***Composition***

Upperline very gravelly sandy loam, 8 to 30 percent slopes—50 percent  
 St. Thomas very gravelly fine sandy loam, 2 to 8 percent slopes—20 percent  
 Upperline very gravelly sandy loam, 2 to 8 percent slopes—15 percent  
 Badland, 30 to 75 percent slopes—5 percent  
 Wechech very gravelly sandy loam, 2 to 8 percent slopes—5 percent  
 St. Thomas very gravelly fine sandy loam, 15 to 50 percent slopes—3 percent  
 Upperline very gravelly sandy loam, 4 to 15 percent slopes—2 percent

### ***Component Description***

#### **Upperline and similar soils**

Landform: Rock pediments

Slope: 8 to 30 percent

Parent material: Alluvium and/or colluvium derived from limestone and sandstone over colluvium and/or residuum weathered from sandstone and siltstone

Typical vegetation: Creosotebush, range ratany, white bursage, other shrubs, other perennial forbs, big galleta

#### **Typical profile:**

Surface rock fragments: About 80 percent gravel, 1 percent cobbles

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 12 inches; very gravelly sandy loam

Layer 3—12 to 35 inches; very gravelly sandy loam

Layer 4—35 to 39 inches; very paragravelly sandy loam

Layer 5—39 to 49 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium

Depth to restrictive feature: Paralithic bedrock: 30 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Component Description***

#### **St. Thomas and similar soils**

Landform: Southeast facing backslopes of hills

Slope: 2 to 8 percent, southeast aspect

Parent material: Colluvium derived from limestone and dolomite over residuum weathered from limestone and dolomite

Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 50 percent gravel, 10 percent cobbles, 2 percent stones

Layer 1—0 to 2 inches; very gravelly fine sandy loam

Layer 2—2 to 14 inches; very gravelly loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

***Component Description*****Upperline dry and similar soils**

Landform: Rock pediments

Slope: 2 to 8 percent

Parent material: Alluvium and/or colluvium derived from limestone and sandstone over colluvium and/or residuum weathered from sandstone and siltstone

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other shrubs, creosotebush, range ratany, white bursage, other perennial forbs

**Typical profile:**

Surface rock fragments: About 1 percent cobbles, 80 percent gravel

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 12 inches; very gravelly sandy loam

Layer 3—12 to 35 inches; very gravelly sandy loam

Layer 4—35 to 39 inches; very paragravelly sandy loam

Layer 5—39 to 49 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Depth to restrictive feature: Paralithic bedrock: 30 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Badland**

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Backslopes of pediments

Ecological site: None

**Wechech and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, creosotebush, white bursage, other perennial forbs, other annual forbs, other perennial grasses, big galleta, range ratany

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**St. Thomas and similar soils**

Composition: 0 to 3 percent

Slope: 15 to 50 percent, southwest to southeast aspects

Landform: Southwest to southeast aspects on backslopes of hills

Typical vegetation: Creosotebush, other perennial grasses, other perennial forbs, white bursage, other shrubs, desertholly saltbush, Torrey ephedra, range ratany

Ecological site: R030XB038NV—Gravelly pediment 3-5 P.Z.

**Upperline and similar soils**

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Rock pediments

Typical vegetation: Range ratany, desertholly saltbush, other perennial grasses, other perennial forbs, white bursage, Torrey ephedra, other shrubs, creosotebush

Ecological site: R030XB038NV—Gravelly pediment 3-5 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**168—Upperline very gravelly sandy loam, 8 to 30 percent slopes*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,840 to 3,250

Precipitation: 5 to 7 inches

Air temperature: 64 to 69 degrees Fahrenheit

Frost-free period: 240 to 300 days

### ***Composition***

Upperline very gravelly sandy loam, 8 to 30 percent slopes—85 percent  
 Baseline extremely gravelly fine sandy loam, 8 to 30 percent slopes—5 percent  
 Weiser very gravelly sandy loam, 2 to 4 percent slopes—4 percent  
 Wechech very gravelly sandy loam, 2 to 8 percent slopes—3 percent  
 Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent  
 Calwash very channery sandy loam, 15 to 50 percent slopes—1 percent

### ***Component Description***

#### **Upperline and similar soils**

Landform: Rock pediments

Slope: 8 to 30 percent

Parent material: Alluvium and/or colluvium derived from limestone and sandstone over colluvium and/or residuum weathered from sandstone and siltstone

Typical vegetation: White bursage, big galleta, other perennial forbs, range ratany, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 80 percent gravel, 1 percent cobbles

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 12 inches; very gravelly sandy loam

Layer 3—12 to 35 inches; very gravelly sandy loam

Layer 4—35 to 39 inches; very paragravelly sandy loam

Layer 5—39 to 49 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium

Depth to restrictive feature: Paralithic bedrock: 30 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Baseline and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, other annual forbs, white bursage, creosotebush

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

**Weiser and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Creosotebush, big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Wechech and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial forbs, other annual forbs, other perennial grasses, big galleta, range ratany, other shrubs, white bursage, creosotebush

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs, big galleta, other perennial grasses

Ecological site: R030XB028NV—Valley wash

**Calwash and similar soils**

Composition: 0 to 1 percent

Slope: 15 to 50 percent

Landform: Backslopes of hills

Typical vegetation: Other shrubs, other perennial grasses, other perennial forbs, white bursage, desertholly saltbush, Torrey ephedra, range ratany, creosotebush

Ecological site: R030XB038NV—Gravelly pediment 3-5 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**170—Tenwell-Lanip association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,360 to 3,740

Precipitation: 5 to 7 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 270 days

***Composition***

Tenwell very gravelly loamy coarse sand, 2 to 8 percent slopes—50 percent

Lanip very gravelly sandy loam, 2 to 4 percent slopes—35 percent

Lanip very gravelly sandy loam, 2 to 4 percent slopes—7 percent

Wechech very gravelly sandy loam, 2 to 8 percent slopes—5 percent  
 Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—3 percent

### ***Component Description***

#### **Tenwell and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Nevada ephedra, spiny hopsage, range ratany, winterfat, creosotebush, other shrubs, white bursage, Indian ricegrass, bush muhly, big galleta, other perennial grasses, other perennial forbs

#### **Typical profile:**

Surface rock fragments: About 50 percent gravel

Layer 1—0 to 1 inch; very gravelly loamy coarse sand

Layer 2—1 to 4 inches; gravelly sandy loam

Layer 3—4 to 9 inches; sandy loam

Layer 4—9 to 22 inches; gravelly sandy clay loam

Layer 5—22 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 20 to 35 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB043NV—Claypan 5-7 P.Z.

### ***Component Description***

#### **Lanip and similar soils**

Landform: Fan remnants

Slope: 2 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial forbs, other perennial grasses, big galleta, Indian ricegrass, bush muhly, range ratany, other shrubs, creosotebush, winterfat, white bursage, Nevada ephedra, spiny hopsage

#### **Typical profile:**

Surface rock fragments: About 50 percent gravel

Layer 1—0 to 1 inch; very gravelly sandy loam

Layer 2—1 to 15 inches; gravelly loam

Layer 3—15 to 39 inches; clay loam

Layer 4—39 to 48 inches; gravelly sandy loam

Layer 5—48 to 60 inches; very gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 7 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7c

Ecological site: R030XB043NV—Claypan 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Lanip and similar soils**

Composition: 0 to 7 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Bush muhly, big galleta, other perennial grasses, white bursage, winterfat, creosotebush, other shrubs, Indian ricegrass

Ecological site: R030XB039NV—Limy fan 5-7 P.Z.

#### **Wechech and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, other perennial grasses, white bursage, other shrubs, range ratany, other annual forbs, other perennial forbs, creosotebush

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other perennial grasses, big galleta, other shrubs

Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **175—St. Thomas-Rock outcrop complex**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains  
 Elevation: 1,800 to 3,710  
 Precipitation: 3 to 7 inches  
 Air temperature: 57 to 70 degrees Fahrenheit  
 Frost-free period: 210 to 300 days

### ***Composition***

St. Thomas extremely stony fine sandy loam, 15 to 50 percent slopes—35 percent  
 St. Thomas very gravelly fine sandy loam, 15 to 50 percent slopes—30 percent  
 Rock outcrop, 30 to 75 percent slopes—20 percent  
 Weiser extremely gravelly fine sandy loam, 4 to 15 percent slopes—5 percent  
 Weiser very gravelly fine sandy loam, 4 to 15 percent slopes—5 percent  
 Zeheme extremely stony fine sandy loam, 30 to 75 percent slopes—4 percent  
 St. Thomas very cobbly fine sandy loam, 30 to 75 percent slopes—1 percent

### ***Component Description***

#### **St. Thomas and similar soils**

Landform: Southeast facing backslopes of mountains  
 Slope: 15 to 50 percent, southeast aspect  
 Parent material: Colluvium derived from limestone and dolomite over residuum weathered from limestone and dolomite  
 Typical vegetation: Other shrubs, white bursage, big galleta, other perennial forbs, range ratany, creosotebush

#### **Typical profile:**

Surface rock fragments: About 35 percent stones, 40 percent gravel, 10 percent cobbles  
 Layer 1—0 to 4 inches; extremely stony fine sandy loam  
 Layer 2—4 to 10 inches; very gravelly loam  
 Layer 3—10 to 20 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 14 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.5 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Component Description***

#### **St. Thomas dry and similar soils**

Landform: Southeast facing backslopes of mountains  
 Slope: 15 to 50 percent, southeast aspect  
 Parent material: Colluvium derived from limestone and dolomite over residuum weathered from limestone and dolomite

Typical vegetation: Other annual forbs, white bursage, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 10 percent cobbles, 2 percent stones, 50 percent gravel

Layer 1—0 to 2 inches; very gravelly fine sandy loam

Layer 2—2 to 14 inches; very gravelly loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

***Component Description***

**Rock outcrop**

Landform: Ridges

Slope: 30 to 75 percent

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Weiser and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 15 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on footslopes of fan remnants

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, other annual forbs, other perennial grasses, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Weiser dry and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Footslopes of fan remnants

Typical vegetation: Other annual forbs, other perennial forbs, white bursage, creosotebush, other shrubs

Ecological site: R030XB019NV—Limy 3-5 P.Z.

**Zeheme steep and similar soils**

Composition: 0 to 4 percent

Slope: 30 to 75 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on backslopes of mountains  
 Typical vegetation: Desert needlegrass, other perennial grasses, arid needlegrass,  
 other perennial forbs, Utah agave, blackbrush, ephedra, snakeweed, range ratany,  
 winterfat, creosotebush, Anderson wolfberry, Mexican cliffrose, other shrubs  
 Ecological site: R030XB068NV—Limestone hill 5-7 P.Z.

**St. Thomas and similar soils**

Composition: 0 to 1 percent  
 Slope: 30 to 75 percent, northwest to northeast aspects  
 Landform: Northwest to northeast aspects on backslopes of mountains  
 Typical vegetation: Other perennial forbs, white bursage, Torrey ephedra, range  
 ratany, Utah mortonia  
 Ecological site: R030XB111NV—Gravelly Limestone slope 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and  
 associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

**176—St. Thomas association**

***Map Unit Setting***

MLRA: 30  
 Landscape: Mountains  
 Elevation: 2,100 to 3,440  
 Precipitation: 3 to 7 inches  
 Air temperature: 57 to 65 degrees Fahrenheit  
 Frost-free period: 210 to 270 days

***Composition***

St. Thomas extremely gravelly sandy loam, 8 to 30 percent slopes—50 percent  
 St. Thomas very gravelly fine sandy loam, 8 to 30 percent slopes—35 percent  
 Rock outcrop—5 percent  
 Weiser very gravelly sandy loam, 2 to 8 percent slopes—5 percent  
 Zeheme extremely gravelly fine sandy loam, 8 to 30 percent slopes—4 percent  
 Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—1 percent

***Component Description***

**St. Thomas and similar soils**

Landform: Southeast facing backslopes of mountains  
 Slope: 8 to 30 percent, southeast aspect  
 Parent material: Colluvium derived from limestone and dolomite over residuum  
 weathered from limestone and dolomite  
 Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany,  
 creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 2 percent stones, 50 percent gravel, 10 percent  
 cobbles  
 Layer 1—0 to 2 inches; extremely gravelly sandy loam  
 Layer 2—2 to 14 inches; very gravelly loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.8 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

***Component Description***

**St. Thomas dry and similar soils**

Landform: Southeast facing backslopes of mountains

Slope: 8 to 30 percent, southeast aspect

Parent material: Colluvium derived from limestone and dolomite over residuum weathered from limestone and dolomite

Typical vegetation: Other annual forbs, creosotebush, other shrubs, white bursage

**Typical profile:**

Surface rock fragments: About 10 percent cobbles, 2 percent stones, 50 percent gravel

Layer 1—0 to 2 inches; very gravelly fine sandy loam

Layer 2—2 to 14 inches; very gravelly loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Rock outcrop**

Composition: 0 to 5 percent  
Landform: Cliffs  
Ecological site: None

#### **Weiser and similar soils**

Composition: 0 to 5 percent  
Slope: 2 to 8 percent  
Landform: Fan remnants  
Typical vegetation: Big galleta, other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, other annual forbs, other perennial grasses  
Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Zeheme and similar soils**

Composition: 0 to 4 percent  
Slope: 8 to 30 percent  
Landform: Backslopes of mountains  
Typical vegetation: Desert needlegrass, other perennial forbs, blackbrush, other shrubs  
Ecological site: R030XB030NV—Shallow Limestone slope 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 1 percent  
Slope: 2 to 4 percent  
Landform: Drainageways  
Typical vegetation: Creosotebush, big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, other shrubs  
Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

## **177—St. Thomas-Upperline-Whitebasin complex**

### ***Map Unit Setting***

MLRA: 30  
Landscape: Mountains  
Elevation: 1,510 to 3,020  
Precipitation: 3 to 7 inches  
Air temperature: 57 to 69 degrees Fahrenheit  
Frost-free period: 210 to 300 days

### ***Composition***

St. Thomas extremely gravelly sandy loam, 15 to 50 percent slopes—35 percent  
Upperline very gravelly sandy loam, 2 to 8 percent slopes—30 percent  
Whitebasin very fine sandy loam, 8 to 30 percent slopes—20 percent  
Wechsch very gravelly fine sandy loam, 2 to 4 percent slopes—5 percent  
Helkitchen extremely flaggy sandy loam, 8 to 30 percent slopes—5 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—3 percent  
 Hardbasin fine sandy loam, 2 to 8 percent slopes—2 percent

### ***Component Description***

#### **St. Thomas and similar soils**

Landform: Southeast facing backslopes of mountains

Slope: 15 to 50 percent, southeast aspect

Parent material: Colluvium and/or residuum weathered from limestone

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, big galleta

#### **Typical profile:**

Surface rock fragments: About 10 percent cobbles, 50 percent gravel, 2 percent stones

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 14 inches; very gravelly loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.8 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Component Description***

#### **Upperline and similar soils**

Landform: Rock pediments

Slope: 2 to 8 percent

Parent material: Alluvium and/or colluvium derived from limestone and sandstone over colluvium and/or residuum weathered from sandstone and siltstone

Typical vegetation: Bush muhly, big galleta, other perennial forbs, spiny menodora, creosotebush, white bursage, other shrubs

#### **Typical profile:**

Surface rock fragments: About 1 percent cobbles, 80 percent gravel

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 12 inches; very gravelly sandy loam

Layer 3—12 to 35 inches; very gravelly sandy loam

Layer 4—35 to 39 inches; very paragravelly sandy loam

Layer 5—39 to 49 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Depth to restrictive feature: Paralithic bedrock: 30 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB074NV—Cobbly loam 5-7 P.Z.

***Component Description*****Whitebasin and similar soils**

Landform: Backslopes of pediments

Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from gypsum

Typical vegetation: Other shrubs, other perennial forbs, Torrey ephedra, Anderson's wolfberry, Parry's sandpaperplant, Fremont dalea, white bursage

**Typical profile:**

Layer 1—0 to 1 inch; very fine sandy loam

Layer 2—1 to 11 inch; gypsiferous material

Layer 3—11 to 28 inches; gypsiferous material

Layer 4—28 to 38 inches; gypsiferous bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 20 to 30 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Wechech and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, cattle saltbush, other perennial forbs, Indian ricegrass

Ecological site: R030XY047NV—Alluvial plain

**Helkitchen and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: White bursage, winterfat, creosotebush, Anderson wolfberry, desert needlegrass, big galleta, other shrubs, other perennial forbs, other perennial grasses

Ecological site: R030XB123NV—Limestone slope 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Creosotebush, other shrubs, white burrobrush, big galleta, baccharis, bursage, other perennial forbs, other perennial grasses

Ecological site: R030XB028NV—Valley wash

**Hardbasin and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Pediments

Typical vegetation: Other perennial forbs, white bursage, Torrey ephedra, Anderson's wolfberry, Parry's sandpaperplant, Fremont dalea, other shrubs

Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**178—St. Thomas-Iceberg-Rock outcrop association**

***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 1,580 to 3,670

Precipitation: 3 to 7 inches

Air temperature: 57 to 76 degrees Fahrenheit

Frost-free period: 210 to 360 days

***Composition***

St. Thomas extremely stony fine sandy loam, 15 to 50 percent slopes—35 percent

Iceberg extremely stony loam, 15 to 50 percent slopes—25 percent

Rock outcrop—25 percent

Heleweiser very gravelly sandy loam, 8 to 30 percent slopes—7 percent

Baseline extremely gravelly fine sandy loam, 4 to 15 percent slopes—5 percent

St. Thomas very gravelly fine sandy loam, 8 to 30 percent slopes—3 percent

### ***Component Description***

#### **St. Thomas and similar soils**

Landform: South facing backslopes of mountains

Slope: 15 to 50 percent, south aspect

Parent material: Colluvium and/or residuum weathered from limestone

Typical vegetation: Range ratany, creosotebush, other shrubs, white bursage, other perennial forbs, big galleta

#### **Typical profile:**

Surface rock fragments: About 35 percent stones, 10 percent cobbles, 40 percent gravel

Layer 1—0 to 7 inches; extremely stony fine sandy loam

Layer 2—7 to 17 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.3 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Component Description***

#### **Iceberg and similar soils**

Landform: West to east aspects on backslopes of mountains

Slope: 15 to 50 percent, west to east aspects

Parent material: Colluvium and/or residuum weathered from limestone

Typical vegetation: Desert globemallow, other perennial grasses, creosotebush, white brittlebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 25 percent stones, 10 percent cobbles, 50 percent gravel

Layer 1—0 to 2 inches; extremely stony loam

Layer 2—2 to 7 inches; extremely gravelly loam

Layer 3—7 to 17 inches; extremely cobbly loam

Layer 4—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.8 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB077NV—Steep south slope

### ***Component Description***

#### **Rock outcrop**

Landform: Ridges

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Heleweiser and similar soils**

Composition: 0 to 7 percent  
 Slope: 8 to 30 percent  
 Landform: Shoulders of fan remnants  
 Typical vegetation: Other shrubs, creosotebush, white bursage, other annual forbs  
 Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

#### **Baseline and similar soils**

Composition: 0 to 5 percent  
 Slope: 4 to 15 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Range ratany, white bursage, other perennial forbs, other shrubs, creosotebush, other annual forbs, other perennial grasses, big galleta  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **St. Thomas dry and similar soils**

Composition: 0 to 3 percent  
 Slope: 8 to 30 percent, southeast aspect  
 Landform: Southeast facing backslopes of mountains  
 Typical vegetation: White bursage, creosotebush, other shrubs, other annual forbs  
 Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

## **180—Kidwell-Tenwell association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 2,330 to 3,350

Precipitation: 5 to 7 inches  
 Air temperature: 57 to 63 degrees Fahrenheit  
 Frost-free period: 180 to 260 days

### ***Composition***

Kidwell very gravelly sandy loam, 2 to 4 percent slopes—45 percent  
 Tenwell extremely gravelly loamy coarse sand, 2 to 4 percent slopes—40 percent  
 Lanip gravelly sandy loam, 1 to 2 percent slopes—7 percent  
 Wechech very gravelly sandy loam, 2 to 8 percent slopes—7 percent  
 Arizo extremely gravelly loamy coarse sand, 1 to 4 percent slopes—1 percent

### ***Component Description***

#### **Kidwell and similar soils**

Landform: Cancave fluves on fan remnants  
 Slope: 2 to 4 percent  
 Parent material: Mixed alluvium derived from volcanic rock  
 Typical vegetation: White bursage, other shrubs, big galleta, other perennial grasses,  
 Indian ricegrass, bush muhly, winterfat, creosotebush

#### **Typical profile:**

Surface rock fragments: About 45 percent gravel  
 Layer 1—0 to 1 inch; very gravelly sandy loam  
 Layer 2—1 to 9 inches; gravelly sandy loam  
 Layer 3—9 to 15 inches; gravelly sandy clay loam  
 Layer 4—15 to 31 inch; gravelly sandy clay loam  
 Layer 5—31 to 60 inches; gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 8 inches  
 Present flooding: Occasional  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB039NV—Limy fan 5-7 P.Z.

### ***Component Description***

#### **Tenwell and similar soils**

Landform: Summits of fan remnants  
 Slope: 2 to 4 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: White bursage, creosotebush, other shrubs, other perennial grasses, bush muhly, desert needlegrass, other perennial forbs

#### **Typical profile:**

Surface rock fragments: About 50 percent gravel  
 Layer 1—0 to 4 inches; extremely gravelly loamy coarse sand

Layer 2—4 to 9 inches; gravelly sandy loam  
 Layer 3—9 to 22 inches; gravelly sandy clay loam  
 Layer 4—22 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Duripan: 20 to 35 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB058NV—Granitic fan 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Lanip and similar soils**

Composition: 0 to 7 percent  
 Slope: 1 to 2 percent  
 Landform: Fan remnants  
 Typical vegetation: Indian ricegrass, bush muhly, big galleta, other perennial grasses, other perennial forbs, white bursage, Nevada ephedra, spiny hopsage, range ratany, winterfat, creosotebush, other shrubs  
 Ecological site: R030XB043NV—Claypan 5-7 P.Z.

#### **Wechech and similar soils**

Composition: 0 to 7 percent  
 Slope: 2 to 8 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 1 percent  
 Slope: 1 to 4 percent  
 Landform: Drainageways  
 Typical vegetation: Big galleta, other perennial forbs, bursage, baccharis, white burrobrush, other perennial grasses, other shrubs, creosotebush  
 Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:  
 "Range" section

"Engineering" and "Soil Properties" sections

## **185—Lastchance-Commski association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,080 to 4,590

Precipitation: 3 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

### ***Composition***

Lastchance extremely gravelly loam, 4 to 15 percent slopes—40 percent

Lastchance extremely gravelly loam, 4 to 15 percent slopes—30 percent

Commski very gravelly fine sandy loam, 2 to 8 percent slopes—15 percent

Ferrogold extremely gravelly loam, 4 to 15 percent slopes—5 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—5 percent

Lastchance extremely cobbly fine sandy loam, 2 to 8 percent slopes—5 percent

### ***Component Description***

#### **Lastchance and similar soils**

Landform: Summits of fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, desert needlegrass, Indian ricegrass

#### **Typical profile:**

Surface rock fragments: About 60 percent gravel, 10 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly loam

Layer 2—2 to 20 inches; very gravelly loam

Layer 3—20 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Petrocalcic: 20 to 30 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA058NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Lastchance high elevation and similar soils**

Landform: Summits of upper elevational fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Range ratany, white bursage, other perennial forbs, creosotebush, desert needlegrass, winterfat, other shrubs, Indian ricegrass

#### **Typical profile:**

Surface rock fragments: About 10 percent cobbles, 60 percent gravel

Layer 1—0 to 2 inches; extremely gravelly loam

Layer 2—2 to 20 inches; very gravelly loam

Layer 3—20 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Petrocalcic: 20 to 30 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA007NV—Gravelly loam 5-7 P.Z.

### ***Component Description***

#### **Commski and similar soils**

Landform: Summits of inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Other shrubs, creosotebush, Indian ricegrass, desert needlegrass, other perennial forbs, white bursage, winterfat, range ratany

#### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 5 percent stones, 80 percent gravel

Layer 1—0 to 5 inches; very gravelly fine sandy loam

Layer 2—5 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA007NV—Gravelly loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Ferrogold and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Creosotebush, blackbrush, white bursage, other perennial forbs, Indian ricegrass, other shrubs, Nevada ephedra

Ecological site: R030XA094NV—Shallow gravelly loam 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Cattle saltbush, white burrobrush, creosotebush, wolfberry, bladdersage, other shrubs, white bursage, other perennial forbs, desert needlegrass, Indian ricegrass

Ecological site: R030XA076NV—Upland wash

#### **Lastchance and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Creosotebush, other shrubs, spiny menodora, range ratany, white bursage, other perennial forbs

Ecological site: R030XA071NV—Cobbly loam 5-7" P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **186—Lastchance-Ferrogold-Commski association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,600 to 4,600

Precipitation: 5 to 9 inches

Air temperature: 56 to 64 degrees Fahrenheit

Frost-free period: 180 to 250 days

### ***Composition***

Lastchance extremely gravelly loam, 4 to 15 percent slopes—40 percent

Ferrogold extremely gravelly loam, 4 to 15 percent slopes—30 percent  
 Commski very gravelly fine sandy loam, 2 to 8 percent slopes—15 percent  
 Niavi extremely cobbly fine sandy loam, 2 to 8 percent slopes—6 percent  
 Arizo very gravelly loamy sand, 2 to 8 percent slopes—3 percent  
 Lastchance extremely cobbly fine sandy loam, 2 to 8 percent slopes—3 percent  
 Irongold extremely gravelly loam, 4 to 15 percent slopes—3 percent

### ***Component Description***

#### **Lastchance and similar soils**

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Creosotebush, range ratany, Indian ricegrass, desert needlegrass,  
 other perennial forbs, white bursage, other shrubs, winterfat

#### **Typical profile:**

Surface rock fragments: About 60 percent gravel, 0 percent stones, 10 percent  
 cobbles

Layer 1—0 to 2 inches; extremely gravelly loam

Layer 2—2 to 20 inches; very gravelly loam

Layer 3—20 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
 information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Petrocalcic: 20 to 30 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability  
 class: Moderate)

Available water capacity: About 1.2 inches

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA007NV—Gravelly loam 5-7 P.Z.

### ***Component Description***

#### **Ferrogold and similar soils**

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Creosotebush, other shrubs, Indian ricegrass, Nevada ephedra,  
 blackbrush, other perennial forbs, white bursage

#### **Typical profile:**

Surface rock fragments: About 65 percent gravel, 5 percent cobbles, 1 percent stones

Layer 1—0 to 3 inches; extremely gravelly loam

Layer 2—3 to 9 inches; very gravelly loam

Layer 3—9 to 15 inches; very gravelly loam

Layer 4—15 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
 information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Petrocalcic: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.0 inch

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA094NV—Shallow gravelly loam 5-7 P.Z.

***Component Description*****Commski and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Indian ricegrass, desert needlegrass, other perennial forbs, white bursage, winterfat, range ratany, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 2 percent stones, 3 percent cobbles, 55 percent gravel

Layer 1—0 to 5 inches; very gravelly fine sandy loam

Layer 2—5 to 14 inches; extremely gravelly sandy loam

Layer 3—14 to 60 inches; extremely gravelly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA007NV—Gravelly loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Niavi and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Stream terraces

Typical vegetation: Range ratany, Anderson's wolfberry, Virgin River encelia, creosotebush, ephedra, Mojave buckwheat, white bursage, big galleta

Ecological site: R030XB134NV—Quartzite outwash

**Arizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: White burrobrush, other shrubs, bladdersage, wolfberry, Indian ricegrass, desert needlegrass, other perennial forbs, white bursage, cattle saltbush, creosotebush

Ecological site: R030XA076NV—Upland wash

**Lastchance and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, spiny menodora, creosotebush, range ratany, other perennial forbs, white bursage

Ecological site: R030XA071NV—Cobbly loam 5-7" P.Z.

**Irongold and similar soils**

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, ephedra, blackbrush, other perennial grasses, desert needlegrass, other perennial forbs

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**190—Filaree-Lanip-Nickel association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,330 to 3,280

Precipitation: 5 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Filaree very gravelly fine sandy loam, 1 to 4 percent slopes—40 percent

Lanip very gravelly sandy loam, 2 to 4 percent slopes—30 percent

Nickel very gravelly sandy loam, 0 to 4 percent slopes—15 percent

Lanip very gravelly sandy loam, 2 to 4 percent slopes—6 percent

Hypoint gravelly sandy loam, 0 to 2 percent slopes—4 percent

Bitter Spring very gravelly loam, 2 to 4 percent slopes—3 percent

Arizo extremely gravelly loamy coarse sand, 1 to 4 percent slopes—2 percent

***Component Description*****Filaree and similar soils**

Landform: Fan aprons

Slope: 1 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Creosotebush, other perennial forbs, other annual forbs, other perennial grasses, range ratany, white bursage, other shrubs, big galleta

**Typical profile:**

Surface rock fragments: About 50 percent gravel

Layer 1—0 to 2 inches; very gravelly fine sandy loam

Layer 2—2 to 22 inches; stratified gravelly fine sandy loam to fine sandy loam

Layer 3—22 to 60 inches; stratified gravelly coarse sandy loam to very gravelly fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 6 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description***

**Lanip and similar soils**

Landform: Fan remnants

Slope: 2 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Indian ricegrass, big galleta, other shrubs, creosotebush, other perennial grasses, bush muhly, other perennial forbs, white bursage, Nevada ephedra, winterfat, range ratany, spiny hopsage

**Typical profile:**

Surface rock fragments: About 50 percent gravel

Layer 1—0 to 1 inch; very gravelly sandy loam

Layer 2—1 to 15 inches; gravelly loam

Layer 3—15 to 39 inches; clay loam

Layer 4—39 to 48 inches; gravelly sandy loam

Layer 5—48 to 60 inches; very gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 7 inches

Present flooding: Rare

Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7c  
 Ecological site: R030XB043NV—Claypan 5-7 P.Z.

### ***Component Description***

#### **Nickel and similar soils**

Landform: Summits of fan remnants  
 Slope: 0 to 4 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Other annual forbs, other perennial forbs, other perennial grasses,  
 big galleta, other shrubs, creosotebush, range ratany, white bursage

#### **Typical profile:**

Surface rock fragments: About 30 percent cobbles, 20 percent stones, 35 percent  
 gravel  
 Layer 1—0 to 6 inches; very gravelly sandy loam  
 Layer 2—6 to 11 inch; very gravelly sandy loam  
 Layer 3—11 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
 information.

#### **Component Properties and Qualities**

Runoff: Very low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
 Moderately rapid)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of  
 the Soils" section.

### ***Contrasting Inclusions***

#### **Lanip and similar soils**

Composition: 0 to 6 percent  
 Slope: 2 to 4 percent  
 Landform: Fan remnants  
 Typical vegetation: Other shrubs, creosotebush, winterfat, white bursage, bush muhly,  
 Indian ricegrass, other perennial grasses, big galleta  
 Ecological site: R030XB039NV—Limy fan 5-7 P.Z.

#### **Hypoint and similar soils**

Composition: 0 to 4 percent  
 Slope: 0 to 2 percent  
 Landform: Fan skirts

Typical vegetation: Creosotebush, white bursage, other perennial forbs, other annual forbs, other perennial grasses, big galleta, range ratany, other shrubs  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Bitter Spring and similar soils**

Composition: 0 to 3 percent  
 Slope: 2 to 4 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Indian ricegrass, bush muhly, other shrubs, big galleta, other perennial grasses, white bursage, winterfat, creosotebush  
 Ecological site: R030XB039NV—Limy fan 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent  
 Slope: 1 to 4 percent  
 Landform: Drainageways  
 Typical vegetation: Baccharis, white burrobrush, big galleta, other perennial grasses, other perennial forbs, other shrubs, creosotebush, bursage  
 Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

**191—Bluepoint-Grapevine association**

***Map Unit Setting***

MLRA: 30  
 Landscape: Basin floor  
 Elevation: 2,230 to 3,510  
 Precipitation: 5 to 7 inches  
 Air temperature: 61 to 69 degrees Fahrenheit  
 Frost-free period: 210 to 300 days

***Composition***

Bluepoint loamy fine sand, 2 to 8 percent slopes—50 percent  
 Grapevine loamy sand, 2 to 8 percent slopes—25 percent  
 Grapevine gravelly loamy sand, 2 to 8 percent slopes—15 percent  
 Arizo extremely gravelly sandy loam, 4 to 15 percent slopes—4 percent  
 Bluepoint loamy fine sand, 2 to 4 percent slopes—2 percent  
 Cambidic Haplodurids extremely gravelly fine sandy loam, 2 to 8 percent slopes—2 percent  
 Grapevine gravelly loamy sand, 0 to 4 percent slopes—2 percent

***Component Description***

**Bluepoint and similar soils**

Landform: Sand sheets  
 Slope: 2 to 8 percent  
 Parent material: Eolian sands

Typical vegetation: Indian ricegrass, other perennial forbs, big galleta, range ratany, white bursage, other shrubs, winterfat

**Typical profile:**

Layer 1—0 to 6 inches; loamy fine sand

Layer 2—6 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB004NV—Sandy 5-7 P.Z.

***Component Description***

**Grapevine overblown and similar soils**

Landform: Sand sheets, alluvial flats

Slope: 2 to 8 percent

Parent material: Influenced by some gypsum in mixed alluvium

Typical vegetation: Other shrubs, Indian ricegrass, bush muhly, big galleta, other perennial forbs

**Typical profile:**

Surface rock fragments: About 5 percent fine subangular gravel

Layer 1—0 to 10 inches; loamy sand

Layer 2—10 to 60 inches; stratified sandy loam to clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 8 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB034NV—Sandy plain 5-7 P.Z.

***Component Description***

**Grapevine and similar soils**

Landform: Fan aprons

Slope: 2 to 8 percent

Parent material: Influenced by some gypsum in mixed alluvium

Typical vegetation: White bursage, Indian ricegrass, winterfat, big galleta, other shrubs, other perennial forbs

**Typical profile:**

Surface rock fragments: About 20 percent subangular gravel

Layer 1—0 to 4 inches; gravelly loamy sand

Layer 2—4 to 60 inches; stratified sandy loam to clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Salinity: Saline within 40 inches

Available water capacity: About 8 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB104NV—Coarse silty 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Arizo and similar soils**

Composition: 0 to 4 percent

Slope: 4 to 15 percent

Landform: Fan aprons

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, other annual forbs, other perennial grasses, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Bluepoint and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Sand sheets

Typical vegetation: Big galleta, white bursage, other perennial forbs, other shrubs, Indian ricegrass

Ecological site: R030XB063NV—Sandhill 5-7 P.Z.

**Cambidic Haplodurids and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Cambidic Haplodurids

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, other shrubs, creosotebush, range ratany, white bursage

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Grapevine and similar soils**

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Fan skirts

Typical vegetation: Spiny hopsage, winterfat, other perennial grasses, other perennial forbs, Nevada ephedra, big galleta, other shrubs, fourwing saltbush, Indian ricegrass, wolfberry

Ecological site: R030XB035NV—Sandy loam 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**192—Bluepoint association**

***Map Unit Setting***

MLRA: 30

Landscape: Basin floor

Elevation: 2,760 to 3,180

Precipitation: 5 to 7 inches

Air temperature: 64 to 69 degrees Fahrenheit

Frost-free period: 240 to 300 days

***Composition***

Bluepoint loamy fine sand, 2 to 8 percent slopes—9 percent

Grapevine gravelly loamy sand, 0 to 4 percent slopes—2 percent

Hypoint gravelly loamy fine sand, 2 to 8 percent slopes—2 percent

Typic Natrargids gravelly sandy loam, 0 to 2 percent slopes—2 percent

Bluepoint loamy fine sand, 2 to 8 percent slopes—55 percent

Bluepoint loamy fine sand, 2 to 8 percent slopes—30 percent

***Component Description***

**Bluepoint and similar soils**

Landform: Sand sheets

Slope: 2 to 8 percent

Parent material: Eolian sands

Typical vegetation: Big galleta, winterfat, other shrubs, range ratany, white bursage, other perennial forbs, Indian ricegrass

**Typical profile:**

Layer 1—0 to 6 inches; loamy fine sand

Layer 2—6 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 5 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB004NV—Sandy 5-7 P.Z.

#### ***Component Description***

##### **Bluepoint hummocky and similar soils**

Landform: Sand sheets  
 Slope: 2 to 8 percent  
 Parent material: Eolian sands  
 Typical vegetation: Big galleta, other perennial forbs, other shrubs, bush muhly, Indian ricegrass

##### **Typical profile:**

Layer 1—0 to 6 inches; loamy fine sand  
 Layer 2—6 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

##### **Component Properties and Qualities**

Runoff: Very low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)  
 Available water capacity: About 5 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB034NV—Sandy plain 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Bluepoint and similar soils**

Composition: 0 to 9 percent  
 Slope: 2 to 8 percent  
 Landform: Inset fans  
 Typical vegetation: Bush muhly, big galleta, other perennial grasses, Indian ricegrass, winterfat, creosotebush, other shrubs, white bursage  
 Ecological site: R030XB039NV—Limy fan 5-7 P.Z.

##### **Grapevine and similar soils**

Composition: 0 to 2 percent  
 Slope: 0 to 4 percent  
 Landform: Fan skirts

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, fourwing saltbush, Nevada ephedra, Indian ricegrass, winterfat, wolfberry, other shrubs, spiny hopsage

Ecological site: R030XB035NV—Sandy loam 5-7 P.Z.

**Hypoint and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan skirts

Typical vegetation: Other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Typic Natrargids and similar soils**

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Fan skirts

lakebed (relict)s

Typical vegetation: Other annual forbs, creosotebush, other perennial forbs, white bursage, other shrubs

Ecological site: R030XB019NV—Limy 3-5 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**195—Cruzspring-Schader-Rock outcrop association**

***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 4,700 to 6,500

Precipitation: 7 to 12 inches

Air temperature: 51 to 57 degrees Fahrenheit

Frost-free period: 130 to 200 days

***Composition***

Cruzspring extremely gravelly sandy loam, 15 to 30 percent slopes—40 percent

Schader extremely gravelly sandy loam, 15 to 50 percent slopes—30 percent

Rock outcrop—15 percent

Zibate extremely gravelly sandy loam, 15 to 50 percent slopes—9 percent

Sed very gravelly loam, 15 to 50 percent slopes—4 percent

Veet family very gravelly sandy loam, 2 to 8 percent slopes—2 percent

***Component Description***

**Cruzspring and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 30 percent

Parent material: Colluvium and/or residuum weathered from quartzite

Typical vegetation: Other perennial grasses, other shrubs, desert bitterbrush, desert needlegrass, Nevada ephedra, other perennial forbs, blackbrush

**Typical profile:**

Surface rock fragments: About 1 percent stones, 5 percent cobbles, 60 percent gravel

Layer 1—0 to 1 inch; extremely gravelly sandy loam

Layer 2—1 to 3 inches; very gravelly sandy loam

Layer 3—3 to 11 inch; very gravelly loam

Layer 4—11 to 13 inches; bedrock

Layer 5—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 10 to 14 inches Lithic bedrock: 12 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.8 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R029XY077NV—Shallow gravelly loam 8-10 P.Z.

***Component Description*****Schader and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from quartzite

Typical vegetation: Sandberg bluegrass, other perennial grasses, fourwing saltbush, Wyoming big sagebrush, needleandthread, other shrubs, ephedra, desert needlegrass, Indian ricegrass

**Typical profile:**

Surface rock fragments: About 60 percent gravel, 10 percent cobbles, 3 percent stones

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 9 inches; very gravelly loam

Layer 3—9 to 28 inches; extremely gravelly sandy clay loam

Layer 4—28 to 38 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R029XY010NV—Loamy slope 8-10 P.Z.

### ***Component Description***

#### **Rock outcrop**

Landform: Mountains

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Zibate and similar soils**

Composition: 0 to 9 percent

Slope: 15 to 50 percent, north to east aspects

Landform: North to east aspects on mountains

Typical vegetation: Other shrubs, blackbrush, big galleta, desert needlegrass

Ecological site: R030XB076NV—Shallow gravelly slope 5-7 P.Z.

#### **Sed and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—bluegrass, Indian ricegrass, green ephedra, Mexican cliffrose, desert bitterbrush, needleleaf rabbitbrush, curleaf mountainmahogany, needlegrass, turbinella oak, manzanita, Wyoming big sagebrush

Ecological site: F029XY065NV

#### **Veet family flooded and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, mixed, superactive, mesic Xeric Haplocambids

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, desert almond, other shrubs

Ecological site: R029XY009NV—Upland wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

## **200—Commski-Weiser-Threelakes association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,590 to 4,590  
 Precipitation: 3 to 7 inches  
 Air temperature: 57 to 70 degrees Fahrenheit  
 Frost-free period: 180 to 300 days

### ***Composition***

Hypoint very gravelly sandy loam, 0 to 2 percent slopes—5 percent  
 Weiser family extremely gravelly fine sandy loam, 0 to 4 percent slopes—5 percent  
 Weiser very gravelly sandy loam, 8 to 15 percent slopes—3 percent  
 Weiser gravelly very fine sandy loam, 2 to 4 percent slopes—2 percent  
 Commski extremely gravelly loam, 2 to 8 percent slopes—40 percent  
 Weiser extremely gravelly fine sandy loam, 2 to 8 percent slopes—35 percent  
 Threelakes extremely gravelly loamy sand, 2 to 8 percent slopes—10 percent

### ***Component Description***

#### **Commski and similar soils**

Landform: Summits of fan remnants  
 Slope: 2 to 8 percent  
 Parent material: Alluvium derived from limestone and dolomite  
 Typical vegetation: Other perennial forbs, Indian ricegrass, other shrubs, wolfberry, creosotebush, shadscale, white bursage

#### **Typical profile:**

Surface rock fragments: About 80 percent gravel, 5 percent cobbles, 5 percent stones  
 Layer 1—0 to 3 inches; extremely gravelly loam  
 Layer 2—3 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

### ***Component Description***

#### **Weiser and similar soils**

Landform: Summits of inset fans  
 Slope: 2 to 8 percent  
 Parent material: Alluvium derived from limestone and dolomite  
 Typical vegetation: Big galleta, other annual forbs, white bursage, range ratany, creosotebush, other perennial forbs, other perennial grasses, other shrubs

#### **Typical profile:**

Layer 1—0 to 6 inches; extremely gravelly fine sandy loam  
 Layer 2—6 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### ***Component Description***

##### **Threelakes and similar soils**

Landform: Drainageways

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, creosotebush, other shrubs, white burrobrush

##### **Typical profile:**

Surface rock fragments: About 80 percent gravel, 5 percent cobbles

Layer 1—0 to 4 inches; extremely gravelly loamy sand

Layer 2—4 to 31 inch; extremely gravelly fine sandy loam

Layer 3—31 to 60 inches; stratified extremely gravelly fine sandy loam to extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Sodicity: Sodic within 40 inches

Available water capacity: About 3 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB028NV—Valley wash

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Hypoint and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Fan skirts

Typical vegetation: Fourwing saltbush, other shrubs, creosotebush, cattle saltbush, white bursage, other perennial forbs, Indian ricegrass

Ecological site: R030XY046NV—Outwash plain

**Weiser family and similar soils**

Composition: 0 to 5 percent

Classification: Loamy-skeletal, carbonatic, thermic Typic Haplocalcids

Slope: 0 to 4 percent

Landform: Fan remnants

Typical vegetation: White bursage, range ratany, desert globemallow, triangle goldeneye, other shrubs, creosotebush, other perennial forbs, ephedra, Virgin River encelia, big galleta

Ecological site: R030XB073NV—Volcanic slope 5-7 P.Z.

**Weiser and similar soils**

Composition: 0 to 3 percent

Slope: 8 to 15 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, other perennial forbs, spiny menodora, creosotebush, big galleta, bush muhly, white bursage

Ecological site: R030XB074NV—Cobbly loam 5-7 P.Z.

**Weiser and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Desert needlegrass, bush muhly, other perennial forbs, white bursage, creosotebush, spiny menodora, other shrubs, big galleta

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**201—Commski extremely gravelly loam, 8 to 30 percent slopes**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,150 to 3,380

Precipitation: 3 to 6 inches

Air temperature: 64 to 70 degrees Fahrenheit

Frost-free period: 210 to 300 days

***Composition***

Commski extremely gravelly loam, 8 to 30 percent slopes—85 percent

Commski extremely gravelly loam, 8 to 30 percent slopes—7 percent

Commski very gravelly loam, 8 to 30 percent slopes—6 percent

Oldspan extremely gravelly fine sandy loam, 2 to 8 percent slopes—2 percent

### ***Component Description***

#### **Commski and similar soils**

Landform: Summits of fan remnants

Slope: 8 to 30 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Wolfberry, shadscale, white bursage, other perennial forbs, Indian ricegrass, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 80 percent gravel, 5 percent stones

Layer 1—0 to 3 inches; extremely gravelly loam

Layer 2—3 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Commski and similar soils**

Composition: 0 to 7 percent

Slope: 8 to 30 percent

Landform: Fan remnants

Typical vegetation: Desert needlegrass, other perennial forbs, blackbrush, other shrubs

Ecological site: R030XB056NV—Shallow granitic slope 5-7 P.Z.

#### **Commski and similar soils**

Composition: 0 to 6 percent

Slope: 8 to 30 percent

Landform: Fan remnants

Typical vegetation: White bursage, other perennial forbs, other shrubs, creosotebush, Indian ricegrass, big galleta, ratany

Ecological site: R030XB054NV—Sandy 3-5 P.Z.

#### **Oldspan and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Other perennial grasses, California bearpoppy, seepweed, other shrubs, wolfberry, desertholly saltbush, other perennial forbs

Ecological site: R030XA060NV—Gypsic loam 3-5 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **202—Commski-Lastchance association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,920 to 4,460

Precipitation: 3 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

### ***Composition***

Commski very gravelly fine sandy loam, 2 to 8 percent slopes—70 percent

Lastchance extremely gravelly loam, 2 to 8 percent slopes—15 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—9 percent

Commski very gravelly fine sandy loam, 0 to 2 percent slopes—3 percent

Lastchance extremely cobbly fine sandy loam, 2 to 8 percent slopes—3 percent

### ***Component Description***

#### **Commski and similar soils**

Landform: Summits of inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: White bursage, range ratany, other perennial forbs, desert needlegrass, Indian ricegrass, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 5 percent stones, 5 percent cobbles, 80 percent gravel

Layer 1—0 to 5 inches; very gravelly fine sandy loam

Layer 2—5 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA058NV—Limy 5-7 P.Z.

***Component Description*****Lastchance and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Other perennial forbs, white bursage, desert needlegrass, creosotebush, other shrubs, Indian ricegrass, range ratany

**Typical profile:**

Surface rock fragments: About 60 percent gravel, 10 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly loam

Layer 2—2 to 20 inches; very gravelly loam

Layer 3—20 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Petrocalcic: 20 to 30 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA058NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Arizo and similar soils**

Composition: 0 to 9 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, other shrubs, desert needlegrass, other perennial forbs, white bursage, cattle saltbush, white burrobrush, creosotebush, wolfberry, bladdersage

Ecological site: R030XA076NV—Upland wash

**Commski and similar soils**

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Desert globemallow, other perennial forbs, big galleta, Virgin River encelia, ephedra, range ratany, creosotebush, other shrubs, triangle goldeneye, white bursage

Ecological site: R030XB073NV—Volcanic slope 5-7 P.Z.

**Lastchance and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: White bursage, range ratany, creosotebush, spiny menodora, other shrubs, other perennial forbs

Ecological site: R030XA071NV—Cobbly loam 5-7" P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**203—Commski-Oldspan-Lastchance association**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,690 to 4,100

Precipitation: 3 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Commski very gravelly fine sandy loam, 2 to 8 percent slopes—35 percent

Oldspan gravelly fine sandy loam, 2 to 8 percent slopes—30 percent

Lastchance extremely gravelly loam, 2 to 8 percent slopes—20 percent

Weiser very gravelly sandy loam, 2 to 8 percent slopes—6 percent

Lastchance very gravelly sandy loam, 0 to 4 percent slopes—4 percent

Weiser gravelly very fine sandy loam, 0 to 4 percent slopes—3 percent

Threelakes extremely gravelly fine sandy loam, 2 to 8 percent slopes—2 percent

***Component Description***

**Commski and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: White bursage, range ratany, winterfat, desert needlegrass, Indian ricegrass, creosotebush, other shrubs, other perennial forbs

**Typical profile:**

Surface rock fragments: About 80 percent gravel, 5 percent cobbles, 5 percent stones

Layer 1—0 to 5 inches; very gravelly fine sandy loam

Layer 2—5 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA007NV—Gravelly loam 5-7 P.Z.

***Component Description*****Oldspan and similar soils**

Landform: Smooth fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium derived from limestone and sandstone

Typical vegetation: Other shrubs, creosotebush

**Typical profile:**

Surface rock fragments: About 2 percent cobbles, 85 percent gravel

Layer 1—0 to 3 inches; gravelly fine sandy loam

Layer 2—3 to 10 inches; fine sandy loam

Layer 3—10 to 20 inches; loam

Layer 4—20 to 40 inches; stratified extremely gravelly loam to extremely gravelly loamy coarse sand

Layer 5—40 to 60 inches; stratified extremely gravelly fine sandy loam to extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Sodicity: Sodic within 40 inches

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB092NV—Desert patina

***Component Description*****Lastchance and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Range ratany, Indian ricegrass, desert needlegrass, winterfat, creosotebush, other perennial forbs, other shrubs, white bursage

**Typical profile:**

Surface rock fragments: About 60 percent gravel, 10 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly loam

Layer 2—2 to 20 inches; very gravelly loam

Layer 3—20 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Petrocalcic: 20 to 30 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA007NV—Gravelly loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Weiser and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial forbs, range ratany, ephedra, Indian ricegrass, white bursage, big galleta, other shrubs, creosotebush, winterfat

Ecological site: R030XB102NV—Gravelly loam 5-7 P.Z.

**Lastchance and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: White burrobush, other annual grasses, other perennial grasses, other perennial forbs, other shrubs, creosotebush, white bursage

Ecological site: R030XA067NV—Limy hill 3-5 P.Z.

**Weiser and similar soils**

Composition: 0 to 3 percent

Slope: 0 to 4 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, spiny menodora, creosotebush, desert needlegrass, white bursage, other perennial forbs, big galleta, bush muhly

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

**Threelakes and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, white bursage, big galleta, ephedra

Ecological site: R030XB066NV—Basaltic fan 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

## **205—Callville-Badland-Guardian association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,580 to 3,080

Precipitation: 3 to 5 inches

Air temperature: 70 to 75 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Callville fine sandy loam, 15 to 30 percent slopes—55 percent

Badland, 50 to 75 percent slopes—30 percent

Guardian gypsiferous fine sandy loam, 15 to 50 percent slopes—10 percent

Carrizo extremely gravelly loamy sand, 2 to 8 percent slopes—5 percent

### ***Component Description***

#### **Callville and similar soils**

Landform: Shoulders of pediments

Slope: 15 to 30 percent

Parent material: Residuum weathered from sandstone and siltstone

Typical vegetation: Other shrubs, desertholly, other shrubs

#### **Typical profile:**

Surface rock fragments: About 5 percent gravel

Layer 1—0 to 2 inches; fine sandy loam

Layer 2—2 to 25 inches; gravelly gypsiferous fine sandy loam

Layer 3—25 to 43 inches; bedrock

Layer 4—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches Lithic bedrock: 39 to 59 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB116NV—Shallow pediment 3-5 P.Z.

***Component Description***

**Badland**

Landform: Backslopes of pediments

Slope: 50 to 75 percent

**Component Properties and Qualities**

Runoff: Very high

Present ponding: None

**Interpretive Groups**

Nonirrigated land capability: 8e

Ecological site: None

***Component Description***

**Guardian and similar soils**

Landform: Shoulders of pediments

Slope: 15 to 50 percent

Parent material: Residuum weathered from gypsum

Typical vegetation: Shrubby tiquilia, silverleaf sunray, Parry's sandpaperplant, pygmycedar, other shrubs, Fremont dalea

**Typical profile:**

Surface rock fragments: About 5 percent gravel

Layer 1—0 to 2 inches; gypsiferous fine sandy loam

Layer 2—2 to 4 inches; gypsiferous material

Layer 3—4 to 19 inches; gypsiferous material

Layer 4—19 to 29 inches; gypsiferous bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB118NV—Gypsic hill 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Carrizo and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial forbs, big galleta, other perennial grasses, other shrubs, bursage, baccharis, white burrobrush, creosotebush

Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

## **207—Callville association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Piedmont

Elevation: 1,670 to 1,940

Precipitation: 3 to 5 inches

Air temperature: 70 to 73 degrees Fahrenheit

Frost-free period: 300 to 350 days

### ***Composition***

Callville sandy loam, 8 to 30 percent slopes—60 percent

Callville gravelly fine sandy loam, 15 to 50 percent slopes—25 percent

Baseline extremely gravelly fine sandy loam, 4 to 15 percent slopes—5 percent

Badland, 30 to 50 percent slopes—5 percent

Carrizo extremely gravelly loamy sand, 2 to 8 percent slopes—3 percent

Ramshead family extremely flaggy sandy loam, 15 to 50 percent slopes—2 percent

### ***Component Description***

#### **Callville and similar soils**

Landform: Toeslopes of pediments

Slope: 8 to 30 percent

Parent material: Residuum weathered from sandstone and siltstone

Typical vegetation: Torrey ephedra, other shrubs, Fremont dalea, other perennial forbs, Parry's sandpaperplant, white bursage, Anderson's wolfberry

#### **Typical profile:**

Layer 1—0 to 2 inches; sandy loam

Layer 2—2 to 25 inches; gravelly gypsiferous fine sandy loam

Layer 3—25 to 43 inches; bedrock

Layer 4—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches Lithic bedrock: 39 to 59 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

### ***Component Description***

#### **Callville steep and similar soils**

Landform: Toeslopes of pediments

Slope: 15 to 50 percent

Parent material: Residuum weathered from sandstone and siltstone

Typical vegetation: Other shrubs, Fremont dalea, Parry's sandpaperplant, Torrey ephedra, white bursage, Anderson's wolfberry, other perennial forbs

#### **Typical profile:**

Layer 1—0 to 2 inches; gravelly fine sandy loam

Layer 2—2 to 25 inches; gravelly gypsiferous fine sandy loam

Layer 3—25 to 43 inches; bedrock

Layer 4—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches Lithic bedrock: 39 to 59 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Badland**

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Backslopes of fan remnants

Ecological site: None

**Baseline and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Range ratany, creosotebush, other shrubs, white bursage, other perennial forbs, big galleta, other perennial grasses, other annual forbs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Carrizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other shrubs, other perennial forbs, Fremont dalea, creosotebush, white burrobrush, desert rabbitbrush, catclaw, big galleta, other perennial grasses

Ecological site: R030XB132NV—Gravelly wash 3-5 P.Z.

**Ramshead family and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, hyperthermic, shallow  
Typic Torriorthents

Slope: 15 to 50 percent

Landform: Backslopes of hills

Typical vegetation: Creosotebush, white bursage, Fremont's dalea, shadscale, Anderson's wolfberry, silverleaf sunray, other shrubs

Ecological site: R030XB131NV—Calcareous pediment 3-5 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**210—Nickel-Arizo association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,670 to 3,810

Precipitation: 5 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 200 to 300 days

***Composition***

Nickel gravelly sandy loam, 2 to 8 percent slopes—55 percent

Arizo very gravelly loamy sand, 2 to 8 percent slopes—40 percent

Crosgrain very gravelly sandy loam, 2 to 4 percent slopes—3 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent

***Component Description*****Nickel and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial grasses, other annual forbs, big galleta, other perennial forbs, range ratany, creosotebush, other shrubs, white bursage

**Typical profile:**

Surface rock fragments: About 30 percent cobbles, 35 percent gravel, 1 percent stones

Layer 1—0 to 4 inches; gravelly sandy loam

Layer 2—4 to 11 inch; very gravelly sandy loam

Layer 3—11 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description***

**Arizo and similar soils**

Landform: Fan aprons

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other shrubs, big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush

**Typical profile:**

Surface rock fragments: About 10 percent cobbles, 40 percent gravel

Layer 1—0 to 2 inches; very gravelly loamy sand

Layer 2—2 to 6 inches; sand

Layer 3—6 to 60 inches; stratified very gravelly coarse sand to extremely gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Crosgrain and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: Range ratany, big galleta, other perennial grasses, other perennial forbs, white bursage, creosotebush, other shrubs, other annual forbs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Bursage, baccharis, white burrobrush, creosotebush, other perennial forbs, other shrubs, other perennial grasses, big galleta

Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**211—Nickel-Crosgrain association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,900 to 2,260

Precipitation: 5 to 8 inches

Air temperature: 61 to 70 degrees Fahrenheit

Frost-free period: 220 to 300 days

***Composition***

Nickel extremely cobbly fine sandy loam, 2 to 4 percent slopes—50 percent

Crosgrain very cobbly fine sandy loam, 2 to 4 percent slopes—40 percent

Nickel extremely stony fine sandy loam, 2 to 4 percent slopes—5 percent

Bluepoint gravelly loamy fine sand, 0 to 4 percent slopes—2 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—2 percent

Typic Torriorthents very gravelly sandy loam, 2 to 4 percent slopes—1 percent

***Component Description*****Nickel and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Range ratany, white bursage, creosotebush, other annual forbs, other shrubs, big galleta, other perennial grasses, other perennial forbs

**Typical profile:**

Surface rock fragments: About 35 percent gravel, 30 percent cobbles, 20 percent stones

Layer 1—0 to 3 inches; extremely cobbly fine sandy loam

Layer 2—3 to 11 inch; very gravelly sandy loam

Layer 3—11 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description***

**Crossgrain and similar soils**

Landform: Backslopes of partial ballenas

Slope: 2 to 4 percent

Parent material: Mixed alluvium derived from metamorphic rock

Typical vegetation: White bursage, other annual forbs, other perennial grasses, big galleta, creosotebush, range ratany, other perennial forbs, other shrubs

**Typical profile:**

Surface rock fragments: About 20 percent cobbles, 20 percent gravel, 2 percent stones

Layer 1—0 to 3 inches; very cobbly fine sandy loam

Layer 2—3 to 11 inch; very gravelly loam

Layer 3—11 to 24 inches; cemented material

Layer 4—24 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 6 to 14 inches Duripan: 21 to 24 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Nickel stony and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, creosotebush, other annual forbs, other perennial forbs, white bursage

Ecological site: R030XB019NV—Limy 3-5 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Other perennial forbs, bursage, creosotebush, white burrobrush, other shrubs, other perennial grasses, big galleta, baccharis

Ecological site: R030XB028NV—Valley wash

**Bluepoint and similar soils**

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Sand sheets

Typical vegetation: Big galleta, other perennial forbs, white bursage, Indian ricegrass, creosotebush, other shrubs

Ecological site: R030XB037NV—Limy sand 5-7 P.Z.

**Typic Torriorthents and similar soils**

Composition: 0 to 1 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Typic Torriorthents

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Other shrubs, spiny menodora, desert needlegrass, bush muhly, big galleta, other perennial forbs, white bursage, creosotebush

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**220—Haymont-Bluepoint association*****Map Unit Setting***

MLRA: 30

Landscape: Bolson

Elevation: 2,590 to 2,660  
 Precipitation: 3 to 8 inches  
 Air temperature: 61 to 69 degrees Fahrenheit  
 Frost-free period: 180 to 300 days

### ***Composition***

Haymont loam, 0 to 2 percent slopes—40 percent  
 Haymont loam, 0 to 2 percent slopes—30 percent  
 Bluepoint fine sand, 8 to 30 percent slopes—20 percent  
 Haymont very fine sandy loam, 0 to 2 percent slopes—4 percent  
 Typic Torriorthents gravelly sandy loam, 0 to 2 percent slopes—2 percent  
 Typic Torriorthents clay loam, 0 to 2 percent slopes—2 percent  
 Haymont very fine sandy loam, 0 to 4 percent slopes—2 percent

### ***Component Description***

#### **Haymont and similar soils**

Landform: Lake plains  
 Slope: 0 to 2 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Other perennial grasses, other shrubs, shadscale, fourwing saltbush, alkali sacaton

#### **Typical profile:**

Layer 1—0 to 2 inches; loam  
 Layer 2—2 to 13 inches; silt loam  
 Layer 3—13 to 29 inches; silt loam  
 Layer 4—29 to 60 inches; silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Salinity: Saline within 40 inches  
 Sodicity: Sodic within 40 inches  
 Available water capacity: About 9 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XA096NV—Coarse silty 3-5 P.Z.

### ***Component Description***

#### **Haymont moist and similar soils**

Landform: Lake plains  
 Slope: 0 to 2 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Fourwing saltbush, shadscale, other perennial forbs, Torrey quailbush, other shrubs, other perennial grasses

**Typical profile:**

Layer 1—0 to 2 inches; loam  
 Layer 2—2 to 13 inches; silt loam  
 Layer 3—13 to 29 inches; silt loam  
 Layer 4—29 to 60 inches; silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Salinity: Saline within 40 inches  
 Sodicty: Sodic within 40 inches  
 Available water capacity: About 9 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XA011NV—Silty terrace 5-7 P.Z.

***Component Description*****Bluepoint and similar soils**

Landform: Dunes  
 Slope: 8 to 30 percent  
 Parent material: Eolian sands  
 Typical vegetation: Other shrubs, screwbean mesquite, honey mesquite, Indian ricegrass, creosotebush, fourwing saltbush, white bursage, other perennial forbs

**Typical profile:**

Layer 1—0 to 14 inches; fine sand  
 Layer 2—14 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)  
 Available water capacity: About 5 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XY045NV—Dunes 3-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Haymont and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake plains

Typical vegetation: Honey mesquite, fourwing saltbush, shadscale, alkali sacaton, other perennial grasses

Ecological site: R030XY009NV—Silt bottom

#### **Haymont and similar soils**

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Lake plains

Typical vegetation: Other shrubs, big galleta, inland saltgrass, mesquite, alkali sacaton, Torrey quailbush, fourwing saltbush

Ecological site: R030XB020NV—Loamy bottom

#### **Typic Torriorthents coarse-loamy and similar soils**

Typic Torriorthents fine-silty and similar soils

Composition: 0 to 2 percent

Classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic

Torriorthents Fine-silty, mixed, superactive, calcareous, thermic Typic Torriorthents

Slope: 0 to 2 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, other shrubs, cattle saltbush, other perennial forbs

Ecological site: R030XY047NV—Alluvial plain

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **221—Haymont association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Bolson

Elevation: 2,760 to 2,920

Precipitation: 5 to 8 inches

Air temperature: 61 to 64 degrees Fahrenheit

Frost-free period: 180 to 240 days

### ***Composition***

Haymont silt loam, 0 to 2 percent slopes—65 percent

Haymont loam, 0 to 2 percent slopes—20 percent

Pahrump gravelly loam, 2 to 8 percent slopes—6 percent

Corbilt gravelly sandy loam, 2 to 8 percent slopes—5 percent

Pahrump gravelly loam, 4 to 15 percent slopes—2 percent

Nopah loam, 0 to 4 percent slopes—2 percent

### ***Component Description***

#### **Haymont dry and similar soils**

Landform: Lake plains

Slope: 0 to 2 percent

Parent material: Mixed alluvium

Typical vegetation: Indian ricegrass, other perennial forbs, cattle saltbush, other shrubs

#### **Typical profile:**

Layer 1—0 to 2 inches; silt loam

Layer 2—2 to 13 inches; silt loam

Layer 3—13 to 29 inches; silt loam

Layer 4—29 to 60 inches; silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 9 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XY047NV—Alluvial plain

### ***Component Description***

#### **Haymont and similar soils**

Landform: Lake plains

Slope: 0 to 2 percent

Parent material: Mixed alluvium

Typical vegetation: Shadscale, other shrubs, other perennial grasses, alkali sacaton, fourwing saltbush

#### **Typical profile:**

Layer 1—0 to 2 inches; loam

Layer 2—2 to 13 inches; silt loam

Layer 3—13 to 29 inches; silt loam

Layer 4—29 to 60 inches; silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches  
 Available water capacity: About 9 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XA096NV—Coarse silty 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Pahrump and similar soils**

Composition: 0 to 6 percent  
 Slope: 2 to 8 percent  
 Landform: Fan remnants  
 Typical vegetation: Shadscale, other shrubs  
 Ecological site: R030XY013NV—Shallow silty

#### **Corbilt and similar soils**

Composition: 0 to 5 percent  
 Slope: 2 to 8 percent  
 Landform: Fan skirts  
 Typical vegetation: Cattle saltbush, other shrubs, other perennial forbs, creosotebush, Indian ricegrass, white bursage, fourwing saltbush  
 Ecological site: R030XY046NV—Outwash plain

#### **Nopah and similar soils**

Composition: 0 to 2 percent  
 Classification: Fine-silty, carbonatic, thermic Typic Torriorthents  
 Slope: 0 to 4 percent  
 Landform: Lake plains  
 Typical vegetation: Cattle saltbush, fourwing saltbush, other shrubs, creosotebush, Indian ricegrass, other perennial forbs, white bursage  
 Ecological site: R030XY046NV—Outwash plain

#### **Pahrump and similar soils**

Composition: 0 to 2 percent  
 Slope: 4 to 15 percent  
 Landform: Lake terraces  
 Typical vegetation: Other shrubs, creosotebush, shadscale, other perennial forbs, desert needlegrass, Indian ricegrass  
 Ecological site: R030XA053NV—Calcareous loam 3-5 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

## 225—Baseline-Callville-Badland association

### *Map Unit Setting*

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 1,440 to 2,790  
 Precipitation: 3 to 5 inches  
 Air temperature: 70 to 73 degrees Fahrenheit  
 Frost-free period: 300 to 350 days

### *Composition*

Baseline extremely gravelly fine sandy loam, 2 to 15 percent slopes—50 percent  
 Callville very gravelly sandy loam, 15 to 30 percent slopes—20 percent  
 Badland, 30 to 75 percent slopes—15 percent  
 Guardian gypsiferous fine sandy loam, 15 to 50 percent slopes—6 percent  
 Heleweiser extremely gravelly fine sandy loam, 2 to 8 percent slopes—5 percent  
 Carrizo extremely gravelly loamy sand, 2 to 8 percent slopes—4 percent

### *Component Description*

#### **Baseline and similar soils**

Landform: Summits of fan remnants  
 Slope: 2 to 15 percent  
 Parent material: Gravelly pedisegment derived from limestone  
 Typical vegetation: Other annual forbs, big galleta, other perennial grasses, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 5 percent stones, 20 percent cobbles, 65 percent gravel  
 Layer 1—0 to 3 inches; extremely gravelly fine sandy loam  
 Layer 2—3 to 9 inches; gravelly fine sandy loam  
 Layer 3—9 to 22 inches; extremely gravelly loam  
 Layer 4—22 to 32 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 1.5 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

### *Component Description*

#### **Callville and similar soils**

Landform: Shoulders of fan remnants

Slope: 15 to 30 percent

Parent material: Residuum weathered from sandstone and siltstone

Typical vegetation: Other shrubs, desertholly, other shrubs

**Typical profile:**

Surface rock fragments: About 55 percent gravel

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 25 inches; gravelly gypsiferous fine sandy loam

Layer 3—25 to 43 inches; bedrock

Layer 4—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches Lithic bedrock: 39 to 59 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB116NV—Shallow pediment 3-5 P.Z.

***Component Description***

**Badland**

Landform: Backslopes of pediments

Slope: 30 to 75 percent

**Component Properties and Qualities**

Present ponding: None

**Interpretive Groups**

Nonirrigated land capability: 8e

Ecological site: None

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Guardian and similar soils**

Composition: 0 to 6 percent

Slope: 15 to 50 percent

Landform: Shoulders of pediments

Typical vegetation: Other shrubs, silverleaf sunray, Parry's sandpaperplant, pygmycedar, Fremont dalea, shrubby tiqulia

Ecological site: R030XB118NV—Gypsic hill 3-5 P.Z.

**Heleweiser rarely flooded and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Shoulders of fan remnants

Typical vegetation: Other perennial grasses, big galleta, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Carrizo and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Bursage, big galleta, other perennial grasses, other perennial forbs, other shrubs, baccharis, white burrobrush, creosotebush

Ecological site: R030XB028NV—Valley wash

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**226—Baseline extremely gravelly fine sandy loam, 2 to 8 percent slopes****Map Unit Setting**

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,710 to 2,460

Precipitation: 3 to 5 inches

Air temperature: 70 to 73 degrees Fahrenheit

Frost-free period: 300 to 350 days

**Composition**

Baseline extremely gravelly fine sandy loam, 2 to 8 percent slopes—90 percent

Callville very gravelly sandy loam, 15 to 30 percent slopes—6 percent

Badland, 30 to 50 percent slopes—3 percent

Carrizo extremely gravelly loamy sand, 2 to 8 percent slopes—1 percent

**Component Description****Baseline and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Gravelly pedisegment derived from limestone

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 20 percent cobbles, 65 percent gravel, 5 percent stones

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 9 inches; gravelly fine sandy loam

Layer 3—9 to 22 inches; extremely gravelly loam

Layer 4—22 to 32 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Callville and similar soils**

Composition: 0 to 6 percent

Slope: 15 to 30 percent

Landform: Shoulders of fan remnants

Typical vegetation: Desertholly, other shrubs, other shrubs

Ecological site: R030XB116NV—Shallow pediment 3-5 P.Z.

#### **Badland**

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Backslopes of fan remnants

Ecological site: None

#### **Carrizo and similar soils**

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs

Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

## 227—Baseline-Gypwash association

### *Map Unit Setting*

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,480 to 2,230

Precipitation: 3 to 5 inches

Air temperature: 70 to 74 degrees Fahrenheit

Frost-free period: 300 to 360 days

### *Composition*

Baseline extremely gravelly fine sandy loam, 2 to 8 percent slopes—65 percent  
 Gypwash extremely gravelly fine sandy loam, 2 to 8 percent slopes—20 percent  
 Gypwash extremely gravelly fine sandy loam, 4 to 15 percent slopes—8 percent  
 Guardian gypsiferous sandy loam, 4 to 15 percent slopes—4 percent  
 Baseline extremely gravelly fine sandy loam, 2 to 8 percent slopes—3 percent

### *Component Description*

#### **Baseline and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Gravelly pedisegment derived from limestone

Typical vegetation: Other perennial grasses, other annual forbs, other perennial forbs,  
 white bursage, range ratany, creosotebush, other shrubs, big galleta

#### **Typical profile:**

Surface rock fragments: About 65 percent gravel, 5 percent stones, 20 percent  
 cobbles

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 9 inches; gravelly fine sandy loam

Layer 3—9 to 22 inches; extremely gravelly loam

Layer 4—22 to 32 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
 information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability  
 class: Moderate)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### *Component Description*

#### **Gypwash and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone  
 Typical vegetation: Creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 65 percent gravel  
 Layer 1—0 to 1 inch; extremely gravelly fine sandy loam  
 Layer 2—1 to 4 inches; gravelly fine sandy loam  
 Layer 3—4 to 27 inches; extremely gravelly coarse sandy loam  
 Layer 4—27 to 61 inch; stratified extremely gravelly gypsiferous coarse sandy loam to very gravelly gypsiferous sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB092NV—Desert patina

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Gypwash and similar soils**

Composition: 0 to 8 percent  
 Slope: 4 to 15 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Other annual forbs, white bursage, other shrubs, creosotebush  
 Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

**Guardian calcareous surface and similar soils**

Composition: 0 to 4 percent  
 Slope: 4 to 15 percent  
 Landform: Shoulders of pediments  
 Typical vegetation: Other perennial forbs, shadscale, Parry's sandpaperplant, Fremont dalea, other shrubs, silverleaf sunray  
 Ecological site: R030XB115NV—Gypsic sodic loam 3-5 P.Z.

**Baseline and similar soils**

Composition: 0 to 3 percent  
 Slope: 2 to 8 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Other perennial grasses, other perennial forbs, white bursage, desertholly saltbush, Torrey ephedra, range ratany, other shrubs, creosotebush  
 Ecological site: R030XB038NV—Gravelly pediment 3-5 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **228—Baseline-Guardian association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,510 to 2,130

Precipitation: 3 to 5 inches

Air temperature: 70 to 75 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Baseline extremely gravelly fine sandy loam, 2 to 8 percent slopes—40 percent

Guardian gypsiferous fine sandy loam, 8 to 30 percent slopes—30 percent

Baseline extremely gravelly fine sandy loam, 2 to 8 percent slopes—15 percent

Callville extremely gravelly sandy loam, 8 to 30 percent slopes—5 percent

Heleweiser very gravelly sandy loam, 4 to 15 percent slopes—4 percent

Carrizo extremely gravelly loamy sand, 2 to 8 percent slopes—3 percent

Badland, 30 to 50 percent slopes—3 percent

### ***Component Description***

#### **Baseline and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Gravelly pedisegment derived from limestone

Typical vegetation: White bursage, desertholly saltbush, Torrey ephedra, range ratany, other perennial grasses, other perennial forbs, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 65 percent gravel, 5 percent cobbles

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 9 inches; gravelly fine sandy loam

Layer 3—9 to 22 inches; extremely gravelly loam

Layer 4—22 to 32 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB038NV—Gravelly pediment 3-5 P.Z.

***Component Description*****Guardian and similar soils**

Landform: Shoulders of pediments

Slope: 8 to 30 percent

Parent material: Residuum weathered from gypsum

Typical vegetation: Other shrubs, other perennial forbs, white bursage, Torrey  
ephedra, Anderson's wolfberry, Parry's sandpaperplant, Fremont dalea

**Typical profile:**

Surface rock fragments: About 5 percent gravel

Layer 1—0 to 2 inches; gypsiferous fine sandy loam

Layer 2—2 to 4 inches; gypsiferous material

Layer 3—4 to 19 inches; gypsiferous material

Layer 4—19 to 29 inches; gypsiferous bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

***Component Description*****Baseline and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Gravelly pediment derived from limestone

Typical vegetation: Other perennial forbs, other shrubs, creosotebush, range ratany,  
white bursage, other annual forbs, big galleta, other perennial grasses

**Typical profile:**

Surface rock fragments: About 65 percent gravel, 20 percent cobbles, 5 percent  
stones

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 9 inches; gravelly fine sandy loam

Layer 3—9 to 22 inches; extremely gravelly loam

Layer 4—22 to 32 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Callville and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Toeslopes of pediments

Typical vegetation: Other shrubs, Fremont dalea, Anderson's wolfberry, Torrey  
ephedra, white bursage, other perennial forbs, Parry's sandpaperplant

Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

**Heleweiser and similar soils**

Composition: 0 to 4 percent

Slope: 4 to 15 percent

Landform: Shoulders of fan remnants

Typical vegetation: Other annual forbs, creosotebush, white bursage, other shrubs

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

**Badland**

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Backslopes of fan remnants

Ecological site: None

**Carrizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other shrubs, catclaw, other perennial forbs, big galleta, other  
perennial grasses, Fremont dalea, creosotebush, white burrobrush, desert  
rabbitbrush

Ecological site: R030XB132NV—Gravelly wash 3-5 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**230—Wechech-Weiser association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,840 to 4,100

Precipitation: 5 to 7 inches

Air temperature: 57 to 69 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Wechech very gravelly sandy loam, 2 to 8 percent slopes—45 percent

Weiser extremely gravelly fine sandy loam, 2 to 8 percent slopes—40 percent

Threelakes family very gravelly sandy loam, 8 to 15 percent slopes—7 percent

Typic Torriorthents very gravelly loamy sand, 2 to 8 percent slopes—6 percent

Irongold very gravelly sandy loam, 2 to 8 percent slopes—1 percent

Weiser extremely cobbly sandy loam, 2 to 8 percent slopes—1 percent

***Component Description*****Wechech and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, other perennial grasses, big galleta, other annual forbs

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 40 percent gravel

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 7 inches; very gravelly sandy loam

Layer 3—7 to 13 inches; very gravelly sandy loam

Layer 4—13 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description*****Weiser and similar soils**

Landform: Summits of inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Other perennial grasses, other annual forbs, white bursage, range ratany, other perennial forbs, creosotebush, other shrubs, big galleta

**Typical profile:**

Surface rock fragments: About 60 percent gravel, 10 percent cobbles, 5 percent stones

Layer 1—0 to 6 inches; extremely gravelly fine sandy loam

Layer 2—6 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Threelakes family and similar soils**

Composition: 0 to 7 percent

Classification: Loamy-skeletal, carbonatic, thermic Typic Torriorthents

Slope: 8 to 15 percent

Landform: Backslopes of fan remnants

Typical vegetation: Creosotebush, other shrubs, range ratany, white bursage, other perennial forbs, other annual forbs, other perennial grasses, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Typic Torriorthents and similar soils**

Composition: 0 to 6 percent

Classification: Sandy-skeletal, mixed, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial forbs, other perennial grasses, big galleta, white burrobrush, creosotebush, bursage, baccharis, other shrubs

Ecological site: R030XB028NV—Valley wash

**Irongold and similar soils**

Composition: 0 to 1 percent

Slope: 2 to 8 percent, northeast aspect

Landform: Northeast facing shoulders of fan remnants

Typical vegetation: Other shrubs, big galleta, other perennial grasses, other perennial forbs, blackbrush

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

**Weiser and similar soils**

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Big galleta, bush muhly, other perennial forbs, white bursage, creosotebush, spiny menodora, other shrubs

Ecological site: R030XB074NV—Cobbly loam 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**231—Wechech very gravelly fine sandy loam, 2 to 8 percent slopes**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,200 to 3,220

Precipitation: 5 to 7 inches

Air temperature: 57 to 69 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Wechech very gravelly fine sandy loam, 2 to 8 percent slopes—85 percent

Weiser gravelly very fine sandy loam, 4 to 15 percent slopes—6 percent

St. Thomas very gravelly fine sandy loam, 8 to 30 percent slopes—4 percent

Whitebasin very fine sandy loam, 4 to 15 percent slopes—3 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—2 percent

***Component Description***

**Wechech and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Big galleta, white bursage, bush muhly, spiny menodora, other shrubs, other perennial forbs, creosotebush

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 40 percent gravel

Layer 1—0 to 4 inches; very gravelly fine sandy loam

Layer 2—4 to 7 inches; very gravelly sandy loam

Layer 3—7 to 13 inches; very gravelly sandy loam

Layer 4—13 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
Moderately rapid)  
Available water capacity: About 0.9 inch  
Present flooding: None  
Present ponding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
Ecological site: R030XB074NV—Cobbly loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Weiser and similar soils**

Composition: 0 to 6 percent  
Slope: 4 to 15 percent  
Landform: Fan remnants  
Typical vegetation: Desert needlegrass, bush muhly, other perennial forbs, white bursage, creosotebush, spiny menodora, other shrubs, big galleta  
Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

#### **St. Thomas and similar soils**

Composition: 0 to 4 percent  
Slope: 8 to 30 percent, southeast aspect  
Landform: Southeast facing backslopes of mountains  
Typical vegetation: Creosotebush, range ratany, other shrubs, big galleta, white bursage, other perennial forbs  
Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Whitebasin and similar soils**

Composition: 0 to 3 percent  
Slope: 4 to 15 percent  
Landform: Backslopes of pediments  
Typical vegetation: White bursage, Torrey ephedra, Anderson's wolfberry, Parry's sandpaperplant, Fremont dalea, other shrubs, other perennial forbs  
Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 2 percent  
Slope: 2 to 4 percent  
Landform: Drainageways  
Typical vegetation: Other perennial grasses, big galleta, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs  
Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
"Engineering" and "Soil Properties" sections

**232—Wechech-Upperline association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,840 to 3,380

Precipitation: 5 to 7 inches

Air temperature: 57 to 69 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Wechech very gravelly fine sandy loam, 2 to 8 percent slopes—70 percent

Upperline very gravelly sandy loam, 4 to 15 percent slopes—15 percent

Whitebasin very fine sandy loam, 4 to 15 percent slopes—5 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—4 percent

Irongold extremely gravelly loam, 2 to 8 percent slopes—3 percent

Badland, 30 to 75 percent slopes—3 percent

***Component Description*****Wechech and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Other shrubs, spiny menodora, creosotebush, white bursage, bush  
muhly, big galleta, other perennial forbs**Typical profile:**

Surface rock fragments: About 40 percent gravel, 5 percent cobbles

Layer 1—0 to 4 inches; very gravelly fine sandy loam

Layer 2—4 to 7 inches; very gravelly sandy loam

Layer 3—7 to 13 inches; very gravelly sandy loam

Layer 4—13 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
Moderately rapid)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB074NV—Cobbly loam 5-7 P.Z.

***Component Description*****Upperline and similar soils**

Landform: Rock pediments

Slope: 4 to 15 percent

Parent material: Alluvium and/or colluvium derived from limestone and sandstone over colluvium and/or residuum weathered from sandstone and siltstone  
 Typical vegetation: Big galleta, other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, other annual forbs, other perennial grasses

**Typical profile:**

Surface rock fragments: About 80 percent gravel, 1 percent cobbles  
 Layer 1—0 to 2 inches; very gravelly sandy loam  
 Layer 2—2 to 12 inches; very gravelly sandy loam  
 Layer 3—12 to 35 inches; very gravelly sandy loam  
 Layer 4—35 to 39 inches; very paragravelly sandy loam  
 Layer 5—39 to 49 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium  
 Depth to restrictive feature: Paralithic bedrock: 30 to 39 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7e  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Whitebasin and similar soils**

Composition: 0 to 5 percent  
 Slope: 4 to 15 percent  
 Landform: Backslopes of pediments  
 Typical vegetation: White bursage, Torrey ephedra, Anderson's wolfberry, Parry's sandpaperplant, Fremont dalea, other shrubs, other perennial forbs  
 Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

**Arizo and similar soils**

Composition: 0 to 4 percent  
 Slope: 2 to 4 percent  
 Landform: Drainageways  
 Typical vegetation: Other perennial grasses, creosotebush, white burrobrush, baccharis, bursage, other perennial forbs, other shrubs, big galleta  
 Ecological site: R030XB028NV—Valley wash

**Irongo and similar soils**

Composition: 0 to 3 percent  
 Slope: 2 to 8 percent  
 Landform: Fan remnants

Typical vegetation: Blackbrush, other perennial forbs, other perennial grasses, other shrubs, big galleta  
 Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

### **Badland**

Composition: 0 to 3 percent  
 Slope: 30 to 75 percent  
 Landform: Backslopes of pediments  
 Ecological site: None

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

## **233—Wechech-Iften association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 1,940 to 2,400  
 Precipitation: 3 to 7 inches  
 Air temperature: 57 to 69 degrees Fahrenheit  
 Frost-free period: 180 to 300 days

### ***Composition***

Iften fine sand, 8 to 30 percent slopes—30 percent  
 Wechech loamy fine sand, 4 to 15 percent slopes—55 percent  
 Upperline very gravelly sandy loam, 15 to 30 percent slopes—5 percent  
 Dune land loamy fine sand, 8 to 30 percent slopes—5 percent  
 Wechech loamy fine sand, 2 to 8 percent slopes—3 percent  
 Grapevine loamy sand, 2 to 8 percent slopes—2 percent

### ***Component Description***

#### **Wechech and similar soils**

Landform: Summits of fan remnants  
 Slope: 4 to 15 percent  
 Parent material: Alluvium derived from limestone and dolomite  
 Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, big galleta, other perennial forbs, other annual forbs, other perennial grasses

#### **Typical profile:**

Surface rock fragments: About 5 percent gravel  
 Layer 1—0 to 3 inches; loamy fine sand  
 Layer 2—3 to 7 inches; very gravelly sandy loam  
 Layer 3—7 to 13 inches; very gravelly sandy loam  
 Layer 4—13 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description*****fteen overblown and similar soils**

Landform: Fan remnants

Slope: 8 to 30 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Big galleta, other shrubs

**Typical profile:**

Surface rock fragments: About 65 percent gravel

Layer 1—0 to 10 inches; fine sand

Layer 2—10 to 15 inches; very fine sandy loam

Layer 3—15 to 36 inches; fine sandy loam

Layer 4—36 to 60 inches; extremely gravelly fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB097NV—Sandhill 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Upperline and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Rock pediments

Typical vegetation: Other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, big galleta

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Dune land**

Composition: 0 to 5 percent  
Slope: 8 to 30 percent  
Landform: Sand sheets  
Ecological site: None

**Wechech and similar soils**

Composition: 0 to 3 percent  
Slope: 2 to 8 percent  
Landform: Fan remnants  
Typical vegetation: Other perennial grasses, big galleta, Palmer coldenia, other shrubs, white bursage  
Ecological site: R030XB096NV—Gravelly sand 3-5 P.Z.

**Grapevine and similar soils**

Composition: 0 to 2 percent  
Slope: 2 to 8 percent  
Landform: Alluvial flats  
Typical vegetation: Other shrubs, white bursage, creosotebush, Indian ricegrass, big galleta, other perennial forbs, ratany  
Ecological site: R030XB122NV—Limy sand 3-5 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Engineering" and "Soil Properties" sections

**234—Wechech very gravelly fine sandy loam, 8 to 30 percent slopes**

***Map Unit Setting***

MLRA: 30  
Landscape: Fan piedmont  
Elevation: 2,200 to 2,920  
Precipitation: 5 to 7 inches  
Air temperature: 57 to 69 degrees Fahrenheit  
Frost-free period: 220 to 300 days

***Composition***

Wechech very gravelly sandy loam, 8 to 30 percent slopes—85 percent  
Wechech very gravelly sandy loam, 2 to 8 percent slopes—6 percent  
Weiser very gravelly sandy loam, 2 to 8 percent slopes—5 percent  
Irongold extremely gravelly loam, 4 to 15 percent slopes—2 percent  
Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent

***Component Description***

**Wechech and similar soils**

Landform: Backslopes of fan remnants  
Slope: 8 to 30 percent  
Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Big galleta, creosotebush, range ratany, other perennial forbs, white bursage, other shrubs

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 40 percent gravel

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 7 inches; very gravelly sandy loam

Layer 3—7 to 13 inches; very gravelly sandy loam

Layer 4—13 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Wechech and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Range ratany, creosotebush, white bursage, other perennial forbs, other shrubs, other annual forbs, other perennial grasses, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Weiser and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, big galleta, other perennial grasses, other perennial forbs, other annual forbs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other shrubs, creosotebush, other perennial forbs, bursage, baccharis, white burrobrush, other perennial grasses, big galleta

Ecological site: R030XB028NV—Valley wash

**Irongold and similar soils**

Composition: 0 to 2 percent

Slope: 4 to 15 percent, northeast aspect

Landform: Northeast facing shoulders of fan remnants

Typical vegetation: Other perennial grasses, other shrubs, blackbrush, other perennial forbs, big galleta

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**235—Gypwash-Callville-Carrizo association****Map Unit Setting**

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,150 to 2,500

Precipitation: 3 to 7 inches

Air temperature: 69 to 77 degrees Fahrenheit

Frost-free period: 300 to 360 days

**Composition**

Gypwash extremely gravelly fine sandy loam, 4 to 15 percent slopes—45 percent

Callville very gravelly sandy loam, 8 to 30 percent slopes—25 percent

Carrizo extremely gravelly loamy sand, 0 to 4 percent slopes—15 percent

Huevi extremely gravelly sandy loam, 8 to 30 percent slopes—6 percent

Guardian gravelly gypsiferous sandy loam, 8 to 30 percent slopes—5 percent

Badland, 30 to 75 percent slopes—4 percent

**Component Description****Gypwash and similar soils**

Landform: Summits of fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, big galleta, other perennial grasses, other annual forbs

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 65 percent gravel

Layer 1—0 to 1 inch; extremely gravelly fine sandy loam

Layer 2—1 to 4 inches; gravelly fine sandy loam

Layer 3—4 to 27 inches; extremely gravelly coarse sandy loam

Layer 4—27 to 61 inch; stratified extremely gravelly gypsiferous coarse sandy loam to very gravelly gypsiferous sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description*****Callville and similar soils**

Landform: Backslopes of fan remnants

Slope: 8 to 30 percent

Parent material: Residuum weathered from sandstone and siltstone

Typical vegetation: Other shrubs, other annual forbs, white bursage, creosotebush

**Typical profile:**

Surface rock fragments: About 50 percent gravel

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 25 inches; gravelly gypsiferous fine sandy loam

Layer 3—25 to 43 inches; bedrock

Layer 4—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches Lithic bedrock: 39 to 59 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

***Component Description*****Carrizo and similar soils**

Landform: Drainageways

Slope: 0 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Other shrubs, creosotebush, white burrobrush, baccharis, bursage, big galleta, other perennial grasses, other perennial forbs

**Typical profile:**

Surface rock fragments: About 3 percent cobbles, 70 percent gravel

Layer 1—0 to 7 inches; extremely gravelly loamy sand

Layer 2—7 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 2 inches

Present flooding: Frequent

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7w

Ecological site: R030XB028NV—Valley wash

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Huevi dry and similar soils**

Composition: 0 to 6 percent

Slope: 8 to 30 percent, southeast to southwest aspects

Landform: Southeast to southwest aspects on backslopes of ballenas

Typical vegetation: Other shrubs, other annual forbs, white bursage, creosotebush

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

**Guardian and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Shoulders of pediments

Typical vegetation: Shrubby tiqulia, silverleaf sunray, Parry's sandpaperplant, pygmycedar, Fremont dalea, other shrubs

Ecological site: R030XB118NV—Gypsic hill 3-5 P.Z.

**Badland**

Composition: 0 to 4 percent

Slope: 30 to 75 percent

Landform: Backslopes of pediments

Ecological site: None

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**237—Wechech association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,260 to 2,690

Precipitation: 5 to 7 inches

Air temperature: 57 to 69 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Wechech very gravelly fine sandy loam, 2 to 8 percent slopes—55 percent

Wechech very gravelly sandy loam, 2 to 4 percent slopes—30 percent

Weiser extremely gravelly fine sandy loam, 2 to 8 percent slopes—7 percent

Wechech very gravelly sandy loam, 8 to 30 percent slopes—6 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent

***Component Description*****Wechech moist and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Bush muhly, other shrubs, spiny menodora, big galleta, creosotebush, other perennial forbs, white bursage

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 40 percent gravel

Layer 1—0 to 4 inches; very gravelly fine sandy loam

Layer 2—4 to 7 inches; very gravelly sandy loam

Layer 3—7 to 13 inches; very gravelly sandy loam

Layer 4—13 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB074NV—Cobbly loam 5-7 P.Z.

***Component Description*****Wechech and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 4 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, other perennial grasses, big galleta

**Typical profile:**

Surface rock fragments: About 40 percent gravel, 5 percent cobbles

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 7 inches; very gravelly sandy loam

Layer 3—7 to 13 inches; very gravelly sandy loam

Layer 4—13 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Weiser and similar soils**

Composition: 0 to 7 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Other shrubs, creosotebush, winterfat, range ratany, ephedra, white bursage, other perennial forbs, Indian ricegrass, big galleta

Ecological site: R030XB102NV—Gravelly loam 5-7 P.Z.

**Wechech and similar soils**

Composition: 0 to 6 percent

Slope: 8 to 30 percent

Landform: Backslopes of fan remnants

Typical vegetation: Other shrubs, big galleta, white bursage, other perennial forbs, creosotebush, range ratany

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Bursage, other perennial forbs, other perennial grasses, white burrobrush, baccharis, creosotebush, other shrubs, big galleta

Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

## **240—Crosgrain-Irongold-Nickel association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 1,770 to 4,230  
 Precipitation: 5 to 8 inches  
 Air temperature: 57 to 70 degrees Fahrenheit  
 Frost-free period: 180 to 300 days

### ***Composition***

Crosgrain extremely gravelly fine sandy loam, 4 to 15 percent slopes—50 percent  
 Irongold extremely gravelly loam, 4 to 15 percent slopes—35 percent  
 Nickel gravelly sandy loam, 2 to 8 percent slopes—10 percent  
 Arizo extremely stony loamy sand, 2 to 8 percent slopes—5 percent

### ***Component Description***

#### **Crosgrain and similar soils**

Landform: Backslopes of fan remnants  
 Slope: 4 to 15 percent  
 Parent material: Mixed alluvium derived from metamorphic rock  
 Typical vegetation: Other perennial grasses, big galleta, other annual forbs, other perennial forbs, other shrubs, creosotebush, range ratany, white bursage

#### **Typical profile:**

Layer 1—0 to 2 inches; extremely gravelly fine sandy loam  
 Layer 2—2 to 11 inch; very gravelly loam  
 Layer 3—11 to 24 inches; cemented material  
 Layer 4—24 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Duripan: 6 to 14 inches Duripan: 21 to 24 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.9 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Irongold and similar soils**

Landform: Summits of fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Blackbrush, other perennial forbs, big galleta, other perennial grasses, other shrubs

#### **Typical profile:**

Surface rock fragments: About 65 percent gravel, 5 percent cobbles, 1 percent stones

Layer 1—0 to 1 inch; extremely gravelly loam

Layer 2—1 to 7 inches; gravelly loam

Layer 3—7 to 11 inch; very gravelly loam

Layer 4—11 to 34 inches; cemented material

Layer 5—34 to 60 inches; extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 10 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

### ***Component Description***

#### **Nickel and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Big galleta, white bursage, range ratany, other perennial forbs, other annual forbs, creosotebush, other shrubs, other perennial grasses

#### **Typical profile:**

Surface rock fragments: About 35 percent gravel, 1 percent stones, 30 percent cobbles

Layer 1—0 to 4 inches; gravelly sandy loam

Layer 2—4 to 11 inch; very gravelly sandy loam

Layer 3—11 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Arizo and similar soils**

Composition: 0 to 5 percent  
 Slope: 2 to 8 percent  
 Landform: Drainageways  
 Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, creosotebush, other shrubs, white burrobrush  
 Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:  
 "Range" section  
 "Engineering" and "Soil Properties" sections

## **241—Crosgrain-Typic Torriorthents-Nickel association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 2,130 to 4,530  
 Precipitation: 3 to 8 inches  
 Air temperature: 61 to 70 degrees Fahrenheit  
 Frost-free period: 180 to 300 days

### ***Composition***

Crosgrain extremely gravelly fine sandy loam, 8 to 30 percent slopes—40 percent  
 Typic Torriorthents very gravelly sandy loam, 30 to 50 percent slopes—30 percent  
 Nickel very gravelly sandy loam, 15 to 30 percent slopes—20 percent  
 Arizo extremely gravelly loamy coarse sand, 4 to 8 percent slopes—6 percent  
 Rock outcrop—4 percent

### ***Component Description***

#### **Crosgrain and similar soils**

Landform: Backslopes of fan remnants  
 Slope: 8 to 30 percent  
 Parent material: Mixed alluvium derived from metamorphic rock  
 Typical vegetation: Creosotebush, other shrubs, range ratany, white bursage, other perennial forbs, big galleta

**Typical profile:**

Layer 1—0 to 2 inches; extremely gravelly fine sandy loam

Layer 2—2 to 11 inch; very gravelly loam

Layer 3—11 to 24 inches; cemented material

Layer 4—24 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 6 to 14 inches Duripan: 21 to 24 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

***Component Description*****Typic Torriorthents and similar soils**

Landform: Backslopes of fan remnants

Slope: 30 to 50 percent

Parent material: Alluvium derived from mixed sources

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, big galleta

**Typical profile:**

Layer 1—0 to 3 inches; very gravelly sandy loam

Layer 2—3 to 60 inches; stratified very fine sand to silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Saturated hydraulic conductivity class (root zone): Moderately Low, (Permeability class: Slow)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

***Component Description*****Nickel and similar soils**

Landform: Backslopes of fan remnants

Slope: 15 to 30 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial forbs, other shrubs, creosotebush, range ratany, white bursage, big galleta

**Typical profile:**

Surface rock fragments: About 35 percent gravel, 30 percent cobbles, 20 percent stones

Layer 1—0 to 6 inches; very gravelly sandy loam

Layer 2—6 to 11 inch; very gravelly sandy loam

Layer 3—11 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Arizo and similar soils**

Composition: 0 to 6 percent

Slope: 4 to 8 percent

Landform: Drainageways

Typical vegetation: Bursage, other perennial forbs, other perennial grasses, big galleta, other shrubs, baccharis, creosotebush, white burrobrush

Ecological site: R030XB028NV—Valley wash

**Rock outcrop**

Composition: 0 to 4 percent

Landform: Cliffs

Ecological site: None

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**250—Mormon Mesa-Naye association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,800 to 2,670

Precipitation: 5 to 7 inches

Air temperature: 60 to 70 degrees Fahrenheit

Frost-free period: 235 to 300 days

***Composition***

Mormon Mesa very gravelly fine sandy loam, 2 to 8 percent slopes—65 percent

Naye gravelly fine sandy loam, 4 to 15 percent slopes—25 percent

Typic Torriorthents gravelly sandy loam, 4 to 15 percent slopes—5 percent

Tonopah gravelly fine sandy loam, 4 to 15 percent slopes—5 percent

***Component Description*****Mormon Mesa and similar soils**

Landform: Summits of fan remnants, summits of mesas

Slope: 2 to 8 percent

Parent material: Influenced by calcareous loess over mixed alluvium derived from limestone

Typical vegetation: Other perennial grasses, other shrubs, creosotebush, range ratany, big galleta, other perennial forbs, other annual forbs, white bursage

**Typical profile:**

Surface rock fragments: About 40 percent gravel

Layer 1—0 to 2 inches; very gravelly fine sandy loam

Layer 2—2 to 14 inches; gravelly fine sandy loam

Layer 3—14 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description*****Naye and similar soils**

Landform: Summits of fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Other annual forbs, big galleta, other perennial grasses, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 75 percent gravel  
 Layer 1—0 to 7 inches; gravelly fine sandy loam  
 Layer 2—7 to 25 inches; very gravelly fine sandy loam  
 Layer 3—25 to 40 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Petrocalcic: 20 to 39 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Tonopah and similar soils**

Composition: 0 to 5 percent  
 Slope: 4 to 15 percent  
 Landform: Fan remnants  
 Typical vegetation: Creosotebush, other shrubs, range ratany, white bursage, big galleta, other perennial grasses, other annual forbs, other perennial forbs  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Typic Torriorthents and similar soils**

Composition: 0 to 5 percent  
 Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Typic Torriorthents  
 Slope: 4 to 15 percent  
 Landform: Fan aprons  
 Typical vegetation: Big galleta, other perennial grasses, other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, other annual forbs  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

## 255—Tumarion-Nipton association

### *Map Unit Setting*

MLRA: 30

Landscape: Mountains

Elevation: 1,970 to 3,940

Precipitation: 5 to 9 inches

Air temperature: 57 to 69 degrees Fahrenheit

Frost-free period: 180 to 250 days

### *Composition*

Tumarion extremely gravelly loam, 4 to 15 percent slopes—45 percent

Nipton extremely gravelly sandy loam, 8 to 30 percent slopes—30 percent

Rock outcrop—10 percent

Haleburu extremely gravelly sandy loam, 8 to 30 percent slopes—5 percent

Nipton extremely gravelly sandy loam, 4 to 15 percent slopes—5 percent

Calcic Petrocalcids very gravelly sandy loam, 2 to 8 percent slopes—3 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent

### *Component Description*

#### **Tumarion and similar soils**

Landform: South facing summits of plateaus

Slope: 4 to 15 percent, south aspect

Parent material: Influenced by calcareous loess over colluvium and/or residuum weathered from basalt

Typical vegetation: Creosotebush, big galleta, other shrubs, range ratany, desert needlegrass, Virgin River encelia, Mojave buckwheat

#### **Typical profile:**

Surface rock fragments: About 10 percent cobbles, 3 percent stones, 80 percent gravel

Layer 1—0 to 2 inches; extremely gravelly loam

Layer 2—2 to 5 inches; very gravelly loam

Layer 3—5 to 7 inches; cemented material

Layer 4—7 to 17 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 5 to 14 inches Lithic bedrock: 7 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.3 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB095NV—Shallow volcanic hill 5-7 P.Z.

### ***Component Description***

#### **Nipton and similar soils**

Landform: Northeast facing summits of hills

Slope: 8 to 30 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from metavolcanics

Typical vegetation: Desert needlegrass, bush muhly, other shrubs, Mojave buckwheat, big galleta, other perennial forbs, ephedra

#### **Typical profile:**

Surface rock fragments: About 3 percent stones, 55 percent gravel, 25 percent cobbles

Layer 1—0 to 1 inch; extremely gravelly sandy loam

Layer 2—1 to 5 inches; very gravelly sandy loam

Layer 3—5 to 15 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.3 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB071NV—Volcanic slope 7-9 P.Z.

### ***Component Description***

#### **Rock outcrop basalt**

Landform: Ridges

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Haleburu and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Hills

Typical vegetation: Creosotebush, other shrubs, big galleta, other perennial forbs, white bursage, range ratany

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Nipton and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Summits of hills

Typical vegetation: Triangle goldeneye, creosotebush, other shrubs, Mojave buckwheat, desert needlegrass, big galleta, other perennial forbs, white bursage

Ecological site: R030XB070NV—Volcanic hill 5-7 P.Z.

**Calcic Petrocalcids and similar soils**

Composition: 0 to 3 percent

Classification: Loamy-skeletal, carbonatic, thermic, shallow Calcic Petrocalcids

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, other annual forbs, other perennial forbs, white bursage, creosotebush

Ecological site: R030XB019NV—Limy 3-5 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial grasses, hollyleaf bursage, other perennial forbs, big galleta, bush muhly, Mojave buckwheat, burrobrush, range ratany, Anderson's wolfberry, other shrubs

Ecological site: R030XB051NV—Upland wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**260—Naye-Bitter Spring association**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,000 to 2,820

Precipitation: 4 to 7 inches

Air temperature: 60 to 72 degrees Fahrenheit

Frost-free period: 200 to 300 days

***Composition***

Naye gravelly fine sandy loam, 2 to 8 percent slopes—55 percent

Bitter Spring gravelly loam, 2 to 8 percent slopes—35 percent

Arizo extremely gravelly loamy coarse sand, 4 to 8 percent slopes—5 percent

Nickel gravelly sandy loam, 2 to 8 percent slopes—3 percent

Irongold very gravelly sandy loam, 2 to 8 percent slopes—2 percent

***Component Description***

**Naye and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from Limestone and dolomite

Typical vegetation: Other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, big galleta

**Typical profile:**

Surface rock fragments: About 75 percent gravel

Layer 1—0 to 7 inches; gravelly fine sandy loam  
 Layer 2—7 to 25 inches; very gravelly fine sandy loam  
 Layer 3—25 to 40 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Petrocalcic: 20 to 39 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### ***Component Description***

##### **Bitter Spring and similar soils**

Landform: Summits of fan remnants  
 Slope: 2 to 8 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Range ratany, other annual forbs, other perennial forbs, other perennial grasses, creosotebush, white bursage, big galleta, other shrubs

##### **Typical profile:**

Surface rock fragments: About 90 percent subangular gravel  
 Layer 1—0 to 2 inches; gravelly loam  
 Layer 2—2 to 3 inches; sandy clay loam  
 Layer 3—3 to 7 inches; gravelly sandy loam  
 Layer 4—7 to 22 inches; extremely gravelly sandy loam  
 Layer 5—22 to 60 inches; stratified extremely gravelly coarse sand to very gravelly loamy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Salinity: Saline within 40 inches  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Irrigated land capability: 4e  
 Nonirrigated land capability: 6s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Arizo and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs, big galleta

Ecological site: R030XB028NV—Valley wash

#### **Nickel and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other annual forbs, other perennial forbs, other shrubs, creosotebush, range ratany, white bursage, other perennial grasses, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Irongold and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent, northeast aspect

Landform: Northeast facing shoulders of fan remnants

Typical vegetation: Big galleta, other perennial grasses, blackbrush, other shrubs, other perennial forbs

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

## **261—Vace-Jean association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,000 to 4,040

Precipitation: 5 to 7 inches

Air temperature: 60 to 69 degrees Fahrenheit

Frost-free period: 180 to 300 days

### ***Composition***

Vace gravelly fine sandy loam, 2 to 8 percent slopes—50 percent

Jean gravelly loamy fine sand, 2 to 4 percent slopes—35 percent

Jean gravelly loamy fine sand, 2 to 4 percent slopes—6 percent

Irongold extremely gravelly loam, 2 to 8 percent slopes—4 percent

Riverwash extremely gravelly coarse sand, 2 to 4 percent slopes—4 percent

Purob extremely gravelly loam, 2 to 8 percent slopes—1 percent

### ***Component Description***

#### **Vace and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Calcareous loess and mixed alluvium

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, other shrubs, white bursage, range ratany, creosotebush

#### **Typical profile:**

Surface rock fragments: About 70 percent gravel, 5 percent cobbles

Layer 1—0 to 2 inches; gravelly fine sandy loam

Layer 2—2 to 8 inches; loam

Layer 3—8 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Jean and similar soils**

Landform: Inset fans

Slope: 2 to 4 percent

Parent material: Alluvium derived from Limestone, sandstone and quartzite

Typical vegetation: Creosotebush, white bursage, Indian ricegrass, other perennial forbs, big galleta, other shrubs

#### **Typical profile:**

Surface rock fragments: About 20 percent gravel

Layer 1—0 to 1 inch; gravelly loamy fine sand

Layer 2—1 to 18 inches; loamy fine sand

Layer 3—18 to 60 inches; stratified extremely gravelly sand to very gravelly loamy fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 4 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Excessively drained

### **Interpretive Groups**

Irrigated land capability: 4s  
 Nonirrigated land capability: 7s  
 Ecological site: R030XB037NV—Limy sand 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Jean and similar soils**

Composition: 0 to 6 percent  
 Slope: 2 to 4 percent  
 Landform: Channels, inset fans  
 Typical vegetation: Other shrubs, creosotebush, white burrobrush, baccharis, big galleta, bursage, other perennial forbs, other perennial grasses  
 Ecological site: R030XB028NV—Valley wash

#### **Irongold and similar soils**

Composition: 0 to 4 percent  
 Slope: 2 to 8 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Other shrubs, other perennial grasses, big galleta, blackbrush, other perennial forbs  
 Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

#### **Riverwash**

Composition: 0 to 4 percent  
 Slope: 2 to 4 percent  
 Landform: Drainageways  
 Ecological site: None

#### **Purob and similar soils**

Composition: 0 to 1 percent  
 Slope: 2 to 8 percent  
 Landform: Fan remnants  
 Typical vegetation: Other perennial grasses, blackbrush, other shrubs, ephedra, desert needlegrass, other perennial forbs  
 Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

## 265—Azureridge very gravelly sandy loam, 15 to 50 percent slopes

### *Map Unit Setting*

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,070 to 3,580

Precipitation: 5 to 7 inches

Air temperature: 64 to 69 degrees Fahrenheit

Frost-free period: 240 to 300 days

### *Composition*

Azureridge very gravelly sandy loam, 15 to 50 percent slopes—85 percent

Arizo extremely gravelly sandy loam, 2 to 8 percent slopes—6 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—4 percent

Nolena extremely gravelly sandy loam, 15 to 50 percent slopes—4 percent

Nickel very gravelly sandy loam, 4 to 15 percent slopes—1 percent

### *Component Description*

#### **Azureridge and similar soils**

Landform: Backslopes of rock pediments

Slope: 15 to 50 percent

Parent material: Mixed alluvium derived from metamorphic rock over fanglomerate

Typical vegetation: Creosotebush, other shrubs, other perennial forbs, range ratany, white bursage, big galleta

#### **Typical profile:**

Surface rock fragments: About 2 percent subrounded stones, 3 percent subrounded cobbles, 75 percent subrounded gravel

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 9 inches; very gravelly sandy loam

Layer 3—9 to 14 inches; cemented material

Layer 4—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 7 to 14 inches Paralithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Arizo and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Fan aprons

Typical vegetation: White bursage, other perennial forbs, other annual forbs, other perennial grasses, big galleta, creosotebush, range ratany, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Other perennial grasses, other perennial forbs, bursage, big galleta, other shrubs, creosotebush, white burrobrush, baccharis

Ecological site: R030XB028NV—Valley wash

#### **Nolena moist and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Other perennial forbs, blackbrush, other shrubs, big galleta, desert needlegrass, bush muhly

Ecological site: R030XB057NV—Shallow granitic loam 5-7 P.Z.

#### **Nickel and similar soils**

Composition: 0 to 1 percent

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Other perennial forbs, desert needlegrass, bush muhly, white bursage, creosotebush, big galleta, spiny menodora, other shrubs

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **270—Bard-Nickel-Limewash association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,740 to 3,610

Precipitation: 3 to 7 inches

Air temperature: 59 to 70 degrees Fahrenheit

Frost-free period: 220 to 300 days

### ***Composition***

Bard gravelly fine sandy loam, 2 to 8 percent slopes—40 percent

Nickel gravelly sandy loam, 4 to 15 percent slopes—25 percent

Limewash extremely gravelly fine sandy loam, 15 to 50 percent slopes—20 percent

Rock outcrop—8 percent

Haleburu very gravelly sandy loam, 15 to 50 percent slopes—4 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—3 percent

### ***Component Description***

#### **Bard and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from Limestone and dolomite

Typical vegetation: Big galleta, creosotebush, range ratany, other shrubs, other perennial grasses, other annual forbs, other perennial forbs, white bursage

#### **Typical profile:**

Surface rock fragments: About 3 percent cobbles, 20 percent gravel

Layer 1—0 to 3 inches; gravelly fine sandy loam

Layer 2—3 to 14 inches; fine sandy loam

Layer 3—14 to 29 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Irrigated land capability: 4e

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Nickel and similar soils**

Landform: Summits of fan remnants

Slope: 4 to 15 percent

Parent material: Mixed alluvium

Typical vegetation: Creosotebush, range ratany, other shrubs, other perennial forbs, big galleta, other perennial grasses, white bursage, other annual forbs

#### **Typical profile:**

Surface rock fragments: About 30 percent cobbles, 35 percent gravel, 1 percent stones

Layer 1—0 to 4 inches; gravelly sandy loam

Layer 2—4 to 11 inch; very gravelly sandy loam

Layer 3—11 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description*****Limewash and similar soils**

Landform: Backslopes of rock pediments

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from sedimentary rock

Typical vegetation: Other perennial forbs, desertholly saltbush, Torrey ephedra, creosotebush, other shrubs, Fremont dalea, Parry's sandpaperplant

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 65 percent gravel

Layer 1—0 to 1 inch; extremely gravelly fine sandy loam

Layer 2—1 to 3 inches; gravelly loamy fine sand

Layer 3—3 to 6 inches; gravelly fine sandy loam

Layer 4—6 to 17 inches; channery fine sandy loam

Layer 5—17 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB026NV—Gypsic loam 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Rock outcrop**

Composition: 0 to 8 percent

Landform: Cliffs

Ecological site: None

**Haleburu and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Backslopes of hills

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, big galleta

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial grasses, other shrubs, big galleta, creosotebush, white burrobrush, baccharis, bursage, other perennial forbs

Ecological site: R030XB028NV—Valley wash

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**271—Moapa-Bluepoint association****Map Unit Setting**

MLRA: 30

Landscape: Piedmont

Elevation: 2,000 to 2,720

Precipitation: 5 to 7 inches

Air temperature: 64 to 70 degrees Fahrenheit

Frost-free period: 240 to 300 days

**Composition**

Moapa fine sand, 4 to 15 percent slopes—50 percent

Bluepoint loamy fine sand, 4 to 15 percent slopes—35 percent

Rock outcrop—5 percent

Nickel gravelly sandy loam, 2 to 8 percent slopes—5 percent

Hiddensun very cobbly fine sandy loam, 8 to 30 percent slopes—3 percent

Lanip sandy loam, 2 to 8 percent slopes—2 percent

**Component Description****Moapa and similar soils**

Landform: Sand sheets, rock pediments

Slope: 4 to 15 percent

Parent material: Eolian sands over calcareous sandstone

Typical vegetation: Big galleta, other perennial forbs, white bursage, other shrubs, Indian ricegrass

**Typical profile:**

Surface rock fragments: About 5 percent gravel

Layer 1—0 to 2 inches; fine sand

Layer 2—2 to 38 inches; fine sand

Layer 3—38 to 39 inches; bedrock  
 Layer 4—39 to 49 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 21 to 38 inches Lithic bedrock: 22 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB063NV—Sandhill 5-7 P.Z.

#### ***Component Description***

##### **Bluepoint and similar soils**

Landform: Sand sheets

Slope: 4 to 15 percent

Parent material: Eolian sands

Typical vegetation: Big galleta, Indian ricegrass, other perennial forbs, white bursage, other shrubs

##### **Typical profile:**

Layer 1—0 to 6 inches; loamy fine sand

Layer 2—6 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB063NV—Sandhill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Nickel and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other annual forbs, other perennial grasses, other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Rock outcrop**

Composition: 0 to 5 percent

Landform: Cliffs

Ecological site: None

**Hiddensun and similar soils**

Composition: 0 to 3 percent

Slope: 8 to 30 percent

Landform: Backslopes of hills

Typical vegetation: Indian ricegrass, big galleta, other perennial forbs, white bursage, other shrubs

Ecological site: R030XB063NV—Sandhill 5-7 P.Z.

**Lanip and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, saltbush, Indian ricegrass, other perennial grasses, winterfat, big galleta, white bursage, other perennial forbs, Torrey ephedra

Ecological site: R030XB082NV—Clay plain 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**272—Moapa-Bluepoint-Rock outcrop association**

***Map Unit Setting***

MLRA: 30

Landscape: Piedmont

Elevation: 2,000 to 2,720

Precipitation: 5 to 7 inches

Air temperature: 64 to 70 degrees Fahrenheit

Frost-free period: 240 to 300 days

***Composition***

Moapa fine sand, 8 to 15 percent slopes—45 percent

Bluepoint loamy fine sand, 8 to 30 percent slopes—25 percent

Rock outcrop—20 percent

Moapa fine sand, 8 to 15 percent slopes—10 percent

***Component Description***

**Moapa and similar soils**

Landform: Sand sheets, rock pediments

Slope: 8 to 15 percent

Parent material: Eolian deposits derived from mixed sources

Typical vegetation: Indian ricegrass, other perennial forbs, bush muhly, big galleta, other shrubs

**Typical profile:**

Surface rock fragments: About 5 percent gravel

Layer 1—0 to 2 inches; fine sand

Layer 2—2 to 38 inches; fine sand

Layer 3—38 to 39 inches; bedrock

Layer 4—39 to 49 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 21 to 38 inches Lithic bedrock: 22 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB034NV—Sandy plain 5-7 P.Z.

***Component Description***

**Bluepoint and similar soils**

Landform: Sand sheets

Slope: 8 to 30 percent

Parent material: Eolian deposits derived from mixed sources

Typical vegetation: Other shrubs, white bursage, other perennial forbs, Indian ricegrass, big galleta

**Typical profile:**

Layer 1—0 to 6 inches; loamy fine sand

Layer 2—6 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB063NV—Sandhill 5-7 P.Z.

### ***Component Description***

#### **Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Moapa and similar soils**

Composition: 0 to 10 percent

Slope: 8 to 15 percent

Landform: Pediments

Typical vegetation: Utah mortonia, white bursage, other perennial forbs, whitestem paperflower

Ecological site: R030XB101NV—Tableland 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **285—Heleweiser-Carrizo-Teebar association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,250 to 2,890

Precipitation: 3 to 5 inches

Air temperature: 69 to 77 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Heleweiser extremely gravelly fine sandy loam, 2 to 8 percent slopes—55 percent

Carrizo extremely gravelly coarse sandy loam, 2 to 8 percent slopes—25 percent

Teebar extremely gravelly fine sandy loam, 2 to 15 percent slopes—10 percent

Callville very gravelly sandy loam, 0 to 4 percent slopes—6 percent

Carrizo extremely gravelly loamy sand, 2 to 8 percent slopes—4 percent

### ***Component Description***

#### **Heleweiser rarely flooded and similar soils**

Landform: Shoulders of fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial forbs, white bursage, other annual forbs, range ratany, creosotebush, other shrubs, other perennial grasses, big galleta

#### **Typical profile:**

Surface rock fragments: About 50 percent gravel, 2 percent cobbles

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 5 inches; gravelly fine sandy loam

Layer 3—5 to 11 inch; gravelly fine sandy loam  
 Layer 4—11 to 20 inches; very gravelly sandy loam  
 Layer 5—20 to 34 inches; very gravelly coarse sandy loam  
 Layer 6—34 to 68 inches; stratified very gravelly coarse sandy loam to extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 4 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### ***Component Description***

##### **Carrizo and similar soils**

Landform: Inset fans  
 Slope: 2 to 8 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Other perennial grasses, big galleta, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

##### **Typical profile:**

Surface rock fragments: About 3 percent cobbles, 70 percent gravel  
 Layer 1—0 to 10 inches; extremely gravelly coarse sandy loam  
 Layer 2—10 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 3 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### ***Component Description***

##### **Teebar and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 15 percent

Parent material: Alluvium derived from Limestone

Typical vegetation: Range ratany, big galleta, creosotebush, other perennial forbs,  
white bursage, other shrubs

**Typical profile:**

Surface rock fragments: About 30 percent gravel, 25 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly fine sandy loam

Layer 2—2 to 7 inches; very gravelly fine sandy loam

Layer 3—7 to 72 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 4 to 10 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
Moderately rapid)

Available water capacity: About 0.4 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: Not determined

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Callville and similar soils**

Composition: 0 to 6 percent

Slope: 0 to 4 percent

Landform: Shoulders of fan remnants

Typical vegetation: Other shrubs, desertholly, other shrubs

Ecological site: R030XB116NV—Shallow pediment 3-5 P.Z.

**Carrizo and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs,  
bursage, baccharis, white burrobrush, creosotebush, other shrubs

Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**286—Heleweiser-Carrizo association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,180 to 2,660

Precipitation: 3 to 5 inches

Air temperature: 69 to 77 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Heleweiser very gravelly sandy loam, 4 to 15 percent slopes—45 percent

Heleweiser extremely gravelly fine sandy loam, 2 to 4 percent slopes—25 percent

Carrizo extremely gravelly loamy sand, 2 to 8 percent slopes—20 percent

Huevi very gravelly sandy loam, 15 to 30 percent slopes—7 percent

Gypwash extremely gravelly fine sandy loam, 8 to 15 percent slopes—3 percent

***Component Description*****Heleweiser and similar soils**

Landform: Shoulders of fan remnants

Slope: 4 to 15 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial forbs, white bursage, creosotebush, other shrubs,  
other annual forbs**Typical profile:**

Surface rock fragments: About 50 percent gravel, 2 percent cobbles

Layer 1—0 to 1 inch; very gravelly sandy loam

Layer 2—1 to 5 inches; gravelly fine sandy loam

Layer 3—5 to 11 inch; gravelly fine sandy loam

Layer 4—11 to 20 inches; very gravelly sandy loam

Layer 5—20 to 34 inches; very gravelly coarse sandy loam

Layer 6—34 to 68 inches; stratified very gravelly coarse sandy loam to extremely  
gravelly loamy coarse sandSee "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
information.**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
Moderately rapid)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

***Component Description*****Heleweiser extremely gravelly surface and similar soils**

Landform: Shoulders of fan remnants

Slope: 2 to 4 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Other shrubs, creosotebush

**Typical profile:**

Surface rock fragments: About 2 percent cobbles, 50 percent gravel  
 Layer 1—0 to 2 inches; extremely gravelly fine sandy loam  
 Layer 2—2 to 5 inches; gravelly fine sandy loam  
 Layer 3—5 to 11 inch; gravelly fine sandy loam  
 Layer 4—11 to 20 inches; very gravelly sandy loam  
 Layer 5—20 to 34 inches; very gravelly coarse sandy loam  
 Layer 6—34 to 68 inches; stratified very gravelly coarse sandy loam to extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 4 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB092NV—Desert patina

***Component Description***

**Carrizo and similar soils**

Landform: Drainageways  
 Slope: 2 to 8 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Bursage, other perennial forbs, baccharis, big galleta, white burrobrush, other perennial grasses, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 3 percent cobbles, 70 percent gravel  
 Layer 1—0 to 7 inches; extremely gravelly loamy sand  
 Layer 2—7 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Negligible  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)  
 Available water capacity: About 2 inches  
 Present flooding: Frequent  
 Present ponding: None  
 Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7w

Ecological site: R030XB028NV—Valley wash

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Huevi dry and similar soils**

Composition: 0 to 7 percent

Slope: 15 to 30 percent

Landform: Ballenas

Typical vegetation: Other annual forbs, creosotebush, other shrubs, white bursage

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

**Gypwash and similar soils**

Composition: 0 to 3 percent

Slope: 8 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**287—Heleweiser association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,380 to 2,590

Precipitation: 3 to 5 inches

Air temperature: 70 to 75 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Heleweiser extremely gravelly fine sandy loam, 2 to 4 percent slopes—70 percent

Heleweiser very gravelly sandy loam, 8 to 30 percent slopes—15 percent

Baseline extremely gravelly fine sandy loam, 2 to 8 percent slopes—8 percent

Teebar very cobbly fine sandy loam, 0 to 2 percent slopes—3 percent

Carrizo very gravelly sandy loam, 2 to 4 percent slopes—3 percent

Callville gravelly loam, 8 to 30 percent slopes—1 percent

***Component Description*****Heleweiser rarely flooded and similar soils**

Landform: Shoulders of fan remnants

Slope: 2 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other annual forbs, other perennial forbs, other perennial grasses, big galleta

**Typical profile:**

Surface rock fragments: About 50 percent gravel, 2 percent cobbles

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 5 inches; gravelly fine sandy loam

Layer 3—5 to 11 inch; gravelly fine sandy loam

Layer 4—11 to 20 inches; very gravelly sandy loam

Layer 5—20 to 34 inches; very gravelly coarse sandy loam

Layer 6—34 to 68 inches; stratified very gravelly coarse sandy loam to extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 4 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description***

**Heleweiser and similar soils**

Landform: Shoulders of fan remnants

Slope: 8 to 30 percent

Parent material: Mixed alluvium

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, big galleta

**Typical profile:**

Surface rock fragments: About 2 percent cobbles, 50 percent gravel

Layer 1—0 to 1 inch; very gravelly sandy loam

Layer 2—1 to 5 inches; gravelly fine sandy loam

Layer 3—5 to 11 inch; gravelly fine sandy loam

Layer 4—11 to 20 inches; very gravelly sandy loam

Layer 5—20 to 34 inches; very gravelly coarse sandy loam

Layer 6—34 to 68 inches; stratified very gravelly coarse sandy loam to extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 4 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Baseline and similar soils**

Composition: 0 to 8 percent  
 Slope: 2 to 8 percent  
 Landform: Summits of high fan remnants  
 Typical vegetation: Creosotebush, big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, other shrubs  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Teebar and similar soils**

Composition: 0 to 3 percent  
 Slope: 0 to 2 percent  
 Landform: Summits of plateaus  
 Typical vegetation: White bursage, creosotebush, other shrubs, other perennial forbs, other annual forbs  
 Ecological site: R030XB019NV—Limy 3-5 P.Z.

#### **Carrizo and similar soils**

Composition: 0 to 3 percent  
 Slope: 2 to 4 percent  
 Landform: Drainageways  
 Typical vegetation: Other shrubs, bursage, big galleta, other perennial grasses, other perennial forbs, creosotebush, white burrobrush, baccharis  
 Ecological site: R030XB028NV—Valley wash

#### **Callville and similar soils**

Composition: 0 to 1 percent  
 Slope: 8 to 30 percent  
 Landform: Backslopes of rock pediments  
 Typical vegetation: Desertholly, other shrubs, other shrubs  
 Ecological site: R030XB116NV—Shallow pediment 3-5 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

**288—Heleweiser-Teebar association*****Map Unit Setting***

MLRA: 30

Landscape: Piedmont

Elevation: 2,070 to 2,460

Precipitation: 3 to 5 inches

Air temperature: 69 to 77 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Heleweiser very gravelly sandy loam, 8 to 30 percent slopes—70 percent

Teebar very cobbly fine sandy loam, 0 to 2 percent slopes—20 percent

Weiser very gravelly sandy loam, 8 to 30 percent slopes—7 percent

Badland, 30 to 75 percent slopes—3 percent

***Component Description*****Heleweiser and similar soils**

Landform: Shoulders of fan remnants

Slope: 8 to 30 percent

Parent material: Mixed alluvium

Typical vegetation: Other annual forbs, white bursage, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 50 percent gravel, 2 percent cobbles

Layer 1—0 to 1 inch; very gravelly sandy loam

Layer 2—1 to 5 inches; gravelly fine sandy loam

Layer 3—5 to 11 inch; gravelly fine sandy loam

Layer 4—11 to 20 inches; very gravelly sandy loam

Layer 5—20 to 34 inches; very gravelly coarse sandy loam

Layer 6—34 to 68 inches; stratified very gravelly coarse sandy loam to extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

***Component Description*****Teebar and similar soils**

Landform: Summits of plateaus

Slope: 0 to 2 percent

Parent material: Alluvium derived from Limestone

Typical vegetation: Shrubby tiqulia, other perennial forbs, other shrubs, whitestem paperflower, creosotebush, range ratany, white bursage, ephedra

**Typical profile:**

Surface rock fragments: About 25 percent cobbles, 30 percent gravel

Layer 1—0 to 2 inches; very cobbly fine sandy loam

Layer 2—2 to 7 inches; very gravelly fine sandy loam

Layer 3—7 to 72 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 4 to 10 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.5 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: Not determined

Ecological site: R030XB110NV—Tableland 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Weiser and similar soils**

Composition: 0 to 7 percent

Slope: 8 to 30 percent

Landform: Fan remnants

Typical vegetation: Big galleta, other perennial forbs, white bursage, other shrubs, range ratany, creosotebush

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Badland**

Composition: 0 to 3 percent

Slope: 30 to 75 percent

Landform: Backslopes of pediments

Ecological site: None

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

## 289—Heleweiser-Upperline-Nickel association

### *Map Unit Setting*

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,840 to 2,560

Precipitation: 3 to 7 inches

Air temperature: 64 to 75 degrees Fahrenheit

Frost-free period: 240 to 360 days

### *Composition*

Heleweiser very gravelly sandy loam, 15 to 50 percent slopes—35 percent

Upperline very gravelly sandy loam, 15 to 50 percent slopes—30 percent

Nickel gravelly sandy loam, 4 to 15 percent slopes—20 percent

Badland, 30 to 75 percent slopes—8 percent

Iceberg extremely stony fine sandy loam, 30 to 75 percent slopes—3 percent

Galehills extremely gravelly fine sandy loam, 15 to 50 percent slopes—2 percent

Upperline very gravelly sandy loam, 2 to 8 percent slopes—1 percent

Rock outcrop—1 percent

### *Component Description*

#### **Heleweiser and similar soils**

Landform: Shoulders of fan remnants

Slope: 15 to 50 percent

Parent material: Mixed alluvium

Typical vegetation: White brittlebush, other shrubs, white bursage, other perennial grasses, other perennial forbs, creosotebush

#### **Typical profile:**

Surface rock fragments: About 2 percent cobbles, 50 percent gravel

Layer 1—0 to 1 inch; very gravelly sandy loam

Layer 2—1 to 5 inches; gravelly fine sandy loam

Layer 3—5 to 11 inch; gravelly fine sandy loam

Layer 4—11 to 20 inches; very gravelly sandy loam

Layer 5—20 to 34 inches; very gravelly coarse sandy loam

Layer 6—34 to 68 inches; stratified very gravelly coarse sandy loam to extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB099NV—Gravelly ridge 5-7 P.Z.

### ***Component Description***

#### **Upperline and similar soils**

Landform: Rock pediments

Slope: 15 to 50 percent

Parent material: Alluvium and/or colluvium derived from Limestone and sandstone over colluvium and/or residuum weathered from sandstone and siltstone

Typical vegetation: Other perennial forbs, big galleta, white bursage, range ratany, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 80 percent gravel, 1 percent cobbles

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 12 inches; very gravelly sandy loam

Layer 3—12 to 35 inches; very gravelly sandy loam

Layer 4—35 to 39 inches; very paragravelly sandy loam

Layer 5—39 to 49 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 30 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Component Description***

#### **Nickel and similar soils**

Landform: Summits of fan remnants

Slope: 4 to 15 percent

Parent material: Mixed alluvium

Typical vegetation: Big galleta, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, other perennial grasses

#### **Typical profile:**

Surface rock fragments: About 35 percent gravel, 1 percent stones, 30 percent cobbles

Layer 1—0 to 4 inches; gravelly sandy loam

Layer 2—4 to 11 inch; very gravelly sandy loam

Layer 3—11 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Badland**

Composition: 0 to 8 percent  
 Slope: 30 to 75 percent  
 Landform: Backslopes of pediments  
 Ecological site: None

#### **Iceberg and similar soils**

Composition: 0 to 3 percent  
 Slope: 30 to 75 percent, southwest to southeast aspects  
 Landform: Southwest to southeast aspects on backslopes of mountains  
 Typical vegetation: Other perennial grasses, desert globemallow, white brittlebush, creosotebush, other shrubs  
 Ecological site: R030XB077NV—Steep south slope

#### **Galehills and similar soils**

Composition: 0 to 2 percent  
 Slope: 15 to 50 percent  
 Landform: Hills  
 Typical vegetation: Creosotebush, white bursage, other perennial forbs, other perennial grasses, other shrubs, Fremont dalea  
 Ecological site: R030XB124NV—Shallow hill 3-5 P.Z.

#### **Upperline and similar soils**

Composition: 0 to 1 percent  
 Slope: 2 to 8 percent  
 Landform: Rock pediments  
 Typical vegetation: White bursage, bush muhly, other shrubs, spiny menodora, creosotebush, other perennial forbs, big galleta, desert needlegrass  
 Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

#### **Rock outcrop**

Composition: 0 to 1 percent  
 Landform: Cliffs  
 Ecological site: None

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:  
 "Range" section

"Engineering" and "Soil Properties" sections

## **290—Rock outcrop-Moapa-Bluepoint association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 1,480 to 3,940

Precipitation: 5 to 7 inches

Air temperature: 64 to 70 degrees Fahrenheit

Frost-free period: 240 to 320 days

### ***Composition***

Rock outcrop, 30 to 75 percent slopes—45 percent

Moapa fine sand, 8 to 30 percent slopes—35 percent

Bluepoint loamy fine sand, 2 to 8 percent slopes—10 percent

Lithic Torripsammments fine sand, 2 to 8 percent slopes—6 percent

Lithic Torriorthents very gravelly loamy fine sand, 2 to 8 percent slopes—3 percent

Typic Haplocalcids extremely gravelly sandy loam, 4 to 8 percent slopes—1 percent

### ***Component Description***

#### **Rock outcrop sandstone**

Landform: Cliffs

Slope: 30 to 75 percent

### ***Component Description***

#### **Moapa and similar soils**

Landform: Sand sheets, rock pediments

Slope: 8 to 30 percent

Parent material: Eolian deposits derived from mixed sources

Typical vegetation: Indian ricegrass, big galleta, other perennial forbs, white bursage, range ratany, winterfat, other shrubs

#### **Typical profile:**

Surface rock fragments: About 5 percent gravel

Layer 1—0 to 2 inches; fine sand

Layer 2—2 to 38 inches; fine sand

Layer 3—38 to 39 inches; bedrock

Layer 4—39 to 49 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 21 to 38 inches Lithic bedrock: 22 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB004NV—Sandy 5-7 P.Z.

***Component Description*****Bluepoint and similar soils**

Landform: Sand sheets

Slope: 2 to 8 percent

Parent material: Eolian deposits derived from mixed sources

Typical vegetation: Other shrubs, Indian ricegrass, other perennial forbs, big galleta, bush muhly

**Typical profile:**

Layer 1—0 to 6 inches; loamy fine sand

Layer 2—6 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB034NV—Sandy plain 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Lithic Torripsamments and similar soils**

Composition: 0 to 6 percent

Classification: Mixed, thermic Lithic Torripsamments

Slope: 2 to 8 percent

Landform: Pediments

Typical vegetation: White bursage, other perennial forbs, big galleta, Indian ricegrass, creosotebush, other shrubs

Ecological site: R030XB037NV—Limy sand 5-7 P.Z.

**Lithic Torriorthents and similar soils**

Composition: 0 to 3 percent

Classification: Sandy-skeletal, mixed, thermic Lithic Torriorthents

Slope: 2 to 8 percent

Landform: Pediments

Typical vegetation: White bursage, range ratany, other shrubs, creosotebush, big galleta, other perennial grasses, other annual forbs, other perennial forbs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Typic Haplocalcids and similar soils**

Composition: 0 to 1 percent

Classification: Sandy-skeletal, mixed, thermic Typic Haplocalcids

Slope: 4 to 8 percent

Landform: Fan remnants

Typical vegetation: Big galleta, creosotebush, Indian ricegrass, white bursage

Ecological site: R030XB037NV—Limy sand 5-7 P.Z.

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**291—Rock outcrop-Highland association****Map Unit Setting**

MLRA: 30

Landscape: Mountains

Elevation: 2,710 to 4,530

Precipitation: 5 to 7 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

**Composition**

Rock outcrop—50 percent

Highland extremely gravelly loam, 15 to 50 percent slopes—35 percent

Haleburu extremely gravelly sandy loam, 15 to 50 percent slopes—8 percent

Nipton extremely gravelly sandy loam, 15 to 50 percent slopes—3 percent

Newera very cobbly loam, 15 to 50 percent slopes—3 percent

Typic Torriorthents extremely gravelly sandy loam, 4 to 15 percent slopes—1 percent

**Component Description****Rock outcrop**

Landform: Cliffs

**Component Description****Highland and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Other shrubs, range ratany, creosotebush, white bursage, desert globemallow, bush muhly, big galleta, other perennial grasses

**Typical profile:**

Surface rock fragments: About 20 percent cobbles, 2 percent stones, 65 percent gravel

Layer 1—0 to 3 inches; extremely gravelly loam

Layer 2—3 to 13 inches; very cobbly loam

Layer 3—13 to 26 inches; very gravelly loam

Layer 4—26 to 40 inches; very gravelly sandy loam

Layer 5—40 to 50 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 30 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB044NV—Cobbly Claypan 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Haleburu and similar soils**

Composition: 0 to 8 percent

Slope: 15 to 50 percent

Landform: mountains

Typical vegetation: Range ratany, other shrubs, big galleta, other perennial forbs, creosotebush, white bursage

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

##### **Newera steep and similar soils**

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains and hills

Typical vegetation: Blackbrush, big galleta, desert needlegrass, other shrubs

Ecological site: R030XB076NV—Shallow gravelly slope 5-7 P.Z.

##### **Nipton and similar soils**

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Creosotebush, other shrubs, triangle goldeneye, big galleta, range ratany, white bursage, desert globemallow, ephedra, Virgin River encelia, other perennial forbs

Ecological site: R030XB073NV—Volcanic slope 5-7 P.Z.

##### **Typic Torriorthents and similar soils**

Composition: 0 to 1 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Typic Torriorthents

Slope: 4 to 15 percent

Landform: Drainageways

Typical vegetation: Other perennial forbs, other shrubs, Anderson's wolfberry, big galleta, other perennial grasses, bush muhly, range ratany, burrobrush, Mojave buckwheat, hollyleaf bursage

Ecological site: R030XB051NV—Upland wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **292—Rock outcrop-Nupper association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 3,710 to 7,020

Precipitation: 11 to 13 inches

Air temperature: 48 to 54 degrees Fahrenheit

Frost-free period: 110 to 150 days

### ***Composition***

Rock outcrop—65 percent

Nupper extremely flaggy loamy fine sand, 30 to 75 percent slopes—25 percent

Seralin family extremely stony loam, 50 to 75 percent slopes—8 percent

Moentria extremely gravelly loam, 15 to 50 percent slopes—2 percent

### ***Component Description***

#### **Rock outcrop metamorphic**

Landform: Cliffs

### ***Component Description***

#### **Nupper and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Colluvium and/or residuum weathered from sandstone

Typical vegetation: Other shrubs, other perennial grasses, whortleleaf snowberry, other trees, other perennial forbs, muttongrass, desert needlegrass, crested needlegrass, black sagebrush, Utah juniper, turbinella oak, pointleaf manzanita

#### **Typical profile:**

Surface rock fragments: About 10 percent gravel, 70 percent flagstones

Layer 1—0 to 3 inches; extremely flaggy loamy fine sand

Layer 2—3 to 13 inches; extremely gravelly fine sandy loam

Layer 3—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 6 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.7 inch

Present flooding: None

Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XC020NV—Shallow sandstone hill 11-13 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Seralin family and similar soils**

Composition: 0 to 8 percent  
 Classification: Loamy-skeletal, mixed, superactive, mesic Aridic Lithic Haplustolls  
 Slope: 50 to 75 percent, northeast aspect  
 Landform: Northeast facing backslopes of mountains  
 Typical vegetation: Crested needlegrass, pointleaf manzanita, Indian ricegrass, other trees, desert needlegrass, other perennial forbs, muttongrass, other perennial grasses, other shrubs, turbinella oak, mountain big sagebrush  
 Ecological site: R030XC022NV—Bouldery sandstone slope 11-13 P.Z.

#### **Moentria and similar soils**

Composition: 0 to 2 percent  
 Slope: 15 to 50 percent  
 Landform: Backslopes of mountains  
 Typical vegetation: Other shrubs, blackbrush, other perennial forbs, other perennial grasses, desert needlegrass, ephedra  
 Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

## **294—Rock outcrop, sandstone**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Mountains

### ***Composition***

Rock outcrop—90 percent  
 Nupper extremely flaggy loamy fine sand, 15 to 50 percent slopes—5 percent  
 Moentria extremely gravelly loam, 15 to 50 percent slopes—5 percent

### ***Component Description***

#### **Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Moentria and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Other perennial grasses, desert needlegrass, other perennial forbs, blackbrush, ephedra, other shrubs

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

#### **Nupper and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Summits of cliffs

Typical vegetation: Crested needlegrass, whortleleaf snowberry, other shrubs, turbinella oak, other trees, other perennial forbs, Utah juniper, pointleaf manzanita, black sagebrush, muttongrass, desert needlegrass, other perennial grasses

Ecological site: R030XC020NV—Shallow sandstone hill 11-13 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **298—Rock outcrop-Redneedle-Heleweiser association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Piedmont

Elevation: 1,440 to 2,300

Precipitation: 3 to 5 inches

Air temperature: 69 to 75 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Rock outcrop—35 percent

Redneedle very gravelly fine sandy loam, 15 to 50 percent slopes—30 percent

Heleweiser very gravelly sandy loam, 8 to 30 percent slopes—20 percent

Guardian gypsiferous sandy loam, 8 to 30 percent slopes—6 percent

Baseline extremely gravelly fine sandy loam, 4 to 15 percent slopes—5 percent

St. Thomas extremely gravelly sandy loam, 15 to 50 percent slopes—3 percent

Carrizo extremely gravelly sand, 2 to 8 percent slopes—1 percent

### ***Component Description***

#### **Rock outcrop**

Landform: Cliffs

### ***Component Description***

#### **Redneedle and similar soils**

Landform: Southeast to southwest aspects on backslopes of hills

Slope: 15 to 50 percent, southeast to southwest aspects

Parent material: Colluvium and/or residuum weathered from conglomerate

Typical vegetation: Creosotebush, other shrubs, white brittlebush, desert globemallow, other perennial grasses

**Typical profile:**

Surface rock fragments: About 70 percent subrounded gravel, 3 percent subrounded cobbles, 3 percent subrounded stones

Layer 1—0 to 1 inch; very gravelly fine sandy loam

Layer 2—1 to 5 inches; very gravelly fine sandy loam

Layer 3—5 to 15 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 3 to 9 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.4 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB077NV—Steep south slope

***Component Description***

**Heleweiser and similar soils**

Landform: Shoulders of fan remnants

Slope: 8 to 30 percent

Parent material: Mixed alluvium

Typical vegetation: Creosotebush, white brittlebush, other shrubs, white bursage, other perennial grasses, other perennial forbs

**Typical profile:**

Surface rock fragments: About 50 percent gravel, 2 percent cobbles

Layer 1—0 to 1 inch; very gravelly sandy loam

Layer 2—1 to 5 inches; gravelly fine sandy loam

Layer 3—5 to 11 inch; gravelly fine sandy loam

Layer 4—11 to 20 inches; very gravelly sandy loam

Layer 5—20 to 34 inches; very gravelly coarse sandy loam

Layer 6—34 to 68 inches; stratified very gravelly coarse sandy loam to extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB099NV—Gravelly ridge 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Guardian calcareous surface and similar soils**

Composition: 0 to 6 percent  
 Slope: 8 to 30 percent  
 Landform: Shoulders of pediments  
 Typical vegetation: Other shrubs, Fremont dalea, Parry's sandpaperplant, shadscale, other perennial forbs, silverleaf sunray  
 Ecological site: R030XB115NV—Gypsic sodic loam 3-5 P.Z.

#### **Baseline and similar soils**

Composition: 0 to 5 percent  
 Slope: 4 to 15 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: White bursage, other perennial forbs, other annual forbs, other shrubs, creosotebush  
 Ecological site: R030XB019NV—Limy 3-5 P.Z.

#### **St. Thomas and similar soils**

Composition: 0 to 3 percent  
 Slope: 15 to 50 percent, southeast aspect  
 Landform: Southeast facing backslopes of mountains  
 Typical vegetation: Creosotebush, other shrubs, range ratany, other perennial forbs, big galleta, white bursage  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Carrizo and similar soils**

Composition: 0 to 1 percent  
 Slope: 2 to 8 percent  
 Landform: Drainageways  
 Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs  
 Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

## **310—Weiser-Arizo association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont  
 Elevation: 1,900 to 4,040  
 Precipitation: 5 to 7 inches  
 Air temperature: 57 to 70 degrees Fahrenheit  
 Frost-free period: 180 to 300 days

### ***Composition***

Weiser extremely gravelly fine sandy loam, 2 to 8 percent slopes—65 percent  
 Arizo very gravelly loamy sand, 2 to 8 percent slopes—25 percent  
 Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—6 percent  
 Wechech very gravelly sandy loam, 0 to 4 percent slopes—4 percent

### ***Component Description***

#### **Weiser and similar soils**

Landform: Summits of fan remnants  
 Slope: 2 to 8 percent  
 Parent material: Alluvium derived from Limestone and dolomite  
 Typical vegetation: Other annual forbs, creosotebush, other shrubs, white bursage,  
 other perennial forbs, other perennial grasses, range ratany, big galleta

#### **Typical profile:**

Surface rock fragments: About 5 percent stones, 10 percent cobbles, 60 percent  
 gravel  
 Layer 1—0 to 6 inches; extremely gravelly fine sandy loam  
 Layer 2—6 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
 information.

#### **Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability  
 class: Moderate)  
 Available water capacity: About 2 inches  
 Present flooding: Very rare  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Arizo and similar soils**

Landform: Fan aprons  
 Slope: 2 to 8 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Range ratany, other annual forbs, other shrubs, creosotebush,  
 white bursage, other perennial forbs, other perennial grasses, big galleta

#### **Typical profile:**

Surface rock fragments: About 40 percent gravel, 10 percent cobbles  
 Layer 1—0 to 2 inches; very gravelly loamy sand  
 Layer 2—2 to 6 inches; sand

Layer 3—6 to 60 inches; stratified very gravelly coarse sand to extremely gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Arizo and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other shrubs, baccharis, other perennial forbs, other perennial grasses, big galleta, white burrobrush, bursage, creosotebush

Ecological site: R030XB028NV—Valley wash

##### **Wechech and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, other annual forbs, other perennial grasses

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

### **311—Weiser-Threelakes association**

#### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,790 to 4,360

Precipitation: 5 to 7 inches

Air temperature: 57 to 68 degrees Fahrenheit

Frost-free period: 180 to 300 days

### ***Composition***

Weiser extremely gravelly fine sandy loam, 2 to 8 percent slopes—50 percent  
 Threelakes extremely gravelly fine sandy loam, 2 to 8 percent slopes—35 percent  
 Threelakes family very gravelly sandy loam, 2 to 8 percent slopes—8 percent  
 Irongold extremely gravelly loam, 2 to 8 percent slopes—3 percent  
 Ifteen extremely gravelly fine sandy loam, 2 to 8 percent slopes—3 percent  
 Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—1 percent

### ***Component Description***

#### **Weiser and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from Limestone and dolomite

Typical vegetation: Other perennial forbs, range ratany, white bursage, other annual forbs, other perennial grasses, big galleta, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 60 percent gravel, 5 percent stones, 10 percent cobbles

Layer 1—0 to 6 inches; extremely gravelly fine sandy loam

Layer 2—6 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Threelakes and similar soils**

Landform: Fan aprons

Slope: 2 to 8 percent

Parent material: Mixed alluvium derived from Limestone

Typical vegetation: Wolfberry, creosotebush, shadscale, white bursage, other shrubs, other perennial forbs, Indian ricegrass

#### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 80 percent gravel

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 31 inch; extremely gravelly fine sandy loam

Layer 3—31 to 60 inches; stratified extremely gravelly fine sandy loam to extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Sodicity: Sodic within 40 inches

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Threelakes family and similar soils**

Composition: 0 to 8 percent

Classification: Loamy-skeletal, carbonatic, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Other perennial grasses, big galleta, other shrubs, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Ifteen and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Creosotebush, Indian ricegrass, big galleta, other perennial forbs, white bursage, ephedra, range ratany, winterfat, other shrubs

Ecological site: R030XB102NV—Gravelly loam 5-7 P.Z.

#### **Irongold and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent, northeast aspect

Landform: Northeast facing shoulders of fan remnants

Typical vegetation: Big galleta, other shrubs, blackbrush, other perennial grasses, other perennial forbs

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial forbs, bursage, big galleta, other perennial grasses, baccharis, white burrobrush, creosotebush, other shrubs

Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Engineering" and "Soil Properties" sections

## **313—Weiser-Oldspan-Wechech association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 1,970 to 4,690  
 Precipitation: 3 to 7 inches  
 Air temperature: 57 to 69 degrees Fahrenheit  
 Frost-free period: 180 to 300 days

### ***Composition***

Weiser extremely gravelly loam, 2 to 8 percent slopes—35 percent  
 Oldspan gravelly fine sandy loam, 2 to 8 percent slopes—30 percent  
 Wechech very gravelly sandy loam, 2 to 8 percent slopes—20 percent  
 Weiser very gravelly sandy loam, 2 to 8 percent slopes—5 percent  
 Wechech very gravelly sandy loam, 0 to 4 percent slopes—4 percent  
 Weiser gravelly very fine sandy loam, 0 to 4 percent slopes—3 percent  
 Threelakes extremely gravelly fine sandy loam, 2 to 8 percent slopes—2 percent  
 Typic Torriorthents extremely gravelly loamy sand, 2 to 4 percent slopes—1 percent

### ***Component Description***

#### **Weiser and similar soils**

Landform: Summits of fan remnants  
 Slope: 2 to 8 percent  
 Parent material: Alluvium derived from Limestone and dolomite  
 Typical vegetation: Creosotebush, other perennial grasses, big galleta, white bursage, other annual forbs, range ratany, other shrubs, other perennial forbs

#### **Typical profile:**

Surface rock fragments: About 10 percent cobbles, 5 percent stones, 60 percent gravel  
 Layer 1—0 to 2 inches; extremely gravelly loam  
 Layer 2—2 to 10 inches; gravelly loam  
 Layer 3—10 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 3 inches  
 Present flooding: Very rare  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description*****Oldspan and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium derived from Limestone and sandstone

Typical vegetation: Creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 2 percent cobbles, 85 percent gravel

Layer 1—0 to 3 inches; gravelly fine sandy loam

Layer 2—3 to 10 inches; fine sandy loam

Layer 3—10 to 20 inches; loam

Layer 4—20 to 40 inches; stratified extremely gravelly loam to extremely gravelly loamy coarse sand

Layer 5—40 to 60 inches; stratified extremely gravelly fine sandy loam to extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Sodicity: Sodic within 40 inches

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB092NV—Desert patina

***Component Description*****Wechech and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from Limestone and dolomite

Typical vegetation: White bursage, creosotebush, range ratany, other shrubs, big galleta, other perennial forbs, other annual forbs, other perennial grasses

**Typical profile:**

Surface rock fragments: About 40 percent gravel, 5 percent cobbles

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 7 inches; very gravelly sandy loam

Layer 3—7 to 13 inches; very gravelly sandy loam

Layer 4—13 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Weiser and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Indian ricegrass, big galleta, other perennial forbs, white bursage, ephedra, range ratany, winterfat, creosotebush, other shrubs

Ecological site: R030XB102NV—Gravelly loam 5-7 P.Z.

#### **Wechech and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial forbs, white bursage, creosotebush, other shrubs, other annual forbs

Ecological site: R030XB019NV—Limy 3-5 P.Z.

#### **Weiser and similar soils**

Composition: 0 to 3 percent

Slope: 0 to 4 percent

Landform: Fan remnants

Typical vegetation: Desert needlegrass, bush muhly, big galleta, other perennial forbs, white bursage, creosotebush, spiny menodora, other shrubs

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

#### **Threelakes and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, other perennial forbs, white bursage, shadscale, creosotebush, wolfberry, other shrubs

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

**Typic Torriorthents and similar soils**

Composition: 0 to 1 percent

Classification: Sandy-skeletal, carbonatic, thermic Typic Torriorthents

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Other perennial forbs, bursage, baccharis, white burrobrush, other shrubs, creosotebush, other perennial grasses, big galleta

Ecological site: R030XB028NV—Valley wash

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**314—Weiser-Wehech association****Map Unit Setting**

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,610 to 4,860

Precipitation: 5 to 7 inches

Air temperature: 57 to 69 degrees Fahrenheit

Frost-free period: 180 to 300 days

**Composition**

Weiser extremely gravelly fine sandy loam, 2 to 8 percent slopes—70 percent

Wehech very gravelly sandy loam, 2 to 8 percent slopes—15 percent

Threelakes extremely gravelly fine sandy loam, 2 to 8 percent slopes—6 percent

Weiser gravelly very fine sandy loam, 2 to 4 percent slopes—5 percent

Typic Torriorthents extremely gravelly loamy sand, 2 to 4 percent slopes—4 percent

**Component Description****Weiser and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from Limestone and dolomite

Typical vegetation: Other annual forbs, other shrubs, big galleta, creosotebush, range ratany, white bursage, other perennial forbs, other perennial grasses

**Typical profile:**

Surface rock fragments: About 60 percent gravel, 10 percent cobbles, 5 percent stones

Layer 1—0 to 6 inches; extremely gravelly fine sandy loam

Layer 2—6 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 2 inches  
 Present flooding: Very rare  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Wechech and similar soils**

Landform: Summits of fan remnants  
 Slope: 2 to 8 percent  
 Parent material: Alluvium derived from Limestone and dolomite  
 Typical vegetation: Range ratany, creosotebush, white bursage, other perennial forbs, other shrubs, other annual forbs, other perennial grasses, big galleta

#### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 40 percent gravel  
 Layer 1—0 to 2 inches; very gravelly sandy loam  
 Layer 2—2 to 7 inches; very gravelly sandy loam  
 Layer 3—7 to 13 inches; very gravelly sandy loam  
 Layer 4—13 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Petrocalcic: 8 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.9 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Threelakes and similar soils**

Composition: 0 to 6 percent  
 Slope: 2 to 8 percent  
 Landform: Fan remnants  
 Typical vegetation: Indian ricegrass, other perennial forbs, white bursage, shadscale, creosotebush, wolfberry, other shrubs  
 Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

**Weiser and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Desert needlegrass, bush muhly, big galleta, other perennial forbs, white bursage, creosotebush, spiny menodora, other shrubs

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

**Typic Torriorthents and similar soils**

Composition: 0 to 4 percent

Classification: Sandy-skeletal, carbonatic, thermic Typic Torriorthents

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Other perennial forbs, big galleta, other perennial grasses, bursage, baccharis, white burrobrush, creosotebush, other shrubs

Ecological site: R030XB028NV—Valley wash

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**315—Weiser association****Map Unit Setting**

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,590 to 4,590

Precipitation: 4 to 7 inches

Air temperature: 60 to 68 degrees Fahrenheit

Frost-free period: 210 to 320 days

**Composition**

Weiser very gravelly fine sandy loam, 2 to 8 percent slopes—45 percent

Weiser gravelly loam, 2 to 4 percent slopes—40 percent

Sodic Haplocalcids, 2 to 4 percent slopes—5 percent

Typic Haplocalcids, 2 to 8 percent slopes, occasionally flooded—5 percent

Typic Haplocalcids, 2 to 8 percent slopes—5 percent

**Component Description****Weiser and similar soils**

Landform: Fan aprons, summits of inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from Limestone and dolomite

Typical vegetation: White bursage, Nevada ephedra, range ratany, creosote bush, big galleta

**Typical profile:**

Surface rock fragments: About 3 percent cobbles, 15 percent fine gravel, 77 percent gravel

Layer 1—0 to 1 inch; very gravelly fine sandy loam

Layer 2—1 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### ***Component Description***

##### **Weiser gravelly surface and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 4 percent

Parent material: Alluvium derived from Limestone and dolomite

Typical vegetation: White bursage, big galleta, creosotebush, shadscale

#### **Typical profile:**

Surface rock fragments: About 83 percent gravel, 15 percent fine gravel, 10 percent cobbles

Layer 1—0 to 6 inches; gravelly loam

Layer 2—6 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Slow)

Available water capacity: About 2 inches

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB124CA—Gravelly loam

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Sodic Haplocalcids and similar soils**

Composition: 0 to 5 percent

Classification: Sandy-skeletal over loamy, mixed, superactive, thermic Sodic Haplocalcids

Slope: 2 to 4 percent

Landform: Fan skirts

Typical vegetation: Creosotebush, cattle saltbush, Indian ricegrass, white bursage  
 Ecological site: R030XY046NV—Outwash plain

**Typic Haplocalcids occasionally flooded and similar soils**

Composition: 0 to 5 percent

Classification: Sandy-skeletal, carbonatic, thermic Typic Haplocalcids

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: White burrobrush, Virgin River encelia, catclaw acacia, Anderson  
 wolfberry

Ecological site: R030XB159CA—Broad Gravelly Wash

**Typic Haplocalcids very rarely flooded and similar soils**

Composition: 0 to 5 percent

Classification: Sandy-skeletal, carbonatic, thermic Typic Haplocalcids

Slope: 2 to 8 percent

Landform: Fan aprons

Typical vegetation: White bursage, Nevada ephedra, range ratany, creosote bush, big  
 galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and  
 associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**320—Boxspring-Zeheme-Rock outcrop association**

***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 2,360 to 6,300

Precipitation: 5 to 9 inches

Air temperature: 54 to 64 degrees Fahrenheit

Frost-free period: 150 to 210 days

***Composition***

Boxspring extremely gravelly loam, 15 to 50 percent slopes—50 percent

Zeheme extremely stony fine sandy loam, 15 to 50 percent slopes—25 percent

Rock outcrop—15 percent

Zeheme extremely stony fine sandy loam, 15 to 50 percent slopes—8 percent

Typic Haplocalcids very cobbly sandy loam, 4 to 15 percent slopes—2 percent

***Component Description***

**Boxspring and similar soils**

Landform: Northeast facing backslopes of hills and mountains

Slope: 15 to 50 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from Limestone and dolomite

Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs,  
 blackbrush, ephedra, other shrubs

**Typical profile:**

Surface rock fragments: About 1 percent stones, 60 percent gravel, 15 percent cobbles  
 Layer 1—0 to 2 inches; extremely gravelly loam  
 Layer 2—2 to 15 inches; extremely gravelly loam  
 Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 14 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.9 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

***Component Description*****Zeheme and similar soils**

Landform: Backslopes of mountains  
 Slope: 15 to 50 percent  
 Parent material: Colluvium residuum weathered from Limestone  
 Typical vegetation: Anderson wolfberry, Mexican cliffrose, creosotebush, Utah agave, other perennial forbs, arid needlegrass, other perennial grasses, desert needlegrass, winterfat, range ratany, snakeweed, ephedra, other shrubs, blackbrush

**Typical profile:**

Surface rock fragments: About 15 percent stones, 15 percent cobbles, 40 percent gravel  
 Layer 1—0 to 4 inches; extremely stony fine sandy loam  
 Layer 2—4 to 13 inches; very gravelly fine sandy loam  
 Layer 3—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 7 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 1.0 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB068NV—Limestone hill 5-7 P.Z.

***Component Description*****Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Zeheme and similar soils**

Composition: 0 to 8 percent

Slope: 15 to 50 percent, southeast aspect

Landform: Southeast facing mountains

Typical vegetation: Desert needlegrass, other perennial forbs, blackbrush, other shrubs

Ecological site: R030XB030NV—Shallow limestone slope 5-7 P.Z.

**Typic Haplocalcids and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, carbonatic, thermic Typic Haplocalcids

Slope: 4 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, blackbrush, other shrubs

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**321—Boxspring-Seralin-Rock outcrop association*****Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 4,430 to 7,640

Precipitation: 8 to 14 inches

Air temperature: 45 to 57 degrees Fahrenheit

Frost-free period: 90 to 180 days

***Composition***

Boxspring extremely gravelly loam, 30 to 75 percent slopes—40 percent

Seralin extremely gravelly very fine sandy loam, 30 to 75 percent slopes—30 percent

Rock outcrop—15 percent

Lithic Calciustolls extremely stony sandy loam, 15 to 50 percent slopes—9 percent

Typic Haplustolls very stony loam, 15 to 30 percent slopes—6 percent

### ***Component Description***

#### **Boxspring and similar soils**

Landform: Southeast facing backslopes of mountains

Slope: 30 to 75 percent, southeast aspect

Parent material: Colluvium and/or residuum weathered from Limestone and dolomite

Typical vegetation: Other shrubs, other perennial grasses, ephedra, desert needlegrass, other perennial forbs, blackbrush

#### **Typical profile:**

Surface rock fragments: About 50 percent gravel, 15 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly loam

Layer 2—2 to 15 inches; extremely gravelly loam

Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

### ***Component Description***

#### **Seralin and similar soils**

Landform: Northeast facing backslopes of mountains

Slope: 30 to 75 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from Limestone and dolomite

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—crested needlegrass, muttongrass, other perennial grasses, other perennial forbs, Utah serviceberry, black sagebrush, yellowleaf silktassel, Stansbury cliffrose, Gambel oak, other shrubs, singleleaf pinyon

Site index: Utah juniper—50 at an age base of 0 years

Site index: Singleleaf pinyon—50 at an age base of 0 years

#### **Typical profile:**

Surface rock fragments: About 5 percent stones, 10 percent cobbles, 65 percent gravel

Layer 1—0 to 2 inches; extremely gravelly very fine sandy loam

Layer 2—2 to 14 inches; very gravelly loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: F030XC235NV

***Component Description*****Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Lithic Calciustolls and similar soils**

Composition: 0 to 9 percent

Classification: Loamy-skeletal, mixed, superactive, mesic Lithic Calciustolls

Slope: 15 to 50 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—other shrubs, yellowleaf silktassel, crested needlegrass, muttongrass, other perennial grasses, other perennial forbs, Utah serviceberry, black sagebrush, Stansbury cliffrose, Gambel oak, singleleaf pinyon

Ecological site: F030XC235NV

**Typic Haplustolls and similar soils**

Composition: 0 to 6 percent

Classification: Loamy-skeletal, mixed, superactive, mesic Typic Haplustolls

Slope: 15 to 30 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—blue grama, desert needlegrass, black grama, muttongrass, other perennial grasses, other perennial forbs, blackbrush, desert bitterbrush, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Ecological site: F030XC238NV

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**322—Boxspring-Potosi-Rock outcrop association*****Map Unit Setting***

MLRA: 30

Landscape: Mountains  
 Elevation: 3,050 to 7,220  
 Precipitation: 7 to 10 inches  
 Air temperature: 52 to 57 degrees Fahrenheit  
 Frost-free period: 130 to 180 days

### ***Composition***

Boxspring extremely gravelly loam, 15 to 50 percent slopes—50 percent  
 Potosi extremely gravelly loam, 15 to 50 percent slopes—25 percent  
 Rock outcrop—10 percent  
 Seralin extremely gravelly loam, 15 to 50 percent slopes—5 percent  
 Zeheme extremely gravelly fine sandy loam, 15 to 50 percent slopes—4 percent  
 Typic Torriorthents extremely gravelly sandy loam, 8 to 15 percent slopes—3 percent  
 Purob extremely gravelly loam, 4 to 15 percent slopes—2 percent  
 Scrapy very gravelly sandy loam, 30 to 50 percent slopes—1 percent

### ***Component Description***

#### **Boxspring and similar soils**

Landform: Northeast facing backslopes of mountains  
 Slope: 15 to 50 percent, northeast aspect  
 Parent material: Colluvium and/or residuum weathered from Limestone and dolomite  
 Typical vegetation: Other perennial grasses, other perennial forbs, other shrubs, blackbrush, ephedra, desert needlegrass

#### **Typical profile:**

Surface rock fragments: About 50 percent gravel, 15 percent cobbles  
 Layer 1—0 to 2 inches; extremely gravelly loam  
 Layer 2—2 to 15 inches; extremely gravelly loam  
 Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 14 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.9 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

### ***Component Description***

#### **Potosi and similar soils**

Landform: Backslopes of mountains  
 Slope: 15 to 50 percent  
 Parent material: Colluvium and/or residuum weathered from Limestone  
 Typical vegetation: Fourwing saltbush, arid needlegrass, other perennial forbs, spiny hopsage, muttongrass, blackbrush, other shrubs, desert needlegrass

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 75 percent gravel, 3 percent stones

Layer 1—0 to 2 inches; extremely gravelly loam

Layer 2—2 to 11 inch; extremely gravelly loam

Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XC008NV—Shallow limestone slope 7-9 P.Z.

***Component Description*****Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Seralin moist and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, other perennial grasses, other perennial forbs, black sagebrush, mountain big sagebrush, curleaf mountainmahogany, Stansbury cliffrose, other shrubs, blue grama

Ecological site: F030XC244NV

**Zeheme and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: Desert needlegrass, other perennial forbs, blackbrush, other shrubs

Ecological site: R030XB030NV—Shallow limestone slope 5-7 P.Z.

**Typic Torriorthents and similar soils**

Composition: 0 to 3 percent

Classification: Loamy-skeletal, carbonatic, mesic Typic Torriorthents

Slope: 8 to 15 percent

Landform: Drainageways

Typical vegetation: Mojave buckwheat, other shrubs, Anderson's wolfberry, range ratany, burrobrush, other perennial grasses, hollyleaf bursage, other perennial forbs, big galleta, bush muhly

Ecological site: R030XB051NV—Upland wash

**Purob and similar soils**

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs, blackbrush, ephedra, other shrubs

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

**Scrapy and similar soils**

Composition: 0 to 1 percent

Slope: 30 to 50 percent, south aspect

Landform: South facing backslopes of mountain slopes

Typical vegetation: Green ephedra, other shrubs, Indian ricegrass, desert needlegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, Stansbury cliffrose, blackbrush

Ecological site: R030XC025NV—Shallow limestone slope 11-13 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**323—Boxspring-Scrapy-Rock outcrop association**

***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 4,430 to 7,700

Precipitation: 7 to 14 inches

Air temperature: 51 to 57 degrees Fahrenheit

Frost-free period: 130 to 180 days

***Composition***

Boxspring extremely gravelly loam, 30 to 75 percent slopes—40 percent

Scrapy very gravelly sandy loam, 30 to 50 percent slopes—30 percent

Rock outcrop—15 percent

Lithic Calciustolls extremely stony sandy loam, 15 to 50 percent slopes—9 percent

Typic Haplustolls very stony loam, 15 to 30 percent slopes—6 percent

***Component Description***

**Boxspring and similar soils**

Landform: Southeast facing backslopes of mountains

Slope: 30 to 75 percent, southeast aspect

Parent material: Colluvium and/or residuum weathered from Limestone and dolomite

Typical vegetation: Blackbrush, other perennial forbs, other perennial grasses, other shrubs, desert needlegrass, ephedra

**Typical profile:**

Surface rock fragments: About 50 percent gravel, 15 percent cobbles  
 Layer 1—0 to 2 inches; extremely gravelly loam  
 Layer 2—2 to 15 inches; extremely gravelly loam  
 Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 14 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.9 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

***Component Description*****Scrapy and similar soils**

Landform: South facing backslopes of mountain slopes  
 Slope: 30 to 50 percent, south aspect  
 Parent material: Alluvium derived from Limestone and dolomite  
 Typical vegetation: Stansbury cliffrose, desert needlegrass, green ephedra, blackbrush, mountain big sagebrush, other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass

**Typical profile:**

Surface rock fragments: About 10 percent angular cobbles, 2 percent angular stones, 55 percent angular gravel  
 Layer 1—0 to 1 inch; very gravelly sandy loam  
 Layer 2—1 to 12 inches; very gravelly sandy loam  
 Layer 3—12 to 22 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 10 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.8 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XC025NV—Shallow limestone slope 11-13 P.Z.

### ***Component Description***

#### **Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Lithic Calciustolls and similar soils**

Composition: 0 to 9 percent

Classification: Loamy-skeletal, mixed, superactive, mesic Lithic Haplustolls

Slope: 15 to 50 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—other shrubs, other perennial forbs, crested needlegrass, singleleaf pinyon, Utah serviceberry, muttongrass, Gambel oak, Stansbury cliffrose, yellowleaf siltkassel, black sagebrush, other perennial grasses

Ecological site: F030XC235NV

#### **Typic Haplustolls and similar soils**

Composition: 0 to 6 percent

Classification: Loamy-skeletal, mixed, superactive, mesic Typic Haplustolls

Slope: 15 to 30 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—desert ceanothus, Stansbury cliffrose, other shrubs, black sagebrush, other perennial forbs, other perennial grasses, blue grama, muttongrass, Utah juniper

Ecological site: F030XC243NV

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **325—Sandpan-Rositas association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,210 to 2,030

Precipitation: 3 to 7 inches

Air temperature: 70 to 76 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Sandpan gravelly loamy fine sand, 2 to 8 percent slopes—55 percent

Rositas fine sand, 4 to 15 percent slopes—40 percent

Rositas fine sand, 15 to 30 percent slopes—5 percent

### ***Component Description***

#### **Sandpan and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from Limestone and sandstone

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 25 percent gravel

Layer 1—0 to 1 inch; gravelly loamy fine sand

Layer 2—1 to 6 inches; loamy fine sand

Layer 3—6 to 16 inches; extremely gravelly fine sand

Layer 4—16 to 38 inches; extremely gravelly sand

Layer 5—38 to 70 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Rositas and similar soils**

Landform: Sand sheets

Slope: 4 to 15 percent

Parent material: Eolian sands

Typical vegetation: Other shrubs, white bursage, Indian ricegrass, big galleta, other perennial forbs, range ratany, winterfat

#### **Typical profile:**

Surface rock fragments: About 5 percent gravel

Layer 1—0 to 5 inches; fine sand

Layer 2—5 to 60 inches; sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None  
 Natural drainage class: Somewhat excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB004NV—Sandy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Rositas and similar soils**

Composition: 0 to 5 percent  
 Slope: 15 to 30 percent  
 Landform: Sand sheets  
 Typical vegetation: Big galleta, other shrubs  
 Ecological site: R030XB097NV—Sandhill 3-5 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

## **330—Ramshead-St. Thomas-Rock outcrop association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Hills  
 Elevation: 1,480 to 2,660  
 Precipitation: 3 to 7 inches  
 Air temperature: 57 to 74 degrees Fahrenheit  
 Frost-free period: 210 to 360 days

### ***Composition***

Ramshead extremely flaggy sandy loam, 15 to 50 percent slopes—50 percent  
 St. Thomas extremely gravelly sandy loam, 30 to 50 percent slopes—20 percent  
 Rock outcrop, 30 to 75 percent slopes—15 percent  
 Guardian gypsiferous fine sandy loam, 8 to 30 percent slopes—6 percent  
 Callville gravelly sandy loam, 8 to 30 percent slopes—5 percent  
 Badland, 30 to 50 percent slopes—4 percent

### ***Component Description***

#### **Ramshead and similar soils**

Landform: Backslopes of hills  
 Slope: 15 to 50 percent  
 Parent material: Colluvium and/or residuum weathered from sandstone and siltstone  
 Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, white bursage, desertholly saltbush, ephedra, range ratany, other shrubs

#### **Typical profile:**

Surface rock fragments: About 55 percent flagstones, 15 percent channers  
 Layer 1—0 to 1 inch; extremely flaggy sandy loam

Layer 2—1 to 6 inches; extremely channery loam  
 Layer 3—6 to 8 inches; bedrock  
 Layer 4—8 to 18 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 4 to 10 inches Lithic bedrock: 5 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Salinity: Saline within 40 inches

Available water capacity: About 0.5 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB113NV—Sandstone hill 3-5 P.Z.

#### ***Component Description***

##### **St. Thomas and similar soils**

Landform: Southeast facing backslopes of hills

Slope: 30 to 50 percent, southeast aspect

Parent material: Colluvium and/or residuum weathered from Limestone

Typical vegetation: Creosotebush, other shrubs, range ratany, white bursage, other perennial forbs, big galleta

##### **Typical profile:**

Surface rock fragments: About 50 percent gravel, 2 percent stones, 10 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 14 inches; very gravelly loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.8 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Component Description***

#### **Rock outcrop**

Landform: Cliffs

Slope: 30 to 75 percent

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Guardian and similar soils**

Composition: 0 to 6 percent

Slope: 8 to 30 percent

Landform: Shoulders of pediments

Typical vegetation: Silverleaf sunray, Parry's sandpaperplant, pygmycedar, Fremont dalea, other shrubs, shrubby tiquilia

Ecological site: R030XB118NV—Gypsic hill 3-5 P.Z.

#### **Callville and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Toeslopes of hills

Typical vegetation: Other perennial grasses, other shrubs, other perennial forbs, white bursage, desertholly saltbush, Torrey ephedra, range ratany, creosotebush

Ecological site: R030XB038NV—Gravelly pediment 3-5 P.Z.

#### **Badland**

Composition: 0 to 4 percent

Slope: 30 to 50 percent

Landform: Toeslopes of hills

Ecological site: None

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **335—Teebar very cobbly fine sandy loam, 0 to 4 percent slopes**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,380 to 2,300

Precipitation: 3 to 5 inches

Air temperature: 69 to 77 degrees Fahrenheit

Frost-free period: 300 to 350 days

### ***Composition***

Teebar very cobbly fine sandy loam, 0 to 4 percent slopes—90 percent

Rock outcrop, 30 to 75 percent slopes—7 percent

Carrizo very cobbly sandy loam, 2 to 8 percent slopes—3 percent

### ***Component Description***

#### **Teebar and similar soils**

Landform: Summits of plateaus

Slope: 0 to 4 percent

Parent material: Alluvium derived from Limestone

Typical vegetation: Shrubby tiqulia, other perennial forbs, white bursage, ephedra, range ratany, creosotebush, whitestem paperflower, other shrubs

#### **Typical profile:**

Surface rock fragments: About 30 percent gravel, 25 percent cobbles

Layer 1—0 to 2 inches; very cobbly fine sandy loam

Layer 2—2 to 7 inches; very gravelly fine sandy loam

Layer 3—7 to 72 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 4 to 10 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.5 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: Not determined

Ecological site: R030XB110NV—Tableland 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Rock outcrop**

Composition: 0 to 7 percent

Slope: 30 to 75 percent

Landform: Cliffs

Ecological site: None

#### **Carrizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial forbs, big galleta, other perennial grasses, other shrubs, bursage, baccharis, white burrobrush, creosotebush

Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

### **336—Teebar-Sandpan association**

#### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,210 to 2,160

Precipitation: 3 to 7 inches

Air temperature: 69 to 77 degrees Fahrenheit

Frost-free period: 300 to 360 days

#### ***Composition***

Teebar very cobbly fine sandy loam, 0 to 4 percent slopes—55 percent

Sandpan gravelly loamy fine sand, 2 to 8 percent slopes—35 percent

Carrizo extremely gravelly loamy sand, 2 to 8 percent slopes—6 percent

Huevi very gravelly sandy loam, 15 to 30 percent slopes—4 percent

#### ***Component Description***

##### **Teebar and similar soils**

Landform: Summits of plateaus

Slope: 0 to 4 percent

Parent material: Alluvium derived from Limestone

Typical vegetation: White bursage, other perennial forbs, other annual forbs,  
creosotebush, other shrubs

##### **Typical profile:**

Surface rock fragments: About 25 percent cobbles, 30 percent gravel

Layer 1—0 to 2 inches; very cobbly fine sandy loam

Layer 2—2 to 7 inches; very gravelly fine sandy loam

Layer 3—7 to 72 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

##### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 4 to 10 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
Moderately rapid)

Available water capacity: About 0.5 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

##### **Interpretive Groups**

Nonirrigated land capability: Not determined

Ecological site: R030XB019NV—Limy 3-5 P.Z.

#### ***Component Description***

##### **Sandpan and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from Limestone and sandstone

Typical vegetation: Other perennial forbs, big galleta, other perennial grasses, other annual forbs, other shrubs, white bursage, range ratany, creosotebush

**Typical profile:**

Surface rock fragments: About 25 percent gravel

Layer 1—0 to 1 inch; gravelly loamy fine sand

Layer 2—1 to 6 inches; loamy fine sand

Layer 3—6 to 16 inches; extremely gravelly fine sand

Layer 4—16 to 38 inches; extremely gravelly sand

Layer 5—38 to 70 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Carrizo and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other shrubs, big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush

Ecological site: R030XB028NV—Valley wash

**Huevi dry and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 30 percent

Landform: Backslopes of ballenas

Typical vegetation: Other shrubs, other annual forbs, white bursage, creosotebush

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

## 340—Zeheme-Rock outcrop association

### *Map Unit Setting*

MLRA: 30

Landscape: Mountains

Elevation: 1,580 to 5,480

Precipitation: 5 to 8 inches

Air temperature: 59 to 64 degrees Fahrenheit

Frost-free period: 190 to 210 days

### *Composition*

Zeheme extremely stony fine sandy loam, 30 to 75 percent slopes—40 percent

Zeheme extremely stony fine sandy loam, 15 to 50 percent slopes—25 percent

Rock outcrop, 30 to 75 percent slopes—20 percent

Threelakes family extremely cobbly sandy loam, 4 to 15 percent slopes—7 percent

Helkitchen extremely flaggy sandy loam, 15 to 50 percent slopes—3 percent

Arizo extremely stony loamy sand, 4 to 15 percent slopes—2 percent

Helkitchen extremely stony fine sandy loam, 30 to 50 percent slopes—2 percent

Potosi extremely gravelly loam, 30 to 75 percent slopes—1 percent

### *Component Description*

#### **Zeheme steep and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Colluvium residuum weathered from Limestone

Typical vegetation: Creosotebush, other perennial forbs, range ratany, other perennial grasses, other shrubs, Mexican cliffrose, Anderson wolfberry, winterfat, snakeweed, ephedra, blackbrush, Utah agave, desert needlegrass, arid needlegrass

#### **Typical profile:**

Surface rock fragments: About 40 percent gravel, 15 percent stones, 15 percent cobbles

Layer 1—0 to 4 inches; extremely stony fine sandy loam

Layer 2—4 to 13 inches; very gravelly fine sandy loam

Layer 3—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 7 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB068NV—Limestone hill 5-7 P.Z.

### ***Component Description***

#### **Zeheme and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium residuum weathered from Limestone

Typical vegetation: Other shrubs, blackbrush, other perennial forbs, desert  
needlegrass

#### **Typical profile:**

Surface rock fragments: About 15 percent cobbles, 40 percent gravel, 15 percent  
stones

Layer 1—0 to 4 inches; extremely stony fine sandy loam

Layer 2—4 to 13 inches; very gravelly fine sandy loam

Layer 3—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 7 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
Moderately rapid)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB030NV—Shallow limestone slope 5-7 P.Z.

### ***Component Description***

#### **Rock outcrop**

Landform: Cliffs

Slope: 30 to 75 percent

Typical soil descriptions including ranges in characteristics are in the "Classification of  
the Soils" section.

### ***Contrasting Inclusions***

#### **Threelakes family and similar soils**

Composition: 0 to 7 percent

Classification: Loamy-skeletal, carbonatic, thermic Typic Torriorthents

Slope: 4 to 15 percent

Landform: Inset fans

Typical vegetation: Ephedra, other perennial grasses, other annual forbs, other  
perennial forbs, white bursage, cattle saltbush, other shrubs, white burrobrush,  
creosotebush

Ecological site: R030XB050NV—Dry wash

#### **Helkitchen and similar soils**

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Other perennial forbs, white bursage, winterfat, creosotebush, Anderson wolfberry, other shrubs, desert needlegrass, big galleta, other perennial grasses

Ecological site: R030XB123NV—Limestone slope 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Drainageways

Typical vegetation: White burrobrush, big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, other shrubs, creosotebush

Ecological site: R030XB028NV—Valley wash

**Helkitchen and similar soils**

Composition: 0 to 2 percent

Slope: 30 to 50 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on backslopes of mountains

Typical vegetation: Ephedra, creosotebush, white bursage, other perennial forbs, range ratany, wolfberry, other shrubs

Ecological site: R030XB112NV—Stony Limestone slope 5-7 P.Z.

**Potosi and similar soils**

Composition: 0 to 1 percent

Slope: 30 to 75 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: Spiny hopsage, other shrubs, fourwing saltbush, blackbrush, other perennial forbs, arid needlegrass, muttongrass, desert needlegrass

Ecological site: R030XC008NV—Shallow limestone slope 7-9 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**341—Zeheme extremely gravelly fine sandy loam, 8 to 30 percent slopes**

***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 2,490 to 4,890

Precipitation: 5 to 8 inches

Air temperature: 59 to 64 degrees Fahrenheit

Frost-free period: 190 to 210 days

***Composition***

Zeheme extremely gravelly fine sandy loam, 8 to 30 percent slopes—85 percent

Potosi very gravelly loam, 15 to 50 percent slopes—6 percent

Rock outcrop—4 percent

Naye family gravelly fine sandy loam, 2 to 8 percent slopes—3 percent

Birdspring extremely stony loam, 4 to 15 percent slopes—2 percent

### ***Component Description***

#### **Zeheme and similar soils**

Landform: Backslopes of mountains

Slope: 8 to 30 percent

Parent material: Colluvium residuum weathered from Limestone

Typical vegetation: Desert needlegrass, other shrubs, blackbrush, other perennial forbs

#### **Typical profile:**

Surface rock fragments: About 10 percent cobbles, 70 percent gravel, 2 percent stones

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 9 inches; very gravelly fine sandy loam

Layer 3—9 to 19 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 7 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB030NV—Shallow limestone slope 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Potosi and similar soils**

Composition: 0 to 6 percent

Slope: 15 to 50 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: Muttongrass, arid needlegrass, other perennial forbs, fourwing saltbush, blackbrush, spiny hopsage, other shrubs, desert needlegrass

Ecological site: R030XC008NV—Shallow limestone slope 7-9 P.Z.

#### **Rock outcrop**

Composition: 0 to 4 percent

Landform: Cliffs

#### **Naye family and similar soils**

Composition: 0 to 3 percent

Classification: Loamy-skeletal, carbonatic, thermic Typic Petrocalcids

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial forbs, big galleta, other shrubs, blackbrush, other perennial grasses  
 Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

#### **Birdspring and similar soils**

Composition: 0 to 2 percent  
 Slope: 4 to 15 percent  
 Landform: Backslopes of mountains  
 Typical vegetation: Desert needlegrass, other perennial forbs, white bursage, shadscale, blackbrush, ephedra, other shrubs  
 Ecological site: R030XA006NV—Shallow limestone slope 5-7 P.Z.

#### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:  
 "Range" section  
 "Engineering" and "Soil Properties" sections

### **342—Zeheme-Potosi-Rock outcrop association**

#### ***Map Unit Setting***

MLRA: 30  
 Landscape: Mountains  
 Elevation: 3,310 to 5,280  
 Precipitation: 5 to 10 inches  
 Air temperature: 52 to 64 degrees Fahrenheit  
 Frost-free period: 130 to 210 days

#### ***Composition***

Zeheme extremely gravelly fine sandy loam, 15 to 50 percent slopes—50 percent  
 Potosi extremely gravelly loam, 15 to 50 percent slopes—20 percent  
 Rock outcrop—15 percent  
 Commski family very gravelly fine sandy loam, 4 to 15 percent slopes—7 percent  
 St. Thomas extremely gravelly sandy loam, 15 to 50 percent slopes—5 percent  
 Lithic Torriorthents extremely gravelly loam, 15 to 50 percent slopes—3 percent

#### ***Component Description***

##### **Zeheme and similar soils**

Landform: Backslopes of mountains  
 Slope: 15 to 50 percent  
 Parent material: Colluvium residuum weathered from Limestone  
 Typical vegetation: Desert needlegrass, other shrubs, blackbrush, other perennial forbs

##### **Typical profile:**

Surface rock fragments: About 70 percent gravel, 10 percent cobbles, 2 percent stones  
 Layer 1—0 to 3 inches; extremely gravelly fine sandy loam  
 Layer 2—3 to 9 inches; very gravelly fine sandy loam  
 Layer 3—9 to 19 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 7 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB030NV—Shallow limestone slope 5-7 P.Z.

***Component Description*****Potosi and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from Limestone

Typical vegetation: Fourwing saltbush, arid needlegrass, spiny hopsage, desert needlegrass, other perennial forbs, blackbrush, muttongrass, other shrubs

**Typical profile:**

Surface rock fragments: About 75 percent gravel, 5 percent cobbles, 3 percent stones

Layer 1—0 to 2 inches; extremely gravelly loam

Layer 2—2 to 11 inch; extremely gravelly loam

Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XC008NV—Shallow limestone slope 7-9 P.Z.

***Component Description*****Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Commski family and similar soils**

Composition: 0 to 7 percent

Classification: Loamy-skeletal, carbonatic, thermic Typic Haplocalcids

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, big galleta, other perennial grasses, other perennial forbs, blackbrush, winterfat, other shrubs

Ecological site: R030XB107NV—Coarse gravelly loam 5-7 P.Z.

#### **St. Thomas and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, big galleta

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Lithic Torriorthents and similar soils**

Composition: 0 to 3 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, mesic Lithic Torriorthents

Slope: 15 to 50 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Other perennial forbs, muttongrass, crested needlegrass, blackbrush, Virgin River encelia, Stansbury cliffrose, Indian ricegrass, other perennial grasses, other shrubs

Ecological site: R030XC010NV—Shallow sandstone hill 7-11 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **343—Zeheme-Rock outcrop-Boxspring association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 2,490 to 7,640

Precipitation: 5 to 9 inches

Air temperature: 54 to 64 degrees Fahrenheit

Frost-free period: 150 to 210 days

### ***Composition***

Zeheme extremely gravelly fine sandy loam, 30 to 75 percent slopes—50 percent

Rock outcrop—20 percent

Boxspring extremely gravelly loam, 30 to 75 percent slopes—15 percent

Zeheme extremely gravelly fine sandy loam, 15 to 50 percent slopes—6 percent

Zeheme extremely stony fine sandy loam, 30 to 75 percent slopes—4 percent

Weiser extremely gravelly fine sandy loam, 4 to 15 percent slopes—4 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—1 percent

***Component Description*****Zeheme and similar soils**

Landform: South facing backslopes of mountains

Slope: 30 to 75 percent, south aspect

Parent material: Colluvium and/or residuum weathered from Limestone

Typical vegetation: Blackbrush, Utah mortonia, shrubby tiqulia, other shrubs

**Typical profile:**

Surface rock fragments: About 2 percent stones, 10 percent cobbles, 70 percent gravel

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 9 inches; very gravelly fine sandy loam

Layer 3—9 to 19 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 7 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB135NV—Shallow limestone slope 7-9 P.Z.

***Component Description*****Rock outcrop**

Landform: Cliffs

***Component Description*****Boxspring and similar soils**

Landform: Northeast facing backslopes of mountains

Slope: 30 to 75 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from Limestone and dolomite

Typical vegetation: Slim tridens, desert needlegrass, blackbrush, Utah mortonia, other shrubs

**Typical profile:**

Surface rock fragments: About 15 percent cobbles, 50 percent gravel

Layer 1—0 to 2 inches; extremely gravelly loam

Layer 2—2 to 15 inches; extremely gravelly loam

Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 14 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.9 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB136NV—Shallow limestone 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Zeheme and similar soils**

Composition: 0 to 6 percent  
 Slope: 15 to 50 percent, north aspect  
 Landform: North facing backslopes of lower elevational mountains  
 Typical vegetation: Other perennial forbs, desert needlegrass, other shrubs, blackbrush  
 Ecological site: R030XB030NV—Shallow limestone slope 5-7 P.Z.

#### **Weiser and similar soils**

Composition: 0 to 4 percent  
 Slope: 4 to 15 percent  
 Landform: Foothills of mountains  
 Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, other perennial grasses, big galleta, other annual forbs  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Zeheme steep and similar soils**

Composition: 0 to 4 percent  
 Slope: 30 to 75 percent  
 Landform: Backslopes of lower elevational mountains  
 Typical vegetation: Blackbrush, snakeweed, range ratany, Utah agave, creosotebush, Anderson wolfberry, Mexican cliffrose, arid needlegrass, other perennial grasses, other shrubs, other perennial forbs, ephedra, winterfat, desert needlegrass  
 Ecological site: R030XB068NV—Limestone hill 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 1 percent  
 Slope: 2 to 8 percent  
 Landform: Drainageways  
 Typical vegetation: Other perennial grasses, other perennial forbs, bursage, other shrubs, creosotebush, white burrobrush, baccharis, big galleta  
 Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section

"Engineering" and "Soil Properties" sections

### **351—Seralin extremely gravelly loam, 30 to 75 percent slopes**

#### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 5,120 to 8,100

Precipitation: 10 to 12 inches

Air temperature: 45 to 49 degrees Fahrenheit

Frost-free period: 90 to 130 days

#### ***Composition***

Seralin extremely gravelly loam, 30 to 75 percent slopes—85 percent

Potosi very gravelly loam, 15 to 50 percent slopes—7 percent

Lithic Torriorthents extremely gravelly sandy loam, 30 to 75 percent slopes—4 percent

Rock outcrop—4 percent

#### ***Component Description***

##### **Seralin and similar soils**

Landform: Northeast facing backslopes of mountains

Slope: 30 to 75 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from Limestone and dolomite

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest  
understory—Utah juniper, other perennial grasses, blue grama, muttongrass, other  
perennial forbs, black sagebrush, desert ceanothus, Stansbury cliffrose, other  
shrubs

Site index: Utah juniper—40 at an age base of 0 years

Site index: Singleleaf pinyon—40 at an age base of 0 years

##### **Typical profile:**

Surface rock fragments: About 10 percent cobbles, 65 percent gravel, 5 percent  
stones

Layer 1—0 to 2 inches; extremely gravelly loam

Layer 2—2 to 14 inches; very gravelly loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
information.

##### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability  
class: Moderate)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

##### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: F030XC243NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Potosi and similar soils**

Composition: 0 to 7 percent

Slope: 15 to 50 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: Muttongrass, desert needlegrass, other perennial forbs, fourwing saltbush, blackbrush, spiny hopsage, other shrubs, arid needlegrass

Ecological site: R030XC008NV—Shallow limestone slope 7-9 P.Z.

#### **Lithic Torriorthents and similar soils**

Composition: 0 to 4 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, mesic Lithic Torriorthents

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Blue grama, other perennial grasses, other perennial forbs, black sagebrush, Stansbury cliffrose, other shrubs, muttongrass

Ecological site: R030XC023NV—Shallow gravelly fan 11-15 P.Z.

#### **Rock outcrop**

Composition: 0 to 4 percent

Landform: Cliffs

Ecological site: None

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **352—Seralin-Traley-Rock outcrop association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 5,000 to 8,100

Precipitation: 10 to 16 inches

Air temperature: 45 to 53 degrees Fahrenheit

Frost-free period: 90 to 130 days

### ***Composition***

Seralin extremely gravelly very fine sandy loam, 30 to 75 percent slopes—45 percent

Traley very gravelly loam, 30 to 50 percent slopes—25 percent

Rock outcrop—15 percent

Aridic Calciustolls extremely gravelly very fine sandy loam, 30 to 50 percent slopes—8 percent

Seralin extremely gravelly loam, 30 to 50 percent slopes—4 percent

Lithic Ustorthents extremely flaggy loamy fine sand, 30 to 75 percent slopes—3 percent

### ***Component Description***

#### **Seralin and similar soils**

Landform: Northeast facing backslopes of mountains

Slope: 30 to 75 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from Limestone and dolomite

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—other shrubs, Utah serviceberry, other perennial forbs, Gambel oak, singleleaf pinyon, crested needlegrass, muttongrass, other perennial grasses, Stansbury cliffrose, black sagebrush, yellowleaf silktassel

Site index: Utah juniper—50 at an age base of 0 years

Site index: Singleleaf pinyon—50 at an age base of 0 years

#### **Typical profile:**

Surface rock fragments: About 10 percent cobbles, 65 percent gravel, 5 percent stones

Layer 1—0 to 2 inches; extremely gravelly very fine sandy loam

Layer 2—2 to 14 inches; very gravelly loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: F030XC235NV

### ***Component Description***

#### **Traley and similar soils**

Landform: Northeast facing backslopes of mountains

Slope: 30 to 50 percent, northeast aspect

Parent material: Colluvium derived from Limestone and dolomite

Typical vegetation: Forest canopy—Singleleaf pinyon Forest understory—Gambel oak, muttongrass, other perennial grasses, Utah serviceberry, black sagebrush, mountain big sagebrush, curlleaf mountainmahogany, other shrubs, singleleaf pinyon, other perennial forbs

Site index: Singleleaf pinyon—45 at an age base of 0 years

#### **Typical profile:**

Surface rock fragments: About 2 percent cobbles, 50 percent gravel

Layer 1—0 to 8 inches; very gravelly loam

Layer 2—8 to 17 inches; gravelly loam

Layer 3—17 to 27 inches; very gravelly loam

Layer 4—27 to 48 inches; very gravelly sandy loam

Layer 5—48 to 58 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Lithic bedrock: 39 to 59 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: F030XC249NV

### ***Component Description***

#### **Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Aridic Calciustolls and similar soils**

Composition: 0 to 8 percent

Classification: Loamy-skeletal, mixed, superactive, mesic, shallow Aridic Calciustolls

Slope: 30 to 50 percent

Landform: mountains

Typical vegetation: Forest canopy—Singleleaf pinyon Forest understory—black sagebrush, crested needlegrass, other perennial forbs, Utah serviceberry, other perennial grasses, Gambel oak, other shrubs, mountain snowberry, muttongrass, singleleaf pinyon

Ecological site: F030XC236NV

#### **Seralin and similar soils**

Composition: 0 to 4 percent

Slope: 30 to 50 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—other perennial forbs, other perennial grasses, muttongrass, blue grama, black sagebrush, desert ceanothus, Stansbury cliffrose, other shrubs, Utah juniper

Ecological site: F030XC243NV

#### **Lithic Ustorthents and similar soils**

Composition: 0 to 3 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, mesic Lithic Ustorthents

Slope: 30 to 75 percent

Landform: Summits of mountains

Typical vegetation: Forest canopy—ponderosa pine Forest understory—white fir, wax currant, Spring Mountain goldenbush, curlleaf mountainmahogany, ponderosa

pine, other perennial forbs, other shrubs, muttongrass, other perennial grasses,  
bluebunch wheatgrass  
Ecological site: F030XC280NV

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Forest land" section
- "Engineering" and "Soil Properties" sections

## **355—Seralin-Devilsthumb-Ednagrey association**

### ***Map Unit Setting***

MLRA: 30  
Landscape: Mountains  
Elevation: 6,870 to 8,730  
Precipitation: 10 to 24 inches  
Air temperature: 40 to 50 degrees Fahrenheit  
Frost-free period: 60 to 130 days

### ***Composition***

Seralin extremely gravelly loam, 30 to 75 percent slopes—40 percent  
Devilsthumb very gravelly loam, 30 to 75 percent slopes—30 percent  
Ednagrey extremely gravelly fine sandy loam, 30 to 75 percent slopes—15 percent  
Fletcherpeak extremely gravelly loam, 15 to 50 percent slopes—7 percent  
Buckspring very gravelly loam, 8 to 30 percent slopes—5 percent  
Rock outcrop—3 percent

### ***Component Description***

#### **Seralin and similar soils**

Landform: Northeast facing backslopes of mountains  
Slope: 30 to 75 percent, northeast aspect  
Parent material: Colluvium and/or residuum weathered from Limestone and dolomite  
Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest  
understory—other shrubs, Stansbury cliffrose, muttongrass, other perennial  
grasses, blue grama, desert ceanothus, black sagebrush, Utah juniper, other  
perennial forbs  
Site index: Utah juniper—40 at an age base of 0 years  
Site index: Singleleaf pinyon—40 at an age base of 0 years

#### **Typical profile:**

Surface rock fragments: About 5 percent stones, 10 percent cobbles, 65 percent  
gravel  
Layer 1—0 to 2 inches; extremely gravelly loam  
Layer 2—2 to 14 inches; very gravelly loam  
Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 8 to 14 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 1.0 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: F030XC243NV

#### ***Component Description***

##### **Devilsthumb and similar soils**

Landform: Northwest to east aspects on backslopes of mountains  
 Slope: 30 to 75 percent, northwest to east aspects  
 Parent material: Colluvium and/or residuum weathered from Limestone and sandstone  
 Typical vegetation: Forest canopy—white fir Forest understory—wax currant, other perennial grasses, muttongrass, curleaf mountainmahogany, other shrubs, white fir, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, ponderosa pine  
 Site index: White fir—15 at an age base of 50 years

##### **Typical profile:**

Surface rock fragments: About 55 percent subrounded gravel, 1 percent subrounded stones, 7 percent subrounded cobbles  
 Layer 1—0 to 1 inch; very gravelly loam  
 Layer 2—1 to 7 inches; very gravelly loam  
 Layer 3—7 to 11 inch; very gravelly loam  
 Layer 4—11 to 26 inches; very gravelly loam  
 Layer 5—26 to 36 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High  
 Depth to restrictive feature: Lithic bedrock: 20 to 39 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e  
 Ecological site: F030XC283NV

#### ***Component Description***

##### **Ednagrey and similar soils**

Landform: Shoulders of mountains  
 Slope: 30 to 75 percent  
 Parent material: Colluvium and/or residuum weathered from Limestone

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, littleleaf mountain mahogany, other shrubs

**Typical profile:**

Surface rock fragments: About 0 percent subrounded stones, 70 percent subrounded gravel, 4 percent subrounded cobbles

Layer 1—0 to 2 inches; extremely gravelly fine sandy loam

Layer 2—2 to 8 inches; very gravelly fine sandy loam

Layer 3—8 to 18 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Lithic bedrock: 4 to 10 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XC017NV—Limestone hill

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Fletcherpeak and similar soils**

Composition: 0 to 7 percent

Slope: 15 to 50 percent

Landform: Backslope mountains

Typical vegetation: Forest canopy—Singleleaf pinyon Forest understory—muttongrass, other perennial grasses, other perennial forbs, other shrubs, Utah serviceberry, curlleaf mountainmahogany, singleleaf pinyon, black sagebrush, mountain big sagebrush, Gambel oak

Ecological site: F030XC249NV

**Buckspring and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Backslope mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—banana yucca, curlleaf mountainmahogany, mountain big sagebrush, other shrubs, Stansbury cliffrose, singleleaf pinyon, Utah juniper, desert needlegrass, other perennial forbs, other perennial grasses, muttongrass

Ecological site: F030XC246NV

**Rock outcrop from limestone**

Composition: 0 to 3 percent

Landform: Cliffs

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **360—Bracken-Arizo-Badland association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,800 to 2,890

Precipitation: 4 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 240 to 300 days

### ***Composition***

Bracken gypsiferous material, 8 to 30 percent slopes—45 percent

Arizo very gravelly fine sandy loam, 4 to 15 percent slopes—30 percent

Badland, 30 to 75 percent slopes—15 percent

Tonopah gravelly fine sandy loam, 4 to 8 percent slopes—5 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—4 percent

Hardbasin fine sandy loam, 0 to 4 percent slopes—1 percent

### ***Component Description***

#### **Bracken and similar soils**

Landform: Backslopes of hills

Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from gypsum

Typical vegetation: Other perennial forbs, Parry's sandpaperplant, Torrey ephedra, other shrubs, Fremont dalea, desert pepperweed, Virgin River encelia, white ratany

#### **Typical profile:**

Surface rock fragments: About 40 percent gravel

Layer 1—0 to 9 inches; gypsiferous material

Layer 2—9 to 49 inches; gravelly gypsiferous material

Layer 3—49 to 59 inches; gypsiferous bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Depth to restrictive feature: Paralithic bedrock: 39 to 59 inches

Saturated hydraulic conductivity class (root zone): Very high (Permeability class: Very rapid)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB003NV—Gypsic loam 5-7 P.Z.

### ***Component Description***

#### **Arizo and similar soils**

Landform: Alluvial fans

Slope: 4 to 15 percent

Parent material: Mixed alluvium

Typical vegetation: Big galleta, other shrubs, other annual forbs, range ratany, white bursage, other perennial forbs, creosotebush, other perennial grasses

#### **Typical profile:**

Surface rock fragments: About 60 percent gravel, 1 percent cobbles

Layer 1—0 to 6 inches; very gravelly fine sandy loam

Layer 2—6 to 60 inches; stratified extremely gravelly loamy sand to cobbly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Badland**

Landform: Backslopes of lake terraces

Slope: 30 to 75 percent

#### **Interpretive Groups**

Nonirrigated land capability: 8s

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Tonopah and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 8 percent

Landform: Fan remnants

Typical vegetation: Other perennial grasses, big galleta, range ratany, other perennial forbs, white bursage, other shrubs, creosotebush, other annual forbs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other shrubs, baccharis, bursage, creosotebush, white burrobrush, other perennial grasses, big galleta, other perennial forbs  
 Ecological site: R030XB028NV—Valley wash

**Hardbasin and similar soils**

Composition: 0 to 1 percent

Slope: 0 to 4 percent

Landform: Summits of pediments

Typical vegetation: Other perennial forbs, other shrubs, Fremont dalea, white bursage, Parry's sandpaperplant, Anderson's wolfberry, Torrey ephedra

Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**365—Callville-Gypwash-Badland association**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,210 to 1,800

Precipitation: 3 to 7 inches

Air temperature: 70 to 74 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Callville extremely gravelly sandy loam, 15 to 30 percent slopes—45 percent

Gypwash extremely gravelly fine sandy loam, 8 to 15 percent slopes—25 percent

Badland, 50 to 75 percent slopes—20 percent

Guardian gravelly gypsiferous fine sandy loam, 30 to 50 percent slopes—8 percent

Carrizo very gravelly sandy loam, 2 to 8 percent slopes—2 percent

***Component Description***

**Callville and similar soils**

Landform: Backslopes of pediments

Slope: 15 to 30 percent

Parent material: Residuum weathered from sandstone and siltstone

Typical vegetation: Desertholly saltbush, other perennial forbs, Torrey ephedra, creosotebush, Parry's sandpaperplant, Fremont dalea, other shrubs

**Typical profile:**

Surface rock fragments: About 10 percent cobbles, 55 percent gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 25 inches; gravelly gypsiferous fine sandy loam

Layer 3—25 to 43 inches; bedrock

Layer 4—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches Lithic bedrock: 39 to 59 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB026NV—Gypsic loam 3-5 P.Z.

***Component Description*****Gypwash and similar soils**

Landform: Summits of pediments

Slope: 8 to 15 percent

Parent material: Alluvium derived from Limestone

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 65 percent gravel

Layer 1—0 to 1 inch; extremely gravelly fine sandy loam

Layer 2—1 to 4 inches; gravelly fine sandy loam

Layer 3—4 to 27 inches; extremely gravelly coarse sandy loam

Layer 4—27 to 61 inch; stratified extremely gravelly gypsiferous coarse sandy loam to very gravelly gypsiferous sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description*****Badland**

Landform: Backslopes of pediments

Slope: 50 to 75 percent

**Component Properties and Qualities**

Runoff: Very high

**Interpretive Groups**

Nonirrigated land capability: 8e

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Guardian and similar soils**

Composition: 0 to 8 percent

Slope: 30 to 50 percent

Landform: Shoulders of pediments

Typical vegetation: Silverleaf sunray, Parry's sandpaperplant, pygmycedar, Fremont dalea, other shrubs, shrubby tiqullia

Ecological site: R030XB118NV—Gypsic hill 3-5 P.Z.

**Carrizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial grasses, big galleta, other shrubs, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush

Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**375—Iceberg-Rock outcrop-Helkitchen association*****Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 1,200 to 3,400

Precipitation: 3 to 7 inches

Air temperature: 66 to 76 degrees Fahrenheit

Frost-free period: 240 to 360 days

***Composition***

Iceberg extremely stony loam, 15 to 50 percent slopes—45 percent

Rock outcrop, 30 to 75 percent slopes—25 percent

Helkitchen extremely stony fine sandy loam, 30 to 50 percent slopes—15 percent

Iceberg extremely stony fine sandy loam, 30 to 75 percent slopes—8 percent

St. Thomas extremely stony fine sandy loam, 50 to 75 percent slopes—5 percent

Zeheme extremely stony fine sandy loam, 30 to 75 percent slopes—2 percent

***Component Description*****Iceberg and similar soils**

Landform: West to east aspects on backslopes of mountains

Slope: 15 to 50 percent, west to east aspects

Parent material: Colluvium and/or residuum weathered from Limestone

Typical vegetation: Other perennial forbs, blackbrush, other shrubs, desert needlegrass

**Typical profile:**

Surface rock fragments: About 10 percent cobbles, 25 percent stones, 50 percent gravel

Layer 1—0 to 2 inches; extremely stony loam

Layer 2—2 to 7 inches; extremely gravelly loam

Layer 3—7 to 17 inches; extremely cobbly loam

Layer 4—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.8 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB030NV—Shallow limestone slope 5-7 P.Z.

***Component Description***

**Rock outcrop**

Landform: Cliffs

Slope: 30 to 75 percent

***Component Description***

**Helkitchen and similar soils**

Landform: Northwest to northeast aspects on backslopes of mountains

Slope: 30 to 50 percent, northwest to northeast aspects

Parent material: Colluvium and/or residuum weathered from Limestone

Typical vegetation: Wolfberry, ephedra, range ratany, creosotebush, other shrubs, other perennial forbs, white bursage

**Typical profile:**

Surface rock fragments: About 15 percent stones, 15 percent cobbles, 40 percent gravel

Layer 1—0 to 3 inches; extremely stony fine sandy loam

Layer 2—3 to 7 inches; extremely gravelly loam

Layer 3—7 to 12 inches; very gravelly fine sandy loam

Layer 4—12 to 22 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 8 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
 Moderately rapid)  
 Available water capacity: About 0.6 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7e  
 Ecological site: R030XB112NV—Stony Limestone slope 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Iceberg and similar soils**

Composition: 0 to 8 percent  
 Slope: 30 to 75 percent, south aspect  
 Landform: South facing backslopes of mountains  
 Typical vegetation: Desert globemallow, other shrubs, other perennial grasses, white brittlebush, creosotebush  
 Ecological site: R030XB077NV—Steep south slope

#### **St. Thomas and similar soils**

Composition: 0 to 5 percent  
 Slope: 50 to 75 percent, south aspect  
 Landform: South facing backslopes of mountains  
 Typical vegetation: Range ratany, white bursage, big galleta, other perennial forbs, other shrubs, creosotebush  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Zeheme and similar soils**

Composition: 0 to 2 percent  
 Slope: 30 to 75 percent, northwest to northeast aspects  
 Landform: Northwest to northeast aspects on mountains  
 Typical vegetation: Other shrubs, big galleta, other perennial grasses, other perennial forbs, blackbrush  
 Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

## **376—Iceberg-St. Thomas-Rock outcrop association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Mountains  
 Elevation: 1,610 to 3,250  
 Precipitation: 3 to 7 inches

Air temperature: 57 to 76 degrees Fahrenheit  
 Frost-free period: 210 to 360 days

### ***Composition***

Iceberg extremely stony loam, 30 to 75 percent slopes—40 percent  
 St. Thomas extremely stony fine sandy loam, 30 to 50 percent slopes—30 percent  
 Rock outcrop, 30 to 75 percent slopes—20 percent  
 St. Thomas extremely flaggy sandy loam, 30 to 50 percent slopes—8 percent  
 Callville extremely gravelly sandy loam, 30 to 50 percent slopes—2 percent

### ***Component Description***

#### **Iceberg and similar soils**

Landform: West to east aspects on backslopes of mountains  
 Slope: 30 to 75 percent, west to east aspects  
 Parent material: Colluvium and/or residuum weathered from Limestone  
 Typical vegetation: Creosotebush, white brittlebush, desert globemallow, other perennial grasses, other shrubs

#### **Typical profile:**

Surface rock fragments: About 10 percent cobbles, 25 percent stones, 50 percent gravel  
 Layer 1—0 to 2 inches; extremely stony loam  
 Layer 2—2 to 7 inches; extremely gravelly loam  
 Layer 3—7 to 17 inches; extremely cobbly loam  
 Layer 4—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 10 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.8 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB077NV—Steep south slope

### ***Component Description***

#### **St. Thomas and similar soils**

Landform: Northwest to northeast aspects on backslopes of mountains  
 Slope: 30 to 50 percent, northwest to northeast aspects  
 Parent material: Colluvium and/or residuum weathered from Limestone  
 Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 40 percent gravel, 10 percent cobbles, 25 percent stones

Layer 1—0 to 7 inches; extremely stony fine sandy loam  
 Layer 2—7 to 17 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.3 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### ***Component Description***

##### **Rock outcrop**

Landform: Cliffs

Slope: 30 to 75 percent

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **St. Thomas and similar soils**

Composition: 0 to 8 percent

Slope: 30 to 50 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on backslopes of mountains

Typical vegetation: Winterfat, white bursage, Anderson wolfberry, other shrubs, desert needlegrass, big galleta, other perennial grasses, other perennial forbs, creosotebush

Ecological site: R030XB123NV—Limestone slope 5-7 P.Z.

##### **Callville and similar soils**

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Toeslopes of pediments

Typical vegetation: White bursage, other perennial forbs, Anderson's wolfberry, Parry's sandpaperplant, Fremont dalea, other shrubs, Torrey ephedra

Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

#### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**380—Tonopah-Arizo association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,710 to 4,360

Precipitation: 5 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Tonopah extremely gravelly sandy loam, 2 to 8 percent slopes—45 percent

Arizo very gravelly loamy sand, 2 to 8 percent slopes—40 percent

Typic Haplodurids cobbly sandy loam, 2 to 8 percent slopes—8 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—5 percent

Typic Torriorthents very gravelly sandy loam, 2 to 4 percent slopes—2 percent

***Component Description*****Tonopah and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from mixed sources

Typical vegetation: Other annual forbs, other perennial grasses, big galleta, white bursage, range ratany, creosotebush, other shrubs, other perennial forbs

**Typical profile:**

Surface rock fragments: About 45 percent gravel

Layer 1—0 to 1 inch; extremely gravelly sandy loam

Layer 2—1 to 9 inches; very gravelly sandy loam

Layer 3—9 to 60 inches; extremely gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description*****Arizo and similar soils**

Landform: Fan aprons

Slope: 2 to 8 percent

Parent material: Alluvium derived from mixed sources

Typical vegetation: Other perennial grasses, big galleta, other annual forbs, other perennial forbs, other shrubs, creosotebush, range ratany, white bursage

**Typical profile:**

Surface rock fragments: About 10 percent cobbles, 40 percent gravel

Layer 1—0 to 2 inches; very gravelly loamy sand

Layer 2—2 to 6 inches; sand

Layer 3—6 to 60 inches; stratified very gravelly coarse sand to extremely gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Typic Haplodurids and similar soils**

Composition: 0 to 8 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplodurids

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Creosotebush, range ratany, white bursage, other perennial forbs, other annual forbs, other perennial grasses, big galleta, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big galleta, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs, other perennial grasses

Ecological site: R030XB028NV—Valley wash

**Typic Torriorthents and similar soils**

Composition: 0 to 2 percent

Classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torriorthents

Slope: 2 to 4 percent

Landform: Fan skirts

Typical vegetation: Big galleta, other perennial forbs, other perennial grasses, other annual forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Engineering" and "Soil Properties" sections

## **390—Tipnat-Hypoint-Grapevine association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Bolson  
 Elevation: 1,710 to 1,870  
 Precipitation: 5 to 7 inches  
 Air temperature: 61 to 70 degrees Fahrenheit  
 Frost-free period: 240 to 300 days

### ***Composition***

Tipnat loamy sand, 0 to 2 percent slopes—40 percent  
 Hypoint gravelly loamy sand, 0 to 2 percent slopes—25 percent  
 Grapevine gravelly loamy sand, 0 to 2 percent slopes—20 percent  
 Tonopah extremely gravelly sandy loam, 2 to 8 percent slopes—7 percent  
 Bluepoint fine sand, 0 to 2 percent slopes—5 percent  
 Typic Haplogypsis fine sandy loam, 0 to 2 percent slopes—3 percent

### ***Component Description***

#### **Tipnat and similar soils**

Landform: Alluvial flats  
 Slope: 0 to 2 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Creosotebush, other shrubs, Indian ricegrass, cattle saltbush, other perennial forbs, white bursage, fourwing saltbush

#### **Typical profile:**

Surface rock fragments: About 25 percent gravel  
 Layer 1—0 to 3 inches; loamy sand  
 Layer 2—3 to 13 inches; sandy clay loam  
 Layer 3—13 to 60 inches; stratified sand to very gravelly sandy clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Salinity: Saline within 40 inches  
 Sodicity: Sodic within 40 inches  
 Available water capacity: About 6 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XY046NV—Outwash plain

***Component Description*****Hypoint and similar soils**

Landform: Fan skirts

Slope: 0 to 2 percent

Parent material: Mixed alluvium

Typical vegetation: Other shrubs, cattle saltbush, other perennial forbs, Indian ricegrass

**Typical profile:**

Surface rock fragments: About 20 percent gravel

Layer 1—0 to 2 inches; gravelly loamy sand

Layer 2—2 to 60 inches; stratified sand to very gravelly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Salinity: Saline within 40 inches

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XY047NV—Alluvial plain

***Component Description*****Grapevine and similar soils**

Landform: Alluvial flats

Slope: 0 to 2 percent

Parent material: Influenced by some gypsum in mixed alluvium

Typical vegetation: Cattle saltbush, Indian ricegrass, other shrubs, creosotebush, fourwing saltbush, white bursage, other perennial forbs

**Typical profile:**

Surface rock fragments: About 20 percent subangular gravel

Layer 1—0 to 1 inch; gravelly loamy sand

Layer 2—1 to 60 inches; stratified sandy loam to clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Salinity: Saline within 40 inches

Available water capacity: About 8 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XY046NV—Outwash plain

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Tonopah and similar soils**

Composition: 0 to 7 percent  
 Slope: 2 to 8 percent  
 Landform: Fan remnants  
 Typical vegetation: White bursage, range ratany, other shrubs, other perennial forbs, other annual forbs, big galleta, other perennial grasses, creosotebush  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Bluepoint and similar soils**

Composition: 0 to 5 percent  
 Slope: 0 to 2 percent  
 Landform: Sand sheets  
 Typical vegetation: Cattle saltbush, creosotebush, other shrubs, other perennial forbs, fourwing saltbush, white bursage, Indian ricegrass  
 Ecological site: R030XY046NV—Outwash plain

#### **Typic Haplogypsids and similar soils**

Composition: 0 to 3 percent  
 Classification: Fine-loamy, gypsic, thermic Typic Haplogypsids  
 Slope: 0 to 2 percent  
 Landform: Alluvial flats, backslopes of fan skirts  
 Typical vegetation: Cattle saltbush, other perennial forbs, Indian ricegrass, other shrubs  
 Ecological site: R030XY047NV—Alluvial plain

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

## **391—Tipnat-Bluepoint-Hypoint association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Bolson  
 Elevation: 2,590 to 2,720  
 Precipitation: 5 to 7 inches  
 Air temperature: 62 to 70 degrees Fahrenheit  
 Frost-free period: 240 to 300 days

### ***Composition***

Tipnat loamy sand, 0 to 4 percent slopes—55 percent  
 Hypoint gravelly loamy sand, 0 to 2 percent slopes—20 percent  
 Bluepoint gravelly loamy fine sand, 2 to 8 percent slopes—15 percent  
 Typic Torriorthents loamy fine sand, 2 to 8 percent slopes—6 percent  
 Playas silty clay loam, 0 to 1 percent slopes—4 percent

### ***Component Description***

#### **Tipnat and similar soils**

Landform: Alluvial flats  
 Slope: 0 to 4 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Other shrubs, cattle saltbush, Indian ricegrass, other perennial forbs

#### **Typical profile:**

Surface rock fragments: About 25 percent gravel  
 Layer 1—0 to 3 inches; loamy sand  
 Layer 2—3 to 13 inches; sandy clay loam  
 Layer 3—13 to 60 inches; stratified sand to very gravelly sandy clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Salinity: Saline within 40 inches  
 Sodicity: Sodic within 40 inches  
 Available water capacity: About 6 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XY047NV—Alluvial plain

### ***Component Description***

#### **Hypoint and similar soils**

Landform: Fan skirts  
 Slope: 0 to 2 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Other shrubs, cattle saltbush, other perennial forbs, Indian ricegrass

#### **Typical profile:**

Surface rock fragments: About 20 percent gravel  
 Layer 1—0 to 2 inches; gravelly loamy sand  
 Layer 2—2 to 60 inches; stratified sand to very gravelly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Salinity: Saline within 40 inches

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XY047NV—Alluvial plain

***Component Description*****Bluepoint and similar soils**

Landform: Sand sheets

Slope: 2 to 8 percent

Parent material: Eolian sands

Typical vegetation: Cattle saltbush, other perennial forbs, big galleta, Indian ricegrass

**Typical profile:**

Layer 1—0 to 9 inches; gravelly loamy fine sand

Layer 2—9 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Negligible

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 5 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB065NV—Sodic sand

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Typic Torriorthents and similar soils**

Composition: 0 to 6 percent

Classification: Sandy, mixed, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Fan skirts

Typical vegetation: Other perennial forbs, Indian ricegrass, big galleta, other shrubs, winterfat, range ratany, white bursage

Ecological site: R030XB004NV—Sandy 5-7 P.Z.

**Playas**

Composition: 0 to 4 percent

Slope: 0 to 1 percent  
 Landform: Playas  
 Ecological site: None

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

## **400—Arizo-Cafetal association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 1,610 to 3,640  
 Precipitation: 3 to 7 inches  
 Air temperature: 57 to 70 degrees Fahrenheit  
 Frost-free period: 180 to 300 days

### ***Composition***

Arizo extremely stony sandy loam, 2 to 8 percent slopes—55 percent  
 Cafetal extremely stony loam, 2 to 8 percent slopes—30 percent  
 Arizo very cobbly loamy sand, 2 to 8 percent slopes—7 percent  
 Arizo extremely stony sandy loam, 2 to 8 percent slopes—5 percent  
 Durinodic Haplargids extremely cobbly loam, 2 to 8 percent slopes—3 percent

### ***Component Description***

#### **Arizo and similar soils**

Landform: Inset fans  
 Slope: 2 to 8 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Other shrubs, creosotebush, range ratany, big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage

#### **Typical profile:**

Surface rock fragments: About 20 percent stones, 20 percent cobbles, 40 percent gravel  
 Layer 1—0 to 4 inches; extremely stony sandy loam  
 Layer 2—4 to 60 inches; stratified very gravelly loamy sand to extremely stony coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 3 inches  
 Present flooding: Very rare  
 Present ponding: None  
 Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description*****Cafetal and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium derived from basalt and andesite

Typical vegetation: Other perennial forbs, range ratany, creosotebush, other shrubs, white bursage, fluffgrass, other annual forbs

**Typical profile:**

Surface rock fragments: About 20 percent cobbles, 40 percent gravel, 20 percent stones

Layer 1—0 to 3 inches; extremely stony loam

Layer 2—3 to 13 inches; very cobbly loam

Layer 3—13 to 22 inches; extremely stony loam

Layer 4—22 to 38 inches; stratified extremely cobbly loam to extremely cobbly loamy sand

Layer 5—38 to 60 inches; extremely cobbly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB083NV—Basaltic fan 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Arizo and similar soils**

Composition: 0 to 7 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Big galleta, other perennial forbs, hollyleaf bursage, Mojave buckwheat, white burrobrush, desertsenna, other shrubs

Ecological site: R030XB052NV—Rubbly outwash

**Arizo and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan aprons

Typical vegetation: Other shrubs, white bursage, other perennial forbs, creosotebush,  
other annual forbs  
Ecological site: R030XB019NV—Limy 3-5 P.Z.

**Durinodic Haplargids and similar soils**

Composition: 0 to 3 percent  
Classification: Loamy-skeletal, mixed, superactive, thermic Durinodic Haplargids  
Slope: 2 to 8 percent  
Landform: Fan remnants  
Typical vegetation: Ephedra, white bursage, big galleta, other shrubs  
Ecological site: R030XB066NV—Basaltic fan 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:  
"Range" section  
"Engineering" and "Soil Properties" sections

**405—Oxyaquic Torrifluvents-Gypwash association**

***Map Unit Setting***

MLRA: 30  
Landscape: Fan piedmont  
Elevation: 1,250 to 1,380  
Precipitation: 5 to 7 inches  
Air temperature: 70 to 74 degrees Fahrenheit  
Frost-free period: 300 to 360 days

***Composition***

Oxyaquic Torrifluvents very fine sandy loam, 0 to 2 percent slopes—65 percent  
Gypwash extremely gravelly fine sandy loam, 2 to 8 percent slopes—20 percent  
Water —8 percent  
Carrizo extremely gravelly sand, 2 to 8 percent slopes—4 percent  
Huevi extremely gravelly sandy loam, 8 to 30 percent slopes—3 percent

***Component Description***

**Oxyaquic Torrifluvents and similar soils**

Landform: Flood plains  
Slope: 0 to 2 percent  
Parent material: Mixed alluvium  
Typical vegetation: Other shrubs, Fremont cottonwood, desertwillow, alkali sacaton,  
arrowweed pluchea, mesquite, willow, other perennial forbs

**Typical profile:**

Surface rock fragments: About 5 percent gravel  
Layer 1—0 to 2 inches; very fine sandy loam  
Layer 2—2 to 5 inches; loamy sand  
Layer 3—5 to 40 inches; stratified loamy sand to very fine sandy loam  
Layer 4—40 to 60 inches; stratified extremely gravelly coarse sand to gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 6 inches

Present flooding: Frequent

Present ponding: None

Water table: Present

Natural drainage class: Somewhat poorly drained

**Interpretive Groups**

Nonirrigated land capability: 7w

Ecological site: R030XB021NV—Streambank

***Component Description*****Gypwash and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from Limestone

Typical vegetation: Other perennial forbs, other shrubs, creosotebush, range ratany, white bursage, big galleta, other perennial grasses, other annual forbs

**Typical profile:**

Surface rock fragments: About 65 percent gravel, 5 percent cobbles

Layer 1—0 to 1 inch; extremely gravelly fine sandy loam

Layer 2—1 to 4 inches; gravelly fine sandy loam

Layer 3—4 to 27 inches; extremely gravelly coarse sandy loam

Layer 4—27 to 61 inch; stratified extremely gravelly gypsiferous coarse sandy loam to very gravelly gypsiferous sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Water**

Composition: 0 to 8 percent

Landform: Depressions

Ecological site: None

**Carrizo and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Bursage, creosotebush, white burrobrush, baccharis, other shrubs, big galleta, other perennial forbs, other perennial grasses

Ecological site: R030XB028NV—Valley wash

**Huevi and similar soils**

Composition: 0 to 3 percent

Slope: 8 to 30 percent

Landform: Ballenas

Typical vegetation: Creosotebush, range ratany, big galleta, other perennial forbs, white bursage, other shrubs

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**411—Bludiamond-Diamondhil association****Map Unit Setting**

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,440 to 4,360

Precipitation: 7 to 9 inches

Air temperature: 52 to 63 degrees Fahrenheit

Frost-free period: 130 to 230 days

**Composition**

Bludiamond very gravelly sandy loam, 2 to 8 percent slopes—40 percent

Bludiamond loamy fine sand, 2 to 8 percent slopes—25 percent

Diamondhil very cobbly fine sandy loam, 2 to 8 percent slopes—20 percent

Bludiamond extremely bouldery sandy loam, 2 to 8 percent slopes—6 percent

Typic Torriorthents very gravelly sandy loam, 2 to 8 percent slopes—5 percent

Typic Torriorthents gravelly sandy loam, 2 to 8 percent slopes—3 percent

Moentria extremely gravelly loam, 8 to 30 percent slopes—1 percent

**Component Description****Bludiamond very gravelly surface and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium derived from Limestone and sandstone

Typical vegetation: Other perennial grasses, other perennial forbs, blackbrush, other shrubs, big galleta

**Typical profile:**

Surface rock fragments: About 55 percent gravel

Layer 1—0 to 1 inch; very gravelly sandy loam

Layer 2—1 to 16 inches; gravelly sandy clay loam  
 Layer 3—16 to 26 inches; very gravelly sandy clay loam  
 Layer 4—26 to 36 inches; very gravelly sandy loam  
 Layer 5—36 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High  
 Depth to restrictive feature: Petrocalcic: 21 to 39 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

#### ***Component Description***

##### **Bludiamond and similar soils**

Landform: overblown fan remnants  
 Slope: 2 to 8 percent  
 Parent material: Thin mantle of eolian sands over mixed alluvium derived from Limestone and sandstone  
 Typical vegetation: Blackbrush, winterfat, other shrubs, other perennial forbs, other perennial grasses, big galleta, Indian ricegrass

##### **Typical profile:**

Surface rock fragments: About 10 percent gravel  
 Layer 1—0 to 8 inches; loamy fine sand  
 Layer 2—8 to 16 inches; gravelly sandy clay loam  
 Layer 3—16 to 26 inches; very gravelly sandy clay loam  
 Layer 4—26 to 36 inches; very gravelly sandy loam  
 Layer 5—36 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High  
 Depth to restrictive feature: Petrocalcic: 21 to 39 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB107NV—Coarse gravelly loam 5-7 P.Z.

### ***Component Description***

#### **Diamondhil and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium derived from calcareous sandstone

Typical vegetation: Other shrubs, ephedra, desert needlegrass, blackbrush, other perennial forbs, other perennial grasses

#### **Typical profile:**

Surface rock fragments: About 2 percent stones, 20 percent cobbles, 20 percent gravel

Layer 1—0 to 2 inches; very cobbly fine sandy loam

Layer 2—2 to 10 inches; very cobbly sandy clay loam

Layer 3—10 to 19 inches; extremely cobbly fine sandy loam

Layer 4—19 to 31 inch; extremely gravelly sandy loam

Layer 5—31 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Duripan: 24 to 39 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Bludiamond and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Big galleta, other shrubs, blackbrush, other perennial forbs, other perennial grasses

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

#### **Typic Torriorthents and similar soils**

Composition: 0 to 5 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, fourwing saltbush, white burrobush, spiny menodora, blackbrush, desert needlegrass, other perennial grasses, big galleta, other perennial forbs, other shrubs

Ecological site: R030XB108NV—Gravelly inset fan 7-9 P.Z.

#### **Typic Torriorthents and similar soils**

Composition: 0 to 3 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, mesic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Turbinella oak, mountain big sagebrush, pointleaf manzanita, other perennial forbs, other shrubs, other trees, Indian ricegrass, crested needlegrass, other perennial grasses, muttongrass, desert needlegrass

Ecological site: R030XC022NV—Bouldery sandstone slope 11-13 P.Z.

#### **Moentria and similar soils**

Composition: 0 to 1 percent

Slope: 8 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Other perennial forbs, blackbrush, ephedra, other shrubs, desert needlegrass, other perennial grasses

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **415—Valatier-Goldbutte association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,000 to 4,000

Precipitation: 7 to 9 inches

Air temperature: 54 to 57 degrees Fahrenheit

Frost-free period: 130 to 180 days

### ***Composition***

Valatier extremely gravelly sandy loam, 2 to 8 percent slopes—85 percent

Typic Torriorthents extremely gravelly coarse sandy loam, 2 to 8 percent slopes—6 percent

Bitter Spring very gravelly loam, 2 to 8 percent slopes—4 percent

Goldbutte extremely gravelly coarse sandy loam, 4 to 15 percent slopes—3 percent

Rock outcrop—2 percent

### ***Component Description***

#### **Valatier and similar soils**

Landform: Northeast facing summits of slightly convex fan remnants

Slope: 2 to 8 percent, northeast aspect

Parent material: Alluvium derived from gneiss and schist

Typical vegetation: Desert needlegrass, blackbrush, other perennial grasses, Nevada ephedra, other shrubs, desert bitterbrush, other perennial forbs

**Typical profile:**

Surface rock fragments: About 65 percent gravel, 2 percent cobbles, 2 percent stones

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 21 inch; very gravelly loam

Layer 3—21 to 33 inches; very gravelly loamy coarse sand

Layer 4—33 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Depth to restrictive feature: Duripan: 30 to 39 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Typic Torriorthents and similar soils**

Composition: 0 to 6 percent

Classification: Sandy-skeletal, mixed, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other shrubs, Anderson's wolfberry, Mojave buckwheat, range ratany, burrobrush, hollyleaf bursage, bush muhly, big galleta, other perennial grasses, other perennial forbs

Ecological site: R030XB051NV—Upland wash

**Bitter Spring and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, other annual forbs, other perennial grasses, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Goldbutte and similar soils**

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Backslopes of mountains

Typical vegetation: Triangle goldeneye, other shrubs, blackbrush, other perennial forbs, desert needlegrass  
 Ecological site: R029XY144NV—Shallow granitic slope 8-10 P.Z.

**Rock outcrop**

Composition: 0 to 2 percent  
 Landform: Cliffs

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

**421—Moentria extremely gravelly loam, 15 to 50 percent slopes**

***Map Unit Setting***

MLRA: 30  
 Landscape: Mountains  
 Elevation: 3,970 to 6,660  
 Precipitation: 7 to 9 inches  
 Air temperature: 51 to 56 degrees Fahrenheit  
 Frost-free period: 130 to 180 days

***Composition***

Moentria extremely gravelly loam, 15 to 50 percent slopes—85 percent  
 Boxspring extremely gravelly loam, 15 to 50 percent slopes—5 percent  
 Rock outcrop—5 percent  
 Argic Petrocalcids very gravelly loam, 4 to 15 percent slopes—3 percent  
 Hiddensun very gravelly fine sandy loam, 4 to 15 percent slopes—1 percent  
 Typic Haplocalcids very gravelly fine sandy loam, 4 to 15 percent slopes—1 percent

***Component Description***

**Moentria and similar soils**

Landform: Backslopes of mountains  
 Slope: 15 to 50 percent  
 Parent material: Colluvium and/or calcareous residuum weathered from sandstone and siltstone  
 Typical vegetation: Other perennial grasses, other perennial forbs, blackbrush, other shrubs, desert needlegrass, ephedra

**Typical profile:**

Surface rock fragments: About 1 percent stones, 70 percent gravel, 2 percent cobbles  
 Layer 1—0 to 3 inches; extremely gravelly loam  
 Layer 2—3 to 9 inches; very gravelly loam  
 Layer 3—9 to 19 inches; bedrock  
 Layer 4—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 4 to 10 inches Lithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Boxspring and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Other shrubs, ephedra, blackbrush, other perennial forbs, other perennial grasses, desert needlegrass

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

**Rock outcrop**

Composition: 0 to 5 percent

Landform: Cliffs

**Argic Petrocalcids and similar soils**

Composition: 0 to 3 percent

Classification: Coarse-loamy, mixed, superactive, mesic, shallow Argic Petrocalcids

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Other perennial forbs, blackbrush, ephedra, other shrubs, desert needlegrass, other perennial grasses

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

**Hiddensun and similar soils**

Composition: 0 to 1 percent

Slope: 4 to 15 percent

Landform: Backslopes of fan remnants

Typical vegetation: Other shrubs, winterfat, other perennial forbs, other perennial grasses, big galleta, Indian ricegrass, blackbrush

Ecological site: R030XB107NV—Coarse gravelly loam 5-7 P.Z.

**Typic Haplocalcids and similar soils**

Composition: 0 to 1 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids

Slope: 4 to 15 percent

Landform: Inset fans

Typical vegetation: Other shrubs, blackbrush, winterfat, other perennial forbs, other perennial grasses, big galleta, Indian ricegrass  
 Ecological site: R030XB107NV—Coarse gravelly loam 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

## **422—Moentria-Purob association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Mountain range  
 Elevation: 3,770 to 6,660  
 Precipitation: 7 to 9 inches  
 Air temperature: 51 to 56 degrees Fahrenheit  
 Frost-free period: 130 to 180 days

### ***Composition***

Moentria extremely gravelly loam, 8 to 30 percent slopes—75 percent  
 Purob extremely gravelly loam, 4 to 15 percent slopes—15 percent  
 Typic Torriorthents very gravelly sand, 2 to 8 percent slopes—5 percent  
 Seralin extremely gravelly very fine sandy loam, 30 to 75 percent slopes—3 percent  
 Rock outcrop—2 percent

### ***Component Description***

#### **Moentria and similar soils**

Landform: Backslopes of mountains  
 Slope: 8 to 30 percent  
 Parent material: Colluvium and/or residuum weathered from sandstone and siltstone  
 Typical vegetation: Other shrubs, spiny menodora, Nevada ephedra, Indian ricegrass, blackbrush, other perennial forbs, other perennial grasses, desert needlegrass

#### **Typical profile:**

Surface rock fragments: About 1 percent stones, 2 percent cobbles, 70 percent gravel  
 Layer 1—0 to 3 inches; extremely gravelly loam  
 Layer 2—3 to 9 inches; very gravelly loam  
 Layer 3—9 to 19 inches; bedrock  
 Layer 4—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High  
 Depth to restrictive feature: Paralithic bedrock: 4 to 10 inches Lithic bedrock: 10 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.6 inch  
 Present flooding: None

Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7e  
 Ecological site: R030XC027NV—Shallow gravelly sandstone 7-9 P.Z.

### ***Component Description***

#### **Purob and similar soils**

Landform: Fan remnants  
 Slope: 4 to 15 percent  
 Parent material: Alluvium derived from Limestone  
 Typical vegetation: Other perennial grasses, other perennial forbs, other shrubs, ephedra, blackbrush, desert needlegrass

#### **Typical profile:**

Surface rock fragments: About 1 percent stones, 4 percent cobbles, 60 percent gravel  
 Layer 1—0 to 3 inches; extremely gravelly loam  
 Layer 2—3 to 8 inches; very gravelly loam  
 Layer 3—8 to 19 inches; very gravelly loam  
 Layer 4—19 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Petrocalcic: 14 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Typic Torriorthents frequently flooded and similar soils**

Composition: 0 to 5 percent  
 Classification: Sandy-skeletal, mixed, mesic Typic Torriorthents  
 Slope: 2 to 8 percent  
 Landform: Drainageways  
 Typical vegetation: Other shrubs, rubber rabbitbrush, green ephedra, Indian ricegrass, Nevada broomsage, other perennial forbs, Apacheplume, other perennial grasses, desert needlegrass  
 Ecological site: R030XC005NV—Piedmont wash

**Seralin and similar soils**

Composition: 0 to 3 percent

Slope: 30 to 75 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest  
 understory—Singleleaf pinyon, yellowleaf siltassel, Gambel oak, other shrubs,  
 muttongrass, other perennial grasses, other perennial forbs, Utah serviceberry,  
 Stansbury cliffrose, crested needlegrass, black sagebrush

Ecological site: F030XC235NV

**Rock outcrop**

Composition: 0 to 2 percent

Landform: Mountains

***Management***

For information about managing this map unit, see the following sections and  
 associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**430—Bluepoint-Tipnat-Grapevine association*****Map Unit Setting***

MLRA: 30

Landscape: Bolson

Elevation: 1,710 to 1,770

Precipitation: 5 to 7 inches

Air temperature: 61 to 69 degrees Fahrenheit

Frost-free period: 240 to 300 days

***Composition***

Bluepoint gravelly loamy fine sand, 0 to 2 percent slopes—35 percent

Tipnat loamy sand, 0 to 2 percent slopes—30 percent

Grapevine loamy sand, 0 to 2 percent slopes—20 percent

Typic Haplargids sandy loam, 0 to 2 percent slopes—10 percent

Typic Haplargids cobbly sandy loam, 0 to 2 percent slopes—5 percent

***Component Description*****Bluepoint and similar soils**

Landform: Sand sheets

Slope: 0 to 2 percent

Parent material: Eolian sands

Typical vegetation: Cattle saltbush, other perennial forbs, big galleta, Indian ricegrass

**Typical profile:**

Layer 1—0 to 9 inches; gravelly loamy fine sand

Layer 2—9 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
 information.

**Component Properties and Qualities**

Runoff: Negligible

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)  
 Available water capacity: About 5 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB065NV—Sodic sand

#### ***Component Description***

##### **Tipnat and similar soils**

Landform: Alluvial flats  
 Slope: 0 to 2 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Indian ricegrass, creosotebush, cattle saltbush, fourwing saltbush, white bursage, other perennial forbs, other shrubs

##### **Typical profile:**

Surface rock fragments: About 25 percent gravel  
 Layer 1—0 to 3 inches; loamy sand  
 Layer 2—3 to 13 inches; sandy clay loam  
 Layer 3—13 to 60 inches; stratified sand to very gravelly sandy clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Salinity: Saline within 40 inches  
 Sodicity: Sodic within 40 inches  
 Available water capacity: About 6 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XY046NV—Outwash plain

#### ***Component Description***

##### **Grapevine overblown and similar soils**

Landform: Alluvial flats  
 Slope: 0 to 2 percent  
 Parent material: Influenced by some gypsum in mixed alluvium  
 Typical vegetation: Big galleta, other perennial forbs, other shrubs, Indian ricegrass, bush muhly

##### **Typical profile:**

Surface rock fragments: About 5 percent fine subangular gravel  
 Layer 1—0 to 10 inches; loamy sand  
 Layer 2—10 to 60 inches; stratified sandy loam to clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 8 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB034NV—Sandy plain 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Typic Haplargids and similar soils**

Composition: 0 to 10 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids

Slope: 0 to 2 percent

Landform: Summits of fan remnants

Typical vegetation: Cattle saltbush, fourwing saltbush, white bursage, other perennial forbs, Indian ricegrass, creosotebush, other shrubs

Ecological site: R030XY046NV—Outwash plain

#### **Typic Haplargids and similar soils**

Composition: 0 to 5 percent

Classification: Fine-loamy, mixed, superactive, thermic Typic Haplargids

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: White bursage, other shrubs, creosotebush, cattle saltbush, fourwing saltbush, Indian ricegrass, other perennial forbs

Ecological site: R030XY046NV—Outwash plain

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

## **431—Hypoint-Vegastorm association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,590 to 2,760

Precipitation: 5 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

### ***Composition***

Hypoint gravelly loamy fine sand, 0 to 4 percent slopes—50 percent  
 Vegastorm fine sandy loam, 0 to 2 percent slopes—20 percent  
 Hypoint gravelly loamy sand, 0 to 4 percent slopes—15 percent  
 Bluepoint fine sand, 8 to 30 percent slopes—5 percent  
 Haymont loam, 0 to 2 percent slopes—5 percent  
 Vegastorm fine sandy loam, 0 to 2 percent slopes—3 percent  
 Bluepoint fine sand, 0 to 2 percent slopes—2 percent

### ***Component Description***

#### **Hypoint thick surface and similar soils**

Landform: Fan skirts

Slope: 0 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial grasses, white bursage, sand dropseed, other perennial forbs, other shrubs, creosotebush, fourwing saltbush, winterfat, Indian ricegrass

#### **Typical profile:**

Surface rock fragments: About 20 percent gravel

Layer 1—0 to 7 inches; gravelly loamy fine sand

Layer 2—7 to 60 inches; stratified sand to very gravelly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA069NV—Limy sand 5-7 P.Z.

### ***Component Description***

#### **Vegastorm and similar soils**

Landform: Alluvial flats

Slope: 0 to 2 percent

Parent material: Mixed alluvium over lacustrine deposits

Typical vegetation: Other shrubs, shadscale

#### **Typical profile:**

Surface rock fragments: About 30 percent gravel

Layer 1—0 to 3 inches; fine sandy loam

Layer 2—3 to 20 inches; gravelly sandy loam

Layer 3—20 to 26 inches; silt loam

Layer 4—26 to 60 inches; gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 7 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XY013NV—Shallow silty

#### ***Component Description***

##### **Hypoint and similar soils**

Landform: Fan skirts

Slope: 0 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Other shrubs, Indian ricegrass, other perennial forbs, white bursage, fourwing saltbush, cattle saltbush, creosotebush

##### **Typical profile:**

Surface rock fragments: About 20 percent gravel

Layer 1—0 to 2 inches; gravelly loamy sand

Layer 2—2 to 60 inches; stratified sand to very gravelly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Salinity: Saline within 40 inches

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XY046NV—Outwash plain

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Bluepoint and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Dunes

Typical vegetation: White bursage, Indian ricegrass, other perennial forbs, fourwing saltbush, creosotebush, honey mesquite, screwbean mesquite, other shrubs  
 Ecological site: R030XY045NV—Dunes 3-7 P.Z.

**Haymont moist and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: lake plains

Typical vegetation: Fourwing saltbush, other perennial forbs, Torrey quailbush, shadscale, other perennial grasses, other shrubs

Ecological site: R030XA011NV—Silty terrace 5-7 P.Z.

**Vegastorm and similar soils**

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Alkali sacaton, other shrubs, shadscale, fourwing saltbush, other perennial grasses

Ecological site: R030XA096NV—Coarse silty 3-5 P.Z.

**Bluepoint and similar soils**

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Sand sheets

Typical vegetation: Other perennial forbs, big galleta, range ratany, other shrubs, white bursage, winterfat, Indian ricegrass

Ecological site: R030XB004NV—Sandy 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**441—Corbilt gravelly loamy fine sand, 0 to 4 percent slopes**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,690 to 2,790

Precipitation: 3 to 7 inches

Air temperature: 61 to 68 degrees Fahrenheit

Frost-free period: 200 to 220 days

***Composition***

Grapevine gravelly loamy fine sand, 0 to 2 percent slopes—5 percent

Petronodic Haplocalcids loamy fine sand, 0 to 4 percent slopes—5 percent

Vegastorm gravelly fine sandy loam, 0 to 4 percent slopes—4 percent

Bluepoint loamy fine sand, 4 to 15 percent slopes—1 percent

Corbilt gravelly loamy fine sand, 0 to 4 percent slopes—85 percent

### ***Component Description***

#### **Corbilt and similar soils**

Landform: Fan skirts

Slope: 0 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Creosotebush, Indian ricegrass, other shrubs, other perennial forbs, white bursage, big galleta

#### **Typical profile:**

Surface rock fragments: About 0 percent stones, 0 percent cobbles, 35 percent gravel

Layer 1—0 to 4 inches; gravelly loamy fine sand

Layer 2—4 to 32 inches; gravelly fine sandy loam

Layer 3—32 to 56 inches; very gravelly sandy loam

Layer 4—56 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Depth to restrictive feature: Duripan: 39 to 59 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7c

Ecological site: R030XB037NV—Limy sand 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Grapevine and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Creosotebush, Indian ricegrass, fourwing saltbush, other perennial forbs, white bursage, other shrubs, cattle saltbush

Ecological site: R030XY046NV—Outwash plain

#### **Petronodic Haplocalcids and similar soils**

Composition: 0 to 5 percent

Classification: Coarse-loamy, mixed, superactive, thermic Petronodic Haplocalcids

Slope: 0 to 4 percent

Landform: lake terraces

Typical vegetation: Big galleta, other perennial forbs, white bursage, Indian ricegrass, range ratany, winterfat, other shrubs

Ecological site: R030XB004NV—Sandy 5-7 P.Z.

**Vegastorm and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Alluvial flats

Typical vegetation: Other perennial forbs, white bursage, shadscale, creosotebush, Indian ricegrass, other shrubs, wolfberry

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

**Bluepoint and similar soils**

Composition: 0 to 1 percent

Slope: 4 to 15 percent

Landform: Dunes

Typical vegetation: Honey mesquite, screwbean mesquite, other shrubs, creosotebush, white bursage, other perennial forbs, Indian ricegrass, fourwing saltbush

Ecological site: R030XY045NV—Dunes 3-7 P.Z.

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**450—Arizo association****Map Unit Setting**

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,870 to 4,040

Precipitation: 5 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

**Composition**

Arizo very gravelly loamy sand, 2 to 8 percent slopes—70 percent

Arizo extremely gravelly coarse sandy loam, 0 to 2 percent slopes—15 percent

Bluepoint loamy fine sand, 0 to 2 percent slopes—6 percent

Argidic Argidurids very cobbly loam, 0 to 4 percent slopes—4 percent

Aguachiquita extremely gravelly loam, 0 to 2 percent slopes—3 percent

Typic Torriorthents extremely gravelly sandy loam, 2 to 8 percent slopes—2 percent

**Component Description****Arizo and similar soils**

Landform: Fan aprons

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other annual forbs, other perennial grasses, big galleta, other perennial forbs, white bursage, other shrubs, range ratany, creosotebush

**Typical profile:**

Surface rock fragments: About 40 percent gravel, 10 percent cobbles

Layer 1—0 to 2 inches; very gravelly loamy sand

Layer 2—2 to 6 inches; sand

Layer 3—6 to 60 inches; stratified very gravelly coarse sand to extremely gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### ***Component Description***

##### **Arizo frequently flooded and similar soils**

Landform: Drainageways

Slope: 0 to 2 percent

Parent material: Mixed alluvium

Typical vegetation: Baccharis, other shrubs, creosotebush, white burrobrush, big galleta, other perennial grasses, bursage, other perennial forbs

##### **Typical profile:**

Surface rock fragments: About 70 percent gravel, 3 percent cobbles

Layer 1—0 to 6 inches; extremely gravelly coarse sandy loam

Layer 2—6 to 60 inches; stratified very gravelly coarse sand to extremely gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Frequent

Present ponding: None

Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7w

Ecological site: R030XB028NV—Valley wash

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Bluepoint and similar soils**

Composition: 0 to 6 percent

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Other shrubs, creosotebush, big galleta, other perennial grasses, other annual forbs, other perennial forbs, range ratany, white bursage

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Argidic Argidurids and similar soils**

Composition: 0 to 4 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Argidic Argidurids

Slope: 0 to 4 percent

Landform: Fan remnants

Typical vegetation: Bush muhly, big galleta, other perennial grasses, desert globemallow, other shrubs, creosotebush, range ratany, white bursage

Ecological site: R030XB044NV—Cobbly Claypan 5-7 P.Z.

#### **Aguachiquita and similar soils**

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Pediments

Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, other annual forbs, other perennial grasses

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Typic Torriorthents and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Fan aprons

Typical vegetation: White bursage, range ratany, creosotebush, other shrubs, other perennial forbs, other annual forbs, other perennial grasses, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **451—Arizo-Peskah-Crosgrain association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,560 to 3,970

Precipitation: 5 to 8 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

### ***Composition***

Arizo extremely gravelly sandy loam, 2 to 4 percent slopes—40 percent

Peskah extremely gravelly fine sandy loam, 2 to 4 percent slopes—25 percent

Crosgrain extremely gravelly loam, 2 to 4 percent slopes—20 percent

Typic Torriorthents extremely gravelly sandy loam, 2 to 4 percent slopes—8 percent  
 Nickel family very gravelly fine sandy loam, 0 to 2 percent slopes—5 percent  
 Arizo extremely gravelly loamy coarse sand, 0 to 2 percent slopes—2 percent

### ***Component Description***

#### **Arizo and similar soils**

Landform: Fan aprons

Slope: 2 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Creosotebush, range ratany, other shrubs, white bursage, other perennial forbs, other annual forbs, other perennial grasses, big galleta

#### **Typical profile:**

Surface rock fragments: About 60 percent gravel, 1 percent stones, 3 percent cobbles

Layer 1—0 to 6 inches; extremely gravelly sandy loam

Layer 2—6 to 60 inches; stratified extremely gravelly loamy sand to cobbly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Peskah and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 4 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Other shrubs, other perennial grasses, white bursage, big galleta

#### **Typical profile:**

Surface rock fragments: About 3 percent stones, 70 percent gravel, 5 percent cobbles

Layer 1—0 to 1 inch; extremely gravelly fine sandy loam

Layer 2—1 to 4 inches; gravelly sandy loam

Layer 3—4 to 8 inches; gravelly sandy clay loam

Layer 4—8 to 15 inches; very gravelly sandy clay loam

Layer 5—15 to 43 inches; stratified very gravelly sandy loam to extremely gravelly coarse sand

Layer 6—43 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Depth to restrictive feature: Duripan: 39 to 60 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB100NV—Gravelly Claypan 5-7 P.Z.

***Component Description*****Crosgrain and similar soils**

Landform: Backslopes of fan remnants

Slope: 2 to 4 percent

Parent material: Mixed alluvium derived from metamorphic rock

Typical vegetation: Other perennial forbs, other perennial grasses, other shrubs, creosotebush, range ratany, white bursage, other annual forbs, big galleta

**Typical profile:**

Layer 1—0 to 1 inch; extremely gravelly loam

Layer 2—1 to 11 inch; very gravelly loam

Layer 3—11 to 24 inches; cemented material

Layer 4—24 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 6 to 14 inches Duripan: 21 to 24 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Typic Torriorthents and similar soils**

Composition: 0 to 8 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Typic Torriorthents

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Big galleta, other perennial grasses, other shrubs, white bursage

Ecological site: R030XB100NV—Gravelly Claypan 5-7 P.Z.

**Nickel family and similar soils**

Composition: 0 to 5 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Big galleta, other perennial grasses, white bursage, other shrubs

Ecological site: R030XB100NV—Gravelly Claypan 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Drainageways

Typical vegetation: Other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, big galleta, other shrubs, creosotebush

Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**454—Arizo-Riverwash association**

***Map Unit Setting***

MLRA: 30

Landscape: Piedmont

Elevation: 2,050 to 4,170

Precipitation: 5 to 7 inches

Air temperature: 52 to 70 degrees Fahrenheit

Frost-free period: 130 to 300 days

***Composition***

Arizo extremely gravelly coarse sandy loam, 2 to 8 percent slopes—50 percent

Riverwash extremely gravelly coarse sand, 2 to 4 percent slopes—35 percent

Lanip extremely gravelly loam, 2 to 4 percent slopes—8 percent

Arizo extremely gravelly sandy loam, 2 to 8 percent slopes—5 percent

Nickel very gravelly sandy loam, 15 to 30 percent slopes—2 percent

***Component Description***

**Arizo and similar soils**

Landform: Drainageways

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Creosotebush, big galleta, other shrubs, baccharis, bursage, other perennial forbs, white burrobrush, other perennial grasses

**Typical profile:**

Surface rock fragments: About 3 percent cobbles, 70 percent gravel

Layer 1—0 to 6 inches; extremely gravelly coarse sandy loam

Layer 2—6 to 60 inches; stratified very gravelly coarse sand to extremely gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Frequent

Present ponding: None

Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7w

Ecological site: R030XB028NV—Valley wash

#### ***Component Description***

##### **Riverwash**

Landform: Channels

Slope: 2 to 4 percent

#### **Component Properties and Qualities**

Runoff: Negligible

Present ponding: None

#### **Interpretive Groups**

Nonirrigated land capability: 8w

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Lanip and similar soils**

Composition: 0 to 8 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Big galleta, other perennial grasses, white bursage, other shrubs

Ecological site: R030XB100NV—Gravelly Claypan 5-7 P.Z.

##### **Arizo and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan aprons

Typical vegetation: Other perennial forbs, big galleta, other perennial grasses, other annual forbs, other shrubs, white bursage, range ratany, creosotebush

Ecological site: R030XB005NV—Limy 5-7 P.Z.

##### **Nickel and similar soils**

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Backslopes of fan remnants

Typical vegetation: Range ratany, creosotebush, white bursage, other shrubs, big galleta, other perennial forbs

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **455—Arizo-Tenwell association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,230 to 3,810

Precipitation: 5 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 200 to 280 days

### ***Composition***

Arizo extremely gravelly sandy loam, 2 to 8 percent slopes—50 percent

Tenwell very gravelly sandy loam, 2 to 8 percent slopes—35 percent

Durinodic Haplargids extremely gravelly loam, 2 to 8 percent slopes—7 percent

Crosgrain extremely gravelly loam, 2 to 8 percent slopes—3 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—3 percent

Durinodic Haplargids extremely gravelly loam, 2 to 8 percent slopes—2 percent

### ***Component Description***

#### **Arizo and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other annual forbs, other perennial grasses, big galleta, other shrubs, creosotebush, other perennial forbs, white bursage, range ratany

#### **Typical profile:**

Surface rock fragments: About 60 percent gravel, 3 percent cobbles, 1 percent stones

Layer 1—0 to 6 inches; extremely gravelly sandy loam

Layer 2—6 to 60 inches; stratified extremely gravelly loamy sand to cobbly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Tenwell and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial grasses, white bursage, big galleta, other shrubs

#### **Typical profile:**

Surface rock fragments: About 50 percent gravel

Layer 1—0 to 1 inch; very gravelly sandy loam

Layer 2—1 to 4 inches; gravelly sandy loam

Layer 3—4 to 9 inches; sandy loam

Layer 4—9 to 22 inches; gravelly sandy clay loam

Layer 5—22 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 20 to 35 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB100NV—Gravelly Claypan 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Durinodic Haplargids and similar soils**

Composition: 0 to 7 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Durinodic Haplargids

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Bursage, big galleta, other perennial grasses, other perennial forbs, baccharis, white burrobrush, creosotebush, other shrubs

Ecological site: R030XB028NV—Valley wash

**Crosgrain and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other shrubs, range ratany, other perennial forbs, white bursage, creosotebush

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Durinodic Haplargids and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Durinodic Haplargids

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Desert needlegrass, bush muhly, big galleta, other perennial forbs, white bursage, creosotebush, spiny menodora, other shrubs

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**460—Pahrump-Wodavar-Vegastorm association**

***Map Unit Setting***

MLRA: 30

Landscape: Bolson

Elevation: 2,400 to 3,120

Precipitation: 3 to 7 inches

Air temperature: 57 to 64 degrees Fahrenheit

Frost-free period: 180 to 240 days

***Composition***

Pahrump gravelly loam, 4 to 15 percent slopes—40 percent

Wodavar extremely gravelly fine sandy loam, 2 to 8 percent slopes—25 percent

Vegastorm gravelly fine sandy loam, 0 to 4 percent slopes—20 percent

Bluepoint loamy fine sand, 4 to 15 percent slopes—7 percent

Weiser very gravelly sandy loam, 2 to 8 percent slopes—4 percent

Badland, 15 to 50 percent slopes—3 percent

Grapevine gravelly sandy loam, 2 to 8 percent slopes—1 percent

***Component Description***

**Pahrump and similar soils**

Landform: Convex lake terraces

Slope: 4 to 15 percent

Parent material: Residuum from lacustrine deposits derived from Limestone

Typical vegetation: Indian ricegrass, desert needlegrass, other perennial forbs, shadscale, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 45 percent subangular gravel

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 6 inches; loam

Layer 3—6 to 46 inches; very gravelly silt loam

Layer 4—46 to 60 inches; silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7c

Ecological site: R030XA053NV—Calcareous loam 3-5 P.Z.

***Component Description***

**Wodavar and similar soils**

Landform: Alluvial flats

Slope: 2 to 8 percent

Parent material: Residuum from lacustrine deposits derived from Limestone

Typical vegetation: Indian ricegrass, other perennial forbs, white bursage, shadscale, creosotebush, wolfberry, other shrubs

**Typical profile:**

Surface rock fragments: About 65 percent gravel

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 16 inches; very gravelly sandy loam

Layer 3—16 to 33 inches; cemented material

Layer 4—33 to 60 inches; extremely gravelly loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

***Component Description*****Vegastorm and similar soils**

Landform: Alluvial flats

Slope: 0 to 4 percent

Parent material: Mixed alluvium over lacustrine deposits

Typical vegetation: Indian ricegrass, other perennial forbs, white bursage, shadscale, creosotebush, wolfberry, other shrubs

**Typical profile:**

Surface rock fragments: About 30 percent gravel

Layer 1—0 to 3 inches; gravelly fine sandy loam

Layer 2—3 to 20 inches; gravelly sandy loam

Layer 3—20 to 26 inches; silt loam

Layer 4—26 to 60 inches; gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 6 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Bluepoint and similar soils**

Composition: 0 to 7 percent

Slope: 4 to 15 percent

Landform: Sand dunes

Typical vegetation: Indian ricegrass, other perennial forbs, white bursage, fourwing saltbush, creosotebush, honey mesquite, screwbean mesquite, other shrubs

Ecological site: R030XY045NV—Dunes 3-7 P.Z.

**Weiser and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Desert needlegrass, bush muhly, big galleta, other perennial forbs, white bursage, creosotebush, spiny menodora, other shrubs

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

**Badland**

Composition: 0 to 3 percent  
 Slope: 15 to 50 percent  
 Landform: Backslopes of lake terraces  
 Ecological site: None

**Grapevine and similar soils**

Composition: 0 to 1 percent  
 Slope: 2 to 8 percent  
 Landform: Alluvial flats  
 Typical vegetation: Indian ricegrass, other perennial forbs, white bursage, fourwing  
 saltbush, cattle saltbush, creosotebush, other shrubs  
 Ecological site: R030XY046NV—Outwash plain

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Crops and Pasture" section  
 "Engineering" and "Soil Properties" sections

**461—Pahrump-Bluepoint association*****Map Unit Setting***

MLRA: 30  
 Landscape: Bolson  
 Elevation: 2,820 to 3,050  
 Precipitation: 3 to 7 inches  
 Air temperature: 63 to 69 degrees Fahrenheit  
 Frost-free period: 180 to 300 days

***Composition***

Pahrump gravelly loam, 0 to 2 percent slopes—50 percent  
 Pahrump gravelly loam, 0 to 2 percent slopes—20 percent  
 Bluepoint fine sand, 8 to 30 percent slopes—15 percent  
 Wodavar extremely gravelly fine sandy loam, 0 to 4 percent slopes—6 percent  
 Haymont silt loam, 0 to 2 percent slopes—4 percent  
 Haymont loam, 0 to 2 percent slopes—3 percent  
 Grapevine gravelly sandy loam, 0 to 4 percent slopes—2 percent

***Component Description*****Pahrump saline and similar soils**

Landform: Convex lake terraces  
 Slope: 0 to 2 percent  
 Parent material: Residuum from lacustrine deposits derived from Limestone  
 Typical vegetation: Other shrubs, shadscale

**Typical profile:**

Surface rock fragments: About 30 percent subangular gravel  
 Layer 1—0 to 2 inches; gravelly loam  
 Layer 2—2 to 6 inches; loam  
 Layer 3—6 to 46 inches; very gravelly silt loam  
 Layer 4—46 to 60 inches; silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7c

Ecological site: R030XY013NV—Shallow silty

***Component Description***

**Pahrump and similar soils**

Landform: Alluvial flats

Slope: 0 to 2 percent

Parent material: Residuum from lacustrine deposits derived from Limestone

Typical vegetation: Indian ricegrass, desert needlegrass, other perennial forbs, shadscale, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 30 percent subangular gravel

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 6 inches; loam

Layer 3—6 to 46 inches; very gravelly silt loam

Layer 4—46 to 60 inches; silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7c

Ecological site: R030XA053NV—Calcareous loam 3-5 P.Z.

***Component Description***

**Bluepoint and similar soils**

Landform: Sand sheets

Slope: 8 to 30 percent

Parent material: Eolian sands

Typical vegetation: Indian ricegrass, other perennial forbs, white bursage, creosotebush, honey mesquite, screwbean mesquite, other shrubs, fourwing saltbush

**Typical profile:**

Surface rock fragments: About 15 percent cobbles

Layer 1—0 to 14 inches; fine sand

Layer 2—14 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XY045NV—Dunes 3-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Wodavar and similar soils**

Composition: 0 to 6 percent

Slope: 0 to 4 percent

Landform: Alluvial flats

Typical vegetation: Indian ricegrass, other perennial forbs, white bursage, shadscale, creosotebush, wolfberry, other shrubs

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

**Haymont dry and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: lake plains

Typical vegetation: Indian ricegrass, other perennial forbs, cattle saltbush, other shrubs

Ecological site: R030XY047NV—Alluvial plain

**Haymont and similar soils**

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: lake plains

Typical vegetation: Alkali sacaton, fourwing saltbush, shadscale, other shrubs, other perennial grasses

Ecological site: R030XA096NV—Coarse silty 3-5 P.Z.

**Grapevine and similar soils**

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Alluvial flats

Typical vegetation: Indian ricegrass, other perennial forbs, white bursage, fourwing saltbush, cattle saltbush, creosotebush, other shrubs

Ecological site: R030XY046NV—Outwash plain

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **470—Filaree-Seanna association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Piedmont

Elevation: 1,340 to 3,440

Precipitation: 5 to 7 inches

Air temperature: 63 to 69 degrees Fahrenheit

Frost-free period: 220 to 300 days

### ***Composition***

Filaree very gravelly fine sandy loam, 4 to 15 percent slopes—60 percent

Seanna extremely gravelly sandy loam, 8 to 15 percent slopes—25 percent

Lanip very gravelly sandy loam, 4 to 15 percent slopes—8 percent

Nolena extremely gravelly sandy loam, 8 to 15 percent slopes—4 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent

Typic Torriorthents extremely gravelly sandy loam, 4 to 15 percent slopes—1 percent

### ***Component Description***

#### **Filaree and similar soils**

Landform: Inset fans

Slope: 4 to 15 percent

Parent material: Mixed alluvium

Typical vegetation: Other shrubs, creosotebush, bush muhly, white bursage, other perennial forbs, desert needlegrass, other perennial grasses

#### **Typical profile:**

Surface rock fragments: About 50 percent gravel

Layer 1—0 to 2 inches; very gravelly fine sandy loam

Layer 2—2 to 22 inches; stratified gravelly fine sandy loam to fine sandy loam

Layer 3—22 to 60 inches; stratified gravelly coarse sandy loam to very gravelly fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 6 inches

Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB058NV—Granitic fan 5-7 P.Z.

### ***Component Description***

#### **Seanna and similar soils**

Landform: Backslopes of hills  
 Slope: 8 to 15 percent  
 Parent material: Residuum weathered from granite  
 Typical vegetation: Virgin River encelia, desert needlegrass, bush muhly, other perennial forbs, white bursage, Nevada ephedra, Mojave buckwheat, range ratany, other shrubs

#### **Typical profile:**

Surface rock fragments: About 85 percent gravel  
 Layer 1—0 to 2 inches; extremely gravelly sandy loam  
 Layer 2—2 to 10 inches; very gravelly sandy loam  
 Layer 3—10 to 20 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

### **Component Properties and Qualities**

Runoff: High  
 Depth to restrictive feature: Paralithic bedrock: 7 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.6 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB008NV—Shallow granitic hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Lanip and similar soils**

Composition: 0 to 8 percent  
 Slope: 4 to 15 percent  
 Landform: Fan remnants  
 Typical vegetation: White bursage, Mojave buckwheat, big galleta, range ratany, creosotebush, bush muhly, desert needlegrass, other perennial forbs, other perennial grasses, other shrubs  
 Ecological site: R030XB007NV—Granitic loam 5-7 P.Z.

**Nolena and similar soils**

Composition: 0 to 4 percent

Slope: 8 to 15 percent

Landform: Backslopes of pediments

Typical vegetation: Desert needlegrass, other perennial forbs, other shrubs, blackbrush

Ecological site: R030XB056NV—Shallow granitic slope 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other shrubs, big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush

Ecological site: R030XB028NV—Valley wash

**Typic Torriorthents and similar soils**

Composition: 0 to 1 percent

Classification: Coarse-loamy, mixed, superactive, calcareous, thermic Typic Torriorthents

Slope: 4 to 15 percent

Landform: Drainageways

Typical vegetation: Other shrubs, big galleta, other perennial forbs, hollyleaf bursage, Mojave buckwheat, white burrobrush, desertsenna

Ecological site: R030XB052NV—Rubbly outwash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**475—Guardian-Sunrock-Badland association*****Map Unit Setting***

MLRA: 30

Landscape: Piedmont

Elevation: 1,210 to 2,160

Precipitation: 3 to 5 inches

Air temperature: 70 to 75 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Guardian gypsiferous fine sandy loam, 8 to 30 percent slopes—45 percent

Sunrock extremely stony sandy loam, 15 to 50 percent slopes—20 percent

Badland, 30 to 75 percent slopes—20 percent

Sunrock extremely stony sandy loam, 15 to 50 percent slopes—9 percent

Carrizo extremely gravelly loamy sand, 4 to 8 percent slopes—3 percent

Sunrock very cobbly sandy loam, 30 to 50 percent slopes—2 percent

Rock outcrop—1 percent

***Component Description*****Guardian and similar soils**

Landform: Shoulders of pediments

Slope: 8 to 30 percent

Parent material: Residuum weathered from gypsum

Typical vegetation: Shrubby tiqulia, other shrubs, pygmycedar, Fremont dalea, Parry's sandpaperplant, silverleaf sunray

**Typical profile:**

Surface rock fragments: About 5 percent gravel

Layer 1—0 to 2 inches; gypsiferous fine sandy loam

Layer 2—2 to 4 inches; gypsiferous material

Layer 3—4 to 19 inches; gypsiferous material

Layer 4—19 to 29 inches; gypsiferous bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB118NV—Gypsic hill 3-5 P.Z.

***Component Description***

**Sunrock and similar soils**

Landform: Backslopes of hills and hills

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from andesite

Typical vegetation: Other shrubs, creosotebush, white bursage, other annual forbs

**Typical profile:**

Surface rock fragments: About 20 percent gravel, 20 percent cobbles, 20 percent stones

Layer 1—0 to 2 inches; extremely stony sandy loam

Layer 2—2 to 9 inches; very gravelly fine sandy loam

Layer 3—9 to 19 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

***Component Description*****Badland**

Landform: Backslopes of pediments

Slope: 30 to 75 percent

**Component Properties and Qualities**

Runoff: Very high

Present ponding: None

**Interpretive Groups**

Nonirrigated land capability: 8e

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Sunrock moist and similar soils**

Composition: 0 to 9 percent

Slope: 15 to 50 percent

Landform: Backslopes of hills

Typical vegetation: Other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, big galleta

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Carrizo and similar soils**

Composition: 0 to 3 percent

Slope: 4 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs, big galleta

Ecological site: R030XB028NV—Valley wash

**Sunrock and similar soils**

Composition: 0 to 2 percent

Slope: 30 to 50 percent, southwest to southeast aspects

Landform: Southwest to southeast aspects on backslopes of hills

Typical vegetation: Other perennial grasses, white brittlebush, creosotebush, other shrubs, desert globemallow

Ecological site: R030XB077NV—Steep south slope

**Rock outcrop**

Composition: 0 to 1 percent

Landform: Cliffs

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**477—Guardian-Baseline-Guardian association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,580 to 2,300

Precipitation: 3 to 5 inches

Air temperature: 70 to 75 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Guardian gypsiferous sandy loam, 2 to 8 percent slopes—45 percent

Baseline extremely gravelly fine sandy loam, 2 to 8 percent slopes—25 percent

Guardian gypsiferous fine sandy loam, 4 to 15 percent slopes—15 percent

Badland, 30 to 75 percent slopes—6 percent

Heleweiser very gravelly sandy loam, 4 to 15 percent slopes—4 percent

Carrizo very gravelly sandy loam, 2 to 4 percent slopes—3 percent

Drygyp gypsiferous fine sandy loam, 2 to 8 percent slopes—2 percent

***Component Description*****Guardian calcareous surface and similar soils**

Landform: Shoulders of pediments

Slope: 2 to 8 percent

Parent material: Residuum weathered from gypsum

Typical vegetation: Fremont dalea, Parry's sandpaperplant, shadscale, silverleaf sunray, other perennial forbs, other shrubs

**Typical profile:**

Surface rock fragments: About 5 percent gravel

Layer 1—0 to 2 inches; gypsiferous sandy loam

Layer 2—2 to 4 inches; gypsiferous material

Layer 3—4 to 19 inches; gypsiferous material

Layer 4—19 to 29 inches; gypsiferous bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Depth to restrictive feature: Paralithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB115NV—Gypsic sodic loam 3-5 P.Z.

***Component Description*****Baseline and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Gravelly pedisegment derived from Limestone

Typical vegetation: White bursage, creosotebush, other perennial forbs, big galleta, range ratany, other shrubs, other perennial grasses, other annual forbs

**Typical profile:**

Surface rock fragments: About 5 percent stones, 20 percent cobbles, 65 percent gravel

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 9 inches; gravelly fine sandy loam

Layer 3—9 to 22 inches; extremely gravelly loam

Layer 4—22 to 32 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description***

**Guardian and similar soils**

Landform: Shoulders of pediments

Slope: 4 to 15 percent

Parent material: Residuum weathered from gypsum

Typical vegetation: Other perennial forbs, white bursage, Torrey ephedra, Anderson's wolfberry, Parry's sandpaperplant, Fremont dalea, other shrubs

**Typical profile:**

Surface rock fragments: About 5 percent gravel

Layer 1—0 to 2 inches; gypsiferous fine sandy loam

Layer 2—2 to 4 inches; gypsiferous material

Layer 3—4 to 19 inches; gypsiferous material

Layer 4—19 to 29 inches; gypsiferous bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Badland**

Composition: 0 to 6 percent

Slope: 30 to 75 percent

Landform: Backslopes of pediments

#### **Heleweiser and similar soils**

Composition: 0 to 4 percent

Slope: 4 to 15 percent

Landform: Shoulders of fan remnants

Typical vegetation: Creosotebush, white bursage, other annual forbs, other shrubs

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

#### **Carrizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: White burrobrush, creosotebush, other shrubs, baccharis, bursage, other perennial grasses, big galleta, other perennial forbs

Ecological site: R030XB028NV—Valley wash

#### **Drygyp and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Summits of pediments

Typical vegetation: Other shrubs, Parry's sandpaperplant, silverleaf sunray, shadscale, other perennial forbs, Fremont dalea

Ecological site: R030XB115NV—Gypsic sodic loam 3-5 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

### **478—Guardian-Baseline association**

#### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,440 to 2,430

Precipitation: 3 to 5 inches

Air temperature: 70 to 75 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Guardian gypsiferous sandy loam, 4 to 30 percent slopes—45 percent  
 Baseline extremely gravelly fine sandy loam, 2 to 8 percent slopes—40 percent  
 Baseline extremely gravelly fine sandy loam, 8 to 30 percent slopes—6 percent  
 St. Thomas very gravelly fine sandy loam, 15 to 50 percent slopes—4 percent  
 Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—3 percent  
 Badland, 30 to 75 percent slopes—2 percent

### ***Component Description***

#### **Guardian calcareous surface and similar soils**

Landform: Shoulders of pediments

Slope: 4 to 30 percent

Parent material: Residuum weathered from gypsum

Typical vegetation: Other shrubs, shadscale, silverleaf sunray, other perennial forbs,  
 Parry's sandpaperplant, Fremont dalea

#### **Typical profile:**

Surface rock fragments: About 5 percent gravel

Layer 1—0 to 2 inches; gypsiferous sandy loam

Layer 2—2 to 4 inches; gypsiferous material

Layer 3—4 to 19 inches; gypsiferous material

Layer 4—19 to 29 inches; gypsiferous bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB115NV—Gypsic sodic loam 3-5 P.Z.

### ***Component Description***

#### **Baseline and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Gravelly pedisediment derived from Limestone

Typical vegetation: Other shrubs, creosotebush, white bursage, other perennial forbs,  
 other annual forbs

#### **Typical profile:**

Surface rock fragments: About 65 percent gravel, 20 percent cobbles, 5 percent stones

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 9 inches; gravelly fine sandy loam

Layer 3—9 to 22 inches; extremely gravelly loam

Layer 4—22 to 32 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Baseline and similar soils**

Composition: 0 to 6 percent

Slope: 8 to 30 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial grasses, other perennial forbs, desertholly saltbush, Torrey ephedra, range ratany, other shrubs, creosotebush, white bursage

Ecological site: R030XB038NV—Gravelly pediment 3-5 P.Z.

#### **St. Thomas and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other shrubs, white burrobrush, creosotebush, baccharis, bursage, other perennial forbs, other perennial grasses, big galleta

Ecological site: R030XB028NV—Valley wash

#### **Badland**

Composition: 0 to 2 percent

Slope: 30 to 75 percent

Landform: Backslopes of pediments

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Engineering" and "Soil Properties" sections

## **480—Vace-Arizo association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 2,360 to 3,670  
 Precipitation: 3 to 7 inches  
 Air temperature: 57 to 70 degrees Fahrenheit  
 Frost-free period: 180 to 280 days

### ***Composition***

Vace gravelly fine sandy loam, 2 to 8 percent slopes—40 percent  
 Vace extremely stony sandy loam, 4 to 15 percent slopes—30 percent  
 Arizo extremely stony sandy loam, 2 to 8 percent slopes—15 percent  
 Vace extremely stony sandy loam, 15 to 50 percent slopes—8 percent  
 Arizo extremely stony loamy sand, 2 to 4 percent slopes—4 percent  
 Nickel extremely stony fine sandy loam, 4 to 15 percent slopes—3 percent

### ***Component Description***

#### **Vace and similar soils**

Landform: Fan remnants  
 Slope: 2 to 8 percent  
 Parent material: Calcareous loess and mixed alluvium  
 Typical vegetation: Other shrubs, range ratany, big galleta, other perennial grasses, creosotebush, white bursage, other annual forbs, other perennial forbs

#### **Typical profile:**

Surface rock fragments: About 70 percent gravel, 5 percent cobbles  
 Layer 1—0 to 2 inches; gravelly fine sandy loam  
 Layer 2—2 to 8 inches; loam  
 Layer 3—8 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Petrocalcic: 4 to 14 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 1.0 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Vace stony surface and similar soils**

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Calcareous loess and mixed alluvium

Typical vegetation: Creosotebush, other annual forbs, white bursage, other perennial forbs, other shrubs

#### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 70 percent gravel

Layer 1—0 to 3 inches; extremely stony sandy loam

Layer 2—3 to 8 inches; loam

Layer 3—8 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.8 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

### ***Component Description***

#### **Arizo and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, creosotebush, other shrubs, range ratany

#### **Typical profile:**

Surface rock fragments: About 20 percent stones, 40 percent gravel, 20 percent cobbles

Layer 1—0 to 4 inches; extremely stony sandy loam

Layer 2—4 to 60 inches; stratified very gravelly loamy sand to extremely stony coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 3 inches  
 Present flooding: Very rare  
 Present ponding: None  
 Natural drainage class: Excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Vace and similar soils**

Composition: 0 to 8 percent  
 Slope: 15 to 50 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 4 percent  
 Slope: 2 to 4 percent  
 Landform: Drainageways  
 Typical vegetation: Other shrubs, big galleta, creosotebush, white burrobrush, baccharis, bursage, other perennial forbs, other perennial grasses  
 Ecological site: R030XB028NV—Valley wash

#### **Nickel and similar soils**

Composition: 0 to 3 percent  
 Slope: 4 to 15 percent  
 Landform: Fan remnants  
 Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

## **481—Vace-Wechech association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 2,720 to 4,040  
 Precipitation: 5 to 7 inches  
 Air temperature: 57 to 69 degrees Fahrenheit

Frost-free period: 180 to 300 days

### ***Composition***

Vace gravelly fine sandy loam, 2 to 8 percent slopes—45 percent  
 Wechech very gravelly sandy loam, 2 to 8 percent slopes—25 percent  
 Wechech very gravelly sandy loam, 8 to 30 percent slopes—15 percent  
 Weiser gravelly very fine sandy loam, 2 to 8 percent slopes—8 percent  
 Irongold very gravelly sandy loam, 2 to 8 percent slopes—4 percent  
 Commski extremely gravelly loam, 2 to 8 percent slopes—2 percent  
 Threelakes extremely gravelly loamy sand, 2 to 8 percent slopes—1 percent

### ***Component Description***

#### **Vace and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Calcareous loess and mixed alluvium

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 70 percent gravel

Layer 1—0 to 2 inches; gravelly fine sandy loam

Layer 2—2 to 8 inches; loam

Layer 3—8 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Wechech and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from Limestone and dolomite

Typical vegetation: White bursage, other shrubs, creosotebush, range ratany, big galleta, other perennial forbs, other annual forbs, other perennial grasses

#### **Typical profile:**

Surface rock fragments: About 40 percent gravel, 5 percent cobbles

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 7 inches; very gravelly sandy loam

Layer 3—7 to 13 inches; very gravelly sandy loam  
 Layer 4—13 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Petrocalcic: 8 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.9 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### ***Component Description***

##### **Wechech steep and similar soils**

Landform: Backslopes of fan remnants  
 Slope: 8 to 30 percent  
 Parent material: Alluvium derived from Limestone and dolomite  
 Typical vegetation: Other shrubs, big galleta, creosotebush, range ratany, white bursage, other perennial forbs

##### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 40 percent gravel  
 Layer 1—0 to 2 inches; very gravelly sandy loam  
 Layer 2—2 to 7 inches; very gravelly sandy loam  
 Layer 3—7 to 13 inches; very gravelly sandy loam  
 Layer 4—13 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Petrocalcic: 8 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.9 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Weiser and similar soils**

Composition: 0 to 8 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, spiny menodora, creosotebush, white bursage, other perennial forbs, big galleta, bush muhly, desert needlegrass

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

#### **Irongold and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent, northeast aspect

Landform: Northeast facing shoulders of fan remnants

Typical vegetation: Other shrubs, blackbrush, other perennial forbs, other perennial grasses, big galleta

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

#### **Commski and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, wolfberry, creosotebush, white bursage, other perennial forbs, Indian ricegrass, shadscale

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

#### **Threelakes and similar soils**

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Bursage, other shrubs, big galleta, other perennial grasses, other perennial forbs, creosotebush, white burrobrush, baccharis

Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

### **490—Ifteen extremely gravelly very fine sandy loam, 2 to 8 percent slopes**

#### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,950 to 3,380

Precipitation: 5 to 7 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

#### ***Composition***

Ifteen extremely gravelly very fine sandy loam, 2 to 8 percent slopes—85 percent

Wechech very gravelly sandy loam, 2 to 8 percent slopes—7 percent

Vace gravelly fine sandy loam, 2 to 8 percent slopes—4 percent  
 Threelakes extremely gravelly loamy sand, 2 to 8 percent slopes—2 percent  
 Commski very gravelly fine sandy loam, 2 to 8 percent slopes—2 percent

### ***Component Description***

#### **lfteen and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from Limestone

Typical vegetation: Other shrubs, winterfat, Torrey ephedra, arid needlegrass, Mojave sage, Utah mortonia, spearleaf brickellia, other perennial forbs, other perennial grasses, bush muhly, desert needlegrass

#### **Typical profile:**

Surface rock fragments: About 30 percent gravel, 35 percent gravel

Layer 1—0 to 2 inches; extremely gravelly very fine sandy loam

Layer 2—2 to 15 inches; very fine sandy loam

Layer 3—15 to 36 inches; loam

Layer 4—36 to 60 inches; extremely gravelly fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB105NV—Bouldery limestone slope 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Wechech and similar soils**

Composition: 0 to 7 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other annual forbs, other perennial forbs, white bursage, other shrubs, creosotebush

Ecological site: R030XB019NV—Limy 3-5 P.Z.

#### **Vace and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Commski and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Creosotebush, shadscale, wolfberry, other shrubs, white bursage, other perennial forbs, Indian ricegrass

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

**Threelakes and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial grasses, big galleta, white burrobrush, other shrubs, other perennial forbs, creosotebush, bursage, baccharis

Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**500—Playas**

***Map Unit Setting***

MLRA: 30

Landscape: Bolson

***Composition***

Playas silty clay loam, 0 to 1 percent slopes—90 percent

Tipnat loamy sand, 0 to 4 percent slopes—5 percent

Hypoint gravelly loamy sand, 0 to 2 percent slopes—5 percent

***Component Description***

**Playas**

Landform: Playas

Slope: 0 to 1 percent

**Component Properties and Qualities**

Runoff: Negligible

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Present ponding: Frequent

**Interpretive Groups**

Nonirrigated land capability: 8w

Ecological site: None

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Hypoint and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, other perennial forbs, other shrubs, cattle saltbush

Ecological site: R030XY047NV—Alluvial plain

**Tipnat and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Alluvial flats

Typical vegetation: Other perennial forbs, other shrubs, Indian ricegrass, cattle saltbush

Ecological site: R030XY047NV—Alluvial plain

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**501—Dams, concrete*****Map Unit Setting***

MLRA: 30

Landscape: Canyonlands

Elevation: 558 to 1,200

Precipitation: 3 to 5 inches

Air temperature: 70 to 73 degrees Fahrenheit

Frost-free period: 300 to 350 days

***Composition***

Dams —100 percent

***Component Description*****Dams**

Landform: Canyons

**Component Properties and Qualities**

Runoff: Very high

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**504—Pits, quarry*****Map Unit Setting***

MLRA: 30

Landscape: Hills

***Composition***

Pits, Quarry —100 percent

***Component Description***

**Pits, quarry**

Landform: Hills

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**505—Pits, gravel**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

***Composition***

Pits, gravel extremely gravelly sand, 0 to 2 percent slopes—99 percent

Riverwash extremely gravelly sand, 8 to 15 percent slopes—1 percent

***Component Description***

**Pits, gravel**

Landform: Fan piedmonts

Slope: 0 to 2 percent

**Interpretive Groups**

Nonirrigated land capability: 8s

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Riverwash**

Composition: 0 to 1 percent

Slope: 8 to 15 percent

Landform: Channels

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**506—Pits-Dumps association**

***Map Unit Setting***

MLRA: 30

Landscape: Hills

***Composition***

Pits —50 percent  
Dumps —50 percent

***Component Description***

**Pits**

Landform: Hills

***Component Description***

**Dumps**

Landform: Hills

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
"Engineering" and "Soil Properties" sections

**508—Landfill**

***Map Unit Setting***

MLRA: 30  
Landscape: Fan piedmont

***Composition***

Dumps —100 percent

***Component Description***

**Dumps landfill**

Landform: Fan piedmonts

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
"Engineering" and "Soil Properties" sections

**510—Railroad association**

***Map Unit Setting***

MLRA: 30  
Landscape: Mountains  
Elevation: 2,490 to 4,530  
Precipitation: 5 to 7 inches  
Air temperature: 57 to 63 degrees Fahrenheit  
Frost-free period: 180 to 240 days

***Composition***

Railroad extremely stony sandy loam, 4 to 15 percent slopes—65 percent  
Railroad extremely stony sandy loam, 15 to 50 percent slopes—20 percent  
Typic Petrocalcids very gravelly fine sandy loam, 4 to 15 percent slopes—5 percent

Haleburu very cobbly sandy loam, 15 to 50 percent slopes—4 percent  
 Railroad extremely cobbly loam, 4 to 15 percent slopes—4 percent  
 Rubble land boulders, 0 to 99 percent slopes—2 percent

### ***Component Description***

#### **Railroad and similar soils**

Landform: Backslopes of strongly sloping basalt lava flows  
 Slope: 4 to 15 percent  
 Parent material: Influenced by calcareous loess, colluvium and/or residuum weathered from basalt  
 Typical vegetation: Winterfat, other shrubs, white bursage, Nevada ephedra, big galleta

#### **Typical profile:**

Surface rock fragments: About 15 percent cobbles, 15 percent stones, 35 percent gravel  
 Layer 1—0 to 3 inches; extremely stony sandy loam  
 Layer 2—3 to 11 inch; very gravelly fine sandy loam  
 Layer 3—11 to 34 inches; very gravelly fine sandy loam  
 Layer 4—34 to 44 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 30 to 39 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB069NV—Basaltic hill 5-7 P.Z.

### ***Component Description***

#### **Railroad steep and similar soils**

Landform: Backslopes of steep basalt lava flows  
 Slope: 15 to 50 percent  
 Parent material: Influenced by calcareous loess, colluvium and/or residuum weathered from basalt  
 Typical vegetation: Other annual forbs, other perennial forbs, winterfat, other shrubs, big galleta, Indian ricegrass, bush muhly

#### **Typical profile:**

Surface rock fragments: About 15 percent cobbles, 35 percent gravel, 15 percent stones  
 Layer 1—0 to 3 inches; extremely stony sandy loam  
 Layer 2—3 to 11 inch; very gravelly fine sandy loam  
 Layer 3—11 to 34 inches; very gravelly fine sandy loam  
 Layer 4—34 to 44 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 30 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB080NV—Stony loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Typic Petrocalcids and similar soils**

Composition: 0 to 5 percent

Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Petrocalcids

Slope: 4 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, white bursage, winterfat, other shrubs, Nevada ephedra

Ecological site: R030XB069NV—Basaltic hill 5-7 P.Z.

#### **Haleburu and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Backslopes of hills

Typical vegetation: Range ratany, creosotebush, other shrubs, white bursage, other perennial forbs, big galleta

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Railroad and similar soils**

Composition: 0 to 4 percent

Slope: 4 to 15 percent

Landform: Summits of lava flows

Typical vegetation: Big galleta, ephedra, winterfat, other shrubs, Anderson wolfberry, bush muhly

Ecological site: R030XB089NV—Stony loam 7-9 P.Z.

#### **Rubble land**

Composition: 0 to 2 percent

Slope: 0 to 99 percent

Landform: Talus slopes

Ecological site: None

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **520—Nolena-Rock outcrop association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 2,490 to 5,280

Precipitation: 5 to 7 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

### ***Composition***

Nolena extremely gravelly sandy loam, 30 to 75 percent slopes—50 percent

Rock outcrop, 30 to 75 percent slopes—35 percent

Newera very gravelly sandy loam, 8 to 30 percent slopes—8 percent

Cetrepas extremely stony sandy loam, 30 to 50 percent slopes—4 percent

Typic Calciargids very gravelly sandy loam, 4 to 15 percent slopes—3 percent

### ***Component Description***

#### **Nolena and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Colluvium and/or residuum weathered from granite

Typical vegetation: Blackbrush, other shrubs, other perennial forbs, desert needlegrass

#### **Typical profile:**

Surface rock fragments: About 15 percent subangular cobbles, 60 percent subangular gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 5 inches; extremely gravelly coarse sandy loam

Layer 3—5 to 11 inch; bedrock

Layer 4—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 4 to 14 inches Lithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.2 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB056NV—Shallow granitic slope 5-7 P.Z.

***Component Description*****Rock outcrop**

Landform: Cliffs

Slope: 30 to 75 percent

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Newera and similar soils**

Composition: 0 to 8 percent

Slope: 8 to 30 percent, north aspect

Landform: North facing backslopes of mountains and hills

Typical vegetation: Other shrubs, blackbrush, other perennial forbs, desert needlegrass

Ecological site: R030XB056NV—Shallow granitic slope 5-7 P.Z.

**Cetrepas and similar soils**

Composition: 0 to 4 percent

Slope: 30 to 50 percent, northeast aspect

Landform: Northeast facing backslopes of higher elevational mountains

Typical vegetation: Virgin River encelia, other perennial forbs, desert needlegrass, blackbrush, green ephedra, Mojave buckwheat, turbinella oak

Ecological site: R029XY129NV—Shallow granitic loam 10-12 P.Z.

**Typic Calciargids and similar soils**

Composition: 0 to 3 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Calciargids

Slope: 4 to 15 percent

Landform: Footslopes of fan remnants

Typical vegetation: Winterfat, other shrubs, blackbrush, Indian ricegrass, big galleta, other perennial grasses, other perennial forbs

Ecological site: R030XB107NV—Coarse gravelly loam 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**521—Nolena-Nipton association*****Map Unit Setting***

MLRA: 30

Landscape: Hills

Elevation: 3,220 to 4,560

Precipitation: 5 to 9 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

### ***Composition***

Nolena extremely gravelly sandy loam, 30 to 75 percent slopes—65 percent

Nipton extremely gravelly sandy loam, 15 to 50 percent slopes—20 percent

Meadview extremely gravelly sandy loam, 2 to 8 percent slopes—7 percent

Rock outcrop—3 percent

Typic Torriorthents extremely gravelly coarse sandy loam, 2 to 8 percent slopes—3 percent

Arizo family extremely gravelly coarse sandy loam, 2 to 4 percent slopes—2 percent

### ***Component Description***

#### **Nolena and similar soils**

Landform: Backslopes of of higher elevational hills

Slope: 30 to 75 percent

Parent material: Colluvium and/or residuum weathered from granite

Typical vegetation: Other shrubs, desert needlegrass, other perennial forbs, blackbrush

#### **Typical profile:**

Surface rock fragments: About 60 percent subangular gravel, 15 percent subangular cobbles

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 5 inches; extremely gravelly coarse sandy loam

Layer 3—5 to 11 inch; bedrock

Layer 4—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 4 to 14 inches Lithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.2 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB056NV—Shallow granitic slope 5-7 P.Z.

### ***Component Description***

#### **Nipton and similar soils**

Landform: South facing backslopes of hills

Slope: 15 to 50 percent, south aspect

Parent material: Colluvium and/or residuum weathered from metavolcanics

Typical vegetation: Bush muhly, other perennial forbs, ephedra, Mojave buckwheat, desert needlegrass, other shrubs, big galleta

**Typical profile:**

Surface rock fragments: About 3 percent stones, 25 percent cobbles, 55 percent gravel

Layer 1—0 to 1 inch; extremely gravelly sandy loam

Layer 2—1 to 5 inches; very gravelly sandy loam

Layer 3—5 to 15 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.3 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB071NV—Volcanic slope 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Meadview and similar soils**

Composition: 0 to 7 percent

Slope: 2 to 8 percent

Landform: Backslopes of fan remnants

Typical vegetation: Blackbrush, other perennial forbs, desert needlegrass, other shrubs

Ecological site: R030XB056NV—Shallow granitic slope 5-7 P.Z.

**Rock outcrop**

Composition: 0 to 3 percent

Landform: Cliffs

**Typic Torriorthents and similar soils**

Composition: 0 to 3 percent

Classification: Sandy-skeletal, mixed, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Hollyleaf bursage, range ratany, Anderson's wolfberry, other shrubs, bush muhly, big galleta, other perennial grasses, other perennial forbs, Mojave buckwheat, burrobrush

Ecological site: R030XB051NV—Upland wash

**Arizo family moderately deep and similar soils**

Composition: 0 to 2 percent

Classification: Sandy-skeletal, mixed, thermic Typic Torriorthents

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: White burrobrush, desert rabbitbrush, creosotebush, other perennial forbs, Fremont dalea, big galleta, other perennial grasses, other shrubs, catclaw

Ecological site: R030XB132NV—Gravelly wash 3-5 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **522—Nolena-Meadview association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Hills

Elevation: 2,890 to 4,400

Precipitation: 5 to 7 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

### ***Composition***

Nolena extremely gravelly sandy loam, 4 to 15 percent slopes—45 percent

Meadview extremely gravelly sandy loam, 4 to 15 percent slopes—40 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—6 percent

Typic Haplocambids extremely gravelly coarse sandy loam, 2 to 8 percent slopes—5 percent

Goldbutte extremely gravelly coarse sandy loam, 8 to 30 percent slopes—3 percent

Rock outcrop—1 percent

### ***Component Description***

#### **Nolena and similar soils**

Landform: Backslopes of hills

Slope: 4 to 15 percent

Parent material: Colluvium and/or residuum weathered from granite

Typical vegetation: Other perennial forbs, other shrubs, blackbrush, desert needlegrass

#### **Typical profile:**

Surface rock fragments: About 15 percent subangular cobbles, 60 percent subangular gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 5 inches; extremely gravelly coarse sandy loam

Layer 3—5 to 11 inch; bedrock

Layer 4—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 4 to 14 inches Lithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.2 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 8  
 Ecological site: R030XB056NV—Shallow granitic slope 5-7 P.Z.

### ***Component Description***

#### **Meadview and similar soils**

Landform: Backslopes of fan remnants  
 Slope: 4 to 15 percent  
 Parent material: Alluvium derived from granite  
 Typical vegetation: Desert needlegrass, other shrubs, other perennial forbs, blackbrush

#### **Typical profile:**

Surface rock fragments: About 1 percent cobbles, 1 percent stones, 70 percent gravel  
 Layer 1—0 to 2 inches; extremely gravelly sandy loam  
 Layer 2—2 to 25 inches; very gravelly sandy loam  
 Layer 3—25 to 60 inches; stratified extremely gravelly coarse sand to very gravelly loamy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

### **Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 4 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7c  
 Ecological site: R030XB056NV—Shallow granitic slope 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Arizo and similar soils**

Composition: 0 to 6 percent  
 Slope: 2 to 8 percent  
 Landform: Drainageways  
 Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, catclaw, desert rabbitbrush, creosotebush, Fremont dalea, other shrubs, white burrobrush  
 Ecological site: R030XB132NV—Gravelly wash 3-5 P.Z.

**Typic Haplocambids and similar soils**

Composition: 0 to 5 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Big galleta, blackbrush, other shrubs, bush muhly, other perennial forbs, desert needlegrass

Ecological site: R030XB057NV—Shallow granitic loam 5-7 P.Z.

**Goldbutte and similar soils**

Composition: 0 to 3 percent

Slope: 8 to 30 percent, north aspect

Landform: North facing backslopes of hills

Typical vegetation: Blackbrush, other perennial forbs, desert needlegrass, other shrubs, triangle goldeneye

Ecological site: R029XY144NV—Shallow granitic slope 8-10 P.Z.

**Rock outcrop**

Composition: 0 to 1 percent

Landform: Cliffs

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**523—Nolena association*****Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 2,230 to 3,740

Precipitation: 5 to 7 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

***Composition***

Nolena extremely gravelly sandy loam, 15 to 50 percent slopes—50 percent

Nolena extremely gravelly sandy loam, 15 to 50 percent slopes—35 percent

Azureridge very gravelly sandy loam, 15 to 50 percent slopes—9 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—4 percent

Nickel very gravelly sandy loam, 4 to 15 percent slopes—2 percent

***Component Description*****Nolena moist and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from granite

Typical vegetation: Desert needlegrass, bush muhly, other shrubs, blackbrush, other perennial forbs, big galleta

**Typical profile:**

Surface rock fragments: About 60 percent subangular gravel, 15 percent subangular cobbles

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 5 inches; extremely gravelly coarse sandy loam

Layer 3—5 to 11 inch; bedrock

Layer 4—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 4 to 14 inches Lithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.2 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB057NV—Shallow granitic loam 5-7 P.Z.

***Component Description*****Nolena and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from granite

Typical vegetation: Desert needlegrass, other perennial forbs, other shrubs, blackbrush

**Typical profile:**

Surface rock fragments: About 60 percent subangular gravel, 15 percent subangular cobbles

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 5 inches; extremely gravelly coarse sandy loam

Layer 3—5 to 11 inch; bedrock

Layer 4—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 4 to 14 inches Lithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.2 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB056NV—Shallow granitic slope 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Azureridge and similar soils**

Composition: 0 to 9 percent

Slope: 15 to 50 percent

Landform: Backslopes of rock pediments

Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Bursage, baccharis, white burrobrush, creosotebush, other shrubs, other perennial forbs, big galleta, other perennial grasses

Ecological site: R030XB028NV—Valley wash

#### **Nickel and similar soils**

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Footslopes of rock pediments

Typical vegetation: Spiny menodora, creosotebush, white bursage, other perennial forbs, big galleta, other shrubs, desert needlegrass, bush muhly

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **530—Seanna-Botleg association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 1,800 to 4,000

Precipitation: 5 to 7 inches

Air temperature: 64 to 70 degrees Fahrenheit

Frost-free period: 230 to 300 days

### ***Composition***

Seanna extremely gravelly sandy loam, 15 to 50 percent slopes—55 percent

Botleg extremely gravelly loam, 4 to 15 percent slopes—30 percent

Rock outcrop—7 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—5 percent

Haleburu extremely gravelly sandy loam, 15 to 50 percent slopes—3 percent

### ***Component Description***

#### **Seanna and similar soils**

Landform: South facing backslopes of hills and mountains

Slope: 15 to 50 percent, south aspect

Parent material: Residuum weathered from granite

Typical vegetation: Other perennial forbs, other perennial grasses, Mojave buckwheat, creosotebush, white bursage, desertsenna, Nevada ephedra, big galleta, range ratany, spiny menodora, other shrubs

#### **Typical profile:**

Surface rock fragments: About 85 percent gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 10 inches; very gravelly sandy loam

Layer 3—10 to 20 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 7 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB087NV—Granitic slope 5-7 P.Z.

### ***Component Description***

#### **Botleg and similar soils**

Landform: Backslopes of hills

Slope: 4 to 15 percent

Parent material: Residuum weathered from granite

Typical vegetation: Desertsenna, Nevada ephedra, white bursage, big galleta, range ratany, other shrubs, desert aster, other perennial forbs, other perennial grasses, Mojave buckwheat, creosotebush

#### **Typical profile:**

Surface rock fragments: About 65 percent gravel, 3 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly loam

Layer 2—2 to 10 inches; very gravelly sandy clay loam

Layer 3—10 to 20 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 6 to 10 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB062NV—Granitic slope 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Rock outcrop**

Composition: 0 to 7 percent

Landform: Cliffs

**Arizo and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Creosotebush, big galleta, white burrobrush, other perennial grasses, other perennial forbs, other shrubs, baccharis, bursage

Ecological site: R030XB028NV—Valley wash

**Haleburu and similar soils**

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Backslopes of hills

Typical vegetation: Other annual forbs, white bursage, creosotebush, other shrubs

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**531—Seanna-Rock outcrop association*****Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 2,620 to 3,940

Precipitation: 5 to 7 inches

Air temperature: 64 to 69 degrees Fahrenheit

Frost-free period: 240 to 300 days

**Composition**

Seanna extremely gravelly sandy loam, 30 to 50 percent slopes—65 percent  
 Rock outcrop—25 percent  
 Lithic Torriorthents extremely gravelly sandy loam, 15 to 50 percent slopes—10 percent

**Component Description****Seanna and similar soils**

Landform: Backslopes of hills and mountains  
 Slope: 30 to 50 percent  
 Parent material: Residuum weathered from granite  
 Typical vegetation: Range ratany, bush muhly, desert needlegrass, other perennial forbs, white bursage, Virgin River encelia, Nevada ephedra, Mojave buckwheat, other shrubs

**Typical profile:**

Surface rock fragments: About 85 percent gravel  
 Layer 1—0 to 2 inches; extremely gravelly sandy loam  
 Layer 2—2 to 10 inches; very gravelly sandy loam  
 Layer 3—10 to 20 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Paralithic bedrock: 7 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.6 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB008NV—Shallow granitic hill 5-7 P.Z.

**Component Description****Rock outcrop**

Landform: Ridges

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

**Contrasting Inclusions****Lithic Torriorthents and similar soils**

Composition: 0 to 10 percent  
 Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents  
 Slope: 15 to 50 percent  
 Landform: Mountains

Typical vegetation: Other perennial forbs, white bursage, bush muhly, Virgin River encelia, Nevada ephedra, Mojave buckwheat, range ratany, other shrubs, desert needlegrass

Ecological site: R030XB008NV—Shallow granitic hill 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **532—Seanna-Goldroad-Rock outcrop association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 1,050 to 4,000

Precipitation: 3 to 7 inches

Air temperature: 64 to 78 degrees Fahrenheit

Frost-free period: 240 to 360 days

### ***Composition***

Seanna extremely cobbly coarse sandy loam, 30 to 50 percent slopes—40 percent

Goldroad extremely stony sandy loam, 15 to 50 percent slopes—30 percent

Rock outcrop, 30 to 75 percent slopes—15 percent

Hiller extremely cobbly sandy loam, 8 to 30 percent slopes—6 percent

Typic Haplargids extremely gravelly sandy loam, 30 to 50 percent slopes—4 percent

Goldroad extremely cobbly sandy loam, 30 to 75 percent slopes—2 percent

Nolena extremely stony sandy loam, 30 to 50 percent slopes—2 percent

Argidic Argidurids very gravelly loamy coarse sand, 4 to 15 percent slopes—1 percent

### ***Component Description***

#### **Seanna and similar soils**

Landform: Backslopes of hills and mountains

Slope: 30 to 50 percent

Parent material: Residuum weathered from granite

Typical vegetation: Other shrubs, desert needlegrass, bush muhly, other perennial forbs, white bursage, Virgin River encelia, Nevada ephedra, Mojave buckwheat, range ratany

#### **Typical profile:**

Surface rock fragments: About 35 percent gravel, 25 percent cobbles, 5 percent stones

Layer 1—0 to 2 inches; extremely cobbly coarse sandy loam

Layer 2—2 to 10 inches; very gravelly sandy loam

Layer 3—10 to 20 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 7 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.6 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB008NV—Shallow granitic hill 5-7 P.Z.

#### ***Component Description***

##### **Goldroad and similar soils**

Landform: South facing backslopes of mountains  
 Slope: 15 to 50 percent, south aspect  
 Parent material: Colluvium and/or residuum weathered from granite  
 Typical vegetation: Mojave buckwheat, other perennial forbs, white bursage, white brittlebush, triangle goldeneye, range ratany, other shrubs

##### **Typical profile:**

Surface rock fragments: About 70 percent gravel, 10 percent cobbles  
 Layer 1—0 to 1 inch; extremely stony sandy loam  
 Layer 2—1 to 5 inches; extremely gravelly coarse sandy loam  
 Layer 3—5 to 15 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 10 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.2 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB016NV—Granitic hill 3-5 P.Z.

#### ***Component Description***

##### **Rock outcrop**

Landform: Cliffs  
 Slope: 30 to 75 percent

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Hiller and similar soils**

Composition: 0 to 6 percent  
 Slope: 8 to 30 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on backslopes of upper elevation ballenas  
 Typical vegetation: White brittlebush, white bursage, other perennial grasses,  
 creosotebush, other shrubs, other perennial forbs  
 Ecological site: R030XB099NV—Gravelly ridge 5-7 P.Z.

**Typic Haplargids and similar soils**

Composition: 0 to 4 percent  
 Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids  
 Slope: 30 to 50 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Creosotebush, range ratany, white bursage, other shrubs, big  
 galleta, other perennial forbs  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Goldroad and similar soils**

Composition: 0 to 2 percent  
 Slope: 30 to 75 percent, southwest to southeast aspects  
 Landform: Southwest to southeast aspects on mountains  
 Typical vegetation: Desert globemallow, white brittlebush, creosotebush, other shrubs,  
 other perennial grasses  
 Ecological site: R030XB077NV—Steep south slope

**Nolena and similar soils**

Composition: 0 to 2 percent  
 Slope: 30 to 50 percent, southeast aspect  
 Landform: Southeast facing backslopes of mountains  
 Typical vegetation: Other shrubs, blackbrush, other perennial forbs, desert  
 needlegrass  
 Ecological site: R030XB056NV—Shallow granitic slope 5-7 P.Z.

**Argidic Argidurids and similar soils**

Composition: 0 to 1 percent  
 Slope: 4 to 15 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: White bursage, bush muhly, big galleta, creosotebush, Indian  
 ricegrass, other shrubs, other perennial grasses, other perennial forbs, winterfat,  
 range ratany, spiny hopsage, Nevada ephedra  
 Ecological site: R030XB043NV—Claypan 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and  
 associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

**535—Blackmesa-Sunrock association**

***Map Unit Setting***

MLRA: 30  
 Landscape: Plateau  
 Elevation: 1,310 to 2,230  
 Precipitation: 3 to 7 inches

Air temperature: 70 to 74 degrees Fahrenheit  
 Frost-free period: 280 to 360 days

### ***Composition***

Blackmesa gravelly fine sandy loam, 4 to 15 percent slopes—50 percent  
 Sunrock extremely stony sandy loam, 15 to 50 percent slopes—40 percent  
 Sunrock extremely stony sandy loam, 50 to 75 percent slopes—7 percent  
 Rock outcrop, 30 to 75 percent slopes—3 percent

### ***Component Description***

#### **Blackmesa and similar soils**

Landform: Summits of mesas  
 Slope: 4 to 15 percent  
 Parent material: Loess over residuum weathered from basalt  
 Typical vegetation: Other perennial grasses, other annual forbs, other perennial forbs,  
 white bursage, range ratany, creosotebush, other shrubs, big galleta

#### **Typical profile:**

Surface rock fragments: About 20 percent gravel, 20 percent cobbles, 40 percent  
 gravel  
 Layer 1—0 to 2 inches; gravelly fine sandy loam  
 Layer 2—2 to 8 inches; gravelly fine sandy loam  
 Layer 3—8 to 13 inches; gravelly fine sandy loam  
 Layer 4—13 to 53 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
 information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Duripan: 10 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
 Moderately rapid)  
 Available water capacity: About 1.4 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Sunrock and similar soils**

Landform: Backslopes of hills and mountains  
 Slope: 15 to 50 percent  
 Parent material: Colluvium and/or residuum weathered from andesite  
 Typical vegetation: Other annual forbs, white bursage, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 20 percent stones, 20 percent cobbles, 20 percent  
 gravel  
 Layer 1—0 to 2 inches; extremely stony sandy loam  
 Layer 2—2 to 9 inches; very gravelly fine sandy loam

Layer 3—9 to 19 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Sunrock and similar soils**

Composition: 0 to 7 percent

Slope: 50 to 75 percent, southeast to southwest aspects

Landform: Southeast to southwest aspects on backslopes of hills and mountains

Typical vegetation: Other shrubs, creosotebush, white brittlebush, other perennial grasses, desert globemallow

Ecological site: R030XB077NV—Steep south slope

#### **Rock outcrop**

Composition: 0 to 3 percent

Slope: 30 to 75 percent

Landform: Cliffs

Ecological site: None

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **540—Sunrock-Rock outcrop association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 623 to 2,690

Precipitation: 3 to 7 inches

Air temperature: 70 to 73 degrees Fahrenheit

Frost-free period: 300 to 360 days

**Composition**

Sunrock extremely stony sandy loam, 30 to 75 percent slopes—65 percent  
 Rock outcrop, 30 to 75 percent slopes—25 percent  
 Sunrock extremely stony sandy loam, 30 to 75 percent slopes—5 percent  
 Haleburu extremely gravelly sandy loam, 30 to 75 percent slopes—3 percent  
 Huevi extremely stony sandy loam, 15 to 30 percent slopes—2 percent

**Component Description****Sunrock and similar soils**

Landform: Southeast to southwest aspects on backslopes of hills and mountains  
 Slope: 30 to 75 percent, southeast to southwest aspects  
 Parent material: Colluvium and/or residuum weathered from volcanic rock  
 Typical vegetation: Other shrubs, white brittlebush, desert globemallow, other perennial grasses, creosotebush

**Typical profile:**

Surface rock fragments: About 20 percent cobbles, 20 percent gravel, 20 percent stones  
 Layer 1—0 to 2 inches; extremely stony sandy loam  
 Layer 2—2 to 9 inches; very gravelly fine sandy loam  
 Layer 3—9 to 19 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 20 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.6 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB077NV—Steep south slope

**Component Description****Rock outcrop**

Landform: Cliffs  
 Slope: 30 to 75 percent

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

**Contrasting Inclusions****Sunrock and similar soils**

Composition: 0 to 5 percent  
 Slope: 30 to 75 percent  
 Landform: Backslopes of hills and hills  
 Typical vegetation: Other shrubs, creosotebush, white bursage, other annual forbs  
 Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

**Haleburu and similar soils**

Composition: 0 to 3 percent

Slope: 30 to 75 percent

Landform: Backslopes of hills

Typical vegetation: Big galleta, triangle goldeneye, other perennial grasses, other perennial forbs, white bursage, white brittlebush, Mojave buckwheat, other shrubs, creosotebush

Ecological site: R030XB072NV—Stony slope 5-7 P.Z.

**Huevi and similar soils**

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, other perennial grasses, other perennial forbs, white bursage, white brittlebush, creosotebush

Ecological site: R030XB099NV—Gravelly ridge 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**541—Sunrock-Haleburu-Rock outcrop association*****Map Unit Setting***

MLRA: 30

Landscape:

Elevation: 820 to 3,400

Precipitation: 3 to 7 inches

Air temperature: 61 to 73 degrees Fahrenheit

Frost-free period: 240 to 360 days

***Composition***

Sunrock extremely stony sandy loam, 30 to 75 percent slopes—40 percent

Haleburu extremely stony sandy loam, 30 to 75 percent slopes—25 percent

Rock outcrop, 30 to 75 percent slopes—20 percent

Sunrock extremely stony sandy loam, 30 to 50 percent slopes—6 percent

Huevi extremely cobbly sandy loam, 8 to 30 percent slopes—4 percent

Haleburu very stony sandy loam, 30 to 75 percent slopes—3 percent

Haleburu extremely stony sandy loam, 30 to 50 percent slopes—2 percent

***Component Description*****Sunrock and similar soils**

Landform: Southeast to southwest aspects on backslopes of hills and mountains

Slope: 30 to 75 percent, southeast to southwest aspects

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Other shrubs, creosotebush, other perennial grasses, desert globemallow, white brittlebush

**Typical profile:**

Surface rock fragments: About 20 percent gravel, 20 percent stones, 20 percent cobbles

Layer 1—0 to 2 inches; extremely stony sandy loam  
 Layer 2—2 to 9 inches; very gravelly fine sandy loam  
 Layer 3—9 to 19 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 20 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.6 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB077NV—Steep south slope

#### ***Component Description***

##### **Haleburu and similar soils**

Landform: Backslopes of mountains  
 Slope: 30 to 75 percent  
 Parent material: Colluvium and/or residuum weathered from volcanic rock  
 Typical vegetation: Other perennial forbs, big galleta, range ratany, creosotebush, white bursage, other shrubs

#### **Typical profile:**

Surface rock fragments: About 25 percent gravel, 30 percent stones, 20 percent cobbles  
 Layer 1—0 to 2 inches; extremely stony sandy loam  
 Layer 2—2 to 11 inch; very gravelly sandy loam  
 Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.6 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Component Description***

#### **Rock outcrop**

Landform: Cliffs

Slope: 30 to 75 percent

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Sunrock and similar soils**

Composition: 0 to 6 percent

Slope: 30 to 50 percent, north to east aspects

Landform: North to east aspects on backslopes of mountains

Typical vegetation: Mojave buckwheat, triangle goldeneye, other perennial forbs, white bursage, white brittlebush, range ratany, other shrubs

Ecological site: R030XB016NV—Granitic hill 3-5 P.Z.

#### **Huevi and similar soils**

Composition: 0 to 4 percent

Slope: 8 to 30 percent

Landform: Toeslopes of alluvial fans

Typical vegetation: Creosotebush, other shrubs, white brittlebush, white bursage, other perennial forbs, other perennial grasses

Ecological site: R030XB099NV—Gravelly ridge 5-7 P.Z.

#### **Haleburu and similar soils**

Composition: 0 to 3 percent

Slope: 30 to 75 percent, north aspect

Landform: North facing backslopes of mountains

Typical vegetation: White brittlebush, white bursage, other perennial forbs, other perennial grasses, big galleta, Mojave buckwheat, triangle goldeneye, other shrubs, creosotebush

Ecological site: R030XB072NV—Stony slope 5-7 P.Z.

#### **Haleburu and similar soils**

Composition: 0 to 2 percent

Slope: 30 to 50 percent, south aspect

Landform: South facing backslopes of mountains

Typical vegetation: Other shrubs, white bursage, other annual forbs, creosotebush

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **542—Sunrock-Callville-Badland association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 1,210 to 2,300

Precipitation: 3 to 5 inches  
 Air temperature: 70 to 73 degrees Fahrenheit  
 Frost-free period: 300 to 360 days

### ***Composition***

Sunrock very gravelly fine sandy loam, 15 to 50 percent slopes—45 percent  
 Callville very gravelly fine sandy loam, 15 to 30 percent slopes—25 percent  
 Badland, 50 to 75 percent slopes—15 percent  
 Guardian gypsiferous fine sandy loam, 8 to 30 percent slopes—7 percent  
 Gypwash extremely gravelly fine sandy loam, 2 to 8 percent slopes—4 percent  
 Carrizo very gravelly sand, 2 to 8 percent slopes—2 percent  
 Rock outcrop—1 percent  
 Duric Petroargids gravelly coarse sandy loam, 8 to 15 percent slopes—1 percent

### ***Component Description***

#### **Sunrock and similar soils**

Landform: Backslopes of hills and mountains  
 Slope: 15 to 50 percent  
 Parent material: Colluvium and/or residuum weathered from andesite  
 Typical vegetation: Other annual forbs, other shrubs, creosotebush, white bursage

#### **Typical profile:**

Surface rock fragments: About 20 percent stones, 20 percent cobbles, 20 percent gravel  
 Layer 1—0 to 3 inches; very gravelly fine sandy loam  
 Layer 2—3 to 9 inches; very gravelly fine sandy loam  
 Layer 3—9 to 19 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 20 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.6 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

### ***Component Description***

#### **Callville and similar soils**

Landform: Backslopes of hills  
 Slope: 15 to 30 percent  
 Parent material: Residuum weathered from sandstone and siltstone  
 Typical vegetation: Other perennial forbs, desertholly saltbush, Torrey ephedra, creosotebush, Parry's sandpaperplant, Fremont dalea, other shrubs

**Typical profile:**

Surface rock fragments: About 45 percent gravel  
 Layer 1—0 to 2 inches; very gravelly fine sandy loam  
 Layer 2—2 to 25 inches; gravelly gypsiferous fine sandy loam  
 Layer 3—25 to 43 inches; bedrock  
 Layer 4—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High  
 Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches Lithic bedrock: 39 to 59 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB026NV—Gypsic loam 3-5 P.Z.

***Component Description*****Badland**

Landform: Backslopes of hills  
 Slope: 50 to 75 percent

**Component Properties and Qualities**

Runoff: Very high  
 Present ponding: None

**Interpretive Groups**

Nonirrigated land capability: 8e

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Guardian and similar soils**

Composition: 0 to 7 percent  
 Slope: 8 to 30 percent  
 Landform: Footslopes of hills  
 Typical vegetation: Silverleaf sunray, Parry's sandpaperplant, pygmycedar, Fremont dalea, other shrubs, shrubby tiqullia  
 Ecological site: R030XB118NV—Gypsic hill 3-5 P.Z.

**Gypwash and similar soils**

Composition: 0 to 4 percent  
 Slope: 2 to 8 percent  
 Landform: Summits of fan remnants

Typical vegetation: Other annual forbs, other perennial forbs, white bursage, creosotebush, other shrubs  
 Ecological site: R030XB019NV—Limy 3-5 P.Z.

**Carrizo and similar soils**

Composition: 0 to 2 percent  
 Slope: 2 to 8 percent  
 Landform: Drainageways  
 Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs  
 Ecological site: R030XB028NV—Valley wash

**Duric Petroargids and similar soils**

Composition: 0 to 1 percent  
 Classification: Fine-loamy, mixed, superactive, hyperthermic Duric Petroargids  
 Slope: 8 to 15 percent  
 Landform: Fan remnants  
 Typical vegetation: Other perennial forbs, white bursage, other shrubs, creosotebush, other annual forbs  
 Ecological site: R030XB019NV—Limy 3-5 P.Z.

**Rock outcrop**

Composition: 0 to 1 percent  
 Landform: Cliffs

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

**550—Cheme-Riverbend-Carrizo association**

***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 853 to 3,020  
 Precipitation: 3 to 5 inches  
 Air temperature: 69 to 77 degrees Fahrenheit  
 Frost-free period: 300 to 360 days

***Composition***

Cheme extremely gravelly sandy loam, 4 to 15 percent slopes—60 percent  
 Riverbend extremely gravelly coarse sandy loam, 2 to 8 percent slopes—25 percent  
 Carrizo very cobbly coarse sand, 2 to 8 percent slopes—10 percent  
 Huevi extremely gravelly sandy loam, 15 to 50 percent slopes—2 percent  
 Huevi extremely gravelly sandy loam, 15 to 50 percent slopes—2 percent  
 Typic Haplargids extremely gravelly loam, 2 to 8 percent slopes—1 percent

***Component Description***

**Cheme and similar soils**

Landform: Summits of fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from fanglomerate

Typical vegetation: Other shrubs, creosotebush, white bursage, other perennial forbs,  
other annual forbs

**Typical profile:**

Surface rock fragments: About 15 percent cobbles, 65 percent gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 6 inches; very gravelly loam

Layer 3—6 to 18 inches; extremely gravelly sandy loam

Layer 4—18 to 42 inches; cemented material

Layer 5—42 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 7 to 20 inches Paralitthic bedrock: 30 to 50 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

***Component Description***

**Riverbend and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: White bursage, creosotebush, other perennial forbs, other shrubs,  
other annual forbs

**Typical profile:**

Surface rock fragments: About 3 percent cobbles, 91 percent gravel

Layer 1—0 to 3 inches; extremely gravelly coarse sandy loam

Layer 2—3 to 10 inches; very gravelly coarse sand

Layer 3—10 to 60 inches; stratified extremely gravelly coarse sand to very gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None  
 Present ponding: None  
 Natural drainage class: Excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB019NV—Limy 3-5 P.Z.

### ***Component Description***

#### **Carrizo and similar soils**

Landform: Inset fans  
 Slope: 2 to 8 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Other perennial grasses, white brittlebush, sweetbrush, white bursage, big galleta, other perennial forbs, other shrubs, creosotebush

#### **Typical profile:**

Surface rock fragments: About 20 percent gravel, 2 percent stones, 20 percent cobbles  
 Layer 1—0 to 7 inches; very cobbly coarse sand  
 Layer 2—7 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Negligible  
 Saturated hydraulic conductivity class (root zone): Very high, (Permeability class: Very rapid)  
 Available water capacity: About 2 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB098NV—Gravelly outwash

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Huevi and similar soils**

Composition: 0 to 2 percent  
 Slope: 15 to 50 percent  
 Landform: Fan remnants  
 Typical vegetation: Creosotebush, other shrubs, white bursage, other perennial forbs, other perennial grasses, white brittlebush  
 Ecological site: R030XB099NV—Gravelly ridge 5-7 P.Z.

#### **Typic Haplargids and similar soils**

Composition: 0 to 1 percent  
 Classification: Fine-loamy, mixed, superactive, hyperthermic Typic Haplargids

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other annual forbs, other perennial forbs, creosotebush, desertsenna, other perennial grasses, other shrubs

Ecological site: R030XB078NV—Barren hill 3-5 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **551—Cheme-Carrizo-Huevi association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,540 to 3,020

Precipitation: 3 to 7 inches

Air temperature: 69 to 77 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Cheme extremely gravelly sandy loam, 4 to 15 percent slopes—40 percent

Carrizo very cobbly coarse sand, 2 to 8 percent slopes—25 percent

Huevi extremely gravelly sandy loam, 4 to 15 percent slopes—20 percent

Riverbend gravelly loamy sand, 2 to 4 percent slopes—6 percent

Carrizo extremely gravelly coarse sand, 2 to 4 percent slopes—5 percent

Typic Torriorthents very gravelly sandy loam, 2 to 8 percent slopes—4 percent

### ***Component Description***

#### **Cheme and similar soils**

Landform: Summits of fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from fanglomerate

Typical vegetation: White bursage, big galleta, other perennial forbs, range ratany, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 65 percent gravel, 15 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 6 inches; very gravelly loam

Layer 3—6 to 18 inches; extremely gravelly sandy loam

Layer 4—18 to 42 inches; cemented material

Layer 5—42 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 7 to 20 inches Paralithic bedrock: 30 to 50 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.9 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### ***Component Description***

##### **Carrizo and similar soils**

Landform: Inset fans  
 Slope: 2 to 8 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Other shrubs, creosotebush, big galleta, other perennial grasses, other perennial forbs, white bursage, sweetbrush, white brittlebush

##### **Typical profile:**

Surface rock fragments: About 20 percent gravel, 20 percent cobbles, 2 percent stones  
 Layer 1—0 to 7 inches; very cobbly coarse sand  
 Layer 2—7 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

##### **Component Properties and Qualities**

Runoff: Negligible  
 Saturated hydraulic conductivity class (root zone): Very high, (Permeability class: Very rapid)  
 Available water capacity: About 2 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB098NV—Gravelly outwash

#### ***Component Description***

##### **Huevi and similar soils**

Landform: Backslopes of fan remnants  
 Slope: 4 to 15 percent  
 Parent material: Gravelly alluvium  
 Typical vegetation: Other perennial forbs, other perennial grasses, white bursage, white brittlebush, creosotebush, other shrubs

##### **Typical profile:**

Surface rock fragments: About 60 percent gravel, 15 percent cobbles  
 Layer 1—0 to 5 inches; extremely gravelly sandy loam  
 Layer 2—5 to 18 inches; very gravelly sandy loam

Layer 3—18 to 60 inches; extremely cobbly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB099NV—Gravelly ridge 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Riverbend rarely flooded and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: Range ratany, other shrubs, other perennial forbs, other annual forbs, other perennial grasses, big galleta, creosotebush, white bursage

Ecological site: R030XB005NV—Limy 5-7 P.Z.

##### **Carrizo and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Baccharis, other perennial forbs, other perennial grasses, big galleta, bursage, white burrobrush, creosotebush, other shrubs

Ecological site: R030XB028NV—Valley wash

##### **Typic Torriorthents and similar soils**

Composition: 0 to 4 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Fan aprons

Typical vegetation: Other perennial forbs, other shrubs, creosotebush, range ratany, white bursage, other annual forbs, other perennial grasses, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**552—Cheme-Huevi association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,200 to 2,310

Precipitation: 3 to 7 inches

Air temperature: 70 to 76 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Cheme extremely gravelly sandy loam, 2 to 8 percent slopes—50 percent

Huevi extremely gravelly sandy loam, 8 to 30 percent slopes—20 percent

Huevi very gravelly sandy loam, 8 to 30 percent slopes—15 percent

Riverbend extremely gravelly coarse sandy loam, 2 to 8 percent slopes—8 percent

Carrizo very cobbly coarse sand, 2 to 8 percent slopes—3 percent

Hiller extremely gravelly sandy loam, 15 to 50 percent slopes—3 percent

Rock outcrop—1 percent

***Component Description*****Cheme and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from fanglomerate

Typical vegetation: Other annual forbs, other perennial forbs, other shrubs, creosotebush, white bursage, other perennial grasses, big galleta, range ratany

**Typical profile:**

Surface rock fragments: About 15 percent cobbles, 65 percent gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 6 inches; very gravelly loam

Layer 3—6 to 18 inches; extremely gravelly sandy loam

Layer 4—18 to 42 inches; cemented material

Layer 5—42 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 7 to 20 inches Paralitthic bedrock: 30 to 50 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Huevi dry and similar soils**

Landform: Backslopes of fan remnants

Slope: 8 to 30 percent

Parent material: Mixed gravelly alluvium

Typical vegetation: Other shrubs, other annual forbs, creosotebush, white bursage

#### **Typical profile:**

Surface rock fragments: About 15 percent cobbles, 60 percent gravel

Layer 1—0 to 5 inches; extremely gravelly sandy loam

Layer 2—5 to 18 inches; very gravelly sandy loam

Layer 3—18 to 60 inches; extremely cobbly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

### ***Component Description***

#### **Huevi and similar soils**

Landform: Backslopes of fan remnants

Slope: 8 to 30 percent

Parent material: Mixed gravelly alluvium

Typical vegetation: Big galleta, creosotebush, other perennial forbs, white bursage, range ratany, other shrubs

#### **Typical profile:**

Surface rock fragments: About 60 percent gravel, 15 percent cobbles

Layer 1—0 to 5 inches; very gravelly sandy loam

Layer 2—5 to 18 inches; very gravelly sandy loam

Layer 3—18 to 60 inches; extremely cobbly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Riverbend rarely flooded and similar soils**

Composition: 0 to 8 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Carrizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, baccharis, white burrobrush, creosotebush, other shrubs, bursage

Ecological site: R030XB028NV—Valley wash

**Hiller and similar soils**

Composition: 0 to 3 percent

Slope: 15 to 50 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on backslopes of upper elevation ballenas

Typical vegetation: White bursage, other perennial forbs, other shrubs, creosotebush, range ratany, big galleta

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Rock outcrop**

Composition: 0 to 1 percent

Landform: Cliffs

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**560—Rositas-Riverbend association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 558 to 1,640

Precipitation: 3 to 5 inches

Air temperature: 70 to 76 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Rositas fine sand, 8 to 30 percent slopes—45 percent  
 Rositas gravelly fine sand, 4 to 15 percent slopes—30 percent  
 Riverbend gravelly loamy sand, 4 to 15 percent slopes—15 percent  
 Rock outcrop, 30 to 75 percent slopes—5 percent  
 Carrizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—3 percent  
 Huevi extremely gravelly sandy loam, 8 to 30 percent slopes—2 percent

### ***Component Description***

#### **Rositas and similar soils**

Landform: Sand sheets  
 Slope: 8 to 30 percent  
 Parent material: Eolian sands  
 Typical vegetation: Other perennial forbs, big galleta, Indian ricegrass, white bursage, range ratany, winterfat, other shrubs

#### **Typical profile:**

Surface rock fragments: About 5 percent gravel  
 Layer 1—0 to 5 inches; fine sand  
 Layer 2—5 to 60 inches; sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)  
 Available water capacity: About 4 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB004NV—Sandy 5-7 P.Z.

### ***Component Description***

#### **Rositas gravelly surface and similar soils**

Landform: Sand sheets  
 Slope: 4 to 15 percent  
 Parent material: Eolian sands  
 Typical vegetation: Palmer coldenia, other perennial grasses, big galleta, white bursage, other shrubs

#### **Typical profile:**

Surface rock fragments: About 5 percent gravel  
 Layer 1—0 to 5 inches; gravelly fine sand  
 Layer 2—5 to 60 inches; sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)  
 Available water capacity: About 4 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB096NV—Gravelly sand 3-5 P.Z.

#### ***Component Description***

##### **Riverbend rarely flooded and similar soils**

Landform: Summits of fan remnants  
 Slope: 4 to 15 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Big galleta, other annual forbs, other perennial forbs, range ratany, other shrubs, other perennial grasses, creosotebush, white bursage

##### **Typical profile:**

Surface rock fragments: About 3 percent cobbles, 91 percent gravel  
 Layer 1—0 to 7 inches; gravelly loamy sand  
 Layer 2—7 to 60 inches; stratified extremely gravelly coarse sand to very gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)  
 Available water capacity: About 2 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Rock outcrop**

Composition: 0 to 5 percent  
 Slope: 30 to 75 percent  
 Landform: Cliffs

##### **Carrizo and similar soils**

Composition: 0 to 3 percent  
 Slope: 2 to 8 percent  
 Landform: Fan aprons  
 Typical vegetation: Other annual forbs, other shrubs, other perennial forbs, white bursage, creosotebush

Ecological site: R030XB019NV—Limy 3-5 P.Z.

**Huevi dry and similar soils**

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Shoulders of fan remnants

Typical vegetation: Other annual forbs, white bursage, creosotebush, other shrubs

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**565—Govwash-Guardian-Badland association**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,280 to 2,200

Precipitation: 3 to 5 inches

Air temperature: 70 to 75 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Govwash gravelly sandy loam, 4 to 15 percent slopes—45 percent

Guardian gypsiferous fine sandy loam, 15 to 30 percent slopes—30 percent

Badland, 30 to 75 percent slopes—10 percent

Gypwash cobbly sandy loam, 2 to 8 percent slopes—9 percent

Carrizo extremely gravelly loamy sand, 2 to 8 percent slopes—6 percent

***Component Description***

**Govwash and similar soils**

Landform: Summits of fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from basalt and gypsum

Typical vegetation: Other perennial forbs, white bursage, creosotebush, other shrubs,  
other annual forbs

**Typical profile:**

Surface rock fragments: About 15 percent gravel

Layer 1—0 to 1 inch; gravelly sandy loam

Layer 2—1 to 3 inches; sandy clay loam

Layer 3—3 to 6 inches; gravelly gypsiferous sandy loam

Layer 4—6 to 56 inches; gypsiferous material

Layer 5—56 to 63 inches; gypsiferous bedrock

Layer 6—63 to 73 inches; gypsiferous bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Depth to restrictive feature: Paralithic bedrock: 39 to 59 inches Lithic bedrock: 49 to 69 inches

Saturated hydraulic conductivity class (root zone): Moderately high (Permeability class: Moderately rapid)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

***Component Description*****Guardian and similar soils**

Landform: Shoulders of pediments

Slope: 15 to 30 percent

Parent material: Residuum weathered from gypsum

Typical vegetation: Parry's sandpaperplant, silverleaf sunray, pygmycedar, Fremont dalea, other shrubs, shrubby tiqullia

**Typical profile:**

Surface rock fragments: About 5 percent gravel

Layer 1—0 to 2 inches; gypsiferous fine sandy loam

Layer 2—2 to 4 inches; gypsiferous material

Layer 3—4 to 19 inches; gypsiferous material

Layer 4—19 to 29 inches; gypsiferous bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB118NV—Gypsic hill 3-5 P.Z.

***Component Description*****Badland**

Landform: Backslopes of pediments

Slope: 30 to 75 percent

**Component Properties and Qualities**

Runoff: Very high

Present ponding: None

**Interpretive Groups**

Nonirrigated land capability: 8e

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Gypwash and similar soils**

Composition: 0 to 9 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Carrizo and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs

Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**570—Carrizo association*****Map Unit Setting***

MLRA: 30

Landscape:

Elevation: 558 to 3,120

Precipitation: 3 to 5 inches

Air temperature: 69 to 77 degrees Fahrenheit

Frost-free period: 300 to 350 days

***Composition***

Carrizo extremely gravelly coarse sand, 2 to 8 percent slopes—70 percent

Carrizo very cobbly coarse sand, 2 to 8 percent slopes—20 percent

Riverbend extremely gravelly coarse sandy loam, 2 to 8 percent slopes—6 percent

Riverwash extremely gravelly coarse sand, 2 to 8 percent slopes—2 percent

Typic Torriorthents gravelly sandy loam, 8 to 15 percent slopes—2 percent

***Component Description*****Carrizo and similar soils**

Landform: Fan aprons

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other annual forbs, other perennial forbs, white bursage, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 70 percent gravel, 3 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly coarse sand

Layer 2—2 to 10 inches; gravelly coarse sand

Layer 3—10 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): Very high, (Permeability class: Very rapid)

Available water capacity: About 2 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

***Component Description***

**Carrizo rarely flooded and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, white bursage, sweetbrush, white brittlebush, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 2 percent stones, 20 percent cobbles, 20 percent gravel

Layer 1—0 to 7 inches; very cobbly coarse sand

Layer 2—7 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Negligible

Saturated hydraulic conductivity class (root zone): Very high, (Permeability class: Very rapid)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB098NV—Gravelly outwash

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Riverbend and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: White bursage, other shrubs, creosotebush, other perennial forbs, other annual forbs

Ecological site: R030XB019NV—Limy 3-5 P.Z.

**Riverwash**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Channels

**Typic Torriorthents and similar soils**

Composition: 0 to 2 percent

Classification: Sandy-skeletal, mixed, thermic Typic Torriorthents

Slope: 8 to 15 percent

Landform: Alluvial fans

Typical vegetation: Desertsenna, other perennial grasses, other annual forbs, other perennial forbs, creosotebush, other shrubs

Ecological site: R030XB078NV—Barren hill 3-5 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**571—Carrizo-Carrizo-Riverbend association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 558 to 2,130

Precipitation: 3 to 5 inches

Air temperature: 69 to 77 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Carrizo very cobbly coarse sand, 2 to 8 percent slopes—45 percent

Carrizo extremely gravelly loamy sand, 2 to 8 percent slopes—25 percent

Riverbend gravelly loamy sand, 4 to 15 percent slopes—20 percent

Riverwash extremely gravelly coarse sand, 2 to 8 percent slopes—6 percent

Huevi extremely gravelly sandy loam, 8 to 15 percent slopes—2 percent

Varwash extremely gravelly loam, 4 to 15 percent slopes—2 percent

### ***Component Description***

#### **Carrizo rarely flooded and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial grasses, big galleta, other perennial forbs, white bursage, white brittlebush, sweetbrush, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 20 percent gravel, 20 percent cobbles, 2 percent stones

Layer 1—0 to 7 inches; very cobbly coarse sand

Layer 2—7 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Negligible

Saturated hydraulic conductivity class (root zone): Very high, (Permeability class: Very rapid)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB098NV—Gravelly outwash

### ***Component Description***

#### **Carrizo and similar soils**

Landform: Drainageways

Slope: 2 to 8 percent

Parent material: Mixed sandy and gravelly alluvium

Typical vegetation: Bursage, other perennial forbs, baccharis, creosotebush, other shrubs, big galleta, other perennial grasses, white burrobrush

#### **Typical profile:**

Surface rock fragments: About 70 percent gravel, 3 percent cobbles

Layer 1—0 to 7 inches; extremely gravelly loamy sand

Layer 2—7 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Negligible

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 2 inches

Present flooding: Frequent

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7w

Ecological site: R030XB028NV—Valley wash

***Component Description***

**Riverbend rarely flooded and similar soils**

Landform: Summits of fan remnants

Slope: 4 to 15 percent

Parent material: Mixed alluvium

Typical vegetation: Big galleta, other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, other annual forbs, other perennial grasses

**Typical profile:**

Surface rock fragments: About 3 percent cobbles, 91 percent gravel

Layer 1—0 to 7 inches; gravelly loamy sand

Layer 2—7 to 60 inches; stratified extremely gravelly coarse sand to very gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Riverwash**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Drainageways

Ecological site: None

**Huevi and similar soils**

Composition: 0 to 2 percent

Slope: 8 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, creosotebush, other annual forbs, other perennial forbs, white bursage

Ecological site: R030XB019NV—Limy 3-5 P.Z.

**Varwash and similar soils**

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, creosotebush

Ecological site: R030XB092NV—Desert patina

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**572—Carrizo very cobbly coarse sand, 2 to 8 percent slopes*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 558 to 2,130

Precipitation: 3 to 5 inches

Air temperature: 69 to 77 degrees Fahrenheit

Frost-free period: 300 to 350 days

***Composition***

Carrizo very cobbly coarse sand, 2 to 8 percent slopes—90 percent

Carrizo extremely gravelly sand, 2 to 8 percent slopes—5 percent

Riverwash extremely gravelly sand, 2 to 8 percent slopes—5 percent

***Component Description*****Carrizo and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: White burrobrush, other perennial grasses, other perennial forbs, other shrubs, catclaw, sweetbrush, smoketree

**Typical profile:**

Surface rock fragments: About 20 percent gravel, 20 percent cobbles, 2 percent stones

Layer 1—0 to 7 inches; very cobbly coarse sand

Layer 2—7 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Negligible

Saturated hydraulic conductivity class (root zone): Very high, (Permeability class: Very rapid)

Available water capacity: About 2 inches

Present flooding: Frequent

Present ponding: None

Natural drainage class: Excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7w

Ecological site: R030XB103NV—Granitic drain

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Carrizo and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big galleta, white burrobrush, other perennial grasses, other perennial forbs, creosotebush, other shrubs, bursage, baccharis

Ecological site: R030XB028NV—Valley wash

#### **Riverwash**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Drainageways

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

## **573—Carrizo-Riverbend association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,250 to 2,160

Precipitation: 3 to 5 inches

Air temperature: 69 to 77 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Carrizo extremely gravelly coarse sand, 4 to 8 percent slopes—35 percent

Riverbend extremely gravelly coarse sandy loam, 4 to 8 percent slopes—30 percent

Riverbend extremely gravelly coarse sandy loam, 4 to 8 percent slopes—20 percent

Carrizo extremely gravelly sand, 2 to 8 percent slopes—8 percent

Huevi extremely gravelly sandy loam, 8 to 15 percent slopes—7 percent

### ***Component Description***

#### **Carrizo and similar soils**

Landform: Inset fans

Slope: 4 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: White bursage, big galleta, other perennial grasses, other annual forbs, other perennial forbs, range ratany, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 2 percent cobbles, 65 percent gravel

Layer 1—0 to 10 inches; extremely gravelly coarse sand

Layer 2—10 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): Very high, (Permeability class: Very rapid)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description***

**Riverbend rarely flooded and similar soils**

Landform: Summits of fan remnants

Slope: 4 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, big galleta, other perennial forbs, other annual forbs, other perennial grasses

**Typical profile:**

Surface rock fragments: About 3 percent cobbles, 91 percent gravel

Layer 1—0 to 3 inches; extremely gravelly coarse sandy loam

Layer 2—3 to 10 inches; very gravelly coarse sand

Layer 3—10 to 60 inches; stratified extremely gravelly coarse sand to very gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Riverbend and similar soils**

Landform: Summits of fan remnants

Slope: 4 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial forbs, white bursage, creosotebush, other annual forbs, other shrubs

#### **Typical profile:**

Surface rock fragments: About 3 percent cobbles, 91 percent gravel

Layer 1—0 to 3 inches; extremely gravelly coarse sandy loam

Layer 2—3 to 10 inches; very gravelly coarse sand

Layer 3—10 to 60 inches; stratified extremely gravelly coarse sand to very gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Carrizo and similar soils**

Composition: 0 to 8 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs, big galleta

Ecological site: R030XB028NV—Valley wash

#### **Huevi dry and similar soils**

Composition: 0 to 7 percent

Slope: 8 to 15 percent

Landform: Fan remnants

Typical vegetation: White bursage, creosotebush, other shrubs, other annual forbs

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

## **574—Carrizo-Sunrock association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 1,250 to 2,890  
 Precipitation: 3 to 5 inches  
 Air temperature: 69 to 77 degrees Fahrenheit  
 Frost-free period: 300 to 360 days

### ***Composition***

Carrizo extremely gravelly coarse sand, 4 to 15 percent slopes—55 percent  
 Sunrock very cobbly sandy loam, 8 to 30 percent slopes—35 percent  
 Carrizo extremely gravelly sand, 2 to 8 percent slopes—4 percent  
 Haleburu extremely stony loam, 30 to 50 percent slopes—3 percent  
 Sunrock extremely stony sandy loam, 30 to 50 percent slopes—3 percent

### ***Component Description***

#### **Carrizo and similar soils**

Landform: Fan aprons  
 Slope: 4 to 15 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: White bursage, big galleta, other perennial grasses, other annual forbs, other perennial forbs, other shrubs, range ratany, creosotebush

#### **Typical profile:**

Surface rock fragments: About 65 percent gravel, 2 percent cobbles  
 Layer 1—0 to 7 inches; extremely gravelly coarse sand  
 Layer 2—7 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low  
 Saturated hydraulic conductivity class (root zone): Very high, (Permeability class: Very rapid)  
 Available water capacity: About 2 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Sunrock and similar soils**

Landform: Backslopes of hills

Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from andesite

Typical vegetation: Other annual forbs, white bursage, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 20 percent cobbles, 20 percent gravel, 2 percent stones

Layer 1—0 to 2 inches; very cobbly sandy loam

Layer 2—2 to 9 inches; very gravelly fine sandy loam

Layer 3—9 to 19 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Carrizo and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs

Ecological site: R030XB028NV—Valley wash

#### **Haleburu and similar soils**

Composition: 0 to 3 percent

Slope: 30 to 50 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on backslopes of hills

Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Sunrock and similar soils**

Composition: 0 to 3 percent

Slope: 30 to 50 percent, southeast to southwest aspects

Landform: Southeast to southwest aspects on backslopes of hills and mountains  
 Typical vegetation: Other perennial grasses, desert globemallow, white brittlebush, creosotebush, other shrubs  
 Ecological site: R030XB077NV—Steep south slope

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

## **575—Carrizo complex, 1 to 5 percent slopes**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Basin floor  
 Elevation: 1,970 to 2,620  
 Precipitation: 3 to 6 inches  
 Air temperature: 69 to 77 degrees Fahrenheit  
 Frost-free period: 300 to 365 days

### ***Composition***

Carrizo very gravelly loamy sand, 1 to 5 percent slopes—50 percent  
 Carrizo very cobbly loamy sand, 1 to 5 percent slopes—30 percent  
 Riverbend gravelly loamy sand, 4 to 15 percent slopes—10 percent  
 Riverwash extremely gravelly coarse sand, 2 to 8 percent slopes—6 percent  
 Huevi extremely gravelly sandy loam, 8 to 15 percent slopes—2 percent  
 Varwash extremely gravelly loam, 4 to 15 percent slopes—2 percent

### ***Component Description***

#### **Carrizo and similar soils**

Landform: Flood plains  
 Slope: 1 to 5 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Other shrubs, big galleta, baccharis, other perennial grasses, other perennial forbs, bursage, creosotebush, white burrobrush

#### **Typical profile:**

Surface rock fragments: About 50 percent gravel, 5 percent cobbles  
 Layer 1—0 to 13 inches; very gravelly loamy sand  
 Layer 2—13 to 60 inches; stratified extremely gravelly loamy sand to extremely stony coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Negligible  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)  
 Available water capacity: About 2 inches  
 Present flooding: Occasional  
 Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7c

Ecological site: R030XB028NV—Valley wash

***Component Description***

**Carrizo cobbly surface and similar soils**

Landform: Flood plains

Slope: 1 to 5 percent

Parent material: Alluvium

Typical vegetation: Baccharis, other perennial grasses, bursage, other shrubs, other perennial forbs, big galleta, white burrobrush, creosotebush

**Typical profile:**

Surface rock fragments: About 20 percent gravel, 30 percent cobbles, 5 percent stones

Layer 1—0 to 3 inches; very cobbly loamy sand

Layer 2—3 to 60 inches; stratified extremely gravelly loamy sand to extremely stony coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Negligible

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 2 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7c

Ecological site: R030XB028NV—Valley wash

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Riverbend rarely flooded and similar soils**

Composition: 0 to 10 percent

Slope: 4 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other shrubs, creosotebush, range ratany, white bursage, other perennial forbs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Riverwash**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Drainageways

**Huevi and similar soils**

Composition: 0 to 2 percent

Slope: 8 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, creosotebush, white bursage, other perennial forbs,  
other annual forbs

Ecological site: R030XB019NV—Limy 3-5 P.Z.

**Varwash and similar soils**

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, creosotebush

Ecological site: R030XB092NV—Desert patina

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**581—Threelakes-Weiser association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,050 to 4,860

Precipitation: 5 to 7 inches

Air temperature: 57 to 68 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Threelakes extremely gravelly fine sandy loam, 2 to 8 percent slopes—65 percent

Weiser extremely gravelly fine sandy loam, 2 to 8 percent slopes—20 percent

Typic Haplocalcids very gravelly fine sandy loam, 2 to 8 percent slopes—5 percent

Typic Torriorthents extremely gravelly loamy sand, 2 to 8 percent slopes—4 percent

Calcic Petrocalcids very gravelly sandy loam, 2 to 8 percent slopes—4 percent

Weiser very gravelly sandy loam, 2 to 8 percent slopes—2 percent

***Component Description*****Threelakes and similar soils**

Landform: Fan aprons

Slope: 2 to 8 percent

Parent material: Mixed alluvium derived from Limestone

Typical vegetation: Creosotebush, shadscale, white bursage, other perennial forbs,  
Indian ricegrass, other shrubs, wolfberry**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 80 percent gravel

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 31 inch; extremely gravelly fine sandy loam

Layer 3—31 to 60 inches; stratified extremely gravelly fine sandy loam to extremely  
gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Sodicity: Sodic within 40 inches

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

#### ***Component Description***

##### **Weiser and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from Limestone and dolomite

Typical vegetation: Other annual forbs, big galleta, white bursage, range ratany, creosotebush, other perennial grasses, other perennial forbs, other shrubs

##### **Typical profile:**

Surface rock fragments: About 5 percent stones, 60 percent gravel, 10 percent cobbles

Layer 1—0 to 6 inches; extremely gravelly fine sandy loam

Layer 2—6 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Typic Haplocalcids and similar soils**

Composition: 0 to 5 percent

Classification: Loamy-skeletal, carbonatic, thermic Typic Haplocalcids

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, other perennial forbs, desert needlegrass, white bursage, shadscale, blackbrush, ephedra

Ecological site: R030XA006NV—Shallow limestone slope 5-7 P.Z.

#### **Calcic Petrocalcids and similar soils**

Composition: 0 to 4 percent

Classification: Loamy-skeletal, carbonatic, thermic, shallow Calcic Petrocalcids

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Indian ricegrass, other perennial forbs, wolfberry, white bursage, shadscale, creosotebush, other shrubs

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

#### **Typic Torriorthents and similar soils**

Composition: 0 to 4 percent

Classification: Sandy-skeletal, carbonatic, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Baccharis, creosotebush, other shrubs, bursage, other perennial forbs, white burrobrush, big galleta, other perennial grasses

Ecological site: R030XB028NV—Valley wash

#### **Weiser and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, spiny menodora, creosotebush, white bursage, other perennial forbs, bush muhly, other shrubs, desert needlegrass

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

## **590—Riverbend-Carrizo association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 656 to 2,260

Precipitation: 3 to 5 inches

Air temperature: 69 to 77 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Riverbend extremely gravelly coarse sandy loam, 2 to 8 percent slopes—50 percent

Carrizo very cobbly coarse sand, 2 to 8 percent slopes—40 percent

Typic Torriorthents gravelly sandy loam, 15 to 50 percent slopes—6 percent  
 Riverbend extremely gravelly coarse sandy loam, 4 to 15 percent slopes—4 percent

### ***Component Description***

#### **Riverbend and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: White bursage, other perennial forbs, other annual forbs,  
 creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 91 percent gravel, 3 percent cobbles

Layer 1—0 to 3 inches; extremely gravelly coarse sandy loam

Layer 2—3 to 10 inches; very gravelly coarse sand

Layer 3—10 to 60 inches; stratified extremely gravelly coarse sand to very gravelly  
 loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
 information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
 Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

### ***Component Description***

#### **Carrizo and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other shrubs, creosotebush, other perennial forbs, white bursage,  
 sweetbrush, white brittlebush, big galleta, other perennial grasses

#### **Typical profile:**

Surface rock fragments: About 2 percent stones, 20 percent cobbles, 20 percent  
 gravel

Layer 1—0 to 7 inches; very cobbly coarse sand

Layer 2—7 to 60 inches; stratified extremely gravelly coarse sand to very gravelly  
 sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
 information.

#### **Component Properties and Qualities**

Runoff: Negligible

Saturated hydraulic conductivity class (root zone): Very high, (Permeability class: Very rapid)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB098NV—Gravelly outwash

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Typic Torriorthents and similar soils**

Composition: 0 to 6 percent

Classification: Coarse-loamy, mixed, superactive, calcareous, hyperthermic Typic Torriorthents

Slope: 15 to 50 percent

Landform: Backslopes of fan remnants

Typical vegetation: Other shrubs, white bursage, creosotebush, other annual forbs

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

#### **Riverbend rarely flooded and similar soils**

Composition: 0 to 4 percent

Slope: 4 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, big galleta, creosotebush, range ratany, white bursage, other perennial forbs, other annual forbs, other perennial grasses

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **591—Riverbend-Carrwash association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 492 to 1,540

Precipitation: 3 to 5 inches

Air temperature: 70 to 76 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Riverbend extremely gravelly coarse sandy loam, 2 to 8 percent slopes—55 percent

Carrwash very gravelly coarse sandy loam, 2 to 8 percent slopes—35 percent

Carrizo extremely gravelly sand, 2 to 8 percent slopes—6 percent

Carrizo extremely gravelly sand, 2 to 8 percent slopes—4 percent

### ***Component Description***

#### **Riverbend and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Creosotebush, white bursage, other perennial forbs, other annual forbs, other shrubs

#### **Typical profile:**

Surface rock fragments: About 91 percent gravel, 3 percent cobbles

Layer 1—0 to 3 inches; extremely gravelly coarse sandy loam

Layer 2—3 to 10 inches; very gravelly coarse sand

Layer 3—10 to 60 inches; stratified extremely gravelly coarse sand to very gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

### ***Component Description***

#### **Carrwash and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from granite

Typical vegetation: White bursage, other perennial forbs, other perennial grasses, creosotebush, other shrubs, white brittlebush

#### **Typical profile:**

Surface rock fragments: About 45 percent gravel

Layer 1—0 to 3 inches; very gravelly coarse sandy loam

Layer 2—3 to 8 inches; very gravelly coarse sandy loam

Layer 3—8 to 60 inches; stratified extremely gravelly coarse sand to very gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Very rare  
 Present ponding: None  
 Natural drainage class: Excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB099NV—Gravelly ridge 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Carrizo and similar soils**

Composition: 0 to 6 percent  
 Slope: 2 to 8 percent  
 Landform: Inset fans  
 Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, other shrubs, creosotebush, range ratany, white bursage  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Carrizo and similar soils**

Composition: 0 to 4 percent  
 Slope: 2 to 8 percent  
 Landform: Drainageways  
 Typical vegetation: White burrobrush, big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, other shrubs, creosotebush  
 Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

## **592—Riverbend-Carrizo, frequently flooded association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 1,210 to 1,840  
 Precipitation: 3 to 5 inches  
 Air temperature: 69 to 77 degrees Fahrenheit  
 Frost-free period: 300 to 360 days

### ***Composition***

Riverbend extremely gravelly coarse sandy loam, 2 to 8 percent slopes—70 percent  
 Carrizo extremely gravelly loamy sand, 2 to 8 percent slopes—20 percent  
 Varwash extremely gravelly loam, 2 to 8 percent slopes—7 percent  
 Huevi extremely gravelly sandy loam, 8 to 30 percent slopes—3 percent

### ***Component Description***

#### **Riverbend and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Creosotebush, white bursage, other perennial forbs, other annual forbs, other shrubs

**Typical profile:**

Surface rock fragments: About 3 percent cobbles, 91 percent gravel

Layer 1—0 to 3 inches; extremely gravelly coarse sandy loam

Layer 2—3 to 10 inches; very gravelly coarse sand

Layer 3—10 to 60 inches; stratified extremely gravelly coarse sand to very gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

***Component Description***

**Carrizo and similar soils**

Landform: Drainageways

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs, big galleta

**Typical profile:**

Surface rock fragments: About 70 percent gravel, 3 percent cobbles

Layer 1—0 to 7 inches; extremely gravelly loamy sand

Layer 2—7 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Negligible

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 2 inches

Present flooding: Frequent

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7w

Ecological site: R030XB028NV—Valley wash

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Varwash and similar soils**

Composition: 0 to 7 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, creosotebush

Ecological site: R030XB092NV—Desert patina

**Huevi dry and similar soils**

Composition: 0 to 3 percent

Slope: 8 to 30 percent

Landform: Ballenas

Typical vegetation: White bursage, creosotebush, other shrubs, other annual forbs

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**593—Riverbend-Cheme-Carrizo association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,210 to 2,990

Precipitation: 3 to 7 inches

Air temperature: 69 to 77 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Riverbend extremely gravelly coarse sandy loam, 4 to 15 percent slopes—40 percent

Cheme extremely gravelly sandy loam, 2 to 8 percent slopes—30 percent

Carrizo extremely gravelly coarse sand, 2 to 8 percent slopes—15 percent

Carrizo extremely gravelly loamy sand, 2 to 8 percent slopes—8 percent

Varwash extremely gravelly loam, 2 to 8 percent slopes—5 percent

Carrizo very cobbly loamy sand, 2 to 8 percent slopes—2 percent

***Component Description*****Riverbend rarely flooded and similar soils**

Landform: Summits of fan remnants

Slope: 4 to 15 percent

Parent material: Mixed alluvium

Typical vegetation: Big galleta, other shrubs, other annual forbs, other perennial grasses, creosotebush, other perennial forbs, white bursage, range ratany

**Typical profile:**

Surface rock fragments: About 91 percent gravel, 3 percent cobbles

Layer 1—0 to 3 inches; extremely gravelly coarse sandy loam

Layer 2—3 to 10 inches; very gravelly coarse sand

Layer 3—10 to 60 inches; stratified extremely gravelly coarse sand to very gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description*****Cheme and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from fanglomerate

Typical vegetation: Other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other perennial grasses, other shrubs, big galleta

**Typical profile:**

Surface rock fragments: About 65 percent gravel, 15 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 6 inches; very gravelly loam

Layer 3—6 to 18 inches; extremely gravelly sandy loam

Layer 4—18 to 42 inches; cemented material

Layer 5—42 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 7 to 20 inches Paralitthic bedrock: 30 to 50 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description*****Carrizo and similar soils**

Landform: Fan aprons

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, big galleta

**Typical profile:**

Surface rock fragments: About 2 percent cobbles, 65 percent gravel

Layer 1—0 to 10 inches; extremely gravelly coarse sand

Layer 2—10 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Negligible

Saturated hydraulic conductivity class (root zone): Very high, (Permeability class: Very rapid)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7w

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Carrizo and similar soils**

Composition: 0 to 8 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Other shrubs, big galleta, other perennial grasses, other annual forbs, other perennial forbs, creosotebush, range ratany, white bursage

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Varwash and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Creosotebush, other shrubs

Ecological site: R030XB092NV—Desert patina

**Carrizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs, big galleta

Ecological site: R030XB028NV—Valley wash

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**600—Huevi-Cheme association****Map Unit Setting**

MLRA: 30

Landscape: Fan piedmont

Elevation: 656 to 2,400

Precipitation: 5 to 7 inches

Air temperature: 70 to 76 degrees Fahrenheit

Frost-free period: 300 to 360 days

**Composition**

Huevi extremely gravelly sandy loam, 8 to 30 percent slopes—70 percent

Cheme extremely gravelly sandy loam, 4 to 15 percent slopes—15 percent

Huevi extremely gravelly sandy loam, 15 to 30 percent slopes—8 percent

Typic Haplargids extremely gravelly loam, 2 to 8 percent slopes—7 percent

**Component Description****Huevi and similar soils**

Landform: Backslopes of ballenas

Slope: 8 to 30 percent

Parent material: Mixed gravelly alluvium

Typical vegetation: Range ratany, white bursage, other shrubs, big galleta, other perennial forbs, creosotebush

**Typical profile:**

Surface rock fragments: About 60 percent gravel, 15 percent cobbles

Layer 1—0 to 5 inches; extremely gravelly sandy loam

Layer 2—5 to 18 inches; very gravelly sandy loam

Layer 3—18 to 60 inches; extremely cobbly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Component Description***

#### **Cheme and similar soils**

Landform: Summits of fan remnants  
 Slope: 4 to 15 percent  
 Parent material: Alluvium derived from fanglomerate  
 Typical vegetation: Other shrubs, creosotebush, range ratany, big galleta, other perennial forbs, white bursage

#### **Typical profile:**

Surface rock fragments: About 65 percent gravel, 15 percent cobbles  
 Layer 1—0 to 2 inches; extremely gravelly sandy loam  
 Layer 2—2 to 6 inches; very gravelly loam  
 Layer 3—6 to 18 inches; extremely gravelly sandy loam  
 Layer 4—18 to 42 inches; cemented material  
 Layer 5—42 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Duripan: 7 to 20 inches Paralithic bedrock: 30 to 50 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.9 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Huevi and similar soils**

Composition: 0 to 8 percent  
 Slope: 15 to 30 percent  
 Landform: Backslopes of fan remnants  
 Typical vegetation: Big galleta, other shrubs, creosotebush, range ratany, white bursage, other perennial forbs  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Typic Haplargids and similar soils**

Composition: 0 to 7 percent

Classification: Fine-loamy, mixed, superactive, hyperthermic Typic Haplargids

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial forbs, creosotebush, desertsenna, other annual forbs, other perennial grasses, other shrubs

Ecological site: R030XB078NV—Barren hill 3-5 P.Z.

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**601—Huevi association****Map Unit Setting**

MLRA: 30

Landscape: Fan piedmont

Elevation: 492 to 2,620

Precipitation: 3 to 7 inches

Air temperature: 70 to 76 degrees Fahrenheit

Frost-free period: 300 to 360 days

**Composition**

Huevi extremely gravelly sandy loam, 8 to 30 percent slopes—45 percent

Huevi extremely gravelly sandy loam, 8 to 30 percent slopes—40 percent

Varwash extremely gravelly loamy sand, 30 to 50 percent slopes—7 percent

Riverbend extremely gravelly coarse sandy loam, 2 to 8 percent slopes—4 percent

Huevi very stony sandy loam, 8 to 15 percent slopes—3 percent

Carrizo very cobbly coarse sand, 2 to 8 percent slopes—1 percent

**Component Description****Huevi and similar soils**

Landform: North facing backslopes of ballenas

Slope: 8 to 30 percent, north aspect

Parent material: Gravelly alluvium

Typical vegetation: White brittlebush, other perennial grasses, other perennial forbs, white bursage, other shrubs, creosotebush

**Typical profile:**

Surface rock fragments: About 15 percent cobbles, 60 percent gravel

Layer 1—0 to 5 inches; extremely gravelly sandy loam

Layer 2—5 to 18 inches; very gravelly sandy loam

Layer 3—18 to 60 inches; extremely cobbly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB099NV—Gravelly ridge 5-7 P.Z.

#### ***Component Description***

##### **Huevi dry and similar soils**

Landform: Backslopes of ballenas  
 Slope: 8 to 30 percent  
 Parent material: Mixed gravelly alluvium  
 Typical vegetation: Other annual forbs, white bursage, creosotebush, other shrubs

##### **Typical profile:**

Surface rock fragments: About 60 percent gravel, 15 percent cobbles  
 Layer 1—0 to 5 inches; extremely gravelly sandy loam  
 Layer 2—5 to 18 inches; very gravelly sandy loam  
 Layer 3—18 to 60 inches; extremely cobbly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Varwash and similar soils**

Composition: 0 to 7 percent  
 Slope: 30 to 50 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: White brittlebush, white bursage, other perennial forbs, other perennial grasses, other shrubs, creosotebush  
 Ecological site: R030XB099NV—Gravelly ridge 5-7 P.Z.

##### **Riverbend rarely flooded and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, creosotebush, white bursage, big galleta, other perennial forbs, other perennial grasses, range ratany, other annual forbs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Huevi and similar soils**

Composition: 0 to 3 percent

Slope: 8 to 15 percent

Landform: Foothills of ballenas

Typical vegetation: Other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, big galleta

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Carrizo and similar soils**

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: White brittlebush, white bursage, big galleta, other perennial forbs, other perennial grasses, sweetbrush, creosotebush, other shrubs

Ecological site: R030XB098NV—Gravelly outwash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**603—Huevi extremely gravelly sandy loam, 8 to 30 percent slopes**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,200 to 2,530

Precipitation: 3 to 5 inches

Air temperature: 70 to 76 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Huevi extremely gravelly sandy loam, 8 to 30 percent slopes—85 percent

Carrizo extremely gravelly sand, 2 to 8 percent slopes—5 percent

Riverbend extremely gravelly coarse sandy loam, 2 to 8 percent slopes—5 percent

Cheme extremely gravelly sandy loam, 2 to 8 percent slopes—4 percent

Rock outcrop—1 percent

***Component Description***

**Huevi dry and similar soils**

Landform: Backslopes of ballenas

Slope: 8 to 30 percent

Parent material: Mixed gravelly alluvium

Typical vegetation: Creosotebush, white bursage, other annual forbs, other shrubs

**Typical profile:**

Surface rock fragments: About 15 percent cobbles, 60 percent gravel

Layer 1—0 to 5 inches; extremely gravelly sandy loam

Layer 2—5 to 18 inches; very gravelly sandy loam

Layer 3—18 to 60 inches; extremely cobbly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Carrizo and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial grasses, big galleta, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs

Ecological site: R030XB028NV—Valley wash

**Riverbend and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, creosotebush, white bursage, other perennial forbs, other annual forbs

Ecological site: R030XB019NV—Limy 3-5 P.Z.

**Cheme and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial forbs, other annual forbs, white bursage, creosotebush, other shrubs

Ecological site: R030XB019NV—Limy 3-5 P.Z.

**Rock outcrop**

Composition: 0 to 1 percent

Landform: Toeslopes of ballenas

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

## **604—Huevi-Hiller association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 1,210 to 3,120  
 Precipitation: 3 to 7 inches  
 Air temperature: 64 to 76 degrees Fahrenheit  
 Frost-free period: 240 to 360 days

### ***Composition***

Huevi extremely stony sandy loam, 15 to 50 percent slopes—45 percent  
 Hiller extremely gravelly sandy loam, 15 to 50 percent slopes—40 percent  
 Carrizo extremely cobbly sand, 2 to 8 percent slopes—6 percent  
 Cheme extremely gravelly sandy loam, 4 to 15 percent slopes—5 percent  
 Varwash extremely gravelly loam, 2 to 8 percent slopes—3 percent  
 Rock outcrop—1 percent

### ***Component Description***

#### **Huevi dry and similar soils**

Landform: Backslopes of ballenas  
 Slope: 15 to 50 percent  
 Parent material: Mixed gravelly alluvium  
 Typical vegetation: Other annual forbs, white bursage, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 15 percent cobbles, 60 percent gravel  
 Layer 1—0 to 5 inches; extremely stony sandy loam  
 Layer 2—5 to 18 inches; very gravelly sandy loam  
 Layer 3—18 to 60 inches; extremely cobbly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

### ***Component Description***

#### **Hiller and similar soils**

Landform: Northwest to northeast aspects on backslopes of upper elevation ballenas

Slope: 15 to 50 percent, northwest to northeast aspects

Parent material: Mixed alluvium

Typical vegetation: Creosotebush, other perennial forbs, other shrubs, big galleta, white bursage, range ratany

#### **Typical profile:**

Surface rock fragments: About 10 percent cobbles, 45 percent gravel, 10 percent stones

Layer 1—0 to 3 inches; extremely gravelly sandy loam

Layer 2—3 to 8 inches; very gravelly sandy loam

Layer 3—8 to 14 inches; very gravelly loam

Layer 4—14 to 60 inches; very gravelly loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Carrizo and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other shrubs, big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush

Ecological site: R030XB028NV—Valley wash

#### **Cheme and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Summits of partial ballenas

Typical vegetation: Other shrubs, other annual forbs, white bursage, creosotebush

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

#### **Varwash and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants  
 Typical vegetation: Creosotebush, other shrubs  
 Ecological site: R030XB092NV—Desert patina

**Rock outcrop**

Composition: 0 to 1 percent  
 Landform: Toeslopes of ballenas

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

**605—Huevi-Badland association**

***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 1,180 to 1,830  
 Precipitation: 3 to 5 inches  
 Air temperature: 70 to 76 degrees Fahrenheit  
 Frost-free period: 300 to 360 days

***Composition***

Huevi extremely gravelly sandy loam, 8 to 30 percent slopes—45 percent  
 Badland, 15 to 50 percent slopes—40 percent  
 Callville gravelly fine sandy loam, 8 to 30 percent slopes—6 percent  
 Carrizo extremely gravelly sand, 2 to 8 percent slopes—5 percent  
 Varwash extremely gravelly loam, 2 to 8 percent slopes—4 percent

***Component Description***

**Huevi dry and similar soils**

Landform: Backslopes of fan remnants  
 Slope: 8 to 30 percent  
 Parent material: Mixed gravelly alluvium  
 Typical vegetation: Creosotebush, white bursage, other shrubs, other annual forbs

**Typical profile:**

Surface rock fragments: About 60 percent gravel, 15 percent cobbles  
 Layer 1—0 to 5 inches; extremely gravelly sandy loam  
 Layer 2—5 to 18 inches; very gravelly sandy loam  
 Layer 3—18 to 60 inches; extremely cobbly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 3 inches

Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

### ***Component Description***

#### **Badland**

Landform: eroded rock pediments  
 Slope: 15 to 50 percent

#### **Component Properties and Qualities**

Runoff: Very high  
 Present ponding: None

### **Interpretive Groups**

Nonirrigated land capability: 8s

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Callville and similar soils**

Composition: 0 to 6 percent  
 Slope: 8 to 30 percent  
 Landform: Backslopes of fan remnants  
 Typical vegetation: White bursage, other annual forbs, other shrubs, creosotebush  
 Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

#### **Carrizo and similar soils**

Composition: 0 to 5 percent  
 Slope: 2 to 8 percent  
 Landform: Drainageways  
 Typical vegetation: Other shrubs, big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush  
 Ecological site: R030XB028NV—Valley wash

#### **Varwash and similar soils**

Composition: 0 to 4 percent  
 Slope: 2 to 8 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Other shrubs, creosotebush  
 Ecological site: R030XB092NV—Desert patina

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

**606—Huevi-Huevi-Cheme association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,200 to 1,660

Precipitation: 3 to 7 inches

Air temperature: 70 to 76 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Huevi very gravelly sandy loam, 15 to 50 percent slopes—40 percent

Huevi extremely gravelly sandy loam, 30 to 50 percent slopes—35 percent

Cheme extremely gravelly sandy loam, 4 to 15 percent slopes—15 percent

Sunrock very cobbly sandy loam, 30 to 50 percent slopes—8 percent

Rock outcrop, 30 to 75 percent slopes—2 percent

***Component Description*****Huevi and similar soils**

Landform: North facing backslopes of partial ballenas

Slope: 15 to 50 percent, north aspect

Parent material: Gravelly alluvium

Typical vegetation: Big galleta, other shrubs, other perennial grasses, other perennial forbs, white bursage, sweetbrush, creosotebush, white brittlebush

**Typical profile:**

Surface rock fragments: About 60 percent gravel, 15 percent cobbles

Layer 1—0 to 5 inches; very gravelly sandy loam

Layer 2—5 to 18 inches; very gravelly sandy loam

Layer 3—18 to 60 inches; extremely cobbly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB098NV—Gravelly outwash

***Component Description*****Huevi dry and similar soils**

Landform: South facing backslopes of partial ballenas

Slope: 30 to 50 percent, south aspect

Parent material: Mixed gravelly alluvium

Typical vegetation: Other annual forbs, other shrubs, creosotebush, white bursage

**Typical profile:**

Surface rock fragments: About 60 percent gravel, 15 percent cobbles

Layer 1—0 to 5 inches; extremely gravelly sandy loam

Layer 2—5 to 18 inches; very gravelly sandy loam

Layer 3—18 to 60 inches; extremely cobbly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

***Component Description*****Cheme and similar soils**

Landform: Summits of partial ballenas

Slope: 4 to 15 percent

Parent material: Alluvium derived from fanglomerate

Typical vegetation: Other annual forbs, other shrubs, creosotebush, white bursage, other perennial forbs

**Typical profile:**

Surface rock fragments: About 65 percent gravel, 15 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 6 inches; very gravelly loam

Layer 3—6 to 18 inches; extremely gravelly sandy loam

Layer 4—18 to 42 inches; cemented material

Layer 5—42 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 7 to 20 inches Paralitithic bedrock: 30 to 50 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Sunrock and similar soils**

Composition: 0 to 8 percent

Slope: 30 to 50 percent, southwest to southeast aspects

Landform: Southwest to southeast aspects on backslopes of hills

Typical vegetation: Desert globemallow, other perennial grasses, white brittlebush, creosotebush, other shrubs

Ecological site: R030XB077NV—Steep south slope

#### **Rock outcrop**

Composition: 0 to 2 percent

Slope: 30 to 75 percent

Landform: Cliffs

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **610—Goldroad-Rock outcrop association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 492 to 3,510

Precipitation: 3 to 5 inches

Air temperature: 69 to 78 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Goldroad extremely gravelly sandy loam, 15 to 50 percent slopes—60 percent

Rock outcrop, 30 to 75 percent slopes—25 percent

Goldroad extremely gravelly sandy loam, 30 to 75 percent slopes—6 percent

Seanna extremely gravelly sandy loam, 15 to 50 percent slopes—5 percent

Huevi extremely stony sandy loam, 8 to 30 percent slopes—4 percent

### ***Component Description***

#### **Goldroad and similar soils**

Landform: South facing backslopes of mountains

Slope: 15 to 50 percent, south aspect

Parent material: Colluvium and/or residuum weathered from granite

Typical vegetation: Other perennial grasses, desert globemallow, white brittlebush, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 70 percent gravel, 10 percent cobbles

Layer 1—0 to 1 inch; extremely gravelly sandy loam

Layer 2—1 to 5 inches; extremely gravelly coarse sandy loam  
 Layer 3—5 to 15 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 10 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.2 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB077NV—Steep south slope

#### ***Component Description***

##### **Rock outcrop**

Landform: Cliffs

Slope: 30 to 75 percent

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Goldroad and similar soils**

Composition: 0 to 6 percent

Slope: 30 to 75 percent, north aspect

Landform: North facing backslopes of mountains

Typical vegetation: White brittlebush, white bursage, other perennial forbs, other shrubs, range ratany, Mojave buckwheat, triangle goldeneye

Ecological site: R030XB016NV—Granitic hill 3-5 P.Z.

##### **Seanna and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of hills

Typical vegetation: Desert needlegrass, bush muhly, Nevada ephedra, Mojave buckwheat, range ratany, other shrubs, other perennial forbs, white bursage, Virgin River encelia

Ecological site: R030XB008NV—Shallow granitic hill 5-7 P.Z.

##### **Huevi and similar soils**

Composition: 0 to 4 percent

Slope: 8 to 30 percent

Landform: Toeslopes of fan remnants

Typical vegetation: White brittlebush, white bursage, other perennial forbs, other shrubs, creosotebush, other perennial grasses

Ecological site: R030XB099NV—Gravelly ridge 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Engineering" and "Soil Properties" sections

## **612—Goldroad-Seanna-Rock outcrop association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Mountains  
 Elevation: 1,210 to 3,220  
 Precipitation: 3 to 7 inches  
 Air temperature: 64 to 78 degrees Fahrenheit  
 Frost-free period: 220 to 360 days

### ***Composition***

Goldroad extremely gravelly sandy loam, 30 to 50 percent slopes—40 percent  
 Seanna extremely cobbly coarse sandy loam, 30 to 50 percent slopes—30 percent  
 Rock outcrop, 30 to 75 percent slopes—15 percent  
 Goldroad extremely stony sandy loam, 15 to 30 percent slopes—8 percent  
 Sunrock extremely stony sandy loam, 30 to 75 percent slopes—4 percent  
 Haleburu very stony sandy loam, 30 to 75 percent slopes—3 percent

### ***Component Description***

#### **Goldroad and similar soils**

Landform: South facing backslopes of mountains  
 Slope: 30 to 50 percent, south aspect  
 Parent material: Colluvium and/or residuum weathered from granite  
 Typical vegetation: White brittlebush, other perennial grasses, desert globemallow, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 70 percent gravel, 10 percent cobbles  
 Layer 1—0 to 1 inch; extremely gravelly sandy loam  
 Layer 2—1 to 5 inches; extremely gravelly coarse sandy loam  
 Layer 3—5 to 15 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 10 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.2 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB077NV—Steep south slope

### ***Component Description***

#### **Seanna and similar soils**

Landform: Backslopes of hills and mountains

Slope: 30 to 50 percent

Parent material: Residuum weathered from granite

Typical vegetation: Nevada ephedra, Mojave buckwheat, desert needlegrass, range ratany, other shrubs, Virgin River encelia, bush muhly, white bursage, other perennial forbs

#### **Typical profile:**

Surface rock fragments: About 5 percent stones, 25 percent cobbles, 35 percent gravel

Layer 1—0 to 2 inches; extremely cobbly coarse sandy loam

Layer 2—2 to 10 inches; very gravelly sandy loam

Layer 3—10 to 20 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 7 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB008NV—Shallow granitic hill 5-7 P.Z.

### ***Component Description***

#### **Rock outcrop**

Landform: Cliffs

Slope: 30 to 75 percent

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Goldroad and similar soils**

Composition: 0 to 8 percent

Slope: 15 to 30 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on backslopes of mountains

Typical vegetation: Triangle goldeneye, other perennial forbs, white bursage, white brittlebush, Mojave buckwheat, range ratany, other shrubs

Ecological site: R030XB016NV—Granitic hill 3-5 P.Z.

#### **Sunrock and similar soils**

Composition: 0 to 4 percent

Slope: 30 to 75 percent

Landform: Backslopes of hills and hills

Typical vegetation: Other shrubs, creosotebush, white bursage, other annual forbs

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

#### **Haleburu and similar soils**

Composition: 0 to 3 percent

Slope: 30 to 75 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on backslopes of mountains

Typical vegetation: Other perennial forbs, big galleta, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

### **613—Goldroad-Haleburu-Rock outcrop association**

#### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 1,510 to 3,400

Precipitation: 3 to 7 inches

Air temperature: 61 to 78 degrees Fahrenheit

Frost-free period: 240 to 360 days

#### ***Composition***

Goldroad extremely gravelly sandy loam, 15 to 50 percent slopes—35 percent

Haleburu extremely gravelly sandy loam, 15 to 50 percent slopes—35 percent

Rock outcrop—15 percent

Haleburu extremely gravelly sandy loam, 15 to 50 percent slopes—5 percent

Heleweiser very gravelly sandy loam, 4 to 15 percent slopes—5 percent

Nipton extremely gravelly sandy loam, 30 to 75 percent slopes—3 percent

Carrizo extremely gravelly sand, 2 to 8 percent slopes—2 percent

#### ***Component Description***

##### **Goldroad and similar soils**

Landform: South facing backslopes of mountains

Slope: 15 to 50 percent, south aspect

Parent material: Colluvium and/or residuum weathered from granite

Typical vegetation: Other shrubs, creosotebush, other perennial grasses, desert globemallow, white brittlebush

##### **Typical profile:**

Surface rock fragments: About 70 percent gravel, 10 percent cobbles

Layer 1—0 to 1 inch; extremely gravelly sandy loam

Layer 2—1 to 5 inches; extremely gravelly coarse sandy loam

Layer 3—5 to 15 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 10 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.2 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB077NV—Steep south slope

#### ***Component Description***

##### **Haleburu and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, big galleta

##### **Typical profile:**

Surface rock fragments: About 7 percent stones, 75 percent gravel, 13 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 11 inch; very gravelly sandy loam

Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### ***Component Description***

##### **Rock outcrop**

Landform: Mountains

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Haleburu and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Other annual forbs, white bursage, creosotebush, other shrubs

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

#### **Heleweiser and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Shoulders of fan remnants

Typical vegetation: White bursage, creosotebush, other perennial forbs, other shrubs, other annual forbs

Ecological site: R030XB019NV—Limy 3-5 P.Z.

#### **Nipton and similar soils**

Composition: 0 to 3 percent

Slope: 30 to 75 percent

Landform: Backslopes of high elevation mountains

Typical vegetation: Other perennial forbs, bush muhly, ephedra, desert needlegrass, big galleta, Mojave buckwheat, other shrubs

Ecological site: R030XB071NV—Volcanic slope 7-9 P.Z.

#### **Carrizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Creosotebush, white burrobrush, baccharis, bursage, other perennial forbs, other perennial grasses, other shrubs, big galleta

Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

## **620—Arizo-Lanip association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,620 to 3,900

Precipitation: 5 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 260 days

### ***Composition***

Arizo extremely gravelly sandy loam, 2 to 8 percent slopes—50 percent  
 Lanip gravelly sandy loam, 2 to 8 percent slopes—35 percent  
 Typic Torriorthents extremely gravelly loamy coarse sand, 2 to 8 percent slopes—8 percent  
 Bluepoint loamy fine sand, 2 to 4 percent slopes—3 percent  
 Crosgrain family very gravelly sandy loam, 4 to 15 percent slopes—2 percent  
 Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent

### ***Component Description***

#### **Arizo and similar soils**

Landform: Fan aprons  
 Slope: 2 to 8 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: White bursage, other shrubs, spiny menodora, creosotebush, other perennial forbs, big galleta, bush muhly

#### **Typical profile:**

Surface rock fragments: About 60 percent gravel, 3 percent cobbles, 1 percent stones  
 Layer 1—0 to 2 inches; extremely gravelly sandy loam  
 Layer 2—2 to 9 inches; gravelly loamy sand  
 Layer 3—9 to 60 inches; stratified very gravelly coarse sand to extremely gravelly loamy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 3 inches  
 Present flooding: Occasional  
 Present ponding: None  
 Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB074NV—Cobbly loam 5-7 P.Z.

### ***Component Description***

#### **Lanip and similar soils**

Landform: Fan remnants  
 Slope: 2 to 8 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: White bursage, other shrubs, spiny menodora, other perennial forbs, big galleta, bush muhly, desert needlegrass, creosotebush

#### **Typical profile:**

Surface rock fragments: About 50 percent gravel  
 Layer 1—0 to 2 inches; gravelly sandy loam  
 Layer 2—2 to 15 inches; gravelly loam  
 Layer 3—15 to 39 inches; clay loam  
 Layer 4—39 to 48 inches; gravelly sandy loam

Layer 5—48 to 60 inches; very gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 7 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7c

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Typic Torriorthents and similar soils**

Composition: 0 to 8 percent

Classification: Sandy, mixed, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Fan skirts

Typical vegetation: Desert needlegrass, bush muhly, big galleta, other perennial forbs, spiny menodora, creosotebush, white bursage, other shrubs

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

#### **Bluepoint and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Sand sheets

Typical vegetation: Big galleta, Indian ricegrass, other perennial forbs, white bursage, creosotebush, other shrubs

Ecological site: R030XB037NV—Limy sand 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Creosotebush, white burrobrush, baccharis, bursage, other perennial forbs, other perennial grasses, other shrubs, big galleta

Ecological site: R030XB028NV—Valley wash

#### **Crosgrain family and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids

Slope: 4 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Bush muhly, big galleta, other perennial forbs, white bursage, creosotebush, spiny menodora, other shrubs

Ecological site: R030XB074NV—Cobbly loam 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **621—Orwash gravelly loamy coarse sand, 2 to 4 percent slopes**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,080 to 3,670

Precipitation: 5 to 7 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

### ***Composition***

Orwash gravelly loamy coarse sand, 2 to 4 percent slopes—85 percent

Ustic Argidurids extremely gravelly sandy loam, 2 to 4 percent slopes—7 percent

Typic Torriorthents extremely gravelly sandy loam, 2 to 8 percent slopes—6 percent

Arizo extremely gravelly sandy loam, 0 to 2 percent slopes—2 percent

### ***Component Description***

#### **Orwash and similar soils**

Landform: Fan aprons

Slope: 2 to 4 percent

Parent material: Alluvium derived from granite

Typical vegetation: Other shrubs, bush muhly, other perennial forbs, other perennial grasses, white bursage, desert needlegrass, creosotebush

#### **Typical profile:**

Surface rock fragments: About 20 percent gravel, 3 percent cobbles

Layer 1—0 to 2 inches; gravelly loamy coarse sand

Layer 2—2 to 60 inches; stratified loamy sand to very gravelly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB058NV—Granitic fan 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Ustic Argidurids and similar soils**

Composition: 0 to 7 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Ustic Argidurids

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Bush muhly, desert needlegrass, other perennial grasses, other perennial forbs, white bursage, creosotebush, other shrubs

Ecological site: R030XB058NV—Granitic fan 5-7 P.Z.

#### **Typic Torriorthents and similar soils**

Composition: 0 to 6 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Fan aprons

Typical vegetation: Creosotebush, other shrubs, white bursage, other perennial forbs, other perennial grasses, bush muhly, desert needlegrass

Ecological site: R030XB058NV—Granitic fan 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Fan aprons

Typical vegetation: Desert needlegrass, other shrubs, creosotebush, white bursage, other perennial forbs, other perennial grasses, bush muhly

Ecological site: R030XB058NV—Granitic fan 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **622—Orwash-Arizo-Lanip association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,950 to 4,200

Precipitation: 5 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 240 days

### ***Composition***

Orwash gravelly sandy loam, 2 to 8 percent slopes—35 percent

Arizo extremely gravelly coarse sandy loam, 2 to 8 percent slopes—30 percent

Lanip gravelly sandy loam, 2 to 8 percent slopes—20 percent

Lanip very gravelly sandy loam, 2 to 4 percent slopes—8 percent

Typic Haplargids very gravelly loam, 4 to 8 percent slopes—5 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent

### ***Component Description***

#### **Orwash and similar soils**

Landform: Fan aprons

Slope: 2 to 8 percent

Parent material: Mixed alluvium derived from granite

Typical vegetation: Other perennial grasses, white bursage, big galleta, other shrubs, creosotebush, range ratany, other perennial forbs, other annual forbs

#### **Typical profile:**

Surface rock fragments: About 20 percent gravel, 3 percent cobbles

Layer 1—0 to 2 inches; gravelly sandy loam

Layer 2—2 to 60 inches; stratified loamy sand to very gravelly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Arizo and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, other shrubs, creosotebush, range ratany, white bursage

#### **Typical profile:**

Surface rock fragments: About 40 percent gravel, 20 percent cobbles

Layer 1—0 to 6 inches; extremely gravelly coarse sandy loam

Layer 2—6 to 60 inches; stratified very gravelly coarse sand to extremely gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None  
 Natural drainage class: Excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Lanip and similar soils**

Landform: Fan remnants  
 Slope: 2 to 8 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Desert needlegrass, spiny menodora, other shrubs, bush muhly, big galleta, other perennial forbs, white bursage, creosotebush

#### **Typical profile:**

Surface rock fragments: About 50 percent gravel  
 Layer 1—0 to 2 inches; gravelly sandy loam  
 Layer 2—2 to 15 inches; gravelly loam  
 Layer 3—15 to 39 inches; clay loam  
 Layer 4—39 to 48 inches; gravelly sandy loam  
 Layer 5—48 to 60 inches; very gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 7 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7c  
 Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Lanip and similar soils**

Composition: 0 to 8 percent  
 Slope: 2 to 4 percent  
 Landform: Fan remnants  
 Typical vegetation: Bush muhly, Indian ricegrass, big galleta, creosotebush, other perennial grasses, other shrubs, white bursage, winterfat  
 Ecological site: R030XB039NV—Limy fan 5-7 P.Z.

#### **Typic Haplargids and similar soils**

Composition: 0 to 5 percent  
 Classification: Fine-loamy, mixed, superactive, thermic Typic Haplargids

Slope: 4 to 8 percent

Landform: Fan remnants

Typical vegetation: Blackbrush, other perennial grasses, big galleta, other shrubs,  
other perennial forbs

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: White burrobrush, creosotebush, other shrubs, baccharis, bursage,  
other perennial grasses, other perennial forbs, big galleta

Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**630—Tenwell very gravelly sandy loam, 2 to 4 percent slopes**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,080 to 3,610

Precipitation: 5 to 7 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 200 to 270 days

***Composition***

Tenwell very gravelly sandy loam, 2 to 4 percent slopes—85 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—7 percent

Typic Torriorthents extremely gravelly sandy loam, 2 to 8 percent slopes—5 percent

Cambidic Haplodurids extremely gravelly sandy loam, 0 to 2 percent slopes—3 percent

***Component Description***

**Tenwell and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Big galleta, other shrubs, other perennial grasses, white bursage

**Typical profile:**

Surface rock fragments: About 50 percent gravel

Layer 1—0 to 1 inch; very gravelly sandy loam

Layer 2—1 to 4 inches; gravelly sandy loam

Layer 3—4 to 9 inches; sandy loam

Layer 4—9 to 22 inches; gravelly sandy clay loam

Layer 5—22 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 20 to 35 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB100NV—Gravelly claypan 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Arizo and similar soils**

Composition: 0 to 7 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Big galleta, other shrubs, creosotebush, baccharis, other perennial forbs, other perennial grasses, bursage, white burrobrush

Ecological site: R030XB028NV—Valley wash

#### **Typic Torriorthents and similar soils**

Composition: 0 to 5 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Fan aprons

Typical vegetation: Other shrubs, big galleta, other perennial grasses, creosotebush, range ratany, white bursage, other perennial forbs, other annual forbs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Cambidic Haplodurids and similar soils**

Composition: 0 to 3 percent

Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Cambidic Haplodurids

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Big galleta, other shrubs, creosotebush, other perennial grasses, other annual forbs, range ratany, white bursage, other perennial forbs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**635—Aguachiquita-Azureridge association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,070 to 3,580

Precipitation: 5 to 7 inches

Air temperature: 57 to 69 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Aguachiquita gravelly sandy loam, 8 to 30 percent slopes—50 percent

Azureridge very gravelly sandy loam, 15 to 50 percent slopes—35 percent

Typic Haplodurids very gravelly fine sandy loam, 8 to 30 percent slopes—8 percent

Huevi extremely gravelly sandy loam, 15 to 50 percent slopes—4 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent

Haleburu extremely gravelly sandy loam, 8 to 30 percent slopes—1 percent

***Component Description*****Aguachiquita and similar soils**

Landform: Southeast facing backslopes of rock pediments

Slope: 8 to 30 percent, southeast aspect

Parent material: Mixed alluvium derived from granite over fanglomerate

Typical vegetation: Other perennial grasses, big galleta, other perennial forbs, white bursage, other shrubs, creosotebush, range ratany, other annual forbs

**Typical profile:**

Surface rock fragments: About 1 percent subrounded cobbles, 75 percent subrounded gravel

Layer 1—0 to 3 inches; gravelly sandy loam

Layer 2—3 to 10 inches; very gravelly coarse sandy loam

Layer 3—10 to 20 inches; very gravelly coarse sandy loam

Layer 4—20 to 43 inches; cemented material

Layer 5—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Depth to restrictive feature: Duripan: 20 to 30 inches Paralithic bedrock: 39 to 59 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Azureridge and similar soils**

Landform: Backslopes of rock pediments

Slope: 15 to 50 percent

Parent material: Mixed alluvium derived from metamorphic rock over fanglomerate

Typical vegetation: Big galleta, white bursage, range ratany, creosotebush, other shrubs, other perennial forbs

#### **Typical profile:**

Surface rock fragments: About 2 percent subrounded stones, 3 percent subrounded cobbles, 75 percent subrounded gravel

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 9 inches; very gravelly sandy loam

Layer 3—9 to 14 inches; cemented material

Layer 4—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 7 to 14 inches Paralithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Typic Haplodurids mod deep and similar soils**

Composition: 0 to 8 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplodurids

Slope: 8 to 30 percent

Landform: Backslopes of upper elevational fan remnants

Typical vegetation: Desert needlegrass, other perennial forbs, blackbrush, other shrubs

Ecological site: R030XB056NV—Shallow granitic slope 5-7 P.Z.

#### **Huevi dry and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent, south aspect

Landform: South facing backslopes of lower elevational fan remnants

Typical vegetation: Creosotebush, other shrubs, white bursage, other annual forbs

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big galleta, other shrubs, creosotebush, white burrobrush, baccharis, bursage, other perennial forbs, other perennial grasses

Ecological site: R030XB028NV—Valley wash

**Haleburu and similar soils**

Composition: 0 to 1 percent

Slope: 8 to 30 percent

Landform: Backslopes of hills

Typical vegetation: Creosotebush, range ratany, other shrubs, other perennial forbs, big galleta, white bursage

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**640—Cetrepas-Nolena-Rock outcrop association****Map Unit Setting**

MLRA: 30

Landscape: Mountains

Elevation: 1,180 to 5,610

Precipitation: 5 to 10 inches

Air temperature: 52 to 65 degrees Fahrenheit

Frost-free period: 140 to 240 days

**Composition**

Cetrepas extremely stony sandy loam, 30 to 75 percent slopes—40 percent

Nolena extremely stony sandy loam, 30 to 75 percent slopes—30 percent

Rock outcrop, 30 to 75 percent slopes—15 percent

Ustic Torriorthents extremely stony sandy loam, 30 to 75 percent slopes—7 percent

Lithic Ustic Torriorthents very stony coarse sandy loam, 15 to 50 percent slopes—4 percent

Lithic Haplargids very stony loam, 30 to 50 percent slopes—2 percent

Seanna extremely gravelly sandy loam, 30 to 50 percent slopes—2 percent

**Component Description****Cetrepas and similar soils**

Landform: Northeast facing backslopes of hills and mountains

Slope: 30 to 75 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from granite

Typical vegetation: Desert needlegrass, other perennial forbs, blackbrush, Virgin River encelia, Mojave buckwheat, turbinella oak, green ephedra

**Typical profile:**

Surface rock fragments: About 20 percent stones, 20 percent cobbles, 20 percent gravel

Layer 1—0 to 2 inches; extremely stony sandy loam  
 Layer 2—2 to 6 inches; very gravelly sandy loam  
 Layer 3—6 to 13 inches; very gravelly sandy clay loam  
 Layer 4—13 to 24 inches; bedrock  
 Layer 5—24 to 34 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Paralithic bedrock: 8 to 14 inches Lithic bedrock: 20 to 39 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.8 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R029XY129NV—Shallow granitic loam 10-12 P.Z.

#### ***Component Description***

##### **Nolena and similar soils**

Landform: Backslopes of mountains  
 Slope: 30 to 75 percent  
 Parent material: Colluvium and/or residuum weathered from granite  
 Typical vegetation: Desert needlegrass, other perennial forbs, other shrubs, blackbrush

##### **Typical profile:**

Surface rock fragments: About 40 percent gravel, 15 percent cobbles, 15 percent stones  
 Layer 1—0 to 2 inches; extremely stony sandy loam  
 Layer 2—2 to 5 inches; extremely gravelly coarse sandy loam  
 Layer 3—5 to 11 inch; bedrock  
 Layer 4—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Paralithic bedrock: 4 to 14 inches Lithic bedrock: 10 to 20 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.2 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB056NV—Shallow granitic slope 5-7 P.Z.

***Component Description*****Rock outcrop**

Landform: Cliffs

Slope: 30 to 75 percent

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Ustic Torriorthents and similar soils**

Composition: 0 to 7 percent

Classification: Loamy-skeletal, mixed, superactive, nonacid, mesic, shallow Ustic Torriorthents

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Other shrubs, triangle goldeneye, desert needlegrass, other perennial forbs, blackbrush

Ecological site: R029XY144NV—Shallow granitic slope 8-10 P.Z.

**Lithic Ustic Torriorthents and similar soils**

Composition: 0 to 4 percent

Classification: Loamy-skeletal, mixed, superactive, nonacid, mesic Lithic Ustic Torriorthents

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Desert needlegrass, other perennial forbs, other shrubs, Mojave buckwheat, turbinella oak

Ecological site: R029XY112NV—Granitic slope 10-12 P.Z.

**Lithic Haplargids and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Lithic Haplargids

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Creosotebush, other shrubs, triangle goldeneye, white brittlebush, big galleta, white bursage, Mojave buckwheat, other perennial forbs, other perennial grasses

Ecological site: R030XB072NV—Stony slope 5-7 P.Z.

**Seanna and similar soils**

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Backslopes of hills and mountains

Typical vegetation: Desert needlegrass, bush muhly, Mojave buckwheat, range ratany, white bursage, Virgin River encelia, other perennial forbs, Nevada ephedra, other shrubs

Ecological site: R030XB008NV—Shallow granitic hill 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Engineering" and "Soil Properties" sections

## **645—Goldbutte-Nolena association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Mountains  
 Elevation: 2,950 to 5,500  
 Precipitation: 5 to 10 inches  
 Air temperature: 53 to 63 degrees Fahrenheit  
 Frost-free period: 130 to 240 days

### ***Composition***

Goldbutte extremely gravelly coarse sandy loam, 15 to 50 percent slopes—50 percent  
 Nolena extremely gravelly sandy loam, 30 to 75 percent slopes—35 percent  
 Newera very gravelly sandy loam, 15 to 50 percent slopes—4 percent  
 Straycow extremely gravelly sandy loam, 15 to 50 percent slopes—4 percent  
 Jumbopeak extremely gravelly loamy coarse sand, 30 to 75 percent slopes—3 percent  
 Rock outcrop—2 percent  
 Typic Torriorthents extremely gravelly coarse sandy loam, 2 to 8 percent slopes—2 percent

### ***Component Description***

#### **Goldbutte and similar soils**

Landform: Backslopes of hills, backslopes of mountains  
 Slope: 15 to 50 percent  
 Parent material: Colluvium and/or residuum weathered from metamorphic rock  
 Typical vegetation: Other shrubs, triangle goldeneye, blackbrush, other perennial forbs, desert needlegrass

#### **Typical profile:**

Surface rock fragments: About 3 percent stones, 70 percent gravel, 5 percent cobbles  
 Layer 1—0 to 4 inches; extremely gravelly coarse sandy loam  
 Layer 2—4 to 5 inches; very gravelly coarse sandy loam  
 Layer 3—5 to 6 inches; bedrock  
 Layer 4—6 to 16 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Paralithic bedrock: 4 to 10 inches Lithic bedrock: 5 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.2 inch  
 Present flooding: None  
 Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R029XY144NV—Shallow granitic slope 8-10 P.Z.

***Component Description***

**Nolena and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Colluvium and/or residuum weathered from granite

Typical vegetation: Other perennial forbs, other shrubs, desert needlegrass, blackbrush

**Typical profile:**

Surface rock fragments: About 15 percent subangular cobbles, 60 percent subangular gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 5 inches; extremely gravelly coarse sandy loam

Layer 3—5 to 11 inch; bedrock

Layer 4—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 4 to 14 inches Lithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.2 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB056NV—Shallow granitic slope 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Newera and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains and hills

Typical vegetation: Other shrubs, blackbrush, other perennial forbs, other perennial grasses, big galleta

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

**Straycow and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent  
 Landform: Backslopes of hills  
 Typical vegetation: Bush muhly, desert needlegrass, big galleta, other perennial forbs, blackbrush, other shrubs  
 Ecological site: R030XB057NV—Shallow granitic loam 5-7 P.Z.

**Jumbopeak and similar soils**

Composition: 0 to 3 percent  
 Slope: 30 to 75 percent  
 Landform: Backslopes of mountains  
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—bush muhly, other shrubs, desert needlegrass, crested needlegrass, turbinella oak, muttongrass, other perennial grasses, blackbrush, Stansbury cliffrose  
 Ecological site: F030XC250NV

**Rock outcrop**

Composition: 0 to 2 percent  
 Landform: Cliffs

**Typic Torriorthents and similar soils**

Composition: 0 to 2 percent  
 Classification: Sandy-skeletal, mixed, thermic Typic Torriorthents  
 Slope: 2 to 8 percent  
 Landform: Drainageways  
 Typical vegetation: Bush muhly, big galleta, other perennial grasses, other perennial forbs, hollyleaf bursage, other shrubs, Mojave buckwheat, Anderson's wolfberry, range ratany, burrobrush  
 Ecological site: R030XB051NV—Upland wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

**646—Goldbutte-Jumbopeak-Rock outcrop association**

***Map Unit Setting***

MLRA: 30  
 Landscape: Mountains  
 Elevation: 2,950 to 6,230  
 Precipitation: 8 to 12 inches  
 Air temperature: 51 to 56 degrees Fahrenheit  
 Frost-free period: 130 to 180 days

***Composition***

Goldbutte extremely gravelly coarse sandy loam, 15 to 50 percent slopes—40 percent  
 Jumbopeak extremely gravelly loamy coarse sand, 30 to 75 percent slopes—25 percent  
 Rock outcrop—20 percent  
 Nolena extremely gravelly sandy loam, 30 to 75 percent slopes—7 percent  
 Jumbopeak extremely gravelly loamy coarse sand, 50 to 75 percent slopes—5 percent

Typic Torriorthents extremely gravelly coarse sandy loam, 2 to 8 percent slopes—2 percent

Typic Torriorthents gravelly loamy sand, 2 to 8 percent slopes—1 percent

### ***Component Description***

#### **Goldbutte and similar soils**

Landform: Backslopes of hills, backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from metamorphic rock

Typical vegetation: Other shrubs, blackbrush, other perennial forbs, desert needlegrass, triangle goldeneye

#### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 70 percent gravel, 3 percent stones

Layer 1—0 to 4 inches; extremely gravelly coarse sandy loam

Layer 2—4 to 5 inches; very gravelly coarse sandy loam

Layer 3—5 to 6 inches; bedrock

Layer 4—6 to 16 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 4 to 10 inches Lithic bedrock: 5 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.3 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R029XY144NV—Shallow granitic slope 8-10 P.Z.

### ***Component Description***

#### **Jumbopeak and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Colluvium and/or residuum weathered from igneous and metamorphic rock

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—other perennial grasses, crested needlegrass, muttongrass, desert needlegrass, bush muhly, blackbrush, other shrubs, turbinella oak, Stansbury cliffrose

Site index: Singleleaf pinyon—45 at an age base of 0 years

#### **Typical profile:**

Surface rock fragments: About 2 percent boulders, 2 percent stones, 15 percent cobbles, 60 percent gravel

Layer 1—0 to 2 inches; extremely gravelly loamy coarse sand

Layer 2—2 to 9 inches; very gravelly coarse sandy loam

Layer 3—9 to 17 inches; very gravelly coarse sandy loam

Layer 4—17 to 29 inches; very gravelly sandy loam

Layer 5—29 to 39 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: F030XC250NV

### ***Component Description***

#### **Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Nolena and similar soils**

Composition: 0 to 7 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Other perennial forbs, other shrubs, desert needlegrass, blackbrush

Ecological site: R030XB056NV—Shallow granitic slope 5-7 P.Z.

#### **Jumbopeak and similar soils**

Composition: 0 to 5 percent

Slope: 50 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Stansbury cliffrose, blackbrush, other perennial grasses, other shrubs, muttongrass, desert needlegrass, crested needlegrass, bush muhly, turbinella oak

Ecological site: F030XC250NV

#### **Typic Torriorthents and similar soils**

Composition: 0 to 2 percent

Classification: Sandy-skeletal, mixed, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Hollyleaf bursage, other perennial forbs, other perennial grasses, big galleta, bush muhly, other shrubs, Mojave buckwheat, burrobrush, range ratany, Anderson's wolfberry

Ecological site: R030XB051NV—Upland wash

**Typic Torriorthents and similar soils**

Composition: 0 to 1 percent

Classification: Sandy, mixed, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big sagebrush, rubber rabbitbrush, desert almond, other shrubs, Sandberg bluegrass, Indian ricegrass, other perennial forbs, other perennial grasses

Ecological site: R029XY009NV—Upland wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**650—Peskah-Crosgrain association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,120 to 3,610

Precipitation: 5 to 8 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 270 days

***Composition***

Peskah extremely gravelly fine sandy loam, 2 to 8 percent slopes—50 percent

Crosgrain extremely gravelly fine sandy loam, 4 to 15 percent slopes—35 percent

Arizo extremely gravelly sandy loam, 2 to 8 percent slopes—7 percent

Lanip extremely gravelly sandy loam, 2 to 8 percent slopes—5 percent

Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—3 percent

***Component Description*****Peskah and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Big galleta, other perennial grasses, white bursage, other shrubs

**Typical profile:**

Surface rock fragments: About 3 percent stones, 70 percent gravel, 5 percent cobbles

Layer 1—0 to 1 inch; extremely gravelly fine sandy loam

Layer 2—1 to 4 inches; gravelly sandy loam

Layer 3—4 to 8 inches; gravelly sandy clay loam

Layer 4—8 to 15 inches; very gravelly sandy clay loam

Layer 5—15 to 43 inches; stratified very gravelly sandy loam to extremely gravelly coarse sand

Layer 6—43 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Depth to restrictive feature: Duripan: 39 to 60 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB100NV—Gravelly claypan 5-7 P.Z.

***Component Description*****Crosgrain and similar soils**

Landform: Backslopes of partial ballenas

Slope: 4 to 15 percent

Parent material: Mixed alluvium derived from metamorphic rock

Typical vegetation: White bursage, creosotebush, big galleta, other shrubs, range ratany, other perennial grasses, other annual forbs, other perennial forbs

**Typical profile:**

Layer 1—0 to 2 inches; extremely gravelly fine sandy loam

Layer 2—2 to 11 inch; very gravelly loam

Layer 3—11 to 24 inches; cemented material

Layer 4—24 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 6 to 14 inches Duripan: 21 to 24 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Arizo and similar soils**

Composition: 0 to 7 percent

Slope: 2 to 8 percent

Landform: Fan aprons

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, other shrubs, creosotebush, range ratany, white bursage  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Lanip and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: White bursage, Indian ricegrass, bush muhly, big galleta, other perennial grasses, other perennial forbs, other shrubs, Nevada ephedra, spiny hopsage, range ratany, winterfat, creosotebush

Ecological site: R030XB043NV—Claypan 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: White burrobrush, big galleta, baccharis, bursage, other perennial forbs, creosotebush, other shrubs, other perennial grasses

Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**651—Peskah-Arizo association**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,490 to 4,660

Precipitation: 5 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 270 days

***Composition***

Peskah extremely gravelly fine sandy loam, 4 to 8 percent slopes—50 percent

Arizo extremely gravelly sandy loam, 2 to 8 percent slopes—35 percent

Arizo extremely stony loamy sand, 4 to 8 percent slopes—5 percent

Typic Haplargids extremely gravelly loam, 2 to 4 percent slopes—4 percent

Hopswell extremely gravelly loam, 4 to 15 percent slopes—3 percent

Riverwash extremely gravelly coarse sand, 2 to 8 percent slopes—3 percent

***Component Description***

**Peskah and similar soils**

Landform: Fan remnants

Slope: 4 to 8 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Other shrubs, white bursage, other perennial grasses, big galleta

**Typical profile:**

Surface rock fragments: About 3 percent stones, 5 percent cobbles, 70 percent gravel  
 Layer 1—0 to 1 inch; extremely gravelly fine sandy loam  
 Layer 2—1 to 4 inches; gravelly sandy loam  
 Layer 3—4 to 8 inches; gravelly sandy clay loam  
 Layer 4—8 to 15 inches; very gravelly sandy clay loam  
 Layer 5—15 to 43 inches; stratified very gravelly sandy loam to extremely gravelly coarse sand  
 Layer 6—43 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium  
 Depth to restrictive feature: Duripan: 39 to 60 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Slow)  
 Available water capacity: About 2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB100NV—Gravelly claypan 5-7 P.Z.

***Component Description*****Arizo and similar soils**

Landform: Fan aprons  
 Slope: 2 to 8 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Other shrubs, creosotebush, range ratany, other perennial forbs, other annual forbs, other perennial grasses, big galleta, white bursage

**Typical profile:**

Surface rock fragments: About 1 percent stones, 60 percent gravel, 3 percent cobbles  
 Layer 1—0 to 6 inches; extremely gravelly sandy loam  
 Layer 2—6 to 60 inches; stratified extremely gravelly loamy sand to cobbly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 2 inches  
 Present flooding: Very rare  
 Present ponding: None  
 Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Arizo and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 8 percent

Landform: Drainageways

Typical vegetation: Baccharis, bursage, other perennial forbs, other perennial grasses, big galleta, other shrubs, creosotebush, white burrobrush

Ecological site: R030XB028NV—Valley wash

**Typic Haplargids and similar soils**

Composition: 0 to 4 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids

Slope: 2 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Hopswell and similar soils**

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Indian ricegrass, desert needlegrass, black grama, other shrubs, other perennial forbs, blackbrush, big galleta

Ecological site: R030XB014NV—Shallow gravelly loam 7-9 P.Z.

**Riverwash**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Channels

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**660—Crosgrain extremely gravelly loam, 4 to 15 percent slopes*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,620 to 3,350

Precipitation: 5 to 8 inches

Air temperature: 61 to 70 degrees Fahrenheit

Frost-free period: 220 to 300 days

### **Composition**

Crosgrain extremely gravelly loam, 4 to 15 percent slopes—85 percent  
 Crosgrain extremely gravelly loam, 2 to 4 percent slopes—10 percent  
 Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—3 percent  
 Peskah extremely gravelly fine sandy loam, 2 to 4 percent slopes—2 percent

### **Component Description**

#### **Crosgrain and similar soils**

Landform: Backslopes of partial ballenas

Slope: 4 to 15 percent

Parent material: Mixed alluvium derived from metamorphic rock

Typical vegetation: Other perennial grasses, other annual forbs, other perennial forbs,  
 white bursage, range ratany, big galleta, other shrubs, creosotebush

#### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 1 percent stones, 74 percent gravel

Layer 1—0 to 1 inch; extremely gravelly loam

Layer 2—1 to 11 inch; very gravelly loam

Layer 3—11 to 24 inches; cemented material

Layer 4—24 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 6 to 14 inches Duripan: 21 to 24 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### **Contrasting Inclusions**

#### **Crosgrain and similar soils**

Composition: 0 to 10 percent

Slope: 2 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, other perennial forbs, white bursage, spiny hopsage,  
 range ratany, winterfat, creosotebush, Anderson's wolfberry, other shrubs, bush  
 muhly

Ecological site: R030XB053NV—Shallow hill 5-7 P. Z.

**Arizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Baccharis, other shrubs, creosotebush, white burrobrush, big galleta, bursage, other perennial forbs, other perennial grasses

Ecological site: R030XB028NV—Valley wash

**Peskah and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: White bursage, other perennial grasses, big galleta, other shrubs

Ecological site: R030XB100NV—Gravelly claypan 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section

- "Engineering" and "Soil Properties" sections

**661—Crosgrain very stony loam, 8 to 30 percent slopes*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,070 to 3,640

Precipitation: 5 to 8 inches

Air temperature: 61 to 70 degrees Fahrenheit

Frost-free period: 220 to 300 days

***Composition***

Crosgrain very stony loam, 8 to 30 percent slopes—85 percent

Typic Haplargids extremely gravelly loam, 2 to 8 percent slopes—8 percent

Nickel family extremely gravelly sandy loam, 30 to 50 percent slopes—4 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—3 percent

***Component Description*****Crosgrain and similar soils**

Landform: Backslopes of partial ballenas

Slope: 8 to 30 percent

Parent material: Mixed alluvium derived from metamorphic rock

Typical vegetation: Big galleta, other shrubs, creosotebush, range ratany, white bursage, other perennial forbs

**Typical profile:**

Surface rock fragments: About 20 percent subangular cobbles, 20 percent subangular gravel, 35 percent subangular stones

Layer 1—0 to 3 inches; very stony loam

Layer 2—3 to 11 inch; very gravelly loam

Layer 3—11 to 24 inches; cemented material

Layer 4—24 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 6 to 14 inches Duripan: 21 to 24 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Typic Haplargids and similar soils**

Composition: 0 to 8 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids

Slope: 2 to 8 percent

Landform: Summits of ballenas

Typical vegetation: Bush muhly, other perennial grasses, desert globemallow, white bursage, range ratany, creosotebush, other shrubs, big galleta

Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

#### **Nickel family and similar soils**

Composition: 0 to 4 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids

Slope: 30 to 50 percent

Landform: Footslopes of ballenas

Typical vegetation: Other annual forbs, creosotebush, other shrubs, white bursage

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Bursage, other perennial forbs, other perennial grasses, big galleta, baccharis, other shrubs, creosotebush, white burrobrush

Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**662—Crosgrain-Arizo association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,200 to 3,280

Precipitation: 5 to 8 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Crosgrain extremely gravelly loam, 4 to 15 percent slopes—65 percent

Arizo extremely gravelly coarse sandy loam, 2 to 8 percent slopes—20 percent

Lithic Torriorthents extremely gravelly sandy loam, 8 to 30 percent slopes—6 percent

Haleburu extremely gravelly sandy loam, 8 to 30 percent slopes—4 percent

Typic Torriorthents very gravelly sandy loam, 8 to 30 percent slopes—4 percent

Nipton extremely gravelly sandy loam, 8 to 30 percent slopes—1 percent

***Component Description*****Crosgrain and similar soils**

Landform: Backslopes of fan remnants

Slope: 4 to 15 percent

Parent material: Mixed alluvium derived from metamorphic rock

Typical vegetation: Other shrubs, other annual forbs, creosotebush, range ratany, white bursage, other perennial forbs, big galleta, other perennial grasses

**Typical profile:**

Layer 1—0 to 1 inch; extremely gravelly loam

Layer 2—1 to 11 inch; very gravelly loam

Layer 3—11 to 24 inches; cemented material

Layer 4—24 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 6 to 14 inches Duripan: 21 to 24 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description*****Arizo and similar soils**

Landform: Drainageways

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other perennial grasses, other perennial forbs, other shrubs, creosotebush, big galleta, white burrobrush, baccharis, bursage

**Typical profile:**

Surface rock fragments: About 70 percent gravel, 3 percent cobbles

Layer 1—0 to 6 inches; extremely gravelly coarse sandy loam

Layer 2—6 to 60 inches; stratified very gravelly coarse sand to extremely gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Frequent

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7w

Ecological site: R030XB028NV—Valley wash

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Lithic Torriorthents and similar soils**

Composition: 0 to 6 percent

Classification: Loamy, mixed, superactive, calcareous, thermic Lithic Torriorthents

Slope: 8 to 30 percent

Landform: Backslopes of hills

Typical vegetation: Other shrubs, range ratany, Mojave buckwheat, Nevada ephedra, Virgin River encelia, other perennial forbs, desert needlegrass, white bursage, bush muhly

Ecological site: R030XB008NV—Shallow granitic hill 5-7 P.Z.

**Haleburu and similar soils**

Composition: 0 to 4 percent

Slope: 8 to 30 percent

Landform: Backslopes of hills

Typical vegetation: Other perennial forbs, white bursage, range ratany, big galleta, other shrubs, creosotebush

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Typic Torriorthents and similar soils**

Composition: 0 to 4 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Typic Torriorthents

Slope: 8 to 30 percent

Landform: Footslopes of hills

Typical vegetation: Other perennial forbs, white bursage, range ratany, creosotebush,  
other shrubs, big galleta  
Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Nipton and similar soils**

Composition: 0 to 1 percent

Slope: 8 to 30 percent

Landform: Backslopes of hills

Typical vegetation: Desert needlegrass, big galleta, other perennial forbs, ephedra,  
Mojave buckwheat, other shrubs, bush muhly

Ecological site: R030XB071NV—Volcanic slope 7-9 P.Z.

***Management***

For information about managing this map unit, see the following sections and  
associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**663—Crosgrain-Kidwell-Arizo association**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,690 to 4,100

Precipitation: 5 to 8 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 270 days

***Composition***

Crosgrain extremely gravelly fine sandy loam, 2 to 8 percent slopes—30 percent

Kidwell very gravelly sandy loam, 2 to 8 percent slopes—30 percent

Arizo extremely gravelly sandy loam, 2 to 8 percent slopes—25 percent

Typic Torriorthents extremely gravelly sandy loam, 2 to 8 percent slopes—7 percent

Cambidic Haplodurids extremely gravelly fine sandy loam, 4 to 15 percent slopes—6  
percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent

***Component Description***

**Crosgrain and similar soils**

Landform: Backslopes of partial ballenas

Slope: 2 to 8 percent

Parent material: Mixed alluvium derived from metamorphic rock

Typical vegetation: White bursage, other perennial forbs, other annual forbs, other  
perennial grasses, big galleta, creosotebush, range ratany, other shrubs

**Typical profile:**

Layer 1—0 to 2 inches; extremely gravelly fine sandy loam

Layer 2—2 to 11 inch; very gravelly loam

Layer 3—11 to 24 inches; cemented material

Layer 4—24 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 6 to 14 inches Duripan: 21 to 24 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description*****Kidwell and similar soils**

Landform: Concave fluves on fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium derived from volcanic rock

Typical vegetation: Big galleta, bush muhly, white bursage, other perennial forbs, spiny menodora, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 45 percent gravel

Layer 1—0 to 1 inch; very gravelly sandy loam

Layer 2—1 to 9 inches; gravelly sandy loam

Layer 3—9 to 15 inches; gravelly sandy clay loam

Layer 4—15 to 31 inch; gravelly sandy clay loam

Layer 5—31 to 60 inches; gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 8 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB074NV—Cobbly loam 5-7 P.Z.

***Component Description*****Arizo and similar soils**

Landform: Fan aprons

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Creosotebush, white bursage, other perennial forbs, bush muhly, spiny menodora, other shrubs, big galleta

**Typical profile:**

Surface rock fragments: About 60 percent gravel, 3 percent cobbles, 1 percent stones  
 Layer 1—0 to 2 inches; extremely gravelly sandy loam  
 Layer 2—2 to 9 inches; gravelly loamy sand  
 Layer 3—9 to 60 inches; stratified very gravelly coarse sand to extremely gravelly loamy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB074NV—Cobbly loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Typic Torriorthents and similar soils**

Composition: 0 to 7 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Fan aprons

Typical vegetation: Bush muhly, other perennial forbs, white bursage, creosotebush, spiny menodora, other shrubs, big galleta

Ecological site: R030XB074NV—Cobbly loam 5-7 P.Z.

**Cambidic Haplodurids and similar soils**

Composition: 0 to 6 percent

Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Cambidic Haplodurids

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, big galleta

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other perennial grasses, other shrubs, creosotebush, big galleta, white burrobrush, other perennial forbs, bursage, baccharis

Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **665—Crosgrain-Vace association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,690 to 3,120

Precipitation: 5 to 8 inches

Air temperature: 60 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

### ***Composition***

Crosgrain extremely gravelly fine sandy loam, 8 to 30 percent slopes—55 percent

Vace gravelly fine sandy loam, 4 to 15 percent slopes—30 percent

Weiser very gravelly sandy loam, 2 to 8 percent slopes—8 percent

Petronodic Haplocalcids gravelly loam, 2 to 8 percent slopes—3 percent

Nickel very gravelly fine sandy loam, 2 to 8 percent slopes—3 percent

Bracken gypsiferous material, 4 to 15 percent slopes—1 percent

### ***Component Description***

#### **Crosgrain and similar soils**

Landform: Backslopes of fan remnants

Slope: 8 to 30 percent

Parent material: Mixed alluvium derived from metamorphic rock

Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

#### **Typical profile:**

Layer 1—0 to 2 inches; extremely gravelly fine sandy loam

Layer 2—2 to 11 inch; very gravelly loam

Layer 3—11 to 24 inches; cemented material

Layer 4—24 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 6 to 14 inches Duripan: 21 to 24 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

***Component Description*****Vace and similar soils**

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Calcareous loess and mixed alluvium

Typical vegetation: Other shrubs, creosotebush, white bursage, other perennial forbs,  
other annual forbs

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 70 percent gravel

Layer 1—0 to 2 inches; gravelly fine sandy loam

Layer 2—2 to 8 inches; loam

Layer 3—8 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Weiser and similar soils**

Composition: 0 to 8 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial grasses, other perennial forbs, white bursage,  
range ratany, creosotebush, other shrubs, big galleta, other annual forbs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Nickel and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Summits of inset fans

Typical vegetation: Other shrubs, desert needlegrass, bush muhly, spiny menodora,  
creosotebush, white bursage, big galleta, other perennial forbs

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

**Petronodic Haplocalcids and similar soils**

Composition: 0 to 3 percent

Classification: Loamy-skeletal, carbonatic, thermic Petronodic Haplocalcids

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial forbs, white bursage, shadscale, creosotebush, wolfberry, other shrubs, Indian ricegrass

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

**Bracken and similar soils**

Composition: 0 to 1 percent

Slope: 4 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial grasses, other perennial forbs, white bursage, creosotebush, Fremont dalea, other shrubs

Ecological site: R030XB079NV—Gypsic slope 3-5 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**670—Nipton-Highland-Rock outcrop association*****Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 2,430 to 5,250

Precipitation: 5 to 9 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

***Composition***

Nipton extremely stony sandy loam, 15 to 50 percent slopes—45 percent

Highland extremely gravelly loam, 15 to 50 percent slopes—25 percent

Rock outcrop—15 percent

Lithic Torriorthents extremely stony fine sandy loam, 15 to 50 percent slopes—6 percent

Haleburu very gravelly sandy loam, 8 to 30 percent slopes—5 percent

Typic Haplocambids gravelly sandy loam, 2 to 4 percent slopes—2 percent

Arizo extremely gravelly loamy coarse sand, 8 to 30 percent slopes—2 percent

***Component Description*****Nipton and similar soils**

Landform: Northeast facing summits of mountains

Slope: 15 to 50 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from metavolcanics

Typical vegetation: Mojave buckwheat, ephedra, other perennial forbs, big galleta, bush muhly, desert needlegrass, other shrubs

**Typical profile:**

Surface rock fragments: About 15 percent stones, 15 percent cobbles, 40 percent gravel

Layer 1—0 to 2 inches; extremely stony sandy loam

Layer 2—2 to 12 inches; very gravelly sandy loam

Layer 3—12 to 22 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.8 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB071NV—Volcanic slope 7-9 P.Z.

***Component Description*****Highland and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Big galleta, bush muhly, other perennial grasses, desert globemallow, white bursage, range ratany, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 65 percent gravel, 20 percent cobbles, 2 percent stones

Layer 1—0 to 3 inches; extremely gravelly loam

Layer 2—3 to 13 inches; very cobbly loam

Layer 3—13 to 26 inches; very gravelly loam

Layer 4—26 to 40 inches; very gravelly sandy loam

Layer 5—40 to 50 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 30 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

***Component Description*****Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Lithic Torriorthents and similar soils**

Composition: 0 to 6 percent

Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Torriorthents

Slope: 15 to 50 percent, northwest to east aspects

Landform: Northwest to east aspects on backslopes of mountains

Typical vegetation: Desert needlegrass, bush muhly, other perennial forbs, ephedra, Mojave buckwheat, winterfat, Anderson wolfberry, Fremont dalea, other shrubs

Ecological site: R030XB085NV—Basaltic north slope 7-9 P.Z.

**Haleburu and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Pediments

Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Drainageways

Typical vegetation: Other perennial grasses, big galleta, bursage, other shrubs, creosotebush, white burrobrush, baccharis, other perennial forbs

Ecological site: R030XB028NV—Valley wash

**Typic Haplocambids and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids

Slope: 2 to 4 percent

Landform: Summits of inset fans

Typical vegetation: Big galleta, other shrubs, other perennial forbs, white bursage, range ratany, creosotebush

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**673—Nolena-Newera association*****Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 3,020 to 4,890

Precipitation: 5 to 7 inches

Air temperature: 57 to 66 degrees Fahrenheit

Frost-free period: 180 to 270 days

***Composition***

Nolena extremely gravelly sandy loam, 30 to 50 percent slopes—50 percent

Newera extremely gravelly sandy loam, 15 to 50 percent slopes—35 percent

Highland extremely gravelly loam, 8 to 15 percent slopes—5 percent

Newera very gravelly sandy loam, 15 to 50 percent slopes—5 percent

Rock outcrop—3 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent

***Component Description*****Nolena moist and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Colluvium and/or residuum weathered from granite

Typical vegetation: Other shrubs, blackbrush, other perennial forbs, big galleta, bush muhly, desert needlegrass

**Typical profile:**

Surface rock fragments: About 60 percent subangular gravel, 15 percent subangular cobbles

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 5 inches; extremely gravelly coarse sandy loam

Layer 3—5 to 11 inch; bedrock

Layer 4—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 4 to 14 inches Lithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.2 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB057NV—Shallow granitic loam 5-7 P.Z.

***Component Description*****Newera steep and similar soils**

Landform: Backslopes of mountains and hills

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from volcanic and metamorphic rock

Typical vegetation: Desert needlegrass, big galleta, blackbrush, other shrubs

**Typical profile:**

Surface rock fragments: About 80 percent gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 6 inches; very gravelly sandy clay loam

Layer 3—6 to 16 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 0.4 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB076NV—Shallow gravelly slope 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Highland and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 15 percent

Landform: Backslopes of mountains

Typical vegetation: Other shrubs, creosotebush, range ratany, desert globemallow, big galleta, bush muhly, other perennial grasses, white bursage

Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

**Newera and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains and hills

Typical vegetation: Other shrubs, blackbrush, other perennial forbs, other perennial grasses, big galleta

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

**Rock outcrop**

Composition: 0 to 3 percent

Landform: Cliffs

Ecological site: None

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Baccharis, creosotebush, other shrubs, bursage, other perennial forbs, other perennial grasses, big galleta, white burrobrush

Ecological site: R030XB028NV—Valley wash

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**674—Nipton-Rubble land-Railroad association****Map Unit Setting**

MLRA: 30

Landscape: Mountains

Elevation: 2,260 to 5,080

Precipitation: 5 to 50 inches

Air temperature: 45 to 63 degrees Fahrenheit

Frost-free period: 75 to 240 days

**Composition**

Nipton extremely stony sandy loam, 30 to 75 percent slopes—40 percent

Rubble land boulders, 30 to 75 percent slopes—25 percent

Railroad extremely stony sandy loam, 8 to 30 percent slopes—20 percent

Hiddensun very cobbly fine sandy loam, 15 to 50 percent slopes—5 percent

Railroad extremely stony sandy loam, 4 to 15 percent slopes—4 percent

Rock outcrop—2 percent

Railroad extremely cobbly loam, 15 to 50 percent slopes—2 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent

**Component Description****Nipton and similar soils**

Landform: Northeast facing summits of mountains

Slope: 30 to 75 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from metavolcanics

Typical vegetation: Bush muhly, big galleta, other shrubs, Mojave buckwheat, desert needlegrass, other perennial forbs, ephedra

**Typical profile:**

Surface rock fragments: About 15 percent cobbles, 15 percent stones, 40 percent gravel

Layer 1—0 to 2 inches; extremely stony sandy loam

Layer 2—2 to 12 inches; very gravelly sandy loam

Layer 3—12 to 22 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
Moderately rapid)

Available water capacity: About 0.8 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB071NV—Volcanic slope 7-9 P.Z.

***Component Description*****Rubble land**

Landform: Backslopes of talus slopes

Slope: 30 to 75 percent

**Component Properties and Qualities**

Runoff: Low

Depth to restrictive feature: Lithic bedrock: 40 to 40 inches

Present ponding: None

**Interpretive Groups**

Nonirrigated land capability: 8s

***Component Description*****Railroad and similar soils**

Landform: Backslopes of moderately steep basalt mountains

Slope: 8 to 30 percent

Parent material: Influenced by calcareous loess, colluvium and/or residuum weathered  
from basalt

Typical vegetation: Nevada ephedra, other shrubs, white bursage, big galleta, winterfat

**Typical profile:**

Surface rock fragments: About 15 percent stones, 15 percent cobbles, 35 percent  
gravel

Layer 1—0 to 3 inches; extremely stony sandy loam

Layer 2—3 to 11 inch; very gravelly fine sandy loam

Layer 3—11 to 34 inches; very gravelly fine sandy loam

Layer 4—34 to 44 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 30 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB069NV—Basaltic hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Hiddensun and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent, northwest to east aspects

Landform: Northwest to east aspects on backslopes of hills

Typical vegetation: Desert needlegrass, bush muhly, other perennial forbs, ephedra, Mojave buckwheat, winterfat, Anderson wolfberry, Fremont dalea, other shrubs

Ecological site: R030XB085NV—Basaltic north slope 7-9 P.Z.

**Railroad and similar soils**

Composition: 0 to 4 percent

Slope: 4 to 15 percent

Landform: Backslopes of steep basalt lava flows

Typical vegetation: Other annual forbs, big galleta, bush muhly, Indian ricegrass, other perennial forbs, winterfat, other shrubs

Ecological site: R030XB080NV—Stony loam 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other shrubs, big galleta, creosotebush, baccharis, white burrobrush, bursage, other perennial forbs, other perennial grasses

Ecological site: R030XB028NV—Valley wash

**Railroad and similar soils**

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Summits of lava flows

Typical vegetation: Ephedra, winterfat, Anderson wolfberry, bush muhly, big galleta, other shrubs

Ecological site: R030XB089NV—Stony loam 7-9 P.Z.

**Rock outcrop**

Composition: 0 to 2 percent

Landform: Cliffs

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**680—Lanfair-Hoppswell association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,810 to 5,320

Precipitation: 7 to 9 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

***Composition***

Lanfair extremely gravelly sandy loam, 2 to 8 percent slopes—65 percent

Hoppswell extremely gravelly sandy loam, 4 to 15 percent slopes—20 percent

Ustic Haplargids very gravelly sandy loam, 2 to 8 percent slopes—9 percent

Ustic Haplodurids very gravelly sandy loam, 15 to 50 percent slopes—4 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent

***Component Description*****Lanfair and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Alluvium derived from metamorphic rock

Typical vegetation: Blackbrush, yucca, desert needlegrass, other perennial forbs, other perennial grasses, big galleta, other shrubs, black grama

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 70 percent gravel, 5 percent stones

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 9 inches; gravelly sandy loam

Layer 3—9 to 15 inches; very gravelly sandy loam

Layer 4—15 to 60 inches; very gravelly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB090NV—Gravelly fan 7-9 P.Z.

***Component Description*****Hoppswell and similar soils**

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from igneous rock

Typical vegetation: Indian ricegrass, black grama, other shrubs, other perennial forbs, desert needlegrass, big galleta, blackbrush

**Typical profile:**

Surface rock fragments: About 70 percent gravel, 3 percent stones, 5 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 15 inches; very gravelly sandy clay loam

Layer 3—15 to 64 inches; stratified extremely gravelly coarse sand to very gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB014NV—Shallow gravelly loam 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Ustic Haplargids and similar soils**

Composition: 0 to 9 percent

Classification: Fine-loamy, mixed, superactive, thermic Ustic Haplargids

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Big galleta, Indian ricegrass, other perennial forbs, desert needlegrass, black grama, other shrubs, other perennial grasses, bush muhly

Ecological site: R030XB033NV—Sandy plain 7-9 P.Z.

**Ustic Haplodurids and similar soils**

Composition: 0 to 4 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Ustic Haplodurids

Slope: 15 to 50 percent

Landform: Fan remnants

Typical vegetation: Desert needlegrass, black grama, big galleta, other perennial forbs, blackbrush, other shrubs

Ecological site: R030XB015NV—Shallow gravelly slope 7-9 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Hollyleaf bursage, other perennial forbs, range ratany, Anderson's wolfberry, other shrubs, Mojave buckwheat, other perennial grasses, burrobrush, bush muhly, big galleta  
 Ecological site: R030XB051NV—Upland wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:  
 "Range" section  
 "Engineering" and "Soil Properties" sections

## **690—Hoppswell-Ustidur association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 3,350 to 5,250  
 Precipitation: 7 to 9 inches  
 Air temperature: 57 to 63 degrees Fahrenheit  
 Frost-free period: 180 to 240 days

### ***Composition***

Hoppswell extremely gravelly sandy loam, 4 to 8 percent slopes—55 percent  
 Ustidur extremely gravelly sandy loam, 8 to 30 percent slopes—30 percent  
 Ustic Torriorthents very gravelly sandy loam, 4 to 8 percent slopes—8 percent  
 Typic Torriorthents very gravelly loam, 8 to 30 percent slopes—5 percent  
 Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—2 percent

### ***Component Description***

#### **Hoppswell and similar soils**

Landform: Fan remnants  
 Slope: 4 to 8 percent  
 Parent material: Alluvium derived from igneous rock  
 Typical vegetation: Indian ricegrass, other shrubs, desert needlegrass, black grama, big galleta, other perennial forbs, blackbrush

#### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 70 percent gravel, 3 percent stones  
 Layer 1—0 to 2 inches; extremely gravelly sandy loam  
 Layer 2—2 to 15 inches; very gravelly sandy clay loam  
 Layer 3—15 to 64 inches; stratified extremely gravelly coarse sand to very gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 3 inches  
 Present flooding: Very rare  
 Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB014NV—Shallow gravelly loam 7-9 P.Z.

***Component Description***

**Ustidur and similar soils**

Landform: Backslopes of partial ballenas

Slope: 8 to 30 percent

Parent material: Alluvium derived from metamorphic rock

Typical vegetation: Other shrubs, blackbrush, other perennial forbs, big galleta, black grama, desert needlegrass

**Typical profile:**

Surface rock fragments: About 1 percent stones, 5 percent cobbles, 75 percent gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 6 inches; very gravelly sandy loam

Layer 3—6 to 38 inches; cemented material

Layer 4—38 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Duripan: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.3 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB015NV—Shallow gravelly slope 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Ustic Torriorthents and similar soils**

Composition: 0 to 8 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Ustic Torriorthents

Slope: 4 to 8 percent

Landform: Upper inset fans

Typical vegetation: Other shrubs, yucca, blackbrush, other perennial forbs, big galleta, black grama, desert needlegrass, other perennial grasses

Ecological site: R030XB090NV—Gravelly fan 7-9 P.Z.

**Typic Torriorthents and similar soils**

Composition: 0 to 5 percent

Classification: Loamy, mixed, superactive, calcareous, thermic, shallow Typic Torriorthents

Slope: 8 to 30 percent

Landform: Lower inset fans

Typical vegetation: Desert needlegrass, black grama, big galleta, other perennial forbs, blackbrush, other shrubs

Ecological site: R030XB015NV—Shallow gravelly slope 7-9 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Range ratany, burrobrush, big galleta, Mojave buckwheat, hollyleaf bursage, other shrubs, Anderson's wolfberry, bush muhly, other perennial forbs, other perennial grasses

Ecological site: R030XB051NV—Upland wash

#### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

### **691—Hoppswell-Jetmine association**

#### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,310 to 4,300

Precipitation: 5 to 7 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

#### ***Composition***

Hoppswell gravelly sandy loam, dry, 2 to 8 percent slopes—50 percent

Jetmine sandy loam, 2 to 8 percent slopes—35 percent

Lanip gravelly sandy loam, 2 to 8 percent slopes—5 percent

Typic Haplodurids very gravelly fine sandy loam, 4 to 15 percent slopes—4 percent

Typic Haplargids gravelly sandy loam, 2 to 4 percent slopes—3 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—3 percent

#### ***Component Description***

##### **Hoppswell and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from igneous rock

Typical vegetation: Other perennial forbs, blackbrush, big galleta, other shrubs, other perennial grasses

##### **Typical profile:**

Surface rock fragments: About 70 percent gravel, 5 percent cobbles, 3 percent stones

Layer 1—0 to 2 inches; gravelly sandy loam

Layer 2—2 to 15 inches; very gravelly sandy clay loam

Layer 3—15 to 64 inches; stratified extremely gravelly coarse sand to very gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

#### ***Component Description***

##### **Jetmine and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium derived from rhyolite

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, blackbrush, other shrubs

##### **Typical profile:**

Surface rock fragments: About 2 percent cobbles, 50 percent gravel

Layer 1—0 to 2 inches; sandy loam

Layer 2—2 to 16 inches; sandy loam

Layer 3—16 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Lanip and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: White bursage, Nevada ephedra, spiny hopsage, other perennial forbs, other perennial grasses, big galleta, bush muhly, Indian ricegrass, range ratany, other shrubs, winterfat, creosotebush

Ecological site: R030XB043NV—Claypan 5-7 P.Z.

#### **Typic Haplodurids and similar soils**

Composition: 0 to 4 percent

Classification: Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids

Slope: 4 to 15 percent

Landform: Partial ballenas

Typical vegetation: Other perennial grasses, other perennial forbs, other shrubs, big galleta, blackbrush

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other shrubs, creosotebush, white burrobrush, baccharis, bursage, other perennial forbs, other perennial grasses, big galleta

Ecological site: R030XB028NV—Valley wash

#### **Typic Haplargids and similar soils**

Composition: 0 to 3 percent

Classification: Coarse-loamy, mixed, superactive, thermic Typic Haplargids

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, creosotebush, winterfat, range ratany, spiny hopsage, Nevada ephedra, white bursage, Indian ricegrass, bush muhly, big galleta, other perennial grasses, other perennial forbs

Ecological site: R030XB043NV—Claypan 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **700—Mountmcull-Nippeno association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 3,440 to 6,460

Precipitation: 7 to 9 inches

Air temperature: 51 to 57 degrees Fahrenheit

Frost-free period: 130 to 180 days

### ***Composition***

Mountmcull extremely gravelly sandy loam, 30 to 75 percent slopes—50 percent  
 Nippeno very gravelly loam, 8 to 30 percent slopes—35 percent  
 Lithic Ustic Torriorthents very gravelly loam, 30 to 75 percent slopes—4 percent  
 Nipton extremely gravelly sandy loam, 15 to 50 percent slopes—4 percent  
 Rock outcrop—4 percent  
 Lithic Ustic Torriorthents extremely gravelly sandy loam, 15 to 50 percent slopes—3 percent

### ***Component Description***

#### **Mountmcull and similar soils**

Landform: Backslopes of mountains  
 Slope: 30 to 75 percent  
 Parent material: Colluvium and/or residuum weathered from igneous and metamorphic rock  
 Typical vegetation: Desert needlegrass, black grama, big galleta, other perennial forbs, blackbrush, other shrubs, Indian ricegrass

#### **Typical profile:**

Surface rock fragments: About 1 percent stones, 5 percent cobbles, 80 percent gravel  
 Layer 1—0 to 2 inches; extremely gravelly sandy loam  
 Layer 2—2 to 8 inches; very gravelly sandy loam  
 Layer 3—8 to 18 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 10 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.6 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB014NV—Shallow gravelly loam 7-9 P.Z.

### ***Component Description***

#### **Nippeno and similar soils**

Landform: Backslopes of mountains  
 Slope: 8 to 30 percent  
 Parent material: Colluvium and/or residuum weathered from metamorphic rock  
 Typical vegetation: Desert needlegrass, black grama, big galleta, other perennial forbs, blackbrush, other shrubs, Indian ricegrass

#### **Typical profile:**

Surface rock fragments: About 5 percent subangular cobbles, 70 percent subangular gravel  
 Layer 1—0 to 2 inches; very gravelly loam  
 Layer 2—2 to 6 inches; very gravelly sandy clay loam

Layer 3—6 to 15 inches;  
 Layer 4—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 13 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 0.7 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB014NV—Shallow gravelly loam 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Lithic Ustic Torriorthents and similar soils**

Composition: 0 to 4 percent  
 Classification: Loamy-skeletal, mixed, superactive, nonacid, mesic Lithic Ustic Torriorthents  
 Slope: 30 to 75 percent  
 Landform: Summits of cliffs  
 Typical vegetation: Forest canopy—Utah juniper Forest understory—desert needlegrass, blue grama, other perennial forbs, Utah juniper, Stansbury cliffrose, black grama, muttongrass, other perennial grasses, other shrubs, blackbrush, desert bitterbrush  
 Ecological site: F030XC237NV

##### **Nipton and similar soils**

Composition: 0 to 4 percent  
 Slope: 15 to 50 percent  
 Landform: Backslopes of hills  
 Typical vegetation: Mojave buckwheat, ephedra, other shrubs, big galleta, bush muhly, other perennial forbs, desert needlegrass  
 Ecological site: R030XB071NV—Volcanic slope 7-9 P.Z.

##### **Rock outcrop**

Composition: 0 to 4 percent  
 Landform: Cliffs

##### **Lithic Ustic Torriorthents and similar soils**

Composition: 0 to 3 percent  
 Classification: Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Ustic Torriorthents  
 Slope: 15 to 50 percent  
 Landform: Backslopes of hills

Typical vegetation: Other shrubs, desert needlegrass, black grama, big galleta, other perennial forbs, blackbrush  
 Ecological site: R030XB015NV—Shallow gravelly slope 7-9 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:  
 "Range" section  
 "Engineering" and "Soil Properties" sections

## **701—Nippeno-Nipton association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Mountains  
 Elevation: 2,790 to 5,680  
 Precipitation: 7 to 9 inches  
 Air temperature: 52 to 63 degrees Fahrenheit  
 Frost-free period: 130 to 240 days

### ***Composition***

Nippeno very gravelly loam, 15 to 50 percent slopes—45 percent  
 Nipton extremely gravelly sandy loam, 30 to 75 percent slopes—40 percent  
 Haleburu very gravelly sandy loam, 15 to 50 percent slopes—6 percent  
 Rock outcrop—4 percent  
 Highland extremely cobbly loam, 4 to 15 percent slopes—3 percent  
 Highland extremely gravelly loam, 8 to 30 percent slopes—2 percent

### ***Component Description***

#### **Nippeno and similar soils**

Landform: Backslopes of mountains  
 Slope: 15 to 50 percent  
 Parent material: Colluvium and/or residuum weathered from metamorphic rock  
 Typical vegetation: Other shrubs, blackbrush, other perennial forbs, big galleta, black grama, desert needlegrass, Indian ricegrass

#### **Typical profile:**

Surface rock fragments: About 70 percent subangular gravel, 5 percent subangular cobbles  
 Layer 1—0 to 2 inches; very gravelly loam  
 Layer 2—2 to 6 inches; very gravelly sandy clay loam  
 Layer 3—6 to 15 inches;  
 Layer 4—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 13 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 0.7 inch

Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB014NV—Shallow gravelly loam 7-9 P.Z.

### ***Component Description***

#### **Nipton and similar soils**

Landform: Northeast facing summits of mountains  
 Slope: 30 to 75 percent, northeast aspect  
 Parent material: Colluvium and/or residuum weathered from metavolcanics  
 Typical vegetation: Ephedra, other perennial forbs, desert needlegrass, bush muhly, big galleta, Mojave buckwheat, other shrubs

#### **Typical profile:**

Surface rock fragments: About 3 percent stones, 25 percent cobbles, 55 percent gravel  
 Layer 1—0 to 1 inch; extremely gravelly sandy loam  
 Layer 2—1 to 5 inches; very gravelly sandy loam  
 Layer 3—5 to 15 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.3 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB071NV—Volcanic slope 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Haleburu and similar soils**

Composition: 0 to 6 percent  
 Slope: 15 to 50 percent  
 Landform: Backslopes of hills  
 Typical vegetation: White brittlebush, other perennial forbs, white bursage, other shrubs, triangle goldeneye, Mojave buckwheat, creosotebush, big galleta, other perennial grasses  
 Ecological site: R030XB072NV—Stony slope 5-7 P.Z.

**Rock outcrop**

Composition: 0 to 4 percent  
Landform: Cliffs

**Highland and similar soils**

Composition: 0 to 3 percent  
Slope: 4 to 15 percent  
Landform: Backslopes of mountains  
Typical vegetation: Desert globemallow, bush muhly, other shrubs, creosotebush, range ratany, white bursage, other perennial grasses, big galleta  
Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

**Highland and similar soils**

Composition: 0 to 2 percent  
Slope: 8 to 30 percent  
Landform: Backslopes of mountains  
Typical vegetation: Other perennial forbs, other shrubs, winterfat, Mojave buckwheat, ephedra, big galleta, bush muhly, desert needlegrass  
Ecological site: R030XB091NV—Mountain ridge

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Engineering" and "Soil Properties" sections

**705—Charkiln-Woodspring-Buckspring association*****Map Unit Setting***

MLRA: 30  
Landscape: Fan piedmont  
Elevation: 6,460 to 7,840  
Precipitation: 12 to 18 inches  
Air temperature: 45 to 56 degrees Fahrenheit  
Frost-free period: 90 to 180 days

***Composition***

Charkiln gravelly fine sandy loam, 4 to 15 percent slopes—45 percent  
Woodspring gravelly sandy loam, 4 to 15 percent slopes—20 percent  
Buckspring very gravelly loam, 15 to 50 percent slopes—15 percent  
Fletcherpeak extremely gravelly loam, 30 to 75 percent slopes—9 percent  
Ustic Haplocalcids very gravelly sandy loam, 4 to 8 percent slopes—7 percent  
Maryjane extremely gravelly silt loam, 15 to 50 percent slopes—4 percent

***Component Description*****Charkiln and similar soils**

Landform: Fan fan remnants  
Slope: 4 to 15 percent  
Parent material: Alluvium derived from quartzite  
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Gambel oak, other shrubs, curlleaf mountainmahogany, muttongrass, mountain big sagebrush, other perennial forbs, other perennial grasses  
Site index: Singleleaf pinyon—100 at an age base of 0 years

**Typical profile:**

Surface rock fragments: About 20 percent subangular gravel, 2 percent subangular cobbles

Layer 1—0 to 1 inch; slightly decomposed plant material

Layer 2—1 to 5 inches; gravelly fine sandy loam

Layer 3—5 to 9 inches; very gravelly fine sandy loam

Layer 4—9 to 65 inches; loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 6c

Ecological site: F030XC288NV

***Component Description*****Woodspring and similar soils**

Landform: Summits of fan remnants

Slope: 4 to 15 percent

Parent material: Mixed alluvium derived from Limestone and dolomite

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, other perennial grasses, other perennial forbs, mountain big sagebrush, Gambel oak, other shrubs, curlleaf mountainmahogany

Site index: Singleleaf pinyon—100 at an age base of 0 years

**Typical profile:**

Surface rock fragments: About 0 percent subangular stones, 2 percent subangular cobbles, 20 percent subangular gravel

Layer 1—0 to 0 inches; slightly decomposed plant material

Layer 2—0 to 2 inches; gravelly sandy loam

Layer 3—2 to 9 inches; very gravelly sandy loam

Layer 4—9 to 61 inch; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: F030XC288NV

***Component Description*****Buckspring and similar soils**

Landform: Backslope mountains

Slope: 15 to 50 percent

Parent material: Colluvium over residuum weathered from Limestone

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—desert needlegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, Utah juniper, Stansbury cliffrose, other shrubs, banana yucca, singleleaf pinyon, muttongrass

Site index: Utah juniper—65 at an age base of 0 years

Site index: Singleleaf pinyon—65 at an age base of 0 years

**Typical profile:**

Surface rock fragments: About 50 percent subrounded gravel, 8 percent subrounded cobbles, 1 percent subrounded stones

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 10 inches; extremely cobbly loam

Layer 3—10 to 17 inches; extremely cobbly loam

Layer 4—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: F030XC246NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Fletcherpeak and similar soils**

Composition: 0 to 9 percent

Slope: 30 to 75 percent

Landform: Backslope mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Gambel oak, mountain big sagebrush, black sagebrush, curlleaf mountainmahogany, Utah serviceberry, muttongrass, other shrubs, other perennial grasses, singleleaf pinyon, other perennial forbs

Ecological site: F030XC249NV

**Ustic Haplocalcids and similar soils**

Composition: 0 to 7 percent

Slope: 4 to 8 percent

Landform: Fan remnants

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Gambel oak, other perennial forbs, Utah serviceberry, black sagebrush, mountain big sagebrush, other shrubs, singleleaf pinyon, curleaf mountainmahogany, muttongrass, other perennial grasses

Ecological site: F030XC249NV

**Maryjane and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Backslopes of lower mountains

Typical vegetation: Forest canopy—ponderosa pine Forest understory—curleaf mountainmahogany, bluebunch wheatgrass, other shrubs, other perennial forbs, Spring Mountain goldenbush, muttongrass, wax currant, white fir, ponderosa pine, other perennial grasses

Ecological site: F030XC280NV

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**710—Arizo-Lanfair-Riverwash association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,890 to 4,500

Precipitation: 5 to 9 inches

Air temperature: 52 to 70 degrees Fahrenheit

Frost-free period: 130 to 260 days

***Composition***

Arizo extremely gravelly sandy loam, 2 to 8 percent slopes—40 percent

Lanfair extremely gravelly sandy loam, 4 to 8 percent slopes—25 percent

Riverwash extremely gravelly coarse sand, 2 to 4 percent slopes—20 percent

Typic Argidurids extremely cobbly loam, 2 to 4 percent slopes—8 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—4 percent

Ustic Haplargids very gravelly sandy loam, 2 to 8 percent slopes—3 percent

***Component Description*****Arizo and similar soils**

Landform: Inset fans

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Mojave buckwheat, white burrobrush, other shrubs, desertsenna, hollyleaf bursage, other perennial forbs, big galleta

**Typical profile:**

Surface rock fragments: About 3 percent cobbles, 60 percent gravel, 1 percent stones  
 Layer 1—0 to 2 inches; extremely gravelly sandy loam  
 Layer 2—2 to 9 inches; gravelly loamy sand  
 Layer 3—9 to 60 inches; stratified very gravelly coarse sand to extremely gravelly loamy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB052NV—Rubbly outwash

***Component Description*****Lanfair and similar soils**

Landform: Alluvial fans

Slope: 4 to 8 percent

Parent material: Alluvium derived from metamorphic rock

Typical vegetation: Other shrubs, desert needlegrass, black grama, big galleta, other perennial grasses, other perennial forbs, blackbrush, yucca

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 70 percent gravel, 5 percent stones  
 Layer 1—0 to 2 inches; extremely gravelly sandy loam  
 Layer 2—2 to 9 inches; gravelly sandy loam  
 Layer 3—9 to 15 inches; very gravelly sandy loam  
 Layer 4—15 to 60 inches; very gravelly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB090NV—Gravelly fan 7-9 P.Z.

### ***Component Description***

#### **Riverwash**

Landform: Drainageways  
Slope: 2 to 4 percent

#### **Component Properties and Qualities**

Runoff: Negligible  
Present ponding: None

#### **Interpretive Groups**

Nonirrigated land capability: 8w

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Typic Argidurids and similar soils**

Composition: 0 to 8 percent  
Classification: Loamy-skeletal, mixed, superactive, mesic, shallow Typic Argidurids  
Slope: 2 to 4 percent  
Landform: Fan remnants  
Typical vegetation: Other annual forbs, other perennial forbs, creosotebush, other shrubs, white bursage, fluffgrass, range ratany  
Ecological site: R030XB083NV—Basaltic fan 3-5 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 4 percent  
Slope: 2 to 8 percent  
Landform: Drainageways  
Typical vegetation: Bursage, other perennial forbs, big galleta, baccharis, other perennial grasses, white burrobrush, other shrubs, creosotebush  
Ecological site: R030XB028NV—Valley wash

#### **Ustic Haplargids and similar soils**

Composition: 0 to 3 percent  
Classification: Fine-loamy, mixed, superactive, thermic Ustic Haplargids  
Slope: 2 to 8 percent  
Landform: Fan remnants  
Typical vegetation: Desert needlegrass, other shrubs, blackbrush, other perennial forbs, big galleta, black grama, Indian ricegrass  
Ecological site: R030XB014NV—Shallow gravelly loam 7-9 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
"Engineering" and "Soil Properties" sections

## **715—Troughspring-Charkiln-Buckspring association**

### ***Map Unit Setting***

MLRA: 30  
Landscape: Fan piedmont

Elevation: 6,800 to 8,400  
 Precipitation: 14 to 18 inches  
 Air temperature: 45 to 50 degrees Fahrenheit  
 Frost-free period: 90 to 130 days

### ***Composition***

Troughspring very gravelly silt loam, 8 to 30 percent slopes—40 percent  
 Charkiln gravelly fine sandy loam, 4 to 15 percent slopes—25 percent  
 Buckspring very gravelly loam, 15 to 50 percent slopes—20 percent  
 Fletcherpeak extremely gravelly loam, 30 to 75 percent slopes—8 percent  
 Maryjane extremely gravelly silt loam, 8 to 30 percent slopes—5 percent  
 Rock outcrop—2 percent

### ***Component Description***

#### **Troughspring and similar soils**

Landform: Summits of fan remnants  
 Slope: 8 to 30 percent  
 Parent material: Alluvium derived from Limestone  
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—singleleaf pinyon, other shrubs, curleaf mountainmahogany, mountain big sagebrush, other perennial forbs, other perennial grasses, muttongrass, Gambel's oak, blue grama  
 Site index: Singleleaf pinyon—80 at an age base of 0 years

#### **Typical profile:**

Surface rock fragments: About 5 percent fine subangular gravel, 35 percent subangular gravel, 2 percent subangular stones, 5 percent subangular cobbles  
 Layer 1—0 to 2 inches; slightly decomposed plant material  
 Layer 2—2 to 9 inches; very gravelly silt loam  
 Layer 3—9 to 14 inches; very gravelly silt loam  
 Layer 4—14 to 24 inches; extremely gravelly silt loam  
 Layer 5—24 to 63 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High  
 Depth to restrictive feature: Petrocalcic: 20 to 39 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: Not determined  
 Ecological site: F030XC240NV

### ***Component Description***

#### **Charkiln and similar soils**

Landform: Fan mountain valleys  
 Slope: 4 to 15 percent  
 Parent material: Alluvium derived from quartzite

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—other shrubs, other perennial grasses, other perennial forbs, Gambel oak, curlleaf mountainmahogany, mountain big sagebrush, muttongrass  
 Site index: Singleleaf pinyon—100 at an age base of 0 years

**Typical profile:**

Surface rock fragments: About 2 percent subangular cobbles, 20 percent subangular gravel  
 Layer 1—0 to 1 inch; slightly decomposed plant material  
 Layer 2—1 to 5 inches; gravelly fine sandy loam  
 Layer 3—5 to 9 inches; very gravelly fine sandy loam  
 Layer 4—9 to 65 inches; loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 8 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 6c  
 Ecological site: F030XC288NV

***Component Description***

**Buckspring and similar soils**

Landform: Backslope mountains  
 Slope: 15 to 50 percent  
 Parent material: Colluvium over residuum weathered from Limestone  
 Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—curlleaf mountainmahogany, yellowleaf silktassel, Gambel's oak, pointleaf manzanita, singleleaf pinyon, mountain big sagebrush, Utah juniper, other shrubs, other perennial grasses, Utah serviceberry, other perennial forbs, blue grama, muttongrass  
 Site index: Utah juniper—70 at an age base of 0 years  
 Site index: Singleleaf pinyon—70 at an age base of 0 years

**Typical profile:**

Surface rock fragments: About 8 percent subrounded cobbles, 1 percent subrounded stones, 50 percent subrounded gravel  
 Layer 1—0 to 2 inches; very gravelly loam  
 Layer 2—2 to 10 inches; extremely cobbly loam  
 Layer 3—10 to 17 inches; extremely cobbly loam  
 Layer 4—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: F030XC278NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Fletcherpeak and similar soils**

Composition: 0 to 8 percent

Slope: 30 to 75 percent, north aspect

Landform: North facing backslope mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—mountain big sagebrush, black sagebrush, other perennial forbs, other perennial grasses, muttongrass, other shrubs, Utah serviceberry, curleaf mountainmahogany, singleleaf pinyon, Gambel oak

Ecological site: F030XC249NV

**Maryjane and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Smooth alluvial fans

Typical vegetation: Forest canopy—ponderosa pine Forest understory—wax currant, white fir, ponderosa pine, curleaf mountainmahogany, Spring Mountain goldenbush, other perennial forbs, other shrubs, bluebunch wheatgrass, other perennial grasses, muttongrass

Ecological site: F030XC280NV

**Rock outcrop limestone**

Composition: 0 to 2 percent

Landform: Cliffs

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**716—Troughspring very gravelly loam, 4 to 15 percent slopes*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 7,550 to 8,690  
 Precipitation: 14 to 16 inches  
 Air temperature: 45 to 50 degrees Fahrenheit  
 Frost-free period: 90 to 130 days

### ***Composition***

Troughspring very gravelly loam, 4 to 15 percent slopes—85 percent  
 Doespring very gravelly loam, 15 to 50 percent slopes—4 percent  
 Fletcherpeak extremely gravelly loam, 30 to 75 percent slopes—4 percent  
 Mackscanyon very gravelly silt loam, 15 to 50 percent slopes—4 percent  
 Maryjane extremely gravelly silt loam, 8 to 30 percent slopes—3 percent

### ***Component Description***

#### **Troughspring and similar soils**

Landform: East facing summits of fan remnants  
 Slope: 4 to 15 percent, east aspect  
 Parent material: Alluvium derived from Limestone  
 Typical vegetation: Forest canopy—ponderosa pine Forest understory—blue grama,  
 other perennial grasses, other perennial forbs, mountain big sagebrush,  
 muttongrass, curleaf mountainmahogany, mountain snowberry, wax currant, other  
 trees  
 Site index: Ponderosa pine—30 at an age base of 100 years

#### **Typical profile:**

Surface rock fragments: About 40 percent subangular  
 Layer 1—0 to 2 inches; slightly decomposed plant material  
 Layer 2—2 to 9 inches; very gravelly loam  
 Layer 3—9 to 14 inches; very gravelly loam  
 Layer 4—14 to 24 inches; extremely gravelly loam  
 Layer 5—24 to 63 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium  
 Depth to restrictive feature: Petrocalcic: 20 to 39 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: F030XC279NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Doespring and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Backslopes of rock pediments

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—blue grama, muttongrass, other perennial grasses, Utah juniper, Stansbury cliffrose, desert ceanothus, black sagebrush, other perennial forbs, other shrubs

Ecological site: F030XC243NV

**Fletcherpeak and similar soils**

Composition: 0 to 4 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—singleleaf pinyon, other shrubs, black sagebrush, Gambel oak, curleaf mountainmahogany, muttongrass, other perennial grasses, other perennial forbs, Utah serviceberry, mountain big sagebrush

Ecological site: F030XC249NV

**Mackscanyon and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Backslopes of convex fan remnants

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—other shrubs, blue grama, black sagebrush, mountain big sagebrush, other perennial forbs, Stansbury cliffrose, curleaf mountainmahogany, muttongrass, other perennial grasses

Ecological site: F030XC244NV

**Maryjane and similar soils**

Composition: 0 to 3 percent

Slope: 8 to 30 percent

Landform: Smooth alluvial fans

Typical vegetation: Forest canopy—ponderosa pine Forest understory—curleaf mountainmahogany, Spring Mountain goldenbush, wax currant, white fir, ponderosa pine, other perennial forbs, other shrubs, bluebunch wheatgrass, other perennial grasses, muttongrass

Ecological site: F030XC280NV

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**721—Corncreek-Badland-Pahrump association**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,760 to 3,150

Precipitation: 3 to 7 inches

Air temperature: 60 to 65 degrees Fahrenheit

Frost-free period: 180 to 260 days

### ***Composition***

Corncreek extremely gravelly fine sandy loam, 0 to 4 percent slopes—35 percent  
 Badland, 30 to 75 percent slopes—30 percent  
 Pahump gravelly loam, 2 to 8 percent slopes—20 percent  
 Pahump gravelly loam, 4 to 15 percent slopes—5 percent  
 Pahump gravelly loam, 0 to 4 percent slopes—4 percent  
 Weiser very gravelly sandy loam, 2 to 8 percent slopes—4 percent  
 Haymont very fine sandy loam, 0 to 4 percent slopes—2 percent

### ***Component Description***

#### **Corncreek and similar soils**

Landform: Fan skirts

Slope: 0 to 4 percent

Parent material: Alluvium derived from Limestone and dolomite over lacustrine deposits

Typical vegetation: Indian ricegrass, other shrubs, wolfberry, creosotebush, shadscale, white bursage, other perennial forbs

#### **Typical profile:**

Surface rock fragments: About 85 percent gravel

Layer 1—0 to 1 inch; extremely gravelly fine sandy loam

Layer 2—1 to 4 inches; gravelly fine sandy loam

Layer 3—4 to 31 inch; extremely gravelly sandy loam

Layer 4—31 to 60 inches; silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Sodicity: Sodic within 40 inches

Available water capacity: About 5 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

### ***Component Description***

#### **Badland**

Landform: Backslopes of eroded lakebed (relict)s

Slope: 30 to 75 percent

#### **Component Properties and Qualities**

Runoff: Very high

Present ponding: None

#### **Interpretive Groups**

Nonirrigated land capability: 8e

### ***Component Description***

#### **Pahrump and similar soils**

Landform: lake terraces

Slope: 2 to 8 percent

Parent material: Residuum from lacustrine deposits derived from Limestone

Typical vegetation: Other shrubs, wolfberry, creosotebush, Indian ricegrass, white bursage, other perennial forbs, shadscale

#### **Typical profile:**

Surface rock fragments: About 30 percent subangular gravel

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 6 inches; loam

Layer 3—6 to 46 inches; very gravelly silt loam

Layer 4—46 to 60 inches; silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7c

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Pahrump and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: lake terraces

Typical vegetation: Other perennial forbs, shadscale, desert needlegrass, Indian ricegrass, other shrubs, creosotebush

Ecological site: R030XA053NV—Calcareous loam 3-5 P.Z.

#### **Pahrump and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Fan remnants

Typical vegetation: Shadscale, other shrubs

Ecological site: R030XY013NV—Shallow silty

#### **Weiser and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, other shrubs, creosotebush, other perennial forbs, white bursage, range ratany, other annual forbs, other perennial grasses  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Haymont and similar soils**

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, other perennial forbs, white bursage, fourwing saltbush, cattle saltbush, creosotebush, other shrubs

Ecological site: R030XY046NV—Outwash plain

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**723—Corncreek-Haymont association**

***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,120 to 3,510

Precipitation: 5 to 8 inches

Air temperature: 60 to 65 degrees Fahrenheit

Frost-free period: 180 to 260 days

***Composition***

Corncreek extremely gravelly fine sandy loam, 2 to 8 percent slopes—50 percent

Haymont silt loam, 0 to 2 percent slopes—35 percent

Threelakes extremely gravelly fine sandy loam, 2 to 8 percent slopes—6 percent

Weiser very gravelly sandy loam, 2 to 8 percent slopes—5 percent

Oldspan extremely gravelly fine sandy loam, 2 to 4 percent slopes—2 percent

Weiser very gravelly sandy loam, 2 to 8 percent slopes—2 percent

***Component Description***

**Corncreek and similar soils**

Landform: Fan skirts

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite over lacustrine deposits

Typical vegetation: Creosotebush, other perennial forbs, Indian ricegrass, cattle saltbush, fourwing saltbush, other shrubs, white bursage

**Typical profile:**

Surface rock fragments: About 85 percent gravel

Layer 1—0 to 1 inch; extremely gravelly fine sandy loam

Layer 2—1 to 4 inches; gravelly fine sandy loam

Layer 3—4 to 31 inch; extremely gravelly sandy loam

Layer 4—31 to 60 inches; silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Sodicity: Sodic within 40 inches

Available water capacity: About 5 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XY046NV—Outwash plain

#### ***Component Description***

##### **Haymont dry and similar soils**

Landform: lake plains

Slope: 0 to 2 percent

Parent material: Mixed alluvium

Typical vegetation: Indian ricegrass, other shrubs, other perennial forbs, cattle saltbush

##### **Typical profile:**

Layer 1—0 to 2 inches; silt loam

Layer 2—2 to 13 inches; silt loam

Layer 3—13 to 29 inches; silt loam

Layer 4—29 to 60 inches; silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 9 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XY047NV—Alluvial plain

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Threelakes and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Wolfberry, creosotebush, shadscale, white bursage, other perennial forbs, Indian ricegrass, other shrubs

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

#### **Weiser and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Winterfat, ephedra, white bursage, big galleta, range ratany, other shrubs, creosotebush, Indian ricegrass, other perennial forbs

Ecological site: R030XB102NV—Gravelly loam 5-7 P.Z.

#### **Oldspan and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, creosotebush

Ecological site: R030XB092NV—Desert patina

#### **Weiser and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Spiny menodora, creosotebush, white bursage, other perennial forbs, other shrubs, bush muhly, big galleta, desert needlegrass

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

## **725—Mackscanyon-Purob association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,770 to 8,630

Precipitation: 7 to 16 inches

Air temperature: 45 to 56 degrees Fahrenheit

Frost-free period: 90 to 180 days

### ***Composition***

Mackscanyon very gravelly silt loam, 15 to 50 percent slopes—55 percent

Purob extremely gravelly loam, 2 to 8 percent slopes—35 percent

Woodspring gravelly sandy loam, 4 to 15 percent slopes—6 percent

Xeric Haplocalcids gravelly sandy loam, 2 to 4 percent slopes—4 percent

### ***Component Description***

#### **Mackscanyon and similar soils**

Landform: Backslopes of convex fan remnants

Slope: 15 to 50 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest  
understory—other shrubs, other perennial grasses, other perennial forbs, mountain  
big sagebrush, black sagebrush, blue grama, muttongrass, curlleaf  
mountainmahogany, Stansbury cliffrose

Site index: Utah juniper—75 at an age base of 0 years

Site index: Singleleaf pinyon—75 at an age base of 0 years

#### **Typical profile:**

Surface rock fragments: About 2 percent subrounded stones, 55 percent subrounded  
gravel, 5 percent subrounded cobbles

Layer 1—0 to 6 inches; very gravelly silt loam

Layer 2—6 to 60 inches; very gravelly loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
information.

#### **Component Properties and Qualities**

Runoff: High

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability  
class: Moderate)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: F030XC244NV

### ***Component Description***

#### **Purob and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Other shrubs, blackbrush, ephedra, other perennial forbs, other  
perennial grasses, desert needlegrass

#### **Typical profile:**

Surface rock fragments: About 1 percent stones, 4 percent cobbles, 60 percent gravel

Layer 1—0 to 3 inches; extremely gravelly loam

Layer 2—3 to 8 inches; very gravelly loam

Layer 3—8 to 19 inches; very gravelly loam

Layer 4—19 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Woodspring and similar soils**

Composition: 0 to 6 percent

Slope: 4 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—mountain big sagebrush, other perennial grasses, curlleaf mountainmahogany, Gambel oak, other shrubs, other perennial forbs, muttongrass

Ecological site: F030XC288NV

**Xeric Haplocalcids and similar soils**

Composition: 0 to 4 percent

Classification: Loamy-skeletal, mixed, superactive, mesic Xeric Haplocalcids

Slope: 2 to 4 percent

Landform: Inset fans

Typical vegetation: Basin wildrye, other perennial forbs, mountain big sagebrush, rubber rabbitbrush, Indian ricegrass, creeping wildrye

Ecological site: R030XC013NV—Loamy bottom 11-13 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**731—Purob-Irongold association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,410 to 6,670

Precipitation: 5 to 9 inches

Air temperature: 51 to 63 degrees Fahrenheit

Frost-free period: 130 to 240 days

### ***Composition***

Purob extremely gravelly loam, 2 to 8 percent slopes—60 percent  
 Irongold extremely gravelly loam, 2 to 8 percent slopes—25 percent  
 Typic Torriorthents very gravelly sandy loam, 2 to 8 percent slopes—5 percent  
 Purob extremely gravelly loam, 8 to 30 percent slopes—3 percent  
 Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—3 percent  
 Typic Haplocalcids very gravelly fine sandy loam, 2 to 8 percent slopes—2 percent  
 Aridic Calcixerolls very gravelly sandy loam, 2 to 8 percent slopes—1 percent  
 Xeric Haplocambids very gravelly sandy loam, 2 to 8 percent slopes—1 percent

### ***Component Description***

#### **Purob and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Other perennial forbs, desert needlegrass, other perennial grasses,  
 blackbrush, ephedra, other shrubs

#### **Typical profile:**

Surface rock fragments: About 60 percent gravel, 1 percent stones, 4 percent cobbles

Layer 1—0 to 3 inches; extremely gravelly loam

Layer 2—3 to 8 inches; very gravelly loam

Layer 3—8 to 19 inches; very gravelly loam

Layer 4—19 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

### ***Component Description***

#### **Irongold and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs,  
 blackbrush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 65 percent gravel, 5 percent cobbles, 1 percent stones

Layer 1—0 to 1 inch; extremely gravelly loam

Layer 2—1 to 7 inches; gravelly loam

Layer 3—7 to 11 inch; very gravelly loam  
 Layer 4—11 to 34 inches; cemented material  
 Layer 5—34 to 60 inches; extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High  
 Depth to restrictive feature: Petrocalcic: 10 to 14 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 1.3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Typic Torriorthents and similar soils**

Composition: 0 to 5 percent  
 Classification: Loamy-skeletal, carbonatic, mesic Typic Torriorthents  
 Slope: 2 to 8 percent  
 Landform: Inset fans  
 Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs, blackbrush, ephedra, other shrubs  
 Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 3 percent  
 Slope: 2 to 8 percent  
 Landform: Drainageways  
 Typical vegetation: Other perennial forbs, hollyleaf bursage, bush muhly, range ratany, Anderson's wolfberry, other shrubs, big galleta, burrobrush, Mojave buckwheat, other perennial grasses  
 Ecological site: R030XB051NV—Upland wash

#### **Purob and similar soils**

Composition: 0 to 3 percent  
 Slope: 8 to 30 percent  
 Landform: Fan remnants  
 Typical vegetation: Other shrubs, desert needlegrass, other perennial grasses, other perennial forbs, blackbrush, ephedra  
 Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

#### **Typic Haplocalcids and similar soils**

Composition: 0 to 2 percent  
 Classification: Loamy-skeletal, carbonatic, thermic Typic Haplocalcids

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: White bursage, shadscale, blackbrush, ephedra, other shrubs,  
other perennial forbs, desert needlegrass

Ecological site: R030XA006NV—Shallow limestone slope 5-7 P.Z.

#### **Aridic Calcixerolls and similar soils**

Composition: 0 to 1 percent

Classification: Sandy-skeletal, carbonatic, mesic Aridic Calcixerolls

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Desert needlegrass, muttongrass, other perennial forbs, desert  
almond, blackbrush, desert peachbrush, other shrubs, other perennial grasses

Ecological site: R030XC011NV—Gravelly inset fan

#### **Xeric Haplocambids and similar soils**

Composition: 0 to 1 percent

Classification: Loamy-skeletal, carbonatic, mesic Xeric Haplocambids

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Indian ricegrass, blackbrush, ephedra, mountain big sagebrush,  
other perennial forbs, other perennial grasses, desert needlegrass, Stansbury  
cliffrose, other shrubs

Ecological site: R030XC012NV—Gravelly calcareous inset fan 9-11 P.Z.

#### ***Management***

For information about managing this map unit, see the following sections and  
associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

### **732—Purob extremely gravelly loam, 8 to 30 percent slopes**

#### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,770 to 7,090

Precipitation: 7 to 9 inches

Air temperature: 51 to 56 degrees Fahrenheit

Frost-free period: 130 to 180 days

#### ***Composition***

Purob extremely gravelly loam, 8 to 30 percent slopes—85 percent

Typic Petrocalcids very gravelly sandy loam, 8 to 30 percent slopes—6 percent

Typic Petrocalcids very gravelly loam, 15 to 50 percent slopes—5 percent

Aridic Calcixerolls very gravelly sandy loam, 2 to 8 percent slopes—2 percent

Rock outcrop—1 percent

Typic Torriorthents extremely gravelly coarse sandy loam, 2 to 8 percent slopes—1  
percent

#### ***Component Description***

##### **Purob and similar soils**

Landform: Fan remnants

Slope: 8 to 30 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Desert needlegrass, other perennial grasses, other shrubs, ephedra, blackbrush, other perennial forbs

**Typical profile:**

Surface rock fragments: About 60 percent gravel, 4 percent cobbles, 1 percent stones

Layer 1—0 to 3 inches; extremely gravelly loam

Layer 2—3 to 8 inches; very gravelly loam

Layer 3—8 to 19 inches; very gravelly loam

Layer 4—19 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Typic Petrocalcids and similar soils**

Composition: 0 to 6 percent

Classification: Loamy, carbonatic, thermic, shallow Typic Petrocalcids

Slope: 8 to 30 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, blackbrush, other shrubs

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

**Typic Petrocalcids and similar soils**

Composition: 0 to 5 percent

Classification: Loamy, carbonatic, mesic, shallow Typic Petrocalcids

Slope: 15 to 50 percent

Landform: Summits of fan remnants

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—blue grama, muttongrass, other shrubs, Utah juniper, Stansbury cliffrose, desert ceanothus, black sagebrush, other perennial forbs, other perennial grasses

Ecological site: F030XC243NV

**Aridic Calcixerolls and similar soils**

Composition: 0 to 2 percent

Classification: Sandy-skeletal, carbonatic, mesic Aridic Calcixerolls

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Other perennial forbs, other perennial grasses, blackbrush, desert peachbrush, other shrubs, desert needlegrass, desert almond, muttongrass

Ecological site: R030XC011NV—Gravelly inset fan

**Rock outcrop**

Composition: 0 to 1 percent

Landform: Ridges

**Typic Torriorthents and similar soils**

Composition: 0 to 1 percent

Classification: Sandy-skeletal, carbonatic, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Alluvial fans

Typical vegetation: Hollyleaf bursage, bush muhly, big galleta, other shrubs, Anderson's wolfberry, range ratany, burrobrush, Mojave buckwheat, other perennial forbs, other perennial grasses

Ecological site: R030XB051NV—Upland wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**733—Purob extremely gravelly loam, 2 to 8 percent slopes*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 4,500 to 5,680

Precipitation: 7 to 9 inches

Air temperature: 51 to 56 degrees Fahrenheit

Frost-free period: 130 to 180 days

***Composition***

Purob extremely gravelly loam, 2 to 8 percent slopes—85 percent

Irongold extremely gravelly loam, 2 to 8 percent slopes—5 percent

Moentria extremely gravelly loam, 8 to 30 percent slopes—4 percent

Purob extremely gravelly loam, 8 to 30 percent slopes—3 percent

Rock outcrop—2 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—1 percent

***Component Description*****Purob and similar soils**

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Other shrubs, desert needlegrass, other perennial grasses, ephedra, other perennial forbs, blackbrush

**Typical profile:**

Surface rock fragments: About 60 percent gravel, 4 percent cobbles, 1 percent stones  
 Layer 1—0 to 3 inches; extremely gravelly loam  
 Layer 2—3 to 8 inches; very gravelly loam  
 Layer 3—8 to 19 inches; very gravelly loam  
 Layer 4—19 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Petrocalcic: 14 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Irongold and similar soils**

Composition: 0 to 5 percent  
 Slope: 2 to 8 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Big galleta, blackbrush, other shrubs, other perennial grasses, other perennial forbs  
 Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

**Moentria and similar soils**

Composition: 0 to 4 percent  
 Slope: 8 to 30 percent  
 Landform: Backslopes of mountains  
 Typical vegetation: Other perennial grasses, desert needlegrass, Indian ricegrass, other perennial forbs, other shrubs, spiny menodora, Nevada ephedra, blackbrush  
 Ecological site: R030XC027NV—Shallow gravelly sandstone 7-9 P.Z.

**Purob and similar soils**

Composition: 0 to 3 percent  
 Slope: 8 to 30 percent  
 Landform: Fan remnants  
 Typical vegetation: Desert needlegrass, other perennial forbs, other perennial grasses, ephedra, blackbrush, other shrubs  
 Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

**Rock outcrop**

Composition: 0 to 2 percent  
 Landform: Rock pediment  
 Ecological site: None

**Arizo and similar soils**

Composition: 0 to 1 percent  
 Slope: 2 to 8 percent  
 Landform: Drainageways  
 Typical vegetation: Mojave buckwheat, other shrubs, Anderson's wolfberry, range  
 ratany, burrobrush, bush muhly, big galleta, other perennial grasses, other  
 perennial forbs, hollyleaf bursage  
 Ecological site: R030XB051NV—Upland wash

***Management***

For information about managing this map unit, see the following sections and  
 associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

**734—Purob-Niavi association*****Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 4,200 to 4,700  
 Precipitation: 6 to 10 inches  
 Air temperature: 53 to 61 degrees Fahrenheit  
 Frost-free period: 160 to 220 days

***Composition***

Purob gravelly sandy loam, 15 to 50 percent slopes—75 percent  
 Niavi extremely cobbly fine sandy loam, 2 to 8 percent slopes—10 percent  
 Typic Haplocalcids extremely cobbly fine sandy loam, 2 to 8 percent slopes—8  
 percent  
 Zibate extremely gravelly sandy loam, 15 to 50 percent slopes—4 percent  
 Veet family very gravelly sandy loam, 2 to 8 percent slopes—3 percent

***Component Description*****Purob and similar soils**

Landform: Fan remnants  
 Slope: 15 to 50 percent  
 Parent material: Alluvium derived from limestone and dolomite  
 Typical vegetation: Blackbrush, other perennial forbs, Nevada ephedra, desert  
 needlegrass, desert bitterbrush, other shrubs, other perennial grasses

**Typical profile:**

Surface rock fragments: About 1 percent stones, 10 percent cobbles, 60 percent  
 gravel  
 Layer 1—0 to 3 inches; gravelly sandy loam  
 Layer 2—3 to 19 inches; stratified gravelly loam to very gravelly loam  
 Layer 3—19 to 26 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R029XY077NV—Shallow gravelly loam 8-10 P.Z.

#### ***Component Description***

##### **Niavi and similar soils**

Landform: Summits of stream terraces

Slope: 2 to 8 percent

Parent material: Alluvium derived from quartzite

Typical vegetation: Big galleta, white bursage, Mojave buckwheat, ephedra, Anderson's wolfberry, creosotebush, Virgin River encelia, range ratany

##### **Typical profile:**

Surface rock fragments: About 40 percent gravel, 0 percent stones, 35 percent cobbles

Layer 1—0 to 2 inches; extremely cobbly fine sandy loam

Layer 2—2 to 8 inches; extremely gravelly coarse sandy loam

Layer 3—8 to 29 inches; stratified extremely gravelly coarse sand to extremely gravelly coarse sandy loam

Layer 4—29 to 60 inches; stratified extremely gravelly coarse sand to extremely gravelly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB134NV—Quartzite outwash

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Typic Haplocalcids cool and similar soils**

Composition: 0 to 8 percent

Classification: Sandy-skeletal, mixed, mesic Typic Haplocalcids

Slope: 2 to 8 percent

Landform: High stream terraces

Typical vegetation: Mojave sage, other perennial forbs, other perennial grasses, desert needlegrass, desert peachbrush, Virgin River encelia, blackbrush, other shrubs, Stansbury cliffrose

Ecological site: R030XC011NV—Gravelly inset fan

#### **Zibate and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent, north to east aspects

Landform: North to east aspects on mountains

Typical vegetation: Big galleta, other shrubs, desert needlegrass, blackbrush

Ecological site: R030XB076NV—Shallow gravelly slope 5-7 P.Z.

#### **Veet family flooded and similar soils**

Composition: 0 to 3 percent

Classification: Loamy-skeletal, mixed, superactive, mesic Xeric Haplocambids

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Indian ricegrass, other shrubs, desert almond, rubber rabbitbrush,

Sandberg bluegrass, other perennial grasses, other perennial forbs, big sagebrush

Ecological site: R029XY009NV—Upland wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **740—Varwash association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 558 to 2,070

Precipitation: 3 to 5 inches

Air temperature: 69 to 75 degrees Fahrenheit

Frost-free period: 300 to 350 days

### ***Composition***

Varwash extremely gravelly sandy loam, 4 to 15 percent slopes—55 percent

Varwash extremely gravelly loam, 2 to 4 percent slopes—35 percent

Typic Torriorthents extremely gravelly loamy sand, 15 to 30 percent slopes—4 percent

Typic Haplargids gravelly loam, 2 to 4 percent slopes—3 percent

Riverbend extremely gravelly coarse sandy loam, 8 to 15 percent slopes—2 percent

Carrizo very cobbly coarse sand, 2 to 8 percent slopes—1 percent

### ***Component Description***

#### **Varwash moderately sloping and similar soils**

Landform: Shoulders of fan remnants

Slope: 4 to 15 percent

Parent material: Calcareous loess influenced alluvium derived from igneous and metamorphic rock

Typical vegetation: Other annual forbs, other perennial forbs, white bursage, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 75 percent gravel, 5 percent stones

Layer 1—0 to 5 inches; extremely gravelly sandy loam

Layer 2—5 to 13 inches; very gravelly sandy loam

Layer 3—13 to 60 inches; stratified very gravelly coarse sand to extremely gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

### ***Component Description***

#### **Varwash and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 4 percent

Parent material: Calcareous loess influenced alluvium derived from igneous and metamorphic rock

Typical vegetation: Creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 75 percent gravel, 5 percent stones, 5 percent cobbles

Layer 1—0 to 4 inches; extremely gravelly loam

Layer 2—4 to 13 inches; very gravelly sandy loam

Layer 3—13 to 60 inches; stratified very gravelly coarse sand to extremely gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB092NV—Desert patina

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Typic Torriorthents and similar soils**

Composition: 0 to 4 percent  
 Classification: Sandy-skeletal, mixed, hyperthermic Typic Torriorthents  
 Slope: 15 to 30 percent, southeast to southwest aspects  
 Landform: Southeast to southwest aspects on inset fans  
 Typical vegetation: Other perennial grasses, desert globemallow, white brittlebush, creosotebush, other shrubs  
 Ecological site: R030XB077NV—Steep south slope

#### **Typic Haplargids clegorpass and similar soils**

Composition: 0 to 3 percent  
 Classification: Loamy-skeletal, mixed, superactive, hyperthermic Typic Haplargids  
 Slope: 2 to 4 percent, northeast aspect  
 Landform: Northeast facing fan remnants  
 Typical vegetation: Creosotebush, desert trumpet, turkshead  
 Ecological site: R030XB092NV—Desert patina

#### **Riverbend rarely flooded and similar soils**

Composition: 0 to 2 percent  
 Slope: 8 to 15 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Other perennial forbs, white bursage, range ratany, other annual forbs, other perennial grasses, big galleta, creosotebush, other shrubs  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Carrizo and similar soils**

Composition: 0 to 1 percent  
 Slope: 2 to 8 percent  
 Landform: Drainageways  
 Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, white bursage, sweetbrush, white brittlebush, creosotebush, other shrubs  
 Ecological site: R030XB098NV—Gravelly outwash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Engineering" and "Soil Properties" sections

**741—Varwash-Carrizo association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,210 to 2,460

Precipitation: 3 to 5 inches

Air temperature: 69 to 77 degrees Fahrenheit

Frost-free period: 300 to 350 days

***Composition***

Varwash extremely gravelly sandy loam, 4 to 15 percent slopes—45 percent

Varwash extremely gravelly loam, 2 to 4 percent slopes—30 percent

Carrizo extremely gravelly loamy sand, 2 to 8 percent slopes—15 percent

Riverbend extremely gravelly coarse sandy loam, 2 to 8 percent slopes—7 percent

Carrizo extremely gravelly loamy sand, 15 to 30 percent slopes—3 percent

***Component Description*****Varwash moderately sloping and similar soils**

Landform: Shoulders of fan remnants

Slope: 4 to 15 percent

Parent material: Calcareous loess influenced alluvium derived from igneous and metamorphic rock

Typical vegetation: Other annual forbs, other perennial forbs, white bursage, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 75 percent gravel, 5 percent stones

Layer 1—0 to 5 inches; extremely gravelly sandy loam

Layer 2—5 to 13 inches; very gravelly sandy loam

Layer 3—13 to 60 inches; stratified very gravelly coarse sand to extremely gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

***Component Description*****Varwash and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 4 percent

Parent material: Calcareous loess influenced alluvium derived from igneous and metamorphic rock

Typical vegetation: Creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 5 percent stones, 75 percent gravel, 5 percent cobbles

Layer 1—0 to 4 inches; extremely gravelly loam

Layer 2—4 to 13 inches; very gravelly sandy loam

Layer 3—13 to 60 inches; stratified very gravelly coarse sand to extremely gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB092NV—Desert patina

***Component Description***

**Carrizo and similar soils**

Landform: Drainageways

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other shrubs, creosotebush, white burrobrush, bursage, baccharis, other perennial forbs, big galleta, other perennial grasses

**Typical profile:**

Surface rock fragments: About 70 percent gravel, 3 percent cobbles

Layer 1—0 to 7 inches; extremely gravelly loamy sand

Layer 2—7 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Negligible

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 2 inches

Present flooding: Frequent

Present ponding: None

Natural drainage class: Excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7w

Ecological site: R030XB028NV—Valley wash

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Riverbend rarely flooded and similar soils**

Composition: 0 to 7 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, creosotebush, range ratany, white bursage, other perennial forbs, other annual forbs, other perennial grasses, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Carrizo and similar soils**

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Backslopes of fan remnants

Typical vegetation: Other shrubs, big galleta, other perennial forbs, white bursage, range ratany, creosotebush

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

## **750—Haleburu-Crosgrain-Rock outcrop association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 1,770 to 3,540

Precipitation: 4 to 8 inches

Air temperature: 61 to 70 degrees Fahrenheit

Frost-free period: 220 to 300 days

### ***Composition***

Haleburu extremely cobbly sandy loam, 30 to 50 percent slopes—55 percent

Crosgrain very stony loam, 8 to 30 percent slopes—20 percent

Rock outcrop, 30 to 75 percent slopes—10 percent

Haleburu extremely cobbly sandy loam, 30 to 50 percent slopes—8 percent

Lithic Haplocalcids extremely cobbly sandy loam, 15 to 30 percent slopes—4 percent

Lithic Torriorthents very stony sandy loam, 8 to 30 percent slopes—2 percent

Rubble land boulders, 30 to 75 percent slopes—1 percent

### ***Component Description***

#### **Haleburu and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Big galleta, white bursage, other shrubs, creosotebush, range ratany, other perennial forbs

**Typical profile:**

Surface rock fragments: About 50 percent gravel, 25 percent cobbles, 7 percent stones

Layer 1—0 to 3 inches; extremely cobbly sandy loam

Layer 2—3 to 11 inch; very gravelly sandy loam

Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

***Component Description***

**Crosgrain and similar soils**

Landform: Backslopes of fan remnants

Slope: 8 to 30 percent

Parent material: Mixed alluvium derived from metamorphic rock

Typical vegetation: Other shrubs, creosotebush, big galleta, other perennial forbs, white bursage, range ratany

**Typical profile:**

Surface rock fragments: About 20 percent subangular gravel, 35 percent subangular stones, 20 percent subangular cobbles

Layer 1—0 to 3 inches; very stony loam

Layer 2—3 to 11 inch; very gravelly loam

Layer 3—11 to 24 inches; cemented material

Layer 4—24 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Duripan: 6 to 14 inches Duripan: 21 to 24 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Component Description***

#### **Rock outcrop**

Landform: Cliffs

Slope: 30 to 75 percent

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Haleburu and similar soils**

Composition: 0 to 8 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Other annual forbs, white bursage, creosotebush, other shrubs

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

#### **Lithic Haplocalcids and similar soils**

Composition: 0 to 4 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Lithic Haplocalcids

Slope: 15 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Lithic Torriorthents and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents

Slope: 8 to 30 percent, northeast aspect

Landform: Northeast facing rock pediments

Typical vegetation: Creosotebush, other shrubs, triangle goldeneye, desert

needlegrass, big galleta, other perennial forbs, white bursage, Mojave buckwheat

Ecological site: R030XB070NV—Volcanic hill 5-7 P.Z.

#### **Rubble land**

Composition: 0 to 1 percent

Slope: 30 to 75 percent

Landform: Scarp slopes

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**751—Nipton-Nolena association*****Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 2,200 to 5,050

Precipitation: 5 to 9 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

***Composition***

Nipton extremely stony sandy loam, 50 to 75 percent slopes—50 percent

Nolena extremely stony sandy loam, 50 to 75 percent slopes—35 percent

Newera extremely gravelly sandy loam, 30 to 50 percent slopes—6 percent

Highland extremely gravelly loam, 15 to 50 percent slopes—4 percent

Rock outcrop—3 percent

Haleburu extremely gravelly sandy loam, 15 to 50 percent slopes—2 percent

***Component Description*****Nipton and similar soils**

Landform: Northeast facing summits of mountains

Slope: 50 to 75 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from metavolcanics

Typical vegetation: Other shrubs, creosotebush, triangle goldeneye, Mojave

buckwheat, white bursage, other perennial forbs, big galleta, desert needlegrass

**Typical profile:**

Surface rock fragments: About 15 percent cobbles, 15 percent stones, 40 percent gravel

Layer 1—0 to 2 inches; extremely stony sandy loam

Layer 2—2 to 12 inches; very gravelly sandy loam

Layer 3—12 to 22 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.8 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB070NV—Volcanic hill 5-7 P.Z.

***Component Description*****Nolena moist and similar soils**

Landform: Backslopes of mountains

Slope: 50 to 75 percent

Parent material: Colluvium and/or residuum weathered from granite

Typical vegetation: Other shrubs, blackbrush, other perennial forbs, big galleta, bush muhly, desert needlegrass

**Typical profile:**

Surface rock fragments: About 15 percent stones, 40 percent gravel, 15 percent cobbles

Layer 1—0 to 2 inches; extremely stony sandy loam

Layer 2—2 to 5 inches; extremely gravelly coarse sandy loam

Layer 3—5 to 11 inch; bedrock

Layer 4—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 4 to 14 inches Lithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.2 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB057NV—Shallow granitic loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Newera steep and similar soils**

Composition: 0 to 6 percent

Slope: 30 to 50 percent, northeast aspect

Landform: Northeast facing backslopes of mountains and hills

Typical vegetation: Big galleta, desert needlegrass, blackbrush, other shrubs

Ecological site: R030XB076NV—Shallow gravelly slope 5-7 P.Z.

**Highland and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Desert globemallow, white bursage, range ratany, other shrubs, creosotebush, big galleta, other perennial grasses, bush muhly

Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

**Rock outcrop**

Composition: 0 to 3 percent

Landform: Cliffs

**Haleburu and similar soils**

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Pediments

Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**752—Nipton-Newera association****Map Unit Setting**

MLRA: 30

Landscape: Mountains

Elevation: 3,120 to 5,840

Precipitation: 5 to 9 inches

Air temperature: 57 to 66 degrees Fahrenheit

Frost-free period: 180 to 270 days

**Composition**

Nipton extremely gravelly sandy loam, 15 to 50 percent slopes—55 percent

Newera extremely gravelly sandy loam, 15 to 50 percent slopes—30 percent

Nipton extremely gravelly sandy loam, 50 to 75 percent slopes—5 percent

Highland extremely gravelly loam, 30 to 50 percent slopes—4 percent

Haleburu extremely gravelly sandy loam, 15 to 50 percent slopes—3 percent

Nipton extremely gravelly sandy loam, 50 to 75 percent slopes—3 percent

**Component Description****Nipton and similar soils**

Landform: Northeast facing summits of mountains

Slope: 15 to 50 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from metavolcanics

Typical vegetation: Triangle goldeneye, other shrubs, creosotebush, Mojave

buckwheat, white bursage, other perennial forbs, big galleta, desert needlegrass

**Typical profile:**

Surface rock fragments: About 55 percent gravel, 25 percent cobbles, 3 percent stones

Layer 1—0 to 1 inch; extremely gravelly sandy loam

Layer 2—1 to 5 inches; very gravelly sandy loam

Layer 3—5 to 15 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.3 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB070NV—Volcanic hill 5-7 P.Z.

### ***Component Description***

#### **Newera steep and similar soils**

Landform: Backslopes of mountains and hills  
 Slope: 15 to 50 percent  
 Parent material: Colluvium and/or residuum weathered from volcanic and metamorphic rock  
 Typical vegetation: Other shrubs, desert needlegrass, big galleta, blackbrush

#### **Typical profile:**

Surface rock fragments: About 80 percent gravel  
 Layer 1—0 to 2 inches; extremely gravelly sandy loam  
 Layer 2—2 to 6 inches; very gravelly sandy clay loam  
 Layer 3—6 to 16 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 14 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 0.4 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB076NV—Shallow gravelly slope 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Nipton and similar soils**

Composition: 0 to 5 percent  
 Slope: 50 to 75 percent  
 Landform: Backslopes of hills  
 Typical vegetation: Desert needlegrass, bush muhly, big galleta, other perennial forbs, ephedra, Mojave buckwheat, winterfat, other shrubs  
 Ecological site: R030XB091NV—Mountain ridge

**Highland and similar soils**

Composition: 0 to 4 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: White bursage, range ratany, creosotebush, desert globemallow, other perennial grasses, big galleta, bush muhly, other shrubs

Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

**Haleburu and similar soils**

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Pediments

Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Nipton and similar soils**

Composition: 0 to 3 percent

Slope: 50 to 75 percent

Landform: Backslopes of hills

Typical vegetation: Desert needlegrass, bush muhly, big galleta, other perennial forbs, ephedra, Mojave buckwheat, other shrubs

Ecological site: R030XB071NV—Volcanic slope 7-9 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**753—Nipton-Hiddensun-Haleburu association*****Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 2,890 to 4,430

Precipitation: 4 to 9 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Nipton extremely stony sandy loam, 15 to 50 percent slopes—35 percent

Hiddensun very gravelly fine sandy loam, 8 to 30 percent slopes—30 percent

Haleburu extremely gravelly sandy loam, 15 to 50 percent slopes—20 percent

Haleburu extremely gravelly fine sandy loam, 8 to 30 percent slopes—5 percent

Railroad extremely stony sandy loam, 15 to 50 percent slopes—5 percent

Railroad extremely stony sandy loam, 30 to 50 percent slopes—3 percent

Rock outcrop—2 percent

***Component Description*****Nipton and similar soils**

Landform: Northeast facing summits of mountains

Slope: 15 to 50 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from metavolcanics  
 Typical vegetation: White bursage, other shrubs, triangle goldeneye, other perennial forbs, desert needlegrass, big galleta, creosotebush, Mojave buckwheat

**Typical profile:**

Surface rock fragments: About 15 percent cobbles, 40 percent gravel, 15 percent stones  
 Layer 1—0 to 2 inches; extremely stony sandy loam  
 Layer 2—2 to 12 inches; very gravelly sandy loam  
 Layer 3—12 to 22 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.8 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB070NV—Volcanic hill 5-7 P.Z.

***Component Description***

**Hiddensun and similar soils**

Landform: Shoulders of mountains  
 Slope: 8 to 30 percent  
 Parent material: Influenced by calcareous loess, residuum weathered from volcanic rock  
 Typical vegetation: Big galleta, white bursage, Nevada ephedra, winterfat, other shrubs

**Typical profile:**

Surface rock fragments: About 10 percent cobbles, 1 percent stones, 45 percent gravel  
 Layer 1—0 to 3 inches; very gravelly fine sandy loam  
 Layer 2—3 to 15 inches; very cobbly fine sandy loam  
 Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 14 to 20 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 1.2 inches  
 Present flooding: None

Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB069NV—Basaltic hill 5-7 P.Z.

***Component Description***

**Haleburu and similar soils**

Landform: Backslopes of mountains  
 Slope: 15 to 50 percent  
 Parent material: Colluvium and/or residuum weathered from volcanic rock  
 Typical vegetation: Big galleta, other shrubs, creosotebush, other perennial forbs,  
 white bursage, range ratany

**Typical profile:**

Surface rock fragments: About 13 percent cobbles, 75 percent gravel, 7 percent stones  
 Layer 1—0 to 2 inches; extremely gravelly sandy loam  
 Layer 2—2 to 11 inch; very gravelly sandy loam  
 Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 14 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.6 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Haleburu and similar soils**

Composition: 0 to 5 percent  
 Slope: 8 to 30 percent  
 Landform: Pediments  
 Typical vegetation: Other annual forbs, white bursage, creosotebush, other shrubs  
 Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

**Railroad and similar soils**

Composition: 0 to 5 percent  
 Slope: 15 to 50 percent  
 Landform: Backslopes of steep basalt lava flows

Typical vegetation: Indian ricegrass, other perennial forbs, bush muhly, big galleta,  
 other annual forbs, winterfat, other shrubs  
 Ecological site: R030XB080NV—Stony loam 5-7 P.Z.

**Railroad and similar soils**

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Backslopes of lava flows

Typical vegetation: Indian ricegrass, Nevada ephedra, creosotebush, desert  
 needlegrass, Virgin River encelia, other perennial grasses, winterfat, bush muhly,  
 big galleta, other shrubs, other perennial forbs

Ecological site: R030XB081NV—Bouldery slope 5-7 P.Z.

**Rock outcrop**

Composition: 0 to 2 percent

Landform: Cliffs

***Management***

For information about managing this map unit, see the following sections and  
 associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**754—Haleburu-Hiddensun association**

***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 2,200 to 4,400

Precipitation: 4 to 7 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Haleburu extremely stony sandy loam, 30 to 75 percent slopes—65 percent  
 Hiddensun very gravelly fine sandy loam, 8 to 30 percent slopes—20 percent  
 Haleburu extremely gravelly sandy loam, 8 to 30 percent slopes—6 percent  
 Hiddensun very cobbly fine sandy loam, 30 to 75 percent slopes—4 percent  
 Rock outcrop—3 percent  
 Haleburu extremely gravelly sandy loam, 15 to 50 percent slopes—2 percent

***Component Description***

**Haleburu and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Other annual forbs, other shrubs, creosotebush, white bursage

**Typical profile:**

Surface rock fragments: About 30 percent stones, 25 percent gravel, 20 percent  
 cobbles

Layer 1—0 to 2 inches; extremely stony sandy loam

Layer 2—2 to 11 inch; very gravelly sandy loam

Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

***Component Description***

**Hiddensun and similar soils**

Landform: Shoulders of mountains

Slope: 8 to 30 percent

Parent material: Influenced by calcareous loess, residuum weathered from volcanic rock

Typical vegetation: White bursage, Nevada ephedra, big galleta, winterfat, other shrubs

**Typical profile:**

Surface rock fragments: About 45 percent gravel, 10 percent cobbles, 1 percent stones

Layer 1—0 to 3 inches; very gravelly fine sandy loam

Layer 2—3 to 15 inches; very cobbly fine sandy loam

Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB069NV—Basaltic hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Haleburu and similar soils**

Composition: 0 to 6 percent

Slope: 8 to 30 percent

Landform: Pediments

Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Hiddensun and similar soils**

Composition: 0 to 4 percent

Slope: 30 to 75 percent

Landform: Backslopes of hills

Typical vegetation: Bush muhly, big galleta, ephedra, winterfat, Anderson wolfberry, other shrubs

Ecological site: R030XB089NV—Stony loam 7-9 P.Z.

#### **Rock outcrop**

Composition: 0 to 3 percent

Landform: Cliffs

#### **Haleburu and similar soils**

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Pediments

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, white bursage, white brittlebush, Mojave buckwheat, creosotebush, other shrubs, triangle goldeneye

Ecological site: R030XB072NV—Stony slope 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

### **760—Searchlight extremely gravelly sandy loam, 2 to 4 percent slopes**

#### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,740 to 2,690

Precipitation: 3 to 6 inches

Air temperature: 64 to 69 degrees Fahrenheit

Frost-free period: 240 to 300 days

#### ***Composition***

Searchlight extremely gravelly sandy loam, 2 to 4 percent slopes—85 percent

Typic Haplargids extremely gravelly sandy loam, 0 to 4 percent slopes—8 percent

Arizo extremely gravelly sandy loam, 2 to 4 percent slopes—3 percent

Typic Haplargids very gravelly loam, 2 to 4 percent slopes—2 percent

Filaree very gravelly fine sandy loam, 2 to 4 percent slopes—2 percent

### ***Component Description***

#### **Searchlight and similar soils**

Landform: Fan aprons over fan remnants

Slope: 2 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 60 percent gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 12 inches; stratified gravelly sandy loam to gravelly loamy coarse sand

Layer 3—12 to 17 inches; gravelly coarse sandy loam

Layer 4—17 to 33 inches; gravelly sandy loam

Layer 5—33 to 60 inches; stratified very gravelly loamy coarse sand to gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Typic Haplargids and similar soils**

Composition: 0 to 8 percent

Classification: Fine-loamy, mixed, superactive, thermic Typic Haplargids

Slope: 0 to 4 percent

Landform: Fan remnants

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Fan aprons

Typical vegetation: Creosotebush, big galleta, other shrubs, range ratany, white bursage, other perennial forbs, other annual forbs, other perennial grasses

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Filaree and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Fan aprons

Typical vegetation: Range ratany, creosotebush, white bursage, other perennial forbs, other annual forbs, big galleta, other perennial grasses, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Typic Haplargids and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Typic Haplargids

Slope: 2 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**772—Lamadre-Robbersfire association****Map Unit Setting**

MLRA: 30

Landscape: Mountains

Elevation: 6,230 to 8,460

Precipitation: 14 to 24 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 50 to 90 days

**Composition**

Lamadre very channery loam, 30 to 75 percent slopes—50 percent

Robbersfire very gravelly silt loam, 30 to 75 percent slopes—35 percent

Boxspring extremely gravelly loam, 15 to 50 percent slopes—5 percent

Seralin extremely gravelly loam, 15 to 50 percent slopes—5 percent

Rock outcrop—3 percent

Lithic Torriorthents extremely gravelly loam, 4 to 15 percent slopes—2 percent

**Component Description****Lamadre and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Colluvium and/or residuum weathered from limestone

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—blue grama, muttongrass, other perennial grasses, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, other shrubs, singleleaf pinyon, Gambel's oak

Site index: Singleleaf pinyon—80 at an age base of 0 years

**Typical profile:**

Surface rock fragments: About 55 percent channers  
 Layer 1—0 to 4 inches; very channery loam  
 Layer 2—4 to 8 inches; extremely channery loam  
 Layer 3—8 to 39 inches; extremely channery loam  
 Layer 4—39 to 60 inches;

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: F030XC240NV

***Component Description*****Robbersfire and similar soils**

Landform: Northeast facing backslopes of mountains  
 Slope: 30 to 75 percent, northeast aspect  
 Parent material: Colluvium derived from limestone and dolomite  
 Typical vegetation: Forest canopy—white fir Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, wax currant, ponderosa pine, other shrubs, white fir  
 Site index: White fir—15 at an age base of 50 years

**Typical profile:**

Surface rock fragments: About 5 percent subrounded cobbles, 45 percent subrounded gravel, 1 percent subrounded stones  
 Layer 1—0 to 1 inch; slightly decomposed plant material  
 Layer 2—1 to 2 inches; very gravelly silt loam  
 Layer 3—2 to 14 inches; very gravelly silt loam  
 Layer 4—14 to 56 inches; very cobbly loam  
 Layer 5—56 to 66 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High  
 Depth to restrictive feature: Lithic bedrock: 39 to 59 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 4 inches  
 Present flooding: None  
 Present ponding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: F030XC283NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Boxspring and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs, blackbrush, ephedra, other shrubs

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

#### **Seralin and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Utah juniper, desert ceanothus, black sagebrush, other perennial forbs, other perennial grasses, muttongrass, blue grama, Stansbury cliffrose, other shrubs

Ecological site: F030XC243NV

#### **Rock outcrop**

Composition: 0 to 3 percent

Landform: Cliffs

#### **Lithic Torriorthents and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, carbonatic, frigid Lithic Torriorthents

Slope: 4 to 15 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: Pointleaf manzanita, Utah serviceberry, black sagebrush, Indian ricegrass, arid needlegrass, other shrubs, other perennial forbs, other perennial grasses, other trees

Ecological site: R030XC015NV—Limestone ridge

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

## **775—Ladyofsnow-Robbersfire-Maryjane association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains  
 Elevation: 6,500 to 11,300  
 Precipitation: 16 to 24 inches  
 Air temperature: 38 to 45 degrees Fahrenheit  
 Frost-free period: 50 to 90 days

### ***Composition***

Ladyofsnow gravelly silt loam, 30 to 75 percent slopes—35 percent  
 Robbersfire very gravelly silt loam, 30 to 75 percent slopes—30 percent  
 Maryjane extremely gravelly silt loam, 15 to 50 percent slopes—20 percent  
 Pachic Haplustolls very gravelly fine sandy loam, 30 to 90 percent slopes—5 percent  
 Kitgram very gravelly loam, 30 to 75 percent slopes—3 percent  
 Maryjane extremely gravelly silt loam, 8 to 30 percent slopes—3 percent  
 Pachic Haplustolls silt loam, 30 to 50 percent slopes—2 percent  
 Rock outcrop—2 percent

### ***Component Description***

#### **Ladyofsnow and similar soils**

Landform: upper mountains  
 Slope: 30 to 75 percent  
 Parent material: Colluvium derived from limestone  
 Typical vegetation: Forest canopy—Great Basin bristlecone pine Forest understory—  
 limber pine, Great Basin bristlecone pine, other perennial forbs, common juniper,  
 wax currant

#### **Typical profile:**

Surface rock fragments: About 40 percent subangular gravel, 3 percent subangular  
 cobbles, 1 percent subangular stones  
 Layer 1—0 to 0 inches; slightly decomposed plant material  
 Layer 2—0 to 7 inches; gravelly silt loam  
 Layer 3—7 to 11 inch; very gravelly loam  
 Layer 4—11 to 36 inches; extremely gravelly coarse sandy loam  
 Layer 5—36 to 59 inches; extremely cobbly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
 information.

#### **Component Properties and Qualities**

Runoff: High  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability  
 class: Moderate)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e  
 Ecological site: F030XC284NV

### ***Component Description***

#### **Robbersfire and similar soils**

Landform: Northeast facing backslopes of mountains  
 Slope: 30 to 75 percent, northeast aspect

Parent material: Colluvium derived from limestone and dolomite

Typical vegetation: Forest canopy—white fir Forest understory—other perennial grasses, other perennial forbs, currant, desert snowberry, bluebunch wheatgrass, white fir

Site index: White fir—30 at an age base of 50 years

**Typical profile:**

Surface rock fragments: About 1 percent subrounded stones, 45 percent subrounded gravel, 5 percent subrounded cobbles

Layer 1—0 to 1 inch; slightly decomposed plant material

Layer 2—1 to 2 inches; very gravelly silt loam

Layer 3—2 to 10 inches; very gravelly silt loam

Layer 4—10 to 41 inch; extremely gravelly fine sandy loam

Layer 5—41 to 51 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Lithic bedrock: 39 to 59 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: F030XC282NV

***Component Description***

**Maryjane and similar soils**

Landform: Backslopes of lower mountains

Slope: 15 to 50 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Forest canopy—ponderosa pine Forest understory—bluebunch wheatgrass, ponderosa pine, wax currant, white fir, Spring Mountain goldenbush, other perennial grasses, muttongrass, other shrubs, other perennial forbs, curlleaf mountainmahogany

Site index: Ponderosa pine—45 at an age base of 100 years

**Typical profile:**

Surface rock fragments: About 5 percent subrounded gravel, 2 percent subrounded cobbles, 1 percent subrounded stones

Layer 1—0 to 1 inch; slightly decomposed plant material

Layer 2—1 to 4 inches; extremely gravelly silt loam

Layer 3—4 to 13 inches; extremely gravelly loam

Layer 4—13 to 35 inches; very gravelly loam

Layer 5—35 to 60 inches; extremely gravelly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: F030XC280NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Pachic Haplustolls avalanche and similar soils**

Composition: 0 to 5 percent

Classification: Pachic Haplustolls

Slope: 30 to 90 percent

Landform: Avalanche chutes, backslopes of mountains

Typical vegetation: Slender wheatgrass, other perennial grasses, other perennial forbs, common juniper, quaking aspen, wax currant, other trees, fringed brome

Ecological site: R030XC026NV—Avalanche chute

**Kitgram and similar soils**

Composition: 0 to 3 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—Great Basin bristlecone pine Forest understory—wax currant, limber pine, common juniper, Great Basin bristlecone pine, other perennial forbs

Ecological site: F030XC284NV

**Maryjane and similar soils**

Composition: 0 to 3 percent

Slope: 8 to 30 percent

Landform: Smooth alluvial fans

Typical vegetation: Forest canopy—ponderosa pine Forest understory—other shrubs, bluebunch wheatgrass, other perennial forbs, muttongrass, curleaf mountainmahogany, Spring Mountain goldenbush, wax currant, white fir, ponderosa pine, other perennial grasses

Ecological site: F030XC280NV

**Pachic Haplustolls and similar soils**

Composition: 0 to 2 percent

Classification: Fine-loamy, mixed, superactive, frigid Pachic Haplustolls

Slope: 30 to 50 percent, north aspect

Landform: North facing backslopes of mountainsides

Typical vegetation: Quaking aspen, mountain big sagebrush, snowberry

Ecological site: R030XC019NV—Aspen thicket

**Rock outcrop limestone**

Composition: 0 to 2 percent

Landform: Cliffs

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

**780—Prisonear fine sand, 2 to 8 percent slopes*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,620 to 3,380

Precipitation: 5 to 7 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

***Composition***

Prisonear fine sand, 2 to 8 percent slopes—85 percent

Arizo extremely gravelly sandy loam, 2 to 8 percent slopes—6 percent

Filaree very gravelly fine sandy loam, 2 to 4 percent slopes—5 percent

Lanip gravelly sandy loam, 2 to 8 percent slopes—3 percent

Tonopah gravelly fine sandy loam, 2 to 8 percent slopes—1 percent

***Component Description*****Prisonear and similar soils**

Landform: Sand sheets, fan remnants

Slope: 2 to 8 percent

Parent material: Eolian sands over alluvium derived from limestone

Typical vegetation: Indian ricegrass, big galleta, other perennial forbs, white bursage, range ratany, winterfat, other shrubs

**Typical profile:**

Surface rock fragments: About 10 percent gravel

Layer 1—0 to 3 inches; fine sand

Layer 2—3 to 9 inches; fine sand

Layer 3—9 to 31 inch; gravelly loamy fine sand

Layer 4—31 to 35 inches; very gravelly loamy fine sand

Layer 5—35 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Petrocalcic: 30 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 2 inches

Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB004NV—Sandy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Arizo and similar soils**

Composition: 0 to 6 percent  
 Slope: 2 to 8 percent  
 Landform: Fan aprons  
 Typical vegetation: Big galleta, other annual forbs, other perennial grasses, other perennial forbs, other shrubs, white bursage, range ratany, creosotebush  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### **Filaree and similar soils**

Composition: 0 to 5 percent  
 Slope: 2 to 4 percent  
 Landform: Fan skirts  
 Typical vegetation: Indian ricegrass, big galleta, other perennial forbs, white bursage, range ratany, winterfat, other shrubs  
 Ecological site: R030XB004NV—Sandy 5-7 P.Z.

#### **Lanip and similar soils**

Composition: 0 to 3 percent  
 Slope: 2 to 8 percent  
 Landform: Fan remnants  
 Typical vegetation: Desert needlegrass, bush muhly, big galleta, other perennial forbs, white bursage, creosotebush, spiny menodora, other shrubs  
 Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

#### **Tonopah and similar soils**

Composition: 0 to 1 percent  
 Slope: 2 to 8 percent  
 Landform: Fan remnants  
 Typical vegetation: Other shrubs, other annual forbs, creosotebush, range ratany, other perennial grasses, white bursage, other perennial forbs, big galleta  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

## 781—Prisonear-Bluepoint association

### *Map Unit Setting*

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,760 to 2,890

Precipitation: 3 to 7 inches

Air temperature: 57 to 69 degrees Fahrenheit

Frost-free period: 180 to 300 days

### *Composition*

Prisonear fine sand, 2 to 8 percent slopes—65 percent

Bluepoint fine sand, 8 to 30 percent slopes—20 percent

Corbilt gravelly loamy fine sand, 0 to 4 percent slopes—7 percent

Vegastorm gravelly fine sandy loam, 0 to 4 percent slopes—4 percent

Nickel very gravelly fine sandy loam, 2 to 8 percent slopes—2 percent

Corbilt gravelly sandy loam, 0 to 4 percent slopes—2 percent

### *Component Description*

#### **Prisonear and similar soils**

Landform: Sand sheets, fan remnants

Slope: 2 to 8 percent

Parent material: Eolian sands over alluvium derived from limestone

Typical vegetation: Big galleta, other perennial forbs, Indian ricegrass, white bursage, range ratany, other shrubs, winterfat

#### **Typical profile:**

Surface rock fragments: About 10 percent gravel

Layer 1—0 to 3 inches; fine sand

Layer 2—3 to 9 inches; fine sand

Layer 3—9 to 31 inch; gravelly loamy fine sand

Layer 4—31 to 35 inches; very gravelly loamy fine sand

Layer 5—35 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Petrocalcic: 30 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB004NV—Sandy 5-7 P.Z.

### *Component Description*

#### **Bluepoint and similar soils**

Landform: Sand sheets

Slope: 8 to 30 percent

Parent material: Eolian sands

Typical vegetation: Other shrubs, screwbean mesquite, creosotebush, fourwing saltbush, white bursage, other perennial forbs, Indian ricegrass, honey mesquite

**Typical profile:**

Surface rock fragments: About 15 percent cobbles

Layer 1—0 to 14 inches; fine sand

Layer 2—14 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XY045NV—Dunes 3-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Corbilt and similar soils**

Composition: 0 to 7 percent

Slope: 0 to 4 percent

Landform: Fan skirts

Typical vegetation: Creosotebush, white bursage, other perennial forbs, big galleta, Indian ricegrass, other shrubs

Ecological site: R030XB037NV—Limy sand 5-7 P.Z.

**Vegastorm and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Fan skirts

Typical vegetation: Indian ricegrass, other perennial forbs, white bursage, shadscale, creosotebush, wolfberry, other shrubs

Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

**Corbilt and similar soils**

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Fan skirts

Typical vegetation: Other perennial forbs, other shrubs, creosotebush, cattle saltbush, fourwing saltbush, Indian ricegrass, white bursage

Ecological site: R030XY046NV—Outwash plain

**Nickel and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Summits of inset fans

Typical vegetation: Creosotebush, white bursage, other perennial forbs, other shrubs, spiny menodora, bush muhly, big galleta, desert needlegrass

Ecological site: R030XB075NV—Gravelly fan 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **790—McClanahan-Beerbo association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 4,400 to 7,020

Precipitation: 8 to 12 inches

Air temperature: 45 to 55 degrees Fahrenheit

Frost-free period: 90 to 180 days

### ***Composition***

McClanahan extremely gravelly loam, 30 to 50 percent slopes—60 percent

Beerbo extremely cobbly sandy loam, 15 to 50 percent slopes—25 percent

Rock outcrop—6 percent

Seralin family extremely cobbly sandy loam, 50 to 75 percent slopes—5 percent

Mountmull extremely gravelly sandy loam, 30 to 50 percent slopes—4 percent

### ***Component Description***

#### **McClanahan and similar soils**

Landform: Southeast facing backslopes of mountains

Slope: 30 to 50 percent, southeast aspect

Parent material: Colluvium and/or residuum weathered from metamorphic rock

Typical vegetation: Forest canopy—Utah juniper Forest understory—desert needlegrass, black grama, blue grama, muttongrass, other perennial grasses, other perennial forbs, blackbrush, desert bitterbrush, Stansbury cliffrose, other shrubs, Utah juniper

Site index: Utah juniper—30 at an age base of 0 years

#### **Typical profile:**

Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 2 percent stones

Layer 1—0 to 2 inches; extremely gravelly loam

Layer 2—2 to 11 inch; extremely gravelly sandy clay loam

Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 0.9 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: F030XC237NV

### ***Component Description***

#### **Beerbo and similar soils**

Landform: Northwest facing backslopes of mountains  
 Slope: 15 to 50 percent, northwest aspect  
 Parent material: Colluvium and/or residuum weathered from metamorphic rock  
 Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—desert needlegrass, black grama, blue grama, muttongrass, other perennial grasses, other perennial forbs, blackbrush, desert bitterbrush, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon  
 Site index: Utah juniper—45 at an age base of 0 years  
 Site index: Singleleaf pinyon—45 at an age base of 0 years

#### **Typical profile:**

Surface rock fragments: About 25 percent cobbles, 5 percent stones, 35 percent gravel  
 Layer 1—0 to 3 inches; extremely cobbly sandy loam  
 Layer 2—3 to 11 inch; extremely cobbly sandy clay loam  
 Layer 3—11 to 18 inches; bedrock  
 Layer 4—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Paralithic bedrock: 8 to 14 inches Lithic bedrock: 14 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.6 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: F030XC238NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Rock outcrop**

Composition: 0 to 6 percent

Landform: Cliffs

**Seralin family and similar soils**

Composition: 0 to 5 percent

Classification: Loamy-skeletal, mixed, superactive, mesic Aridic Lithic Haplustolls

Slope: 50 to 75 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest  
understory—desert needlegrass, blue grama, Utah juniper, other shrubs, Stansbury  
cliffrose, desert bitterbrush, blackbrush, singleleaf pinyon, other perennial forbs,  
black grama, muttongrass, other perennial grasses

Ecological site: F030XC238NV

**Mountmcull and similar soils**

Composition: 0 to 4 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Black grama, other perennial forbs, big galleta, desert needlegrass,  
Indian ricegrass, other shrubs, blackbrush

Ecological site: R030XB014NV—Shallow gravelly loam 7-9 P.Z.

***Management***

For information about managing this map unit, see the following sections and  
associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

**801—Nippeno-Newera association**

***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 3,840 to 5,680

Precipitation: 5 to 9 inches

Air temperature: 52 to 66 degrees Fahrenheit

Frost-free period: 130 to 270 days

***Composition***

Nippeno very gravelly loam, 15 to 50 percent slopes—55 percent

Newera extremely gravelly sandy loam, 15 to 50 percent slopes—30 percent

Haleburu family extremely gravelly sandy loam, 8 to 30 percent slopes—6 percent

Lanip extremely gravelly sandy loam, 0 to 4 percent slopes—6 percent

Rock outcrop—2 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—1 percent

***Component Description***

**Nippeno and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from metamorphic rock

Typical vegetation: Black grama, desert needlegrass, Indian ricegrass, big galleta,  
other perennial forbs, other shrubs, blackbrush

**Typical profile:**

Surface rock fragments: About 5 percent subangular cobbles, 70 percent subangular gravel

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 6 inches; very gravelly sandy clay loam

Layer 3—6 to 15 inches;

Layer 4—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 13 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 0.7 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB014NV—Shallow gravelly loam 7-9 P.Z.

***Component Description*****Newera steep and similar soils**

Landform: Backslopes of mountains and hills

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from volcanic and metamorphic rock

Typical vegetation: Blackbrush, other shrubs, desert needlegrass, big galleta

**Typical profile:**

Surface rock fragments: About 80 percent gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 6 inches; very gravelly sandy clay loam

Layer 3—6 to 16 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 0.4 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB076NV—Shallow gravelly slope 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Haleburu family and similar soils**

Composition: 0 to 6 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents

Slope: 8 to 30 percent

Landform: Pediments

Typical vegetation: Desert needlegrass, big galleta, other perennial forbs, white bursage, Mojave buckwheat, creosotebush, other shrubs, triangle goldeneye

Ecological site: R030XB070NV—Volcanic hill 5-7 P.Z.

#### **Lanip and similar soils**

Composition: 0 to 6 percent

Slope: 0 to 4 percent

Landform: Fan remnants

Typical vegetation: Bush muhly, big galleta, other perennial grasses, desert globemallow, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

#### **Rock outcrop**

Composition: 0 to 2 percent

Landform: Cliffs

#### **Arizo and similar soils**

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Other shrubs, Anderson's wolfberry, burrobrush, Mojave buckwheat, range ratany, big galleta, other perennial grasses, bush muhly, other perennial forbs, hollyleaf bursage

Ecological site: R030XB051NV—Upland wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **805—Buckspring-Fletcherpeak-Seralin association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 5,840 to 8,600

Precipitation: 10 to 18 inches

Air temperature: 41 to 49 degrees Fahrenheit

Frost-free period: 60 to 130 days

### ***Composition***

Buckspring very gravelly loam, 15 to 50 percent slopes—40 percent  
 Fletcherpeak extremely gravelly loam, 30 to 75 percent slopes—25 percent  
 Seralin extremely gravelly very fine sandy loam, 30 to 75 percent slopes—20 percent  
 Mackscanyon very gravelly silt loam, 15 to 50 percent slopes—7 percent  
 Woodspring gravelly sandy loam, 4 to 15 percent slopes—5 percent  
 Rock outcrop—3 percent

### ***Component Description***

#### **Buckspring and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from limestone

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest  
 understory—muttongrass, desert needlegrass, other perennial grasses, other  
 shrubs, other perennial forbs, banana yucca, Stansbury cliffrose, mountain big  
 sagebrush, curlleaf mountainmahogany, Utah juniper, singleleaf pinyon

Site index: Utah juniper—65 at an age base of 0 years

Site index: Singleleaf pinyon—65 at an age base of 0 years

#### **Typical profile:**

Surface rock fragments: About 1 percent subrounded stones, 8 percent subrounded  
 cobbles, 50 percent subrounded gravel

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 10 inches; extremely cobbly loam

Layer 3—10 to 17 inches; extremely cobbly loam

Layer 4—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
 information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Lithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability  
 class: Moderate)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: F030XC246NV

### ***Component Description***

#### **Fletcherpeak and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Colluvium and/or residuum weathered from limestone

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—  
 muttongrass, mountain big sagebrush, black sagebrush, Gambel oak, other  
 perennial grasses, other perennial forbs, curlleaf mountainmahogany, singleleaf  
 pinyon, Utah serviceberry, other shrubs

Site index: Singleleaf pinyon—45 at an age base of 0 years

**Typical profile:**

Surface rock fragments: About 5 percent subangular cobbles, 65 percent subangular gravel, 1 percent subangular stones

Layer 1—0 to 1 inch; extremely gravelly loam

Layer 2—1 to 6 inches; very gravelly silt loam

Layer 3—6 to 13 inches; extremely cobbly loam

Layer 4—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: F030XC249NV

***Component Description***

**Seralin and similar soils**

Landform: Northeast facing backslopes of mountains

Slope: 30 to 75 percent, northeast aspect

Parent material: Colluvium and/or residuum weathered from limestone and dolomite

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Utah serviceberry, black sagebrush, crested needlegrass, other perennial forbs, muttongrass, other perennial grasses, yellowleaf silktassel, Stansbury cliffrose, singleleaf pinyon, other shrubs, Gambel oak

Site index: Utah juniper—50 at an age base of 0 years

Site index: Singleleaf pinyon—50 at an age base of 0 years

**Typical profile:**

Surface rock fragments: About 5 percent stones, 10 percent cobbles, 65 percent gravel

Layer 1—0 to 2 inches; extremely gravelly very fine sandy loam

Layer 2—2 to 14 inches; very gravelly loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.0 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: F030XC235NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Mackscanyon and similar soils**

Composition: 0 to 7 percent  
 Slope: 15 to 50 percent  
 Landform: Backslopes of convex fan remnants  
 Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, mountain big sagebrush, other perennial grasses, other perennial forbs, curlleaf mountainmahogany, black sagebrush, Stansbury cliffrose, blue grama, other shrubs  
 Ecological site: F030XC244NV

#### **Woodspring and similar soils**

Composition: 0 to 5 percent  
 Slope: 4 to 15 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—other shrubs, Gambel oak, curlleaf mountainmahogany, mountain big sagebrush, other perennial forbs, other perennial grasses, muttongrass  
 Ecological site: F030XC288NV

#### **Rock outcrop limestone**

Composition: 0 to 3 percent  
 Landform: Cliffs

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

## **806—Buckspring-Scrapy association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Mountains  
 Elevation: 5,580 to 7,700  
 Precipitation: 12 to 16 inches  
 Air temperature: 45 to 56 degrees Fahrenheit  
 Frost-free period: 90 to 180 days

### ***Composition***

Buckspring very gravelly loam, 15 to 50 percent slopes—55 percent  
 Scrapy very gravelly sandy loam, 30 to 50 percent slopes—40 percent  
 Torriorthentic Haplustolls extremely gravelly loam, 4 to 15 percent slopes—3 percent  
 Rock outcrop—2 percent

### ***Component Description***

#### **Buckspring and similar soils**

Landform: Backslope mountains

Slope: 15 to 50 percent

Parent material: Colluvium over residuum weathered from limestone

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest  
 understory—desert needlegrass, Utah juniper, muttongrass, other perennial  
 grasses, other perennial forbs, mountain big sagebrush, curlleaf  
 mountainmahogany, singleleaf pinyon, Stansbury cliffrose, other shrubs, banana  
 yucca

Site index: Utah juniper—65 at an age base of 0 years

Site index: Singleleaf pinyon—65 at an age base of 0 years

#### **Typical profile:**

Surface rock fragments: About 50 percent subrounded gravel, 8 percent subrounded  
 cobbles, 1 percent subrounded stones

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 10 inches; extremely cobbly loam

Layer 3—10 to 17 inches; extremely cobbly loam

Layer 4—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
 information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability  
 class: Moderate)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: F030XC246NV

### ***Component Description***

#### **Scrapy and similar soils**

Landform: South facing backslopes of mountain slopes

Slope: 30 to 50 percent, south aspect

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Other perennial forbs, other perennial grasses, blackbrush,  
 Stansbury cliffrose, other shrubs, green ephedra, desert needlegrass, Indian  
 ricegrass, mountain big sagebrush

**Typical profile:**

Surface rock fragments: About 2 percent angular stones, 55 percent angular gravel, 10 percent angular cobbles

Layer 1—0 to 1 inch; very gravelly sandy loam

Layer 2—1 to 12 inches; very gravelly sandy loam

Layer 3—12 to 22 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 10 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.8 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XC025NV—Shallow limestone slope 11-13 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Torriorthentic Haplustolls and similar soils**

Composition: 0 to 3 percent

Classification: Loamy-skeletal, mixed, superactive, mesic Torriorthentic Haplustolls

Slope: 4 to 15 percent

Landform: Fan mountain valleys

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Gambel oak, curleaf mountainmahogany, mountain big sagebrush, muttongrass, other perennial grasses, other perennial forbs, other shrubs

Ecological site: F030XC288NV

**Rock outcrop limestone**

Composition: 0 to 2 percent

Landform: Cliffs

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**810—Straycow-Newera-Rubble land association*****Map Unit Setting***

MLRA: 30

Landscape: Hills

Elevation: 2,720 to 4,500  
 Precipitation: 5 to 7 inches  
 Air temperature: 57 to 66 degrees Fahrenheit  
 Frost-free period: 180 to 270 days

### ***Composition***

Straycow very cobbly loam, 15 to 50 percent slopes—40 percent  
 Newera very cobbly loam, 4 to 15 percent slopes—35 percent  
 Rubble land boulders, 30 to 75 percent slopes—10 percent  
 Railroad extremely stony sandy loam, 30 to 75 percent slopes—7 percent  
 Rock outcrop—4 percent  
 Haleburu family extremely cobbly sandy loam, 8 to 30 percent slopes—3 percent  
 Haleburu extremely cobbly sandy loam, 8 to 30 percent slopes—1 percent

### ***Component Description***

#### **Straycow and similar soils**

Landform: Backslopes of hills  
 Slope: 15 to 50 percent  
 Parent material: Colluvium and/or residuum weathered from metamorphic rock  
 Typical vegetation: Indian ricegrass, other shrubs, big galleta, other perennial grasses,  
 other perennial forbs, blackbrush, winterfat

#### **Typical profile:**

Surface rock fragments: About 35 percent gravel, 30 percent cobbles  
 Layer 1—0 to 3 inches; very cobbly loam  
 Layer 2—3 to 19 inches; very gravelly clay loam  
 Layer 3—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Paralithic bedrock: 5 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB107NV—Coarse gravelly loam 5-7 P.Z.

### ***Component Description***

#### **Newera and similar soils**

Landform: Backslopes of mountains and hills  
 Slope: 4 to 15 percent  
 Parent material: Colluvium and/or residuum weathered from volcanic and metamorphic rock  
 Typical vegetation: Other perennial forbs, blackbrush, other shrubs, other perennial grasses, big galleta

**Typical profile:**

Surface rock fragments: About 30 percent cobbles, 35 percent gravel

Layer 1—0 to 3 inches; very cobbly loam

Layer 2—3 to 12 inches; very gravelly sandy clay loam

Layer 3—12 to 22 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

***Component Description*****Rubble land**

Landform: Backslopes of talus slopes

Slope: 30 to 75 percent

**Component Properties and Qualities**

Runoff: Low

Depth to restrictive feature: Lithic bedrock: 40 to 40 inches

Present ponding: None

**Interpretive Groups**

Nonirrigated land capability: 8s

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Railroad and similar soils**

Composition: 0 to 7 percent

Slope: 30 to 75 percent

Landform: Backslopes of steep basalt lava flows

Typical vegetation: Winterfat, other perennial forbs, other annual forbs, big galleta, bush muhly, Indian ricegrass, other shrubs

Ecological site: R030XB080NV—Stony loam 5-7 P.Z.

**Rock outcrop**

Composition: 0 to 4 percent

Landform: Cliffs

**Haleburu family and similar soils**

Composition: 0 to 3 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic  
Torriorthents

Slope: 8 to 30 percent

Landform: Backslopes of hills

Typical vegetation: Desert needlegrass, big galleta, other perennial forbs, white  
bursage, Mojave buckwheat, creosotebush, other shrubs, triangle goldeneye

Ecological site: R030XB070NV—Volcanic hill 5-7 P.Z.

#### **Haleburu and similar soils**

Composition: 0 to 1 percent

Slope: 8 to 30 percent

Landform: Backslopes of hills

Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany,  
creosotebush, other shrubs

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### ***Management***

For information about managing this map unit, see the following sections and  
associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

### **815—Wheelerwell-Wheelerpass association**

#### ***Map Unit Setting***

MLRA: 30

Landscape: Hills

Elevation: 5,710 to 8,690

Precipitation: 12 to 18 inches

Air temperature: 41 to 50 degrees Fahrenheit

Frost-free period: 60 to 130 days

#### ***Composition***

Wheelerwell very gravelly sandy loam, 15 to 50 percent slopes—50 percent

Wheelerpass very gravelly loam, 30 to 75 percent slopes—35 percent

Pachic Argiustolls extremely gravelly loam, 15 to 50 percent slopes—7 percent

Rock outcrop—5 percent

Traley very gravelly loam, 30 to 50 percent slopes—3 percent

#### ***Component Description***

##### **Wheelerwell and similar soils**

Landform: Backslopes of lower elevational hills

Slope: 15 to 50 percent

Parent material: Colluvium derived from quartzite over dolomite

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest  
understory—Utah juniper, other shrubs, singleleaf pinyon, Gambel's oak, yellowleaf  
silk tassel, curlleaf mountain mahogany, mountain big sagebrush, pointleaf  
manzanita, Utah serviceberry, other perennial forbs, other perennial grasses,  
muttongrass, blue grama

Site index: Utah juniper—70 at an age base of 0 years

Site index: Singleleaf pinyon—70 at an age base of 0 years

**Typical profile:**

Surface rock fragments: About 75 percent fine angular gravel, 5 percent angular cobbles, 3 percent angular stones  
 Layer 1—0 to 2 inches; very gravelly sandy loam  
 Layer 2—2 to 6 inches; very gravelly sandy clay loam  
 Layer 3—6 to 27 inches; very gravelly sandy clay loam  
 Layer 4—27 to 37 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 20 to 39 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: F030XC278NV

***Component Description*****Wheelerpass and similar soils**

Landform: Southwest facing backslopes of upper elevational mountains  
 Slope: 30 to 75 percent, southwest aspect  
 Parent material: Colluvium and/or residuum weathered from quartzite  
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—singleleaf pinyon, Gambel's oak, muttongrass, blue grama, other perennial grasses, other perennial forbs, other shrubs, mountain big sagebrush, curlleaf mountainmahogany  
 Site index: Singleleaf pinyon—40 at an age base of 0 years

**Typical profile:**

Surface rock fragments: About 60 percent gravel, 5 percent cobbles  
 Layer 1—0 to 1 inch; very gravelly loam  
 Layer 2—1 to 11 inch; very gravelly loam  
 Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 10 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.8 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: F030XC241NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Pachic Argiustolls and similar soils**

Composition: 0 to 7 percent

Slope: 15 to 50 percent

Landform: Backslopes of upper elevational mountains

Typical vegetation: Mountain savannah type consisting of sideoats grama, blue grama, bull muhly, mountain mahogany, pinyon pine and alligator juniper.

Ecological site: F030XC240NV

**Rock outcrop quartzite**

Composition: 0 to 5 percent

Landform: Cliffs

**Traley and similar soils**

Composition: 0 to 3 percent

Slope: 30 to 50 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Gambel oak, muttongrass, other perennial grasses, other perennial forbs, Utah serviceberry, black sagebrush, mountain big sagebrush, curleaf mountainmahogany, other shrubs, singleleaf pinyon

Ecological site: F030XC249NV

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

**820—Newera-Rock outcrop association*****Map Unit Setting***

MLRA: 30

Landscape: Hills

Elevation: 2,490 to 4,690

Precipitation: 5 to 7 inches

Air temperature: 57 to 66 degrees Fahrenheit

Frost-free period: 180 to 270 days

***Composition***

Newera very gravelly sandy loam, 15 to 50 percent slopes—70 percent

Rock outcrop—15 percent

Highland extremely cobbly loam, 8 to 30 percent slopes—7 percent

Haleburu extremely gravelly sandy loam, 8 to 30 percent slopes—4 percent

Newera very gravelly sandy loam, 15 to 50 percent slopes—4 percent

### ***Component Description***

#### **Newera and similar soils**

Landform: Backslopes of mountains and hills

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from volcanic and metamorphic rock

Typical vegetation: Big galleta, other perennial grasses, blackbrush, other shrubs, other perennial forbs

#### **Typical profile:**

Surface rock fragments: About 80 percent gravel

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 6 inches; very gravelly sandy clay loam

Layer 3—6 to 16 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 0.4 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

### ***Component Description***

#### **Rock outcrop**

Landform: Ridges

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Highland and similar soils**

Composition: 0 to 7 percent

Slope: 8 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Bush muhly, big galleta, other perennial grasses, desert globemallow, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

#### **Haleburu and similar soils**

Composition: 0 to 4 percent

Slope: 8 to 30 percent

Landform: Pediments

Typical vegetation: Desert needlegrass, big galleta, other perennial forbs, white bursage, Mojave buckwheat, creosotebush, other shrubs, triangle goldeneye

Ecological site: R030XB070NV—Volcanic hill 5-7 P.Z.

**Newera and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 50 percent, north aspect

Landform: North facing backslopes of mountains and hills

Typical vegetation: Mojave buckwheat, desert needlegrass, other shrubs, ephedra,  
other perennial forbs, big galleta, bush muhly

Ecological site: R030XB071NV—Volcanic slope 7-9 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**821—Helkitchen-St. Thomas complex, 15 to 50 percent slopes**

***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 1,900 to 3,580

Precipitation: 5 to 7 inches

Air temperature: 57 to 68 degrees Fahrenheit

Frost-free period: 210 to 300 days

***Composition***

Helkitchen extremely flaggy sandy loam, 15 to 50 percent slopes—60 percent

St. Thomas extremely gravelly sandy loam, 15 to 50 percent slopes—25 percent

Galehills extremely gravelly fine sandy loam, 15 to 50 percent slopes—5 percent

Rock outcrop—4 percent

Zeheme extremely gravelly fine sandy loam, 8 to 30 percent slopes—4 percent

St. Thomas very cobbly fine sandy loam, 30 to 75 percent slopes—2 percent

***Component Description***

**Helkitchen and similar soils**

Landform: Northwest to northeast aspects on backslopes of mountains

Slope: 15 to 50 percent, northwest to northeast aspects

Parent material: Colluvium and/or residuum weathered from limestone

Typical vegetation: Creosotebush, winterfat, white bursage, other perennial forbs,  
other perennial grasses, other shrubs, Anderson wolfberry, big galleta, desert  
needlegrass

**Typical profile:**

Surface rock fragments: About 15 percent stones, 15 percent flagstones, 40 percent  
channers

Layer 1—0 to 3 inches; extremely flaggy sandy loam

Layer 2—3 to 7 inches; extremely gravelly loam

Layer 3—7 to 12 inches; very gravelly fine sandy loam

Layer 4—12 to 22 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB123NV—Limestone slope 5-7 P.Z.

***Component Description*****St. Thomas and similar soils**

Landform: Southeast facing backslopes of hills

Slope: 15 to 50 percent, southeast aspect

Parent material: Colluvium and/or residuum weathered from limestone

Typical vegetation: Range ratany, white bursage, other perennial forbs, big galleta, other shrubs, creosotebush

**Typical profile:**

Surface rock fragments: About 2 percent stones, 50 percent gravel, 10 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 14 inches; very gravelly loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.8 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Galehills and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Hills

Typical vegetation: White bursage, shadscale, creosotebush, Fremont dalea, other shrubs, other perennial forbs  
 Ecological site: R030XB125NV—Channery hill 3-5 P.Z.

**Rock outcrop**

Composition: 0 to 4 percent  
 Landform: Cliffs

**Zeheme and similar soils**

Composition: 0 to 4 percent  
 Slope: 8 to 30 percent  
 Landform: Backslopes of mountains  
 Typical vegetation: Desert needlegrass, blackbrush, other shrubs, other perennial forbs  
 Ecological site: R030XB030NV—Shallow limestone slope 5-7 P.Z.

**St. Thomas and similar soils**

Composition: 0 to 2 percent  
 Slope: 30 to 75 percent, northwest to northeast aspects  
 Landform: Northwest to northeast aspects on backslopes of mountains  
 Typical vegetation: Utah mortonia, range ratany, Torrey ephedra, white bursage, other perennial forbs  
 Ecological site: R030XB111NV—Gravelly Limestone slope 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Engineering" and "Soil Properties" sections

**830—Puelzmine extremely gravelly fine sandy loam, 4 to 15 percent slopes**

***Map Unit Setting***

MLRA: 30  
 Landscape: Plateau  
 Elevation: 4,200 to 5,150  
 Precipitation: 5 to 7 inches  
 Air temperature: 57 to 63 degrees Fahrenheit  
 Frost-free period: 180 to 240 days

***Composition***

Puelzmine extremely gravelly fine sandy loam, 4 to 15 percent slopes—85 percent  
 Lithic Torriorthents extremely gravelly sandy loam, 50 to 75 percent slopes—6 percent  
 Rubble land boulders, 0 to 99 percent slopes—4 percent  
 Hiddensun family extremely gravelly fine sandy loam, 15 to 50 percent slopes—3 percent  
 Highland extremely gravelly loam, 8 to 30 percent slopes—2 percent

***Component Description***

**Puelzmine and similar soils**

Landform: Summits of lava flows  
 Slope: 4 to 15 percent

Parent material: Influenced by calcareous loess over colluvium and/or residuum weathered from basalt

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, blackbrush, other shrubs

**Typical profile:**

Surface rock fragments: About 5 percent stones, 10 percent cobbles, 45 percent gravel

Layer 1—0 to 2 inches; extremely gravelly fine sandy loam

Layer 2—2 to 17 inches; very gravelly loam

Layer 3—17 to 37 inches; cemented material

Layer 4—37 to 47 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Depth to restrictive feature: Duripan: 14 to 20 inches Lithic bedrock: 30 to 39 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Lithic Torriorthents and similar soils**

Composition: 0 to 6 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, mesic Lithic Torriorthents

Slope: 50 to 75 percent

Landform: Backslopes of hills

Typical vegetation: Desert needlegrass, bush muhly, big galleta, other perennial forbs, ephedra, Mojave buckwheat, winterfat, other shrubs

Ecological site: R030XB091NV—Mountain ridge

**Rubble land**

Composition: 0 to 4 percent

Slope: 0 to 99 percent

Landform: Hills

**Hiddensun family and similar soils**

Composition: 0 to 3 percent

Classification: Loamy-skeletal, mixed, superactive, thermic Lithic Haplocalcids

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs,  
blackbrush, other shrubs  
Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

**Highland and similar soils**

Composition: 0 to 2 percent  
Slope: 8 to 30 percent  
Landform: Backslopes of mountains  
Typical vegetation: Bush muhly, white bursage, range ratany, other shrubs, desert  
globemallow, other perennial grasses, big galleta, creosotebush  
Ecological site: R030XB044NV—Cobbly claypan 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and  
associated tables in this publication:  
"Range" section  
"Engineering" and "Soil Properties" sections

**833—Virgin Peak-Rock outcrop association**

***Map Unit Setting***

MLRA: 30  
Landscape: Mountains  
Elevation: 4,690 to 6,330  
Precipitation: 14 to 18 inches  
Air temperature: 51 to 57 degrees Fahrenheit  
Frost-free period: 130 to 180 days

***Composition***

Virgin Peak very gravelly loam, 30 to 75 percent slopes—75 percent  
Rock outcrop—15 percent  
Lithic Haplustolls very gravelly sandy loam, 30 to 75 percent slopes—5 percent  
Pachic Argiustolls loam, 30 to 75 percent slopes—5 percent

***Component Description***

**Virgin Peak and similar soils**

Landform: Backslopes of mountains  
Slope: 30 to 75 percent  
Parent material: Colluvium derived from schist over residuum weathered from schist  
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—singleleaf  
pinyon, mountain big sagebrush, Gambel's oak, greenleaf manzanita, desert  
ceanothus, other perennial grasses, other shrubs, Utah serviceberry, snowberry,  
other perennial forbs, Indian ricegrass, muttongrass, curleaf mountainmahogany  
Site index: Singleleaf pinyon—30 at an age base of 0 years

**Typical profile:**

Surface rock fragments: About 2 percent stones, 50 percent gravel, 10 percent  
cobbles  
Layer 1—0 to 7 inches; very gravelly loam  
Layer 2—7 to 14 inches; bedrock  
Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 6 to 10 inches Lithic bedrock: 9 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.5 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: F029XY141NV

### ***Component Description***

#### **Rock outcrop**

Landform: Mountains

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Lithic Haplustolls and similar soils**

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Hills, mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—curlleaf mountainmahogany, mountain big sagebrush, other shrubs, other perennial forbs, Gambel oak, muttongrass, other perennial grasses

Ecological site: F030XC288NV

#### **Pachic Argiustolls and similar soils**

Composition: 0 to 5 percent

Classification: Loamy-skeletal, mixed, superactive, frigid Pachic Argiustolls

Slope: 30 to 75 percent

Landform: Mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—other perennial grasses, muttongrass, blue grama, Gambel's oak, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, other shrubs, singleleaf pinyon

Ecological site: F030XC240NV

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

## 840—Potosi-Zeheme-Rock outcrop association

### *Map Unit Setting*

MLRA: 30

Landscape: Mountains

Elevation: 2,990 to 7,510

Precipitation: 5 to 10 inches

Air temperature: 52 to 64 degrees Fahrenheit

Frost-free period: 130 to 210 days

### *Composition*

Potosi extremely gravelly loam, 15 to 50 percent slopes—50 percent

Zeheme extremely gravelly fine sandy loam, 15 to 50 percent slopes—25 percent

Rock outcrop—10 percent

Potosi very gravelly loam, 50 to 75 percent slopes—6 percent

Railroad very gravelly fine sandy loam, 4 to 15 percent slopes—5 percent

Zeheme extremely cobbly fine sandy loam, 30 to 75 percent slopes—3 percent

Threelakes extremely gravelly loamy sand, 4 to 15 percent slopes—1 percent

### *Component Description*

#### **Potosi and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from limestone

Typical vegetation: Desert needlegrass, muttongrass, arid needlegrass, other perennial forbs, fourwing saltbush, blackbrush, spiny hopsage, other shrubs

#### **Typical profile:**

Surface rock fragments: About 3 percent stones, 75 percent gravel, 5 percent cobbles

Layer 1—0 to 2 inches; extremely gravelly loam

Layer 2—2 to 11 inch; extremely gravelly loam

Layer 3—11 to 21 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XC008NV—Shallow limestone slope 7-9 P.Z.

### *Component Description*

#### **Zeheme and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium residuum weathered from limestone

Typical vegetation: Desert needlegrass, other perennial forbs, blackbrush, other shrubs

**Typical profile:**

Surface rock fragments: About 10 percent cobbles, 70 percent gravel, 2 percent stones

Layer 1—0 to 2 inches; extremely gravelly fine sandy loam

Layer 2—2 to 9 inches; very gravelly fine sandy loam

Layer 3—9 to 19 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 7 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB030NV—Shallow limestone slope 5-7 P.Z.

***Component Description***

**Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Potosi and similar soils**

Composition: 0 to 6 percent

Slope: 50 to 75 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: Desert needlegrass, muttongrass, arid needlegrass, other perennial forbs, fourwing saltbush, blackbrush, spiny hopsage, other shrubs

Ecological site: R030XC008NV—Shallow limestone slope 7-9 P.Z.

**Railroad and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Backslopes of steep basalt lava flows

Typical vegetation: Indian ricegrass, winterfat, other shrubs, other perennial forbs, other annual forbs, bush muhly, big galleta

Ecological site: R030XB080NV—Stony loam 5-7 P.Z.

**Zeheme steep and similar soils**

Composition: 0 to 3 percent

Slope: 30 to 75 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: Desert needlegrass, other shrubs, Mexican cliffrose, arid needlegrass, other perennial forbs, snakeweed, other perennial grasses, range ratany, ephedra, Utah agave, Anderson wolfberry, winterfat, creosotebush, blackbrush

Ecological site: R030XB068NV—Limestone hill 5-7 P.Z.

**Threelakes and similar soils**

Composition: 0 to 1 percent

Slope: 4 to 15 percent

Landform: Drainageways

Typical vegetation: Bush muhly, big galleta, other perennial grasses, other perennial forbs, hollyleaf bursage, Mojave buckwheat, burrobrush, range ratany, Anderson's wolfberry, other shrubs

Ecological site: R030XB051NV—Upland wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**845—Leecanyon-Goodwater association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 5,890 to 8,270

Precipitation: 10 to 16 inches

Air temperature: 45 to 56 degrees Fahrenheit

Frost-free period: 90 to 180 days

***Composition***

Leecanyon very gravelly loam, 4 to 15 percent slopes—60 percent

Goodwater very gravelly sandy loam, 4 to 15 percent slopes—25 percent

Purob extremely gravelly loam, 4 to 15 percent slopes—5 percent

Xeric Haplocambids very gravelly sandy loam, 2 to 8 percent slopes—3 percent

Goodwater very gravelly loam, 30 to 75 percent slopes—3 percent

Typic Torriorthents extremely gravelly coarse sandy loam, 2 to 8 percent slopes—2 percent

Maryjane extremely gravelly silt loam, 4 to 15 percent slopes—2 percent

***Component Description*****Leecanyon and similar soils**

Landform: Northeast facing summits of upper elevational fan remnants

Slope: 4 to 15 percent, northeast aspect

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Other perennial grasses, blue grama, muttongrass, other perennial forbs, black sagebrush, Stansbury cliffrose, other shrubs

**Typical profile:**

Surface rock fragments: About 70 percent gravel  
 Layer 1—0 to 2 inches; very gravelly loam  
 Layer 2—2 to 8 inches; gravelly silt loam  
 Layer 3—8 to 18 inches; very gravelly loam  
 Layer 4—18 to 42 inches; cemented material  
 Layer 5—42 to 55 inches; extremely gravelly loamy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium  
 Depth to restrictive feature: Petrocalcic: 14 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7e  
 Ecological site: R030XC023NV—Shallow gravelly fan 11-15 P.Z.

***Component Description*****Goodwater and similar soils**

Landform: Backslopes of convex ballenas  
 Slope: 4 to 15 percent  
 Parent material: Alluvium derived from limestone  
 Typical vegetation: Blackbrush, other perennial forbs, Stansbury cliffrose, desert needlegrass, other shrubs, other perennial grasses, other trees

**Typical profile:**

Surface rock fragments: About 2 percent subrounded stones, 85 percent subrounded gravel, 3 percent subrounded cobbles  
 Layer 1—0 to 2 inches; very gravelly sandy loam  
 Layer 2—2 to 11 inch; extremely gravelly sandy loam  
 Layer 3—11 to 14 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Petrocalcic: 10 to 20 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.6 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XC018NV—Shallow gravelly slope 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Purob and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Summits of lower elevational fan remnants

Typical vegetation: Other perennial grasses, desert needlegrass, other shrubs, ephedra, blackbrush, other perennial forbs

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

**Goodwater steep and similar soils**

Composition: 0 to 3 percent

Slope: 30 to 75 percent

Landform: Backslopes of convex ballenas

Typical vegetation: Other perennial forbs, blackbrush, Stansbury cliffrose, desert needlegrass, other shrubs, other trees, other perennial grasses

Ecological site: R030XC018NV—Shallow gravelly slope 7-9 P.Z.

**Xeric Haplocambids and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: lower elevational inset fans

Typical vegetation: Indian ricegrass, desert needlegrass, other perennial grasses, ephedra, other shrubs, Stansbury cliffrose, mountain big sagebrush, other perennial forbs, blackbrush

Ecological site: R030XC012NV—Gravelly calcareous inset fan 9-11 P.Z.

**Maryjane and similar soils**

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Smooth alluvial fans

Typical vegetation: Forest canopy—ponderosa pine Forest understory—Spring

Mountain goldenbush, wax currant, white fir, ponderosa pine, curlleaf

mountainmahogany, other perennial forbs, other shrubs, bluebunch wheatgrass, muttongrass, other perennial grasses

Ecological site: F030XC280NV

**Typic Torriorthents and similar soils**

Composition: 0 to 2 percent

Classification: Sandy-skeletal, carbonatic, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big galleta, bush muhly, other shrubs, other perennial grasses, other perennial forbs, hollyleaf bursage, Mojave buckwheat, burrobrush, range ratany, Anderson's wolfberry

Ecological site: R030XB051NV—Upland wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Engineering" and "Soil Properties" sections

## **850—Birdspring association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Mountains  
 Elevation: 2,620 to 5,250  
 Precipitation: 5 to 7 inches  
 Air temperature: 57 to 63 degrees Fahrenheit  
 Frost-free period: 180 to 240 days

### ***Composition***

Birdspring extremely gravelly fine sandy loam, 15 to 50 percent slopes—55 percent  
 Birdspring extremely stony loam, 8 to 30 percent slopes—30 percent  
 Rock outcrop—6 percent  
 Birdspring extremely gravelly fine sandy loam, 50 to 75 percent slopes—4 percent  
 Zeheme extremely gravelly fine sandy loam, 8 to 30 percent slopes—3 percent  
 St. Thomas extremely gravelly sandy loam, 8 to 30 percent slopes—2 percent

### ***Component Description***

#### **Birdspring and similar soils**

Landform: Southwest facing backslopes of mountains  
 Slope: 15 to 50 percent, southwest aspect  
 Parent material: Colluvium and/or residuum weathered from limestone and dolomite  
 Typical vegetation: Desert needlegrass, big galleta, other perennial forbs, white bursage, shadscale, desertholly, Torrey ephedra, other shrubs

#### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 70 percent gravel, 1 percent stones  
 Layer 1—0 to 1 inch; extremely gravelly fine sandy loam  
 Layer 2—1 to 4 inches; very gravelly fine sandy loam  
 Layer 3—4 to 14 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 4 to 10 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.2 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA002NV—Limestone hill 5-7 P.Z.

### ***Component Description***

#### **Birdspring moderately sloping and similar soils**

Landform: Backslopes of mountains

Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from limestone and dolomite

Typical vegetation: Ephedra, white bursage, blackbrush, other shrubs, shadscale, desert needlegrass, other perennial forbs

#### **Typical profile:**

Surface rock fragments: About 30 percent gravel, 20 percent cobbles, 30 percent stones

Layer 1—0 to 3 inches; extremely stony loam

Layer 2—3 to 9 inches; very gravelly fine sandy loam

Layer 3—9 to 19 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 9 to 10 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA006NV—Shallow limestone slope 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Rock outcrop**

Composition: 0 to 6 percent

Landform: Cliffs

#### **Birdspring and similar soils**

Composition: 0 to 4 percent

Slope: 50 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Desert needlegrass, big galleta, other perennial forbs, white bursage, shadscale, desertholly, Torrey ephedra, other shrubs

Ecological site: R030XA002NV—Limestone hill 5-7 P.Z.

#### **Zeheme and similar soils**

Composition: 0 to 3 percent

Slope: 8 to 30 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: Desert needlegrass, other perennial forbs, blackbrush, other shrubs

Ecological site: R030XB030NV—Shallow limestone slope 5-7 P.Z.

**St. Thomas and similar soils**

Composition: 0 to 2 percent

Slope: 8 to 30 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: White bursage, other perennial forbs, other shrubs, creosotebush, range ratany, big galleta

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**851—Birdspring-Zeheme-Rock outcrop association**

***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 3,000 to 5,500

Precipitation: 5 to 8 inches

Air temperature: 57 to 64 degrees Fahrenheit

Frost-free period: 180 to 240 days

***Composition***

Birdspring extremely stony loam, 30 to 50 percent slopes—50 percent

Zeheme extremely stony fine sandy loam, 30 to 75 percent slopes—25 percent

Rock outcrop—15 percent

Potosi extremely gravelly loam, 30 to 50 percent slopes—6 percent

Birdspring extremely gravelly fine sandy loam, 30 to 50 percent slopes—2 percent

Birdspring extremely cobbly sandy loam, 4 to 15 percent slopes—2 percent

***Component Description***

**Birdspring and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Colluvium and/or residuum weathered from limestone and dolomite

Typical vegetation: Other perennial forbs, desert needlegrass, shadscale, blackbrush, white bursage, ephedra, other shrubs

**Typical profile:**

Surface rock fragments: About 30 percent stones, 30 percent gravel, 20 percent cobbles

Layer 1—0 to 3 inches; extremely stony loam

Layer 2—3 to 9 inches; very gravelly fine sandy loam

Layer 3—9 to 19 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 9 to 10 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA006NV—Shallow limestone slope 5-7 P.Z.

***Component Description*****Zeheme and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Colluvium residuum weathered from limestone

Typical vegetation: Other perennial forbs, Utah agave, blackbrush, arid needlegrass, other shrubs, other perennial grasses, Mexican cliffrose, Anderson wolfberry, ephedra, snakeweed, range ratany, creosotebush, winterfat, desert needlegrass

**Typical profile:**

Layer 1—0 to 4 inches; extremely stony fine sandy loam

Layer 2—4 to 13 inches; very gravelly fine sandy loam

Layer 3—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 7 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB068NV—Limestone hill 5-7 P.Z.

***Component Description*****Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Potosi and similar soils**

Composition: 0 to 6 percent

Slope: 30 to 50 percent, southeast aspect  
 Landform: Southeast facing backslopes of mountains  
 Typical vegetation: Spiny hopsage, other shrubs, desert needlegrass, muttongrass, arid needlegrass, other perennial forbs, fourwing saltbush, blackbrush  
 Ecological site: R030XC008NV—Shallow limestone slope 7-9 P.Z.

**Birdspring, steep and similar soils**

Composition: 0 to 2 percent  
 Slope: 30 to 50 percent  
 Landform: Backslopes of mountains  
 Typical vegetation: Desert needlegrass, big galleta, other perennial forbs, white bursage, shadscale, Torrey ephedra, other shrubs  
 Ecological site: R030XA002NV—Limestone hill 5-7 P.Z.

**Birdspring and similar soils**

Composition: 0 to 2 percent  
 Slope: 4 to 15 percent  
 Landform: Backslopes of mountains  
 Typical vegetation: Desert needlegrass, other perennial forbs, white bursage, shadscale, blackbrush, other shrubs  
 Ecological site: R030XA006NV—Shallow limestone slope 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Engineering" and "Soil Properties" sections

**852—Birdspring-Rock outcrop association**

***Map Unit Setting***

MLRA: 30  
 Landscape: Mountains  
 Elevation: 2,620 to 5,580  
 Precipitation: 5 to 7 inches  
 Air temperature: 57 to 63 degrees Fahrenheit  
 Frost-free period: 180 to 240 days

***Composition***

Birdspring extremely gravelly fine sandy loam, 30 to 75 percent slopes—65 percent  
 Rock outcrop—20 percent  
 Typic Haplocalcids extremely stony fine sandy loam, 15 to 50 percent slopes—6 percent  
 Zeheme extremely gravelly fine sandy loam, 8 to 30 percent slopes—5 percent  
 Birdspring extremely gravelly fine sandy loam, 2 to 8 percent slopes—2 percent  
 St. Thomas family extremely stony fine sandy loam, 30 to 75 percent slopes—2 percent

***Component Description***

**Birdspring and similar soils**

Landform: Backslopes of mountains  
 Slope: 30 to 75 percent  
 Parent material: Colluvium and/or residuum weathered from limestone and dolomite

Typical vegetation: Shadscale, white bursage, desertholly, Torrey ephedra, other shrubs, desert needlegrass, other perennial forbs, big galleta

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 70 percent gravel, 1 percent stones

Layer 1—0 to 1 inch; extremely gravelly fine sandy loam

Layer 2—1 to 4 inches; very gravelly fine sandy loam

Layer 3—4 to 14 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 10 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.2 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA002NV—Limestone hill 5-7 P.Z.

***Component Description***

**Rock outcrop**

Landform: Ridges

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Typic Haplocalcids and similar soils**

Composition: 0 to 6 percent

Classification: Loamy-skeletal, carbonatic, thermic Typic Haplocalcids

Slope: 15 to 50 percent

Landform: Fan remnants

Typical vegetation: Shadscale, bush muhly, big galleta, other shrubs, other perennial forbs, other perennial grasses

Ecological site: R030XB106NV—Gravelly slope 5-7 P.Z.

**Zeheme and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 30 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: Desert needlegrass, other perennial forbs, blackbrush, other shrubs

Ecological site: R030XB030NV—Shallow limestone slope 5-7 P.Z.

**Birdspring and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Backslopes of mountains

Typical vegetation: Desert needlegrass, other perennial forbs, white bursage, shadscale, blackbrush, ephedra, other shrubs

Ecological site: R030XA006NV—Shallow limestone slope 5-7 P.Z.

#### **St. Thomas family and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, carbonatic, thermic Lithic Torriorthents

Slope: 30 to 75 percent

Landform: Mountains

Typical vegetation: Desert needlegrass, bush muhly, other perennial grasses, arid needlegrass, other perennial forbs, spearleaf brickellia, Torrey ephedra, winterfat, Utah mortonia, Mojave sage, other shrubs

Ecological site: R030XB105NV—Bouldery limestone slope 5-7 P.Z.

#### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

### **853—Birdspring-St. Thomas-Rock outcrop association**

#### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 2,760 to 3,640

Precipitation: 5 to 7 inches

Air temperature: 57 to 65 degrees Fahrenheit

Frost-free period: 180 to 270 days

#### ***Composition***

Birdspring extremely gravelly fine sandy loam, 15 to 50 percent slopes—40 percent

St. Thomas extremely gravelly sandy loam, 15 to 50 percent slopes—30 percent

Rock outcrop—15 percent

Zeheme extremely stony fine sandy loam, 8 to 30 percent slopes—8 percent

St. Thomas family extremely gravelly sandy loam, 15 to 50 percent slopes—7 percent

#### ***Component Description***

##### **Birdspring and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from limestone and dolomite

Typical vegetation: White bursage, shadscale, Torrey ephedra, other shrubs, desertholly, other perennial forbs, desert needlegrass, big galleta

##### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 1 percent stones, 70 percent gravel

Layer 1—0 to 1 inch; extremely gravelly fine sandy loam

Layer 2—1 to 4 inches; very gravelly fine sandy loam

Layer 3—4 to 14 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 10 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.2 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA002NV—Limestone hill 5-7 P.Z.

#### ***Component Description***

##### **St. Thomas and similar soils**

Landform: Southeast facing backslopes of mountains

Slope: 15 to 50 percent, southeast aspect

Parent material: Colluvium and/or residuum weathered from limestone

Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

##### **Typical profile:**

Surface rock fragments: About 2 percent stones, 10 percent cobbles, 50 percent gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 14 inches; very gravelly loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.8 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### ***Component Description***

##### **Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Zeheme and similar soils**

Composition: 0 to 8 percent

Slope: 8 to 30 percent, northeast aspect

Landform: Northeast facing mountains

Typical vegetation: Desert needlegrass, other perennial forbs, other shrubs, blackbrush

Ecological site: R030XB030NV—Shallow limestone slope 5-7 P.Z.

#### **St. Thomas family and similar soils**

Composition: 0 to 7 percent

Classification: Loamy-skeletal, carbonatic, thermic Lithic Torriorthents

Slope: 15 to 50 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: Indian ricegrass, big galleta, other perennial forbs, white bursage, ephedra, range ratany, winterfat, creosotebush, other shrubs

Ecological site: R030XB102NV—Gravelly loam 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **854—Birdspring-Birdspring, warm-Rock outcrop association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 3,150 to 5,080

Precipitation: 5 to 7 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

### ***Composition***

Birdspring extremely gravelly fine sandy loam, 15 to 50 percent slopes—40 percent

Birdspring extremely gravelly fine sandy loam, 15 to 50 percent slopes—25 percent

Rock outcrop—20 percent

St. Thomas family extremely gravelly sandy loam, 30 to 75 percent slopes—7 percent

Zeheme extremely gravelly fine sandy loam, 30 to 75 percent slopes—5 percent

Corncreek family extremely gravelly fine sandy loam, 4 to 15 percent slopes—2 percent

St. Thomas family extremely gravelly sandy loam, 8 to 30 percent slopes—1 percent

### ***Component Description***

#### **Birdspring and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from limestone and dolomite

Typical vegetation: Desert needlegrass, white bursage, shadscale, Nevada ephedra, Indian ricegrass, creosotebush, other shrubs, other perennial forbs

**Typical profile:**

Surface rock fragments: About 70 percent gravel, 5 percent cobbles, 1 percent stones

Layer 1—0 to 1 inch; extremely gravelly fine sandy loam

Layer 2—1 to 4 inches; very gravelly fine sandy loam

Layer 3—4 to 14 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 10 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.2 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA059NV—Gravelly hill 5-7 P.Z.

***Component Description***

**Birdspring dry and similar soils**

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from limestone and dolomite

Typical vegetation: Creosotebush, other shrubs, other perennial forbs, white bursage, other perennial grasses, other annual grasses, white burrobush

**Typical profile:**

Surface rock fragments: About 1 percent stones, 5 percent cobbles, 70 percent gravel

Layer 1—0 to 1 inch; extremely gravelly fine sandy loam

Layer 2—1 to 4 inches; very gravelly fine sandy loam

Layer 3—4 to 14 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 10 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.2 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XA067NV—Limy hill 3-5 P.Z.

***Component Description*****Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****St. Thomas family and similar soils**

Composition: 0 to 7 percent

Classification: Loamy-skeletal, carbonatic, thermic Lithic Torriorthents

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: White bursage, other annual forbs, other perennial forbs, other shrubs, creosotebush, shadscale

Ecological site: R030XA056NV—Loamy hill 3-5 P.Z.

**Zeheme steep and similar soils**

Composition: 0 to 5 percent

Slope: 30 to 75 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: Desert needlegrass, other perennial grasses, arid needlegrass, other perennial forbs, Utah agave, blackbrush, ephedra, snakeweed, range ratany, winterfat, creosotebush, Anderson wolfberry, Mexican cliffrose, other shrubs

Ecological site: R030XB068NV—Limestone hill 5-7 P.Z.

**Corncreek family and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, carbonatic, thermic Sodic Haplocalcids

Slope: 4 to 15 percent

Landform: Fan skirts

Typical vegetation: Other perennial grasses, California bearpoppy, other perennial forbs, desertholly saltbush, wolfberry, other shrubs, seepweed

Ecological site: R030XA060NV—Gypsic loam 3-5 P.Z.

**St. Thomas family and similar soils**

Composition: 0 to 1 percent

Classification: Loamy-skeletal, carbonatic, thermic Lithic Torriorthents

Slope: 8 to 30 percent, southeast aspect

Landform: Southeast facing backslopes of mountains

Typical vegetation: Other shrubs, Utah mortonia, winterfat, Torrey ephedra, spearleaf brickellia, other perennial forbs, other perennial grasses, bush muhly, desert needlegrass, Mojave sage, arid needlegrass

Ecological site: R030XB105NV—Bouldery Limestone slope 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## 860—Straycow-Highland association

### *Map Unit Setting*

MLRA: 30

Landscape: Hills

Elevation: 3,610 to 4,920

Precipitation: 5 to 7 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

### *Composition*

Straycow extremely gravelly sandy loam, 15 to 50 percent slopes—45 percent

Highland extremely gravelly loam, 15 to 50 percent slopes—25 percent

Straycow very gravelly loam, 8 to 30 percent slopes—15 percent

Lanip very gravelly fine sandy loam, 2 to 8 percent slopes—6 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—4 percent

Rock outcrop—3 percent

Haleburu extremely gravelly sandy loam, 15 to 50 percent slopes—2 percent

### *Component Description*

#### **Straycow and similar soils**

Landform: Backslopes of upper hills

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from metamorphic rock

Typical vegetation: Desert needlegrass, big galleta, other perennial forbs, Mojave buckwheat, other shrubs, ephedra, range ratany

#### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 65 percent gravel

Layer 1—0 to 2 inches; extremely gravelly sandy loam

Layer 2—2 to 7 inches; very gravelly clay loam

Layer 3—7 to 20 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 5 to 13 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB071NV—Volcanic slope 7-9 P.Z.

### *Component Description*

#### **Highland and similar soils**

Landform: Backslopes of lower hills

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock  
 Typical vegetation: Blackbrush, other perennial forbs, other shrubs, winterfat, Indian ricegrass, other perennial grasses, big galleta

**Typical profile:**

Surface rock fragments: About 20 percent cobbles, 65 percent gravel, 2 percent stones  
 Layer 1—0 to 3 inches; extremely gravelly loam  
 Layer 2—3 to 13 inches; very cobbly loam  
 Layer 3—13 to 26 inches; very gravelly loam  
 Layer 4—26 to 30 inches; very gravelly sandy loam  
 Layer 5—30 to 40 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Lithic bedrock: 30 to 39 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB107NV—Coarse gravelly loam 5-7 P.Z.

***Component Description***

**Straycow moderately sloping and similar soils**

Landform: Backslopes of lower hills  
 Slope: 8 to 30 percent  
 Parent material: Colluvium and/or residuum weathered from metamorphic rock  
 Typical vegetation: Other perennial forbs, other perennial grasses, big galleta, Indian ricegrass, blackbrush, winterfat, other shrubs

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 65 percent gravel  
 Layer 1—0 to 2 inches; very gravelly loam  
 Layer 2—2 to 19 inches; very gravelly clay loam  
 Layer 3—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Paralithic bedrock: 5 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)  
 Available water capacity: About 2 inches  
 Present flooding: None

Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB107NV—Coarse gravelly loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Lanip and similar soils**

Composition: 0 to 6 percent  
 Slope: 2 to 8 percent  
 Landform: Fan remnants  
 Typical vegetation: Indian ricegrass, bush muhly, big galleta, other perennial grasses, other perennial forbs, white bursage, Nevada ephedra, spiny hopsage, range ratany, winterfat, creosotebush, other shrubs  
 Ecological site: R030XB043NV—Claypan 5-7 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 4 percent  
 Slope: 2 to 8 percent  
 Landform: Drainageways  
 Typical vegetation: Range ratany, other shrubs, Anderson's wolfberry, big galleta, burrobrush, Mojave buckwheat, bush muhly, other perennial grasses, hollyleaf bursage, other perennial forbs  
 Ecological site: R030XB051NV—Upland wash

#### **Rock outcrop**

Composition: 0 to 3 percent  
 Landform: Summits of cliffs

#### **Haleburu and similar soils**

Composition: 0 to 2 percent  
 Slope: 15 to 50 percent  
 Landform: Backslopes of lower elevation hills  
 Typical vegetation: Range ratany, white bursage, other perennial forbs, big galleta, other shrubs, creosotebush  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

## **865—Mackscanyon very gravelly silt loam, 15 to 50 percent slopes**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 5,380 to 8,630

Precipitation: 12 to 16 inches  
 Air temperature: 45 to 50 degrees Fahrenheit  
 Frost-free period: 90 to 130 days

### ***Composition***

Mackscanyon very gravelly silt loam, 15 to 50 percent slopes—85 percent  
 Leecanyon very gravelly loam, 8 to 30 percent slopes—6 percent  
 Goodwater very gravelly loam, 15 to 50 percent slopes—4 percent  
 Purob extremely gravelly loam, 4 to 15 percent slopes—3 percent  
 Xeric Haplocambids very gravelly sandy loam, 2 to 8 percent slopes—2 percent

### ***Component Description***

#### **Mackscanyon and similar soils**

Landform: Backslopes of convex fan remnants  
 Slope: 15 to 50 percent  
 Parent material: Alluvium derived from limestone  
 Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest  
 understory—Stansbury cliffrose, other shrubs, curleaf mountainmahogany,  
 mountain big sagebrush, black sagebrush, other perennial forbs, other perennial  
 grasses, muttongrass, blue grama  
 Site index: Utah juniper—75 at an age base of 0 years  
 Site index: Singleleaf pinyon—75 at an age base of 0 years

#### **Typical profile:**

Surface rock fragments: About 55 percent subrounded gravel, 2 percent subrounded  
 stones, 5 percent subrounded cobbles  
 Layer 1—0 to 6 inches; very gravelly silt loam  
 Layer 2—6 to 60 inches; very gravelly loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
 information.

#### **Component Properties and Qualities**

Runoff: High  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability  
 class: Moderate)  
 Available water capacity: About 4 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e  
 Ecological site: F030XC244NV

Typical soil descriptions including ranges in characteristics are in the "Classification of  
 the Soils" section.

### ***Contrasting Inclusions***

#### **Leecanyon and similar soils**

Composition: 0 to 6 percent  
 Slope: 8 to 30 percent, northeast aspect  
 Landform: Northeast facing summits of upper elevational fan remnants

Typical vegetation: Other perennial forbs, muttongrass, other shrubs, blue grama,  
Stansbury cliffrose, black sagebrush, other perennial grasses  
Ecological site: R030XC023NV—Shallow gravelly fan 11-15 P.Z.

**Goodwater and similar soils**

Composition: 0 to 4 percent  
Slope: 15 to 50 percent  
Landform: Backslopes of convex ballenas  
Typical vegetation: Desert needlegrass, other perennial forbs, blackbrush, Stansbury  
cliffrose, other shrubs, other perennial grasses, other trees  
Ecological site: R030XC018NV—Shallow gravelly slope 7-9 P.Z.

**Purob and similar soils**

Composition: 0 to 3 percent  
Slope: 4 to 15 percent  
Landform: Fan remnants  
Typical vegetation: Blackbrush, other perennial forbs, other perennial grasses, desert  
needlegrass, ephedra, other shrubs  
Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

**Xeric Haplocambids and similar soils**

Composition: 0 to 2 percent  
Classification: Loamy-skeletal, carbonatic, mesic Xeric Haplocambids  
Slope: 2 to 8 percent  
Landform: Inset fans  
Typical vegetation: Mountain big sagebrush, other perennial forbs, other perennial  
grasses, desert needlegrass, other shrubs, Stansbury cliffrose, Indian ricegrass,  
ephedra, blackbrush  
Ecological site: R030XC012NV—Gravelly calcareous inset fan 9-11 P.Z.

***Management***

For information about managing this map unit, see the following sections and  
associated tables in this publication:  
"Range" section  
"Engineering" and "Soil Properties" sections

**866—Goodwater-Doespring association, 15 to 50 percent slopes**

***Map Unit Setting***

MLRA: 30  
Landscape: Fan piedmont  
Elevation: 6,040 to 8,330  
Precipitation: 10 to 16 inches  
Air temperature: 43 to 56 degrees Fahrenheit  
Frost-free period: 90 to 180 days

***Composition***

Goodwater very gravelly sandy loam, 15 to 50 percent slopes—45 percent  
Doespring very gravelly loam, 15 to 50 percent slopes—40 percent  
Doespring very gravelly loam, 15 to 50 percent slopes—8 percent  
Leecanyon very gravelly loam, 4 to 15 percent slopes—3 percent  
Purob extremely gravelly loam, 2 to 8 percent slopes—2 percent  
Maryjane extremely gravelly silt loam, 8 to 30 percent slopes—2 percent

### ***Component Description***

#### **Goodwater and similar soils**

Landform: Backslopes of convex ballenas

Slope: 15 to 50 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Desert needlegrass, blackbrush, other perennial grasses, other perennial forbs, other trees, other shrubs, Stansbury cliffrose

#### **Typical profile:**

Surface rock fragments: About 2 percent subrounded stones, 85 percent subrounded gravel, 3 percent subrounded cobbles

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 11 inch; extremely gravelly sandy loam

Layer 3—11 to 14 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XC018NV—Shallow gravelly slope 7-9 P.Z.

### ***Component Description***

#### **Doespring and similar soils**

Landform: North to east aspects on backslopes of upper elevation rock pediments

Slope: 15 to 50 percent, north to east aspects

Parent material: Alluvium derived from limestone over fanglomerate

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—muttongrass, other perennial grasses, Stansbury cliffrose, desert ceanothus, black sagebrush, other perennial forbs, blue grama, other shrubs, Utah juniper

Site index: Utah juniper—40 at an age base of 0 years

Site index: Singleleaf pinyon—40 at an age base of 0 years

#### **Typical profile:**

Surface rock fragments: About 0 percent subrounded stones, 5 percent subrounded cobbles, 70 percent subrounded gravel

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 7 inches; very gravelly loam

Layer 3—7 to 18 inches; very gravelly sandy loam

Layer 4—18 to 26 inches; cemented material

Layer 5—26 to 36 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 10 to 20 inches Lithic bedrock: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: F030XC243NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Doespring cool and similar soils**

Composition: 0 to 8 percent

Slope: 15 to 50 percent

Landform: Backslopes of upper elevational rock pediments

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—singleleaf pinyon, curlleaf mountainmahogany, black sagebrush, muttongrass, blue grama, other shrubs, other perennial forbs, other perennial grasses, Stansbury cliffrose, Utah juniper

Ecological site: F030XC247NV

#### **Leecanyon and similar soils**

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Summits of upper elevational fan remnants

Typical vegetation: Blue grama, black sagebrush, Stansbury cliffrose, other perennial forbs, other shrubs, other perennial grasses, muttongrass

Ecological site: R030XC023NV—Shallow gravelly fan 11-15 P.Z.

#### **Maryjane and similar soils**

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Smooth alluvial fans

Typical vegetation: Forest canopy—ponderosa pine Forest understory—other perennial grasses, ponderosa pine, white fir, wax currant, Spring Mountain goldenbush, curlleaf mountainmahogany, other perennial forbs, other shrubs, bluebunch wheatgrass, muttongrass

Ecological site: F030XC280NV

#### **Purob and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, other perennial grasses, desert needlegrass, ephedra, blackbrush, other perennial forbs  
 Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

## **867—Goodwater very gravelly sandy loam, 15 to 50 percent slopes**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 5,350 to 7,020  
 Precipitation: 10 to 12 inches  
 Air temperature: 51 to 56 degrees Fahrenheit  
 Frost-free period: 130 to 180 days

### ***Composition***

Goodwater very gravelly sandy loam, 15 to 50 percent slopes—85 percent  
 Purob extremely gravelly loam, 8 to 30 percent slopes—5 percent  
 Doespring very gravelly loam, 15 to 50 percent slopes—5 percent  
 Typic Torriorthents extremely gravelly coarse sandy loam, 2 to 8 percent slopes—3 percent  
 Xeric Haplocambids very gravelly sandy loam, 2 to 8 percent slopes—2 percent

### ***Component Description***

#### **Goodwater and similar soils**

Landform: Backslopes of convex ballenas  
 Slope: 15 to 50 percent  
 Parent material: Alluvium derived from limestone  
 Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs, blackbrush, Stansbury cliffrose, other shrubs, other trees

#### **Typical profile:**

Surface rock fragments: About 3 percent subrounded cobbles, 85 percent subrounded gravel, 2 percent subrounded stones  
 Layer 1—0 to 2 inches; very gravelly sandy loam  
 Layer 2—2 to 11 inch; extremely gravelly sandy loam  
 Layer 3—11 to 14 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Petrocalcic: 10 to 20 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.6 inch  
 Present flooding: None

Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 8  
 Ecological site: R030XC018NV—Shallow gravelly slope 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Doespring and similar soils**

Composition: 0 to 5 percent  
 Slope: 15 to 50 percent, north aspect  
 Landform: North facing backslopes of rock pediments  
 Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest  
 understory—Stansbury cliffrose, desert ceanothus, Utah juniper, black sagebrush,  
 other perennial forbs, other perennial grasses, muttongrass, blue grama, other  
 shrubs  
 Ecological site: F030XC243NV

#### **Purob and similar soils**

Composition: 0 to 5 percent  
 Slope: 8 to 30 percent  
 Landform: Backslopes of lower elevational fan remnants  
 Typical vegetation: Ephedra, other shrubs, blackbrush, other perennial forbs, other  
 perennial grasses, desert needlegrass  
 Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

#### **Typic Torriorthents and similar soils**

Composition: 0 to 3 percent  
 Classification: Sandy-skeletal, carbonatic, thermic Typic Torriorthents  
 Slope: 2 to 8 percent  
 Landform: Drainageways  
 Typical vegetation: Hollyleaf bursage, range ratany, Anderson's wolfberry, other  
 perennial forbs, other shrubs, bush muhly, burrobrush, big galleta, Mojave  
 buckwheat, other perennial grasses  
 Ecological site: R030XB051NV—Upland wash

#### **Xeric Haplocambids and similar soils**

Composition: 0 to 2 percent  
 Classification: Loamy-skeletal, carbonatic, mesic Xeric Haplocambids  
 Slope: 2 to 8 percent  
 Landform: Inset fans  
 Typical vegetation: Ephedra, blackbrush, mountain big sagebrush, other perennial  
 forbs, other perennial grasses, Indian ricegrass, Stansbury cliffrose, other shrubs,  
 desert needlegrass  
 Ecological site: R030XC012NV—Gravelly calcareous inset fan 9-11 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

**868—Mackscanyon-Goodwater association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 5,350 to 8,630

Precipitation: 10 to 16 inches

Air temperature: 45 to 56 degrees Fahrenheit

Frost-free period: 90 to 180 days

***Composition***

Mackscanyon very gravelly silt loam, 8 to 15 percent slopes—65 percent

Goodwater very gravelly sandy loam, 8 to 15 percent slopes—25 percent

Purob extremely gravelly loam, 4 to 15 percent slopes—8 percent

Xeric Haplocambids very gravelly sandy loam, 2 to 8 percent slopes—2 percent

***Component Description*****Mackscanyon and similar soils**

Landform: Backslopes of convex fan remnants

Slope: 8 to 15 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest  
 understory—other perennial forbs, other perennial grasses, muttongrass, other  
 shrubs, blue grama, Stansbury cliffrose, black sagebrush, mountain big sagebrush,  
 curlleaf mountainmahogany

Site index: Utah juniper—75 at an age base of 0 years

Site index: Singleleaf pinyon—75 at an age base of 0 years

**Typical profile:**

Surface rock fragments: About 55 percent subrounded gravel, 2 percent subrounded stones, 5 percent subrounded cobbles

Layer 1—0 to 6 inches; very gravelly silt loam

Layer 2—6 to 60 inches; very gravelly loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: F030XC244NV

***Component Description*****Goodwater and similar soils**

Landform: Backslopes of convex ballenas

Slope: 8 to 15 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Other trees, other perennial forbs, blackbrush, Stansbury cliffrose, other shrubs, desert needlegrass, other perennial grasses

**Typical profile:**

Surface rock fragments: About 3 percent subrounded cobbles, 2 percent subrounded stones, 85 percent subrounded gravel

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 11 inch; extremely gravelly sandy loam

Layer 3—11 to 14 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XC018NV—Shallow gravelly slope 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Purob and similar soils**

Composition: 0 to 8 percent

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, ephedra, blackbrush, desert needlegrass, other perennial forbs, other perennial grasses

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

**Xeric Haplocambids and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, carbonatic, mesic Xeric Haplocambids

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Stansbury cliffrose, other perennial grasses, other shrubs, blackbrush, ephedra, other perennial forbs, mountain big sagebrush, desert needlegrass, Indian ricegrass

Ecological site: R030XC012NV—Gravelly calcareous inset fan 9-11 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **870—Irongold extremely gravelly loam, 2 to 8 percent slopes**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 3,410 to 5,000

Precipitation: 5 to 7 inches

Air temperature: 57 to 63 degrees Fahrenheit

Frost-free period: 180 to 240 days

### ***Composition***

Irongold extremely gravelly loam, 2 to 8 percent slopes—85 percent

Weiser gravelly very fine sandy loam, 2 to 8 percent slopes—5 percent

Purob extremely gravelly loam, 2 to 8 percent slopes—4 percent

Typic Petrocalcids gravelly loam, 2 to 8 percent slopes—3 percent

Arizo extremely gravelly loamy coarse sand, 2 to 8 percent slopes—3 percent

### ***Component Description***

#### **Irongold and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, blackbrush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 65 percent gravel, 1 percent stones, 5 percent cobbles

Layer 1—0 to 1 inch; extremely gravelly loam

Layer 2—1 to 7 inches; gravelly loam

Layer 3—7 to 11 inch; very gravelly loam

Layer 4—11 to 34 inches; cemented material

Layer 5—34 to 60 inches; extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 10 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Weiser and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Creosotebush, other shrubs, Indian ricegrass, big galleta, other perennial forbs, range ratany, winterfat, ephedra, white bursage

Ecological site: R030XB102NV—Gravelly loam 5-7 P.Z.

#### **Purob and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Backslopes of partial ballenas

Typical vegetation: Other shrubs, desert needlegrass, other perennial forbs, ephedra, blackbrush, other perennial grasses

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

#### **Arizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Range ratany, Mojave buckwheat, hollyleaf bursage, other perennial forbs, other perennial grasses, burrobrush, Anderson's wolfberry, big galleta, bush muhly, other shrubs

Ecological site: R030XB051NV—Upland wash

#### **Typic Petrocalcids and similar soils**

Composition: 0 to 3 percent

Classification: Loamy-skeletal, carbonatic, thermic, shallow Typic Petrocalcids

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, blackbrush, other shrubs

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **871—Irongold-Weiser association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,430 to 5,000

Precipitation: 5 to 7 inches

Air temperature: 57 to 68 degrees Fahrenheit

Frost-free period: 180 to 300 days

### ***Composition***

Irongold extremely gravelly loam, 2 to 8 percent slopes—45 percent  
 Irongold extremely gravelly loam, 8 to 15 percent slopes—25 percent  
 Weiser extremely gravelly fine sandy loam, 2 to 8 percent slopes—15 percent  
 Wechech gravelly fine sandy loam, 2 to 8 percent slopes—6 percent  
 Purob extremely gravelly loam, 8 to 15 percent slopes—5 percent  
 Threelakes extremely gravelly loamy sand, 2 to 8 percent slopes—2 percent  
 Wechech very gravelly sandy loam, 2 to 8 percent slopes—2 percent

### ***Component Description***

#### **Irongold and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs,  
 blackbrush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 1 percent stones, 65 percent gravel

Layer 1—0 to 1 inch; extremely gravelly loam

Layer 2—1 to 7 inches; gravelly loam

Layer 3—7 to 11 inch; very gravelly loam

Layer 4—11 to 34 inches; cemented material

Layer 5—34 to 60 inches; extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium

Depth to restrictive feature: Petrocalcic: 10 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

### ***Component Description***

#### **Irongold moderately sloping and similar soils**

Landform: Backslopes of fan remnants

Slope: 8 to 15 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, other shrubs, blackbrush

#### **Typical profile:**

Surface rock fragments: About 65 percent gravel, 5 percent cobbles, 1 percent stones

Layer 1—0 to 1 inch; extremely gravelly loam

Layer 2—1 to 7 inches; gravelly loam

Layer 3—7 to 11 inch; very gravelly loam  
 Layer 4—11 to 34 inches; cemented material  
 Layer 5—34 to 60 inches; extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High  
 Depth to restrictive feature: Petrocalcic: 10 to 14 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 1.3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

#### ***Component Description***

##### **Weiser and similar soils**

Landform: Summits of fan remnants  
 Slope: 2 to 8 percent  
 Parent material: Alluvium derived from limestone and dolomite  
 Typical vegetation: Range ratany, creosotebush, white bursage, other perennial forbs, other shrubs, big galleta, other perennial grasses, other annual forbs

##### **Typical profile:**

Surface rock fragments: About 5 percent stones, 10 percent cobbles, 60 percent gravel  
 Layer 1—0 to 6 inches; extremely gravelly fine sandy loam  
 Layer 2—6 to 60 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 2 inches  
 Present flooding: Very rare  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Wechech and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Summits of partial ballenas

Typical vegetation: Indian ricegrass, big galleta, other perennial grasses, other perennial forbs, blackbrush, winterfat, other shrubs

Ecological site: R030XB107NV—Coarse gravelly loam 5-7 P.Z.

#### **Purob and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 15 percent

Landform: Backslopes of partial ballenas

Typical vegetation: Desert needlegrass, other perennial grasses, other perennial forbs, blackbrush, ephedra, other shrubs

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

#### **Threelakes and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs

Ecological site: R030XB028NV—Valley wash

#### **Wechech and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, other perennial forbs, other shrubs, other annual forbs, other perennial grasses, white bursage, range ratany, creosotebush

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **872—Irongold-Wechech association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 2,660 to 3,740

Precipitation: 5 to 7 inches

Air temperature: 57 to 69 degrees Fahrenheit

Frost-free period: 180 to 300 days

### ***Composition***

Irongold extremely gravelly loam, 2 to 8 percent slopes—60 percent

Wechech very gravelly fine sandy loam, 2 to 8 percent slopes—25 percent

Weiser very gravelly sandy loam, 2 to 4 percent slopes—6 percent

Tonopah extremely gravelly sandy loam, 2 to 4 percent slopes—5 percent  
 Zeheme extremely gravelly fine sandy loam, 8 to 30 percent slopes—2 percent  
 Arizo extremely gravelly loamy coarse sand, 2 to 4 percent slopes—2 percent

### ***Component Description***

#### **Irongold and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Other shrubs, other perennial forbs, blackbrush, big galleta, other perennial grasses

#### **Typical profile:**

Surface rock fragments: About 1 percent stones, 5 percent cobbles, 65 percent gravel

Layer 1—0 to 1 inch; extremely gravelly loam

Layer 2—1 to 7 inches; gravelly loam

Layer 3—7 to 11 inch; very gravelly loam

Layer 4—11 to 34 inches; cemented material

Layer 5—34 to 60 inches; extremely gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 10 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB029NV—Shallow gravelly loam 5-7 P.Z.

### ***Component Description***

#### **Wechech and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Other shrubs, spiny menodora, creosotebush, other perennial forbs, white bursage, big galleta, bush muhly

#### **Typical profile:**

Surface rock fragments: About 40 percent gravel, 5 percent cobbles

Layer 1—0 to 4 inches; very gravelly fine sandy loam

Layer 2—4 to 7 inches; very gravelly sandy loam

Layer 3—7 to 13 inches; very gravelly sandy loam

Layer 4—13 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB074NV—Cobbly loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Weiser and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: Other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs, big galleta, other perennial grasses

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Tonopah and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Fan remnants

Typical vegetation: Other perennial forbs, other perennial grasses, big galleta, white bursage, other shrubs, range ratany, other annual forbs, creosotebush

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Zeheme and similar soils**

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Desert needlegrass, other perennial forbs, blackbrush, other shrubs

Ecological site: R030XB030NV—Shallow limestone slope 5-7 P.Z.

**Arizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Drainageways

Typical vegetation: Other shrubs, creosotebush, baccharis, bursage, other perennial forbs, big galleta, other perennial grasses, white burrobrush

Ecological site: R030XB028NV—Valley wash

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section  
 "Engineering" and "Soil Properties" sections

## **875—Kylecanyon-Goodwater association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 5,540 to 6,660  
 Precipitation: 9 to 12 inches  
 Air temperature: 45 to 56 degrees Fahrenheit  
 Frost-free period: 90 to 180 days

### ***Composition***

Kylecanyon extremely gravelly loam, 4 to 15 percent slopes—50 percent  
 Goodwater very gravelly loam, 4 to 15 percent slopes—35 percent  
 Purob extremely gravelly loam, 4 to 15 percent slopes—5 percent  
 Typic Torriorthents extremely gravelly coarse sandy loam, 2 to 8 percent slopes—3 percent  
 Goodwater very gravelly loam, 30 to 75 percent slopes—3 percent  
 Xeric Haplocambids very gravelly sandy loam, 2 to 8 percent slopes—2 percent  
 Leecanyon very gravelly loam, 4 to 15 percent slopes—2 percent

### ***Component Description***

#### **Kylecanyon and similar soils**

Landform: East facing smooth fan remnants  
 Slope: 4 to 15 percent, east aspect  
 Parent material: Alluvium derived from limestone and dolomite  
 Typical vegetation: Other perennial forbs, other perennial grasses, Indian ricegrass, blue grama, desert needlegrass, Stansbury cliffrose, mountain big sagebrush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 1 percent cobbles, 70 percent gravel  
 Layer 1—0 to 4 inches; extremely gravelly loam  
 Layer 2—4 to 12 inches; gravelly loam  
 Layer 3—12 to 24 inches; very gravelly loam  
 Layer 4—24 to 26 inches; cemented material  
 Layer 5—26 to 59 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium  
 Depth to restrictive feature: Petrocalcic: 20 to 39 inches Petrocalcic: 21 to 43 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XC024NV—Gravelly fan 9-11 P.Z.

***Component Description*****Goodwater and similar soils**

Landform: Backslopes of convex ballenas

Slope: 4 to 15 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Other perennial forbs, other perennial grasses, other trees, desert needlegrass, other shrubs, Stansbury cliffrose, blackbrush

**Typical profile:**

Surface rock fragments: About 3 percent subrounded cobbles, 2 percent subrounded stones, 85 percent subrounded gravel

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 11 inch; extremely gravelly sandy loam

Layer 3—11 to 14 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XC018NV—Shallow gravelly slope 7-9 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Purob and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Ephedra, blackbrush, other perennial forbs, other perennial grasses, other shrubs, desert needlegrass

Ecological site: R030XC007NV—Shallow gravelly loam 7-9 P.Z.

**Goodwater steep and similar soils**

Composition: 0 to 3 percent

Slope: 30 to 75 percent

Landform: Backslopes of convex ballenas

Typical vegetation: Other perennial forbs, desert needlegrass, other perennial grasses, other trees, other shrubs, Stansbury cliffrose, blackbrush

Ecological site: R030XC018NV—Shallow gravelly slope 7-9 P.Z.

**Typic Torriorthents and similar soils**

Composition: 0 to 3 percent

Classification: Sandy-skeletal, carbonatic, thermic Typic Torriorthents

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Bush muhly, burrobrush, Mojave buckwheat, other perennial grasses, hollyleaf bursage, other perennial forbs, big galleta, range ratany, Anderson's wolfberry, other shrubs

Ecological site: R030XB051NV—Upland wash

**Leecanyon and similar soils**

Composition: 0 to 2 percent

Slope: 4 to 15 percent, northeast aspect

Landform: Northeast facing summits of upper elevational fan remnants

Typical vegetation: Blue grama, other perennial grasses, muttongrass, other shrubs, Stansbury cliffrose, other perennial forbs, black sagebrush

Ecological site: R030XC023NV—Shallow gravelly fan 11-15 P.Z.

**Xeric Haplocambids and similar soils**

Composition: 0 to 2 percent

Classification: Loamy-skeletal, carbonatic, mesic Xeric Haplocambids

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Other shrubs, other perennial grasses, desert needlegrass, Indian ricegrass, other perennial forbs, mountain big sagebrush, blackbrush, ephedra, Stansbury cliffrose

Ecological site: R030XC012NV—Gravelly calcareous inset fan 9-11 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**880—Nonamewash-Rositas association**

***Map Unit Setting***

MLRA: 30

Landscape: Semi-bolson

Elevation: 459 to 558

Precipitation: 3 to 6 inches

Air temperature: 70 to 75 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Nonamewash loamy fine sand, 0 to 2 percent slopes—65 percent

Rositas fine sand, 4 to 15 percent slopes—20 percent

Dune land fine sand, 15 to 50 percent slopes—6 percent

Typic Torriorthents fine sand, 2 to 8 percent slopes—5 percent

Aquic Torrifluents very fine sandy loam, 0 to 2 percent slopes—4 percent

### ***Component Description***

#### **Nonamewash and similar soils**

Landform: Smooth stream terraces

Slope: 0 to 2 percent

Parent material: Mixed alluvium derived from granite and gneiss

Typical vegetation: Big galleta, other perennial forbs, fourwing saltbush, other shrubs

#### **Typical profile:**

Layer 1—0 to 8 inches; loamy fine sand

Layer 2—8 to 60 inches; stratified fine sand to loamy fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB032NV—Dry floodplain

### ***Component Description***

#### **Rositas and similar soils**

Landform: Dunes

Slope: 4 to 15 percent

Parent material: Eolian sands

Typical vegetation: Range ratany, other perennial forbs, winterfat, other shrubs, Indian ricegrass, big galleta, white bursage

#### **Typical profile:**

Surface rock fragments: About 5 percent gravel

Layer 1—0 to 5 inches; fine sand

Layer 2—5 to 60 inches; sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB004NV—Sandy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Dune land**

Composition: 0 to 6 percent  
Slope: 15 to 50 percent  
Landform: Dunes

#### **Typic Torriorthents and similar soils**

Composition: 0 to 5 percent  
Classification: Sandy, mixed, hyperthermic Typic Torriorthents  
Slope: 2 to 8 percent  
Landform: Fan skirts  
Typical vegetation: Inland saltgrass, big galleta, alkali sacaton, fourwing saltbush, Torrey quailbush, mesquite, other shrubs  
Ecological site: R058AE016MT—Gravel (Gr)

#### **Aquic Torrfluents and similar soils**

Composition: 0 to 4 percent  
Classification: Loamy over sandy or sandy-skeletal, mixed, superactive, calcareous, hyperthermic Aquic Torrfluents  
Slope: 0 to 2 percent  
Landform: Stream terraces  
Typical vegetation: Rush, bulrush, common reed, cattail, bluegrass, willow, other perennial forbs, sedge, other perennial grasses  
Ecological site: R030XY055NV—Wetland

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
"Engineering" and "Soil Properties" sections

## **885—Luckystrike gravelly loam, 8 to 30 percent slopes**

### ***Map Unit Setting***

MLRA: 30  
Landscape: Fan piedmont  
Elevation: 6,200 to 8,630  
Precipitation: 14 to 18 inches  
Air temperature: 47 to 52 degrees Fahrenheit  
Frost-free period: 90 to 130 days

### ***Composition***

Luckystrike gravelly loam, 8 to 30 percent slopes—85 percent  
Mackscanyon very gravelly silt loam, 15 to 50 percent slopes—5 percent  
Leecanyon very gravelly loam, 4 to 15 percent slopes—4 percent  
Robbersfire very gravelly silt loam, 30 to 75 percent slopes—4 percent  
Rock outcrop—2 percent

### ***Component Description***

#### **Luckystrike and similar soils**

Landform: Summits of alluvial fans

Slope: 8 to 30 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—blue grama, muttongrass, other perennial grasses, Gambel's oak, singleleaf pinyon, other shrubs, other perennial forbs, mountain big sagebrush, curleaf mountainmahogany

Site index: Singleleaf pinyon—80 at an age base of 0 years

#### **Typical profile:**

Surface rock fragments: About 15 percent gravel, 2 percent cobbles

Layer 1—0 to 3 inches; gravelly loam

Layer 2—3 to 8 inches; very gravelly loam

Layer 3—8 to 19 inches; extremely gravelly loam

Layer 4—19 to 30 inches; extremely gravelly sandy loam

Layer 5—30 to 60 inches; extremely cobbly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: F030XC240NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Mackscanyon and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of convex fan remnants

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—black sagebrush, blue grama, other perennial forbs, curleaf mountainmahogany, mountain big sagebrush, muttongrass, other perennial grasses, Stansbury cliffrose, other shrubs

Ecological site: F030XC244NV

#### **Leecanyon and similar soils**

Composition: 0 to 4 percent

Slope: 4 to 15 percent, northeast aspect

Landform: Northeast facing summits of upper elevational fan remnants

Typical vegetation: Blue grama, muttongrass, other shrubs, other perennial grasses, other perennial forbs, black sagebrush, Stansbury cliffrose

Ecological site: R030XC023NV—Shallow gravelly fan 11-15 P.Z.

**Robbersfire and similar soils**

Composition: 0 to 4 percent

Slope: 30 to 75 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Forest canopy—white fir Forest understory—ponderosa pine, white fir, muttongrass, other shrubs, wax currant, curleaf mountainmahogany, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, other perennial grasses

Ecological site: F030XC283NV

**Rock outcrop limestone**

Composition: 0 to 2 percent

Landform: Cliffs

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

**890—Ripley-Holtville complex**

***Map Unit Setting***

MLRA: 30

Landscape: Semi-bolson

Elevation: 459 to 525

Precipitation: 4 to 6 inches

Air temperature: 72 to 75 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Ripley silt loam, 0 to 2 percent slopes—45 percent

Holtville silt loam, 0 to 2 percent slopes—40 percent

Vertic Torrifuvents silt loam, 0 to 2 percent slopes—7 percent

Nonamewash loamy fine sand, 0 to 2 percent slopes—5 percent

Rositas fine sand, 0 to 4 percent slopes—3 percent

***Component Description***

**Ripley and similar soils**

Landform: Stream terraces

Slope: 0 to 2 percent

Parent material: Mixed alluvium

Typical vegetation: Inland saltgrass, big galleta, alkali sacaton, fourwing saltbush, Torrey quailbush, mesquite, other shrubs

**Typical profile:**

Layer 1—0 to 6 inches; silt loam

Layer 2—6 to 34 inches; stratified silt loam to very fine sandy loam

Layer 3—34 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Salinity: Saline within 40 inches

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB020NV—Loamy bottom

#### ***Component Description***

##### **Holtville and similar soils**

Landform: Stream terraces

Slope: 0 to 2 percent

Parent material: Mixed and stratified alluvium

Typical vegetation: Inland saltgrass, big galleta, alkali sacaton, fourwing saltbush, Torrey quailbush, mesquite, other shrubs

##### **Typical profile:**

Layer 1—0 to 5 inches; silt loam

Layer 2—5 to 23 inches; clay

Layer 3—23 to 31 inch; silty clay

Layer 4—31 to 42 inches; very fine sandy loam

Layer 5—42 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately Low, (Permeability class: Slow)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB020NV—Loamy bottom

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Vertic Torrfluvents and similar soils**

Composition: 0 to 7 percent

Classification: Clayey over loamy, smectitic over mixed, active, calcareous,  
hyperthermic Vertic Torrfluvents

Slope: 0 to 2 percent

Landform: Stream terraces

Typical vegetation: Inland saltgrass, big galleta, alkali sacaton, fourwing saltbush,  
Torrey quailbush, mesquite, other shrubs

Ecological site: R058AE016MT—Gravel (Gr)

#### **Nonamewash and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Stream terraces

Typical vegetation: Big galleta, other perennial forbs, fourwing saltbush, other shrubs

Ecological site: R030XB032NV—Dry floodplain

#### **Rositas and similar soils**

Composition: 0 to 3 percent

Slope: 0 to 4 percent

Landform: Sand sheets

Typical vegetation: Big galleta, other shrubs

Ecological site: R030XB097NV—Sandhill 3-5 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and  
associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **900—Urban land-Riverbend-Huevi association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 482 to 951

Precipitation: 3 to 7 inches

Air temperature: 70 to 76 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Urban Land, 2 to 15 percent slopes—70 percent

Riverbend extremely gravelly coarse sandy loam, 2 to 8 percent slopes—10 percent

Huevi very gravelly sandy loam, 8 to 30 percent slopes—10 percent

Varwash extremely gravelly loam, 2 to 4 percent slopes—6 percent

Carrwash very gravelly coarse sandy loam, 2 to 8 percent slopes—3 percent

Carrizo very cobbly coarse sandy loam, 2 to 8 percent slopes—1 percent

### ***Component Description***

#### **Urban land**

Landform: Fan remnants

Slope: 2 to 15 percent

**Component Properties and Qualities**

Runoff: Very high

Present ponding: None

**Interpretive Groups**

Nonirrigated land capability: 8s

***Component Description*****Huevi and similar soils**

Landform: Backslopes of ballenas

Slope: 8 to 30 percent

Parent material: Mixed gravelly alluvium

Typical vegetation: Range ratany, big galleta, other perennial forbs, other shrubs, white bursage, creosotebush

**Typical profile:**

Surface rock fragments: About 60 percent gravel, 15 percent cobbles

Layer 1—0 to 5 inches; very gravelly sandy loam

Layer 2—5 to 18 inches; very gravelly sandy loam

Layer 3—18 to 60 inches; extremely cobbly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

***Component Description*****Riverbend and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Mixed alluvium

Typical vegetation: Other annual forbs, white bursage, creosotebush, other shrubs, other perennial forbs

**Typical profile:**

Surface rock fragments: About 3 percent cobbles, 91 percent gravel

Layer 1—0 to 3 inches; extremely gravelly coarse sandy loam

Layer 2—3 to 10 inches; very gravelly coarse sand

Layer 3—10 to 19 inches; stratified extremely gravelly coarse sand to very gravelly loamy coarse sand

Layer 4—19 to 31 inch; very gravelly loamy coarse sand

Layer 5—31 to 60 inches; very gravelly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB019NV—Limy 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Varwash and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: Other shrubs, creosotebush

Ecological site: R030XB092NV—Desert patina

#### **Carrwash and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Fan aprons

Typical vegetation: Desert needlegrass, big galleta, other perennial forbs, white bursage, brittlebush, range ratany, creosotebush, other shrubs

Ecological site: R030XB059NV—Granitic fan 3-5 P.Z.

#### **Carrizo and similar soils**

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, white bursage, sweetbrush, white brittlebush, creosotebush, other shrubs

Ecological site: R030XB098NV—Gravelly outwash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **905—Mountmummy-Thesisters-Maryjane association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains  
 Elevation: 6,790 to 11,000  
 Precipitation: 14 to 20 inches  
 Air temperature: 40 to 50 degrees Fahrenheit  
 Frost-free period: 50 to 130 days

### ***Composition***

Mountmummy extremely gravelly loam, 30 to 75 percent slopes—40 percent  
 Thesisters extremely gravelly silt loam, 30 to 75 percent slopes—25 percent  
 Maryjane extremely gravelly silt loam, 15 to 50 percent slopes—20 percent  
 Fletcherpeak extremely gravelly loam, 30 to 75 percent slopes—5 percent  
 Robbersfire very gravelly silt loam, 30 to 75 percent slopes—5 percent  
 Rock outcrop—3 percent  
 Aridic Calciustolls extremely gravelly fine sandy loam, 30 to 50 percent slopes—1 percent  
 Pachic Haplustolls very gravelly fine sandy loam, 30 to 90 percent slopes—1 percent

### ***Component Description***

#### **Mountmummy and similar soils**

Landform: South facing backslopes of upper mountains  
 Slope: 30 to 75 percent, south aspect  
 Parent material: Colluvium and/or residuum weathered from limestone and dolomite  
 Typical vegetation: Forest canopy—Great Basin bristlecone pine Forest understory—  
 other perennial grasses, Great Basin bristlecone pine, other shrubs, purple sage,  
 gooseberry currant, other perennial forbs

#### **Typical profile:**

Surface rock fragments: About 2 percent subangular stones, 10 percent subangular  
 cobbles, 75 percent subangular gravel  
 Layer 1—0 to 2 inches; extremely gravelly loam  
 Layer 2—2 to 12 inches; extremely gravelly loam  
 Layer 3—12 to 24 inches; extremely cobbly fine sandy loam  
 Layer 4—24 to 34 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High  
 Depth to restrictive feature: Lithic bedrock: 20 to 39 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 1.1 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e  
 Ecological site: F030XC285NV

### ***Component Description***

#### **Thesisters and similar soils**

Landform: Southwest facing backslopes of upper mountains

Slope: 30 to 75 percent, southwest aspect

Parent material: Colluvium and/or residuum weathered from limestone and dolomite

Typical vegetation: Forest canopy—ponderosa pine Forest understory—other perennial forbs, other perennial grasses, Spring Mountain goldenbush, curlleaf mountainmahogany, bluebunch wheatgrass, other shrubs, muttongrass, white fir, ponderosa pine, wax currant

Site index: Ponderosa pine—20 at an age base of 100 years

**Typical profile:**

Surface rock fragments: About 3 percent subrounded cobbles, 0 percent subrounded stones, 80 percent subrounded gravel

Layer 1—0 to 1 inch; extremely gravelly silt loam

Layer 2—1 to 6 inches; very gravelly silt loam

Layer 3—6 to 16 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Lithic bedrock: 4 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.5 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: F030XC287NV

***Component Description***

**Maryjane and similar soils**

Landform: Backslopes of lower mountains

Slope: 15 to 50 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Forest canopy—ponderosa pine Forest understory—wax currant, Spring Mountain goldenbush, white fir, other perennial grasses, bluebunch wheatgrass, other shrubs, other perennial forbs, curlleaf mountainmahogany, ponderosa pine, muttongrass

Site index: Ponderosa pine—45 at an age base of 100 years

**Typical profile:**

Surface rock fragments: About 2 percent subrounded cobbles, 1 percent subrounded stones, 5 percent subrounded gravel

Layer 1—0 to 1 inch; slightly decomposed plant material

Layer 2—1 to 4 inches; extremely gravelly silt loam

Layer 3—4 to 13 inches; extremely gravelly loam

Layer 4—13 to 35 inches; very gravelly loam

Layer 5—35 to 60 inches; extremely gravelly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: F030XC280NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions*****Fletcherpeak and similar soils**

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Backslope mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Gambel oak, singleleaf pinyon, other shrubs, curleaf mountainmahogany, mountain big sagebrush, black sagebrush, Utah serviceberry, other perennial forbs, other perennial grasses, muttongrass

Ecological site: F030XC249NV

**Robbersfire and similar soils**

Composition: 0 to 5 percent

Slope: 30 to 75 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Forest canopy—white fir Forest understory—wax currant, muttongrass, ponderosa pine, white fir, curleaf mountainmahogany, other perennial grasses, mountain big sagebrush, other perennial forbs, other shrubs, bluebunch wheatgrass

Ecological site: F030XC283NV

**Rock outcrop limestone**

Composition: 0 to 3 percent

Landform: Cliffs

**Aridic Calciustolls and similar soils**

Composition: 0 to 1 percent

Classification: Loamy-skeletal, carbonatic, frigid Aridic Calciustolls

Slope: 30 to 50 percent

Landform: Backslopes of upper mountains

Typical vegetation: Forest canopy—Great Basin bristlecone pine Forest understory—fringed brome, slender wheatgrass, other perennial forbs, other perennial grasses, muttongrass, other shrubs

Ecological site: R030XC029NV—Snowpocket

**Pachic Haplustolls avalanche and similar soils**

Composition: 0 to 1 percent

Classification: Pachic Haplustolls

Slope: 30 to 90 percent

Landform: Avalanche chutes, backslopes of mountains

Typical vegetation: Wax currant, quaking aspen, common juniper, other perennial forbs, slender wheatgrass, fringed brome, other perennial grasses, other trees

Ecological site: R030XC026NV—Avalanche chute

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

## **910—Carrwash-Riverbend association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 558 to 1,800

Precipitation: 3 to 5 inches

Air temperature: 70 to 76 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Carrwash very gravelly coarse sandy loam, 2 to 8 percent slopes—75 percent

Riverbend extremely gravelly coarse sandy loam, 2 to 8 percent slopes—15 percent

Huevi extremely gravelly sandy loam, 8 to 30 percent slopes—8 percent

Carrizo very cobbly coarse sand, 2 to 8 percent slopes—2 percent

### ***Component Description***

#### **Carrwash and similar soils**

Landform: Fan aprons

Slope: 2 to 8 percent

Parent material: Alluvium derived from granite

Typical vegetation: Desert needlegrass, big galleta, other perennial forbs, white bursage, brittlebush, range ratany, creosotebush, other shrubs

#### **Typical profile:**

Surface rock fragments: About 45 percent gravel

Layer 1—0 to 3 inches; very gravelly coarse sandy loam

Layer 2—3 to 8 inches; very gravelly coarse sandy loam

Layer 3—8 to 60 inches; stratified extremely gravelly coarse sand to very gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: Very rare

Present ponding: None  
 Natural drainage class: Excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB059NV—Granitic fan 3-5 P.Z.

### ***Component Description***

#### **Riverbend rarely flooded and similar soils**

Landform: Summits of fan remnants  
 Slope: 2 to 8 percent  
 Parent material: Mixed alluvium  
 Typical vegetation: Other annual forbs, creosotebush, range ratany, other shrubs,  
 white bursage, other perennial forbs, other perennial grasses, big galleta

#### **Typical profile:**

Surface rock fragments: About 91 percent gravel, 3 percent cobbles  
 Layer 1—0 to 3 inches; extremely gravelly coarse sandy loam  
 Layer 2—3 to 10 inches; very gravelly coarse sand  
 Layer 3—10 to 60 inches; stratified extremely gravelly coarse sand to very gravelly  
 loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
 Moderately rapid)  
 Available water capacity: About 2 inches  
 Present flooding: Rare  
 Present ponding: None  
 Natural drainage class: Excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Huevi and similar soils**

Composition: 0 to 8 percent  
 Slope: 8 to 30 percent  
 Landform: Ballenas  
 Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany,  
 creosotebush, other shrubs  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### **Carrizo and similar soils**

Composition: 0 to 2 percent  
 Slope: 2 to 8 percent  
 Landform: Drainageways

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs  
 Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

## **911—Carrwash association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 492 to 1,410  
 Precipitation: 3 to 5 inches  
 Air temperature: 70 to 74 degrees Fahrenheit  
 Frost-free period: 300 to 360 days

### ***Composition***

Carrwash very gravelly coarse sandy loam, 4 to 15 percent slopes—50 percent  
 Carrwash very gravelly coarse sandy loam, 15 to 50 percent slopes—35 percent  
 Riverbend extremely gravelly coarse sandy loam, 2 to 8 percent slopes—8 percent  
 Badland, 50 to 75 percent slopes—4 percent  
 Carrizo extremely gravelly sand, 2 to 8 percent slopes—2 percent  
 Goldroad extremely gravelly sandy loam, 15 to 50 percent slopes—1 percent

### ***Component Description***

#### **Carrwash and similar soils**

Landform: Fan aprons  
 Slope: 4 to 15 percent  
 Parent material: Alluvium derived from granite  
 Typical vegetation: Creosotebush, other shrubs, desert needlegrass, big galleta, other perennial forbs, white bursage, brittlebush, range ratany

#### **Typical profile:**

Surface rock fragments: About 45 percent gravel  
 Layer 1—0 to 3 inches; very gravelly coarse sandy loam  
 Layer 2—3 to 8 inches; very gravelly coarse sandy loam  
 Layer 3—8 to 60 inches; stratified extremely gravelly coarse sand to very gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 3 inches  
 Present flooding: Very rare

Present ponding: None  
 Natural drainage class: Excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB059NV—Granitic fan 3-5 P.Z.

### ***Component Description***

#### **Carrwash steep and similar soils**

Landform: Inset fans  
 Slope: 15 to 50 percent  
 Parent material: Alluvium derived from granite  
 Typical vegetation: White bursage, other perennial forbs, other perennial grasses, creosotebush, other shrubs, white brittlebush

#### **Typical profile:**

Surface rock fragments: About 45 percent gravel  
 Layer 1—0 to 3 inches; very gravelly coarse sandy loam  
 Layer 2—3 to 8 inches; very gravelly coarse sandy loam  
 Layer 3—8 to 60 inches; stratified extremely gravelly coarse sand to very gravelly loamy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Medium  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 3 inches  
 Present flooding: Very rare  
 Present ponding: None  
 Natural drainage class: Excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB099NV—Gravelly ridge 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Riverbend and similar soils**

Composition: 0 to 8 percent  
 Slope: 2 to 8 percent  
 Landform: Summits of fan remnants  
 Typical vegetation: White bursage, creosotebush, other perennial forbs, other annual forbs, other shrubs  
 Ecological site: R030XB019NV—Limy 3-5 P.Z.

#### **Badland**

Composition: 0 to 4 percent  
 Slope: 50 to 75 percent  
 Landform: Backslopes of lake terraces

**Carrizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, white bursage, sweetbrush, white brittlebush, creosotebush, other shrubs

Ecological site: R030XB098NV—Gravelly outwash

**Goldroad and similar soils**

Composition: 0 to 1 percent

Slope: 15 to 50 percent, southeast aspect

Landform: Southeast facing mountains

Typical vegetation: Other perennial grasses, desert globemallow, white brittlebush, creosotebush, other shrubs

Ecological site: R030XB077NV—Steep south slope

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**915—Maryjane-Robbersfire-Kitgram complex, 30 to 75 percent slopes****Map Unit Setting**

MLRA: 30

Landscape: Mountains

Elevation: 6,500 to 10,500

Precipitation: 16 to 24 inches

Air temperature: 40 to 45 degrees Fahrenheit

Frost-free period: 50 to 90 days

**Composition**

Maryjane extremely gravelly silt loam, 30 to 75 percent slopes—40 percent

Robbersfire very gravelly silt loam, 30 to 75 percent slopes—30 percent

Kitgram very gravelly loam, 30 to 75 percent slopes—15 percent

Fletcherpeak extremely gravelly loam, 30 to 75 percent slopes—4 percent

Maryjane extremely gravelly silt loam, 8 to 30 percent slopes—4 percent

Mountmummy extremely gravelly loam, 30 to 75 percent slopes—3 percent

Ladyofsnow gravelly silt loam, 30 to 75 percent slopes—2 percent

Rock outcrop—1 percent

Pachic Haplustolls very gravelly fine sandy loam, 30 to 90 percent slopes—1 percent

**Component Description****Maryjane and similar soils**

Landform: Backslopes of lower mountains

Slope: 30 to 75 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Forest canopy—ponderosa pine Forest understory—other perennial forbs, wax currant, Spring Mountain goldenbush, ponderosa pine,

muttongrass, other perennial grasses, other shrubs, curlleaf mountainmahogany, bluebunch wheatgrass, white fir

Site index: Ponderosa pine—45 at an age base of 100 years

**Typical profile:**

Surface rock fragments: About 1 percent subrounded stones, 5 percent subrounded gravel, 2 percent subrounded cobbles

Layer 1—0 to 1 inch; slightly decomposed plant material

Layer 2—1 to 4 inches; extremely gravelly silt loam

Layer 3—4 to 13 inches; extremely gravelly loam

Layer 4—13 to 35 inches; very gravelly loam

Layer 5—35 to 60 inches; extremely gravelly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: F030XC280NV

***Component Description***

**Robbersfire and similar soils**

Landform: Northeast facing backslopes of mountains

Slope: 30 to 75 percent, northeast aspect

Parent material: Colluvium derived from limestone and dolomite

Typical vegetation: Forest canopy—white fir Forest understory—ponderosa pine, mountain big sagebrush, curlleaf mountainmahogany, wax currant, other shrubs, white fir, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs

Site index: White fir—15 at an age base of 50 years

**Typical profile:**

Surface rock fragments: About 5 percent subrounded cobbles, 1 percent subrounded stones, 45 percent subrounded gravel

Layer 1—0 to 1 inch; slightly decomposed plant material

Layer 2—1 to 2 inches; very gravelly silt loam

Layer 3—2 to 10 inches; very gravelly silt loam

Layer 4—10 to 41 inch; extremely gravelly fine sandy loam

Layer 5—41 to 51 inch; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Lithic bedrock: 39 to 59 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: F030XC283NV

### ***Component Description***

#### **Kitgram and similar soils**

Landform: Northwest facing backslopes of mountains  
 Slope: 30 to 75 percent, northwest aspect  
 Parent material: Colluvium and/or residuum weathered from limestone  
 Typical vegetation: Forest canopy—white fir Forest understory—common juniper, bluebunch wheatgrass, limber pine, Great Basin bristlecone pine, other perennial forbs, wax currant  
 Site index: White fir—15 at an age base of 50 years

#### **Typical profile:**

Surface rock fragments: About 1 percent stones, 10 percent cobbles, 65 percent gravel  
 Layer 1—0 to 2 inches; very gravelly loam  
 Layer 2—2 to 23 inches; extremely gravelly fine sandy loam  
 Layer 3—23 to 33 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

### **Component Properties and Qualities**

Runoff: High  
 Depth to restrictive feature: Lithic bedrock: 20 to 39 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 1.5 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7e  
 Ecological site: F030XC289NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Fletcherpeak and similar soils**

Composition: 0 to 4 percent  
 Slope: 30 to 75 percent  
 Landform: Backslope mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—mountain big sagebrush, black sagebrush, Utah serviceberry, other perennial forbs, other perennial grasses, muttongrass, curleaf mountainmahogany, other shrubs, singleleaf pinyon, Gambel oak  
 Ecological site: F030XC249NV

**Maryjane and similar soils**

Composition: 0 to 4 percent  
 Slope: 8 to 30 percent  
 Landform: Smooth alluvial fans  
 Typical vegetation: Forest canopy—ponderosa pine Forest understory—white fir, ponderosa pine, muttongrass, other perennial grasses, wax currant, Spring Mountain goldenbush, curleaf mountainmahogany, other perennial forbs, other shrubs, bluebunch wheatgrass  
 Ecological site: F030XC280NV

**Mountmummy and similar soils**

Composition: 0 to 3 percent  
 Slope: 30 to 75 percent, south aspect  
 Landform: South facing backslopes of upper mountains  
 Typical vegetation: Forest canopy—Great Basin bristlecone pine Forest understory—gooseberry currant, other perennial forbs, other perennial grasses, Great Basin bristlecone pine, other shrubs, purple sage  
 Ecological site: F030XC285NV

**Ladyofsnow and similar soils**

Composition: 0 to 2 percent  
 Slope: 30 to 75 percent  
 Landform: Backslopes of mountains  
 Typical vegetation: Forest canopy—Great Basin bristlecone pine Forest understory—other perennial forbs, common juniper, wax currant, limber pine, Great Basin bristlecone pine  
 Ecological site: F030XC284NV

**Pachic Haplustolls avalanche and similar soils**

Composition: 0 to 1 percent  
 Classification: Pachic Haplustolls  
 Slope: 30 to 90 percent  
 Landform: Avalanche chutes, backslopes of mountains  
 Typical vegetation: Slender wheatgrass, other perennial grasses, wax currant, other trees, common juniper, other perennial forbs, quaking aspen, fringed brome  
 Ecological site: R030XC026NV—Avalanche chute

**Rock outcrop limestone**

Composition: 0 to 1 percent  
 Landform: Cliffs

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Forest land" section
- "Engineering" and "Soil Properties" sections

**916—Maryjane extremely gravelly loam, 8 to 30 percent slopes*****Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 6,590 to 9,100

Precipitation: 16 to 20 inches

Air temperature: 41 to 45 degrees Fahrenheit

Frost-free period: 50 to 90 days

***Composition***

Maryjane extremely gravelly loam, 8 to 30 percent slopes—85 percent

Maryjane extremely gravelly silt loam, 30 to 75 percent slopes—6 percent

Petrocalcic Calciustolls stony loam, 8 to 30 percent slopes—5 percent

Riverwash extremely gravelly coarse sand, 2 to 8 percent slopes—2 percent

Cumulic Haplustolls silt loam, 2 to 8 percent slopes—1 percent

Pachic Haplustolls very gravelly fine sandy loam, 30 to 90 percent slopes—1 percent

***Component Description*****Maryjane and similar soils**

Landform: Smooth alluvial fans

Slope: 8 to 30 percent

Parent material: Alluvium derived from limestone

Typical vegetation: Forest canopy—ponderosa pine Forest understory—curlleaf  
 mountainmahogany, other perennial grasses, bluebunch wheatgrass, wax currant,  
 other perennial forbs, ponderosa pine, muttongrass, Spring Mountain goldenbush,  
 white fir, other shrubs

Site index: Ponderosa pine—45 at an age base of 100 years

**Typical profile:**Surface rock fragments: About 1 percent subrounded stones, 2 percent subrounded  
 cobbles, 5 percent subrounded gravel

Layer 1—0 to 1 inch; slightly decomposed plant material

Layer 2—1 to 4 inches; extremely gravelly loam

Layer 3—4 to 13 inches; extremely gravelly loam

Layer 4—13 to 35 inches; very gravelly loam

Layer 5—35 to 60 inches; extremely gravelly coarse sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more  
 information.**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability  
 class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: F030XC280NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Maryjane and similar soils**

Composition: 0 to 6 percent

Slope: 30 to 75 percent

Landform: Backslopes of lower mountains

Typical vegetation: Forest canopy—ponderosa pine Forest understory—other perennial grasses, curleaf mountainmahogany, bluebunch wheatgrass, other perennial forbs, ponderosa pine, white fir, other shrubs, muttongrass, Spring Mountain goldenbush, wax currant

Ecological site: F030XC280NV

#### **Petrocalcic Calciustolls and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Backslope rock pediments

Typical vegetation: Forest canopy—ponderosa pine Forest understory—ponderosa pine, wax currant, white fir, other perennial grasses, muttongrass, Spring Mountain goldenbush, curleaf mountainmahogany, other perennial forbs, other shrubs, bluebunch wheatgrass

Ecological site: F030XC280NV

#### **Riverwash**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

#### **Cumulic Haplustolls and similar soils**

Composition: 0 to 1 percent

Classification: Coarse-silty, mixed, superactive, mesic Cumulic Haplustolls

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Baltic rush, Sandberg bluegrass, carex, other shrubs, mat muhly, other perennial forbs, other perennial grasses, basin wildrye

Ecological site: R030XC002NV—Dry meadow

#### **Pachic Haplustolls avalanche and similar soils**

Composition: 0 to 1 percent

Classification: Pachic Haplustolls

Slope: 30 to 90 percent

Landform: Avalanche chutes, backslopes of mountains

Typical vegetation: Slender wheatgrass, wax currant, other trees, quaking aspen, other perennial forbs, other perennial grasses, common juniper, fringed brome

Ecological site: R030XC026NV—Avalanche chute

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**920—Tanazza-Wechech-Wodavar association*****Map Unit Setting***

MLRA: 30

Landscape: Bolson

Elevation: 2,690 to 3,020

Precipitation: 3 to 7 inches

Air temperature: 57 to 69 degrees Fahrenheit

Frost-free period: 180 to 300 days

***Composition***

Tanazza fine sandy loam, 2 to 8 percent slopes—35 percent

Wechech very gravelly sandy loam, 2 to 8 percent slopes—35 percent

Wodavar extremely gravelly fine sandy loam, 2 to 8 percent slopes—15 percent

Typic Haplocalcids gravelly loamy sand, 2 to 8 percent slopes—6 percent

Typic Haplocalcids gravelly loamy sand, 4 to 15 percent slopes—6 percent

Bluepoint fine sand, 0 to 4 percent slopes—3 percent

***Component Description*****Tanazza and similar soils**

Landform: lake terraces

Slope: 2 to 8 percent

Parent material: Lacustrine deposits

Typical vegetation: Ephedra, bladdersage, mesquite, white bursage, shadscale, big galleta, other shrubs, other perennial forbs, other perennial grasses

**Typical profile:**

Surface rock fragments: About 30 percent gravel

Layer 1—0 to 2 inches; fine sandy loam

Layer 2—2 to 4 inches; fine sandy loam

Layer 3—4 to 15 inches; silt loam

Layer 4—15 to 31 inch; silty clay loam

Layer 5—31 to 37 inches; gypsiferous material

Layer 6—37 to 45 inches; silty clay loam

Layer 7—45 to 60 inches; gypsiferous material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately Low, (Permeability class: Slow)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7c

Ecological site: R030XY049NV—Breaks 3-7 P.Z.

### ***Component Description***

#### **Wechech and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from limestone and dolomite

Typical vegetation: Creosotebush, range ratany, white bursage, other perennial forbs, other annual forbs, other perennial grasses, big galleta, other shrubs

#### **Typical profile:**

Surface rock fragments: About 40 percent gravel, 5 percent cobbles

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 7 inches; very gravelly sandy loam

Layer 3—7 to 13 inches; very gravelly sandy loam

Layer 4—13 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 8 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Wodavar and similar soils**

Landform: Alluvial flats

Slope: 2 to 8 percent

Parent material: Residuum from lacustrine deposits derived from limestone

Typical vegetation: Indian ricegrass, other perennial forbs, white bursage, shadscale, other shrubs, wolfberry, creosotebush

#### **Typical profile:**

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 16 inches; very gravelly sandy loam

Layer 3—16 to 33 inches; cemented material

Layer 4—33 to 60 inches; extremely gravelly loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Petrocalcic: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.9 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XA066NV—Calcareous loam 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Typic Haplocalcids and similar soils**

Composition: 0 to 6 percent  
 Classification: Fine, carbonatic, thermic Typic Haplocalcids  
 Slope: 2 to 8 percent  
 Landform: Alluvial flats  
 Typical vegetation: Shadscale, desert needlegrass, creosotebush, other perennial forbs, other shrubs, Indian ricegrass  
 Ecological site: R030XA053NV—Calcareous loam 3-5 P.Z.

#### **Typic Haplocalcids and similar soils**

Composition: 0 to 6 percent  
 Classification: Fine-loamy, carbonatic, thermic Typic Haplocalcids  
 Slope: 4 to 15 percent  
 Landform: Alluvial flats  
 Typical vegetation: Shadscale, desert needlegrass, creosotebush, other perennial forbs, other shrubs, Indian ricegrass  
 Ecological site: R030XA050NV—Loamy 3-5 P.Z.

#### **Bluepoint and similar soils**

Composition: 0 to 3 percent  
 Slope: 0 to 4 percent  
 Landform: Sand sheets  
 Typical vegetation: Screwbean mesquite, other shrubs, Indian ricegrass, other perennial forbs, white bursage, fourwing saltbush, creosotebush, honey mesquite  
 Ecological site: R030XY045NV—Dunes 3-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

## **925—Lastone association**

### ***Map Unit Setting***

MLRA: 30  
 Landscape: Mountains  
 Elevation: 4,880 to 7,420  
 Precipitation: 12 to 16 inches  
 Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 90 to 130 days

### ***Composition***

Lastone gravelly sandy loam, 15 to 50 percent slopes—55 percent  
 Lastone gravelly very fine sandy loam, 30 to 75 percent slopes—30 percent  
 Moentria extremely gravelly loam, 15 to 50 percent slopes—8 percent  
 Traley very gravelly loam, 30 to 50 percent slopes—5 percent  
 Rock outcrop—1 percent  
 Lithic Ustorthents extremely flaggy loamy fine sand, 30 to 75 percent slopes—1 percent

### ***Component Description***

#### **Lastone and similar soils**

Landform: Northwest to northeast aspects on mountain slopes  
 Slope: 15 to 50 percent, northwest to northeast aspects  
 Parent material: Colluvium and/or residuum weathered from sandstone and siltstone  
 Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Gambel oak, Utah serviceberry, other perennial forbs, other perennial grasses, muttongrass, black sagebrush, singleleaf pinyon, other shrubs, curlleaf mountainmahogany, mountain big sagebrush  
 Site index: Singleleaf pinyon—45 at an age base of 0 years

#### **Typical profile:**

Surface rock fragments: About 25 percent gravel, 5 percent cobbles  
 Layer 1—0 to 2 inches; gravelly sandy loam  
 Layer 2—2 to 9 inches; extremely gravelly sandy loam  
 Layer 3—9 to 14 inches; bedrock  
 Layer 4—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Paralithic bedrock: 8 to 14 inches Lithic bedrock: 10 to 20 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.6 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e  
 Ecological site: F030XC249NV

### ***Component Description***

#### **Lastone steep and similar soils**

Landform: Southeast to south aspects on mountain slopes  
 Slope: 30 to 75 percent, southeast to south aspects  
 Parent material: Colluvium and/or residuum weathered from sandstone and siltstone  
 Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—pointleaf manzanita, other perennial forbs, singleleaf pinyon, blue

grama, muttongrass, other perennial grasses, mountain big sagebrush, Utah serviceberry, Gambel's oak, other shrubs, Utah juniper, yellowleaf silktassel, curlleaf mountainmahogany

Site index: Utah juniper—70 at an age base of 0 years

Site index: Singleleaf pinyon—70 at an age base of 0 years

**Typical profile:**

Surface rock fragments: About 5 percent cobbles, 25 percent gravel

Layer 1—0 to 2 inches; gravelly very fine sandy loam

Layer 2—2 to 9 inches; extremely gravelly sandy loam

Layer 3—9 to 14 inches; bedrock

Layer 4—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 8 to 14 inches Lithic bedrock: 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.6 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: F030XC278NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Moentria and similar soils**

Composition: 0 to 8 percent

Slope: 15 to 50 percent, southeast to south aspects

Landform: Southeast to south aspects on backslopes of mountains

Typical vegetation: Other perennial forbs, Nevada ephedra, blackbrush, spiny menodora, other perennial grasses, Indian ricegrass, desert needlegrass, other shrubs

Ecological site: R030XC027NV—Shallow gravelly sandstone 7-9 P.Z.

**Traley and similar soils**

Composition: 0 to 5 percent

Slope: 30 to 50 percent, northeast aspect

Landform: Northeast facing backslopes of mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—black sagebrush, curlleaf mountainmahogany, Utah serviceberry, singleleaf pinyon, mountain big sagebrush, other perennial grasses, muttongrass, other shrubs, Gambel oak, other perennial forbs

Ecological site: F030XC249NV

**Lithic Ustorthents and similar soils**

Composition: 0 to 1 percent

Classification: Loamy-skeletal, mixed, superactive, calcareous, mesic Lithic Ustorthents

Slope: 30 to 75 percent

Landform: Summits of mountains

Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Stansbury cliffrose, singleleaf pinyon, other perennial grasses, muttongrass, other shrubs, mountain big sagebrush, curleaf mountainmahogany, Utah juniper, other perennial forbs, banana yucca, desert needlegrass

Ecological site: F030XC246NV

**Rock outcrop**

Composition: 0 to 1 percent

Landform: Cliffs

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

**930—Cololag-Badland association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,210 to 1,670

Precipitation: 3 to 5 inches

Air temperature: 70 to 74 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Cololag extremely gravelly sandy loam, 4 to 15 percent slopes—50 percent

Badland, 30 to 75 percent slopes—35 percent

Huevi extremely gravelly sandy loam, 4 to 15 percent slopes—6 percent

Carrizo extremely gravelly loamy sand, 2 to 8 percent slopes—5 percent

Carrizo extremely gravelly sand, 2 to 8 percent slopes—4 percent

***Component Description*****Cololag and similar soils**

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from igneous, metamorphic and sedimentary rock

Typical vegetation: Other shrubs, big galleta, other perennial forbs, white bursage, range ratany, creosotebush

**Typical profile:**

Surface rock fragments: About 5 percent well rounded cobbles, 50 percent well rounded gravel, 10 percent fine well rounded gravel

Layer 1—0 to 3 inches; extremely gravelly sandy loam

Layer 2—3 to 14 inches; extremely gravelly loamy sand

Layer 3—14 to 24 inches; very gravelly sandy loam  
 Layer 4—24 to 31 inch; gravelly sandy loam  
 Layer 5—31 to 65 inches; extremely gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

#### ***Component Description***

##### **Badland**

Landform: Backslopes of pediments

Slope: 30 to 75 percent

#### **Component Properties and Qualities**

Runoff: Very high

Present ponding: None

#### **Interpretive Groups**

Nonirrigated land capability: 8e

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Huevi and similar soils**

Composition: 0 to 6 percent

Slope: 4 to 15 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

##### **Carrizo and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Inset fans

Typical vegetation: Creosotebush, big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

##### **Carrizo and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs

Ecological site: R030XB028NV—Valley wash

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

## **940—Mesabase-Azsand association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,390 to 2,790

Precipitation: 3 to 7 inches

Air temperature: 69 to 75 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Mesabase extremely gravelly sandy loam, 2 to 15 percent slopes—65 percent

Azsand fine sand, 8 to 15 percent slopes—25 percent

Rositas fine sand, 2 to 8 percent slopes—5 percent

Rock outcrop, 2 to 15 percent slopes—3 percent

Carrizo extremely gravelly sand, 2 to 8 percent slopes—2 percent

### ***Component Description***

#### **Mesabase and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 15 percent

Parent material: Alluvium derived from sandstone

Typical vegetation: Other perennial grasses, big galleta, other shrubs, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush

#### **Typical profile:**

Surface rock fragments: About 5 percent cobbles, 65 percent gravel

Layer 1—0 to 1 inch; extremely gravelly sandy loam

Layer 2—1 to 5 inches; very gravelly sandy loam

Layer 3—5 to 11 inch; extremely gravelly loamy sand

Layer 4—11 to 38 inches; very gravelly loamy sand

Layer 5—38 to 48 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Component Description***

#### **Azsand and similar soils**

Landform: Sand sheets  
 Slope: 8 to 15 percent  
 Parent material: Eolian sands over alluvium derived from sandstone  
 Typical vegetation: Other shrubs, Indian ricegrass, big galleta, other perennial forbs, white bursage, ratany, creosotebush

#### **Typical profile:**

Surface rock fragments: About 10 percent gravel  
 Layer 1—0 to 8 inches; fine sand  
 Layer 2—8 to 14 inches; loamy sand  
 Layer 3—14 to 36 inches; very gravelly loamy sand  
 Layer 4—36 to 62 inches; very gravelly loamy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)  
 Available water capacity: About 3 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB122NV—Limy sand 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Rositas and similar soils**

Composition: 0 to 5 percent  
 Slope: 2 to 8 percent  
 Landform: Sand sheets  
 Typical vegetation: Indian ricegrass, big galleta, other perennial forbs, white bursage, range ratany, winterfat, other shrubs  
 Ecological site: R030XB004NV—Sandy 5-7 P.Z.

**Rock outcrop**

Composition: 0 to 3 percent

Slope: 2 to 15 percent

Landform: Cliffs

Typical vegetation: Other annual forbs, big galleta, other perennial grasses, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

**Carrizo and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Creosotebush, big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, other shrubs

Ecological site: R030XB028NV—Valley wash

**Management**

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

**941—Mesabase extremely gravelly sandy loam, 2 to 8 percent slopes****Map Unit Setting**

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,580 to 2,850

Precipitation: 5 to 7 inches

Air temperature: 69 to 75 degrees Fahrenheit

Frost-free period: 300 to 360 days

**Composition**

Mesabase extremely gravelly sandy loam, 2 to 8 percent slopes—95 percent

Carrizo extremely gravelly loamy sand, 2 to 8 percent slopes—3 percent

Baseline extremely gravelly fine sandy loam, 2 to 8 percent slopes—2 percent

**Component Description****Mesabase and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from sandstone

Typical vegetation: White bursage, range ratany, other perennial forbs, other annual forbs, other perennial grasses, big galleta, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 65 percent gravel, 5 percent cobbles

Layer 1—0 to 1 inch; extremely gravelly sandy loam

Layer 2—1 to 5 inches; very gravelly sandy loam

Layer 3—5 to 11 inch; extremely gravelly loamy sand

Layer 4—11 to 38 inches; very gravelly loamy sand

Layer 5—38 to 48 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Carrizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs

Ecological site: R030XB028NV—Valley wash

##### **Baseline and similar soils**

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Big galleta, other perennial grasses, other annual forbs, other perennial forbs, white bursage, range ratany, creosotebush, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

#### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

### **950—Drygyp association**

#### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,340 to 1,640

Precipitation: 3 to 5 inches

Air temperature: 70 to 75 degrees Fahrenheit  
 Frost-free period: 300 to 360 days

### ***Composition***

Drygyp fine sand, 2 to 8 percent slopes—70 percent  
 Drygyp gravelly gypsiferous sandy loam, 8 to 15 percent slopes—20 percent  
 Azzsand gravelly fine sand, 8 to 15 percent slopes—6 percent  
 Guardian gypsiferous fine sandy loam, 15 to 30 percent slopes—4 percent

### ***Component Description***

#### **Drygyp and similar soils**

Landform: Summits of fan remnants  
 Slope: 2 to 8 percent  
 Parent material: Alluvium derived from gypsum  
 Typical vegetation: Other perennial grasses, Torrey ephedra, catclaw, white bursage,  
 Parry's sandpaperplant, fourwing saltbush, Fremont dalea, big galleta, other  
 shrubs, other perennial forbs

#### **Typical profile:**

Layer 1—0 to 2 inches; fine sand  
 Layer 2—2 to 7 inches; gypsiferous material  
 Layer 3—7 to 13 inches; cemented material  
 Layer 4—13 to 65 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low  
 Depth to restrictive feature: Petrogypsic: 4 to 10 inches Petrogypsic: 8 to 17 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
 Moderately rapid)  
 Available water capacity: About 0.9 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB117NV—Gypsic sand 3-5 P.Z.

### ***Component Description***

#### **Drygyp gravelly surface and similar soils**

Landform: Summits of fan remnants  
 Slope: 8 to 15 percent  
 Parent material: Alluvium derived from gypsum  
 Typical vegetation: White bursage, other perennial forbs, Anderson's wolfberry, Parry's  
 sandpaperplant, other shrubs, Fremont dalea, Torrey ephedra

#### **Typical profile:**

Layer 1—0 to 2 inches; gravelly gypsiferous sandy loam  
 Layer 2—2 to 7 inches; gypsiferous material  
 Layer 3—7 to 13 inches; cemented material  
 Layer 4—13 to 65 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

### **Component Properties and Qualities**

Runoff: Low

Depth to restrictive feature: Petrogypsic: 4 to 10 inches Petrogypsic: 8 to 17 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Azsand and similar soils**

Composition: 0 to 6 percent

Slope: 8 to 15 percent

Landform: Sand sheets

Typical vegetation: Other shrubs, Indian ricegrass, big galleta, other perennial forbs, white bursage, ratany, creosotebush

Ecological site: R030XB122NV—Limy sand 3-5 P.Z.

#### **Guardian and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 30 percent

Landform: Backslopes of pediments

Typical vegetation: Other shrubs, silverleaf sunray, Parry's sandpaperplant, pygmycedar, Fremont dalea, shrubby tiqulia

Ecological site: R030XB118NV—Gypsic hill 3-5 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **951—Drygyp-Guardian-Baseline association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,480 to 1,870

Precipitation: 3 to 5 inches

Air temperature: 70 to 75 degrees Fahrenheit

Frost-free period: 300 to 360 days

### ***Composition***

Drygyp gravelly gypsiferous sandy loam, 2 to 8 percent slopes—45 percent  
 Guardian gypsiferous sandy loam, 8 to 30 percent slopes—25 percent  
 Baseline extremely gravelly fine sandy loam, 2 to 8 percent slopes—15 percent  
 Heleweiser extremely gravelly fine sandy loam, 2 to 4 percent slopes—8 percent  
 Teebar very gravelly fine sandy loam, 0 to 4 percent slopes—4 percent  
 Badland, 30 to 50 percent slopes—3 percent

### ***Component Description***

#### **Drygyp gravelly surface and similar soils**

Landform: Summits of pediments

Slope: 2 to 8 percent

Parent material: Alluvium derived from gypsum

Typical vegetation: Other shrubs, other perennial forbs, Fremont dalea, Parry's sandpaperplant, Anderson's wolfberry, Torrey ephedra, white bursage

#### **Typical profile:**

Layer 1—0 to 2 inches; gravelly gypsiferous sandy loam

Layer 2—2 to 7 inches; gypsiferous material

Layer 3—7 to 13 inches; cemented material

Layer 4—13 to 65 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low

Depth to restrictive feature: Petrogypsic: 4 to 10 inches Petrogypsic: 8 to 17 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

### ***Component Description***

#### **Guardian calcareous surface and similar soils**

Landform: Shoulders of pediments

Slope: 8 to 30 percent

Parent material: Residuum weathered from gypsum

Typical vegetation: Other shrubs, Fremont dalea, Parry's sandpaperplant, shadscale, other perennial forbs, silverleaf sunray

#### **Typical profile:**

Surface rock fragments: About 5 percent gravel

Layer 1—0 to 2 inches; gypsiferous sandy loam

Layer 2—2 to 4 inches; gypsiferous material

Layer 3—4 to 19 inches; gypsiferous material

Layer 4—19 to 29 inches; gypsiferous bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: R030XB115NV—Gypsic sodic loam 3-5 P.Z.

#### ***Component Description***

##### **Baseline and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 8 percent

Parent material: Gravelly pedisegment derived from limestone

Typical vegetation: Other perennial grasses, other perennial forbs, white bursage, desertholly saltbush, Torrey ephedra, range ratany, creosotebush, other shrubs

##### **Typical profile:**

Surface rock fragments: About 65 percent gravel, 5 percent cobbles

Layer 1—0 to 3 inches; extremely gravelly fine sandy loam

Layer 2—3 to 9 inches; gravelly fine sandy loam

Layer 3—9 to 22 inches; extremely gravelly loam

Layer 4—22 to 32 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB038NV—Gravelly pediment 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

#### ***Contrasting Inclusions***

##### **Heleweiser extremely gravelly surface and similar soils**

Composition: 0 to 8 percent

Slope: 2 to 4 percent  
 Landform: Shoulders of fan remnants  
 Typical vegetation: Creosotebush, other shrubs  
 Ecological site: R030XB092NV—Desert patina

**Teebar and similar soils**

Composition: 0 to 4 percent  
 Slope: 0 to 4 percent  
 Landform: Mesas  
 Typical vegetation: Other perennial forbs, white bursage, ephedra, range ratany, creosotebush, whitestem paperflower, other shrubs, shrubby tiquilia  
 Ecological site: R030XB110NV—Tableland 3-5 P.Z.

**Badland**

Composition: 0 to 3 percent  
 Slope: 30 to 50 percent  
 Landform: Backslopes of pediments

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

**952—Drygyp fine sandy loam, 2 to 4 percent slopes**

***Map Unit Setting***

MLRA: 30  
 Landscape: Fan piedmont  
 Elevation: 1,540 to 2,000  
 Precipitation: 3 to 5 inches  
 Air temperature: 70 to 75 degrees Fahrenheit  
 Frost-free period: 300 to 360 days

***Composition***

Drygyp gypsiferous fine sandy loam, 2 to 4 percent slopes—85 percent  
 Guardian gypsiferous fine sandy loam, 8 to 30 percent slopes—9 percent  
 Badland, 30 to 75 percent slopes—5 percent  
 Baseline extremely gravelly fine sandy loam, 2 to 8 percent slopes—1 percent

***Component Description***

**Drygyp and similar soils**

Landform: Summits of pediments  
 Slope: 2 to 4 percent  
 Parent material: Alluvium derived from gypsum  
 Typical vegetation: Other perennial forbs, shadscale, Parry's sandpaperplant, Fremont dalea, other shrubs, silverleaf sunray

**Typical profile:**

Layer 1—0 to 2 inches; gypsiferous fine sandy loam  
 Layer 2—2 to 7 inches; gypsiferous material  
 Layer 3—7 to 13 inches; cemented material  
 Layer 4—13 to 65 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

### **Component Properties and Qualities**

Runoff: Very low

Depth to restrictive feature: Petrogypsic: 4 to 10 inches Petrogypsic: 8 to 17 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 1.0 inch

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB115NV—Gypsic sodic loam 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Guardian and similar soils**

Composition: 0 to 9 percent

Slope: 8 to 30 percent

Landform: Shoulders of pediments

Typical vegetation: Anderson's wolfberry, Parry's sandpaperplant, Fremont dalea, other shrubs, Torrey ephedra, white bursage, other perennial forbs

Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

#### **Badland**

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Backslopes of pediments

#### **Baseline and similar soils**

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial grasses, big galleta, other annual forbs, other perennial forbs, other shrubs, creosotebush, range ratany, white bursage

Ecological site: R030XB005NV—Limy 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **955—Drygyp-Bluegyp association**

### ***Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont  
 Elevation: 1,210 to 1,610  
 Precipitation: 3 to 5 inches  
 Air temperature: 70 to 76 degrees Fahrenheit  
 Frost-free period: 300 to 360 days

### ***Composition***

Drygyp gravelly gypsiferous sandy loam, 2 to 15 percent slopes—55 percent  
 Bluegyp gypsiferous material, 2 to 8 percent slopes—30 percent  
 Guardian gypsiferous fine sandy loam, 30 to 50 percent slopes—8 percent  
 Typic Torrifolists mucky peat, 2 to 8 percent slopes—5 percent  
 Badland, 30 to 75 percent slopes—2 percent

### ***Component Description***

#### **Drygyp gravelly surface and similar soils**

Landform: Summits of fan remnants  
 Slope: 2 to 15 percent  
 Parent material: Alluvium derived from gypsum  
 Typical vegetation: Torrey ephedra, white bursage, other perennial forbs, Anderson's wolfberry, Parry's sandpaperplant, Fremont dalea, other shrubs

#### **Typical profile:**

Layer 1—0 to 2 inches; gravelly gypsiferous sandy loam  
 Layer 2—2 to 7 inches; gypsiferous material  
 Layer 3—7 to 13 inches; cemented material  
 Layer 4—13 to 65 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Low  
 Depth to restrictive feature: Petrogypsic: 4 to 10 inches Petrogypsic: 8 to 17 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)  
 Available water capacity: About 0.9 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Somewhat excessively drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB109NV—Gypsic barren 3-5 P.Z.

### ***Component Description***

#### **Bluegyp and similar soils**

Landform: Summits of pediments  
 Slope: 2 to 8 percent  
 Parent material: Residuum weathered from gypsum  
 Typical vegetation: Black seepweed, other perennial forbs, shadscale, alkali goldenbush, Fremont dalea, other shrubs

#### **Typical profile:**

Layer 1—0 to 2 inches; gypsiferous material

Layer 2—2 to 11 inch; gypsiferous material  
 Layer 3—11 to 43 inches; gypsiferous material  
 Layer 4—43 to 53 inches; gypsiferous bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very low  
 Depth to restrictive feature: Paralithic bedrock: 39 to 60 inches  
 Saturated hydraulic conductivity class (root zone): Very high (Permeability class: Very rapid)  
 Available water capacity: About 5 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s  
 Ecological site: R030XB114NV—Sodic loam 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Guardian and similar soils**

Composition: 0 to 8 percent  
 Slope: 30 to 50 percent  
 Landform: Shoulders of pediments  
 Typical vegetation: Silverleaf sunray, Parry's sandpaperplant, pygmycedar, Fremont dalea, other shrubs, shrubby tiquilia  
 Ecological site: R030XB118NV—Gypsic hill 3-5 P.Z.

#### **Typic Torrifolists and similar soils**

Composition: 0 to 5 percent  
 Classification: Typic Torrifolists  
 Slope: 2 to 8 percent  
 Landform: Streams  
 Typical vegetation: Other perennial forbs, alkali sacaton, Fremont cottonwood, desertwillow, arrowweed pluchea, mesquite, willow, other shrubs  
 Ecological site: R030XB021NV—Streambank

#### **Badland**

Composition: 0 to 2 percent  
 Slope: 30 to 75 percent  
 Landform: Backslopes of pediments

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section  
 "Engineering" and "Soil Properties" sections

**965—Azsand-Mesabase-Rositas association*****Map Unit Setting***

MLRA: 30

Landscape: Fan piedmont

Elevation: 1,390 to 2,200

Precipitation: 3 to 7 inches

Air temperature: 69 to 75 degrees Fahrenheit

Frost-free period: 300 to 360 days

***Composition***

Azsand fine sand, 2 to 15 percent slopes—45 percent

Mesabase extremely gravelly sandy loam, 2 to 15 percent slopes—30 percent

Rositas gravelly fine sand, 8 to 30 percent slopes—10 percent

Callville gravelly loam, 30 to 50 percent slopes—6 percent

Teebar very gravelly fine sandy loam, 0 to 4 percent slopes—4 percent

Carrizo extremely gravelly coarse sand, 2 to 8 percent slopes—3 percent

Badland, 30 to 75 percent slopes—2 percent

***Component Description*****Azsand and similar soils**

Landform: Sand sheets

Slope: 2 to 15 percent

Parent material: Eolian sands over alluvium derived from sandstone

Typical vegetation: Indian ricegrass, big galleta, other perennial forbs, white bursage, ratany, creosotebush, other shrubs

**Typical profile:**

Surface rock fragments: About 15 percent gravel

Layer 1—0 to 8 inches; fine sand

Layer 2—8 to 14 inches; loamy sand

Layer 3—14 to 36 inches; very gravelly loamy sand

Layer 4—36 to 62 inches; very gravelly loamy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB122NV—Limy sand 3-5 P.Z.

***Component Description*****Mesabase and similar soils**

Landform: Summits of fan remnants

Slope: 2 to 15 percent

Parent material: Alluvium derived from sandstone

Typical vegetation: Creosotebush, range ratany, other shrubs, white bursage, big galleta, other perennial grasses, other annual forbs, other perennial forbs

**Typical profile:**

Surface rock fragments: About 65 percent gravel, 5 percent cobbles

Layer 1—0 to 1 inch; extremely gravelly sandy loam

Layer 2—1 to 5 inches; very gravelly sandy loam

Layer 3—5 to 11 inch; extremely gravelly loamy sand

Layer 4—11 to 38 inches; very gravelly loamy sand

Layer 5—38 to 48 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Component Description***

**Rositas gravelly surface and similar soils**

Landform: Sand sheets

Slope: 8 to 30 percent

Parent material: Eolian sands

Typical vegetation: Other perennial grasses, white bursage, Palmer coldenia, other shrubs, big galleta

**Typical profile:**

Surface rock fragments: About 5 percent gravel

Layer 1—0 to 5 inches; gravelly fine sand

Layer 2—5 to 60 inches; sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Rapid)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB096NV—Gravelly sand 3-5 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Callville and similar soils**

Composition: 0 to 6 percent

Slope: 30 to 50 percent

Landform: Backslopes of fan remnants

Typical vegetation: Desertholly, other shrubs, other shrubs

Ecological site: R030XB116NV—Shallow pediment 3-5 P.Z.

#### **Teebar and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 4 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial forbs, white bursage, ephedra, range ratany, creosotebush, whitestem paperflower, other shrubs, shrubby tiquilia

Ecological site: R030XB110NV—Tableland 3-5 P.Z.

#### **Carrizo and similar soils**

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Big galleta, other perennial grasses, other perennial forbs, bursage, baccharis, white burrobrush, creosotebush, other shrubs

Ecological site: R030XB028NV—Valley wash

#### **Badland**

Composition: 0 to 2 percent

Slope: 30 to 75 percent

Landform: Backslopes of pediments

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

## **970—Rubble land-Charpeak-Rock outcrop complex**

### ***Map Unit Setting***

MLRA: 30

Landscape: Mountains

Elevation: 9,020 to 11,900

Precipitation: 18 to 22 inches

Air temperature: 37 to 41 degrees Fahrenheit

Frost-free period: 40 to 60 days

### ***Composition***

Rubble land —45 percent

Charpeak extremely gravelly fine sandy loam, 15 to 50 percent slopes—25 percent  
 Rock outcrop—15 percent  
 Mountmummy extremely gravelly loam, 30 to 75 percent slopes—7 percent  
 Lithic Cryorthents extremely gravelly fine sandy loam, 4 to 15 percent slopes—5  
 percent  
 Ladyofsnow gravelly silt loam, 30 to 75 percent slopes—3 percent

### ***Component Description***

#### **Rubble land**

Landform: Backslopes of upper mountains

### ***Component Description***

#### **Charpeak and similar soils**

Landform: Southwest facing backslopes of upper mountains  
 Slope: 15 to 50 percent, southwest aspect  
 Parent material: Colluvium and/or residuum weathered from limestone  
 Typical vegetation: Other shrubs, other perennial forbs, Great Basin bristlecone pine,  
 alpine fescue, other perennial grasses

#### **Typical profile:**

Surface rock fragments: About 90 percent gravel, 1 percent cobbles  
 Layer 1—0 to 2 inches; extremely gravelly fine sandy loam  
 Layer 2—2 to 8 inches; extremely gravelly sandy loam  
 Layer 3—8 to 29 inches; extremely gravelly fine sandy loam  
 Layer 4—29 to 39 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High  
 Depth to restrictive feature: Lithic bedrock: 20 to 39 inches  
 Saturated hydraulic conductivity class (root zone): High, (Permeability class:  
 Moderately rapid)  
 Available water capacity: About 1.2 inches  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e  
 Ecological site: R030XC028NV—Alpine slope

### ***Component Description***

#### **Rock outcrop limestone**

Landform: Upper mountains

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Mountmummy and similar soils**

Composition: 0 to 7 percent  
 Slope: 30 to 75 percent, south aspect

Landform: South facing backslopes of upper mountains  
 Typical vegetation: Forest canopy—Great Basin bristlecone pine Forest understory—  
 Great Basin bristlecone pine, purple sage, gooseberry currant, other perennial  
 forbs, other perennial grasses, other shrubs  
 Ecological site: F030XC285NV

**Lithic Cryorthents and similar soils**

Composition: 0 to 5 percent  
 Classification: Loamy-skeletal, mixed, superactive, calcareous Lithic Cryorthents  
 Slope: 4 to 15 percent  
 Landform: Summits of mountains  
 Typical vegetation: Alpine fescue, other perennial grasses, other perennial forbs, other  
 shrubs, Great Basin bristlecone pine  
 Ecological site: R030XC028NV—Alpine slope

**Ladyofsnow and similar soils**

Composition: 0 to 3 percent  
 Slope: 30 to 75 percent, north aspect  
 Landform: North facing backslopes of mountains  
 Typical vegetation: Forest canopy—Great Basin bristlecone pine Forest understory—  
 other perennial forbs, common juniper, wax currant, limber pine, Great Basin  
 bristlecone pine  
 Ecological site: F030XC284NV

***Management***

For information about managing this map unit, see the following sections and  
 associated tables in this publication:

- "Range" section
- "Engineering" and "Soil Properties" sections

**980—Orrubo very gravelly loam, 15 to 35 percent slopes**

***Map Unit Setting***

MLRA: 30  
 Landscape: Mountains  
 Elevation: 1,400 to 2,300  
 Precipitation: 6 to 9 inches  
 Air temperature: 64 to 70 degrees Fahrenheit  
 Frost-free period: 230 to 280 days

***Composition***

Orrubo very gravelly loam, 15 to 35 percent slopes—80 percent  
 Bobzbulz very gravelly coarse sandy loam, 30 to 55 percent slopes—8 percent  
 Snapcan extremely cobbly fine sandy loam, 30 to 55 percent slopes—7 percent  
 Carrizo very cobbly coarse sand, 2 to 8 percent slopes—3 percent  
 Riverbend gravelly loamy sand, 15 to 30 percent slopes—2 percent

***Component Description***

**Orrubo and similar soils**

Landform: Backslopes of fan remnants  
 Slope: 15 to 35 percent  
 Parent material: Colluvium and/or residuum weathered from calcareous conglomerate

Typical vegetation: Other shrubs, Torrey Mormon tea, other perennial forbs, other annual forbs, white ratany, creosotebush, other perennial grasses, white bursage

**Typical profile:**

Surface rock fragments: About 45 percent gravel  
 Layer 1—0 to 2 inches; very gravelly loam  
 Layer 2—2 to 7 inches; very gravelly fine sandy loam  
 Layer 3—7 to 13 inches; extremely gravelly loam  
 Layer 4—13 to 19 inches; cemented material  
 Layer 5—19 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: Very high  
 Depth to restrictive feature: Petrocalcic: 8 to 20 inches Paralitthic bedrock: 17 to 30 inches  
 Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)  
 Available water capacity: About 0.6 inch  
 Present flooding: None  
 Present ponding: None  
 Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7c  
 Ecological site: R030XB212AZ—Limy slopes

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Bobzbulz and similar soils**

Composition: 0 to 8 percent  
 Slope: 30 to 55 percent, northwest to northeast aspects  
 Landform: Northwest to northeast aspects on backslopes of ballenas  
 Typical vegetation: Other shrubs, creosotebush, range ratany, white bursage, other perennial forbs, big galleta  
 Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Snapcan and similar soils**

Composition: 0 to 7 percent  
 Slope: 30 to 55 percent, southwest to southeast aspects  
 Landform: Southwest to southeast aspects on backslopes of ballenas  
 Typical vegetation: White brittlebush, other perennial grasses, other shrubs, creosotebush, white bursage, other perennial forbs  
 Ecological site: R030XB099NV—Gravelly ridge 5-7 P.Z.

**Carrizo and similar soils**

Composition: 0 to 3 percent  
 Slope: 2 to 8 percent  
 Landform: Inset fans

Typical vegetation: Other perennial forbs, other perennial grasses, big galleta, sweetbrush, white bursage, white brittlebush, creosotebush, other shrubs  
 Ecological site: R030XB098NV—Gravelly outwash

**Riverbend rarely flooded and similar soils**

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial forbs, white bursage, range ratany, big galleta, other annual forbs, creosotebush, other perennial grasses, other shrubs

Ecological site: R030XB005NV—Limy 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**981—Torriorthents-Haplocalcids-Lava flows complex, 10 to 40 percent slopes**

***Map Unit Setting***

MLRA: 30

Landscape: Hills

Elevation: 1,600 to 2,500

Precipitation: 6 to 9 inches

Air temperature: 64 to 70 degrees Fahrenheit

Frost-free period: 230 to 320 days

***Composition***

Torriorthents extremely gravelly very fine sandy loam, 10 to 40 percent slopes—35 percent

Haplocalcids extremely stony fine sandy loam, 10 to 40 percent slopes—30 percent

Rock outcrop—20 percent

Sunrock extremely stony sandy loam, 30 to 75 percent slopes—6 percent

Haleburu extremely gravelly sandy loam, 30 to 75 percent slopes—5 percent

Huevi extremely stony sandy loam, 15 to 30 percent slopes—4 percent

***Component Description***

**Torriorthents and similar soils**

Landform: Hills

Slope: 10 to 40 percent

Parent material: Colluvium and/or residuum

Typical vegetation: White bursage, other perennial grasses, big galleta, white ratany, other perennial forbs, other shrubs, Nevada Mormon tea, creosotebush

**Typical profile:**

Surface rock fragments: About 5 percent stones, 50 percent gravel, 15 percent cobbles

Layer 1—0 to 3 inches; extremely gravelly very fine sandy loam

Layer 2—3 to 14 inches; extremely gravelly sandy loam

Layer 3—14 to 25 inches; silty clay

Layer 4—25 to 66 inches; silty clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: Very high

Depth to restrictive feature: Paralithic bedrock: 20 to 79 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Salinity: Saline within 40 inches

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB203AZ—Basalt slopes

#### ***Component Description***

##### **Haplocalcids and similar soils**

Landform: Hills

Slope: 10 to 40 percent

Parent material: Colluvium

Typical vegetation: Other annual forbs, other perennial grasses, other shrubs, white ratany, other perennial forbs, white bursage, creosotebush, Torrey Mormon tea

##### **Typical profile:**

Surface rock fragments: About 45 percent gravel, 10 percent cobbles

Layer 1—0 to 2 inches; extremely stony fine sandy loam

Layer 2—2 to 21 inch; extremely cobbly loam

Layer 3—21 to 60 inches; extremely gravelly loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

#### **Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Lithic bedrock: 20 to 79 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 8

Ecological site: R030XB212AZ—Limy slopes

#### ***Component Description***

##### **Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Sunrock and similar soils**

Composition: 0 to 6 percent

Slope: 30 to 75 percent

Landform: Backslopes of hills

Typical vegetation: Other shrubs, creosotebush, white bursage, other annual forbs

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

#### **Haleburu and similar soils**

Composition: 0 to 5 percent

Slope: 30 to 75 percent

Landform: Backslopes of hills

Typical vegetation: Creosotebush, triangle goldeneye, Mojave buckwheat, white bursage, other perennial forbs, other perennial grasses, big galleta, white brittlebush, other shrubs

Ecological site: R030XB072NV—Stony slope 5-7 P.Z.

#### **Huevi and similar soils**

Composition: 0 to 4 percent

Slope: 15 to 30 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, creosotebush, white brittlebush, white bursage, other perennial forbs, other perennial grasses

Ecological site: R030XB099NV—Gravelly ridge 5-7 P.Z.

### ***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

## **982—Winkel-Rock outcrop complex, 2 to 12 percent slopes**

### ***Map Unit Setting***

MLRA: 30

Landscape: Plateau

Elevation: 1,600 to 4,500

Precipitation: 6 to 9 inches

Air temperature: 57 to 70 degrees Fahrenheit

Frost-free period: 180 to 240 days

### ***Composition***

Winkel very gravelly loam, 2 to 12 percent slopes—65 percent

Rock outcrop—15 percent

Nipton extremely gravelly sandy loam, 8 to 30 percent slopes—5 percent

Haleburu extremely gravelly sandy loam, 8 to 30 percent slopes—5 percent

Tumarion extremely gravelly loam, 4 to 15 percent slopes—5 percent

Sunrock extremely stony sandy loam, 15 to 50 percent slopes—5 percent

### ***Component Description***

#### **Winkel and similar soils**

Landform: North facing shoulders and summits of plateaus

Slope: 2 to 12 percent, north aspect

Parent material: Mixed alluvium derived from sedimentary rock

Typical vegetation: White ratany, other perennial forbs, white burrobush, Nevada jointfir, creosotebush, Joshua tree, other shrubs, wolfberry

**Typical profile:**

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 5 inches; very gravelly loam

Layer 3—5 to 13 inches; very cobbly loam

Layer 4—13 to 32 inches; cemented material

Layer 5—32 to 42 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

**Component Properties and Qualities**

Runoff: High

Depth to restrictive feature: Petrocalcic: 10 to 20 inches Lithic bedrock: 20 to 39 inches

Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)

Available water capacity: About 0.8 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: R030XB214AZ—Limy Upland

***Component Description***

**Rock outcrop**

Landform: Cliffs

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Haleburu and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Hills

Typical vegetation: Other perennial forbs, creosotebush, other shrubs, white bursage, range ratany, big galleta

Ecological site: R030XB001NV—Limy hill 5-7 P.Z.

**Nipton and similar soils**

Composition: 0 to 5 percent

Slope: 8 to 30 percent, northeast aspect

Landform: Northeast facing summits of hills

Typical vegetation: Other perennial forbs, ephedra, Mojave buckwheat, other shrubs, bush muhly, desert needlegrass, big galleta

Ecological site: R030XB071NV—Volcanic slope 7-9 P.Z.

**Sunrock and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of hills and mountains

Typical vegetation: Other annual forbs, creosotebush, white bursage, other shrubs

Ecological site: R030XB017NV—Limy hill 3-5 P.Z.

**Tumarion and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 15 percent, south aspect

Landform: South facing summits of plateaus

Typical vegetation: Other shrubs, Virgin River encelia, big galleta, range ratany,

Mojave buckwheat, creosotebush, desert needlegrass

Ecological site: R030XB095NV—Shallow volcanic hill 5-7 P.Z.

***Management***

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section

- "Engineering" and "Soil Properties" sections

**998—Miscellaneous water*****Map Unit Setting***

MLRA: 30

***Composition***

Miscellaneous water —100 percent

***Component Description*****Miscellaneous water**

Landform: Depressions

**999—Water*****Map Unit Setting***

MLRA: 30

***Composition***

Water —100 percent

***Component Description*****Water**

Landform: Depressions



# Prime Farmland and Other Important Farmlands

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The table "Prime Farmland and Other Important Farmlands" lists the map units in the survey area that are considered prime farmland, unique farmland, and farmland of statewide or local importance. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation's food supply.

*Prime farmland* is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

For some soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

*Unique farmland* is land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. It has the special combination of soil quality, growing

season, moisture supply, temperature, humidity, air drainage, elevation, and aspect needed for the soil to economically produce sustainable high yields of these crops when properly managed. The water supply is dependable and of adequate quality. Nearness to markets is an additional consideration. Unique farmland is not based on national criteria. It commonly is in areas where there is a special microclimate, such as the wine country in California.

In some areas, land that does not meet the criteria for prime or unique farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law.

In some areas that are not identified as having national or statewide importance, land is considered to be *farmland of local importance* for the production of food, feed, fiber, forage, and oilseed crops. This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance.

There are no prime farmland map units in the Clark County Area, Nevada soil survey.

# Classification of the Soils

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The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999 and 2003). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. The categories are defined in the following paragraphs.

**ORDER.**—Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Aridisol.

**SUBORDER.**—Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Argid (Arg, meaning presence of an argillic horizon, plus *id*, from Aridisol).

**GREAT GROUP.**—Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Haplargid (*Hapl*, meaning minimal horizonation, plus Argid, the suborder of the Aridisols that has an argillic horizon).

**SUBGROUP.**—Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Haplargids.

**FAMILY.**—Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is coarse-loamy, mixed, superactive, mesic Typic Haplargids.

**SERIES.**—The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. Searchlight series is an example of a series within the family of coarse-loamy, mixed, superactive, mesic Typic Haplargids.

The table "Taxonomic Classification of the Soils" indicates the order, suborder, great group, subgroup, and family of the soil series in the survey area.

## Soil Series and their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993) and in the "Field Book for Describing and Sampling Soils" (Schoeneberger and others, 2002). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff, 1999) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 2003). Unless otherwise indicated, colors in the descriptions are for dry soil. Following the pedon description is the range of important characteristics of the soils in the series.

### Aguachiquita series

The Aguachiquita series consists of moderately deep to hardpan, well drained soils that formed in alluvium derived from granite over fanglomerate. Aguachiquita soils are on rock pediments. Slopes range from 8 to 30 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic Cambidic Haplodurids

**Typical pedon:** Aguachiquita gravelly sandy loam, wildlife habitat in an area of map unit 635. (Colors are for dry soil unless otherwise noted.) The surface is covered by approximately 75 percent gravel and 1 percent cobbles.

A—0 to 3 inches; brown (10YR 5/3) gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; many very fine and few fine roots; common very fine and few fine interstitial pores; 15 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bw—3 to 10 inches; pale brown (10YR 6/3) very gravelly coarse sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; common very fine, few fine through coarse roots; few very fine and fine interstitial and tubular pores; 35 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bkq—10 to 20 inches; pale brown (10YR 6/3) very gravelly coarse sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine, few fine and medium roots; few very fine and fine interstitial and tubular pores; 50 percent pebbles, 1 percent cobbles and 0.1 percent stones; common fine (1 to 2 millimeter) calcium carbonate and silica coats on bottoms of rock fragments; noneffervescent to strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bkqm1—20 to 31 inches; light brown (7.5YR 6/3) extremely weakly cemented duripan, brown (7.5YR 4/4) moist; massive; moderately hard, friable, brittle; few very fine and fine roots; few very fine and fine interstitial pores; 50 percent pebbles, 3 percent cobbles, and 1 percent stones; common fine (1 to 2 millimeter) calcium carbonate and silica coats on bottoms of rock fragments; noneffervescent to strongly effervescent; clear wavy boundary.

Bkqm2—31 to 43 inches; light brown (7.5YR 6/3) very weakly cemented duripan, brown (7.5YR 4/4) moist; massive; hard, firm, brittle; few very fine and fine roots; few very fine and fine interstitial pores; 50 percent pebbles, 3 percent cobbles, and

1 percent stones; common fine (1 to 2 millimeter) calcium carbonate and silica coats on bottoms of rock fragments; noneffervescent to strongly effervescent; abrupt wavy boundary.

Cr—43 inches; moderately weathered fanglomerate bedrock.

**Type location:** Clark County, Nevada; about 38 miles south and 12 miles west of Mesquite, Nevada; approximately 4 miles west and 1.8 miles south of Gold Butte, NV; 300 feet north and 1100 feet west of the southeast corner of section 22, T.19 S., R.69 E.; 36 degrees, 15 minutes, 39.88 seconds north latitude and 114 degrees, 15 minutes, 56.64 seconds west longitude; USGS Lime Wash, NV 7.5 minute topographic quadrangle; UTM 11, 0745646e 4016375n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following convection storms. The soils have a typical aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Depth to duripan:* 20 to 30 inches.

*Depth to paralithic contact:* 40 to 60 inches.

*Secondary calcium carbonate:* Less than 5 percent by volume.

*Control section:*

Rock fragments—35 to 60 percent, dominantly fine gravel.

Clay content—7 to 15 percent.

**A horizon:**

Value—5 or 6 dry, 3 or 4 moist.

Consistence—Slightly hard to moderately hard.

Rock fragments—15 to 35 percent gravel, dominantly fine gravel.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent of the fine earth—1 to 5 percent.

**Bw horizon:**

Texture—Coarse sandy loam or sandy loam.

Structure—Medium or coarse subangular blocky.

Consistence—Slightly hard or moderately hard.

Rock fragments—35 to 50 percent gravel, dominantly fine gravel.

Calcium carbonate equivalent of the fine earth—1 to 5 percent.

Organic matter—0 to 0.5 percent.

**Bkq horizon:**

Hue—10YR or 7.5YR.

Texture—Coarse sandy loam or sandy loam.

Structure—Medium or coarse subangular blocky or massive.

Consistence—Slightly hard or moderately hard, dry; very friable or friable, moist.

Rock fragments—35 to 60 percent gravel, dominantly fine gravel with 0 to 5 percent cobbles and stones.

Calcium carbonate equivalent of the fine earth—1 to 5 percent.

Organic matter—0 to 0.5 percent.

Other features—Pockets and pipes of disseminated calcium carbonate which range from slightly effervescent to violently effervescent.

**Bkqm horizons:**

Cementation—Extremely weakly cemented through moderately cemented.

Consistence—Moderately hard through extremely hard, friable through very firm.

Rock fragments—35 to 60 percent gravel, dominantly fine gravel with 0 to 10 percent cobbles and stones.

Other features—Pockets and pipes of disseminated lime which range from slightly effervescent to violently effervescent.

## Arizo series

The Arizo series consists of very deep, excessively drained soils that formed in mixed alluvium. Arizo soils are on recent alluvial fans, inset fans, fan aprons, flood plains of intermittent streams and channels. Slopes are 0 to 15 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 62 degrees F.

**Taxonomic class:** Sandy-skeletal, mixed, thermic Typic Torriorthents

**Typical pedon:** Arizo very gravelly loamy sand in a delineation of map unit 380.

(Colors are for dry soil unless otherwise noted.) The surface is partially covered by approximately 40 percent pebbles and 10 percent cobbles.

A1—0 to 2 inches; yellowish brown (10YR 5/4) very gravelly loamy sand, dark yellowish brown (10YR 4/4) moist; strong thick platy structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine and fine vesicular pores; 40 percent pebbles and 10 percent cobbles; moderately alkaline (pH 8.0); clear wavy boundary.

A2—2 to 6 inches; yellowish brown (10YR 5/4) sand, dark yellowish brown (10YR 4/4) moist, weak coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common fine tubular pores; 10 percent pebbles; slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

C1—6 to 25 inches; yellowish brown (10YR 5/4) extremely gravelly coarse sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 65 percent pebbles; moderately alkaline (pH 8.0); clear wavy boundary.

C2—25 to 34 inches; pale brown (10YR 6/3) extremely gravelly sand, yellowish brown (10YR 5/4) moist; single grain; loose, nonsticky and nonplastic; few very fine and medium roots; many very fine interstitial pores; 65 percent pebbles; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

C3—34 to 60 inches; yellowish brown (10YR 5/4) extremely gravelly sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 65 percent pebbles; moderately alkaline (pH 8.4).

**Type location:** Clark County, Nevada; approximately 4 miles south-southwest of Railroad Pass located in the north end of Eldorado Valley; about 1,500 feet east and 2,000 feet north of the southwest corner of section 27, T.23 S., R.63 E. USGS Boulder City NW, NV 7.5 minute quadrangle; 35 degrees, 54 minutes, 57 seconds north latitude and 114 degrees, 56 minutes, 8 seconds west longitude; UTM 11, 686273e 3976583n; NAD83.

### Range in Characteristics:

*Soil moisture:* Usually dry, moist for short periods throughout the moisture control section during December through March. Moist above and periodically in upper part

of moisture control section for 10 to 20 days cumulative, during July through October. The soil has a typic aridic soil moisture regime.

*Soil temperature:* 59 to 71 degrees F.

*Reaction:* Neutral to strongly alkaline.

*Other features:* Effervescent in some or all parts, with thin calcium carbonate coatings on undersides of rock fragments in some pedons.

*Control section:*

Rock fragments—35 to 85 percent.

**A horizon:**

Hue—10YR or 7.5YR.

Value—5 through 8 dry, 3 through 6 moist.

Chroma—2 through 6.

**C horizons:**

Hue—10YR or 7.5YR.

Value—4 through 8 dry, 3 through 6 moist.

Chroma—2 through 6.

Texture—Averages coarse sand through loamy sand.

Structure—Single grain or massive.

**Azsand series**

The Azsand series consists of very deep, somewhat excessively drained soils that formed in eolian sand over alluvium derived dominantly from sandstone. Azsand soils are on sand sheets over fan remnants. Slopes range from 2 to 15 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids

**Typical pedon:** Azsand fine sand, wildlife habitat in an area of map unit 940. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 10 percent pebbles.

A1—0 to 3 inches; light reddish brown (5YR 6/3) fine sand, reddish brown (5YR 4/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 14 percent pebbles; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—3 to 8 inches; light reddish brown (5YR 6/3) fine sand, reddish brown (5YR 5/3) moist; single grain; loose, nonsticky and nonplastic; many very fine and common fine roots; many very fine interstitial pores; 5 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

BA—8 to 14 inches; light reddish brown (5YR 6/3) loamy sand, reddish brown (5YR 5/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 5 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

2Bk1—14 to 36 inches; light brown (7.5YR 6/3) very gravelly loamy sand, brown (7.5YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine interstitial pores; few thin strata of extremely gravelly fine sandy loam; averages 45 percent pebbles; secondary calcium carbonate segregated as common (25

percent) fine coats on bottoms of rock fragments; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

2Bk2—36 to 62 inches; light brown (7.5YR 6/3) very gravelly loamy sand, brown (7.5YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; many very fine interstitial pores; 50 percent pebbles; secondary calcium carbonate segregated as few (15 percent) fine coats on bottoms and sides of rock fragments; violently effervescent; moderately alkaline (pH 8.4).

**Type location:** Clark County, Nevada; in the Lake Mead National Recreation Area west of the Overton Arm of Lake Mead and about 1.8 miles north and .5 miles west of junction of the Valley of Fire Road and North Shore Road; about 2,100 feet east and 1,100 feet north of the southwest corner of section 7, T.17 S., R.68 E.; 36 degrees, 27 minutes, 57.9 seconds north latitude and 114 degrees, 26 minutes, 8.9 seconds west longitude; USGS Valley of Fire East 7.5 minute topographic quadrangle; UTM 11, 0729759e, 4038702n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following convection storms. Soils have a typic aridic moisture regime.

*Soil temperature:* 72 to 76 degrees F.

*Depth to calcic horizon:* 12 to 14 inches.

*Control section:*

Clay content—Averages 5 to 8 percent.

Rock fragments—Averages 35 to 55 percent, mainly gravel from sandstone.

Reaction—Moderately alkaline or strongly alkaline.

**A horizons:**

Hue—2.5YR or 5YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Rock fragments—0 to 20 percent pebbles.

**BA horizon:**

Hue—5YR through 10YR.

Value—4 or 5 moist.

Chroma—3 or 4 moist.

Texture—Loamy fine sand, loamy sand, or gravelly loamy sand.

Clay content—3 to 5 percent.

Rock fragments—5 to 25 percent pebbles.

**2Bk horizons:**

Hue—2.5YR through 7.5YR.

Value—5 or 6 moist.

Chroma—3 or 4, dry or moist.

Texture—Very gravelly loamy sand, with thin strata of extremely gravelly fine sandy loam in some pedons.

Clay content—5 to 8 percent.

Rock fragments—35 to 60 percent.

Structure—Massive or subangular blocky.

Salinity (EC)—2 to 4 mmhos/cm.

Sodicity (SAR)—0 to 5.

Identifiable secondary carbonates—15 to 25 percent occurring as fine coats on bottoms and sides of rock fragments.  
Calcium carbonate equivalent of the fine earth fraction—10 to 15 percent.

### **Azureridge series**

The Azureridge series consists of very shallow and shallow to a duripan, well drained soils that formed in alluvium from mainly metamorphic rocks with some limestone. Azureridge soils are on rock pediments and slopes range from 15 to 50 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 67 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic, shallow Cambidic Haplodurids

**Typical pedon:** Azureridge very gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 265. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 75 percent pebbles, 3 percent cobbles and 2 percent stones.

A—0 to 2 inches; brown (10YR 5/3) very gravelly sandy loam, dark brown (10YR 3/3) moist; weak medium platy structure parting to moderate fine subangular blocky; soft, very friable, nonsticky and nonplastic; many very fine and few fine roots; many very fine interstitial pores and common very fine and fine vesicular pores; 40 percent pebbles, 3 percent cobbles and 2 percent stones; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bkq—2 to 9 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; moderate medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine, fine and few medium roots; many very fine interstitial pores and common very fine tubular pores; 50 percent pebbles, 5 percent cobbles and 1 percent stones; many fine (0.1 to 2 millimeter) calcium carbonate (95 percent) and silica (5 percent) pendants on undersides of rock fragments; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bkqm—9 to 14 inches; light gray (10YR 7/2) moderately cemented duripan, pale brown (10YR 6/3) moist; strong thick platy structure; very hard, extremely firm, brittle; common very fine and fine roots in fractures 16 to 25 centimeters apart; 4 to 10 millimeter thick laminar cap (calcium carbonate and silica); violently effervescent; clear smooth boundary.

Crkq—14 inches; pale brown (10YR 6/3) weakly cemented to moderately cemented fanglomerate, brown (10YR 4/3) moist; does not slake in water; slightly effervescent to strongly effervescent.

**Type location:** Clark County, Nevada; about 36 miles south of Mesquite, Nevada; approximately 2 miles north of Azure Ridge; located in an unsectionized area; 2,600 feet south and 10,600 feet west of the northeast corner of section 18, T.34 N., R.16 W; USGS Azure Ridge, NV 7.5 minute quadrangle; 36 degrees, 20 minutes, 54.2 seconds north latitude and 114 degrees, 04 minutes, 34.7 seconds west longitude; UTM 11, 0762376e 4026561n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in some part for short periods during winter and early spring. The ratio of soil moisture available for evapotranspiration between summer and winter is about 0.8 typical of the Mojave Desert transition to Sonoran. The soils have a Typic-Aridic moisture regime.

*Soil temperature:* 66 to 71 degrees F.

*Depth to duripan:* 7 to 14 inches.

*Depth to paralithic contact:* 10 to 20 inches.

*Organic matter:* 0 to 0.5 percent.

*Control section:*

Rock fragments—Averages 35 to 60 percent, mainly gravel with 0 to 15 percent cobbles and stones.

Clay content—6 to 15 percent.

Calcium carbonate equivalence of the fine earth fraction—1 to 10 percent.

**A horizon:**

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4.

Consistence—Soft or slightly hard.

**Bkq horizon:**

Chroma—3 or 4.

Structure—Weak or moderate.

Rock fragments—35 to 70 percent, mainly gravel with 0 to 15 percent cobbles and stones.

**Bkqm horizon:**

Value—7 or 8 dry, 6 or 7 moist.

Chroma—1 through 3.

**Bard series**

The Bard series consists of shallow over cemented material, well drained soils formed in alluvium derived from limestone and dolomite. Bard soils are on fan piedmonts. The slopes are 2 to 8 percent. The mean annual precipitation is about 5 inches and the mean annual soil temperature is about 65 degrees F.

**Taxonomic class:** Loamy, carbonatic, thermic, shallow Calcic Petrocalcids

**Typical pedon:** Bard gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 270. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 20 percent pebbles and 3 percent cobbles.

A1—0 to 1 inch; light brown (7.5YR 6/4) gravelly fine sandy loam, brown (7.5YR 4/4) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; 20 percent pebbles and 3 percent cobbles; strongly effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

A2—1 to 3 inches; light brown (7.5YR 6/4) fine sandy loam, brown (7.5YR 4/4) moist; strong medium and coarse platy structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine interstitial pores and few fine and medium tubular pores; 10 percent pebbles; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

Bk1—3 to 9 inches; brown (7.5YR 5/4) fine sandy loam, strong brown (7.5YR 4/6) moist; strong medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine, common medium and coarse roots; many very fine and fine interstitial pores and common fine and medium tubular pores; 15 percent calcium carbonate occurring as soft masses; 10 percent pebbles; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

Bk2—9 to 14 inches; light brown (7.5YR 6/4) fine sandy loam, strong brown (7.5YR 4/6) moist; massive; slightly hard, friable, nonsticky and slightly plastic; common very fine, fine and few medium roots; common very fine and fine interstitial pores; calcium carbonate completely coats rock fragments with pendants on the undersides; 40 percent discontinuous strongly cemented petrocalcic horizon; 10 percent pebbles; violently effervescent; strongly alkaline (pH 8.8); abrupt wavy boundary.

Bkm—14 inches; pinkish white (7.5YR 8/2) indurated petrocalcic horizon, pink (7.5YR 7/4) moist; violently effervescent.

**Type location:** South of the Virgin Mountains, Clark County Nevada, located along the road to Gold Butte, 1 mile west of Wechech Basin, approximately 200 feet north and 1,500 feet east of the southwest corner of section 3, T.17 S., R.70 E. 36 degrees, 28 minutes, 40.9 seconds north latitude; 114 degrees, 10 minutes, 0.9 seconds west longitude. USGS Moapa West, NV 7.5 minute topographic quadrangle; UTM 11, 0708429e 4064779n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some parts for short periods during winter and early spring and for very brief intermittent periods in summer and fall, 10 to 20 days cumulative following summer convection storms.

*Soil temperature:* 64 to 66 degrees F.

*Depth to petrocalcic horizon:* 14 to 20 inches.

*Profile reaction:* Moderately alkaline or very strongly alkaline.

*Control section:*

Clay content—8 to 15 percent

Rock fragments—Less than 15 percent.

**A horizon:**

Hue—7.5YR or 10YR.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 through 4.

**Bk horizons:**

Hue—5YR or 7.5YR.

Value—5 through 8 dry, 4 through 7 moist.

Chroma—1 through 6.

Structure—Massive or subangular blocky.

Consistence—Soft or slightly hard, very friable to friable, and nonsticky or slightly sticky, nonplastic through plastic wet.

Secondary calcium carbonate accumulation—Up to 75 percent soft calcium carbonate masses, seams, and filaments; 0 to 40 percent hard calcium carbonate nodules or hardpan fragments.

SAR—5 to 12.

**Bkm horizon:**

Value—7 or 8 dry or moist.

Chroma—0 through 4.

Other features—Some pedons may have thin, discontinuous silica lamellae in upper 1/2 inch of pan.

### Baseline series

The Baseline series consists of moderately deep, well drained soils that formed in gravelly pediment derived dominantly from limestone. Baseline soils are on pediments. Slopes range from 2 to 15 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, hyperthermic Typic Haplocalcids

**Typical pedon:** Baseline extremely gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 226. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 80 percent pebbles.

A—0 to 3 inches; light brown (7.5YR 6/4) extremely gravelly fine sandy loam, brown (7.5YR 4/4) moist; moderate very thick platy structure; slightly hard, very friable, slightly sticky and nonplastic; common fine roots; many very fine interstitial and common fine vesicular pores; 70 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bk1—3 to 9 inches; brown (7.5YR 5/4) gravelly fine sandy loam, strong brown (7.5YR 4/6) moist; moderate coarse subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; many very fine and common fine roots; many very fine interstitial pores; common (15 percent) fine calcium carbonate coats on faces of peds and as coats on bottoms and sides of rock fragments; 15 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bk2—9 to 22 inches; reddish yellow (7.5YR 6/6) extremely gravelly loam, brown (7.5YR 4/4) moist; massive; slightly hard, very friable, nonsticky and slightly plastic; common very fine and fine roots; many very fine interstitial pores; common (45 percent) fine calcium carbonate masses and calcium carbonate coats and pendants on bottoms and sides of rock fragments; 65 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

2Cr—22 inches; soft weathered calcareous siltstone.

**Type location:** Clark County, Nevada; in the Lake Mead National Recreation Area about 3.5 miles north of Coyote Cove in Pinto Valley; in an estimated projection of an unsectionized area of section 23, T.20 S., R.66 E.; USGS Boulder Canyon, NV 7.5 minute topographic quadrangle; 36 degrees 12 minutes 4 seconds north latitude and 114 degrees 35 minutes 11.9 seconds west longitude; UTM 11, 716977e, 4008954n; NAD83.

### Range in Characteristics:

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for brief periods between July and October following convection storms. The soils have a typic aridic moisture regime.

*Soil temperature:* 72 to 76 degrees F.

*Depth to calcic horizon:* 2 to 4 inches.

*Depth to bedrock:* 20 to 40 inches to a paralithic contact. Paralithic material is soft, weathered sedimentary rocks such as claystone, siltstone, gypsiferous siltstone, gypsum rock, conglomerate, and sandstone.

*Control section:*

Clay content—8 to 15 percent;  
 Rock fragments—35 to 70 percent, mainly gravel.  
 Reaction—Moderately alkaline or strongly alkaline.

**A horizon:**

Hue—2.5YR through 7.5YR.  
 Value—6 or 7 dry, 4 or 5 moist.  
 Chroma—3 or 4, dry or moist.

**Bk1 horizon:**

Hue—2.5YR through 10YR.  
 Value—5 or 6 dry, 4 or 5 moist.  
 Chroma—4 through 6 moist or dry.  
 Texture—Sandy loam, fine sandy loam.  
 Rock fragments—15 to 45 percent.  
 Identifiable secondary carbonates—15 to 25 percent occurs as few coats on faces of peds and as coats on the bottoms and sides of rock fragments.  
 Calcium carbonate equivalent in the fine earth fraction—25 to 35; 40 to 60 percent in the less than 20 millimeter fraction.

**Bk2 horizon:**

Hue—2.5YR through 10YR.  
 Value—5 or 6 dry, 4 or 5 moist.  
 Chroma—4 through 6, dry or moist.  
 Texture—Extremely gravelly sandy loam, extremely gravelly loam, or very gravelly fine sandy loam.  
 Rock fragments—35 to 70 percent.  
 Identifiable secondary carbonates—25 to 50 percent occurring as masses and as coats and pendants on the bottoms and sides of rock fragments.  
 Calcium carbonate equivalent in the fine earth fraction—30 to 45 percent; 40 to 60 percent in the less than 20 millimeter fraction.

**Beerbo series**

The Beerbo series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium derived from gneiss, schist, and altered granitic rocks. Beerbo soils are on mountains. Slopes range from 15 to 50 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 48 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic, shallow Aridic Argiustolls

**Typical pedon:** Beerbo extremely cobbly sandy loam, forest and wildlife habitat in an area of map unit 790. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 35 percent pebbles, 25 percent cobbles and 5 percent stones.

A—0 to 3 inches; grayish brown (10YR 5/2) extremely cobbly sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine and fine interstitial pores;

35 percent pebbles, 25 percent cobbles and 5 percent stones; neutral (pH 7.0); clear smooth boundary.

Bt1—3 to 7 inches; brown (10YR 5/3) extremely cobbly sandy loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine and fine interstitial and common very fine and fine tubular pores; few faint clay films coating sand grains; 25 percent pebbles and 40 percent cobbles; neutral (pH 7.2); clear wavy boundary.

Bt2—7 to 11 inches; yellowish brown (10YR 5/4) extremely cobbly sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic, common medium and coarse roots; common fine interstitial and common fine and medium tubular pores; common faint clay films on faces of peds and lining pores; 30 percent pebbles and 35 percent cobbles; neutral (pH 7.2); gradual wavy boundary.

Cr—11 to 18 inches; soft weathered gneiss and schist; clear wavy boundary.

R—18 inches; hard unweathered gneiss and schist.

**Type location:** Clark County, Nevada; about 0.5 mile southwest of the summit of McCullough Mountain on the western slopes of the McCullough Range; approximately 2,610 feet north and 570 feet east of the southwest corner of section 17, T.27 S., R.61 E.; USGS McCullough Mountain, NV 7.5 minute topographic quadrangle; 35 degrees, 35 minutes, 50 seconds north latitude and 115 degrees, 11 minutes, 13 seconds west longitude: UTM 11, 664246e, 3940789n; NAD83.

#### **Range in Characteristics:**

*Soil moisture:* Usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer convection storms. The soils have an aridic moisture regime that borders on ustic.

*Soil temperature:* 47 to 52 degrees F.

*Mollic epipedon thickness:* 7 to 10 inches; includes the Bt1 horizon.

*Depth to paralithic contact:* 8 to 14 inches. The paralithic materials below the contact are weathered metamorphic rock such as schist or gneiss.

*Depth to hard bedrock:* 14 to 20 inches.

*Particle-size control section:*

Clay content—Averages 15 to 24 percent.

Rock fragments—35 to 70 percent, mainly cobbles..

#### **A horizon:**

Value—4 or 5.

Chroma—2 or 3, dry or moist.

Organic matter content—1 or 2 percent.

#### **Bt1 and Bt2 horizons:**

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 through 4 moist.

Chroma—2 or 3, dry or moist.

Clay content—18 to 27 percent.

Texture—Sandy loam or sandy clay loam.

Structure—Subangular blocky or angular blocky.

Organic matter content—1 or 2 percent in the Bt1 horizon.

Other features—Below 7 inches, the Bt2 horizon has a chroma of 4 in some pedons.

## Birdspring series

The Birdspring series consists of very shallow, somewhat excessively drained soils that formed in residuum and colluvium from limestone and dolomite. Birdspring soils are on mountains. Slopes range from 8 to 75 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic Lithic Torriorthents

**Typical pedon:** Birdspring extremely gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 850. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles, 5 percent cobbles and 1 percent stones.

A—0 to 1 inch; very pale brown (10YR 7/3) extremely gravelly fine sandy loam, brown (10YR 5/3) moist; moderate thick platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine and fine vesicular and tubular pores; 70 percent pebbles, 5 percent cobbles, 1 percent stones; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bk—1 to 4 inches; very pale brown (10YR 7/3) very gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; many very fine and fine vesicular and tubular pores; 50 percent pebbles; common thin lime coats and pendants on the undersides of rock fragments; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

R—4 inches; hard limestone bedrock.

**Type location:** Clark County, Nevada; approximately 8.5 miles north of Jean and 3.5 miles northeast of Bird Spring; about 1,300 feet north and 700 feet west of the southeast corner of section 31, T.23 S., R.60 E.; USGS Bird Spring, NV 7.5 minute quadrangle; 35 degrees, 53 minutes, 58 seconds north latitude and 115 degrees, 17 minutes, 58 seconds west longitude; UTM 11, 653480e, 3974143n; NAD83.

### Range in Characteristics:

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for less than 10 to 20 days cumulative between July and September following summer convection storms. The soils have a typical aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Mean winter temperature:* 40 to 45 degrees F. The upper portion is frozen for short periods during most winters.

*Depth to lithic contact:* 4 to 10 inches.

*Control section:*

Percent clay—6 to 12 percent.

Rock fragments—Averages 50 to 70 percent.

Calcium carbonate equivalent in the less than 20 millimeter fraction—40 to 60 percent.

### A horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4.

Calcium carbonate equivalent in the fine earth fraction—15 to 25 percent.

**Bk horizon:**

Value—5 or 6 moist.

Texture—Fine sandy loam or silt loam.

Rock fragments—50 to 70 percent, mainly pebbles.

Structure—Weak or moderate, fine or medium subangular blocky.

Calcium carbonate equivalent in the fine earth fraction—15 to 25 percent.

**Bitter Spring series**

The Bitter Spring series consists of very deep, well drained soils that formed in alluvium from mixed rock sources. Bitter Spring soils are on fan remnants. Slopes range from 2 to 8 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 67 degrees F.

**Taxonomic class:** Sandy-skeletal, mixed, thermic Typic Calcargids

**Typical pedon:** Bitter Spring gravelly loam, rangeland and wildlife habitat located in the adjacent Virgin River Area, Nevada and Arizona soil survey. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 90 percent subangular or rounded pebbles with a dark desert varnish.

A—0 to 2 inches; pink (7.5YR 7/4) gravelly loam, brown (7.5YR 4/4) moist; moderate thick platy structure; hard, friable, slightly sticky and slightly plastic; very few fine roots; many fine and medium vesicular, and few very fine tubular pores; 20 percent pebbles; violently effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary.

Bt—2 to 3 inches; light reddish brown (5YR 6/4) sandy clay loam, reddish brown (5YR 4/4) moist; moderate fine and medium subangular blocky structure parting to weak thin and medium platy; hard, friable, moderately sticky and moderately plastic; few fine roots; common fine and medium vesicular and tubular pores; many, distinct, continuous clay films on all faces of peds and lining pores; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

Btk—3 to 7 inches; light reddish brown (5YR 6/4) gravelly sandy loam, reddish brown (5YR 4/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; common very fine and few fine tubular pores; 25 percent pebbles; common, distinct, discontinuous clay films lining pores; few, distinct calcium carbonate coats on undersides and sides of rock fragments; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

2Bkq1—7 to 14 inches; pink (7.5YR 7/4) very gravelly sandy loam, brown (7.5YR 5/4) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 35 percent pebbles; common, fine calcium carbonate pendants on undersides and sides of rock fragments; very few, distinct silica coats on undersides of rock fragments; violently effervescent; moderately alkaline (pH 8.3); clear wavy boundary.

2Bkq2—14 to 22 inches; light brown (7.5YR 6/4) extremely gravelly sandy loam, brown (7.5YR 4/4) moist; massive; soft, very friable, slightly sticky and nonplastic; many very fine, few fine through medium roots; few very fine tubular pores; 65 percent pebbles and 15 percent cobbles; many, coarse calcium carbonate pendants on undersides and few on the tops of rock fragments; common, fine soft masses and filaments of calcium carbonate; few fine silica pendants on undersides of rock fragments; few medium weakly cemented calcium carbonate lenses; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

2Bkq3—22 to 46 inches; very pale brown (10YR 7/3) stratified extremely gravelly coarse sand and very gravelly loamy sand; brown (10YR 5/3) moist; massive; soft,

very friable, nonsticky and nonplastic; many very fine, few fine and medium roots; many very fine, common fine interstitial pores; 70 percent pebbles and 10 percent cobbles; many fine and medium calcium carbonate pendants on undersides of rock fragments; few, fine distinct silica pendants on the undersides of rock fragments; common, medium and coarse weakly cemented calcium carbonate concentrations; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

2Bkq4—46 to 60 inches; very pale brown (10YR 7/3) stratified extremely gravelly coarse sand and very gravelly loamy sand; brown (10YR 5/3) moist; massive; slightly hard; very friable, nonsticky and nonplastic; many very fine, few fine and medium roots; many very fine interstitial pores; 65 percent pebbles and 5 percent cobbles; many fine and medium calcium carbonate and silica pendants on undersides of rock fragments; many yellow (2.5Y 7/6) distinct silica coats on the bottom of rock fragments; many medium and coarse weakly and moderately cemented calcium carbonate concentrations; violently effervescent; strongly alkaline (pH 8.8).

**Type location:** Clark County, Nevada; about 1.4 miles southwest of Bunkerville, Nevada; about 1,200 feet east and 900 feet north of the southwest corner of section 35, T.13 S., R.70 E; USGS Flattop Mesa, NV 7.5 minute topographic quadrangle; 36 degrees, 45 minutes, 20 seconds north latitude and 114 degrees, 8 minutes, 37 seconds west longitude; UTM 11, 754989e, 4071548n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days between July and October following convection storms. The soils have a typic aridic moisture regime.

*Soil temperature:* 66 to 71 degrees F.

*Depth to calcic horizon:* 5 to 10 inches.

*Depth to lower boundary of argillic horizon:* 5 to 10 inches.

*Other features:* Some pedons contain salt or gypsum segregations.

**A horizon:**

Hue—7.5YR or 5YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4.

**Bt horizon:**

Hue—5YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—4 through 6.

Texture—Sandy clay loam or loam.

Clay content—18 to 27 percent.

Rock fragments—0 to 30 percent gravel.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent in the fine earth fraction—5 to 10 percent.

**Btk horizon:**

Hue—5YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—4 through 6.

Texture—Fine sandy loam or sandy loam.

Clay content—8 to 18 percent.

Rock fragments—15 to 35 percent, dominantly gravel.

Reaction—Moderately alkaline or strongly alkaline.  
 Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.

**2Bkq1 or 2Bkq2 horizons:**

Hue—5YR, 7.5YR or 10YR.  
 Value—5 through 7 dry, 4 or 5 moist.  
 Clay content—6 to 15 percent.  
 Rock fragments—35 to 80 percent, dominantly gravel with 0 to 15 percent cobbles.  
 Consistence—Hard or very hard.  
 Reaction—Moderately alkaline or strongly alkaline.  
 Calcium carbonate equivalent in the fine earth fraction—10 to 25 percent  
 Other features—Secondary calcium carbonate is 5 to 20 percent by volume in the calcic horizon.

**2Bkq3 and 2Bkq4 horizons:**

Hue—7.5YR, or 10YR.  
 Value—5 through 7 dry, 4 or 5 moist.  
 Chroma—4 through 6.  
 Texture—Stratified loamy sand to coarse sand.  
 Clay content—2 to 8 percent.  
 Rock fragments—Averages 50 to 85 percent, dominantly gravel with 0 to 20 percent cobbles.  
 Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.  
 Other features—Secondary calcium carbonate is 5 to 20 percent by volume in the calcic horizon.

**Bitterridge series**

The Bitterridge series consists of shallow, well drained soils that formed in colluvium and residuum from sandstone and limestone. Bitterridge soils are on low hills. Slopes range from 4 to 15 percent. The mean annual precipitation is about 5 inches and the mean annual air temperature is about 66 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic, shallow Typic Haplocalcids

**Typical pedon:** Bitterridge extremely flaggy loam, rangeland and wildlife habitat in an area of map unit 155.. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 25 percent pebbles, 40 percent flagstones and 2 percent stones.

A—0 to 2 inches; light brown (7.5YR 6/4) extremely flaggy loam, brown (7.5YR 4/4) moist; moderate medium and thick platy structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine and fine vesicular and few fine interstitial and tubular pores; electrical conductivity 0.4 dS/m; 25 percent pebbles and 40 percent flagstones; violently effervescent (35 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear smooth boundary.

Bk1—2 to 8 inches; brown (7.5YR 5/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine and few medium roots; few very fine and fine tubular pores; electrical conductivity 0.59 dS/m; 20 percent medium and coarse soft masses of calcium carbonate in matrix; 30 percent pebbles and 5

percent cobbles; violently effervescent (35 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.

Bk2—8 to 12 inches; brown (7.5YR 5/4) very gravelly loam, brown (7.5YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine and medium roots; common very fine and fine interstitial and few fine tubular pores; electrical conductivity 0.62 dS/m; 30 percent medium and coarse soft masses of calcium carbonate in matrix; many thin calcium carbonate coats on undersides of rock fragments; 30 percent pebbles and 10 percent cobbles; violently effervescent (40 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt wavy boundary.

Cr—12 to 16 inches; fractured and weathered sandstone.

R—16 inches; hard sandstone bedrock.

**Type location:** Clark County, Nevada; about 26 miles south of Moapa, Nevada; approximately 5 miles west of Bitter Spring in Bitter Spring Valley; 1,000 feet north and 2,350 feet east of the southwest corner of section 15, T.19 S., R.66 E.; USGS Bitter Spring, NV 7.5 minute topographic quadrangle; 36 degrees, 17 minutes, 37.43 seconds north latitude and 114 degrees, 36 minutes, 23.98 seconds west longitude; UTM 11, 0714923e 4019186n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring. The ratio of summer to winter actual evapotranspiration is about 0.8, typical of the Mojave Desert transitional to Sonoran Desert. The soils have a typical aridic moisture regime.

*Soil temperature:* 66 to 71 degrees F.

*Depth to calcic horizon:* 1 to 3 inches.

*Depth to paralithic contact:* 10 to 20 inches.

*Depth to hard bedrock:* 14 to 25 inches.

*Organic matter:* 0 to 0.5 percent.

*Control section:*

Rock fragments—Average 35 to 60 percent, mainly from limestone and sandstone.

Clay content—18 to 25 percent.

Calcium carbonate equivalent—40 to 60 percent in the less than 20 millimeter fraction.

**A horizon:**

Value—5 or 6 dry.

Calcium carbonate equivalent of the fine earth—20 to 40 percent.

**Bk horizons:**

Value—5 or 6 dry.

Chroma—4 or 6.

Texture of the fine earth—Sandy loam or loam.

Rock fragments—35 to 60 percent, mainly limestone and sandstone gravel.

Structure—Subangular blocky or massive.

Consistence—Lightly hard or hard, and very friable or friable.

Calcium carbonate equivalent of the fine earth—20 to 45 percent.

Other features—10 to 30 percent soft masses of secondary calcium carbonate.

## Blackmesa series

The Blackmesa series consists of shallow to a duripan, well drained soils that formed in loess over residuum derived from basalt. Blackmesa soils are on mesas. Slopes range from 4 to 15 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Loamy, mixed, active, hyperthermic, shallow Typic Haplodurids

**Typical pedon:** Blackmesa gravelly fine sandy loam, wildlife habitat in an area of map unit 535. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 60 percent pebbles (15 percent basalt rocks and 45 percent duripan fragments) and 20 percent cobbles.

A—0 to 2 inches; yellowish brown (10YR 5/4) gravelly fine sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine and fine interstitial and few fine vesicular pores; 20 percent pebbles; violently effervescent (9 percent calcium carbonate equivalent in the fine-earth fraction); moderately alkaline (pH 8.4); clear smooth boundary.

Bkq1—2 to 8 inches; yellowish brown (10YR 5/4) gravelly fine sandy loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; many very fine and fine interstitial and common fine tubular pores; 20 percent pebbles and 10 percent cobbles; common, fine, prominent, calcium carbonate masses; many, coarse, prominent, calcium carbonate and silica pendants on the undersides of rock fragments; violently effervescent (15 percent calcium carbonate equivalent in the fine-earth fraction); strongly alkaline (pH 8.6); clear wavy boundary.

Bkq2—8 to 13 inches; light brown (7.5YR 6/4) gravelly fine sandy loam, brown (7.5YR 5/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and few medium roots; few fine interstitial pores; 20 percent pebbles and 5 percent cobbles; many, coarse, prominent, calcium carbonate masses; many, coarse, prominent, calcium carbonate and silica pendants on the undersides of rock fragments; violently effervescent; (30 percent calcium carbonate equivalent in the fine-earth fraction); strongly alkaline (pH 8.6); abrupt wavy boundary.

Bqkm—13 inches; very pale brown (10YR 8/4) duripan, yellowish brown (10YR 5/4) moist; strong medium platy structure in the upper part and massive below; very rigid; indurated in upper part by laminae of opaline silica in a 1 millimeter to 5 millimeters thick continuous laminar cap, very strongly cemented throughout the matrix in lower part of horizon by carbonate and silica; calcium carbonate as laminae and as coats on rock fragments and mineral grains.

**Type location:** Clark County, Nevada; in the Lake Mead National Recreation Area about 1 mile south of the junction of Northshore road and the Callville Bay road on the summit of Black Mesa; 545 feet north and 2,300 feet west of the southeast corner of section 31, T.20 S., R.65 E.; USGS Government Wash 7.5 minute topographic quadrangle; 36 degrees, 9 minutes, 38.9 seconds north latitude and 114 degrees, 45 minutes, 59 seconds west longitude; UTM 11, 0700916e, 4004095n; NAD83.

## Range in Characteristics

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for brief periods between July and October following convection storms. The soils have a typic aridic moisture regime.

*Soil temperature:* 72 to 76 degrees F.

*Depth to calcic horizon:* 1 to 4 inches.

*Depth to duripan:* 10 to 14 inches.

*Depth to bedrock:* Greater than 40 inches to a lithic contact. Hard bedrock is estimated to be within 80 inches of the soil surface.

*Control section:*

Percent clay—5 to 15 percent

Rock fragments—15 to 35 percent, mainly gravel. Lithology of fragments is 50 percent indurated to strongly cemented duripan fragments and 50 percent basalt.

Calcium carbonate equivalent in the less than 20 millimeter fraction—Averages 10 to 40percent.

Reaction—Moderately alkaline or strongly alkaline.

**A horizon:**

Value—5 or 6 dry.

Chroma—3 or 4, dry or moist.

Calcium carbonate equivalent in the fine earth fraction—5 to 10 percent.

**Bkq1 horizon:**

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 4 or 5 moist.

Texture—Fine sandy loam or sandy loam.

Structure—Massive or subangular blocky.

Calcium carbonate equivalent in the fine earth fraction—15 to 30percent.

Salinity (EC)—2 to 4 mmhos/cm.

Sodicity (SAR)—5 to 10.

**Bkq2 horizon:**

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 4 or 5 moist.

Texture—Loam or fine sandy loam.

Calcium carbonate equivalent in the fine earth fraction—15 to 35percent.

Salinity (EC)—2 to 4 mmhos/cm.

Sodicity (SAR)—5 to 10.

**Bqkm horizon:**

Cementation class—Indurated by secondary silica in continuous laminar cap, very strongly cemented or strongly cemented by secondary silica and carbonates below the laminar cap.

**Bludiamond series**

The Bludiamond series consists of moderately deep to a hardpan, well drained soils that formed in mixed alluvium from calcareous sandstone and limestone. Bludiamond soils are on fan remnants. Slopes range from 2 to 8 percent. The mean annual precipitation is about 8 inches and the mean annual air temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic Argic Petrocalcids

**Typical pedon:** Bludiamond loamy fine sand, rangeland and wildlife habitat in an area of map unit 411. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 10 percent pebbles.

A—0 to 8 inches; brown (7.5YR 5/4) loamy fine sand, brown (7.5YR 4/4) moist; weak very thick platy structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine and medium roots; few fine and medium tubular pores; 10 percent pebbles; moderately alkaline (pH 8.2); abrupt wavy boundary.

2Bt—8 to 16 inches; yellowish red (5YR 4/6) gravelly sandy clay loam, yellowish red (5YR 4/6) moist; moderate coarse subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine, fine, medium and few coarse roots; common very fine, fine and few medium tubular pores; many distinct clay bridging and clay films lining pores; 20 percent pebbles, 5 percent cobbles and 5 percent stones; moderately alkaline (pH 8.2); clear wavy boundary.

2Btk1—16 to 21 inches; yellowish red (5YR 4/6) very gravelly sandy clay loam, dark reddish brown (5YR 3/4) moist; moderate fine subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; common very fine, fine and few medium roots; common very fine and fine tubular pores and few very fine and fine interstitial; many faint clay bridging and clay films lining pores and common faint clay films on faces of peds; few fine irregular soft seams of calcium carbonate; 45 percent pebbles, 5 percent cobbles and 5 percent stones; strongly effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.

2Btk2—21 to 26 inches; yellowish red (5YR 4/6) very gravelly sandy loam, dark reddish brown (5YR 3/4) moist; massive; moderately hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and few fine interstitial and tubular pores; few faint clay bridging; few fine irregular soft seams of calcium carbonate; 45 percent pebbles, 10 percent cobbles and 4 percent stones; violently effervescent (18 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); gradual wavy boundary.

2Bk—26 to 36 inches; brown (7.5YR 5/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine and few fine interstitial and tubular pores; common coarse irregular disseminated pockets of lime; 45 percent pebbles, 10 percent cobbles and 4 percent stones; violently effervescent (15 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt wavy boundary.

3Bqkm—36 to 60 inches; pink (7.5YR 7/3) moderately cemented petrocalcic horizon with 1 to 2 millimeter laminar cap, light brown (7.5YR 6/3) moist; massive; very hard, extremely firm, violently effervescent.

**Type location:** Clark County, Nevada; approximately 2 miles west-southwest of Blue Diamond, NV and 1 1/2 miles east of Black Velvet Canyon; about 700 feet south and 200 feet west of the northeast corner of section 14, T.22 S., R.58 E.; USGS Blue Diamond, NV 7.5 minute quadrangle; 36 degrees, 2 minutes, 14 seconds north latitude and 115 degrees, 26 minutes, 11 seconds west longitude; UTM 11, 640863e, 3989208n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following convection storms. The soils have a typical aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Depth to argillic horizon:* 1 to 10 inches.

*Depth to base of argillic horizon:* 12 to 30 inches.

*Depth to petrocalcic horizon:* 21 to 40 inches.

*Control section:*

Percent clay—Averages 18 to 25 percent.

Rock fragments—Averages 35 to 60 percent, mainly gravel with 5 to 20 percent cobbles or stones.

**A horizon:**

Hue—7.5YR or 5YR.

Value—5 or 6 dry.

Chroma—3 or 4.

Calcium carbonate equivalent—0 to 5 percent.

Effervescence—Noneffervescent to very slightly effervescent.

**2Bt horizon:**

Hue—5YR or 2.5YR.

Value—3 or 4 moist.

Chroma—3 through 6.

Clay content—20 to 25 percent.

Rock fragments—20 to 50 percent, mainly gravel.

Structure—Strong or moderate, thick, very thick or medium, and subangular blocky or platy.

Effervescence—Noneffervescent to slightly effervescent.

Calcium carbonate equivalent in the fine earth fraction—0 to 5 percent.

**2Btk1 and 2Btk2 horizons:**

Hue—7.5YR or 5YR.

Value—4 or 5 dry, 3 or 4 moist.

Chroma—3 through 6.

Texture—Sandy loam or sandy clay loam.

Clay content—15 to 25 percent.

Rock fragments—35 to 60 percent gravel.

Effervescence—Strongly effervescent to violently effervescent.

Calcium carbonate equivalent in the fine earth fraction—15 to 30 percent; 20 to 35 percent of the less than 20 mm fraction.

**2Bk horizon:**

Value—5 through 7 dry, 4 or 5 moist.

Chroma—3 through 6.

Clay content—6 to 12 percent.

Rock fragments—40 to 60 sandstone and limestone pebbles,

Structure—Massive or subangular blocky.

Calcium carbonate equivalent in the fine earth fraction—15 to 30 percent; 20 to 35 percent of the less than 20 mm fraction.

Reaction—Moderately alkaline or strongly alkaline.

**3Bqkm horizon:**

Hue—7.5YR or 10YR.

Chroma—3 or 4.

Consistence—Hard to very hard, very firm to extremely firm.

Cementation—Weakly cemented to moderately cemented. Cemented with calcium carbonate and a minor amount of accessory silica. 90 to 100 percent of pan fragments are dissolved by soaking in hydrochloric acid.

## Bluegyp series

The Bluegyp series consists of deep, well drained soils that formed in residuum derived from gypsiferous sedimentary rocks. Bluegyp soils are on dissected pediments. Slopes range from 2 to 8 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Coarse-loamy, gypsic, hyperthermic Leptic Haplogypsis

**Typical pedon:** Bluegyp gypsiferous fine sandy loam, rangeland and wildlife habitat in an area of map unit 930. (Colors are for dry soil unless otherwise noted.) About 20 percent of the soil surface is covered by a thin microbiotic crust of cryptogams.

ABy—0 to 2 inches; very pale brown (10YR 8/2) gypsiferous material, very pale brown (10YR 8/3) moist; strong very thick platy structure; hard, friable, nonsticky and nonplastic; few very fine and fine roots; few very fine and fine tubular pores and common very fine vesicular pores; Texture of the fine earth material is fine sandy loam; 30 percent fine gypsum crystals; many fine gypsum masses; slightly alkaline (pH 7.8); abrupt smooth boundary.

By—2 to 11 inches; very pale brown (10YR 8/2) gypsiferous material, very pale brown (10YR 8/3) moist; strong very thick platy structure; hard, firm, nonsticky and nonplastic; few very fine and fine roots; few fine tubular and very fine interstitial pores; Texture of the fine earth material is fine sandy loam; 25 percent discontinuous coarse gypsum clusters of extremely weakly cemented crystals 0.5 to 4 centimeters in size; many fine gypsum masses; moderately alkaline (pH 7.9); clear wavy boundary.

Byn—11 to 43 inches; very pale brown (10YR 8/2) gypsiferous material, very pale brown (10YR 8/3) moist; massive; slightly hard, firm, nonsticky and nonplastic; few fine roots; few fine and very fine interstitial pores; Texture of the fine earth material is sandy loam; 50 percent discontinuous coarse gypsum clusters of extremely weakly cemented crystals 0.5 to 2 centimeters in size; moderately alkaline (pH 7.9); abrupt wavy boundary.

Cr—43 inches; very pale brown (10YR 8/2) gypsum rock, very pale brown (10YR 8/3) moist; massive; finely-crystalline bedrock.

**Type location:** Clark County, Nevada; in the Lake Mead National Recreation Area about 0.5 mile east of Blue Point Spring along the access road to Stewarts Point; 830 feet east and 250 feet north of the southwest corner of section 5, T.18 S., R.68 E.; USGS Valley of Fire East, NV 7.5 minute topographic quadrangle; 36 degrees, 23 minutes, 25 seconds north latitude and 114 degrees, 25 minutes, 17 seconds west longitude; UTM 11, 0739680e, 4030353n; NAD83.

### Range in Characteristics

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for brief periods between July and October following convection storms; typic aridic moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to gypsic horizon:* 2 to 4 inches.

*Depth to paralithic contact:* 40 to 60 inches.

*Reaction:* Slightly alkaline or moderately alkaline.

*Gypsum content:* 40 to 60 percent.

**ABy horizon:**

Value—7 or 8, dry or moist.  
 Chroma—2 or 3, dry or moist.

**By horizon:**

Value—7 or 8, dry or moist.  
 Chroma—2 or 3, dry or moist.  
 Texture—Sandy loam or fine sandy loam.  
 Secondary gypsum—Occurs as weakly cemented clusters of crystals ranging from 0.5 to 4 centimeters in size.

**Byn horizon:**

Value—7 or 8, dry or moist.  
 Chroma—2 or 3, dry or moist.  
 Texture—Sandy loam or fine sandy loam.  
 Salinity (EC)—4 to 8 mmhos/cm.  
 Sodicity (SAR)—5 to 13.  
 Calcium carbonate equivalent in the fine earth fraction—0 to 1 percent.  
 Secondary gypsum—Occurs as weakly cemented clusters of crystals ranging from 0.5 to 6 centimeters in size.

**Bluepoint series**

The Bluepoint series consists of very deep, somewhat excessively drained soils that formed in eolian materials from mixed rock sources. Bluepoint soils are on dunes and sand sheets. Slopes range from 0 to 30 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 66 degrees F.

**Taxonomic class:** Mixed, thermic Typic Torripsamments

**Typical pedon:** Bluepoint fine sand, rangeland and wildlife habitat in an area of map unit 220. (Colors are for dry soil unless otherwise noted.)

- A—0 to 2 inches; very pale brown (10YR 7/3) fine sand, brown (10YR 5/3) moist; moderate thin and medium platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine, few fine interstitial and few very fine, fine tubular pores; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
- Cy1—2 to 14 inches; very pale brown (10YR 7/3) fine sand, brown (10YR 5/3) moist; weak very thick platy structure due to stratification; soft, very friable, nonsticky and nonplastic; many very fine and few fine roots; common very fine interstitial and few very fine, fine and medium tubular pores; few fine crystals of gypsum; violently effervescent; moderately alkaline (pH 8.0); gradual wavy boundary.
- Cy2—14 to 40 inches; very pale brown (10YR 7/3) fine sand, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine, few fine and medium roots; common very fine and few fine tubular pores; few fine crystals of gypsum; strongly effervescent; slightly alkaline (pH 7.6); gradual wavy boundary.
- Cy3—40 to 60 inches; very pale brown (10YR 7/3) fine sand, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine through coarse roots; few very fine and fine tubular pores; few fine crystals of gypsum; strongly effervescent; slightly alkaline (pH 7.8).

**Type location:** Clark County, Nevada; approximately 1/4 mile south of Government Well, 1/8 mile northeast of Nevada-California state line to the east of Mesquite Lake and 6 miles southeast of Sandy Valley, Nevada; about 2,300 feet south and 500 feet east of the northwest corner of section 36, T.25 S., R.57 E; USGS Mesquite Lake, NV and CA 7.5 minute topographic quadrangle; 35 degrees, 43 minutes, 46 seconds north latitude and 115 degrees, 32 minutes, 42 seconds west longitude; UTM 11, 631593e, 3954904n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in some part for short periods during winter and early spring. The soils have an aridic bordering on ustic moisture regime.

*Soil temperature:* 65 to 72 degrees F.

*Soil color:* Darker values and lower chroma reflect lithochromic colors.

*Control section:*

Percent clay—2 to 10.

Rock fragments—0 to 15 percent gravel.

**A horizon:**

Hue—5YR, 7.5YR or 10YR.

Value—4 through 7 dry, 3 through 6 moist.

Chroma—3 through 6.

**C horizons:**

Hue—5YR, 7.5YR or 10YR.

Value—4 through 7 dry, 3 through 6 moist.

Chroma—3 through 6.

Texture—Loamy fine sand or loamy sand, and sand or fine sand, containing more than 10 percent silt plus clay.

Structure—Single grain, massive or platy.

Reaction—Slightly alkaline to strongly alkaline.

Consistence—Loose to slightly hard dry, loose to very friable moist.

Other features—Calcareous in some part or all of control section. 0 to 2 percent gypsum or calcium carbonate by volume.

**Bobzbulz series**

The Bobzbulz series consist of moderately deep, well drained soils that formed in colluvium and residuum from fanglomerate dominated by granite, schist and gneiss clasts. Bobzbulz series are on dissected fan terraces and ballenas. Slopes are 30 to 55 percent. The mean annual precipitation is about 7 inches and the mean annual air temperature is about 68 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids

**Typical pedon:** Bobzbulz extremely gravelly sandy loam, recreation and wildlife habitat in the adjacent Grand Canyon Area, Arizona, soil survey. (Colors are for dry soil unless otherwise noted.) The soil surface is partly covered with 55 percent gravel, 15 percent cobble and 5 percent stones.

A—0 to 2 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots;

common very fine and fine tubular pores; 65 percent gravel; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

**Bw**—2 to 8 inches; yellowish brown (10YR 5/4) gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and moderately plastic; common very fine through medium roots; common very fine and fine tubular pores; 30 percent gravel; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

**Bk1**—8 to 17 inches; yellowish brown (10YR 5/4) extremely gravelly sandy clay loam, dark yellowish brown (10YR 4/6) moist; weak coarse subangular blocky structure; soft, very friable, slightly sticky and moderately plastic; common very fine and fine and few medium roots; common very fine and fine tubular pores; common soft masses consisting of decomposed granite and schist; few thin coats of calcium carbonate on the bottom of rock fragments; 75 percent gravel; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

**Bk2**—17 to 27 inches; light yellowish brown (10YR 6/4) extremely gravelly sandy clay loam, yellowish brown (10YR 5/6) moist; massive; soft, very friable, moderately sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; few thin coats of calcium carbonate on the bottom of rock fragments; 80 percent gravel; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

**Cr**—27 to 60 inches; weathered fanglomerate.

**Type location:** Mohave County, Arizona. Lake Mead National Recreation Area. 1,700 feet south and 600 feet east of the north west corner of sec 25, T.33 N., R.16 W.; USGS Snap Canyon West, NV 7.5 minute topographic quadrangle; 36 degrees, 14 minutes, 3.9 seconds north latitude. 113 degrees, 57 minutes, 15.8 seconds west longitude; UTM 12, 234482e, 4013997n; NAD83.

### Range in Characteristics

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 65 to 72 degrees F.

*Depth to paralithic contact:* 22 to 32 inches.

*Control section:*

Clay content—Averages 12 to 27 percent in the particle-size control section.

Rock fragments—Averages 60 to 80 percent, dominated by gravel, but can have less than 60 percent in any one horizon.

### A horizon:

Hue—7.5YR, 10YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 through 6, dry or moist.

### Bw horizon:

Hue—7.5YR, 10YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 through 6, dry or moist.

Reaction—Moderately alkaline or strongly alkaline.

Effervescence—Slightly effervescent through violently effervescent.

Calcium carbonate equivalent in the fine earth fraction—1 to 10 percent.

Calcium carbonate—Occurs as thin coats on the underside of rock fragments and is disseminated.

Texture of fine earth—Coarse sandy loam, sandy loam, sandy clay loam.

Structure—Weak or moderate subangular blocky.

#### **Bk horizons**

Hue—7.5YR, 10YR.

Value—5 through 7 dry, 4 or 5 moist.

Chroma—4 through 6, dry or moist.

Reaction—Moderately alkaline or strongly alkaline.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.

Calcium carbonate—Typically is disseminated or occurs as thin coats on the underside of rock fragments, weathered limestone clasts are present in some pedons.

Texture of fine earth—Coarse sandy loam, sandy loam, sandy clay loam.

#### **Cr horizon:**

Other features—Consists of fanglomerate that is dominated by gravel and cobble-sized granite, schist and gneiss clasts with less than 5 percent limestone clasts.

It is rigid through very rigid when dry, friable through extremely firm when moist.

As much as 15 percent (air-dried) slakes when submerged in water.

Rupture resistance class—Moderately cemented

### **Botleg series**

The Botleg series consists of very shallow, somewhat excessively drained soils formed in residuum from granite. Botleg soils are on hills. Slopes range from 4 to 15 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 66 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplargids

**Typical pedon:** Botleg extremely gravelly loam, rangeland and wildlife habitat in an area of map unit 530. (Colors are for dry soil unless otherwise noted.) The surface is covered by approximately 65 percent pebbles and 3 percent cobbles.

A—0 to 2 inches; light brown (7.5YR 6/4) extremely gravelly loam, brown (7.5YR 4/4) moist; moderate medium platy structure; slightly hard, very friable, slightly sticky and moderately plastic; few very fine roots; common very fine, fine and medium vesicular pores; 65 percent pebbles and 3 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bt—2 to 5 inches; yellowish red (5YR 5/6) very gravelly sandy clay loam, yellowish red (5YR 4/6) moist; moderate medium subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; few very fine roots; common fine tubular pores; common distinct clay films on face of peds; 50 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Btk—5 to 10 inches; light reddish brown (5YR 6/4) extremely gravelly sandy clay loam, reddish brown (5YR 4/4) moist; moderate medium subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; few very fine roots; few fine tubular pores; common distinct clay films on face of peds; few distinct calcium carbonate coats (1 mm) on undersides of rock fragments; 65 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear irregular boundary.

Crt—10 to 20 inches; highly fractured, partially altered granitic bedrock with clay coats on rock fragments between in fractures.

**Type location:** Clark County, Nevada; approximately 3 miles south of the Highway 95 junction with Route 60 located on the west side of the Eldorado Mountains; about 2,400 feet east and 1,570 feet south of the northeast corner of section 10, T.25 S., R.63 E.; USGS Boulder City SW, NV 7.5 minute topographic quadrangle; 35 degrees, 47 minutes, 19 seconds north latitude and 114 degrees, 55 minutes, 37 seconds west longitude; UTM 11, 687349e, 3962486n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following convection storms. Soils have a typic aridic moisture regime.

*Soil temperature:* 67 to 71 degrees F.

*Depth to argillic horizon:* 1 to 3 inches.

*Depth to paralithic contact:* 6 to 10 inches.

*Control section:*

Percent clay—Averages 25 to 35 percent.

Rock fragments—Averages 50 to 70 percent.

**A horizon:**

Chroma—3 or 4.

Effervescence—Strongly effervescent to violently effervescent.

**Btk horizons:**

Chroma—4 through 6.

Percent clay—27 to 35 percent.

Rock fragments—50 to 70 percent.

Texture—Sandy clay loam or clay loam.

Effervescence—Strongly effervescent to violently effervescent.

**Boxspring series**

The Boxspring series consists of shallow, well drained soils that formed in residuum and colluvium derived from limestone and dolomite. Boxspring soils are on hills and mountains. Slope are 15 to 75 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 56 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, mesic Lithic Ustic Torriorthents

**Typical pedon:** Boxspring extremely gravelly loam, rangeland and wildlife habitat, in a delineation of map unit 320. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 60 percent pebbles, 15 percent cobbles and 1 percent stones.

A—0 to 2 inches; yellowish brown (10YR 5/4) extremely gravelly loam, brown (10YR 4/3) moist weak thin platy structure; soft, very friable, slightly sticky and slightly plastic, few very fine roots, many very fine and fine interstitial pores and common very fine vesicular pores; 60 percent pebbles and 15 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

C1—2 to 5 inches; pale brown (10YR 6/3) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak very fine and fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine and few medium

roots; many very fine and fine interstitial pores, common very fine and fine tubular pores; 40 percent pebbles and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

C2—5 to 15 inches; light yellowish brown (10YR 6/4) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; weak very fine and fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; common very fine and fine interstitial pores and common fine tubular pores; 65 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

R—15 inches; limestone bedrock, discontinuous calcium carbonate coating bedrock.

**Type location:** Clark County, Nevada; south of Billy Goat Peak on Whitney Ridge; about 2,250 feet south and 350 feet west of the northeast corner of section 33, T.16 S., R.71 E; USGS Virgin Peak, NV 7.5 minute topographic quadrangle; 36 degrees, 30 minutes, 1 second north latitude and 114 degrees, 3 minutes, 33 seconds west longitude; UTM 11, 763401e 4043463n; NAD83.

### Range in Characteristics

*Soil moisture:* Usually dry; moist in some part from December to March and intermittently moist for 10 to 20 days during July to October following summer convection storms; Aridic moisture regime that borders on ustic.

*Soil temperature:* 55 to 58 degrees F.

*Depth to bedrock:* 14 to 20 inches to a lithic contact.

*Control section:*

Clay content—10 to 18 percent.

Rock fragments—35 to 80 percent..

Calcium carbonate equivalent in the less than 20 millimeter fraction—Averages 40 to 60 percent.

### A horizon:

Value—5 through 7 dry, 3 through 5 moist.

### C horizons:

Value—5 through 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Clay content—10 to 18 percent.

Structure—Weak fine or very fine, subangular blocky or massive.

Consistence—Soft or slightly hard.

Reaction—Moderately alkaline or strongly alkaline

## Bracken series

The Bracken series consists of deep, somewhat excessively drained soils that formed in residuum and colluvium from gypsiferous sedimentary rocks. Bracken soils are on hills. Slopes range from 8 to 30 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 66 degrees F.

**Taxonomic class:** Coarse-loamy, gypsic, thermic Leptic Haplogypsid

**Typical pedon:** Bracken gypsiferous material, rangeland and wildlife habitat in an area of map unit 360. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 40 percent gravel size gypsum crystals.

- A—0 to 2 inches; very pale brown (10YR 8/3) gypsiferous material, light yellowish brown (10YR 6/4) moist; weak coarse platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine and fine interstitial pores; Texture of the earth material is sandy loam; 60 percent gypsum crystals; strongly effervescent (5 percent calcium carbonate equivalence in the fine earth fraction); moderately alkaline (pH 7.9); clear wavy boundary.
- Bky1—2 to 9 inches; very pale brown (10YR 7/3) gypsiferous material, light yellowish brown (10YR 6/4) moist; massive; soft, very friable, nonsticky and nonplastic; many medium and common very fine and fine roots; common very fine and fine interstitial and few fine tubular pores; Texture of the earth material is sandy loam; 10 percent pebbles, pebbles described are strongly cemented crystals of gypsum and calcium carbonate which do not slake in water; 80 percent gypsum crystals, 20 percent weakly cemented; strongly effervescent (6 percent calcium carbonate equivalence in the fine earth fraction); few fine irregular soft masses of lime; moderately alkaline (pH 7.9); gradual wavy boundary.
- Bky2—9 to 23 inches; very pale brown (10YR 7/3) gravelly gypsiferous material, light yellowish brown (10YR 6/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; common very fine and medium and few coarse roots; few very fine and fine interstitial and few fine tubular pores; Texture of the earth material is sandy loam; 15 percent pebbles, pebbles described are strongly cemented crystals of gypsum and calcium carbonate which do not slake in water; 85 percent gypsum crystals, 20 percent weakly cemented; strongly effervescent (5 percent calcium carbonate equivalence in the fine earth fraction); few fine irregular soft masses of lime; moderately alkaline (pH 7.9); clear wavy boundary.
- Bky3—23 to 49 inches; very pale brown (10YR 8/2) gravelly gypsiferous material, very pale brown (10YR 7/3) moist; massive; hard, firm, nonsticky and nonplastic; few very fine to medium roots; few very fine and fine interstitial pores; Texture of the earth material is sandy loam; 30 percent pebbles, pebbles described are strongly cemented crystals of gypsum and calcium carbonate which do not slake in water; 90 percent gypsum crystals, 60 percent weakly cemented, 15 percent strongly cemented; strongly effervescent (5 percent calcium carbonate equivalence in the fine earth fraction); few fine irregular soft masses of lime; moderately alkaline (pH 7.9); abrupt wavy boundary.
- Cr—49 inches; moderately cemented gypsiferous bedrock; massive, very hard, extremely firm; strongly effervescent.

**Type location:** Clark County, Nevada; approximately 21 miles south of Bunkerville, Nevada and 3 miles north-northwest of Devils Throat sink hole in the Wechech Basin; about 1,180 feet south and 2,220 feet east of the northwest corner of section 10, T.17 S., R.70 E.; USGS Devils Throat, NV 7.5 minute topographic quadrangle; 36 degrees, 28 minutes, 32 seconds north latitude and 114 degrees, 09 minutes, 56 seconds west longitude; UTM 11, 753950e 4040433n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist for short periods in winter and spring, moist for 10 to 20 days intermittent in summer. The soils have a typical aridic moisture regime.

*Soil temperature:* 66 to 71 degrees F.

*Depth to gypsic horizon:* 1 to 3 inches.

*Depth to paralithic contact:* 40 to 60 inches.

**A horizon:**

Value—6 through 8 dry, 4 through 7 moist.

Chroma—3 through 6.

**B horizons:**

Hue—10YR, 7.5YR, 5YR or 2.5YR.

Value—7 or 8 dry, 5 through 7 moist.

Chroma—2 through 6.

Texture—Sandy loam or fine sandy loam.

Consistence—Soft to hard, very friable or friable, nonsticky or slightly sticky, nonplastic or slightly plastic.

Clay content—6 to 12 percent.

Rock fragments—0 to 30 percent, mainly gravel-sized crystals of gypsum, 2 to 20 millimeter in size

Gypsum content—40 to 90 percent.

Effervescence—Slightly effervescent through violently effervescent.

Reaction—Slightly alkaline or moderately alkaline.

**Buckspring series**

The Buckspring series consists of shallow, well drained soils that formed in residuum and colluvium from limestone. Buckspring soils are on back slopes of mountains. Slopes range from 15 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual air temperature is about 47 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic Aridic Lithic Argiustolls

**Typical pedon:** Buckspring very gravelly loam, forest and wildlife habitat in an area of map unit 805. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 50 percent gravel, 8 percent cobbles and 1 percent stones.

A1—0 to 2 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate thick platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine and common fine tubular pores; 40 percent pebbles, 8 percent cobbles and 1 percent stones; very slightly effervescent; slightly alkaline (pH 7.4); abrupt wavy boundary.

A2—2 to 10 inches; brown (10YR 5/3) extremely cobbly loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine through very coarse roots; many very fine tubular pores; 40 percent pebbles and 25 percent cobbles; very slightly effervescent; slightly alkaline (pH 7.6); clear wavy boundary.

Btk—10 to 17 inches; light yellowish brown (10YR 6/4) extremely cobbly loam, dark yellowish brown (10YR 3/4) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and moderately plastic; many very fine, few fine through coarse roots; many very fine tubular pores; 5 percent, faint, clay films on sand grains, rock fragments and lining pores; 50 percent, fine, continuous, prominent, very pale brown (10YR 8/3), calcium carbonate pendants on undersides of rock fragments; 25 percent pebbles and 35 percent cobbles; very slightly effervescent; slightly alkaline (pH 7.6); very abrupt wavy boundary.

R—17 inches; hard limestone.

**Type location:** Clark County, Nevada; about 8 miles east and 9 miles north of Charleston Peak, Nevada; approximately 2.3 miles north and 0.7 mile west of Wheeler Well on the north end of the Spring Mountains; tentatively sectionized

area 1,800 feet south and 1,700 feet east of the northeast corner of section 7, T.18 S., R.55 E.; USGS Willow Peak, Nevada, 7.5 minute topographic quadrangle; 36 degrees, 24 minutes, 9.2 seconds north latitude and 115 degrees, 50 minutes, 24.3 seconds west longitude; UTM 11, 0604009e, 4029223n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer convection storms; aridic soil moisture regime bordering on ustic.

*Soil temperature:* 47 to 52 degrees F.

*Mollic epipedon thickness:* 7 to 15 inches, may include the upper part of B horizons.

*Depth to argillic horizon:* 1 to 10 inches.

*Depth to lithic contact:* 14 to 20 inches.

*Control section:*

Rock fragments—50 to 70 percent, mainly gravel and cobbles.

Clay content—15 to 25 percent.

**A horizons:**

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3 dry and moist.

Structure—Platy or subangular blocky.

Consistence—Nonsticky or slightly sticky, nonplastic or slightly plastic.

Effervescence—Very slightly effervescent to strongly effervescent.

Calcium carbonate equivalent in the fine earth fraction—0 to 5 percent.

Reaction—Neutral or slightly alkaline.

Organic matter—1.0 to 2.0 percent.

**Btk horizon:**

Value—4 through 6 dry, 3 or 4 moist.

Chroma—3 or 4 dry and moist.

Texture—Loam or silt loam.

Structure—Moderately or strong, fine or medium.

Consistence—Slightly hard through hard, very friable or friable, slightly plastic or moderately plastic.

Rock fragments—50 to 70 percent, mainly gravel and cobbles.

Effervescence—Very slightly effervescent through violently effervescent.

Calcium carbonate equivalent in the fine earth fraction—0 to 5 percent.

Reaction—Neutral or slightly alkaline.

Organic matter—0.2 to 0.8 percent.

Other features—In some pedons, the upper subhorizon of the Btk horizon is part of the mollic epipedon.

**Cafetal series**

The Cafetal series consists of very deep, well drained soils that formed in mixed alluvium from basalt and andesite. Cafetal soils are on fan remnants. Slopes range from 2 to 8 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 66 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic Durinodic Calcicargids

**Typical pedon:** Cafetal extremely stony loam, rangeland and wildlife habitat in an area of map unit 400. (Colors are for dry soil unless otherwise noted). The soil surface is covered by approximately 40 percent pebbles, 20 percent cobbles and 20 percent stones.

- A—0 to 3 inches; pale brown (10YR 6/3) extremely stony loam, brown (10YR 4/3) moist; strong thin and medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine roots; many very fine vesicular pores; 40 percent pebbles, 20 percent cobbles and 20 percent stones; slightly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.
- Bty—3 to 13 inches; light brown (7.5YR 6/4) very cobbly loam, brown (7.5YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine roots; many very fine tubular pores; few faint clay films on faces of peds; common fine soft masses of gypsum (2 percent); 20 percent pebbles, 30 percent cobbles and 5 percent stones; slightly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.
- Bqk1—13 to 22 inches; pink (7.5YR 7/4) extremely stony loam, brown (7.5YR 5/4) moist; massive; hard, firm, slightly sticky and slightly plastic; few very fine roots; many fine calcium carbonate coats on rock fragments; 80 percent discontinuous weak silica and calcium carbonate cementation, brittle; 30 percent pebbles, 15 percent cobbles and 20 percent stones; strongly effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.
- Bqk2—22 to 38 inches; pale brown (10YR 6/3) stratified extremely cobbly loam to loamy sand, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial pores; common thick calcium carbonate coats on tops and sides of rock fragments and many thick (1/4 to 1/2 inch) silica and calcium carbonate pendants on undersides; averages 20 percent pebbles, 30 percent cobbles and 10 percent stones; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.
- 2Bqk3—38 to 60 inches; pale brown (10YR 6/3) extremely cobbly coarse sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few fine roots; many very fine interstitial pores; many thick (1/4 to 1/2 inch) silica and calcium carbonate pendants on undersides of rock fragments; 30 percent pebbles, 30 percent cobbles and 10 percent stones; strongly effervescent; moderately alkaline (pH 8.4).

**Type location:** Clark County, Nevada; approximately 3.5 miles southwest of Blue Quartz Mine in Eldorado Valley, Nevada; about 220 feet north and 1,615 feet west of the southeast corner of section 1, T.24 S., R.62 E.; USGS Boulder City NW, NV 7.5 minute quadrangle; 35 degrees, 52 minutes, 52 seconds north latitude and 114 degrees, 59 minutes, 49 seconds west longitude; UTM 11, 680814e 3972616n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July to October following convection storms. The soil has a typic aridic moisture regime.

*Soil temperature:* 66 to 71 degrees F.

*Depth to base of the argillic horizon :* 10 to 20 inches.

*Depth to duric features:* 10 to 20 inches.

*Depth to the calcic horizon:* 20 to 30 inches.

*Control section:*

Percent clay—18 to 27 percent.

Rock fragments—40 to 60 percent, mainly stones and cobbles.

**A horizon:**

Value—6 or 7 dry.

Chroma—3 or 4.

**Bty horizon:**

Hue—5YR or 7.5YR.

Value—5 or 6 dry.

Chroma—4 through 6 moist.

Texture—Loam or sandy clay loam.

Gypsum—Trace to 2 percent as fine filaments and soft masses.

**Bqk1 horizon:**

Value—6 or 7 dry, 4 or 5 moist.

Texture—Loam or fine sandy loam.

Clay content—10 to 18 percent.

Rock fragments—60 to 75 percent, mainly stones and cobbles.

Calcium carbonate equivalent in the fine earth fraction—3 to 10 percent.

Gypsum—Less than 1 percent gypsum as filaments and masses in some pedons.

Other features—Few calcium carbonate coats on undersides of rock fragments.

**Bqk2 horizon:**

Value—6 or 7 dry, 4 or 5 moist

Texture—Averages loam or sandy loam with stratified loam to loamy sand.

Rock fragments—60 to 80 percent, mainly stones and cobbles.

Clay content—Averages 8 to 15 percent.

Sand content—Averages 40 to 60 percent.

Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.

Other features—Common visible calcium carbonate and silica as thick coatings on undersides of rock fragments.

**2Bqk3 horizon:**

Value—6 or 7 dry; 4 or 5 moist.

Rock fragments—60 to 80 percent, mainly stones and cobbles.

Clay content—5 to 15 percent.

Calcium carbonate equivalent in the fine earth fraction—5 to 10 percent.

Other features—Many thick calcium carbonate and silica coats on undersides of rock fragments.

**Callville series**

The Callville series consists of moderately deep, well drained soils that formed in residuum derived from gypsiferous sandstone and siltstone. Callville soils are on pediments. Slopes range from 8 to 50 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Coarse-loamy, mixed, active, hyperthermic Leptic Haplogypsis

**Typical pedon:** Callville fine sandy loam, wildlife habitat in an area of map unit 205. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 5 percent pebbles.

Ay—0 to 2 inches; red (2.5YR 5/6) fine sandy loam, red (2.5YR 4/6) moist; moderate medium and thick platy structure; soft, very friable, slightly sticky and nonplastic; few very fine roots; many very fine interstitial and few fine tubular pores; 5 percent pebbles; 5 percent fine and medium crystals of secondary gypsum; slightly effervescent; slightly alkaline (pH 7.8); clear smooth boundary.

By1—2 to 15 inches; red (2.5YR 5/6) gypsiferous fine sandy loam, dark red (2.5YR 3/6) moist; moderate coarse subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; few very fine, fine and medium roots; few very fine and fine tubular pores; 5 percent pebbles; 15 percent fine threads and fine and medium crystals of secondary gypsum; slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

By2—15 to 25 inches; red (2.5YR 5/6) gravelly gypsiferous fine sandy loam, dark red (2.5YR 3/6) moist; weak coarse subangular blocky structure; moderately hard, very friable, slightly sticky and nonplastic; few very fine and fine roots; few very fine and fine tubular pores; 25 percent pebbles; 15 percent fine threads and fine and medium crystals of secondary gypsum; moderately alkaline (pH 8.0); clear wavy boundary.

Cr—25 to 43 inches; red (2.5YR 5/6) gypsiferous sandstone, dark red (2.5YR 3/6) moist; massive; soft, highly fractured; few very fine roots in fractures; clear wavy boundary.

R—43 inches; gypsiferous sandstone; hard, slightly fractured.

**Type location:** Clark County, Nevada; about 0.4 mile west of Elephant rock along Nevada State route 169 in the Valley of Fire State Park; 2,400 feet south and 2,000 feet west of the northeast corner of section 26, T.17 S., R.67 E.; USGS Valley of Fire East 7.5 minute topographic quadrangle; 36 degrees 25 minutes 36 seconds north latitude and 114 degrees 28 minutes 1 second west longitude; UTM 11, 0727088e, 4034040n, NAD 27.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for brief periods between July and October following convection storms; typic aridic moisture regime.

*Soil temperature:* 72 to 76 degrees F.

*Depth to gypsic horizon:* 1 to 5 inches.

*Depth to bedrock:* 20 to 40 inches to a paralithic contact. The paralithic materials below the contact are soft, weathered sedimentary rocks such as gypsiferous sandstone and siltstone. Hard bedrock is typically within 40 to 60 inches.

*Control section:*

Clay content—5 to 18 percent.

Rock fragments—Averages 5 to 25 percent, mainly gravel. Lithology of fragments is dominantly siltstone and sandstone.

Reaction—Slightly alkaline or moderately alkaline.

**Ay horizon:**

Hue—2.5YR through 7.5YR.

Value—4 through 5 dry, 2.5 through 4 moist.

Chroma—4 or 6, dry or moist.

Gypsum content by weight of the less than 20 millimeter fraction—1 to 10 percent.

**By horizons:**

Hue—2.5YR through 7.5YR.

Value—2.5 through 6 dry; 2.5 through 4 moist.

Chroma—2 through 6, dry or moist.

Texture—Gypsiferous sandy loam, gypsiferous fine sandy loam, gravelly gypsiferous fine sandy loam, or gravelly gypsiferous sandy loam.

Rock fragments—0 to 35 percent gravel.

Structure—Subangular blocky or massive.

Electrical conductivity—2 to 4 dS/m.

SAR—0 to 1.

Gypsum content by weight of the less than 20 millimeter fraction—15 to 25 percent.

Secondary gypsum—Occurs as 15 to 30 percent by volume segregated throughout matrix as fine threads and fine and medium crystals.

### Calwash series

The Calwash series consists of very shallow, well drained soils that formed in colluvium from calcareous sandstone, mudstone, siltstone and limestone over residuum from sandstone, mudstone or siltstone. Calwash soils are on hills. Slopes range from 15 to 50 percent. The mean annual precipitation is about 4 inches and the mean annual air temperature is about 66 degrees F.

**Taxonomic class:** Loamy, mixed, superactive, calcareous, thermic, shallow Typic Torriorthents

**Typical pedon:** Calwash very channery sandy loam, rangeland and wildlife habitat in an area of map unit 107. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent channers and 3 percent cobbles.

A—0 to 2 inches; reddish yellow (7.5YR 6/6) very channery sandy loam, strong brown (7.5YR 4/6) moist; moderate thick platy structure; slightly hard, very friable, slightly sticky and nonplastic; few very fine roots; common very fine and fine tubular and interstitial pores; electrical conductivity 0.76 dS/m; sodium adsorption ratio 3.8; 45 percent channers; violently effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6); abrupt smooth boundary.

Bw—2 to 9 inches; reddish brown (5YR 5/4) very paragravelly silt loam, yellowish red (5YR 4/6) moist; moderate fine and medium subangular blocky structure; hard, very friable, moderately sticky and slightly plastic; common very fine, few fine and medium roots; common very fine and few fine tubular pores; electrical conductivity 0.71 dS/m; sodium adsorption ratio 5; 35 percent paragravel; violently effervescent (25 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.8); abrupt wavy boundary.

Cr—9 to 17 inches; soft, slightly fractured mudstone; common very fine, few fine and medium roots in fractures; violently effervescent; abrupt wavy boundary.

R—17 inches; hard, slightly fractured mudstone.

**Type location:** Clark County, Nevada; about 14 miles northeast of Frenchman Mountain and 5 miles south of California Wash; approximately 5 miles west and 2 miles south of Muddy Peak; 1,220 feet north and 1,270 feet west of the southwest corner of section 25, T.19 S., R.64 E.; USGS Dry Lake SE, NV 7.5 minute topographic quadrangle; 36 degrees, 15 minutes, 53.47 seconds north latitude and 114 degrees, 47 minutes, 24.11 seconds west longitude; UTM 11, 0698527e, 4015592n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring. The ratio of soil moisture utilized for evapotranspiration between summer and winter is about 0.8, typical of the Mojave Desert transitional to Sonoran Desert. The soils have a typic aridic moisture regime.

*Soil temperature:* 66 to 71 degrees F.

*Depth to paralithic contact:* 6 to 10 inches.

*Depth to hard bedrock:* 10 to 20 inches.

*Organic matter:* 0 to 0.5 percent.

*Control section:*

Clay content—averages 20 to 26 percent.

Rock fragments—35 to 60 percent mainly paragravel, with 0 to 15 percent gravel.

Calcium carbonate equivalence in the fine earth fraction—20 to 35 percent.

**A horizon:**

Chroma—4 or 6 dry and moist.

Clay—10 to 20 percent.

Calcium carbonate equivalent of the fine earth—15 to 25 percent.

**Bw horizon:**

Chroma—4 or 6 dry and moist.

Texture—Silt loam or loam.

Consistence—Slightly hard or hard, dry; slightly plastic or moderately plastic.

Clay—20 to 27 percent.

Rock fragments—35 to 60 percent paragravel of mudstone, siltstone or sandstone lithology, with 0 to 15 percent pebbles and channers.

Calcium carbonate equivalent in the fine earth fraction—15 to 30 percent.

**Cr layer:**

Lithology—Soft weathered mudstone, siltstone or sandstone.

**R layer:**

Lithology—Hard mudstone, siltstone or sandstone.

**Carrizo series**

The Carrizo series consists of very deep, excessively drained soils formed in mixed alluvium. Carrizo soils are on alluvial fans, fan piedmonts and bolson floors. Slopes range from 0 to 15 percent. The mean annual precipitation is about 5 inches and the mean annual air temperature is 73 degrees F.

**Taxonomic class:** Sandy-skeletal, mixed, hyperthermic Typic Torriorthents

**Typical pedon:** Carrizo extremely gravelly coarse sand, rangeland and wildlife habitat, in a delineation of map unit 570. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles and 1 percent cobbles.

A—0 to 2 inches; light yellowish brown (10YR 6/4) extremely gravelly coarse sand, dark yellowish brown (10YR 4/4) moist; weak coarse platy structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine

interstitial pores; 70 percent pebbles and 1 percent cobbles; slightly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

C1—2 to 10 inches; light yellowish brown (10YR 6/4) gravelly coarse sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; many very fine, few fine and medium roots; many very fine interstitial pores; 30 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

C2—10 to 60 inches; pale brown (10YR 6/3) stratified very gravelly sand through extremely gravelly coarse sand, dark brown (10YR 3/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; many very fine interstitial pores; averages 60 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4).

**Type location:** Clark County, Nevada; approximately 10 miles east and 2.5 miles south of Searchlight on the west side of Cottonwood Valley in the Lake Mead National Recreation Area, 200 feet east of the junction of Powerline road and Midbasin Cove road; about 1,600 feet east and 600 feet south of the northwest corner of section 16, T.29 N., R.65 E.; USGS Fourth of July Mountain, NV 7.5 minute topographic quadrangle; 35 degrees, 25 minutes, 36 seconds north latitude and 114 degrees, 44 minutes, 26 seconds west longitude; UTM 11, 705109e, 3922697n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 72 to 79 degrees F.

*Control section:*

Rock fragments—Averages 35 to 80 percent.

Clay content—Averages 0 to 8 percent.

Effervescence—Very slightly effervescent through strongly effervescent.

Reaction—Slightly alkaline or moderately alkaline.

**A horizon:**

Hue—7.5YR, 10YR.

Value—4 through 7 dry, 2 through 6 moist.

Chroma—2 through 6 dry, 2 through 4 moist.

**C horizons:**

Hue—7.5YR or 10YR.

Value—4 through 7 dry, 2 through 6 moist.

Chroma—2 through 6 dry, 2 through 4 moist.

Clay content—Averages 0 to 8 percent, ranges from 0 to 12 percent

Texture—Averages coarse sand, sand, loamy coarse sand or loamy sand. Some pedons have thin strata of fine sand, loamy fine sand or sandy loam.

Rock fragments—Averages 35 to 80 percent, ranges from 10 to 85 percent.

**Carrwash series**

The Carrwash series consists of very deep, excessively drained soils that formed in alluvium derived from granite. Carrwash soils are on inset fans, fan aprons, fan skirts

and fan piedmonts. Slopes range from 2 to 50 percent. The mean annual precipitation is about 4 inches and the mean annual air temperature is about 72 degrees F.

**Taxonomic class:** Sandy-skeletal, mixed, hyperthermic Typic Torriorthents

**Typical pedon:** Carrwash very gravelly coarse sandy loam, rangeland and wildlife habitat in an area of map unit 910. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 45 percent pebbles.

**A**—0 to 3 inches; brown (10YR 5/3) very gravelly coarse sandy loam, brown (10YR 4/3) moist; strong thick platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine interstitial pores; 45 percent pebbles; strongly effervescent, moderately alkaline (pH 8.2); clear smooth boundary.

**Bw**—3 to 8 inches; pale brown (10YR 6/3) very gravelly coarse sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine and fine interstitial and few fine and medium tubular pores; few very thin calcium carbonate coats randomly oriented on rock fragments; 40 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

**C**—8 to 60 inches; pale brown (10YR 6/3) stratified very gravelly loamy coarse sand and extremely gravelly coarse sand, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; very few very fine through medium roots; many fine interstitial and few fine tubular pores; few very thin calcium carbonate coats randomly oriented on rock fragments; averages 40 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4).

**Type location:** Clark County, Nevada; 3.5 miles northwest of Laughlin, off the Needles highway, approximately 2,700 feet west along the road to the Laughlin landfill; about 185 feet south and 1,610 feet east from the northwest corner of section 9, T.32 S., R.66 E.; USGS Bridge Canyon, NV 7.5 minute topographic quadrangle; 35 degrees, 10 minutes, 56 seconds north latitude and 114 degrees, 37 minutes, 42 seconds west longitude; UTM 11, 715959e, 3895827n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and spring months and for 10 to 20 days cumulative following summer convection storms during the period July through October. The soil has a typic aridic moisture regime.

*Soil temperature:* 72 to 76 degrees F.

*Calcium carbonate equivalent in the fine earth fraction:* 0 to 5 percent.

*Control section:*

Clay content—0 to 5 percent

Rock fragments—Averages 35 to 60 percent, with more than half of the gravel in the 2 to 5 millimeter fraction.

Reaction—Moderately alkaline or strongly alkaline.

**A horizon:**

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4.

**Bw horizon:**

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4.  
 Clay content—2 to 8 percent  
 Structure—Medium or coarse subangular blocky.

**C horizon:**

Value—5 to 7 dry, 4 or 5 moist.  
 Chroma—3 or 4.  
 Texture—Stratified very gravelly loamy coarse sand to extremely gravelly coarse sand.  
 Structure—Massive or single grain.  
 Consistence—Soft or loose dry.  
 Effervescence—Slightly effervescent or strongly effervescent.  
 Other features—Few very thin, randomly oriented calcium carbonate coats occur on pebbles in most pedons.

**Cetrepas series**

The Cetrepas series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium derived from granitic rock. Cetrepas soils are on backslopes of mountains and hills. Slopes range from 30 to 75 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 55 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic, shallow Ustic Haplargids

**Typical pedon:** Cetrepas extremely stony sandy loam, rangeland and wildlife habitat in an area of map unit 640. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 20 percent pebbles, 20 percent cobbles and 20 percent stones.

A1—0 to 2 inches; brown (10YR 5/3) extremely stony sandy loam, very dark grayish brown (10YR 3/2) moist; strong fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine interstitial and few fine tubular pores; 20 percent pebbles, 20 percent cobbles and 20 percent stones; neutral (pH 6.8); clear smooth boundary.

A2—2 to 6 inches; brown (10YR 5/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine interstitial and common very fine tubular pores; 35 percent pebbles; neutral (pH 6.8); clear wavy boundary.

Bt1—6 to 10 inches; dark yellowish brown (10YR 4/4) very gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine, few medium roots; common very fine and fine tubular and few fine interstitial pores; common distinct clay films on faces of peds and lining pores; 45 percent pebbles; neutral (pH 6.8); clear wavy boundary.

Bt2—10 to 13 inches; dark yellowish brown (10YR 4/4) very gravelly sandy clay loam, dark yellowish brown (10YR 3/4) moist; strong fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and moderately plastic; common fine and medium, few coarse roots; common very fine through medium tubular and few fine interstitial pores; common distinct clay films on faces of peds and lining pores; 55 percent pebbles; neutral (pH 6.8); abrupt wavy boundary.

Cr—13 to 24 inches; weathered and fractured granite; 95 percent rock structure; vertical cracks have a horizontal spacing of 5 inches and are filled with very gravelly sandy clay loam; very few roots in fractures; moderate excavation difficulty.  
R—24 inches; hard granite.

**Type location:** Clark County, Nevada; in the Newberry Mountains approximately 2 miles along the road to the White rock Mine; about 1,240 feet north and 2,470 feet west of the southeast corner of section 26, T.30 S., R.65 E.; USGS Spirit Mountain, NV 7.5 minute topographic quadrangle; 35 degrees, 15 minutes, 18 seconds north latitude and 114 degrees, 43 minutes, 38 seconds west longitude: UTM 11, 706764e, 3903710n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part from December to March and intermittently moist for 10 to 20 days during July to October following summer convection storms; aridic moisture regime bordering on ustic.

*Soil temperature:* 54 to 58 degrees F.

*Depth to argillic horizon:* 3 to 7 inches.

*Depth to paralithic contact:* 8 to 14 inches.

*Depth to bedrock:* 20 to 40 inches.

*Reaction:* Slightly acid or neutral.

*Control section:*

Clay content—8 to 27 percent;

Rock fragments—Averages 35 to 70 percent, mainly fine gravel.

**A horizons:**

Value—4 or 5 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

**Bt horizons:**

Value—4 or 5 dry, 3 or 4 moist.

Texture—Sandy loam, sandy clay loam.

Clay content—18 to 27 percent.

Rock fragments—35 to 60 percent.

Structure—Strong or moderate subangular blocky.

Consistence—Soft or slightly hard dry, slightly sticky or moderately sticky, slightly plastic or moderately plastic wet.

**Charkiln series**

The Charkiln series consists of very deep, well drained soils that formed in alluvium dominated from quartzite. Charkiln soils are on fan remnants. Slopes range from 4 to 15 percent. The mean annual precipitation is about 16 inches, and the mean annual temperature is about 47 degrees F.

**Taxonomic class:** Fine-loamy, mixed, superactive, mesic Aridic Argiustolls

**Typical pedon:** Charkiln gravelly fine sandy loam, forest and wildlife habitat in an area of map unit 705. (Colors are for dry soil unless otherwise noted). The soil surface is covered by approximately 20 percent gravel and 2 percent cobbles.

- Oi—0 to 1 inches; slightly decomposed plant material, pine duff; moderate fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; slightly acid (pH 6.4); abrupt wavy boundary.
- A—1 to 5 inches; brown (10YR 4/3) gravelly fine sandy loam, very dark grayish brown (10YR 3/2) moist; moderate medium platy structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; common very fine tubular and many very fine interstitial pores; 30 percent pebbles; slightly alkaline (pH 7.8); clear smooth boundary.
- ABt—5 to 9 inches; brown (10YR 4/3) very gravelly fine sandy loam, dark grayish brown (10YR 4/2) moist; strong medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine, medium and many coarse roots; common very fine tubular and many very fine interstitial pores; 3 percent faint clay films on faces of peds; 45 percent pebbles; moderately alkaline (pH 8.2); clear wavy boundary.
- Bt1—9 to 14 inches; brown (7.5YR 5/3) loam, dark brown (7.5YR 3/3) moist; strong fine and medium angular blocky structure; very hard, extremely firm, moderately sticky and moderately plastic; many very fine through coarse roots; many fine and medium tubular and common very fine interstitial pores; 30 percent distinct strong brown (7.5YR 5/6) clay films on bottom of rock fragments and on all faces of peds; 10 percent pebbles; moderately alkaline (pH 8.2); clear wavy boundary.
- Bt2—14 to 46 inches; brown (7.5YR 4/4) loam, dark brown (7.5YR 3/4) moist; strong medium and coarse angular blocky structure; very hard, extremely firm, moderately sticky and moderately plastic; common fine, and coarse roots, many medium; common very fine and fine tubular pores; 50 percent distinct strong brown (7.5YR 5/6) clay films on bottom of rock fragments and on faces of peds; 10 percent pebbles; moderately alkaline (pH 8.2); clear wavy boundary.
- Bt3—46 to 65 inches; yellowish brown (10YR 5/4) loam, dark yellowish brown (10YR 4/4) moist; massive; moderately hard, firm, moderately sticky and moderately plastic; common fine and medium roots; common fine tubular and many very fine interstitial pores; 3 percent faint dark yellowish brown (10YR 4/6) clay films coating mineral grains and on rock fragments; 5 percent pebbles; moderately alkaline (pH 8.2).

**Type location:** Clark County, Nevada; about 1.2 miles south on the dirt road from Wheeler Well and approximately 3 miles south of Wheeler Well Pass on the dirt road on the west flank of the Spring Mountains; 190 feet north and 1,540 feet west of the southeast corner of section 20, T.18, R.55; USGS Wheeler Well, NV 7.5 minute quadrangle; 36 degrees, 21 minutes, 58 seconds north latitude and 115 degrees, 49 minutes, 14 seconds west longitude; UTM 11, 605803e, 4025205n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer convection storms; aridic soil moisture regime bordering on ustic.

*Soil temperature:* 47 to 52 degrees F.

*Depth to the base of mollic epipedon:* 14 to 22 inches, includes upper part of argillic horizon.

*Depth to argillic horizon:* 6 to 10 inches.

*Other features:* Depth of the diagnostic horizons is from the mineral soil surface.

**Control section:**

Clay content—20 to 35 percent.

Rock fragments—Averages 2 to 20 percent, dominantly gravel.

**A horizon:**

Chroma—2 to 3 dry.

**ABt horizon:**

Value—2 or 3 moist.

Chroma—2 or 3.

Texture—Loam, sandy loam

Clay content—12 to 18 percent.

Rock fragments—35 to 50 percent.

Reaction—Slightly alkaline or moderately alkaline.

Organic matter—1.0 to 2.0 percent.

**Bt1 horizons:**

Chroma—2 or 3 dry and moist.

Texture—Loam, clay loam.

Clay content—20 to 35 percent.

Rock fragments—5 to 20 percent gravel.

Structure—Fine, medium or coarse angular blocky.

Consistence—Extremely firm or firm, very sticky or moderately sticky.

Organic matter—0.5 to 1.0 percent.

**Bt2 and Bt3 horizons:**

Hue—7.5YR or 10YR.

Value—4 to 5 dry.

Chroma—4 through 6 dry and moist.

Texture—Loam or clay loam.

Clay content—20 to 35 percent.

Rock fragments—0 to 15 percent gravel, 0 to 10 percent cobbles.

Consistence—Very sticky or moderately sticky.

Organic matter—0.5 to 1.0 percent.

**Charpeak series**

The Charpeak series consists of moderately deep, well drained soils that formed in colluvium and residuum from limestone and dolomite. Charpeak soils are on upper back slopes of mountains and slopes range from 15 to 50 percent. The mean annual precipitation is about 20 inches and the mean annual air temperature is about 39 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive Typic Eutrocryepts

**Typical pedon:** Charpeak extremely gravelly fine sandy loam, recreation and wildlife habitat in an area of map unit 970. (Colors are for dry soil unless otherwise noted.)  
The surface is covered by approximately 90 percent pebbles and 1 percent cobbles.

A—0 to 2 inches; pale brown (10YR6/3) extremely gravelly fine sandy loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; moderately hard, very friable, nonsticky and nonplastic; many very fine and common fine tubular pores; 75 percent pebbles; strongly effervescent (11 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.0); clear wavy boundary.  
Bk1—2 to 8 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable,

slightly sticky and nonplastic; common very fine and few fine roots; many very fine and common fine tubular pores; 70 percent fine (1 to 2 millimeter) calcium carbonate pendants on the undersides of rock fragments; 75 percent pebbles; strongly effervescent (19 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.0); abrupt wavy boundary.

Bk2—8 to 29 inches; pale brown (10YR6/3) extremely gravelly fine sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine and fine tubular pores; 70 percent medium (2 to 5 millimeter) calcium carbonate pendants on the undersides of rock fragments; 75 percent pebbles and 3 percent cobbles; strongly effervescent (11 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.0); abrupt wavy boundary.

R—29 inches; fractured limestone bedrock.

**Type location:** Clark County, Nevada; about 4 miles north and 16 miles east of Pahrump, Nevada; approximately 200 feet east and 2200 feet south of Charleston Peak; 1600 feet north and 1400 feet west of the southeast corner of section 28, T.9 S., R.56 E.; USGS Charleston Peak, NV, 7.5 minute quadrangle; 36 degrees, 15 minutes, 56.1 seconds north latitude and 115 degrees, 41 minutes, 42.2 seconds west longitude; UTM 11, 0617219e 4014195n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually moist, dry for less than 45 days in normal years; udic soil moisture regime.

*Soil temperature:* 39 to 43 degrees F.

*Soil temperature:* 47 to 54 degrees F.

*Organic matter:* 0.25 to 0.75 percent.

*Depth to calcic horizon:* 2 to 4 inches.

*Depth to lithic contact:* 20 to 40 inches.

*Control section:*

Rock fragments—60 to 80 percent, mainly gravel, lithology of fragments is limestone or dolomite.

Clay content—8 to 15 percent.

Calcium carbonate equivalent of the less than 20 millimeter fraction—20 to 40 percent.

**A horizon:**

Chroma—3 or 4, dry or moist.

Calcium carbonate equivalent of the fine earth fraction—5 to 15 percent.

**Bk1 horizon:**

Chroma—3 or 4, dry or moist.

Texture—Sandy loam or fine sandy loam.

Consistence—Nonsticky and slightly sticky.

Clay content—8 to 15 percent.

Rock fragments—60 to 80 percent, mainly gravel.

Calcium carbonate equivalent of the fine earth fraction—10 to 25 percent.

**Bk2 horizon:**

Chroma—3 or 4.

Texture—Sandy loam or fine sandy loam.

Consistence—Nonsticky or slightly sticky.

Rock fragments—60 to 80 percent, mainly gravel.

Calcium carbonate equivalent of the fine earth fraction—10 to 25 percent.  
Other features—5 to 10 percent secondary calcium carbonate accumulation as pendants on undersides of coarse fragments.

### Cheme series

The Cheme series consists of very shallow and shallow over a duripan, well drained soils on fan remnants. Cheme soils formed in alluvium from mixed rocks over semi-consolidated gravelly sediments. Slopes range 2 to 15 percent. The mean annual precipitation is about 5 inches. The mean annual air temperature is about 74 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids

**Typical pedon:** Cheme extremely gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 590. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 65 percent pebbles and 15 percent cobbles.

- A—0 to 2 inches; light brown (7.5YR 6/4) extremely gravelly sandy loam, brown (7.5YR 4/4) moist; moderate thick platy structure; slightly hard, very friable, slightly sticky and nonplastic; few very fine roots; common very fine vesicular and few very fine interstitial pores; 65 percent pebbles and 15 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.
- Bk—2 to 6 inches; light brown (7.5YR 6/4) very gravelly loam, brown (7.5YR 4/4) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; few very fine interstitial and common very fine tubular pores; many thin calcium carbonate coats on the bottom and sides of rock fragments; 45 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
- Bqk—6 to 18 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 50 percent discontinuously weakly cemented by silica and calcium carbonate with common medium strongly cemented silica and calcium carbonate masses occurring as lenses and concretions that are brittle when moist; many medium silica and calcium carbonate coats and pendants on the bottom of rock fragments; 60 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
- 2Bqkm—18 to 42 inches; white (10YR 8/1) continuously indurated duripan, light gray (10YR 7/2) moist; massive; very rigid; upper 1 to 2 inches continuous indurated laminar cap, strongly cemented matrix with 25 percent indurated lenses below.
- 3Cr—42 to 60 inches; semi-consolidated gravelly sediments of the Chemehuevi formation; weakly through strongly silica cemented stratified coarse sandy loam through loam in the fine earth fraction, modified by 35 to 80 percent rock fragments, predominantly pebbles and cobbles.

**Type location:** Cottonwood Valley, Lake Mead National Recreation Area, Clark County, Nevada. Approximately 1/2 mile southeast of the Nine Mile Basin road turn off, along the power line road, just before Nellis Wash; about 800 feet south and 700 feet west of the northeast corner of section 35, T.29 S., R.65 E.; USGS Spirit Mountain NW, NV 7.5 minute topographic quadrangle; 35 degrees, 22 minutes,

and 56 seconds north latitude, 114 degrees, 41 minutes, and 29 seconds west longitude; UTM 11, 709548e, 3917874n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to duripan:* 7 to 20 inches.

*Depth to semi-consolidated material:* 40 to 50 inches.

*Reaction:* Moderately alkaline or strongly alkaline.

*Organic matter content:* Less than 0.5 percent.

*Control section:*

Percent clay—8 to 18 percent.

Rock fragments—35 to 85 percent gravel and cobbles,

**A horizon:**

Hue—7.5YR, 10YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

**Bk horizon:**

Hue—7.5YR, 10YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.

**Bqk horizon:**

Hue—7.5YR, 10YR.

Value—6 or 7 dry, 4 through 5 moist.

Chroma—2 through 4, dry or moist.

Calcium carbonate equivalent in the less than 20 millimeter fraction—15 to 25 percent .

**2Bqkm horizon:**

Structure—Platy or massive.

Cementation—Continuously indurated in the upper part, strongly cemented matrix with 20 to 40 percent discontinuous indurated lenses below.

**3Cr horizon:**

Other features—Strata of this formation has a texture of coarse sandy loam to loam that is modified by 35 to 80 percent rock fragments.

**Cololag series**

The Cololag series consists of very deep, well drained soils that formed in alluvium derived from igneous, metamorphic and sedimentary rock. Cololag soils are on fan remnant summits. Slopes range from 4 to 15 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 74 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, hyperthermic Typic Calciargids

**Typical pedon:** Cololag extremely gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 930. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 60 percent pebbles and 5 percent cobbles.

A—0 to 3 inches; light brown (7.5YR 6/4) extremely gravelly sandy loam, brown (7.5YR 4/4) moist; strong medium and coarse platy structure; slightly hard, friable, slightly sticky and nonplastic; few very fine roots; common fine interstitial and few fine tubular pores; 60 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk1—3 to 14 inches; light brown (7.5YR 6/4) extremely gravelly loamy sand, strong brown (7.5YR 5/6) moist; massive; slightly hard, friable, nonsticky and nonplastic; many very fine and few fine medium roots; many very fine and fine interstitial and few fine tubular pores; many (30 percent) medium calcium carbonate coats on bottom of rock fragments; 65 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Btk—14 to 24 inches; light reddish brown (5YR 6/4) very gravelly sandy loam, yellowish red (5YR 5/6) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few fine roots; few fine interstitial and few fine and medium tubular pores; discontinuous extremely weakly cemented calcium carbonate masses; few faint clay films bridging sand grains; common (15 percent) fine calcium carbonate coats on coarse sand grains; medium coats on bottom of rock fragments; 35 percent pebbles and 5 percent cobbles; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

B'k2—24 to 31 inches; pink (5YR 7/3) gravelly sandy loam, yellowish red (5YR 5/6) moist; massive; very hard, extremely firm, slightly sticky and slightly plastic; few fine tubular and few fine interstitial pores; discontinuous moderate cementation; many (45 percent) fine and medium calcium carbonate masses and many (70 percent) medium calcium carbonate coats on bottom of rock fragments; 25 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

B'k3—31 to 65 inches; pink (5YR 7/4) extremely gravelly sandy loam, yellowish red (5YR 4/6) moist; massive; hard, firm, slightly sticky and slightly plastic; few fine tubular and few fine interstitial pores; discontinuous weak calcium carbonate cementation; many (30 percent) fine and medium calcium carbonate coats on bottom of rock fragments; 70 percent pebbles; violently effervescent; strongly alkaline (pH 8.6).

**Type location:** Clark County, Nevada; in the Lake Mead National Recreation Area about 2 miles due east of the junction of Northshore Road and the Overton Beach Road; 2,500 feet north and 470 feet west of the southeast corner of section 21, T.17 S., R.68 E.; USGS Valley of Fire East, NV 7.5 minute topographic quadrangle; 36 degrees, 26 minutes, 24.8 seconds north latitude and 114 degrees 23 minutes 26.8 seconds west longitude; UTM 11, 733874e, 4035942n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to calcic horizon:* 2 to 5 inches.

*Depth to argillic horizon:* 10 to 17 inches.

*Depth to the base of the argillic horizon:* 18 to 29 inches.

*Reaction:* Moderately alkaline or strongly alkaline.

*Other features:* B horizons have 0 to 20 percent weakly through moderately calcium carbonate cementation.

*Control section:*

Clay content—10 to 18 percent

Rock fragments—35 to 50 percent, mainly gravel.

**A horizon:**

Hue—5YR or 7.5YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

**Bk1 horizon:**

Hue—5YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—4 through 6, dry or moist.

Texture—Loamy sand, sandy loam, or fine sandy loam.

Clay content—3 to 12 percent.

Rock fragments—45 to 70 percent gravel.

Calcium carbonate equivalent in the fine earth fraction—10 to 20 percent.

**Btk horizon:**

Hue—5YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—4 through 6, dry or moist.

Texture—Sandy loam or fine sandy loam.

Clay content—10 to 18 percent.

Rock fragments—35 to 50 percent, mainly gravel.

Calcium carbonate equivalent in the fine earth fraction—5 to 10 percent.

**B'k2 horizon:**

Hue—5YR or 7.5YR.

Value—6 or 7 dry.

Clay content—8 to 15 percent.

Rock fragments—20 to 50 percent, mainly gravel.

Consistence—Hard or very hard, dry.

Calcium carbonate equivalent in the fine earth fraction—15 to 25 percent.

**B'k3 horizon:**

Hue—5YR or 7.5YR.

Value—6 or 7 dry.

Clay content—8 to 15 percent.

Rock fragments—50 to 75 percent, mainly gravel.

Consistence—Hard or very hard, dry.

Calcium carbonate equivalent in the fine earth fraction: 15 to 25 percent.

## **Commski series**

The Commski series consists of very deep, well drained soils on ballenas, fan remnants and inset fans. Commski soils formed in alluvium derived from limestone and dolomite. Slopes range from 2 to 30 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 65 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic Typic Haplocalcids

**Typical pedon:** Commski very gravelly fine sandy loam, rangeland in the adjoining Nye County, Nevada, Southwest Part soil survey. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 55 percent pebbles, 30 percent with cobbles and 1 percent with stones.

A—0 to 5 inches; pale brown (10YR 6/3) very gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular, few very fine and fine interstitial pores; 40 percent pebbles, 2 percent cobbles and 3 percent stones; strongly effervescent; strongly alkaline (pH 8.6); gradual smooth boundary.

Bk1—5 to 14 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak fine and medium subangular blocky structure; slightly hard, friable, nonsticky and slightly plastic; common very fine and fine roots; common very fine, many fine and medium interstitial pores; common thick calcium carbonate pendants on rock fragments; 65 percent pebbles, 2 percent cobbles and 2 percent stones; strongly effervescent; strongly alkaline (pH 8.6); diffuse smooth boundary.

Bk2—14 to 60 inches; light brownish gray (10YR 6/2) extremely gravelly coarse sandy loam, brown (10YR 5/3) moist; massive; hard, firm, nonsticky and nonplastic; few very fine roots; many fine and medium interstitial, few very fine tubular pores; weak discontinuous brittle matrix; 70 percent pebbles, 5 percent cobbles and 5 percent stones; violently effervescent; strongly alkaline (pH 8.8).

**Type location:** Nye County, Nevada; approximately 1 mile southeast of Ash Meadows Rancho and about 35 feet north and 10 feet west of the southeast corner of section 25, T.18 S., R.50 E.; USGS Bole Spring, NV-CA 7.5 minute topographic quadrangle; 36 degrees, 21 minutes, 0 seconds north latitude and 116 degrees, 17 minutes, 3 seconds west longitude; UTM 11, 564240e, 4023014n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry; moist for brief periods in late winter and spring. The ratio of actual evapotranspiration between summer and winter is about 0.4, typical of the Mojave Desert. Typic aridic soil moisture regime.

*Soil temperature:* 59 to 69 degrees F.

*Depth to calcic horizon:* 3 to 18 inches.

*Thickness of calcic horizon:* 40 to 60 inches.

*Reaction:* Moderately alkaline or strongly alkaline.

*Control section:*

Percent clay—5 to 15.

Rock fragments—60 to 80 percent mainly gravel.

Calcium carbonate equivalent of the less than 20 millimeter fraction—40 to 60 percent

**A horizon:**

Chroma—3 or 4 moist or dry.

**Bk horizons:**

Chroma—2 or 3 moist or dry.

Clay content—5 to 15 percent.

Texture—Coarse sandy loam, sandy loam or fine sandy loam.

Clay content—5 to 15 percent.

Rock fragments—60 to 80 percent mainly gravel.

Structure—Subangular blocky or massive.

Consistence—Soft through hard dry, very friable through firm, moist.

Calcium carbonate equivalent of the fine earth fraction—25 to 45 percent.

Other features—Subhorizons have discontinuous weak brittle matrix cemented by calcium carbonate.

### Corbilt series

The Corbilt series consists of deep, well drained soils on alluvial fans, fan skirts and fan piedmonts. Corbilt soils formed in mixed alluvium. Slopes are 0 to 4 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 64 degrees F.

**Taxonomic class:** Coarse-loamy, mixed, superactive, thermic Duric Haplocalcids

**Typical pedon:** Corbilt very gravelly sandy loam, rangeland in the adjoining Nye County, Nevada, Southwest Part soil survey. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 50 percent pebbles overlain by a patchy 1/2 to 1 inch thick mantle of windblown sand.

A—0 to 4 inches; very pale brown (10YR 7/3) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; strong coarse platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine, common fine, and few medium vesicular pores; 35 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bk—4 to 16 inches; very pale brown (10YR 7/3) gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine, few fine and medium roots; common very fine interstitial pores; 15 percent pebbles; few thin calcium carbonate masses on faces of peds and pebbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bqk—16 to 32 inches; very pale brown (10YR 7/3) gravelly fine sandy loam, light yellowish brown (10YR 6/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine, few fine and medium roots; common very fine and few fine interstitial pores; few fine masses weakly cemented by calcium carbonate and silica; silica-calcium carbonate pendants on undersides of most rock fragments; few fine calcium carbonate filaments; 20 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

2Bkq—32 to 56 inches; very pale brown (10YR 7/3) very gravelly sandy loam, light yellowish brown (10YR 6/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine and few fine interstitial pores; few scattered pockets (6 to 8 inch diameter) of loamy coarse sand; few thin (up to 1 inch thick), discontinuous weakly silica and calcium carbonate cemented layers, lime-silica pendants on underside of most rock fragments; few fine calcium carbonate filaments; few, prominent, calcium carbonate coats on top and bottom of rock fragments; 30 percent pebbles, 5 percent cobbles and 5 percent stones; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

2Bkqm—56 to 60 inches; very pale brown (10YR 8/3) strongly cemented duripan, very pale brown (10YR 7/4) moist; massive; 40 percent pebbles and 5 percent cobbles; violently effervescent.

**Type location:** Nye County, Nevada; approximately 2 miles east of Amargosa Valley (formerly Lathrop Wells) and one-third mile north of U.S. 95 and about 850 feet

south and 500 feet east of the northwest corner of section 21, T.15 S., R.50 E.; USGS Striped Hills, NV 7.5 minute topographic quadrangle; 36 degrees, 38 minutes, 21 seconds north latitude and 116 degrees, 21 minutes, 54 seconds west longitude; UTM 11, 556774 e, 4055032 n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry. The upper part of the moisture control section is moist for a very short time in late winter, typical aridic soil moisture regime. The ratio of soil moisture for evapotranspiration between summer and winter is about 0.4:1, typical of the Mojave Desert.

*Soil temperature:* 63 to 69 degrees F.

*Depth to duripan:* 40 to 60 inches.

*Depth to calcic horizon:* 13 to 24 inches.

*Other features:* Some pedons do not have a thin mantle of eolian sand on the surface.

*Control section:*

Clay content—5 to 10 percent.

Rock fragments—Averages 15 to 35 percent.

**A horizon:**

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4 dry or moist.

**Bk horizon:**

Structure—Subangular blocky or massive.

Texture—Fine sandy loam and sandy loam.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent in the fine earth fraction—5 to 10 percent.

**Bqk horizon:**

Consistence of matrix—Soft dry, very friable moist.

Texture—Fine sandy loam, sandy loam, gravelly fine sandy loam and gravelly sandy loam.

Reaction—Strongly alkaline or very strongly alkaline.

Calcium carbonate equivalent in the fine earth fraction—15 to 20 percent.

Secondary visible calcium carbonate—5 to 20 percent.

Other features—Weakly cemented masses constitute up to 20 percent. In some pedons the matrix is effervescent and cemented patches are violently effervescent.

**2Bqk horizon:**

Rock fragments—30 to 50 percent pebbles, 0 to 7 percent cobbles, and 0 to 7 percent stones.

Texture—Gravelly sandy loam, gravelly fine sandy loam, very gravelly sandy loam and very gravelly fine sandy loam.

Consistence—Soft dry, very friable moist.

Calcium carbonate equivalent in the fine earth fraction—10 to 20 percent.

Other features—Silica-calcium carbonate cemented plates comprise up to 20 percent. Some pedons contain 20 percent or more hard calcium carbonate nodules and concretions.

## Corncreek series

The Corncreek series consists of very deep, well drained soils that formed in alluvium from limestone and dolomite over lacustrine deposits. Corncreek soils are on fan skirts. Slopes range from 0 to 8 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 63 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic Sodic Haplocalcids

**Typical pedon:** Corncreek extremely gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 721. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 85 percent pebbles.

A—0 to 1 inch; light gray (10YR 7/2) extremely gravelly fine sandy loam, brown (10YR 5/3) moist; strong very thick platy structure; hard, very friable, slightly sticky and non-plastic; common very fine, fine and medium vesicular pores and few fine tubular pores; 70 percent pebbles; violently effervescent (55 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt smooth boundary.

Btk—1 to 4 inches; light gray (10YR 7/2) gravelly fine sandy loam, brown (10YR 5/3) moist; weak coarse subangular blocky structure; slightly hard, very friable, slightly sticky and non-plastic; common very fine, few fine and medium roots; few very fine and fine interstitial pores; common faint clay skins on ped faces and colloidal stains; common distinct calcium carbonate coats on undersides of rock fragments; 25 percent pebbles; violently effervescent (35 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6); clear wavy boundary.

C1—4 to 17 inches; light gray (10YR 7/2) extremely gravelly sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, non-sticky and non-plastic; common very fine, fine and few medium roots; common very fine and fine interstitial pores; few distinct randomly oriented calcium carbonate coats on rock fragments; 65 percent pebbles; violently effervescent (60 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.8); clear wavy boundary.

C2—17 to 31 inches; light gray (10YR 7/2) extremely gravelly sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, non-sticky and non-plastic; common very fine, few fine and medium roots; common very fine and fine interstitial pores; few distinct randomly oriented calcium carbonate coats on rock fragments; 65 percent pebbles; violently effervescent (60 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.8); abrupt wavy boundary.

2Bkn1—31 to 41 inches; white (10YR 8/1) silt loam, light yellowish brown (10YR 6/4) moist; massive; slightly hard, very friable, slightly sticky and moderately plastic; few very fine through medium roots; common very fine, fine and few medium tubular pores; 10 percent pebbles consisting of very strongly cemented calcium carbonate nodules; sodium absorption ratio 13; violently effervescent (90 percent calcium carbonate equivalent in the fine earth fraction); very strongly alkaline (pH 9.4); gradual wavy boundary.

2Bkn2—41 to 60 inches; white (10YR 8/1) silt loam, light yellowish brown (10YR 6/4) moist; massive; very hard, friable, slightly sticky and slightly plastic; few fine and medium roots; common very fine through medium tubular pores; 10 percent pebbles consisting of very strongly cemented calcium carbonate nodules; sodium absorption ratio 18; violently effervescent (80 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 9.0).

**Type location:** Clark County, Nevada; approximately 3 1/2 miles west northwest of Corn Creek Springs in the northwest end of Las Vegas Valley; about 1,190 feet south and 1,145 feet east of the northwest corner of section 30, T.17 S., R.59 E.; USGS Corn Creek Springs NW, NV 7.5 minute topographic quadrangle; 36 degrees, 27 minutes, 07 seconds north latitude and 115 degrees, 25 minutes, 11 seconds west longitude; UTM 11, 641614e, 4035237n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July to October following convection storms. Typic aridic moisture regime.

*Soil temperature:* 63 to 68 degrees F.

*Depth to unconformity and calcic horizon:* 25 to 35 inches.

*Control section:*

Percent clay—8 to 18 percent.

Rock fragments—Averages 35 to 60 percent. Upper part has 60 to 75 percent, mainly limestone gravel and the lower part has 5 to 20 percent, very strongly cemented calcium carbonate nodules.

**A horizon:**

Value—7 or 8 dry, 5 or 6 moist.

Calcium carbonate equivalent in the fine earth fraction—30 to 60 percent.

**Btk horizon:**

Value—7 or 8 dry, 5 or 6 moist.

Texture—Fine sandy loam or very fine sandy loam.

Clay content—8 to 18 percent.

Rock fragments—5 to 25 percent mainly gravel.

Structure—Coarse or very coarse, subangular blocky or platy.

Consistence—Slightly hard or hard, friable or very friable, and nonplastic or slightly plastic.

Reaction—Moderately alkaline or strongly alkaline.

**C horizons:**

Chroma—2 through 4 dry and 3 or 4 moist.

Texture—Sandy loam or fine sandy loam.

Clay content—8 to 18 percent.

Rock fragments—60 to 75 percent, mainly gravel.

Structure—Medium or coarse.

Consistence—Soft or slightly hard.

Calcium carbonate equivalent in the fine earth fraction—45 to 75 percent.

SAR—1 through 5.

Other features—None or few very thin calcium carbonate coats randomly oriented on rock fragments in most pedons. 0 to 3 percent gravel size calcium carbonate nodules.

**2Bkn horizons:**

Value—7 or 8 dry, 5 or 6 moist.

Chroma—1 through 4.

Texture—Silt loam or loam.

Clay content—10 to 18 percent.

Rock fragments—5 to 20 percent, very strongly cemented calcium carbonate nodules.

Calcium carbonate equivalent in the fine earth fraction—70 to 95 percent.

Reaction—Strongly alkaline or very strongly alkaline.

SAR—13 through 30.

Other features—Greater than 5 percent secondary very strongly cemented calcium carbonate nodules and soft masses.

### Crosgrain series

The Crosgrain series consists of very shallow and shallow to a duripan, well drained soils that formed in mixed alluvium. Crosgrain soils are on partial ballenas, ballenas, and fan remnants. Slopes range from 2 to 30 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 68 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids

**Typical pedon:** Crosgrain extremely gravelly loam, rangeland and wildlife habitat in an area of map unit 660. (Colors are for dry soil unless otherwise noted). The soil surface is covered by approximately 84 percent pebbles, 10 percent cobbles and 1 percent stones.

A—0 to 1 inch; light brownish gray (10YR 6/2) extremely gravelly loam, dark grayish brown (10YR 4/2) moist; weak thick platy structure parting to medium subangular blocky; soft, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular and interstitial pores; 74 percent pebbles, 5 percent cobbles and 1 percent stones; violently effervescent (7 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); abrupt smooth boundary.

Bw—1 to 5 inches; very pale brown (10YR 7/3) very gravelly loam, pale brown (10YR 6/3) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few medium roots; many very fine and few fine tubular pores; 40 percent pebbles and 3 percent cobbles; violently effervescent (12 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.

Bk—5 to 11 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine and medium roots; common very fine and few fine tubular pores; few distinct calcium carbonate coats on undersides of rock fragments in lower part of the horizon; 40 percent pebbles, 3 percent cobbles and 1 percent stones; violently effervescent (12 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6); abrupt wavy boundary.

Bqkm1—11 to 24 inches; very pale brown (10YR 8/2) indurated duripan, light gray (10YR 7/2) moist; massive; very rigid; violently effervescent; abrupt smooth boundary.

Bqkm2—24 to 49 inches; pink (7.5YR 8/4) strongly cemented duripan, reddish yellow (7.5YR 6/6) moist; massive; extremely hard, slightly rigid, brittle; discontinuous lenses of extremely gravelly sand (2 to 6 inches thick), massive, soft, very friable, nonsticky and nonplastic; few very fine roots; violently effervescent (13 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.8); abrupt smooth boundary.

Bqm—49 to 60 inches; brown (7.5YR 4/4) weakly cemented duripan, dark brown (7.5YR 3/4) moist; massive; hard, very firm; discontinuous lenses of extremely

gravelly sand (2 to 6 inches thick), massive, soft, very friable, nonsticky and nonplastic; few very fine roots; moderately alkaline (pH 8.4).

**Type location:** Clark County, Nevada; approximately 6.5 miles southwest of Keyhole Canyon Archaeological Site; about 1,730 feet south and 1,770 feet west of the northeast corner of section 36, T.26 S., R.62 E.; USGS Keyhole Canyon, NV 7.5 minute topographic quadrangle; 35 degrees, 38 minutes, 36 seconds north latitude and 114 degrees, 59 minutes, 47 seconds west longitude; UTM 11, 681401e, 3946240n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer thunderstorms. The soil has a typic aridic moisture regime.

*Soil temperature:* 63 to 72 degrees F.

*Depth to duripan:* 6 to 14 inches.

*Control section:*

Percent clay—8 to 20 percent.

Rock fragments—Averages 40 to 70 percent.

**A horizons:**

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 through 4 dry and moist.

Texture of the fine earth—Sandy loam or loam.

**Bw or Bk horizons:**

Value—5 through 7 dry, 4 through 6 moist.

Chroma—3 or 4 dry and moist.

Texture—Sandy loam or loam.

Rock fragments—35 to 70 percent.

**Bqkm or Bqm horizons:**

Hue—10YR or 7.5YR.

Value—6 or 7 moist.

Chroma—1 through 6 dry and moist.

Other features—Some horizons lack the 2 to 6 inches thick discontinuous layers of extremely gravelly sand.

**Cruzspring series**

The Cruzspring series consists of shallow, well drained soils that formed in colluvium and residuum from quartzite. Cruzspring soils are on hills and mountain slopes. Slopes are 15 to 30 percent. Mean annual precipitation is about 8 inches and mean annual temperature is about 55 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic, shallow Typic Haplargids

**Typical pedon:** Cruzspring extremely gravelly sandy loam, rangeland and wildlife habitat in the adjoining Nye County, Nevada, Southwest Part soil survey. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 60 percent pebbles and 5 percent cobbles.

- A1—0 to 1 inch; yellowish brown (10YR 5/4) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; strong thick and medium platy structure; slightly hard, very friable, slightly sticky and nonplastic; few very fine and fine roots; common very fine and fine vesicular pores and common fine interstitial pores; 60 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.
- A2—1 to 3 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium platy structure; slightly hard, friable, nonsticky and nonplastic; common very fine and fine, and few medium roots; common very fine and fine interstitial pores and few fine vesicular pores; 40 percent pebbles and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.
- Btk1—3 to 7 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; common very fine and fine interstitial pores and few fine tubular pores; common faint clay films lining pores and bridging sand grains; very few (2 percent) patchy very thin (< .5mm) calcium carbonate coatings on bottom of rock fragments; 45 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.0); clear wavy boundary.
- Btk2—7 to 11 inches; light yellowish brown (10YR 6/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard; very friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine and fine interstitial pores and few fine tubular pores; common distinct clay films bridging sand grains and lining pores; few (5 percent) patchy very thin (< .5mm) calcium carbonate coatings on bottom of rock fragments; 45 percent pebbles and 5 percent cobbles; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.
- Cr—11 to 13 inches; fractured, weathered quartzite; common very fine through medium roots in fractures; retains original rock structure.
- R—13 inches; hard, slightly fractured quartzite.

**Type location:** Nye County, Nevada; approximately 0.4 mile southeast of Santa Cruz Spring, about 2,100 feet west and 600 feet south of the northeast corner of section 4, T.19 S., R.54 E.; USGS Horse Springs 7.5 minute topographic quadrangle; 36 degrees, 20 minutes, 8seconds north latitude and 115 degrees, 54 minutes, 48 seconds west longitude; UTM 11, 597525e, 4021727n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, but moist in some part for short periods in the winter and early spring months and for brief periods in summer. Ratio of summer to winter actual evapotranspiration is about 0.8, typical of Mojave desert transitional to Sonoran. Typic aridic soil moisture regime.

*Soil temperature:* 53 to 59 degrees F.

*Depth to paralithic contact:* 10 to 14 inches.

*Depth to hard bedrock:* 12 to 20 inches.

*Control section:*

Clay content—Averages 12 to 18 percent.

Rock fragments—Averages 35 to 65 percent, mainly quartzite gravel and cobbles.

**A horizon:**

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4.

Structure—Platy or subangular blocky.

Effervescence—Slightly effervescent to violently effervescent, due to recharge from calcareous dust.

**Bt horizon:**

Hue—10YR or 7.5YR.

Value—5 or 6 dry; 4 or 5 moist.

Chroma—3 or 4.

Texture—Loam or sandy loam.

Clay content—15 to 20 percent.

Rock fragments—40 to 75 percent, mainly quartzite gravel and with up to 20 percent cobbles.

Structure—Subangular blocky; thin, lower subhorizons are massive in some pedons.

Effervescence—Slightly effervescent through violently effervescent.

Calcium carbonate equivalent—1 to 5 percent.

**Devilsthumb series**

The Devilsthumb series consists of moderately deep, well drained soils that formed in colluvium from limestone and sandstone. Devilsthumb soils are on backslopes of mountains. Slopes range from 30 to 75 percent. The mean annual precipitation is about 20 inches and the mean annual air temperature is about 42 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, frigid Aridic Calcustepts

**Typical pedon:** Devilsthumb very gravelly loam, forest and wildlife habitat in an area of map unit 355. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 55 percent pebbles, 7 percent cobbles and 1 percent stones.

A—0 to 1 inch; brown (10YR 5/3) very gravelly loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine, common fine tubular pores; 40 percent pebbles and 5 percent cobbles; very slightly effervescent; neutral (pH 7.2); abrupt wavy boundary.

Bk1—1 to 7 inches; brown (10YR 5/3) very gravelly loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, common fine through coarse roots; many very fine, common fine tubular pores; 5 percent, patchy, faint, light gray (10YR 7/2), calcium carbonate coats on bottom surfaces of rock fragments; 1 percent, patchy, prominent, reddish yellow (5YR 6/8) iron on surfaces of rock fragments; 40 percent pebbles and 3 percent cobbles; slightly effervescent; slightly alkaline (pH 7.4); clear wavy boundary.

Bk2—7 to 11 inches; brown (10YR 4/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, common fine through very coarse roots; many very fine, common fine tubular pores; 60 percent, discontinuous, prominent, white (10YR 8/1) calcium carbonate coats on bottom surfaces of rock fragments; 10 percent, fine, prominent, very pale brown (10YR 8/2) calcium carbonate pendants on the bottom of rock fragments; 2 percent,

patchy, prominent, reddish yellow (5YR 6/8) iron on surfaces of rock fragments; 40 percent pebbles and 3 percent cobbles; strongly effervescent (8 percent calcium carbonate equivalent in the fine earth fraction); slightly alkaline (pH 7.6); clear wavy boundary.

Bk3—11 to 26 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, common fine through very coarse roots; common very fine and few fine tubular pores; 70 percent, fine, prominent, white (10YR 8/1) calcium carbonate pendants on the bottom of rock fragments; 10 percent, patchy, prominent, reddish yellow (5YR 6/8) iron on surfaces of rock fragments; 40 percent pebbles and 3 percent cobbles; violently effervescent (25 percent calcium carbonate equivalent in the fine earth fraction); slightly alkaline (pH 7.8); clear wavy boundary.

2R—26 inches; hard limestone bedrock.

**Type location:** Clark County, Nevada; about 6 miles east and 12 miles north of Pahrump, Nevada; approximately 5 miles east and 5 miles south of Mount Stirling on the west side of the Spring Mountains; tentatively sectioned area 1,330 feet south and 2,560 feet west of the northeast corner of section 23, T.18 S., R.54 E.; USGS Mt. Stirling, NV 7.5 minute topographic quadrangle; 36 degrees, 22 minutes, 36.3 seconds north latitude and 115 degrees, 52 minutes, 41.8 seconds west longitude; UTM 11, 0600618e 4026321n; NAD83.

**Range in Characteristics:**

*Soil moisture:* moist in late winter and spring, and periodically moist in the upper part following summer convection storms; ustic soil moisture regime bordering on aridic. In normal years, the soil is dry in all parts of the moisture control section for four-tenths or more of the cumulative days per year when the soil temperature is higher than 5 degrees Celsius at a depth of 50 centimeters.

*Soil temperature:* 42 to 46 degrees F.

*Depth to calcic horizon:* 7 to 12 inches.

*Depth to lithic contact:* 20 to 40 inches.

*Control section:*

Rock fragments—35 to 70 percent, mainly gravel.

Clay content—8 to 18 percent.

**A horizon:**

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3 moist.

Consistence—Soft or slightly hard, very friable or friable, nonsticky or slightly sticky, nonplastic or slightly plastic.

Reaction—Neutral through moderately alkaline.

Organic matter—0.5 to 1.5 percent.

**Bk1 horizon:**

Chroma—3 or 4 moist.

Structure—Fine or medium.

Consistence—Very friable or friable.

Rock fragments—35 to 65 percent, mainly gravel.

Effervescence—Slightly effervescent or strongly effervescent.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate equivalent of the fine earth fraction—0 to 4 percent.

Organic matter—0.5 to 1.5 percent.

Other features—Some pedons do not have iron stains or calcium carbonate films on bottoms of rock fragments.

**Bk2 horizon:**

Value—4 or 5 dry.

Chroma—2 or 3 moist.

Texture—Loam or sandy loam.

Structure—Weak or moderate, fine through coarse.

Consistence—Soft or slightly hard, nonsticky or slightly sticky, nonplastic or slightly plastic.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate equivalent of the fine earth fraction—5 to 15 percent.

Organic matter—1.0 to 2.0 percent.

Other features—Some pedons do not have iron stains.

**Bk3 horizon:**

Value—4 or 5 dry, 2 or 3 moist.

Texture—Loam or sandy loam.

Structure—Subangular blocky or massive.

Consistence—Nonsticky or slightly sticky, nonplastic or slightly plastic.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate equivalent of the fine earth fraction—15 to 30 percent.

Organic matter—1.0 to 2.0 percent.

Other features—Some pedons do not have iron stains.

**Diamondhil series**

The Diamondhil series consists of moderately deep to a duripan, well drained soils that formed in mixed alluvium from calcareous sandstone with some limestone and conglomerate. Diamondhil soils are on fan remnants. Slopes range from 2 to 8 percent. The mean annual precipitation is about 8 inches and the mean annual air temperature is about 53 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic Ustic Argidurids

**Typical pedon:** Diamondhil very cobbly fine sandy loam, rangeland and wildlife habitat in an area of map unit 411. (Colors are for dry soil unless otherwise noted.)

The soil surface is covered by approximately 20 percent pebbles, 20 percent cobbles and 2 percent stones.

A—0 to 2 inches; brown (7.5YR 5/4) very cobbly fine sandy loam, brown (7.5YR 4/4) moist; moderate medium platy structure; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine vesicular pores and few very fine and fine interstitial; 20 percent pebbles, 20 percent cobbles and 2 percent stones; slightly effervescent in irregular patches, noneffervescent matrix; moderately alkaline (pH 8.0); clear smooth boundary.

Btk1—2 to 10 inches; reddish brown (5YR 4/4) very cobbly sandy clay loam, yellowish red (5YR 4/6) moist; moderate medium subangular blocky structure; moderately hard, friable, slightly sticky and moderately plastic; common very fine through medium and few coarse roots; common very fine, fine and few medium tubular pores; common faint clay films on ped faces and bridging sand grains; many fine calcium carbonate coats on bottom of rock fragments; 25 percent pebbles, 25

percent cobbles and 5 percent stones; strongly effervescent (5 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.0); clear wavy boundary.

**Btk2**—10 to 19 inches; yellowish red (5YR 5/6) extremely cobbly fine sandy loam, yellowish red (5YR 4/6) moist; moderate medium and coarse subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; common very fine and fine, few medium and coarse roots; common very fine, few fine and medium tubular pores; common faint clay films lining pores and on ped faces and bridging sand grains; few fine irregular soft masses of calcium carbonate; many medium calcium carbonate coats on bottom of rock fragments; 30 percent pebbles, 25 percent cobbles and 5 percent stones; violently effervescent (25 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); clear wavy boundary.

**Bkq**—19 to 31 inches; light brown (7.5YR 6/4) extremely gravelly sandy loam, brown (7.5YR 5/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine, few fine and medium roots; common very fine, few fine and medium tubular and interstitial pores; common (10 percent) fine and medium irregular soft masses of calcium carbonate; many fine calcium carbonate coats on bottom of rock fragments; 50 percent pebbles, 15 percent cobbles and 3 percent stones; 25 percent discontinuous moderately cemented layers; violently effervescent (45 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt wavy boundary.

**Bqkm**—31 to 60 inches; pinkish white (7.5YR 8/2) and pink (7.5YR 7/3) very strongly cemented duripan with subhorizons that are moderately cemented, pink (7.5YR 7/3) and light brown (7.5YR 6/3) moist; massive; rigid through very hard, rigid through extremely firm; strongly effervescent; strongly alkaline (pH 8.6).

**Type location:** Clark County, Nevada; approximately 1.75 miles north of Spring Mountain Ranch in Red Rock National Recreation Area; in an unsectioned area about 2,540 feet north and 400 feet west of the southwest corner of section 26, T.21 S., R.58 E.; USGS Blue Diamond, NV 7.5 minute topographic quadrangle; 36 degrees, 05 minutes, 33 seconds north latitude and 115 degrees, 27 minutes, 21 seconds west longitude; UTM 11, 639014e, 3995311n; NAD83.

#### **Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for brief periods between July and October following convection storms. Aridic moisture regime bordering on ustic.

*Soil temperature:* 53 to 58 degrees F.

*Depth to argillic horizon:* 1 to 3 inches.

*Depth to calcic horizon:* 7 to 15 inches.

*Depth to base of the argillic horizon:* 15 to 30 inches.

*Depth to duripan:* 24 to 40 inches.

*Control section:*

Percent clay—Averages 18 to 27 percent.

Rock fragments—50 to 70 percent, mainly cobbles.

#### **A horizon:**

Hue—7.5YR and 5YR.

Value—4 or 5 dry.

Chroma—3 through 6 dry and moist.

Calcium carbonate equivalent in the fine earth fraction—0 to 5 percent.

Reaction—Slightly alkaline or moderately alkaline

**Btk or Bt horizons:**

Hue—2.5YR or 5YR.

Value—4 or 5 dry.

Chroma—3 through 6.

Clay content—18 to 30 percent, averages 18 to 27 percent after mixing.

Texture—Sandy clay loam in the upper part of the argillic and fine sandy loam or sandy clay loam in the lower part.

Consistence—Moderately hard or hard, dry; very friable or friable; moist; slightly sticky or sticky.

Effervescence—Noneffervescent to strongly effervescent.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate equivalent in the fine earth fraction—0 to 10 percent in the upper part and 15 to 30 percent in the lower part.

**Bkq horizon:**

Hue—2.5YR, 5YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—4 through 6 dry and moist.

Clay content—6 to 15 percent.

Rock fragments—60 to 75 percent; mainly gravel with cobbles and stones.

Consistence—Slightly hard or moderately hard, dry; very friable or friable, moist; nonsticky or slightly sticky, wet.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent in the fine earth fraction—30 to 50 percent.

Other features—5 to 15 percent visible secondary calcium carbonate. 0 to 30 percent discontinuous silica and calcium carbonate cemented lenses.

**Bqkm horizon:**

Hue—5YR or 7.5YR.

Value—6 through 8 dry, 5 through 7 moist.

Chroma—3 through 6 dry and moist.

Rupture resistance—Continuously very strongly cemented or indurated duripan.

Subhorizons are moderately cemented or strongly cemented in some pedons.

Cementation—Silica and calcium carbonate cemented; more than 50 percent of fragments remain after soaking in HCL.

**Doespring series**

The Doespring series consists of shallow to a cemented pan, well drained soils that formed in alluvium from limestone. The Doespring soils are on backslopes of rock pediments. Slopes range from 15 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual air temperature is about 45 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, mesic, shallow Petrocalcic Calciustolls

**Typical pedon:** Doespring very gravelly loam, forestland and wildlife habitat in an area of map unit 866. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles, 5 percent cobbles and 1 percent stones with 20 percent discontinuous duff layer.

A—0 to 2 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; soft, very

friable, slightly sticky and nonplastic; many very fine and few fine roots; many very fine and few fine tubular pores; hydrophobic for 40 seconds to water; 35 percent pebbles, 3 percent cobbles and 1 percent stones; strongly effervescent (45 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); abrupt smooth boundary.

ABk—2 to 7 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; strong coarse subangular blocky structure; moderately hard, friable, slightly sticky and nonplastic; many very fine and few fine to coarse roots; common very fine and few fine tubular pores; many fine moderately cemented calcium carbonate concentrations, white (10YR 8/1) sharp boundary on bottom of rock fragments; hydrophobic for 6 seconds to water; 50 percent pebbles and 2 percent cobbles; violently effervescent (45 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); abrupt wavy boundary.

Bk—7 to 18 inches; grayish brown (10YR 5/2) very gravelly sandy loam, dark grayish brown (10YR 4/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; many very fine and common fine to coarse roots; many very fine and few fine tubular pores; many fine moderately cemented calcium carbonate concentrations, white (10YR 8/1) sharp boundary on bottom of rock fragments; 55 percent pebbles, 3 percent cobbles and 1 percent stones; violently effervescent (50 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); very abrupt wavy boundary.

Bkqm—18 to 26 inches; white (10YR 8/1) moderately cemented pan, light gray (10YR 7/2) moist; massive; very hard, extremely firm; petrocalcic horizon; thin (less than 1 millimeter) laminar cap of calcium carbonate and silica; violently effervescent.

R—26 inches; light gray (10YR 7/2) moderately cemented to strongly cemented fanglomerate bedrock, gray (10YR 5/1) moist.

**Type location:** Clark County, Nevada; 14 miles south and 1.5 miles east of Indian Springs, NV, 0.6 mile northeast of Highway 156, Lee Canyon area; 2,320 feet south and 2,275 feet east of the northwest corner of section 24, T.18 S., R.56 E.; USGS Charleston Peak, NV 7.5 minute topographic quadrangle; 36 degrees, 22 minutes, 8.7 seconds North latitude and 115 degrees, 38 minutes, 28.1 seconds West longitude; UTM 11, 621900e, 4025744n; NAD83.

#### **Range in Characteristics:**

*Soil moisture:* Usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer thunderstorms; aridic soil moisture regime bordering on ustic.

*Soil temperature:* 47 to 52 degrees F.

*Depth to base of mollic epipedon:* 10 to 20 inches.

*Depth to petrocalcic horizon:* 10 to 20 inches.

*Depth to bedrock:* 20 to 40 inches

*Depth to calcic horizon:* 1 to 3 inches.

*Control section:*

Clay content—7 to 15 percent.

Rock fragments—35 to 60 percent, mainly gravel with 0 to 10 percent cobbles and stones.

#### **A horizon:**

Value—3 through 5 dry, 2 or 3 moist.

Chroma—2 or 3 dry, 1 or 2 moist.

Organic matter—1 to 3 percent.

Structure—Weak or moderate, medium or coarse.  
 Consistence—Soft through moderately hard dry, nonplastic or slightly plastic.  
 Calcium carbonate equivalent of the fine earth—30 to 50 percent.

**ABk horizon:**

Value—3 or 4 dry, 2 or 3 moist.  
 Chroma—2 or 3 dry.  
 Texture—Sandy loam or loam.  
 Organic matter—1 to 3 percent.  
 Structure—Moderate or strong, medium through very coarse.  
 Consistence—Slightly hard or moderately hard dry, nonplastic or slightly plastic.  
 Calcium carbonate equivalent of the fine earth—30 to 50 percent.

**Bk horizon:**

Value—4 or 5 dry, 2 through 4 moist.  
 Chroma—2 or 3 dry and moist.  
 Texture—Sandy loam or loam.  
 Organic matter—1 to 2 percent.  
 Structure—Weak or moderate, fine through coarse.  
 Consistence—Nonplastic or slightly plastic.  
 Calcium carbonate equivalent of the fine earth—40 to 60 percent.

**Bkqm horizon:**

Value—5 through 8 moist.  
 Chroma—1 through 3 dry and moist.  
 Petrocalcic—Very weakly to moderately cemented pan.

**Drygyp series**

The Drygyp series consists of very shallow to a petrogypsic horizon, somewhat excessively drained soils that formed in alluvium derived from gypsum rock. Drygyp soils are on fan remnants. Slopes range from 2 to 15 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Loamy, gypsic, hyperthermic, shallow Typic Petrogyptsids

**Typical pedon:** Drygyp fine sand, wildlife habitat in an area of map unit 950. (Colors are for dry soil unless otherwise noted.) The continuity of the soil surface is broken by 0.5 to 2.0 feet high hummocks of hardened gypsiferous soil material.

A—0 to 2 inches; reddish yellow (5YR 6/8) fine sand, yellowish red (5YR 5/6) moist; moderate medium platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine and many fine interstitial pores; very slightly effervescent; moderately alkaline (pH 8.2); abrupt broken boundary.

2By—2 to 7 inches; pinkish white (7.5YR 8/2) gypsiferous material, pink (7.5YR 8/4) moist; weak fine subangular blocky structure; hard, firm, slightly sticky and nonplastic; common fine and few medium roots; common very fine and common fine tubular pores; Texture of the fine earth sandy loam; many fine and medium clusters of crystals of secondary gypsum, which disrupt the soil matrix; strongly effervescent; slightly alkaline (pH 7.8); abrupt wavy boundary.

2Bym1—7 to 13 inches; pink (7.5YR 7/4) moderately cemented petrogypsic horizon, reddish yellow (7.5YR 6/6) moist; massive; very hard, extremely firm; few medium

tubular pores; many fine clusters of crystals of secondary gypsum segregated throughout matrix; slightly effervescent; slightly alkaline (pH 7.8); abrupt wavy boundary.

2B<sub>ym</sub>2—13 to 65 inches; pink (7.5YR 7/3) very weakly and weakly cemented petrogypsic horizon, brown (7.5YR 5/4) moist; massive; moderately hard and hard, firm and very firm, brittle; secondary gypsum segregated throughout matrix as many clusters of crystals; slightly effervescent and strongly effervescent; slightly alkaline (pH 7.6).

**Type location:** Clark County, Nevada; in the Lake Mead National Recreation Area about 3.5 miles west of Overton Beach and the Overton Arm of Lake Mead; 1,465 feet east and 310 feet north of the southwest corner of section 17, T.17 S., R.68 E.; USGS Valley of Fire East, NV 7.5 minute topographic quadrangle; 36 degrees 26 minutes 56 seconds north latitude and 114 degrees 25 minutes 15 seconds west longitude; UTM 11, 731152e, 4036831n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Ochric epipedon thickness:* 1 to 3 inches.

*Depth to petrogypsic horizon:* 4 to 8 inches.

**A horizon:**

Hue—5YR or 7.5YR.

Value—4 or 5 moist.

Chroma—4 through 8 dry, 4 through 6 moist.

Calcium carbonate equivalent in the fine earth fraction—1 to 20 percent.

Gypsum content—0 to 5 percent.

Other features—In some pedons this horizon is of eolian origin.

**2B<sub>y</sub> or B<sub>y</sub> horizons:**

Hue—7.5YR or 10YR.

Value—7 or 8 dry.

Chroma—2 through 6, dry or moist.

Texture—Gypsiferous sandy loam or gypsiferous fine sandy loam.

Calcium carbonate equivalent in the fine earth fraction—1 to 5 percent.

Gypsum content—40 to 90 percent in the less than 20-millimeter fraction.

**Ednagrey series**

The Ednagrey series consists of very shallow, well drained soils that formed in residuum and colluvium from limestone. Ednagrey soils are on backslopes mountains. Slopes range from 30 to 75 percent. The mean annual precipitation is about 13 inches and the mean annual air temperature is about 48 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, calcareous, mesic Lithic Ustic Torriorthents

**Typical pedon:** Ednagrey extremely gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 355. (Colors are for dry soil unless otherwise noted.)

The soil surface is covered by approximately 70 percent pebbles, 4 percent cobbles and 0.5 percent stones.

- A—0 to 2 inches; pale brown (10YR6/3) extremely gravelly fine sandy loam, brown (10YR 4/3) moist; moderate very thick platy structure; moderately hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and common fine tubular pores; 60 percent pebbles and 4 percent cobbles; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.
- Bk—2 to 8 inches; pale brown (10YR6/3) very gravelly fine sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and common fine tubular pores; 80 percent, continuous, distinct, white (10YR8/1) calcium carbonate coats on bottom of rock fragments; 40 percent pebbles and 1 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); very abrupt wavy boundary.
- R—8 inches; very hard limestone.

**Type location:** Clark County, Nevada; about 14.5 miles north and 5 miles east of Pahump, Nevada; approximately 4.1 miles east and 2.3 mile south of Mount Stirling; tentatively sectionalized area 1,060 feet south and 1,980 feet west of the northeast corner of section 3, T.18 S., R.54 E.; USGS Mt. Stirling, NV, 7.5 minute topographic quadrangle; 36 degrees, 25 minutes, 13.9 seconds north latitude and 115 degrees, 53 minutes, 40.6 seconds west longitude; UTM 11, 0599098e, 4031161n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer thunderstorms. Aridic bordering ustic soil moisture regime.

*Soil temperature:* 47 to 52 degrees F.

*Depth to lithic contact:* 4 to 10 inches.

*Control section:*

Rock fragments—35 to 70 percent, mainly gravel.

Clay content—7 to 15 percent.

**A horizon:**

Value—3 or 4 moist.

Chroma—3 or 4.

Structure—Subangular blocky structure or platy.

Consistence—Soft through moderately hard, nonsticky or slightly sticky, nonplastic or slightly plastic.

Organic matter—0.25 to 0.75 percent.

**Bk horizon:**

Chroma—3 or 4.

Structure—Weak or fine.

Consistence—Nonsticky or slightly sticky, nonplastic or slightly plastic.

Organic matter—0 to 0.5 percent.

## Ferrogold series

The Ferrogold series consists of shallow to a petrocalcic, well drained soils that formed in alluvium mainly from limestone and dolomite. Ferrogold soils are on partial ballenas and fan remnants and have slopes of 4 to 15 percent. The mean annual precipitation is about 7 inches and the mean annual air temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic, shallow Calcic Petrocalcids

**Typical pedon:** Ferrogold extremely gravelly loam, recreation land and wildlife habitat in the adjoining Nye County, Nevada, Southwest Part soil survey. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 65 percent pebbles, 5 percent cobbles and 1 percent stones.

A—0 to 3 inches; very pale brown (10YR 7/3) extremely gravelly loam, yellowish brown (10YR 5/4) moist; moderate very thick platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and common fine and medium vesicular pores; 60 percent pebbles, 5 percent cobbles and 1 percent stones; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk—3 to 9 inches; very pale brown (10YR 7/4) very gravelly loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and few medium roots; common very fine and few fine interstitial and tubular pores; common fine and very fine soft masses of calcium carbonate; 40 percent pebbles; violently effervescent; moderately alkaline (8.4 pH); clear wavy boundary.

Bkq—9 to 15 inches; very pale brown (10YR 7/3) very gravelly loam, light yellowish brown (10YR 6/4) moist; massive; hard, firm, slightly sticky and nonplastic; common very fine and few fine and medium roots; few very fine and fine interstitial and tubular pores; common (10 percent) soft masses of calcium carbonate and many (80 percent) coarse calcium carbonate coats on rock fragments with few thin patchy coats of silica; 50 percent pebbles and pan fragments and 2 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bkqm—15 to 60 inches; very pale brown (10YR 7/3) and very pale brown (10YR 8/3) very strongly cemented material, very pale brown (10YR 8/2) to very pale brown (10YR 7/3) moist; massive; rigid and very rigid; many (50 percent) lenses of weakly cemented material in the lower part.

**Type location:** Nye County, Nevada; approximately 4 miles east of Pahrump on the Wheeler Pass road; about 1400 feet south and 950 feet east of the northwest corner of section 3, T.20 S., R.54 E.; Pahrump quadrangle 36 degrees, 14 minutes, 45 seconds north latitude and 115 degrees, 54 minutes, 8 seconds west longitude; UTM 11, 598634e, 4011782n; NAD83.

### Range in Characteristics:

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring. The ratio of actual evapotranspiration between summer and winter is about 0.4, typical of the Mojave desert. Typic aridic soil moisture regime.

*Soil temperature:* 59 to 66 degrees F.

*Depth to calcic horizon:* 6 to 12 inches.

*Depth to petrocalcic horizon:* 14 to 20 inches.

*Control section:*

Percent clay—10 to 18 percent.

Texture—Loam or fine sandy loam.

Rock fragments—35 to 70 percent, mainly pan fragments and limestone or dolomite gravel.

Calcium carbonate equivalent—Fine earth fraction averages 25 to 50 percent; less than 20 millimeter fraction averages 40 to 70 percent.

**A horizon:**

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4 dry and moist.

**Bk and Bkq horizons:**

Value—5 or 6 dry.

Chroma—3 or 4 dry and moist.

Clay content—10 to 18 percent.

Texture—Loam or fine sandy loam.

Rock fragments—35 to 70 percent, mainly pan fragments and limestone or dolomite gravel.

Structure—Weak or moderate subangular blocky, or massive.

Effervescence—Strongly effervescent or violently effervescent.

Other features—Identifiable secondary carbonates as calcium carbonate coatings on rock fragments and soft masses range from 3 to 40 percent; thick (> 15cm) subhorizons have more than 5 percent by volume. Secondary silica as patchy coatings are on rock fragments in most pedons.

**Bkqm horizon:**

Value—7 or 8 dry.

Structure—Massive or platy.

Pan thickness—Greater than 2 feet thick.

Cementation—Very strongly cemented with lenses that are weakly cemented or moderately cemented in the lower part. Calcium carbonate is the primary cementing agent, with minor amounts of silica.

**Filaree series**

The Filaree series consists of very deep, somewhat excessively drained to well drained soils on fan terraces and fan aprons. These soils are formed in alluvium from mixed sources. Slopes range from 1 to 15 percent. The mean annual precipitation is about 7 inches. The mean annual air temperature is about 65 degrees F.

**Taxonomic class:** Coarse-loamy, mixed, superactive, thermic Typic Haplocambids

**Typical pedon:** Filaree very gravelly fine sandy loam, rangeland and wildlife habitat, in a delineation of map unit 190. (Colors are for dry soil unless otherwise noted.)  
The soil surface is covered by approximately 50 percent pebbles.

A—0 to 2 inches; brown (10YR 5/3) very gravelly fine sandy loam, brown (10YR 4/3) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic; many very fine roots; common very fine tubular and few fine interstitial pores; 50 percent pebbles; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bw1—2 to 14 inches; pale brown (10YR 6/3) stratified fine sandy loam and gravelly fine sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, few fine, and

few medium roots; common very fine and few fine tubular pores; an average of 15 percent pebbles; moderately alkaline (pH 8.2); clear wavy boundary.

**Bw2**—14 to 22 inches; light yellowish brown (10YR 6/4) fine sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; common very fine and few fine tubular pores; 10 percent pebbles; moderately alkaline (pH 8.4); clear broken boundary.

**Bk**—22 to 60 inches; light yellowish brown (10YR 6/4) stratified gravelly coarse sandy loam to very gravelly fine sandy loam dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; common very fine and few fine tubular pores; common thin calcium carbonate coats on the bottoms of rock fragments and randomly oriented; average 30 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

**Type location:** Clark County, Nevada; approximately 2 1/2 miles west of Cal-Nev-Ari, Nevada; about 1,680 feet south and 260 feet west of the northeast corner of section 34, T.30 S., R.63 E.; USGS Tenmile Well, NV 7.5 minute topographic quadrangle; 35 degrees, 17 minutes, 38 seconds north latitude and 114 degrees, 55 minutes, 28 seconds west longitude; UTM 11, 688732e, 3907610n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Intermittently moist in some part of the soil moisture control section during December - February and for less than 20 days cumulative during July - September; driest during May and June. Typic aridic soil moisture regime.

*Soil temperature:* 59 to 72 degrees F.

*Effervescence:* Noneffervescent to 20 inches or more

*Control section:*

Clay content—Ranges from 5 to 20 percent but averages 18 percent or less in the particle-size control section

Rock fragments—15 to 35 percent gravel

Organic matter—Less than one percent

**A horizon:**

Hue—7.5YR, 10YR

Value—5 or 6 dry, 4 or 5 moist

Chroma—2 or 3, dry or moist

Reaction—Slightly alkaline or moderately alkaline

**Bw horizons:**

Hue—7.5YR, 10YR

Value—4 through 6 dry, 3 or 4 moist

Chroma—3 or 4, dry or moist

Texture—Coarse sandy loam, sandy loam, fine sandy loam, or loam

Reaction—Slightly alkaline or moderately alkaline

**Bk horizons:**

Hue—7.5YR, 10YR

Value—4 through 6 dry, 3 or 4 moist

Chroma—3 or 4, dry or moist

Texture—Sandy loam, loam

Structure—Subangular blocky or massive.

Consistence—Nonsticky or slightly sticky, nonplastic or slightly plastic.

Clay content—5 to 15 percent.

Rock fragments—5 to 30 percent mainly pebbles.

Effervescence—Strongly or violently effervescent.

Reaction—Moderately alkaline or strongly alkaline.

Secondary carbonate accumulations: Thin carbonate films on the bottoms of rock fragments or randomly oriented

**Notes:**

The Filaree series as mapped in unit 190 differs slightly from the typical concept of Filaree series. They have lower precipitation than typical for the series.

Additionally, subhorizons range in gravel content from 0 to 50 percent.

The Filaree series as mapped in unit 470 differs slightly from the typical concept of Filaree series. They have lower precipitation and extend to lower elevation than typical for the series. Additionally, subhorizons range in gravel content from 0 to 50 percent.

**Fletcherpeak series**

The Fletcherpeak series consists of shallow, well drained soils that formed in residuum and colluvium from limestone. Fletcherpeak soils are on back slopes of mountains.

Slopes range from 30 to 75 percent. The mean annual precipitation is about 16 inches and the mean annual air temperature is about 43 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, frigid Aridic Lithic Argiustolls

**Typical pedon:** Fletcherpeak extremely gravelly loam, forestland and wildlife habitat in an area of map unit 805. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 65 percent pebbles, 5 percent cobbles and 1 percent stones.

A—0 to 1 inch; grayish brown (10YR 5/2) extremely gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate thick platy structure parting to moderate fine subangular blocky; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine and common fine tubular pores; 50 percent pebbles and 10 percent cobbles; slightly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Btk1—1 to 6 inches; grayish brown (10YR 5/2) very gravelly silt loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, common fine through coarse roots; many very fine and common fine tubular pores; 15 percent, discontinuous, faint, clay films on sand grains and ped faces; 60 percent, fine, calcium carbonate pendants on undersides of rock fragments; 30 percent pebbles and 15 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Btk2—6 to 13 inches; brown (7.5YR 5/4) extremely cobbly loam, dark brown (7.5YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine through very coarse roots; many very fine and common fine tubular pores; 25 percent, discontinuous, faint clay films on sand grains and ped faces; 2 percent, medium, prominent, light brownish gray (10YR 6/2) carbonate masses; 75 percent, fine, prominent, light brownish gray (10YR 6/2) calcium carbonate pendants on undersides of rock fragments; 35 percent pebbles and 25 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); very abrupt irregular boundary.

R—13 inches; hard limestone.

**Type location:** Clark County, Nevada; about 6.75 miles east and 2.5 miles north of Charleston Peak, Nevada; approximately 0.8 mile due south of Angel Peak on the east side of the Spring Mountains; tentatively sectioned area 200 feet north and 2,300 feet west of the southeast corner of section 10, T.19 S., R.57 E.; USGS Angel Peak, NV 7.5 minute topographic quadrangle; 36 degrees, 18 minutes, 25.8 seconds north latitude and 115 degrees, 34 minutes, 27.0 seconds west longitude; UTM 11, 0628012e 4018963n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer convection storms; aridic soil moisture regime bordering on ustic.

*Soil temperature:* 43 to 46 degrees F.

*Mollic epipedon thickness:* 10 to 20 inches.

*Depth to argillic horizon:* 1 to 3 inches.

*Depth to lithic contact:* 10 to 20 inches.

*Control section:*

Rock fragments—35 to 80 percent, mainly gravel and/or cobbles.

Clay content—15 to 25 percent.

**A horizon:**

Hue—7.5YR or 10YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3 dry and moist.

Structure—Weak or moderate, very fine through medium subangular blocky or granular.

Consistence—Soft or slightly hard.

Effervescence—Slightly effervescent through violently effervescent.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate of the fine earth fraction—0 to 2 percent.

Organic matter—1.0 to 2.0 percent.

**Btk horizons:**

Hue—7.5YR or 10YR.

Value—4 or 5 dry, 3 or 4 moist.

Chroma—2 or 3.

Texture—Loam or silt loam.

Structure—Weak or moderate.

Consistence—Slightly hard or moderately hard, very friable through firm, slightly sticky or moderately sticky, slightly plastic or moderately plastic.

Effervescence—Slightly effervescent through violently effervescent.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate of the fine earth fraction—1 to 5 percent.

Organic matter—0.5 to 2.0 percent.

Other features—In some pedons, the lower part of the profile does not meet the requirements of the mollic epipedon.

## Galehills series

The Galehills series consists of very shallow, well drained soils that formed in residuum and colluvium from sandstone conglomerate. Galehills soils are on hills. Slopes range from 15 to 50 percent. The mean annual precipitation is about 4 inches and the mean annual air temperature is about 66 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents

**Typical pedon:** Galehills extremely gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 105. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent gravel, 10 percent cobbles and a trace of stones.

A—0 to 2 inches; light yellowish brown (10YR 6/4) extremely gravelly fine sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine and few fine interstitial pores; electrical conductivity 0.4 dS/m; 55 percent pebbles, 10 percent cobbles and a trace of stones; violently effervescent (1 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear smooth boundary.

Bk—2 to 7 inches; light yellowish brown (10YR 6/4) very gravelly fine sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few very fine and fine tubular and interstitial pores; electrical conductivity 0.4 dS/m; many, prominent, calcium carbonate coats on bottoms of rock fragments; 50 percent pebbles, 5 percent cobbles and a trace of stones; violently effervescent (15 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt wavy boundary.

R—7 inches; hard fractured sandstone conglomerate with limestone clasts.

**Type location:** Clark County, Nevada; about 13 miles east of the Las Vegas Motor Speedway, Las Vegas, Nevada located in the Gale Hills; approximately 4 1/2 miles west and 1 mile south of Muddy Peak; about 1,400 feet south and 250 feet east of the northwest corner of section 19, T.19 S., R.65 E.; Dry Lake SE, NV 7.5 minute topographic quadrangle; 36 degrees, 17 minutes, 12 seconds north latitude and 114 degrees, 46 minutes, 32 seconds west longitude;; UTM 11, 0699765e, 4018045n; NAD83.

### Range in Characteristics:

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms. The soils have a typic aridic moisture regime.

*Soil temperature:* 66 to 71 degrees F.

*Depth to lithic contact:* 3 to 8 inches.

*Organic matter:* 0 to 0.5 percent.

*Control section:*

Rock fragments—35 to 70 percent, mainly gravel with 0 to 10 percent cobbles and 0 to 3 percent stones.

Clay content—6 to 10 percent.

Reaction—Moderately alkaline or strongly alkaline.

**A horizon:**

Chroma—3 or 4, dry and moist.

**Bk horizon:**

Chroma—3 or 4 dry and moist.

Texture—Fine sandy loam or sandy loam.

Structure—Weak or moderate, medium or coarse subangular blocky.

Calcium carbonate equivalent in the fine earth fraction—10 to 25 percent.

Other features—5 to 50 percent calcium carbonate coats on bottoms of rock fragments.

**Glencarb series**

The Glencarb series consists of very deep, well drained soils that formed in mixed alluvium with a large component of calcareous materials. The Glencarb soils are on flood plains, low stream terraces and basin floors. Slopes are 0 to 2 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 66 degrees F.

**Taxonomic class:** Fine-silty, carbonatic, thermic Typic Torrifuvents

**Typical pedon:** Glencarb silt loam, rangeland and wildlife habitat in the adjoining Las Vegas Valley Area, Nevada, soil survey. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; pale brown (10YR 6/3) silt loam, yellowish brown (10YR 5/4) moist; weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; violently effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary.

A2—3 to 6 inches; pale brown (10YR 6/3) silt loam, yellowish brown (10YR 5/4) moist; many dark grayish brown (10YR 4/2) organic lamellae; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; violently effervescent; strongly alkaline (pH 8.8); abrupt wavy boundary.

C1—6 to 16 inches; very pale brown (10YR 7/4) clay loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, moderately sticky and moderately plastic; common very fine and fine, few medium roots; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

C2—16 to 51 inches; very pale brown (10YR 7/3) silty clay loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, moderately sticky and moderately plastic; common fine and few medium roots; violently effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary.

C3—51 to 54 inches; very pale brown (10YR 7/4) very fine sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

C4—54 to 60 inches; very pale brown (10YR 7/3) silty clay loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, moderately sticky and moderately plastic; violently effervescent; moderately alkaline (pH 8.4).

**Type location:** Clark County, Nevada; Approximately 310 feet north and 130 feet east of the intersection of Nellis Boulevard and Stewart Avenue; about 2,400 feet south and 200 feet east of the northwest corner of section 33 T.20 S., R.62 E;

USGS Las Vegas NE 7.5 minute topographic quadrangle; 36 degrees, 10 minutes, 2 seconds north latitude and 115 degrees, 3 minutes, 42 seconds west longitude; UTM 11, 674349e, 4004248n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typic aridic soil moisture regime.

*Soil temperature:* 65 to 72 degrees F.

*Control section:*

Clay—Averages 18 to 35 percent.

Texture of fine earth—Stratified, includes textures of loam, silt loam, very fine sandy loam, clay loam, silty clay loam, and silty clay. Sand fraction mostly very fine sand.

Calcium carbonate equivalent—40 to 60 percent.

Reaction—Moderately alkaline through very strongly alkaline.

**C horizon:**

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3.

Other features—Commonly contains appreciable free gypsum in at least some subhorizons. 4 to 20 percent clay-sized calcium carbonate material is present.

**Goldbutte series**

The Goldbutte series consists of very shallow, well drained soils that formed in residuum and colluvium from gneiss, schist and granite. Goldbutte soils are on hills and mountains. Slopes range from 15 to 50 percent. The mean annual precipitation is about 9 inches and the mean annual air temperature is about 55 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, nonacid, mesic, shallow Typic Torriorthents

**Typical pedon:** Goldbutte extremely gravelly coarse sandy loam, rangeland and wildlife habitat in an area of map unit 645. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles, 5 percent cobbles and 3 percent stones.

A—0 to 4 inches; yellowish brown (10YR 5/6) extremely gravelly coarse sandy loam, dark yellowish brown (10YR 3/4) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine, few fine tubular pores; 65 percent pebbles, 5 percent cobbles and 3 percent stones; neutral (pH 7.2); clear smooth boundary.

Bt—4 to 5 inches; strong brown (7.5YR 4/6) very gravelly coarse sandy loam, dark brown (7.5YR 3/4) moist; moderate medium subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; few very fine and fine tubular pores; many discontinuous, distinct clay films on rock fragments, bridging sand grains and lining pores; 45 percent pebbles, 5 percent cobbles and 2 percent stones; neutral (pH 7.2); abrupt wavy boundary.

Crt—5 to 6 inches; weathered gneiss bedrock, fractures 1 to 5 centimeters apart; 15 percent discontinuous, faint clay films on rock fragments.

R—6 inches; hard gneiss bedrock, fractures 10 to 20 centimeters apart.

**Type location:** Clark County, Nevada; about 36 miles south and 10 miles west of Mesquite, Nevada; approximately 0.6 mile north and 1 mile east of Gold Butte; 690 feet north and 1,170 feet west of the southeast corner of section 9, T.19 S., R.70 E.; USGS Gold Butte, NV 7.5 minute topographic quadrangle; 36 degrees, 17 minutes, 29.6 seconds north latitude and 114 degrees, 10 minutes, 35.4 seconds west longitude; UTM 11, 0753565e 4019985n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms. The soils have a typic aridic moisture regime.

*Soil temperature:* 55 to 58 degrees F.

*Depth to paralithic contact:* 4 to 10 inches.

*Depth to bedrock:* 5 to 14 inches.

*Control section:*

Rock fragments—Average 40 to 70 percent, mainly gravel.

Clay content—6 to 15 percent.

Effervescence—Noneffervescent throughout.

Reaction—Neutral or slightly alkaline.

**A horizon:**

Value—4 or 5 dry.

Chroma—4 through 6 dry and moist.

Organic matter—0.5 to 1.0 percent.

**Bt horizon:**

Hue—7.5YR, 10YR or 5YR.

Value—4 or 5 dry, 3 or 4 moist.

Chroma—4 through 6 dry and moist.

Organic matter—0.2 to 0.5 percent.

Texture—Coarse sandy loam or sandy loam.

Consistence—Slightly hard or moderately hard, nonplastic or slightly plastic.

Rock fragments—35 to 70 percent.

Other features—Discontinuous clay films, clay does not increase by 3 percent or more from the A horizon clay content.

**Goldroad series**

The Goldroad series consists of very shallow and shallow, somewhat excessively drained soils that formed in alluvium, residuum, and colluvium from granite and metamorphic rocks. Goldroad soils are on hills and mountains and have slopes of 15 to 50 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 74 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents

**Typical pedon:** Goldroad extremely gravelly sandy loam, rangeland and wildlife habitat, in a delineation of map unit 610. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles and 10 percent cobbles.

A—0 to 1 inch; brown (10YR 5/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; weak medium platy structure; soft, very friable, slightly sticky and nonplastic; few very fine roots; many very fine interstitial pores and few very fine and fine vesicular pores; 70 percent pebbles and 10 percent cobbles ; moderately alkaline (pH 8.4); clear wavy boundary.

Bk—1 to 5 inches; brown (10YR 5/3) extremely gravelly coarse sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine interstitial pores and common fine tubular pores; common, distinct, calcium carbonate coats on underside of rock fragments; 70 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

2R—5 inches; hard gneiss bedrock; few, distinct, calcium carbonate coats in fractures.

**Type location:** Clark County, Nevada; Approximately 9.5 miles east and 4 miles south of Searchlight located on the west side of Cottonwood Valley in the Lake Mead National Recreation Area, 1.5 miles southwest of the junction of Midbasin Cove road and the power line road; about 1,900 feet north and 1,700 feet west of the southeast corner of section 20, T.29 S., R.65 E.; USGS Spirit Mountain NW, NV 7.5 minute topographic quadrangle; 35 degrees, 24 minutes, 14 seconds north latitude and 114 degrees, 44 minutes, 58 seconds west longitude; UTM 11, 704370e, 3920160n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Intermittently moist in some part of the soil moisture control section during December through February and for less than 20 days cumulative days during July through September. Driest during May and June. Typic aridic moisture regime.

*Soil temperature:* 72 to 80 degrees F.

*Rock fragments:* 35 to 75 percent granitic gravel and cobbles. The gravels are dominated by fragments ranging in diameter from 2 to 5 millimeters.

*Depth to bedrock:* 4 to 20 inches

*Reaction:* Moderately alkaline

*Organic matter:* Less than 1 percent

*Calcium carbonate equivalent:* 1 to 10 percent

*Clay content:* 5 to 18 percent

**A horizon:**

Hue—10YR, 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

**Bw or Bk horizons:**

Hue—10YR, 7.5YR

Value—5 or 6 dry, 4 through 6 moist

Chroma—3 or 4, dry or moist

Texture—Sandy loam, coarse sandy loam; dominantly coarse and very coarse in the sand fraction.

Consistence—Soft or slightly hard, dry.

Other features—Some pedons have thin coats of secondary calcium carbonate on the undersides of rock fragments.

### Goodwater series

The Goodwater series consists of shallow to cemented pan, well drained soils that formed in alluvium from limestone. Goodwater soils are on fan remnants and ballenas. Slopes range from 4 to 50 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 53 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, mesic, shallow Calcic Petrocalcids

**Typical pedon:** Goodwater very gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 867. (Colors are for dry soil unless otherwise noted). The surface is covered by approximately 85 percent pebbles, 3 percent cobbles, and 2 percent stones.

A—0 to 2 inches; brown (10YR 5/3) very gravelly sandy loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine tubular and many very fine interstitial pores; 40 percent pebbles, 1 percent cobbles and 0.5 percent stones; violently effervescent (55 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt smooth boundary.

Bk1—2 to 6 inches; brown (10YR 5/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine through medium roots; many very fine and common fine tubular pores; 60 percent fine prominent irregular moderately cemented white (10YR 8/1) calcium carbonate nodules with sharp boundaries on bottom of rock fragments; 50 percent pebbles and 10 percent cobbles and 1 percent stones; violently effervescence (40 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt wavy boundary.

Bk2—6 to 11 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, slightly sticky and slightly plastic; common very fine through medium roots; common very fine and fine tubular pores; 60 percent medium prominent irregular moderately cemented white (10YR 8/1) calcium carbonate nodules with sharp boundaries on bottom of rock fragments; 50 percent pebbles, 10 percent cobbles and 1 percent stones; violently effervescent (55 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); very abrupt wavy boundary.

Bkqm—11 to 14 inches; white (10YR 8/1) very weakly cemented material, very pale brown (10YR 7/3) moist; massive; very hard, firm; brittle; violently effervescent.

**Type location:** Clark County, Nevada; about 20 miles south and 7 miles east of Indian Springs, Nevada; approximately 0.75 mile directly north of Highway 157, Kyle Canyon Road area; 1,386 feet north and 1,710 feet west of the southwest corner of section 24, T.19 S., R.57 E.; USGS Angel Peak, NV , 7.5 minute topographic quadrangle; 36 degrees, 16 minutes, 54.5 seconds north latitude and 115 degrees, 32 minutes, 33 seconds west longitude; UTM 11, 630896e, 4016189n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer convection storms; aridic soil moisture regime bordering on ustic.

*Soil temperature:* 53 to 58 degrees F.

*Depth to calcic horizon:* 2 to 3 inches.

*Depth to petrocalcic horizon:* 10 to 20 inches.

*Control section:*

Clay content—7 to 15 percent.

Rock fragments—35 to 70 percent rock fragments, mainly gravel with 0 to 15 percent cobbles and stones. Approximately 10 to 30 percent of rock fragments are strongly cemented to indurated petrocalcic fragments.

**A horizon:**

Value—5 or 6 dry.

Chroma—2 or 3.

Texture—Sandy loam or loam.

Organic matter—0.25 to 0.75 percent.

Calcium carbonate equivalence of the fine earth—40 to 70 percent.

**Bk horizons:**

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 or 3.

Texture—Sandy loam or loam.

Rock fragments—35 to 65 percent, 20 percent of rock fragments are petrocalcic pieces, and 60 percent carbonate films on bottoms of rock fragments in some horizons.

Organic matter—0.25 to 0.50 percent.

Consistence—Soft or slightly hard dry, nonplastic or slightly plastic wet.

Calcium carbonate equivalence of the fine earth—40 to 70 percent.

Secondary lime accumulation—5 to 20 percent secondary calcium carbonate accumulation in the form of calcium carbonate coats and/or calcium carbonate masses.

**Bkqm horizon:**

Value—6 through 8 moist.

Chroma—1 through 3.

Cementation class—Very weakly to moderately cemented.

**Govwash series**

The Govwash series consists of deep, somewhat excessively drained soils that formed in alluvium derived from gypsiferous sedimentary rocks and basalt. Govwash soils are on dissected pediments. Slopes range from 4 to 15 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Coarse-loamy, gypsic, hyperthermic Leptic Haplogypsis

**Typical pedon:** Govwash gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 565. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 15 percent pebbles.

- A—0 to 1 inch; light brown (7.5YR 6/3) gravelly sandy loam, brown (7.5YR 4/4) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and fine vesicular pores; 15 percent pebbles; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.
- Bw—1 to 3 inches; light brown (7.5YR 6/4) sandy clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and fine vesicular and interstitial pores; 10 percent pebbles; violently effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.
- Byk—3 to 6 inches; light brown (7.5YR 6/4) gravelly gypsiferous sandy loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; moderately hard, very friable, nonsticky and nonplastic; common very fine and few fine roots; many very fine interstitial pores; 20 percent gypsum pendants on bottoms of rock fragments; 5 percent fine calcium carbonate threads; 20 percent pebbles; violently effervescent; slightly alkaline (pH 7.6); abrupt wavy boundary.
- By1—6 to 30 inches; pink (7.5YR 7/3) gypsiferous material, brown (7.5YR 4/4) moist; moderate fine and medium prismatic structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; many very fine interstitial pores; Texture of the fine earth material is coarse sandy loam; 60 percent medium and coarse vertical gypsum crystals and pendants on bottom of rock fragments; 20 percent pebbles; slightly alkaline (pH 7.6); clear wavy boundary.
- By2—30 to 56 inches; pink (7.5YR 7/3) gypsiferous material, brown (7.5YR 4/4) moist; weak fine prismatic structure; soft, very friable, nonsticky and nonplastic; few very fine and few fine roots; many very fine and fine interstitial pores; Texture of the fine earth material is coarse sandy loam; 30 percent fine and medium vertical gypsum crystals and pendants on bottom of rock fragments; 40 percent pebbles; slightly alkaline (pH 7.6); clear wavy boundary.
- Cr—56 to 63 inches; pinkish white (7.5YR 8/2) highly fractured gypsum rock, pinkish gray (7.5YR 7/2) moist; massive; clear wavy boundary.
- R—63 inches; hard gypsiferous sedimentary rocks.

**Type location:** Clark County, Nevada; about 7 miles northeast of Henderson in the Lake Mead National Recreation Area along Lake Shore Road 0.5 mile east of the junction of North Shore Road; 350 feet south and 2,270 feet east of the northwest corner of section 24, T.21 S., R.63 E.; USGS Henderson 7.5 minute topographic quadrangle; 36 degrees 6 minutes 52 seconds north latitude and 114 degrees 53 minutes 45 second west longitude; UTM 11, 0689383e, 3998693n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to gypsic horizon:* 1 to 7 inches.

*Depth to paralithic contact:* 40 to 60 inches

*Control section:*

Clay content—5 to 18 percent.

Rock fragments—Averages 15 to 35 percent, mainly basalt gravel.

Reaction—Slightly alkaline or moderately alkaline.

**A horizon:**

Hue—7.5YR or 10YR.

Value—5 or 6 dry; 4 or 5 moist.  
 Chroma—3 or 4, dry or moist.

**Bw horizon:**

Hue—7.5YR or 10YR.  
 Value—6 or 7 dry, 4 or 5 moist.  
 Chroma—3 or 4, dry or moist.  
 Texture—Sandy clay loam or loam.  
 Clay content—10 to 25 percent.  
 Structure—Subangular blocky or platy.  
 Rock fragments—5 to 15 percent.

**Byk horizon:**

Hue—7.5YR or 10YR.  
 Value—6 or 7 dry, 4 or 5 moist.  
 Chroma—3 or 4, dry or moist.  
 Texture—Gypsiferous sandy loam or gypsiferous fine sandy loam.  
 Structure—Subangular blocky or massive.  
 Identifiable secondary carbonates—Occurs as 2 to 10 percent by volume fine threads or filaments.  
 Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.  
 Secondary gypsum—Occurs as 5 to 10 percent by volume fine and medium crystals or pendants on bottoms of rock fragments.  
 Gypsum content—15 to 25 percent.

**By horizons:**

Hue—7.5YR or 10YR.  
 Value—6 or 7 dry, 4 or 5 moist.  
 Chroma—3 or 4, dry or moist.  
 Texture—Sandy loam, coarse sandy loam.  
 Structure—Prismatic, subangular blocky, or massive.  
 Secondary gypsum—Occurs as 40 to 80 percent by volume vertically oriented fine through coarse clusters of crystals or pendants on bottom of rock fragments.

**Grapevine series**

The Grapevine series consists of very deep, well drained soils that formed in mixed alluvium with some gypsum. Grapevine soils are on fan piedmonts and alluvial flats. Slopes are 0 to 8 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 65 degrees F.

**Taxonomic class:** Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids

**Typical pedon:** Grapevine gravelly loamy sand, rangeland and wildlife habitat in an area of map unit 390. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 20 percent pebbles.

A1—0 to 1 inch; yellowish brown (10YR 5/4) gravelly loamy sand, dark yellowish brown (10YR 4/4) moist; moderate medium platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; common fine tubular pores; 20 percent pebbles; slightly effervescent; very strongly alkaline (pH 9.0); abrupt smooth boundary.

- A2—1 to 5 inches; light brown (7.5YR 6/4) sandy loam, dark brown (7.5YR 4/4) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic; common very fine roots; few fine tubular pores; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.
- Bk1—5 to 12 inches; light brown (7.5YR 6/4) sandy loam, dark brown (7.5YR 4/4) moist; weak thick platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; few fine tubular pores; common fine soft masses of calcium carbonate; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.
- Bk2—12 to 19 inches; brown (7.5YR 5/4) sandy loam, dark brown (7.5YR 4/4) moist; strong medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; few fine tubular pores; common large hard concretions of calcium carbonate; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.
- Bk3—19 to 28 inches; brown (7.5YR 5/4) sandy loam, dark brown (7.5YR 4/4) moist; strong medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common large hard concretions of calcium carbonate; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.
- Bky—28 to 60 inches; brown (7.5YR 5/4) loam, dark brown (7.5YR 4/4) moist; massive; slightly hard, friable, moderately sticky and moderately plastic; common large hard concretions of calcium carbonate; few, fine, distinct, soft filaments of gypsum; violently effervescent; moderately alkaline (pH 8.4).

**Type location:** Clark County, Nevada; approximately 5.5 miles south of Railroad Pass in the north end of Eldorado Valley; about 825 feet north and 2,270 feet east of the southwest corner of section 34, T.23 S., R.63 E.; USGS Boulder City NW, NV 7.5 minute topographic quadrangle; 35 degrees, 53 minutes, 53 seconds north latitude and 114 degrees, 56 minutes, 3 seconds west longitude; UTM 11, 686440e, 3974612n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer thunderstorms. The soil has a typic aridic moisture regime.

*Soil temperature:* 64 to 72 degrees F.

*Depth to the calcic horizon:* 3 to 10 inches.

*Depth to weakly cemented part of calcic horizon:* 15 to 48 inches.

*Control section:*

Percent clay—Averages 10 to 18 percent.

Rock fragments—0 to 15 percent.

Calcium carbonate equivalent in the less than 20 millimeter fraction: 15 to 40 percent.

**A horizon:**

Hue—5YR, 7.5YR or 10YR.

Value—5 through 7 dry, 4 or 5 moist.

Chroma—3 through 6.

**Bk horizons:**

Hue—5YR, 7.5YR or 10YR.

Value—6 through 8 dry, 4 through 7 moist.

Chroma—2 through 6 dry or moist.

Clay content—Averages 10 to 18 percent, ranges from 8 to 30 percent.

Texture—Fine sandy loam, sandy loam, loam with some pedons having thin layers of clay loam.

Structure—Massive, subangular blocky or platy.

Consistence—Soft through hard dry, very friable or friable moist, and nonsticky through moderately sticky, and nonplastic through moderately plastic wet.

Secondary calcium carbonate—15 to 40 percent, mainly in soft masses.

Reaction—Moderately alkaline to strongly alkaline.

Other features—2 to 20 percent calcium carbonate concretions or nodules in some part.

#### **Cky horizons:**

Hue—5YR or 7.5YR.

Value—6 through 8 dry, 4 through 7 moist.

Chroma—2 through 6.

Clay content—Averages 10 to 18 percent, ranges from 8 to 30 percent.

Texture—Fine sandy loam, sandy loam, loam to clay loam.

Consistence—Slightly hard through hard dry, very friable or friable moist, and nonsticky through moderately sticky, and nonplastic through moderately plastic wet.

Secondary calcium carbonate—5 to 20 percent, mainly in soft masses.

Secondary gypsum—1 to 5 percent.

Reaction—Moderately alkaline to strongly alkaline.

Other features—2 to 20 percent calcium carbonate concretions or nodules in some part.

### **Guardian series**

The Guardian series consists of shallow, somewhat excessively drained soils that formed in residuum derived from gypsiferous sedimentary rocks. Guardian soils are on eroded pediments and hills. Slopes range from 2 to 50 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Loamy, gypsic, hyperthermic, shallow Leptic Haplogypsis

**Typical pedon:** Guardian gypsiferous fine sandy loam, rangeland and wildlife habitat in an area of map unit 475. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 5 percent pebbles on pedestals.

ABy—0 to 2 inches; very pale brown (10YR 7/3) gypsiferous fine sandy loam, yellowish brown (10YR 5/4) moist; moderate thin platy structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and fine interstitial pores; 20 percent fine soft masses of gypsum; 5 percent pebbles; violently effervescent; slightly alkaline (pH 7.6); abrupt wavy boundary.

By1—2 to 4 inches; light yellowish brown (10YR 6/4) gypsiferous material, yellowish brown (10YR 5/4) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine and fine interstitial pores; Texture of the fine earth material is sandy loam; 40 percent coarse clusters of gypsum crystals; violently effervescent; slightly alkaline (pH 7.6); abrupt wavy boundary.

By2—4 to 11 inches; very pale brown (10YR 7/3) gypsiferous material, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; many fine through very coarse interstitial

pores; Texture of the fine earth material is fine sandy loam; 50 percent very coarse clusters of gypsum crystals; slightly alkaline (pH 7.6); clear wavy boundary.  
 By3—11 to 19 inches; very pale brown (10YR 7/3) gypsiferous material, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; many fine through coarse tubular pores; Texture of the fine earth material is fine sandy loam; 40 percent coarse clusters of gypsum crystals; slightly alkaline (pH 7.4); clear wavy boundary.  
 Cr—19 to 25 inches; very pale brown (10YR 7/3) weathered, highly gypsiferous siltstone, light gray (10YR 7/2) moist.

**Type location:** Clark County, Nevada; in the Lake Mead National Recreation Area about 1 mile west of Miners Cove along the west side of the Overton Arm of Lake Mead; about 1,410 feet south and 1,270 feet west of the northeast corner of section 14, T.20 S., R.67 E.; USGS Middle Point, NV 7.5 minute topographic quadrangle; 36 degrees, 11 minutes, 50 seconds north latitude and 114 degrees, 27 minutes, 50 second west longitude; UTM 11, 728025e, 408805n, NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to gypsic horizon:* 1 to 4 inches.

*Depth to paralithic contact:* 14 to 20 inches.

*Reaction:* Slightly alkaline or moderately alkaline.

**A horizon:**

Hue—5YR through 10YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Gypsum content—15 to 25 percent.

**By horizons:**

Hue—5YR through 10YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Sandy loam, fine sandy loam, or loam.

Structure—Platy or massive.

Secondary gypsum—Occurs as 40 to 80 percent by volume very coarse and coarse clusters of crystals segregated throughout the matrix. Some pedons have horizons with clusters of crystals with discontinuous cementation ranging from extremely weakly cemented to weakly cemented.

Gypsum content—40 to 60 percent.

**Gypwash series**

The Gypwash series consists of very deep, somewhat excessively drained soils that formed in alluvium derived dominantly from limestone. Gypwash soils are on fan remnants. Slopes range from 2 to 15 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, hyperthermic Typic Calcigypsid

**Typical pedon:** Gypwash extremely gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 235. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by a desert pavement of approximately 65 percent pebbles and 5 percent cobbles.

- A—0 to 1 inch; light brown (7.5YR 6/4) extremely gravelly fine sandy loam, brown (7.5YR 4/4) moist; strong very thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine, common fine, and common medium vesicular pores; 65 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.
- Bw—1 to 4 inches; light brown (7.5YR 6/4) gravelly fine sandy loam, brown (7.5YR 4/4) moist; moderate medium platy structure; slightly hard, very friable, slightly sticky and nonplastic; common very fine roots; many very fine and common fine vesicular pores; 25 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.
- Bky1—4 to 12 inches; reddish brown (5YR 5/4) extremely gravelly coarse sandy loam, reddish brown (5YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common interstitial and few very fine tubular pores; 20 percent coarse soft calcium carbonate masses and many fine coats on bottom of rock fragments; 1 percent fine gypsum crystals on bottom of rock fragments; 60 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.
- Bky2—12 to 27 inches; reddish brown (5YR 5/4), stratified very gravelly coarse sand and extremely gravelly coarse sandy loam, reddish brown (5YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial and common fine and medium tubular pores; 5 percent coarse soft calcium carbonate masses and many medium coats and pendants on bottom of rock fragments; 2 percent fine gypsum crystals on bottom of rock fragments; 65 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.
- Byk1—27 to 36 inches; reddish brown (5YR 5/4) stratified extremely gravelly gypsiferous coarse sandy loam and very gravelly gypsiferous sandy loam, reddish brown (5YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; common fine calcium carbonate coats on bottom of rock fragments; many (35 percent) 2 to 70 millimeter gypsum pendants on bottom of rock fragments; 75 percent pebbles; violently effervescent; moderately alkaline (pH 8.2) abrupt wavy boundary.
- Byk2—36 to 61 inches; light reddish brown (5YR 6/4) stratified very gravelly gypsiferous coarse sand and extremely gravelly gypsiferous coarse sandy loam, reddish brown (5YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; common fine calcium carbonate coats on bottom of rock fragments; common (15 percent) 1 to 30 millimeter gypsum pendants on bottom of rock fragments; averages about 65 percent pebbles; violently effervescent; moderately alkaline (pH 8.2).

**Type location:** Clark County, Nevada; about 9.5 miles northeast of Henderson in the Lake Mead National Recreation Area and about 0.75 mile north of the junction of Northshore Road and Lake Mead Boulevard; 1,875 feet south and 640 feet west of the northeast corner of section 1, T.21 S., R.63 E.; USGS Frenchman Mountain, NV 7.5 minute topographic quadrangle; 36 degrees 09 minutes 15 seconds north latitude and 114 degrees 53 minutes 21 seconds west longitude; UTM 11, 689887e, 4003112n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to calcic horizon:* 3 or 4 inches.

*Depth to gypsic horizon:* 25 to 30 inches.

*Control section:*

Clay content—4 to 10 percent

Rock fragments—55 to 80 percent, mainly gravel.

Calcium carbonate equivalent in the less than 20 millimeter fraction—40 to 60 percent.

**A horizon:**

Hue—5YR through 10YR.

Chroma—3 or 4, dry or moist.

Calcium carbonate equivalent in the fine earth fraction—20 to 40 percent.

**Bky horizons:**

Hue—5YR through 10YR.

Value—5 or 6 dry.

Chroma—3 or 4, dry or moist.

Texture—Sandy loam, sandy loam, or coarse sandy loam.

Clay content—4 to 10 percent.

Calcium carbonate equivalent in the fine earth fraction—30 to 40 percent.

Gypsum content—0 to 3 percent.

**Byk horizons:**

Hue—5YR through 10YR.

Chroma—3 or 4, dry or moist.

Texture—Averages gypsiferous coarse sandy loam through gypsiferous sandy loam, includes layers of coarse sand or loamy coarse sand in the lower part.

Clay content—4 to 8 percent.

Consistence—Soft or slightly hard.

Effervescence—Strongly effervescent or violently effervescent

Calcium carbonate equivalent in the fine earth fraction—30 to 50 percent.

Gypsum content—15 to 35 percent.

**Haleburu series**

The Haleburu series consists of very shallow and shallow to bedrock, well drained soils that formed in colluvium and residuum from mainly volcanic sources. The Haleburu soils are on mountains and hills. Slopes range from 4 to 75 percent. The mean annual precipitation is about 5 inches and the mean annual air temperature is about 66 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic Torriorthents

**Typical pedon:** Haleburu extremely gravelly sandy loam, rangeland and wildlife habitat in a delineation of map unit 147. (Colors are for dry soil unless otherwise

noted.) The soil surface is covered by approximately 75 percent pebbles, 13 percent cobbles, and 7 percent stones.

- A**—0 to 2 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots, common very fine and fine interstitial pores; 65 percent pebbles, 10 percent cobbles, and 5 percent stones; moderately alkaline (pH 8.4); abrupt smooth boundary.
- Bw**—2 to 8 inches; pale brown (10YR 6/3) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; few very fine and fine roots, common very fine and fine tubular pores; slightly effervescent; 40 percent pebbles; moderately alkaline (pH 8.4); clear smooth boundary.
- Bk**—8 to 11 inches; pale brown (10YR 6/3) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots, common very fine and fine tubular pores; few thin calcium carbonate coats on the bottoms of coarse fragments; 55 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.
- R**—11 inches; hard unweathered rhyolite bedrock.

**Type location:** Clark County, Nevada; approximately 9 miles southeast of Searchlight and 2 miles east of Mammoth mine; located in the north end of the Newberry Mountains; about 850 feet north and 1,650 feet east of the projected southwest corner of section 22, T.29 S., R.64 E.; USGS Fourth of July Mountain, NV 7.5 minute topographic quadrangle; 35 degrees, 24 minutes, 08 seconds north latitude; 114 degrees, 49 minutes, 37 seconds west longitude UTM 11, 697335e, 3919817n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July to October following convection storms.

*Soil temperature:* 63 to 72 degrees F.

*Depth to bedrock:* 4 to 14 inches.

*Control section:*

Clay content—6 to 18 percent.

Rock fragments—Averages 35 to 60 percent in the control section, with the surface horizon usually having 65 to 85 percent.

Effervescence—Slightly effervescent to violently effervescent.

Reaction—Slightly alkaline to strongly alkaline.

**A horizon:**

Hue—10YR or 7.5YR.

Value—5 through 7 dry, 3 through 5 moist.

Chroma—3 or 4 dry and moist.

Texture of the fine earth—Sandy loam or loam.

Calcium carbonate equivalent in the fine earth fraction—0 to 5 percent.

Electrical conductivity—0 to 2 dS/m.

SAR—0 to 5.

**Bw horizon:**

Chroma—2 through 4 dry and moist.

Texture of the fine earth—Fine sandy loam, sandy loam or loam.  
 Consistence—Soft or slightly hard, nonsticky or slightly sticky, and nonplastic or slightly plastic.  
 Calcium carbonate equivalent in the fine earth fraction—0 to 5 percent.  
 Electrical conductivity—0 to 2 dS/m.  
 SAR—0 to 4.

**Bk horizon:**

Hue—10YR or 7.5YR.  
 Value—5 through 7 dry, 3 through 5 moist.  
 Chroma—2 through 4 dry and moist.  
 Texture of the fine earth—Fine sandy loam, sandy loam or loam.  
 Structure—Massive or subangular blocky.  
 Consistence—Soft or slightly hard, nonsticky or slightly sticky, and nonplastic or slightly plastic.  
 Calcium carbonate equivalent in the fine earth fraction—5 to 10 percent.  
 Electrical conductivity—0 to 2 dS/m.  
 SAR—0 to 5.  
 Other features—Few thin calcium carbonate coats on the bottom of rock fragments.

**Haplocalcids**

Haplocalcids consist of shallow to very deep, well drained to excessively drained soils on hills. Slopes range from 10 to 40 percent. Haplocalcids formed in colluvium, mainly from basalt and related volcanic rocks. The average annual air temperature is 64 to 70 degrees F., the average annual precipitation is 6 to 9 inches, and the frost-free period is about 250 days.

**Taxonomic class:** Haplocalcids

**Reference Pedon:** Haplocalcids extremely stony sandy loam, rangeland and wildlife habitat in an area of map unit 981. Profile described is a reference profile for the soils in this great group. Textures and depths may vary greatly from those described. (Colors are for dry soil unless otherwise noted.) The soil surface is partly covered by 40 percent gravel, 20 percent cobbles, 20 percent stones and 2 percent boulders.

A—0 to 2 inches; pale brown (10YR 6/3) extremely stony sandy loam, brown (10YR 4/3) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; few fine and common very fine tubular pores; 30 percent gravel, 20 percent cobbles, 20 percent stones; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bkq1—2 to 21 inches; pale brown (10YR 6/3) extremely cobbly loam, dark yellowish brown (10YR 4/4) moist; weak fine and medium subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; few fine and common very fine roots; few fine and very fine tubular pores; 25 percent gravel, 25 percent cobbles, 20 percent stones; calcium carbonate and silica segregated as pendants on rock fragments; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bkq2—21 to 60 inches; pale brown (10YR 6/3) extremely gravelly loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few fine and common very fine roots; few fine and very fine tubular pores; 50 percent gravel, 10 percent cobbles, 1 percent

stones; calcium carbonate and silica segregated as pendants on rock fragments; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

**Type location:** Clark County, Nevada, about 100 meters west of the Arizona state line, 36 degrees, 21 minutes, 24.7 seconds north latitude and 114 degrees, 2 minutes, 53.2 seconds west longitude, NAD83 on the Azure Ridge quadrangle.

**Range in Characteristics:**

*Depth to bedrock:* 10 to more than 60 inches.

*Depth to calcic horizon:* 1 to 4 inches.

*Control section:*

Rock fragments—5 to 40 percent gravel, 2 to 35 percent cobbles, 0 to 5 percent stones.

**A horizon:**

Hue—10YR, 7.5YR, 5YR.

Value—5 through 7, dry; 4 through 6, moist.

Chroma—3 through 6, dry or moist.

Effervescence—Slightly effervescent to violently effervescent; 5 to 15 percent calcium carbonate equivalent.

**Bkq horizons:**

Texture—Sandy loam or loam; sandy clay loam is in some pedons.

Hue—10YR, 7.5YR, 5YR.

Value—5 through 7 dry, 4 through 6 moist.

Chroma—3 through 6, dry or moist.

Reaction (pH)—Moderately alkaline to strongly alkaline.

Effervescence—Strongly effervescent to violently effervescent, 10 to 25 percent calcium carbonate equivalent.

**Hardbasin series**

The Hardbasin series consists of very shallow to a petrogypsic horizon, well drained soils that formed in residuum and colluvium from gypsiferous sedimentary rocks. Hardbasin soils are on summits of rock pediments. Slopes range from 0 to 4 percent. The mean annual precipitation is about 4 inches and the mean annual air temperature is about 66 degrees F.

**Taxonomic class:** Loamy, mixed, superactive, thermic, shallow Typic Petrogypsid

**Typical pedon:** Hardbasin fine sandy loam, rangeland and wildlife habitat in an area of map unit 115. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 5 percent gravel. Microbiotic crust covers approximately 50 percent of the soil surface.

Ay—0 to 1 inch; light reddish brown (5YR 6/4) fine sandy loam, yellowish red (5YR 4/6) moist; strong very thick platy structure; soft, very friable, nonsticky and nonplastic; many very fine and few fine vesicular and interstitial pores; electrical conductivity 2.7 dS/m; 10 percent soft masses of gypsum; 5 percent pebbles; violently effervescent (1 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); abrupt smooth boundary.

**Bym1**—1 to 7 inches; white (10YR 8/1) weakly to strongly cemented petrogypsic horizon, very pale brown (10YR 8/4) moist; massive; very hard to extremely hard, very firm to slightly rigid; few fine roots; vertically oriented crystals of gypsum; very slightly effervescent; abrupt wavy boundary.

**Bym2**—7 to 12 inches; very pale brown (10YR 8/2) very strongly cemented petrogypsic horizon, very pale brown (10YR 8/4) moist; massive; very rigid, rigid; few fine interstitial pores; continuous gypsum cap; very slightly effervescent; gradual wavy boundary.

**Cr**—12 to 31 inches; very pale brown (10YR 8/3) gypsiferous sedimentary rocks interbedded with sandstone, very pale brown (10YR 8/4) moist; massive; hard, firm; very slightly effervescent.

**Type location:** Clark County, Nevada; about 25 miles south and 2 miles west of Moapa, Nevada in White Basin; approximately 3.8 miles east and 2.3 miles north of Muddy Peak mountain; about 320 feet south and 915 feet east of the northwest corner of section 9, T.19 S., R.66 E.; USGS Muddy Peak, NV 7.5 minute topographic quadrangle; 36 degrees, 19 minutes, 08 seconds north latitude and 114 degrees, 38 minutes, 55 seconds west longitude; UTM 11, 0711088e, 4021885n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in some part for brief periods during winter and early spring and between July and October following convection storms. The soils have a typical aridic moisture regime.

*Soil temperature:* 66 to 71 degrees F.

*Depth to petrogypsic horizon:* 1 to 4 inches.

*Depth to paralithic contact:* 10 to 20 inches.

*Organic matter:* 0 to 0.5 percent.

*Control section:*

Rock fragments—0 to 10 percent gravel.

Clay content—5 to 12 percent.

**Ay horizon:**

Hue—5YR or 10YR.

Chroma—4 or 6 moist.

Structure—Thick or very thick.

Consistence—Soft though moderately hard.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Slightly alkaline to moderately alkaline.

Calcium carbonate equivalent of the fine earth fraction: 0 to 3 percent.

Gypsum—1 to 10 percent soft masses, pendants or crystals.

SAR: 0 to 2.

Electrical conductivity: 2 to 4 dS/m.

**Bym1 horizon:**

Hue—7.5YR or 10YR.

Value—7 or 8 dry, 5 or 8 moist.

Chroma—1 though 4 dry, 2 though 6 moist.

Structure—Massive or very thick platy.

Consistence—Very hard though extremely hard, firm to slightly rigid, weakly cemented to very strongly cemented.

Effervescence—Noneffervescent to slightly effervescent in the matrix, very slightly effervescent to strongly effervescent along fractures or surfaces.

**Bym2 horizon:**

Chroma—2 or 3 dry.

Consistence—Rigid or very rigid, rigid or slightly rigid, very strongly cemented to strongly cemented.

Effervescence—Noneffervescent to slightly effervescent in the matrix, very slightly effervescent to strongly effervescent along fractures or surfaces.

**Haymont series**

The Haymont series consists of very deep, well drained soils that formed in alluvium from mixed rock sources. The Haymont soils are on fan skirts, alluvial flats, axial stream floodplains, and lake plains. Slopes are 0 to 2 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 63 degrees F.

**Taxonomic class:** Coarse-silty, mixed, superactive, calcareous, thermic Typic Torriorthents

**Typical pedon:** Haymont loam, rangeland and wildlife habitat in an area of map unit 220. (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; pale brown (10YR 6/3) loam, dark yellowish brown (10YR 4/4) moist; strong very thin and thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and few fine interstitial and few fine tubular pores; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

A2—2 to 5 inches; pale brown (10YR 6/3) silt loam, dark yellowish brown (10YR 4/4) moist; strong very fine granular and thin platy structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine roots; many very fine and few fine interstitial and common very fine tubular pores; violently effervescent; strongly alkaline (pH 9.0); clear wavy boundary.

Cn—5 to 13 inches; very pale brown (10YR 7/3) weakly stratified silt loam, yellowish brown (10YR 5/4) moist; moderate medium platy structure; slightly hard, very friable, moderately sticky and slightly plastic; common very fine and few fine and medium roots; few very fine interstitial and common very fine and fine and few medium tubular pores; violently effervescent; very strongly alkaline (pH 9.4); clear wavy boundary.

Ckny—13 to 29 inches; very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine and few fine tubular pores; few fine soft filaments of calcium carbonate; few fine crystals of gypsum; violently effervescent; very strongly alkaline (pH 9.4); clear smooth boundary.

C—29 to 60 inches; very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; violently effervescent; strongly alkaline (pH 8.8).

**Type location:** Clark County, Nevada; approximately 2 miles southeast of the Sandy Airport in Mesquite Valley; about 1,750 feet south and 1,135 feet west of the northeast corner of section 17, T.25 S., R.57 E.; USGS Shenandoah Peak, NV 7.5 minute topographic quadrangle; 35 degrees, 46 minutes, 32 seconds north latitude and 115 degrees, 36 minutes, 16 minutes west longitude; UTM 11, 626137e, 3959953n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, upper part of the soil moisture control section is moist for a short time in late winter and early spring and for 10 to 20 days following summer convection storms between July and mid October. Typic aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Calcium carbonate:* Calcium carbonate equivalent ranges from 10 to 35 percent.

*Control section:*

Clay content—5 to 18 percent with less than 15 percent fine sand or coarser.

Rock fragments—Less than 5 percent.

**A horizon:**

Value—6 or 7 dry, 4 through 6 moist.

Chroma—3 or 4 moist or dry.

**C horizons:**

Value—5 through 7 dry, 4 or 5 moist.

Chroma—3 or 4 dry, 4 or 5 moist.

Texture—Dominantly very fine sandy loam with less than 15 percent fine sand or coarser or silt loam; below 40 inches it is stratified fine sandy loam, silt loam, loam and very fine sandy loam; some pedons are not stratified.

Clay content—5 to 18 percent.

Structure—Massive, platy or subangular blocky.

Consistence—Soft or slightly hard, nonsticky or slightly sticky, and nonplastic or slightly plastic.

Reaction—Moderately alkaline through very strongly alkaline.

Other features—Some horizons have 1 to 3 percent visible calcium carbonate or gypsum in some pedons.

**Heleweiser series**

The Heleweiser series consists of very deep, well drained soils that formed in mixed alluvium. Heleweiser soils are on fan remnants. Slopes range from 2 to 50 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, hyperthermic Typic Haplocalcids

**Typical pedon:** Heleweiser very gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 286. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 50 percent pebbles and 2 percent cobbles.

A—0 to 1 inch; light brown (7.5YR 6/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; moderate medium platy structure; soft, very friable, slightly sticky and nonplastic; few very fine roots; common very fine vesicular pores; 50 percent pebbles and 2 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bw—1 to 5 inches; light brown (7.5YR 6/4) gravelly fine sandy loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and nonplastic; common very fine roots; few very fine tubular pores and

common very fine interstitial pores; 30 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bk1—5 to 11 inches; light brown (7.5YR 6/4) gravelly fine sandy loam, brown (7.5YR 5/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and nonplastic; many very fine and few fine roots; few very fine tubular pores and common very fine interstitial pores; common (3 percent) fine soft filaments of calcium carbonate in the matrix; common fine pendants on the bottom of rock fragments; 30 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bk2—11 to 20 inches; light brown (7.5YR 6/4) very gravelly sandy loam; brown (7.5YR 5/4) moist; massive; soft, very friable, slightly sticky and nonplastic; many very fine and few fine roots; many very fine interstitial pores; common (20 percent) coarse disseminated soft masses of calcium carbonate; common coarse pendants of calcium carbonate on the bottom of rock fragments; 50 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

Bky1—20 to 34 inches; pink (7.5YR 7/4) very gravelly coarse sandy loam, brown (7.5YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; common (15 percent) coarse calcium carbonate pendants on bottom of rock fragments; very few (1 percent) fine gypsum pendants on bottom of rock fragments; 50 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bky2—34 to 68 inches; pink (7.5YR 7/3) stratified very gravelly coarse sandy loam and extremely gravelly loamy coarse sand, brown (7.5YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; common (10 percent) coarse calcium carbonate pendants on bottom of rock fragments; few (1 percent) fine gypsum pendants on bottom of rock fragments; 60 percent pebbles; violently effervescent; moderately alkaline (pH 8.4).

**Type location:** Clark County, Nevada; about 11 miles northeast of Henderson in the Lake Mead National Recreation Area; in a unsectionized township about 510 feet east and 1,750 south of the northwest corner of section 15, T.21 S., R.64 E.; USGS Government Wash, NV 7.5 minute topographic quadrangle; 36 degrees, 8 minutes, 1 second north latitude and 114 degrees, 49 minutes, 20 seconds west longitude; UTM 11, 695962e, 4000965n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to calcic horizon:* 5 to 14 inches.

*Control section:*

Clay content—Averages 5 to 10 percent.

Rock fragments—Averages 45 to 75 percent, mainly gravel.

**A horizon:**

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Calcium carbonate equivalent in the fine earth fraction—2 to 5 percent.

**Bw horizon:**

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 4 through 6 moist.  
 Chroma—3 or 4, dry or moist.  
 Texture—Sandy loam and fine sandy loam.  
 Rock fragments—15 to 35 percent.

**Bk1 horizon:**

Hue—7.5YR or 10YR.  
 Value—6 or 7 dry, 4 through 6 moist.  
 Chroma—3 or 4, dry or moist.  
 Texture—Sandy loam and fine sandy loam.  
 Rock fragments—15 to 55 percent.  
 Calcium carbonate equivalent in the fine earth fraction—5 to 20 percent.

**Bk2 horizon:**

Hue—7.5YR or 10YR.  
 Value—6 through 8 dry, 4 through 6 moist.  
 Chroma—3 or 4, dry or moist.  
 Texture—Sandy loam and coarse sandy loam.  
 Reaction—Moderately alkaline or strongly alkaline.  
 Calcium carbonate equivalent in the fine earth fraction—10 to 30 percent.

**Bky horizons:**

Hue—5YR through 10YR.  
 Value—6 or 7 dry, 4 through 6 moist.  
 Chroma—3 or 4, dry or moist.  
 Texture—Averages coarse sandy loam or sandy loam, includes strata of loamy sand and loamy coarse sand in the lower part.  
 Rock fragments—45 to 75 percent.  
 Calcium carbonate equivalent in the fine earth fraction—10 to 30 in the upper part and 5 to 20 percent in the lower part.  
 Gypsum content—1 to 3 percent.

**Helkitchen series**

The Helkitchen series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium derived from limestone. Helkitchen soils are on mountains. Slopes range from 15 to 50 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 68 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic Lithic Haplocalcids

**Typical pedon:** Helkitchen extremely stony fine sandy loam, rangeland in an area of map unit 375. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately, 40 percent pebbles, 15 percent cobbles and 15 percent stones.

A—0 to 3 inches; brown (10YR 5/3) extremely stony fine sandy loam, brown (10YR 4/3) moist; moderate thin platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and common fine interstitial pores; 40 percent pebbles, 15 percent cobbles and 15 percent stones; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.  
 Bk1—3 to 7 inches; pale brown (10YR 6/3) extremely gravelly loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and

slightly plastic; common very fine, few fine and medium roots; common very fine interstitial and common fine tubular pores; many medium and coarse calcium carbonates coats and pendants on bottom of rock fragments; 60 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bk2—7 to 12 inches; light yellowish brown (10YR 6/4) very gravelly fine sandy loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine interstitial and common very fine tubular pores; many medium and coarse calcium carbonate coats and pendants on sides and bottom of rock fragments; 35 percent pebbles and 15 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); abrupt irregular boundary.

R—12 inches; gray (10YR 5/1) fractured hard limestone bedrock; many coarse coats of secondary calcium carbonate between fractures.

**Type location:** Clark County, Nevada; about 45 miles south of Mesquite in the Lake Mead National Recreation Area and about 1 mile north of Devil's Cove next to Iceberg Canyon; about 660 feet south and 1,860 feet east of the northwest corner of section 29, T.20 S., R.71 E.; USGS Iceberg Canyon, NV, 7.5 minute topographic quadrangle; 36 degrees, 10 minutes, 19 seconds north latitude and 114 degrees, 05 minutes, 40 seconds west longitude; UTM 11, 761337e, 40069234n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 68 to 71 degrees F.

*Depth to calcic horizon:* 2 to 4 inches.

*Depth to lithic contact:* 7 to 14 inches.

*Control section:*

Clay content—5 to 18 percent

Rock fragments—Averages 35 to 65 percent, the surface horizon ranges from 60 to 75 percent.

Calcium carbonate equivalent in the fine earth fraction—40 to 80 percent.

**A horizon:**

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Rock fragments—35 to 70 percent.

Calcium carbonate equivalent in the fine earth fraction—20 to 40 percent.

**Bk horizons:**

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Loam and fine sandy loam

Rock fragments—35 to 70 percent.

Structure—Weak or moderate subangular blocky or massive.

Other features—Identifiable secondary carbonates common fine to coarse coats and pendants on sides and bottom of rock fragments.

## Hiddensun series

The Hiddensun series consists of shallow, well drained soils that formed in residuum from volcanic rocks influenced by calcareous loess. Hiddensun soils are on mountains. Slopes range from 8 to 50 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic Lithic Haplocalcids

**Typical pedon:** Hiddensun very gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 753. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 45 percent pebbles, 10 percent cobbles, and 1 percent stones.

A—0 to 3 inches; light yellowish brown (10YR 6/4) very gravelly fine sandy loam, dark yellowish brown (10YR 4/4) moist; moderate thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine and common fine roots; common very fine and fine interstitial pores; 45 percent pebbles, 10 percent cobbles and 1 percent stones; violently effervescent; moderately alkaline (pH 8.4) abrupt smooth boundary.

Bk1—3 to 8 inches; light yellowish brown (10YR 6/4) very cobbly fine sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine and fine interstitial pores; common fine calcium carbonate coats and pendants on rock fragments; 20 percent pebbles and 30 percent cobbles; violently effervescent; moderately alkaline (pH 8.4) abrupt wavy boundary.

Bk2—8 to 15 inches; very pale brown (10YR 7/3) extremely cobbly fine sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine and fine interstitial pores; many coarse calcium carbonate coats and soft masses on rock fragments; 10 percent pebbles and 50 percent cobbles; violently effervescent; strongly alkaline (pH 8.6) abrupt irregular boundary.

R—15 inches; hard fractured basalt bedrock; lime and few roots in fractures.

**Type location:** Clark County, Nevada; approximately 4 miles northeast of Jean Lake (dry lake) and 2.7 miles southwest of Erie railroad siding; about 730 feet east and 1,790 feet north of the southwest corner of section 19, T.24 S., R.61 E.; USGS Hidden Valley, NV 7.5 minute topographic quadrangle; 35 degrees, 50 minutes and 31 seconds north latitude and 115 degrees, 12 minutes and 3 seconds west longitude; UTM 11, 662487e, 3967913n; NAD83.

### Range in Characteristics:

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following summer convection storms. Typic aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Depth to calcic horizon:* 2 to 5 inches.

*Depth to lithic contact:* 14 to 20 inches.

*Control section:*

Rock fragments—40 to 65 percent, dominated by cobbles.

Percent clay—6 to 12 percent.

Effervescence—Strongly effervescent or violently effervescent.

**A horizon:**

Chroma—3 or 4 dry or moist.

Calcium carbonate equivalent in the fine earth fraction—5 to 10 percent.

**Bk horizons:**

Value—3 through 5 moist, 6 or 7 dry.

Chroma—3 or 4 dry or moist.

Structure—Subangular blocky or massive.

Consistence—Nonsticky and slightly sticky.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent in the fine earth fraction—15 to 30 percent.

**Highland series**

The Highland series consists of moderately deep, well drained soils that formed in colluvium and residuum from volcanic sources. Highland soils are on backslopes of mountains. Slopes range from 15 to 50 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic Typic Haplargids

**Typical pedon:** Highland extremely gravelly loam, rangeland and wildlife habitat in an area of map unit 291. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered by approximately 65 percent pebbles, 20 percent cobbles and 2 percent stones.

A—0 to 3 inches; pale brown (10YR 6/3) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate thin platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and common fine vesicular pores; 55 percent pebbles, 20 percent cobbles and 2 percent stones; slightly alkaline (pH 7.6); abrupt wavy boundary.

Bt—3 to 13 inches; brown (7.5YR 5/4) very cobbly loam, dark brown (7.5YR 3/4) moist; weak fine subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; many very fine and fine, and few medium roots; many very fine tubular pores; common faint colloid stains on mineral grains; 35 percent pebbles and 20 percent cobbles; slightly alkaline (pH 7.8); abrupt wavy boundary.

2Btkq—13 to 26 inches; light brown (7.5YR 6/4) very gravelly loam, brown (7.5YR 4/4) moist; strong medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; common very fine and fine tubular pores; common faint clay films lining pores and on faces of peds; common fine seams of calcium carbonate; many, distinct, calcium carbonate and silica coats on rock fragments; 36 percent pebbles; slightly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

2Bkq—26 to 40 inches; brown (7.5YR 5/4) very gravelly sandy loam, dark brown (7.5YR 3/4) moist; common medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine, common fine and few medium tubular pores; few fine seams of calcium carbonate; few thin calcium carbonate and silica coats on undersides of rock fragments; 35 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

R—40 inches; hard; slightly fractured bedrock.

**Type location:** Clark County, Nevada; approximately 10 miles northwest of Searchlight, Nevada on the northeast side of the Highland Range; about 15 feet west and 2,850 feet north of the southwest corner of section 27, T.26 N., R.62 E.; USGS McCullough Mountain NE, NV 7.5 minute topographic quadrangle; 35 degrees, 39 minutes, 20 seconds north latitude and 115 degrees, 2 minutes, 25 seconds west longitude; UTM 11, 677400e, 3947516n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July to October following convection storms. Has a typic-aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Depth to argillic horizon:* 2 to 8 inches.

*Depth to bedrock:* 30 to 40 inches.

*Control section:*

Percent clay—18 to 35 percent.

Rock fragments—35 to 60 percent.

**Bt horizon:**

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4.

Clay—18 to 27 percent.

Rock fragments—35 to 60 percent, dominated by cobbles or gravel.

Effervescence—Noneffervescent to slightly effervescent.

Reaction—Slightly alkaline or moderately alkaline.

**2Btkq horizon:**

Hue—10YR or 7.5YR.

Value—5 or 6 dry.

Chroma—3 or 4.

Texture—Loam or clay loam.

Clay—18 to 35 percent.

Rock fragments—35 to 60 percent, dominated by gravel.

Effervescence—Slightly effervescent to violently effervescent.

**2Bkq horizon:**

Clay content—6 to 12

Rock fragments—35 to 60 percent.

Structure—Massive or subangular blocky.

**Hiller series**

The Hiller series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks. Hiller soils are on ballenas. Slopes range from 15 to 50 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 66 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic Durinodic Haplocalcids

**Typical pedon:** Hiller extremely gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 604. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 45 percent pebbles, 10 percent cobbles and 10 percent stones.

A—0 to 3 inches; light yellowish brown (10YR 6/4) extremely gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial and few fine interstitial and tubular pores; 55 percent pebbles, 5 percent cobbles and 5 percent stones; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bw—3 to 8 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; few very few and fine interstitial and tubular pores; 40 percent pebbles and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk—8 to 14 inches; light yellowish brown (10YR 6/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; few very fine and fine interstitial and tubular pores; common (20 percent) fine distinct calcium carbonate coats on bottom and sides of rock fragments; 40 percent pebbles and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bqk—14 to 60 inches; very pale brown (10YR 7/3) very gravelly loam, brown (10YR 5/3) moist; massive; moderately hard, firm, slightly sticky and slightly plastic; few very fine and few fine roots; few very fine interstitial and tubular pores; many (45 percent) fine calcium carbonate and silica coats on bottom of rock fragments; few weakly cemented calcium carbonate seams and soft masses; 35 percent moderately cemented planar durinodes; 40 percent pebbles, 10 percent cobbles and 5 percent stones; violently effervescent; strongly alkaline (pH 8.8).

**Type location:** Clark County, Nevada; in the Lake Mead National Recreation Area about 2.5 miles east of Lakeside Bays along the eastern shore of the Overton Arm; 1,500 feet south and 1,700 feet east of the northwest corner of section 32, T.20 S., R.69 E.; USGS Garrett Butte, Nevada-Arizona 7.5 minute topographic quadrangle; 36 degrees, 9 minutes, 12 seconds north latitude and 114 degrees, 18 minutes, 34 seconds west longitude, NAD 27; UTM 11, 742056e, 4004109n, NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for brief periods between July and October following convection storms; typic aridic moisture regime.

*Soil temperature:* 66 to 71 degrees F.

*Depth to calcic horizon:* 6 to 10 inches.

*Depth to duric feature:* 10 to 20 inches.

*Reaction:* Moderately alkaline or strongly alkaline.

*Control section:*

Clay content—8 to 18 percent.

Rock fragments—35 to 60 percent, mainly gravel.

**A horizon:**

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

**Bw horizon:**

Hue—7.5YR or 10YR.

Value—4 to 6 dry, 3 or 4 moist.

Chroma—3 or 4 moist.

Texture—Loam or sandy loam.

Rock fragments—35 to 60 percent.

Structure—Fine through coarse.

Calcium carbonate equivalent in the fine earth fraction—5 to 10 percent.

**Bk horizon:**

Hue—7.5YR or 10YR.

Value—4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Loam or sandy loam.

Rock fragments—35 to 60 percent.

Structure—Massive or subangular blocky.

Calcium carbonate equivalent in the fine earth fraction—10 to 20 percent.

Identifiable secondary calcium carbonate by volume—5 to 20 percent.

**Bqk horizon:**

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4.

Texture—Loam or sandy loam.

Rock fragments—35 to 60 percent.

Calcium carbonate equivalent in the fine earth fraction—15 to 25 percent.

Identifiable secondary calcium carbonate by volume—5 to 20 percent.

Other features—20 to 40 percent discontinuous, weakly or moderately cemented silica and calcium carbonate planar and / or lenticular masses.

## Holtville series

The Holtville series consists of very deep, well drained soils formed in mixed and stratified alluvium. Holtville soils are on flood plains and basins and have slopes of 0 to 2 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 76 degrees F.

**Taxonomic class:** Clayey over loamy, smectitic over mixed, superactive, calcareous, hyperthermic Typic Torrfluvents

**Typical pedon:** Holtville silt loam, rangeland and wildlife habitat in a delineation of map unit 890. (Colors are for dry soil unless otherwise noted.)

Az—0 to 5 inches; gray (10YR 6/1) silt loam, very dark gray (10YR 3/1) moist; strong thin platy structure; hard, firm, moderately sticky and very plastic; few very fine roots; few fine tubular pores; common fine salt crystals; slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Cz1—5 to 23 inches; pale brown (10YR 6/3) clay, brown (10YR 4/3) moist; massive; very hard, very firm, very sticky and very plastic; few very fine roots; many very fine tubular pores; many fine salt crystals; many medium iron stains; many pressure faces; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Cz2—23 to 31 inches; very pale brown (10YR 7/3) silty clay, brown (10YR 4/3) moist; massive; hard, firm, very sticky and very plastic; few very fine roots; many fine tubular pores; many fine salt crystals; many medium iron stains; many pressure faces; strongly effervescent; slightly alkaline (pH 7.7); abrupt wavy boundary.

2Cz3—31 to 42 inches; light yellowish brown (10YR 6/4) very fine sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine tubular pores; many fine iron stains; strongly effervescent; slightly alkaline (pH 7.8); clear wavy boundary.

2Cz4—42 to 60 inches; pale brown (10YR 6/3) fine sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many fine irregular pores; slightly effervescent; slightly alkaline (pH 7.8).

**Type location:** Clark County, Nevada; approximately 6 miles southwest of Laughlin, Nevada; about 550 feet north and 950 feet east of the southwest corner of section 10, T.33 S., R.66 E.; USGS Davis Dam SE, NV 7.5 minute topographic quadrangle; 35 degrees, 4 minutes, 52 seconds north latitude and 114 degrees, 37 minutes, 18 seconds west longitude; UTM 11, 716832e, 3884631n; NAD83.

#### **Range in Characteristics:**

*Profile reaction:* Dominantly moderately alkaline, but some pedons have strata that are strongly alkaline.

*Carbonates:* Calcareous throughout with disseminated lime.

*Control section:*

Texture—The upper 20 to 36 inches are silty clay, clay or silty clay loam. The lower part is dominantly loamy very fine sand, but includes silt loam to loamy fine sand. Strata as much as 1 inch thick of contrasting texture are in both the fine-textured upper layers and the coarse-textured lower layers.

#### **A horizon:**

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—1 through 4.

#### **C horizons:**

Hue—10YR or 7.5YR.

Value—5 through 7 dry, 3 through 5 moist.

Chroma—1 through 4.

Structure—Massive, but some pedons have platy structure because of stratification.

Gypsum—Soft threads and masses of gypsum in some pedons.

Other features—Vertical tongues 1/2 to 2 inches wide of sandy or coarser soil fill old cracks to depths greater than 20 inches. Unfilled soil cracks range from 1 mm to greater than 1 cm wide at a depth of 20 inches or more.

### **Hoppswell series**

The Hoppswell series consists of very deep, well drained soils that formed in alluvium from igneous sources. Hoppswell soils are on fan remnants. Slopes range from 2 to 15 percent. The mean annual precipitation is about 8 inches and the mean annual temperature is about 61 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic Ustic Haplargids

**Typical pedon:** Hoppswell extremely gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 690. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles, 5 percent cobbles and 3 percent stones.

A—0 to 2 inches; brown (7.5YR 5/4) extremely gravelly sandy loam, dark brown (7.5YR 3/4) moist; moderate medium and thick platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine and fine vesicular pores; 70 percent pebbles, 5 percent cobbles and 3 percent stones; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bt—2 to 15 inches; yellowish red (5YR 5/6) very gravelly sandy clay loam, yellowish red (5YR 4/6) moist; moderate fine and medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; many very fine and fine interstitial pores; many distinct clay films on faces of peds and few faint clay films lining pores; 50 percent pebbles; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bk—15 to 64 inches; white (10YR 8/1) stratified extremely gravelly coarse sand to very gravelly sandy loam, brown (10YR 5/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; common very fine, fine, and few medium and coarse roots; common very fine and fine interstitial pores and few medium tubular pores; many thin calcium carbonate coats on the undersides of coarse fragments; many thin calcium carbonate filaments on the tops of coarse fragments; averages 60 percent pebbles; violently effervescent; strongly alkaline (pH 8.6).

**Type location:** Clark County, Nevada; approximately 9 miles southeast of McCullough Pass between the McCullough Range and the Highland Range on the west side of the power line road; about 1,280 feet west and 625 feet north of the southeast corner of section 6, T.27 S., R.62 E.; USGS Highland Spring, NV 7.5 minute topographic quadrangle; 35 degrees, 37 minutes, 4 seconds north latitude and 115 degrees, 5 minutes, 3 seconds west longitude; UTM 11, 673508e, 3943247n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part from December to March and intermittently moist for 10 to 20 days during July to October following summer convection storms; aridic moisture regime bordering on ustic.

*Soil temperature:* 59 to 65 degrees F.

*Depth to base of argillic:* 11 to 25 inches.

*Control section:*

Percent clay—20 to 30 percent.

Rock fragments—35 to 60 percent, mainly gravel.

**A horizon:**

Hue—10YR or 7.5YR.

Value—5 or 6 dry.

**Bt horizon:**

Hue—7.5YR or 5YR.

Value—4 or 5 dry.

Chroma—4 through 6 dry.

Structure—Weak or moderate, fine or medium, subangular blocky or massive.

Consistence—Slightly hard or hard, friable or very friable, nonsticky to moderately sticky, nonplastic to moderately plastic.

**Bk horizons:**

Hue—10YR or 7.5YR.

Value—6 through 8 dry, 4 or 5 moist.

Chroma—1 through 4 dry, 3 or 4 moist.

Clay content—3 to 12 percent.

Texture—Usually dominated by loamy sand.

Consistence—Soft to hard, friable to firm; nonsticky or slightly sticky, and nonplastic or slightly plastic.

Rock fragments—50 to 70 percent, mainly gravel.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate in the fine earth fraction—1 to 10 percent.

Other features—Common to many calcium carbonate coats on coarse fragments and many large irregular pockets of disseminated calcium carbonate in some horizons.

**Huevi series**

The Huevi series consist of very deep, well drained soils that formed in mixed gravelly alluvium. The Huevi series are on fan remnants, ballenas and fan terraces. Slopes range from 4 to 50 percent. The mean annual precipitation is about 5 inches and the mean annual air temperature is about 72 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, hyperthermic Durinodic Haplocalcids

**Typical pedon:** Huevi extremely gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 600. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 60 percent pebbles and 15 percent cobbles.

A—0 to 5 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; weak thick platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine and fine interstitial pores; 60 percent pebbles and 15 percent cobbles; strongly effervescent; strongly alkaline (pH 8.5); clear smooth boundary.

Bkq—5 to 18 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine and fine and few medium roots; many very fine and fine interstitial and few fine tubular pores; common medium calcium carbonate and silica coats on the bottom of rock fragments; common medium calcium carbonate occurring as concretions and soft masses; 50 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

2Bqk—18 to 60 inches; very pale brown (10YR 7/3) extremely cobbly coarse sandy loam, brown (10YR 4/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine through medium roots; common fine interstitial pores; 40 percent discontinuously weakly silica and calcium carbonate cemented with common medium strongly silica and calcium carbonate cemented masses occurring as lenses and concretions that are brittle when moist; common coarse silica and calcium carbonate coats and pendants on the bottom of rock fragments; 35 percent pebbles and 40 percent cobbles; violently effervescent; moderately alkaline (pH 8.4).

**Type location:** Clark County, Nevada; located in Cottonwood Valley, Lake Mead National Recreation Area; approximately 1.3 miles southeast of the Nine Mile Basin road turn off, along the power line road; about 2,480 feet north and 2,330 feet west of the southeast corner of section 36, T.29 S., R.65 E.; USGS Spirit Mountain NW, NV 7.5 minute topographic quadrangle; 35 degrees, 22 minutes, and 35 seconds north latitude, 114 degrees, 40 minutes, and 55 seconds west longitude; UTM 11, 710573e, 3917251n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to calcic horizon:* 2 to 6 inches.

*Depth to duric feature:* 8 to 21 inches.

*Control section:*

Clay content—8 to 18 percent.

Rock fragments—35 to 80 percent gravel and cobbles.

Calcium carbonate equivalent in the less than 20 millimeter fraction—15 to 35 percent.

**A horizon:**

Hue—10YR or 7.5YR.

Value—5 through 7 dry, 4 or 5 moist.

Chroma—2 through 6 dry, 3 or 4 moist.

**Bkq horizon:**

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 through 6 dry, 3 or 4 moist.

Texture—Sandy loam, fine sandy loam, loam.

Consistence—Soft or slightly hard, very friable or friable.

Structure—Massive or subangular blocky.

**2Bqk horizon:**

Hue—10YR or 7.5YR.

Value—6 to 8 dry, 4 to 6 moist.

Chroma—2 to 6 dry or moist.

Texture—Coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam.

Consistence—Slightly hard through hard, friable or firm.

Structure—Massive or platy.

Cementation—Discontinuously weakly cemented silica and calcium carbonate, with 20 to 50 percent strong silica and calcium carbonate cementation occurring as concretions, durinodes, or lenses within the matrix. These are hard or very hard when dry, very firm when moist, brittle, and do not slake in dilute hydrochloric acid.

**Hypoint series**

The Hypoint series consists of very deep, somewhat excessively drained soils that formed in mixed alluvium. Hypoint soils are on fan aprons, fan skirts and alluvial fans.

Slopes range from 0 to 4 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 66 degrees F.

**Taxonomic class:** Sandy, mixed, thermic Typic Torriorthents

**Typical pedon:** Hypoint gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 150. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 20 percent pebbles.

A—0 to 2 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure, with a 1/4 inch surface crust; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine interstitial and few fine tubular pores; 20 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

C—2 to 60 inches; pale brown (10YR 6/3) and light yellowish brown (10YR 6/4) stratified sand to very gravelly coarse sand, brown (10YR 4/3) and dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; few very fine through coarse tubular and common very fine and fine interstitial pores; few, distinct, randomly oriented patches of calcium carbonate coats on rock fragments; averages 25 percent pebbles; slightly effervescent; strongly alkaline (pH 8.6).

**Type location:** Clark County, Nevada; approximately 1 mile west of Eldorado Valley Dry Lake; about 1,960 feet south and 230 feet east of the northwest corner of section 17, T.24 S., R.63 E.; USGS Boulder City SW, NV 7.5 minute topographic quadrangle; 35 degrees, 51 minutes, 38 seconds north latitude and 114 degrees, 58 minutes, 22 seconds west longitude; UTM 11, 683043e, 3970381n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following convection storms.

*Soil temperature:* 64 to 71 degrees F.

*Control section:*

Rock fragments—Averages 15 to 35 percent.

Percent clay—1 to 8 percent.

Effervescence—Noneffervescent to slightly effervescent.

**A horizon:**

Value—6 or 7 dry.

Chroma—2 through 4.

**C horizon:**

Value—5 or 6 dry.

Rock fragments—Averages 15 to 35 with individual strata ranging up to 60 percent.

Structure—Massive or single grain.

Consistence—Soft, very friable or loose.

Other features—1 to 3 percent randomly oriented, patchy calcium carbonate coats on rock fragments.

Calcium carbonate equivalent in the fine earth fraction—0 to 5 percent.

## Iceberg series

The Iceberg series consists of shallow, well drained soils that formed in residuum and colluvium derived from limestone. Iceberg soils are on mountains. Slopes range from 15 to 75 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, hyperthermic Lithic Haplocalcids

**Typical pedon:** Iceberg extremely stony loam, rangeland and wildlife habitat in an area of map unit 375. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 50 percent pebbles, 10 percent cobbles and 25 percent stones.

A—0 to 2 inches; light yellowish brown (10YR 6/4) extremely stony loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine and few fine interstitial pores; 45 percent pebbles, 10 percent cobbles and 25 percent stones; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bk1—2 to 7 inches; light yellowish brown (10YR 6/4) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and few fine and medium roots; common very fine and few fine interstitial pores; common fine calcium carbonate coats on rock fragments; 55 percent pebbles, 10 percent cobbles, and 3 percent stones; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bk2—7 to 17 inches; light yellowish brown (10YR 6/4) extremely cobbly loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine through coarse roots; common very fine interstitial pores; many fine calcium carbonate coats on rock fragments; 20 percent pebbles, 40 percent cobbles and 10 percent stones; violently effervescent; moderately alkaline (pH 8.4); abrupt irregular boundary.

R—17 inches; hard limestone bedrock.

**Type location:** Clark County, Nevada; about 45 miles south of Mesquite in the Lake Mead National Recreation Area on the north end of Devil's Cove next to Iceberg Canyon; about 1,470 feet south and 730 feet east of the northeast corner of section 29, T.20 S., R.71 E.; USGS Iceberg Canyon, NV 7.5 minute topographic quadrangle; 36 degrees, 10 minutes, 11 seconds north latitude and 114 degrees, 05 minutes, 08 seconds west longitude; UTM 11, 762143e, 4006712n; NAD83.

### Range in Characteristics:

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to calcic horizon:* 1 to 3 inches.

*Depth to lithic contact:* 10 to 20 inches.

*Control section:*

Clay content—8 to 15 percent.

Rock fragments—60 to 85 percent.

Calcium carbonate equivalent—40 to 70 percent in the less than 20 millimeter fraction.

**A horizon:**

Value—5 through 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Calcium carbonate equivalent in the fine earth fraction—5 to 40 percent.

**Bk1 horizon:**

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture of the fine earth—Loam or fine sandy loam.

Calcium carbonate equivalent in the fine earth fraction—35 to 60 percent.

Other features—Identifiable secondary carbonates occur as common or many pendants and coats on rock fragments.

**Bk2 horizon:**

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture of the fine earth—Loam or fine sandy loam.

Calcium carbonate equivalent in the fine earth fraction—35 to 60 percent.

Other features—Identifiable secondary carbonates occur as common or many pendants and coats on rock fragments.

**Ifteen series**

The Ifteen series consists of very deep, well drained soils that formed in alluvium derived from limestone. Ifteen soils are on fan remnants. Slopes range from 2 to 30 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 60 degrees F.

**Taxonomic class:** Coarse-loamy, carbonatic, thermic Durinodic Haplocalcids

**Typical pedon:** Ifteen extremely gravelly very fine sandy loam, rangeland and wildlife habitat in an area of map unit 490. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 65 percent pebbles, of which more than half is pan fragments.

A—0 to 2 inches; light yellowish brown (10YR 6/4) extremely gravelly very fine sandy loam, dark yellowish brown (10YR 4/4) moist; strong very thick and medium platy structure; slightly hard, very friable, nonsticky and nonplastic; many very fine, common fine, medium and few coarse vesicular pores; 65 percent pebbles, of which over one-half are pan fragments; strongly effervescent (16 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear smooth boundary.

Bw1—2 to 6 inches; light yellowish brown (10YR 6/4) very fine sandy loam, brown (7.5YR 4/4) moist; moderate thick platy structure parting to medium subangular blocky; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine and few fine tubular and interstitial pores; violently effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); very strongly alkaline (pH 9.2); clear wavy boundary.

Bw2—6 to 15 inches; light brown (7.5YR 6/4) fine sandy loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and slightly plastic; many very fine and few fine, medium and coarse roots; common

very fine and few fine tubular and interstitial pores; 5 percent pebbles; violently effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6); clear wavy boundary.

**Bk**—15 to 36 inches; pinkish white (7.5YR 8/2) loam, light brown (7.5YR 6/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine interstitial pores; disseminated calcium carbonate through out; 10 percent pebbles; violently effervescent (50 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.8); clear wavy boundary.

**2Bqk**—36 to 60 inches; pinkish white (7.5YR 8/2) extremely gravelly fine sandy loam, light brown (7.5YR 6/4) moist; massive; slightly hard, friable, nonsticky and slightly plastic; few very fine roots; 80 percent discontinuous bands of strongly cemented silica and calcium carbonate; 70 percent pebbles and 5 percent cobbles; violently effervescent (25 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6).

**Type location:** Clark County, Nevada; approximately 7 miles north of Jean; about 1,130 feet west and 2,150 feet north of the southeast corner of section 8, T.24 S., R.60 E.; USGS Jean, NV 7.5 minute topographic quadrangle; 35 degrees, 52 minutes, 19 seconds north latitude and 115 degrees, 16 minutes, 49 seconds west longitude; UTM 11, 655253e, 3971111n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following convection storms. The soils have a typic aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Depth to calcic horizon:* 14 to 20 inches.

*Depth to discontinuous silica cementation:* 30 to 38 inches.

*Control section:*

Clay content—Averages 8 to 16 percent.

Rock fragments—Averages 15 to 20 percent mainly gravel; 0 to 15 percent in the upper part and 65 to 80 percent in the lower part.

**Bw horizons:**

Hue—10YR or 7.5YR.

Value—6 or 7, dry.

Chroma—4 through 6, dry and moist.

Clay content—8 to 16 percent.

Rock fragments—0 to 15 percent pebbles.

Structure—Subangular blocky or platy parting to subangular blocky.

Consistence—Soft or slightly hard, nonplastic or slightly plastic.

Calcium carbonate equivalent—15 to 30 percent in the fine earth fraction and 25 to 35 percent in the less than 20 millimeter fraction.

Other features—Few fine soft masses of calcium carbonate in the lower part of some pedons.

**Bk horizon:**

Hue—10YR or 7.5YR.

Value—6 through 8, moist.

Chroma—1 through 4, dry and moist.

Clay content—8 to 16 percent.

Texture—Loam or fine sandy loam

Rock fragments—0 to 15 percent gravel.

Effervescence—Strongly effervescent or violently effervescent.  
 Calcium carbonate equivalent in the fine earth fraction—40 to 60 percent.

**2Bqk horizon:**

Hue—10YR or 7.5YR.  
 Value—7 or 8 dry, 5 or 6 moist.  
 Chroma—2 through 4, dry and moist.  
 Texture—Fine sandy loam or sandy loam.  
 Clay content—6 to 12 percent.  
 Rock fragments—60 to 75 percent mainly gravel with 0 to 10 percent cobbles.  
 Effervescence—Strongly effervescent or violently effervescent.  
 Reaction—Moderately alkaline or strongly alkaline.  
 Calcium carbonate equivalent—20 to 35 percent in the fine earth fraction, 40 to 60 percent in the less than 20 millimeter fraction  
 Other features—40 to 80 percent discontinuous weak to strong silica and calcium carbonate cementation.

**Irongold series**

The Irongold series consists of shallow to a hardpan, well drained soils that formed in alluvium from limestone. Irongold soils are on fan remnants. Slopes range from 2 to 15 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 60 degrees F.

**Taxonomic class:** Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids

**Typical pedon:** Irongold extremely gravelly loam, rangeland and wildlife habitat in an area of map unit 870. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 65 percent pebbles, 5 percent cobbles, and 1 percent stones.

- A1—0 to 1 inch; pale brown (10YR 6/3) extremely gravelly loam, brown (10YR 4/3) moist; strong thick platy structure parting to moderate medium platy; soft, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and few fine vesicular pores; 65 percent pebbles, 5 percent cobbles and 1 percent stones; violently effervescent (17 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear smooth boundary.
- A2—1 to 7 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; moderate fine and medium platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine vesicular and few very fine and fine interstitial pores; 15 percent pebbles; violently effervescent (18 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear smooth boundary.
- Bk—7 to 11 inches; light yellowish brown (10YR 6/4) very gravelly loam, yellowish brown (10YR 5/4) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; common very fine and few fine tubular and interstitial pores; many thin calcium carbonate coats and pendants on the undersides of rock fragments; 35 percent pebbles, 3 percent cobbles and 2 percent stones; violently effervescent (25 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt wavy boundary.
- Bkm—11 to 34 inches; white (10YR 8/1) continuous weakly cemented petrocalcic, very pale brown (10YR 8/2) moist; weak very thick platy structure; very hard, very

firm, brittle; common very fine and few fine roots in fractures; thin continuous laminar cap (1 millimeter) covering plates; 80 percent of hardpan dissolves in concentrated hydrochloric acid; violently effervescent; clear wavy boundary.

2Bk—34 to 60 inches; very pale brown (10YR 7/3) extremely gravelly loamy coarse sand, pale brown (10YR 6/3) moist; massive; hard, firm, nonsticky and nonplastic; few very fine roots; many very fine and few fine and medium interstitial pores; many thin calcium carbonate coats and pendants on the undersides of coarse fragments; 30 percent discontinuous weak cementation in bands; 75 percent pebbles; violently effervescent (60 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.8).

**Type location:** Clark County, Nevada; approximately 2.7 miles northwest of Goodsprings, Nevada; about 690 feet west and 2,820 feet south of the northeast corner of section 16, T.24 S., R.58 E.; USGS Goodsprings, NV 7.5 minute topographic quadrangle; 35 degrees, 51 minutes, 39 seconds north latitude and 115 degrees, 28 minutes, 13 seconds west longitude; UTM 11, 638117e, 3969594n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July to October following convection storms. The soils have a typic aridic moisture regime.

*Soil temperature:* 59 to 64 degrees F.

*Depth to petrocalcic:* 10 to 14 inches.

*Control section:*

Percent clay—8 to 16 percent.

Rock fragments—Averages 15 to 35 percent, mainly gravel.

Calcium carbonate equivalent of the less than 20 millimeter fraction—25 to 40 percent.

**A horizons:**

Chroma—3 or 4 moist and dry.

Calcium carbonate equivalent in the fine earth fraction—15 to 30 percent.

**Bk horizon:**

Value—4 or 5 moist.

Chroma—4 through 6.

Texture—Loam or sandy loam.

Clay content—8 to 16 percent.

Rock fragments—15 to 45 percent, mainly pebbles.

Calcium carbonate equivalent in the fine earth fraction—20 to 30 percent.

Other features—Some pedons contain common fine soft calcium carbonate nodules.

**Bkm horizon:**

Structure—Platy or massive.

Cementation—Weakly or moderately cemented.

**2Bk horizon:**

Consistence—Slightly hard or hard, friable or firm.

Clay content—2 to 8 percent.

Rock fragments—65 to 80 percent, mainly pebbles.

Calcium carbonate equivalent in the fine earth fraction—50 to 70 percent.

## Jean series

The Jean series consists of very deep, excessively drained soils that formed in sandy alluvial or eolian materials over unconforming sandy-skeletal sediments from mixed rock sources. Jean soils are on erosional fan remnants, inset fans, and channels. Slopes are 2 to 4 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 65 degrees F.

**Taxonomic class:** Sandy-skeletal, mixed, thermic Typic Torriorthents

**Typical pedon:** Jean gravelly loamy fine sandy, rangeland and wildlife habitat in the adjoining Las Vegas Valley Area, Nevada, soil survey. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 40 percent pebbles and a 1 percent cobbles.

A—0 to 1 inch; pink (7.5YR 7/4) gravelly loamy fine sand, brown (7.5YR 5/4) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic; many very fine and fine, and few medium vesicular pores; 20 percent pebbles; violently effervescent; moderately alkaline; (pH 8.3); abrupt smooth boundary.

AB—1 to 8 inches; light reddish brown (5YR 6/4) loamy fine sand, reddish brown (5YR 5/4) moist; weak very coarse prismatic structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine tubular pores; violently effervescent; moderately alkaline; (pH 8.4); clear smooth boundary.

Bk1—8 to 18 inches; pink (7.5YR 7/4) loamy fine sand, brown (7.5YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; distinct calcium carbonate films on bottom of rock fragments; 10 percent pebbles; violently effervescent; moderately alkaline; (pH 8.4); clear smooth boundary.

2Bk2—18 to 25 inches; pink (7.5YR 7/4) very gravelly loamy sand, light reddish brown (7.5 6/4) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine and fine interstitial pores; distinct calcium carbonate coats on bottom of rock fragments; 40 percent pebbles; violently effervescent; strongly alkaline; (pH 8.6); clear smooth boundary.

2C—25 to 60 inches; pink stratified extremely gravelly sand through very gravelly loamy fine sand, brown (7.5YR 5/4) moist; single grain; loose, nonsticky and nonplastic; many very fine and fine interstitial pores; violently effervescent; moderately alkaline (pH 8.4)

**Type location:** Clark County, Nevada; near the intersection of Decatur Boulevard and Robindale Road; about 2,640 feet south of the northwest corner of section 7, T.22 S., R.61 E.; USGS Las Vegas SW, NV 7.5 minute quadrangle; 36 degrees, 2 minutes, 58 seconds north latitude and 115 degrees, 12 minutes, 27 seconds west longitude; UTM 11, 661450e 3990930n; NAD83.

### Range in Characteristics:

*Soil moisture:* Usually dry. Moist for short periods throughout the moisture control section December through March. Moist above and periodically in upper part of moisture control section, 1 to 10 days cumulative, June through August.

*Soil temperature:* 65 to 71 degrees F.

*Depth to Bk1 horizon:* 5 to 10 inches.

*Depth to skeletal material:* 16 to 30 inches.

*Control section:*

Texture of upper portion—Loamy fine sand or fine sand with less than 15 percent rock fragments.

Texture of lower portion—Averages extremely gravelly sand through very gravelly loamy fine sand.

Rock fragments—Averages 35 to 80 percent, mostly gravel.

Reaction—Moderately alkaline or strongly alkaline.

**A horizon:**

Hue—5YR, 7.5YR or 10YR.

Value—6 or 7 dry, 5 or 6 moist.

Chroma—2 to 4.

**AB horizon:**

Hue—5YR, or 7.5YR or 10YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 through 5.

Other features—Redder hues and higher chroma reflect lithochromic colors.

**C horizon:**

Calcium carbonate segregations—Commonly contains thin calcium carbonate coatings on undersides of pebbles or a few soft calcium carbonate masses within 40 inches.

**Jetmine series**

The Jetmine series consists of shallow to a duripan, well drained soils that formed in mixed alluvium from rhyolite and metamorphic sources. Jetmine soils are on fan remnants. Slopes range from 2 to 8 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 59 degrees F.

**Taxonomic class:** Loamy, mixed, superactive, thermic, shallow Cambidic Haplodurids

**Typical pedon:** Jetmine sandy loam, rangeland and wildlife habitat in an area of map unit 691. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 50 percent pebbles and 2 percent cobbles.

A—0 to 2 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) moist; weak thick platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine and few fine interstitial pores; 10 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Bk—2 to 16 inches; light yellowish brown (10YR 6/4) sandy loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, few fine and medium roots; common very fine and few fine interstitial and tubular pores; common thin calcium carbonate coats on undersides of rock fragments; 10 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

Bqkm—16 to 60 inches; white (10YR 8/1) weakly cemented duripan, very pale brown (10YR 8/3) moist; massive; hard, very firm, brittle; few very fine roots; discontinuous weak silica and calcium carbonate cemented; 1 millimeter laminar cap; 20 percent discontinuous strong cementation in the upper part; greater than

four inches between fractures with few very fine roots in fractures; violently effervescent.

**Type location:** Clark County, Nevada; approximately 3 1/2 miles north of Searchlight, NV, in the south end of Eldorado Valley; about 2,810 feet south and 1,000 feet east of the northwest corner of section 12, T.28 S., R.63 E.; USGS Nelson SW, NV 7.5 minute topographic quadrangle; 35 degrees, 31 minutes, 24 seconds north latitude and 114 degrees, 53 minutes, 52 seconds west longitude; UTM 11, 690615e, 3933112n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July to October following convection storms.

*Soil temperature:* 59 to 63 degrees F.

*Depth to duripan:* 14 to 20 inches.

*Reaction:* Moderately alkaline or strongly alkaline.

*Control section:*

Percent clay—8 to 17 percent.

Rock fragments—5 to 30 percent mainly gravel.

**A horizon:**

Value—5 or 6 dry.

**Bk horizon:**

Value—4 or 5 moist.

Texture—Sandy loam or fine sandy loam.

Rock fragments—5 to 30 percent, mainly gravel.

**Bqkm horizon:**

Other features—Weakly to strongly silica and calcium carbonate cemented.

**Jumbopeak series**

The Jumbopeak series consists of moderately deep, well drained soils that formed in residuum and colluvium from granite, gneiss and schist. Jumbopeak soils are on mountains. Slopes range from 30 to 75 percent. The mean annual precipitation is about 11 inches and the mean annual air temperature is about 53 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic Aridic Argiustolls

**Typical pedon:** Jumbopeak extremely gravelly loamy coarse sand, forestland and wildlife habitat in an area of map unit 646. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 60 percent gravel, 15 percent cobbles, 2 percent stones and 2 percent boulders.

A1—0 to 2 inches; brown (10YR 4/3) extremely gravelly loamy coarse sand, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure parting to moderate very fine granular; soft, very friable, nonsticky and nonplastic; many very fine and few fine roots; many very fine interstitial pores; 50 percent pebbles, 10 percent cobbles, 1 percent stones and boulders; slightly acid (pH 6.5); abrupt wavy boundary.

A2—2 to 9 inches; brown (10YR 4/3) very gravelly coarse sandy loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and nonplastic; many very fine, common fine and few medium roots; many very fine interstitial pores and common very fine and fine tubular pores; 40 percent pebbles and 5 percent cobbles; neutral (pH 7.0); clear wavy boundary.

Bt1—9 to 17 inches; yellowish brown (10YR 5/4) very gravelly coarse sandy loam, dark yellowish brown (10YR 3/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and moderately plastic; common very fine through very coarse roots; common very fine and fine tubular pores; 60 percent discontinuous, distinct clay films bridging sand grains and lining pores; 10 percent patchy, distinct clay films on ped faces; 35 percent pebbles, 10 percent paragravel and 15 percent paracobbles; neutral (pH 7.0); clear wavy boundary.

Bt2—17 to 29 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine through very coarse roots; common very fine and fine tubular pores; 10 percent patchy, faint clay films bridging sand grains and coating rock fragments; 35 percent pebbles, 20 percent paragravel and 20 percent paracobbles; slightly acid (pH 6.5); clear wavy boundary.

Cr—29 to 31 inches; moderately weathered gneiss and schist; moderately difficult to dig with shovel.

**Type location:** Clark County, Nevada; about 38 miles south and 5 miles east of Mesquite, Nevada; approximately 0.75 mile south and 0.25 mile east of Mica Peak in the Gold Butte area; 225 feet south and 750 feet east of the northwest corner of section 26, T.19 S., R.70 E.; USGS Gold Butte, NV 7.5 minute topographic quadrangle; 36 degrees, 15 minutes, 34.1 seconds north latitude and 114 degrees, 09 minutes, 07.9 seconds west longitude; UTM 11, 0755855e 4016492n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer thunderstorms; aridic soil moisture regime bordering on ustic.

*Soil temperature:* 55 to 58 degrees F.

*Depth to paralithic contact:* 20 to 40 inches.

*Organic matter:* 1 to 2 percent in the mollic epipedon.

*Control section:*

Clay content—12 to 18 percent.

Rock fragments—35 to 60 percent gravel with strongly cemented to indurated cementation class. rock fragments may range up to 75 percent when including paragravel and paracobbles.

**A1 horizon:**

Hue—10YR or 7.5YR.

Value—3 through 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Loamy coarse sand or loamy sand.

Structure—Weak or moderate, fine or medium.

Rock fragments—60 to 75 percent.

Reaction—Slightly acid or neutral.

**A2 horizon:**

Hue—10YR or 7.5YR

Value—4 or 5 dry.

Clay content—6 to 12 percent.

Texture—Coarse sandy loam or sandy loam.

Structure—Fine or medium.

Consistence—Soft through moderately hard, dry; very friable or friable, moist; nonsticky or slightly sticky, wet.

Rock fragments—35 to 60 percent.

Reaction—Neutral or slightly alkaline.

**Bt1 horizon:**

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 3 or 4 moist.

Chroma—3 through 6, dry and moist.

Clay content—12 to 18 percent.

Texture—Coarse sandy loam or sandy loam.

Structure—Moderate or strong, fine through very coarse.

Consistence—Slightly hard to hard, dry; very friable or friable, moist; slightly plastic and moderately plastic, wet.

Rock fragments—35 to 60 percent, with 10 to 15 percent pararock fragments.

**Bt2 horizon:**

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 3 or 4 moist.

Chroma—4 through 6.

Clay content—6 to 12 percent.

Texture—Coarse sandy loam or sandy loam.

Structure—Fine or medium, subangular blocky or massive.

Consistence—Soft or slightly hard, dry; nonsticky or slightly sticky, nonplastic or slightly plastic, wet.

Rock fragments—35 to 60 percent gravel with strongly cemented to indurated cementation class. rock fragments may range up to 75 percent when including paragravel and paracobbles.

Effervescence—Non-effervescent matrix.

Reaction—Slightly acid or neutral.

Calcium carbonate equivalent of the fine earth—0 to 1 percent.

Other features—Some pedons have few thin calcium carbonate coats on rock fragments and ped faces.

**Cr or Crt horizon:**

Other features—Some pedons have clay films on rock fragments or in fractures.

**Kidwell series**

The Kidwell series consists of very deep, well drained soils that formed in alluvium derived from mixed volcanic sources. Kidwell soils are on fan remnants. Slopes range from 2 to 8 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 60 degrees F.

**Taxonomic class:** Fine-loamy, mixed, superactive, thermic Typic Calcicargids

**Typical pedon:** Kidwell very gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 160. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered by approximately 45 percent pebbles.

A1—0 to 1 inch; brown (10YR 5/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 35 percent pebbles; moderately alkaline (pH 8.0); clear wavy boundary.

A2—1 to 9 inches; yellowish brown (10YR 5/4) gravelly sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 15 percent pebbles; moderately alkaline (pH 8.0); clear wavy boundary.

Bt—9 to 15 inches; yellowish brown (10YR 5/4) gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine roots; many very fine tubular pores; few faint clay films on faces of peds and coating sand grains; 20 percent pebbles; moderately alkaline (pH 8.2); clear wavy boundary.

Btk—15 to 31 inches; yellowish brown (10YR 5/4) gravelly sandy clay loam, dark yellowish brown (10YR 4/4); moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; common distinct clay films on faces of peds; many fine soft calcium carbonate masses; 15 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bk—31 to 60 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; massive; hard, friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; many coarse and medium hard calcium carbonate masses; 30 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4).

**Type location:** Clark County, Nevada; approximately 1 mile west and 5 miles south of Searchlight, Nevada on the west side of the power line road in the north end of Piute Valley; about 2385 feet south and 830 feet west of the northeast corner of section 28, T.29 S., R.63 E.; USGS Searchlight, NV 7.5 minute topographic quadrangle; 35 degrees, 23 minutes, 33 seconds north latitude and 114 degrees, 56 minutes, 30 seconds west longitude; UTM 11, 686938e, 3918516n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part from December to March and intermittently moist for 10 to 20 days during July to October following summer convection storms; typic aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Depth to base of the argillic horizon:* 24 to 38 inches.

*Depth to secondary calcium carbonate accumulation:* 10 to 23 inches.

*Control section:*

Percent clay—20 to 30 percent.

Rock fragments—15 to 35 percent, mainly gravel.

Reaction—Moderately alkaline or strongly alkaline.

**A horizon:**

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry and moist.

**Bt horizon:**

Hue—7.5YR or 10YR.

Value—5 or 6 dry.

Chroma—4 through 6 dry and moist.

Texture—Sandy clay loam or clay loam.

**Btk horizon:**

Hue—7.5YR or 10YR.

Value—5 through 8 dry.

Chroma—4 through 6 dry and moist.

Calcium carbonate equivalent in the fine earth fraction—15 to 25 percent.

Texture—Sandy clay loam or clay loam.

**Bk or Bqk horizon:**

Hue—7.5YR or 10YR.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—3 through 6.

Texture—Coarse sandy loam or sandy loam.

Rock fragments—10 to 35 percent, mainly gravel.

Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.

Reaction—Moderately alkaline and strongly alkaline.

**Kitgram series**

The Kitgram series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from limestone. Kitgram soils are on backslopes of mountains. Slopes range from 30 to 75 percent. The mean annual precipitation is about 20 inches and the mean annual air temperature is about 43 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, frigid Pachic Calcicustolls

**Typical pedon:** Kitgram very gravelly loam, forestland and wildlife habitat in an area of map unit 915. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 65 percent pebbles, 10 percent cobbles, and 1 percent stones.

A—0 to 2 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate coarse subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; 30 percent pebbles and 5 percent cobble; slightly alkaline (pH 7.8); abrupt smooth boundary.

Bk1—2 to 13 inches; dark grayish brown (10YR 4/2) extremely gravelly fine sandy loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; common very fine, coarse and very coarse and few fine and medium roots; common very fine and fine tubular pores; 40 percent, prominent, light gray (10YR 7/2) calcium carbonate films on the undersides of rock fragments; 45 percent pebbles and 20 percent cobble; very slightly effervescent (40 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.0); clear smooth boundary.

Bk2—13 to 23 inches; dark grayish brown (10YR 4/2) very gravelly fine sandy loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, very friable, slightly sticky and nonplastic; few very fine through very coarse roots; common very

fine and few fine tubular pores; 45 percent, very fine, prominent, white (10YR 8/1), irregular, carbonate pendants on undersides of rock fragments, hard, clear; 40 percent, prominent, light gray (10YR 7/2) calcium carbonate films on undersides of rock fragments; 40 percent pebbles and 15 percent cobbles; slightly effervescent (60 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.0); abrupt smooth boundary.

R—23 to 26 inches; hard limestone bedrock.

**Type location:** Clark County, Nevada; about 4 miles north and 18.5 miles west of Pahrump, Nevada in Wallace Canyon in the Spring Mountain Range; 1,450 feet north and 870 feet east of the southwest corner of Section 29, T.19 S., R.56 E.; USGS Charleston Peak, Nevada 7.5 minute topographic quadrangle; 36 degrees, 15 minutes, 55.7 seconds north latitude and 115 degrees, 43 minutes, 24.0 seconds west longitude; UTM 11, 614680e 4014149n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in late winter and spring, and periodically moist in the upper part following summer convection thunderstorms; ustic soil moisture regime.

*Soil temperature:* 41 to 46 degrees F.

*Depth to calcic horizon:* 1 to 3 inches.

*Depth to lithic contact:* 20 to 40 inches.

*Control section:*

Rock fragments—50 to 80 percent, 35 to 60 percent gravel and 10 to 25 percent cobbles and stones.

Clay content—6 to 18 percent.

**A horizon:**

Value—4 or 5 dry.

Chroma—1 through 3 dry, 2 or 3 moist.

Structure—Weak or moderate, fine or medium.

Consistence—Soft through moderately hard, nonplastic or slightly plastic.

Organic matter—2 to 5 percent.

Calcium carbonate equivalent of the fine earth fraction—0 to 5 percent.

**Bk horizons:**

Value—4 or 5 dry.

Chroma—1 through 3 dry and moist.

Structure—Weak or moderate, medium or coarse, subangular blocky structure or massive.

Consistence—Soft through moderately hard, nonsticky or slightly sticky, nonplastic or slightly plastic.

Organic matter—1 to 3 percent.

Effervescence—Very slightly effervescent through strongly effervescent.

Calcium carbonate equivalent of the fine earth fraction—30 to 70 percent.

Other features—Noneffervescent in the upper 18 centimeters of the soil profile.

**Kylecanyon series**

The Kylecanyon series consists of moderately deep to a petrocalcic horizon, well drained soils that formed in alluvium from limestone and dolostone. Kylecanyon soils are on smooth fan remnants. Slopes range from 4 to 15 percent. The mean annual

precipitation is about 10 inches and the mean annual air temperature is about 47 degrees F.

**Taxonomic class:** Loamy-Skeletal, carbonatic, mesic Petrocalcic Calciustolls

**Typical pedon:** Kylecanyon extremely gravelly loam, rangeland and wildlife habitat in an area of map unit 875. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles and 1 percent cobbles.

A—0 to 4 inches; brown (10YR 5/3) extremely gravelly loam, dark brown (10YR 3/3) moist; strong, medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine and common medium roots; many very fine, fine, and common medium tubular pores; 60 percent pebbles; strongly effervescent (9 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.0); clear wavy boundary.

ABk—4 to 12 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; moderate medium and coarse subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine and common medium roots; many very fine and fine interstitial and tubular pores; 90 percent, 1 to 5 millimeters, prominent, white, irregular calcium carbonate nodules on undersides of rock fragments, strongly cemented, sharp; 20 percent pebbles and 1 percent cobbles; violently effervescent (10 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); clear wavy boundary.

Bk1—12 to 19 inches; light yellowish brown (10YR 6/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; moderately hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and common fine interstitial and tubular pores; 90 percent, 1 to 5 millimeters, prominent, white, irregular calcium carbonate nodules on undersides of rock fragments, strongly cemented, sharp; 50 percent pebbles and 1 percent cobbles; 20 percent of horizon has pockets of extremely gravelly coarse sandy loam, 10 to 40 centimeter pockets; violently effervescent (35 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); clear wavy boundary.

Bk2—19 to 24 inches; light yellowish brown (10YR 6/4) extremely gravelly sandy loam, brown (10YR 5/3) moist; massive; moderately hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and fine interstitial and tubular pores; 90 percent, 1 to 5 millimeters, prominent, white, irregular calcium carbonate nodules on undersides of rock fragments, strongly cemented, sharp; 15 percent, 5 to 20 millimeter, prominent, very pale brown, platy calcium carbonate nodules within soil matrix with discontinuous laminar cap, moderately cemented, sharp; 70 percent pebbles; violently effervescent (45 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); very abrupt wavy boundary.

2Bkqm1—24 to 26 inches; white (10YR 8/1) indurated petrocalcic horizon, very pale brown (10YR 7/3) moist; massive; very rigid, very rigid, brittle; violently effervescent; thin 1 millimeter laminar cap; clear wavy boundary.

2Bkqm2—26 to 59 inches; white (10YR 8/1) weakly to strongly cemented, averaging moderately cemented, stratified petrocalcic horizons, very pale brown (10YR 7/3) moist; massive; very hard, extremely firm, brittle; violently effervescent.

**Type location:** Clark County, Nevada; about 3.25 miles south and 0.5 miles east of Angel Peak located in the Spring Mountains; approximately 2 miles east of Deer Creek Highway and 0.1 mile north of Kyle Canyon Road alongside the telephone pole road; 2,560 feet south and 930 feet west of the northeast corner of section 27,

T.19 S., R.57 E.; USGS Angel Peak, NV 7.5 minute topographic quadrangle; 36 degrees, 16 minutes, 15.7 seconds north latitude and 115 degrees, 34 minutes, 9.3 seconds west longitude; UTM 11, 0628513 e, 4014959n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in late winter and early spring and intermittently moist in the upper part for 10 to 20 days cumulative, from July through September, following summer convection storms. The soils have an aridic bordering on ustic soil moisture regime.

*Soil temperature:* 47 to 52 degrees F.

*Depth to base of mollic epipedon:* 9 to 15 inches.

*Depth to calcic horizon:* 10 to 20 inches.

*Depth to petrocalcic horizon:* 20 to 40 inches.

**Control section:**

Rock fragments—Averages 50 to 70 percent, mainly gravel.

Clay content—8 to 15 percent.

**A horizon:**

Structure—Moderate or strong, fine or medium.

Calcium carbonate equivalence in the fine earth fraction—5 to 15 percent.

Organic matter—1.0 to 2.5 percent.

**ABk horizon:**

Structure—Medium or coarse.

Consistence—Soft or slightly hard, friable or very friable.

Rock fragments—15 to 50 percent.

Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.

Organic matter—1.0 to 2.5 percent.

**Bk1 and Bk2 horizons:**

Structure—Weak or moderate, fine or medium subangular blocky or massive.

Consistence—Moderately hard, friable or firm.

Rock fragments—35 to 70 percent.

Calcium carbonate equivalent in the fine earth fraction—30 or 50 percent.

Organic matter—0.5 to 1.0 percent.

**Bkqm horizons:**

Other features—Indurated or very strongly cemented in the upper part. Weakly to strongly cemented in the lower parts.

**Ladyofsnow series**

The Ladyofsnow series consists of very deep, well drained soils that formed in colluvium from limestone. Ladyofsnow soils are on upper back slopes of mountains. Slopes range from 30 to 75 percent. The mean annual precipitation is about 22 inches and the mean annual air temperature is about 40 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic Oxyaquic Eutrocrypts

**Typical pedon:** Ladyofsnow gravelly silt loam, forestland and wildlife habitat in an area of map unit 775. (Colors are for dry soil unless otherwise noted.) The soil

surface is covered by approximately 40 percent pebbles, 3 percent cobbles and 1 percent stones.

- O<sub>i</sub>—0 to 0.4 inches, (0 to 1 cm); brown (10YR 4/3) slightly decomposed needles and twigs, very dark brown (10YR 2/2); abrupt smooth boundary.
- E—0.4 to 7 inches, (1 to 19 cm); yellowish brown (10YR 5/4) gravelly silt loam, dark yellowish brown (10YR 3/4) moist; moderate coarse subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; few very fine to medium roots throughout; many very fine tubular pores; 15 percent pebbles and 1 percent cobbles; noneffervescent (1 percent calcium carbonate equivalence in the fine earth fraction); slightly alkaline (pH 7.6); abrupt wavy boundary.
- 2Bhkq—7 to 11 inches, (19 to 28 cm); very dark grayish brown (10YR 3/2) very gravelly loam, black (10YR 2/1) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and common fine through very coarse roots; common very fine tubular pores; 40 percent fine prominent irregular moderately cemented white (10YR 8/1) carbonate nodules with sharp boundaries on bottom of rock fragments and 10 percent fine prominent irregular moderately cemented brownish yellow (10YR 6/6) opal with sharp boundaries on bottom of rock fragments; 40 percent pebbles; very slightly effervescent (60 percent calcium carbonate equivalence in the fine earth fraction); moderately alkaline (pH 8.2); clear wavy boundary.
- 2Bkq1—11 to 19 inches, (28 to 47 cm); dark grayish brown (10YR 4/2) extremely gravelly coarse sandy loam, black (10YR 2/1) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and nonplastic; many very fine, common fine through very coarse roots; common very fine and fine tubular and common very fine through medium interstitial pores; 40 percent fine prominent irregular moderately cemented white (10YR 8/1) calcium carbonate nodules with sharp boundaries on bottom of rock fragments and 10 percent fine prominent irregular moderately cemented brownish yellow (10YR 6/6) opal with sharp boundaries on bottom of rock fragments; 70 percent pebbles and 1 percent cobbles; slightly effervescent (75 percent calcium carbonate equivalence in the fine earth fraction); moderately alkaline (pH 8.0); clear wavy boundary.
- 2Bkq2—19 to 36 inches, (47 to 91 cm); brown (10YR 5/3) extremely gravelly coarse sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine to very coarse roots throughout; few very fine to medium interstitial pores; 40 percent fine prominent irregular moderately cemented white (10YR 8/1) calcium carbonate nodules with sharp boundaries on bottom of rock fragments and 10 percent fine prominent irregular moderately cemented brownish yellow (10YR 6/6) opal with sharp boundaries on bottom of rock fragments; 75 percent pebbles and 5 percent cobbles; strongly effervescent (80 percent calcium carbonate equivalence in the fine earth fraction); moderately alkaline (pH 8.0); clear wavy boundary.
- 2Bkq3—36 to 59 inches, (91 to 151 cm); light yellowish brown (2.5Y 6/3) extremely cobbly coarse sandy loam, olive brown (2.5Y 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine, common fine and medium tubular pores; 40 percent fine prominent irregular moderately cemented white (10YR 8/1) carbonate nodules with sharp boundaries on bottom of rock fragments and 10 percent fine prominent irregular moderately cemented brownish yellow (10YR 6/6) opal with sharp boundaries on bottom of rock fragments and 25 percent medium prominent irregular moderately cemented white (10YR 8/1) calcium carbonate nodules with sharp boundaries on bottom of rock fragments; 40 percent pebbles, 25 percent cobbles and 15 percent stones; strongly effervescent (80 percent calcium carbonate equivalence in the fine earth fraction); moderately alkaline (pH 8.0).

**Type location:** Clark County, Nevada; about 8 miles north and 27 miles west of Las Vegas, Nevada; approximately 3.5 miles east and 1.6 miles north of Charleston Peak, Nevada; about 1,500 feet north and 930 feet east of the southwest corner of section 18, T.19 S., R.57 E.; USGS Charleston Peak, NV 7.5 minute topographic quadrangle; 36 degrees, 17 minutes, 41.7 seconds north latitude and 115 degrees, 37 minutes, 55.6 seconds west longitude; UTM 11, 622828e 4017526n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually moist in late winter and spring, and periodically moist in the upper part following summer thunderstorms. Ustic soil moisture regime. These soils have saturated layers within 100 cm of the mineral soil surface during the spring from snow melt with 20 or more consecutive days, or 30 or more cumulative days in normal years.

*Soil temperature:* 42 to 47 degrees F.

*Depth to calcic horizon:* 4 to 9 inches.

*Control section:*

Clay content—4 to 10 percent.

**Oi horizon:**

Bulk density—0.3 to 0.7 g/cc.

Organic matter—20 to 50 percent.

**E horizon:**

Chroma—2 or 4.

Consistence—Slightly hard or moderately hard.

Effervescence—Noneffervescent or very slightly effervescent.

Calcium carbonate equivalent in the fine earth fraction—0 to 10 percent.

Organic matter—1 to 3 percent.

**2Bhkq horizon:**

Organic matter—3 to 7 percent.

Calcium carbonate equivalent in the fine earth fraction—40 to 75 percent.

**2Bqk1 horizons:**

Value—2 or 3 moist.

Chroma—1 through 3.

Texture—Coarse sandy loam or sandy loam.

Structure—Weak or moderate.

Consistence—Soft or slightly hard.

Rock fragments—60 to 80 percent, 50 to 80 percent gravel and 0 to 10 percent cobbles and stones.

Effervescence—Very slightly effervescent to strongly effervescent.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate equivalent in the fine earth fraction—50 to 85 percent.

Organic matter—1 to 3 percent.

**2Bqk2 horizons:**

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 through 3.

Texture—Coarse sandy loam or sandy loam.

Structure—Weak or moderate.

Consistence—Soft or slightly hard.

Rock fragments—60 to 90 percent, 50 to 80 percent gravel and 0 to 20 percent cobbles and stones.

Effervescence—Very slightly effervescent to strongly effervescent.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate equivalence in the fine earth fraction—50 to 85 percent.

Organic matter—0.5 to 1 percent.

**2Bqk3 horizon:**

Texture—Coarse sandy loam or sandy loam.

Rock fragments—60 to 90 percent, 30 to 50 percent gravel and 25 to 45 percent cobbles and stones.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalence in the fine earth fraction—50 to 85 percent.

Organic matter—0.5 to 1 percent.

**Lamadre series**

The Lamadre series consists of very deep, well drained soils that formed in colluvium and residuum derived from limestone. Lamadre soils are on mountains. Slopes range from 30 to 75 percent. The mean annual precipitation is about 16 inches and the mean annual temperature is about 42 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, frigid Torriorthentic Haplustolls

**Typical pedon:** Lamadre very channery loam, forestland and wildlife habitat in an area of map unit 772. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 55 percent channers and up to one inch of discontinuous duff cover composed of pine needles.

A—0 to 4 inches; brown (10YR 4/3) very channery loam, very dark brown (10YR 2/2) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine, few fine tubular and interstitial pores; 55 percent channers; neutral (pH 7.0); clear smooth boundary.

ABk—4 to 8 inches; brown (10YR 4/3) extremely channery loam, very dark brown (10YR 2/2) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, common fine, and common medium roots; many very fine and few fine tubular pores; few 1 to 2 millimeter thick calcium carbonate coats and pendants on undersides of rock fragments; 65 percent channers and 1 percent cobbles; slightly alkaline (7.6); clear smooth boundary.

Bk1—8 to 26 inches; dark yellowish brown (10YR 4/4) extremely channery loam, dark yellowish brown (10YR 3/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; many very fine, many fine, common medium, and few coarse roots; many very fine interstitial and tubular pores; few fine calcium carbonate masses and few 1 to 3 millimeters diameter calcium carbonate coats and pendants on undersides of rock fragments; 70 percent channers and 5 percent cobbles; slightly effervescent; moderately alkaline (pH 8.0); gradual smooth boundary.

Bk2—26 to 39 inches; dark yellowish brown (10YR 4/4) extremely channery loam, dark yellowish brown (10YR 3/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; many very fine, many fine, common medium, and few coarse roots; many very fine and few fine interstitial pores; few fine calcium carbonate masses; few 1 to 3 millimeters calcium carbonate coats and pendants on bottoms

of rock fragments; 80 percent channers and 5 percent cobbles; strongly effervescent; moderately alkaline (pH 8.2); gradual smooth boundary.  
 Ck—39 to 60 inches; gravel; rock structure; 90 percent channers and 5 percent cobbles; common, 1 to 3 millimeters diameter calcium carbonate coats and pendants on undersides of rock fragments; soil texture between rock fragments is brown (10YR 5/3) loam, brown (10YR 4/3) moist; strongly effervescent; moderately alkaline (pH 8.2).

**Type location:** Clark County, Nevada; about 4 miles west and 2 miles south of La Madre Peak in the La Madre Mountains and east of the Spring Mountains; in a unsectionized area about 1,660 feet south and 1,725 feet west of the northeast corner of section 24, T.20 S., R.57 E.; USGS La Madre Spring, NV 7.5 minute topographic quadrangle; 36 degrees, 11 minutes, 07 seconds north latitude and 115 degrees, 32 minutes, 08 seconds west longitude; UTM 11, 631681e, 4005492n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer convection storms; aridic soil moisture regime bordering on ustic.

*Soil temperature:* 43 to 47 degrees F.

*Mollic epipedon thickness:* 7 to 14 inches.

*Depth to base of cambic horizon:* 30 to 40 inches.

*Depth to fragmental material:* 30 to 40 inches.

*Control section:*

Clay content—8 to 16 percent;

Rock fragments—Averages 60 to 85 percent, mainly channers.

**ABk horizon:**

Rock fragments—60 to 80 percent.

Identifiable secondary carbonates—Occurs as coats and pendants on undersides of rock fragments.

Calcium carbonate equivalent in the fine earth fraction—0 to 5 percent.

**Bk1 and Bk2 horizons:**

Rock fragments—60 to 85 percent.

Effervescence—Slightly effervescent to strongly effervescent.

Identifiable secondary carbonates—Few fine masses in the matrix and as coats and pendants on undersides of rock fragments.

Calcium carbonate equivalent in the fine earth fraction—2 to 10 percent.

**Ck horizon:**

Rock fragments—Greater than 90 percent channers.

Consistence—Nonsticky or slightly sticky and nonplastic or slightly plastic.

Identifiable secondary carbonates—Occurs as coats and pendants on undersides of rock fragments.

**Lanfair series**

The Lanfair series consists of very deep, well drained soils that formed in alluvium from metamorphic sources. Lanfair soils are on inset fans or alluvial fans. Slopes

range from 2 to 8 percent. The mean annual precipitation is about 8 inches and the mean annual temperature is about 61 degrees F.

**Taxonomic class:** Sandy-skeletal, mixed, thermic Ustic Haplocambids

**Typical pedon:** Lanfair extremely gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 680. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles, 5 percent cobbles and 5 percent stones.

A—0 to 2 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; weak thick platy structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; common very fine tubular pores; 70 percent pebbles, 5 percent cobbles and 5 percent stones; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bw—2 to 9 inches; light yellowish brown (10YR 6/4) gravelly sandy loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few fine and medium and many very fine roots; few fine tubular and common very fine tubular pores; 20 percent pebbles; moderately alkaline (pH 8.4); clear smooth boundary.

Bk—9 to 15 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, few fine and medium roots; common very fine interstitial pores; few thin calcium carbonate coats on undersides of rock fragments; 55 percent pebbles; moderately alkaline (pH 8.4); clear wavy boundary.

2Bkq1—15 to 26 inches; light yellowish brown (10YR 6/4) very gravelly coarse sand, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; common very fine and fine interstitial and tubular pores; few thin calcium carbonate and silica coats on undersides of rock fragments; 45 percent pebbles; moderately alkaline (pH 8.4); clear wavy boundary.

2Bkq2—26 to 60 inches; pale brown (10YR 6/3) very gravelly coarse sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine, fine and medium roots; common very fine interstitial pores; common thin calcium carbonate and silica coats on the underside of rock fragments; 45 percent pebbles, 5 percent cobbles and 5 percent stones; moderately alkaline (pH 8.4).

**Type location:** Clark County, Nevada; approximately 5 1/4 miles east of McCullough Mountain along the power transmission lines that run between the McCullough Range and Highland Range; about 1,590 feet south and 1,875 feet west of the projected northeast corner of section 7, T.27 S., R.62 E.; 35 degrees, 36 minutes, 42.1 seconds north latitude and 115 degrees, 05 minutes, 10.8 seconds west longitude; UTM 11, 673326e, 3942568n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms.

*Soil temperature:* 59 to 65 degrees F.

*Depth to base of the cambic horizon:* 10 to 25 inches.

*Control section:*

Clay content—Averages 4 to 10 percent.

Rock fragments—Average 35 to 70 percent, with 1/3 or more of the rock fragments being fine gravel.

**A horizon:**

Value—5 or 6 dry.

**Bw horizon:**

Value—5 or 6 dry.

Chroma—3 or 4 dry and moist.

Texture—Sandy loam or fine sandy loam.

Rock fragments—15 to 35 percent.

Clay content—6 to 14 percent.

Consistence—Soft or slightly hard dry and nonsticky or slightly sticky, wet.

**Bk horizon:**

Value—5 or 6 dry.

Chroma—3 or 4 dry and moist.

Texture—Sandy loam or fine sandy loam.

Clay content—6 to 14 percent.

Rock fragments—35 to 60 percent, mainly gravel.

Consistence—Nonsticky or slightly sticky, wet.

**2Bkq horizons:**

Hues—10YR or 7.5YR.

Value—4 or 5 moist.

Chroma—3 or 4 dry and moist.

Texture—Coarse sand or loamy coarse sand.

Clay content—2 to 8 percent.

Rock fragments—35 to 70 percent, mainly gravel

Consistence—Soft or slightly hard, dry.

Other features—Some layers contain discontinuous pockets that are slightly effervescent.

## Lanip series

The Lanip series consists of very deep, well drained soils that formed in mixed alluvium. Lanip soils are on fan remnants. Slopes range from 2 to 8 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 60 degrees F.

**Taxonomic class:** Fine-loamy, mixed, superactive, thermic Typic Calciargids

**Typical pedon:** Lanip very gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 160. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered by approximately 50 percent pebbles.

A1—0 to 1 inch; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak thick platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; 50 percent pebbles; moderately alkaline (pH 8.2); clear smooth boundary.

A2—1 to 6 inches; light yellowish brown (10YR 6/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine, and few

medium roots; common very fine tubular pores; 15 percent pebbles; moderately alkaline (pH 8.2); clear wavy boundary.

Bk—6 to 15 inches; light yellowish brown (10YR 6/4) gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine, and few medium roots; many very fine, few fine and medium tubular pores; many fine calcium carbonate coats on underside of rock fragments; 20 percent pebbles; noneffervescent to slightly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Btk—15 to 39 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; strong fine and medium prismatic structure; hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; common very fine tubular pores; many distinct clay films on faces of peds and lining pores; many fine filaments and seams of calcium carbonate; many fine calcium carbonate coats on underside of rock fragments; 5 percent pebbles; slightly effervescent (11 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6); clear wavy boundary.

Bkq—39 to 48 inches; light yellowish brown (10YR 6/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine tubular pores; many medium irregularly shaped masses and concretions of calcium carbonate; many medium calcium carbonate and silica coats on the underside of rock fragments; 17 percent pebbles; violently effervescent (11 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6); clear wavy boundary.

2Bkq—48 to 60 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few fine roots; few very fine tubular pores; many medium irregularly shaped masses and concretions of calcium carbonate; many medium calcium carbonate and silica coats on the underside of rock fragments; 50 percent pebbles; violently effervescent (13 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6).

**Type location:** Clark County, Nevada; approximately 4.5 miles west on State Highway 164 (Joshua Tree Highway) and 500 feet north of the highway from Searchlight, Nevada in the north end of Piute Valley; about 705 feet north and 1,290 feet west of the southeast corner of section 24, T.28 S., R.62 E.; USGS Searchlight, NV 7.5 minute topographic quadrangle; 35 degrees, 29 minutes, 21 seconds north latitude and 114 degrees, 59 minutes, 40 seconds west longitude; UTM 11, 681926e, 3929140n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following convection storms.

*Soil temperature:* 59 to 65 degrees F.

*Depth to base of the argillic horizon:* 22 to 56 inches.

*Depth to secondary calcium carbonate:* 2 to 8 inches.

*Control section:*

Percent clay—20 to 35 percent.

Rock fragments—Averages 5 to 20 percent.

**A horizons:**

Value—5 or 6 dry, 3 or 4 moist.  
 Chroma—3 or 4.

**Bk horizon:**

Value—5 or 6 dry, 3 or 4 moist.  
 Chroma—3 or 4.  
 Texture—Sandy loam or loam.  
 Clay content—5 to 15 percent.  
 Rock fragments—15 to 25 percent.  
 Effervescence—Noneffervescent through violently effervescent.  
 Reaction—Moderately alkaline or strongly alkaline.  
 Calcium carbonate equivalent in the fine earth fraction—1 to 5 percent.

**Btk horizon:**

Value—5 or 6 dry.  
 Texture—Sandy clay loam or clay loam.  
 Clay content—20 to 35 percent.  
 Rock fragments—5 to 30 percent.  
 Reaction—Moderately alkaline or strongly alkaline.  
 Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.

**Bkq horizons:**

Hue—7.5 YR or 10YR.  
 Value—5 or 6 dry.  
 Chroma—3 and 4.  
 Texture—Loamy sand to sandy loam.  
 Rock fragments—15 to 50 percent.  
 Structure—Subangular blocky or massive.  
 Reaction—Moderately alkaline or strongly alkaline.  
 Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.

**Lastchance series**

The Lastchance series consists of moderately deep to a petrocalcic, well drained soils that formed in alluvium derived from limestone and dolomite. Lastchance soils are on fan remnants. Slopes range from 2 to 15 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 62 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic Calcic Petrocalcids

**Typical pedon:** Lastchance extremely gravelly loam, rangeland and wildlife habitat in the adjoining Nye County, Nevada, Southwest Part soil survey. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 60 percent pebbles and 10 percent cobbles.

ABt—0 to 2 inches; very pale brown (10YR 7/4) extremely gravelly loam, yellowish brown (10YR 5/4) moist; moderate very thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine, common fine and medium vesicular pores; few faint clay films on bottoms of peds and lining vesicular pores in the upper inch; 60 percent pebbles and 5 percent cobbles; violently effervescent; strongly alkaline (pH 8.8 ); clear wavy boundary.

**Bk1**—2 to 11 inches; very pale brown (10YR 7/4) very gravelly loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; many very fine roots, few fine and medium roots; common very fine and few fine interstitial and tubular pores; few fine soft masses of calcium carbonate; many (50 percent) patchy thin (< 1 mm) calcium carbonate coatings on undersides of rock fragments; 40 percent pebbles and petrocalcic fragments, and 5 percent cobbles; violently effervescent; moderately alkaline (8.4 pH); clear wavy boundary.

**Bk2**—11 to 20 inches; very pale brown (10YR 7/4) very gravelly loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, firm, slightly sticky and slightly plastic; few very fine roots; few very fine and fine interstitial and tubular pores; common (5 percent) soft masses of calcium carbonate; many (75 percent) thick (1 to 20 mm) calcium carbonate coatings on rock fragments; 45 percent pebbles and petrocalcic fragments, and 5 percent cobbles; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

**Bkqm**—20 to 60 inches; very pale brown (10YR 8/3) very strongly cemented petrocalcic, very pale brown (10YR 7/3) and light yellowish brown (10YR 6/4) moist; massive; very rigid and very rigid; 40 percent discontinuous strata and lenses of weakly cemented material in the lower part.

**Type location:** Nye County, Nevada; approximately 3 miles northeast of Pahrump on the road to Horse Springs; about 550 feet south and 100 feet east of the northwest corner of section 8, T.20 S., R.54 E.; USGS Pahrump, NV 7.5 minute topographic quadrangle; 36 degrees, 14 minutes, 1 seconds north latitude and 115 degrees, 56 minutes, 29 seconds west longitude; UTM 11, 595122e, 4010371n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some during winter and spring and intermittently moist in the upper part following summer convection storms; typic-aridic soil moisture regime.

*Soil temperature:* 59 to 66 degrees F.

*Depth to petrocalcic horizon:* 20 to 30 inches.

*Control section:*

Percent clay—8 to 18 percent.

Rock fragments—35 to 70 percent, mainly petrocalcic fragments.

Calcium carbonate equivalent in the fine earth fraction—20 to 50 percent; less than 20 millimeter fraction averages 40 to 70 percent.

**ABt horizon:**

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4.

Reaction—Moderately alkaline or strongly alkaline.

Other features—In most pedons, clay films and silt coats commonly occur in the upper part and textures are heavier than underlying horizons due to additions of dust.

**Bk or Bkq horizons:**

Value—6 or 7 dry.

Chroma—3 or 4.

Texture—Loam, fine sandy loam, sandy loam.

Rock fragments—35 to 70 percent, mainly petrocalcic fragments and limestone or dolomite pebbles.

Reaction—Moderately alkaline or strongly alkaline.

Other features—Identifiable secondary carbonates are calcium carbonate coatings on rock fragments and soft masses. Few thin silica coatings are on rock fragments in some pedons.

**Bkqm horizon:**

Value—7 or 8 dry.

Structure—Massive or platy.

Pan thickness—Greater than 3 feet thick.

Cementation—Very strongly cemented or indurated, lenses of weakly or moderately cemented material are in the lower part.

**Lastone series**

The Lastone series consists of very shallow and shallow, somewhat excessively drained soils that formed in residuum and colluvium from sandstone and siltstones. Lastone soils are on mountains. Slopes range from 15 to 75 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 48 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic, shallow Ustic Haplargids

**Typical pedon:** Lastone gravelly sandy loam, forestland and wildlife habitat in an area of map unit 925. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 25 percent pebbles and 5 percent cobbles.

A—0 to 2 inches; brown (7.5YR 4/3) gravelly sandy loam, dark brown (7.5YR 3/2) moist; strong thick platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine and fine interstitial pores; 20 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.8); clear smooth boundary.

Bt—2 to 9 inches; reddish brown (5YR 4/4) extremely gravelly sandy loam, dark reddish gray (5YR 4/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine and coarse roots; few very fine and fine tubular pores; many, distinct, reddish brown (5YR 4/4) clay films between sand grains and on rock fragments; 70 percent pebbles, 5 percent paragravel and 5 percent cobbles; very slightly effervescent (2 percent calcium carbonate equivalent in the fine earth fraction); slightly alkaline (pH 7.8); gradual wavy boundary.

Cr—9 to 14 inches; reddish brown (5YR 5/4) weathered siltstone bedrock, dark reddish brown (5YR 3/3) moist; common fine and medium roots in the upper two inches in fractures; moderately alkaline (pH 8.0); abrupt smooth boundary.

R—14 inches; slightly fractured siltstone.

**Type location:** Clark County, Nevada; about 1/3 of a mile west of Lovell Canyon summit on the north side of the road in the south end of the Spring Mountain Range; in an unsectionized area 2,200 feet south and 7,200 feet west of the southeast corner of section 36, T.20 S., R.57 E.; USGS La Madre Spring, NV, 7.5 minute topographic quadrangle; 36 degrees, 9 minutes, 56 seconds north latitude and 115 degrees, 36 minutes, 40 seconds west longitude; UTM 11, 0624847e, 4003203n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer convection storms; aridic soil moisture regime bordering on ustic.

*Soil temperature:* 47 to 52 degrees F.

*Depth to argillic horizon:* 1 to 4 inches.

*Depth to paralithic contact:* 8 to 14 inches.

*Depth to hard bedrock:* 10 to 20 inches.

*Control section:*

Clay content—Averages 8 to 18 percent.

Rock fragments—Averages 45 to 80 percent mainly gravel, including 5 to 10 percent paragravel.

Reaction—Slightly alkaline or moderately alkaline.

**A horizon:**

Hue—7.5 YR or 5YR

Chroma—3 or 4 dry, 2 or 3 moist.

Organic matter—1.5 to 3.0 percent.

**Bt horizon:**

Value—3 or 4 moist.

Clay content—10 to 20 percent.

Structure—Strong or moderate, fine or medium subangular blocky.

Reaction—Slightly alkaline or moderately alkaline.

Texture of the fine earth—Sandy loam or loam.

Consistence—Very friable or friable.

Organic matter—1.0 to 2.0 percent.

**Leecanyon series**

The Leecanyon series consists of shallow to petrocalcic horizon, well drained soils that formed in alluvium from limestone and dolomite. Leecanyon soils are on fan remnants. Slopes range from 4 to 15 percent. The mean annual precipitation is about 14 inches and the mean annual air temperature is about 48 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, mesic, shallow Petrocalcic Calcicustolls

**Typical pedon:** Leecanyon very gravelly loam, rangeland and wildlife habitat in an area of map unit 845. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles.

A—0 to 2 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine and common fine tubular pores; 45 percent pebbles; slightly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

ABk—2 to 8 inches; dark grayish brown (10YR 4/2) gravelly silt loam, very dark grayish brown (10YR 3/2) moist; strong coarse subangular blocky; moderately hard, friable, slightly sticky and slightly plastic; many very fine, common fine and few medium roots; many very fine, common fine, and few medium tubular pores; 15 percent, fine, discontinuous, prominent, white (10YR 8/1), irregular, calcium carbonate nodules around rock fragments; 20 percent, discontinuous, prominent,

- white (10YR 8/1), calcium carbonate coats on rock fragments; 25 percent pebbles; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
- Bk—8 to 18 inches; brown (10YR 5/3) very gravelly loam, dark grayish brown (10YR 4/2) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine through coarse roots; common very fine and fine tubular pores; 60 percent, fine, discontinuous, prominent, white (10YR 8/1), irregular calcium carbonate coats on bottom of rock fragments; 20 percent, discontinuous, prominent, white (10YR 8/1), calcium carbonate pendants on rock fragments; 40 percent pebbles and 1 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.
- 2Bkqm—18 to 42 inches; pale brown (10YR 6/3) weakly cemented petrocalcic horizon with fine laminar cap; grayish brown (10YR 5/2) moist; massive; moderately hard, firm, brittle; stratified with discontinuous layers of extremely gravelly loamy sand up to 8 centimeters thick; common very fine and fine roots in few fractures; many very fine and common fine irregular pores; few, fine, prominent, brown (7.5YR 5/4) silica pendants on bottom of rock fragments; violently effervescent.
- 2Bkq—42 to 55 inches; light gray (10YR 7/2) extremely gravelly loamy sand; grayish brown (10YR 5/2) moist; massive; soft, very friable; nonsticky and nonplastic; few very fine and fine roots; common very fine through medium interstitial pores; 20 percent, discontinuous, prominent, white (10YR 8/1), calcium carbonate pendants on rock fragments; common, fine, prominent, brown (7.5YR 5/4) silica pendants on bottom of rock fragments; 60 percent pebbles and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.4).

**Type location:** Clark County, Nevada; about 28 miles west and 12 miles north of Las Vegas, Nevada; approximately 7 miles due north of Mt. Charleston (town) on the north side of state highway 156, Lee Canyon area; about 280 feet south and 2,400 feet west of the northeast corner of section 25, T.18 S., R.56 E.; USGS Charleston Peak, NV 7.5 minute topographic quadrangle; 36 degrees, 21 minutes, 33.1 seconds north latitude and 115 degrees, 38 minutes, 13.2 seconds west longitude; UTM 11, 0622288e 4024651n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in late winter and spring and intermittently moist in upper part following summer convection storms. Aridic bordering on ustic soil moisture regime.

*Soil temperature:* 47 to 52 degrees F.

*Depth to base of mollic epipedon:* 7 to 10 inches.

*Depth to calcic horizon:* 7 to 14 inches.

*Depth to petrocalcic horizon:* 14 to 20 inches.

*Control section:*

Rock fragments—35 to 65 percent, mainly gravel with 0 to 5 percent cobbles and stones.

Clay content—8 to 15 percent.

**A horizon:**

Value—4 or 5 dry.

Chroma—2 or 3 dry.

Texture—Loam, sandy loam or fine sandy loam.

Structure—Weak or moderate, and medium or coarse.

Consistence—Soft or slightly hard, and nonplastic or slightly plastic

Rock fragments—35 to 60 percent, mainly gravel with 0 to 5 percent cobbles or stones.

Effervescence—Slightly effervescent to violently effervescent.  
 Calcium carbonate equivalent in the fine earth fraction—40 to 70 percent.  
 Organic matter—1.0 to 2.0 percent.

**ABk horizon:**

Value—4 or 5 dry.  
 Chroma—2 or 3 dry.  
 Texture—Silt loam, sandy loam or fine sandy loam.  
 Structure—Weak or moderate, and medium or coarse.  
 Consistence—Soft or slightly hard, and nonplastic or slightly plastic  
 Rock fragments—15 to 60 percent, mainly gravel with 0 to 5 percent cobbles or stones.  
 Effervescence—Strongly or violently effervescent.  
 Calcium carbonate equivalent in the fine earth fraction—25 to 40 percent.  
 Organic matter—1.0 to 2.0 percent.

**Bk or Bkq horizon:**

Value—5 or 6 dry.  
 Chroma—2 or 3 moist.  
 Texture—Loam, sandy loam or fine sandy loam.  
 Structure—Weak or moderate, and subangular blocky or massive.  
 Consistence—Slightly hard or moderately hard, very friable, friable, or firm, and nonplastic or slightly plastic  
 Rock fragments—35 to 65 percent, mainly gravel with 0 to 5 percent cobbles or stones.  
 Reaction—Moderately alkaline or strongly alkaline.  
 Calcium carbonate equivalent in the fine earth fraction—30 to 70 percent.  
 Organic matter—0.5 to 1.0 percent.

**2Bkqm horizon:**

Value—6 to 8 dry, 5 to 8 moist.  
 Chroma—1 to 3.  
 Cementation—Very weakly to strongly.  
 Consistence—Moderately hard to extremely hard, very firm to slightly rigid.

**2Bkq horizon:**

Value—5 or 6 moist.  
 Chroma—2 or 3 moist.  
 Texture—Loamy sand or loamy fine sand.  
 Consistence—Soft to moderately hard.  
 Rock fragments—60 to 80 percent, mainly gravel with 5 to 15 percent cobbles or stones.  
 Organic matter—0.25 to 0.75 percent.

**Limewash series**

The Limewash series consists of shallow, well drained soils that formed in residuum and colluvium from gypsiferous sedimentary rocks. Limewash soils are on rock pediments. Slopes range from 15 to 50 percent. The mean annual precipitation is about 5 inches and the mean annual air temperature is about 68 degrees F.

**Taxonomic class:** Loamy, mixed, active, thermic, shallow Leptic Haplogypsid

**Typical pedon:** Limewash extremely gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 270. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 65 percent pebbles and 5 percent cobbles.

- A1—0 to 1 inch; reddish brown (2.5YR 5/4) extremely gravelly fine sandy loam, reddish brown (2.5YR 4/4) moist; moderate very thick platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; many very fine, fine, common medium and coarse vesicular pores; 65 percent pebbles; very slightly effervescent; moderately alkaline (pH 8.1); abrupt smooth boundary.
- A2—1 to 3 inches; light reddish brown (2.5YR 6/4) gravelly loamy fine sand, moderate thick platy structure parting to fine subangular blocky, reddish brown (2.5YR 4/4) moist; slightly hard, very friable, nonsticky and nonplastic; common very fine and few fine roots; many very fine interstitial pores and few very fine and fine tubular pores; 30 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.
- Bw—3 to 6 inches; light reddish brown (2.5YR 6/4) gravelly fine sandy loam, reddish brown (2.5YR 4/4) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine interstitial pores and few very fine and fine tubular pores; 25 percent pebbles; slightly effervescent; moderately alkaline (pH 8.3); abrupt wavy boundary.
- By1—6 to 9 inches; light red (2.5YR 6/6) fine sandy loam, red (2.5YR 4/6) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; common very fine, fine and few medium roots; many very fine interstitial pores and common fine tubular pores; 10 percent, medium and coarse, prominent, soft masses of gypsum throughout; 10 percent channers; slightly effervescent; moderately alkaline (pH 7.9); abrupt wavy boundary.
- By2—9 to 17 inches; reddish brown (2.5YR 5/4) channery fine sandy loam, red (2.5YR 4/6) moist; massive; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and few medium roots in soil matrix between gypsum crystals; many fine and medium interstitial pores; 5 percent coarse and very coarse gypsum crystals as pendants on bottom of rock fragments; 3 percent, fine, prominent, discontinuous, horizontal seams of gypsum crystals throughout; 20 percent channers and 2 percent flagstones; slightly effervescent; moderately alkaline (pH 7.9); clear wavy boundary.
- Cr—17 to 29 inches; dark yellowish brown (10YR 3/4) gypsiferous mudstone with lenses of limestone, dark yellowish brown (10YR 3/4) moist.

**Type location:** Clark County, Nevada; about 24 miles south and 9 miles west of Mesquite, Nevada; approximately 4 miles west and 1 mile north of Devils Throat sinkhole; 2,010 feet south and 1,165 feet west of the northeast corner of section 19, T.17 S., R.70 E.; USGS Devils Throat, NV 7.5 minute topographic quadrangle; 36 degrees, 26 minutes, 35.6 seconds north latitude and 114 degrees, 12 minutes, 44.9 seconds west longitude; UTM 11, 749850e, 4036723n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following convection storms. The soils have a typic aridic moisture regime.

*Soil temperature:* 66 to 71 degrees F.

*Depth to gypsic horizon:* 3 to 7 inches.

*Depth to paralithic contact:* 14 to 20 inches.

*Organic matter:* 0 to 0.5 percent.

*Control section:*

Rock fragments—Averages 15 to 35 percent, mainly channers.

Clay content—6 to 15 percent.

**A1 horizon:**

Hue—2.5YR and 5YR.

Value—5 or 6 dry, 4 or 5 moist.

Effervescence—Very slightly effervescent or slightly effervescent.

**A2 horizon:**

Hue—2.5YR and 5YR.

Value—5 or 6 dry, 4 or 5 moist.

Consistence—Soft or slightly hard.

Rock fragments—15 to 35 percent, mainly gravel.

Effervescence—Very slightly effervescent or slightly effervescent.

Reaction—Moderately alkaline.

Calcium carbonate equivalent of the fine earth fraction—0 to 2 percent.

**Bw horizons:**

Hue—2.5YR and 5YR.

Value—5 or 6 dry.

Chroma—4 or 6.

Rock fragments—10 to 35 percent.

Effervescence—Very slightly effervescent or slightly effervescent.

Calcium carbonate equivalent of the fine earth fraction—0 to 2 percent.

**By horizons:**

Hue—2.5YR and 5YR.

Chroma—4 or 6.

Rock fragments—10 to 35 percent.

Effervescence—Very slightly effervescent or slightly effervescent.

Calcium carbonate equivalent of the fine earth—0 to 2 percent.

Gypsum content—10 to 30 percent by weight.

Other features—1 to 10 percent visible secondary gypsum.

## Luckystrike series

The Luckystrike series consists of very deep, well drained soils that formed in alluvium from limestone. Luckystrike soils are on alluvial fans. Slopes range from 8 to 30 percent. The mean annual precipitation is about 15 inches and the mean annual air temperature is about 48 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic Calcic Argiustolls

**Typical pedon:** Luckystrike gravelly loam, forestland and wildlife habitat in an area of map unit 885. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 15 percent pebbles and 2 percent cobbles. A patchy litter of pine needles, leaves and twigs covers about 70 percent of the soil surface.

A—0 to 3 inches; brown (7.5YR 4/3) gravelly loam, dark brown (7.5YR 3/2) moist; weak fine subangular blocky structure parting to moderate granular; soft, very

friable, slightly sticky and slightly plastic; common very fine through medium roots; many very fine and fine, few medium and coarse tubular pores; 20 percent pebbles and 2 percent cobbles; neutral (pH 7.0); abrupt smooth boundary.

- Btk1—3 to 8 inches; brown (7.5YR 4/3) very gravelly loam, very dark brown (7.5YR 2.5/2) moist; moderate fine and medium subangular blocky structure; moderately hard, friable, slightly sticky and slightly plastic; common very fine through medium, and few coarse and very coarse roots; many very fine, fine, common medium and coarse tubular pores; 3 percent, faint, clay films lining pores and bridging sand grains; 70 percent, continuous, distinct, light gray (10YR 7/2), calcium carbonate coats on rock fragments; 40 percent pebbles and 2 percent cobbles; very slightly effervescent; neutral (pH 7.0); abrupt wavy boundary.
- Btk2—8 to 19 inches; yellowish brown (10YR 5/4) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very through medium, and few coarse and very coarse roots; many very fine irregular and interstitial, and few fine through coarse tubular pores; 20 percent, faint, clay films on all faces of peds and rock fragments; 70 percent, continuous, prominent, white (10YR 8/1), calcium carbonate coats on top surfaces of rock fragments; 90 percent, fine and medium (1 to 3 mm), prominent, white (10YR 8/1), calcium carbonate pendants on bottom of rock fragments; 65 percent pebbles and 5 percent cobbles; slightly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.
- Bkq1—19 to 30 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, brown (10YR 4/3) moist; weak very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine through coarse roots; many very fine and fine interstitial pores; 70 percent, continuous, prominent, white (10YR 8/1), calcium carbonate coats on top surface of rock fragments; 90 percent, medium (2 to 5 mm), prominent, white (10YR 8/1), calcium carbonate nodules on bottom of rock fragments; 1 percent, prominent, light olive brown (2.5Y 5/4), silica coats on bottom of rock fragments; 70 percent pebbles and 5 percent cobbles; strongly effervescent (25 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); clear smooth boundary.
- Bkq2—30 to 41 inches; yellowish brown (10YR 5/4) extremely cobbly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine through coarse roots; common very fine and fine interstitial pores; 70 percent, continuous, prominent, white (10YR 8/1), calcium carbonate coats on top surfaces of rock fragments; 90 percent, 2 to 5 mm, prominent, white (10YR 8/1), calcium carbonate nodules on bottoms of rock fragments; 2 percent, prominent, light olive brown (2.5Y 5/4), silica coats on bottom of rock fragments; 30 percent pebbles, 35 percent cobbles and 5 percent stones; violently effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); clear smooth boundary.
- Bkq3—41 to 60 inches; yellowish brown (10YR 5/4) extremely cobbly sandy loam, brown (10YR 4/3) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine through medium roots; common very fine interstitial pores; 70 percent, continuous, prominent, white (10YR 8/1), calcium carbonate coats on top surfaces of rock fragments; 90 percent, 2 to 5 mm, prominent, white (10YR 8/1), calcium carbonate nodules on bottoms of rock fragments; 2 percent, prominent, light olive brown (2.5Y 5/4), silica coats on bottom of rock fragments; 40 percent pebbles, 30 percent cobbles and 3 percent stones; violently effervescent (25 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2).

**Type location:** Clark County, Nevada; about 8 miles north and 26 west of Las Vegas, Nevada; approximately 1.6 miles west and 1.8 miles south of Angel Peak located on the east side of the Spring Mountains; About 275 feet north and 250 feet west of the southeast corner of section 17, T.19 S., R.57 E.; USGS Angel Peak, NV 7.5 minute topographic quadrangle; 36 degrees, 17 minutes, 35.7 seconds north latitude and 115 degrees, 36 minutes, 05.9 seconds west longitude; USGS Angel Peak, Nevada 7.5 minute quadrangle; UTM 11, 0625566e 4017382n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer thunderstorms. Aridic bordering ustic soil moisture regime.

*Soil temperature:* 47 to 52 degrees F.

*Depth to base of mollic epipedon:* 7 to 10 inches.

*Depth to top of argillic horizon:* 2 to 10 inches.

*Depth to calcic horizon:* 14 to 25 inches.

*Control section:*

Rock fragments—Averages 60 to 75 percent, mainly gravel.

Clay content—18 to 27 percent.

**A horizon:**

Organic matter—1.0 to 2.5 percent.

Calcium carbonate equivalent in the fine earth fraction—0 to 5 percent.

**Btk1 and Btk2 horizons:**

Rock fragments—35 to 75 percent, mainly gravel with 0 to 10 percent cobbles and/or stones.

Calcium carbonate equivalent in the fine earth fraction—0 to 5 percent.

**Bkq1 and Bkq2 horizons:**

Calcium carbonate equivalent in the fine earth fraction—20 to 40 percent.

**Mackscanyon series**

The Mackscanyon series consists of very deep, well drained soils that formed in alluvium from limestone and dolomite. Mackscanyon soils are on fan remnants. Slopes range from 8 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual air temperature is about 47 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, mesic Aridic Calciustolls

**Typical pedon:** Mackscanyon very gravelly silt loam, forestland and wildlife habitat in an area of map unit 865. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 55 percent pebbles, 5 percent cobbles and 15 percent pinyon pine needles.

ABk1—0 to 2 inches; brown (10YR 4/3) very gravelly silt loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine and few fine tubular pores; 20 percent, distinct, yellow brown (dry), calcium carbonate coats on bottom of rock fragments; 35 percent pebbles, 5 percent cobbles and 2 percent

stones; violently effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.0); abrupt smooth boundary.

ABk2—2 to 6 inches; brown (10YR 4/3) very gravelly silt loam, dark brown (10YR 3/3) moist; strong medium and coarse subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; common very fine, fine and medium tubular pores; 90 percent, continuous, prominent, white, irregular, calcium carbonate coats; 40 percent pebbles and 5 percent cobbles; violently effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); abrupt wavy boundary.

Bkq1—6 to 19 inches; brown (10YR 5/3) very gravelly loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; common very fine through medium, few coarse and very coarse roots; common very fine, few fine and medium tubular pores; 3 percent, less than 1 mm, prominent, very pale brown (10YR 8/2), irregular, calcium carbonate masses in matrix around concentrations; 90 percent, continuous, prominent, calcium carbonate coats on bottoms and sides of rock fragments; 2 percent silica pendants on bottom of rock fragments; 45 percent pebbles (5 percent paragravel) and 5 percent cobbles; violently effervescent (30 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); clear smooth boundary.

Bkq2—19 to 30 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 5/3) moist; weak medium subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; few very fine and common fine roots; 75 percent, continuous, prominent, white, calcium carbonate coats around rock fragments; 5 percent, 0.1 to 1 mm, brown (7.5YR 5/4), silica pendants on bottom of rock fragments; 50 percent discontinuous moderately to very strongly cementation; 55 percent pebbles and 1 percent cobbles; violently effervescent (45 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); clear smooth boundary.

Bkq3—30 to 59 inches; light gray (10YR 7/2) extremely gravelly loam, light brownish gray (10YR 6/2) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; 75 percent, continuous, prominent, white, calcium carbonate coats around rock fragments; 2 percent silica pendants on bottom of rock fragments; 60 percent pebbles; violently effervescent (45 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2).

**Type location:** Clark County, Nevada; about 14 miles south of Indian Springs located on the north end of the Spring Mountains; approximately 3 miles south and 3 miles east of the community of Cold Creek; 1,320 feet west and 120 feet north of the southeast corner of section 16, T.18 S., R.56 E.; USGS Cold Creek, NV 7.5 minute topographic quadrangle; MDBM; 36 degrees, 22 minutes, 41.9 seconds north latitude and 115 degrees, 41 minutes, 23.1 seconds west longitude; USGS Cold Creek, Nevada 7.5 minute quadrangle; UTM 11, 0617525e 4026704n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer convection storms; aridic moisture regime bordering on ustic.

*Soil temperature:* 47 to 52 degrees F.

*Mollic epipedon thickness:* 7 to 10 inches, after mixing.

*Depth to calcic horizon:* 6 to 20 inches.

*Control section:*

Rock fragments—Averages 50 to 65 percent, mainly gravel.

Clay content—8 to 18 percent.

**ABk horizons:**

Structure—Moderate or strong, fine through coarse.

Consistence—Soft or slightly hard, very friable.

Calcium carbonate equivalent of the fine earth fraction—15 to 25 percent.

Organic matter—1.0 to 2.5 percent.

**Bkq horizons:**

Chroma—2 through 4.

Texture—Loam or sandy loam.

Structure—Weak or moderate, fine or medium.

Consistence—Slightly hard through very hard, nonplastic and slightly plastic.

Rock fragments—45 to 70 percent, mainly gravel.

Calcium carbonate equivalent of the fine earth fraction—25 to 55 percent.

## Maryjane series

The Maryjane series consists of very deep, well drained soils that formed in alluvium and/or colluvium from limestone and dolomite. Maryjane soils are on inset fans and lower back slopes of mountains. Slopes range from 8 to 75 percent. The mean annual precipitation is about 17 inches and the mean annual air temperature is about 43 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, frigid Pachic Calcicustolls

**Typical pedon:** Maryjane extremely gravelly loam, forestland and wildlife habitat in an area of map unit 916. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 35 percent pebbles, 2 percent cobbles and 1 percent stones.

Oi—0 to 1 inch; very dark grayish brown (10YR 3/2) slightly decomposed plant material composed of needles and twigs, very dark brown (10YR 2/2) moist; weak thick platy structure; common very fine roots; common very fine and fine interstitial pores; slightly acid (pH 6.4); abrupt wavy boundary.

A—1 to 4 inches; very dark grayish brown (10YR 3/2) extremely gravelly loam, black (10YR 2/1) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common fine and medium interstitial pores; 70 percent pebbles and 2 percent cobbles; very slightly effervescent (11 percent calcium carbonate equivalent in the fine earth fraction); slightly alkaline (pH 7.6); abrupt smooth boundary.

ABk—4 to 13 inches; dark grayish brown (10YR 4/2) extremely gravelly loam, black (10YR 2/1) moist; moderate medium subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; common very fine through very coarse roots; many very fine and common fine and medium interstitial pores; 40 percent, prominent, white (10YR 8/1), calcium carbonate coats on bottom surfaces of rock fragments; 5 percent, prominent, brownish yellow (10YR 6/6), relic iron stains on rock fragments; 70 percent pebbles, 1 percent cobbles and 3 percent stones; strongly effervescent (85 percent calcium carbonate equivalent in the fine earth fraction); slightly alkaline (pH 7.8); clear wavy boundary.

Bk—13 to 35 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; common very fine through very

coarse roots; common very fine and fine interstitial pores; 60 percent, prominent, white (10YR 8/1), calcium carbonate coats on bottom surfaces of rock fragments; 50 percent pebbles, 2 percent cobbles and 5 percent stones; violently effervescent (95 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.0); clear wavy boundary.

Bkq—35 to 44 inches; light brownish gray (10YR 6/2) extremely gravelly coarse sandy loam, dark grayish brown (10YR 4/2) moist; massive, soft, very friable, slightly sticky and nonplastic; common very fine through very coarse roots; common very fine through very coarse interstitial pores; 40 percent, prominent, white (10YR 8/1), carbonate coats on bottom surfaces of rock fragments; 30 percent, fine, prominent, white (10YR 8/1), calcium carbonate pendants on bottom of rock fragments, slightly hard, sharp; 10 percent, fine, distinct, yellow (10YR 7/6), opal on bottom of rock fragments, hard, sharp; 85 percent pebbles; violently effervescent (100 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.1); clear wavy boundary.

Bk—44 to 60 inches; light brownish gray (10YR 6/2) extremely gravelly coarse sandy loam, dark grayish brown (10YR 4/2) moist; massive; soft, very friable, slightly sticky and nonplastic; few very fine roots; many very fine tubular pores; 40 percent, prominent, white (10YR 8/1), calcium carbonate coats on bottom surfaces of rock fragments; 30 percent, fine, prominent, white (10YR 8/1), calcium carbonate pendants on bottom of rock fragments, slightly hard, sharp; 70 percent pebbles; violently effervescent (95 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2).

**Type location:** Clark County, Nevada; about 5.6 miles north and 14.5 miles west of Pahrump, Nevada; approximately 1.4 miles west and 1.2 mile north of Charleston Peak located in Wallace Canyon; 320 area feet south and 1250 feet east of the northwest corner of section 20, T.19 S., R.56 E.; USGS Charleston Peak, NV 7.5 minute topographic quadrangle; 36 degrees, 17 minutes, 22.4 seconds north latitude and 115 degrees, 43 minutes, 19.2 seconds west longitude; UTM 11, 0604764e 4016822n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually moist in late winter and spring, and periodically moist in the upper part following summer convection storms; ustic soil moisture regime bordering on aridic.

*Soil temperature:* 43 to 47 degrees F.

*Depth to base of mollic epipedon:* 30 to 72 inches.

*Depth to calcic horizon:* 4 to 20 inches.

*Control section:*

Rock fragments—Averages 50 to 80 percent, mainly gravel.

Clay content—Averages 6 to 18 percent, 3 to 9 percent is calcium carbonate clay.

**Oi horizon:**

Organic matter—50 to 70 percent.

Bulk density—0.3 to 0.5

**A horizon:**

Value—3 or 4 dry.

Structure—Fine or medium.

Consistence—Soft or slightly hard.

Rock fragments—60 to 80 percent, mainly gravel.

Organic matter—5.0 to 10.0 percent.

Calcium carbonate equivalent of the fine earth fraction—5 to 20 percent.

**ABk horizon:**

Value—3 or 4 dry.

Texture—Loam or silt loam.

Structure—Fine or medium.

Consistence—Soft or slightly hard.

Rock fragments—60 to 80 percent, mainly gravel.

Organic matter—0.5 to 3.0 percent.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate equivalent of the fine earth fraction—60 to 100 percent.

**Bk, Bkq or Bk horizons:**

Value—4 through 6 dry.

Consistence—Nonsticky or slightly sticky and nonplastic or slightly plastic.

Rock fragments—50 to 90 percent

Texture—Coarse sandy loam, sandy loam or loam.

Organic matter—0.5 to 1.0 percent.

Calcium carbonate equivalent of the fine earth fraction—60 to 100 percent.

**McClanahan series**

The McClanahan series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium from gneiss, schist and altered granitic rocks. McClanahan soils are on mountains. Slopes range from 30 to 50 percent. The mean annual precipitation is about 9 inches and the mean annual air temperature is about 54 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic, shallow Ustic Haplargids

**Typical pedon:** McClanahan extremely gravelly loam, forestland and wildlife habitat in an area of map unit 790. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 50 percent pebbles, 15 percent cobbles and 2 percent stones.

A—0 to 2 inches; weak red (2.5YR 4/2) extremely gravelly loam, dusky red (2.5YR 3/2) moist; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine interstitial pores; 45 percent pebbles, 15 percent cobbles and 2 percent stones; neutral (pH 7.0); clear smooth boundary.

Bt1—2 to 7 inches; reddish brown (2.5YR 5/4) extremely gravelly clay loam, reddish brown (2.5YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine and medium roots, common very fine and fine interstitial and few fine tubular pores; common distinct clay films lining pores and on faces of peds; 50 percent pebbles and 15 percent cobbles; neutral (pH 7.0); clear wavy boundary.

Bt2—7 to 11 inches; reddish brown (2.5YR 5/4) extremely gravelly sandy clay loam, reddish brown (2.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and medium roots; common very fine interstitial pores; common faint clay films lining pores; 60 percent pebbles and 5 percent cobbles; neutral (pH 7.2); abrupt wavy boundary.

Cr—11 to 20 inches; fractured and weathered gneiss bedrock that can be dug with a spade.

**Type location:** Clark County, Nevada; approximately 1.7 miles southwest of Pine Spring, on the southwestern slopes of the McCullough Range; about 990 feet north and 50 feet east of the southwest corner of section 29, T.27 S., R.61 E.; 35 degrees, 33 minutes, 48.3 seconds north latitude and 115 degrees, 11 minutes, 0.8 seconds west longitude; UTM 11, 664618e, 3937045n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part from December to March and intermittently moist between July and October following convection storms; aridic moisture regime bordering on ustic.

*Soil temperature:* 52 to 58 degrees F.

*Depth to argillic horizon:* 1 to 4 inches.

*Depth to paralithic contact:* 8 to 14 inches.

*Control section:*

Clay content—Averages 18 to 30 percent.

Rock fragments—45 to 70 percent, mainly gravel and cobbles.

**A horizon:**

Value—4 or 5 dry, 3 or 4 moist.

Chroma—2 or 3 dry and moist.

Clay content—15 to 27 percent.

**Bt horizons:**

Hue—7.5YR, 2.5YR

Value—4 or 5 dry, 3 or 4 moist.

Texture—Loam, sandy clay loam or clay loam.

Clay content—18 to 32 percent.

**Meadview series**

The Meadview series consists of very deep, well drained soils that formed in alluvium from granite. Meadview soils are on fan remnants. Slopes range from 4 to 15 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 60 degrees F.

**Taxonomic class:** Sandy-skeletal, mixed, thermic Durinodic Haplocalcids.

**Typical pedon:** Meadview extremely gravelly sandy loam, rangeland and wildlife habitat in a delineation of map unit 522. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles, 1 percent cobbles and 1 percent stones.

A—0 to 2 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak medium platy structure; slightly hard, very friable, slightly sticky and nonplastic; common very fine roots; common very fine and fine tubular pores; 70 percent pebbles, 1 percent cobbles and 1 percent stones; strongly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

**Bk**—2 to 16 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; common very fine and fine and few medium and coarse roots; common very fine and few fine and medium tubular pores; fine calcium carbonate coats on the bottom of rock fragments; 35 percent pebbles, 1 percent cobbles and 1 percent stones; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

**Bkq1**—16 to 25 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, slightly sticky and nonplastic; common very fine and fine and few fine medium roots; common very fine and few fine tubular pores; fine calcium carbonate concretions on bottom of pan fragments; 10 percent calcium carbonate and silica cemented pan fragments with laminar caps; 35 percent pebbles, 1 percent cobbles and 1 percent stones; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

**Bkq2**—25 to 60 inches; variegated colors, stratified very gravelly coarse sand and very gravelly loamy sand; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine interstitial pores and few fine interstitial and tubular pores; fine calcium carbonate concretions on the undersides of rock fragments; 30 percent calcium carbonate and silica cemented pan fragments with laminar caps; 40 percent pebbles, 1 percent cobbles and 1 percent stones; violently effervescent; moderately alkaline (pH 8.2).

**Type location:** Clark County, Nevada; about 23 miles southeast of Overton located near Gold Butte; approximately 1 mile west and 1/2 mile south of Gold Butte mountain; about 1370 feet north and 35 feet east of the northwest corner of section 19, T.19 S., R.70 E.; USGS Gold Butte, NV 7.5 minute topographic quadrangle; 36 degrees, 15 minutes, 51.6 seconds north latitude and 114 degrees, 12 minutes, 30.7 seconds west longitude; UTM 11, 0750777e 4016881n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Intermittently moist in some part of the moisture control section during December - February and for less than 20 days cumulative during July - September. Driest during May and June. Typic aridic soil moisture regime.

*Soil temperature:* 59 to 72 degrees F.

*Depth to calcic horizon:* 2 to 18 inches.

*Depth to gravel and sand:* 20 to 30 inches.

*Depth to durinodic feature:* 14 to 30 inches.

*Reaction:* Slightly alkaline or moderately alkaline.

*Control section:*

Rock fragments—35 to 75 percent.

Clay content—Averages less than 10 percent.

**A horizon:**

Hue—10YR or 7.5YR.

Value—5 to 7 dry, 4 and 5 moist.

Chroma—3 to 6, dry and moist.

**Bk horizon:**

Hue—10YR and 7.5YR

Value—5 through 8 dry, 4 through 6 moist

Chroma—3 through 6, dry and moist.

Clay content—5 to 18 percent.

Calcium carbonate equivalence in the fine earth fraction—10 to 30 percent.

**Bkq horizons:**

Hue—10YR and 7.5YR

Value—5 through 8 dry and 4 through 6 moist.

Chroma—3 through 6 dry or moist.

Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.

Other features—Subhorizons have discontinuous lenses of silica and calcium carbonate cementation or suspended pan fragments with a laminar cap. Some pedons have up to 30 percent calcium carbonate and silica masses.

**Mesabase series**

The Mesabase series consists of moderately deep, somewhat excessively drained soils that formed in alluvium derived dominantly from sandstone. Mesabase soils are on pediments. Slopes range from 2 to 15 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids

**Typical pedon:** Mesabase extremely gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 941. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 65 percent pebbles and 5 percent cobbles.

A1—0 to 1 inch; light brown (7.5YR 6/3) extremely gravelly sandy loam, brown (7.5YR 4/3) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine interstitial pores; 65 percent pebbles and 5 percent cobbles; strongly effervescent; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—1 to 5 inches; light brown (7.5YR 6/3) very gravelly sandy loam, brown (7.5YR 5/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and common fine roots; many very fine interstitial pores; 40 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bw—5 to 11 inches; light brown (7.5YR 6/3) extremely gravelly loamy sand, brown (7.5YR 5/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 65 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bk1—11 to 30 inches; light brown (7.5YR 6/3) very gravelly loamy sand, brown (7.5YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine and common fine roots; many very fine interstitial pores; few thin strata of very gravelly sandy loam; 15 percent medium and coarse calcium carbonate coats and pendants on the bottom of rock fragments; 45 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bk2—30 to 38 inches; light brown (7.5YR 6/3) very gravelly loamy coarse sand, brown (7.5YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine interstitial pores; 20 percent medium and coarse calcium carbonate coats and pendants on the bottom of rock fragments; 50 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

2Cr—38 inches; soft weathered sandstone.

**Type location:** Clark County, Nevada; in the Lake Mead National Recreation Area about 1 mile south of Pinto Ridge in the southwest end of Pinto Valley; about 560 feet south and 2,480 feet east of the northwest corner of section 27, T.20 S., R.66 E.; USGS Boulder Canyon, NV 7.5 minute topographic quadrangle; 36 degrees, 11 minutes, 13 seconds north latitude and 114 degrees, 36 minutes, 26 seconds west longitude; UTM 11, 0715164e, 4007337n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typic aridic soil moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to calcic horizon:* 3 to 12 inches.

*Depth to paralithic contact:* 20 to 40 inches.

*Reaction:* Moderately alkaline or strongly alkaline.

*Control section:*

Clay content—Averages 3 to 8 percent.

Rock fragments—Averages 35 to 60 percent, mainly gravel.

**A horizons:**

Hue—7.5YR through 2.5YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4 dry or moist.

**Bw horizon:**

Hue—7.5YR through 2.5YR.

Value—4 or 5 moist.

Chroma—3 through 5 moist.

Texture—Loamy coarse sand or loamy sand.

Clay content—3 to 8 percent.

Rock fragments—60 to 80 percent.

**Bk horizons:**

Hue—7.5YR through 2.5YR.

Value—4 or 5 moist.

Texture—Loamy coarse sand or loamy sand; thin strata of very gravelly sandy loam are in some pedons.

Clay content—5 to 8 percent.

Rock fragments—35 to 60 percent.

Structure—Massive or subangular blocky.

Calcium carbonate—15 to 25 percent medium to very coarse coats and pendants on the bottom of rock fragments.

Calcium carbonate equivalent in the fine earth fraction—5 to 20 percent.

**Moapa series**

The Moapa series consists of moderately deep, excessively drained soils that formed in eolian sands over sandstone. Moapa soils are on sand sheet over rock pediments. Slopes range from 4 to 30 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 66 degrees F.

**Taxonomic class:** Mixed, thermic Typic Torripsamments

**Typical pedon:** Moapa fine sand, rangeland and wildlife habitat in a delineation of map unit 290. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 5 percent pebbles.

A—0 to 2 inches; reddish yellow (5YR 6/6) fine sand, yellowish red (5YR 4/6) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine and fine interstitial pores; 5 percent pebbles; noneffervescent; moderately alkaline (pH 8.2); clear smooth boundary.

C1—2 to 23 inches; reddish yellow (5YR 6/6) fine sand, yellowish red (5YR 4/6) moist; single grain; loose, nonsticky and nonplastic; few very fine to medium roots; many very fine and fine interstitial pores; 2 percent pebbles; noneffervescent; moderately alkaline (pH 8.2); gradual smooth boundary.

C2—23 to 38 inches; reddish yellow (5YR 6/6) fine sand, yellowish red (5YR 4/6) moist; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; many very fine and fine interstitial pores; few, distinct, randomly oriented calcium carbonate coats on rock fragments; 5 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Cr—38 to 40 inches; soft weathered sandstone.

R—40 inches; hard calcareous sandstone.

**Type location:** Clark County, Nevada; approximately 20 miles south of Riverside, Nevada and 3 miles west of Devils Throat sinkhole on the north side of Mud Wash; about 2,000 feet east and 850 feet north of the projected southwest corner of section 20, T.17 S., R.70 E.; USGS Devils Throat, NV 7.5 minute topographic quadrangle; 36 degrees, 26 minutes, 11 seconds north latitude; 114 degrees, 12 minutes, 6 seconds west longitude; UTM 11, 750840e, 4035993n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic moisture regime.

*Soil temperature:* 66 to 71 degrees F.

*Depth to paralithic contact:* 21 to 38 inches.

*Depth to bedrock:* 22 to 40 inches.

*Control section:*

Percent clay—0 to 5 percent.

Rock fragments—Averages 0 to 15 percent, mainly gravel less than 2 inches in diameter.

**A horizon:**

Hue—10YR through 2.5YR.

Value—6 or 7 dry, 4 through 6 moist.

Chroma—3 through 6 dry or moist.

Effervescence—Noneffervescent to violently effervescent.

Calcium carbonate equivalent in the fine earth fraction—1 to 10 percent.

**C horizons:**

Hue—10YR through 2.5YR.

Value—6 or 7 dry, 4 through 6 moist.

Chroma—3 through 6 dry or moist.

Texture—Fine sand or sand.

Effervescence—Non effervescent to violently effervescent.

Reaction—Moderately alkaline to strongly alkaline.

Calcium carbonate equivalent in the fine earth fraction—1 to 15 percent.

Other features—Few or common medium or coarse irregular soft masses of calcium carbonate at the paralithic contact. It is not diagnostic. Some pedons have thin calcium carbonate coats that are randomly oriented on rock fragments. Some pedons may have A horizon with 15 to 30 percent gravel.

### Moentria series

The Moentria series consists of very shallow, well drained soils that formed in residuum and colluvium from calcareous sandstone and siltstone. Moentria soils are on mountains. Slopes range from 8 to 50 percent. The mean annual precipitation is about 7 inches and the mean annual air temperature is about 53 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, calcareous, mesic, shallow Typic Torriorthents

**Typical pedon:** Moentria extremely gravelly loam, rangeland and wildlife habitat in an area of map unit 421. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles, 2 percent cobbles and 1 percent stones.

A—0 to 3 inches; brown (7.5YR 5/4) extremely gravelly loam, brown (7.5YR 4/4) moist; moderate thick platy structure parting to fine and medium subangular blocky; soft, very friable, nonsticky and slightly plastic; common very fine and few fine roots; many very fine and few fine and medium interstitial and tubular pores; 70 percent pebbles, 2 percent cobbles and 1 percent stones; violently effervescent (30 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.

Bk—3 to 9 inches; reddish brown (5YR 5/4) very gravelly loam, reddish brown (5YR 4/4) moist; moderate fine and medium subangular blocky structure; soft, very friable, non-sticky and slightly plastic; many very fine and fine, common medium and few coarse roots; common very fine and few fine interstitial pores and few fine tubular pores; few distinct calcium carbonate coats on bottom of rock fragments; 50 percent pebbles; violently effervescent (35 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.

Crk—9 to 19 inches; reddish brown (5YR 5/4) soft calcareous sandstone and siltstone bedrock with less than four inches between fractures, reddish brown (5YR 4/4) moist; massive; hard, firm, nonsticky and nonplastic; sandy loam material in fractures; common very fine, fine and medium roots in fractures; common distinct calcium carbonate coats on bottom of rock fragments; violently effervescent; moderately alkaline (pH 8.2); abrupt irregular boundary.

R—19 inches; hard calcareous sandstone and siltstone bedrock with more than four inches between fractures; common thin calcium carbonate coats on bottom of fractured rocks; few very fine, fine and medium roots in fractures; strongly effervescent.

**Type location:** Clark County, Nevada; approximately 2 miles north of Kyle Canyon in Goodwater Canyon on the east side of the Spring Mountain Range; about 1,000 feet north and 50 feet east of the southwest corner of section 9, T.19 S., R.58 E.; USGS Grapevine Spring, NV 7.5 minute topographic quadrangle; 36 degrees, 18 minutes, 34 seconds north latitude and 115 degrees, 29 minutes, 39 seconds west longitude; UTM 11, 635189e, 4019323n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic moisture regime.

*Soil temperature:* 53 to 58 degrees F.

*Depth to paralithic contact:* 4 to 10 inches.

*Depth to bedrock:* 10 to 20 inches.

*Control section:*

Percent clay—8 to 18 percent.

Rock fragments—50 to 75 percent, mainly gravel or channers.

Calcium carbonate equivalent in the less than 20 millimeter fraction—20 to 40 percent.

**A horizon:**

Hue—5YR or 7.5YR.

Value—4 or 5 dry, 3 or 4 moist.

Calcium carbonate equivalent in the fine earth fraction—15 to 35 percent.

**Bk horizon:**

Value—4 or 5 dry, 3 or 4 moist.

Texture—Loam, fine sandy loam, or very fine sandy loam.

Rock fragments—50 to 70 percent, mainly gravel or channers.

Structure—Weak or moderate, fine or medium subangular blocky.

Consistence—Nonsticky or slightly sticky.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent in the fine earth fraction—15 to 35 percent.

**Crk horizon:**

Other features—Calcium carbonate coats are common on the undersides of rock fragments in some horizons.

**Mormon Mesa series**

The Mormon Mesa series consist of shallow over petrocalcic, well drained soils that formed in material influenced by calcareous loess over mixed alluvium from predominantly limestone sources. The Mormon Mesa soils are on summits of fan remnants and mesas. Slopes range from 2 to 8 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 65 degrees F.

**Taxonomic class:** Loamy, carbonatic, thermic, shallow Calcic Petrocalcids

**Typical pedon:** Mormon Mesa very gravelly fine sandy loam, rangeland and wildlife habitat in a delineation of map unit 250. (Colors are for dry soil unless otherwise stated.)

A—0 to 2 inches; light brown (7.5YR 6/4) very gravelly fine sandy loam, brown (7.5YR 4/4) moist; moderate medium platy structure; soft, very friable, nonsticky and nonplastic; common very fine roots; few fine vesicular and many very fine and fine interstitial pores; 40 percent pebbles (mostly coarse pan fragments); violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

- Bk1—2 to 8 inches; light brown (7.5YR 6/4) gravelly fine sandy loam, brown (7.5YR 4/4) moist; moderate fine to medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; many very fine and fine and few medium roots; few fine and medium tubular and many very fine and fine interstitial pores; disseminated calcium carbonate throughout; 10 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.
- Bk2—8 to 14 inches; light brown (7.5YR 6/4) gravelly fine sandy loam, brown (7.5YR 4/4) moist; massive; slightly hard, very friable, slightly sticky and nonplastic, slightly sticky; few very fine, fine, and medium roots; few fine tubular and common very fine and fine interstitial pores; common fine carbonate coats on the undersides of rock and pan fragments and few soft calcium carbonate masses; 20 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.
- 2Bkm—14 to 60 inches; very pale brown (10YR 7/3) continuous indurated petrocalcic hardpan, light yellowish brown (10YR 6/4) moist; 5 to 8 millimeter silica lamella, dark yellowish brown (10YR 4/4) moist; massive, very rigid, very rigid.

**Type location:** About 1,200 feet west and 2,020 feet south of the northwest corner of section 30, T.16 S., R.70 E.; USGS Whitney Pocket, NV 7.5 minute topographic quadrangle; 36 degrees, 30 minutes, 55.1 seconds north latitude and 114 degrees, 12 minutes, 56 seconds west longitude; UTM 11, 749341e, 4044712n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 59 to 72 degrees F.

*Depth to calcic horizon:* 2 to 6 inches.

*Depth to petrocalcic horizon:* 10 to 20 inches.

*Control section:*

Clay content—5 to 15 percent.

Rock fragments—Averages 0 to 20 percent, predominantly gravel or cobble size pan fragments, with 20 to 35 percent in any given subhorizon.

Profile reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent in the fine earth fraction—40 to 60 percent.

**A horizon:**

Hue—5YR or 7.5YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4 dry and moist.

**Bk horizons:**

Hue—5YR or 7.5YR.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 through 4 dry and moist.

Clay content—5 to 15 percent.

Texture—Fine sandy loam or sandy loam.

Rock fragments—Averages 0 to 35 percent, predominantly gravel or cobble size pan fragments.

Structure—Massive or subangular blocky.

Consistence—Soft or slightly hard, friable or very friable, nonsticky or slightly sticky.

Secondary carbonates: When rock or pan fragments are present in the profile, clasts may contain many to common calcium carbonate coats and pendants on

the vertical and undersides of fragments. Common very thin or thin calcium carbonate coats, filaments and seams.

**2Bkm horizon:**

Hue—7.5YR or 10YR.

Value—7 or 8 dry, 6 through 8 moist.

Chroma—0 through 4.

Thickness—Ranges from 4 feet to more than 20 feet.

**Mountmcull series**

The Mountmcull series consists of very shallow, somewhat excessively drained soils that formed in residuum and colluvium from metamorphosed granitic sources.

Mountmcull soils are on mountains. Slopes range from 30 to 75 percent. The mean annual precipitation is about 8 inches and the mean annual temperature is about 54 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, nonacid, mesic Lithic Ustic Torriorthents

**Typical pedon:** Mountmcull extremely gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 700. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 80 percent pebbles, 5 percent cobbles and 1 percent stones.

A—0 to 2 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; 65 percent pebbles, 5 percent cobbles and 1 percent stones; neutral (pH 6.8); clear smooth boundary.

Bw—2 to 8 inches; dark yellowish brown (10YR 4/4) very gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine roots; common very fine tubular pores; 50 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.6); abrupt wavy boundary.

R—8 inches; slightly fractured hard metamorphosed granitic bedrock; common very fine and few fine roots in fractures decreasing with depth.

**Type location:** Clark County, Nevada; approximately 3 miles east of McCullough Mountain located in the south end and east side of the McCullough Range; about 230 feet south and 1,875 feet west of the projected northeast corner of section 14, T.27 S., R.61 E.; USGS Highland Spring, NV 7.5 minute topographic quadrangle; 35 degrees, 36 minutes, 10 seconds north latitude and 115 degrees, 07 minutes, 17 seconds west longitude; UTM 11, 670168e, 3941518n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part from December to March and intermittently moist for 10 to 20 days during July to October following summer convection storms; aridic moisture regime bordering on ustic.

*Soil temperature:* 53 to 58 degrees F.

*Depth to lithic contact:* 4 to 10 inches.

*Control section:*

Clay content—10 to 18 percent.

Rock fragments—Averages 35 to 60 percent, mainly fine gravel.

**A horizon:**

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4.

Reaction—Neutral or slightly alkaline.

**Bw horizon:**

Value—4 through 6 dry, 3 or 4 moist.

Texture—Loam or sandy loam.

Structure—Weak or moderate subangular blocky.

Reaction—Neutral or slightly alkaline.

**Mountmummy series**

The Mountmummy series consists of moderately deep, well drained soils that formed in residuum and colluvium from limestone and dolomite. Mountmummy soils are on upper back slopes of mountains. Slopes range from 30 to 75 percent. The mean annual precipitation is about 18 inches and the mean annual air temperature is about 42 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, frigid Pachic Calciustolls

**Typical pedon:** Mountmummy extremely gravelly loam, forestland and wildlife habitat in an area of map unit 905. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 75 percent gravel, 10 percent cobbles, and 2 percent stones.

A—0 to 2 inches; dark yellowish brown (10YR 4/4) extremely gravelly loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; few very fine roots throughout; common fine tubular and many very fine tubular pores; 60 percent pebbles, 5 percent cobbles and 1 percent stones; very slightly effervescence (35 percent calcium carbonate equivalent in the fine earth fraction); slightly alkaline (pH 7.8); clear smooth boundary.

Bk1—2 to 12 inches; yellowish brown (10YR 5/4) extremely gravelly loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; common very fine through very coarse roots throughout; common very fine and fine tubular pores; 80 percent prominent white (10YR 8/1) calcium carbonate coats on bottom surfaces of rock fragments; 55 percent pebbles, 10 percent cobbles and 1 percent stones; slightly effervescence (50 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 7.9); abrupt smooth boundary.

Bk2—12 to 24 inches; light yellowish brown (10YR 6/4) extremely cobbly fine sandy loam, brown (10YR 4/3) moist; massive; moderately hard, very friable, slightly sticky and nonplastic; few very fine and fine roots and common medium and coarse roots throughout; many very fine pores; 50 percent 2 to 30 millimeter calcium carbonate masses, distinct, very pale brown (10YR 7/3) dry, brown (10YR 5/3) moist, irregular, in matrix around concentrations, moderately hard, diffuse; 90 percent fine prominent very pale brown (10YR 8/2) calcium carbonate pendants on bottom of rock fragments; 40 percent pebbles, 40 percent cobbles and 5 percent

stones; violently effervescence (75 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 7.9); abrupt irregular boundary.  
R—24 inches; hard limestone bedrock.

**Type location:** Clark County, Nevada; about 8 miles north and 27 miles west of Las Vegas, Nevada; approximately 3.7 miles east and 1.8 mile north of Charleston Peak or 0.7 mile east of Mummy Spring located in the Spring Mountains; tentatively sectioned area 1,810 feet north and 2,500 feet east of the southwest corner of section 18, T.19 S., R.57 E.; USGS Charleston Peak, NV 7.5 minute quadrangle; 36 degrees, 17 minutes, 46.4 seconds north latitude and 115 degrees, 37 minutes, 36.9 seconds west longitude; UTM 11, 623291e 4017680n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer convection storms; ustic soil moisture regime bordering on aridic.

*Soil temperature:* 41 to 46 degrees F.

*Depth to base of mollic epipedon:* 20 to 40 inches

*Depth to calcic horizon:* 10 to 20 inches

*Depth to lithic contact:* 20 to 40 inches.

*Control section:*

Rock fragments—60 to 90 percent.

Clay content—8 to 18 percent.

**A horizon:**

Calcium carbonate equivalent in the fine earth fraction—20 to 40 percent.

Organic matter—4 to 8 percent.

**Bk horizons:**

Value—5 or 6 dry, and 3 or 4 moist.

Structure—Subangular blocky or massive.

Calcium carbonate equivalent in the fine earth fraction—40 to 80 percent.

Organic matter—2 to 5 percent.

Reaction—Slightly alkaline to moderately alkaline.

Other features—Calcium carbonate concentrations range from prominent coats and fine pendants on the bottom of rock fragments to moderately hard calcium carbonate masses suspended in the fine earth matrix.

**Naye series**

The Naye series consists of moderately deep to a petrocalcic, well drained soils that formed in alluvium mainly from limestone and dolomite. Naye soils are on fan remnants. Slopes range from 2 to 15 percent. The mean annual precipitation is about 5 inches and the mean annual air temperature is about 65 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic Typic Petrocalcids

**Typical pedon:** Naye gravelly fine sandy loam, rangeland and wildlife habitat in a delineation of map unit 260. (Colors are for dry soil unless otherwise noted.)

A—0 to 2 inches; reddish yellow (7.5YR 6/6) gravelly fine sandy loam, brown (7.5YR 4/4) moist; strong coarse platy structure; slightly hard, friable, slight sticky and

slightly plastic; many very fine, fine, and medium and common coarse roots; few vesicular pores; 15 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

**Bw**—2 to 7 inches; light brown (7.5YR 6/4) gravelly fine sandy loam, brown (7.5YR 5/4) moist; weak coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; many fine tubular pores; 25 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

**Bk1**—7 to 18 inches; light brown (7.5YR 6/4) very gravelly fine sandy loam, strong brown (7.5YR 5/6) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; few very fine tubular pores; 55 percent pebbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

**Bk2**—18 to 25 inches; mottled pink (7.5YR 7/4) and pinkish white (7.5YR 8/2) very gravelly fine sandy loam, strong brown (7.5YR 5/6) moist; massive; hard, firm, slightly sticky and slightly plastic; common fine and medium roots; few very fine tubular pores; 40 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

**Bkm**—25 to 40 inches; mottled pink (7.5YR 8/4 and 7/4) stratified gravelly indurated lime hardpan with a thin laminar cap; massive; extremely hard, extremely firm; violently effervescent.

**Type location:** Clark County, Nevada; about 12 miles south of Riverside; southwest corner of section 1, T.16 S., R.69 E; 36 degrees, 33 minutes, 52.0 seconds north latitude and 114 degrees, 14 minutes, 14 seconds west longitude, NAD83; Whitney Pocket USGS 7.5 minute quadrangle.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist for short periods in the winter and spring and for 10 to 20 days cumulative between July and October following convection storms.

*Soil temperature:* 4 to 71 degrees F.

*Depth to petrocalcic:* 20 to 40 inches.

*Other features:* Desert pavement covers 60 to 90 percent of soil surface.

*Calcium carbonate equivalent:* 40 to 80 percent.

*Control section:*

Clay content—5 to 18 percent.

Rock fragments—35 to 60 percent, mainly pebbles.

**A horizon:**

Hue—7.5YR or 10YR.

Value—4 or 5 moist.

Chroma—3 through 6.

**Bw horizon:**

Hue—7.5YR or 10YR.

Value—4 or 5 moist.

Chroma—2 through 6.

Structure—Fine, medium and coarse subangular blocky structure.

Consistence—Slightly hard or hard, friable or firm, nonsticky or slightly sticky, nonplastic or slightly plastic.

Reaction—Moderately alkaline or strongly alkaline.

**Bk horizons:**

Hue—10YR or 7.5YR.

Value—6 through 8 dry, 4 or 5 moist.

Chroma—2 through 6.

Structure—Weak fine and medium subangular blocky or massive.

**Bkm horizon:**

Hue—10YR or 7.5YR.

Value—6 through 8 dry, 4 or 5 moist.

Chroma—1 through 4

Other features—The Bkm horizon ranges from 4 to 24 inches in thickness.

**Newera series**

The Newera series consists of very shallow and shallow, somewhat excessively drained soils that formed in residuum and colluvium from rhyolite and altered granite. Newera soils are on hills and mountains. Slopes range from 4 to 50 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic Lithic Haplargids

**Typical pedon:** Newera extremely gravelly sandy loam, livestock grazing and wildlife habitat in an area of map unit 134. (Colors are for dry soil unless otherwise noted.)  
The soil surface is covered with approximately 80 percent pebbles.

A—0 to 2 inches; brown (10YR 5/3) extremely gravelly sandy loam, dark brown (10YR 3/3) moist; weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and fine interstitial pores; 80 percent pebbles; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bt—2 to 6 inches; brown (10YR 5/3) very gravelly sandy clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, fine and few medium roots; common very fine and fine tubular pores; common distinct clay films on faces of peds and common faint clay films lining pores; 50 percent pebbles; moderately alkaline (pH 8.0); abrupt irregular boundary.

R—6 inches; rhyolite; fractured in the upper 6 inches.

**Type location:** Clark County, Nevada; approximately 1.2 miles southwest of Fourth of July Mountain and approximately 2.5 miles north of Tip Top Well; about 850 feet north and 50 feet east of the southwest corner of section 5, T.29 S., R.64 E.; 35 degrees, 26 minutes, 45 seconds north latitude and 114 degrees, 52 minutes, 13 seconds west longitude; USGS Fourth of July Mountain, NV, 7.5 minute topographic quadrangle; UTM zone 11, 693304e, 3924565n; NAD83

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following convection storms. These soils have a typic aridic moisture regime.

*Soil temperature:* 59 to 68 degrees F.

*Depth to bedrock:* 4 to 14 inches.

*Effervescence:* Noneffervescent to strongly effervescent.

*Control section:*

Percent clay—Averages 18 to 35 percent.

Texture of the fine earth—Sandy loam, loam, sandy clay loam or clay loam

Rock fragments—Averages 35 to 70 percent.

**A horizon:**

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4.

Clay content—6 to 15 percent.

Reaction—Slightly alkaline or moderately alkaline.

**Bt horizon:**

Value—5 or 6 dry.

Chroma—3 or 4.

Texture of the fine earth—Loam, sandy clay loam or clay loam.

Clay content—18 to 35 percent.

Reaction—Slightly alkaline or moderately alkaline.

**Niavi series**

The Niavi series consists of very deep, somewhat excessively drained soils that formed in alluvium from quartzite with minor amounts of limestone, dolomite, shale and sandstone. Niavi soils are on stream terraces and inset fans. Slopes range from 2 to 8 percent. The mean annual precipitation is about 7 inches and the mean annual air temperature is about 61 degrees F.

**Taxonomic class:** Sandy-skeletal, mixed, thermic Typic Haplocalcids

**Typical pedon:** Niavi extremely cobbly fine sandy loam, rangeland and wildlife habitat in the adjoining Nye County, Nevada, Southwest Part soil survey. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 40 percent pebbles, 40 percent cobbles and 2 percent stones.

A—0 to 2 inches; pale brown (10YR 6/3) extremely cobbly fine sandy loam, brown (10YR 4/3) moist; weak thick platy structure parting to weak fine subangular blocky; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine vesicular and few very fine interstitial and tubular pores; 40 percent pebbles, 35 percent cobbles and 1 percent stones; slightly effervescent (1 percent calcium carbonate equivalent); moderately alkaline (pH 8.2); abrupt wavy boundary.

Bw—2 to 8 inches; pale brown (10YR 6/3) extremely gravelly coarse sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine roots; many very fine interstitial and tubular pores; 65 percent pebbles and 10 percent cobbles; strongly effervescent (1 percent calcium carbonate equivalent); moderately alkaline (pH 8.4); clear wavy boundary.

Bk1—8 to 14 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine, few fine and medium roots; many very fine interstitial and common very fine and fine tubular pores; 30 percent distinct (< 0.2mm) patchy, calcium carbonate coats on bottom of rock fragments; 60 percent pebbles and 15 percent cobbles; violently effervescent (3 percent calcium carbonate equivalent); moderately alkaline (pH 8.4); clear wavy boundary.

Bk2—14 to 29 inches; pale brown (10YR 6/3) stratified extremely gravelly coarse sandy loam to extremely gravelly coarse sand (averages extremely gravelly loamy coarse sand), brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine, few fine and medium roots; many very fine interstitial and common very fine and fine tubular pores; 40 percent distinct (< 0.2mm), patchy, calcium carbonate coats on bottom of rock fragments; 5 percent thin lenses of fine pebbles; 80 percent pebbles and 5 percent cobbles; violently effervescent (4 percent calcium carbonate equivalent); moderately alkaline (pH 8.4); clear wavy boundary.

Bk3—29 to 35 inches; pale brown (10YR 6/3) stratified extremely gravelly coarse sandy loam to extremely gravelly coarse sand (averages extremely gravelly coarse sandy loam), brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine through medium roots, few coarse roots; many very fine and fine interstitial and few very fine and fine tubular pores; 3 percent fine and medium soft masses of calcium carbonate; 80 percent fine (< 0.5mm) calcium carbonate coats on bottom of rock fragments and 20 percent on sides and tops of rock fragments; 70 percent pebbles and 10 percent cobbles; violently effervescent (6 percent calcium carbonate equivalent); moderately alkaline (pH 8.4); clear wavy boundary.

Bk4—35 to 60 inches; light brown (7.5YR 6/4) stratified extremely gravelly coarse sandy loam to extremely gravelly coarse sand (averages extremely gravelly loamy coarse sand), brown (7.5YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; many very fine interstitial pores; 20 percent distinct (< 0.5mm), patchy, calcium carbonate coats on bottom of rock fragments; 60 percent pebbles and 15 percent cobbles; violently effervescent (5 percent calcium carbonate equivalent); moderately alkaline (pH 8.4).

**Type location:** Nye County, Nevada; about 3 miles east of Crystal; approximately 300 feet north and 600 feet west of the southeast corner of section 12, T.17 S., R.52 E.; USGS Mt. Schader, NV, 7.5 minute topographic quadrangle; 36 degrees, 28 minutes, 55 seconds north latitude and 116 degrees, 04 minutes, 17 seconds west longitude; UTM 11, 583179e, 4037811n; NAD83.

#### **Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring. The ratio of summer to winter actual evapotranspiration is about 0.4, typical of the Mojave Desert. The soils have a typic aridic moisture regime.

*Soil temperature:* 59 to 64 degrees F.

*Depth to Bk horizon:* 6 to 9 inches.

#### *Control section:*

Rock fragments—Average 60 to 85 percent, mainly quartzite gravel, with up to 20 percent quartzite cobbles and up to 5 percent stones.

Clay content—3 to 8 percent.

Texture—Stratified, averages loamy sand, loamy coarse sand or coarse sand in the less than 2 mm fraction.

#### **A horizon:**

Value—5 or 6 dry, 2 or 3 moist.

Chroma—2 or 3.

Structure—Platy or subangular blocky.

Effervescence—Very slightly effervescent through slightly effervescent.

**Bw horizon:**

Value—5 through 7 dry.

Texture—Coarse sandy loam, sandy loam, fine sandy loam.

Rock fragments—40 to 75 percent, mainly quartzite gravel.

Effervescence—Very slightly effervescent through strongly effervescent.

Calcium carbonate equivalent—1 to 3 percent.

**Bk horizons:**

Hue—10YR or 7.5YR.

Value—6 or 7 dry.

Chroma—3 or 4.

Texture—Stratified, averages coarse sand, loamy sand or loamy coarse sand; individual strata range from very gravelly sandy loam to extremely gravelly coarse sand, and includes strata of gravel in some pedons.

Rock fragments—60 to 85 percent, mainly quartzite gravel.

Structure—Single grain or massive; some pedons have thin layers with weak subangular blocky structure in the upper part.

Consistence—Loose or soft, dry; loose or very friable, moist.

Calcium carbonate equivalent—3 to 12 percent; subhorizons more than 15 cm thick have 5 percent or more.

Identifiable secondary carbonates—Fine and medium soft masses and patchy or continuous coatings up to 1 millimeter thick on rock fragments. Volume as seen on the vertical face of the horizon ranges from 1 to 10 percent, with subhorizons more than 15 cm thick having volume of 5 percent or more.

**Nickel series**

The Nickel series consists of very deep, well drained soils that formed in alluvium from mixed rock sources. Nickel soils are on fan remnants. Slopes range from 0 to 30 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 65 degrees F.

Slopes range from 0 to 30 percent.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids

**Typical pedon:** Nickel extremely cobbly fine sandy loam, rangeland and wildlife habitat, in a delineation of map unit 211. (Colors are for dry soil unless otherwise noted.) The surface is covered by approximately 35 percent pebbles, 30 percent cobbles and 20 percent stones.

A—0 to 3 inches; light yellowish brown (10YR 6/4) extremely cobbly fine sandy loam, dark yellowish brown (10YR 4/4) moist; strong thin and medium platy structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine, fine and common medium vesicular pores; 35 percent pebbles, 30 percent cobbles and 20 percent stones; strongly effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

Bw—3 to 11 inches; very pale brown (10YR 7/3) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; moderate fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine and fine interstitial pores; 45 percent pebbles and 5 percent cobbles; violently effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

Bqk1—11 to 22 inches; white (10YR 8/1) and very pale brown (10YR 7/3) extremely gravelly coarse sandy loam, light yellowish brown (10YR 6/4) moist; massive; hard,

firm, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine interstitial pores; 15 percent discontinuous strongly cemented pan; many medium and coarse irregular calcium carbonate concentrations; 80 percent pebbles and 5 percent cobbles; violently effervescent; strongly alkaline (pH 8.8); clear smooth boundary.

Bqk2—22 to 30 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, firm, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine interstitial pores; 15 percent discontinuous weakly cemented pan; many fine irregular calcium carbonate concentrations; 65 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Bqk3—30 to 41 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine interstitial pores; 40 percent fine calcium carbonate and silica coats on bottom of rock fragments; 10 percent fine calcium carbonate and silica pendants on bottom of rock fragments; 70 percent pebbles; strongly effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

Bqk4—41 to 60 inches; light gray (10YR 7/2) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine interstitial pores; common medium and coarse irregular calcium carbonate concentrations in matrix; 30 percent fine calcium carbonate and silica coats on rock fragments; 10 percent fine to coarse calcium carbonate and silica pendants on bottom of rock fragments; 40 percent pebbles and 5 percent cobbles; violently effervescent; strongly alkaline (pH 8.6).

**Type location:** Clark County, Nevada; about 4.5 miles south of Boulder City along the power transmission line; about 1,800 feet west and 300 feet north from the south east corner of section 33, T.23 S., R.64 E.; USGS Boulder City, NV 7.5 minute topographic quadrangle; 35 degrees, 54 minutes, 24.1 seconds north latitude and 114 degrees, 49 minutes, 46.1 seconds west longitude, UTM 11, 695902e, 3975777n, NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic moisture regime.

*Soil temperature:* 59 to 71 degrees F.

*Depth to calcic horizon:* 4 to 25 inches.

*Reaction:* Moderately alkaline or strongly alkaline.

*Control section:*

Clay content—Averages 3 to 18 percent, commonly less than 15.

Rock fragments—Averages 40 to 85 percent.

Texture—Averages coarse sandy loam or sandy loam.

**A horizon:**

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 6 dry or moist.

**Bw horizon:**

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 6 dry or moist.

Texture of fine earth—Sandy loam or loam with less than 18 percent clay.

Structure—Weak or moderate subangular blocky, platy or prismatic.

Rock fragments—10 to 85 percent.

**Bqk horizons:**

Hue—10YR, 7.5YR or neutral.

Value—5 through 8 dry, 4 through 7 moist.

Chroma—1 through 4, dry or moist.

Texture—Coarse sandy loam or sandy loam with coarse sand in the lower part of the profile. Some pedons do not have coarse sand.

Structure—Massive, single grain, and subangular blocky.

Consistence—Loose, soft through hard, very friable though very firm, nonsticky and slightly sticky, nonplastic or slightly plastic.

Rock fragments—50 to 85 percent.

Calcium carbonate equivalent in the fine earth fraction—5 to 25 percent in some subhorizons within a depth of 40 inches.

Other features—0 to 20 percent weakly to strongly cemented discontinuous lenses of hardpan. Small amounts of gypsum are present in the lower part of some pedons.

**Nippeno series**

The Nippeno series consists of shallow, well drained soils that formed in residuum and colluvium from metamorphic and altered granitic rocks. Nippeno soils are on mountains. Slopes range from 8 to 50 percent. The mean annual precipitation is about 8 inches and the mean annual temperature is about 54 degrees F.

**Taxonomic class:** Loamy-skeletal over fragmental, mixed, superactive, mesic Lithic Ustic Haplargids

**Typical pedon:** Nippeno very gravelly loam, rangeland and wildlife habitat in an area of map unit 700. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles and 5 percent cobbles.

A—0 to 2 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine and few fine interstitial pores; 50 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt—2 to 6 inches; brown (7.5YR 4/4) very gravelly sandy clay loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; common very fine interstitial and few very fine and fine tubular pores; many moderately thick clay films on faces of peds and lining pores; 40 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.6); abrupt wavy boundary.

2C—6 to 15 inches; gravel; retains rock structure; few very fine and fine roots; few faint clay films coating rock fragments; 95 percent angular pebbles.

2R—15 inches; slightly fractured hard metamorphic bedrock.

**Type location:** Clark County, Nevada; approximately 3.8 miles southwest of the Walking Box Ranch and 1 mile southeast of Clarks Well in the New York

Mountains; about 500 feet east and 1,400 feet north of the southwest corner of section 31, T.28 S., R.62 E.; 35 degrees, 27 minutes, and 41 seconds north latitude and 115 degrees, 5 minutes, and 40 seconds west longitude; USGS Hopps Well, NV-CA, 7.5 minute topographic quadrangle; UTM 11, 672911e, 392588n; NAD83

**Range in Characteristics:**

*Soil moisture:* Usually dry, intermittently moist in some part from November to March and intermittently moist for 20 to 30 days cumulative during July to October following summer convection storms. Soils have an aridic moisture regime that borders on ustic.

*Soil temperature:* 53 to 58 degrees F.

*Depth to contrasting fragmental material:* 5 to 10 inches.

*Depth to lithic contact:* 14 to 20 inches.

*Other features:* Contrasting layer Bt horizon has 35 percent or more fine earth by volume than the 2C horizon.

*Control section:*

Percent clay—20 to 35 percent in the upper part.

Rock fragments—Average 35 to 60 percent in the upper part; 90 to 100 percent in the contrasting lower part. Rock fragments are mainly gravel derived from metamorphosed granitic rocks.

**A horizon:**

Value—3 or 4 moist.

Chroma—3 or 4.

**Bt horizon:**

Value—3 or 4 moist.

Texture—Sandy clay loam, loam or clay loam.

Clay content—20 to 35 percent.

Rock fragments—35 to 60 percent mainly gravel.

Structure—Subangular blocky or angular blocky.

Reaction—Slightly alkaline or moderately alkaline.

**2C horizon:**

Texture—Gravel.

Structure—Retains structure of original rock that has fractured and weathered in place.

**Nipton series**

The Nipton series consists of very shallow and shallow, somewhat excessively drained soils that formed in colluvium and residuum from volcanic and metamorphic rock sources. Nipton soils are on hills and mountains. Slopes range from 4 to 75 percent. Mean annual precipitation is about 8 inches and mean annual air temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Torriorthents

**Typical pedon:** Nipton extremely gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 146. (Colors are for dry soil unless otherwise noted.) The soil

surface is covered by approximately 55 percent pebbles, 25 percent cobbles and 5 percent stones.

- A—0 to 1 inch; pale brown (10YR 6/3) extremely gravelly sandy loam, dark brown (10YR 3/3) moist; weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and fine interstitial pores; 55 percent pebbles, 15 percent cobbles and 5 percent stones; moderately alkaline (pH 8.0); abrupt smooth boundary.
- C—1 to 5 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and fine interstitial pores; 40 percent pebbles and 5 percent cobbles; moderately alkaline (pH 8.2); abrupt wavy boundary.
- R—5 inches; hard rhyolite, slightly fractured; common very fine and few fine roots in fractures; common thin lime coats in fractures.

**Type location:** Clark County, Nevada; approximately 5 miles east-southeast of Searchlight, Nevada, and a 1/4 mile south of Fourth of July Mountain; about 1,350 feet east and 200 feet north of the southwest corner of section 32, T.28 S., R.64 E.; 35 degrees, 27 minutes, 30 seconds north latitude and 114 degrees, 51 minutes, 28 seconds west longitude; UTM zone 11, 694396e, 3925982n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July to October following convection storms. Soils have a typical aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Depth to lithic contact:* 4 to 14 inches.

*Control section:*

Percent clay—8 to 18 percent.

Rock fragments—Average 35 to 65 percent, mainly gravel.

**A horizon:**

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4.

Reaction—Slightly alkaline or moderately alkaline.

**C horizon:**

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4.

Texture—Sandy loam or loam.

Rock fragments—35 to 60 percent.

Consistence—Nonsticky or slightly sticky, and nonplastic or slightly plastic.

Reaction—Slightly alkaline or moderately alkaline.

Other features—Some pedons have a few fine lime coats on undersides of rock fragments and/or in fractures of bedrock. Matrix is noncalcareous.

**Nolena series**

The Nolena series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium from granite or altered granite rock sources. Nolena soils are on mountains, hills, and rock pediments. Slopes range from 4 to 75 percent. The

mean annual precipitation is about 6 inches and the mean annual air temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow  
Typic Torriorthents

**Typical pedon:** Nolena extremely gravelly sandy loam, wildlife habitat in an area of map unit 520. (Colors are for dry soils unless otherwise noted.) The soil surface is covered with approximately 60 percent pebbles and 15 percent cobbles.

A—0 to 2 inches; brown (10YR 5/3) extremely gravelly sandy loam, dark brown (10YR 3/3) moist; weak medium platy structure; soft, very friable, slightly sticky and nonplastic; common very fine and fine roots; many very fine and fine interstitial and few fine tubular pores; 60 percent pebbles and 10 percent cobbles; slightly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

C—2 to 5 inches; yellowish brown (10YR 5/4) extremely gravelly coarse sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, slightly sticky and nonplastic; common very fine and fine and few medium roots; common fine interstitial and few fine tubular pores; 70 percent pebbles; few faint colloidal stains on sand grains; slightly alkaline (pH 7.8); gradual smooth boundary.

Cr—5 to 11 inches; weathered granite bedrock, 70 percent rock structure; gradual wavy boundary.

R—11 inches; hard granite bedrock.

**Type location:** Clark County, Nevada; about 8 miles west of Laughlin, NV, in the southern end of the Newberry Mountains; about 1,970 feet north and 70 feet west of the southeast corner of section 19, T.32 S., R.64 E.; 35 degrees, 8 minutes, 36 seconds north latitude and 114 degrees, 45 minutes, 39 seconds west longitude; USGS Juniper Mine, NV 7.5 minute topographic quadrangle; UTM zone 11, 702282e, 3890534n; NAD27.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July to October following convection storms. Has an aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Depth to paralithic contact:* 4 to 14 inches.

*Depth to lithic contact:* 10 to 20 inches.

*Reaction:* Slightly alkaline or moderately alkaline.

*Control section:*

Clay content—Averages 8 to 18 percent.

Rock fragments—Averages 60 to 70 percent gravel, 0 to 10 percent cobbles and 0 to 10 percent stones, with half of the pebbles in the 2 to 5 millimeter fraction.

**A horizon:**

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4.

Other features—Noneffervescent in some pedons.

**C horizon:**

Hue—10YR or 7.5YR.

Value—5 or 6 dry.

Chroma—3 or 4.

Structure—Subangular blocky or massive.  
 Texture of fine earth—Coarse sandy loam or sandy loam.

### Nonamewash series

The Nonamewash series consists of very deep, well drained soils that formed in mixed alluvium. Nonamewash soils are on stream terraces. Slopes range from 0 to 2 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 73 degrees F.

**Taxonomic class:** Sandy, mixed, hyperthermic Typic Torrfluvents

**Typical pedon:** Nonamewash loamy fine sand, rangeland and wildlife habitat in an area of map unit 880. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; pale brown (10YR 6/3) loamy fine sand, brown (10YR 4/3) moist; moderate medium platy structure; soft, very friable, nonsticky and nonplastic; many very fine roots; common very fine interstitial and few very fine through medium tubular pores; slightly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

A2—3 to 8 inches; brown (10YR 5/3) loamy fine sand, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and few fine roots; few very fine interstitial and very fine and fine tubular pores; slightly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

By1—8 to 50 inches; pale brown (10YR 6/3) stratified loamy fine sand to fine sand with some thin strata of very fine sandy loam, brown (10YR 4/3) moist; many fine and medium distinct brownish yellow (10YR 6/6) and prominent reddish yellow (7.5YR 6/6) relic iron stains; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine and medium roots; few very fine and fine tubular pores; few fine irregular soft filaments and soft masses of gypsum; slightly through violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

By2—50 to 60 inches; pale brown (10YR 6/3) fine sand, brown (10YR 4/3) moist; common fine distinct reddish yellow (7.5YR 6/6) relic iron stains; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few very fine and fine tubular pores; few fine soft masses of gypsum; slightly effervescent; strongly alkaline (pH 8.6).

**Type location:** Clark County, Nevada; approximately 1.5 miles southeast of the junction of the Needles Highway and the dirt road that follows the Colorado River along the Big Bend and 1/2 mile due south of Big Bend, Arizona; about 1,650 feet north and 400 feet west of the southeast corner of section 9, T.33 S., R.66 E.; 35 degrees, 5 minutes, 5 seconds north latitude and 114 degrees, 37 minutes, 33 seconds west longitude; UTM, zone 11, 716442e, 3885016n; NAD83.

### Range in Characteristics:

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July to October following convection storms. Typic aridic moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Organic matter content:* Less than 0.5 percent, decreasing irregularly with depth due to stratification.

*Control section:*

Percent clay—Averages 5 to 10 percent.  
Texture—Stratified sand through silt loam.

**A horizons:**

Value—5 or 6 dry, 3 or 4 moist.  
Chroma—3 or 4.

**By1 horizon:**

Value—5 or 6 dry, 4 or 5 moist  
Chroma—3 or 4.  
Structure—Weak subangular blocky or massive.  
Consistence—Slightly hard or soft.  
Reaction—Moderately alkaline or strongly alkaline.  
Other features—Few fine filaments and soft masses of gypsum.

**By2 horizon:**

Texture—Fine sand or very fine sand.  
Effervescence—Very slightly effervescent or slightly effervescent.  
Reaction—Moderately alkaline or strongly alkaline  
Other features—Few fine filaments and soft masses of gypsum.

**Nupper series**

The Nupper series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium from sandstone. Nupper soils are on mountain side slopes. Slopes range from 30 to 75 percent. The mean annual precipitation is about 12 inches and the mean annual air temperature is about 51 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, nonacid, mesic Lithic Ustic Torriorthents

**Typical pedon:** Nupper extremely flaggy loamy fine sand, rangeland and wildlife habitat in an area of map unit 292. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 10 percent pebbles and 70 percent flagstones.

A—0 to 3 inches; pale brown (10YR 6/3) extremely flaggy loamy fine sand, dark yellowish brown (10YR 4/4) moist; strong medium platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine vesicular and few fine interstitial pores; 10 percent pebbles and 70 percent flagstones; slightly alkaline (pH 7.4); clear smooth boundary.

C1—3 to 9 inches; light yellowish brown (10YR 6/4) extremely gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine, fine, medium, and few coarse roots; common very fine and fine interstitial and few fine tubular pores; 50 percent pebbles and 15 percent cobbles; slightly alkaline (pH 7.4); clear wavy boundary.

C2—9 to 13 inches; brownish yellow (10YR 6/6) extremely cobbly fine sandy loam, yellowish brown (10YR 5/6) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; common very fine and fine interstitial and few fine tubular pores; 25 percent pebbles and 35 percent cobbles; slightly alkaline (pH 7.4); abrupt wavy boundary.

R—13 inches; hard sandstone bedrock.

**Type location:** Clark County, Nevada; approximately 1.3 miles west of Spring Mountain Ranch located in Red Rock Canyon National Conservation Area on the east side of the Spring Mountain Range; about 2,100 feet south and 2,800 feet east of the northwest corner of section 4, T.22 S., R.58 E.; 36 degrees, 3 minutes, 58 seconds north latitude and 115 degrees, 28 minutes, 52 seconds west longitude; USGS Blue Diamond, NV 7.5 minute topographic quadrangle; UTM 11, 636775e, 3992347n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer thunderstorms; aridic soil moisture regime bordering on ustic.

*Soil temperature:* 51 to 56 degrees F.

*Depth to bedrock:* 6 to 14 inches.

*Control section:*

Percent clay—5 to 15 percent.

Rock fragments—60 to 80 percent, mainly sandstone gravel and cobbles or flagstones.

Reaction—Neutral or slightly alkaline

**A horizon:**

Value—6 or 7 dry.

Chroma—3 or 4.

**C horizons:**

Clay content—8 to 15 percent.

Value—6 or 7 dry; 4 or 5 moist.

Chroma—3 through 6.

Texture of the fine earth—Sandy loam or fine sandy loam

Structure—Massive or subangular blocky.

**Oldspan series**

The Oldspan series consists of very deep, well drained soils that formed in mixed alluvium from limestone and calcareous sandstone. Oldspan soils are on fan remnants. Slopes range from 2 to 8 percent. The mean annual precipitation is about 5 inches and the mean annual air temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic Sodic Haplocalcids

**Typical pedon:** Oldspan gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 203. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 85 percent pebbles and 2 percent cobbles.

A—0 to 3 inches; light yellowish brown (10YR 6/4) gravelly fine sandy loam, dark yellowish brown (10YR 4/4) moist; strong thick and very thick platy structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine and few fine vesicular and interstitial pores; 25 percent pebbles; violently effervescent (18 percent calcium carbonate equivalent of the fine earth fraction); moderately alkaline (pH 8.2); abrupt smooth boundary.

**Bw**—3 to 10 inches; light yellowish brown (10YR 6/4) fine sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine, few fine and medium roots; common very fine and few fine interstitial and tubular pores; few faint clay films on ped faces and as colloidal stains; 10 percent pebbles; many fine (1 mm) lime coats on the undersides of rock fragments in the lower part of horizon; violently effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); gradual smooth boundary.

**Bk**—10 to 20 inches; light yellowish brown (10YR 6/4) loam, yellowish brown (10YR 5/4) moist; weak coarse subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; many very fine, few fine and medium roots; common very fine, few fine interstitial and tubular pores; common (5 percent) fine irregular soft seams of lime; common (5 percent) fine and medium irregular soft masses of lime; 10 percent pebbles; many thin (1 mm) lime coats on the undersides of rock fragments; violently effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear smooth boundary.

**2Bkq1**—20 to 40 inches; light yellowish brown (10YR 6/4) stratified extremely gravelly loam to extremely gravelly loamy coarse sand, yellowish brown (10YR 5/4) moist; massive; moderately hard, friable, slightly sticky and slightly plastic; many very fine roots; common very fine, few fine interstitial and tubular pores; common (5 percent) fine and medium irregular soft masses of lime; electrical conductivity 3 dS/m; sodium adsorption ratio 16; 65 percent pebbles and 2 percent cobbles; many thin (1 mm) lime and silica coats on the undersides of rock fragments; violently effervescent (45 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 9.0); gradual wavy boundary.

**2Bkq2**—40 to 60 inches; light yellowish brown (10YR 6/4) stratified extremely gravelly fine sandy loam to extremely gravelly loamy coarse sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and slightly plastic; common very fine roots; common very fine, few fine interstitial and tubular pores; electrical conductivity 7 dS/m; sodium adsorption ratio 35; 65 percent pebbles and 5 percent cobbles; few thin (1 mm) lime and silica coats on the undersides of rock fragments; violently effervescent (45 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.8).

**Type location:** Clark County, Nevada; approximately 9.5 miles east of Hidden Hills Ranch in the southeast end of Pahrump Valley; about 1,050 feet north and 1,100 feet east of the southwest corner of section 21, T.22 S., R.56 E.; 36 degrees, 01 minute, 01 second north latitude and 115 degrees, 42 minutes, 08 seconds west longitude; USGS Lost Cabin Valley, NV 7.5 minute topographic quadrangle; UTM 11, 616943e, 3986608n; NAD83.

#### **Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for less than 10 days cumulative between July to October following convection storms. The soils have a typic aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Depth to calcic horizon:* 5 to 12 inches.

*Calcium carbonate equivalent:* 40 to 70 percent of the less than 20 mm fraction.

*Control section:*

Percent clay—Averages 6 to 12 percent.

Rock fragments—Averages 35 to 60 percent, upper part has 0 to 15 percent and the lower part has 60 to 80 percent, mainly gravel.

Depth to lower part of the control-section—15 to 25 inches.

**A horizon:**

Value—6 or 7 dry.

Chroma—3 or 4.

Calcium carbonate equivalent—10 to 25 percent of the fine earth fraction.

**Bw horizon:**

Texture—Fine sandy loam or loam.

Clay content—8 to 15 percent.

Rock fragments—0 to 15 percent, mainly gravel.

Calcium carbonate equivalent—15 to 25 percent of the fine earth fraction.

Other features—Few colloidal stains in most pedons. Visible secondary lime is less than 5 percent.

**Bk horizon:**

Value—4 or 5 moist.

Texture—Fine sandy loam or loam.

Clay content—8 to 15 percent.

Rock fragments—0 to 15 percent, mainly gravel.

Structure—Weak or moderate, medium or coarse subangular blocky, or massive.

Consistence—Soft to moderately hard, nonsticky or slightly sticky and nonplastic or slightly plastic.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent—15 to 30 percent of the fine earth fraction.

Other features—5 to 20 percent identifiable secondary lime.

**2Bkq1 horizon:**

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4.

Texture—Averages loam or fine sandy loam, stratified layers range from loam to loamy coarse sand.

Clay content—Averages 6 to 12 percent.

Rock fragments—60 to 80 percent, mainly gravel with 0 to 15 percent cobbles or stones.

Consistence—Soft to moderately hard, very friable or friable, nonsticky or slightly sticky and nonplastic or slightly plastic.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent—35 to 60 percent of the fine earth fraction.

Electrical conductivity—2 to 4 dS/m.

SAR—13 to 30.

Other features—5 to 20 percent secondary lime.

**2Bkq2 horizon:**

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4.

Texture—Averages sandy loam or fine sandy loam, stratified layers range from loam to loamy coarse sand.

Clay content—Average 6 to 12 percent.

Rock fragments—60 to 80 percent, mainly gravel with 0 to 15 percent cobbles or stones.

Consistence—Soft to moderately hard, very friable or friable, nonsticky or slightly sticky and nonplastic or slightly plastic.

Reaction—Moderately alkaline or strongly alkaline

Calcium carbonate equivalent—35 to 60 percent of the fine earth fraction.  
 Electrical conductivity—4 to 8 dS/m.  
 SAR—13 to 45.  
 Other features—Less than 5 percent identifiable secondary lime.

### Orrubo series

The Orrubo series consists of very shallow and shallow to a petrocalcic, well drained soils formed in colluvium and residuum from calcareous fanglomerate. Orrubo soils are on summits and side slopes of ballenas, fan remnants and fan terraces. Slopes range from 15 to 35 percent. The mean annual precipitation is about 7 inches and the mean annual air temperature is about 65 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic, shallow Calcic Petrocalcids

**Typical pedon:** Orrubo very gravelly sandy loam, rangeland and wildlife habitat in the adjoining Grand Canyon Area, Arizona soil survey. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 45 percent gravel composed of pan fragments, limestone and calcareous sandstone.

A—0 to 2 inches; brown (7.5YR 5/4) very gravelly loam, brown (7.5YR 4/4) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; common very fine and few fine tubular pores; 45 percent calcium carbonate equivalent; violently effervescent; 50 percent gravel; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bk1—2 to 7 inches; light brown (7.5YR 6/4) very gravelly fine sandy loam, strong brown (7.5YR 4/6) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and few fine roots; common very fine and few fine tubular pores; many thick coats and pendants of calcium carbonate on underside of coarse fragments; 35 percent calcium carbonate equivalent; violently effervescent; 40 percent gravel; moderately alkaline (pH 8.2); clear smooth boundary.

Bk2—7 to 13 inches; pink (7.5YR 7/3) extremely gravelly loam, brown (7.5YR 5/4) moist; massive; soft, very friable, slightly sticky and moderately plastic; few fine roots; few very fine tubular pores; many thick coats and pendants of calcium carbonate on coarse fragments; 55 percent calcium carbonate equivalent; violently effervescent; 70 percent gravel; moderately alkaline (pH 8.4); abrupt irregular boundary.

Bkm—13 to 19 inches; white (10YR 8/1) continuously indurated petrocalcic, pink (7.5YR 7/3) moist; abrupt wavy boundary.

Cr—19 to 60 inches; fanglomerate.

**Type location:** Mohave County, Arizona, near Grand Wash on Lake Mead National Recreation Area; 1,500 feet south and 1,800 feet east of the northwest corner of section 12, T.33 N., R.16 W.; 36 degrees, 17 minutes, 15 seconds north latitude and 113 degrees, 57 minutes, 25 seconds west longitude.

### Range in Characteristics:

*Soil moisture:* Intermittently moist in some part of the soil moisture control section during December - February and for less than 20 days cumulative during July - September. Driest during May and June. Typic aridic soil moisture regime.

*Soil temperature:* 59 to 72 degrees F.

*Rock fragments:* 35 to 75 percent

*Depth to hardpan:* 8 to 20 inches

*Depth to paralithic contact:* 17 to 30 inches

*Organic matter content:* Less than 1 percent

*Reaction:* Slightly alkaline or moderately alkaline

*Calcium carbonate equivalent:* Averages 40 to 60 percent by weight in the less than 20 millimeter fraction.

*Control section:*

Clay content—Average 5 to 18 percent.

**A horizon:**

Hue—7.5YR, 10YR.

Value—5 or 6 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

**Bk horizon:**

Hue—7.5YR, 10YR.

Value—6 through 8 dry, 4 through 8 moist.

Chroma—3 through 6, dry or moist.

**Bkm horizon:**

Hue—7.5YR or 10YR.

Value—7 or 8 dry, 6 or 7 moist.

Chroma—1 through 4, dry or moist.

**Cr horizon:**

Other features—Consists of fanglomerate that is dominated by gravel and cobble sized limestone, calcareous sandstone or other calcareous clasts. It is rigid through very rigid when dry, friable through extremely firm when moist. Non-cemented through strongly cemented. Approximately 10 to 25 percent of an air dried sample slakes when submerged in water.

**Orwash series**

The Orwash series consists of very deep, somewhat excessively drained soils that formed from mixed alluvium derived from granitic sources. Orwash soils are on fan aprons, fan skirts, and alluvial flats. Slopes range from 2 to 8 percent. Mean annual precipitation is about 6 inches and mean annual temperature is about 59 degrees F.

**Taxonomic class:** Sandy, mixed, thermic Typic Torriorthents

**Typical pedon:** Orwash gravelly sandy loam, in a delineation of map unit 622.

(Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 20 percent pebbles and 3 percent cobbles.

A—0 to 2 inches; light yellowish brown (10YR 6/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; strong medium platy structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; common very fine and few fine vesicular and interstitial pores; 25 percent pebbles; moderately alkaline (pH 8.4); abrupt smooth boundary.

C1—2 to 16 inches; light yellowish brown (10YR 6/4) loamy sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine through coarse roots; common very fine and few

fine tubular and interstitial pores; 10 percent pebbles; slightly effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

C2—16 to 33 inches; light yellowish brown (10YR 6/4) gravelly loamy sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine, few fine and medium roots; common very fine and few fine interstitial pores; 20 percent pebbles; strongly effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

C3—33 to 40 inches; very pale brown (10YR 7/4) very gravelly coarse sand, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; many very fine and few fine interstitial pores and few very fine tubular pores; 55 percent pebbles and 1 percent cobbles; slightly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

C4—40 to 60 inches; very pale brown (10YR 7/4) gravelly coarse sand, light yellowish brown (10YR 6/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; many very fine and few fine interstitial pores; 20 percent pebbles; slightly effervescent; strongly alkaline (pH 8.6).

**Type location:** Clark County, Nevada; approximately 11 miles southeast of Jean, Nevada and 3 miles west of McCullough Pass; about 1,220 feet north and 790 feet west of the southeast corner of section 35, T.25 S., R.60 E.; USGS McCullough Pass, NV 7.5 minute topographic quadrangle; 35 degrees, 43 minutes, 27 seconds north latitude; 115 degrees, 13 minutes, 34 seconds west longitude; UTM 11, 660441e, 3954807n; NAD83.

#### **Range in Characteristics:**

*Soil moisture:* Usually dry, but moist in some parts for short periods during winter and early spring months, and for 10 to 20 days cumulative between July to October due to convection storms.

*Soil temperature:* 59 to 63 degrees F.

*Reaction:* Moderately alkaline or strongly alkaline.

*Effervescence:* Slightly effervescent to violently effervescent. A horizons are noneffervescent in some pedons.

*Control section:*

Rock fragments—Averages 15 to 35 percent gravel, which are dominantly fine gravel.

#### **A horizon:**

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4.

#### **C horizon:**

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 through 4.

Texture—Dominantly loamy coarse sand or loamy sand with thin subhorizons of coarse sandy loam or coarse sand in some pedons.

Rock fragments—Average 15 to 35 percent, but most pedons contain subhorizons with 35 to 60 percent rock fragments.

## **Oxyaquic Torrifluents**

Oxyaquic Torrifluents consists of very deep, somewhat poorly drained soils that formed in alluvium derived from mixed rocks. Oxyaquic Torrifluents are on flood

plains. Slopes are 0 to 4 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Oxyaquic Torrfluvents, thermic

**Reference pedon:** Oxyaquic Torrfluvents very fine sandy loam, wildlife habitat, in a delineation of map unit 405. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 5 percent pebbles.

A—0 to 2 inches; light brownish gray (10YR 6/2) very fine sandy loam, dark grayish brown (10YR 4/2) moist; moderate very fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine and fine interstitial pores; 5 percent pebbles; slightly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

ABy—2 to 5 inches; brown (7.5YR 5/3) loamy sand, brown (7.5YR 4/3) moist; single grain, loose, nonsticky and nonplastic; many very fine, many fine, common medium, and common coarse roots; many very fine and common fine vesicular pores; secondary gypsum segregated as 2 percent fine crystals throughout; 5 percent pebbles; common fine prominent reddish yellow (7.5YR 6/8) masses of iron accumulation lining root channels; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

By—5 to 15 inches; light brown (7.5YR 6/3) very fine sandy loam, reddish brown (5YR 4/3) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, common fine, common medium, and few coarse roots; common very fine and fine interstitial and few medium tubular pores; 1/2 inch to 2 inch lenses of very dark gray (7.5YR 3/1) organic carbon-rich material; secondary gypsum segregated as 8 percent fine crystals throughout; common fine prominent reddish yellow (7.5YR 6/8) masses of iron accumulation lining root channels; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

C—15 to 45 inches; light brown (7.5YR 6/3) stratified very fine sandy loam and loamy sand, brown (7.5YR 5/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine, few fine, and few medium roots; common very fine and fine interstitial and few medium tubular pores; 1/2 inch to 2 inch lenses of very dark gray (7.5YR 3/1) organic carbon-rich material; secondary gypsum segregated as 1 percent fine crystals throughout; few very fine prominent reddish yellow (7.5YR 6/8) masses of iron accumulation lining root channels; violently effervescent; slightly alkaline (pH 7.8); abrupt wavy boundary.

Cy—45 to 62 inches; light gray (10YR 7/2) stratified extremely gravelly coarse sand and gravelly sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few fine and few medium roots; many very fine and fine interstitial pores; averages 65 percent pebbles; secondary gypsum segregated as 3 percent fine masses; common fine prominent reddish yellow (7.5YR 6/8) masses of iron accumulation lining root channels; strongly effervescent; slightly alkaline (pH 7.8).

**Type location:** Clark County, Nevada; in the Lake Mead National Recreation Area about 1.2 miles southwest of the junction of Northshore Road and Lake Mead Boulevard along Las Vegas Wash; 1,700 feet south and 1,800 feet east of the northwest corner of section 13, T.21 S., R.63 E.; USGS Frenchman Mountain 7.5 minute topographic quadrangle; 36 degrees, 7 minutes, 31 seconds north latitude and 114 degrees, 53 minutes, 45 seconds west longitude, NAD 27; UTM 11; 0691237e, 3999703n, NAS-C.

**Range in Characteristics:**

*Soil moisture:* Usually moist in some part for short periods following flood events and from capillary rise above the water table; aridic moisture regime.

*Soil temperature:* 72 to 76 degrees F.

*Depth to water table:* 2 to 5 feet.

*Control section:*

Clay content—5 to 25 percent; Lithology of fragments is mixed.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent: 2 to 40 percent.

**A and ABy horizons:**

Hue—5YR through 10YR.

**By and C horizons:**

Hue—2.5YR through 10YR.

Value—5 or 6 dry.

Chroma—3 or 4, dry or moist.

Texture—Stratified loamy coarse sand to loam.

Clay content—Averages 5 to 25 percent.

Rock fragments—0 to 15 percent, mainly pebbles and cobbles.

Gypsum content—0 to 3 percent.

**Cy horizon:**

Hue—2.5YR through 10YR.

Value—5 or 6 dry.

Chroma—3 or 4, dry or moist.

Texture—Stratified extremely gravelly coarse sand to gravelly sandy loam.

Clay content—Averages 5 to 18 percent.

Rock fragments—Averages 25 to 65 percent, mainly pebbles and cobbles.

Gypsum content—0 to 3 percent.

**Pahrump series**

The Pahrump series consists of very deep, well drained soils that formed in lacustrine deposits from lake bed and offshore bar sediments derived from limestone. Pahrump soils are on lake terraces. Slopes range from 0 to 15 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 64 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic Petronodic Haplocalcids

**Typical pedon:** Pahrump gravelly loam, rangeland and wildlife habitat in a delineation of map unit 460. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 45 percent pebbles consisting of petrocalcic fragments.

A—0 to 2 inches; very pale brown (10YR 7/3) gravelly loam, yellowish brown (10YR 5/4) moist; strong coarse and medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and few fine and medium vesicular and interstitial pores; 15 percent very hard, extremely firm, brittle, calcium carbonate concretions; violently effervescent (30 percent calcium carbonate equivalence of the fine earth fraction); moderately alkaline (pH 8.4); abrupt smooth boundary.

- Bk—2 to 6 inches; very pale brown (10YR 7/3) loam, yellowish brown (10YR 5/4) moist; weak medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine and few fine tubular and interstitial pores; 10 percent very hard, extremely firm, brittle, calcium carbonate concretions; violently effervescent (35 percent calcium carbonate equivalence of the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.
- 2Bk1—6 to 13 inches; very pale brown (10YR 7/3) very gravelly loam, yellowish brown (10YR 5/4) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, and few fine and medium roots; many very fine and few fine tubular and interstitial pores; 35 percent very hard, extremely firm, brittle, calcium carbonate concretions; violently effervescent (30 percent calcium carbonate equivalence of the fine earth fraction); moderately alkaline (pH 8.0); clear wavy boundary.
- 2Bk2—13 to 21 inches; very pale brown (10YR 7/3) very gravelly loam, yellowish brown (10YR 5/4) moist; weak very coarse platy structure parting to medium; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and few fine tubular pores; 40 percent extremely hard, slightly rigid, brittle, calcium carbonate concretions; violently effervescent (25 percent calcium carbonate equivalence of the fine earth fraction); moderately alkaline (pH 8.2); clear wavy boundary.
- 2Bk3—21 to 46 inches; very pale brown (10YR 7/3) very gravelly silt loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine and few fine tubular pores; 40 percent extremely hard, slightly rigid, brittle, calcium carbonate concretions; violently effervescent (35 percent calcium carbonate equivalence of the fine earth fraction); strongly alkaline (pH 8.8); clear wavy boundary.
- 3C—46 to 60 inches; very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; massive; moderately hard, friable, slightly sticky and slightly plastic; few very fine and fine tubular pores; 10 percent extremely hard, slightly rigid, brittle, calcium carbonate concretions; violently effervescent (18 percent calcium carbonate equivalence of the fine earth fraction); strongly alkaline (pH 8.6).

**Type location:** Clark County, Nevada; approximately 4 miles east, southeast of Hidden Hills Ranch on the southeast side of Pahrump Valley; about 650 feet north and 1,400 feet west of the southeast corner of section 33, T.22 S., R.55 E; 35 degrees, 59 minutes, 12 seconds north latitude; 115 degrees, 48 minutes, 7 seconds west longitude; USGS Stump Spring, NV 7.5 minute topographic quadrangle; UTM 11, 611270e, 3979861n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for less than 10 days cumulative between July and October following convection storms. The soils have a typic aridic moisture regime.

*Soil temperature:* 65 to 70 degrees F.

*Depth to calcic horizon:* 2 to 10 inches.

*Depth to petronodic feature:* 6 to 20 inches.

*Control section:*

Clay content—Averages 18 to 27 percent.

Sand content—Less than 25 percent fine sand through coarse sand in the fine earth fraction.

Rock fragments—Averages 35 to 60 percent, in the form of hard calcium carbonate concretions and nodules. Rock fragment consistence is cemented through indurated.

**A horizons:**

Value—5 or 6 moist.

Chroma—2 through 4.

Calcium carbonate equivalence of the fine earth—25 to 35 percent.

**Bk horizons:**

Value—7 or 8 dry, 5 or 6 moist.

Chroma—2 through 4.

Texture—Stratified very fine sandy loam or loam.

Clay content—10 to 18 percent.

Rock fragments—0 to 10 percent, as hard calcium carbonate concretions and nodules.

Structure—Weak, medium and coarse, subangular blocky or massive.

Consistence—Nonsticky or slightly sticky and nonplastic or slightly plastic.

Calcium carbonate equivalence of the fine earth—30 to 45 percent.

Reaction—Moderately alkaline to very strongly alkaline.

**2Bk horizons:**

Value—7 or 8 dry, 5 or 6 moist.

Chroma—2 through 4.

Texture—Stratified silt loam, loam and silty clay loam.

Clay content—18 to 30 percent.

Rock fragments—35 to 60 percent, as hard calcium carbonate concretions and nodules.

Structure—Weak, fine to coarse, subangular blocky, platy or massive.

Consistence—Soft to hard, friable and very friable.

Calcium carbonate equivalence of the fine earth—25 to 60 percent.

Reaction—Moderately alkaline through very strongly alkaline.

**3C horizon:**

Value—7 or 8 dry, 5 or 6 moist.

Chroma—2 through 4.

Texture—Very fine sandy loam and silt loam.

Rock fragments—0 to 10 percent, as hard calcium carbonate concretions and nodules.

Consistence—Slightly and moderately hard, very friable and friable, and nonplastic and slightly plastic.

Calcium carbonate equivalence of the fine earth—15 to 25 percent.

**Peskah series**

The Peskah series consists of deep to a duripan, well drained soils that formed in alluvium derived from volcanic rocks. Peskah soils are on fan remnants. Slopes range from 2 to 8 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic Duric Petroargids

**Typical pedon:** Peskah extremely gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 451. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles, 5 percent cobbles and 3 percent stones.

- A—0 to 1 inch; pale brown (10YR 6/3) extremely gravelly fine sandy loam, brown (10YR 4/3) moist; moderate thin and medium platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and fine vesicular pores; 70 percent pebbles, 5 percent cobbles, 3 percent stones; moderately alkaline (pH 8.2); abrupt smooth boundary.
- BA—1 to 4 inches; very pale brown (10YR 7/3) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; strong thick platy structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; many very fine and common fine vesicular pores; 15 percent pebbles; moderately alkaline (pH 8.4); abrupt smooth boundary.
- Btk1—4 to 8 inches; strong brown (7.5YR 5/6) gravelly sandy clay loam, strong brown (7.5YR 4/6) moist; strong fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine and common fine roots; common very fine and fine tubular pores; few faint clay films on faces of peds and lining pores; few distinct calcium carbonate coats on the underside of rock fragments; 25 percent pebbles and 5 percent cobbles; moderately alkaline (pH 8.2); abrupt smooth boundary.
- Btk2—8 to 15 inches; brown (7.5YR 5/4) very gravelly sandy clay loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine and common fine roots; common very fine and fine tubular pores; common faint clay films on faces of peds and few lining pores; many distinct irregular calcium carbonate filaments throughout; common distinct calcium carbonate filaments on top and sides on rock fragments; few distinct calcium carbonate coats on the underside of rock fragments; 40 percent pebbles; strongly effervescent (6 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); abrupt smooth boundary.
- 2Bk—15 to 26 inches; light brown (7.5YR 6/3) extremely gravelly sandy loam, brown (7.5YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; common very fine and fine interstitial pores; common distinct irregular threads of calcium carbonate; common distinct calcium carbonate filaments on top and sides on rock fragments; few distinct calcium carbonate coats on the underside of rock fragments; 60 percent pebbles, 10 percent cobbles and 1 percent stones; violently effervescent (6 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt smooth boundary.
- 3Bk—26 to 43 inches; brown (10YR 5/3) extremely gravelly coarse sand, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine roots, common very fine and fine interstitial pores; 70 percent pebbles; few very thin calcium carbonate filaments on undersides of coarse fragments; moderately alkaline (pH 8.2); abrupt smooth boundary.
- 4Bqkm—43 to 60 inches; very pale brown (10YR 8/2) moderately cemented duripan, very pale brown (10YR 7/3) moist; massive; extremely hard, extremely firm; violently effervescent.

**Type location:** Clark County, Nevada; approximately 3.5 miles north of VEYK-C mine and approximately 2.8 miles along the far western steel power transmission line road in southern Eldorado valley; about 1,200 feet south and 200 feet west of the northeast corner of section 18, T.27 S., R.63 E.; 35 degrees, 35 minutes, 53 seconds north latitude and 114 degrees, 58 minutes, 23 seconds west longitude;

USGS Nelson SW, NV 7.5 minute quadrangle; UTM 11, 683619e 3941259n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July to October following convection storms. The soils have a typic aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Depth to base of the argillic horizon:* 13 to 35 inches.

*Depth to secondary calcium carbonate:* 4 to 10 inches.

*Depth to duripan:* 40 to 60 inches

*Control section:*

Percent clay—18 to 35 percent.

Rock fragments—Averages 35 to 50 percent.

**A horizon:**

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4.

**BA horizon:**

Hue—7.5YR or 10YR.

Value—5 through 7 dry, 4 or 5 moist.

Chroma—3 or 4.

Texture—Sandy loam or fine sandy loam.

Clay content—8 to 18 percent.

Rock fragments—15 to 50 percent.

Structure—Platy or subangular blocky.

**Btk1 horizon:**

Value—3 or 4 moist.

Chroma—4 through 6.

Texture—Sandy clay loam or sandy loam.

Clay content—18 to 35 percent.

Rock fragments—20 to 35 percent.

Calcium carbonate equivalent of the fine earth fraction—0 to 5 percent.

**Btk2 horizon:**

Value—3 or 4 moist.

Chroma—4 through 6.

Texture—Sandy clay loam or sandy loam.

Clay content—18 to 35 percent.

Rock fragments—35 to 60 percent.

Calcium carbonate equivalent of the fine earth fraction—0 to 10 percent.

**2Bk horizon:**

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4.

Texture—Sandy loam or loamy sand.

Clay content—5 to 15 percent.

Rock fragments—65 to 85 percent.

Calcium carbonate equivalent of the fine earth fraction—0 to 10.

**4Bqkm horizon:**

Consistence—Extremely hard or rigid, extremely firm or slightly rigid.  
Cementation—Moderately or strongly cemented.

**Potosi series**

The Potosi series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium derived from limestone. Potosi soils are on mountains. Slopes range from 15 to 50 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 53 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, mesic Lithic Torriorthents

**Typical pedon:** Potosi extremely gravelly loam, range and wildlife habitat in an area of map unit 840. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 75 percent pebbles, 5 percent cobbles and 3 percent stones.

A—0 to 2 inches; pale brown (10YR 6/3) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and few fine tubular pores; 65 percent pebbles, 3 percent cobbles and 1 percent stones; strongly effervescent; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bk1—2 to 7 inches; light yellowish brown (10YR 6/4) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine and few fine tubular pores; 60 percent pebbles and 5 percent cobbles; many calcium carbonate coats on undersides of rock fragments; violently effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bk2—7 to 11 inches; light yellowish brown (10YR 6/4) extremely gravelly sandy loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine and medium roots; few fine and many very fine interstitial and tubular pores; few fine soft masses of calcium carbonate; 70 percent pebbles and 5 percent cobbles; many calcium carbonate coats on undersides of rock fragments; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

R—11 inches; fractured limestone bedrock; few fine roots and common thin calcium carbonate coats in fractures.

**Type location:** Clark County, Nevada; about 3.5 miles west of Goodsprings and 8 miles south of Potosi Mountain; 800 feet north and 5,000 feet west of the southeast corner of section 20, T.24 S., R.58 E.; USGS Shenandoah Peak, NV 7.5 minute quadrangle; 35 degrees, 50 minutes, 27 seconds north latitude and 115 degrees, 30 minutes, 16 seconds west longitude; UTM 11, 635195e, 3967098n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July to October following convection storms; The soils have a typic aridic moisture regime.

*Soil temperature:* 53 to 58 degrees F.

*Depth to lithic contact:* 8 to 14 inches.

*Control section:*

Percent clay—8 to 15 percent.

Rock fragments—50 to 80 percent, 50 to 70 percent pebbles, and 0 to 10 percent cobbles and stones.

Calcium carbonate equivalent in the fine earth fraction—15 to 30 percent; 40 to 60 percent in the less-than-20-millimeter fraction.

**A horizon:**

Value—6 or 7 dry, 4 or 5 moist.

**Bk horizons:**

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4.

Texture—Loam or sandy loam.

Structure—Weak, fine or medium subangular blocky.

Consistence—Nonsticky or slightly sticky and nonplastic or slightly plastic.

Identifiable secondary carbonates—Few to many thin calcium carbonate coats and pendants on rock fragments. Few or common fine soft masses of calcium carbonate in the lower Bk horizon. The zone containing more than 5 percent (by volume) identifiable secondary calcium carbonates is less than 6 inches thick and does not qualify as a calcic horizon.

**Prisonear series**

The Prisonear series consists of moderately deep to a petrocalcic horizon, somewhat excessively drained soils that formed in eolian sands over alluvium from limestone. Prisonear soils are on sand sheets over fan remnants. Slopes range from 2 to 8 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 60 degrees F.

**Taxonomic class:** Sandy, mixed, thermic Calcic Petrocalcids

**Typical pedon:** Prisonear fine sand, rangeland and wildlife habitat in an area of map unit 780. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 10 percent pebbles.

A—0 to 3 inches; light brown (7.5YR 6/4) fine sand, brown (7.5YR 5/4) moist; moderate medium platy structure; soft, very friable, nonsticky and nonplastic; common very fine roots; common very fine vesicular pores; 10 percent pebbles; strongly effervescent (18 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.8); abrupt wavy boundary.

Bk1—3 to 9 inches; light brown (7.5YR 6/4) fine sand, brown (7.5YR 5/4) moist; weak coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine and medium roots; common very fine and fine interstitial pores; 5 percent pebbles; many, fine, distinct, calcium carbonate coats on the undersides of rock fragments; violently effervescent (18 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.8); clear wavy boundary.

Bk2—9 to 31 inches; pink (7.5YR 7/4) gravelly loamy fine sand, brown (7.5YR 5/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine and fine interstitial pores; 30 percent pebbles; many, fine, distinct calcium carbonate coats on the undersides of

rock fragments; violently effervescent (18 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.8); abrupt wavy boundary.

Bkq—31 to 35 inches; very pale brown (10YR 7/3) very gravelly loamy fine sand, light yellowish brown (10YR 6/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; few very fine and fine tubular pores; many medium and coarse calcium carbonate and silica cemented nodules and pan fragments, weakly cemented; 45 percent pebbles; violently effervescent (30 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.8); abrupt wavy boundary.

2Bkqm1—35 to 41 inches; very pale brown (10YR 8/2) continuous weak petrocalcic horizon, very pale brown (10YR 7/3) moist; massive; very hard, very firm, weakly cemented.

2Bkqm2—41 to 60 inches; very pale brown (10YR 8/2) continuous indurated petrocalcic horizon, very pale brown (10YR 7/3) moist; massive.

**Type location:** Clark County, Nevada; approximately 2 1/2 miles due south of Jean, Nevada in Ivanpah Valley; about 2,630 feet north and 2,130 feet west of the southeast corner of section 25, T.25 S., R.59 E.; USGS Roach, NV 7.5 minute topographic quadrangle; 35 degrees, 44 minutes, 34.9 seconds north latitude and 115 degrees, 18 minutes, 58 seconds west longitude; UTM 11, 652262e, 3956754n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following convection storms. The soils have an aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Depth to petrocalcic horizon:* 30 to 40 inches.

*Control section:*

Percent clay—2 to 8 percent.

Rock fragments—Averages 15 to 35 percent, mainly gravel and pan fragments.

**Bk1 horizon:**

Texture—Fine sand or loamy fine sand.

Rock fragments—0 to 25 percent gravel and pan fragments.

Calcium carbonate equivalent in the fine earth fraction—10 to 25 percent.

**Bk2 horizon:**

Texture—Fine sand or loamy fine sand.

Rock fragments—15 to 35 percent gravel and pan fragments.

Calcium carbonate equivalent in the fine earth fraction—10 to 25 percent.

Other features—Identifiable secondary calcium carbonate as coats or soft filaments.

**Bkq horizon:**

Rock fragments—35 to 55 percent, mainly gravel and pan fragments. Calcium carbonate equivalent in the fine earth fraction—20 to 35 percent.

Other features—20 to 70 percent calcium carbonate and silica cementation.

**2Bkqm1 horizon:**

Cementation class—Weakly or moderately cemented.

Consistence—Hard to moderately hard, dry, and very firm to extremely firm, moist.

Cementation—More than 75 percent of pan is destroyed by soaking in acid.

**2Bqkm2 horizon:**

Cementation class—Indurated or very strongly cemented.

Cementation—More than 75 percent of pan is destroyed by soaking in acid.

**Puelzmine series**

The Puelzmine series consists of shallow to a duripan, well drained soils that formed in colluvium and residuum from basalt influenced by calcareous loess. Puelzmine soils are on basalt flows. Slopes range from 4 to 15 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 63 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic, shallow Cambidic Haplodurids

**Typical pedon:** Puelzmine extremely gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 830. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered by approximately 45 percent pebbles, 10 percent cobbles and 5 percent stones.

A—0 to 2 inches; pale brown (10YR 6/3) extremely gravelly fine sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and few fine interstitial pores; 45 percent pebbles, 10 percent cobbles and 5 percent stones; violently effervescent (25 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); clear wavy boundary.

Bqk1—2 to 11 inches; light yellowish brown (10YR 6/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and few fine through coarse roots; common very fine and few fine interstitial pores; many medium distinct calcium carbonate and silica pendants on the undersides of rock fragments; 30 percent pebbles, 10 percent cobbles and 5 percent stones; violently effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); clear wavy boundary.

Bqk2—11 to 17 inches; light yellowish brown (10YR 6/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine interstitial pores; discontinuous laminar cap with 55 percent hard, firm and brittle lenses; many medium distinct calcium carbonate and silica pendants on the undersides of rock fragments; 40 percent pebbles, 10 percent cobbles and 5 percent stones; strongly effervescent (30 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6); abrupt wavy boundary.

Bqkm—17 to 37 inches; very pale brown (10YR 8/2) strongly cemented duripan, very pale brown (10YR 7/3) moist; strong very thick platy structure; few very fine and fine roots matted horizontally and vertically in fractures; abrupt wavy boundary.

R—37 inches; hard, slightly fractured basalt bedrock.

**Type location:** Clark County, Nevada; approximately 5 miles southwest of Goodsprings in the Spring Mountain Range on Table Mountain; about 630 feet south and 1,190 feet west of the northeast corner of section 4, T.25 S., R.58 E.; USGS Goodsprings, NV 7.5 minute topographic quadrangle; 35 degrees, 48 minutes, 26 seconds north latitude and 115 degrees, 28 minutes, 50 seconds west longitude; UTM 11, 637281e, 3963633n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July to October following convection storms. Has a typic-aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Depth to calcic horizon:* 1 to 3 inches.

*Depth to duripan:* 14 to 20 inches.

*Depth to bedrock:* 30 to 40 inches.

*Control section:*

Percent clay—10 to 18 percent.

Rock fragments—35 to 60 percent.

Calcium carbonate equivalent of the less than 20 millimeter fraction—20 to 40.

**A horizon:**

Value—6 or 7 dry.

Chroma—3 or 4.

**Bqk1 horizon:**

Rock fragments—25 to 50 percent gravel, 5 to 15 percent cobbles and 0 to 5 percent stones.

Calcium carbonate equivalent in the fine earth fraction—15 to 30 percent.

Identifiable secondary carbonates—30 to 100 percent of rock fragments have medium or coarse calcium carbonate and silica pendants.

**Bqk2 horizon:**

Rock fragments—25 to 50 percent gravel, 5 to 15 percent cobbles and 0 to 5 percent stones.

Calcium carbonate equivalent in the fine earth fraction—20 to 40 percent.

Identifiable secondary carbonates—30 to 100 percent of rock fragments have medium or coarse calcium carbonate and silica pendants.

Cementation class—35 to 60 percent weak or strong discontinuous silica and calcium carbonate cementation.

**Bqkm horizon:**

Chroma—1 through 3.

Cementation class—Moderately cemented or strongly cemented.

Other features—More than half of the volume does not slake in acid.

**Purob series**

The Purob series consists of shallow to a petrocalcic, well drained soils that formed in alluvium from limestone. Purob soils are on ballenas and fan remnants. Slopes range from 2 to 50 percent. The mean annual precipitation is about 8 inches and the mean annual air temperature is about 53 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, mesic, shallow Calcic Petrocalcids

**Typical pedon:** Purob extremely gravelly loam, rangeland and wildlife habitat in an area of map unit 731. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 60 percent pebbles, 4 percent cobbles and 1 percent stones.

- A—0 to 3 inches; very pale brown (10YR 7/4) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate thin and medium platy structure; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine, fine and medium vesicular pores and few fine tubular pores; 60 percent pebbles, 4 percent cobbles and 1 percent stones; violently effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); clear smooth boundary.
- Bk1—3 to 8 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and few medium roots; common very fine and few fine interstitial and tubular pores; 40 percent pebbles (mainly pan fragments); violently effervescent (15 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (8.2 pH); clear wavy boundary.
- Bk2—8 to 16 inches; brown (7.5YR 5/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; few very fine and fine interstitial and tubular pores; 50 percent pebbles and 5 percent cobbles (mainly pan fragments); violently effervescent (35 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.
- Bk3—16 to 19 inches; light yellowish brown (10YR 6/4) extremely gravelly clay loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few very fine roots; few very fine and fine interstitial and tubular pores; disseminated calcium carbonate; 55 percent pebbles (mainly pan fragments) and 7 percent cobbles; violently effervescent (75 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt broken boundary.
- Bkqm—19 to 60 inches; white (10YR 8/1) and very pale brown (10YR 8/3) very strongly cemented and indurated petrocalcic, very pale brown (10YR 8/2) to very pale brown (10YR 7/3) moist; massive; rigid and very rigid.

**Type location:** Clark County, Nevada; approximately 1/2 mile south of State Route 157 and 1/4 mile east of the Toiyabe National Forest boundary in Kyle Canyon on the east side of the Spring Mountain Range; about 2,050 feet south and 1,800 feet east of the northwest corner of section 29, T.19 S., R.58 E.; USGS Angel Peak, NV 7.5 minute topographic quadrangle; 36 degrees, 16 minutes, 18.7 seconds north latitude and 115 degrees, 30 minutes, 24.9 seconds west longitude; UTM 11, 634231e, 4015116n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following convection storms. Typic aridic moisture regime.

*Soil temperature:* 53 to 58 degrees F.

*Depth to calcic horizon:* 4 to 10 inches.

*Depth to petrocalcic horizon:* 14 to 20 inches.

*Control section:*

Percent clay—Averages 12 to 27 percent; non-carbonate clay is 7 to 18 percent.

Rock fragments—35 to 70 percent, mainly pan fragments.

Calcium carbonate equivalent in the less than 20 millimeter fraction—Averages 40 to 80 percent.

**A horizon:**

Value—5 through 7 dry, 3 through 5 moist.  
 Chroma—2 through 4.

**Bk1 horizon:**

Value—5 or 6 dry.  
 Rock fragments—20 to 50 percent, mainly pan fragments.  
 Structure—Weak or moderate subangular blocky.  
 Effervescence—Strongly effervescent or violently effervescent.  
 Calcium carbonate equivalent in the fine earth fraction—10 to 25 percent.

**Bk2 and Bk3 horizons:**

Chroma—3 or 4.  
 Carbonate Clay content—Upper part has 1 to 10 percent and the lower part (when present) has 10 to 25 percent.  
 Texture—Averages loam; some subhorizons include clay loam.  
 Rock fragments—35 to 70 percent, mainly pan fragments  
 Effervescence—Strongly effervescent or violently effervescent.  
 Calcium carbonate equivalent in the fine earth fraction—30 to 80 percent.

**Bkqm horizon:**

Value—7 or 8 dry.  
 Structure—Massive or platy.  
 Pan thickness—Greater than 3 feet thick.  
 Cementation class—Very strongly cemented or indurated.

**Railroad series**

The Railroad series consists of moderately deep, well drained soils that formed in colluvium and residuum from volcanic rocks influenced by calcareous loess. Railroad soils are on basalt flows and mountains. Slopes range from 4 to 50 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids

**Typical pedon:** Railroad extremely stony sandy loam, rangeland and wildlife habitat in an area of map unit 510. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered by approximately 35 percent pebbles, 15 percent cobbles and 15 percent stones.

A—0 to 3 inches; pale brown (10YR 6/3) extremely stony sandy loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; many very fine and few fine and medium interstitial and tubular pores; 35 percent pebbles, 15 percent cobbles and 15 percent stones; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bw—3 to 11 inches; very pale brown (10YR 7/3) very gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; moderate fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and common fine roots; many very fine and fine tubular pores; 40 percent pebbles (including indurated duripan fragments) and 5 percent cobbles; strongly effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

- Bkq1—11 to 15 inches; pink (7.5YR 7/4) very gravelly fine sandy loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine tubular pores; common fine calcium carbonate pendants on undersides of rock fragments; 35 percent pebbles (including indurated duripan fragments); strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.
- Bkq2—15 to 27 inches; light yellowish brown (10YR 6/4) very gravelly fine sandy loam, dark yellowish brown (10YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine tubular pores; common fine calcium carbonate coats and medium calcium carbonate pendants on undersides of rock fragments; 45 percent pebbles (including indurated duripan fragments); violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.
- Bkq3—27 to 34 inches; light yellowish brown (10YR 6/4) very gravelly fine sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine tubular pores; many medium calcium carbonate pendants on undersides of rock fragments, common fine soft filaments of calcium carbonate; 40 percent pebbles (including indurated duripan fragments); violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.
- R—34 inches; hard basalt bedrock;

**Type location:** Clark County, Nevada; approximately 9 miles east-southeast of Sloan, NV and 4 miles southwest of Black Mountain located in the McCullough Range; about 1,510 feet east and 2,015 feet south of the northwest corner of section 5, T.24 S., R.62 E.; USGS Sloan NE, NV 7.5 minute topographic quadrangle; 35 degrees, 53 minutes, 26 seconds north latitude and 115 degrees, 04 minutes, 20 seconds west longitude; UTM 11, 673997e, 3973527n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer thunderstorms; Has a typical aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Depth to calcic horizon:* 10 to 20 inches.

*Depth to lithic contact:* 30 to 40 inches.

*Control section:*

Percent clay—6 to 16 percent.

Rock fragments—35 to 60 percent, mainly pebbles and some duripan fragments.

**A horizon:**

Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.

**Bw horizon:**

Hue—10YR or 7.5YR.

Value—4 or 5 moist.

Chroma—3 or 4 dry and moist.

Rock fragments—35 to 60 percent, dominated by gravels and some duripan fragments with 0 to 15 percent cobbles.

Consistence—Nonsticky or slightly sticky.

Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.

**Bkq horizons:**

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4 dry and moist.

Texture—Fine sandy loam or loam.

Structure—Subangular blocky or massive.

Consistence—Soft or slightly hard, very friable or friable, nonsticky or slightly sticky and nonplastic or plastic.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent in the fine earth fraction—15 to 30 percent.

Other features—Some pedons have discontinuous weak calcium carbonate cementation.

**Ramshead series**

The Ramshead series consists of very shallow, well drained soils that formed in colluvium and residuum derived from sedimentary rocks. Ramshead soils are on hills. Slopes range from 15 to 50 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, calcareous, hyperthermic, shallow Typic Torriorthents

**Typical pedon:** Ramshead extremely flaggy sandy loam, rangeland and wildlife habitat in an area of map unit 330. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 15 percent channers and 55 percent flagstones.

A—0 to 1 inch; light yellowish brown (10YR 6/4) extremely flaggy sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium platy structure; slightly hard, very friable, nonsticky and nonplastic; common fine roots; many very fine interstitial and common fine vesicular pores; 15 percent channers and 55 percent flagstones; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

C—1 to 6 inches; light yellowish brown (10YR 6/4) extremely channery loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, slightly sticky and nonplastic; few very fine and few fine roots; common very fine interstitial pores; 70 percent channers; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Cr—6 to 8 inches; weathered siltstone.

R—8 inches; unweathered siltstone.

**Type location:** Clark County, Nevada; in the Lake Mead National Recreation Area about 1 mile east of Pinto Ridge on the east side of Pinto Valley; 2,120 feet west and 180 feet south of the northeast corner of section 6, T.20 S., R.67 E.; USGS Boulder Canyon 7.5 minute topographic quadrangle; 36 degrees, 13 minutes, 50 seconds north latitude and 114 degrees, 32 minutes, 21 seconds west longitude; UTM 11; 0721162e, 4012330n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typic aridic soil moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to paralithic contact:* 5 to 10 inches .

*Depth to bedrock:* 6 to 14 inches

*Reaction:* Moderately alkaline or strongly alkaline.

*Control section:*

Clay content—8 to 18 percent.

Rock fragments—Averages 35 to 80 percent.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.

**A horizon:**

Hue—2.5YR through 10YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

**C horizon:**

Hue—2.5YR through 10YR.

Value—5 through 7 dry, 4 or 5 moist.

Chroma—4 through 6, dry or moist.

Texture—Sandy loam or loam.

Salinity (EC)—2 to 8 mmhos/cm.

Sodicity (SAR)—0 to 5.

Other features—Some pedons have 1 to 3 percent visible secondary gypsum.

**Redneedle series**

The Redneedle series consists of very shallow, somewhat excessively drained soils that formed in residuum and colluvium from calcareous sandstone conglomerate. Redneedle soils are on hills. Slopes range from 15 to 50 percent. The mean annual precipitation is about 4 inches and the mean annual air temperature is about 72 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, calcareous, hyperthermic  
Lithic Torriorthents

**Typical pedon:** Redneedle very gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 298. (Colors are for dry soil unless otherwise noted.)  
The soil surface is covered by approximately 70 percent gravel, 3 percent cobbles and 3 percent stones.

A—0 to 1 inch; light yellowish brown (10YR 6/4) very gravelly fine sandy loam, dark yellowish brown (10YR 4/4) moist; moderate thick platy structure parting to weak fine subangular blocky; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common very fine interstitial pores and common fine tubular pores; 15 percent distinct very pale brown (10YR 7/3) calcium carbonate coats on rock fragments, not oriented; 40 percent pebbles, 1 percent cobbles and 1 percent stones; violently effervescent (7 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); clear smooth boundary.

Bw—1 to 5 inches; light yellowish brown (10YR 6/4) very gravelly fine sandy loam, dark yellowish brown (10YR 4/6) moist; moderate medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine, fine and medium roots; common very fine interstitial pores and fine tubular pores; 15 percent distinct very pale brown (10YR 7/3) calcium carbonate coats on rock

fragments, not oriented; 40 percent pebbles, 1 percent cobbles and 1 percent stones; violently effervescent (8 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); abrupt wavy boundary.  
R—5 inches; hard calcareous sandstone conglomerate bedrock.

**Type location:** Clark County, Nevada; about 5 miles east of Las Vegas, Nevada; approximately 5 miles north and 0.5 mile east of Red Needle; projected area 1,854 feet south and 750 feet west of the northeast corner of section 21, T.20 S., R.63 E.; USGS Frenchman Mtn., NV, 7.5 minute topographic quadrangle; 36 degrees, 11 minutes, 52.3 seconds north latitude and 114 degrees, 56 minutes, 25.2 seconds west longitude; UTM 11, 0685180e 4007860n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry; moist in some part during winter and spring and intermittently moist in the upper part following summer thunderstorms. These soils have a typical aridic moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to lithic contact:* 3 to 9 inches.

*Control section:*

Rock fragments—35 to 70 percent, mainly gravel.

Clay content—6 to 12 percent.

**A horizon:**

Hue—10YR, 7.5YR or 5YR.

Chroma—3 or 4 moist.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent of the fine earth fraction—1 to 15 percent.

Organic matter—0 to 0.5 percent.

**Bw horizon:**

Hue—10YR, 7.5YR or 5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—4 or 5 dry.

Texture—Fine sandy loam or sandy loam.

Structure—Platy or subangular blocky.

Consistence—Soft or slightly hard, nonsticky or slightly sticky.

Rock fragments—35 to 70 percent, mainly gravel with 0 to 5 percent cobbles and stones.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent of the fine earth fraction—1 to 15 percent.

Organic matter—0 to 0.25 percent.

Other features—5 to 60 percent calcium carbonate coats on rock fragments.

**Ripley series**

The Ripley series consists of very deep, well drained soils that formed in alluvium from mixed rock sources. Ripley soils are on flood plains. Slopes range from 0 to 2 percent. Mean annual precipitation is about 4 inches and mean annual temperature is about 72 degrees F.

**Taxonomic class:** Coarse-silty over sandy or sandy-skeletal, mixed, superactive, calcareous, hyperthermic Typic Torrifuvents

**Typical pedon:** Ripley silt loam, rangeland and wildlife habitat in a delineation of map unit 890. (Colors are for dry soil unless otherwise noted.)

A—0 to 6 inches; brown (10YR 5/3) silt loam, brown (10YR 4/3) moist; strong thick platy structure; hard, very firm, moderately sticky and moderately plastic; few fine roots; common fine vesicular pores; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

C1—6 to 10 inches; brown (10YR 5/3) stratified silt loam and silty clay loam, brown (10YR 4/3) moist; moderate thick platy parting to moderate fine and medium angular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and fine few medium roots; few very fine and fine tubular pores; few fine distinct brownish yellow (10YR 6/6) mottles; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

C2—10 to 34 inches; pale brown (10YR 6/3) stratified very fine sandy loam and silt loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky and nonplastic; common very fine and many fine roots; common very fine and fine tubular pores; common fine distinct brownish yellow (10YR 6/6) mottles; strongly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2C3—34 to 60 inches; light brown (7.5YR 6/4) fine sand, brown (7.5YR 5/4) moist; single grain; loose; few fine and very fine roots; strongly effervescent; moderately alkaline (pH 8.0).

**Type location:** Clark County, NV; about 1,085 feet south and 1,540 feet east of the northwest corner of section 15, T.33 S., R.66 E.; USGS Davis Dam SE, NV 7.5 minute topographic quadrangle; 35 degrees, 4 minutes, 35.7 seconds north latitude and 114 degrees, 37 minutes, 10.9 seconds longitude; UTM 11, 717025e, 3884127n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and spring months. The soil has a typic aridic moisture regime.

*Contrasting texture:* Fine sand or loamy fine sand occurs at a depth of 20 to 40 inches below the surface.

*Soil temperature:* 72 to 78 degrees F.

*Organic matter:* Less than 0.5 percent and decreases irregularly with depth due to fine stratification

**C horizons:**

Hue—2.5Y, 7.5 or 10YR.

Value—4 through 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Upper part of the control section is silt loam, silt or very fine sandy loam with less than 18 percent clay and less than 15 percent sand coarser than very fine sand. Some pedons have thin layers of silty clay loam mixed in the upper part but average less than 18 percent clay.

Structure—Massive or has platy structure related to stratification or has weak subangular blocky structure.

Effervescence—Strong effervescence or violent effervescence in the upper part.

Slightly effervescence to strong effervescence in the lower part (2C3 horizon).

Electrical conductivity—0 to 50 dS/m

SAR—0 to 15

### Riverbend series

The Riverbend series consists of very deep, excessively drained soils that formed in mixed alluvium. Riverbend soils are on fan terraces and fan remnants and have slopes of 2 to 15 percent. The mean annual precipitation is about 4 inches and the mean annual air temperature is about 73 degrees F.

**Taxonomic class:** Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids

**Typical pedon:** Riverbend extremely gravelly coarse sandy loam, rangeland and wildlife habitat, in a delineation of map unit 590. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 90 percent pebbles and 3 percent cobbles.

A1—0 to 3 inches; light yellowish brown (10YR 6/4) extremely gravelly coarse sandy loam, dark yellowish brown (10YR 4/4) moist; moderate coarse platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 75 percent pebbles and 3 percent cobbles; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

A2—3 to 10 inches; light brownish gray (10YR 6/2) very gravelly coarse sand, dark grayish brown (10YR 4/2) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 50 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bk1—10 to 19 inches; light yellowish brown (10YR 6/4) stratified extremely gravelly coarse sand through very gravelly loamy coarse sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; few fine calcium carbonate coats on underside of rock fragments; 50 percent pebbles; slightly effervescent (7 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt smooth boundary.

Bk2—19 to 31 inches; light yellowish brown (10YR 6/4) very gravelly loamy coarse sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few fine tubular pores; common medium calcium carbonate lenses and soft masses; common fine calcium carbonate coats on underside of rock fragments; 40 percent pebbles; slightly effervescent (10 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt smooth boundary.

Bk3—31 to 42 inches; light yellowish brown (10YR 6/4) very gravelly coarse sand, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine interstitial pores; many fine calcium carbonate coats on underside of rock fragments; 50 percent pebbles; slightly effervescent (6 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt wavy boundary.

Bk4—42 to 60 inches; light yellowish brown (10YR 6/4) very gravelly loamy coarse sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; few very fine tubular pores; many fine soft masses of calcium carbonate; 40 percent pebbles; violently effervescent (7 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4)

**Type location:** Clark County, Nevada, Lake Mead National Recreation Area. Approximately 0.75 mile along the road west of Sixmile Cove located in

Cottonwood Valley; about 210 feet west and 870 feet south of the northeast corner of section 2, T.29 S., R.65 E.; USGS Spirit Mountain NW, NV 7.5 minute topographic quadrangle; 35 degrees, 27 minutes, 17 seconds north latitude; 114 degrees, 41 minutes, and 33 seconds west longitude; UTM 11, 709419e, 3925913n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Intermittently moist in some part of the soil moisture control section during December-February and for less than 20 days cumulative July through September. Driest during May and June. Typic aridic soil moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to calcic horizon:* 4 to 20 inches.

*Control section:*

Rock fragments—35 to 75 percent.

Clay content—Averages 0 to 10 percent.

Calcium carbonate equivalent—7 to 20 percent.

Reaction—Slightly alkaline to strongly alkaline.

**A horizon:**

Hue—7.5YR, 10YR.

Value—5 through 7 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

**Bk horizons:**

Hue—7.5YR, 10YR.

Value—5 through 7 dry, 4 through 6 moist.

Chroma—3 or 4, dry or moist.

Texture—Loamy sand, sand, coarse sand, loamy coarse sand; Can range to include thin strata of sandy loam and loam.

Structure—Single grain or massive.

Consistence—Loose, soft, or very friable.

Other features—Few to many soft calcium carbonate accumulations or coats on rock fragments.

**Robbersfire series**

The Robbersfire series consists of deep, well drained soils that formed in colluvium from limestone and dolomite. Robbersfire soils are on back slopes of mountains. Slopes range from 30 to 75 percent. The mean annual precipitation is about 20 inches and the mean annual air temperature is about 43 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, frigid Calcic Haplustepts

**Typical pedon:** Robbersfire very gravelly silt loam, forest and wildlife habitat in an area of map unit 775. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 45 percent pebbles, 5 percent cobbles and 1 percent stones. Additionally, 30 percent of the soil surface is covered by duff.

Oi—0 to 1 inches; very dark brown (10YR 2/2) slightly decomposed plant material, very dark brown (10YR 2/2) moist; abrupt wavy boundary.

A—1 to 2 inches; brown (10YR 4/3) very gravelly silt loam, very dark brown (10YR 2/2) moist; moderate very thick platy structure; soft, very friable, slightly sticky and

slightly plastic; common very fine roots; many very fine and common fine tubular pores; 40 percent pebbles, 3 percent cobbles and 1 percent stones; 4 percent calcium carbonate equivalent in the fine earth fraction; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bk1—2 to 10 inches; dark yellowish brown (10YR 4/4) very gravelly silt loam, dark yellowish brown (10YR 3/4) moist; strong coarse subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; common very fine and coarse to very coarse roots; many very fine and common fine tubular pores; few prominent calcium carbonate coats white (10YR 8/1) on bottom of rock fragments; 3 percent fine soft masses of charcoal; 35 percent pebbles and 2 percent cobbles; 4 percent calcium carbonate equivalent in the fine earth fraction; slightly alkaline (pH 7.8); clear wavy boundary.

Bk2—10 to 27 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky; soft, very friable, slightly sticky and slightly plastic; common very fine, medium and coarse and many very coarse roots; few very fine and fine tubular pores; common fine calcium carbonate concentrations light gray (10YR 7/1) on bottom of rock fragments; few prominent calcium carbonate coats white (10YR 8/1) on bottom of rock fragments; 50 percent pebbles and 2 percent cobbles; violently effervescent (60 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.0); clear wavy boundary.

Bk3—27 to 41 inches; dark grayish brown (10YR 4/2) extremely gravelly fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky; soft, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium, coarse and very coarse roots; many very fine tubular pores; common fine calcium carbonate concentrations white (10YR 8/1) on bottom of rock fragments; few prominent calcium carbonate coats white (10YR 8/1) on bottom of rock fragments; 60 percent pebbles and 10 percent cobbles; violently effervescent (90 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.1); very abrupt wavy boundary.

R—41 inches; hard limestone.

**Type location:** Clark County, Nevada; about 8 miles north and 27 miles west of Las Vegas, Nevada; approximately 3 miles east and 1.5 miles south of Angel Peak; 2,710 feet south and 1,790 feet west of the northeast corner of section 18, T.19 S., R.57 E.; USGS Angel Peak, NV 7.5 minute topographic quadrangle; 36 degrees, 17 minutes, 55.8 seconds north latitude and 115 degrees, 37 minutes, 27.6 seconds west longitude; UTM zone 11, 0623519e, 4017973 n; NAD83.

#### **Range in Characteristics:**

Soil moisture usually moist in late winter and spring, and periodically moist in the upper part following summer convection storms; ustic soil moisture regime.

*Soil temperature:* 44 to 47 degrees F.

*Depth to the base of noneffervescent soil material:* 7 to 14 inches (from the top of the mineral soil surface).

*Depth to calcic horizon:* 7 to 14 inches (from the top of the mineral soil surface).

*Depth to lithic contact:* 40 to 60 inches.

*Control section:*

Rock fragments—35 to 75 percent.

Clay content—Averages 5 to 15 percent.

#### **Oi horizon:**

Organic matter—30 to 50 percent.

**A horizon:**

Value—2 to 5 dry, 2 or 3 moist.

Chroma—3 or 4 dry, 2 or 3 moist.

Structure—Platy or subangular blocky.

Consistence—Soft to moderately hard, nonsticky or slightly sticky, and nonplastic or slightly plastic.

Rock fragments—35 to 60 percent.

Organic matter—4 to 8 percent.

**Bk1 horizon:**

Value—4 to 6 dry, 2 to 4 moist.

Chroma—1 to 4.

Texture—Silt loam or loam.

Structure—Medium or strong, fine to coarse.

Consistence—Soft to moderately hard, very friable or friable, nonsticky or slightly sticky, and nonplastic or slightly plastic.

Clay content—10 to 27 percent.

Rock fragments—35 to 70 percent.

Organic matter—2 to 5 percent.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate equivalent in the fine earth fraction—0 to 10 percent.

**Bk2 and Bk3 horizons:**

Value—4 to 6 dry, 2 to 4 moist.

Chroma—1 to 4.

Texture—Loam or fine sandy loam.

Structure—Medium or strong, fine to coarse.

Consistence—Soft to moderately hard, very friable or friable, nonsticky or slightly sticky, and nonplastic or slightly plastic.

Clay content—4 to 15 percent.

Rock fragments—35 to 75 percent, mainly gravels or cobbles with 0 to 10 percent stones.

Organic matter—0.25 to 5 percent.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent in the fine earth fraction—50 to 90 percent.

**Rositas series**

The Rositas series consists of very deep, somewhat excessively drained soils formed in sandy eolian material. Rositas soils are on dunes and sand sheets. Slopes range from 4 to 30 percent with hummocky or dune micro relief. Mean annual precipitation is about 4 inches and the mean annual air temperature is about 72 degrees F.

**Taxonomic class:** Mixed, hyperthermic Typic Torripsamments

**Typical pedon:** Rositas fine sand, rangeland and wildlife habitat, in a delineation of map unit 560. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 5 percent pebbles.

C1—0 to 5 inches; pale brown (10YR 6/3) fine sand, brown (10YR 4/3) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic; many very fine and few fine roots; many very fine and fine interstitial pores; 5 percent pebbles; moderately alkaline (pH 8.0); clear wavy boundary.

C2—5 to 60 inches; pale brown (10YR 6/3) sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; common fine roots; many very fine and fine interstitial pores; 2 percent fine pebbles; slightly effervescent; moderately alkaline (pH 8.0).

**Type location:** Clark County, Nevada, Lake Mead National Recreation Area. Approximately 0.75 mile due south of Cottonwood Cove located in Cottonwood Valley; about 400 feet east and 1,980 feet south of the northwest corner of section 25, T.28 S., R.65 E.; Spirit Mountain NW, NV 7.5 minute topographic quadrangle; 35 degrees, 28 minutes, 51 seconds north latitude; 114 degrees, 41 minutes, 9 seconds west longitude; UTM 11, 709948e, 3928829n; NAD83.

**Range in Characteristics:**

*Soil moisture:* The soil is usually dry and is not moist for as long as 60 consecutive days. Driest during May and June. Typic aridic soil moisture regime.

*Soil temperature:* 72 to 80 degrees F.

*Organic matter:* Less than 0.5 percent and decreases regularly with depth.

*Control section:*

Rock fragments—0 to 5 percent fine gravel.

Clay content—0 to 10 percent.

Effervescence—Slightly effervescent to strongly effervescent.

**C1 horizon:**

Hue—10YR, 7.5YR, 5YR.

Value—5 through 7, dry or moist.

Chroma—2 through 7, dry or moist.

Rock fragments—0 to 35 percent.

Other features—Some pedons are noneffervescent.

**C2 horizon:**

Hue—10YR, 7.5YR, 5YR.

Value—5 through 7, dry or moist.

Chroma—2 through 7, dry or moist.

Texture—Sand, loamy sand, fine sand, loamy fine sand. The 10 to 40 inch control section has less than 15 percent coarse and very coarse sand.

Salinity—0 to 8 dS/meter.

SAR—0 to 90.

Reaction—Neutral to very strongly alkaline.

Other features—Some pedons have few soft masses of calcium carbonate.

**Sandpan series**

The Sandpan series consists of moderately deep to a petrocalcic horizon, somewhat excessively drained soils that formed in alluvium derived from limestone and sandstone. Sandpan soils are on fan remnants. Slopes range from 2 to 8 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Sandy-skeletal, mixed, hyperthermic Calcic Petrocalcids

**Typical pedon:** Sandpan gravelly loamy fine sand, rangeland in an area of map unit 336. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 25 percent pebbles.

- A—0 to 1 inch; light brown (7.5YR 6/4) gravelly loamy fine sand, brown (7.5YR 4/4) moist; moderate medium platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; many very fine and many fine interstitial pores and few fine vesicular pores; 25 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.
- Bw—1 to 6 inches; light brown (7.5YR 6/4) loamy fine sand, brown (7.5YR 4/4) moist; weak coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; common very fine, common fine, and few medium roots; many very fine and many fine interstitial pores and few fine and medium tubular pores; 10 percent pebbles; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
- Bk1—6 to 16 inches; light brown (7.5YR 6/4) extremely gravelly fine sand, brown (7.5YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine, fine, and common medium roots; many very fine and fine interstitial pores; 75 percent pebbles; secondary calcium carbonate segregated as 10 percent fine coats on undersides of rock fragments; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
- Bk2—16 to 38 inches; light brown (7.5YR 6/4) extremely gravelly sand, brown (7.5YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine, few medium, and few coarse roots; many very fine and many fine interstitial pores; 70 percent pebbles; secondary calcium carbonate segregated as 20 percent fine coats on undersides of rock fragments; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.
- 2Bkm—38 to 70 inches; cemented material; massive; very rigid; indurated by secondary calcium carbonate.

**Type location:** Clark County, Nevada; in the Lake Mead National Recreation Area about 2.5 miles east of the confluence of the Muddy and Virgin Rivers at the north end of the Overton Arm of Lake Mead; 1,800 feet north and 2,500 feet west of the southeast corner of section 4, T.17 S., R.69 E.; USGS Overton Beach 7.5 minute topographical quadrangle; 36 degrees, 28 minutes, 57 seconds north latitude and 114 degrees, 17 minutes, 15 seconds west longitude, NAD27.

**Range in Characteristics:**

*Soil moisture:* Usually moist in some part for short periods during winter and early spring, dry during summer and fall; intermittently moist in some part for 10 to 20 days cumulative between July to October following convection storms; Typic aridic moisture regime.

*Soil temperature:* 72 to 76 degrees F.

*Depth to petrocalcic horizon:* 20 to 40 inches.

*Control section:*

Clay content—6 to 10 percent.

Rock fragments—65 to 80 percent, mainly gravel. Lithology of fragments is sedimentary rocks such as limestone and sandstone.

**A horizon:**

Hue—7.5YR or 10YR.

Value—4 or 5 moist.

Calcium carbonate equivalent of the fine earth fraction—5 to 8 percent.

**Bw horizon:**

Hue—7.5YR or 10YR.

Value—5 or 6 dry.

Texture—Loamy fine sand or gravelly loamy fine sand.

Consistence—Soft or slightly hard.

Calcium carbonate equivalent of the fine earth fraction—5 to 8 percent.

**Bk horizons:**

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 4 or 5 moist.

Texture—Extremely gravelly fine sand or extremely gravelly sand.

Consistence—Soft or slightly hard.

Calcium carbonate equivalent of the fine earth fraction—10 to 20 percent.

**Bkm horizon:**

Thickness—More than 30 inches; observed up to 4 feet thick along deep exposures.

**Schader series**

The Schader series consists of moderately deep, well drained soils on mountains. Schader soils formed in colluvium and residuum from quartzite. Slopes range from 15 to 50 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 54 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic Xeric Haplargids

**Typical pedon:** Schader extremely gravelly sandy loam, rangeland and wildlife habitat in an area of map unit in the adjoining Nye County, Nevada, Southwest Part soil survey. (Colors are for dry soil unless otherwise noted). The soil surface is covered by approximately 60 percent pebbles, 10 percent cobbles and 3 percent stones and boulders.

A1—0 to 2 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak thick platy structure parting to strong medium granular; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine vesicular and tubular pores; 60 percent pebbles, 5 percent cobbles and 2 percent stones; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—2 to 9 inches; yellowish brown (10YR 5/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure parting to moderate medium granular; soft, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine and fine tubular pores; 45 percent pebbles and 5 percent cobbles; slightly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Btk1—9 to 17 inches; yellowish brown (10YR 5/4) extremely gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; soft, friable, slightly sticky and slightly plastic; many very fine and common fine and medium roots; common very fine and fine tubular pores; few faint and distinct clay films bridging sand grains; 1 percent fine and medium soft masses of calcium carbonate, about half of rock fragments have fine, patchy calcium carbonate pendants; 55 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

**Btk2**—17 to 28 inches; light yellowish brown (10YR 6/4) extremely gravelly sandy clay loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and few fine through coarse roots; common very fine and fine tubular pores; common distinct clay films on faces of peds and lining pores; 3 percent fine and medium soft masses of calcium carbonate, about half of rock fragments have fine, continuous calcium carbonate pendants; 65 percent pebbles and 15 percent cobbles; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

**R**—28 inches; extremely hard, fractured quartzite bedrock.

**Type location:** Nye County, Nevada; in the Spring Mountains approximately 0.5 mile southeast of Santa Cruz Spring and about 600 feet south and 2,200 feet west of the northeast corner of section 4, T.19 S., R.54 E.; USGS Horse Springs, NV 7.5 minute topographic quadrangle; 36 degrees, 20 minutes, 13.1 seconds north latitude and 115 degrees, 54 minutes, 48.6 seconds west longitude; UTM 11, 597507e, 4021872n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; aridic moisture regime bordering on xeric.

*Soil temperature:* 55 to 59 degrees.

*Depth to bedrock:* 20 to 40 inches.

*Control section:*

Clay content—20 to 30 percent.

Rock fragments—Averages 60 to 75 percent, mainly quartzite pebbles.

**A horizon:**

Value—5 or 6 dry, 3 through 5 moist.

Chroma—3 or 4 dry and moist.

Reaction—Slightly alkaline or moderately alkaline.

**Btk horizons:**

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4 dry and moist.

Texture—Sandy clay loam, loam or clay loam.

Rock fragments—Averages 60 to 75 percent, mainly quartzite gravel; subhorizons range from 45 to 85 percent in some pedons.

Structure—Subangular blocky or massive.

Consistence—Slightly sticky or moderately sticky and slightly plastic or moderately plastic

Calcium carbonate equivalent in the fine earth fraction—1 to 10 percent.

Effervescence—Moderately through violently effervescent, increasing with depth.

**Scrapy series**

The Scrapy series consists of shallow, well drained soils that formed in residuum and colluvium from limestone and dolomitic limestone. Scrapy soils are on backslopes of mountains. Slopes range from 30 to 50 percent. The mean annual precipitation is about 13 inches and the mean annual air temperature is about 54 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, mesic Lithic Ustic Haplocalcids

**Typical pedon:** Scrapy very gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 806. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 45 percent pebbles, 10 percent cobbles and 2 percent stones.

A—0 to 1 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; moderate thin and medium platy structure; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; common fine and medium vesicular pores; 55 percent pebbles; violently effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear smooth boundary.

Bk1—1 to 6 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky; slightly hard, very friable, nonsticky and nonplastic; many very fine and few medium roots; common very fine and fine interstitial and few very fine tubular pores; 5 percent, fine, distinct white (10YR 8/1) platy calcium carbonate nodules on the bottom of rock fragments; 50 percent pebbles; violently effervescent (35 percent calcium carbonate equivalent of the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.

Bk2—6 to 12 inches; yellowish brown (10YR 5/4) extremely gravelly loam, dark yellowish brown (10YR 3/4) moist; massive; slightly hard, very friable, slightly sticky and nonplastic; common very fine and fine and few medium roots; common very fine interstitial pores; 70 percent, prominent medium white (10YR 8/1) platy calcium carbonate nodules at the top of horizon; 60 percent pebbles; violently effervescent (30 percent calcium carbonate equivalent of the fine earth fraction); strongly alkaline (pH 8.6); abrupt wavy boundary.

R—12 inches; hard fractured limestone.

**Type location:** Clark County, Nevada; approximately 2.5 miles north of the junction of Wheeler Wash Road and the Wallace Canyon turn off; about 1,350 feet south and 980 feet west of the northeast corner of section 7, T.19 S., R.55 E.; USGS Wheeler Well, Nevada 7.5 minute topographic quadrangle; 36 degrees, 19 minutes, 09 seconds north latitude and 115 degrees, 50 minutes, 14 seconds west longitude; UTM 11, 0604377e 4019976n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer convection storms; aridic soil moisture regime bordering on ustic.

*Soil temperature:* 47 to 52 degrees F.

*Depth to calcic horizon:* 1 to 3 inches.

*Depth to bedrock:* 10 to 14 inches.

*Control section:*

Clay content—5 to 15 percent.

Rock fragments—35 to 65 percent, mainly gravels.

Calcium carbonate equivalent in the fine earth fraction—25 to 35 percent.

**A horizon:**

Value—3 to 4 moist.

**Bk horizons:**

Chroma—5 or 6 dry, 3 or 4 moist.

Texture of the fine earth—Loam or sandy loam.

Structure—Moderate or strong subangular blocky or massive.

Consistence—Nonsticky or slightly sticky

Secondary carbonates—5 to 35 percent volume secondary calcium carbonate on the undersides of rock fragments, and as carbonate nodules.

### Seanna series

The Seanna series consists of very shallow and shallow, well drained soils that formed in residuum derived from granitic. The Seanna soils are on hills and mountains. Slopes range from 8 to 50 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 67 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, calcareous, thermic, shallow Typic Torriorthents

**Typical pedon:** Seanna extremely gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 530. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 85 percent pebbles.

A—0 to 2 inches; brown (10YR 5/3) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak thin platy structure parting to weak fine granular; soft, very friable, nonsticky and nonplastic; common very fine roots; few very fine interstitial pores; 80 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bk1—2 to 6 inches; pale brown (10YR 6/3) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine tubular pores; few fine calcium carbonate coats on underside of rock fragments; 50 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4), clear wavy boundary.

Bk2—6 to 10 inches; light brown (7.5YR 6/4) very gravelly sandy loam, brown (7.5YR 4/4) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; few very fine tubular pores; few fine calcium carbonate coats on underside of rock fragments; 50 percent pebbles; strongly effervescent; strongly alkaline (pH 8.6); abrupt irregular boundary.

Crt—10 to 20 inches; highly fractured, granitic bedrock with distinct clay coats in fractures on rock fragments.

**Type location:** Clark County, Nevada; approximately 4.5 miles southeast of the intersection of US Highway 95 and State Highway 60, located on the west side of the El Dorado Mountains; about 2,190 feet north and 690 feet west of the southeast corner of section 14, T.25 S., R.63 E.; USGS Boulder City SW, NV 7.5 minute topographic quadrangle; 35 degrees, 46 minutes, 11 seconds north latitude and 114 degrees, 54 minutes, 13 seconds west longitude; UTM 11, 689503e, 3960436n; NAD83.

### Range in Characteristics:

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July to October following summer convection storms.

*Soil temperature:* 66 to 71 degrees F.

*Depth to paralithic contact:* 7 to 14 inches.

*Depth to base of paralithic material:* 20 to 40 inches.

*Control section:*

Percent clay—8 to 18 percent.

Rock fragments—Averages 35 to 60 percent with 30 to 60 percent of the rock fragments being 2 to 5 millimeter gravel.

**A horizon:**

Value—5 or 6 dry.

**Bk horizons:**

Value—6 or 7 dry.

Chroma—3 or 4 moist.

Structure—Granular or subangular blocky.

## Searchlight series

The Searchlight series consists of very deep, well drained soils that formed in alluvium from mixed rock sources. Searchlight soils are on fan aprons over fan remnants.

Slopes range from 2 to 4 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 66 degrees F.

**Taxonomic class:** Coarse-loamy, mixed, superactive, thermic Typic Haplargids

**Typical pedon:** Searchlight extremely gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 760. (Colors are for dry soil unless otherwise noted.)

The soil surface is covered with approximately 60 percent pebbles.

A—0 to 2 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; strong thin to thick platy structure; soft, very friable, nonsticky and nonplastic; common very fine roots, many very fine and fine vesicular and interstitial pores; 60 percent pebbles; strongly effervescent (5 percent calcium carbonate equivalence in the fine earth fraction); strongly alkaline (pH 8.6); abrupt smooth boundary.

Bkq—2 to 12 inches; light brownish gray (10YR 6/2) stratified gravelly sandy loam to very gravelly loamy coarse sand, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine and few medium roots; many very fine and fine interstitial pores; averages 30 percent pebbles; strongly effervescent (5 percent calcium carbonate equivalence in the fine earth fraction); common distinct calcium carbonate and silica coats on undersides of rock fragments; strongly alkaline (pH 8.6); abrupt smooth boundary.

2Btkq1—12 to 17 inches; light brown (7.5YR 6/3) gravelly coarse sandy loam, brown (7.5YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; common very fine and fine interstitial pores; many distinct colloidal stains and bridging of sand grains; few fine irregularly shaped filaments of calcium carbonate; 20 percent pebbles; strongly effervescent (5 percent calcium carbonate equivalence in the fine earth fraction); few distinct calcium carbonate and silica coats on undersides of coarse fragments; strongly alkaline (pH 8.6); abrupt smooth boundary.

2Btkq2—17 to 33 inches; very pale brown (10YR 7/3) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; hard, friable, slightly sticky and nonplastic; few very fine and fine roots; many very fine and fine interstitial and few very fine tubular pores; many moderate

colloidal stains and few thin clay skins lining pores and on faces of ped; many fine irregularly shaped filaments of calcium carbonate; 25 percent pebbles; violently effervescent (5 percent calcium carbonate equivalence in the fine earth fraction); many thin calcium carbonate and silica coats on coarse fragments; strongly alkaline (pH 8.8); clear smooth boundary.

2Bkq—33 to 60 inches; pale brown (10YR 6/3) stratified very gravelly loamy coarse sand to gravelly loamy coarse sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine roots; many very fine and fine interstitial pores; common fine irregularly shaped filaments of calcium carbonate; averages 41 percent pebbles; violently effervescent (7 percent calcium carbonate equivalence in the fine earth fraction); many distinct calcium carbonate and silica coats on underside of coarse fragments; strongly alkaline (pH 8.8).

**Type location:** Clark County, Nevada; approximately 4 miles south of Boulder City; about 900 feet east and 3400 feet south of the northwest corner of section 20, T.24 S., R.64 E.; USGS Boulder City SE 7.5 minute topographic quadrangle; 35 degrees, 50 minutes, 31 seconds north latitude and 114 degrees, 51 minutes, 41 seconds west longitude; UTM 11; 0693225e, 3968330n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following convection storms. The soils have a typic aridic moisture regime.

*Soil temperature:* 67 to 71 degrees F.

*Depth to argillic horizon:* 10 to 19 inches.

*Depth to base of the argillic horizon:* 20 to 50 inches.

*Calcium carbonate equivalent of the fine earth fraction:* 5 to 10 percent.

*Secondary calcium carbonate by volume:* Less than 5 percent.

*Control section:*

Percent clay—Averages 12 to 18 percent.

Rock fragments—Averages 15 to 35 percent gravel.

Reaction—Moderately alkaline or strongly alkaline.

**A horizon:**

Value—6 or 7 dry, 4 or 5 moist

Chroma—3 or 4

**2Btkq horizons:**

Value—4 or 5 moist.

Chroma—3 through 6.

Texture of the fine earth—Coarse sandy loam or sandy loam

Rock fragments—15 to 35 percent, mainly gravel

Structure—Subangular blocky or massive

Effervescence—Slightly effervescent to violently effervescent

**2Bkqb horizon:**

Value—6 or 7 dry, 4 through 6 moist.

Chroma—3 through 6.

Texture of the fine earth—Loamy coarse sand or loamy sand.

Clay content—2 to 10 percent.

Rock fragments—Averages 35 to 60 percent pebbles.

## Seralin series

The Seralin series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium from dolomite and dolomitic limestone rock sources. Seralin soils are on mountain slopes. Slopes range from 30 to 75 percent. The mean annual precipitation is about 13 inches and the mean annual temperature is about 48 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic Aridic Lithic Haplustolls

**Typical pedon:** Seralin extremely gravelly very fine sandy loam, forestland and wildlife habitat in an area of map unit 321. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 65 percent pebbles, 10 percent cobbles and 5 percent stones.

A1—0 to 2 inches; brown (10YR 5/3) extremely gravelly very fine sandy loam, brown (10YR 4/3) moist; moderate medium and thin platy structure parting to weak fine subangular blocky; soft, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine and fine interstitial and vesicular pores; 65 percent pebbles, 10 percent cobbles and 5 percent stones; moderately alkaline (pH 8.0); clear smooth boundary.

A2—2 to 7 inches; brown (10YR 4/3) very gravelly loam, dark brown (10YR 3/3) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine, common medium and few coarse roots; many very fine and fine interstitial and common fine tubular pores; 50 percent pebbles and 5 percent cobbles; moderately alkaline (pH 8.0); clear wavy boundary.

Bk—7 to 14 inches; brown (10YR 4/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; soft, very friable; slightly sticky and slightly plastic; common very fine and fine and many medium roots; common very fine and fine interstitial and tubular pores; many distinct lime coats on the undersides of rock fragments; 40 percent pebbles and 15 percent cobbles; slightly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

R—14 inches; dolomitic limestone bedrock.

**Type location:** Clark County, Nevada; approximately 2 miles north of Whitney Ranch in the south end of the Virgin Mountains; about 1,000 feet south and 1,500 feet east of the northwest corner of section 15, T.16 S., R.71 E.; 36 degrees, 32 minutes, 47 seconds north latitude and 114 degrees, 3 minutes, 10 seconds west longitude.

### Range in Characteristics:

*Soil moisture:* Usually dry, moist in late winter and spring and intermittently moist in the upper part following summer thunderstorms. Aridic bordering on ustic soil moisture regime.

*Soil temperature:* 47 to 52 degrees F.

*Mollic epipedon:* 8 to 14 inches.

*Depth to bedrock:* 8 to 14 inches.

*Control section:*

Percent clay—10 to 18 percent.

Rock fragments—50 to 80 percent, mainly gravel.

**A horizons:**

Value—4 or 5 dry, 3 or 4 moist. Where moist value of 4 occurs, the soil when mixed to 7 inches has value of 3.

Chroma—2 or 3.

Effervescence—Noneffervescent; some pedons are slightly effervescent in the upper part due to recharge from dust.

**Bk horizon:**

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4.

Texture of the fine earth—Very fine sandy loam or loam.

Consistence—Slightly hard or soft, friable or very friable.

Secondary lime accumulation—Identifiable secondary carbonates as coatings, pendants or soft filaments.

Calcium carbonate equivalent—1 to 5 percent in the less than 2 millimeter fraction; 20 to 30 percent in the less than 20 millimeter fraction.

**Shamock series**

The Shamock series consists of moderately deep over a duripan, well drained soils that are on fan remnants, alluvial plains and relict alluvial flats. Shamock soils formed in mixed alluvium. Slopes are 2 to 4 percent. The mean annual precipitation is about 4 inches and the mean annual air temperature is about 66 degrees F.

**Taxonomic class:** Coarse-loamy, mixed, superactive, thermic Typic Haplodurids

**Typical pedon:** Shamock very gravelly loamy sand, rangeland and wildlife habitat in a delineation of map unit 111. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 55 percent pebbles.

A1—0 to 1 inches; pale brown (10YR 6/3) very gravelly loamy sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; many very fine and fine interstitial pores; 55 percent pebbles; slightly effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

A2—1 to 4 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; strong coarse platy structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and fine interstitial and common fine and medium tubular pores; 10 percent pebbles; slightly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Bk1—4 to 14 inches; yellowish brown (10YR 5/4) gravelly sandy loam, brown (10YR 4/3) moist; moderate medium and coarse subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine, common medium, and few coarse roots; many very fine and fine interstitial and common fine and medium tubular pores; many medium calcium carbonate coats on the underside and side of rock fragments; 20 percent pebbles; strongly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Bk2—14 to 32 inches; yellowish brown (10YR 5/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; common very fine through medium roots; many very fine and fine interstitial and common very fine and fine tubular pores; common very fine and fine calcium carbonate filaments; many medium calcium carbonate coats on underside and side of rock fragments; 20 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

2Bqkm—32 to 60 inches; light gray (10YR 7/2) indurated to strongly cemented duripan, light yellowish brown (10YR 6/4) moist; platy; very rigid to extremely hard, very rigid to slightly rigid, brittle; violently effervescent; 1 to 2 millimeter thick continuous indurated laminar cap.

**Type location:** Clark County, Nevada; approximately 480 feet east and 1,980 feet north of the projected southwest corner of the section 1, T.32 S., R.64 E.; USGS Juniper Mine, NV 7.5 minute topographic quadrangle; 35 degrees, 11 minutes, 11.3 seconds north latitude and 114 degrees, 47 minutes, 45.5 seconds west longitude; UTM 11, 700681e, 3895947n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry; Typic Aridic moisture regime. The ratio of soil moisture utilized for evapotranspiration between summer and winter is about 0.4:1, typical of the Mojave Desert.

*Soil temperature:* 64 to 70 degrees F.

*Other features:* A thin layer (1/4 to 1/2 inch thick) of loose windblown sand commonly covers the surface.

*Depth to duripan:* 25 to 40 inches.

*Control section:*

Clay content—5 to 10 percent.

Rock fragments—Averages 15 to 35 percent, mainly gravel.

**A horizon:**

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 through 5.

Reaction—Moderately alkaline or strongly alkaline.

Effervescence—Noneffervescent to violently effervescent.

**Bk1 horizon:**

Value—5 through 7 dry, 4 through 6 moist.

Chroma—2 through 4 dry, 3 or 4 moist.

Texture—Sandy loam or fine sandy loam.

Structure—Weak or moderate, medium or coarse.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Moderately alkaline or strongly alkaline.

**Bk2 horizon:**

Value—5 through 7 dry, 4 through 6 moist.

Chroma—2 through 4 dry, 3 or 4 moist.

Texture—Sandy loam or fine sandy loam.

Structure—Massive or subangular blocky.

Consistence—Nonsticky or slightly sticky.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Moderately alkaline to very strongly alkaline.

**2Bqkm horizons:**

Value—7 or 8 dry; 5 or 6 moist.

Chroma—2 through 4 dry, 4 through 6 moist.

Structure—Massive or platy.

Rock fragments—20 to 60 percent, mainly pebbles.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Strongly alkaline or very strongly alkaline.

Cementation—Indurated or very strongly cemented, may include strongly cemented material in some parts.

### Snapcan series

The Snapcan series consist of moderately deep, well drained soils that formed in colluvium and residuum from fanglomerate dominated by granite, schist and gneiss clasts. Snapcan series are on dissected fan terraces and ballenas. Slopes range from 30 to 55 percent. The mean annual precipitation is about 4 inches and the mean annual air temperature is about 72 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, hyperthermic Typic Haplocambids

**Typical pedon:** Snapcan extremely cobbly fine sandy loam, rangeland and wildlife habitat in the adjoining Grand Canyon Area, Arizona soil survey. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 40 percent gravel, 20 percent cobbles, 10 percent stones and 5 percent boulders.

A—0 to 2 inches; light yellowish brown (10YR 6/4) extremely cobbly fine sandy loam, dark yellowish brown (10YR 3/6) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 40 percent gravel, 20 percent cobble, 5 percent stone; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bw1—2 to 8 inches; light yellowish brown (10YR 6/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and moderately plastic; common very fine and fine roots; few very fine and fine tubular pores; 30 percent gravel, 5 percent cobble, 5 percent stone; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

Bw2—8 to 15 inches; brownish yellow (10YR 6/6) extremely gravelly loam, yellowish brown (10YR 5/6) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and moderately plastic; common fine and medium roots; few very fine and fine tubular pores; 45 percent gravel, 10 percent cobble, 5 percent stone; violently effervescent; strongly alkaline (pH 8.6); clear irregular boundary.

Bk—15 to 26 inches; yellow (10YR 7/6) extremely gravelly sandy clay loam, dark yellowish brown (10YR 4/6) moist; massive; slightly hard, friable, moderately sticky and moderately plastic; few very fine through medium roots; few fine and medium tubular pores; few fine soft filaments of calcium carbonate; 65 percent gravel, 10 percent cobble; strongly effervescent; strongly alkaline (pH 8.6); abrupt irregular boundary.

Cr—26 to 60 inches; weathered fanglomerate.

**Type location:** Mohave County, Arizona, Lake Mead National Recreation Area; in an unsectionized area; USGS Snap Canyon West, AZ 7.5 minute topographic quadrangle; 36 degrees, 10 minutes, 52 seconds north latitude, 113 degrees, 59 minutes, 17 seconds west longitude; UTM 12, 231275e, 4008177n; NAD83..

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 72 to 76 degrees F.

*Depth to paralithic contact:* 22 to 30 inches

*Control section:*

Clay content—Averages 18 to 24 percent.

Rock fragments—40 to 75 percent, gravel, cobble, stones

**A horizon:**

Hue—7.5YR, 10YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—3 to 6, dry or moist

Calcium carbonate equivalent in the fine earth fraction—1 to 5 percent.

**Bw horizons:**

Hue—7.5YR, 10YR

Value—5 or 6 dry, 4 or 5 moist

Chroma—3 to 6, dry or moist

Reaction—Moderately or strongly alkaline

Effervescence—Slightly effervescent to violently effervescent.

Calcium carbonate equivalent in the fine earth fraction—1 to 5 percent.

Texture of fine earth—Coarse sandy loam, sandy clay loam, loam

Structure—Weak or moderate subangular blocky.

**Bk horizon:**

Hue—7.5YR, 10YR

Value—5 to 7 dry, 4 or 5 moist.

Chroma—3 to 6, dry or moist.

Reaction—Moderately or strongly alkaline.

Effervescence—Strongly or violently effervescent.

Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.

Calcium carbonate—Occurs as thin coats on undersides of rock fragments, filaments and is disseminated.

Texture of fine earth—Coarse sandy loam, sandy clay loam, loam.

**Cr horizon:**

Other features—Consists of conglomeration that is dominated by gravel and cobble-sized granite, schist and gneiss clasts. It is rigid to very rigid when dry, friable to extremely firm when moist. As much as 15 percent (air-dried) slakes when submerged in water.

**St. Thomas series**

The St. Thomas series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium derived from limestone and dolomite. St. Thomas soils are on hills and mountains. Slopes range from 2 to 50 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 61 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic Lithic Torriorthents

**Typical pedon:** St. Thomas extremely gravelly sandy loam, rangeland and wildlife habitat in a delineation of map unit 853. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 50 percent pebbles, 10 percent cobbles and 2 percent stones.

A—0 to 2 inches; very pale brown (10YR 7/3) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine and few fine interstitial pores; 50 percent pebbles, 10 percent cobbles and 2 percent stones; violently effervescent (25 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear smooth boundary.

Bk1—2 to 9 inches; very pale brown (10YR 7/3) very gravelly loam, yellowish brown (10YR 5/4) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, few fine, and medium roots; common very fine interstitial and few tubular pores; many fine calcium carbonate coats on underside of rock fragments; 45 percent pebbles and 5 percent cobbles; violently effervescent (30 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.

Bk2—9 to 14 inches; very pale brown (10YR 7/3) extremely gravelly loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, few fine, and medium roots; common very fine interstitial and few tubular pores; many fine and medium calcium carbonate coats and pendants on underside of rock fragments; 65 percent pebbles and 5 percent cobbles; violently effervescent (55 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.

R—14 inches; hard limestone bedrock, slightly fractured in the upper three inches; few very fine and fine roots in fractures.

**Type location:** Clark County, Nevada; approximately 2 1/4 miles south of Sloan, Nevada on the east side of the Bird Spring Range and west of the railroad tracks; about 20 feet east of the southwest corner of section 25, T.23 S., R.60 E.; 35 degrees, 54 minutes, 41 seconds north latitude; 115 degrees, 13 minutes, 19 seconds west longitude; USGS Sloan, NV 7.5 minute topographic quadrangle; UTM 11, 660440e, 3975581n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part of the moisture control section for short periods during the winter and spring months and for 10 to 20 days, following summer convection storms.

*Soil temperature:* 59 to 67 degrees F.

*Depth to bedrock:* 4 to 14 inches

*Control section:*

Clay content—4 to 18 percent.

Rock fragments—50 to 85 percent, mainly cobbles and gravel.

Reaction—Moderately alkaline or strongly alkaline.

**A horizon:**

Hue—7.5YR or 10YR.

Value—5 through 8 dry, 4 through 7 moist.

**Bk horizons:**

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 5 or 6 moist.

Texture—Loam, very fine sandy loam, or fine sandy loam.

Consistence—Soft or slightly hard, nonsticky or slightly sticky.

### Straycow series

The Straycow series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium from metamorphic rock. Straycow soils are on hills. Slopes range from 8 to 50 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplargids

**Typical pedon:** Straycow extremely gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 860. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 65 percent pebbles and 5 percent cobbles.

A—0 to 2 inches; yellowish brown (10YR 5/4) extremely gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine and few fine interstitial and tubular pores; 65 percent pebbles and 5 percent cobbles; neutral (pH 7.0); abrupt wavy boundary.

Bt—2 to 7 inches; reddish yellow (5YR 6/6) very gravelly clay loam, yellowish red (5YR 4/6) moist; moderate fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and few fine roots; many very fine and few fine tubular pores; many prominent clay films on ped faces and lining pores and many colloidal stains coating rock fragments; 50 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

Cr—7 to 20 inches; weathered bedrock with roots and soil in fractures.

**Type location:** Clark County, Nevada; approximately 2 miles east of Hart Peak on the east side of the Castle Mountains and 1/2 mile north of Stray Cow Well; about 1,125 feet east and 1,040 feet south of the northwest corner of section 15, T.30 S., R.62 E.; USGS Hart Peak, NV 7.5 minute topographic quadrangle; 35 degrees, 20 minutes, 21 seconds north latitude and 115 degrees, 2 minutes, 39 seconds west longitude; UTM 11, 677744e, 3912411n; NAD83.

### Range in Characteristics:

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms. These soils have a typic aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Depth to argillic horizon:* 1 to 3 inches.

*Depth to paralithic contact:* 5 to 20 inches.

*Control section:*

Percent clay—12 to 24 percent above the argillic horizon and 27 to 35 percent in the argillic horizon.

Rock fragments—Averages 35 to 60 percent, mainly gravel.

Reaction—Neutral or slightly alkaline.

Other features—Noncalcareous throughout.

**A horizon:**

Hue—10YR or 7.5YR.

Value—5 or 6 dry.

**Bt horizon:**

Chroma—4 through 6.

Texture—Sandy clay loam or clay loam.

Consistence—Slightly hard or hard.

**Sunrock series**

The Sunrock series consists of very shallow and shallow, somewhat excessively drained soils formed in colluvium and residuum from volcanic rocks on mountains, hills, and mesas. Slopes range from 8 to 75 percent. The mean annual precipitation is about 5 inches. The mean annual air temperature is about 75 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents

**Typical pedon:** Sunrock extremely stony sandy loam, rangeland and wildlife habitat in a delineation of map unit 540. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 20 percent pebbles, 20 percent cobbles, and 20 percent stones.

A—0 to 2 inches; brown (10YR 5/3) extremely stony sandy loam, brown (10YR 4/3) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; few very fine and fine roots; many very fine and fine interstitial pores; 20 percent pebbles, 20 percent cobbles and 20 percent stones; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bkq—2 to 9 inches; pale brown (10YR 6/3) very gravelly fine sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few fine roots; few fine interstitial pores; common medium calcium carbonate and silica coats on underside of rock fragments; 35 percent pebbles and 15 percent cobbles; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

R—9 inches; hard rhyolite bedrock, with few thin calcium carbonate and silica coats in cracks and fractures.

**Type location:** Clark County, Nevada; located in Cotton Wood Valley of Lake Mead National Recreation Area. Approximately 2.9 miles southeast along the power line road from the junction of the Cottonwood Road and the power line road, on Bill Gays Butte; about 810 feet east and 1,710 feet south of the northwest corner of section 5, T.29 S., R.65 E.; USGS Fourth of July Mountain, NV 7.5 minute topographic quadrangle; 35 degrees, 27 minutes, and 10 seconds north latitude; 114 degrees, 45 minutes, and 38 seconds west longitude; UTM 11, 703238e, 3925560n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Intermittently moist in some part of the soil moisture control section during December through February and for less than 20 days cumulative during July through September. Driest during May and June. Typic aridic soil moisture regime.

*Soil temperature:* 72 to 80 degrees F.

*Depth to bedrock:* 4 to 20 inches.

*Control section:*

Rock fragments—Averages 35 to 65 percent.

Clay content—Averages 5 to 18 percent.

**A horizon:**

Hue—7.5YR, 10YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture of the fine earth—Loamy sand, sandy loam and fine sandy loam.

Clay content—5 to 20 percent.

Calcium carbonate equivalent—1 to 15 percent.

Reaction—Slightly alkaline or moderately alkaline.

**Bkq horizon:**

Hue—7.5YR, 10YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture of the fine earth—Fine sandy loam, sandy loam and loam; dominantly fine and medium in the sand fraction.

Calcium carbonate equivalent—1 to 15 percent.

Reaction—Slightly alkaline or moderately alkaline.

Other features—Some pedons do not have secondary accumulations of calcium carbonate and silica.

**Sweetspring series**

The Sweetspring series consists of very deep, well drained soils that formed in mixed alluvium. Sweetspring soils are on fan remnants. Slopes range from 2 to 8 percent.

The mean annual precipitation is about 4 inches and the mean annual temperature is about 73 degrees F.

**Taxonomic class:** Sandy-skeletal, mixed, hyperthermic Petronodic Calcicgids

**Typical pedon:** Sweetspring extremely gravelly loam, rangeland and wildlife habitat in an area of map unit 200. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 85 percent pebbles.

A—0 to 1 inch; light yellowish brown (10YR 6/4) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; strong thick platy structure; slightly hard, very friable, slightly sticky and moderately plastic; common fine roots; many fine and very fine vesicular pores; 70 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

Bt—1 to 4 inches; reddish yellow (7.5YR 6/6) extremely gravelly loam, brown (7.5YR 4/4) moist; moderate very coarse prismatic parting to common moderate subangular blocky structure; slightly hard, very friable, slightly sticky and moderately plastic; common very fine and few fine roots; many very fine interstitial and common very fine tubular pores; common, distinct, thin continuous clay films on all faces of peds and lining pores; 50 percent pebbles and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bkq1—4 to 7 inches; light reddish yellow (7.5YR 6/6) extremely gravelly sandy loam, brown (7.5YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic;

common very fine and few fine roots; common very fine and fine interstitial pores; 15 percent fine calcium carbonate coats on bottoms and sides of rock fragments; few (1 percent) distinct silica coats on the undersides of rock fragments; 60 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bkq2—7 to 17 inches; light brown (7.5YR 6/4) extremely gravelly sandy loam, brown (7.5YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 55 percent fine calcium carbonate coats on the bottom of rock fragments; few (2 percent) distinct silica coats on the bottom of rock fragments; 65 percent pebbles and 10 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

2Bkq3—17 to 22 inches; light yellowish brown (10YR 6/4) stratified extremely gravelly coarse sand and very gravelly loamy sand, dark yellowish brown (10YR 4/4) moist; massive; moderately hard, firm, nonsticky and nonplastic; few very fine roots; common very fine interstitial and few fine and medium tubular pores; 80 percent medium calcium carbonate coats on the bottom of rock fragments; 25 percent soft masses and filaments; few (3 percent) fine (1 to 2 millimeter) silica coats on the bottom of rock fragments; many (35 percent) medium (2 to 5 millimeter) weakly cemented calcium carbonate lenses; 80 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary

2Bkq4—22 to 62 inches; pale brown (10YR 6/3) stratified extremely gravelly sand and extremely gravelly loamy sand, brown (10YR 4/3) moist; massive; moderately hard, firm, nonsticky and nonplastic; few very fine roots; common very fine interstitial and few fine and medium tubular pores; 80 percent medium calcium carbonate coats on the bottom of rock fragments; common (25 percent) soft masses and filaments; few (3 percent) fine (1 to 2 millimeter) silica coats on the bottom of rock fragments; many (35 percent) medium (2 to 5 millimeter) weakly cemented calcium carbonate lenses; 80 percent pebbles and 5 percent cobbles; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary

**Type location:** Clark County, Nevada; south of the road that turns west off the Gold Butte Scenic Byway for river access, about 2 miles south of Juanita Springs Ranch; about 1,245 feet south and 178 feet west of the northeast corner of section 20, T.14 S., R.69 E.; on the Overton S.E., NV 7.5 minute topographic quadrangle; 36 degrees, 37 minutes, 10 seconds north latitude and 114 degrees, 17 minutes, 37 seconds west longitude; UTM 11, 742018e, 4056089n, NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to base of the argillic horizon:* 4 to 7 inches.

*Depth to calcic horizon:* 4 to 7 inches.

*Reaction:* Moderately alkaline or strongly alkaline.

*Control section:*

Clay content—Averages 8 to 15 percent.

Rock fragments—50 to 85 percent.

**A horizon:**

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4.

**Bt horizon:**

Hue—5YR, 10YR or 7.5YR.  
 Value—5 or 6 dry, 4 or 5 moist.  
 Chroma—4 through 6.  
 Texture—Sandy clay loam, loam or very fine sandy loam.  
 Clay content—15 to 27 percent.  
 Rock fragments—50 to 70 percent pebbles.  
 Calcium carbonate equivalent—5 to 10 percent.

**Bkq horizons:**

Hue—5YR or 7.5YR.  
 Value—5 or 6 dry, 4 or 5 moist.  
 Chroma—4 through 6.  
 Texture—Fine sandy loam or sandy loam.  
 Clay content—5 to 12 percent.  
 Rock fragments—35 to 80 percent pebbles and minor amounts of cobbles.  
 Calcium carbonate equivalent—10 to 25 percent.

**2Bkq horizons:**

Hue—5YR, 7.5YR or 10YR.  
 Value—5 through 7 dry, 4 or 5 moist.  
 Texture of fine earth—Stratified loamy fine sand through coarse sand.  
 Clay content—1 to 5  
 Rock fragments—60 to 85 percent mainly pebbles.  
 Consistence—Hard or very hard.  
 Calcium carbonate equivalent—10 to 25 percent.  
 Other features—20 to 50 percent of the horizons have weakly to moderately calcium carbonate-cemented lenses of with minor amounts of silica. Some pedons contain very few, fine gypsum segregations.

**Tanazza series**

The Tanazza series consists of very deep, well drained soils that formed in lacustrine sediments. The Tanazza soils are on lake terraces. Slopes are 2 to 8 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 62 degrees F.

**Taxonomic class:** Fine-silty, gypsic, thermic Typic Calcigypsid

**Typical pedon:** Tanazza fine sandy loam, rangeland and wildlife habitat in the adjoining Nye County, Nevada, Southwest Part soil survey. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 30 percent pan fragments.

A—0 to 2 inches; very pale brown (10YR 7/3) fine sandy loam, yellowish brown (10YR 5/4) moist; moderate medium platy structure; slightly hard, very friable, nonsticky and slightly plastic; common fine vesicular pores; 13 percent petrocalcic fragments; strongly effervescent (25 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt smooth boundary.

Bk1—2 to 4 inches; pale brown (10YR 6/3) fine sandy loam, yellowish brown (10YR 5/4) moist; weak medium prismatic structure; soft, very friable, nonsticky and nonplastic; few fine roots; many fine interstitial pores; violently effervescent (35

- percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt smooth boundary.
- Bk2—4 to 15 inches; pale brown (10YR 6/3) silt loam, yellowish brown (10YR 5/4) moist; weak coarse prismatic structure; slightly hard, friable, moderately sticky and slightly plastic; common medium and fine roots; many fine interstitial pores; calcium carbonate is disseminated and common medium very pale brown (10YR 8/2) masses; violently effervescent (50 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6); clear smooth boundary.
- 2Bky1—15 to 26 inches; very pale brown (10YR 8/3) silty clay loam, very pale brown (10YR 7/3) moist; weak coarse prismatic structure; hard, friable, very sticky and moderately plastic; few fine and medium roots; few fine tubular pores; 5 percent gypsum crystals, violently effervescent (75 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.8); clear smooth boundary.
- 2Bky2—26 to 31 inches; very pale brown (10YR 7/4) gypsiferous silty clay loam, very pale brown (10YR 7/4) moist; weak coarse prismatic structure; hard, friable, very sticky and moderately plastic; few fine roots; few fine tubular pores; 25 percent gypsum crystals; violently effervescent (65 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt smooth boundary.
- 2Bky3—31 to 37 inches; pale brown (10YR 6/3) gypsiferous material, yellowish brown (10YR 5/4) moist; massive; slightly hard; firm, moderately sticky and moderately plastic; few fine roots; common fine tubular pores; Texture of the fine earth material is clay loam; 50 percent large honeycomb gypsum masses; few white (10YR 8/1) calcium carbonate masses; slightly effervescent matrix and strongly effervescent calcium carbonate masses (15 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6); abrupt smooth boundary.
- 2Bky4—37 to 45 inches; very pale brown (10YR 8/2) silty clay loam, pale brown (10YR 6/3) moist; massive; hard, friable, moderately sticky and moderately plastic; few fine roots; few fine tubular pores; 10 percent gypsum crystals; violently effervescent (70 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.8) abrupt smooth boundary.
- 2Bky5—45 to 61 inches; light brownish gray (10YR 6/2) gypsiferous material, yellowish brown (10YR 5/4) moist; massive; matrix is slightly hard, friable, moderately sticky and moderately plastic; few fine roots; few fine tubular pores; Texture of the fine earth material is silty clay loam; 75 percent large honeycomb gypsum masses; noneffervescent; common small slightly effervescent patches (15 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6).

**Type location:** Nye County, Nevada; approximately 5 miles southwest of Pahrump, about 700 feet south and 2,300 feet east of the northeast corner of section 8, T.21, S., R.53 E.; USGS Sixmile Spring, NV 7.5 minute topographic quadrangle; 36 degrees, 08 minutes, 40 seconds north latitude and 116 degrees, 02 minutes, 11 seconds west longitude; UTM 11, 586689e, 4000401n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry; the upper part of the soil moisture control section is moist for a short time in late winter and late summer for 10 to 20 days following summer convection storms; Typic Aridic moisture regime.

*Soil temperature:* 62 to 67 degrees F.

*Depth to calcic horizon:* 2 to 6 inches.

*Depth to gypsic horizon:* 14 to 30 inches.

*Control section:*

Clay content—25 to 35 percent by weighted average.

Texture—Silty clay loam, silt loam and clay loam with less than 15 percent fine sand or coarser.

**A horizon:**

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4 dry or moist.

Calcium carbonate equivalent—15 to 30 percent.

Reaction—Moderately alkaline or strongly alkaline.

**Bk1 horizon:**

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 5 or 6 moist.

Chroma—3 or 4.

Texture—Fine sandy loam or very fine sandy loam.

Clay content—8 to 18 percent.

Calcium carbonate equivalent—30 to 60 percent.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Moderately alkaline or strongly alkaline.

**Bk2 horizon:**

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 5 or 6 moist.

Chroma—3 or 4.

Clay content—18 to 27 percent.

Calcium carbonate equivalent—40 to 80 percent.

Reaction—Moderately alkaline or strongly alkaline.

**2Bky1, 2Bky2 or 2Bky3 horizons:**

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 5 through 7 moist.

Chroma—2 through 4 dry, 3 or 4 moist.

Texture—Silt loam, clay loam or silty clay loam.

Clay content—25 to 35 percent.

Structure—Massive or prismatic.

Consistence—Slightly hard or hard, friable or firm, moderately sticky to very sticky.

Calcium carbonate equivalent—40 to 80 percent.

Gypsum content—5 to 30 percent.

Reaction—Moderately alkaline or strongly alkaline.

**2Bky4 or 2Bky5 horizons:**

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 5 through 7 moist.

Chroma—2 through 4 dry, 3 or 4 moist.

Calcium carbonate equivalent—5 to 20 percent.

Gypsum content—40 to 80 percent.

Effervescence—Noneffervescent or slightly effervescent in the matrix.

Reaction—Moderately alkaline or strongly alkaline.

## Teebar series

The Teebar series consists of very shallow to a petrocalcic horizon, somewhat excessively drained soils that formed in alluvium derived from limestone and dolomite. Teebar soils are on fan remnants. Slopes range from 0 to 15 percent. The mean annual precipitation is about 4 inches and the mean annual temperature is about 73 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, hyperthermic, shallow Typic Petrocalcids

**Typical pedon:** Teebar very cobbly fine sandy loam, rangeland and wildlife habitat in an area of map unit 335. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 30 percent pebbles and 25 percent cobbles.

A—0 to 2 inches; pale brown (10YR 6/3) very cobbly fine sandy loam, yellowish brown (10YR 5/4) moist; moderate medium platy structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine vesicular pores; 30 percent pebbles and 25 percent cobbles; moderately alkaline (pH 8.4); violently effervescent; abrupt wavy boundary.

Bk—2 to 7 inches; very pale brown (10YR 7/3) very gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine and few fine roots; common very fine tubular pores; 50 percent pebbles; 3 percent fine soft calcium carbonate masses; moderately alkaline (pH 8.4); violently effervescent; abrupt wavy boundary.

Bkm—7 to 72 inches; indurated petrocalcic horizon; massive; very rigid; brittle; a cap of laminar carbonate about 5 millimeters thick is present.

**Type location:** Clark County, Nevada; about 46 miles south of Mesquite on Temple Mesa in the Lake Mead National Recreation Area; in a unsectionized township about 1,330 feet south and 1,020 feet west of the northwest corner of section 11, T.22 S., R.69 E.; USGS The Temple, (NV, AZ) 7.5 minute topographic quadrangle; 36 degrees, 2 minutes, 20 seconds north latitude and 114 degrees, 15 minutes, 29 seconds west longitude; UTM 11, 747032e, 3991741n; NAD83.

### Range in Characteristics:

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime. Has an aridic soil moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to petrocalcic horizon:* 4 to 10 inches.

*Control section:*

Clay content—6 to 15 percent.

Rock fragments—40 to 60 percent.

Calcium carbonate equivalent in the less than 20 millimeter fraction—40 to 70 percent.

### A horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 moist.

Calcium carbonate equivalent in the fine earth fraction—20 to 30 percent.

**Bk horizon:**

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 4 or 5 moist.

Texture—Fine sandy loam or sandy loam.

Structure—Subangular blocky or massive.

Consistence—Soft or slightly hard.

Calcium carbonate equivalent in the fine earth fraction—30 to 50 percent.

Other features—Less than 5 percent identifiable secondary carbonates.

**Tenwell series**

The Tenwell series consists of moderately deep to a duripan, well drained soils that formed in alluvium from mixed rock sources. Tenwell soils are on fan remnants.

Slopes are 2 to 8 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 60 degrees F.

**Taxonomic class:** Fine-loamy, mixed, superactive, thermic Typic Argidurids

**Typical pedon:** Tenwell very gravelly loamy coarse sand, rangeland and wildlife habitat in an area of map unit 170. (Colors are for dry soil unless otherwise noted.)  
The soil surface is partially covered with approximately 50 percent pebbles.

A1—0 to 1 inch; pale brown (10YR 6/3) very gravelly loamy coarse sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; many very fine and fine interstitial pores; 50 percent pebbles; strongly effervescent; moderately alkaline (pH 8.4); abrupt smooth boundary.

A2—1 to 4 inches; pale brown (10YR 6/3) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium platy structure; soft, very friable, slightly sticky and nonplastic; few very fine roots; common very fine and fine vesicular pores; 20 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Bt—4 to 9 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine interstitial, common fine and medium tubular pores; common distinct clay films on faces of peds; 10 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Btk—9 to 22 inches; strong brown (7.5YR 4/6) gravelly sandy clay loam, strong brown (7.5YR 4/6) moist; moderate medium prismatic structure; hard, firm, sticky and slightly plastic; common distinct clay films on faces of peds and lining pores; common very fine and fine calcium carbonate filaments; 30 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

Bqkm—22 to 60 inches; very pale brown (10YR 8/2) indurated duripan, pale brown (10YR 6/3) moist; 1 to 2 millimeter thick discontinuous laminar cap.

**Type location:** Clark County, Nevada; about 5.5 miles south southwest of Searchlight, Nevada, located in the north end of Piute Valley; approximately 1,200 feet west and 1,400 feet south of the northeast corner of the section 33, T.29 S., R.63 E.; 35 degrees, 22 minutes, 52 seconds north latitude and 114 degrees, 56 minutes, 35 seconds west longitude; USGS Searchlight, NV 7.5 minute topographical quadrangle; UTM 11, 686828e, 3917239n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July to October following convection storms.

*Soil temperature:* 59 to 65 degrees F.

*Depth to duripan:* 20 to 35 inches.

*Control section:*

Percent clay—Averages 18 to 30 percent.

Rock fragments—Averages 15 to 30 percent, mainly pebbles

**A horizon:**

Value—5 or 6 dry, 2 through 4 moist.

Chroma—3 or 4.

**Bt horizon:**

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 4 moist.

Clay content—12 to 18 percent.

Rock fragments—10 to 20 percent, mainly pebbles.

**Btk horizon:**

Value—4 or 5 dry, 4 moist.

Chroma—4 through 6.

Clay content—20 to 30 percent.

Rock fragments—15 to 30 percent, mainly pebbles.

Structure—Prismatic or subangular blocky.

**Thesisters series**

The Thesisters series consists of very shallow and shallow, somewhat excessively drained soils that formed in residuum and colluvium from limestone and dolomite. Thesisters soils are on south facing back slopes of mountains. Slopes range from 30 to 75 percent. The mean annual precipitation is about 16 inches and the mean annual air temperature is about 42 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, frigid Aridic Lithic Haplustolls

**Typical pedon:** Thesisters extremely gravelly silt loam, forestland and wildlife habitat in an area of map unit 905. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 80 percent gravel and 3 percent cobbles.

A—0 to 1 inches, (0 to 3 cm); brown (10YR 5/3) extremely gravelly silt loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; common very fine roots throughout; common fine tubular and few medium tubular and many very fine tubular pores; 75 percent pebbles and 3 percent cobbles; strongly effervescence (20 percent calcium carbonate equivalence in the fine earth fraction); moderately alkaline (pH 8.0); abrupt smooth boundary.

Bk—1 to 6 inches, (3 to 15 cm); brown (10YR 4/3) very gravelly silt loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; few fine to coarse roots throughout and many very fine roots throughout; common fine tubular and many very fine

tubular pores; 10 percent distinct very pale brown (10YR 8/2) calcium carbonate coats on bottoms of rock fragments and 35 percent distinct very dark brown (10YR 2/2) organic stains on rock fragments; 25 percent distinct light yellowish brown (10YR 6/4) coats of oxidized iron around rock fragments; 50 percent pebbles and 1 percent cobbles; slightly effervescence (80 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.0); very abrupt wavy boundary. R—6 to 10 inches, (15 to 25 cm); gray (10YR 6/1) limestone bedrock, dark gray (10YR 4/1) moist; common very fine and fine roots in cracks and common medium roots in cracks; slightly effervescence.

**Type location:** Clark County, Nevada; about 9.7 miles north and 31.5 miles west of Las Vegas, Nevada; approximately 3.1 miles north of Charleston Peak, located in Scout Canyon off of Lee Canyon in the Spring Mountains; sectionalized area 200 feet south and 600 feet west of the northeast corner of section 9, T.19 S., R.56 E.; USGS Charleston Peak, Nevada 7.5 minute quadrangle; 36 degrees, 19 minutes, 03.4 seconds north latitude and 115 degrees, 41 minutes, 49.7 seconds west longitude; UTM 11, 616956e 4019963n; NAD83.

**Range in Characteristics:**

*Soil moisture:* moist in late winter and spring, and periodically moist in the upper part following summer convection storms; ustic soil moisture regime bordering on aridic.

*Soil temperature:* 42 to 47 degrees F.

*Depth to lithic contact:* 4 to 20 inches.

*Control section:*

Rock fragments—Averages 35 to 70 percent, mainly gravel.

Clay content—12 to 20 percent.

Calcium carbonate equivalent of the less than 20 millimeter fraction—Averages 40 to 80 percent.

**A horizon:**

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 through 3.

Clay content—7 to 15 percent.

Structure—Weak or moderate.

Consistence—Soft through moderately hard, nonsticky or slightly sticky and nonplastic or slightly plastic.

Organic matter—2 to 5 percent.

Effervescence—Strongly effervescent or violently effervescent.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate equivalent in the fine earth fraction—10 to 30 percent.

**Bk horizon:**

Value—2 or 4 dry, 2 or 3 moist.

Chroma—1 through 3.

Texture—Silt loam or loam.

Structure—Weak through strong, fine or medium.

Consistence—Soft through moderately hard, nonsticky or slightly sticky and nonplastic or slightly plastic.

Rock fragments—35 to 70 percent, mainly gravel.

Organic matter—1.0 to 2.0 percent.

Effervescence—Slightly effervescent or strongly effervescent.

Reaction—Slightly alkaline or moderately alkaline.

Calcium carbonate equivalent in the fine earth fraction—60 to 80 percent.

### Threelakes series

The Threelakes series consists of very deep, well drained soils that formed in mixed alluvium mainly from limestone. Threelakes soils are on fan aprons. Slopes range from 2 to 8 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic Typic Torriorthents

**Typical pedon:** Threelakes extremely gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 581. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 80 percent pebbles and 5 percent cobbles.

- A—0 to 3 inches; pale brown (10YR 6/3) extremely gravelly fine sandy loam, brown (10YR 5/3) moist; moderate medium subangular blocky structure; soft, very friable, non-sticky and nonplastic; common very fine and few fine roots; common very fine interstitial pores; 70 percent pebbles and 5 percent cobbles; violently effervescent (35 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6); clear smooth boundary.
- C1—3 to 9 inches; pale brown (10YR 6/3) extremely gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine, few fine and medium roots; common very fine interstitial pores; common distinct randomly oriented calcium carbonate coats on rock fragments; 65 percent pebbles and 2 percent cobbles; violently effervescent (40 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6); clear wavy boundary.
- C2—9 to 31 inches; pale brown (10YR 6/3) extremely gravelly fine sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; common very fine interstitial pores; common distinct randomly oriented calcium carbonate coats on rock fragments; 65 percent pebbles and 5 percent cobbles; 5 percent thin discontinuous lenses of extremely gravelly loamy coarse sand; violently effervescent (45 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 9.0); clear wavy boundary.
- Cn—31 to 60 inches; pale brown (10YR 6/3) stratified extremely gravelly fine sandy loam to extremely gravelly loamy coarse sand, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; common and many very fine and few fine and medium interstitial pores; common distinct randomly oriented calcium carbonate coats on rock fragments; 65 percent pebbles and 3 percent cobbles; violently effervescent (45 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 9.0).

**Type location:** Clark County, Nevada; approximately 1 1/2 miles northwest of Cold Creek turn off from Highway 95 on the southwest side of the power line road in the south end of Three Lakes Valley; about 2,190 feet south and 2,250 feet east of the northeast corner of section 29, T.16 S., R.57 E.; 36 degrees, 31 minutes, 54 seconds north latitude and 115 degrees, 34 minutes, 17 seconds west longitude; UTM 11, 627892e, 4043869n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following summer convection storms. Typic aridic moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Control section:*

Percent clay—6 to 15 percent.

Rock fragments—60 to 75 percent, mainly gravel, with 0 to 10 percent cobbles and stones.

**A horizon:**

Value—6 or 7 dry.

Chroma—3 or 4 dry and moist.

Calcium carbonate equivalent in the fine earth fraction—25 to 50 percent.

**C horizons:**

Value—6 or 7 dry, 4 or 5 moist.

Texture—Fine sandy loam or sandy loam.

Calcium carbonate equivalent in the fine earth fraction—30 to 50 percent.

SAR—1 to 12.

Other features—Some pedons have thin strata of extremely gravelly loamy coarse sand.

**Cn horizon:**

Value—6 or 7 dry, 5 or 6 moist.

Chroma—3 or 4 dry or moist.

Texture—Stratified fine sandy loam to loamy coarse sand; averages sandy loam or fine sandy loam when mixed.

Clay content—Averages 6 to 15 percent, ranges from 4 to 15 percent.

Reaction—Strongly alkaline or very strongly alkaline.

Calcium carbonate equivalent in the fine earth fraction—30 to 50 percent.

SAR—13 to 45.

Electrical conductivity—2 to 8 dS/m.

**Tipnat series**

The Tipnat series consists of very deep, well drained soils that formed in mixed alluvium. The Tipnat soils are on alluvial flats. Slopes range from 0 to 4 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 66 degrees F.

**Taxonomic class:** Fine-loamy, mixed, superactive, thermic Typic Natrargids

**Typical pedon:** Tipnat loamy sand, rangeland and wildlife habitat in an area of map unit 390. (Colors are for dry soils unless otherwise noted.) The soil surface is covered by approximately 25 percent pebbles.

A1—0 to 1 inch; pale brown (10YR 6/3) loamy sand, brown (10YR 4/3) moist; strong medium and thick platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots, many very fine and fine vesicular pores; 10 percent pebbles; slightly effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

- A2—1 to 3 inches; light yellowish brown (10YR 6/4) loamy sand, brown (7.5YR 5/3) moist; moderate thin and medium platy structure; soft, very friable, nonsticky and nonplastic; common very fine roots; many very fine interstitial and common very fine tubular pores; 10 percent pebbles; strongly effervescent (6 percent calcium carbonate in the fine earth fraction); strongly alkaline (pH 8.6); clear wavy boundary.
- 2Btnk—3 to 13 inches; light brown (7.5YR 6/4) sandy clay loam, brown (7.5YR 4/4) moist; weak medium and coarse prismatic structure parting to moderate medium and thick platy; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and few fine roots; few very fine tubular pores; common thin clay films on faces of peds and bridging sand grains; few fine and medium segregated soft masses of calcium carbonate; common distinct calcium carbonate coats on rock fragments; 5 percent pebbles violently effervescent (8 percent calcium carbonate in the fine earth fraction); very strongly alkaline (pH 9.2); clear smooth boundary.
- 3Cky—13 to 60 inches; light brown (7.5YR 6/4) stratified sand to very gravelly sandy clay loam, brown (7.5YR 4/4) moist; massive; soft to hard, very friable, nonsticky to moderately sticky and nonplastic to moderately plastic; common very fine and few fine roots; common very fine interstitial pores; common medium segregated soft masses of calcium carbonate; common fine and medium soft masses of gypsum in the lower portion of the horizon; common distinct calcium carbonate coats on rock fragments; averages 10 percent pebbles; violently effervescent (6 percent calcium carbonate in the fine earth fraction); strongly alkaline (pH 8.6); abrupt wavy boundary.

**Type location:** Clark County, Nevada; about 6 miles southwest of Boulder City, NV, located in the north end of Eldorado Valley; approximately 2,800 feet north and 2,720 feet west of the southeast corner of section 2, T.24 S., R.63 E.; USGS Boulder City NW, NV 7.5 minute topographic quadrangle; 35 degrees, 53 minutes, 18 seconds north latitude, 114 degrees, 54 minutes, 40 seconds west longitude; UTM 11, 688544e, 3973579n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following summer convection storms. Typic aridic moisture regime.

*Soil temperature:* 66 to 71 degrees F.

*Depth to base of natric horizon:* 10 to 20 inches

*Control section:*

Percent clay—20 to 30 percent.

Rock fragments—0 to 15 percent gravel.

**A horizon:**

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

**2Btnk horizon:**

Hue—7.5YR or 10YR.

Value—4 through 7 dry, 3 or 4 moist.

Chroma—3 through 6, dry or moist.

Texture—Sandy clay loam, loam or clay loam.

Salinity—4 to 8 mmhos/cm.

SAR—13 to 45  
Gypsum—0 to 3 percent.

**3Cky horizon:**

Hue—7.5YR, 10YR or 5YR.  
Value—5 through 7 dry, 3 through 5 moist.  
Chroma—3 or 4, dry or moist.  
Texture—Stratified sand to very gravelly sandy clay loam.  
Clay content—Average 6 to 18 percent.  
Rock fragments—Averages 0 to 15 percent.  
Structure—Massive or subangular blocky.  
Gypsum—1 to 5 percent.

**Tonopah series**

The Tonopah series consists of very deep, excessively to well drained soils that formed in mixed alluvium. Tonopah soils are on fan remnants and fan piedmonts. Slopes range from 2 to 8 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 65 degrees F.

**Taxonomic class:** Sandy-skeletal, mixed, thermic Typic Haplocalcids

**Typical pedon:** Tonopah extremely gravelly sandy loam, rangeland in map unit 380. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles.

- A1—0 to 1 inch; brown (10YR 5/3) extremely gravelly sandy loam, dark brown (10YR 4/3) moist; weak medium platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine and fine tubular pores; 70 percent pebbles; slightly effervescent (5 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); abrupt smooth boundary.
- A2—1 to 8 inches; pale brown (10YR 6/3) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common fine and medium, many very fine, and few coarse roots; common very fine and fine tubular pores; 50 percent pebbles; slightly effervescent (5 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.
- A3—8 to 18 inches; pale brown (10YR 6/3) very gravelly sandy loam, dark brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine to medium roots; common very fine and fine tubular pores; 5 percent calcium carbonate equivalent in the fine earth fraction; 55 percent pebbles; strongly effervescent (5 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6); clear wavy boundary.
- Bk1—18 to 26 inches; very pale brown (10YR 7/3) very gravelly loamy sand, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine roots; common very fine and fine tubular pores; 10 percent calcium carbonate equivalent in the fine earth fraction; many fine calcium carbonate filaments; common fine calcium carbonate coats on underside of rock fragments; 40 percent pebbles; violently effervescent (10 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6); clear wavy boundary.

Bk2—26 to 60 inches; pale brown (10YR 6/3) extremely gravelly sand, dark yellowish brown (10YR 3/4) moist; single grain; loose, nonsticky and nonplastic; common very fine roots; many very fine interstitial pores; common fine calcium carbonate coats on underside of rock fragments; 65 percent pebbles; strongly effervescent (5 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6).

**Type location:** Clark County, Nevada; approximately 1.5 miles southeast of the Nelson turnoff from Highway 95 located in the northeast end of Eldorado Valley; about 1,380 feet east and 2,460 feet south of the northwest corner of section 35, T.24 S., R.63 E.; USGS Boulder City SW, NV 7.5 minute topographic quadrangle; 35 degrees, 48 minutes, 57 seconds latitude and 114 degrees, 54 minutes, 56 seconds longitude; UTM 11, 688316e, 3965528n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 63 to 71 degrees F.

*Depth to the calcic horizon:* 18 to 30 inches.

*Reaction:* Slightly alkaline to strongly alkaline.

*Control section:*

Texture of fine earth—Stratified, but averages sand or loamy sand.

Clay content—Average 2 to 10 percent.

Rock fragments—Averages 50 to 85 percent. Pebbles average 40 to 65 percent, cobbles average 0 to 25 percent.

**A horizons:**

Hue—7.5YR or 10YR.

Value—5 through 7 dry, 4 through 6 moist.

Chroma—2 through 4.

Calcium carbonate equivalent in the fine earth fraction—1 to 15 percent.

**Bk horizons:**

Hue—7.5YR or 10YR.

Value—6 through 8 dry, 3 through 7 moist.

Chroma—2 through 4, dry or moist.

Calcium carbonate equivalent in the fine earth fraction—10 to 40 percent.

Other features—Bk subhorizons have 5 to 15 percent secondary calcium carbonate and coats on rock fragments and/or filaments or masses.

**Torriorthents**

Torriorthents consist of shallow to moderately deep, well to somewhat excessively drained soils on hills. They formed in colluvium and eolian materials from sedimentary and igneous rocks. Slopes range from 10 to 40 percent. The mean annual temperature is about 59 to 70 degrees F., the mean annual precipitation is about 6 to 9 inches, and the frost-free period is about 270 days.

**Taxonomic class:** Torriorthents

**Reference pedon:** Torriorthents extremely gravelly very fine sandy loam, rangeland and wildlife habitat, in an area of map unit 981. Depth and texture may vary widely from the depth and textures shown in the reference pedon. (Colors are for dry soil unless otherwise noted.) The soil surface is partly covered with 55 percent gravel, 15 percent cobbles and 5 percent stones.

A—0 to 3 inches: pale brown (10YR 6/3) extremely gravelly very fine sandy loam, brown (10YR 4/3) moist; weak thin platy structure; soft, very friable, slightly sticky, slightly plastic; few very fine roots, common very fine and fine vesicular pores; 70 percent gravel, 5 percent cobbles, 1 percent stones; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bk—3 to 14 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, slightly sticky, slightly plastic; few very fine roots, common very fine and fine vesicular pores; 75 percent gravel, 5 percent cobbles; few faint calcium carbonate and silica pendants on the bottoms of rock fragments; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Cr—14 to 24 inches; soft bedrock.

**Type location:** Clark County, Nevada, about 500 meters west of the Arizona state line; 36 degrees, 21 minutes, 38 seconds north latitude and 114 degrees 3 minutes, 11 seconds west longitude; NAD83; Azure Ridge quadrangle.

**Range in Characteristics:**

*Depth to bedrock:* 10 to 40 inches.

*Control section:*

Clay content—10 to 20 percent.

Rock fragments—60 to 85 percent.

**A horizon:**

Hue—10YR or 7.5YR.

**Bk or C horizons:**

Hue—10YR or 7.5YR

Value—6 to 8 dry, 4 or 5 moist.

Chroma—3 or 4.

Texture—Mostly sandy loam, but ranges from loamy sand to sandy clay loam in some pedons.

Rock fragments—Typically 60 to 85 percent. Deeper pedons have decreasing rock fragments with depth in some pedons.

**Traley series**

The Traley series consists of deep, well drained soils that formed in colluvium derived from limestone and dolomite. Traley soils are on mountains. Slopes range from 30 to 50 percent. The mean annual precipitation is about 15 inches and the mean annual temperature is about 52 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic Calcic Argiustolls

**Typical pedon:** Traley very gravelly loam, forestland and wildlife habitat in an area of map unit 352. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 50 percent pebbles and 2 percent cobbles.

A1—0 to 2 inches; brown (10YR 4/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; common very fine and fine tubular pores; 50 percent pebbles and 2 percent cobbles; slightly alkaline (pH 7.6); clear smooth boundary.

A2—2 to 8 inches; brown (10YR 4/3) very gravelly loam, brown (10YR 5/3) moist; strong medium and coarse subangular blocky structure; moderately hard, friable, slightly sticky and slightly plastic; common very fine and fine tubular pores; 45 percent pebbles; slightly alkaline (pH 7.6); clear smooth boundary.

Btk1—8 to 17 inches; dark yellowish brown (10YR 4/4) gravelly loam, dark yellowish brown (10YR 4/4) moist; strong fine and medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine, fine and medium and few coarse roots; common very fine and few fine tubular pores; common discontinuous distinct colloidal stains on sand grains; many faint clay films lining pores; few fine calcium carbonate coats on bottom of rock fragments; 30 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.

Btk2—17 to 27 inches; dark yellowish brown (10YR 4/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; hard, friable, slightly sticky and slightly plastic; common very fine, fine and medium and few coarse roots; common very fine interstitial and few very fine and fine tubular pores; common discontinuous distinct colloidal stains on sand grains; many faint clay films on faces of peds and lining pores; few medium calcium carbonate coats on bottom of rock fragments; 45 percent pebbles; slightly effervescent; slightly alkaline (pH 7.6); clear wavy boundary.

Bk—27 to 48 inches; very pale brown (10YR 7/3) very gravelly sandy loam, brown (10YR 5/3) moist; massive; hard, firm, slightly sticky and slightly plastic; few very fine, fine and medium roots; common very fine interstitial pores; common calcium carbonate filaments and masses with 5 to 15 percent discontinuous weakly cemented lenses; 45 percent pebbles; violently effervescent; strongly alkaline (pH 8.6).

R—48 inches; hard dolomitic limestone.

**Type location:** Clark County, Nevada; west of Las Vegas in the Red Rock National Conservation Area, along the dirt road that runs between Lovell Canyon and the sandstone bluffs approximately 1/3 mile east of Red Rock Summit; 450 feet east and 970 feet south of the northwest corner of section 18, T.21 S., R.58 E.; USGS La Madre Spring, NV 7.5 minute topographic quadrangle; 36 degrees, 7 minutes, 43 seconds north latitude and 115 degrees, 31 minutes, 37 seconds west longitude; UTM 11, 632551e, 3999218n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer convection storms; aridic soil moisture regime bordering on ustic. The soils have an aridic moisture regime that borders on ustic.

*Soil temperature:* 47 to 54 degrees.

*Mollic epipedon thickness:* 7 to 11 inches.

*Depth to calcic horizon:* 20 to 33 inches.

*Depth to bedrock:* 40 to 60 inches.

*Control section:*

Clay content—18 to 27 percent.

Rock fragments—Averages 35 to 60 percent, mainly gravels.

**A horizon:**

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—1 or 2 percent.

**Btk horizons:**

Hue—10YR or 7.5YR.

Value—4 or 5, dry or moist.

Rock fragments—Averages 35 to 60 percent, ranges from 25 to 60 percent in any one horizon.

Structure—Fine through coarse subangular blocky.

Calcium carbonate equivalent in the fine earth fraction—1 to 5 percent.

Other features—Noneffervescent in the upper part, very slightly or slightly effervescent in the lower part.

**Bk horizon:**

Value—6 or 7 dry, 5 or 6 moist.

Chroma—3 or 4, dry or moist.

Clay content—8 to 18 percent.

Rock fragments—35 to 60 percent.

Identifiable secondary carbonates by volume—5 to 15 percent.

Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.

**Troughspring series**

The Troughspring series consists of moderately deep to a hardpan, well drained soils that formed in alluvium derived from limestone. Troughspring soils are on fan remnants. Slopes range from 4 to 30 percent. The mean annual precipitation is about 15 inches, and the mean annual air temperature is about 48 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, mesic Petrocalcic Paleustolls

**Typical pedon:** Troughspring very gravelly silt loam, forestland and wildlife habitat 715. (Colors are for dry soil unless otherwise noted). The soil surface is covered by approximately 40 percent pebbles, 5 percent cobbles and 2 percent stones.

Oi—0 to 2 inches; slightly decomposed plant material, pinyon pine duff.

A—2 to 9 inches; dark grayish brown (10YR 4/2) very gravelly silt loam, very dark grayish brown (10YR 3/2) moist; strong medium subangular blocky structure; moderately hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common fine tubular and very fine and fine interstitial pores; 40 percent pebbles and 3 percent cobbles; (3 percent calcium carbonate equivalent in the fine earth fraction); slightly alkaline (pH 7.6); clear wavy boundary.

Btk—9 to 14 inches; brown (10YR 5/3) very gravelly silt loam, brown (10YR 4/3) moist; strong medium angular blocky structure; moderately hard, friable, moderately sticky and moderately plastic; common very fine through coarse roots; common very fine and fine tubular and interstitial pores; 3 percent, faint, dark yellowish brown (10YR 4/4), clay films on all faces of peds; common, distinct, very pale brown (10YR 8/2)

calcium carbonate coats on bottom of rock fragments; 52 percent pebbles; strongly effervescent (16 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline, (pH 8.0); clear wavy boundary.

Bk1—14 to 24 inches; pale brown (10YR 6/3) extremely gravelly silt loam, brown (10YR 4/3) moist; moderate medium and coarse subangular blocky structure; moderately hard, friable, moderately sticky and moderately plastic; common very fine, fine and coarse roots; common fine tubular and very fine interstitial pores; 50 percent, distinct, very pale brown (10YR 8/2) calcium carbonate coats on bottom of rock fragments; 55 percent pebbles and 10 percent cobbles; violently effervescent (65 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline, (pH 7.9); clear wavy boundary.

2Bk2—24 to 29 inches; very pale brown (10YR 8/2) 60 percent moderately cemented petrocalcic horizon; massive; hard, very firm, brittle; 40 percent grayish brown (10YR 5/2) extremely gravelly silt loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; slightly sticky and slightly plastic; 40 percent pebbles; violently effervescent (40 percent calcium carbonate equivalent); moderately alkaline, (pH 8.0); abrupt irregular boundary.

2Bkm—29 to 63 inches; very pale brown (10YR 8/2) strongly cemented petrocalcic horizon; massive; extremely hard, extremely firm, brittle; discontinuous lamellae cap; 10 percent lenses of weakly cemented calcium carbonate; 50 percent pebbles; violently effervescent (60 percent calcium carbonate equivalent); moderately alkaline, (pH 8.1).

**Type location:** Clark County, Nevada; On the southwest flank of Willow Peak, approximately 1 mile east of the junction of Wheeler Pass road and the road to Trough Springs; 2,150 feet south and 230 feet west of the northeast corner of section 22, T.18 S., R.55 E.; USGS Wheeler Well, Nevada 7.5 minute quadrangle; 36 degrees, 22 minutes, 24 seconds north latitude and 115 degrees, 46 minutes, 52 seconds west longitude; UTM 11, 609338e 4026048n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer convection storms; aridic soil moisture regime bordering on ustic.

*Soil temperature:* 47 to 52 degrees F.

*Depth to the base of the mollic epipedon:* 8 to 13 inches

*Depth to the calcic horizon:* 5 to 8 inches.

*Depth to the petrocalcic horizon:* 20 to 40 inches.

*Control section:*

Clay content—18 to 27 percent.

Rock fragments—35 to 70 percent.

**Oi horizon:**

Organic matter—40 to 80 percent.

Bulk density—0.3 to 0.5.

**A horizon:**

Value—3 or 4 moist.

Organic matter— 3 to 6 percent.

**Btk horizon:**

Value—4 or 5 dry, 3 or 4 moist.

Chroma—2 or 3 dry or moist.

Clay content—18 to 27 percent  
 Rock fragments—35 to 60 percent mainly gravel.  
 Structure—Subangular or angular blocky.  
 Consistence—Slightly hard or hard.  
 Calcium carbonate equivalent in the fine earth fraction—10 to 25 percent.  
 Organic matter— 2 to 4 percent.

**Bk1 horizon:**

Value—5 or 6 dry, 4 or 5 moist  
 Rock fragments—40 to 70 percent, mainly gravel,  
 Structure—Strong and moderate subangular blocky  
 Consistence—Moderately hard and hard  
 Calcium carbonate equivalent in the fine earth fraction—40 to 80 percent.

**2Bk2 and 2Bkm horizons:**

Consistence—Very hard and hard.  
 Calcium carbonate equivalent in the fine earth fraction—50 to 80 percent.  
 Other features—Moderately cemented through very strongly cemented with some pedons having weakly cemented lenses in the upper portion. Some pedons have 10 to 50 percent discontinuous lenses of very gravelly silt loam in the upper 6 inches of the subhorizon.

**Tumarion series**

The Tumarion series consists of very shallow and shallow, somewhat excessively drained soils that formed in colluvium and residuum from volcanic rock. Tumarion soils are on mesas and plateaus and have slopes of 4 to 15 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 65 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids

**Typical pedon:** Tumarion extremely gravelly loam in a delineation of map unit 255. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 80 percent pebbles, 10 percent cobbles and 3 percent stones.

A—0 to 2 inches; pale brown (10YR 6/3) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate thick platy structure; moderately hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine and few fine tubular pores; 60 percent pebbles, 8 percent cobbles and 2 percent stones; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bkq—2 to 5 inches; pale brown (10YR 6/3) very gravelly loam, dark yellowish brown (10YR 4/4) moist; moderate coarse subangular blocky structure; moderately hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine and few fine tubular pores; many coarse very pale brown (10YR 8/2) calcium carbonate and silica coatings on bottom of rock fragments; 50 percent pebbles, 3 percent cobbles and 1 percent stones; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

2Bkqm—5 to 7 inches; white (10YR 8/1) very strongly cemented duripan with laminar cap, light yellowish brown (10YR6/4) moist; massive; rigid, rigid; strongly effervescent; few fine roots in fractures; abrupt wavy boundary.

3R—7 inches; hard basalt bedrock.

**Type location:** Clark County, Nevada; approximately 3 miles west of Gold Butte; about 1,200 feet east and 220 feet south of the northwest corner of Section 24, T.19 S., R.69 E.; USGS Gold Butte, NV, 7.5 minute topographic quadrangle; 36 degrees 16 minutes 25.8 seconds north latitude and 114 degrees 14 minutes 24.6 seconds west longitude; UTM 11, 747903e 4017857n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Intermittently moist in some part of the soil moisture control section from December through February and for less than 20 days cumulative from July to October. Driest during May and June and has a typical aridic moisture regime.

*Soil temperature:* 61 to 72 degrees F.

Depth to hardpan: 5 to 18 inches.

Depth to bedrock: 7 to 20 inches.

*Control section:*

Clay content—10 to 25 percent.

Rock fragments—35 to 80 percent gravel and cobbles.

**A horizon:**

Hue—7.5YR, 10YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—2, 3 or 4, dry or moist.

**Bkq horizon:**

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—2, 3 or 4, dry or moist.

Texture—Fine sandy loam, sandy loam, or loam.

Structure—Massive or subangular blocky.

Consistence—Slightly hard or moderately hard.

Effervescence—Strongly effervescent or violently effervescent.

Other features—Calcium carbonate coats with some pedons having secondary silica.

**2Bkqm horizon:**

Cementation—Indurated or very strongly cemented.

## Typic Torriorthents

Typic Torriorthents are very deep and well drained soils that formed in alluvium and colluvium from weakly consolidated sedimentary rocks such as mudstone and siltstone. They are on fan remnants and rock pediments. Slopes range from 30 to 50 percent. The mean annual temperature is about 67 degrees F., and the mean annual precipitation is about 5 inches.

**Taxonomic class:** Typic Torriorthents, thermic

**Reference pedon:** Typic Torriorthents very gravelly sandy loam, rangeland and wildlife habitat, located in map unit 241. (Colors are for dry soil unless otherwise noted.) The soil surface is partly covered by 60 percent gravel, 15 percent cobbles and 10 percent stones.

- A—0 to 3 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, brown (10YR 4/3), moist; weak thin platy structure; very friable, soft, slightly sticky, slightly plastic; few very fine roots throughout; many very fine and fine interstitial and common very fine vesicular pores; 1 percent stones, 5 percent cobbles and 45 percent gravel; violently effervescent; moderately alkaline, pH 8.4; clear smooth boundary.
- C1—3 to 5 inches; pale brown (10YR 6/3) gravelly sandy loam, dark yellowish brown (10YR 4/4), moist; weak very fine and fine subangular blocky structure; very friable, soft, slightly sticky, slightly plastic; many very fine and fine roots and few medium roots throughout; common very fine and fine tubular and many very fine and fine interstitial pores; 30 percent gravel; violent effervescence moderately alkaline, pH 8.4; clear smooth boundary.
- C2—5 to 23 inches; light yellowish brown (10YR 6/4) sandy loam, dark yellowish brown (10YR 4/4), moist; weak very fine and fine subangular blocky structure; very friable, soft, slightly sticky, slightly plastic; common very fine and fine roots and few medium roots throughout; common fine tubular and common very fine and fine interstitial pores; 12 percent gravel; slightly effervescent; moderately alkaline, pH 8.4; abrupt wavy boundary.
- C3—23 to 60 inches; light yellowish brown (10YR 6/4) sandy loam, dark yellowish brown (10YR 4/4), moist; weak very fine and fine subangular blocky structure; very friable, soft, slightly sticky, slightly plastic; common very fine and fine roots and few medium roots throughout; common fine tubular and common very fine and fine interstitial pores; 5 percent gravel; very slightly effervescent moderately alkaline; abrupt wavy boundary.

**Type location:** Clark County, Nevada, southwest of Devil's Throat, 36 degrees, 27 minutes, 24.80 seconds north latitude and 114 degrees, 7 minutes, 38.59 seconds west longitude, NAD83; Devils Throat, Nevada, USGS topographic quadrangle.

**Range in Characteristics:**

*Soil moisture:* Usually dry, intermittently moist for brief periods during winter and spring and for 5 to 10 days during July to September following summer thundershowers. Typic aridic soil moisture regime.

*Soil temperature:* 59 to 71 degrees F.

*Control section:*

Clay content—Ranges from 5 to 30 percent.

Texture—Typically stratified, with textures ranging from very fine sand to silty clay loam.

Reaction—Moderately alkaline or strongly alkaline.

**Upperline series**

The Upperline series consists of moderately deep to soft bedrock, well drained soils that formed in alluvium and colluvium from limestone and sandstone over residuum from sandstone and siltstone. Upperline soils are on convex rock pediments. Slopes range from 2 to 50 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 66 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic Typic Haplocalcids

**Typical pedon:** Upperline very gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 168. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 80 percent gravel and 1 percent cobbles.

- A—0 to 2 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; weak very thick platy structure parting to moderate medium subangular blocky; slightly hard, very friable, slightly sticky and nonplastic; common very fine roots; common very fine interstitial pores and few fine and medium tubular pores; electrical conductivity 0.2 dS/m; 40 percent gravel; violently effervescent (18 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.
- Bk1—2 to 12 inches; light brown (7.5YR 6/4) very gravelly sandy loam, strong brown (7.5YR 4/6) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; common very fine and fine, few medium and coarse roots; common very fine and fine tubular pores; electrical conductivity 0.2 dS/m; many thin calcium carbonate coats on bottom of rock fragments; 50 percent gravel; violently effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.
- Bk2—12 to 20 inches; light brown (7.5YR 6/4) extremely gravelly sandy loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; common very fine and few fine and medium roots; common very fine and few fine and medium tubular pores; electrical conductivity 0.2 dS/m; common (5 percent) fine and medium, irregular, slightly hard, calcium carbonate masses in the matrix; many distinct calcium carbonate coats on bottom of rock fragments; 65 percent gravel; violently effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.
- Bk3—20 to 35 inches; light brown (7.5YR 6/4) very gravelly sandy loam, strong brown (7.5YR 4/6) moist; massive; moderately hard, very friable, slightly sticky and nonplastic; few very fine and fine roots; few very fine and fine tubular pores; electrical conductivity 0.4 dS/m; many (35 percent), fine though very coarse, irregular, moderately hard, calcium carbonate masses in the matrix; many distinct calcium carbonate coats on bottom of rock fragments; 40 percent gravel and 15 percent paragravel; violently effervescent (25 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt wavy boundary.
- 2Bk4—35 to 39 inches; light brown (7.5YR 6/4) very paragravelly sandy loam, strong brown (7.5YR 4/6) moist; massive; hard, firm, slightly sticky and nonplastic; few very fine roots; few very fine tubular pores; electrical conductivity 1.2 dS/m; sodium adsorption ratio 2.5; 10 percent fine through coarse, irregular, hard, calcium carbonate masses in the matrix; 40 percent paragravel; violently effervescent (18 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt broken boundary.
- 2Cr—39 to 49 inches; light brown (7.5YR 6/4) weathered very weakly cemented calcareous sandstone and siltstone with thin calcium carbonate cap, strong brown (7.5YR 4/6) moist; very hard, firm.

**Type location:** Clark County, Nevada; about 7 miles east of the Las Vegas Motor Speedway in Las Vegas; approximately 200 feet west of the power line road on the west side of the Gale Hills; 600 feet north and 1,950 feet west of the southeast corner of section 19, T.19 S., R.64 E.; USGS Dry Lake SE, NV, 7.5 minute topographic quadrangle; 36 degrees, 16 minutes, 39 seconds north latitude and 114 degrees, 52 minutes, 22 seconds west longitude; UTM 11, 0691070e 4016837n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for brief periods during winter and early spring and between July and October following convection storms; typical aridic moisture regime.

*Soil temperature:* 66 to 71 degrees F.

*Depth to calcic horizon:* 2 to 10 inches.

*Depth to 2Bk horizon:* 30 to 38 inches.

*Depth to paralithic contact:* 30 to 40 inches.

*Organic matter:* 0 to 0.5 percent.

*Control section:*

Rock fragments—Averages 35 to 65 percent, mainly limestone and sandstone gravel with 0 to 5 percent cobbles and stones.

Clay content—6 to 15 percent.

Calcium carbonate equivalent in the fine earth—15 to 30 percent.

Calcium carbonate equivalent in the less than 20 millimeter fraction—40 to 60 percent.

**A horizon:**

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4 dry, 4 or 6 moist.

Calcium carbonate equivalent in the fine earth fraction—5 to 20 percent.

**Bk horizons:**

Hue—7.5YR or 5YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—4 or 6 dry.

Texture—Sandy loam, coarse sandy loam or fine sandy loam.

Structure—Weak or moderate, medium or coarse.

Consistence—Nonsticky or slightly sticky, and nonplastic or slightly plastic.

Rock fragments—35 to 70 percent, mainly gravel with 0 to 5 percent cobbles and stones.

Other features—5 to 50 percent secondary lime deposits as calcium carbonate masses in the soil matrix or calcium carbonate films on bottoms of rock fragments.

**2Bk horizon:**

Value—4 or 5 moist.

Consistence—nonplastic or slightly plastic.

Rock fragments—25 to 50 percent paragravel, with 0 to 15 percent gravel and 0 to 5 percent cobbles or stones.

**2Cr horizon:**

Cementation—Extremely weakly cemented to moderately cemented soft bedrock.

**Ustidur series**

The Ustidur series consists of very shallow and shallow over duripan, somewhat excessively drained soils that formed in alluvium from metamorphic rock. Ustidur soils are on partial ballenas. Slopes range from 8 to 30 percent. The mean annual precipitation is about 8 inches and the mean annual temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic, shallow Cambidic Haplodurids

**Typical pedon:** Ustidur extremely gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 690. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 75 percent pebbles, 5 percent cobbles and 1 percent stones.

A—0 to 2 inches; pale brown (10YR 6/3) extremely gravelly sandy loam, brown (10YR 4/3) moist; strong medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine and fine vesicular and tubular pores; 65 percent pebbles, 5 percent cobbles and 1 percent stones; violently effervescent (16 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt wavy boundary.

Bkq—2 to 6 inches; pale brown (10YR 6/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine and coarse roots; few very fine and fine tubular pores; many distinct calcium carbonate and silica coats on bottom of rock fragments; 45 percent pebbles; violently effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt wavy boundary.

2Bqk—6 to 19 inches; very pale brown (10YR 7/3) 80 percent discontinuous weakly cemented duripan with discontinuous laminar caps; brown (10YR 5/3) moist; moderate thick and very thick platy structure; hard, firm, nonsticky and nonplastic; common very fine, fine and coarse roots, most roots stop in the upper 4 inches of the layer or following fractures between plates; few very fine and fine interstitial pores; extremely gravelly sandy loam of non-cemented material in fractures; many fine and medium calcium carbonate and silica coats on bottom of rock fragments; 65 percent pebbles, 5 percent cobbles and 2 percent stones; violently effervescent (25 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.2); abrupt smooth boundary.

2Bqkm—19 to 38 inches; very pale brown (10YR 8/2) continuous weakly through strongly cemented duripan, pale brown (10YR 6/3) moist; massive; hard, firm, brittle; 1 to 2 millimeter discontinuous silica laminar cap; violently effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

3Bkq—38 to 60 inches; very pale brown (10YR 7/4) extremely gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine interstitial pores; many fine and medium silica and calcium carbonate coats on bottom of rock fragments and fine calcium carbonate coats on top; many fine and medium filaments and soft masses of calcium carbonate; 60 percent pebbles and 5 percent cobbles; violently effervescent (6 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6).

**Type location:** Clark County, Nevada; approximately 5 miles southeast of McCullough Mountain and 3 miles east of Pine Spring in the northern most end of Piute Valley; about 2,050 feet north and 1,000 feet west of the southeast corner of section 25, T.27 S., R.61 E.; USGS Highland Spring, NV 7.5 minute topographic quadrangle; 35 degrees, 33 minutes, 57 seconds north latitude and 115 degrees, 06 minutes, 06 seconds west longitude; UTM 11, 672034e, 3937451n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part from December to March and intermittently moist for 10 to 20 days during July to October following summer convection storms; aridic moisture regime bordering on ustic.

*Soil temperature:* 59 to 65 degrees F.

*Depth to duripan:* 4 to 14 inches.

*Control section:*

Clay content—8 to 18 percent.

Rock fragments—45 to 75 percent mainly gravel.

**A horizon:**

Chroma—3 or 4.

**Bkq horizon:**

Value—6 or 7 dry.

Reaction—Moderately alkaline or strongly alkaline.

**2Bqk and 2Bqkm horizons:**

Cementation—Weakly through strongly cemented duripan that contains a discontinuous 1 to 2 millimeter laminar cap. Upper horizon is 50 to 90 percent cemented.

**3Bkq horizons:**

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 through 4.

Texture—Sandy loam or loamy sand.

Clay content—4 to 12 percent.

Rock fragments—60 to 80 percent, mainly gravel.

Consistence—Very friable or friable.

Reaction—Moderately alkaline or strongly alkaline.

**Vace series**

The Vace series consists of very shallow and shallow to an indurated hardpan, well drained soils that formed from calcareous loess and mixed alluvium. Vace soils are on fan remnants and ballenas. Slopes range from 2 to 15 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 65 degrees F.

**Taxonomic class:** Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids

**Typical pedon:** Vace gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 481. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles and 5 percent cobbles consisting of petrocalcic fragments.

A—0 to 2 inches; light yellowish brown (10YR 6/4) gravelly fine sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial and vesicular pores; 20 percent pebble size petrocalcic fragments; violently effervescent (25 percent calcium carbonate equivalent of the fine earth fraction); moderately alkaline (pH 8.2); clear wavy boundary.

Bk—2 to 8 inches; light yellowish brown (10YR 6/4) loam, dark yellowish brown (10YR 4/4) moist; weak coarse subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, few fine and medium roots; few very fine and fine tubular pores; few fine soft filaments of calcium carbonate; 5 percent pebble size petrocalcic fragments; violently effervescent (25 percent calcium carbonate equivalent of the fine earth fraction); moderately alkaline (pH 8.4); abrupt wavy boundary.

2Bkqm—8 to 60 inches; very pale brown (10YR 7/3) continuously indurated calcium carbonate and silica cemented petrocalcic horizon, light yellowish brown (10YR 6/4) moist; massive; extremely hard, extremely firm; few fine silica coats on bottom of rock and pan fragments; violently effervescent.

**Type location:** Clark County, Nevada; approximately 5 miles south of Sloan, Nevada and 3/4 miles east of the Erie siding; about 550 feet north and 420 feet west of the southeast corner of section 11, T.24 S., R.60 E.; USGS Hidden Valley, NV 7.5 minute topographic quadrangle; 35 degrees, 52 minutes, 17 seconds north latitude and 115 degrees, 13 minutes, 34 seconds west longitude; UTM 11, 660143e, 3971136n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July to October following summer convection storms. Has a typical aridic moisture regime.

*Soil temperature:* 62 to 71 degrees F.

*Depth to hardpan:* 4 to 14 inches.

*Control section:*

Percent clay—8 to 18 percent.

Rock fragments—Averages 0 to 35 percent, mainly petrocalcic fragments. Some pedons have surface horizons with 35 to 80 percent rock fragments.

Calcium carbonate equivalent of the less than 20 millimeter fraction—20 to 40 percent.

**A horizon:**

Hue—10YR or 7.5YR

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Calcium carbonate equivalent in the fine earth fraction—15 to 30 percent.

Other features—The soil surface is partially covered by desert pavement consisting of gravel or pan fragments in most pedons.

**Bk horizon:**

Hue—10YR or 7.5YR.

Value—6 through 8 dry, 4 through 7 moist.

Chroma—2 through 4 dry or moist.

Texture—Loam or fine sandy loam.

Structure—Medium and coarse subangular blocky or is massive.

Consistence—Soft or slightly hard.

Calcium carbonate equivalent in the fine earth fraction—15 to 30 percent.

Reaction—Moderately alkaline or strongly alkaline.

**2Bkqm horizon:**

Value—7 or 8 dry; 5 through 7 moist.

Chroma—3 or 4, dry or moist.

Structure—Massive or platy.

Other features—More than 75 percent of the pan dissolves in acid. Thin silica coats and discontinuous laminae are in most pedons.

### Valatier series

The Valatier series consists of moderately deep to a duripan, well drained soils that formed in alluvium from gneiss and schist. Valatier soils are on fan remnants. Slopes range from 2 to 8 percent. The mean annual precipitation is about 8 inches and the mean annual air temperature is about 55 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic Typic Argidurids

**Typical pedon:** Valatier extremely gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 415. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 65 percent pebbles, 2 percent cobbles and 2 percent stones.

- A—0 to 2 inches; brown (7.5YR 5/4) extremely gravelly sandy loam, dark brown (7.5YR 3/4) moist; moderate thick platy structure parting to fine subangular blocky; soft, very friable, slightly sticky and nonplastic; common very fine and few fine roots; few very fine and fine tubular pores; 65 percent pebbles, 2 percent cobbles and 2 percent stones; slightly alkaline (pH 7.8); abrupt smooth boundary.
- Bt1—2 to 12 inches; reddish brown (2.5YR 4/4) very gravelly loam, dark reddish brown (2.5YR 3/4) moist; moderate medium and coarse subangular blocky structure; moderately hard, very friable, slightly sticky and moderately plastic; common very fine, fine, medium and few coarse roots; common very fine and few fine tubular pores; 60 percent continuous, distinct, dark reddish brown (2.5YR 3/4) clay films on rock fragments, faces of peds and lining pores; 35 percent pebbles, 3 percent cobbles and 2 percent stones; slightly alkaline (pH 7.8); clear wavy boundary.
- Bt2—12 to 21 inches; red (2.5YR 4/6) very gravelly coarse sandy loam, dark red (2.5YR 3/6) moist; massive; moderately hard, very friable, slightly sticky and nonplastic; common very fine and few fine roots; common very fine tubular pores; 50 percent continuous, distinct, dark reddish brown (2.5YR 3/4) clay films on rock fragments and bridging sand grains; 45 percent pebbles, 3 percent cobbles and 2 percent stones; slightly alkaline (pH 7.6); gradual wavy boundary.
- Bt3—21 to 33 inches; yellowish red (5YR 4/6) very gravelly loamy coarse sand, dark reddish brown (5YR 3/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine and few fine roots; common very fine and few fine interstitial and tubular pores; 10 percent patchy, faint, reddish brown (5YR 4/4) clay films on rock fragments and bridging sand grains; 45 percent pebbles, 3 percent cobbles and 2 percent stones; slightly alkaline (pH 7.4); abrupt wavy boundary.
- 2Bkqm—33 to 60 inches; white (10YR 8/1) stratified very strongly cemented to moderately cemented occurs throughout with indurated 2 to 5 millimeter laminar cap, light gray (10YR 7/2) moist; massive; very rigid to very hard, rigid to extremely firm; violently effervescent.

**Type location:** Clark County, Nevada; about 36 miles south and 9 miles west of Mesquite, Nevada; approximately 1/4 mile west of Bills Spring; 2,240 feet north and 1,350 feet east of the projected southwest corner of section 10, T.19 S., R.70 E.; USGS Gold Butte, NV 7.5 minute topographic quadrangle; 36 degrees, 17 minutes, 44.9 seconds north latitude and 114 degrees, 10 minutes, 04.1 seconds west

longitude; USGS Gold Butte, Nev. 7.5 minute topographic quadrangle; UTM 11, 754334e 4020482n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 56 to 58 degrees F.

*Depth to argillic horizon:* 1 to 3 inches.

*Depth to base of argillic horizon:* 14 to 30 inches.

*Depth to indurated duripan:* 30 to 40 inches.

**Control section:**

Rock fragments—35 to 50 percent, mainly gravel.

Clay content—10 to 18 percent.

**A horizon:**

Value—4 or 5 dry.

Chroma—4 through 6 dry or moist.

Organic matter—0.5 to 1.0 percent.

Consistence—Nonsticky or slightly sticky.

Rock fragments—60 to 75 percent, mainly gravel.

**Bt1 and Bt2 horizons:**

Hue—2.5YR through 7.5YR.

Value—4 or 5 dry, 3 or 4 moist.

Organic matter—0.1 to 0.5 percent.

Texture—Loam, sandy loam or coarse sandy loam.

Structure—Moderate or strong, fine through coarse, subangular blocky through massive.

Consistence—Moderately hard or hard, very friable or friable, nonplastic through moderately plastic.

**Bt3 horizon:**

Hue—5YR through 10YR.

Value—4 or 6 dry, 3 or 4 moist.

Organic matter—0.1 to 0.5 percent.

Texture—Loamy coarse sand and coarse sand.

Consistence—Slightly hard or moderately hard.

Rock fragments—35 to 60 percent, mainly gravel.

Effervescence—Noneffervescent through violently effervescent.

Other features—Some pedons have thin discontinuous layers of sandy loam or coarse sandy loam.

**Bkqm horizon:**

Cementation—Indurated in some part with moderately to very strongly cemented layers throughout.

**Varwash series**

The Varwash series consists of very deep, excessively drained soils that formed in calcareous loess influenced alluvium derived from igneous and metamorphic rock. Varwash soils are on fan remnants. Slopes range from 2 to 15 percent. The mean

annual precipitation is about 4 inches and the mean annual temperature is about 72 degrees F.

**Taxonomic class:** Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids

**Typical pedon:** Varwash extremely gravelly loam, rangeland and wildlife habitat in an area of map unit 740. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 75 percent pebbles, 5 percent cobbles and 5 percent stones.

A—0 to 4 inches; light brown (7.5YR 6/4) extremely gravelly loam, brown (7.5YR 4/4) moist; moderate medium platy structure parting to weak fine subangular blocky; slightly hard, very friable, moderately sticky and slightly plastic; few very fine roots, common very fine and fine vesicular and few fine interstitial pores; 65 percent pebbles, 5 percent cobbles and 5 percent stones; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

Bkq—4 to 13 inches; very pale brown (10YR 7/3) very gravelly sandy loam, pale brown (10YR 6/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine and fine tubular and few fine interstitial pores; 20 percent discontinuous disseminated calcium carbonate masses in the matrix occurring as 1 to 3 inch thick lenses and vertical seams; 5 percent strongly calcium carbonate and silica cemented lenses and pendants on the bottom of rock fragments; 40 percent pebbles and 5 percent cobbles; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

2Bkq—13 to 60 inches; pale brown (10YR 6/3) stratified very gravelly coarse sand and extremely gravelly sand, brown (10YR 5/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; common very fine and fine interstitial pores; 20 percent discontinuous disseminated calcium carbonate masses in the matrix as lenses or vertical seams; 10 percent weak calcium carbonate and silica cemented lenses or pendants on bottom of rock fragments; averages 50 percent pebbles and 15 percent cobbles; violently effervescent; moderately alkaline (pH 8.4).

**Type location:** Clark County, Nevada; approximately 14 miles northeast of Searchlight, Nevada and 2 miles southeast of Opal mountain on the west side of the Colorado River, along Lake Mead National Recreation Area road number 33; about 400 feet north and 220 feet west of the southeast corner of section 25, T.27 S., R.65 E.; USGS Mount Davis, NV 7.5 minute topographic quadrangle; 35 degrees, 33 minutes, 50 seconds north latitude and 114 degrees, 40 minutes, 21 seconds west longitude; UTM 11, 710939e, 3938071n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring and for 10 to 20 days cumulative between July and October following convection storms. The soils have a typic aridic moisture regime.

*Soil temperature:* 72 to 78 degrees F.

*Depth to calcic horizon:* 2 to 7 inches.

*Control section:*

Clay content—Averages 2 to 8 percent.

Rock fragments—Averages 40 to 75 percent.

Calcium carbonate equivalent in the less than 20 millimeter fraction—15 to 25 percent.

**A horizon:**

Hue—7.5YR or 10YR.  
 Value—5 or 6 dry, 4 through 6 moist.  
 Chroma—3 or 4, dry or moist.  
 Reaction—Slightly alkaline or moderately alkaline.

**Bkq horizon:**

Value—6 or 7 dry, 4 through 6 moist.  
 Chroma—3 or 4, dry or moist.  
 Texture—Sandy loam or coarse sandy loam.  
 Clay content—5 to 15 percent.  
 Rock fragments—35 to 60 percent.  
 Structure—Moderate or weak.  
 Reaction—Slightly alkaline or moderately alkaline.  
 Secondary calcium carbonate accumulation—5 to 40 percent discontinuous weak calcium carbonate cementation as lenses and vertical piping, 0 to 15 percent strongly cemented calcium carbonate and silica lenses and pendants.

**2Bkq horizon:**

Value—6 or 7 dry, 4 through 6 moist.  
 Chroma—3 or 4.  
 Texture—Stratified sand and coarse sand.  
 Clay content—2 to 8 percent.  
 Rock fragments—50 to 80 percent, dominantly gravel and cobbles.  
 Structure—Massive or single grain.  
 Gypsum—0 to 5 percent.  
 Reaction—Slightly alkaline or moderately alkaline.  
 Secondary calcium carbonate accumulation—5 to 30 percent discontinuous disseminated calcium carbonate masses as lenses and vertical piping.  
 Other features—Contains 5 to 20 percent calcium carbonate and silica cemented lenses.

**Vegastorm series**

The Vegastorm series consists of very deep, well drained soils that formed in mixed alluvium over lacustrine sediments. Vegastorm soils are on alluvial flats. Slopes range from 0 to 4 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 60 degrees F.

**Taxonomic class:** Coarse-loamy, carbonatic, thermic Petronodic Haplocalcids

**Typical pedon:** Vegastorm gravelly fine sandy loam, rangeland and wildlife habitat in an area of map unit 460. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 30 percent pebbles, consisting of mainly calcium carbonate nodules.

A—0 to 3 inches; pale brown (10YR 6/3) gravelly fine sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium and thick platy structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; few very fine and fine tubular and interstitial pores; 30 percent pebbles; violently effervescent (18 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt smooth boundary.

- Bk1—3 to 12 inches; pale brown (10YR 6/3) gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, nonsticky and slightly plastic; common very fine and few fine, medium and coarse roots; common very fine and few fine interstitial pores; disseminated calcium carbonate throughout; 30 percent pebbles; violently effervescent (35 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt wavy boundary.
- Bk2—12 to 20 inches; pale brown (10YR 6/3) loam, dark yellowish brown (10YR 4/4); massive; soft, very friable, nonsticky and slightly plastic; common very fine and few fine and medium roots; common very fine and few fine and medium tubular pores; disseminated calcium carbonate throughout; 10 percent pebbles; violently effervescent (25 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6); abrupt wavy boundary.
- 2Bk3—20 to 26 inches; pale yellow (5Y 7/3) silt loam, pale olive (5Y 6/3) moist; weak medium prismatic structure parting to moderate medium angular blocky; hard, friable, slightly sticky and slightly plastic; common very fine roots; common very fine and few fine tubular pores; few fine irregular soft masses and soft seams of calcium carbonate; slightly effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 9.0); clear wavy boundary.
- 3Bkq1—26 to 42 inches; pale yellow (5Y 8/2) gravelly sandy loam, light gray (5Y 7/2) moist; moderate medium platy structure; moderately hard, friable, slightly sticky and slightly plastic; few very fine roots; common very fine and few fine interstitial pores; 40 percent weakly cemented, thin, discontinuous lenses; 25 percent contorted calcium carbonate and silica nodules (rigid, rigid, very strongly cemented); violently effervescent (50 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.
- 3Bkq2—42 to 60 inches; pale yellow (5Y 8/2) loam, light gray (5Y 7/2) moist; massive; moderately hard, friable, slightly sticky and slightly plastic; common very fine and few fine interstitial pores; 20 percent weakly cemented thin, discontinuous lenses; 10 percent irregularly-shaped calcium carbonate and silica nodules (rigid, rigid, very strongly cemented); violently effervescent (55 percent calcium carbonate equivalent in the fine earth fraction); strongly alkaline (pH 8.6).

**Type location:** Clark County, Nevada; approximately 4 miles southeast of Hidden Hills Ranch, 1.1 miles southeast of Stump Springs in the southeast end of Pahrump Valley; about 120 feet north and 350 feet west of the southeast corner of section 5, T.23 S., R.55 E.; USGS Stump Spring, NV 7.5 minute topographic quadrangle; 35 degrees, 58 minutes, 14 seconds north latitude and 115 degrees, 48 minutes, 56 seconds west longitude; UTM 11, 606794e, 3981331n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 59 to 65 degrees F.

*Depth to petronodic layer:* 20 to 30 inches.

*Depth to lacustrine sediments:* 15 to 27 inches.

*Control section:*

Percent clay—Averages 10 to 18 percent.

Rock fragments—Averages 10 to 30 percent.

Calcium carbonate equivalent in the less than 20 millimeter fraction—Averages 40 to 60 percent.

**A horizon:**

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4 dry and moist.

Calcium carbonate equivalent in the fine earth fraction—10 to 25 percent.

**Bk horizons:**

Value—6 or 7 dry, 4 or 5 moist.

Clay content—8 to 15 percent.

Rock fragments—Averages 10 to 30 percent, mainly calcium carbonate nodules and pan fragments that are not pedogenic.

Calcium carbonate equivalent in the fine earth fraction—25 to 40 percent.

**2Bk3 horizon:**

Chroma—2 or 3 dry and moist.

Clay content—Averages 10 to 18 percent.

Rock fragments—0 to 15 percent contorted calcium carbonate nodules.

Effervescence—Slightly effervescent or strongly effervescent.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent in the fine earth fraction—15 to 30 percent.

Other features—Some pedons have thin bands of fine sandy loam to clay loam textures with relict mottling. Mottles consist of few or common, fine through large, irregular iron and manganese stains (7.5YR 5/8).

**3Bkq horizons:**

Value—6 or 7 moist.

Chroma—1 through 3 dry and moist.

Texture—Sandy loam, fine sandy loam, or loam.

Clay content—10 to 18 percent.

Rock fragments—20 to 35 percent hard irregularly shaped pedogenic calcium carbonate nodules.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent in the fine earth fraction—40 to 65 percent.

Other features—10 to 40 percent weakly cemented discontinuous calcium carbonate and silica lenses.

**Virgin Peak series**

The Virgin Peak series consists of very shallow, well drained soils that formed in material weathered from gneiss and schist. Virgin Peak soils are on mountains. Slopes range from 30 to 75 percent. The mean annual precipitation is about 16 inches and the mean annual air temperature is about 54 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic, shallow Aridic Haplustolls

**Typical pedon:** Virgin Peak very gravelly loam, forest and wildlife habitat in the adjoining Virgin River Area, Nevada and Arizona, soil survey. (Colors are for dry soil unless otherwise noted.)

A—0 to 7 inches; brown (10YR 5/3) very gravelly loam, dark brown (10YR 3/3) moist; moderate medium granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine and medium roots; many very fine and fine interstitial

pores; 50 percent pebbles and 5 percent cobbles; neutral (pH 7.0); abrupt irregular boundary.

Cr—7 to 14 inches; reddish yellow (7.5YR 6/6) weathered gneiss, strong brown (7.5YR 5/6) moist; massive; very hard, very firm; common very fine and few fine roots in fractures; diffuse smooth boundary.

R—14 to 20 inches, light brownish gray (10YR 6/2) extremely hard gneiss.

**Type location:** Clark County, Nevada, approximately three miles southeast of Keywest Corral on the crest of the Virgin Mountain; about 625 feet north and 670 feet east of the southwest corner of sec.25, T.15 S. R.70 E.; USGS Whitney Pocket, NV 7.5 minute topographic quadrangle; 36 degrees, 35 minutes, 41.8 seconds north latitude, and 114 degrees, 7 minutes, 38.7 seconds west longitude; UTM 11, 756971e, 4053782n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer convection storms; aridic soil moisture regime bordering on ustic.

*Soil temperature:* 53 to 59F.

*Depth to paralithic contact:* 6 to 10 inches

*Depth to bedrock:* 13 to 20 inches.

*Control section:*

Clay content—8 to 18 percent.

Rock fragment—50 to 75 percent rock fragments. Gravel ranges from 40 to 75 percent and stones and cobbles 0 to 15 percent by volume.

Reaction—Neutral or slightly alkaline

**A horizon:**

Hue—10YR or 7.5YR,

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 or 3.

Texture—Loam or fine sandy loam.

**Cr horizon:**

Value—At least one unit higher dry and moist than the overlying A horizon.

Chroma—3 through 6.

**Wechech series**

The Wechech series consists of very shallow and shallow over a petrocalcic, well drained soils that formed alluvium derived from limestone and dolomite. The Wechech soils are on fan remnants. Slopes range from 2 to 30 percent. The mean annual precipitation is about 6 inches and the mean annual air temperature is about 65 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic, shallow Calcic Petrocalcids

**Typical pedon:** Wechech very gravelly sandy loam, rangeland and wildlife habitat in an area of map unit 230. (Colors are for dry soil unless otherwise noted). The soil surface is covered by approximately 40 percent pebbles and 5 percent cobbles.

A—0 to 2 inches; very pale brown (10YR 7/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; strong medium platy structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and fine vesicular pores; 40 percent pebbles and 5 percent cobbles; violently effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

Bk1—2 to 7 inches; light yellowish brown (10YR 6/4) very gravelly sandy loam, dark yellowish brown (10YR 4/6) moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; many very fine and fine interstitial and common fine tubular pores; few fine calcium carbonate coats on the bottom of rock fragments; 35 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

Bk2—7 to 13 inches; light brown (7.5YR 6/4) very gravelly sandy loam, brown (7.5YR 5/4) moist; massive; hard, friable, slightly sticky and nonplastic; common medium and few very fine roots; common very fine and few fine interstitial and few fine and medium tubular pores; common moderately coarse calcium carbonate coats on bottom of rock fragments; 40 percent calcium carbonate as concretions and soft masses; 50 percent pebbles and 5 percent cobbles; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

Bkm—13 to 60 inches; very pale brown (10YR 8/2) indurated petrocalcic hardpan, very pale brown (10YR 7/3) moist; massive; very rigid, brittle; 1/4 inch continuous calcium carbonate laminar cap; alternating indurated and strongly cemented calcium carbonate plates in the lower part; violently effervescent; strongly alkaline (pH 8.8)

**Type location:** Clark County, Nevada; approximately 1.5 miles south of Whitney Pocket along the Gold Butte Road; about 880 feet south and 380 feet west of the northeast corner of section 34, T.16 S., R.70 E.; USGS Whitney Pocket, NV 7.5 minute topographic quadrangle; 36 degrees, 30 minutes, 15 seconds north latitude and 114 degrees, 8 minutes, 57 seconds west longitude; UTM 11, 755325e, 4043651n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* 59 to 71 degrees F.

*Depth to calcic horizon:* 2 to 8 inches.

*Depth to petrocalcic horizon:* 8 to 14 inches.

*Control section:*

Percent clay—8 to 18 percent.

Rock fragments—Averages 35 to 60 percent.

Calcium carbonate equivalent in the less than 20 millimeter fraction—40 to 60 percent.

**A horizon:**

Hue—5YR, 7.5YR, or 10YR.

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 through 4 dry or moist.

**Bk1 horizon:**

Hue—7.5YR, or 10YR.

Chroma—4 through 6 moist.

Texture—Sandy loam or fine sandy loam.  
 Structure—Fine through coarse.  
 Consistence—Nonsticky or slightly sticky, nonplastic or slightly plastic.  
 Calcium carbonate equivalent in the fine earth fraction—20 to 30 percent.

**Bk2 horizon:**

Value—6 or 7 dry, 5 or 6 moist.  
 Chroma—2 through 4 dry.  
 Texture—Sandy loam or fine sandy loam.  
 Consistence—Friable or very firm.  
 Calcium carbonate equivalent in the fine earth fraction—30 to 50 percent.

**Bkm horizon:**

Hue—5YR, 7.5YR, or 10YR.  
 Value—7 or 8 dry, 6 or 7 moist.  
 Chroma—2 through 4 dry or moist.  
 Structure—Massive or platy  
 Other features—Continuously calcium carbonate indurated in the upper part with strongly cemented layers or lenses occurring throughout the lower part.

**Weiser series**

The Weiser series consists of very deep, well drained soils that formed in alluvium from limestone and dolomite. Weiser soils are on fan remnants and inset fans. Slopes range from 2 to 8 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 64 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic Typic Haplocalcids

**Typical pedon:** Weiser extremely gravelly loam, rangeland and wildlife habitat in an area of map unit 313. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 60 percent pebbles, 10 percent cobbles and 5 percent stones.

A—0 to 2 inches; very pale brown (10YR 7/3) extremely gravelly loam, dark yellowish brown (10YR 4/4) moist; strong very thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine and medium pores; 60 percent pebbles, 10 percent cobbles and 5 percent stones; violently effervescent (13 percent calcium carbonate equivalence in the fine earth fraction); moderately alkaline (pH 8.4); abrupt smooth boundary.

Bk—2 to 10 inches; light yellowish brown (10YR6/4) gravelly loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, few fine, medium and coarse roots; common very fine and few fine tubular pores; few fine and medium calcium carbonate coats on undersides of coarse fragments; 20 percent pebbles and 1 percent cobbles; violently effervescent (13 percent calcium carbonate equivalence in the fine earth fraction); moderately alkaline (pH 8.4); clear wavy boundary.

Bkq1—10 to 20 inches; very pale brown (10YR 7/3) very gravelly loam, light yellowish brown (10YR6/4) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; few very fine tubular pores; many coarse disseminated irregular pockets of calcium carbonate; many thin calcium carbonate and silica coats on undersides of coarse

fragments; 50 percent pebbles, 5 percent cobbles and 1 percent stones; violently effervescent (25 percent calcium carbonate equivalence in the fine earth fraction); strongly alkaline (pH 8.8); clear wavy boundary.

**Bkq2**—20 to 45 inches; very pale brown (10YR 7/3) extremely gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; many coarse disseminated irregular pockets of calcium carbonate; many thin calcium carbonate and silica coats on undersides of coarse fragments; 60 percent pebbles, 10 percent cobbles and 5 percent stones; violently effervescent (25 percent calcium carbonate equivalence in the fine earth fraction); moderately alkaline (pH 8.0); clear wavy boundary.

**Bkq3**—45 to 60 inches; very pale brown (10YR 7/3) extremely gravelly sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; disseminated calcium carbonate throughout; many thin calcium carbonate and silica coats on undersides of coarse fragments; 65 percent pebbles, 5 percent cobbles and 5 percent stones; violently effervescent (30 percent calcium carbonate equivalence in the fine earth fraction); moderately alkaline (pH 8.2).

**Type location:** Clark County, Nevada; about 1 mile south and 4 miles west of Jean, Nevada in the northern end of Ivanpah Valley; 400 feet north and 50 feet east of the southwest corner of section 17, T.25 S., R.59 E.; USGS Goodsprings, NV, 7.5 minute quadrangle; 35 degrees, 45 minutes, 59 seconds north latitude and 115 degrees, 23 minutes, 48 seconds west longitude; UTM 11, 644927e 3959211n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer thunderstorms; typical aridic soil moisture regime.

*Soil temperature:* 63 to 71 degrees F.

*Depth to calcic horizon:* 5 to 15 inches.

*Control section:*

Rock fragments—Averages 50 to 80 percent, mainly gravel.

Clay content—6 to 18 percent.

Calcium carbonate equivalence of the less than 20 millimeter fraction—40 to 60 percent.

**A horizon:**

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4.

**Bk horizon:**

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4 dry or moist.

Texture—Loam or fine sandy loam.

Consistence—Soft or slightly hard, nonsticky or slightly sticky, nonplastic or slightly plastic.

Rock fragments—15 to 50 percent, mainly gravel.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalence of the fine earth—10 to 20 percent.

**Bkq horizons:**

Hue—7.5YR or 10YR.

Value—6 or 7 dry, 5 or 6 moist.

Chroma—2 through 4 dry or moist.

Texture—Sandy loam, fine sandy loam or loam.

Structure—Massive or subangular blocky structure.

Consistence—Soft or slightly hard, nonsticky or slightly sticky, nonplastic or slightly plastic.

Rock fragments—50 to 85 percent, mainly gravel.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalence of the fine earth—20 to 40 percent.

Other features—0 to 15 percent calcium carbonate nodules or concretions. Some pedons contain thin strata of loamy sand or sand.

**Wheelerpass series**

The Wheelerpass series consists of shallow, well drained soils that formed in residuum and colluvium from quartzite. Wheelerpass soils are on backslopes of mountains.

Slopes range from 30 to 75 percent. The mean annual precipitation is about 16 inches and the mean annual air temperature is about 43 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, frigid Aridic Lithic Argiustolls

**Typical pedon:** Wheelerpass very gravelly loam, forestland and wildlife habitat in an area of map unit 815. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 60 percent pebbles and 5 percent cobbles.

A—0 to 1 inch; brown (7.5YR 5/2) very gravelly loam, dark brown (7.5YR 3/2) moist; moderate medium subangular blocky structure; soft, very friable, slightly sticky and nonplastic; common very fine and many fine roots; many very fine and common fine tubular pores; 40 percent pebbles and 5 percent cobbles; slightly acid (pH 6.2); abrupt smooth boundary.

Bt1—1 to 7 inches; brown (7.5YR 5/2) very gravelly loam, dark brown (7.5YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, common fine through coarse roots; common very fine and many fine tubular pores; 25 percent, discontinuous, faint, clay films on faces of peds and rock fragments; 55 percent pebbles and 1 percent cobbles; neutral (pH 7.0); clear wavy boundary.

Bt2—7 to 11 inches; brown (7.5YR 4/4) very gravelly loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; moderately hard, very friable, slightly sticky and moderately plastic; common very fine through very coarse roots; common very fine and few fine tubular pores; 35 percent, discontinuous, faint, clay films on faces of peds and rock fragments; 55 percent pebbles and 1 percent cobbles; neutral (pH 7.0); very abrupt wavy boundary.

R—11 inches; indurated quartzite bedrock.

**Type location:** Clark County, Nevada; about 8 miles west and 11 miles south of Indian Springs, Nevada; approximately 0.75 mile due south of Wheeler Peak in the north end of the Spring Mountains; in a tentatively sectioned area, 1,290 feet north and 1,390 feet east of the southwest corner of section 4, T.18 S., R.55 E.; USGS Willow Peak, NV, 7.5 minute topographic quadrangle; 36 degrees, 24 minutes, 39.4 seconds north latitude and 115 degrees, 48 minutes, 36.5 seconds west longitude; UTM 11, 0606683e 4030186n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in late winter, early spring and intermittently moist in the upper part following summer thunderstorms; aridic soil moisture regime bordering on ustic.

*Soil temperature:* 43 to 46 degrees F.

*Mollic epipedon thickness:* 7 to 20 inches, includes all or part of the argillic horizon.

*Depth to argillic horizon:* 1 to 3 inches.

*Depth to lithic contact:* 10 to 20 inches.

*Control section:*

Rock fragments—Averages 50 to 80 percent, mainly gravel.

Clay content—Averages 15 to 25 percent.

**A horizon:**

Hue—7.5YR or 10YR.

Value—3 or 4 dry, 2 or 3 moist.

Chroma—1 or 2 dry or moist.

Clay content—7 to 14 percent.

Texture—Sandy loam or loam.

Reaction—Slightly acid or neutral.

Organic matter—1 to 2 percent.

**Bt horizons:**

Hue—7.5YR or 10YR.

Value—3 through 5 dry, 2 through 4 moist.

Chroma—1 through 4 dry or moist.

Clay content—15 to 25 percent.

Rock fragments—50 to 80 percent, mainly gravel.

Structure—Very fine or fine, subangular blocky or granular.

Consistence—Slightly hard or moderately hard, very friable through firm, slightly sticky or moderately sticky, slightly plastic or moderately plastic.

Reaction—Slightly acid or neutral.

Organic matter—0.5 to 1.5 percent.

**Wheelerwell series**

The Wheelerwell series consists of moderately deep, well drained soils that formed in colluvium from quartzite and some dolomite. Wheelerwell soils are on backslopes of hills. Slopes range from 15 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual air temperature is about 47 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic Aridic Argiustolls

**Typical pedon:** Wheelerwell very gravelly sandy loam, forestland and wildlife habitat in an area of map unit 815. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 75 percent gravel, 5 cobbles and 3 percent stones with 40 percent of the area covered by approximately 1 to 4 centimeters of duff.

A—0 to 2 inches; very dark grayish brown (10YR 3/2) very gravelly sandy loam, very dark brown (10YR 2/2) moist; moderate coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very

fine tubular pores; 45 percent pebbles, 5 percent cobbles and 2 percent stones; slightly alkaline (pH 7.6); abrupt smooth boundary.

ABt—2 to 6 inches; very dark grayish brown (10YR 3/2) very gravelly sandy clay loam, very dark brown (10YR 2/2) moist; strong coarse subangular blocky structure; hard, very friable, slightly sticky and moderately plastic; many very fine and few fine to coarse roots; many very fine and few fine tubular pores; 65 percent, faint, dark brown (7.5YR 3/2) organoargillans on all faces of peds and on rock fragments; 30 percent pebbles, 10 percent cobbles and 1 percent stones; slightly alkaline (pH 7.6); clear smooth boundary.

Bt—6 to 18 inches; brown (7.5YR 5/4) very gravelly sandy clay loam, brown (7.5YR 5/4) moist; strong medium and coarse subangular blocky structure; very hard, friable, slightly sticky and moderately plastic; common very fine through very coarse roots; many very fine and common fine tubular pores; 65 percent, faint, brown (7.5YR 5/4) clay films on all faces of peds and on rock fragments; 60 percent, discontinuous, faint, clay films between sand grains and on rock fragments; 30 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.4); clear wavy boundary.

Btk—18 to 27 inches; strong brown (7.5YR 4/6) very gravelly clay loam, strong brown (7.5YR 4/6) moist; strong medium angular blocky structure; very hard, friable, slightly sticky and moderately plastic; few very fine through coarse roots; many very fine and few fine tubular pores; 90 percent, distinct, strong brown (7.5YR 4/6) clay films on all faces of peds and on rock fragments; 5 percent, prominent, white (10YR 8/1), calcium carbonate coats on bottom of dolomite rock fragments; 30 percent pebbles and 10 percent cobbles; slightly alkaline (pH 7.4); very abrupt wavy boundary.

R—27 inches; dark gray (10YR 4/1) hard dolomite, very dark gray (10YR 3/1) moist; very slightly effervescent.

**Type location:** Clark County, Nevada; about 8 miles west and 8 miles north of Charleston Peak, Nevada; approximately 1.0 mile north and 0.2 mile west of Wheeler Well in the north end of the Spring Mountains; about 2150 feet north and 770 feet east of the southwest corner of section 17, T.18 S., R.55 E.; USGS Willow Peak, NV 7.5 minute topographic quadrangle; 36 degrees, 23 minutes, 4.1 seconds north latitude and 115 degrees, 49 minutes, 52.5 seconds west longitude; UTM 11, 0604825e 4027227n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer thunderstorms; aridic soil moisture regime bordering on ustic.

*Soil temperature:* 47 to 52 degrees F.

*Depth to base of mollic epipedon:* 7 to 10 inches, includes the upper part of the argillic horizon and/or mixing of the upper 7 inches of the mineral soil.

*Depth to argillic horizon:* 2 to 8 inches.

*Depth to lithic contact:* 20 to 40 inches.

*Effervescence:* Noneffervescent throughout the fine earth.

*Control section:*

Rock fragments—35 to 60 percent, mainly gravel with 3 to 20 percent cobbles and 0 to 5 percent stones, mainly quartzite.

Clay content—Averages 18 to 27 percent.

**A horizon:**

Hue—7.5YR or 10YR.

Value—3 through 5 dry, 2 or 3 moist.  
 Chroma—2 or 3, dry or moist.  
 Reaction—Neutral or slightly alkaline.  
 Organic matter—1.0 to 2.0 percent.

**ABt horizon:**

Hue—7.5YR or 10YR.  
 Value—2 or 2.5 moist.  
 Texture—Loam or sandy clay loam.  
 Clay content—15 to 27 percent.  
 Reaction—Neutral or slightly alkaline.  
 Organic matter—1.0 to 2.0 percent.

**Bt and Btk horizons:**

Hue—7.5YR or 10YR.  
 Texture—Clay loam, loam, fine sandy loam or sandy clay loam.  
 Clay content—18 to 35 percent.  
 Structure—Medium or coarse subangular blocky or angular blocky.  
 Consistence—Hard or very hard, very friable or friable, slightly plastic or moderately plastic.  
 Reaction—Slightly acid through slightly alkaline.  
 Organic matter—0.5 to 1.0 percent.

**Whitebasin series**

The Whitebasin series consists of moderately deep to soft bedrock, well drained soils that formed in residuum and colluvium from gypsiferous sedimentary rocks. Whitebasin soils are on side slopes of rock pediments. Slopes range from 4 to 30 percent. The mean annual precipitation is about 4 inches and the mean annual air temperature is about 66 degrees F.

**Taxonomic class:** Coarse-loamy, gypsic, thermic Leptic Haplogypsid

**Typical pedon:** Whitebasin very fine sandy loam, wildlife habitat in an area of map unit 177. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 95 percent microbiotic crust.

A—0 to 1 inch; pink (7.5YR 7/3) very fine sandy loam, brown (7.5YR 4/4) moist; strong thick platy structure; soft, very friable, slightly sticky and nonplastic; few very fine roots; many very fine and common fine vesicular pores; electrical conductivity 1.7 dS/m; violently effervescent (4 percent calcium carbonate equivalence in the fine earth fraction); moderately alkaline (pH 8.0); abrupt wavy boundary.

Byk—1 to 11 inches; very pale brown (10YR 8/2) gypsiferous material, light yellowish brown (10YR 6/4) moist; massive; hard, firm, nonsticky and nonplastic; few very fine, fine and medium roots; many very fine and fine interstitial and few fine tubular pores; Texture of the fine earth material is sandy loam; electrical conductivity 1.8 dS/m; 40 percent very coarse, weakly to strongly cemented masses of gypsum crystals; 40 percent medium to very coarse, irregular, hard, gypsum crystals in the matrix; 2 percent medium and coarse, irregular, moderately hard, gypsum masses in pores; 2 percent white, calcium carbonate coats on gypsum masses; noneffervescent through violently effervescent (3 percent calcium carbonate equivalence in the fine earth fraction); slightly alkaline (pH 7.6); abrupt wavy boundary.

- By1—11 to 18 inches; very pale brown (10YR 7/3) gypsiferous material, light yellowish brown (10YR 6/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine, fine, few medium through very coarse roots; many very fine interstitial and common fine tubular pores; Texture of the fine earth material is sandy loam; electrical conductivity 2.1 dS/m; 40 percent, fine through very coarse, irregular, moderately hard to very hard gypsum crystals in matrix; 5 percent medium and coarse, irregular, moderately hard gypsum masses in pores; 3 percent paragravel; slightly effervescent; slightly alkaline (pH 7.6); clear wavy boundary.
- By2—18 to 28 inches; pinkish gray (7.5YR 7/2) gypsiferous material, brown (7.5YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine, fine and few medium roots; many very fine interstitial and few fine tubular pores; Texture of the fine earth material is sandy loam; electrical conductivity 3.7 dS/m; sodium adsorption ratio 0.7; 50 percent, fine through coarse, irregular, hard and very hard gypsum crystals in matrix; 10 percent paragravel; slightly effervescent; slightly alkaline (pH 7.8); abrupt wavy boundary.
- Cr—28 to 38 inches; interbedded gypsite and gypsiferous siltstone.

**Type location:** Clark County, Nevada; about 23 miles south of Moapa, Nevada located in White Basin; approximately 6 1/2 miles west and 6 miles north of Bitter Spring; in an estimated projection of a unsectionized area, about 2,645 feet south and 1,375 feet west of the northeast corner of section 35, T.18 S., R.66 E.; USGS Bitter Spring, NV 7.5 minute topographic quadrangle; 36 degrees, 20 minutes, 28.7 seconds north latitude and 114 degrees, 35 minutes, 05.7 seconds west longitude; UTM zone 11, 0716742e 4024514n; NAD83.

**Range in Characteristics:**

*Soil moisture:* usually dry, moist in some part for brief periods during winter and early spring and between July and October following convection storms. The soils have a Typic-Aridic moisture regime.

*Soil temperature:* 66 to 71 degrees F.

*Depth to gypsic horizon:* 1/2 to 3 inches.

*Depth to paralithic contact:* 20 to 30 inches.

*Control section:*

Rock fragments—0 to 15 percent, mainly paragravel.

Reaction—Slightly alkaline or moderately alkaline.

**A horizon:**

Hue—7.5YR or 10YR.

Value—4 or 5 moist.

Structure—Medium or thick platy.

Consistence—Soft or slightly hard, slightly sticky or nonsticky.

Effervescence—Strongly effervescent or violently effervescent.

Calcium carbonate equivalent in the fine earth—1 to 5 percent.

Gypsum—0 to 5 percent soft masses or pendants.

**Byk horizon:**

Hue—7.5YR or 10YR.

Chroma—3 or 4.

Consistence—Soft through hard, very friable through firm.

Calcium carbonate equivalent in the fine earth—0 to 3 percent.

Gypsum—50 to 90 percent crystals, grains and soft masses.

Other features—Texture is sandy loam or fine sandy loam.

**By horizon:**

Value—7 or 8 dry.

Rock fragments—0 to 15 percent, mainly paragravel of gypsum.

Consistence—Soft or slightly hard.

Effervescence—Noneffervescent through slightly effervescent.

Calcium carbonate equivalent in the fine earth—0 to 2 percent.

Gypsum—40 to 70 percent crystals, grains and masses.

Other features—Texture is sandy loam or fine sandy loam.

**Winkel series**

The Winkel series are shallow to a petrocalcic horizon, well drained formed in calcareous residuum weathered from basalt, limestone, and eolian sands. Winkel soils are on mesa tops, plateaus and mountain slopes. Slopes range from 2 to 12 percent. The mean annual air temperature is 59 degrees F. and the mean annual precipitation is about 9 inches.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, thermic, shallow Calcic Petrocalcids

**Typical pedon:** Winkel very gravelly fine sandy loam, rangeland and wildlife habitat in the nearby Washington County, Utah, soil survey. (Colors are for air dry soil unless otherwise noted.)

A1—0 to 1 inch; reddish brown (5YR 5/4) very gravelly fine sandy loam, reddish brown (5YR 4/4) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; common fine roots; few fine and medium tubular pores; disseminated calcium carbonate; 40 percent pebbles and cobbles; strongly effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary.

A2—1 to 6 inches; reddish brown (5YR 5/4) very gravelly fine sandy loam, reddish brown (5YR 4/4) moist; weak medium platy structure parting to fine granular; slightly hard, very friable, nonsticky and nonplastic; common fine roots; common very fine, fine and medium tubular pores; disseminated calcium carbonate; 40 percent pebbles; strongly effervescent; strongly alkaline (pH 8.8); clear smooth boundary.

Bk1—6 to 12 inches; light reddish brown (5YR 6/4) very gravelly fine sandy loam, reddish brown (5YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common fine roots; common fine and medium tubular pores; disseminated calcium carbonate; 40 percent pebbles and cobbles; strongly effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

Bk2—12 to 16 inches; light reddish brown (5YR 6/4) very cobbly fine sandy loam, reddish brown (5YR 4/4) moist; massive, soft, very friable, nonsticky and nonplastic; common fine roots; few fine and medium tubular pores; disseminated calcium carbonate; 60 percent pebble and cobble size pan fragments; strongly effervescent; strongly alkaline (pH 8.8); abrupt wavy boundary.

Bkm—16 to 20 inches; indurated petrocalcic horizon.

**Type location:** Washington County, Utah; 1 3/4 miles north and 1 mile east of St. George, Utah; in the NW 1/4 of section 17, T.42 S., R.15 W.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part during winter and spring and intermittently moist in the upper part following summer convection storms; typical aridic soil moisture regime.

*Soil temperature:* Estimated to range from 59 to 63 degrees F., and the mean summer soil temperature from 77 to 82 degrees F.

*Depth to calcic horizon:* 5 to 10 inches.

*Depth to petrocalcic horizon:* 11 to 19 inches.

*Depth to bedrock:* 20 to 40 inches.

*Reaction:* Moderately alkaline or strongly alkaline.

*Control section:*

Clay content—8 to 20 percent.

Rock fragments—Averages 35 to 75 percent.

**A horizon:**

Hue—5YR to 10YR.

Value—5 to 7 dry, 3 to 5 moist.

Chroma—2 to 6, dry or moist.

Texture—Very gravely fine sandy loam or gravely loam.

Effervescence—Strongly effervescent or violently effervescent.

**Bk horizon:**

Hue—5YR, 7.5YR.

Value—4 to 8 dry, 4 to 6 moist.

Chroma—4 to 6, dry or moist.

Rock fragments—20 to 85 percent gravel and cobble with the highest amounts in the lower part of the profile.

Texture—Dominantly gravely to very cobbly fine sandy loam but ranges to very gravely and cobbly loam.

Effervescence—Strongly effervescent or violently effervescent.

**Wodavar series**

The Wodavar series consists of shallow to a hardpan, well drained soils that formed in residuum from lacustrine deposits. Wodavar soils are on lake terraces and alluvial flats. Slopes range from 2 to 8 percent. The mean annual precipitation is about 5 inches and the mean annual air temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic, shallow Calcic Petrocalcids

**Typical pedon:** Wodavar extremely gravely fine sandy loam, rangeland and wildlife habitat in an area of map unit 460. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 65 percent pebbles consisting of pan fragments.

A—0 to 3 inches; very pale brown (10YR 7/3) extremely gravely fine sandy loam, yellowish brown (10YR 5/4) moist; moderate medium and thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and few fine vesicular and interstitial pores; 65 percent pebbles consisting of pan fragments; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bk—3 to 16 inches; pale brown (10YR 6/3) very gravelly sandy loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine, few fine and medium roots; common very fine and few fine interstitial pores; 40 percent pebbles consisting of calcium carbonate nodules; violently effervescent; very strongly alkaline (pH 9.2); clear wavy boundary.

Bkm1—16 to 22 inches; white (10YR 8/1) very strongly cemented petrocalcic horizon, very pale brown (10YR 7/3) moist; moderate very thick platy structure; very rigid, rigid, brittle; common very fine and few fine and medium roots in fractures; common very fine and few fine tubular pores; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

Bkm2—22 to 33 inches; white (10YR 8/1) continuously indurated petrocalcic horizon, pale brown (10YR 6/3) moist; massive; very rigid, very rigid; few very fine and fine tubular pores; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

B'k—33 to 60 inches; white (10YR 8/1) extremely gravelly loam, pale brown (10YR 6/3) moist; massive; moderately hard, friable, slightly sticky and slightly plastic; few very fine and fine tubular pores; 60 percent pebbles consisting of strongly cemented calcium carbonate nodules; violently effervescent; strongly alkaline (pH 8.6).

**Type location:** Clark County, Nevada; approximately 0.6 mile east of Stump Spring in the southeast end of Pahrump Valley; about 150 feet south and 125 feet east of the northeast corner of section 5, T.23 S., R.55 E.; USGS Stump Spring, NV 7.5 minute topographic quadrangle; 35 degrees, 59 minutes, 3 seconds north latitude and 115 degrees, 48 minutes, 55 seconds west longitude; UTM 11, 606799e, 3982848n; NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in some part for short periods during winter and early spring, typic-aridic moisture regime. The ratio of soil moisture utilized for evapotranspiration between summer and winter is about 0.4:1, typical of the Mojave Desert.

*Soil temperature:* 59 to 65 degrees F.

*Depth to calcic horizon:* 2 to 6 inches.

*Depth to hardpan:* 10 to 20 inches.

*Control section:*

Percent clay—8 to 16 percent.

Rock fragments—Averages 35 to 60 percent, mainly calcium carbonate nodules and pan fragments.

**Bk horizon:**

Rock fragments—35 to 60 percent.

Calcium carbonate equivalence in the fine earth fraction: 25 to 40 percent 40 to 80 percent of the less than 20 millimeter fraction.

Secondary carbonates: 30 to 60 percent identifiable secondary calcium carbonate as nodules, concretion or soft masses.

Other features—Secondary gypsum as few or common fine segregations and crystals are in some pedons.

**Bkm horizons:**

Rupture resistance—Indurated or very strongly cemented

**B'k horizon:**

Clay content—10 to 18 percent.

Rock fragments—35 to 65 percent, mainly calcium carbonate nodules.

Calcium carbonate equivalent in the fine earth fraction—40 to 60 percent.

**Woodspring series**

The Woodspring series consists of very deep, well drained soils that formed in alluvium from limestone and dolomite. Woodspring soils are on fan remnants. Slopes range from 4 to 15 percent. The mean annual precipitation is about 15 inches, and the mean annual temperature is about 53 degrees F.

**Taxonomic class:** Loamy-skeletal, mixed, superactive, mesic Pachic Calciustolls

**Typical pedon:** Woodspring gravelly sandy loam, forestland and wildlife habitat in an area of map unit 705. (Colors are for dry soil unless otherwise noted). The surface is covered by approximately 20 percent pebbles, 2 percent cobbles and 1 percent stones.

Oi—0 to 0.25 inch; slightly decomposed plant material, pine duff.

A—0.25 to 2 inches; dark brown (10YR 3/3) gravelly sandy loam, black (10YR 2/1) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine through coarse roots; many fine tubular and many very fine interstitial pores; 25 percent pebbles and 2 percent cobbles; very slightly effervescent (7 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline, (pH 8.0); abrupt smooth boundary.

ABk—2 to 9 inches; dark grayish brown (10YR 4/2) very gravelly sandy loam, black (10YR 2/1) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, nonsticky and slightly plastic; many very fine through medium and common coarse roots; few fine tubular and many very fine interstitial pores; 15 percent, distinct very pale brown (10YR 8/2) calcium carbonate coats on the bottom of rock fragments; 45 percent pebbles; very slightly effervescent (5 percent calcium carbonate equivalent in the fine earth fraction) moderately alkaline, (pH 8.2); gradual smooth boundary.

Bk1—9 to 28 inches; dark grayish brown (10YR 4/2) very gravelly sandy loam, black (10YR 2/1) moist; moderate fine and medium subangular blocky structure; soft, very friable, nonsticky and slightly plastic; many fine, medium and few coarse roots; common fine tubular and many very fine interstitial pores; 25 percent fine very pale brown (10YR 8/2) calcium carbonate coats on the bottom of rock fragments; 45 percent pebbles and 10 percent cobbles; strongly effervescent (11 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline, (pH 8.2); abrupt wavy boundary.

Bk2—28 to 61 inches; brown (10YR 5/3) extremely gravelly sandy loam, dark brown (10YR 3/3) moist; moderate medium and coarse subangular blocky structure; hard, very friable, nonsticky and slightly plastic; common fine and medium roots; few fine and common very fine interstitial pores; 45 percent medium very pale brown (10YR 8/2) calcium carbonate coats on the side and bottom of rock fragments; 75 percent pebbles and 10 percent cobbles; violently effervescent (25 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline, (pH 8.4).

**Type location:** Clark County, Nevada; Along Wheeler Pass road, approximately 1.75 miles southwest of Wheeler Pass, 1 mile east of the junction of Wheeler Pass road and the road to Wheeler Well; 940 feet north and 1,540 feet east of the southwest

corner of section 21, T.18 S., R.55 E.; USGS Wheeler Well, Nevada 7.5 minute quadrangle; 36 degrees, 22 minutes, 3 seconds north latitude and 115 degrees, 48 minutes, 36 seconds west longitude; UTM 11, 606755e 4025367n NAD83.

**Range in Characteristics:**

*Soil moisture:* Usually dry, moist in late winter and early spring and intermittently moist in the upper part following summer convection storms; aridic moisture regime bordering on ustic.

*Soil temperature:* 53 to 59 degrees F.

*Depth to base of mollic epipedon:* 30 to 61 inches.

*Depth to calcic horizon:* 8 to 14 inches.

**Control section:**

Clay content—8 to 15 percent.

Rock fragments—Averages 50 to 80 percent, mainly gravel.

Calcium carbonate equivalent of the less than 20 millimeter fraction: 20 to 40 percent.

**Oi horizon:**

Organic matter—25 to 80 percent.

Bulk density—0.5 to 1.0.

**A horizon:**

Value—3 or 4 dry, 2 or 3 moist.

Chroma—2 or 3 dry, 1 or 2 moist.

**ABk horizons:**

Value—3 or 4 dry, 2 or 3 moist.

Chroma—2 or 3 dry, 1 or 2 moist.

Structure—Fine or medium.

Consistence—Slightly sticky or nonsticky.

Texture—Sandy loam or loam.

Rock fragments—35 to 55 percent, mainly gravel.

Organic matter—1 to 3 percent.

Calcium carbonate equivalent in the fine earth fraction—5 to 15 percent.

**Bk1 horizon:**

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3 dry, 1 through 3 moist.

Consistence—Nonplastic or slightly plastic.

Organic matter—1 to 3 percent.

Rock fragments—35 to 55 percent mainly gravel with up to 10 percent cobbles.

Calcium carbonate equivalent in the fine earth fraction—10 to 30 percent.

Other features—Secondary calcium carbonate is 5 to 10 percent by volume.

**Bk2 horizon:**

Consistence—Nonplastic or slightly plastic.

Organic matter—0.6 to 1 percent.

Rock fragments—35 to 85 percent gravel and cobbles.

Calcium carbonate equivalent in the fine earth fraction—20 to 35 percent.

Other features—Secondary calcium carbonate ranges from 5 to 10 percent by volume.

## Zeheme series

The Zeheme series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium from dolomite and limestone. The Zeheme soils are on summits and side slopes of low mountains and hills. Slopes range from 8 to 75 percent. The mean annual precipitation is about 8 inches and the mean annual temperature is about 60 degrees F.

**Taxonomic class:** Loamy-skeletal, carbonatic, thermic Lithic Haplocalcids

**Typical pedon:** Zeheme extremely gravelly fine sandy loam, rangeland and wildlife habitat in a delineation of map unit 840. (Colors are for dry soils unless otherwise noted.) The soil surface is covered by approximately 70 percent pebbles.

A1—0 to 2 inches; light brownish gray (10YR 6/2) extremely gravelly fine sandy loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; soft, very friable, nonsticky and slightly plastic; common very fine roots; many very fine and few fine interstitial and tubular pores; 65 percent pebbles, 10 percent cobbles and 2 percent stones; violently effervescent (10 percent calcium carbonate equivalence in the fine earth fraction); moderately alkaline (pH 8.4); abrupt smooth boundary.

Bk—2 to 9 inches; pale brown (10YR 6/3) very gravelly fine sandy loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; soft, very friable, nonsticky and slightly plastic; common very fine and few fine roots; common very fine and few fine tubular pores; 50 percent pebbles and 3 percent cobbles; many medium (5 to 15 millimeters) and thick (15 to 20 millimeters) calcium carbonate coats and pendants on the underside of coarse fragments; violently effervescent (20 percent calcium carbonate equivalent in the fine earth fraction); moderately alkaline (pH 8.4); abrupt smooth boundary.

R—9 inches; hard limestone bedrock.

**Type location:** Clark County, Nevada; approximately 6 miles southwest of Goodsprings, Nevada; located in the Spring Mountain Range; in a unsectionized area, in the estimated projection of section 29, T.25 S., R.58 E.; USGS State Line Pass, NV, 7.5 minute topographic quadrangle; 35 degrees, 44 minutes, 15 seconds north latitude, and 115 degrees, 29 minutes, 17 seconds west longitude; UTM 11, 636723e, 3955888n; NAD83.

### Range in Characteristics:

*Soil moisture:* Usually dry, but are moist in some parts for short periods during the winter and early spring months and for short intermittent periods following summer convection storms, 10 to 20 days cumulative during the period June through September.

*Soil temperature:* 61 to 67 degrees F.

*Depth to bedrock:* 7 to 14 inches.

*Calcium carbonate equivalent of the less than 20 millimeter fraction:* 40 to 80 percent.

#### *Control section:*

Clay content—Averages 8 to 18 percent.

Rock fragments—Averages 35 to 60 percent,.

### **A horizon:**

Value—5 or 6 dry, 4 or 5 moist.

Chroma—2 through 4.

**Bk horizons:**

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4.

Texture—Very gravelly fine sandy loam or very gravelly sandy loam.

Structure—Weak or moderate, fine or medium, and subangular blocky or massive.

Consistence—Nonplastic or slightly plastic.

Rock fragments—35 to 60 percent.

Other features—rock fragments commonly contain thin to very thick calcium carbonate coats and pendants on vertical and undersides of rock fragments.

Horizon contains 5 percent or more secondary calcium carbonate.



## Use and Management of the Soils

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This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of gravel, sand, reclamation material, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

### Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

### Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited*, *somewhat limited*, and *very limited*. The suitability ratings are expressed as *well suited*, *moderately suited*, *poorly suited*, and *unsuited* or as *good*, *fair*, and *poor*.

## **Numerical Ratings**

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

# Crops and Pasture

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Due to the harsh climate and largely unfavorable soils, crops and pasture are seldom grown in the survey area. Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service. The system of land capability classification used by the Natural Resources Conservation Service is explained in this section.

## Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels--capability class, subclass, and unit (USDA, 1961).

*Capability classes*, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

*Capability subclasses* are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2e. The letter *e*

shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

The capability classification of the soils in this survey area is given in the section "Detailed Soil Map Units".

# Rangeland and Forestland Resource Management

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Patti Novak-Echenique, Rangeland Ecologist, Natural Resource Conservation Service, and Dr. Lois F. Alexander, Department of Biological Sciences, University of Nevada, Las Vegas, prepared this section.

Rangeland, within this report, is considered a "kind of land" rather than a particular land use. Rangeland and forestland provide many important resource values acting as vast watersheds, providing habitat for wildlife, offering forage to livestock and wildlife, providing commodity and non-commodity wood products, and space and beauty for recreational pursuits. The resource values of rangeland and forestland are intricately related to each other and are often directly affected by land management actions. Because of the interrelation between rangeland resources, it is appropriate that managers consider all resource values when planning resource improvements.

Approximately 99 percent of the land in the survey area is rangeland or forestland. Livestock grazing is the principal agricultural use of rangelands and the livestock operations are mostly cow-calf. Cattle generally are not herded and their distribution is restricted by fences, availability of water, and rugged terrain. Ranches are a few hundred acres to several thousand acres in size. They rely heavily on permitted grazing use of public lands. Most of the rangelands within the survey area are administered by the Bureau of Land Management. Mining has been, and still is the major industrial use of rangelands in the survey area and has played an important role in the history of this area.

During the mining booms of the late 1800's, herds of cattle, sheep, oxen, horses, and burros, were brought to Clark County to power and feed the mining communities. Heavy grazing pressure during these boom-periods depleted native stands of forage over much of the survey area.

No published studies have yet fully documented the impact of livestock grazing or estimated the time required for heavily grazed areas to recover to pre-grazing levels of plant diversity, density, and cover. The rarity of undisturbed reference sites and long-term studies makes it difficult to quantify the effects of grazing. Where disturbance has been most severe, palatable shrubs generally have been replaced by less desirable shrubs; many native perennial grasses and forbs have been eliminated and replaced by alien or introduced annual grasses and forbs. Recovery has been most evident where previous abuses were limited or were at higher elevations with greater precipitation. It is axiomatic that the greater the level of deterioration, the longer the period of recovery is for native plant communities. It is important to recognize that although present day rangeland production and plant diversity in the survey area is generally less than what is potentially achievable, the overall health or condition of rangelands in the survey area today is improved from what was commonplace in the early 1900's.

Proper land management can improve present rangeland and forestland health and productivity, while preventing accelerated erosion. Multiple use management to meet present and future needs requires extensive knowledge of the resource capabilities and limitations. An understanding of the dynamics of native plant

communities and the properties of associated soils is fundamental in applying ecological principals to natural resource evaluation and management.

## Soil-Site Correlation

Landscapes are divided into basic units for study, evaluation, and management. On rangeland and forestland, these units are called ecological sites. During the course of this soil survey, range and forest ecological sites were correlated to soils identified within the survey area. These correlations are based on our present understanding of soil-plant-climate relationships in the survey area. Soil properties, such as rooting depth and texture, that affect moisture supply and plant nutrients have the greatest influence on the productivity of range plants. Soil reaction, salt or calcium carbonate content, and topographic position are also important. Climatic relationships to vegetation and soils are accounted for in the classification of soils and in soil mapping criteria. In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangelands are closely related to the type of soil. Dominant ecological sites can be determined from soil maps and map unit legends developed for the survey area.

An ecological site is a distinctive kind of land with specific physical characteristics that differ from other kinds of land in its ability to produce a distinctive kind and amount of vegetation. An ecological site is the product of all environmental factors responsible for its development. It can support a native plant community typified by an association of species that differs from the potential plant community of other ecological sites in the kind or proportion of species or in total production. Disturbances such as drought, fire, grazing by native fauna, or insect and disease damage are recognized as natural factors in the development of native plant communities.

## Ecological Site Descriptions

Table 5, "Rangeland Plants and Characteristic Plant Communities" shows each soil, both major and minor, while including the ecological site; the common plant name and scientific plant symbol for the characteristic vegetation; the average percent composition for each species in the potential plant community; and the total annual production of vegetation in favorable, normal, and unfavorable years. The characteristic vegetation, made up of the grasses, forbs, trees, or shrubs of the potential plant community for each soil, are listed by common name. Under composition, the expected percentage of the total annual production is given for each species making up the characteristic vegetation.

Total potential production is the amount of vegetation that can be expected to grow annually on well managed rangeland or forestland that is supporting the potential natural community. Total production includes all vegetation, whether or not it is palatable to grazing animals. It does not include the increase in stem diameter of trees and shrubs. The total production of understory vegetation includes the herbaceous plants and the leaves, twigs, and fruit of woody plants up to a height of 4.5 feet. It is expressed in pounds per acre of air-dry vegetation in favorable, normal, and unfavorable years. In a favorable year, soil moisture is above average during the optimum part of the growing season; in a normal year, soil moisture is average; and in an unfavorable year, it is below average.

Also included in each table is the ecological site number. A more detailed description of each site, identified by number, can be found at the local NRCS Service Center.

## Rangeland and Forestland Management

Rangeland management requires knowledge of the kinds of soils and the potential plant communities these soils can support in a given area. A state and transition model will be used to describe vegetation dynamics and management interactions associated with each ecological site. The model provides a method to organize and communicate complex information about vegetation response to disturbances and management. A state includes one or more biological (including soil) communities that occur on a particular ecological site and that are functionally similar with respect to soil/site stability, hydrologic function, and biotic integrity. States are generally distinguished by relatively large differences in plant functional groups, dynamic soil properties, and ecosystem processes, and consequently in vegetation structure, biodiversity, and management requirements. They are also distinguished by their responses to disturbance. A number of different plant communities may be included in a state, and the communities are often connected by community pathways.

Shifts between states are referred to as “transitions”. Unlike community pathways, these “threshold” transitions are not reversible by simply altering the intensity or direction of factors that produced the change. Transitions among states in an ecological site are often caused by a combination of feedback mechanisms that alter soil and plant community dynamics.

The reference state is the state where the functional capacities represented by soil/site stability, hydrologic function, and biotic integrity are performing at a near optimum level under the natural disturbance regime. The reference state is used for the rangeland health evaluation, although managers may choose to manage communities in another state.

Three assessment tools, similarity index, trend, and rangeland health evaluations, can be used to evaluate a rangeland site. Similarity index is an index of where the current plant community is in relation to the historic climax plant community, or to a desired plant community that is one of the site’s potential vegetation states. Trend is a determination of the direction of change in the current plant community and associated soils in relation to the historic climax plant community or some other desired plant community. Rangeland health is defined as the degree to which the integrity of the soil, vegetation, water, air, and the ecological processes of the rangeland ecosystem are balanced and sustained. A rangeland health assessment is designed to provide a preliminary evaluation of soil/site stability, hydrologic function, and integrity of the biotic community. This assessment can also provide early warnings of potential problems and opportunities.

Managing a forest to produce forage for livestock and wildlife, desired wildlife habitat, quality water, quality fisheries, timber production, and many other desired forest products requires an understanding of the forest ecosystem and how it responds to the manager’s decisions.

In most forests, solar energy is the major ecological component affected in the management process. Solar energy is intercepted by the canopy of the tallest trees. This causes a filtering or reduction of solar energy as it penetrates to the next layer of vegetation, whether it is a midstory of woody plants or grasses and forbs growing on the forest floor. Managing the forest ecosystem for the desired plant community and the desired production is, in a large part, accomplished by managing the plant populations in the different stories (overstory, midstory, and understory) to provide the most efficient use of solar energy by the desired plants.

One of the primary factors leading to poor tree health is too many trees closely spaced. Thinning, the selective removal of individual trees, is an important management practice that improves tree health and vigor and decreases wildfire potential.

## Vegetation Zones of Clark County, Nevada

Clark County is in the southern part of the Basin and Range Physiographic Province (Fenneman 1931). Clark County has a wide diversity of vegetation zones because of its extensive variety of rock types, wide range of elevations, and the existence of microclimates (Charlet 1998). The vegetation of the Lower Mojavean Zone is conspicuously shrubby. Valley floors and lower piedmont slopes are dominated by creosotebush and white bursage. Annual flowering plants are abundant after a wet winter, and they differ markedly from those of the Sonoran Desert. In the eastern portion of the survey area, plant species more representative of the Sonoran Desert are intermingled with the Mojave Desert vegetation. On landscape positions above the creosotebush are the Blackbrush and Saltbush zones. The Blackbrush Zone is dominated by blackbrush, a paleoendemic species. The Saltbush Zone is a domain of open, low to tall shrublands dominated by species of *Atriplex*. The higher elevations of the isolated mountain ranges include the Pygmy Conifer and Montane Zones. These zones include low conifer woodlands, dominated by singleleaf pinyon pine and Utah or California juniper, montane shrublands dominated by big sagebrush, and high conifer forest communities of Rocky Mountain ponderosa pine and Rocky Mountain white fir. Small aspen stands are common at springs and along perennial streams. The highest elevations of the Spring Mountains support groves of limber pine and bristlecone pine. A small area of Alpine Zone occurs on Charleston Peak.

Meadows in the survey area are uncommon and very small, primarily associated with springs and seeps. Important riparian systems within the survey area include the Colorado River and a reach of the Las Vegas Wash.

### Lower Mojavean Zone

Creosotebush and white bursage are the dominant species in the Lower Mojavean Zone. Creosotebush-white bursage communities occur on piedmont slopes and hills and mountains at elevations below 4,000 feet. Average annual precipitation is less than 5 inches. On washes, outcrops, and steep slopes, creosotebush is present but not dominant, and it is excluded from soils in and around playas or other areas of high salt concentration. Other woody species occurring in these communities include ratany, ephedra, wolfberry, catclaw, yuccas, and various species of cactus. Perennial grasses include big galleta, desert needlegrass, fluffgrass, and Indian ricegrass. In stable, old communities, creosote bush or clones may attain ages of several thousand years, thus identification of an 'individual' creosote bush may be difficult in mature communities.

Common riparian trees in the Lower Mojavean Zone include smoke tree, catclaw acacia, desert willow, cottonwoods, coyote willow, honey mesquite, and screwbean mesquite. Some well developed riparian areas, such as the Colorado River, are now dominated by tamarisk, a non-native species.

The vegetation is sparse, covering less than 20 percent of the surface. Because of the inherent environmental harshness of the Lower Mojavean Zone, manipulation of vegetation and revegetation projects are not usually advisable. Wind erosion and water erosion hazards are the major resource concerns.

There is little known about the pre-settlement fire conditions in creosotebush-white bursage communities, however, it is thought that fires were an infrequent event, because of the sparseness of cover and absence of fine fuels. The increased presence of non-native annual grasses, such as red brome and Mediterranean grass, can alter fire regimes by increasing fire frequency. When fires do occur, the effect on the ecosystem can be extreme as many of the shrubs in these communities have little adaptations to fire. Season of burning, fuel quantity, fire temperature, and age of

existing creosotebush may affect the ability of creosotebush to re-sprout. Fire generally kills white bursage, thus re-establishment is primarily by seed.

### **Saltbush Zone**

The salt-desert scrub communities within the Saltbush Zone include the shadscale scrub communities. This Zone occurs on piedmont slopes at elevations below 4000 feet primarily in western Clark County. Salt-desert scrub communities are normally a reflection of either a climatically dry environment where average annual precipitation is less than 7 inches or of physiologically dry soil conditions. High concentrations of salts that interfere with plant uptake of soil moisture can create physiologically dry soil conditions. Representative shrubs include shadscale, allscale saltbush, four-wing saltbush, winterfat, spiny hopsage, wolfberry, and Nevada ephedra. Common grasses include Indian ricegrass, King's desertgrass, desert needlegrass, and bottlebrush squirreltail.

The communities vary from stands dominated by a single shrub species of saltbush to relatively heterogeneous mixtures of shrubs and grasses. The vegetative cover is normally less than 20 percent. The naturally sparse cover of most salt-desert scrub plant communities leave them susceptible to wind and water erosion. Soil stability of the interspaces between plants in salt-desert shrub communities is provided by surface rock fragments or by biological soil crust (algae and fungi) at the soil surface. Because of the inherent environmental harshness of the Saltbush Zone, manipulation of vegetation and revegetation projects are not usually advisable.

Fires were an infrequent event in pre-settlement salt-desert scrub communities. The introduction of non-native annual grasses such as red brome, Mediterranean grass, and cheatgrass, into these communities has altered fuel loads and fuel distribution. After wet years, when annual grass production is high, salt-desert scrub communities are susceptible to fire. Fire drastically alters the community composition because salt-desert shrubs have developed little adaptation to fire. Shadscale is generally killed by fire and reestablishes through seed.

### **Blackbrush Zone**

The Blackbrush Zone is widespread in the survey area, occurring from elevations of about 3,000 to 6,500 feet on mid- to upper piedmont slopes. Average annual precipitation at these elevations is from 5 to 9 inches. Blackbrush often occurs as nearly monospecific stands in much of its range, although it intergrades with creosotebush and bursage at lower ecotones and pinyon-juniper ecotones at higher elevations. Blackbrush communities are interspersed with other desert shrubs such as spiny hopsage, desert bitterbrush, turpentine bush, ephedra, saltbush, Stansbury cliffrose, winterfat, wolfberry, and species of yucca. Sometimes Joshua tree forms a conspicuous overstory. Perennial grasses include desert needlegrass, Indian ricegrass, black grama, galleta, big galleta, and fluffgrass. Annuals can be abundant for about six weeks in the spring during wet years, but composition and productivity vary greatly.

The vegetation cover is consistently the highest (25-50%) of that in the regional vegetation. The shrubs are usually clustered on mounded micro-topography. Algae, mosses, and lichen that form microbiotic crusts are common on the soil surface are thought to fix nitrogen and may increase fertility of the associated soils (West 1983).

In the past, fire has been applied as a management tool to many stands of blackbrush with varied results. Succeeding communities after fire are variable and are usually dominated by annual species the first few years following fire. In many instances, non-native invasive species have invaded these areas, increasing the fire frequency. In some areas, red brome, a non-native annual grass, occurs in sufficient densities to provide continuous fine fuel in inter-shrub spaces, encouraging the spread

of fire over large areas. Blackbrush does not regenerate by sprouting and is removed by fire. Blackbrush recovery, therefore, is very slow and could take several years to reestablish. Some areas that have burned more than once have been converted from a desert scrub community to an annual grassland community with non-native species dominating the community.

### **Pygmy Conifer Zone**

The Pygmy Conifer Zone includes the singleleaf pinyon and California or Utah juniper plant communities that are prevalent at mid-elevations of the Sagebrush Zone. Average annual precipitation at these elevations is from 9 to 15 inches. Dominant understory shrubs include mountain big sagebrush, black sagebrush, curl-leaf mountain mahogany, and Stansbury cliffrose. Prevalent understory grasses include Indian ricegrass, bottlebrush squirreltail, Sandberg's bluegrass, muttongrass, and crested needlegrass. In areas of predominantly summer precipitation created from convection storms, understory species include manzanita, Gambel's oak, ashy silktassel, black grama, and blue grama.

During the mining booms of the late 1800's, Clark County's woodland resource was harvested for use in ore processing, as mine props, or burned as domestic firewood. In these woodland areas that were harvested there are trees younger than 150 years, but the old ax-cut stumps prove that the site historically supported woodlands.

Settlement in the survey area has also reduced the incidence and size of natural fires through fire suppression and the disruption of fine fuel continuity by livestock grazing. With changes in the extent and frequency of natural fire, significant changes in the character of pinyon-juniper woodlands and associated rangelands have occurred. Original woodlands that were not harvested for the mining industry have become denser and adjacent sagebrush-grass communities have been invaded by these conifers.

Pinyon and juniper communities are generally low in productivity at elevations where juniper is the dominant tree species. At higher elevations, the woodland is more productive and pinyon is dominant in the overstory.

In the pristine environment, stands of pinyon and juniper were restricted to very rocky soils and landscape positions that prevented naturally occurring wildfires. Young pinyon and juniper trees are very susceptible to ground fires until their crowns grow well above the sagebrush-grass vegetation. Fire usually eliminates or greatly reduces the number of tree seedlings on soils that produce continuous stands of fine fuels. Production of fine fuels is restricted on soils that are droughty, shallow and/or stony. A sparse stand of fine fuels reduces the frequency and extent of wildfires and provides "safe" sites for stands of pinyon and juniper to develop.

Traditional products of the pinyon-juniper communities include firewood, fence posts, pine nuts, and Christmas trees. As energy demands and costs increase, firewood harvesting becomes more important as a woodland product. Other uses include livestock grazing, wildlife food and cover, recreation, and watershed protection. Pinyon trees are also of considerable cultural value to Native Americans of the Great Basin.

Tree production should be encouraged on sites known to be productive or on soils that originally supported pinyon-juniper communities. Invasion of pinyon or juniper into sagebrush-grass rangelands should be controlled to prevent potential degradation of the rangeland resource. When developing a management plan, it is important to evaluate the soil and site potentials. Consideration should be given to all resource values, site opportunities, and economic factors.

Understory vegetation consists of grasses, forbs, shrubs, and other plants. Some communities, if well managed, can produce enough understory vegetation to support grazing of livestock or wildlife, or both, without damage to the trees or understory. The

quantity and quality of understory vegetation vary with the kind of soil, the age and kind of trees in the canopy, the density of the canopy, the amount of litter accumulation, and level of tree competition for soil moisture and nutrients. Areas where there is a heterogeneous mix of vegetative types including grassland, low shrub, tall shrub, and tree/shrub communities usually provide an optimum diversity of habitat and wildlife.

### **Montane Zone**

The Montane Zone includes the high elevation conifer forests of the survey area occurring at elevations from approximately 8,500 to 10,300 feet. Average annual precipitation at these elevations is from 15 to 24 inches. At lower elevations within this Zone are plant associations of ponderosa pine, white fir, and Rocky Mountain juniper. The subalpine forest communities are dominated by bristlecone pine and limber pine. Wax currant, common juniper, snowberry, mountain mahogany, and goldenbush are common understory shrub species. Understory grasses include muttongrass, sedge, crested needlegrass, bottlebrush squirreltail, blue grama, and bluebunch wheatgrass. There are also several plant species of concern occurring in this zone.

Small aspen patches occur at springs and along perennial streams. Aspen stands also occur in avalanche chutes.

Fires of the past were important to the evolution of the ponderosa pine forest. Below average precipitation has been recorded for the past 15 out of 20 years (1985 to 2005) at the Red Rock Canyon climate station. Precipitation is critical for trees to remain vigorous, which increases resistance to insects and pathogens. During drought conditions, tree resistance is significantly reduced. The effects of drought and increased insect activity are noticeable throughout the Montane Zone. Densely overstocked conditions have resulted because of the cessation of frequent burning in the ponderosa pine forests. This has resulted in slow growth and poor vigor, which makes the dominant trees highly vulnerable to mortality in epidemics of insects and diseases. Large acreages of beetle-caused mortality have been documented in pinyon pine, ponderosa pine, white fir, and limber pine (USFS, NDOF 2004).

### **Alpine Zone**

The Alpine Zone consists of rugged, partially vegetated terrain with snowfields and rocky ridges above the natural treeline. Elevations range from 10,300 to 11,918 feet. Average annual precipitation is from 18 to 24 inches. The Alpine Zone is characterized by high winds, low temperatures, low effective moisture, and short growing seasons. Alpine communities are structurally simple with few plant species compared to lower elevation vegetation zones. Alpine vegetation generally occurs in a mosaic of small patches with widely differing environmental conditions because of very small changes in topography. Vegetative cover is primarily herbaceous with minor amounts of tree and shrub cover. Common perennial forbs include roundleaf crazyweed, Clokey's daisy, Kern milkvetch, hidden ivesia, Hitchcock's bladderpod, blue columbine, and Charleston tansy. Perennial grasses and grass-like plants include Letterman's needlegrass, fringed brome, slender wheatgrass, mat muhly, Sandberg's bluegrass, alpine fescue, Ross' sedge, and bottlebrush squirreltail. Annual plants are rare in this zone and usually are only a few inches tall.

Alpine communities are sensitive to disturbance, and the effects of human disturbances are more drastic and long-lasting than in other vegetation zones. Vegetation recovery is slow because of the cold and extreme temperatures, high winds, prolonged snow cover, and intense ultraviolet radiation. Fire occurs infrequently in the Alpine Zone and fire size is small, sometimes limited to a single tree.

## Wildlife Considerations

In assessing the impact of the manipulation of vegetation on wildlife it is important to consider the role "edges" play in wildlife habitat. An "edge", or ecotone, is a transition between plant communities or where vegetative structure within plant communities comes together. These edges are commonly richer in wildlife than either of the adjoining communities. The structure and dominance of plants that remain after manipulation of vegetation differ with the treatment method. Fire usually removes all vegetation including the skeletons or woody portions of shrubs and thus eliminates the structure of woody vegetation from the area treated. Prescription burning may enhance habitat for a number of wildlife species. Mule deer, elk, and many non-game species select recently burned areas for feeding. Brush treatments using herbicides leave the dead skeletons of shrubs and the shrub structure is retained. Herbicide control of shrubs may also kill broad-leaved forbs in the shrub understory which are a staple part of the diet of many wildlife species.

Many wildlife species in the survey area are dependent upon riparian plant communities for a significant portion of the year. Riparian communities support wildlife not common to desert ecosystems. For example, these areas are important as islands of habitat in desert environments for migrating birds. Species such as nuthatches and warblers, which nest in forest ecosystems, can be found in desert riparian zones during the spring and fall. These communities are concentration areas not only for wildlife, but also recreational users, livestock, and feral horses and burros.

Reducing big sagebrush cover can benefit mule deer and elk where the habitat needs of these animals are properly identified and planned for in the manipulation of vegetation. Removal of big sagebrush to enhance the diversity of understory grasses and forbs or to increase production of green forage on transitional range where shrub cover is excessive can benefit mule deer and elk.

### Wildlife Considerations of the Lower Mojavean Zone

Creosotebush communities provide habitat for many desert mammals, including desert bighorn sheep, coyotes, kit foxes, black-tailed jack rabbits, Audubon's cottontails, antelope ground squirrels, Mojave ground squirrels, numerous species of rats and mice, and the desert shrew (Hall 1946, Zeveloff 1988). Many of the small mammals browse and consume the seeds of the common shrub species in these communities.

Reptiles that rely on creosotebush communities include lizards; such as the desert iguana, leopard lizard, spiny lizard, horned lizard, zebra-tailed lizard, and whiptail lizard; and snakes, including the Mojave shovel-nosed snake, southwestern black-headed snake, Mojave rattlesnake, and the Mojave Desert sidewinder. Desert tortoise is widespread in the Mojave Desert, inhabiting the creosotebush scrub communities. Desert tortoises dig burrows for winter hibernation and shallow holes for summer estivation. Burrows are dug mostly under shrubs and rocks. They can also be found in the banks of gullies and washes. Desert tortoises are primarily herbivorous, eating mostly annual forbs, grasses, and a few shrubs.

Birds that are closely associated with creosotebush communities are numerous but include the loggerhead shrike, cactus wren, Gambel's quail, and the roadrunner. Many other wildlife species associated with creosotebush scrub, however, are restricted to the vicinity of moist valleys, permanent springs, or stock-water developments. For example, the southwestern willow flycatcher nests along the Colorado River riparian system.

### **Wildlife Considerations of the Saltbush Zone**

Salt-desert shrub communities are home to a wide variety of non-game species including antelope ground squirrels, numerous species of kangaroo rats and pocket mice, Le Conte's thrashers, loggerhead shrikes, leopard lizards, whiptail lizards, and the Mojave shovel-nosed snake. Few mule deer utilize salt-desert shrub communities and these communities are generally considered unimportant to deer management. Feral horses and burros will use these salt-desert shrub communities during the winter.

Some valleys also include areas of playas. Runoff water, produced during heavy rainfall events, is retained on the playas for short periods providing feeding habitat for some water birds because of the presence of fairy shrimp and other invertebrates. Playas containing water during the spring offer important resting places for migrating waterfowl. Sand dunes formed by the deposition of wind blown sediment are sometimes found on the leeward side of playas in the survey area. Although of limited extent, partially stabilized sand dunes can offer important habitat for both predator and prey vertebrate wildlife. Kangaroo rats are commonly found on sand dune areas as are the kit fox, bobcat, and the desert sidewinders that prey on them.

### **Wildlife Considerations of the Blackbrush Zone**

Blackbrush communities provide important habitat for desert bighorn sheep. The principal forage value of blackbrush appears to be as a browse species for bighorn sheep. Even though blackbrush is not desirable deer forage, in areas where it is extensive it may experience heavy browsing pressure. Mule deer generally use the blackbrush vegetation type in winter if snow packs at higher elevations are heavy. Many small mammals and birds consume blackbrush seeds. Grass species occurring in the blackbrush communities are a major food source for the bighorn sheep. The seeds from these grasses are the primary food source for the heteromyid rodents (kangaroo rats and pocket mice) that occupy the blackbrush communities. These populations fluctuate greatly in response to abundance of seeds and herbage from the annuals (Beatley 1969, 1976).

### **Wildlife Considerations of the Pygmy Conifer Zone**

Pinyon-juniper woodlands provide shelter and forage for numerous species of wildlife, some of which may be obligate to these woodlands such as pinyon mice. These forests have value as habitat for several large mammals such as mule deer, bighorn sheep, elk, and wild horses. Mountain lions, gray foxes, bobcats, coyotes, weasels, skunks, and badgers also live in this habitat and feed on numerous species of smaller mammals including rabbits, porcupines, squirrels, pocket gophers, rats, mice, and shrews (Hall 1946, Zeveloff, 1988). Many species of birds find food and shelter here. Pinyon-juniper forests are important wintering areas for Clark's nutcrackers. The quantity and variety of species using the pinyon-juniper woodlands changes with succession.

Mule deer use these woodland communities for thermal cover. Bighorn sheep use open areas and rock outcrops associated with the woodlands for winter range. Rocky Mountain elk are found throughout the survey area and rely heavily on the pinyon-juniper plant communities for most of their life cycles. The pinyon-juniper areas provide them with the food and cover that they need to survive year round.

### **Wildlife Considerations of the Montane Zone**

Conifer forests supply mule deer, elk, and desert bighorn sheep with exceptional summer range. Mule deer and elk will use these high elevation sites from early in the spring when the snow melts to early winter when snow begins to accumulate. These

areas have more than sufficient feed and cover for deer. Bighorn sheep are usually found near steep rocky slopes and cliffs free of dense brush. Conifer forests contain many of the same wildlife species that occur in the pinyon-juniper woodlands. In addition to these species, the high elevation basins also support many small mammal and bird species such as the endemic Palmer's chipmunk, several species of voles, and many species of warblers. The Montane Zone provides valuable breeding habitat for the flammulated owl, an insectivorous, cavity-nesting, neo-tropical migrant.

Springs and seeps in this region are sparse and tend to be areas that all wildlife depend on. Care should be taken to protect these springs that are essential to both wildlife and livestock.

There tends to be much diversity at these high elevations since there is an increased amount of precipitation. Seedlings in these areas are not usually needed as there is usually a sufficient seed source available after any type of disturbance.

### **Wildlife Considerations of the Alpine Zone**

Alpine communities are essentially vertical islands. Wildlife living at high elevations must be able to cope with high winds, cold temperatures, and desiccation because little precipitation originates from rainfall and it quickly drains. During mid-day, overheating can be a problem for alpine wildlife species (Martin 2001). Alpine communities provide habitat for migrating birds, such as hummingbirds, warblers, and other neotropical migrants, as well as small mammals, such as chipmunks, pocket gophers, mice, and shrews. Snowfields, melting through the season, create a gradient of plant phenology that provides an extended supply of nutritious forage for herbivores that migrate to higher elevations, such as mule deer, elk, and desert bighorn sheep.

### **Rehabilitation of Disturbed Habitats**

Establishment and growth of native plants are naturally slow processes under the extreme conditions of the desert, and disturbance makes these conditions even more severe. Natural recovery is thus extremely slow and does not necessarily result in plant communities that resemble pre-disturbance conditions. Rehabilitation efforts by seeding or transplanting may help mitigate many of these negative impacts and speed recovery.

The success of revegetation depends on the amount of moisture available during the growing season. Even in areas where adapted species are planted and improved seeding and land treatment techniques are applied, the success of revegetation is strongly influenced by rainfall. The distribution and amount of precipitation in the survey area fluctuate widely from one year to the next. Years of below normal precipitation are relatively frequent, and the risk of seeding failure caused by the unpredictability of climate should be acknowledged in addition to critical soil properties that affect seeding success. Removal of seeds by rodents and harvester ants may also severely limit seedling establishment.

Where critical area treatment is necessary, providing a plant cover that helps to prevent accelerated erosion may be advantageous on soils that are poorly suited to range seeding. Containerized-plantings of native species can be used to provide nurse and seed plants for the disturbed areas.

Other information regarding management, plant communities, wildlife, and revegetation discussed in this survey can be obtained by contacting the local Natural Resource Conservation Service, [www.nv.nrcs.usda.gov](http://www.nv.nrcs.usda.gov), or the local Cooperative Extension office, [www.unce.unr.edu](http://www.unce.unr.edu).

## Forestland Productivity and Management

The tables described in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forestland management.

### Forestland Productivity

In Table 6, "Forestland Productivity," the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

*Trees to manage* are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

### Forestland Management

The titles of the tables described in this section are:

Table 7, "Forestland Site Preparation"

Table 8, "Forestland Planting and Harvesting"

Table 9, "Damage by Fire and Seedling Mortality on Forestland"

Table 10, "Haul Roads, Log Landings, and Soil Rutting on Forestland"

Table 11, "Hazard of Erosion and Suitability for Roads on Forestland"

In these tables, interpretive ratings are given for various aspects of forestland management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified aspect of forestland management. *Well suited* indicates that the soil has features that are favorable for the specified management aspect and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified management aspect. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified management aspect. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified management aspect or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for fire damage and seedling mortality are expressed as *low*, *moderate*, and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual (USDA-NRCS 1998)," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities; *moderate* indicates that one or more limitations can cause some difficulty in construction; and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding.

The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column *potential for damage to soil by fire* are based on texture of the surface layer, content of rock fragments and organic matter in the surface layer, thickness of the surface layer, and slope. The soils are described as having a low, moderate, or high potential for this kind of damage. The ratings indicate an evaluation of the potential impact of prescribed fires or wildfires that are intense enough to remove the duff layer and consume organic matter in the surface layer.

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.



# Engineering

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This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties."

*Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.*

*The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.*

*Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.*

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, reclamation material, roadfill, and topsoil; plan structures for water management; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

## Building Site Development

The titles of the tables (available as online reports only) described in this section are:

"Dwellings and Small Commercial Buildings"

"Roads and Streets, Shallow Excavations, and Lawns and Landscaping"

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. The tables described in this section show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

*Dwellings* are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Small commercial buildings* are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

*Local roads and streets* have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel,

crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

*Shallow excavations* are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

*Lawns and landscaping* require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

## Construction Materials

The titles of the tables described in this section are:

Table 12, "Source of Sand and Gravel"

"Source of Reclamation Material, Roadfill, and Topsoil" (available as an online report only)

These tables give information about the soils as potential sources of gravel, sand, reclamation material, roadfill, and topsoil. Normal compaction, minor processing, and other standard construction practices are assumed.

*Gravel* and *sand* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In the table "Source of Sand and Gravel," only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good*, *fair*, or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that

the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

In the table "Source of Reclamation Material, Roadfill, and Topsoil," the rating class terms are *good*, *fair*, and *poor*. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of reclamation material, roadfill, and topsoil. The lower the number, the greater the limitation.

*Reclamation material* is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

*Roadfill* is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

*Topsoil* is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

# Soil Properties

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Data relating to soil properties are collected during the course of the soil survey.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering properties, physical and chemical properties, and pertinent soil and water features.

## Engineering Soil Properties

The table described in this section gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Texture* is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

*Classification* of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest. The AASHTO classification for soils tested, with group index numbers in parentheses, is given in the table "Engineering Index Test Data."

*Rock fragments* larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

*Percentage (of soil particles) passing designated sieves* is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

*Liquid limit* and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

## Physical Soil Properties

The table described in this section shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

*Sand* as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In the table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Silt* as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In the table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

*Clay* as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

*Moist bulk density* is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

*Saturated hydraulic conductivity* refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity ( $K_{sat}$ ). The estimates in the table indicate the rate of water movement, in micrometers per second, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

*Available water capacity* refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, including rock fragments, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

*Linear extensibility* refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

*Organic matter* is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

*Erosion factors* are shown in the table as the K factor ( $K_w$  and  $K_f$ ) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

*Erosion factor Kw* indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

*Erosion factor Kf* indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

*Erosion factor T* is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

*Wind erodibility groups* are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook (USDA-NRCS, 2003)," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

*Wind erodibility index* is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

## Chemical Soil Properties

The table described in this section shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

*Depth* to the upper and lower boundaries of each layer is indicated.

*Cation-exchange capacity* is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

*Effective cation-exchange capacity* refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

*Soil reaction* is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

*Calcium carbonate* equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

*Gypsum* is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

*Salinity* is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the

quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

*Sodium adsorption ratio (SAR)* is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

## Water Features

The table described in this section gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

*Hydrologic soil groups* are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A.—Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B.—Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C.—Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D.—Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

*Surface runoff* refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

*Water table* refers to a saturated zone in the soil. The table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

*Ponding* is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

*Flooding* is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

*Duration* and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

## Soil Features

The table described in this section gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

*Subsidence* is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial

subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

*Potential for frost action* is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

*Risk of corrosion* pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate, or high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low, moderate, or high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.



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# Glossary

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- ABC soil.** A soil having an A, a B, and a C horizon.
- Ablation till.** Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.
- AC soil.** A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.
- Aeration, soil.** The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.
- Aggregate, soil.** Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.
- Alkali (sodic) soil.** A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.
- Alluvial cone.** The material washed down the sides of mountains and hills by ephemeral streams and deposited at the mouth of gorges in the form of a moderately steep, conical mass descending equally in all directions from the point of issue.
- Alluvial fan.** The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.
- Alluvium.** Material, such as sand, silt, or clay, deposited on land by streams.
- Alpha,alpha-dipyridyl.** A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.
- Animal unit month (AUM).** The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.
- Aquic conditions.** Current soil wetness characterized by saturation, reduction, and redoximorphic features.
- Argillic horizon.** A subsoil horizon characterized by an accumulation of illuvial clay.
- Arroyo.** The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in alluvium.
- Aspect.** The direction in which a slope faces.
- Association, soil.** A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.
- Available water capacity (available moisture capacity).** The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low .....	0 to 3
Low .....	3 to 6
Moderate.....	6 to 9

High ..... 9 to 12  
 Very high..... more than 12

- Back slope.** The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, back slopes are commonly bounded by a convex shoulder above and a concave footslope below.
- Badland.** Steep or very steep, commonly nonstony, barren land dissected by many intermittent drainage channels. Badland is most common in semiarid and arid regions where streams are entrenched in soft geologic material. Local relief generally ranges from 25 to 500 feet. Runoff potential is very high, and geologic erosion is active.
- Bajada.** A broad alluvial slope extending from the base of a mountain range out into a basin and formed by coalescence of separate alluvial fans.
- Basal area.** The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.
- Basal till.** Compact glacial till deposited beneath the ice.
- Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.
- Base slope.** A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).
- Bedding planes.** Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.
- Bedding system.** A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.
- Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
- Bedrock-controlled topography.** A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.
- Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
- Bisequum.** Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.
- Blowout.** A shallow depression from which all or most of the soil material has been removed by the wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.
- Bottom land.** The normal flood plain of a stream, subject to flooding.
- Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.
- Breaks.** The steep and very steep broken land at the border of an upland summit that is dissected by ravines.
- Breast height.** An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.
- Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

- Butte.** An isolated small mountain or hill with steep or precipitous sides and a top variously flat, rounded, or pointed that may be a residual mass isolated by erosion or an exposed volcanic neck.
- Cable yarding.** A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.
- Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.
- Caliche.** A more or less cemented deposit of calcium carbonate in soils of warm-temperate, subhumid to arid areas. Caliche occurs as soft, thin layers in the soil or as hard, thick beds directly beneath the solum, or it is exposed at the surface by erosion.
- California bearing ratio (CBR).** The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.
- Canopy.** The leafy crown of trees or shrubs. (See Crown.)
- Canyon.** A long, deep, narrow, very steep sided valley with high, precipitous walls in an area of high local relief.
- Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.
- Catena.** A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.
- Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
- Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.
- Catsteps.** Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.
- Cement rock.** Shaly limestone used in the manufacture of cement.
- Channery soil material.** Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.
- Chemical treatment.** Control of unwanted vegetation through the use of chemicals.
- Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.
- Cirque.** A semicircular, concave, bowl-like area that has steep faces primarily resulting from glacial ice and snow abrasion.
- Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
- Clay depletions.** Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

- Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.
- Claypan.** A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.
- Climax plant community.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.
- Coarse textured soil.** Sand or loamy sand.
- Cobble (or cobblestone).** A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.
- COLE (coefficient of linear extensibility).** See Linear extensibility.
- Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.
- Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.
- Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.
- Concretions.** Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.
- Congeliturbate.** Soil material disturbed by frost action.
- Conglomerate.** A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.
- Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.
- Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.
- Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."
- Contour stripcropping.** Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

- Control section.** The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.
- Coppice dune.** A small dune of fine grained soil material stabilized around shrubs or small trees.
- Coprogenous earth (sedimentary peat).** Fecal material deposited in water by aquatic organisms.
- Corrosion.** Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.
- Cover crop.** A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.
- Cropping system.** Growing crops according to a planned system of rotation and management practices.
- Crop residue management.** Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.
- Cross-slope farming.** Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.
- Crown.** The upper part of a tree or shrub, including the living branches and their foliage.
- Cuesta.** A hill or ridge that has a gentle slope on one side and a steep slope on the other; specifically, an asymmetric, homoclinal ridge capped by resistant rock layers of slight or moderate dip.
- Culmination of the mean annual increment (CMAI).** The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.
- Cutbanks cave (in tables).** The walls of excavations tend to cave in or slough.
- Decreasers.** The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.
- Deferred grazing.** Postponing grazing or resting grazing land for a prescribed period.
- Delta.** A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.
- Dense layer (in tables).** A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.
- Depth, soil.** Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.
- Desert pavement.** On a desert surface, a layer of gravel or larger fragments that was emplaced by upward movement of the underlying sediments or that remains after finer particles have been removed by running water or the wind.
- Dip slope.** A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.
- Diversion (or diversion terrace).** A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.
- Divided-slope farming.** A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides

protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

**Drainage class (natural).** Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized: excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."

**Drainage, surface.** Runoff, or surface flow of water, from an area.

**Draw.** A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

**Drumlin.** A low, smooth, elongated oval hill, mound, or ridge of compact glacial till.

The longer axis is parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.

**Duff.** A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

**Ecological site.** An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

**Eluviation.** The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

**Endosaturation.** A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

**Eolian soil material.** Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

**Ephemeral stream.** A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

**Episaturation.** A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

**Erosion.** The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

**Erosion (geologic).** Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

**Erosion (accelerated).** Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

**Erosion pavement.** A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

**Escarpment.** A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

**Esker.** A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.

- Extrusive rock.** Igneous rock derived from deep-seated molten matter (magma) emplaced on the earth's surface.
- Fallow.** Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.
- Fan terrace.** A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.
- Fertility, soil.** The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.
- Fibric soil material (peat).** The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.
- Field moisture capacity.** The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.
- Fill slope.** A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.
- Fine textured soil.** Sandy clay, silty clay, or clay.
- Firebreak.** Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.
- First bottom.** The normal flood plain of a stream, subject to frequent or occasional flooding.
- Flaggy soil material.** Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.
- Flagstone.** A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.
- Flood plain.** A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.
- Fluvial.** Of or pertaining to rivers; produced by river action, as a fluvial plain.
- Foothill.** A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.
- Footslope.** The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).
- Forb.** Any herbaceous plant not a grass or a sedge.
- Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.
- Forest type.** A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.
- Fragipan.** A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

- Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.
- Gilgai.** Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.
- Glacial drift.** Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.
- Glacial outwash.** Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.
- Glacial till.** Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.
- Glaciofluvial deposits.** Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.
- Glaciolacustrine deposits.** Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial meltwater. Many deposits are interbedded or laminated.
- Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.
- Graded stripcropping.** Growing crops in strips that grade toward a protected waterway.
- Grassed waterway.** A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.
- Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.
- Gravelly soil material.** Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.
- Green manure crop (agronomy).** A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.
- Ground water.** Water filling all the unblocked pores of the material below the water table.
- Gully.** A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.
- Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.
- Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.
- Hard to reclaim (in tables).** Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.
- Head out.** To form a flower head.
- Head slope.** A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

**Hemic soil material (mucky peat).** Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

**High-residue crops.** Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

**Hill.** A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

**Horizon, soil.** A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

*O horizon.*—An organic layer of fresh and decaying plant residue.

*A horizon.*—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

*E horizon.*—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

*B horizon.*—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

*C horizon.*—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

*Cr horizon.*—Soft, consolidated bedrock beneath the soil.

*R layer.*—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

**Humus.** The well decomposed, more or less stable part of the organic matter in mineral soils.

**Hydrologic soil groups.** Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

**Igneous rock.** Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

**Illuviation.** The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

**Impervious soil.** A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

**Increasers.** Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

**Infiltration.** The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

**Infiltration capacity.** The maximum rate at which water can infiltrate into a soil under a given set of conditions.

**Infiltration rate.** The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

**Intake rate.** The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2 .....	very low
0.2 to 0.4 .....	low
0.4 to 0.75 .....	moderately low
0.75 to 1.25 .....	moderate
1.25 to 1.75 .....	moderately high
1.75 to 2.5 .....	high
More than 2.5 .....	very high

**Interfluv.** An elevated area between two drainageways that sheds water to those drainageways.

**Intermittent stream.** A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

**Invaders.** On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

**Iron depletions.** Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

**Irrigation.** Application of water to soils to assist in production of crops. Methods of irrigation are:

*Basin.*—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

*Border.*—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

*Controlled flooding.*—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

*Corrugation.*—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

*Drip (or trickle).*—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

*Furrow.*—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

*Sprinkler.*—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

*Subirrigation.*—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

*Wild flooding.*—Water, released at high points, is allowed to flow onto an area without controlled distribution.

- Kame.** An irregular, short ridge or hill of stratified glacial drift.
- Karst (topography).** The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.
- Knoll.** A small, low, rounded hill rising above adjacent landforms.
- Ksat.** Saturated hydraulic conductivity. (See Permeability.)
- Lacustrine deposit.** Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.
- Landslide.** The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.
- Large stones (in tables).** Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.
- Leaching.** The removal of soluble material from soil or other material by percolating water.
- Linear extensibility.** Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at 1/3 or 1/10 bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.
- Liquid limit.** The moisture content at which the soil passes from a plastic to a liquid state.
- Loam.** Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.
- Loess.** Fine grained material, dominantly of silt-sized particles, deposited by wind.
- Low-residue crops.** Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.
- Low strength.** The soil is not strong enough to support loads.
- Marl.** An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.
- Masses.** Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.
- Mechanical treatment.** Use of mechanical equipment for seeding, brush management, and other management practices.
- Medium textured soil.** Very fine sandy loam, loam, silt loam, or silt.
- Mesa.** A broad, nearly flat topped and commonly isolated upland mass characterized by summit widths that are more than the heights of bounding erosional scarps.
- Metamorphic rock.** Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.
- Mineral soil.** Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.
- Minimum tillage.** Only the tillage essential to crop production and prevention of soil damage.
- Miscellaneous area.** An area that has little or no natural soil and supports little or no vegetation.

- Moderately coarse textured soil.** Coarse sandy loam, sandy loam, or fine sandy loam.
- Moderately fine textured soil.** Clay loam, sandy clay loam, or silty clay loam.
- Mollic epipedon.** A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.
- Moraine.** An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.
- Morphology, soil.** The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.
- Mottling, soil.** Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).
- Mountain.** A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.
- Muck.** Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)
- Mudstone.** Sedimentary rock formed by induration of silt and clay in approximately equal amounts.
- Munsell notation.** A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.
- Natric horizon.** A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.
- Neutral soil.** A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)
- Nodules.** Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.
- Nose slope.** A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.
- Nutrient, plant.** Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.
- Organic matter.** Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:
- |                     |                       |
|---------------------|-----------------------|
| Very low.....       | less than 0.5 percent |
| Low.....            | 0.5 to 1.0 percent    |
| Moderately low..... | 0 to 2.0 percent      |
| Moderate.....       | 2.0 to 4.0 percent    |
| High.....           | 4.0 to 8.0 percent    |
| Very high.....      | more than 8.0 percent |
- Outwash plain.** A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

- Paleoterrace.** An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.
- Pan.** A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.
- Parent material.** The unconsolidated organic and mineral material in which soil forms.
- Peat.** Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)
- Ped.** An individual natural soil aggregate, such as a granule, a prism, or a block.
- Pedisediment.** A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.
- Pedon.** The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.
- Percolation.** The movement of water through the soil.
- Permafrost.** Layers of soil, or even bedrock, occurring in arctic or subarctic regions, in which a temperature below freezing has existed continuously for a long time.
- Permeability.** The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:
- |                       |                        |
|-----------------------|------------------------|
| Impermeable.....      | less than 0.0015 inch  |
| Very slow .....       | 0.0015 to 0.06 inch    |
| Slow .....            | 0.06 to 0.2 inch       |
| Moderately slow.....  | 0.2 to 0.6 inch        |
| Moderate.....         | 0.6 inch to 2.0 inches |
| Moderately rapid..... | 2.0 to 6.0 inches      |
| Rapid .....           | 6.0 to 20 inches       |
| Very rapid .....      | more than 20 inches    |
- Phase, soil.** A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.
- pH value.** A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)
- Piping (in tables).** Formation of subsurface tunnels or pipelike cavities by water moving through the soil.
- Pitting (in tables).** Pits caused by melting around ice. They form on the soil after plant cover is removed.
- Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.
- Plastic limit.** The moisture content at which a soil changes from semisolid to plastic.
- Plateau.** An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.
- Playa.** The generally dry and nearly level lake plain that occupies the lowest parts of closed depressional areas, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff.
- Plinthite.** The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone

hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

**Plowpan.** A compacted layer formed in the soil directly below the plowed layer.

**Ponding.** Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

**Poorly graded.** Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

**Potential native plant community.** See Climax plant community.

**Potential rooting depth (effective rooting depth).** Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

**Prescribed burning.** Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

**Productivity, soil.** The capability of a soil for producing a specified plant or sequence of plants under specific management.

**Profile, soil.** A vertical section of the soil extending through all its horizons and into the parent material.

**Proper grazing use.** Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

**Rangeland.** Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

**Reaction, soil.** A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid.....	less than 3.5
Extremely acid .....	3.5 to 4.4
Very strongly acid .....	4.5 to 5.0
Strongly acid.....	5.1 to 5.5
Moderately acid .....	5.6 to 6.0
Slightly acid.....	6.1 to 6.5
Neutral .....	6.6 to 7.3
Slightly alkaline.....	7.4 to 7.8
Moderately alkaline.....	7.9 to 8.4
Strongly alkaline .....	8.5 to 9.0
Very strongly alkaline .....	9.1 and higher

**Red beds.** Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

**Redoximorphic concentrations.** Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

**Redoximorphic depletions.** Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

- Redoximorphic features.** Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.
- Reduced matrix.** A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.
- Regolith.** The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.
- Relief.** The elevations or inequalities of a land surface, considered collectively.
- Residuum (residual soil material).** Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.
- Rill.** A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.
- Road cut.** A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.
- Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.
- Root zone.** The part of the soil that can be penetrated by plant roots.
- Runoff.** The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.
- Saline soil.** A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.
- Sand.** As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.
- Sandstone.** Sedimentary rock containing dominantly sand-sized particles.
- Sapric soil material (muck).** The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.
- Saprolite.** Unconsolidated residual material underlying the soil and grading to hard bedrock below.
- Saturation.** Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.
- Scarification.** The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.
- Second bottom.** The first terrace above the normal flood plain (or first bottom) of a river.
- Sedimentary rock.** Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.
- Sequum.** A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)
- Series, soil.** A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.
- Shale.** Sedimentary rock formed by the hardening of a clay deposit.

- Sheet erosion.** The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.
- Shoulder.** The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.
- Shrink-swell (in tables).** The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.
- Side slope.** A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.
- Silica.** A combination of silicon and oxygen. The mineral form is called quartz.
- Silica-sesquioxide ratio.** The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.
- Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.
- Siltstone.** Sedimentary rock made up of dominantly silt-sized particles.
- Similar soils.** Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.
- Sinkhole.** A depression in the landscape where limestone has been dissolved.
- Site index.** A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.
- Slickensides.** Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.
- Slick spot.** A small area of soil having a puddled, crusted, or smooth surface and an excess of exchangeable sodium. The soil generally is silty or clayey, is slippery when wet, and is low in productivity.
- Slope.** The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance
- Sloughed till.** Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.
- Slow refill (in tables).** The slow filling of ponds, resulting from restricted permeability in the soil.
- Sodic (alkali) soil.** A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.
- Sodicity.** The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of  $\text{Na}^+$  to  $\text{Ca}^{++} + \text{Mg}$ . The degrees of sodicity and their respective ratios are:

Slight.....	less than 13:1
Moderate.....	13-30:1
Strong .....	more than 30:1

**Sodium adsorption ratio (SAR).** A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

**Soft bedrock.** Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

**Soil.** A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

**Soil separates.** Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand.....	2.0 to 1.0
Coarse sand .....	1.0 to 0.5
Medium sand .....	0.5 to 0.25
Fine sand .....	0.25 to 0.10
Very fine sand.....	0.10 to 0.05
Silt.....	0.05 to 0.002
Clay.....	less than 0.002

**Solum.** The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

**Stone line.** A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

**Stones.** Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

**Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.

**Stripcropping.** Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

**Structure, soil.** The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy (laminated)*, *prismatic (vertical axis of aggregates longer than horizontal)*, *columnar (prisms with rounded tops)*, *blocky (angular or subangular)*, and *granular*. *Structureless* soils are either single grain (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

**Stubble mulch.** Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

**Subsoil.** Technically, the B horizon; roughly, the part of the solum below plow depth.

**Subsoiling.** Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

**Substratum.** The part of the soil below the solum.

**Subsurface layer.** Any surface soil horizon (A, E, AB, or EB) below the surface layer.

**Summer fallow.** The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice

- common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.
- Summit.** The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.
- Surface layer.** The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."
- Surface soil.** The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.
- Talus.** Fragments of rock and other soil material accumulated by gravity at the foot of cliffs or steep slopes.
- Taxadjuncts.** Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.
- Terminal moraine.** A belt of thick glacial drift that generally marks the termination of important glacial advances.
- Terrace.** An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.
- Terrace (geologic).** An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.
- Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, and clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."
- Thin layer (in tables).** Otherwise suitable soil material that is too thin for the specified use.
- Till plain.** An extensive area of nearly level to undulating soils underlain by glacial till.
- Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.
- Toeslope.** The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.
- Topsoil.** The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.
- Trace elements.** Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.
- Tuff.** A compacted deposit that is 50 percent or more volcanic ash and dust.
- Upland.** Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.
- Valley fill.** In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.
- Variation.** Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

**Varve.** A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

**Water bars.** Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

**Weathering.** All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

**Well graded.** Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

**Wilting point (or permanent wilting point).** The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

**Windthrow.** The uprooting and tipping over of trees by the wind.



# **TABLES**

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TABLE 1.—Temperature and Precipitation  
(Recorded in the period 1971 2000 at Desert Game Range, Nevada)

Month	Temperature (Degrees F.)						Precipitation (Inches)				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have		Average number of growing degree days*	Average	2 years in 10 will have		Average number of days with 0.01 inch or more	Average snow fall
				Maximum temperature higher than	Minimum temperature less than			less than	more than		
January	57.3	29.5	43.4	72	13	139	0.45	0.04	0.75	1	0.5
February	62.3	33.1	47.7	78	16	226	0.58	0.06	0.86	1	0.1
March	68.5	38.5	53.5	85	24	409	0.78	0.04	1.42	2	0.0
April	76.6	44.3	60.4	94	30	603	0.28	0.00	0.45	0	0.0
May	86.0	52.4	69.2	102	37	888	0.26	0.02	0.45	0	0.0
June	96.8	60.3	78.6	110	45	1,138	0.14	0.00	0.27	0	0.0
July	102.0	66.6	84.3	112	53	1,334	0.46	0.00	0.79	1	0.0
August	99.9	65.6	82.7	111	44	1,292	0.41	0.00	0.77	1	0.0
September	92.0	58.1	75.0	105	44	1,023	0.42	0.00	0.67	1	0.0
October	80.1	46.7	63.4	96	29	703	0.31	0.00	0.51	0	0.0
November	65.7	35.6	50.7	83	20	318	0.28	0.00	0.50	0	0.0
December	57.4	29.2	43.3	72	14	135	0.39	0.00	0.64	1	0.0
Yearly :											
Average	78.7	46.6	62.7								
Extreme	115	0		112	10						
Total						8,208	4.77	2.83	6.40	8	0.5

Average number of days per year with at least 1 inch of snow on the ground: 15

\*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (Threshold: 40.0 degrees F.)

TABLE 1.—Temperature and Precipitation

(Recorded in the period 1971 92 at Logandale, Nevada)

Month	Temperature (Degrees F.)						Precipitation (Inches)				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have		Average number of growing degree days*	Average	2 years in 10 will have		Average number of days with 0.01 inch or more	Average snow fall
				Maximum temperature higher than	Minimum temperature less than			less than	more than		
January	58.8	31.1	44.9	73	17	165	0.66	0.14	1.18	2	0.4
February	65.4	35.6	50.5	82	21	291	0.60	0.00	1.09	1	0.3
March	70.9	40.7	55.8	87	27	471	0.74	0.03	1.44	2	0.0
April	79.7	46.2	63.0	96	32	644	0.17	0.00	0.27	0	0.0
May	88.8	54.6	71.7	105	39	910	0.29	0.02	0.43	1	0.0
June	100.5	62.1	81.3	114	48	1,171	0.07	0.00	0.12	0	0.0
July	105.4	68.8	87.1	116	53	1,382	0.52	0.05	0.83	0	0.0
August	102.2	67.4	84.8	113	42	1,312	0.60	0.00	0.95	1	0.0
September	95.7	60.1	77.9	110	32	1,071	0.45	0.00	0.73	1	0.0
October	84.0	49.3	66.7	100	29	773	0.40	0.02	0.58	1	0.0
November	68.8	38.3	53.6	87	25	390	0.45	0.00	0.63	1	0.0
December	60.0	31.0	45.5	74	17	182	0.44	0.00	0.90	1	0.0
Yearly :											
Average	81.7	48.8	65.2								
Extreme	119	7		120	15						
Total						8,762	5.37	3.05	6.92	11	0.7

Average number of days per year with at least 1 inch of snow on the ground: 15

\*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (Threshold: 40.0 degrees F.)

TABLE 1.—Temperature and Precipitation

(Recorded in the period 1971 2000 at Searchlight, Nevada)

Month	Temperature (Degrees F.)						Precipitation (Inches)				
	Average daily maximum	Average daily minimum	Average daily	Maximum temperature higher than	Minimum temperature less than	Average number of growing degree days*	Average	2 years in 10 will have		Average number of days with 0.01 inch or more	Average snow fall
January	54.2	36.4	45.3	70	19	192	1.00	0.12	1.79	2	0.6
February	59.2	39.1	49.1	75	22	267	1.14	0.19	1.85	2	0.0
March	65.1	42.1	53.6	82	27	420	1.07	0.02	2.18	2	0.1
April	73.4	47.9	60.6	90	32	616	0.34	0.00	0.59	0	0.0
May	82.8	55.9	69.3	98	38	909	0.23	0.00	0.41	0	0.0
June	93.3	65.5	79.4	106	47	1,181	0.08	0.00	0.14	0	0.0
July	97.8	71.2	84.5	108	59	1,379	0.97	0.06	1.63	1	0.0
August	95.9	69.8	82.8	105	58	1,316	1.13	0.11	1.85	1	0.0
September	88.6	63.2	75.9	101	48	1,073	0.72	0.00	1.12	1	0.0
October	77.1	53.4	65.2	93	34	775	0.51	0.05	0.83	1	0.0
November	63.1	42.2	52.6	78	26	382	0.47	0.00	0.85	1	0.0
December	54.4	36.4	45.4	70	20	198	0.71	0.00	1.25	1	0.1
Yearly :											
Average	75.4	51.9	63.7								
Extreme	111	8		108	16						
Total						8,707	8.38	4.93	11.21	12	0.8

Average number of days per year with at least 1 inch of snow on the ground: 15

\*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (Threshold: 40.0 degrees F.)

TABLE 2.--FREEZE DATES IN SPRING AND FALL

(Recorded in the period 1961-90 at Desert Game Range, Nevada)

Probability	Temperature		
	24 degrees F. or lower	28 degrees F. or lower	32 degrees F. or lower
<b>Last freezing temperature in spring:</b>			
<b>1 year in 10</b> later than--	March 14	April 13	April 30
2 years in 10 later than--	March 6	April 3	April 22
5 years in 10 later than--	February 19	March 17	April 7
<b>First freezing temperature in fall:</b>			
1 year in 10 earlier than--	November 7	November 8	October 25
2 years in 10 earlier than--	November 15	November 12	October 30
5 years in 10 earlier than--	November 30	November 20	November 8

TABLE 2.--FREEZE DATES IN SPRING AND FALL

(Recorded in the period 1968-90 at Logandale, Nevada)

Probability	Temperature		
	24 degrees F. or lower	28 degrees F. or lower	32 degrees F. or lower
<b>Last freezing temperature in spring:</b>			
<b>1 year in 10</b> later than--	February 14	March 15	April 15
2 years in 10 later than--	February 7	March 4	April 6
5 years in 10 later than--	January 20	February 7	March 20
<b>First freezing Temperature in fall:</b>			
1 year in 10 earlier than--	November 18	November 9	October 27
2 years in 10 earlier than--	November 26	November 16	November 2
5 years in 10 earlier than--	December 10	November 28	November 13

TABLE 2.--FREEZE DATES IN SPRING AND FALL  
(Recorded in the period 1961-90 at Searchlight, Nevada)

Probability	Temperature		
	24 degrees F. or lower	28 degrees F. or lower	32 degrees F. or lower
<b>Last freezing temperature in spring:</b>			
<b>1 year in 10 later than--</b>	March 1	March 16	April 26
<b>2 years in 10 later than--</b>	February 17	March 5	April 14
<b>5 years in 10 later than--</b>	January 26	February 11	March 20
<b>First freezing temperature in fall:</b>			
<b>1 year in 10 earlier than--</b>	November 26	November 18	November 3
<b>2 years in 10 earlier than--</b>	December 7	November 26	November 9
<b>5 years in 10 earlier than--</b>	December 30	December 12	November 20

TABLE 3.--GROWING SEASON

(Recorded in the period 1971-00 at Desert Game Range, Nevada)

Probability	Daily Minimum Temperature during growing season		
	Higher than 24 degrees F.	Higher than 28 degrees F.	Higher than 32 degrees F.
	<u>Days</u>	<u>Days</u>	<u>Days</u>
9 years in 10	253	225	195
8 years in 10	265	235	204
5 years in 10	288	253	222
2 years in 10	311	272	239
1 year in 10	323	282	248

TABLE 3.--GROWING SEASON

(Recorded in the period 1971-92 at Logandale, Nevada)

Probability	Daily Minimum Temperature during growing season		
	Higher than 24 degrees F.	Higher than 28 degrees F.	Higher than 32 degrees F.
	<u>Days</u>	<u>Days</u>	<u>Days</u>
9 years in 10	291	252	213
8 years in 10	298	264	223
5 years in 10	313	289	243
2 years in 10	328	313	262
1 year in 10	336	326	273

TABLE 3.--GROWING SEASON  
 (Recorded in the period 1971-00 at Searchlight, Nevada)

Probability	Daily Minimum Temperature during growing season		
	Higher than 24 degrees F.	Higher than 28 degrees F.	Higher than 32 degrees F.
	<u>Days</u>	<u>Days</u>	<u>Days</u>
9 years in 10	278	259	208
8 years in 10	305	277	221
5 years in 10	> 365	310	245
2 years in 10	> 365	354	268
1 year in 10	> 365	> 365	281

TABLE 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
100	Newera association-----	15,541	0.5
101	Glencarb very fine sandy loam, saline-----	151	*
105	Galehills extremely gravelly fine sandy loam, 15 to 50 percent slopes----	6,867	0.2
106	Galehills-Zeheme association-----	2,431	*
107	Galehills-Calwash association-----	4,403	0.1
110	Tenwell-Crosgrain association-----	7,727	0.3
111	Tenwell-Shamock association-----	11,165	0.4
112	Arizo very gravelly loamy sand, flooded, 0 to 4 percent slopes-----	4	*
113	Arizo very gravelly fine sandy loam, gypsiferous substratum, 2 to 8 percent slopes-----	18	*
115	Whitebasin-Upperline-Hardbasin association-----	4,813	0.2
120	Crosgrain-Tenwell association-----	3,645	0.1
121	Sweetspring-Carrizo association-----	1,284	*
125	Bobzbulz-Snapcan association-----	1,434	*
134	Newera-Nipton association-----	5,799	0.2
135	Nippeno-Mountmcul-Whitebasin association-----	17,886	0.6
140	Haleburu extremely gravelly sandy loam, 4 to 15 percent slopes-----	5,737	0.2
141	Nipton-Haleburu-Rock outcrop association-----	24,590	0.8
143	Haleburu association-----	7,036	0.2
144	Haleburu, extremely cobbly-Hiddensun association-----	4,569	0.2
146	Haleburu-Nipton association-----	5,077	0.2
147	Haleburu-Nipton association, dry-----	10,200	0.3
148	Haleburu-Seanna association-----	9,899	0.3
150	Hypoint gravelly sandy loam, 0 to 4 percent slopes-----	13,455	0.4
151	Bluepoint-Arizo association-----	1,510	*
155	Bitterridge-Helkitchen association-----	2,813	*
160	Lanip-Kidwell association-----	54,498	1.8
165	Upperline-Weiser-Whitebasin association-----	7,817	0.3
167	Upperline-St. Thomas-Upperline association-----	10,662	0.4
168	Upperline very gravelly sandy loam, 8 to 30 percent slopes-----	6,537	0.2
170	Tenwell-Lanip association-----	22,558	0.7
175	St. Thomas-Rock outcrop complex-----	11,677	0.4
176	St. Thomas association-----	7,809	0.3
177	St. Thomas-Upperline-Whitebasin complex-----	6,087	0.2
178	St. Thomas-Iceberg-Rock outcrop association-----	16,006	0.5
180	Kidwell-Tenwell association-----	31,488	1.0
185	Lastchance-Commski association-----	7,184	0.2
186	Lastchance-Ferrogold-Commski association-----	3,462	0.1
190	Filaree-Lanip-Nickel association-----	16,713	0.6
191	Bluepoint-Grapevine association-----	7,211	0.2
192	Bluepoint association-----	7,882	0.3
195	Cruzspring-Schader-Rock outcrop association-----	758	*
200	Commski-Weiser-Threelakes association-----	25,279	0.8
201	Commski extremely gravelly loam, 8 to 30 percent slopes-----	298	*
202	Commski-Lastchance association-----	16,442	0.5
203	Commski-Oldspan-Lastchance association-----	64,896	2.2
205	Callville-Badland-Guardian association-----	3,379	0.1
207	Callville association-----	227	*
210	Nickel-Arizo association-----	9,088	0.3
211	Nickel-Crosgrain association-----	2,962	*
220	Haymont-Bluepoint association-----	4,010	0.1
221	Haymont association-----	2,676	*
225	Baseline-Callville-Badland association-----	14,684	0.5
226	Baseline extremely gravelly fine sandy loam, 2 to 8 percent slopes-----	1,808	*
227	Baseline-Gypwash association-----	3,316	0.1
228	Baseline-Guardian association-----	3,559	0.1
230	Wechech-Weiser association-----	17,398	0.6
231	Wechech very gravelly fine sandy loam, 2 to 8 percent slopes-----	2,682	*
232	Wechech-Upperline association-----	4,549	0.2
233	Wechech-Ifteen association-----	2,895	*
234	Wechech very gravelly fine sandy loam, 8 to 30 percent slopes-----	4,243	0.1
235	Gypwash-Callville-Carrizo association-----	10,325	0.3

See footnote at end of table.

TABLE 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
237	Wechech association-----	343	*
240	Crosgrain-Irongold-Nickel association-----	21,465	0.7
241	Crosgrain-Typic Torriorthents-Nickel association-----	4,853	0.2
250	Mormon Mesa-Naye association-----	3,937	0.1
255	Tumarion-Nipton association-----	1,344	*
260	Naye-Bitter Spring association-----	2,383	*
261	Vace-Jean association-----	164	*
265	Azureridge very gravelly sandy loam, 15 to 50 percent slopes-----	6,943	0.2
270	Bard-Nickel-Limewash association-----	7,683	0.3
271	Moapa-Bluepoint association-----	2,470	*
272	Moapa-Bluepoint-Rock outcrop association-----	1,856	*
285	Heleweiser-Carrizo-Teebar association-----	6,492	0.2
286	Heleweiser-Carrizo association-----	2,873	*
287	Heleweiser association-----	7,765	0.3
288	Heleweiser-Teebar association-----	749	*
289	Heleweiser-Upperline-Nickel association-----	1,276	*
290	Rock outcrop-Moapa-Bluepoint association-----	15,778	0.5
291	Rock outcrop-Highland association-----	5,762	0.2
292	Rock outcrop-Nupper association-----	12,570	0.4
294	Rock outcrop, sandstone-----	1,343	*
298	Rock outcrop-Redneedle-Heleweiser association-----	2,565	*
310	Weiser-Arizo association-----	6,191	0.2
311	Weiser-Threelakes association-----	22,295	0.7
313	Weiser-Oldspan-Wechech association-----	26,644	0.9
314	Weiser-Wechech association-----	58,094	1.9
315	Weiser Association-----	5,272	0.2
320	Boxspring-Zeheme-Rock outcrop association-----	29,280	1.0
321	Boxspring-Seralin-Rock outcrop association-----	3,703	0.1
322	Boxspring-Potosi-Rock outcrop association-----	57,319	1.9
323	Boxspring-Scrapy-Rock outcrop association-----	36,584	1.2
325	Sandpan-Rositas association-----	2,409	*
330	Ramshead-St. Thomas-Rock outcrop association-----	2,386	*
335	Teebar very cobbly fine sandy loam, 0 to 4 percent slopes-----	1,433	*
336	Teebar-Sandpan association-----	12,562	0.4
340	Zeheme-Rock outcrop association-----	52,252	1.7
341	Zeheme extremely gravelly fine sandy loam, 8 to 30 percent slopes-----	1,621	*
342	Zeheme-Potosi-Rock outcrop association-----	14,437	0.5
343	Zeheme-Rock outcrop-Boxspring association-----	7,764	0.3
351	Seralin extremely gravelly loam, 30 to 75 percent slopes-----	13,615	0.5
352	Seralin-Tralely-Rock outcrop association-----	22,009	0.7
355	Seralin-Devilsthumb-Ednagrey association-----	2,849	*
360	Bracken-Arizo-Badland association-----	1,979	*
365	Callville-Gypwash-Badland association-----	860	*
375	Iceberg-Rock outcrop-Helkitchen association-----	6,063	0.2
376	Iceberg-St. Thomas-Rock outcrop association-----	11,093	0.4
380	Tonopah-Arizo association-----	63,697	2.1
390	Tipnat-Hypoint-Grapevine association-----	5,828	0.2
391	Tipnat-Bluepoint-Hypoint association-----	2,656	*
400	Arizo-Cafetal association-----	19,520	0.6
405	Oxyaquic Torrifluvents-Gypwash association-----	35	*
411	Bludiamond-Diamondhil association-----	6,731	0.2
415	Valatier-Goldbutte association-----	1,589	*
421	Moentria extremely gravelly loam, 15 to 50 percent slopes-----	3,131	0.1
422	Moentria-Purob Association-----	19,402	0.6
430	Bluepoint-Tipnat-Grapevine association-----	2,510	*
431	Hypoint-Vegastorm association-----	5,368	0.2
441	Corbilt gravelly loamy fine sand, 0 to 4 percent slopes-----	1,232	*
450	Arizo association-----	39,156	1.3
451	Arizo-Peskah-Crosgrain association-----	9,993	0.3
454	Arizo-Riverwash association-----	1,022	*
455	Arizo-Tenwell association-----	4,404	0.1
460	Pahrump-Wodavar-Vegastorm association-----	15,378	0.5

See footnote at end of table.

TABLE 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
461	Pahrump-Bluepoint association-----	1,363	*
470	Filaree-Seanna association-----	7,266	0.2
475	Guardian-Sunrock-Badland association-----	2,724	*
477	Guardian-Baseline-Guardian association-----	6,237	0.2
478	Guardian-Baseline association-----	3,900	0.1
480	Vace-Arizo association-----	5,693	0.2
481	Vace-Wechech association-----	8,846	0.3
490	Iftteen extremely gravelly very fine sandy loam, 2 to 8 percent slopes----	1,590	*
500	Playas-----	8,021	0.3
501	Dams, concrete-----	22	*
504	Pits, quarry-----	424	*
505	Pits, gravel-----	702	*
506	Pits-Dumps association-----	656	*
508	Landfill-----	269	*
510	Railroad association-----	20,128	0.7
520	Nolena-Rock outcrop association-----	25,582	0.8
521	Nolena-Nipton association-----	2,631	*
522	Nolena-Meadview association-----	5,484	0.2
523	Nolena association-----	2,619	*
530	Seanna-Botleg association-----	6,600	0.2
531	Seanna-Rock outcrop association-----	1,243	*
532	Seanna-Goldroad-Rock outcrop association-----	107,388	3.6
535	Blackmesa-Sunrock association-----	2,570	*
540	Sunrock-Rock outcrop association-----	25,449	0.8
541	Sunrock-Haleburu-Rock outcrop association-----	69,450	2.3
542	Sunrock-Callville-Badland association-----	8,438	0.3
550	Cheme-Riverbend-Carrizo association-----	10,610	0.4
551	Cheme-Carrizo-Huevi association-----	2,674	*
552	Cheme-Huevi association-----	11,920	0.4
560	Rositas-Riverbend association-----	2,965	*
565	Govwash-Guardian-Badland association-----	1,975	*
570	Carrizo association-----	16,656	0.6
571	Carrizo-Carrizo-Riverbend association-----	19,132	0.6
572	Carrizo very cobbly coarse sand, 2 to 8 percent slopes----	436	*
573	Carrizo-Riverbend association-----	2,234	*
574	Carrizo-Sunrock association-----	2,053	*
575	Carrizo complex, 1 to 5 percent slopes-----	464	*
581	Threelakes-Weiser association-----	33,148	1.1
590	Riverbend-Carrizo association-----	8,654	0.3
591	Riverbend-Carrwash association-----	7,060	0.2
592	Riverbend-Carrizo, frequently flooded association-----	970	*
593	Riverbend-Cheme-Carrizo association-----	12,374	0.4
600	Huevi-Cheme association-----	29,174	1.0
601	Huevi association-----	45,138	1.5
603	Huevi extremely gravelly sandy loam, 8 to 30 percent slopes-----	12,672	0.4
604	Huevi-Hiller association-----	23,834	0.8
605	Huevi-Badland association-----	10,576	0.4
606	Huevi-Huevi-Cheme association-----	615	*
610	Goldroad-Rock outcrop association-----	39,251	1.3
612	Goldroad-Seanna-Rock outcrop association-----	11,602	0.4
613	Goldroad-Haleburu-Rock outcrop association-----	5,172	0.2
620	Arizo-Lanip association-----	10,453	0.3
621	Orwash gravelly loamy coarse sand, 2 to 4 percent slopes-----	2,227	*
622	Orwash-Arizo-Lanip association-----	11,116	0.4
630	Tenwell very gravelly sandy loam, 2 to 4 percent slopes-----	1,693	*
635	Aguachiquita-Azureridge association-----	6,089	0.2
640	Cetrepas-Nolena-Rock outcrop association-----	11,932	0.4
645	Goldbutte-Nolena association-----	25,845	0.9
646	Goldbutte-Jumbopeak-Rock outcrop association-----	13,370	0.4
650	Peskah-Crosgrain association-----	2,726	*
651	Peskah-Arizo association-----	6,827	0.2
660	Crosgrain extremely gravelly loam, 4 to 15 percent slopes-----	2,560	*

See footnote at end of table.

TABLE 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
661	Crosgrain very stony loam, 8 to 30 percent slopes-----	3,943	0.1
662	Crosgrain-Arizo association-----	3,275	0.1
663	Crosgrain-Kidwell-Arizo association-----	3,017	0.1
665	Crosgrain-Vace association-----	3,507	0.1
670	Nipton-Highland-Rock outcrop association-----	14,908	0.5
673	Nolena-Newera association-----	10,298	0.3
674	Nipton-Rubble land-Railroad association-----	12,219	0.4
680	Lanfair-Hoppswell association-----	19,273	0.6
690	Hoppswell-Ustidur association-----	28,822	1.0
691	Hoppswell-Jetmine association-----	5,770	0.2
700	Mountmcull-Nippeno association-----	44,912	1.5
701	Nippeno-Nipton association-----	13,347	0.4
705	Charkiln-Woodspring-Buckspring association-----	1,981	*
710	Arizo-Lanfair-Riverwash association-----	2,328	*
715	Troughspring-Charkiln-Buckspring association-----	2,290	*
716	Troughspring very gravelly loam, 4 to 15 percent slopes-----	277	*
721	Corncreek-Badland-Pahrump association-----	11,334	0.4
723	Corncreek-Haymont association-----	5,024	0.2
725	Mackscanyon-Purob association-----	1,660	*
731	Purob-Irongold association-----	67,755	2.2
732	Purob extremely gravelly loam, 8 to 30 percent slopes-----	34,458	1.1
733	Purob extremely gravelly loam, 2 to 8 percent slopes-----	4,727	0.2
734	Purob-Niavi association-----	82	*
740	Varwash association-----	8,695	0.3
741	Varwash-Carrizo association-----	6,279	0.2
750	Haleburu-Crosgrain-Rock outcrop association-----	24,341	0.8
751	Nipton-Nolena association-----	8,048	0.3
752	Nipton-Newera association-----	5,439	0.2
753	Nipton-Hiddensun-Haleburu association-----	9,607	0.3
754	Haleburu-Hiddensun association-----	14,975	0.5
760	Searchlight extremely gravelly sandy loam, 2 to 4 percent slopes-----	15,066	0.5
772	Lamadre-Robbersfire association-----	3,772	0.1
775	Ladyofsnow-Robbersfire-Maryjane association-----	9,313	0.3
780	Prisonear fine sand, 2 to 8 percent slopes-----	6,753	0.2
781	Prisonear-Bluepoint association-----	1,523	*
790	McClanahan-Beerbo association-----	12,649	0.4
801	Nippeno-Newera association-----	10,286	0.3
805	Buckspring-Fletcherpeak-Seralin association-----	66,946	2.2
806	Buckspring-Scrapy association-----	6,376	0.2
810	Straycow-Newera-Rubble land association-----	5,412	0.2
815	Wheelerwell-Wheelerpass association-----	6,019	0.2
820	Newera-Rock outcrop association-----	2,514	*
821	Helkitchen-St. Thomas complex, 15 to 50 percent slopes-----	4,705	0.2
830	Puelzmine extremely gravelly fine sandy loam, 4 to 15 percent slopes-----	2,466	*
833	Virgin Peak-Rock outcrop association-----	507	*
840	Potosi-Zeheme-Rock outcrop association-----	74,126	2.5
845	Leecanyon-Goodwater association-----	5,507	0.2
850	Birdspring association-----	18,136	0.6
851	Birdspring-Zeheme-Rock outcrop association-----	7,435	0.2
852	Birdspring-Rock outcrop association-----	20,372	0.7
853	Birdspring-St. Thomas-Rock outcrop association-----	5,168	0.2
854	Birdspring-Birdspring, warm-Rock outcrop association-----	9,550	0.3
860	Straycow-Highland association-----	2,354	*
865	Mackscanyon very gravelly silt loam, 15 to 50 percent slopes-----	8,148	0.3
866	Goodwater-Doespring association, 15 to 50 percent slopes-----	10,101	0.3
867	Goodwater very gravelly sandy loam, 15 to 50 percent slopes-----	1,916	*
868	Mackscanyon-Goodwater association-----	2,402	*
870	Irongold extremely gravelly loam, 2 to 8 percent slopes-----	23,727	0.8
871	Irongold-Weiser association-----	47,745	1.6
872	Irongold-Wechech association-----	1,231	*
875	Kylecanyon-Goodwater association-----	1,018	*
880	Nonamewash-Rositas association-----	2,715	*

See footnote at end of table.

TABLE 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
885	Luckystrike gravelly loam, 8 to 30 percent slopes-----	2,165	*
890	Ripley-Holtville complex-----	3,599	0.1
900	Urban land-Riverbend-Huevi association-----	1,680	*
905	Mountmummy-Thesisters-Maryjane association-----	25,503	0.8
910	Carrwash-Riverbend association-----	8,162	0.3
911	Carrwash association-----	1,020	*
915	Maryjane-Robbersfire-Kitgram complex, 30 to 75 percent slopes-----	15,063	0.5
916	Maryjane extremely gravelly loam, 8 to 30 percent slopes-----	2,248	*
920	Tanazza-Wechech-Wodavar association-----	9,650	0.3
925	Lastone association-----	13,121	0.4
930	Cololag-Badland association-----	3,068	0.1
940	Mesabase-Azsand association-----	4,308	0.1
941	Mesabase extremely gravelly sandy loam, 2 to 8 percent slopes-----	1,707	*
950	Drygyp association-----	2,161	*
951	Drygyp-Guardian-Baseline association-----	2,198	*
952	Drygyp fine sandy loam, 2 to 4 percent slopes-----	1,782	*
955	Drygyp-Bluegyp association-----	2,756	*
965	Azsand-Mesabase-Rositas association-----	3,458	0.1
970	Rubble land-Charpeak-Rock outcrop complex-----	908	*
980	Orrubo very gravelly loam, 15 to 35 percent slopes-----	111	*
981	Torriorthents-Haplocalcids-Lava flows complex, 10 to 40 percent slopes---	357	*
982	Winkel-Rock outcrop complex, 2 to 12 percent slopes-----	77	*
998	Miscellaneous water-----	267	*
999	Water-----	117,787	3.9
	Total-----	3,015,296	100.0

\* Less than 0.1 percent.

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
100: Newera-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE NORMAL UNFAVORABLE	500 350 250	big galleta other perennial grasses Indian ricegrass desert needlegrass other perennial forbs blackbrush other shrubs creosotebush		10 5 3 2 5 60 10 3
Newera-----	SHALLOW GRAVELLY SLOPE 5-7 P.Z. (R030XB076NV)	FAVORABLE NORMAL UNFAVORABLE	300 200 75	big galleta desert needlegrass Indian ricegrass bush muhly other perennial grasses other perennial forbs blackbrush other shrubs creosotebush		5 5 3 3 3 3 60 10 3
Typic Haplocambids---	SHALLOW GRANITIC LOAM 5-7 P.Z. (R030XB057NV)	FAVORABLE NORMAL UNFAVORABLE	600 400 250	desert needlegrass big galleta bush muhly other perennial grasses other perennial forbs blackbrush other shrubs		15 5 5 3 5 50 15
Typic Calciargids----	LIMY FAN 5-7 P.Z. (R030XB039NV)	FAVORABLE NORMAL UNFAVORABLE	1400 1000 700	big galleta bush muhly Indian ricegrass other perennial grasses other perennial forbs creosotebush other shrubs white bursage winterfat Nevada ephedra ratany spiny hopsage		50 10 5 5 3 5 5 5 5 2 2 2
Rock outcrop----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE NORMAL UNFAVORABLE	500 350 200	big galleta other perennial grasses other perennial forbs creosotebush bursage baccharis other shrubs white burrobrush Mojave buckwheat Nevada ephedra catclaw desertwillow		10 5 10 20 15 10 10 5 3 3 3 2
St. Thomas-----	SHALLOW HILL 3-5 P.Z. (R030XB124NV)	FAVORABLE NORMAL UNFAVORABLE	250 150 50	other perennial grasses other perennial forbs Fremont dalea other shrubs creosotebush white bursage ephedra		10 5 60 10 5 5 3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Bitterridge-----	SHALLOW SANDSTONE SLOPE 3-5 P.Z. (R030XB127NV)	FAVORABLE	250	other perennial grasses		5
		NORMAL	150	desert globemallow		5
		UNFAVORABLE	50	other perennial forbs		3
				shadscale		55
				Fremont dalea		10
				white bursage		7
				other shrubs		5
				creosotebush		3
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
106:						
Galehills-----	SHALLOW HILL 3-5 P.Z. (R030XB124NV)	FAVORABLE	250	other perennial grasses		10
		NORMAL	150	other perennial forbs		5
		UNFAVORABLE	50	Fremont dalea		60
				other shrubs		10
				creosotebush		5
				white bursage		5
				ephedra		3
Zeheme-----	SHALLOW LIMESTONE HILL 5-7 P.Z. (R030XB128NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	300	other perennial forbs		5
		UNFAVORABLE	200	blackbrush		55
				white bursage		15
				other shrubs		5
				Fremont dalea		3
				Nevada ephedra		3
				winterfat		3
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
107:						
Galehills-----	SHALLOW SANDSTONE SLOPE 3-5 P.Z. (R030XB127NV)	FAVORABLE	250	other perennial grasses		5
		NORMAL	150	desert globemallow		5
		UNFAVORABLE	50	other perennial forbs		3
				shadscale		55
				Fremont dalea		10
				white bursage		7
				other shrubs		5
				creosotebush		3
Calwash-----	SHALLOW PEDIMENT 3-5 P.Z. (R030XB116NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	desertholly		80
				other shrubs		5
				other shrubs		5
Galehills-----	CHANNERY HILL 3-5 P.Z. (R030XB125NV)	FAVORABLE	350	other perennial grasses		3
		NORMAL	250	other perennial forbs		5
		UNFAVORABLE	100	shadscale		40
				white bursage		30
				other shrubs		10
				Fremont dalea		5
				creosotebush		5
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
110: Tenwell-----	GRANITIC FAN 5-7 P.Z. (R030XB058NV)	FAVORABLE	500	desert needlegrass		10
		NORMAL	300	bush muhly		5
		UNFAVORABLE	100	other perennial grasses		5
				big galleta		3
				other perennial forbs		5
				creosotebush		25
				white bursage		25
				other shrubs		15
Crosgrain-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Typic Argidurids	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Newera family---	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Searchlight family-----	LIMY FAN 5-7 P.Z. (R030XB039NV)	FAVORABLE	1400	big galleta		50
		NORMAL	1000	bush muhly		10
		UNFAVORABLE	700	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		3
				creosotebush		5
				other shrubs		5
				white bursage		5
				winterfat		5
				Nevada ephedra		2
				ratany		2
				spiny hopsage		2
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
111: Tenwell-----	GRANITIC FAN 5-7 P.Z. (R030XB058NV)	FAVORABLE	500	desert needlegrass		10
		NORMAL	300	bush muhly		5
		UNFAVORABLE	100	other perennial grasses		5
				big galleta		3
				other perennial forbs		5
				creosotebush		25
				white bursage		25
				other shrubs		15
Shamock-----	GRANITIC FAN 5-7 P.Z. (R030XB058NV)	FAVORABLE	500	desert needlegrass		10
		NORMAL	300	bush muhly		5
		UNFAVORABLE	100	other perennial grasses		5
				big galleta		3
				other perennial forbs		5
				creosotebush		25
				white bursage		25
				other shrubs		15
Crosgrain family	GRANITIC FAN 5-7 P.Z. (R030XB058NV)	FAVORABLE	500	desert needlegrass		10
		NORMAL	300	bush muhly		5
		UNFAVORABLE	100	other perennial grasses		5
				big galleta		3
				other perennial forbs		5
				creosotebush		25
				white bursage		25
				other shrubs		15
Filaree-----	COBBLY LOAM 5-7 P.Z. (R030XB074NV)	FAVORABLE	400	big galleta		10
		NORMAL	250	bush muhly		5
		UNFAVORABLE	150	other perennial grasses		3
				other perennial forbs		5
				white bursage		35
				other shrubs		15
				creosotebush		10
				spiny menodora		10
Typic Haplodurids----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
112: Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
113: Arizo-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
115: Whitebasin-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
				desert alysum		3
Upperline-----	COBBLY LOAM 5-7 P.Z. (R030XB074NV)	FAVORABLE	400	big galleta		10
		NORMAL	250	bush muhly		5
		UNFAVORABLE	150	other perennial grasses		3
				other perennial forbs		5
				white bursage		35
				other shrubs		15
				creosotebush		10
				spiny menodora		10
Hardbasin-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
				desert alysum		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Wehech-----	COBBLY LOAM 5-7 P.Z. (R030XB074NV)	FAVORABLE	400	big galleta		10
		NORMAL	250	bush muhly		5
		UNFAVORABLE	150	other perennial grasses		3
				other perennial forbs		5
				white bursage		35
				other shrubs		15
				creosotebush		10
				spiny menodora		10
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
	catclaw		3			
	desertwillow		2			
Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
	other shrubs		10			
	creosotebush		3			
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Bitterridge-----	CHANNERY HILL 3-5 P.Z. (R030XB125NV)	FAVORABLE	350	other perennial grasses		3
		NORMAL	250	other perennial forbs		5
		UNFAVORABLE	100	shadscale		40
				white bursage		30
				other shrubs		10
	Fremont dalea		5			
	creosotebush		5			
Zeheme-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XB030NV)	FAVORABLE	300	desert needlegrass		5
		NORMAL	200	big galleta		3
		UNFAVORABLE	150	other perennial grasses		2
				other perennial forbs		5
				blackbrush		65
	other shrubs		10			
	Nevada ephedra		3			
	creosotebush		3			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
120: Crosgrain-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Tenwell-----	CLAYPAN 5-7 P.Z. (R030XB043NV)	FAVORABLE	1000	big galleta		30
		NORMAL	700	bush muhly		10
		UNFAVORABLE	450	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		5
				creosotebush		10
				Nevada ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		5
		white bursage		5		
		winterfat		5		
Typic Petrocalcids---	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Typic Haplocambids---	LIMY FAN 5-7 P.Z. (R030XB039NV)	FAVORABLE	1400	big galleta		50
		NORMAL	1000	bush muhly		10
		UNFAVORABLE	700	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		3
				creosotebush		5
				other shrubs		5
				white bursage		5
				winterfat		5
				Nevada ephedra		2
		ratany		2		
		spiny hopsage		2		
Typic Torriorthents--	SHALLOW GRANITIC LOAM 5-7 P.Z. (R030XB057NV)	FAVORABLE	600	desert needlegrass		15
		NORMAL	400	big galleta		5
		UNFAVORABLE	250	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
		blackbrush		50		
		other shrubs		15		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
121: Sweetspring-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Carrizo-----	DRY WASH (R030XB050NV)	FAVORABLE	350	other perennial grasses		5
		NORMAL	150	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		25
				white burrobush		20
				other shrubs		15
				cattle saltbush		10
				ephedra		5
				white bursage		5
Carrizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
125: Bobzbulz-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Snapcan-----	GRAVELLY RIDGE 5-7 P.Z. (R030XB099NV)	FAVORABLE	300	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	150	white bursage		35
				white brittlebush		25
				creosotebush		10
				other shrubs		10
Carrizo-----	GRAVELLY OUTWASH (R030XB098NV)	FAVORABLE	1000	big galleta		20
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	other perennial forbs		5
				white bursage		25
				other shrubs		10
				white brittlebush		10
				creosotebush		5
				sweetbrush		5
				white burrobrush		4
				ratany		3
Riverbend-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
134: Newera-----	SHALLOW GRAVELLY SLOPE 5-7 P.Z. (R030XB076NV)	FAVORABLE	300	big galleta		5
		NORMAL	200	desert needlegrass		5
		UNFAVORABLE	75	Indian ricegrass		3
				bush muhly		3
				other perennial grasses		3
				other perennial forbs		3
				blackbrush		60
				other shrubs		10
				creosotebush		3
Nipton-----	VOLCANIC SLOPE 7-9 P.Z. (R030XB071NV)	FAVORABLE	700	big galleta		20
		NORMAL	500	desert needlegrass		10
		UNFAVORABLE	300	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		30
				ephedra		15
				other shrubs		5
				range ratany		2
				triangle goldeneye		2
Highland-----	GRANITIC NORTH SLOPE 5-7 P.Z. (R030XB060NV)	FAVORABLE	900	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		10
				other shrubs		10
				ephedra		5
				white bursage		5
Highland-----	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
135: Nippeno-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XB014NV)	FAVORABLE	700	black grama		15
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	250	big galleta		5
				desert needlegrass		5
				galleta		3
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		45
				other shrubs		5
				Nevada ephedra		3
Mountmcull-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XB014NV)	FAVORABLE	700	black grama		15
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	250	big galleta		5
				desert needlegrass		5
				galleta		3
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		45
				other shrubs		5
				Nevada ephedra		3
Newera-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Highland-----	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		5
Haleburu-----	VOLCANIC HILL 5-7 P.Z. (R030XB070NV)	FAVORABLE	500	big galleta		5
		NORMAL	350	desert needlegrass		5
		UNFAVORABLE	200	bush muhly		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		30
				white bursage		20
				other shrubs		10
				creosotebush		5
				triangle goldeneye		5
				ephedra		3
				range ratany		3
Rock outcrop-----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
140:						
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Typic Argidurids	CLAYPAN 5-7 P.Z. (R030XB043NV)	FAVORABLE	1000	big galleta		30
		NORMAL	700	bush muhly		10
		UNFAVORABLE	450	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		5
				creosotebush		10
				Nevada ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		5
		white bursage		5		
		winterfat		5		
Hiddensun family	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
141: Nipton-----	VOLCANIC HILL 5-7 P.Z. (R030XB070NV)	FAVORABLE	500	big galleta		5
		NORMAL	350	desert needlegrass		5
		UNFAVORABLE	200	bush muhly		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		30
				white bursage		20
				other shrubs		10
				creosotebush		5
				triangle goldeneye		5
				ephedra		3
				range ratany		3
Haleburu-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Haleburu-----	STONY SLOPE 5-7 P.Z. (R030XB072NV)	FAVORABLE	350	big galleta		5
		NORMAL	250	other perennial grasses		5
		UNFAVORABLE	100	bush muhly		3
				other perennial forbs		5
				white bursage		30
				Mojave buckwheat		20
				creosotebush		10
				triangle goldeneye		10
				other shrubs		5
				white brittlebush		5
Haleburu-----	ERODED SLOPE (R030XB084NV)	FAVORABLE	125	big galleta		3
		NORMAL	75	fluffgrass		3
		UNFAVORABLE	25	other annual grasses		3
				other perennial forbs		5
				other annual forbs		3
				creosotebush		75
				other shrubs		5
				white bursage		3
Highland-----	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
143: Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE NORMAL UNFAVORABLE	350 250 100	fluffgrass other perennial grasses big galleta other perennial forbs white bursage creosotebush other shrubs range ratany desert pepperweed Fremont's dalea		3 2 5 5 50 10 10 5 3 2
Haleburu-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE NORMAL UNFAVORABLE	125 75 25	fluffgrass other perennial grasses other annual forbs other perennial forbs creosotebush white bursage other shrubs		3 2 5 2 75 8 5
Newera family---	VOLCANIC SLOPE 7-9 P.Z. (R030XB071NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 300	big galleta desert needlegrass bush muhly other perennial grasses other perennial forbs Mojave buckwheat ephedra other shrubs range ratany triangle goldeneye		20 10 5 3 5 30 15 5 2 2
Haleburu-----	ERODED SLOPE (R030XB084NV)	FAVORABLE NORMAL UNFAVORABLE	125 75 25	big galleta fluffgrass other annual grasses other perennial forbs other annual forbs creosotebush other shrubs white bursage		3 3 3 5 3 75 5 3
Nipton-----	VOLCANIC HILL 5-7 P.Z. (R030XB070NV)	FAVORABLE NORMAL UNFAVORABLE	500 350 200	big galleta desert needlegrass bush muhly other perennial grasses other perennial forbs Mojave buckwheat white bursage other shrubs creosotebush triangle goldeneye ephedra range ratany		5 5 3 2 5 30 20 10 5 5 3 3
Rock outcrop----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
144: Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE NORMAL UNFAVORABLE	350 250 100	fluffgrass other perennial grasses big galleta other perennial forbs white bursage creosotebush other shrubs range ratany desert pepperweed Fremont's dalea		3 2 5 5 50 10 10 5 3 2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Hiddensun-----	BOULDERY HILL 5-7 P.Z. (R030XB067NV)	FAVORABLE	350	bush muhly		20
		NORMAL	200	desert needlegrass		10
		UNFAVORABLE	100	big galleta		5
				other perennial grasses		2
				other perennial forbs		5
				ephedra		25
				other shrubs		10
				creosotebush		8
				Mojave buckwheat		5
				winterfat		5
Bitter Spring---	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Typic Haplodurids----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
146: Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Nipton-----	VOLCANIC SLOPE 7-9 P.Z. (R030XB071NV)	FAVORABLE	700	big galleta		20
		NORMAL	500	desert needlegrass		10
		UNFAVORABLE	300	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		30
				ephedra		15
				other shrubs		5
				range ratany		2
				triangle goldeneye		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Bitter Spring---	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		5
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Haleburu-----	BASALTIC NORTH SLOPE 7-9 P.Z. (R030XB085NV)	FAVORABLE	700	bush muhly		15
		NORMAL	600	desert needlegrass		15
		UNFAVORABLE	450	other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		15
				winterfat		15
				ephedra		10
				Anderson wolfberry		5
				Fremont dalea		5
				other shrubs		5
147:						
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Nipton-----	VOLCANIC HILL 5-7 P.Z. (R030XB070NV)	FAVORABLE	500	big galleta		5
		NORMAL	350	desert needlegrass		5
		UNFAVORABLE	200	bush muhly		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		30
				white bursage		20
				other shrubs		10
				creosotebush		5
				triangle goldeneye		5
				ephedra		3
				range ratany		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Nickel family---	VOLCANIC HILL 5-7 P.Z. (R030XB070NV)	FAVORABLE	500	big galleta		5
		NORMAL	350	desert needlegrass		5
		UNFAVORABLE	200	bush muhly		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		30
				white bursage		20
				other shrubs		10
				creosotebush		5
				triangle goldeneye		5
		ephedra		3		
		range ratany		3		
Typic Calciargids----	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
				creosotebush		5
				other shrubs		5
		range ratany		5		
McCullough family-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
		desert pepperweed		3		
		Fremont's dalea		2		
Nipton-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
		desert pepperweed		3		
		Fremont's dalea		2		
148: Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
		desert pepperweed		3		
		Fremont's dalea		2		
Seanna-----	SHALLOW GRANITIC HILL 5-7 P.Z. (R030XB008NV)	FAVORABLE	300	desert needlegrass		15
		NORMAL	200	bush muhly		5
		UNFAVORABLE	100	big galleta		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		40
				Nevada ephedra		5
				Virgin River encelia		5
		other shrubs		5		
		range ratany		5		
		white bursage		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
McCullough family-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
		Fremont's dalea		2		
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Haleburu-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
		white bursage		3		
		range ratany		2		
Lanip family----	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
		creosotebush		5		
		other shrubs		5		
		range ratany		5		
150: Hypoint-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
151: Bluepoint-----	SANDY PLAIN 5-7 P.Z. (R030XB034NV)	FAVORABLE NORMAL UNFAVORABLE	1800 1300 900	big galleta bush muhly Indian ricegrass dropseed other perennial grasses other perennial forbs other shrubs		60 15 10 3 2 5 5
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE NORMAL UNFAVORABLE	500 350 200	big galleta other perennial grasses other perennial forbs creosotebush bursage baccharis other shrubs white burrobrush Mojave buckwheat Nevada ephedra catclaw desertwillow		10 5 10 20 15 10 10 5 3 3 3 2
Filaree-----	LIMY FAN 5-7 P.Z. (R030XB039NV)	FAVORABLE NORMAL UNFAVORABLE	1400 1000 700	big galleta bush muhly Indian ricegrass other perennial grasses other perennial forbs creosotebush other shrubs white bursage winterfat Nevada ephedra ratany spiny hopsage		50 10 5 5 3 5 5 5 2 2 2
Corbilt-----	SANDY PLAIN 5-7 P.Z. (R030XB034NV)	FAVORABLE NORMAL UNFAVORABLE	1800 1300 900	big galleta bush muhly Indian ricegrass dropseed other perennial grasses other perennial forbs other shrubs		60 15 10 3 2 5 5
Riverwash-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
155: Bitterridge-----	GRAVELLY PEDIMENT 5-7 P.Z. (R030XB126NV)	FAVORABLE NORMAL UNFAVORABLE	600 400 200	other perennial grasses other perennial forbs Fremont dalea white bursage shadscale other shrubs range ratany creosotebush shrubby tiqulia		3 5 25 20 15 10 10 3 3
Helkitchen-----	LIMESTONE SLOPE 5-7 P.Z. (R030XB123NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 350	big galleta desert needlegrass other perennial grasses other perennial forbs white bursage creosotebush Anderson wolfberry other shrubs winterfat range ratany		35 5 5 5 20 10 5 5 5 3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Calwash-----	TABLELAND 3-5 P.Z. (R030XB110NV)	FAVORABLE	300	other perennial grasses		3
		NORMAL	150	other annual grasses		2
		UNFAVORABLE	50	other perennial forbs		5
				shrubby tiqulia		30
				creosotebush		10
				ephedra		10
				whitestem paperflower		10
				range ratany		8
				white bursage		8
				other shrubs		5
		spiny menodora		3		
		ocotillo		2		
St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
160:						
Lanip-----	CLAYPAN 5-7 P.Z. (R030XB043NV)	FAVORABLE	1000	big galleta		30
		NORMAL	700	bush muhly		10
		UNFAVORABLE	450	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		5
				creosotebush		10
				Nevada ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		5
		white bursage		5		
		winterfat		5		
Kidwell-----	LIMY FAN 5-7 P.Z. (R030XB039NV)	FAVORABLE	1400	big galleta		50
		NORMAL	1000	bush muhly		10
		UNFAVORABLE	700	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		3
				creosotebush		5
				other shrubs		5
				white bursage		5
				winterfat		5
				Nevada ephedra		2
		ratany		2		
		spiny hopsage		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Tenwell-----	CLAYPAN 5-7 P.Z. (R030XB043NV)	FAVORABLE	1000	big galleta		30
		NORMAL	700	bush muhly		10
		UNFAVORABLE	450	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		5
				creosotebush		10
				Nevada ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		5
		white bursage		5		
		winterfat		5		
Crosgrain-----	SHALLOW HILL 5-7 P. Z. (R030XB053NV)	FAVORABLE	600	big galleta		30
		NORMAL	400	bush muhly		5
		UNFAVORABLE	250	other perennial grasses		3
				other perennial forbs		5
				winterfat		15
				spiny hopsage		10
				white bursage		10
				Anderson's wolfberry		5
				creosotebush		5
				other shrubs		5
		range ratany		5		
		Nevada ephedra		2		
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
		blackbrush		60		
		other shrubs		10		
		creosotebush		3		
165: Upperline-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
		Nevada ephedra		3		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Whitebasin-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
				desert alysum		3
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Wehech-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
		range ratany		5		
				Nevada ephedra		3
St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Arizo-----	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
		desert peach		3		
		fourwing saltbush		3		
167:						
Upperline-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
		desert pepperweed		3		
				Fremont's dalea		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Upperline-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
		Badland-----	---	FAVORABLE	---	
NORMAL	---					
UNFAVORABLE	---					
Wechech-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
		St. Thomas-----	GRAVELLY PEDIMENT 3-5 P.Z. (R030XB038NV)	FAVORABLE	350	other perennial grasses
NORMAL	225			other perennial forbs		5
UNFAVORABLE	100			desertholly saltbush		50
				white bursage		15
				Torrey ephedra		5
				creosotebush		5
				other shrubs		5
Upperline-----	GRAVELLY PEDIMENT 3-5 P.Z. (R030XB038NV)	FAVORABLE	350	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	100	desertholly saltbush		50
				white bursage		15
				Torrey ephedra		5
				creosotebush		5
				other shrubs		5
168: Upperline-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Baseline-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Wechech-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Calwash-----	GRAVELLY PEDIMENT 3-5 P.Z. (R030XB038NV)	FAVORABLE	350	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	100	desertholly saltbush		50
				white bursage		15
				Torrey ephedra		5
				creosotebush		5
				other shrubs		5
				range ratany		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
170: Tenwell-----	CLAYPAN 5-7 P.Z. (R030XB043NV)	FAVORABLE	1000	big galleta		30
		NORMAL	700	bush muhly		10
		UNFAVORABLE	450	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		5
				creosotebush		10
				Nevada ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		5
				white bursage		5
				winterfat		5
Lanip-----	CLAYPAN 5-7 P.Z. (R030XB043NV)	FAVORABLE	1000	big galleta		30
		NORMAL	700	bush muhly		10
		UNFAVORABLE	450	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		5
				creosotebush		10
				Nevada ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		5
				white bursage		5
				winterfat		5
Lanip-----	LIMY FAN 5-7 P.Z. (R030XB039NV)	FAVORABLE	1400	big galleta		50
		NORMAL	1000	bush muhly		10
		UNFAVORABLE	700	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		3
				creosotebush		5
				other shrubs		5
				white bursage		5
				winterfat		5
				Nevada ephedra		2
				ratany		2
				spiny hopsage		2
Wechech-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
175: St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
St. Thomas-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Weiser-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Zeheme-----	LIMESTONE HILL 5-7 P.Z. (R030XB068NV)	FAVORABLE	250	desert needlegrass		10
		NORMAL	150	arid needlegrass		5
		UNFAVORABLE	100	other perennial grasses		5
				other perennial forbs		5
				other shrubs		15
				blackbrush		10
				Anderson wolfberry		5
				Mexican cliffrose		5
				Utah agave		5
				creosotebush		5
				ephedra		5
				range ratany		5
				snakeweed		5
				winterfat		5
				rayless goldenhead		2
St. Thomas-----	GRAVELLY LIMESTONE SLOPE 5-7 P.Z. (R030XB111NV)	FAVORABLE	200	fluffgrass		3
		NORMAL	100	other perennial grasses		3
		UNFAVORABLE	50	other perennial forbs		5
				white bursage		40
				Utah mortonia		20
				Torrey ephedra		10
				range ratany		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
176: St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
St. Thomas-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Zeheme-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XB030NV)	FAVORABLE	300	desert needlegrass		5
		NORMAL	200	big galleta		3
		UNFAVORABLE	150	other perennial grasses		2
				other perennial forbs		5
				blackbrush		65
				other shrubs		10
				Nevada ephedra		3
				creosotebush		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
177: St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Upperline-----	COBBLY LOAM 5-7 P.Z. (R030XB074NV)	FAVORABLE	400	big galleta		10
		NORMAL	250	bush muhly		5
		UNFAVORABLE	150	other perennial grasses		3
				other perennial forbs		5
				white bursage		35
				other shrubs		15
				creosotebush		10
				spiny menodora		10
Whitebasin-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
				desert alysum		3
Wechech-----	ALLUVIAL PLAIN (R030XY047NV)	FAVORABLE	500	Indian ricegrass		10
		NORMAL	400	other perennial grasses		3
		UNFAVORABLE	250	other perennial forbs		5
				cattle saltbush		70
				other shrubs		10
Helkitchen-----	LIMESTONE SLOPE 5-7 P.Z. (R030XB123NV)	FAVORABLE	700	big galleta		35
		NORMAL	500	desert needlegrass		5
		UNFAVORABLE	350	other perennial grasses		5
				other perennial forbs		5
				white bursage		20
				creosotebush		10
				Anderson wolfberry		5
				other shrubs		5
				winterfat		5
				range ratany		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Hardbasin-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
				desert alysum		3
178:						
St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Iceberg-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
				white bursage		3
				range ratany		2
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Heleweiser-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Baseline-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
St. Thomas-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
				Lb/acre	Pct	Pct
180: Kidwell-----	LIMY FAN 5-7 P.Z. (R030XB039NV)	FAVORABLE	1400	big galleta		50
		NORMAL	1000	bush muhly		10
		UNFAVORABLE	700	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		3
				creosotebush		5
				other shrubs		5
				white bursage		5
				winterfat		5
				Nevada ephedra		2
				ratany		2
				spiny hopsage		2
Tenwell-----	GRANITIC FAN 5-7 P.Z. (R030XB058NV)	FAVORABLE	500	desert needlegrass		10
		NORMAL	300	bush muhly		5
		UNFAVORABLE	100	other perennial grasses		5
				big galleta		3
				other perennial forbs		5
				creosotebush		25
				white bursage		25
				other shrubs		15
Lanip-----	CLAYPAN 5-7 P.Z. (R030XB043NV)	FAVORABLE	1000	big galleta		30
		NORMAL	700	bush muhly		10
		UNFAVORABLE	450	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		5
				creosotebush		10
				Nevada ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		5
				white bursage		5
				winterfat		5
Wechech-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
185: Lastchance-----	LIMY 5-7 P.Z. (R030XA058NV)	FAVORABLE	350	desert needlegrass		10
		NORMAL	200	Indian ricegrass		5
		UNFAVORABLE	100	other perennial forbs		5
				creosotebush		30
				white bursage		25
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Lastchance-----	GRAVELLY LOAM 5-7 P.Z. (R030XA007NV)	FAVORABLE	500	desert needlegrass		10
		NORMAL	350	Indian ricegrass		5
		UNFAVORABLE	200	other perennial grasses		3
				other perennial forbs		5
				white bursage		30
				winterfat		15
				other shrubs		10
				creosotebush		8
				range ratany		5
Commski-----	GRAVELLY LOAM 5-7 P.Z. (R030XA007NV)	FAVORABLE	500	desert needlegrass		10
		NORMAL	350	Indian ricegrass		5
		UNFAVORABLE	200	other perennial grasses		3
				other perennial forbs		5
				white bursage		30
				winterfat		15
				other shrubs		10
				creosotebush		8
				range ratany		5
Ferrogold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XA094NV)	FAVORABLE	450	Indian ricegrass		5
		NORMAL	300	desert needlegrass		3
		UNFAVORABLE	150	other perennial grasses		2
				other perennial forbs		5
				blackbrush		55
				Nevada ephedra		5
				creosotebush		5
				other shrubs		5
				white bursage		5
				Anderson wolfberry		3
				spiny menodora		2
Arizo-----	UPLAND WASH (R030XA076NV)	FAVORABLE	600	Indian ricegrass		5
		NORMAL	400	desert needlegrass		5
		UNFAVORABLE	200	other perennial grasses		2
				other perennial forbs		5
				creosotebush		20
				cattle saltbush		10
				other shrubs		10
				white burrobrush		10
				white bursage		10
				wolfberry		10
				bladdersage		5
Lastchance-----	COBBLY LOAM 5-7" P.Z. (R030XA071NV)	FAVORABLE	500	desert needlegrass		3
		NORMAL	300	Indian ricegrass		2
		UNFAVORABLE	200	other perennial forbs		5
				white bursage		45
				creosotebush		10
				other shrubs		10
				spiny menodora		10
				range ratany		5
				Nevada ephedra		3
186:						
Lastchance-----	GRAVELLY LOAM 5-7 P.Z. (R030XA007NV)	FAVORABLE	500	desert needlegrass		10
		NORMAL	350	Indian ricegrass		5
		UNFAVORABLE	200	other perennial grasses		3
				other perennial forbs		5
				white bursage		30
				winterfat		15
				other shrubs		10
				creosotebush		8
				range ratany		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
				Lb/acre	Pct	Pct
Ferrogold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XA094NV)	FAVORABLE	450	Indian ricegrass		5
		NORMAL	300	desert needlegrass		3
		UNFAVORABLE	150	other perennial grasses		2
				other perennial forbs		5
				blackbrush		55
				Nevada ephedra		5
				creosotebush		5
				other shrubs		5
				white bursage		5
				Anderson wolfberry		3
		spiny menodora		2		
Commski-----	GRAVELLY LOAM 5-7 P.Z. (R030XA007NV)	FAVORABLE	500	desert needlegrass		10
		NORMAL	350	Indian ricegrass		5
		UNFAVORABLE	200	other perennial grasses		3
				other perennial forbs		5
				white bursage		30
				winterfat		15
				other shrubs		10
				creosotebush		8
				range ratany		5
Niavi-----	QUARTZITE OUTWASH (R030XB134NV)	FAVORABLE	700	big galleta		8
		NORMAL	500	desert needlegrass		3
		UNFAVORABLE	300	Indian ricegrass		1
				white bursage		35
				Mojave buckwheat		15
				Anderson's wolfberry		5
				Virgin River encelia		5
				creosotebush		5
				ephedra		5
				range ratany		5
Arizo-----	UPLAND WASH (R030XA076NV)	FAVORABLE	600	Indian ricegrass		5
		NORMAL	400	desert needlegrass		5
		UNFAVORABLE	200	other perennial grasses		2
				other perennial forbs		5
				creosotebush		20
				cattle saltbush		10
				other shrubs		10
				white burrobrush		10
				white bursage		10
				wolfberry		10
		bladdersage		5		
Lastchance-----	COBBLY LOAM 5-7" P.Z. (R030XA071NV)	FAVORABLE	500	desert needlegrass		3
		NORMAL	300	Indian ricegrass		2
		UNFAVORABLE	200	other perennial forbs		5
				white bursage		45
				creosotebush		10
				other shrubs		10
				spiny menodora		10
Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	other perennial forbs		5
				blackbrush		60
				other shrubs		10
		ephedra		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
190: Filaree-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Lanip-----	CLAYPAN 5-7 P.Z. (R030XB043NV)	FAVORABLE	1000	big galleta		30
		NORMAL	700	bush muhly		10
		UNFAVORABLE	450	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		5
				creosotebush		10
				Nevada ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		5
				white bursage		5
				winterfat		5
Nickel-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Lanip-----	LIMY FAN 5-7 P.Z. (R030XB039NV)	FAVORABLE	1400	big galleta		50
		NORMAL	1000	bush muhly		10
		UNFAVORABLE	700	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		3
				creosotebush		5
				other shrubs		5
				white bursage		5
				winterfat		5
				Nevada ephedra		2
				ratany		2
				spiny hopsage		2
Hypoint-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Bitter Spring---	LIMY FAN 5-7 P.Z. (R030XB039NV)	FAVORABLE	1400	big galleta		50
		NORMAL	1000	bush muhly		10
		UNFAVORABLE	700	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		3
				creosotebush		5
				other shrubs		5
				white bursage		5
				winterfat		5
				Nevada ephedra		2
				ratany		2
				spiny hopsage		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
191:						
Bluepoint-----	SANDY 5-7 P.Z. (R030XB004NV)	FAVORABLE	1100	big galleta		35
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	500	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				other shrubs		10
				white bursage		10
				range ratany		5
				winterfat		5
				Nevada ephedra		3
Grapevine-----	SANDY PLAIN 5-7 P.Z. (R030XB034NV)	FAVORABLE	1800	big galleta		60
		NORMAL	1300	bush muhly		15
		UNFAVORABLE	900	Indian ricegrass		10
				dropseed		3
				other perennial grasses		2
Grapevine-----	COARSE SILTY 5-7 P.Z. (R030XB104NV)	FAVORABLE	800	big galleta		10
		NORMAL	500	Indian ricegrass		8
		UNFAVORABLE	350	other perennial grasses		2
				other perennial forbs		5
				winterfat		60
Grapevine-----				other shrubs		5
				white bursage		5
				spiny hopsage		2
Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Bluepoint-----	SANDHILL 5-7 P.Z. (R030XB063NV)	FAVORABLE	1500	big galleta		40
		NORMAL	1000	Indian ricegrass		25
		UNFAVORABLE	700	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				white bursage		8
				other shrubs		5
				Nevada ephedra		3
				fourwing saltbush		3
				winterfat		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Cambidic Haplodurids-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Grapevine-----	SANDY LOAM 5-7 P.Z. (R030XB035NV)	FAVORABLE	1000	big galleta		15
		NORMAL	700	Indian ricegrass		10
		UNFAVORABLE	450	other perennial grasses		5
				bush muhly		3
				dropseed		3
				other perennial forbs		5
				fourwing saltbush		25
				other shrubs		8
				Nevada ephedra		5
				spiny hopsage		5
				winterfat		5
				wolfberry		5
192:						
Bluepoint-----	LIMY FAN 5-7 P.Z. (R030XB039NV)	FAVORABLE	1400	big galleta		50
		NORMAL	1000	bush muhly		10
		UNFAVORABLE	700	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		3
				creosotebush		5
				other shrubs		5
				white bursage		5
				winterfat		5
				Nevada ephedra		2
				ratany		2
				spiny hopsage		2
Grapevine-----	SANDY LOAM 5-7 P.Z. (R030XB035NV)	FAVORABLE	1000	big galleta		15
		NORMAL	700	Indian ricegrass		10
		UNFAVORABLE	450	other perennial grasses		5
				bush muhly		3
				dropseed		3
				other perennial forbs		5
				fourwing saltbush		25
				other shrubs		8
				Nevada ephedra		5
				spiny hopsage		5
				winterfat		5
				wolfberry		5
Hypoint-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Typic Natrargids	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Bluepoint-----	SANDY 5-7 P.Z. (R030XB004NV)	FAVORABLE	1100	big galleta		35
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	500	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				other shrubs		10
				white bursage		10
				range ratany		5
				winterfat		5
				Nevada ephedra		3
Bluepoint-----	SANDY PLAIN 5-7 P.Z. (R030XB034NV)	FAVORABLE	1800	big galleta		60
		NORMAL	1300	bush muhly		15
		UNFAVORABLE	900	Indian ricegrass		10
				dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				other shrubs		5
195:						
Cruzspring-----	SHALLOW GRAVELLY LOAM 8-10 P.Z. (R029XY077NV)	FAVORABLE	700	desert needlegrass		5
		NORMAL	500	other perennial grasses		5
		UNFAVORABLE	300	galleta		3
				Indian ricegrass		2
				other perennial forbs		5
				blackbrush		60
				Nevada ephedra		5
				desert bitterbrush		5
				other shrubs		5
Schader-----	LOAMY SLOPE 8-10 P.Z. (R029XY010NV)	FAVORABLE	500	Indian ricegrass		20
		NORMAL	350	needleandthread		10
		UNFAVORABLE	250	Sandberg bluegrass		5
				desert needlegrass		5
				other perennial grasses		5
				galleta		2
				Wyoming big sagebrush		30
				other shrubs		10
				ephedra		5
				fourwing saltbush		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Zibate-----	SHALLOW GRAVELLY SLOPE 5-7 P.Z. (R030XB076NV)	FAVORABLE	300	big galleta		5
		NORMAL	200	desert needlegrass		5
		UNFAVORABLE	75	Indian ricegrass		3
				bush muhly		3
				other perennial grasses		3
				other perennial forbs		3
				blackbrush		60
				other shrubs		10
				creosotebush		3
Sed-----	F029XY065NV	FAVORABLE	700	desert bitterbrush	10	
		NORMAL	500	needlegrass	10	
		UNFAVORABLE	200	turbinella oak	10	
				Indian ricegrass		5
				Mexican cliffrose		5
				Wyoming big sagebrush		5
				bluegrass		5
				curlleaf mountainmahogany		5
				green ephedra		5
				manzanita		5
				needleleaf rabbitbrush		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Veet family----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		5
		UNFAVORABLE	500	other perennial grasses		5
				galleta		2
				other perennial forbs		8
				big sagebrush		30
				desert almond		15
				other shrubs		10
				rubber rabbitbrush		10
200:						
Hypoint-----	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
				other shrubs		10
				fourwing saltbush		5
Weiser family---	VOLCANIC SLOPE 5-7 P.Z. (R030XB073NV)	FAVORABLE	500	big galleta		5
		NORMAL	350	other perennial grasses		4
		UNFAVORABLE	200	bush muhly		2
				fluffgrass		2
				desert globemallow		5
				other perennial forbs		5
				white bursage		20
				range ratany		15
				Virgin River encelia		10
				other shrubs		10
				creosotebush		5
				ephedra		5
				triangle goldeneye		5
Weiser-----	COBBLY LOAM 5-7 P.Z. (R030XB074NV)	FAVORABLE	400	big galleta		10
		NORMAL	250	bush muhly		5
		UNFAVORABLE	150	other perennial grasses		3
				other perennial forbs		5
				white bursage		35
				other shrubs		15
				creosotebush		10
				spiny menodora		10
Weiser-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
				Spanish dagger		2
Commski-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
				Lb/acre	Pct	Pct
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Threelakes-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
201: Commski-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
			Torrey ephedra		2	
Commski-----	SHALLOW GRANITIC SLOPE 5-7 P.Z. (R030XB056NV)	FAVORABLE	300	desert needlegrass		10
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	75	bush muhly		2
				other perennial forbs		5
			blackbrush		60	
			other shrubs		15	
Commski-----	SANDY 3-5 P.Z. (R030XB054NV)	FAVORABLE	900	big galleta		45
		NORMAL	600	Indian ricegrass		10
		UNFAVORABLE	400	dropseed		3
				other perennial forbs		5
				white bursage		15
				other shrubs		10
				creosotebush		5
		ratany		5		
Oldspan-----	GYPSIC LOAM 3-5 P.Z. (R030XA060NV)	FAVORABLE	100	other perennial grasses		5
		NORMAL	50	other perennial forbs		10
		UNFAVORABLE	25	California bearpoppy		5
				desertholly saltbush		40
				seepweed		15
		wolfberry		10		
		other shrubs		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
202: Commski-----	LIMY 5-7 P.Z. (R030XA058NV)	FAVORABLE	350	desert needlegrass		10
		NORMAL	200	Indian ricegrass		5
		UNFAVORABLE	100	other perennial forbs		5
				creosotebush		30
				white bursage		25
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Lastchance-----	LIMY 5-7 P.Z. (R030XA058NV)	FAVORABLE	350	desert needlegrass		10
		NORMAL	200	Indian ricegrass		5
		UNFAVORABLE	100	other perennial forbs		5
				creosotebush		30
				white bursage		25
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	UPLAND WASH (R030XA076NV)	FAVORABLE	600	Indian ricegrass		5
		NORMAL	400	desert needlegrass		5
		UNFAVORABLE	200	other perennial grasses		2
				other perennial forbs		5
				creosotebush		20
				cattle saltbush		10
				other shrubs		10
				white burrobush		10
				white bursage		10
				wolfberry		10
				bladdersage		5
Commski-----	VOLCANIC SLOPE 5-7 P.Z. (R030XB073NV)	FAVORABLE	500	big galleta		5
		NORMAL	350	other perennial grasses		4
		UNFAVORABLE	200	bush muhly		2
				fluffgrass		2
				desert globemallow		5
				other perennial forbs		5
				white bursage		20
				range ratany		15
				Virgin River encelia		10
				other shrubs		10
				creosotebush		5
				ephedra		5
				triangle goldeneye		5
Lastchance-----	COBBLY LOAM 5-7" P.Z. (R030XA071NV)	FAVORABLE	500	desert needlegrass		3
		NORMAL	300	Indian ricegrass		2
		UNFAVORABLE	200	other perennial forbs		5
				white bursage		45
				creosotebush		10
				other shrubs		10
				spiny menodora		10
				range ratany		5
				Nevada ephedra		3
203: Commski-----	GRAVELLY LOAM 5-7 P.Z. (R030XA007NV)	FAVORABLE	500	desert needlegrass		10
		NORMAL	350	Indian ricegrass		5
		UNFAVORABLE	200	other perennial grasses		3
				other perennial forbs		5
				white bursage		30
				winterfat		15
				other shrubs		10
				creosotebush		8
				range ratany		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Oldspan-----	DESERT PATINA (R030XB092NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	creosotebush other shrubs		85 5
Lastchance-----	GRAVELLY LOAM 5-7 P.Z. (R030XA007NV)	FAVORABLE	500	desert needlegrass		10
		NORMAL	350	Indian ricegrass		5
		UNFAVORABLE	200	other perennial grasses other perennial forbs white bursage winterfat other shrubs creosotebush range ratany		3 5 30 15 10 8 5
				big galleta		15
				Indian ricegrass		5
Weiser-----	GRAVELLY LOAM 5-7 P.Z. (R030XB102NV)	FAVORABLE	500	big galleta		15
		NORMAL	350	Indian ricegrass		5
		UNFAVORABLE	200	other perennial grasses other perennial forbs white bursage creosotebush winterfat ephedra other shrubs range ratany spiny hopsage spiny menodora		3 5 25 15 10 5 5 5 3 3
				other perennial grasses		3
				other perennial forbs		5
				white bursage		25
				creosotebush		15
				winterfat		10
				ephedra		5
				other shrubs		5
Lastchance-----	LIMY HILL 3-5 P.Z. (R030XA067NV)	FAVORABLE	125	other perennial grasses		10
		NORMAL	75	other annual grasses		5
		UNFAVORABLE	25	other perennial forbs creosotebush white bursage other shrubs white burrobrush		5 35 20 15 5
				big galleta		40
				bush muhly		10
Weiser-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass other perennial grasses other perennial forbs spiny menodora white bursage creosotebush other shrubs range ratany Spanish dagger		5 3 5 10 10 5 5 3 2
				desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
Threelakes-----	BASALTIC FAN 5-7 P.Z. (R030XB066NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	other perennial grasses		3
		UNFAVORABLE	400	bush muhly desert globemallow other perennial forbs white bursage ephedra other shrubs		2 3 3 35 5 5
				big galleta		40
				other perennial grasses		3
205: Callville-----	SHALLOW PEDIMENT 3-5 P.Z. (R030XB116NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	desertholly other shrubs other shrubs		80 5 5
				other shrubs		5
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Guardian-----	GYPSIC HILL 3-5 P.Z. (R030XB118NV)	FAVORABLE	175	other perennial grasses		3
		NORMAL	125	silverleaf sunray		20
		UNFAVORABLE	50	other perennial forbs		3
				California bearpoppy		1
				pygmycedar		40
				Parry's sandpaperplant		15
				Fremont dalea		5
				other shrubs		5
				shrubby tiquilia		5
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
		desertwillow		2		
207:						
Callville-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
		desert alysum		3		
Callville-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
		desert alysum		3		
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Baseline-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
		range ratany		5		
		Nevada ephedra		3		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Carrizo-----	GRAVELLY WASH 3-5 P.Z. (R030XB132NV)	FAVORABLE	600	big galleta		10
		NORMAL	400	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				catclaw		30
				Fremont dalea		15
				other shrubs		10
				creosotebush		5
				desert rabbitbrush		5
				white burrobrush		5
				desertwillow		2
Ramshead family-	CALCAREOUS PEDIMENT 3-5 P.Z. (R030XB131NV)	FAVORABLE	200	fluffgrass		3
		NORMAL	125	other perennial grasses		2
		UNFAVORABLE	50	silverleaf sunray		20
				desert globemallow		3
				other perennial forbs		2
				white bursage		20
				shadscale		15
				Fremont's dalea		10
				creosotebush		10
				Anderson's wolfberry		5
				other shrubs		5
210:						
Nickel-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Crosgrain-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
211: Nickel-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Crosgrain-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Nickel-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Bluepoint-----	LIMY SAND 5-7 P.Z. (R030XB037NV)	FAVORABLE	600	Indian ricegrass		15
		NORMAL	350	big galleta		10
		UNFAVORABLE	200	other perennial grasses		2
				other perennial forbs		5
				white bursage		30
				creosotebush		20
				other shrubs		10
Typic Torriorthents--	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
				Spanish dagger		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
220:						
Haymont-----	COARSE SILTY 3-5 P.Z. (R030XA096NV)	FAVORABLE	400	alkali sacaton		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	100	other perennial forbs		3
				fourwing saltbush		50
				shadscale		30
				other shrubs		5
Haymont-----	SILTY TERRACE 5-7 P.Z. (R030XA011NV)	FAVORABLE	700	other perennial grasses		5
		NORMAL	500	other perennial forbs		5
		UNFAVORABLE	350	Torrey quailbush		50
				fourwing saltbush		25
				other shrubs		5
				shadscale		5
Bluepoint-----	DUNES 3-7 P.Z. (R030XY045NV)	FAVORABLE	900	Indian ricegrass		10
		NORMAL	600	other perennial grasses		2
		UNFAVORABLE	400	other perennial forbs		5
				fourwing saltbush		20
				honey mesquite		20
				screwbean mesquite		20
				other shrubs		10
				creosotebush		5
				white bursage		5
Haymont-----	SILT BOTTOM (R030XY009NV)	FAVORABLE	900	alkali sacaton		35
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	500	other perennial forbs		3
				fourwing saltbush		35
				shadscale		10
				honey mesquite		5
				other shrubs		3
Haymont-----	LOAMY BOTTOM (R030XB020NV)	FAVORABLE	2500	alkali sacaton		25
		NORMAL	1500	big galleta		10
		UNFAVORABLE	800	inland saltgrass		5
				other perennial grasses		2
				other perennial forbs		3
				fourwing saltbush		25
				mesquite		10
				Torrey quailbush		5
				other shrubs		5
				rabbitbrush		2
Typic Torriorthents--	ALLUVIAL PLAIN (R030XY047NV)	FAVORABLE	500	Indian ricegrass		10
		NORMAL	400	other perennial grasses		3
		UNFAVORABLE	250	other perennial forbs		5
				cattle saltbush		70
				other shrubs		10
Typic Torriorthents--	CLAY TERRACE (R030XA097NV)	FAVORABLE	400	alkali sacaton		40
		NORMAL	300	other perennial grasses		2
		UNFAVORABLE	100	other perennial forbs		1
				shadscale		40
				fourwing saltbush		15
				other shrubs		2
221:						
Haymont-----	ALLUVIAL PLAIN (R030XY047NV)	FAVORABLE	500	Indian ricegrass		10
		NORMAL	400	other perennial grasses		3
		UNFAVORABLE	250	other perennial forbs		5
				cattle saltbush		70
				other shrubs		10
Haymont-----	COARSE SILTY 3-5 P.Z. (R030XA096NV)	FAVORABLE	400	alkali sacaton		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	100	other perennial forbs		3
				fourwing saltbush		50
				shadscale		30
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
				Lb/acre	Pct	Pct
Pahrump-----	SHALLOW SILTY (R030XY013NV)	FAVORABLE	150	other perennial grasses		2
		NORMAL	100	Indian ricegrass		1
		UNFAVORABLE	50	desert needlegrass		1
				other perennial forbs		3
				shadscale		80
				other shrubs		5
				fourwing saltbush		3
Corbilt-----	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
				other shrubs		10
				fourwing saltbush		5
Nopah-----	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
				other shrubs		10
				fourwing saltbush		5
Pahrump-----	CALCAREOUS LOAM 3-5 P.Z. (R030XA053NV)	FAVORABLE	200	Indian ricegrass		5
		NORMAL	100	desert needlegrass		5
		UNFAVORABLE	50	other perennial grasses		2
				other perennial forbs		5
				shadscale		40
				creosotebush		30
				other shrubs		10
225:						
Baseline-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Callville-----	SHALLOW PEDIMENT 3-5 P.Z. (R030XB116NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	desertholly		80
				other shrubs		5
				other shrubs		5
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Guardian-----	GYPSIC HILL 3-5 P.Z. (R030XB118NV)	FAVORABLE	175	other perennial grasses		3
		NORMAL	125	silverleaf sunray		20
		UNFAVORABLE	50	other perennial forbs		3
				California bearpoppy		1
				pygmycedar		40
				Parry's sandpaperplant		15
				Fremont dalea		5
				other shrubs		5
				shrubby tiqulia		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Heleweiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
		desertwillow		2		
226: Baseline-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Callville-----	SHALLOW PEDIMENT 3-5 P.Z. (R030XB116NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	desertholly		80
				other shrubs		5
		other shrubs		5		
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
		desertwillow		2		
227: Baseline-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb./acre		Pct		
Gypwash-----	DESERT PATINA (R030XB092NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	creosotebush other shrubs		85 5
Gypwash-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs other perennial forbs creosotebush		5 2 75
				white bursage		8
				other shrubs		5
Guardian-----	GYPSIC SODIC LOAM 3-5 P.Z. (R030XB115NV)	FAVORABLE	350	other perennial grasses		3
		NORMAL	200	silverleaf sunray		10
		UNFAVORABLE	100	other perennial forbs shadscale Fremont dalea Parry's sandpaperplant other shrubs		5 45 15 15 5
Baseline-----	GRAVELLY PEDIMENT 3-5 P.Z. (R030XB038NV)	FAVORABLE	350	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	100	desertholly saltbush white bursage Torrey ephedra creosotebush other shrubs range ratany		50 15 5 5 5 5
228: Baseline-----	GRAVELLY PEDIMENT 3-5 P.Z. (R030XB038NV)	FAVORABLE	350	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	100	desertholly saltbush white bursage Torrey ephedra creosotebush other shrubs range ratany		50 15 5 5 5 5
Guardian-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy Fremont dalea Parry's sandpaperplant Torrey ephedra white bursage Anderson's wolfberry other shrubs desert alysum		3 30 20 10 10 5 5 3
Baseline-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs other perennial forbs white bursage creosotebush other shrubs range ratany Nevada ephedra		10 5 35 15 10 5 3
Callville-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy Fremont dalea Parry's sandpaperplant Torrey ephedra white bursage Anderson's wolfberry other shrubs desert alysum		3 30 20 10 10 5 5 3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
		Lb/acre		Pct			
Heleweiser-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3	
		NORMAL	75	other perennial grasses		2	
		UNFAVORABLE	25	other annual forbs		5	
				other perennial forbs		2	
				creosotebush		75	
				white bursage		8	
				other shrubs		5	
Badland-----	---	FAVORABLE	---				
		NORMAL	---				
		UNFAVORABLE	---				
Carrizo-----	GRAVELLY WASH 3-5 P.Z. (R030XB132NV)	FAVORABLE	600	big galleta		10	
		NORMAL	400	other perennial grasses		5	
		UNFAVORABLE	200	other perennial forbs		5	
				catclaw		30	
				Fremont dalea		15	
				other shrubs		10	
				creosotebush		5	
				desert rabbitbrush		5	
				white burrobrush		5	
				desertwillow		2	
230: Wehech-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5	
		NORMAL	300	other perennial grasses		5	
		UNFAVORABLE	200	other annual forbs		10	
				other perennial forbs		5	
				white bursage		35	
				creosotebush		15	
				other shrubs		10	
				range ratany		5	
				Nevada ephedra		3	
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5	
		NORMAL	300	other perennial grasses		5	
		UNFAVORABLE	200	other annual forbs		10	
				other perennial forbs		5	
				white bursage		35	
				creosotebush		15	
				other shrubs		10	
				range ratany		5	
				Nevada ephedra		3	
Threelakes family-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5	
		NORMAL	300	other perennial grasses		5	
		UNFAVORABLE	200	other annual forbs		10	
				other perennial forbs		5	
				white bursage		35	
				creosotebush		15	
				other shrubs		10	
				range ratany		5	
				Nevada ephedra		3	
Typic Torriorthents--	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10	
		NORMAL	350	other perennial grasses		5	
		UNFAVORABLE	200	other perennial forbs		10	
				creosotebush		20	
				bursage		15	
				baccharis		10	
				other shrubs		10	
				white burrobrush		5	
				Mojave buckwheat		3	
				Nevada ephedra		3	
				catclaw		3	
		desertwillow		2			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Weiser-----	COBBLY LOAM 5-7 P.Z. (R030XB074NV)	FAVORABLE	400	big galleta		10
		NORMAL	250	bush muhly		5
		UNFAVORABLE	150	other perennial grasses		3
				other perennial forbs		5
				white bursage		35
				other shrubs		15
				creosotebush		10
				spiny menodora		10
231:						
Wehech-----	COBBLY LOAM 5-7 P.Z. (R030XB074NV)	FAVORABLE	400	big galleta		10
		NORMAL	250	bush muhly		5
		UNFAVORABLE	150	other perennial grasses		3
				other perennial forbs		5
				white bursage		35
				other shrubs		15
				creosotebush		10
				spiny menodora		10
Weiser-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
				Spanish dagger		2
St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Whitebasin-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
				desert alysum		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
232:						
Wechech-----	COBBLY LOAM 5-7 P.Z. (R030XB074NV)	FAVORABLE	400	big galleta		10
		NORMAL	250	bush muhly		5
		UNFAVORABLE	150	other perennial grasses		3
				other perennial forbs		5
				white bursage		35
				other shrubs		15
				creosotebush		10
		spiny menodora		10		
Upperline-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
		Nevada ephedra		3		
Whitebasin-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
				desert alysum		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
233: Ifteen-----	SANDHILL 3-5 P.Z. (R030XB097NV)	FAVORABLE	1200	big galleta		75
		NORMAL	1000	other perennial grasses		3
		UNFAVORABLE	700	other perennial forbs		3
				other shrubs		5
				California croton		3
				Palmer tuquilla		3
				ratany		3
				white bursage		3
Wechech-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Upperline-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Dune land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Wechech-----	GRAVELLY SAND 3-5 P.Z. (R030XB096NV)	FAVORABLE	500	big galleta		20
		NORMAL	400	other perennial grasses		5
		UNFAVORABLE	300	other perennial forbs		3
				white bursage		35
				Palmer coldenia		20
				other shrubs		5
				ratany		3
				winterfat		3
Grapevine-----	LIMY SAND 3-5 P.Z. (R030XB122NV)	FAVORABLE	650	big galleta		25
		NORMAL	400	Indian ricegrass		10
		UNFAVORABLE	200	other perennial grasses		3
				dropseed		2
				other perennial forbs		5
				white bursage		30
				creosotebush		10
				other shrubs		5
				ratany		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
					Pct	Pct
234: Wechech-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Wechech-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
235: Gypwash-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Callville-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Huevi-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Guardian-----	GYPSIC HILL 3-5 P.Z. (R030XB118NV)	FAVORABLE	175	other perennial grasses		3
		NORMAL	125	silverleaf sunray		20
		UNFAVORABLE	50	other perennial forbs		3
				California bearpoppy		1
				pygmycedar		40
				Parry's sandpaperplant		15
				Fremont dalea		5
				other shrubs		5
				shrubby tiquilia		5
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
237: Wechch-----	COBBLY LOAM 5-7 P.Z. (R030XB074NV)	FAVORABLE	400	big galleta		10
		NORMAL	250	bush muhly		5
		UNFAVORABLE	150	other perennial grasses		3
				other perennial forbs		5
				white bursage		35
				other shrubs		15
				creosotebush		10
				spiny menodora		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Wechech-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Weiser-----	GRAVELLY LOAM 5-7 P.Z. (R030XB102NV)	FAVORABLE	500	big galleta		15
		NORMAL	350	Indian ricegrass		5
		UNFAVORABLE	200	other perennial grasses		3
				other perennial forbs		5
				white bursage		25
				creosotebush		15
				winterfat		10
				ephedra		5
				other shrubs		5
				range ratany		5
		spiny hopsage		3		
		spiny menodora		3		
Wechech-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
240:						
Crosgrain-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
		other shrubs		10		
		creosotebush		3		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Nickel-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
241: Crosgrain-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Typic Torriorthents--	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Nickel-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	500	fluffgrass		3
		NORMAL	300	other perennial grasses		2
		UNFAVORABLE	200	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
250:						
Mormon Mesa-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Naye-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Tonopah-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Typic Torriorthents--	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
255:						
Tumarion-----	SHALLOW VOLCANIC HILL 5-7 P.Z. (R030XB095NV)	FAVORABLE	350	big galleta		5
		NORMAL	225	desert needlegrass		5
		UNFAVORABLE	100	other perennial grasses		3
				other perennial forbs		3
				desert globemallow		2
				Mojave buckwheat		50
				other shrubs		10
				creosotebush		8
				Virgin River encelia		5
				range ratany		5
				Nevada ephedra		3
Nipton-----	VOLCANIC SLOPE 7-9 P.Z. (R030XB071NV)	FAVORABLE	700	big galleta		20
		NORMAL	500	desert needlegrass		10
		UNFAVORABLE	300	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		30
				ephedra		15
				other shrubs		5
				range ratany		2
				triangle goldeneye		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Nipton-----	VOLCANIC HILL 5-7 P.Z. (R030XB070NV)	FAVORABLE	500	big galleta		5
		NORMAL	350	desert needlegrass		5
		UNFAVORABLE	200	bush muhly		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		30
				white bursage		20
				other shrubs		10
				creosotebush		5
				triangle goldeneye		5
				ephedra		3
				range ratany		3
Calcic Petrocalcids---	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Arizo-----	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
				desert peach		3
				fourwing saltbush		3
260: Naye-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Bitter Spring---	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
Nickel-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
261: Vace-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	600	big galleta		5
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Jean-----	LIMY SAND 5-7 P.Z. (R030XB037NV)	FAVORABLE	600	Indian ricegrass		15
		NORMAL	350	big galleta		10
		UNFAVORABLE	200	other perennial grasses		2
				other perennial forbs		5
				white bursage		30
		creosotebush		20		
		other shrubs		10		
Jean-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
265: Azureridge-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Nolena-----	SHALLOW GRANITIC LOAM 5-7 P.Z. (R030XB057NV)	FAVORABLE	600	desert needlegrass		15
		NORMAL	400	big galleta		5
		UNFAVORABLE	250	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		50
				other shrubs		15

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Nickel-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
		Spanish dagger		2		
270: Bard-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
NORMAL		300	other perennial grasses		5	
UNFAVORABLE		200	other annual forbs		10	
			other perennial forbs		5	
			white bursage		35	
			creosotebush		15	
			other shrubs		10	
			range ratany		5	
			Nevada ephedra		3	
Nickel-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Limewash-----	GYPSIC LOAM 3-5 P.Z. (R030XB026NV)	FAVORABLE	100	other perennial grasses		3
		NORMAL	50	other perennial forbs		5
		UNFAVORABLE	10	California bearpoppy		2
				Fremont dalea		30
				desertholly saltbush		15
				Parry's sandpaperplant		10
		creosotebush		10		
		other shrubs		10		
		Torrey ephedra		5		
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
271:						
Moapa-----	SANDHILL 5-7 P.Z. (R030XB063NV)	FAVORABLE	1500	big galleta		40
		NORMAL	1000	Indian ricegrass		25
		UNFAVORABLE	700	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				white bursage		8
				other shrubs		5
				Nevada ephedra		3
				fourwing saltbush		3
				winterfat		3
Bluepoint-----	SANDHILL 5-7 P.Z. (R030XB063NV)	FAVORABLE	1500	big galleta		40
		NORMAL	1000	Indian ricegrass		25
		UNFAVORABLE	700	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				white bursage		8
				other shrubs		5
				Nevada ephedra		3
				fourwing saltbush		3
				winterfat		3
Nickel-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Rock outcrop-----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Hiddensun-----	SANDHILL 5-7 P.Z. (R030XB063NV)	FAVORABLE	1500	big galleta		40
		NORMAL	1000	Indian ricegrass		25
		UNFAVORABLE	700	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				white bursage		8
				other shrubs		5
				Nevada ephedra		3
				fourwing saltbush		3
				winterfat		3
Lanip-----	CLAY PLAIN 5-7 P.Z. (R030XB082NV)	FAVORABLE	300	big galleta		15
		NORMAL	200	Indian ricegrass		10
		UNFAVORABLE	100	other perennial grasses		5
				other perennial forbs		5
				saltbush		30
				white bursage		15
				Torrey ephedra		5
				other shrubs		5
				winterfat		5
				Anderson wolfberry		3
272:						
Moapa-----	SANDY PLAIN 5-7 P.Z. (R030XB034NV)	FAVORABLE	1800	big galleta		60
		NORMAL	1300	bush muhly		15
		UNFAVORABLE	900	Indian ricegrass		10
				dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Bluepoint-----	SANDHILL 5-7 P.Z. (R030XB063NV)	FAVORABLE	1500	big galleta		40
		NORMAL	1000	Indian ricegrass		25
		UNFAVORABLE	700	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				white bursage		8
				other shrubs		5
				Nevada ephedra		3
				fourwing saltbush		3
				winterfat		3
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Moapa-----	TABLELAND 5-7 P.Z. (R030XB101NV)	FAVORABLE	600	Indian ricegrass		2
		NORMAL	450	big galleta		2
		UNFAVORABLE	375	dropseed		1
				other perennial forbs		5
				Utah mortonia		65
				white bursage		5
				whitestem paperflower		5
				other shrubs		3
		ratany		3		
		shrubby tiqulia		3		
285:						
Heleweiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
		creosotebush		15		
		other shrubs		10		
		range ratany		5		
		Nevada ephedra		3		
Carrizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
		Nevada ephedra		3		
Teebar-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
		desert pepperweed		3		
		Fremont's dalea		2		
Callville-----	SHALLOW PEDIMENT 3-5 P.Z. (R030XB116NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	desertholly		80
				other shrubs		5
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
286:						
Heleweiser-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Heleweiser-----	DESERT PATINA (R030XB092NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	creosotebush		85
				other shrubs		5
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Huevi-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Gypwash-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
287:						
Heleweiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Heleweiser-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Baseline-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Teebar-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Callville-----	SHALLOW PEDIMENT 3-5 P.Z. (R030XB116NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	desertholly		80
				other shrubs		5
				other shrubs		5
288:						
Heleweiser-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Teebar-----	TABLELAND 3-5 P.Z. (R030XB110NV)	FAVORABLE	300	other perennial grasses		3
		NORMAL	150	other annual grasses		2
		UNFAVORABLE	50	other perennial forbs		5
				shrubby tiqulia		30
				creosotebush		10
				ephedra		10
				whitestem paperflower		10
				range ratany		8
				white bursage		8
				other shrubs		5
				spiny menodora		3
				ocotillo		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Weiser-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
289:						
Heleweiser-----	GRAVELLY RIDGE 5-7 P.Z. (R030XB099NV)	FAVORABLE	300	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	150	white bursage		35
				white brittlebush		25
				creosotebush		10
				other shrubs		10
Upperline-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Nickel-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Iceberg-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
				white bursage		3
				range ratany		2
Galehills-----	SHALLOW HILL 3-5 P.Z. (R030XB124NV)	FAVORABLE	250	other perennial grasses		10
		NORMAL	150	other perennial forbs		5
		UNFAVORABLE	50	Fremont dalea		60
				other shrubs		10
				creosotebush		5
				white bursage		5
				ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Upperline-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
		Spanish dagger		2		
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
290:						
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Moapa-----	SANDY 5-7 P.Z. (R030XB004NV)	FAVORABLE	1100	big galleta		35
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	500	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				other shrubs		10
				white bursage		10
				range ratany		5
				winterfat		5
				Nevada ephedra		3
Bluepoint-----	SANDY PLAIN 5-7 P.Z. (R030XB034NV)	FAVORABLE	1800	big galleta		60
		NORMAL	1300	bush muhly		15
		UNFAVORABLE	900	Indian ricegrass		10
				dropseed		3
				other perennial grasses		2
				other perennial forbs		5
		other shrubs		5		
Lithic Torripsamments--	LIMY SAND 5-7 P.Z. (R030XB037NV)	FAVORABLE	600	Indian ricegrass		15
		NORMAL	350	big galleta		10
		UNFAVORABLE	200	other perennial grasses		2
				other perennial forbs		5
				white bursage		30
				creosotebush		20
				other shrubs		10
Lithic Torriorthents--	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Typic Haplocalcids---	LIMY SAND 5-7 P.Z. (R030XB037NV)	FAVORABLE	600	Indian ricegrass		15
		NORMAL	350	big galleta		10
		UNFAVORABLE	200	white bursage		30
				creosotebush		20

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
291: Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Highland-----	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		5
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Newera-----	SHALLOW GRAVELLY SLOPE 5-7 P.Z. (R030XB076NV)	FAVORABLE	300	big galleta		5
		NORMAL	200	desert needlegrass		5
		UNFAVORABLE	75	Indian ricegrass		3
				bush muhly		3
				other perennial grasses		3
				other perennial forbs		3
				blackbrush		60
				other shrubs		10
				creosotebush		3
Nipton-----	VOLCANIC SLOPE 5-7 P.Z. (R030XB073NV)	FAVORABLE	500	big galleta		5
		NORMAL	350	other perennial grasses		4
		UNFAVORABLE	200	bush muhly		2
				fluffgrass		2
				desert globemallow		5
				other perennial forbs		5
				white bursage		20
				range ratany		15
				Virgin River encelia		10
				other shrubs		10
				creosotebush		5
				ephedra		5
				triangle goldeneye		5
Typic Torriorthents--	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	300	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
				desert peach		3
				fourwing saltbush		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
292: Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Nupper-----	SHALLOW SANDSTONE HILL 11-13 P.Z. (R030XC020NV)	FAVORABLE	800	crested needlegrass		5
		NORMAL	600	desert needlegrass		5
		UNFAVORABLE	400	muttongrass		5
				other perennial grasses		5
				pointleaf manzanita		15
				black sagebrush		10
				Utah juniper		5
				other perennial forbs		5
				turbinella oak		25
				other shrubs		5
				whortleleaf snowberry		5
				other trees		5
Seralin family--	BOULDERY SANDSTONE SLOPE 11-13 P.Z. (R030XC022NV)	FAVORABLE	800	Indian ricegrass		5
		NORMAL	600	crested needlegrass		5
		UNFAVORABLE	400	desert needlegrass		5
				muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				turbinella oak		40
				pointleaf manzanita		10
				mountain big sagebrush		7
				other shrubs		5
				other trees		5
Moentria-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
294: Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Moentria-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Nupper-----	SHALLOW SANDSTONE HILL 11-13 P.Z. (R030XC020NV)	FAVORABLE	800	crested needlegrass		5
		NORMAL	600	desert needlegrass		5
		UNFAVORABLE	400	muttongrass		5
				other perennial grasses		5
				pointleaf manzanita		15
				black sagebrush		10
				Utah juniper		5
				other perennial forbs		5
				turbinella oak		25
				other shrubs		5
				whortleleaf snowberry		5
				other trees		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
298: Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Redneedle-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
				white bursage		3
				range ratany		2
Heleweiser-----	GRAVELLY RIDGE 5-7 P.Z. (R030XB099NV)	FAVORABLE	300	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	150	white bursage		35
				white brittlebush		25
				creosotebush		10
				other shrubs		10
Guardian-----	GYPSIC SODIC LOAM 3-5 P.Z. (R030XB115NV)	FAVORABLE	350	other perennial grasses		3
		NORMAL	200	silverleaf sunray		10
		UNFAVORABLE	100	other perennial forbs		5
				shadscale		45
				Fremont dalea		15
				Parry's sandpaperplant		15
				other shrubs		5
Baseline-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
310: Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
		Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta
NORMAL	300			other perennial grasses		5
UNFAVORABLE	200			other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	VALLEY WASH (R030XB028NV)			FAVORABLE	500	big galleta
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Wechech-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
		311: Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta
NORMAL	300			other perennial grasses		5
UNFAVORABLE	200			other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Threelakes-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)			FAVORABLE	350	Indian ricegrass
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Threelakes family-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Ifteen-----	GRAVELLY LOAM 5-7 P.Z. (R030XB102NV)	FAVORABLE	500	big galleta		15
		NORMAL	350	Indian ricegrass		5
		UNFAVORABLE	200	other perennial grasses		3
				other perennial forbs		5
				white bursage		25
				creosotebush		15
				winterfat		10
				ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		3
		spiny menodora		3		
Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
		313:				
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Oldspan-----	DESERT PATINA (R030XB092NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	creosotebush		85
				other shrubs		5
Wehech-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Weiser-----	GRAVELLY LOAM 5-7 P.Z. (R030XB102NV)	FAVORABLE	500	big galleta		15
		NORMAL	350	Indian ricegrass		5
		UNFAVORABLE	200	other perennial grasses		3
				other perennial forbs		5
				white bursage		25
				creosotebush		15
				winterfat		10
				ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		3
				spiny menodora		3
Wechch-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
		other shrubs		5		
Weiser-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
		Spanish dagger		2		
Threelakes-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2
Typic Torriorthents--	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
314: Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Wechech-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Threelakes-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2
Weiser-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
				Spanish dagger		2
Typic Torriorthents--	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
315:						
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	white bursage		40
		NORMAL	300	creosote bush		20
		UNFAVORABLE	200	range ratany		5
				big galleta		5
				Nevada ephedra		5
Weiser-----	Gravelly Loam (R030XB124CA)	FAVORABLE	350	white bursage		35
		NORMAL	250	shadscale		20
		UNFAVORABLE	100	creosotebush		15
				big galleta		8
				range ratany		3
Sodic Haplocalcids---	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	cattle saltbush		45
		NORMAL	300	white bursage		20
		UNFAVORABLE	150	creosotebush		20
				Indian ricegrass		8
Typic Haplocalcids---	Broad Gravelly Wash (R030XB159CA)	FAVORABLE	550	Virgin River encelia		40
		NORMAL	400	catclaw acacia		18
		UNFAVORABLE	250	white burrobrush		10
				Anderson wolfberry		6

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
			Lb/acre		Pct	Pct		
Typic Haplocalcids---	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	white bursage		40		
		NORMAL	300	creosote bush		20		
		UNFAVORABLE	200	range ratany big galleta Nevada ephedra		5 5 5		
320: Boxspring-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10		
		NORMAL	350	other perennial grasses		5		
		UNFAVORABLE	200	other perennial forbs blackbrush other shrubs ephedra		5 60 10 5		
Zeheme-----	LIMESTONE HILL 5-7 P.Z. (R030XB068NV)	FAVORABLE	250	desert needlegrass		10		
		NORMAL	150	arid needlegrass		5		
		UNFAVORABLE	100	other perennial grasses other perennial forbs other shrubs blackbrush Anderson wolfberry Mexican cliffrose Utah agave creosotebush ephedra range ratany snakeweed winterfat rayless goldenhead		5 5 15 10 5 5 5 5 5 5 5 5 2		
		FAVORABLE	---					
		NORMAL	---					
		UNFAVORABLE	---					
		Zeheme-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XB030NV)	FAVORABLE	300	desert needlegrass		5
				NORMAL	200	big galleta		3
				UNFAVORABLE	150	other perennial grasses other perennial forbs blackbrush other shrubs Nevada ephedra creosotebush		2 5 65 10 3 3
				FAVORABLE	500	big galleta		10
				NORMAL	350	other perennial grasses		5
		Typic Haplocalcids---	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	UNFAVORABLE	250	Indian ricegrass desert needlegrass other perennial forbs blackbrush other shrubs creosotebush		3 2 5 60 10 3
				FAVORABLE	700	desert needlegrass		10
NORMAL	500			other perennial grasses		5		
UNFAVORABLE	300			other perennial forbs blackbrush other shrubs ephedra		5 60 10 5		
FAVORABLE	700			desert needlegrass		10		
321: Boxspring-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	NORMAL	500	other perennial grasses		5		
		UNFAVORABLE	300	other perennial forbs blackbrush other shrubs ephedra		5 60 10 5		
		FAVORABLE	700	desert needlegrass		10		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Seralin-----	F030XC235NV	FAVORABLE	550	crested needlegrass	10	
		NORMAL	450	muttongrass	10	
		UNFAVORABLE	200	other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	20	
				Utah serviceberry	10	
				other shrubs	10	
				yellowleaf silktassel	10	
				Gambel oak	5	
				Stansbury cliffrose	5	
				singleleaf pinyon	5	
				Utah juniper	3	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Lithic Calciustolls---	F030XC235NV	FAVORABLE	600	crested needlegrass	10	
		NORMAL	450	muttongrass	10	
		UNFAVORABLE	300	other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	20	
				Utah serviceberry	10	
				other shrubs	10	
				yellowleaf silktassel	10	
				Gambel oak	5	
				Stansbury cliffrose	5	
				singleleaf pinyon	5	
				Utah juniper	3	
Typic Haplustolls----	F030XC238NV	FAVORABLE	500	blue grama	10	
		NORMAL	400	muttongrass	10	
		UNFAVORABLE	250	black grama	5	
				desert needlegrass	5	
				other perennial grasses	5	
				other perennial forbs	10	
				Stansbury cliffrose	10	
				desert bitterbrush	10	
				other shrubs	10	
				blackbrush	9	
				Utah juniper	5	
				singleleaf pinyon	5	
322:						
Boxspring-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Potosi-----	SHALLOW LIMESTONE SLOPE 7-9 P.Z. (R030XC008NV)	FAVORABLE	600	arid needlegrass		15
		NORMAL	450	desert needlegrass		5
		UNFAVORABLE	300	muttongrass		5
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		40
				other shrubs		10
				fourwing saltbush		5
				spiny hopsage		5
				Stansbury cliffrose		2
				ephedra		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Seralin-----	DRAFT (F030XC244NV)	FAVORABLE	900	blue grama	5	
		NORMAL	700	muttongrass	5	
		UNFAVORABLE	500	other perennial grasses	5	
				other perennial forbs	7	
				Stansbury cliffrose	20	
				black sagebrush	20	
				mountain big sagebrush	15	
				curlleaf mountainmahogany	10	
				other shrubs	5	
				singleleaf pinyon	3	
				Utah juniper	2	
Zeheme-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XB030NV)	FAVORABLE	300	desert needlegrass		5
		NORMAL	200	big galleta		3
		UNFAVORABLE	150	other perennial grasses		2
				other perennial forbs		5
				blackbrush		65
				other shrubs		10
				Nevada ephedra		3
				creosotebush		3
Typic Torriorthents--	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
				desert peach		3
				fourwing saltbush		3
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Scrapy-----	SHALLOW LIMESTONE SLOPE 11-13 P.Z. (R030XC025NV)	FAVORABLE	700	desert needlegrass		15
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		40
				Stansbury cliffrose		5
				blackbrush		5
				green ephedra		5
				other shrubs		5
				Utah juniper		3
				singleleaf pinyon		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
323: Boxspring-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Scrapy-----	SHALLOW LIMESTONE SLOPE 11-13 P.Z. (R030XC025NV)	FAVORABLE	700	desert needlegrass		15
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		40
				Stansbury cliffrose		5
				blackbrush		5
				green ephedra		5
				other shrubs		5
				Utah juniper		3
				singleleaf pinyon		2
Rock outcrop----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Lithic Calciustolls---	F030XC235NV	FAVORABLE	550	crested needlegrass		10
		NORMAL	450	muttongrass		10
		UNFAVORABLE	200	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		20
				Utah serviceberry		10
				other shrubs		10
				yellowleaf silktassel		10
				Gambel oak		5
				Stansbury cliffrose		5
				singleleaf pinyon		5
				Utah juniper		3
Typic Haplustolls----	F030XC243NV	FAVORABLE	450	blue grama		5
		NORMAL	350	muttongrass		5
		UNFAVORABLE	250	other perennial grasses		5
				other perennial forbs		5
				Stansbury cliffrose		30
				black sagebrush		20
				desert ceanothus		10
				other shrubs		10
				Utah juniper		5
				singleleaf pinyon		2
325: Sandpan-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Rositas-----	SANDY 5-7 P.Z. (R030XB004NV)	FAVORABLE	1100	big galleta		35
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	500	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				other shrubs		10
				white bursage		10
				range ratany		5
				winterfat		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Rositas-----	SANDHILL 3-5 P.Z. (R030XB097NV)	FAVORABLE	1100	big galleta		75
		NORMAL	800	other perennial grasses		3
		UNFAVORABLE	500	other perennial forbs		3
				other shrubs		5
				California croton		3
				Palmer tuquilla		3
				ratany		3
				white bursage		3
330:						
Ramshead-----	SANDSTONE HILL 3-5 P.Z. (R030XB113NV)	FAVORABLE	600	big galleta		15
		NORMAL	400	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				desertholly saltbush		35
				white bursage		20
				ephedra		5
				other shrubs		5
				range ratany		5
				creosotebush		3
St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Guardian-----	GYPSIC HILL 3-5 P.Z. (R030XB118NV)	FAVORABLE	175	other perennial grasses		3
		NORMAL	125	silverleaf sunray		20
		UNFAVORABLE	50	other perennial forbs		3
				California bearpoppy		1
				pygmycedar		40
				Parry's sandpaperplant		15
				Fremont dalea		5
				other shrubs		5
				shrubby tiquilia		5
Callville-----	GRAVELLY PEDIMENT 3-5 P.Z. (R030XB038NV)	FAVORABLE	350	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	100	desertholly saltbush		50
				white bursage		15
				Torrey ephedra		5
				creosotebush		5
				other shrubs		5
				range ratany		5
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
335: Teebar-----	TABLELAND 3-5 P.Z. (R030XB110NV)	FAVORABLE	300	other perennial grasses		3
		NORMAL	150	other annual grasses		2
		UNFAVORABLE	50	other perennial forbs		5
				shrubby tiqulia		30
				creosotebush		10
				ephedra		10
				whitestem paperflower		10
				range ratany		8
				white bursage		8
				other shrubs		5
				spiny menodora		3
				ocotillo		2
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
336: Teebar-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other annual forbs		5
		UNFAVORABLE	25	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Sandpan-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Huevi-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
		Lb/acre		Pct			
340: Zeheme-----	LIMESTONE HILL 5-7 P.Z. (R030XB068NV)	FAVORABLE	250	desert needlegrass		10	
		NORMAL	150	arid needlegrass		5	
		UNFAVORABLE	100	other perennial grasses		5	
				other perennial forbs		5	
				other shrubs		15	
				blackbrush		10	
				Anderson wolfberry		5	
				Mexican cliffrose		5	
				Utah agave		5	
				creosotebush		5	
				ephedra		5	
				range ratany		5	
				snakeweed		5	
				winterfat		5	
				rayless goldenhead		2	
Zeheme-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XB030NV)	FAVORABLE	300	desert needlegrass		5	
		NORMAL	200	big galleta		3	
		UNFAVORABLE	150	other perennial grasses		2	
				other perennial forbs		5	
				blackbrush		65	
				other shrubs		10	
				Nevada ephedra		3	
				creosotebush		3	
Rock outcrop----	---	FAVORABLE	---				
		NORMAL	---				
		UNFAVORABLE	---				
Threelakes family-----	DRY WASH (R030XB050NV)	FAVORABLE	350	other perennial grasses		5	
		NORMAL	150	other annual forbs		5	
		UNFAVORABLE	75	other perennial forbs		5	
				creosotebush		25	
				white burrobush		20	
				other shrubs		15	
				cattle saltbush		10	
				ephedra		5	
				white bursage		5	
Helkitchen-----	LIMESTONE SLOPE 5-7 P.Z. (R030XB123NV)	FAVORABLE	700	big galleta		35	
		NORMAL	500	desert needlegrass		5	
		UNFAVORABLE	350	other perennial grasses		5	
					other perennial forbs		5
				white bursage		20	
				creosotebush		10	
				Anderson wolfberry		5	
				other shrubs		5	
				winterfat		5	
				range ratany		3	
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10	
		NORMAL	350	other perennial grasses		5	
		UNFAVORABLE	200	other perennial forbs		10	
					creosotebush		20
					bursage		15
					baccharis		10
					other shrubs		10
					white burrobush		5
					Mojave buckwheat		3
					Nevada ephedra		3
					catclaw		3
			desertwillow		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
					Pct	Pct
Helkitchen-----	STONY LIMESTONE SLOPE 5-7 P.Z. (R030XB112NV)	FAVORABLE	600	threeawn		3
		NORMAL	450	other perennial grasses		2
		UNFAVORABLE	300	other perennial forbs		5
				desert globemallow		3
				white bursage		40
				wolfberry		15
				creosotebush		5
				ephedra		5
				other shrubs		5
				range ratany		5
		Utah mortonia		3		
Potosi-----	SHALLOW LIMESTONE SLOPE 7-9 P.Z. (R030XC008NV)	FAVORABLE	600	arid needlegrass		15
		NORMAL	450	desert needlegrass		5
		UNFAVORABLE	300	muttongrass		5
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		40
				other shrubs		10
				fourwing saltbush		5
				spiny hopsage		5
				Stansbury cliffrose		2
		ephedra		2		
341: Zeheme-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XB030NV)	FAVORABLE	300	desert needlegrass		5
NORMAL		200	big galleta		3	
UNFAVORABLE		150	other perennial grasses		2	
			other perennial forbs		5	
			blackbrush		65	
			other shrubs		10	
Potosi-----	SHALLOW LIMESTONE SLOPE 7-9 P.Z. (R030XC008NV)	FAVORABLE	600	arid needlegrass		15
		NORMAL	450	desert needlegrass		5
		UNFAVORABLE	300	muttongrass		5
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		40
				other shrubs		10
				fourwing saltbush		5
				spiny hopsage		5
				Stansbury cliffrose		2
		ephedra		2		
Rock outcrop----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Naye family-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
		other shrubs		10		
		creosotebush		3		
Birdspring-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XA006NV)	FAVORABLE	450	desert needlegrass		10
		NORMAL	350	other perennial forbs		5
		UNFAVORABLE	275	blackbrush		40
				shadscale		20
				white bursage		10
		ephedra		5		
		other shrubs		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
342: Zeheme-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XB030NV)	FAVORABLE NORMAL UNFAVORABLE	300 200 150	desert needlegrass big galleta other perennial grasses other perennial forbs blackbrush other shrubs Nevada ephedra creosotebush		5 3 2 5 65 10 3 3
Potosi-----	SHALLOW LIMESTONE SLOPE 7-9 P.Z. (R030XC008NV)	FAVORABLE NORMAL UNFAVORABLE	600 450 300	arid needlegrass desert needlegrass muttongrass other perennial grasses other perennial forbs blackbrush other shrubs fourwing saltbush spiny hopsage Stansbury cliffrose ephedra		15 5 5 3 5 40 10 5 5 2 2
Rock outcrop----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Commski family--	COARSE GRAVELLY LOAM 5-7 P.Z. (R030XB107NV)	FAVORABLE NORMAL UNFAVORABLE	1000 800 600	big galleta Indian ricegrass other perennial grasses other perennial forbs sphaeralcea blackbrush other shrubs winterfat		30 5 5 5 2 35 10 5
St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE NORMAL UNFAVORABLE	350 250 100	fluffgrass other perennial grasses big galleta other perennial forbs white bursage creosotebush other shrubs range ratany desert pepperweed Fremont's dalea		3 2 5 5 50 10 10 5 3 2
Lithic Torriorthents--	SHALLOW SANDSTONE HILL 7-11 P.Z. (R030XC010NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 300	crested needlegrass Indian ricegrass muttongrass other perennial grasses other perennial forbs blackbrush Stansbury cliffrose Virgin River encelia other shrubs green ephedra		10 5 5 5 5 50 5 5 5 2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
343: Zeheme-----	SHALLOW LIMESTONE SLOPE 7-9 P.Z. (R030XB135NV)	FAVORABLE NORMAL UNFAVORABLE	275 175 100	desert needlegrass other perennial grasses slim tridens threeawn other perennial forbs blackbrush Utah mortonia other shrubs shrubby tiqulia Nevada ephedra Utah agave Virgin River encelia range ratany		2 2 2 2 2 60 10 5 5 2 2 2 2
Rock outcrop----		FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Boxspring-----	SHALLOW LIMESTONE 7-9 P.Z. (R030XB136NV)	FAVORABLE NORMAL UNFAVORABLE	450 350 200	desert needlegrass slim tridens threeawn other perennial grasses other perennial forbs blackbrush Utah mortonia other shrubs Nevada ephedra Utah agave green ephedra shrubby tiqulia		5 5 3 2 3 60 5 5 3 2 2 2
Zeheme-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XB030NV)	FAVORABLE NORMAL UNFAVORABLE	300 200 150	desert needlegrass big galleta other perennial grasses other perennial forbs blackbrush other shrubs Nevada ephedra creosotebush		5 3 2 5 65 10 3 3
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE NORMAL UNFAVORABLE	500 300 200	big galleta other perennial grasses other annual forbs other perennial forbs white bursage creosotebush other shrubs range ratany Nevada ephedra		5 5 10 5 35 15 10 5 3
Zeheme-----	LIMESTONE HILL 5-7 P.Z. (R030XB068NV)	FAVORABLE NORMAL UNFAVORABLE	250 150 100	desert needlegrass arid needlegrass other perennial grasses other perennial forbs other shrubs blackbrush Anderson wolfberry Mexican cliffrose Utah agave creosotebush ephedra range ratany snakeweed winterfat rayless goldenhead		10 5 5 5 15 10 5 5 5 5 5 5 5 2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
351:						
Seralin-----	F030XC243NV	FAVORABLE	450	blue grama	5	
		NORMAL	350	muttongrass	5	
		UNFAVORABLE	250	other perennial grasses	5	
				other perennial forbs	5	
				Stansbury cliffrose	30	
				black sagebrush	20	
				desert ceanothus	10	
				other shrubs	10	
				Utah juniper	5	
				singleleaf pinyon	2	
Potosi-----	SHALLOW LIMESTONE SLOPE 7-9 P.Z. (R030XC008NV)	FAVORABLE	600	arid needlegrass		15
		NORMAL	450	desert needlegrass		5
		UNFAVORABLE	300	muttongrass		5
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		40
				other shrubs		10
				fourwing saltbush		5
				spiny hopsage		5
				Stansbury cliffrose		2
				ephedra		2
Lithic Torriorthents--	SHALLOW GRAVELLY FAN 11-15 P.Z. (R030XC023NV)	FAVORABLE	700	blue grama		10
		NORMAL	500	muttongrass		10
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		50
				Stansbury cliffrose		10
				other shrubs		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
352:						
Seralin-----	F030XC235NV	FAVORABLE	550	crested needlegrass	10	
		NORMAL	450	muttongrass	10	
		UNFAVORABLE	200	other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	20	
				Utah serviceberry	10	
				other shrubs	10	
				yellowleaf silktassel	10	
				Gambel oak	5	
				Stansbury cliffrose	5	
				singleleaf pinyon	5	
				Utah juniper	3	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
		Lb/acre		Pct				
Traley-----	F030XC249NV	FAVORABLE	900	muttongrass	10			
		NORMAL	800	other perennial grasses	5			
		UNFAVORABLE	700	other perennial forbs	5			
				Utah serviceberry	10			
				curlleaf mountainmahogany	10			
				black sagebrush	5			
				mountain big sagebrush	5			
				other shrubs	5			
				Gambel oak	40			
				singleleaf pinyon	5			
Rock outcrop----	---	FAVORABLE	---					
		NORMAL	---					
		UNFAVORABLE	---					
Aridic Calciustolls---	F030XC236NV	FAVORABLE	1000	muttongrass	10			
		NORMAL	800	crested needlegrass	5			
		UNFAVORABLE	600	other perennial grasses	5			
				other perennial forbs	5			
						Gambel oak	40	
						other shrubs	10	
						Utah serviceberry	5	
				black sagebrush	5			
				mountain snowberry	5			
				singleleaf pinyon	5			
Seralin-----	F030XC243NV	FAVORABLE	450	blue grama	5			
		NORMAL	350	muttongrass	5			
		UNFAVORABLE	250	other perennial grasses	5			
				other perennial forbs	5			
						Stansbury cliffrose	30	
						black sagebrush	20	
						desert ceanothus	10	
						other shrubs	10	
						Utah juniper	5	
						singleleaf pinyon	2	
Lithic Ustorthents----	F030XC280NV	FAVORABLE	800	bluebunch wheatgrass	10			
		NORMAL	600	muttongrass	5			
		UNFAVORABLE	400	other perennial grasses	5			
				other shrubs	5			
						other perennial forbs	5	
						wax currant	25	
						curlleaf mountainmahogany	20	
						Spring Mountain goldenbush	10	
				ponderosa pine	5			
				white fir	5			
				other trees	2			
355: Seralin-----	F030XC243NV	FAVORABLE	450	blue grama	5			
		NORMAL	350	muttongrass	5			
		UNFAVORABLE	250	other perennial grasses	5			
				other perennial forbs	5			
						Stansbury cliffrose	30	
						black sagebrush	20	
						desert ceanothus	10	
						other shrubs	10	
						Utah juniper	5	
						singleleaf pinyon	2	
Devilsthumb----	F030XC283NV	FAVORABLE	700	bluebunch wheatgrass	20			
		NORMAL	600	muttongrass	5			
		UNFAVORABLE	500	other perennial grasses	5			
				other perennial forbs	5			
						curlleaf mountainmahogany	20	
						wax currant	20	
						mountain big sagebrush	5	
						other shrubs	5	
				ponderosa pine	5			
				white fir	5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Ednagrey-----	LIMESTONE HILL (R030XC017NV)	FAVORABLE	600	Indian ricegrass		5
		NORMAL	450	other perennial grasses		5
		UNFAVORABLE	300	other perennial forbs		5
				rockspirea		1
				littleleaf mountain mahogany		75
				other shrubs		5
				green ephedra		1
				Utah juniper		1
				curl-leaf mountain mahogany		1
				singleleaf pinyon		1
Fletcherpeak----	F030XC249NV	FAVORABLE	900	muttongrass	10	
		NORMAL	800	other perennial grasses	5	
		UNFAVORABLE	700	other perennial forbs	5	
				Utah serviceberry	10	
				curlleaf mountainmahogany	10	
				black sagebrush	5	
				mountain big sagebrush	5	
				other shrubs	5	
				Gambel oak	40	
				singleleaf pinyon	5	
Buckspring-----	F030XC246NV	FAVORABLE	800	desert needlegrass	5	
		NORMAL	700	muttongrass	5	
		UNFAVORABLE	600	other perennial grasses	5	
				other perennial forbs	5	
				Stansbury cliffrose	30	
				banana yucca	10	
				curlleaf mountainmahogany	10	
				mountain big sagebrush	10	
				Utah juniper	5	
				other shrubs	5	
		singleleaf pinyon	5			
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
360: Bracken-----	GYPSIC LOAM 5-7 P.Z. (R030XB003NV)	FAVORABLE	500	other perennial grasses		3
		NORMAL	350	other perennial forbs		2
		UNFAVORABLE	250	California bearpoppy		1
				Fremont dalea		30
				desert pepperweed		20
				Parry's sandpaperplant		15
				Torrey ephedra		5
				Virgin River encelia		5
				other perennial forbs		5
				other shrubs		5
		white ratany		5		
Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
		other shrubs		10		
		range ratany		5		
		Nevada ephedra		3		
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Tonopah-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Hardbasin-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
				desert alysum		3
365:						
Callville-----	GYPSIC LOAM 3-5 P.Z. (R030XB126NV)	FAVORABLE	100	other perennial grasses		3
		NORMAL	50	other perennial forbs		5
		UNFAVORABLE	10	California bearpoppy		2
				Fremont dalea		30
				desertholly saltbush		15
				Parry's sandpaperplant		10
				creosotebush		10
				other shrubs		10
				Torrey ephedra		5
Gypwash-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Guardian-----	GYPSIC HILL 3-5 P.Z. (R030XB118NV)	FAVORABLE	175	other perennial grasses		3
		NORMAL	125	silverleaf sunray		20
		UNFAVORABLE	50	other perennial forbs		3
				California bearpoppy		1
				pygmycedar		40
				Parry's sandpaperplant		15
				Fremont dalea		5
				other shrubs		5
				shrubby tiqulia		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
375: Iceberg-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XB030NV)	FAVORABLE NORMAL UNFAVORABLE	300 200 150	desert needlegrass big galleta other perennial grasses other perennial forbs blackbrush other shrubs Nevada ephedra creosotebush		5 3 2 5 65 10 3 3
Rock outcrop----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Helkitchen-----	STONY LIMESTONE SLOPE 5-7 P.Z. (R030XB112NV)	FAVORABLE NORMAL UNFAVORABLE	600 450 300	threeawn other perennial grasses other perennial forbs desert globemallow white bursage wolfberry creosotebush ephedra other shrubs range ratany Utah mortonia		3 2 5 3 40 15 5 5 5 5 3
Iceberg-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE NORMAL UNFAVORABLE	500 250 100	other perennial grasses desert globemallow other perennial forbs white brittlebush creosotebush other shrubs white bursage range ratany		5 5 3 70 5 5 3 2
St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE NORMAL UNFAVORABLE	350 250 100	fluffgrass other perennial grasses big galleta other perennial forbs white bursage creosotebush other shrubs range ratany desert pepperweed Fremont's dalea		3 2 5 5 50 10 10 5 3 2
Zeheme-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE NORMAL UNFAVORABLE	500 350 250	big galleta other perennial grasses Indian ricegrass desert needlegrass other perennial forbs blackbrush other shrubs creosotebush		10 5 3 2 5 60 10 3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
376: Iceberg-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
				white bursage		3
				range ratany		2
St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Rock outcrop-----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
St. Thomas-----	LIMESTONE SLOPE 5-7 P.Z. (R030XB123NV)	FAVORABLE	700	big galleta		35
		NORMAL	500	desert needlegrass		5
		UNFAVORABLE	350	other perennial grasses		5
				other perennial forbs		5
				white bursage		20
				creosotebush		10
				Anderson wolfberry		5
				other shrubs		5
				winterfat		5
				range ratany		3
Callville-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
				desert alysum		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
380: Tonopah-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Typic Haplodurids----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Typic Torriorthents--	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
390: Tipnat-----	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
				other shrubs		10
				fourwing saltbush		5
Hypoint-----	ALLUVIAL PLAIN (R030XY047NV)	FAVORABLE	500	Indian ricegrass		10
		NORMAL	400	other perennial grasses		3
		UNFAVORABLE	250	other perennial forbs		5
				cattle saltbush		70
				other shrubs		10
Grapevine-----	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
				other shrubs		10
				fourwing saltbush		5
Tonopah-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Bluepoint-----	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
				other shrubs		10
				fourwing saltbush		5
Typic Haplogypsids---	ALLUVIAL PLAIN (R030XY047NV)	FAVORABLE	500	Indian ricegrass		10
		NORMAL	400	other perennial grasses		3
		UNFAVORABLE	250	other perennial forbs		5
				cattle saltbush		70
				other shrubs		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
391: Tipnat-----	ALLUVIAL PLAIN (R030XY047NV)	FAVORABLE	500	Indian ricegrass		10
		NORMAL	400	other perennial grasses		3
		UNFAVORABLE	250	other perennial forbs		5
				cattle saltbush		70
				other shrubs		10
Hypoint-----	ALLUVIAL PLAIN (R030XY047NV)	FAVORABLE	500	Indian ricegrass		10
		NORMAL	400	other perennial grasses		3
		UNFAVORABLE	250	other perennial forbs		5
				cattle saltbush		70
				other shrubs		10
Bluepoint-----	SODIC SAND (R030XB065NV)	FAVORABLE	1000	big galleta		60
		NORMAL	700	Indian ricegrass		5
		UNFAVORABLE	450	other perennial grasses		3
				dropseed		2
				other perennial forbs		5
				cattle saltbush		15
				other shrubs		3
				white bursage		3
				creosotebush		2
Typic Torriorthents--	SANDY 5-7 P.Z. (R030XB004NV)	FAVORABLE	1100	big galleta		35
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	500	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				other shrubs		10
				white bursage		10
				range ratany		5
				winterfat		5
				Nevada ephedra		3
Playas-----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
400: Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Cafetal-----	BALSATIC FAN 3-5 P.Z. (R030XB083NV)	FAVORABLE	600	fluffgrass		5
		NORMAL	350	big galleta		3
		UNFAVORABLE	50	other perennial grasses		3
				other annual grasses		2
				other annual forbs		20
				other perennial forbs		5
				white bursage		35
				creosotebush		10
				other shrubs		5
				range ratany		5
				buckhorn cholla		3
				beavertail pricklypear		2
Arizo-----	RUBBLY OUTWASH (R030XB052NV)	FAVORABLE	500	big galleta		10
		NORMAL	300	desert needlegrass		3
		UNFAVORABLE	200	other perennial grasses		2
				fluffgrass		1
				other perennial forbs		5
				desertsenna		35
				hollyleaf bursage		20
				other shrubs		10
				Mojave buckwheat		5
				white burrobrush		5
				purple Dorrs sage		3
Arizo-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Durinodic Haplargids-----	BASALTIC FAN 5-7 P.Z. (R030XB066NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	other perennial grasses		3
		UNFAVORABLE	400	bush muhly		2
				desert globemallow		3
				other perennial forbs		3
				white bursage		35
				ephedra		5
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
				Lb/acre	Pct	Pct
405: Oxyaquic Torrifluvents--	STREAMBANK (R030XB021NV)	FAVORABLE	2500	alkali sacaton		10
		NORMAL	1000	other perennial grasses		3
		UNFAVORABLE	500	rush		3
				big galleta		2
				common reed		2
				other annual grasses		2
				other perennial forbs		5
				mesquite		20
				arrowweed pluchea		10
				desertwillow		10
				other shrubs		10
				willow		5
				big saltbush		3
				baccharis		2
				Fremont cottonwood		5
Gypwash-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Water-----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Huevi-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
				Lb/acre	Pct	Pct
411: Bludiamond-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Bludiamond-----	COARSE GRAVELLY LOAM 5-7 P.Z. (R030XB107NV)	FAVORABLE	1000	big galleta		30
		NORMAL	800	Indian ricegrass		5
		UNFAVORABLE	600	other perennial grasses		5
				other perennial forbs		5
				sphaeralcea		2
				blackbrush		35
				other shrubs		10
				winterfat		5
Diamondhil-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Bludiamond-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Typic Torriorthents--	GRAVELLY INSET FAN 7-9 P.Z. (R030XB108NV)	FAVORABLE	800	Indian ricegrass		5
		NORMAL	600	desert needlegrass		5
		UNFAVORABLE	400	other perennial grasses		5
				other perennial forbs		5
				blackbrush		40
				white burrobush		7
				big galleta		5
				fourwing saltbush		5
				other shrubs		5
				spiny menodora		5
				Shockley's goldenhead		3
				desertsenna		3
				spiny hopsage		3
Typic Torriorthents--	BOULDERY SANDSTONE SLOPE 11-13 P.Z. (R030XC022NV)	FAVORABLE	800	Indian ricegrass		5
		NORMAL	600	crested needlegrass		5
		UNFAVORABLE	400	desert needlegrass		5
				muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				turbinella oak		40
				pointleaf manzanita		10
				mountain big sagebrush		7
				other shrubs		5
				other trees		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Moentria-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
415:						
Valatier-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		5
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	galleta		3
				Indian ricegrass		2
				other perennial forbs		5
				blackbrush		60
				Nevada ephedra		5
				desert bitterbrush		5
				other shrubs		5
Typic Torriorthents--	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
				desert peach		3
				fourwing saltbush		3
Bitter Spring---	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Goldbutte-----	SHALLOW GRANITIC SLOPE 8-10 P.Z. (R029XY144NV)	FAVORABLE	400	desert needlegrass		10
		NORMAL	250	needlegrass		3
		UNFAVORABLE	150	other perennial forbs		5
				blackbrush		65
				other shrubs		5
				triangle goldeneye		5
				turbinella oak		3
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
421: Moentria-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Boxspring-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Argic Petrocalcids----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Hiddensun-----	COARSE GRAVELLY LOAM 5-7 P.Z. (R030XB107NV)	FAVORABLE	1000	big galleta		30
		NORMAL	800	Indian ricegrass		5
		UNFAVORABLE	600	other perennial grasses		5
				other perennial forbs		5
				sphaeralcea		2
				blackbrush		35
				other shrubs		10
				winterfat		5
Typic Haplocalcids----	COARSE GRAVELLY LOAM 5-7 P.Z. (R030XB107NV)	FAVORABLE	1000	big galleta		30
		NORMAL	800	Indian ricegrass		5
		UNFAVORABLE	600	other perennial grasses		5
				other perennial forbs		5
				sphaeralcea		2
				blackbrush		35
				other shrubs		10
				winterfat		5
422: Moentria-----	SHALLOW GRAVELLY SANDSTONE 7-9 P.Z. (R030XC027NV)	FAVORABLE	700	desert needlegrass		10
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				blackbrush		55
				Nevada ephedra		5
				other shrubs		5
				spiny menodora		5
				other trees		2
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Typic Torriorthents--	PIEDMONT WASH (R030XC005NV)	FAVORABLE	800	desert needlegrass		10
		NORMAL	400	Indian ricegrass		5
		UNFAVORABLE	200	other perennial grasses		5
				bottlebrush squirreltail		3
				needleandthread		2
				other perennial forbs		5
				Apacheplume		35
				Nevada broomsage		10
				other shrubs		10
				green ephedra		5
	rubber rabbitbrush		5			
Seralin-----	F030XC235NV	FAVORABLE	550	crested needlegrass	10	
		NORMAL	450	muttongrass	10	
		UNFAVORABLE	200	other perennial grasses	5	
				other perennial forbs	5	
				black sagebrush	20	
				Utah serviceberry	10	
				other shrubs	10	
				yellowleaf silktassel	10	
				Gambel oak	5	
				Stansbury cliffrose	5	
	singleleaf pinyon	5				
	Utah juniper	3				
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
430:						
Bluepoint-----	SODIC SAND (R030XB065NV)	FAVORABLE	1000	big galleta		60
		NORMAL	700	Indian ricegrass		5
		UNFAVORABLE	450	other perennial grasses		3
				dropseed		2
				other perennial forbs		5
				cattle saltbush		15
				other shrubs		3
				white bursage		3
	creosotebush		2			
Tipnat-----	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
				other shrubs		10
	fourwing saltbush		5			
Grapevine-----	SANDY PLAIN 5-7 P.Z. (R030XB034NV)	FAVORABLE	1800	big galleta		60
		NORMAL	1300	bush muhly		15
		UNFAVORABLE	900	Indian ricegrass		10
				dropseed		3
				other perennial grasses		2
				other perennial forbs		5
	other shrubs		5			
Typic Haplargids	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
				other shrubs		10
				fourwing saltbush		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Typic Haplargids	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
				other shrubs		10
				fourwing saltbush		5
431:						
Hypoint-----	LIMY SAND 5-7 P.Z. (R030XA069NV)	FAVORABLE	400	Indian ricegrass		15
		NORMAL	250	other perennial grasses		5
		UNFAVORABLE	100	other perennial forbs		5
				creosotebush		15
				sand dropseed		15
				fourwing saltbush		10
				other shrubs		10
				white bursage		10
				winterfat		10
Vegastorm-----	SHALLOW SILTY (R030XY013NV)	FAVORABLE	150	other perennial grasses		2
		NORMAL	100	Indian ricegrass		1
		UNFAVORABLE	50	desert needlegrass		1
				other perennial forbs		3
				shadscale		80
				other shrubs		5
				fourwing saltbush		3
Hypoint-----	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
				other shrubs		10
				fourwing saltbush		5
Bluepoint-----	DUNES 3-7 P.Z. (R030XY045NV)	FAVORABLE	900	Indian ricegrass		10
		NORMAL	600	other perennial grasses		2
		UNFAVORABLE	400	other perennial forbs		5
				fourwing saltbush		20
				honey mesquite		20
				screwbean mesquite		20
				other shrubs		10
				creosotebush		5
				white bursage		5
Haymont-----	SILTY TERRACE 5-7 P.Z. (R030XA011NV)	FAVORABLE	700	other perennial grasses		5
		NORMAL	500	other perennial forbs		5
		UNFAVORABLE	350	Torrey quailbush		50
				fourwing saltbush		25
				other shrubs		5
				shadscale		5
Vegastorm-----	COARSE SILTY 3-5 P.Z. (R030XA096NV)	FAVORABLE	400	alkali sacaton		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	100	other perennial forbs		3
				fourwing saltbush		50
				shadscale		30
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Bluepoint-----	SANDY 5-7 P.Z. (R030XB004NV)	FAVORABLE	1100	big galleta		35
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	500	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				other shrubs		10
				white bursage		10
				range ratany		5
				winterfat		5
				Nevada ephedra		3
441:						
Grapevine-----	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
				other shrubs		10
				fourwing saltbush		5
Petronodic Haplocalcids---	SANDY 5-7 P.Z. (R030XB004NV)	FAVORABLE	1100	big galleta		35
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	500	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				other shrubs		10
				white bursage		10
				range ratany		5
				winterfat		5
				Nevada ephedra		3
Vegastorm-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2
		Bluepoint-----	DUNES 3-7 P.Z. (R030XY045NV)	FAVORABLE	900	Indian ricegrass
NORMAL	600			other perennial grasses		2
UNFAVORABLE	400			other perennial forbs		5
				fourwing saltbush		20
				honey mesquite		20
				screwbean mesquite		20
				other shrubs		10
				creosotebush		5
				white bursage		5
Corbilt-----	LIMY SAND 5-7 P.Z. (R030XB037NV)			FAVORABLE	600	Indian ricegrass
		NORMAL	350	big galleta		10
		UNFAVORABLE	200	other perennial grasses		2
				other perennial forbs		5
				white bursage		30
				creosotebush		20
		other shrubs		10		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
450: Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Bluepoint-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Argidic Argidurids-----	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		5
Aguachiquita----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Typic Torriorthents--	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
				Lb/acre	Pct	Pct
451: Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Peskah-----	GRAVELLY CLAYPAN 5-7 P.Z. (R030XB100NV)	FAVORABLE	1000	big galleta		60
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	bush muhly		3
				desert globemallow		3
				other perennial forbs		2
				white bursage		10
				other shrubs		5
				range ratany		3
				Nevada ephedra		2
Crosgrain-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Typic Torriorthents--	GRAVELLY CLAYPAN 5-7 P.Z. (R030XB100NV)	FAVORABLE	1000	big galleta		60
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	bush muhly		3
				desert globemallow		3
				other perennial forbs		2
				white bursage		10
				other shrubs		5
				range ratany		3
				Nevada ephedra		2
Nickel family---	GRAVELLY CLAYPAN 5-7 P.Z. (R030XB100NV)	FAVORABLE	1000	big galleta		60
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	bush muhly		3
				desert globemallow		3
				other perennial forbs		2
				white bursage		10
				other shrubs		5
				range ratany		3
				Nevada ephedra		2
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
454: Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Lanip-----	GRAVELLY CLAYPAN 5-7 P.Z. (R030XB100NV)	FAVORABLE	1000	big galleta		60
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	bush muhly		3
				desert globemallow		3
				other perennial forbs		2
				white bursage		10
				other shrubs		5
				range ratany		3
				Nevada ephedra		2
Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Nickel-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	500	fluffgrass		3
		NORMAL	300	other perennial grasses		2
		UNFAVORABLE	200	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
455: Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Tenwell-----	GRAVELLY CLAYPAN 5-7 P.Z. (R030XB100NV)	FAVORABLE	1000	big galleta		60
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	bush muhly		3
				desert globemallow		3
				other perennial forbs		2
				white bursage		10
				other shrubs		5
				range ratany		3
				Nevada ephedra		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Durinodic Haplargids-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Crosgrain-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Durinodic Haplargids-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
				Spanish dagger		2
460:						
Pahrump-----	CALCAREOUS LOAM 3-5 P.Z. (R030XA053NV)	FAVORABLE	200	Indian ricegrass		5
		NORMAL	100	desert needlegrass		5
		UNFAVORABLE	50	other perennial grasses		2
				other perennial forbs		5
				shadscale		40
				creosotebush		30
				other shrubs		10
Wodavar-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Vegastorm-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2
Bluepoint-----	DUNES 3-7 P.Z. (R030XY045NV)	FAVORABLE	900	Indian ricegrass		10
		NORMAL	600	other perennial grasses		2
		UNFAVORABLE	400	other perennial forbs		5
				fourwing saltbush		20
				honey mesquite		20
				screwbean mesquite		20
				other shrubs		10
				creosotebush		5
				white bursage		5
Weiser-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
				Spanish dagger		2
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Grapevine-----	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
				other shrubs		10
				fourwing saltbush		5
461: Pahrump-----	SHALLOW SILTY (R030XY013NV)	FAVORABLE	150	other perennial grasses		2
		NORMAL	100	Indian ricegrass		1
		UNFAVORABLE	50	desert needlegrass		1
				other perennial forbs		3
				shadscale		80
				other shrubs		5
				fourwing saltbush		3
Pahrump-----	CALCAREOUS LOAM 3-5 P.Z. (R030XA053NV)	FAVORABLE	200	Indian ricegrass		5
		NORMAL	100	desert needlegrass		5
		UNFAVORABLE	50	other perennial grasses		2
				other perennial forbs		5
				shadscale		40
				creosotebush		30
				other shrubs		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Bluepoint-----	DUNES 3-7 P.Z. (R030XY045NV)	FAVORABLE	900	Indian ricegrass		10
		NORMAL	600	other perennial grasses		2
		UNFAVORABLE	400	other perennial forbs		5
				fourwing saltbush		20
				honey mesquite		20
				screwbean mesquite		20
				other shrubs		10
				creosotebush		5
				white bursage		5
Wodavar-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2
Haymont-----	ALLUVIAL PLAIN (R030XY047NV)	FAVORABLE	500	Indian ricegrass		10
		NORMAL	400	other perennial grasses		3
		UNFAVORABLE	250	other perennial forbs		5
				cattle saltbush		70
				other shrubs		10
Haymont-----	COARSE SILTY 3-5 P.Z. (R030XA096NV)	FAVORABLE	400	alkali sacaton		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	100	other perennial forbs		3
				fourwing saltbush		50
				shadscale		30
				other shrubs		5
Grapevine-----	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
				other shrubs		10
				fourwing saltbush		5
470:						
Filaree-----	GRANITIC FAN 5-7 P.Z. (R030XB058NV)	FAVORABLE	500	desert needlegrass		10
		NORMAL	300	bush muhly		5
		UNFAVORABLE	100	other perennial grasses		5
				big galleta		3
				other perennial forbs		5
				creosotebush		25
				white bursage		25
				other shrubs		15
Seanna-----	SHALLOW GRANITIC HILL 5-7 P.Z. (R030XB008NV)	FAVORABLE	300	desert needlegrass		15
		NORMAL	200	bush muhly		5
		UNFAVORABLE	100	big galleta		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		40
				Nevada ephedra		5
				Virgin River encelia		5
				other shrubs		5
				range ratany		5
				white bursage		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Lanip-----	GRANITIC LOAM 5-7 P.Z. (R030XB007NV)	FAVORABLE	500	big galleta		20
		NORMAL	350	bush muhly		5
		UNFAVORABLE	200	desert needlegrass		5
				other perennial grasses		5
				other perennial forbs		5
				white bursage		25
				other shrubs		10
				Mojave buckwheat		5
				creosotebush		5
				range ratany		5
				ephedra		3
Nolena-----	SHALLOW GRANITIC SLOPE 5-7 P.Z. (R030XB056NV)	FAVORABLE	300	desert needlegrass		10
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	75	bush muhly		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		15
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
		desertwillow		2		
Typic Torriorthents--	RUBBLY OUTWASH (R030XB052NV)	FAVORABLE	500	big galleta		10
		NORMAL	300	desert needlegrass		3
		UNFAVORABLE	200	other perennial grasses		2
				fluffgrass		1
				other perennial forbs		5
				desertsenna		35
				hollyleaf bursage		20
				other shrubs		10
				Mojave buckwheat		5
		white burrobrush		5		
		purple Dorrs sage		3		
475: Guardian-----	GYPSIC HILL 3-5 P.Z. (R030XB118NV)	FAVORABLE	175	other perennial grasses		3
		NORMAL	125	silverleaf sunray		20
		UNFAVORABLE	50	other perennial forbs		3
				California bearpoppy		1
				pygmycedar		40
				Parry's sandpaperplant		15
				Fremont dalea		5
		other shrubs		5		
		shrubby tiqulia		5		
Sunrock-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Sunrock-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Sunrock-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
				white bursage		3
				range ratany		2
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
477:						
Guardian-----	GYPSIC SODIC LOAM 3-5 P.Z. (R030XB115NV)	FAVORABLE	350	other perennial grasses		3
		NORMAL	200	silverleaf sunray		10
		UNFAVORABLE	100	other perennial forbs		5
				shadscale		45
				Fremont dalea		15
				Parry's sandpaperplant		15
				other shrubs		5
Baseline-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Guardian-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
				desert alysum		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Heleweiser-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Drygyp-----	GYPSIC SODIC LOAM 3-5 P.Z. (R030XB115NV)	FAVORABLE	350	other perennial grasses		3
		NORMAL	200	silverleaf sunray		10
		UNFAVORABLE	100	other perennial forbs		5
				shadscale		45
				Fremont dalea		15
				Parry's sandpaperplant		15
				other shrubs		5
478:						
Guardian-----	GYPSIC SODIC LOAM 3-5 P.Z. (R030XB115NV)	FAVORABLE	350	other perennial grasses		3
		NORMAL	200	silverleaf sunray		10
		UNFAVORABLE	100	other perennial forbs		5
				shadscale		45
				Fremont dalea		15
				Parry's sandpaperplant		15
				other shrubs		5
Baseline-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Baseline-----	GRAVELLY PEDIMENT 3-5 P.Z. (R030XB038NV)	FAVORABLE	350	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	100	desertholly saltbush		50
				white bursage		15
				Torrey ephedra		5
				creosotebush		5
				other shrubs		5
				range ratany		5
St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
480:						
Vace-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
Vace-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
		other shrubs		5		
Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
Vace-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
		range ratany		5		
		desert pepperweed		3		
		Fremont's dalea		2		
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Nickel-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
481:						
Vace-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Wechch-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Wechch-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Weiser-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
				Spanish dagger		2
Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Commski-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2
Threelakes-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
490:						
Ifteen-----	BOULDERY LIMESTONE SLOPE 5-7 P.Z. (R030XB105NV)	FAVORABLE	500	arid needlegrass		10
		NORMAL	300	desert needlegrass		10
		UNFAVORABLE	200	bush muhly		5
				other perennial grasses		5
				other perennial forbs		5
				winterfat		20
				Utah mortonia		15
				other shrubs		8
				Mojave sage		5
				Torrey ephedra		5
				spearleaf brickellia		5
Wechech-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Vace-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Commski-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Threelakes-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
500:						
Playas-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Hypoint-----	ALLUVIAL PLAIN (R030XY047NV)	FAVORABLE	500	Indian ricegrass		10
		NORMAL	400	other perennial grasses		3
		UNFAVORABLE	250	other perennial forbs		5
				cattle saltbush		70
		other shrubs		10		
Tipnat-----	ALLUVIAL PLAIN (R030XY047NV)	FAVORABLE	500	Indian ricegrass		10
		NORMAL	400	other perennial grasses		3
		UNFAVORABLE	250	other perennial forbs		5
				cattle saltbush		70
		other shrubs		10		
501:						
Dams-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
504:						
Pits, quarry----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
505:						
Pits, gravel----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
506:						
Pits-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Dumps-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
508:						
Dumps-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
510: Railroad-----	BASALTIC HILL 5-7 P.Z. (R030XB069NV)	FAVORABLE	500	big galleta		10
		NORMAL	400	Indian ricegrass		3
		UNFAVORABLE	250	bush muhly		3
				other perennial grasses		2
				desert globemallow		3
				other perennial forbs		2
				winterfat		30
				white bursage		25
				Nevada ephedra		5
				other shrubs		5
				creosotebush		3
				range ratany		3
Railroad-----	STONY LOAM 5-7 P.Z. (R030XB080NV)	FAVORABLE	1100	big galleta		50
		NORMAL	800	Indian ricegrass		5
		UNFAVORABLE	600	bush muhly		5
				desert needlegrass		3
				other annual forbs		5
				other perennial forbs		5
				sphaeralcea		3
				winterfat		15
				other shrubs		5
				Nevada ephedra		3
Typic Petrocalcids---	BASALTIC HILL 5-7 P.Z. (R030XB069NV)	FAVORABLE	500	big galleta		10
		NORMAL	400	Indian ricegrass		3
		UNFAVORABLE	250	bush muhly		3
				other perennial grasses		2
				desert globemallow		3
				other perennial forbs		2
				winterfat		30
				white bursage		25
				Nevada ephedra		5
				other shrubs		5
				creosotebush		3
				range ratany		3
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Railroad-----	STONY LOAM 7-9 P.Z. (R030XB089NV)	FAVORABLE	1600	big galleta		35
		NORMAL	1300	bush muhly		35
		UNFAVORABLE	900	Indian ricegrass		3
				other perennial grasses		2
				other perennial forbs		3
				Anderson wolfberry		5
				ephedra		5
				other shrubs		5
				winterfat		5
Rubble land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
520:						
Nolena-----	SHALLOW GRANITIC SLOPE 5-7 P.Z. (R030XB056NV)	FAVORABLE NORMAL UNFAVORABLE	300 200 75	desert needlegrass other perennial grasses bush muhly other perennial forbs blackbrush other shrubs		10 3 2 5 60 15
Rock outcrop----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Newera-----	SHALLOW GRANITIC SLOPE 5-7 P.Z. (R030XB056NV)	FAVORABLE NORMAL UNFAVORABLE	300 200 75	desert needlegrass other perennial grasses bush muhly other perennial forbs blackbrush other shrubs		10 3 2 5 60 15
Cetrepas-----	SHALLOW GRANITIC LOAM 10-12 P.Z. (R029XY129NV)	FAVORABLE NORMAL UNFAVORABLE	800 600 400	desert needlegrass other perennial grasses Indian ricegrass other perennial forbs blackbrush turbinella oak Mojave buckwheat Virgin River encelia green ephedra		10 3 2 5 50 10 5 5 5
Typic Calciargids----	COARSE GRAVELLY LOAM 5-7 P.Z. (R030XB107NV)	FAVORABLE NORMAL UNFAVORABLE	1000 800 600	big galleta Indian ricegrass other perennial grasses other perennial forbs sphaeralcea blackbrush other shrubs winterfat		30 5 5 5 2 35 10 5
521:						
Nolena-----	SHALLOW GRANITIC SLOPE 5-7 P.Z. (R030XB056NV)	FAVORABLE NORMAL UNFAVORABLE	300 200 75	desert needlegrass other perennial grasses bush muhly other perennial forbs blackbrush other shrubs		10 3 2 5 60 15
Nipton-----	VOLCANIC SLOPE 7-9 P.Z. (R030XB071NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 300	big galleta desert needlegrass bush muhly other perennial grasses other perennial forbs Mojave buckwheat ephedra other shrubs range ratany triangle goldeneye		20 10 5 3 5 30 15 5 2 2
Meadview-----	SHALLOW GRANITIC SLOPE 5-7 P.Z. (R030XB056NV)	FAVORABLE NORMAL UNFAVORABLE	300 200 75	desert needlegrass other perennial grasses bush muhly other perennial forbs blackbrush other shrubs		10 3 2 5 60 15
Rock outcrop----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Typic Torriorthents--	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
		desert peach		3		
		fourwing saltbush		3		
Arizo family----	GRAVELLY WASH 3-5 P.Z. (R030XB132NV)	FAVORABLE	600	big galleta		10
		NORMAL	400	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				catclaw		30
				Fremont dalea		15
				other shrubs		10
				creosotebush		5
				desert rabbitbrush		5
				white burrobrush		5
				desertwillow		2
522: Nolena-----	SHALLOW GRANITIC SLOPE 5-7 P.Z. (R030XB056NV)	FAVORABLE	300	desert needlegrass		10
		NORMAL	200	other perennial grasses		3
Meadview-----	SHALLOW GRANITIC SLOPE 5-7 P.Z. (R030XB056NV)	UNFAVORABLE	75	bush muhly		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		15
				desert needlegrass		10
				other perennial grasses		3
				bush muhly		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		15
Arizo-----	GRAVELLY WASH 3-5 P.Z. (R030XB132NV)	FAVORABLE	600	big galleta		10
		NORMAL	400	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				catclaw		30
				Fremont dalea		15
				other shrubs		10
				creosotebush		5
				desert rabbitbrush		5
				white burrobrush		5
				desertwillow		2
Typic Haplocambids--	SHALLOW GRANITIC LOAM 5-7 P.Z. (R030XB057NV)	FAVORABLE	600	desert needlegrass		15
		NORMAL	400	big galleta		5
		UNFAVORABLE	250	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
Goldbutte-----	SHALLOW GRANITIC SLOPE 8-10 P.Z. (R029XY144NV)			blackbrush		50
				other shrubs		15
		FAVORABLE	400	desert needlegrass		10
		NORMAL	250	needlegrass		3
		UNFAVORABLE	150	other perennial forbs		5
				blackbrush		65
		other shrubs		5		
		triangle goldeneye		5		
		turbinella oak		3		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
523:						
Nolena-----	SHALLOW GRANITIC LOAM 5-7 P.Z. (R030XB057NV)	FAVORABLE	600	desert needlegrass		15
		NORMAL	400	big galleta		5
		UNFAVORABLE	250	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		50
				other shrubs		15
Nolena-----	SHALLOW GRANITIC SLOPE 5-7 P.Z. (R030XB056NV)	FAVORABLE	300	desert needlegrass		10
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	75	bush muhly		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		15
Azureridge-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Nickel-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
				Spanish dagger		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
530: Seanna-----	GRANITIC SLOPE 5-7 P.Z. (R030XB087NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 300	big galleta other perennial grasses bush muhly other perennial forbs white bursage desertsenna Mojave buckwheat Nevada ephedra creosotebush other shrubs range ratany spiny menodora		20 5 3 5 20 10 5 5 5 5 5
Botleg-----	GRANITIC SLOPE 3-5 P.Z. (R030XB062NV)	FAVORABLE NORMAL UNFAVORABLE	350 200 100	big galleta other perennial grasses other perennial forbs white bursage desertsenna range ratany Mojave buckwheat Nevada ephedra creosotebush desert aster other shrubs		5 5 5 25 15 15 5 5 5 5 5
Rock outcrop----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE NORMAL UNFAVORABLE	500 350 200	big galleta other perennial grasses other perennial forbs creosotebush bursage baccharis other shrubs white burrobrush Mojave buckwheat Nevada ephedra catclaw desertwillow		10 5 10 20 15 10 10 5 3 3 3 2
Haleburu-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE NORMAL UNFAVORABLE	125 75 25	fluffgrass other perennial grasses other annual forbs other perennial forbs creosotebush white bursage other shrubs		3 2 5 2 75 8 5
531: Seanna-----	SHALLOW GRANITIC HILL 5-7 P.Z. (R030XB008NV)	FAVORABLE NORMAL UNFAVORABLE	300 200 100	desert needlegrass bush muhly big galleta other perennial grasses other perennial forbs Mojave buckwheat Nevada ephedra Virgin River encelia other shrubs range ratany white bursage		15 5 3 2 5 40 5 5 5 5 5
Rock outcrop----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Lithic Torriorthents--	SHALLOW GRANITIC HILL 5-7 P.Z. (R030XB008NV)	FAVORABLE	300	desert needlegrass		15
		NORMAL	200	bush muhly		5
		UNFAVORABLE	100	big galleta		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		40
				Nevada ephedra		5
				Virgin River encelia		5
				other shrubs		5
				range ratany		5
		white bursage		5		
532:						
Seanna-----	SHALLOW GRANITIC HILL 5-7 P.Z. (R030XB008NV)	FAVORABLE	300	desert needlegrass		15
		NORMAL	200	bush muhly		5
		UNFAVORABLE	100	big galleta		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		40
				Nevada ephedra		5
				Virgin River encelia		5
				other shrubs		5
				range ratany		5
		white bursage		5		
Goldroad-----	GRANITIC HILL 3-5 P.Z. (R030XB016NV)	FAVORABLE	300	big galleta		3
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	desert needlegrass		2
				other perennial forbs		5
				white brittlebush		35
				Mojave buckwheat		20
				triangle goldeneye		15
				other shrubs		5
				range ratany		5
				white bursage		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Hiller-----	GRAVELLY RIDGE 5-7 P.Z. (R030XB099NV)	FAVORABLE	300	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	150	white bursage		35
				white brittlebush		25
				creosotebush		10
		other shrubs		10		
Typic Haplargids	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Goldroad-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
		white bursage		3		
		range ratany		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Nolena-----	SHALLOW GRANITIC SLOPE 5-7 P.Z. (R030XB056NV)	FAVORABLE	300	desert needlegrass		10
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	75	bush muhly		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		15
Argidic Argidurids-----	CLAYPAN 5-7 P.Z. (R030XB043NV)	FAVORABLE	1000	big galleta		30
		NORMAL	700	bush muhly		10
		UNFAVORABLE	450	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		5
				creosotebush		10
				Nevada ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		5
				white bursage		5
				winterfat		5
535:						
Blackmesa-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Sunrock-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Sunrock-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
				white bursage		3
				range ratany		2
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
540:						
Sunrock-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
				white bursage		3
				range ratany		2
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
					Pct	Pct
Sunrock-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Haleburu-----	STONY SLOPE 5-7 P.Z. (R030XB072NV)	FAVORABLE	350	big galleta		5
		NORMAL	250	other perennial grasses		5
		UNFAVORABLE	100	bush muhly		3
				other perennial forbs		5
				white bursage		30
				Mojave buckwheat		20
				creosotebush		10
				triangle goldeneye		10
				other shrubs		5
				white brittlebush		5
Huevi-----	GRAVELLY RIDGE 5-7 P.Z. (R030XB099NV)	FAVORABLE	300	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	150	white bursage		35
				white brittlebush		25
				creosotebush		10
				other shrubs		10
541: Sunrock-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
				white bursage		3
				range ratany		2
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Sunrock-----	GRANITIC HILL 3-5 P.Z. (R030XB016NV)	FAVORABLE	300	big galleta		3
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	desert needlegrass		2
				other perennial forbs		5
				white brittlebush		35
				Mojave buckwheat		20
				triangle goldeneye		15
				other shrubs		5
				range ratany		5
				white bursage		5
Huevi-----	GRAVELLY RIDGE 5-7 P.Z. (R030XB099NV)	FAVORABLE	300	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	150	white bursage		35
				white brittlebush		25
				creosotebush		10
				other shrubs		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Haleburu-----	STONY SLOPE 5-7 P.Z. (R030XB072NV)	FAVORABLE	350	big galleta		5
		NORMAL	250	other perennial grasses		5
		UNFAVORABLE	100	bush muhly		3
				other perennial forbs		5
				white bursage		30
				Mojave buckwheat		20
				creosotebush		10
				triangle goldeneye		10
				other shrubs		5
				white brittlebush		5
Haleburu-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
542:						
Sunrock-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Callville-----	GYPSIC LOAM 3-5 P.Z. (R030XB026NV)	FAVORABLE	100	other perennial grasses		3
		NORMAL	50	other perennial forbs		5
		UNFAVORABLE	10	California bearpoppy		2
				Fremont dalea		30
				desertholly saltbush		15
				Parry's sandpaperplant		10
				creosotebush		10
				other shrubs		10
				Torrey ephedra		5
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Guardian-----	GYPSIC HILL 3-5 P.Z. (R030XB118NV)	FAVORABLE	175	other perennial grasses		3
		NORMAL	125	silverleaf sunray		20
		UNFAVORABLE	50	other perennial forbs		3
				California bearpoppy		1
				pygmycedar		40
				Parry's sandpaperplant		15
				Fremont dalea		5
				other shrubs		5
				shrubby tiqulia		5
Gypwash-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
Duric Petroargids----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
		white bursage		15		
		other shrubs		5		
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
550:						
Cheme-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
		white bursage		15		
		other shrubs		5		
Riverbend-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
		white bursage		15		
		other shrubs		5		
Carrizo-----	GRAVELLY OUTWASH (R030XB098NV)	FAVORABLE	1000	big galleta		20
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	other perennial forbs		5
				white bursage		25
				other shrubs		10
				white brittlebush		10
				creosotebush		5
				sweetbrush		5
		white burrobrush		4		
		ratany		3		
Huevi-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
		range ratany		5		
		desert pepperweed		3		
		Fremont's dalea		2		
Huevi-----	GRAVELLY RIDGE 5-7 P.Z. (R030XB099NV)	FAVORABLE	300	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	150	white bursage		35
				white brittlebush		25
				creosotebush		10
		other shrubs		10		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Typic Haplargids	BARREN HILL 3-5 P.Z. (R030XB078NV)	FAVORABLE	100	other perennial grasses		5
		NORMAL	50	other annual forbs		5
		UNFAVORABLE	5	other perennial forbs		5
				creosotebush		70
				other shrubs		10
				desertsenna		5
551: Cheme-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
NORMAL		250	other perennial grasses		2	
UNFAVORABLE		100	big galleta		5	
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Carrizo-----	GRAVELLY OUTWASH (R030XB098NV)	FAVORABLE	1000	big galleta		20
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	other perennial forbs		5
				white bursage		25
				other shrubs		10
				white brittlebush		10
				creosotebush		5
				sweetbrush		5
				white burrobrush		4
				ratany		3
Huevi-----	GRAVELLY RIDGE 5-7 P.Z. (R030XB099NV)	FAVORABLE	300	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	150	white bursage		35
				white brittlebush		25
				creosotebush		10
				other shrubs		10
Riverbend-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Typic Torriorthents--	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
552: Cheme-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Huevi-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Huevi-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Riverbend-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Hiller-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
560:						
Rositas-----	SANDY 5-7 P.Z. (R030XB004NV)	FAVORABLE	1100	big galleta		35
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	500	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				other shrubs		10
				white bursage		10
				range ratany		5
				winterfat		5
				Nevada ephedra		3
Rositas-----	GRAVELLY SAND 3-5 P.Z. (R030XB096NV)	FAVORABLE	500	big galleta		20
		NORMAL	400	other perennial grasses		5
		UNFAVORABLE	300	other perennial forbs		3
				white bursage		35
				Palmer coldenia		20
				other shrubs		5
				ratany		3
				winterfat		3
Riverbend-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Carrizo-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Huevi-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
565:						
Govwash-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Guardian-----	GYPSIC HILL 3-5 P.Z. (R030XB118NV)	FAVORABLE	175	other perennial grasses		3
		NORMAL	125	silverleaf sunray		20
		UNFAVORABLE	50	other perennial forbs		3
				California bearpoppy		1
				pygmycedar		40
				Parry's sandpaperplant		15
				Fremont dalea		5
				other shrubs		5
				shrubby tiqulia		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Gypwash-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
		570:				
Carrizo-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
Carrizo-----	GRAVELLY OUTWASH (R030XB098NV)	FAVORABLE	1000	big galleta		20
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	other perennial forbs		5
				white bursage		25
				other shrubs		10
				white brittlebush		10
				creosotebush		5
				sweetbrush		5
		white burrobrush		4		
		ratany		3		
Riverbend-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
		other shrubs		5		
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Typic Torriorthents--	BARREN HILL 3-5 P.Z. (R030XB078NV)	FAVORABLE	100	other perennial grasses		5
		NORMAL	50	other annual forbs		5
		UNFAVORABLE	5	other perennial forbs		5
				creosotebush		70
				other shrubs		10
		desertsenna		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
				Lb/acre	Pct	Pct
571: Carrizo-----	GRAVELLY OUTWASH (R030XB098NV)	FAVORABLE	1000	big galleta		20
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	other perennial forbs		5
				white bursage		25
				other shrubs		10
				white brittlebush		10
				creosotebush		5
				sweetbrush		5
				white burrobrush		4
				ratany		3
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Riverbend-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Huevi-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Varwash-----	DESERT PATINA (R030XB092NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	creosotebush		85
				other shrubs		5
572: Carrizo-----	GRANITIC DRAIN (R030XB103NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	350	other perennial forbs		5
		UNFAVORABLE	200	smoketree		50
				other shrubs		15
				catclaw		10
				sweetbrush		5
				white burrobrush		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
1573:						
Carrizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Riverbend-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Riverbend-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
		other shrubs		5		
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Huevi-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
		white bursage		8		
		other shrubs		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
574: Carrizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
	Sunrock-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass	
NORMAL			75	other perennial grasses		2
UNFAVORABLE			25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
			white bursage		8	
			other shrubs		5	
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Sunrock-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
		white bursage		3		
		range ratany		2		
575: Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
Riverbend-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
		Nevada ephedra		3		
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Huevi-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
		white bursage		15		
		other shrubs		5		
Varwash-----	DESERT PATINA (R030XB092NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	creosotebush		85
				other shrubs		5
581: Threelakes-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
		Nevada ephedra		3		
Typic Haplocalcids---	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XA006NV)	FAVORABLE	450	desert needlegrass		10
		NORMAL	350	other perennial forbs		5
		UNFAVORABLE	275	blackbrush		40
				shadscale		20
				white bursage		10
		ephedra		5		
		other shrubs		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Calciic Petrocalcids---	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2
Typic Torriorthents--	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Weiser-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
				Spanish dagger		2
590: Riverbend-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Carrizo-----	GRAVELLY OUTWASH (R030XB098NV)	FAVORABLE	1000	big galleta		20
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	other perennial forbs		5
				white bursage		25
				other shrubs		10
				white brittlebush		10
				creosotebush		5
				sweetbrush		5
				white burrobrush		4
				ratany		3
Typic Torriorthents--	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Riverbend-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
591: Riverbend-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Carrwash-----	GRAVELLY RIDGE 5-7 P.Z. (R030XB099NV)	FAVORABLE	300	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	150	white bursage		35
				white brittlebush		25
				creosotebush		10
				other shrubs		10
Carrizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
592: Riverbend-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Varwash-----	DESERT PATINA (R030XB092NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	creosotebush		85
				other shrubs		5
Huevi-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
				Lb/acre	Pct	Pct	
593: Riverbend-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5	
		NORMAL	300	other perennial grasses		5	
		UNFAVORABLE	200	other annual forbs		10	
				other perennial forbs		5	
				white bursage		35	
				creosotebush		15	
				other shrubs		10	
				range ratany		5	
				Nevada ephedra		3	
Cheme-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5	
		NORMAL	300	other perennial grasses		5	
		UNFAVORABLE	200	other annual forbs		10	
				other perennial forbs		5	
				white bursage		35	
				creosotebush		15	
				other shrubs		10	
				range ratany		5	
				Nevada ephedra		3	
Carrizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5	
		NORMAL	300	other perennial grasses		5	
		UNFAVORABLE	200	other annual forbs		10	
				other perennial forbs		5	
				white bursage		35	
				creosotebush		15	
				other shrubs		10	
				range ratany		5	
				Nevada ephedra		3	
Carrizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5	
		NORMAL	300	other perennial grasses		5	
		UNFAVORABLE	200	other annual forbs		10	
				other perennial forbs		5	
				white bursage		35	
				creosotebush		15	
				other shrubs		10	
				range ratany		5	
				Nevada ephedra		3	
Varwash-----	DESERT PATINA (R030XB092NV)	FAVORABLE	150	other perennial grasses		3	
		NORMAL	75	other perennial forbs		3	
		UNFAVORABLE	25	creosotebush		85	
				other shrubs		5	
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10	
		NORMAL	350	other perennial grasses		5	
		UNFAVORABLE	200	other perennial forbs		10	
					creosotebush		20
					bursage		15
					baccharis		10
					other shrubs		10
					white burrobrush		5
					Mojave buckwheat		3
			Nevada ephedra		3		
			catclaw		3		
			desertwillow		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
				Lb/acre	Pct	Pct
600:						
Huevi-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Cheme-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Huevi-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	300	fluffgrass		3
		NORMAL	225	other perennial grasses		2
		UNFAVORABLE	150	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Typic Haplargids	BARREN HILL 3-5 P.Z. (R030XB078NV)	FAVORABLE	100	other perennial grasses		5
		NORMAL	50	other annual forbs		5
		UNFAVORABLE	5	other perennial forbs		5
				creosotebush		70
				other shrubs		10
				desertsenna		5
601:						
Huevi-----	GRAVELLY RIDGE 5-7 P.Z. (R030XB099NV)	FAVORABLE	300	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	150	white bursage		35
				white brittlebush		25
				creosotebush		10
				other shrubs		10
Huevi-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Varwash-----	GRAVELLY RIDGE 5-7 P.Z. (R030XB099NV)	FAVORABLE	300	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	150	white bursage		35
				white brittlebush		25
				creosotebush		10
				other shrubs		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Riverbend-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Huevi-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Carrizo-----	GRAVELLY OUTWASH (R030XB098NV)	FAVORABLE	1000	big galleta		20
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	other perennial forbs		5
				white bursage		25
				other shrubs		10
				white brittlebush		10
				creosotebush		5
				sweetbrush		5
				white burrobrush		4
				ratany		3
603:						
Huevi-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Riverbend-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Cheme-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
604:						
Huevi-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Hiller-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Cheme-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Varwash-----	DESERT PATINA (R030XB092NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	creosotebush		85
				other shrubs		5
Rock outcrop---	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
605:						
Huevi-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Callville-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
Carrizo-----	VALLEY WASH (R030XB028NV)			other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
		FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
Varwash-----	DESERT PATINA (R030XB092NV)			creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
Huevi-----	GRAVELLY OUTWASH (R030XB098NV)	FAVORABLE	1000	catclaw		3
		NORMAL	700	desertwillow		2
		UNFAVORABLE	450	other perennial grasses		3
Huevi-----	LIMY HILL 3-5 P.Z. (R030XB017NV)			other perennial forbs		3
				creosotebush		85
				other shrubs		5
		FAVORABLE	125	big galleta		20
		NORMAL	75	other perennial grasses		5
		UNFAVORABLE	25	other perennial forbs		5
				white bursage		25
Cheme-----	LIMY 3-5 P.Z. (R030XB019NV)			other shrubs		10
				white brittlebush		10
				creosotebush		5
				sweetbrush		5
				white burrobrush		4
Sunrock-----	STEEP SOUTH SLOPE (R030XB077NV)			ratany		3
		FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
Rock outcrop----				creosotebush		75
				white bursage		8
				other shrubs		5
		FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
Rock outcrop----		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
		FAVORABLE	500	other perennial grasses		5
Rock outcrop----		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
Rock outcrop----				white bursage		3
				range ratany		2
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
610: Goldroad-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
				white bursage		3
				range ratany		2
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Goldroad-----	GRANITIC HILL 3-5 P.Z. (R030XB016NV)	FAVORABLE	300	big galleta		3
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	desert needlegrass		2
				other perennial forbs		5
				white brittlebush		35
				Mojave buckwheat		20
				triangle goldeneye		15
				other shrubs		5
				range ratany		5
				white bursage		5
Seanna-----	SHALLOW GRANITIC HILL 5-7 P.Z. (R030XB008NV)	FAVORABLE	300	desert needlegrass		15
		NORMAL	200	bush muhly		5
		UNFAVORABLE	100	big galleta		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		40
				Nevada ephedra		5
				Virgin River encelia		5
				other shrubs		5
				range ratany		5
				white bursage		5
Huevi-----	GRAVELLY RIDGE 5-7 P.Z. (R030XB099NV)	FAVORABLE	300	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	150	white bursage		35
				white brittlebush		25
				creosotebush		10
				other shrubs		10
612: Goldroad-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
				white bursage		3
				range ratany		2
Seanna-----	SHALLOW GRANITIC HILL 5-7 P.Z. (R030XB008NV)	FAVORABLE	300	desert needlegrass		15
		NORMAL	200	bush muhly		5
		UNFAVORABLE	100	big galleta		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		40
				Nevada ephedra		5
				Virgin River encelia		5
				other shrubs		5
				range ratany		5
				white bursage		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Goldroad-----	GRANITIC HILL 3-5 P.Z. (R030XB016NV)	FAVORABLE	300	big galleta		3
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	desert needlegrass		2
				other perennial forbs		5
				white brittlebush		35
				Mojave buckwheat		20
				triangle goldeneye		15
				other shrubs		5
				range ratany		5
				white bursage		5
Sunrock-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
613:						
Goldroad-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
				white bursage		3
				range ratany		2
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Haleburu-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Heleweiser-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Nipton-----	VOLCANIC SLOPE 7-9 P.Z. (R030XB071NV)	FAVORABLE	700	big galleta		20
		NORMAL	500	desert needlegrass		10
		UNFAVORABLE	300	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		30
				ephedra		15
				other shrubs		5
				range ratany		2
				triangle goldeneye		2
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
620:						
Arizo-----	COBBLY LOAM 5-7 P.Z. (R030XB074NV)	FAVORABLE	400	big galleta		10
		NORMAL	250	bush muhly		5
		UNFAVORABLE	150	other perennial grasses		3
				other perennial forbs		5
				white bursage		35
				other shrubs		15
				creosotebush		10
				spiny menodora		10
Lanip-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
				Spanish dagger		2
Typic Torriorthents--	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
				Spanish dagger		2
Bluepoint-----	LIMY SAND 5-7 P.Z. (R030XB037NV)	FAVORABLE	600	Indian ricegrass		15
		NORMAL	350	big galleta		10
		UNFAVORABLE	200	other perennial grasses		2
				other perennial forbs		5
				white bursage		30
				creosotebush		20
				other shrubs		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
		Lb/acre		Pct				
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10		
		NORMAL	350	other perennial grasses		5		
		UNFAVORABLE	200	other perennial forbs		10		
				creosotebush		20		
				bursage		15		
				baccharis		10		
				other shrubs		10		
				white burrobrush		5		
				Mojave buckwheat		3		
				Nevada ephedra		3		
		catclaw		3				
		desertwillow		2				
Crosgrain family	COBBLY LOAM 5-7 P.Z. (R030XB074NV)	FAVORABLE	400	big galleta		10		
		NORMAL	250	bush muhly		5		
		UNFAVORABLE	150	other perennial grasses		3		
				other perennial forbs		5		
				white bursage		35		
				other shrubs		15		
621: Orwash-----	GRANITIC FAN 5-7 P.Z. (R030XB058NV)	FAVORABLE	500	desert needlegrass		10		
		NORMAL	300	bush muhly		5		
		UNFAVORABLE	100	other perennial grasses		5		
				big galleta		3		
				other perennial forbs		5		
				creosotebush		25		
				white bursage		25		
				other shrubs		15		
		Ustic Argidurids	GRANITIC FAN 5-7 P.Z. (R030XB058NV)	FAVORABLE	500	desert needlegrass		10
				NORMAL	300	bush muhly		5
UNFAVORABLE	100			other perennial grasses		5		
				big galleta		3		
				other perennial forbs		5		
				creosotebush		25		
				white bursage		25		
				other shrubs		15		
Typic Torriorthents--	GRANITIC FAN 5-7 P.Z. (R030XB058NV)			FAVORABLE	500	desert needlegrass		10
				NORMAL	300	bush muhly		5
		UNFAVORABLE	100	other perennial grasses		5		
				big galleta		3		
				other perennial forbs		5		
				creosotebush		25		
				white bursage		25		
				other shrubs		15		
		Arizo-----	GRANITIC FAN 5-7 P.Z. (R030XB058NV)	FAVORABLE	500	desert needlegrass		10
				NORMAL	300	bush muhly		5
UNFAVORABLE	100			other perennial grasses		5		
				big galleta		3		
				other perennial forbs		5		
				creosotebush		25		
				white bursage		25		
				other shrubs		15		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
622: Orwash-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Lanip-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
				Spanish dagger		2
Lanip-----	LIMY FAN 5-7 P.Z. (R030XB039NV)	FAVORABLE	1400	big galleta		50
		NORMAL	1000	bush muhly		10
		UNFAVORABLE	700	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		3
				creosotebush		5
				other shrubs		5
				white bursage		5
				winterfat		5
				Nevada ephedra		2
				ratany		2
				spiny hopsage		2
Typic Haplargids	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
630: Tenwell-----	GRAVELLY CLAYPAN 5-7 P.Z. (R030XB100NV)	FAVORABLE	1000	big galleta		60
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	bush muhly		3
				desert globemallow		3
				other perennial forbs		2
				white bursage		10
				other shrubs		5
				range ratany		3
				Nevada ephedra		2
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
		desertwillow		2		
Typic Torriorthents--	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
		creosotebush		15		
		other shrubs		10		
		range ratany		5		
		Nevada ephedra		3		
Cambidic Haplodurids----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
		other shrubs		10		
		range ratany		5		
		Nevada ephedra		3		
635: Aguachiquita----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
		Nevada ephedra		3		
Azureridge-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
		desert pepperweed		3		
		Fremont's dalea		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
		Lb/acre		Pct			
Typic Haplodurids----	SHALLOW GRANITIC SLOPE 5-7 P.Z. (R030XB056NV)	FAVORABLE	300	desert needlegrass		10	
		NORMAL	200	other perennial grasses		3	
		UNFAVORABLE	75	bush muhly		2	
				other perennial forbs		5	
				blackbrush		60	
				other shrubs		15	
Huevi-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3	
		NORMAL	75	other perennial grasses		2	
		UNFAVORABLE	25	other annual forbs		5	
				other perennial forbs		2	
				creosotebush		75	
				white bursage		8	
				other shrubs		5	
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10	
		NORMAL	350	other perennial grasses		5	
		UNFAVORABLE	200	other perennial forbs		10	
					creosotebush		20
					bursage		15
					baccharis		10
					other shrubs		10
					white burrobrush		5
					Mojave buckwheat		3
					Nevada ephedra		3
					catclaw		3
			desertwillow		2		
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3	
		NORMAL	250	other perennial grasses		2	
		UNFAVORABLE	100	big galleta		5	
					other perennial forbs		5
					white bursage		50
					creosotebush		10
					other shrubs		10
					range ratany		5
			desert pepperweed		3		
			Fremont's dalea		2		
640:							
Cetrepas-----	SHALLOW GRANITIC LOAM 10-12 P.Z. (R029XY129NV)	FAVORABLE	800	desert needlegrass		10	
		NORMAL	600	other perennial grasses		3	
		UNFAVORABLE	400	Indian ricegrass		2	
					other perennial forbs		5
					blackbrush		50
					turbinella oak		10
			Mojave buckwheat		5		
			Virgin River encelia		5		
			green ephedra		5		
Nolena-----	SHALLOW GRANITIC SLOPE 5-7 P.Z. (R030XB056NV)	FAVORABLE	300	desert needlegrass		10	
		NORMAL	200	other perennial grasses		3	
		UNFAVORABLE	75	bush muhly		2	
					other perennial forbs		5
			blackbrush		60		
			other shrubs		15		
Rock outcrop----	---	FAVORABLE	---				
		NORMAL	---				
		UNFAVORABLE	---				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Ustic Torriorthents--	SHALLOW GRANITIC SLOPE 8-10 P.Z. (R029XY144NV)	FAVORABLE	400	desert needlegrass		10
		NORMAL	250	needlegrass		3
		UNFAVORABLE	150	other perennial forbs		5
				blackbrush		65
				other shrubs		5
				triangle goldeneye		5
				turbinella oak		3
Lithic Ustic Torriorthents--	GRANITIC SLOPE 10-12 P.Z. (R029XY112NV)	FAVORABLE	600	desert needlegrass		25
		NORMAL	450	crested needlegrass		3
		UNFAVORABLE	350	other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		30
				turbinella oak		20
				other shrubs		5
				other trees		2
Lithic Haplargids-----	STONY SLOPE 5-7 P.Z. (R030XB072NV)	FAVORABLE	350	big galleta		5
		NORMAL	250	other perennial grasses		5
		UNFAVORABLE	100	bush muhly		3
				other perennial forbs		5
				white bursage		30
				Mojave buckwheat		20
				creosotebush		10
				triangle goldeneye		10
				other shrubs		5
				white brittlebush		5
Seanna-----	SHALLOW GRANITIC HILL 5-7 P.Z. (R030XB008NV)	FAVORABLE	300	desert needlegrass		15
		NORMAL	200	bush muhly		5
		UNFAVORABLE	100	big galleta		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		40
				Nevada ephedra		5
				Virgin River encelia		5
				other shrubs		5
				range ratany		5
				white bursage		5
645: Goldbutte-----	SHALLOW GRANITIC SLOPE 8-10 P.Z. (R029XY144NV)	FAVORABLE	400	desert needlegrass		10
		NORMAL	250	needlegrass		3
		UNFAVORABLE	150	other perennial forbs		5
				blackbrush		65
				other shrubs		5
				triangle goldeneye		5
				turbinella oak		3
Nolena-----	SHALLOW GRANITIC SLOPE 5-7 P.Z. (R030XB056NV)	FAVORABLE	300	desert needlegrass		10
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	75	bush muhly		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		15
Newera-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Straycow-----	SHALLOW GRANITIC LOAM 5-7 P.Z. (R030XB057NV)	FAVORABLE	600	desert needlegrass		15
		NORMAL	400	big galleta		5
		UNFAVORABLE	250	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		50
				other shrubs		15
Jumbopeak-----	DRAFT (F030XC250NV)	FAVORABLE	450	bush muhly	5	
		NORMAL	350	crested needlegrass	5	
		UNFAVORABLE	150	desert needlegrass	5	
				muttongrass	5	
				other perennial grasses	5	
				turbinella oak	50	
				Stansbury cliffrose	5	
				blackbrush	5	
				other shrubs	5	
				singleleaf pinyon	4	
		Joshua tree	1			
		Utah juniper	1			
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Typic Torriorthents--	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
				desert peach		3
		fourwing saltbush		3		
646: Goldbutte-----	SHALLOW GRANITIC SLOPE 8-10 P.Z. (R029XY144NV)	FAVORABLE	400	desert needlegrass		10
		NORMAL	250	needlegrass		3
		UNFAVORABLE	150	other perennial forbs		5
				blackbrush		65
				other shrubs		5
				triangle goldeneye		5
				turbinella oak		3
Jumbopeak-----	DRAFT (F030XC250NV)	FAVORABLE	450	bush muhly	5	
		NORMAL	350	crested needlegrass	5	
		UNFAVORABLE	150	desert needlegrass	5	
				muttongrass	5	
				other perennial grasses	5	
				turbinella oak	50	
				Stansbury cliffrose	5	
				blackbrush	5	
				other shrubs	5	
				singleleaf pinyon	4	
		Joshua tree	1			
		Utah juniper	1			
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Nolena-----	SHALLOW GRANITIC SLOPE 5-7 P.Z. (R030XB056NV)	FAVORABLE	300	desert needlegrass		10
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	75	bush muhly		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		15
Jumbopeak-----	DRAFT (F030XC250NV)	FAVORABLE	450	bush muhly	5	
		NORMAL	350	crested needlegrass	5	
		UNFAVORABLE	150	desert needlegrass	5	
				muttongrass	5	
				other perennial grasses	5	
				turbinella oak	50	
				Stansbury cliffrose	5	
				blackbrush	5	
				other shrubs	5	
				singleleaf pinyon	4	
		Joshua tree	1			
		Utah juniper	1			
Typic Torriorthents--	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
		desert peach		3		
		fourwing saltbush		3		
Typic Torriorthents--	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10
		NORMAL	700	Sandberg bluegrass		5
		UNFAVORABLE	500	other perennial grasses		5
				galleta		2
				other perennial forbs		8
				big sagebrush		30
				desert almond		15
		other shrubs		10		
		rubber rabbitbrush		10		
650: Peskah-----	GRAVELLY CLAYPAN 5-7 P.Z. (R030XB100NV)	FAVORABLE	1000	big galleta		60
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	bush muhly		3
				desert globemallow		3
				other perennial forbs		2
				white bursage		10
				other shrubs		5
		range ratany		3		
		Nevada ephedra		2		
Crosgrain-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
		range ratany		5		
		Nevada ephedra		3		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Lanip-----	CLAYPAN 5-7 P.Z. (R030XB043NV)	FAVORABLE	1000	big galleta		30
		NORMAL	700	bush muhly		10
		UNFAVORABLE	450	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		5
				creosotebush		10
				Nevada ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		5
		white bursage		5		
		winterfat		5		
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
		desertwillow		2		
651: Peskah-----	GRAVELLY CLAYPAN 5-7 P.Z. (R030XB100NV)	FAVORABLE	1000	big galleta		60
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	bush muhly		3
				desert globemallow		3
				other perennial forbs		2
				white bursage		10
				other shrubs		5
				range ratany		3
				Nevada ephedra		2
Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
		white burrobrush		5		
		Mojave buckwheat		3		
		Nevada ephedra		3		
		catclaw		3		
		desertwillow		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Typic Haplargids	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Hoppswell-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XB014NV)	FAVORABLE	700	black grama		15
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	250	big galleta		5
				desert needlegrass		5
				galleta		3
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		45
				other shrubs		5
				Nevada ephedra		3
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
660:						
Crosgrain-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Crosgrain-----	SHALLOW HILL 5-7 P. Z. (R030XB053NV)	FAVORABLE	600	big galleta		30
		NORMAL	400	bush muhly		5
		UNFAVORABLE	250	other perennial grasses		3
				other perennial forbs		5
				winterfat		15
				spiny hopsage		10
				white bursage		10
				Anderson's wolfberry		5
				creosotebush		5
				other shrubs		5
				range ratany		5
				Nevada ephedra		2
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Peskah-----	GRAVELLY CLAYPAN 5-7 P.Z. (R030XB100NV)	FAVORABLE	1000	big galleta		60
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	bush muhly		3
				desert globemallow		3
				other perennial forbs		2
				white bursage		10
				other shrubs		5
				range ratany		3
				Nevada ephedra		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
661: Crosgrain-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Typic Haplargids	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		5
Nickel family---	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
662: Crosgrain-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
				Lb/acre	Pct	Pct
Lithic Torriorthents--	SHALLOW GRANITIC HILL 5-7 P.Z. (R030XB008NV)	FAVORABLE	300	desert needlegrass		15
		NORMAL	200	bush muhly		5
		UNFAVORABLE	100	big galleta		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		40
				Nevada ephedra		5
				Virgin River encelia		5
				other shrubs		5
				range ratany		5
		white bursage		5		
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Typic Torriorthents--	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Nipton-----	VOLCANIC SLOPE 7-9 P.Z. (R030XB071NV)	FAVORABLE	700	big galleta		20
		NORMAL	500	desert needlegrass		10
		UNFAVORABLE	300	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		30
				ephedra		15
				other shrubs		5
				range ratany		2
				triangle goldeneye		2
663: Crosgrain-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Kidwell-----	COBBLY LOAM 5-7 P.Z. (R030XB074NV)	FAVORABLE	400	big galleta		10
		NORMAL	250	bush muhly		5
		UNFAVORABLE	150	other perennial grasses		3
				other perennial forbs		5
				white bursage		35
				other shrubs		15
				creosotebush		10
				spiny menodora		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Arizo-----	COBBLY LOAM 5-7 P.Z. (R030XB074NV)	FAVORABLE	400	big galleta		10
		NORMAL	250	bush muhly		5
		UNFAVORABLE	150	other perennial grasses		3
				other perennial forbs		5
				white bursage		35
				other shrubs		15
				creosotebush		10
				spiny menodora		10
Typic Torriorthents--	COBBLY LOAM 5-7 P.Z. (R030XB074NV)	FAVORABLE	400	big galleta		10
		NORMAL	250	bush muhly		5
		UNFAVORABLE	150	other perennial grasses		3
				other perennial forbs		5
				white bursage		35
				other shrubs		15
				creosotebush		10
				spiny menodora		10
Cambidic Haplodurids----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
665: Crosgrain-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
NORMAL		250	other perennial grasses		2	
UNFAVORABLE		100	big galleta		5	
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Vace-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Nickel-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
				Spanish dagger		2
Petronodic Haplocalcids---	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2
Bracken-----	GYPSIC SLOPE 3-5 P.Z. (R030XB079NV)	FAVORABLE	80	other perennial grasses		10
		NORMAL	50	other perennial forbs		5
		UNFAVORABLE	5	Fremont dalea		60
				other shrubs		10
				creosotebush		5
				white bursage		5
				ephedra		3
670: Nipton-----	VOLCANIC SLOPE 7-9 P.Z. (R030XB071NV)	FAVORABLE	700	big galleta		20
NORMAL		500	desert needlegrass		10	
UNFAVORABLE		300	bush muhly		5	
				other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		30
				ephedra		15
				other shrubs		5
				range ratany		2
				triangle goldeneye		2
Highland-----	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Lithic Torriorthents--	BASALTIC NORTH SLOPE 7-9 P.Z. (R030XB085NV)	FAVORABLE	700	bush muhly		15
		NORMAL	600	desert needlegrass		15
		UNFAVORABLE	450	other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		15
				winterfat		15
				ephedra		10
				Anderson wolfberry		5
				Fremont dalea		5
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
Typic Haplocambids---	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	300	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	150	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
673: Nolena-----	SHALLOW GRANITIC LOAM 5-7 P.Z. (R030XB057NV)	FAVORABLE	600	desert needlegrass		15
		NORMAL	400	big galleta		5
		UNFAVORABLE	250	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
Newera-----	SHALLOW GRAVELLY SLOPE 5-7 P.Z. (R030XB076NV)	FAVORABLE	300	big galleta		5
		NORMAL	200	desert needlegrass		5
		UNFAVORABLE	75	Indian ricegrass		3
				bush muhly		3
				other perennial grasses		3
				other perennial forbs		3
				blackbrush		60
		other shrubs		10		
		creosotebush		3		
Highland-----	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
		creosotebush		5		
		other shrubs		5		
		range ratany		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Newera-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
		674:				
Nipton-----	VOLCANIC SLOPE 7-9 P.Z. (R030XB071NV)	FAVORABLE	700	big galleta		20
		NORMAL	500	desert needlegrass		10
		UNFAVORABLE	300	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		30
				ephedra		15
				other shrubs		5
		range ratany		2		
		triangle goldeneye		2		
Rubble land----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Railroad-----	BASALTIC HILL 5-7 P.Z. (R030XB069NV)	FAVORABLE	500	big galleta		10
		NORMAL	400	Indian ricegrass		3
		UNFAVORABLE	250	bush muhly		3
				other perennial grasses		2
				desert globemallow		3
				other perennial forbs		2
				winterfat		30
				white bursage		25
		Nevada ephedra		5		
		other shrubs		5		
		creosotebush		3		
		range ratany		3		
Hiddensun-----	BASALTIC NORTH SLOPE 7-9 P.Z. (R030XB085NV)	FAVORABLE	700	bush muhly		15
		NORMAL	600	desert needlegrass		15
		UNFAVORABLE	450	other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		15
				winterfat		15
				ephedra		10
				Anderson wolfberry		5
		Fremont dalea		5		
		other shrubs		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Railroad-----	STONY LOAM 5-7 P.Z. (R030XB080NV)	FAVORABLE	1100	big galleta		50
		NORMAL	800	Indian ricegrass		5
		UNFAVORABLE	600	bush muhly		5
				desert needlegrass		3
				other annual forbs		5
				other perennial forbs		5
				sphaeralcea		3
				winterfat		15
				other shrubs		5
				Nevada ephedra		3
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Railroad-----	STONY LOAM 7-9 P.Z. (R030XB089NV)	FAVORABLE	1600	big galleta		35
		NORMAL	1300	bush muhly		35
		UNFAVORABLE	900	Indian ricegrass		3
				other perennial grasses		2
				other perennial forbs		3
				Anderson wolfberry		5
				ephedra		5
				other shrubs		5
				winterfat		5
Rock outcrop----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
680:						
Lanfair-----	GRAVELLY FAN 7-9 P.Z. (R030XB090NV)	FAVORABLE	600	black grama		15
		NORMAL	400	desert needlegrass		10
		UNFAVORABLE	200	big galleta		5
				other perennial grasses		5
				bush muhly		3
				other perennial forbs		5
				blackbrush		35
				other shrubs		5
				yucca		5
				Nevada ephedra		3
				buckhorn cholla		2
				white burrobrush		2
Hoppswell-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XB014NV)	FAVORABLE	700	black grama		15
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	250	big galleta		5
				desert needlegrass		5
				galleta		3
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		45
				other shrubs		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Ustic Haplargids	SANDY PLAIN 7-9 P.Z. (R030XB033NV)	FAVORABLE	2400	big galleta		35
		NORMAL	1700	black grama		20
		UNFAVORABLE	1200	bush muhly		10
				Indian ricegrass		5
				desert needlegrass		5
				other perennial grasses		5
				other perennial forbs		5
				other shrubs		5
				Nevada ephedra		3
				ratany		2
Ustic Haplodurids	SHALLOW GRAVELLY SLOPE 7-9 P.Z. (R030XB015NV)	FAVORABLE	400	big galleta		15
		NORMAL	250	black grama		10
		UNFAVORABLE	150	desert needlegrass		5
				other perennial grasses		2
				other perennial forbs		5
				blackbrush		50
				other shrubs		5
				Mojave buckwheat		3
				Nevada ephedra		3
Arizo	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
		desert peach		3		
		fourwing saltbush		3		
690: Hoppswell	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XB014NV)	FAVORABLE	700	black grama		15
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	250	big galleta		5
				desert needlegrass		5
				galleta		3
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		45
				other shrubs		5
				Nevada ephedra		3
Ustidur	SHALLOW GRAVELLY SLOPE 7-9 P.Z. (R030XB015NV)	FAVORABLE	400	big galleta		15
		NORMAL	250	black grama		10
		UNFAVORABLE	150	desert needlegrass		5
				other perennial grasses		2
				other perennial forbs		5
				blackbrush		50
				other shrubs		5
				Mojave buckwheat		3
				Nevada ephedra		3
Ustic Torriorthents	GRAVELLY FAN 7-9 P.Z. (R030XB090NV)	FAVORABLE	600	black grama		15
		NORMAL	400	desert needlegrass		10
		UNFAVORABLE	200	big galleta		5
				other perennial grasses		5
				bush muhly		3
				other perennial forbs		5
				blackbrush		35
				other shrubs		5
				yucca		5
				Nevada ephedra		3
		buckhorn cholla		2		
		white burrobrush		2		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Typic Torriorthents--	SHALLOW GRAVELLY SLOPE 7-9 P.Z. (R030XB015NV)	FAVORABLE	400	big galleta		15
		NORMAL	250	black grama		10
		UNFAVORABLE	150	desert needlegrass		5
				other perennial grasses		2
				other perennial forbs		5
				blackbrush		50
				other shrubs		5
				Mojave buckwheat		3
				Nevada ephedra		3
Arizo-----	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
		desert peach		3		
		fourwing saltbush		3		
691:						
Hoppswell-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Jetmine-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Lanip-----	CLAYPAN 5-7 P.Z. (R030XB043NV)	FAVORABLE	1000	big galleta		30
		NORMAL	700	bush muhly		10
		UNFAVORABLE	450	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		5
				creosotebush		10
				Nevada ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		5
				white bursage		5
		winterfat		5		
Typic Haplodurids----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
		Typic Haplargids	CLAYPAN 5-7 P.Z. (R030XB043NV)	FAVORABLE	1000	big galleta
NORMAL	700			bush muhly		10
UNFAVORABLE	450			Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		5
				creosotebush		10
				Nevada ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		5
				white bursage		5
				winterfat		5
700:						
Mountmcull-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XB014NV)	FAVORABLE	700	black grama		15
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	250	big galleta		5
				desert needlegrass		5
				galleta		3
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		45
				other shrubs		5
				Nevada ephedra		3
Nippeno-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XB014NV)	FAVORABLE	700	black grama		15
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	250	big galleta		5
				desert needlegrass		5
				galleta		3
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		45
				other shrubs		5
				Nevada ephedra		3
Lithic Ustic Torriorthents--	F030XC237NV	FAVORABLE	600	black grama	10	
		NORMAL	400	blue grama	10	
		UNFAVORABLE	250	desert needlegrass	10	
				muttongrass	10	
				other perennial grasses	5	
				other perennial forbs	5	
				Stansbury cliffrose	10	
				blackbrush	10	
				desert bitterbrush	10	
				other shrubs	10	
		Utah juniper	5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Nipton-----	VOLCANIC SLOPE 7-9 P.Z. (R030XB071NV)	FAVORABLE	700	big galleta		20
		NORMAL	500	desert needlegrass		10
		UNFAVORABLE	300	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		30
				ephedra		15
				other shrubs		5
				range ratany		2
				triangle goldeneye		2
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Lithic Ustic Torriorthents--	SHALLOW GRAVELLY SLOPE 7-9 P.Z. (R030XB015NV)	FAVORABLE	400	big galleta		15
		NORMAL	250	black grama		10
		UNFAVORABLE	150	desert needlegrass		5
				other perennial grasses		2
				other perennial forbs		5
				blackbrush		50
				other shrubs		5
				Mojave buckwheat		3
				Nevada ephedra		3
701: Nippeno-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XB014NV)	FAVORABLE	700	black grama		15
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	250	big galleta		5
				desert needlegrass		5
				galleta		3
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		45
				other shrubs		5
				Nevada ephedra		3
Nipton-----	VOLCANIC SLOPE 7-9 P.Z. (R030XB071NV)	FAVORABLE	700	big galleta		20
		NORMAL	500	desert needlegrass		10
		UNFAVORABLE	300	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		30
				ephedra		15
				other shrubs		5
				range ratany		2
				triangle goldeneye		2
Haleburu-----	STONY SLOPE 5-7 P.Z. (R030XB072NV)	FAVORABLE	350	big galleta		5
		NORMAL	250	other perennial grasses		5
		UNFAVORABLE	100	bush muhly		3
				other perennial forbs		5
				white bursage		30
				Mojave buckwheat		20
				creosotebush		10
				triangle goldeneye		10
				other shrubs		5
				white brittlebush		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Highland-----	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		5
Highland-----	MOUNTAIN RIDGE (R030XB091NV)	FAVORABLE	600	big galleta		15
		NORMAL	450	bush muhly		15
		UNFAVORABLE	200	desert needlegrass		15
				other perennial grasses		3
				other perennial forbs		5
				other shrubs		15
				winterfat		10
				Mojave buckwheat		5
				ephedra		5
				spiny hopsage		3
				spiny menodora		2
705:						
Charkiln-----	F030XC288NV	FAVORABLE	1000	muttongrass	5	
		NORMAL	800	other perennial grasses	5	
		UNFAVORABLE	600	other perennial forbs	10	
				Gambel oak	40	
				curlleaf mountainmahogany	20	
				mountain big sagebrush	10	
				other shrubs	5	
				Utah juniper	3	
				singleleaf pinyon	2	
Woodspring-----	F030XC288NV	FAVORABLE	1000	muttongrass	5	
		NORMAL	800	other perennial grasses	5	
		UNFAVORABLE	600	other perennial forbs	10	
				Gambel oak	40	
				curlleaf mountainmahogany	20	
				mountain big sagebrush	10	
				other shrubs	5	
				Utah juniper	3	
				singleleaf pinyon	2	
Buckspring-----	F030XC246NV	FAVORABLE	800	desert needlegrass	5	
		NORMAL	700	muttongrass	5	
		UNFAVORABLE	600	other perennial grasses	5	
				other perennial forbs	5	
				Stansbury cliffrose	30	
				banana yucca	10	
				curlleaf mountainmahogany	10	
				mountain big sagebrush	10	
				Utah juniper	5	
				other shrubs	5	
				singleleaf pinyon	5	
Fletcherpeak----	F030XC249NV	FAVORABLE	900	muttongrass	10	
		NORMAL	800	other perennial grasses	5	
		UNFAVORABLE	700	other perennial forbs	5	
				Utah serviceberry	10	
				curlleaf mountainmahogany	10	
				black sagebrush	5	
				mountain big sagebrush	5	
				other shrubs	5	
				Gambel oak	40	
				singleleaf pinyon	5	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Ustic Haplocalcids---	F030XC249NV	FAVORABLE	900	muttongrass	10	
		NORMAL	800	other perennial grasses	5	
		UNFAVORABLE	700	other perennial forbs	5	
				Utah serviceberry	10	
				curlleaf mountainmahogany	10	
				black sagebrush	5	
				mountain big sagebrush	5	
				other shrubs	5	
				Gambel oak	40	
				singleleaf pinyon	5	
Maryjane-----	F030XC280NV	FAVORABLE	800	bluebunch wheatgrass	10	
		NORMAL	600	muttongrass	5	
		UNFAVORABLE	400	other perennial grasses	5	
				other shrubs	5	
				other perennial forbs	5	
				wax currant	25	
				curlleaf mountainmahogany	20	
				Spring Mountain goldenbush	10	
				ponderosa pine	5	
				white fir	5	
				other trees	2	
710:						
Arizo-----	RUBBLY OUTWASH (R030XB052NV)	FAVORABLE	500	big galleta		10
		NORMAL	300	desert needlegrass		3
		UNFAVORABLE	200	other perennial grasses		2
				fluffgrass		1
				other perennial forbs		5
				desertsenna		35
				hollyleaf bursage		20
				other shrubs		10
				Mojave buckwheat		5
				white burrobrush		5
				purple Dorrs sage		3
Lanfair-----	GRAVELLY FAN 7-9 P.Z. (R030XB090NV)	FAVORABLE	600	black grama		15
		NORMAL	400	desert needlegrass		10
		UNFAVORABLE	200	big galleta		5
				other perennial grasses		5
				bush muhly		3
				other perennial forbs		5
				blackbrush		35
				other shrubs		5
				yucca		5
				Nevada ephedra		3
				buckhorn cholla		2
				white burrobrush		2
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Typic Argidurids	BALSATIC FAN 3-5 P.Z. (R030XB083NV)	FAVORABLE	600	fluffgrass		5
		NORMAL	350	big galleta		3
		UNFAVORABLE	50	other perennial grasses		3
				other annual grasses		2
				other annual forbs		20
				other perennial forbs		5
				white bursage		35
				creosotebush		10
				other shrubs		5
				range ratany		5
				buckhorn cholla		3
				beavertail pricklypear		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
Ustic Haplargids	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XB014NV)	FAVORABLE	700	black grama		15
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	250	big galleta		5
				desert needlegrass		5
				galleta		3
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		45
				other shrubs		5
				Nevada ephedra		3
715:						
Troughspring----	F030XC240NV	FAVORABLE	1000	blue grama	5	
		NORMAL	900	muttongrass	5	
		UNFAVORABLE	800	other perennial grasses	5	
				other perennial forbs	5	
				curlleaf mountainmahogany	25	
				mountain big sagebrush	10	
				other shrubs	5	
				Gambel's oak	30	
				singleleaf pinyon	5	
Charkiln-----	F030XC288NV	FAVORABLE	1000	muttongrass	5	
		NORMAL	800	other perennial grasses	5	
		UNFAVORABLE	600	other perennial forbs	10	
				Gambel oak	40	
				curlleaf mountainmahogany	20	
				mountain big sagebrush	10	
				other shrubs	5	
				Utah juniper	3	
				singleleaf pinyon	2	
Buckspring-----	F030XC278NV	FAVORABLE	1000	blue grama	5	
		NORMAL	800	muttongrass	5	
		UNFAVORABLE	600	other perennial grasses	5	
				other perennial forbs	10	
				Gambel's oak	25	
				curlleaf mountainmahogany	10	
				yellowleaf silktassel	7	
				Utah serviceberry	5	
				mountain big sagebrush	5	
				other shrubs	5	
		pointleaf manzanita	5			
		Utah juniper	5			
		singleleaf pinyon	5			
Fletcherpeak----	F030XC249NV	FAVORABLE	900	muttongrass	10	
		NORMAL	800	other perennial grasses	5	
		UNFAVORABLE	700	other perennial forbs	5	
				Utah serviceberry	10	
				curlleaf mountainmahogany	10	
				black sagebrush	5	
				mountain big sagebrush	5	
				other shrubs	5	
				Gambel oak	40	
				singleleaf pinyon	5	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Maryjane-----	F030XC280NV	FAVORABLE	800	bluebunch wheatgrass	10	
		NORMAL	600	muttongrass	5	
		UNFAVORABLE	400	other perennial grasses	5	
				other shrubs	5	
				other perennial forbs	5	
				wax currant	25	
				curlleaf mountainmahogany	20	
				Spring Mountain goldenbush	10	
				ponderosa pine	5	
				white fir	5	
		other trees	2			
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
716:						
Troughspring----	F030XC279NV	FAVORABLE	900	blue grama	5	
		NORMAL	800	muttongrass	5	
		UNFAVORABLE	700	other perennial grasses	5	
				other perennial forbs	5	
				curlleaf mountainmahogany	50	
				mountain big sagebrush	5	
				mountain snowberry	5	
				wax currant	5	
				other shrubs	3	
				black sagebrush	2	
		other trees	5			
		ponderosa pine	2			
Doespring-----	F030XC243NV	FAVORABLE	450	blue grama	5	
		NORMAL	350	muttongrass	5	
		UNFAVORABLE	250	other perennial grasses	5	
				other perennial forbs	5	
				Stansbury cliffrose	30	
				black sagebrush	20	
				desert ceanothus	10	
				other shrubs	10	
				Utah juniper	5	
				singleleaf pinyon	2	
Fletcherpeak----	F030XC249NV	FAVORABLE	900	muttongrass	10	
		NORMAL	800	other perennial grasses	5	
		UNFAVORABLE	700	other perennial forbs	5	
				Utah serviceberry	10	
				curlleaf mountainmahogany	10	
				black sagebrush	5	
				mountain big sagebrush	5	
				other shrubs	5	
				Gambel oak	40	
				singleleaf pinyon	5	
Mackscanyon-----	DRAFT (F030XC244NV)	FAVORABLE	900	blue grama	5	
		NORMAL	700	muttongrass	5	
		UNFAVORABLE	500	other perennial grasses	5	
				other perennial forbs	7	
				Stansbury cliffrose	20	
				black sagebrush	20	
				mountain big sagebrush	15	
				curlleaf mountainmahogany	10	
				other shrubs	5	
				singleleaf pinyon	3	
		Utah juniper	2			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Maryjane-----	F030XC280NV	FAVORABLE	800	bluebunch wheatgrass	10	
		NORMAL	600	muttongrass	5	
		UNFAVORABLE	400	other perennial grasses	5	
				other shrubs	5	
				other perennial forbs	5	
				wax currant	25	
				curlleaf mountainmahogany	20	
				Spring Mountain goldenbush	10	
				ponderosa pine	5	
				white fir	5	
		other trees	2			
721:						
Corncreek-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Pahrump-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2
Pahrump-----	CALCAREOUS LOAM 3-5 P.Z. (R030XA053NV)	FAVORABLE	200	Indian ricegrass		5
		NORMAL	100	desert needlegrass		5
		UNFAVORABLE	50	other perennial grasses		2
				other perennial forbs		5
				shadscale		40
				creosotebush		30
				other shrubs		10
Pahrump-----	SHALLOW SILTY (R030XY013NV)	FAVORABLE	150	other perennial grasses		2
		NORMAL	100	Indian ricegrass		1
		UNFAVORABLE	50	desert needlegrass		1
				other perennial forbs		3
				shadscale		80
				other shrubs		5
				fourwing saltbush		3
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
		range ratany		5		
		Nevada ephedra		3		
Haymont-----	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
		other shrubs		10		
		fourwing saltbush		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
723: Corncreek-----	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
				other shrubs		10
				fourwing saltbush		5
	Haymont-----	ALLUVIAL PLAIN (R030XY047NV)	FAVORABLE	500	Indian ricegrass	
NORMAL			400	other perennial grasses		3
UNFAVORABLE			250	other perennial forbs		5
				cattle saltbush		70
				other shrubs		10
Threelakes-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2
Weiser-----	GRAVELLY LOAM 5-7 P.Z. (R030XB102NV)	FAVORABLE	500	big galleta		15
		NORMAL	350	Indian ricegrass		5
		UNFAVORABLE	200	other perennial grasses		3
				other perennial forbs		5
				white bursage		25
				creosotebush		15
				winterfat		10
				ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		3
		spiny menodora		3		
Oldspan-----	DESERT PATINA (R030XB092NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	creosotebush		85
				other shrubs		5
Weiser-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
		Spanish dagger		2		
725: Mackscanyon-----	DRAFT (F030XC244NV)	FAVORABLE	900	blue grama		5
		NORMAL	700	muttongrass		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		7
				Stansbury cliffrose		20
				black sagebrush		20
				mountain big sagebrush		15
				curlleaf mountainmahogany		10
				other shrubs		5
				singleleaf pinyon		3
				Utah juniper		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Woodspring-----	F030XC288NV	FAVORABLE	1000	muttongrass	5	
		NORMAL	800	other perennial grasses	5	
		UNFAVORABLE	600	other perennial forbs	10	
				Gambel oak	40	
				curlleaf mountainmahogany	20	
				mountain big sagebrush	10	
				other shrubs	5	
				Utah juniper	3	
				singleleaf pinyon	2	
Xeric Haplocalcids---	LOAMY BOTTOM 11-13 P.Z. (R030XC013NV)	FAVORABLE	2000	basin wildrye		50
		NORMAL	1500	creeping wildrye		10
		UNFAVORABLE	1000	Indian ricegrass		5
				other perennial grasses		3
				other perennial forbs		5
				mountain big sagebrush		20
				rubber rabbitbrush		5
				other shrubs		2
731:						
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Typic Torriorthents--	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Arizo-----	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
				desert peach		3
				fourwing saltbush		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Typic Haplocalcids---	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XA006NV)	FAVORABLE	450	desert needlegrass		10
		NORMAL	350	other perennial forbs		5
		UNFAVORABLE	275	blackbrush		40
				shadscale		20
				white bursage		10
				ephedra		5
				other shrubs		5
Aridic Calcixerolls---	GRAVELLY INSET FAN (R030XC011NV)	FAVORABLE	800	desert almond		10
		NORMAL	600	desert needlegrass		10
		UNFAVORABLE	400	muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				blackbrush		30
				other shrubs		15
				desert peachbrush		10
				Mojave sage		3
				Stansbury cliffrose		3
Xeric Haplocambids---	GRAVELLY CALCAREOUS INSET FAN 9- 11 P.Z. (R030XC012NV)	FAVORABLE	900	Indian ricegrass		15
		NORMAL	700	desert needlegrass		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		35
				Stansbury cliffrose		10
				other shrubs		10
				blackbrush		5
				ephedra		5
732:						
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Typic Petrocalcids---	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Typic Petrocalcids---	F030XC243NV	FAVORABLE	450	blue grama	5	
		NORMAL	350	muttongrass	5	
		UNFAVORABLE	250	other perennial grasses	5	
				other perennial forbs	5	
				Stansbury cliffrose	30	
				black sagebrush	20	
				desert ceanothus	10	
				other shrubs	10	
				Utah juniper	5	
				singleleaf pinyon	2	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Aridic Calixerolls---	GRAVELLY INSET FAN (R030XC011NV)	FAVORABLE	800	desert almond		10
		NORMAL	600	desert needlegrass		10
		UNFAVORABLE	400	muttongrass		5
				other perennial grasses		5
				other perennial forbs		5
				blackbrush		30
				other shrubs		15
				desert peachbrush		10
				Mojave sage		3
				Stansbury cliffrose		3
Rock outcrop---	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Typic Torriorthents--	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
				desert peach		3
				fourwing saltbush		3
733:						
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Moentria-----	SHALLOW GRAVELLY SANDSTONE 7-9 P.Z. (R030XC027NV)	FAVORABLE	700	desert needlegrass		10
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				blackbrush		55
				Nevada ephedra		5
				other shrubs		5
				spiny menodora		5
				other trees		2
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rock outcrop----	----	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Arizo-----	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
				desert peach		3
				fourwing saltbush		3
734:						
Purob-----	SHALLOW GRAVELLY LOAM 8-10 P.Z. (R029XY077NV)	FAVORABLE	700	desert needlegrass		5
		NORMAL	500	other perennial grasses		5
		UNFAVORABLE	300	galleta		3
				Indian ricegrass		2
				other perennial forbs		5
				blackbrush		60
				Nevada ephedra		5
				desert bitterbrush		5
				other shrubs		5
Niavi-----	QUARTZITE OUTWASH (R030XB134NV)	FAVORABLE	700	big galleta		8
		NORMAL	500	desert needlegrass		3
		UNFAVORABLE	300	Indian ricegrass		1
				white bursage		35
				Mojave buckwheat		15
				Anderson's wolfberry		5
				Virgin River encelia		5
				creosotebush		5
				ephedra		5
				range ratany		5
				spiny menodora		2
				white burrobrush		2
				white brittlebush		1
Typic Haplocalcids---	GRAVELLY INSET FAN (R030XC011NV)	FAVORABLE	800	desert needlegrass		10
		NORMAL	600	other perennial grasses		5
		UNFAVORABLE	400	muttongrass		2
				other perennial forbs		5
				blackbrush		35
				desert peachbrush		10
				Mojave sage		5
				Stansbury cliffrose		5
				Virgin River encelia		5
				other shrubs		5
				Fremont's dalea		3
				Mojave buckwheat		3
				desertsenna		3
				Wyoming big sagebrush		2
Zibate-----	SHALLOW GRAVELLY SLOPE 5-7 P.Z. (R030XB076NV)	FAVORABLE	300	big galleta		5
		NORMAL	200	desert needlegrass		5
		UNFAVORABLE	75	Indian ricegrass		3
				bush muhly		3
				other perennial grasses		3
				other perennial forbs		3
				blackbrush		60
				other shrubs		10
				creosotebush		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
		Lb/acre		Pct				
Veet family-----	UPLAND WASH (R029XY009NV)	FAVORABLE	1000	Indian ricegrass		10		
		NORMAL	700	Sandberg bluegrass		5		
		UNFAVORABLE	500	other perennial grasses		5		
				galleta		2		
				other perennial forbs		8		
				big sagebrush		30		
				desert almond		15		
				other shrubs		10		
				rubber rabbitbrush		10		
740:								
Varwash-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3		
		NORMAL	125	other annual forbs		5		
		UNFAVORABLE	75	other perennial forbs		5		
				creosotebush		65		
				white bursage		15		
				other shrubs		5		
Varwash-----	DESERT PATINA (R030XB092NV)	FAVORABLE	150	other perennial grasses		3		
		NORMAL	75	other perennial forbs		3		
		UNFAVORABLE	25	creosotebush		85		
				other shrubs		5		
Typic Torriorthents--	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5		
		NORMAL	250	desert globemallow		5		
		UNFAVORABLE	100	other perennial forbs		3		
				white brittlebush		70		
						creosotebush		5
						other shrubs		5
				white bursage		3		
				range ratany		2		
Typic Haplargids	DESERT PATINA (R030XB092NV)	FAVORABLE	150	other perennial grasses		3		
		NORMAL	75	other perennial forbs		3		
		UNFAVORABLE	25	creosotebush		85		
				other shrubs		5		
Riverbend-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5		
		NORMAL	300	other perennial grasses		5		
		UNFAVORABLE	200	other annual forbs		10		
				other perennial forbs		5		
						white bursage		35
						creosotebush		15
				other shrubs		10		
				range ratany		5		
				Nevada ephedra		3		
Carrizo-----	GRAVELLY OUTWASH (R030XB098NV)	FAVORABLE	1000	big galleta		20		
		NORMAL	700	other perennial grasses		5		
		UNFAVORABLE	450	other perennial forbs		5		
				white bursage		25		
						other shrubs		10
						white brittlebush		10
						creosotebush		5
						sweetbrush		5
						white burrobrush		4
						ratany		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
741:						
Varwash-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Varwash-----	DESERT PATINA (R030XB092NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	creosotebush		85
				other shrubs		5
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
Riverbend-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Carrizo-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
750:						
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Crosgrain-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Haleburu-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Lithic Haplocalcids---	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Lithic Torriorthents--	VOLCANIC HILL 5-7 P.Z. (R030XB070NV)	FAVORABLE	500	big galleta		5
		NORMAL	350	desert needlegrass		5
		UNFAVORABLE	200	bush muhly		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		30
				white bursage		20
				other shrubs		10
				creosotebush		5
				triangle goldeneye		5
				ephedra		3
				range ratany		3
Rubble land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
751: Nipton-----	VOLCANIC HILL 5-7 P.Z. (R030XB070NV)	FAVORABLE	500	big galleta		5
		NORMAL	350	desert needlegrass		5
		UNFAVORABLE	200	bush muhly		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		30
				white bursage		20
				other shrubs		10
				creosotebush		5
				triangle goldeneye		5
				ephedra		3
				range ratany		3
Nolena-----	SHALLOW GRANITIC LOAM 5-7 P.Z. (R030XB057NV)	FAVORABLE	600	desert needlegrass		15
		NORMAL	400	big galleta		5
		UNFAVORABLE	250	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		50
				other shrubs		15
Newera-----	SHALLOW GRAVELLY SLOPE 5-7 P.Z. (R030XB076NV)	FAVORABLE	300	big galleta		5
		NORMAL	200	desert needlegrass		5
		UNFAVORABLE	75	Indian ricegrass		3
				bush muhly		3
				other perennial grasses		3
				other perennial forbs		3
				blackbrush		60
				other shrubs		10
				creosotebush		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Highland-----	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
752: Nipton-----	VOLCANIC HILL 5-7 P.Z. (R030XB070NV)	FAVORABLE	500	big galleta		5
NORMAL		350	desert needlegrass		5	
UNFAVORABLE		200	bush muhly		3	
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		30
				white bursage		20
				other shrubs		10
				creosotebush		5
				triangle goldeneye		5
				ephedra		3
				range ratany		3
Newera-----	SHALLOW GRAVELLY SLOPE 5-7 P.Z. (R030XB076NV)	FAVORABLE	300	big galleta		5
		NORMAL	200	desert needlegrass		5
		UNFAVORABLE	75	Indian ricegrass		3
				bush muhly		3
				other perennial grasses		3
				other perennial forbs		3
				blackbrush		60
				other shrubs		10
				creosotebush		3
Nipton-----	MOUNTAIN RIDGE (R030XB091NV)	FAVORABLE	600	big galleta		15
		NORMAL	450	bush muhly		15
		UNFAVORABLE	200	desert needlegrass		15
				other perennial grasses		3
				other perennial forbs		5
				other shrubs		15
				winterfat		10
				Mojave buckwheat		5
				ephedra		5
				spiny hopsage		3
				spiny menodora		2
Highland-----	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Nipton-----	VOLCANIC SLOPE 7-9 P.Z. (R030XB071NV)	FAVORABLE	700	big galleta		20
		NORMAL	500	desert needlegrass		10
		UNFAVORABLE	300	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		30
				ephedra		15
				other shrubs		5
				range ratany		2
				triangle goldeneye		2
753:						
Nipton-----	VOLCANIC HILL 5-7 P.Z. (R030XB070NV)	FAVORABLE	500	big galleta		5
		NORMAL	350	desert needlegrass		5
		UNFAVORABLE	200	bush muhly		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		30
				white bursage		20
				other shrubs		10
				creosotebush		5
				triangle goldeneye		5
				ephedra		3
				range ratany		3
Hiddensun-----	BASALTIC HILL 5-7 P.Z. (R030XB069NV)	FAVORABLE	500	big galleta		10
		NORMAL	400	Indian ricegrass		3
		UNFAVORABLE	250	bush muhly		3
				other perennial grasses		2
				desert globemallow		3
				other perennial forbs		2
				winterfat		30
				white bursage		25
				Nevada ephedra		5
				other shrubs		5
				creosotebush		3
				range ratany		3
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Haleburu-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Railroad-----	STONY LOAM 5-7 P.Z. (R030XB080NV)	FAVORABLE	1100	big galleta		50
		NORMAL	800	Indian ricegrass		5
		UNFAVORABLE	600	bush muhly		5
				desert needlegrass		3
				other annual forbs		5
				other perennial forbs		5
				sphaeralcea		3
				winterfat		15
				other shrubs		5
				Nevada ephedra		3
Railroad-----	BOULDERY SLOPE 5-7 P.Z. (R030XB081NV)	FAVORABLE	600	bush muhly		20
		NORMAL	450	Indian ricegrass		15
		UNFAVORABLE	300	big galleta		5
				desert needlegrass		5
				other perennial grasses		5
				other perennial forbs		5
				other shrubs		15
				Virgin River encelia		10
				Nevada ephedra		5
				creosotebush		5
				winterfat		5
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
754:						
Haleburu-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Hiddensun-----	BASALTIC HILL 5-7 P.Z. (R030XB069NV)	FAVORABLE	500	big galleta		10
		NORMAL	400	Indian ricegrass		3
		UNFAVORABLE	250	bush muhly		3
				other perennial grasses		2
				desert globemallow		3
				other perennial forbs		2
				winterfat		30
				white bursage		25
				Nevada ephedra		5
				other shrubs		5
				creosotebush		3
				range ratany		3
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Hiddensun-----	STONY LOAM 7-9 P.Z. (R030XB089NV)	FAVORABLE	1600	big galleta		35
		NORMAL	1300	bush muhly		35
		UNFAVORABLE	900	Indian ricegrass		3
				other perennial grasses		2
				other perennial forbs		3
				Anderson wolfberry		5
				ephedra		5
				other shrubs		5
				winterfat		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Haleburu-----	STONY SLOPE 5-7 P.Z. (R030XB072NV)	FAVORABLE	350	big galleta		5
		NORMAL	250	other perennial grasses		5
		UNFAVORABLE	100	bush muhly		3
				other perennial forbs		5
				white bursage		30
				Mojave buckwheat		20
				creosotebush		10
				triangle goldeneye		10
				other shrubs		5
				white brittlebush		5
760:						
Searchlight-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Typic Haplargids	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Filaree-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Typic Haplargids	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
772: Lamadre-----	F030XC240NV	FAVORABLE	1000	blue grama	5	
		NORMAL	900	muttongrass	5	
		UNFAVORABLE	800	other perennial grasses	5	
				other perennial forbs	5	
				curlleaf mountainmahogany	25	
				mountain big sagebrush	10	
				other shrubs	5	
				Gambel's oak	30	
				singleleaf pinyon	5	
Robbersfire----	F030XC283NV	FAVORABLE	700	bluebunch wheatgrass	20	
		NORMAL	600	muttongrass	5	
		UNFAVORABLE	500	other perennial grasses	5	
				other perennial forbs	5	
				curlleaf mountainmahogany	20	
				wax currant	20	
				mountain big sagebrush	5	
				other shrubs	5	
				ponderosa pine	5	
				white fir	5	
Boxspring-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Seralin-----	F030XC243NV	FAVORABLE	450	blue grama	5	
		NORMAL	350	muttongrass	5	
		UNFAVORABLE	250	other perennial grasses	5	
				other perennial forbs	5	
				Stansbury cliffrose	30	
				black sagebrush	20	
				desert ceanothus	10	
				other shrubs	10	
				Utah juniper	5	
				singleleaf pinyon	2	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Lithic Torriorthents--	LIMESTONE RIDGE (R030XC015NV)	FAVORABLE	500	arid needlegrass		10
		NORMAL	350	Indian ricegrass		5
		UNFAVORABLE	250	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		30
				Utah serviceberry		10
				other shrubs		10
				pointleaf manzanita		10
				Utah agave		3
				green ephedra		3
				other trees		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
775: Ladyofsnow-----	F030XC284NV	FAVORABLE	300	other perennial grasses	3	
		NORMAL	200	bluebunch wheatgrass	1	
		UNFAVORABLE	100	muttongrass	1	
				other perennial forbs	5	
				wax currant	50	
				common juniper	30	
				Great Basin bristlecone pine	5	
				limber pine	5	
Robbersfire----	F030XC282NV	FAVORABLE	700	bluebunch wheatgrass	20	
		NORMAL	600	other perennial grasses	5	
		UNFAVORABLE	500	muttongrass	3	
				other perennial forbs	5	
				currant	40	
				desert snowberry	10	
				common juniper	4	
				white fir	10	
				maple	1	
Maryjane-----	F030XC280NV	FAVORABLE	800	bluebunch wheatgrass	10	
		NORMAL	600	muttongrass	5	
		UNFAVORABLE	400	other perennial grasses	5	
				other shrubs	5	
				other perennial forbs	5	
				wax currant	25	
				curlleaf mountainmahogany	20	
				Spring Mountain goldenbush	10	
				ponderosa pine	5	
				white fir	5	
				other trees	2	
Pachic Haplustolls----	AVALANCHE CHUTE (R030XC026NV)	FAVORABLE	1500	fringed brome		5
		NORMAL	1000	other perennial grasses		5
		UNFAVORABLE	500	slender wheatgrass		5
				other perennial forbs		20
				wax currant		8
				common juniper		5
				Woods rose		3
				mountain snowberry		3
				quaking aspen		35
				other trees		5
Kitgram-----	F030XC284NV	FAVORABLE	300	other perennial grasses	3	
		NORMAL	200	bluebunch wheatgrass	1	
		UNFAVORABLE	100	muttongrass	1	
				other perennial forbs	5	
				wax currant	50	
				common juniper	30	
				Great Basin bristlecone pine	5	
				limber pine	5	
Maryjane-----	F030XC280NV	FAVORABLE	800	bluebunch wheatgrass	10	
		NORMAL	600	muttongrass	5	
		UNFAVORABLE	400	other perennial grasses	5	
				other shrubs	5	
				other perennial forbs	5	
				wax currant	25	
				curlleaf mountainmahogany	20	
				Spring Mountain goldenbush	10	
				ponderosa pine	5	
				white fir	5	
				other trees	2	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Pachic Haplustolls----	ASPEN THICKET (R030XC019NV)	FAVORABLE	1800	other perennial grasses		5
		NORMAL	1300	slender wheatgrass		5
		UNFAVORABLE	900	fringed brome		4
				other perennial forbs		20
				quaking aspen		50
				other shrubs		5
				currant		4
				mountain snowberry		3
				other trees		3
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
780:						
Prisonear-----	SANDY 5-7 P.Z. (R030XB004NV)	FAVORABLE	1100	big galleta		35
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	500	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				other shrubs		10
				white bursage		10
				range ratany		5
				winterfat		5
				Nevada ephedra		3
Arizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Filaree-----	SANDY 5-7 P.Z. (R030XB004NV)	FAVORABLE	1100	big galleta		35
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	500	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				other shrubs		10
				white bursage		10
				range ratany		5
				winterfat		5
				Nevada ephedra		3
Lanip-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
				Spanish dagger		2
Tonopah-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
781: Prisonear-----	SANDY 5-7 P.Z. (R030XB004NV)	FAVORABLE	1100	big galleta		35
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	500	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				other shrubs		10
				white bursage		10
				range ratany		5
				winterfat		5
				Nevada ephedra		3
Bluepoint-----	DUNES 3-7 P.Z. (R030XY045NV)	FAVORABLE	900	Indian ricegrass		10
		NORMAL	600	other perennial grasses		2
		UNFAVORABLE	400	other perennial forbs		5
				fourwing saltbush		20
				honey mesquite		20
				screwbean mesquite		20
				other shrubs		10
				creosotebush		5
				white bursage		5
Corbilt-----	LIMY SAND 5-7 P.Z. (R030XB037NV)	FAVORABLE	600	Indian ricegrass		15
		NORMAL	350	big galleta		10
		UNFAVORABLE	200	other perennial grasses		2
				other perennial forbs		5
				white bursage		30
				creosotebush		20
				other shrubs		10
Vegastorm-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2
Corbilt-----	OUTWASH PLAIN (R030XY046NV)	FAVORABLE	400	Indian ricegrass		5
		NORMAL	300	other perennial grasses		3
		UNFAVORABLE	150	other perennial forbs		5
				cattle saltbush		40
				creosotebush		15
				white bursage		15
				other shrubs		10
				fourwing saltbush		5
Nickel-----	GRAVELLY FAN 5-7 P.Z. (R030XB075NV)	FAVORABLE	800	big galleta		40
		NORMAL	600	bush muhly		10
		UNFAVORABLE	400	desert needlegrass		5
				other perennial grasses		3
				other perennial forbs		5
				spiny menodora		10
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		3
				Spanish dagger		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
790: McClanahan-----	F030XC237NV	FAVORABLE	600	black grama	10	
		NORMAL	400	blue grama	10	
		UNFAVORABLE	250	desert needlegrass	10	
				muttongrass	10	
				other perennial grasses	5	
				other perennial forbs	5	
				Stansbury cliffrose	10	
				blackbrush	10	
				desert bitterbrush	10	
				other shrubs	10	
				Utah juniper	5	
Beerbo-----	F030XC238NV	FAVORABLE	500	blue grama	10	
		NORMAL	400	muttongrass	10	
		UNFAVORABLE	250	black grama	5	
				desert needlegrass	5	
				other perennial grasses	5	
				other perennial forbs	10	
				Stansbury cliffrose	10	
				desert bitterbrush	10	
				other shrubs	10	
				blackbrush	9	
				Utah juniper	5	
				singleleaf pinyon	5	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Seralin family--	F030XC238NV	FAVORABLE	450	blue grama	10	
		NORMAL	350	muttongrass	10	
		UNFAVORABLE	250	black grama	5	
				desert needlegrass	5	
				other perennial grasses	5	
				other perennial forbs	10	
				Stansbury cliffrose	10	
				desert bitterbrush	10	
				other shrubs	10	
				blackbrush	9	
				Utah juniper	5	
				singleleaf pinyon	5	
Mountmcull-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XB014NV)	FAVORABLE	700	black grama		15
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	250	big galleta		5
				desert needlegrass		5
				galleta		3
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		45
				other shrubs		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
801: Nippeno-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XB014NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 250	black grama Indian ricegrass big galleta desert needlegrass galleta other perennial grasses other perennial forbs blackbrush other shrubs Nevada ephedra		15 5 5 5 3 3 5 45 5 3
Newera-----	SHALLOW GRAVELLY SLOPE 5-7 P.Z. (R030XB076NV)	FAVORABLE NORMAL UNFAVORABLE	300 200 75	big galleta desert needlegrass Indian ricegrass bush muhly other perennial grasses other perennial forbs blackbrush other shrubs creosotebush		5 5 3 3 3 3 60 10 3
Haleburu family-	VOLCANIC HILL 5-7 P.Z. (R030XB070NV)	FAVORABLE NORMAL UNFAVORABLE	500 350 200	big galleta desert needlegrass bush muhly other perennial grasses other perennial forbs Mojave buckwheat white bursage other shrubs creosotebush triangle goldeneye ephedra range ratany		5 5 3 2 5 30 20 10 5 5 3 3
Lanip-----	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE NORMAL UNFAVORABLE	1500 1100 800	big galleta bush muhly other perennial grasses desert globemallow other perennial forbs white bursage creosotebush other shrubs range ratany		55 5 5 5 3 10 5 5 5
Rock outcrop----		FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
Arizo-----	UPLAND WASH (R030XB051NV)	FAVORABLE NORMAL UNFAVORABLE	600 400 200	big galleta bush muhly other perennial grasses desert needlegrass other perennial forbs hollyleaf bursage other shrubs burrobrush Anderson's wolfberry Mojave buckwheat range ratany Apacheplume Mexican bladdersage desert peach fourwing saltbush		5 5 5 2 5 25 15 10 5 5 5 3 3 3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
		Lb/acre		Pct				
805: Buckspring-----	F030XC246NV	FAVORABLE	800	desert needlegrass	5			
		NORMAL	700	muttongrass	5			
		UNFAVORABLE	600	other perennial grasses	5			
				other perennial forbs	5			
				Stansbury cliffrose	30			
				banana yucca	10			
				curlleaf mountainmahogany	10			
				mountain big sagebrush	10			
				Utah juniper	5			
				other shrubs	5			
				singleleaf pinyon	5			
		Fletcherpeak----	F030XC249NV	FAVORABLE	900	muttongrass	10	
NORMAL	800			other perennial grasses	5			
UNFAVORABLE	700			other perennial forbs	5			
				Utah serviceberry	10			
				curlleaf mountainmahogany	10			
				black sagebrush	5			
				mountain big sagebrush	5			
				other shrubs	5			
				Gambel oak	40			
				singleleaf pinyon	5			
Seralin-----	F030XC235NV			FAVORABLE	550	crested needlegrass	10	
				NORMAL	450	muttongrass	10	
		UNFAVORABLE	200	other perennial grasses	5			
				other perennial forbs	5			
				black sagebrush	20			
				Utah serviceberry	10			
				other shrubs	10			
				yellowleaf silktassel	10			
				Gambel oak	5			
				Stansbury cliffrose	5			
				singleleaf pinyon	5			
				Utah juniper	3			
Mackscanyon-----	DRAFT (F030XC244NV)	FAVORABLE	900	blue grama	5			
		NORMAL	700	muttongrass	5			
		UNFAVORABLE	500	other perennial grasses	5			
				other perennial forbs	7			
				Stansbury cliffrose	20			
				black sagebrush	20			
				mountain big sagebrush	15			
				curlleaf mountainmahogany	10			
				other shrubs	5			
				singleleaf pinyon	3			
				Utah juniper	2			
		Woodspring-----	F030XC288NV	FAVORABLE	1000	muttongrass	5	
NORMAL	800			other perennial grasses	5			
UNFAVORABLE	600			other perennial forbs	10			
				Gambel oak	40			
				curlleaf mountainmahogany	20			
				mountain big sagebrush	10			
				other shrubs	5			
				Utah juniper	3			
				singleleaf pinyon	2			
Rock outcrop-----	---			FAVORABLE	---			
				NORMAL	---			
				UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
		Lb/acre		Pct				
806: Buckspring-----	F030XC246NV	FAVORABLE	800	desert needlegrass	5			
		NORMAL	700	muttongrass	5			
		UNFAVORABLE	600	other perennial grasses	5			
				other perennial forbs	5			
				Stansbury cliffrose	30			
				banana yucca	10			
				curlleaf mountainmahogany	10			
				mountain big sagebrush	10			
				Utah juniper	5			
				other shrubs	5			
				singleleaf pinyon	5			
		Scrapy-----	SHALLOW LIMESTONE SLOPE 11-13 P. Z. (R030XC025NV)	FAVORABLE	700	desert needlegrass		15
NORMAL	500			Indian ricegrass		5		
UNFAVORABLE	300			other perennial grasses		5		
				other perennial forbs		5		
				mountain big sagebrush		40		
				Stansbury cliffrose		5		
				blackbrush		5		
				green ephedra		5		
				other shrubs		5		
				Utah juniper		3		
				singleleaf pinyon		2		
Torriorthentic Haplustolls----	F030XC288NV			FAVORABLE	1000	muttongrass	5	
		NORMAL	800	other perennial grasses	5			
		UNFAVORABLE	600	other perennial forbs	10			
				Gambel oak	40			
				curlleaf mountainmahogany	20			
				mountain big sagebrush	10			
				other shrubs	5			
				Utah juniper	3			
				singleleaf pinyon	2			
		Rock outcrop----	---	FAVORABLE	---			
				NORMAL	---			
				UNFAVORABLE	---			
810: Straycow-----	COARSE GRAVELLY LOAM 5-7 P. Z. (R030XB107NV)	FAVORABLE	1000	big galleta		30		
		NORMAL	800	Indian ricegrass		5		
		UNFAVORABLE	600	other perennial grasses		5		
				other perennial forbs		5		
				sphaeralcea		2		
				blackbrush		35		
				other shrubs		10		
				winterfat		5		
		Newera-----	SHALLOW GRAVELLY LOAM 5-7 P. Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
				NORMAL	350	other perennial grasses		5
				UNFAVORABLE	250	Indian ricegrass		3
						desert needlegrass		2
				other perennial forbs		5		
				blackbrush		60		
				other shrubs		10		
				creosotebush		3		
Rubble land----	---			FAVORABLE	---			
				NORMAL	---			
				UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition		
		Kind of year	Dry weight		Forest	Range	
		Lb/acre		Pct			
Railroad-----	STONY LOAM 5-7 P.Z. (R030XB080NV)	FAVORABLE	1100	big galleta		50	
		NORMAL	800	Indian ricegrass		5	
		UNFAVORABLE	600	bush muhly		5	
				desert needlegrass		3	
			other annual forbs		5		
			other perennial forbs		5		
			sphaeralcea		3		
			winterfat		15		
			other shrubs		5		
			Nevada ephedra		3		
Rock outcrop----	---	FAVORABLE	---				
		NORMAL	---				
		UNFAVORABLE	---				
Haleburu family-	VOLCANIC HILL 5-7 P.Z. (R030XB070NV)	FAVORABLE	500	big galleta		5	
		NORMAL	350	desert needlegrass		5	
		UNFAVORABLE	200	bush muhly		3	
				other perennial grasses		2	
					other perennial forbs		5
					Mojave buckwheat		30
					white bursage		20
					other shrubs		10
					creosotebush		5
					triangle goldeneye		5
					ephedra		3
			range ratany		3		
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3	
		NORMAL	250	other perennial grasses		2	
		UNFAVORABLE	100	big galleta		5	
				other perennial forbs		5	
					white bursage		50
					creosotebush		10
					other shrubs		10
					range ratany		5
			desert pepperweed		3		
			Fremont's dalea		2		
815:							
Wheelerwell-----	F030XC278NV	FAVORABLE	1000	blue grama		5	
		NORMAL	800	muttongrass		5	
		UNFAVORABLE	600	other perennial grasses		5	
				other perennial forbs		10	
					Gambel's oak		25
					curlleaf mountainmahogany		10
					yellowleaf silktassel		7
					Utah serviceberry		5
					mountain big sagebrush		5
					other shrubs		5
					pointleaf manzanita		5
					Utah juniper		5
			singleleaf pinyon		5		
Wheelerpass-----	F030XC241NV	FAVORABLE	900	muttongrass		10	
		NORMAL	800	blue grama		5	
		UNFAVORABLE	700	other perennial grasses		5	
				other perennial forbs		5	
					curlleaf mountainmahogany		30
					mountain big sagebrush		10
					other shrubs		5
					Gambel's oak		20
			singleleaf pinyon		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Pachic Argiustolls----	F030XC240NV	FAVORABLE	1000	blue grama	5	
		NORMAL	900	muttongrass	5	
		UNFAVORABLE	800	other perennial grasses	5	
				other perennial forbs	5	
				curlleaf mountainmahogany	25	
				mountain big sagebrush	10	
				other shrubs	5	
				Gambel's oak	30	
				singleleaf pinyon	5	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Traley-----	F030XC249NV	FAVORABLE	900	muttongrass	10	
		NORMAL	800	other perennial grasses	5	
		UNFAVORABLE	700	other perennial forbs	5	
				Utah serviceberry	10	
				curlleaf mountainmahogany	10	
				black sagebrush	5	
				mountain big sagebrush	5	
				other shrubs	5	
				Gambel oak	40	
				singleleaf pinyon	5	
820: Newera-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Highland-----	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		5
Haleburu-----	VOLCANIC HILL 5-7 P.Z. (R030XB070NV)	FAVORABLE	500	big galleta		5
		NORMAL	350	desert needlegrass		5
		UNFAVORABLE	200	bush muhly		3
				other perennial grasses		2
				other perennial forbs		5
				Mojave buckwheat		30
				white bursage		20
				other shrubs		10
				creosotebush		5
				triangle goldeneye		5
				ephedra		3
				range ratany		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Newera-----	VOLCANIC SLOPE 7-9 P.Z. (R030XB071NV)	FAVORABLE	700	big galleta		20
		NORMAL	500	desert needlegrass		10
		UNFAVORABLE	300	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		30
				ephedra		15
				other shrubs		5
				range ratany		2
				triangle goldeneye		2
821:						
Helkitchen-----	LIMESTONE SLOPE 5-7 P.Z. (R030XB123NV)	FAVORABLE	700	big galleta		35
		NORMAL	500	desert needlegrass		5
		UNFAVORABLE	350	other perennial grasses		5
				other perennial forbs		5
				white bursage		20
				creosotebush		10
				Anderson wolfberry		5
				other shrubs		5
				winterfat		5
				range ratany		3
St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Galehills-----	CHANNERY HILL 3-5 P.Z. (R030XB125NV)	FAVORABLE	350	other perennial grasses		3
		NORMAL	250	other perennial forbs		5
		UNFAVORABLE	100	shadscale		40
				white bursage		30
				other shrubs		10
				Fremont dalea		5
				creosotebush		5
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Zeheme-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XB030NV)	FAVORABLE	300	desert needlegrass		5
		NORMAL	200	big galleta		3
		UNFAVORABLE	150	other perennial grasses		2
				other perennial forbs		5
				blackbrush		65
				other shrubs		10
				Nevada ephedra		3
				creosotebush		3
St. Thomas-----	GRAVELLY LIMESTONE SLOPE 5-7 P.Z. (R030XB111NV)	FAVORABLE	200	fluffgrass		3
		NORMAL	100	other perennial grasses		3
		UNFAVORABLE	50	other perennial forbs		5
				white bursage		40
				Utah mortonia		20
				Torrey ephedra		10
				range ratany		10

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
830: Puelzmine-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Lithic Torriorthents--	MOUNTAIN RIDGE (R030XB091NV)	FAVORABLE	600	big galleta		15
		NORMAL	450	bush muhly		15
		UNFAVORABLE	200	desert needlegrass		15
				other perennial grasses		3
				other perennial forbs		5
				other shrubs		15
				winterfat		10
				Mojave buckwheat		5
				ephedra		5
				spiny hopsage		3
		spiny menodora		2		
Rubble land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Hiddensun family	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
		creosotebush		3		
Highland-----	COBBLY CLAYPAN 5-7 P.Z. (R030XB044NV)	FAVORABLE	1500	big galleta		55
		NORMAL	1100	bush muhly		5
		UNFAVORABLE	800	other perennial grasses		5
				desert globemallow		5
				other perennial forbs		3
				white bursage		10
				creosotebush		5
				other shrubs		5
				range ratany		5
833: Virgin Peak-----	F029XY141NV	FAVORABLE	1000	muttongrass	20	
		NORMAL	800	Indian ricegrass	5	
		UNFAVORABLE	600	other perennial grasses	5	
				other perennial forbs	5	
				Gambel's oak	10	
				Utah serviceberry	10	
				curlleaf mountainmahogany	10	
				desert ceanothus	5	
				greenleaf manzanita	5	
				mountain big sagebrush	5	
				other shrubs	5	
				snowberry	5	
				singleleaf pinyon	5	
				Utah juniper	2	
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Lithic Haplustolls----	F030XC288NV	FAVORABLE	1000	muttongrass	5	
		NORMAL	800	other perennial grasses	5	
		UNFAVORABLE	600	other perennial forbs	10	
				Gambel oak	40	
				curlleaf mountainmahogany	20	
				mountain big sagebrush	10	
				other shrubs	5	
				Utah juniper	3	
				singleleaf pinyon	2	
Pachic Argiustolls----	F030XC240NV	FAVORABLE	1000	blue grama	5	
		NORMAL	900	muttongrass	5	
		UNFAVORABLE	800	other perennial grasses	5	
				other perennial forbs	5	
				curlleaf mountainmahogany	25	
				mountain big sagebrush	10	
				other shrubs	5	
				Gambel's oak	30	
				singleleaf pinyon	5	
840: Potosi-----	SHALLOW LIMESTONE SLOPE 7-9 P.Z. (R030XC008NV)	FAVORABLE	600	arid needlegrass		15
		NORMAL	450	desert needlegrass		5
		UNFAVORABLE	300	muttongrass		5
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		40
				other shrubs		10
				fourwing saltbush		5
				spiny hopsage		5
				Stansbury cliffrose		2
				ephedra		2
Zeheme-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XB030NV)	FAVORABLE	300	desert needlegrass		5
		NORMAL	200	big galleta		3
		UNFAVORABLE	150	other perennial grasses		2
				other perennial forbs		5
				blackbrush		65
				other shrubs		10
				Nevada ephedra		3
				creosotebush		3
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Potosi-----	SHALLOW LIMESTONE SLOPE 7-9 P.Z. (R030XC008NV)	FAVORABLE	600	arid needlegrass		15
		NORMAL	450	desert needlegrass		5
		UNFAVORABLE	300	muttongrass		5
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		40
				other shrubs		10
				fourwing saltbush		5
				spiny hopsage		5
				Stansbury cliffrose		2
				ephedra		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Railroad-----	STONY LOAM 5-7 P.Z. (R030XB080NV)	FAVORABLE	1100	big galleta		50
		NORMAL	800	Indian ricegrass		5
		UNFAVORABLE	600	bush muhly		5
				desert needlegrass		3
				other annual forbs		5
				other perennial forbs		5
				sphaeralcea		3
				winterfat		15
				other shrubs		5
				Nevada ephedra		3
Zeheme-----	LIMESTONE HILL 5-7 P.Z. (R030XB068NV)	FAVORABLE	250	desert needlegrass		10
		NORMAL	150	arid needlegrass		5
		UNFAVORABLE	100	other perennial grasses		5
				other perennial forbs		5
				other shrubs		15
				blackbrush		10
				Anderson wolfberry		5
				Mexican cliffrose		5
				Utah agave		5
				creosotebush		5
				ephedra		5
				range ratany		5
				snakeweed		5
		winterfat		5		
		rayless goldenhead		2		
Threelakes-----	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
		desert peach		3		
		fourwing saltbush		3		
845:						
Leecanyon-----	SHALLOW GRAVELLY FAN 11-15 P.Z. (R030XC023NV)	FAVORABLE	700	blue grama		10
		NORMAL	500	muttongrass		10
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		50
				Stansbury cliffrose		10
				other shrubs		5
Goodwater-----	SHALLOW GRAVELLY SLOPE 7-9 P.Z. (R030XC018NV)	FAVORABLE	800	desert needlegrass		10
		NORMAL	600	other perennial grasses		5
		UNFAVORABLE	400	blue grama		1
				other perennial forbs		5
				blackbrush		55
				Stansbury cliffrose		5
				other shrubs		5
				green ephedra		3
				banana yucca		2
				other trees		5
		Joshua tree		2		
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Goodwater-----	SHALLOW GRAVELLY SLOPE 7-9 P.Z. (R030XC018NV)	FAVORABLE	800	desert needlegrass		10
		NORMAL	600	other perennial grasses		5
		UNFAVORABLE	400	blue grama		1
				other perennial forbs		5
				blackbrush		55
				Stansbury cliffrose		5
				other shrubs		5
				green ephedra		3
				banana yucca		2
				other trees		5
				Joshua tree		2
Xeric Haplocambids---	GRAVELLY CALCAREOUS INSET FAN 9- 11 P.Z. (R030XC012NV)	FAVORABLE	900	Indian ricegrass		15
		NORMAL	700	desert needlegrass		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		35
				Stansbury cliffrose		10
				other shrubs		10
				blackbrush		5
				ephedra		5
Maryjane-----	F030XC280NV	FAVORABLE	800	bluebunch wheatgrass	10	
		NORMAL	600	muttongrass	5	
		UNFAVORABLE	400	other perennial grasses	5	
				other shrubs	5	
				other perennial forbs	5	
				wax currant	25	
				curlleaf mountainmahogany	20	
				Spring Mountain goldenbush	10	
				ponderosa pine	5	
				white fir	5	
				other trees	2	
Typic Torriorthents--	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
				desert peach		3
				fourwing saltbush		3
850: Birdspring-----	LIMESTONE HILL 5-7 P.Z. (R030XA002NV)	FAVORABLE	250	big galleta		5
		NORMAL	175	desert needlegrass		5
		UNFAVORABLE	75	other perennial forbs		5
				shadscale		45
				white bursage		15
				other shrubs		10
				Torrey ephedra		5
				desertholly		5
Birdspring-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XA006NV)	FAVORABLE	450	desert needlegrass		10
		NORMAL	350	other perennial forbs		5
		UNFAVORABLE	275	blackbrush		40
				shadscale		20
				white bursage		10
				ephedra		5
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Birdspring-----	LIMESTONE HILL 5-7 P.Z. (R030XA002NV)	FAVORABLE	250	big galleta		5
		NORMAL	175	desert needlegrass		5
		UNFAVORABLE	75	other perennial forbs		5
				shadscale		45
				white bursage		15
				other shrubs		10
				Torrey ephedra		5
				desertholly		5
Zeheme-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XB030NV)	FAVORABLE	300	desert needlegrass		5
		NORMAL	200	big galleta		3
		UNFAVORABLE	150	other perennial grasses		2
				other perennial forbs		5
				blackbrush		65
				other shrubs		10
				Nevada ephedra		3
				creosotebush		3
St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
851:						
Birdspring-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XA006NV)	FAVORABLE	450	desert needlegrass		10
		NORMAL	350	other perennial forbs		5
		UNFAVORABLE	275	blackbrush		40
				shadscale		20
				white bursage		10
				ephedra		5
				other shrubs		5
Zeheme-----	LIMESTONE HILL 5-7 P.Z. (R030XB068NV)	FAVORABLE	250	desert needlegrass		10
		NORMAL	150	arid needlegrass		5
		UNFAVORABLE	100	other perennial grasses		5
				other perennial forbs		5
				other shrubs		15
				blackbrush		10
				Anderson wolfberry		5
				Mexican cliffrose		5
				Utah agave		5
				creosotebush		5
				ephedra		5
				range ratany		5
				snakeweed		5
				winterfat		5
				rayless goldenhead		2
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Potosi-----	SHALLOW LIMESTONE SLOPE 7-9 P.Z. (R030XC008NV)	FAVORABLE	600	arid needlegrass		15
		NORMAL	450	desert needlegrass		5
		UNFAVORABLE	300	muttongrass		5
				other perennial grasses		3
				other perennial forbs		5
				blackbrush		40
				other shrubs		10
				fourwing saltbush		5
				spiny hopsage		5
				Stansbury cliffrose		2
				ephedra		2
Birdspring-----	LIMESTONE HILL 5-7 P.Z. (R030XA002NV)	FAVORABLE	250	big galleta		5
		NORMAL	175	desert needlegrass		5
		UNFAVORABLE	75	other perennial forbs		5
				shadscale		45
				white bursage		15
				other shrubs		10
				Torrey ephedra		5
				desertholly		5
Birdspring-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XA006NV)	FAVORABLE	450	desert needlegrass		10
		NORMAL	350	other perennial forbs		5
		UNFAVORABLE	275	blackbrush		40
				shadscale		20
				white bursage		10
				ephedra		5
				other shrubs		5
852:						
Birdspring-----	LIMESTONE HILL 5-7 P.Z. (R030XA002NV)	FAVORABLE	250	big galleta		5
		NORMAL	175	desert needlegrass		5
		UNFAVORABLE	75	other perennial forbs		5
				shadscale		45
				white bursage		15
				other shrubs		10
				Torrey ephedra		5
				desertholly		5
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Typic Haplocalcids---	GRAVELLY SLOPE 5-7 P.Z. (R030XB106NV)	FAVORABLE	1100	big galleta		50
		NORMAL	900	bush muhly		10
		UNFAVORABLE	700	other perennial grasses		5
				other perennial forbs		5
				shadscale		15
				other shrubs		5
				winterfat		3
				wolfberry		2
Zeheme-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XB030NV)	FAVORABLE	300	desert needlegrass		5
		NORMAL	200	big galleta		3
		UNFAVORABLE	150	other perennial grasses		2
				other perennial forbs		5
				blackbrush		65
				other shrubs		10
				Nevada ephedra		3
				creosotebush		3
Birdspring-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XA006NV)	FAVORABLE	450	desert needlegrass		10
		NORMAL	350	other perennial forbs		5
		UNFAVORABLE	275	blackbrush		40
				shadscale		20
				white bursage		10
				ephedra		5
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
St. Thomas family-----	BOULDERY LIMESTONE SLOPE 5-7 P.Z. (R030XB105NV)	FAVORABLE	500	arid needlegrass		10
		NORMAL	300	desert needlegrass		10
		UNFAVORABLE	200	bush muhly		5
				other perennial grasses		5
				other perennial forbs		5
				winterfat		20
				Utah mortonia		15
				other shrubs		8
				Mojave sage		5
				Torrey ephedra		5
		spearleaf brickellia		5		
853:						
Birdspring-----	LIMESTONE HILL 5-7 P.Z. (R030XA002NV)	FAVORABLE	250	big galleta		5
		NORMAL	175	desert needlegrass		5
		UNFAVORABLE	75	other perennial forbs		5
				shadscale		45
				white bursage		15
				other shrubs		10
				Torrey ephedra		5
				desertholly		5
St. Thomas-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Zeheme-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XB030NV)	FAVORABLE	300	desert needlegrass		5
		NORMAL	200	big galleta		3
		UNFAVORABLE	150	other perennial grasses		2
				other perennial forbs		5
				blackbrush		65
				other shrubs		10
				Nevada ephedra		3
		creosotebush		3		
St. Thomas family-----	GRAVELLY LOAM 5-7 P.Z. (R030XB102NV)	FAVORABLE	500	big galleta		15
		NORMAL	350	Indian ricegrass		5
		UNFAVORABLE	200	other perennial grasses		3
				other perennial forbs		5
				white bursage		25
				creosotebush		15
				winterfat		10
				ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		3
				spiny menodora		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
854: Birdspring-----	GRAVELLY HILL 5-7 P.Z. (R030XA059NV)	FAVORABLE NORMAL UNFAVORABLE	250 150 50	desert needlegrass Indian ricegrass other perennial forbs shadscale creosotebush white bursage Nevada ephedra other shrubs		10 5 5 25 15 15 10 5
Birdspring-----	LIMY HILL 3-5 P.Z. (R030XA067NV)	FAVORABLE NORMAL UNFAVORABLE	125 75 25	other perennial grasses other annual grasses other perennial forbs creosotebush white bursage other shrubs white burrobrush		10 5 5 35 20 15 5
Rock outcrop-----	---	FAVORABLE NORMAL UNFAVORABLE	--- --- ---			
St. Thomas family-----	LOAMY HILL 3-5 P.Z. (R030XA056NV)	FAVORABLE NORMAL UNFAVORABLE	150 100 25	Indian ricegrass other perennial grasses desert needlegrass other annual forbs other perennial forbs shadscale creosotebush other shrubs white bursage		3 3 2 5 5 50 15 10 5
Zeheme-----	LIMESTONE HILL 5-7 P.Z. (R030XB068NV)	FAVORABLE NORMAL UNFAVORABLE	250 150 100	desert needlegrass arid needlegrass other perennial grasses other perennial forbs other shrubs blackbrush Anderson wolfberry Mexican cliffrose Utah agave creosotebush ephedra range ratany snakeweed winterfat rayless goldenhead		10 5 5 5 15 10 5 5 5 5 5 5 5 2
Corncreek family	GYPSIC LOAM 3-5 P.Z. (R030XA060NV)	FAVORABLE NORMAL UNFAVORABLE	100 50 25	other perennial grasses other perennial forbs California bearpoppy desertholly saltbush seepweed wolfberry other shrubs		5 10 5 40 15 10 5
St. Thomas family-----	BOULDERY LIMESTONE SLOPE 5-7 P.Z. (R030XB105NV)	FAVORABLE NORMAL UNFAVORABLE	500 300 200	arid needlegrass desert needlegrass bush muhly other perennial grasses other perennial forbs winterfat Utah mortonia other shrubs Mojave sage Torrey ephedra spearleaf brickellia		10 10 5 5 5 20 15 8 5 5 5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
860:						
Straycow-----	VOLCANIC SLOPE 7-9 P.Z. (R030XB071NV)	FAVORABLE	700	big galleta		25
		NORMAL	500	desert needlegrass		5
		UNFAVORABLE	300	bush muhly		3
				other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		30
				ephedra		10
				other shrubs		10
				range ratany		5
				triangle goldeneye		3
Highland-----	COARSE GRAVELLY LOAM 5-7 P.Z. (R030XB107NV)	FAVORABLE	1000	big galleta		30
		NORMAL	800	Indian ricegrass		5
		UNFAVORABLE	600	other perennial grasses		5
				other perennial forbs		5
				sphaeralcea		2
				blackbrush		35
				other shrubs		10
				winterfat		5
Straycow-----	COARSE GRAVELLY LOAM 5-7 P.Z. (R030XB107NV)	FAVORABLE	1000	big galleta		30
		NORMAL	800	Indian ricegrass		5
		UNFAVORABLE	600	other perennial grasses		5
				other perennial forbs		5
				sphaeralcea		2
				blackbrush		35
				other shrubs		10
				winterfat		5
Lanip-----	CLAYPAN 5-7 P.Z. (R030XB043NV)	FAVORABLE	1000	big galleta		30
		NORMAL	700	bush muhly		10
		UNFAVORABLE	450	Indian ricegrass		5
				other perennial grasses		5
				other perennial forbs		5
				creosotebush		10
				Nevada ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		5
				white bursage		5
				winterfat		5
Arizo-----	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
				desert peach		3
				fourwing saltbush		3
Rock outcrop----		FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
865:						
Mackscanyon-----	DRAFT (F030XC244NV)	FAVORABLE	900	blue grama	5	
		NORMAL	700	muttongrass	5	
		UNFAVORABLE	500	other perennial grasses	5	
				other perennial forbs	7	
				Stansbury cliffrose	20	
				black sagebrush	20	
				mountain big sagebrush	15	
				curlleaf mountainmahogany	10	
				other shrubs	5	
				singleleaf pinyon	3	
				Utah juniper	2	
Leecanyon-----	SHALLOW GRAVELLY FAN 11-15 P.Z. (R030XC023NV)	FAVORABLE	700	blue grama		10
		NORMAL	500	muttongrass		10
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		50
				Stansbury cliffrose		10
				other shrubs		5
Goodwater-----	SHALLOW GRAVELLY SLOPE 7-9 P.Z. (R030XC018NV)	FAVORABLE	800	desert needlegrass		10
		NORMAL	600	other perennial grasses		5
		UNFAVORABLE	400	blue grama		1
				other perennial forbs		5
				blackbrush		55
				Stansbury cliffrose		5
				other shrubs		5
				green ephedra		3
				banana yucca		2
				other trees		5
				Joshua tree		2
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Xeric Haplocambids---	GRAVELLY CALCAREOUS INSET FAN 9- 11 P.Z. (R030XC012NV)	FAVORABLE	900	Indian ricegrass		15
		NORMAL	700	desert needlegrass		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		35
				Stansbury cliffrose		10
				other shrubs		10
				blackbrush		5
				ephedra		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
866: Goodwater-----	SHALLOW GRAVELLY SLOPE 7-9 P.Z. (R030XC018NV)	FAVORABLE NORMAL UNFAVORABLE	800 600 400	desert needlegrass other perennial grasses blue grama other perennial forbs blackbrush Stansbury cliffrose other shrubs green ephedra banana yucca other trees Joshua tree		10 5 1 5 55 5 5 3 2 5 2
Doespring-----	F030XC243NV	FAVORABLE NORMAL UNFAVORABLE	450 350 250	blue grama muttongrass other perennial grasses other perennial forbs Stansbury cliffrose black sagebrush desert ceanothus other shrubs Utah juniper singleleaf pinyon	5 5 5 5 30 20 10 10 5 2	
Doespring-----	F030XC247NV	FAVORABLE NORMAL UNFAVORABLE	700 600 500	blue grama muttongrass other perennial grasses other perennial forbs curlleaf mountainmahogany Stansbury cliffrose black sagebrush other shrubs Utah juniper singleleaf pinyon	5 5 5 5 40 10 10 5 5 5	
Leecanyon-----	SHALLOW GRAVELLY FAN 11-15 P.Z. (R030XC023NV)	FAVORABLE NORMAL UNFAVORABLE	700 500 300	blue grama muttongrass other perennial grasses other perennial forbs black sagebrush Stansbury cliffrose other shrubs		10 10 5 5 50 10 5
Maryjane-----	F030XC280NV	FAVORABLE NORMAL UNFAVORABLE	800 600 400	bluebunch wheatgrass muttongrass other perennial grasses other shrubs other perennial forbs wax currant curlleaf mountainmahogany Spring Mountain goldenbush ponderosa pine white fir other trees	10 5 5 5 5 25 20 10 5 5 2	
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE NORMAL UNFAVORABLE	600 350 200	desert needlegrass other perennial grasses other perennial forbs blackbrush other shrubs ephedra		10 5 5 60 10 5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
867: Goodwater-----	SHALLOW GRAVELLY SLOPE 7-9 P.Z. (R030XC018NV)	FAVORABLE	800	desert needlegrass		10
		NORMAL	600	other perennial grasses		5
		UNFAVORABLE	400	blue grama		1
				other perennial forbs		5
				blackbrush		55
				Stansbury cliffrose		5
				other shrubs		5
				green ephedra		3
				banana yucca		2
				other trees		5
				Joshua tree		2
Doespring-----	F030XC243NV	FAVORABLE	450	blue grama	5	
		NORMAL	350	muttongrass	5	
		UNFAVORABLE	250	other perennial grasses	5	
				other perennial forbs	5	
				Stansbury cliffrose	30	
				black sagebrush	20	
				desert ceanothus	10	
				other shrubs	10	
				Utah juniper	5	
				singleleaf pinyon	2	
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Typic Torriorthents--	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
				desert peach		3
				fourwing saltbush		3
Xeric Haplocambids---	GRAVELLY CALCAREOUS INSET FAN 9- 11 P.Z. (R030XC012NV)	FAVORABLE	900	Indian ricegrass		15
		NORMAL	700	desert needlegrass		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		35
				Stansbury cliffrose		10
				other shrubs		10
				blackbrush		5
				ephedra		5
868: Mackscanyon-----	DRAFT (F030XC244NV)	FAVORABLE	900	blue grama	5	
		NORMAL	700	muttongrass	5	
		UNFAVORABLE	500	other perennial grasses	5	
				other perennial forbs	7	
				Stansbury cliffrose	20	
				black sagebrush	20	
				mountain big sagebrush	15	
				curlleaf mountainmahogany	10	
				other shrubs	5	
				singleleaf pinyon	3	
				Utah juniper	2	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Goodwater-----	SHALLOW GRAVELLY SLOPE 7-9 P.Z. (R030XC018NV)	FAVORABLE	800	desert needlegrass		10
		NORMAL	600	other perennial grasses		5
		UNFAVORABLE	400	blue grama		1
				other perennial forbs		5
				blackbrush		55
				Stansbury cliffrose		5
				other shrubs		5
				green ephedra		3
				banana yucca		2
				other trees		5
				Joshua tree		2
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5
Xeric Haplocambids---	GRAVELLY CALCAREOUS INSET FAN 9- 11 P.Z. (R030XC012NV)	FAVORABLE	900	Indian ricegrass		15
		NORMAL	700	desert needlegrass		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		35
				Stansbury cliffrose		10
				other shrubs		10
				blackbrush		5
				ephedra		5
870: Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
				blackbrush		60
				other shrubs		10
				creosotebush		3
Weiser-----	GRAVELLY LOAM 5-7 P.Z. (R030XB102NV)	FAVORABLE	500	big galleta		15
		NORMAL	350	Indian ricegrass		5
		UNFAVORABLE	200	other perennial grasses		3
				other perennial forbs		5
				white bursage		25
				creosotebush		15
				winterfat		10
				ephedra		5
				other shrubs		5
				range ratany		5
				spiny hopsage		3
				spiny menodora		3
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
				ephedra		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Arizo-----	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
				range ratany		5
				Apacheplume		3
				Mexican bladdersage		3
		desert peach		3		
		fourwing saltbush		3		
Typic Petrocalcids---	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
871: Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	250	Indian ricegrass		3
				desert needlegrass		2
				other perennial forbs		5
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
Wehech-----	COARSE GRAVELLY LOAM 5-7 P.Z. (R030XB107NV)	FAVORABLE	1000	big galleta		30
		NORMAL	800	Indian ricegrass		5
		UNFAVORABLE	600	other perennial grasses		5
				other perennial forbs		5
				sphaeralcea		2
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
				other shrubs		10
		ephedra		5		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
		Lb/acre		Pct				
Threelakes-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10		
		NORMAL	350	other perennial grasses		5		
		UNFAVORABLE	200	other perennial forbs		10		
				creosotebush		20		
				bursage		15		
				baccharis		10		
				other shrubs		10		
				white burrobrush		5		
				Mojave buckwheat		3		
				Nevada ephedra		3		
		catclaw		3				
		desertwillow		2				
Wechech-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5		
		NORMAL	300	other perennial grasses		5		
		UNFAVORABLE	200	other annual forbs		10		
				other perennial forbs		5		
				white bursage		35		
				creosotebush		15		
				other shrubs		10		
				range ratany		5		
		Nevada ephedra		3				
872: Irongold-----	SHALLOW GRAVELLY LOAM 5-7 P.Z. (R030XB029NV)	FAVORABLE	500	big galleta		10		
		NORMAL	350	other perennial grasses		5		
		UNFAVORABLE	250	Indian ricegrass		3		
				desert needlegrass		2		
				other perennial forbs		5		
				blackbrush		60		
				other shrubs		10		
				creosotebush		3		
		Wechech-----	COBBLY LOAM 5-7 P.Z. (R030XB074NV)	FAVORABLE	400	big galleta		10
				NORMAL	250	bush muhly		5
UNFAVORABLE	150			other perennial grasses		3		
				other perennial forbs		5		
				white bursage		35		
				other shrubs		15		
				creosotebush		10		
				spiny menodora		10		
Weiser-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5		
		NORMAL	300	other perennial grasses		5		
		UNFAVORABLE	200	other annual forbs		10		
				other perennial forbs		5		
				white bursage		35		
				creosotebush		15		
				other shrubs		10		
				range ratany		5		
		Nevada ephedra		3				
Tonopah-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5		
		NORMAL	300	other perennial grasses		5		
		UNFAVORABLE	200	other annual forbs		10		
				other perennial forbs		5		
				white bursage		35		
				creosotebush		15		
				other shrubs		10		
				range ratany		5		
		Nevada ephedra		3				
Zeheme-----	SHALLOW LIMESTONE SLOPE 5-7 P.Z. (R030XB030NV)	FAVORABLE	300	desert needlegrass		5		
		NORMAL	200	big galleta		3		
		UNFAVORABLE	150	other perennial grasses		2		
				other perennial forbs		5		
				blackbrush		65		
		other shrubs		10				
		Nevada ephedra		3				
		creosotebush		3				

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Arizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
		catclaw		3		
		desertwillow		2		
875:						
Kylecanyon-----	GRAVELLY FAN 9-11 P.Z. (R030XC024NV)	FAVORABLE	1000	desert needlegrass		30
		NORMAL	750	blue grama		10
		UNFAVORABLE	500	other perennial grasses		10
				Indian ricegrass		5
				other perennial forbs		5
				mountain big sagebrush		25
		other shrubs		10		
		Stansbury cliffrose		5		
Goodwater-----	SHALLOW GRAVELLY SLOPE 7-9 P.Z. (R030XC018NV)	FAVORABLE	800	desert needlegrass		10
		NORMAL	600	other perennial grasses		5
		UNFAVORABLE	400	blue grama		1
				other perennial forbs		5
				blackbrush		55
				Stansbury cliffrose		5
				other shrubs		5
				green ephedra		3
				banana yucca		2
				other trees		5
		Joshua tree		2		
Purob-----	SHALLOW GRAVELLY LOAM 7-9 P.Z. (R030XC007NV)	FAVORABLE	600	desert needlegrass		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		5
				blackbrush		60
		other shrubs		10		
		ephedra		5		
Goodwater-----	SHALLOW GRAVELLY SLOPE 7-9 P.Z. (R030XC018NV)	FAVORABLE	800	desert needlegrass		10
		NORMAL	600	other perennial grasses		5
		UNFAVORABLE	400	blue grama		1
				other perennial forbs		5
				blackbrush		55
				Stansbury cliffrose		5
				other shrubs		5
				green ephedra		3
				banana yucca		2
				other trees		5
		Joshua tree		2		
Typic Torriorthents--	UPLAND WASH (R030XB051NV)	FAVORABLE	600	big galleta		5
		NORMAL	400	bush muhly		5
		UNFAVORABLE	200	other perennial grasses		5
				desert needlegrass		2
				other perennial forbs		5
				hollyleaf bursage		25
				other shrubs		15
				burrobrush		10
				Anderson's wolfberry		5
				Mojave buckwheat		5
		range ratany		5		
		Apacheplume		3		
		Mexican bladdersage		3		
		desert peach		3		
		fourwing saltbush		3		

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Leecanyon-----	SHALLOW GRAVELLY FAN 11-15 P.Z. (R030XC023NV)	FAVORABLE	700	blue grama		10
		NORMAL	500	muttongrass		10
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		50
				Stansbury cliffrose		10
				other shrubs		5
Xeric Haplocambids---	GRAVELLY CALCAREOUS INSET FAN 9-11 P.Z. (R030XC012NV)	FAVORABLE	900	Indian ricegrass		15
		NORMAL	700	desert needlegrass		5
		UNFAVORABLE	500	other perennial grasses		5
				other perennial forbs		5
				mountain big sagebrush		35
				Stansbury cliffrose		10
				other shrubs		10
				blackbrush		5
				ephedra		5
880:						
Nonamewash-----	DRY FLOODPLAIN (R030XB032NV)	FAVORABLE	2400	big galleta		65
		NORMAL	1600	other perennial grasses		2
		UNFAVORABLE	1200	other perennial forbs		5
				fourwing saltbush		10
				other shrubs		5
				ephedra		2
				range ratany		2
				wolfberry		2
Rositas-----	SANDY 5-7 P.Z. (R030XB004NV)	FAVORABLE	1100	big galleta		35
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	500	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				other shrubs		10
				white bursage		10
				range ratany		5
				winterfat		5
				Nevada ephedra		3
Dune land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Typic Torriorthents--	Gravel (Gr) (R058AE016MT)	FAVORABLE	2500	alkali sacaton		25
		NORMAL	1500	big galleta		10
		UNFAVORABLE	800	inland saltgrass		5
				other perennial grasses		2
				other perennial forbs		3
				fourwing saltbush		25
				mesquite		10
				Torrey quailbush		5
				other shrubs		5
				rabbitbrush		2
Aquic Torrifluvents--	WETLAND (R030XY055NV)	FAVORABLE	4000	rush		25
		NORMAL	2800	bulrush		10
		UNFAVORABLE	2000	cattail		10
				common reed		10
				sedge		10
				bluegrass		5
				other perennial grasses		5
				other perennial forbs		10
				willow		5
				other shrubs		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
885: Luckystrike-----	F030XC240NV	FAVORABLE	1000	blue grama	5	
		NORMAL	900	muttongrass	5	
		UNFAVORABLE	800	other perennial grasses	5	
				other perennial forbs	5	
				curlleaf mountainmahogany	25	
				mountain big sagebrush	10	
				other shrubs	5	
				Gambel's oak	30	
				singleleaf pinyon	5	
Mackscanyon-----	DRAFT (F030XC244NV)	FAVORABLE	900	blue grama	5	
		NORMAL	700	muttongrass	5	
		UNFAVORABLE	500	other perennial grasses	5	
				other perennial forbs	7	
				Stansbury cliffrose	20	
				black sagebrush	20	
				mountain big sagebrush	15	
				curlleaf mountainmahogany	10	
				other shrubs	5	
				singleleaf pinyon	3	
				Utah juniper	2	
Leecanyon-----	SHALLOW GRAVELLY FAN 11-15 P.Z. (R030XC023NV)	FAVORABLE	700	blue grama		10
		NORMAL	500	muttongrass		10
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				black sagebrush		50
				Stansbury cliffrose		10
				other shrubs		5
Robbersfire-----	F030XC283NV	FAVORABLE	700	bluebunch wheatgrass	20	
		NORMAL	600	muttongrass	5	
		UNFAVORABLE	500	other perennial grasses	5	
				other perennial forbs	5	
				curlleaf mountainmahogany	20	
				wax currant	20	
				mountain big sagebrush	5	
				other shrubs	5	
				ponderosa pine	5	
				white fir	5	
Rock outcrop-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
890: Ripley-----	LOAMY BOTTOM (R030XB020NV)	FAVORABLE	2500	alkali sacaton		25
		NORMAL	1500	big galleta		10
		UNFAVORABLE	800	inland saltgrass		5
				other perennial grasses		2
				other perennial forbs		3
				fourwing saltbush		25
				mesquite		10
				Torrey quailbush		5
				other shrubs		5
				rabbitbrush		2
Holtville-----	LOAMY BOTTOM (R030XB020NV)	FAVORABLE	2500	alkali sacaton		25
		NORMAL	1500	big galleta		10
		UNFAVORABLE	800	inland saltgrass		5
				other perennial grasses		2
				other perennial forbs		3
				fourwing saltbush		25
				mesquite		10
				Torrey quailbush		5
				other shrubs		5
				rabbitbrush		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Vertic Torrifluvents--	Gravel (Gr) (R058AE016MT)	FAVORABLE	2500	alkali sacaton		25
		NORMAL	1500	big galleta		10
		UNFAVORABLE	800	inland saltgrass		5
				other perennial grasses		2
				other perennial forbs		3
				fourwing saltbush		25
				mesquite		10
				Torrey quailbush		5
				other shrubs		5
				rabbitbrush		2
Nonamewash-----	DRY FLOODPLAIN (R030XB032NV)	FAVORABLE	2400	big galleta		65
		NORMAL	1600	other perennial grasses		2
		UNFAVORABLE	1200	other perennial forbs		5
				fourwing saltbush		10
				other shrubs		5
				ephedra		2
				range ratany		2
				wolfberry		2
Rositas-----	SANDHILL 3-5 P.Z. (R030XB097NV)	FAVORABLE	1200	big galleta		75
		NORMAL	1000	other perennial grasses		3
		UNFAVORABLE	700	other perennial forbs		3
				other shrubs		5
				California croton		3
				Palmer tuquilla		3
				ratany		3
				white bursage		3
900: Urban land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Huevi-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Riverbend-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Varwash-----	DESERT PATINA (R030XB092NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	creosotebush		85
				other shrubs		5
Carrwash-----	GRANITIC FAN 3-5 P.Z. (R030XB059NV)	FAVORABLE	300	big galleta		10
		NORMAL	200	desert needlegrass		5
		UNFAVORABLE	75	other perennial grasses		3
				other perennial forbs		5
				white bursage		25
				brittlebush		15
				other shrubs		15
				creosotebush		10
				range ratany		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Carrizo-----	GRAVELLY OUTWASH (R030XB098NV)	FAVORABLE	1000	big galleta		20
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	other perennial forbs		5
				white bursage		25
				other shrubs		10
				white brittlebush		10
				creosotebush		5
				sweetbrush		5
				white burrobrush		4
				ratany		3
905:						
Mountmummy-----	F030XC285NV	FAVORABLE	300	other perennial grasses	5	
		NORMAL	200	Ross' sedge	3	
		UNFAVORABLE	100	muttongrass	2	
				other perennial forbs	10	
				gooseberry currant	35	
				purple sage	35	
				other shrubs	5	
				Great Basin bristlecone pine	5	
Thesisters-----	F030XC287NV	FAVORABLE	350	bluebunch wheatgrass	5	
		NORMAL	250	muttongrass	5	
		UNFAVORABLE	150	other perennial grasses	5	
				other perennial forbs	5	
				Spring Mountain goldenbush	15	
				curlleaf mountainmahogany	15	
				wax currant	15	
				other shrubs	5	
				ponderosa pine	10	
				white fir	10	
				other trees	2	
Maryjane-----	F030XC280NV	FAVORABLE	800	bluebunch wheatgrass	10	
		NORMAL	600	muttongrass	5	
		UNFAVORABLE	400	other perennial grasses	5	
				other shrubs	5	
				other perennial forbs	5	
				wax currant	25	
				curlleaf mountainmahogany	20	
				Spring Mountain goldenbush	10	
				ponderosa pine	5	
				white fir	5	
				other trees	2	
Fletcherpeak----	F030XC249NV	FAVORABLE	900	muttongrass	10	
		NORMAL	800	other perennial grasses	5	
		UNFAVORABLE	700	other perennial forbs	5	
				Utah serviceberry	10	
				curlleaf mountainmahogany	10	
				black sagebrush	5	
				mountain big sagebrush	5	
				other shrubs	5	
				Gambel oak	40	
				singleleaf pinyon	5	
Robbersfire-----	F030XC283NV	FAVORABLE	700	bluebunch wheatgrass	20	
		NORMAL	600	muttongrass	5	
		UNFAVORABLE	500	other perennial grasses	5	
				other perennial forbs	5	
				curlleaf mountainmahogany	20	
				wax currant	20	
				mountain big sagebrush	5	
				other shrubs	5	
				ponderosa pine	5	
				white fir	5	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Aridic Calciustolls----	SNOWPOCKET (R030XC029NV)	FAVORABLE	700	fringed brome		25
		NORMAL	500	muttongrass		25
		UNFAVORABLE	300	slender wheatgrass		20
				other perennial grasses		5
				Ross' sedge		3
				other perennial forbs		10
				other shrubs		10
				Great Basin bristlecone pine		2
Pachic Haplustolls----	AVALANCHE CHUTE (R030XC026NV)	FAVORABLE	1500	fringed brome		5
		NORMAL	1000	other perennial grasses		5
		UNFAVORABLE	500	slender wheatgrass		5
				other perennial forbs		20
				quaking aspen		35
				wax currant		8
				common juniper		5
				Woods rose		3
				mountain snowberry		3
				other trees		5
910: Carrwash-----	GRANITIC FAN 3-5 P.Z. (R030XB059NV)	FAVORABLE	300	big galleta		10
		NORMAL	200	desert needlegrass		5
		UNFAVORABLE	75	other perennial grasses		3
				other perennial forbs		5
				white bursage		25
				brittlebush		15
				other shrubs		15
				creosotebush		10
				range ratany		5
Riverbend-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Huevi-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
911: Carrwash-----	GRANITIC FAN 3-5 P.Z. (R030XB059NV)	FAVORABLE	300	big galleta		10
		NORMAL	200	desert needlegrass		5
		UNFAVORABLE	75	other perennial grasses		3
				other perennial forbs		5
				white bursage		25
				brittlebush		15
				other shrubs		15
				creosotebush		10
				range ratany		5
Carrwash-----	GRAVELLY RIDGE 5-7 P.Z. (R030XB099NV)	FAVORABLE	300	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	150	white bursage		35
				white brittlebush		25
				creosotebush		10
				other shrubs		10
Riverbend-----	LIMY 3-5 P.Z. (R030XB019NV)	FAVORABLE	200	other perennial grasses		3
		NORMAL	125	other annual forbs		5
		UNFAVORABLE	75	other perennial forbs		5
				creosotebush		65
				white bursage		15
				other shrubs		5
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Carrizo-----	GRAVELLY OUTWASH (R030XB098NV)	FAVORABLE	1000	big galleta		20
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	other perennial forbs		5
				white bursage		25
				other shrubs		10
				white brittlebush		10
				creosotebush		5
				sweetbrush		5
				white burrobrush		4
				ratany		3
Goldroad-----	STEEP SOUTH SLOPE (R030XB077NV)	FAVORABLE	500	other perennial grasses		5
		NORMAL	250	desert globemallow		5
		UNFAVORABLE	100	other perennial forbs		3
				white brittlebush		70
				creosotebush		5
				other shrubs		5
				white bursage		3
				range ratany		2
915: Maryjane-----	F030XC280NV	FAVORABLE	800	bluebunch wheatgrass	10	
		NORMAL	600	muttongrass	5	
		UNFAVORABLE	400	other perennial grasses	5	
				other shrubs	5	
				other perennial forbs	5	
				wax currant	25	
				curlleaf mountainmahogany	20	
				Spring Mountain goldenbush	10	
				ponderosa pine	5	
				white fir	5	
				other trees	2	

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition			
		Kind of year	Dry weight		Forest	Range		
			Lb/acre		Pct	Pct		
Robbersfire-----	F030XC283NV	FAVORABLE	700	bluebunch wheatgrass	20			
		NORMAL	600	muttongrass	5			
		UNFAVORABLE	500	other perennial grasses	5			
				other perennial forbs	5			
				curlleaf mountainmahogany	20			
				wax currant	20			
				mountain big sagebrush	5			
				other shrubs	5			
				ponderosa pine	5			
				white fir	5			
Kitgram-----	F030XC289NV	FAVORABLE	900	bluebunch wheatgrass	8			
		NORMAL	600	other perennial grasses	2			
		UNFAVORABLE	450	other perennial forbs	5			
				wax currant	50			
				common juniper	20			
				other shrubs	2			
				Great Basin bristlecone pine	5			
				limber pine	5			
				white fir	3			
		Fletcherpeak----	F030XC249NV	FAVORABLE	900	muttongrass	10	
NORMAL	800			other perennial grasses	5			
UNFAVORABLE	700			other perennial forbs	5			
				Utah serviceberry	10			
				curlleaf mountainmahogany	10			
				black sagebrush	5			
				mountain big sagebrush	5			
				other shrubs	5			
				Gambel oak	40			
				singleleaf pinyon	5			
Maryjane-----	F030XC280NV	FAVORABLE	800	bluebunch wheatgrass	10			
		NORMAL	600	muttongrass	5			
		UNFAVORABLE	400	other perennial grasses	5			
				other shrubs	5			
				other perennial forbs	5			
				wax currant	25			
				curlleaf mountainmahogany	20			
				Spring Mountain goldenbush	10			
				ponderosa pine	5			
				white fir	5			
Mountmummy-----	F030XC285NV	FAVORABLE	300	other perennial grasses	5			
		NORMAL	200	Ross' sedge	3			
		UNFAVORABLE	100	muttongrass	2			
				other perennial forbs	10			
				gooseberry currant	35			
				purple sage	35			
				other shrubs	5			
				Great Basin bristlecone pine	5			
		Ladyofsnow-----	F030XC284NV	FAVORABLE	300	other perennial grasses	3	
				NORMAL	200	bluebunch wheatgrass	1	
UNFAVORABLE	100			muttongrass	1			
				other perennial forbs	5			
				wax currant	50			
				common juniper	30			
				Great Basin bristlecone pine	5			
				limber pine	5			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Pachic Haplustolls----	AVALANCHE CHUTE (R030XC026NV)	FAVORABLE	1500	fringed brome		5
		NORMAL	1000	other perennial grasses		5
		UNFAVORABLE	500	slender wheatgrass		5
				other perennial forbs		20
				wax currant		8
				common juniper		5
				Woods rose		3
				mountain snowberry		3
				quaking aspen		35
				other trees		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
916:						
Maryjane-----	F030XC280NV	FAVORABLE	800	bluebunch wheatgrass	10	
		NORMAL	600	muttongrass	5	
		UNFAVORABLE	400	other perennial grasses	5	
				other shrubs	5	
				other perennial forbs	5	
				wax currant	25	
				curlleaf mountainmahogany	20	
				Spring Mountain goldenbush	10	
				ponderosa pine	5	
				white fir	5	
				other trees	2	
Maryjane-----	F030XC280NV	FAVORABLE	800	bluebunch wheatgrass	10	
		NORMAL	600	muttongrass	5	
		UNFAVORABLE	400	other perennial grasses	5	
				other shrubs	5	
				other perennial forbs	5	
				wax currant	25	
				curlleaf mountainmahogany	20	
				Spring Mountain goldenbush	10	
				ponderosa pine	5	
				white fir	5	
				other trees	2	
Petrocalcic Calciustolls---	F030XC280NV	FAVORABLE	800	bluebunch wheatgrass	10	
		NORMAL	600	muttongrass	5	
		UNFAVORABLE	400	other perennial grasses	5	
				other shrubs	5	
				other perennial forbs	5	
				wax currant	25	
				curlleaf mountainmahogany	20	
				Spring Mountain goldenbush	10	
				ponderosa pine	5	
				white fir	5	
				other trees	2	
Riverwash-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Cumulic Haplustolls----	DRY MEADOW (R030XC002NV)	FAVORABLE	1600	Sandberg bluegrass		40
		NORMAL	1000	Baltic rush		10
		UNFAVORABLE	800	carex		10
				other perennial grasses		10
				basin wildrye		5
				mat muhly		5
				other perennial forbs		15
				other shrubs		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Pachic Haplustolls----	AVALANCHE CHUTE (R030XC026NV)	FAVORABLE	1500	fringed brome		5
		NORMAL	1000	other perennial grasses		5
		UNFAVORABLE	500	slender wheatgrass		5
				other perennial forbs		20
				quaking aspen		35
				wax currant		8
				common juniper		5
				Woods rose		3
				mountain snowberry		3
				other trees		5
920:						
Tanazza-----	BREAKS 3-7 P.Z. (R030XY049NV)	FAVORABLE	250	big galleta		10
		NORMAL	100	other perennial grasses		5
		UNFAVORABLE	50	Indian ricegrass		3
				alkali sacaton		2
				other perennial forbs		5
				shadscale		20
				other shrubs		15
				white bursage		15
				mesquite		10
				bladdersage		5
				ephedra		5
Wechech-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Wodavar-----	CALCAREOUS LOAM 5-7 P.Z. (R030XA066NV)	FAVORABLE	350	Indian ricegrass		5
		NORMAL	200	other perennial grasses		3
		UNFAVORABLE	100	other perennial forbs		5
				white bursage		30
				shadscale		20
				creosotebush		15
				other shrubs		5
				wolfberry		5
				Torrey ephedra		2
Typic Haplocalcids---	CALCAREOUS LOAM 3-5 P.Z. (R030XA053NV)	FAVORABLE	200	Indian ricegrass		5
		NORMAL	100	desert needlegrass		5
		UNFAVORABLE	50	other perennial grasses		2
				other perennial forbs		5
				shadscale		40
				creosotebush		30
				other shrubs		10
Typic Haplocalcids---	LOAMY 3-5 P.Z. (R030XA050NV)	FAVORABLE	200	Indian ricegrass		5
		NORMAL	100	desert needlegrass		5
		UNFAVORABLE	50	other perennial forbs		5
				shadscale		45
				creosotebush		25
				other shrubs		10
Bluepoint-----	DUNES 3-7 P.Z. (R030XY045NV)	FAVORABLE	900	Indian ricegrass		10
		NORMAL	600	other perennial grasses		2
		UNFAVORABLE	400	other perennial forbs		5
				fourwing saltbush		20
				honey mesquite		20
				screwbean mesquite		20
				other shrubs		10
				creosotebush		5
				white bursage		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
925: Lastone-----	F030XC249NV	FAVORABLE	900	muttongrass	10	
		NORMAL	800	other perennial grasses	5	
		UNFAVORABLE	700	other perennial forbs	5	
				Utah serviceberry	10	
				curlleaf mountainmahogany	10	
				black sagebrush	5	
				mountain big sagebrush	5	
				other shrubs	5	
				Gambel oak	40	
				singleleaf pinyon	5	
Lastone-----	F030XC278NV	FAVORABLE	1000	blue grama	5	
		NORMAL	800	muttongrass	5	
		UNFAVORABLE	600	other perennial grasses	5	
				other perennial forbs	10	
				Gambel's oak	25	
				curlleaf mountainmahogany	10	
				yellowleaf silktassel	7	
				Utah serviceberry	5	
				mountain big sagebrush	5	
				other shrubs	5	
				pointleaf manzanita	5	
				Utah juniper	5	
				singleleaf pinyon	5	
Moentria-----	SHALLOW GRAVELLY SANDSTONE 7-9 P. Z. (R030XC027NV)	FAVORABLE	700	desert needlegrass		10
		NORMAL	500	Indian ricegrass		5
		UNFAVORABLE	300	other perennial grasses		5
				other perennial forbs		5
				blackbrush		55
				Nevada ephedra		5
				other shrubs		5
				spiny menodora		5
				other trees		2
Traley-----	F030XC249NV	FAVORABLE	900	muttongrass	10	
		NORMAL	800	other perennial grasses	5	
		UNFAVORABLE	700	other perennial forbs	5	
				Utah serviceberry	10	
				curlleaf mountainmahogany	10	
				black sagebrush	5	
				mountain big sagebrush	5	
				other shrubs	5	
				Gambel oak	40	
				singleleaf pinyon	5	
Lithic Ustorthents----	F030XC246NV	FAVORABLE	800	desert needlegrass	5	
		NORMAL	700	muttongrass	5	
		UNFAVORABLE	600	other perennial grasses	5	
				other perennial forbs	5	
				Stansbury cliffrose	30	
				banana yucca	10	
				curlleaf mountainmahogany	10	
				mountain big sagebrush	10	
				Utah juniper	5	
				other shrubs	5	
				singleleaf pinyon	5	
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
930: Cololag-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Huevi-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Carrizo-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
				desertwillow		2
940: Mesabase-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Azsand-----	LIMY SAND 3-5 P.Z. (R030XB122NV)	FAVORABLE	650	big galleta		25
		NORMAL	400	Indian ricegrass		10
		UNFAVORABLE	200	other perennial grasses		3
				dropseed		2
				other perennial forbs		5
				white bursage		30
				creosotebush		10
				other shrubs		5
				ratany		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Rositas-----	SANDY 5-7 P.Z. (R030XB004NV)	FAVORABLE	1100	big galleta		35
		NORMAL	800	Indian ricegrass		15
		UNFAVORABLE	500	dropseed		3
				other perennial grasses		2
				other perennial forbs		5
				other shrubs		10
				white bursage		10
				range ratany		5
				winterfat		5
				Nevada ephedra		3
Rock outcrop----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
		Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta
NORMAL	350			other perennial grasses		5
UNFAVORABLE	200			other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
941: Mesabase-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
		Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta
NORMAL	350			other perennial grasses		5
UNFAVORABLE	200			other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
Baseline-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
950:						
Drygyp-----	GYPSIC SAND 3-5 P.Z. (R030XB117NV)	FAVORABLE	250	big galleta		5
		NORMAL	150	other perennial grasses		5
		UNFAVORABLE	100	other perennial forbs		5
				Fremont dalea		35
				Parry's sandpaperplant		10
				fourwing saltbush		10
				white bursage		10
				Torrey ephedra		5
				catclaw		5
				other shrubs		5
Drygyp-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
				desert alysum		3
Azsand-----	LIMY SAND 3-5 P.Z. (R030XB122NV)	FAVORABLE	650	big galleta		25
		NORMAL	400	Indian ricegrass		10
		UNFAVORABLE	200	other perennial grasses		3
				dropseed		2
				other perennial forbs		5
				white bursage		30
				creosotebush		10
				other shrubs		5
				ratany		5
Guardian-----	GYPSIC HILL 3-5 P.Z. (R030XB118NV)	FAVORABLE	175	other perennial grasses		3
		NORMAL	125	silverleaf sunray		20
		UNFAVORABLE	50	other perennial forbs		3
				California bearpoppy		1
				pygmycedar		40
				Parry's sandpaperplant		15
				Fremont dalea		5
				other shrubs		5
				shrubby tiqulia		5
951:						
Drygyp-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
				desert alysum		3
Guardian-----	GYPSIC SODIC LOAM 3-5 P.Z. (R030XB115NV)	FAVORABLE	350	other perennial grasses		3
		NORMAL	200	silverleaf sunray		10
		UNFAVORABLE	100	other perennial forbs		5
				shadscale		45
				Fremont dalea		15
				Parry's sandpaperplant		15
				other shrubs		5
Baseline-----	GRAVELLY PEDIMENT 3-5 P.Z. (R030XB038NV)	FAVORABLE	350	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	100	desertholly saltbush		50
				white bursage		15
				Torrey ephedra		5
				creosotebush		5
				other shrubs		5
				range ratany		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Heleweiser-----	DESERT PATINA (R030XB092NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	creosotebush		85
				other shrubs		5
Teebar-----	TABLELAND 3-5 P.Z. (R030XB110NV)	FAVORABLE	300	other perennial grasses		3
		NORMAL	150	other annual grasses		2
		UNFAVORABLE	50	other perennial forbs		5
				shrubby tiquilia		30
				creosotebush		10
				ephedra		10
				whitestem paperflower		10
				range ratany		8
				white bursage		8
				other shrubs		5
		spiny menodora		3		
		ocotillo		2		
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
952:						
Drygyp-----	GYPSIC SODIC LOAM 3-5 P.Z. (R030XB115NV)	FAVORABLE	350	other perennial grasses		3
		NORMAL	200	silverleaf sunray		10
		UNFAVORABLE	100	other perennial forbs		5
				shadscale		45
				Fremont dalea		15
		Parry's sandpaperplant		15		
		other shrubs		5		
Guardian-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
				desert alysum		3
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Baseline-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
		Nevada ephedra		3		
955:						
Drygyp-----	GYPSIC BARREN 3-5 P.Z. (R030XB109NV)	FAVORABLE	125	other perennial grasses		3
		NORMAL	75	other perennial forbs		5
		UNFAVORABLE	35	California bearpoppy		3
				Fremont dalea		30
				Parry's sandpaperplant		20
				Torrey ephedra		10
				white bursage		10
				Anderson's wolfberry		5
				other shrubs		5
				desert alysum		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Bluegyp-----	SODIC LOAM 3-5 P.Z. (R030XB114NV)	FAVORABLE	250	other perennial grasses		3
		NORMAL	150	other perennial forbs		5
		UNFAVORABLE	75	shadscale		45
				black seepweed		30
				Fremont dalea		5
				alkali goldenbush		5
				other shrubs		5
Guardian-----	GYPSIC HILL 3-5 P.Z. (R030XB118NV)	FAVORABLE	175	other perennial grasses		3
		NORMAL	125	silverleaf sunray		20
		UNFAVORABLE	50	other perennial forbs		3
				California bearpoppy		1
				pygmycedar		40
				Parry's sandpaperplant		15
				Fremont dalea		5
				other shrubs		5
				shrubby tiqulia		5
Typic Torrifolists---	STREAMBANK (R030XB021NV)	FAVORABLE	2500	alkali sacaton		10
		NORMAL	1000	other perennial grasses		3
		UNFAVORABLE	500	rush		3
				big galleta		2
				common reed		2
				other annual grasses		2
				other perennial forbs		5
				mesquite		20
				arrowweed pluchea		10
				desertwillow		10
				other shrubs		10
				willow		5
				big saltbush		3
				baccharis		2
				Fremont cottonwood		5
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
965: Azsand-----	LIMY SAND 3-5 P.Z. (R030XB122NV)	FAVORABLE	650	big galleta		25
		NORMAL	400	Indian ricegrass		10
		UNFAVORABLE	200	other perennial grasses		3
				dropseed		2
				other perennial forbs		5
				white bursage		30
				creosotebush		10
				other shrubs		5
				ratany		5
Mesabase-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3
Rositas-----	GRAVELLY SAND 3-5 P.Z. (R030XB096NV)	FAVORABLE	500	big galleta		20
		NORMAL	400	other perennial grasses		5
		UNFAVORABLE	300	other perennial forbs		3
				white bursage		35
				Palmer coldenia		20
				other shrubs		5
				ratany		3
				winterfat		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Callville-----	SHALLOW PEDIMENT 3-5 P.Z. (R030XB116NV)	FAVORABLE	150	other perennial grasses		3
		NORMAL	75	other perennial forbs		3
		UNFAVORABLE	25	desertholly		80
				other shrubs		5
				other shrubs		5
Teebar-----	TABLELAND 3-5 P.Z. (R030XB110NV)	FAVORABLE	300	other perennial grasses		3
		NORMAL	150	other annual grasses		2
		UNFAVORABLE	50	other perennial forbs		5
				shrubby tiquilia		30
				creosotebush		10
				ephedra		10
				whitestem paperflower		10
				range ratany		8
				white bursage		8
				other shrubs		5
				spiny menodora		3
		ocotillo		2		
Carrizo-----	VALLEY WASH (R030XB028NV)	FAVORABLE	500	big galleta		10
		NORMAL	350	other perennial grasses		5
		UNFAVORABLE	200	other perennial forbs		10
				creosotebush		20
				bursage		15
				baccharis		10
				other shrubs		10
				white burrobrush		5
				Mojave buckwheat		3
				Nevada ephedra		3
				catclaw		3
		desertwillow		2		
Badland-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
970: Rubble land-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Charpeak-----	ALPINE SLOPE (R030XC028NV)	FAVORABLE	175	alpine fescue		15
		NORMAL	150	other perennial grasses		10
		UNFAVORABLE	75	other perennial forbs		55
				other shrubs		5
				Great Basin bristlecone pine		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Mountmummy-----	F030XC285NV	FAVORABLE	300	other perennial grasses	5	
		NORMAL	200	Ross' sedge	3	
		UNFAVORABLE	100	muttongrass	2	
				other perennial forbs	10	
				gooseberry currant	35	
				purple sage	35	
		other shrubs	5			
				Great Basin bristlecone pine	5	
Lithic Cryorthents----	ALPINE SLOPE (R030XC028NV)	FAVORABLE	175	alpine fescue		15
		NORMAL	150	other perennial grasses		10
		UNFAVORABLE	75	other perennial forbs		55
				other shrubs		5
				Great Basin bristlecone pine		5

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
Ladyofsnow-----	F030XC284NV	FAVORABLE	300	other perennial grasses	3	
		NORMAL	200	bluebunch wheatgrass	1	
		UNFAVORABLE	100	muttongrass	1	
				other perennial forbs	5	
				wax currant	50	
				common juniper	30	
				Great Basin bristlecone pine	5	
				limber pine	5	
980:						
Orrubo-----	Limy Slopes (R030XB212AZ)	FAVORABLE	350	other perennial grasses		5
		NORMAL	175	other annual forbs		10
		UNFAVORABLE	125	other perennial forbs		10
				white bursage		30
				creosotebush	20	
				other shrubs		10
				Torrey Mormon tea		5
				white ratany		5
Bobzbulz-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Snapcan-----	GRAVELLY RIDGE 5-7 P.Z. (R030XB099NV)	FAVORABLE	300	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	150	white bursage		35
				white brittlebush		25
				creosotebush		10
				other shrubs		10
Carrizo-----	GRAVELLY OUTWASH (R030XB098NV)	FAVORABLE	1000	big galleta		20
		NORMAL	700	other perennial grasses		5
		UNFAVORABLE	450	other perennial forbs		5
				white bursage		25
				other shrubs		10
				white brittlebush		10
				creosotebush		5
				sweetbrush		5
				white burrobrush		4
				ratany		3
Riverbend-----	LIMY 5-7 P.Z. (R030XB005NV)	FAVORABLE	500	big galleta		5
		NORMAL	300	other perennial grasses		5
		UNFAVORABLE	200	other annual forbs		10
				other perennial forbs		5
				white bursage		35
				creosotebush		15
				other shrubs		10
				range ratany		5
				Nevada ephedra		3

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
		Lb/acre		Pct		
981:						
Torriorthents---	Basalt Slopes (R030XB203AZ)	FAVORABLE	350	big galleta		10
		NORMAL	250	other perennial grasses		10
		UNFAVORABLE	150	other perennial forbs		10
				white bursage		20
				other shrubs		15
				Nevada Mormon tea		10
				creosotebush		10
				white ratany		5
Haplocalcids----	Limy Slopes (R030XB212AZ)	FAVORABLE	350	white bursage		30
		NORMAL	175	creosotebush		20
		UNFAVORABLE	125	white ratany		5
				Torrey Mormon tea		5
				other shrubs		10
				other perennial grasses		5
				other perennial forbs		10
				other annual forbs		10
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			
Sunrock-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Haleburu-----	STONY SLOPE 5-7 P.Z. (R030XB072NV)	FAVORABLE	350	big galleta		5
		NORMAL	250	other perennial grasses		5
		UNFAVORABLE	100	bush muhly		3
				other perennial forbs		5
				white bursage		30
				Mojave buckwheat		20
				creosotebush		10
				triangle goldeneye		10
				other shrubs		5
				white brittlebush		5
Huevi-----	GRAVELLY RIDGE 5-7 P.Z. (R030XB099NV)	FAVORABLE	300	other perennial grasses		5
		NORMAL	225	other perennial forbs		5
		UNFAVORABLE	150	white bursage		35
				white brittlebush		25
				creosotebush		10
				other shrubs		10
982:						
Winkel-----	Limy Upland (R030XB214AZ)	FAVORABLE	450	other perennial grasses		2
		NORMAL	350	Indian ricegrass		1
		UNFAVORABLE	250	Pleuraphis rigida		1
				low woollygrass		1
				other perennial forbs		5
				white burrobush		30
				creosotebush		20
				other shrubs		10
				Nevada jointfir		5
				white ratany		5
				wolfberry		5
				Joshua tree		5
Rock outcrop----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 5.--Rangeland Productivity and Characteristic Plant Communities--Continued

Map symbol and soil name	Range site	Total production		Characteristic vegetation	Composition	
		Kind of year	Dry weight		Forest	Range
			Lb/acre		Pct	Pct
Haleburu-----	LIMY HILL 5-7 P.Z. (R030XB001NV)	FAVORABLE	350	fluffgrass		3
		NORMAL	250	other perennial grasses		2
		UNFAVORABLE	100	big galleta		5
				other perennial forbs		5
				white bursage		50
				creosotebush		10
				other shrubs		10
				range ratany		5
				desert pepperweed		3
				Fremont's dalea		2
Nipton-----	VOLCANIC SLOPE 7-9 P.Z. (R030XB071NV)	FAVORABLE	700	big galleta		20
		NORMAL	500	desert needlegrass		10
		UNFAVORABLE	300	bush muhly		5
				other perennial grasses		3
				other perennial forbs		5
				Mojave buckwheat		30
				ephedra		15
				other shrubs		5
				range ratany		2
				triangle goldeneye		2
Sunrock-----	LIMY HILL 3-5 P.Z. (R030XB017NV)	FAVORABLE	125	fluffgrass		3
		NORMAL	75	other perennial grasses		2
		UNFAVORABLE	25	other annual forbs		5
				other perennial forbs		2
				creosotebush		75
				white bursage		8
				other shrubs		5
Tumarion-----	SHALLOW VOLCANIC HILL 5-7 P.Z. (R030XB095NV)	FAVORABLE	350	big galleta		5
		NORMAL	225	desert needlegrass		5
		UNFAVORABLE	100	other perennial grasses		3
				other perennial forbs		3
				desert globemallow		2
				Mojave buckwheat		50
				other shrubs		10
				creosotebush		8
				Virgin River encelia		5
				range ratany		5
				Nevada ephedra		3
998:						
Miscellaneous	---	FAVORABLE	---			
water-----		NORMAL	---			
		UNFAVORABLE	---			
999:						
Water-----	---	FAVORABLE	---			
		NORMAL	---			
		UNFAVORABLE	---			

TABLE 6.--Forestland Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
195:				
Sed-----	singleleaf pinyon---	30	3	---
	Utah juniper-----	30	3	
321:				
Seralin-----	singleleaf pinyon---	50	4	---
	Utah juniper-----	50	4	
Lithic Calciustolls-----	singleleaf pinyon---	50	4	---
	Utah juniper-----	50	4	
Typic Haplustolls-----	Utah juniper-----	45	4	---
	singleleaf pinyon---	45	4	
322:				
Seralin, moist-----	singleleaf pinyon---	75	10	---
	Utah juniper-----	75	10	
323:				
Lithic Calciustolls-----	singleleaf pinyon---	50	4	---
	Utah juniper-----	50	4	
Typic Haplustolls-----	singleleaf pinyon---	40	4	---
	Utah juniper-----	40	4	
351:				
Seralin-----	singleleaf pinyon---	40	4	---
	Utah juniper-----	40	4	
352:				
Seralin-----	singleleaf pinyon---	50	4	---
	Utah juniper-----	50	4	
Traley-----	singleleaf pinyon---	45	4	---
Aridic Calciustolls-----	singleleaf pinyon---	45	4	---
Seralin-----	singleleaf pinyon---	40	4	---
	Utah juniper-----	40	4	
Lithic Ustorthents-----	ponderosa pine-----	45	34	---
355:				
Seralin-----	singleleaf pinyon---	40	4	---
	Utah juniper-----	40	4	
Devilsthumb-----	white fir-----	15	32	---
Fletcherpeak-----	singleleaf pinyon---	45	4	---
Buckspring-----	singleleaf pinyon---	65	7	---
	Utah juniper-----	65	7	
422:				
Seralin-----	singleleaf pinyon---	50	4	---
	Utah juniper-----	50	4	
645:				
Jumbopeak-----	singleleaf pinyon---	45	4	---

TABLE 6.--Forestland Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
646:				
Jumbopeak-----	singleleaf pinyon---	45	4	---
Jumbopeak-----	singleleaf pinyon---	45	4	---
700:				
Lithic Ustic Torriorthents-----	Utah juniper-----	30	2	---
705:				
Charkiln-----	singleleaf pinyon---	100	14	---
Woodspring-----	singleleaf pinyon---	100	14	---
Buckspring-----	singleleaf pinyon---	65	7	---
	Utah juniper-----	65	7	---
Fletcherpeak-----	singleleaf pinyon---	45	4	---
Ustic Haplocalcids-----	singleleaf pinyon---	45	4	---
Maryjane-----	ponderosa pine-----	45	34	---
715:				
Troughspring-----	singleleaf pinyon---	80	10	---
Charkiln-----	singleleaf pinyon---	100	14	---
Buckspring-----	singleleaf pinyon---	70	8	---
	Utah juniper-----	70	8	---
Fletcherpeak-----	singleleaf pinyon---	45	4	---
Maryjane-----	ponderosa pine-----	45	34	---
716:				
Troughspring-----	ponderosa pine-----	30	20	---
Doespring-----	singleleaf pinyon---	40	4	---
	Utah juniper-----	40	4	---
Fletcherpeak-----	singleleaf pinyon---	45	4	---
Mackscanyon-----	singleleaf pinyon---	75	10	---
	Utah juniper-----	75	10	---
Maryjane-----	ponderosa pine-----	45	34	---
725:				
Mackscanyon-----	singleleaf pinyon---	75	10	---
	Utah juniper-----	75	10	---
Woodspring-----	singleleaf pinyon---	100	14	---
732:				
Typic Petrocalcids-----	singleleaf pinyon---	40	4	---
	Utah juniper-----	40	4	---
772:				
Lamadre-----	singleleaf pinyon---	80	10	---

TABLE 6.--Forestland Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
Robbersfire-----	white fir-----	15	32	---
Seralin-----	singleleaf pinyon---	40	4	---
	Utah juniper-----	40	4	---
775: Ladyofsnow-----	Great Basin bristlecone pine---	---	18	---
Robbersfire-----	white fir-----	30	51	---
Maryjane-----	ponderosa pine-----	45	34	---
Kitgram-----	Great Basin bristlecone pine---	---	18	---
	ponderosa pine-----	45	34	---
790: McClanahan-----	Utah juniper-----	30	2	---
Beerbo-----	Utah juniper-----	45	4	---
	singleleaf pinyon---	45	4	---
Seralin family-----	Utah juniper-----	45	4	---
	singleleaf pinyon---	45	4	---
805: Buckspring-----	singleleaf pinyon---	65	7	---
	Utah juniper-----	65	7	---
Fletcherpeak-----	singleleaf pinyon---	45	4	---
Seralin-----	singleleaf pinyon---	50	4	---
	Utah juniper-----	50	4	---
Mackscanyon-----	singleleaf pinyon---	75	10	---
	Utah juniper-----	75	10	---
Woodspring-----	singleleaf pinyon---	100	14	---
806: Buckspring-----	singleleaf pinyon---	65	7	---
	Utah juniper-----	65	7	---
Torriorthentic Haplustolls-----	singleleaf pinyon---	100	14	---
815: Wheelerwell-----	singleleaf pinyon---	70	8	---
	Utah juniper-----	70	8	---
Wheelerpass-----	singleleaf pinyon---	40	4	---
Pachic Argiustolls-----	singleleaf pinyon---	80	10	---
Traley-----	singleleaf pinyon---	45	4	---
833: Virgin Peak-----	singleleaf pinyon---	30	2	---

TABLE 6.--Forestland Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber  cu ft/ac	
Lithic Haplustolls-----	singleleaf pinyon---	100	14	---
Pachic Argiustolls-----	singleleaf pinyon---	80	10	---
845: Maryjane-----	ponderosa pine-----	45	34	---
865: Mackscanyon-----	singleleaf pinyon---	75	10	---
	Utah juniper-----	75	10	
866: Doespring-----	singleleaf pinyon---	40	4	---
	Utah juniper-----	40	4	
	Doespring, cool-----	85	11	---
	Utah juniper-----	85	11	
	Maryjane-----	45	34	---
867: Doespring-----	singleleaf pinyon---	40	4	---
	Utah juniper-----	40	4	
868: Mackscanyon-----	singleleaf pinyon---	75	10	---
	Utah juniper-----	75	10	
885: Luckystrike-----	singleleaf pinyon---	80	10	---
	Mackscanyon-----	75	10	---
	Utah juniper-----	75	10	
	Robbersfire-----	15	32	---
905: Mountmummy-----	Great Basin bristlecone pine---	---	---	---
	Thesisters-----	20	20	---
	Maryjane-----	45	34	---
	Fletcherpeak-----	45	4	---
	Robbersfire-----	15	32	---
	Aridic Calciustolls-----	Great Basin bristlecone pine---	97	---
915: Maryjane-----	ponderosa pine-----	45	34	---
	Robbersfire-----	15	32	---
	Kitgram-----	15	32	---
	Fletcherpeak-----	45	4	---

TABLE 6.--Forestland Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber  cu ft/ac	
Maryjane-----	ponderosa pine-----	45	34	---
Mountmummy-----	Great Basin bristlecone pine---	---	---	---
Ladyofsnow-----	Great Basin bristlecone pine---	---	18	---
916:				
Maryjane-----	ponderosa pine-----	45	34	---
Maryjane-----	ponderosa pine-----	45	34	---
Petrocalcic Calciustolls	ponderosa pine-----	45	34	---
925:				
Lastone-----	singleleaf pinyon---	45	4	---
Lastone, steep-----	singleleaf pinyon---	70	8	---
	Utah juniper-----	70	8	---
Tralely-----	singleleaf pinyon---	45	4	---
Lithic Ustorthents-----	singleleaf pinyon---	65	7	---
	Utah juniper-----	65	7	---

TABLE 7.--Forestland Site Preparation

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
195: Sed-----	4	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Restrictive layer	0.50 0.50
321: Seralin-----	30	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Restrictive layer Slope	1.00 1.00
Lithic Calciustolls-	9	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Restrictive layer	1.00 1.00
Typic Haplustolls---	6	Poorly suited Slope	0.50	Unsuited Restrictive layer Slope	1.00 0.50
322: Seralin, moist-----	5	Poorly suited Slope Rock fragments	0.50 0.50	Unsuited Restrictive layer Slope	1.00 0.50
323: Lithic Calciustolls-	9	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Restrictive layer	1.00 1.00
Typic Haplustolls---	6	Poorly suited Slope	0.50	Unsuited Restrictive layer Slope	1.00 0.50
351: Seralin-----	85	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Restrictive layer Slope	1.00 1.00
352: Seralin-----	45	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Restrictive layer Slope	1.00 1.00
Traley-----	25	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
Aridic Calciustolls-	8	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00

TABLE 7.--Forestland Site Preparation

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Seralin-----	4	Unsuited		Unsuited	
		Slope	1.00	Restrictive layer	1.00
		Rock fragments	0.50	Slope	1.00
Lithic Ustorthents--	3	Unsuited		Unsuited	
		Slope	1.00	Restrictive layer	1.00
		Restrictive layer	1.00	Slope	1.00
		Rock fragments	0.50		
355: Seralin-----	40	Unsuited		Unsuited	
		Slope	1.00	Restrictive layer	1.00
		Rock fragments	0.50	Slope	1.00
Devilsthumb-----	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	0.50
Fletcherpeak-----	7	Poorly suited		Unsuited	
		Slope	0.50	Restrictive layer	1.00
		Rock fragments	0.50	Slope	0.50
				Rock fragments	0.50
Buckspring-----	5	Poorly suited		Unsuited	
		Rock fragments	0.50	Restrictive layer	1.00
		Slope	0.50	Slope	0.50
				Rock fragments	0.50
422: Seralin-----	3	Unsuited		Unsuited	
		Slope	1.00	Restrictive layer	1.00
		Rock fragments	0.50	Slope	1.00
645: Jumbopeak-----	3	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
646: Jumbopeak-----	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Jumbopeak-----	5	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
700: Lithic Ustic Torriorthents-----	4	Unsuited		Unsuited	
		Slope	1.00	Restrictive layer	1.00
		Restrictive layer	1.00	Slope	1.00
		Rock fragments	0.50		
705: Charkiln-----	45	Poorly suited		Well suited	
		Rock fragments	0.50		

TABLE 7.--Forestland Site Preparation

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Woodspring-----	20	Poorly suited Rock fragments	0.50	Well suited	
Buckspring-----	15	Poorly suited Slope Rock fragments	0.50 0.50	Unsuited Restrictive layer Slope Rock fragments	1.00 0.50 0.50
Fletcherpeak-----	9	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Restrictive layer Rock fragments	1.00 1.00 0.50
Ustic Haplocalcids--	7	Well suited		Well suited	
Maryjane-----	4	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
715: Troughspring-----	40	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
Charkiln-----	25	Poorly suited Rock fragments	0.50	Well suited	
Buckspring-----	20	Poorly suited Slope Rock fragments	0.50 0.50	Unsuited Restrictive layer Slope Rock fragments	1.00 0.50 0.50
Fletcherpeak-----	8	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Restrictive layer Rock fragments	1.00 1.00 0.50
Maryjane-----	5	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Slope	0.50
716: Troughspring-----	85	Poorly suited Rock fragments	0.50	Well suited	
Doespring-----	4	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
Fletcherpeak-----	4	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Restrictive layer Rock fragments	1.00 1.00 0.50
Mackscanyon-----	4	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50

TABLE 7.--Forestland Site Preparation

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Maryjane-----	3	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Slope	0.50
725: Mackscanyon-----	55	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
Woodspring-----	6	Poorly suited Rock fragments	0.50	Well suited	
732: Typic Petrocalcids--	5	Poorly suited Slope	0.50	Unsuited Restrictive layer Slope	1.00 0.50
772: Lamadre-----	50	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
Robbersfire-----	35	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
Seralin-----	5	Poorly suited Slope Rock fragments	0.50 0.50	Unsuited Restrictive layer Slope	1.00 0.50
775: Ladyofsnow-----	35	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
Robbersfire-----	30	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
Maryjane-----	20	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
Kitgram-----	3	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Restrictive layer	1.00 0.50
Maryjane-----	3	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Slope	0.50
790: McClanahan-----	60	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00

TABLE 7.--Forestland Site Preparation

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Beerbo-----	25	Poorly suited		Unsuited	
		Slope	0.50	Restrictive layer	1.00
		Rock fragments	0.50	Slope	0.50
				Rock fragments	0.50
Seralin family-----	5	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	1.00
805: Buckspring-----	40	Poorly suited		Unsuited	
		Slope	0.50	Restrictive layer	1.00
		Rock fragments	0.50	Slope	0.50
				Rock fragments	0.50
Fletcherpeak-----	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	1.00
				Rock fragments	0.50
Seralin-----	20	Unsuited		Unsuited	
		Slope	1.00	Restrictive layer	1.00
		Rock fragments	0.50	Slope	1.00
Mackscanyon-----	7	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50		
Woodspring-----	5	Poorly suited		Well suited	
		Rock fragments	0.50		
806: Buckspring-----	55	Poorly suited		Unsuited	
		Slope	0.50	Restrictive layer	1.00
		Rock fragments	0.50	Slope	0.50
				Rock fragments	0.50
Torriorthentic Haplustolls-----	3	Poorly suited		Unsuited	
		Rock fragments	0.50	Restrictive layer	1.00
				Rock fragments	0.50
815: Wheelerwell-----	50	Poorly suited		Unsuited	
		Slope	0.50	Restrictive layer	1.00
		Rock fragments	0.50	Slope	0.50
Wheelerpass-----	35	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Restrictive layer	1.00	Restrictive layer	1.00
		Rock fragments	0.50		
Pachic Argiustolls--	7	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50		

TABLE 7.--Forestland Site Preparation

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Traley-----	3	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
833: Virgin Peak-----	75	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Restrictive layer	1.00 1.00
Lithic Haplustolls--	5	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Restrictive layer	1.00 1.00
Pachic Argiustolls--	5	Unsuited Slope	1.00	Unsuited Slope	1.00
845: Maryjane-----	2	Poorly suited Rock fragments	0.50	Well suited	
865: Mackscanyon-----	85	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
866: Doespring-----	40	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
Doespring, cool-----	8	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
Maryjane-----	2	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Slope	0.50
867: Doespring-----	5	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
868: Mackscanyon-----	65	Poorly suited Rock fragments	0.50	Well suited	
885: Luckystrike-----	85	Poorly suited Rock fragments	0.50	Poorly suited Rock fragments	0.50
Mackscanyon-----	5	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
Robbersfire-----	4	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00

TABLE 7.--Forestland Site Preparation

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
905:					
Mountmummy-----	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50
				Restrictive layer	0.50
Thesisters-----	25	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Restrictive layer	1.00	Restrictive layer	1.00
		Rock fragments	0.50		
Maryjane-----	20	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
		Rock fragments	0.50		
Fletcherpeak-----	5	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	1.00
				Rock fragments	0.50
Robbersfire-----	5	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Aridic Calciustolls-	1	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50
				Restrictive layer	0.50
915:					
Maryjane-----	40	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Robbersfire-----	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Kitgram-----	15	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	0.50
Fletcherpeak-----	4	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	1.00
				Rock fragments	0.50
Maryjane-----	4	Poorly suited		Poorly suited	
		Rock fragments	0.50	Slope	0.50
		Slope	0.50		
Mountmummy-----	3	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.50
				Restrictive layer	0.50

TABLE 7.--Forestland Site Preparation

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Ladyofsnow-----	2	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
916: Maryjane-----	85	Poorly suited		Poorly suited	
		Rock fragments	0.50	Slope	0.50
		Slope	0.50		
Maryjane-----	6	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Petrocalcic Calciustolls-----	5	Poorly suited		Poorly suited	
		Slope	0.50	Slope	0.50
925: Lastone-----	55	Poorly suited		Unsuited	
		Slope	0.50	Restrictive layer	1.00
		Rock fragments	0.50	Slope	0.50
Lastone, steep-----	30	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	1.00
Traley-----	5	Unsuited		Unsuited	
		Slope	1.00	Slope	1.00
		Rock fragments	0.50		
Lithic Ustorthents--	1	Unsuited		Unsuited	
		Slope	1.00	Restrictive layer	1.00
		Restrictive layer	1.00	Slope	1.00
		Rock fragments	0.50		

TABLE 8.--Forestland Planting and Harvesting

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
195: Sed-----	4	Moderately suited Rock fragments	0.50	Unsuited Slope Rock fragments	1.00 0.75	Moderately suited Slope	0.50
321: Seralin-----	30	Moderately suited Rock fragments Sandiness Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Sandiness	1.00 0.50
Lithic Calciustolls-	9	Moderately suited Sandiness Rock fragments Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Sandiness	1.00 0.50
Typic Haplustolls---	6	Moderately suited Sandiness	0.50	Poorly suited Slope Rock fragments Sandiness	0.75 0.50 0.50	Moderately suited Sandiness Slope	0.50 0.50
322: Seralin, moist-----	5	Moderately suited Rock fragments Sandiness	0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Moderately suited Slope Sandiness	0.50 0.50
323: Lithic Calciustolls-	9	Moderately suited Sandiness Rock fragments Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Sandiness	1.00 0.50
Typic Haplustolls---	6	Moderately suited Sandiness	0.50	Poorly suited Slope Rock fragments Sandiness	0.75 0.50 0.50	Moderately suited Sandiness Slope	0.50 0.50
351: Seralin-----	85	Moderately suited Rock fragments Sandiness Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Sandiness	1.00 0.50
352: Seralin-----	45	Moderately suited Rock fragments Sandiness Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Sandiness	1.00 0.50

TABLE 8.--Forestland Planting and Harvesting

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Traley-----	25	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Aridic Calciustolls-	8	Moderately suited		Unsuited		Poorly suited	
		Sandiness	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75	Sandiness	0.50
		Rock fragments	0.50	Sandiness	0.50		
Seralin-----	4	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Sandiness	0.50	Rock fragments	0.75	Sandiness	0.50
		Slope	0.50	Sandiness	0.50		
Lithic Ustorthents--	3	Unsuited		Unsuited		Poorly suited	
		Restrictive layer	1.00	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	1.00		
		Slope	0.50	Restrictive layer	1.00		
355: Seralin-----	40	Moderately suited		Unsuited		Poorly suited	
Rock fragments		0.50	Slope	1.00	Slope	1.00	
Sandiness		0.50	Rock fragments	0.75	Sandiness	0.50	
Slope		0.50	Sandiness	0.50			
Devilsthumb-----	30	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75		
Fletcherpeak-----	7	Moderately suited		Unsuited		Moderately suited	
		Rock fragments	0.50	Rock fragments	1.00	Slope	0.50
				Slope	1.00		
Buckspring-----	5	Moderately suited		Unsuited		Well suited	
		Rock fragments	0.50	Rock fragments	1.00		
				Slope	0.50		
422: Seralin-----	3	Moderately suited		Unsuited		Poorly suited	
Rock fragments		0.50	Slope	1.00	Slope	1.00	
Sandiness		0.50	Rock fragments	0.75	Sandiness	0.50	
Slope		0.50	Sandiness	0.50			
645: Jumbopeak-----	3	Moderately suited		Unsuited		Poorly suited	
Sandiness		0.50	Slope	1.00	Slope	1.00	
Rock fragments		0.50	Rock fragments	0.75	Sandiness	0.50	
Slope		0.50	Sandiness	0.50			
646: Jumbopeak-----	25	Moderately suited		Unsuited		Poorly suited	
Sandiness		0.50	Slope	1.00	Slope	1.00	
Rock fragments		0.50	Rock fragments	0.75	Sandiness	0.50	
Slope		0.50	Sandiness	0.50			

TABLE 8.--Forestland Planting and Harvesting

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Jumbopeak-----	5	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Sandiness	0.50	Rock fragments	0.75	Sandiness	0.50
		Rock fragments	0.50	Sandiness	0.50		
700: Lithic Ustic Torriorthents-----	4	Unsuited		Unsuited		Poorly suited	
		Restrictive layer	1.00	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Restrictive layer	1.00		
		Slope	0.50	Rock fragments	0.75		
705: Charkiln-----	45	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.75		
				Slope	0.50		
Woodspring-----	20	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.75		
				Slope	0.50		
Buckspring-----	15	Moderately suited		Unsuited		Moderately suited	
		Rock fragments	0.50	Rock fragments	1.00	Slope	0.50
				Slope	1.00		
Fletcherpeak-----	9	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	1.00		
Ustic Haplocalcids--	7	Well suited		Moderately suited		Well suited	
				Slope	0.50		
Maryjane-----	4	Moderately suited		Unsuited		Moderately suited	
		Sandiness	0.50	Slope	1.00	Slope	0.50
		Rock fragments	0.50	Rock fragments	0.75	Sandiness	0.50
				Sandiness	0.50		
715: Troughspring-----	40	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Slope	0.75	Slope	0.50
				Rock fragments	0.75		
Charkiln-----	25	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.75		
				Slope	0.50		
Buckspring-----	20	Moderately suited		Unsuited		Moderately suited	
		Rock fragments	0.50	Rock fragments	1.00	Slope	0.50
				Slope	1.00		
Fletcherpeak-----	8	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	1.00		
Maryjane-----	5	Moderately suited		Poorly suited		Moderately suited	
		Sandiness	0.50	Rock fragments	0.75	Sandiness	0.50
		Rock fragments	0.50	Slope	0.75	Slope	0.50
				Sandiness	0.50		

TABLE 8.--Forestland Planting and Harvesting

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
716:							
Troughspring-----	85	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	
Doespring-----	4	Moderately suited Rock fragments	0.50	Unsuited Slope Rock fragments	1.00 0.75	Moderately suited Slope	0.50
Fletcherpeak-----	4	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope	1.00
Mackscanyon-----	4	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Moderately suited Slope	0.50
Maryjane-----	3	Moderately suited Sandiness Rock fragments	0.50 0.50	Poorly suited Rock fragments Slope Sandiness	0.75 0.75 0.50	Moderately suited Sandiness Slope	0.50 0.50
725:							
Mackscanyon-----	55	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Moderately suited Slope	0.50
Woodspring-----	6	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	
732:							
Typic Petrocalcids--	5	Well suited		Unsuited Slope Rock fragments	1.00 0.50	Moderately suited Slope Low strength	0.50 0.50
772:							
Lamadre-----	50	Moderately suited Sandiness Rock fragments Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 1.00 0.50	Poorly suited Slope Sandiness	1.00 0.50
Robbersfire-----	35	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope	1.00
Seralin-----	5	Moderately suited Rock fragments Sandiness	0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Moderately suited Slope Sandiness	0.50 0.50
775:							
Ladyofsnow-----	35	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Low strength	1.00 0.50

TABLE 8.--Forestland Planting and Harvesting

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Robbersfire-----	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Maryjane-----	20	Moderately suited		Unsuited		Moderately suited	
		Sandiness	0.50	Slope	1.00	Slope	0.50
		Rock fragments	0.50	Rock fragments	0.75	Sandiness	0.50
				Sandiness	0.50		
Kitgram-----	3	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75		
Maryjane-----	3	Moderately suited		Poorly suited		Moderately suited	
		Sandiness	0.50	Rock fragments	0.75	Sandiness	0.50
		Rock fragments	0.50	Slope	0.75	Slope	0.50
				Sandiness	0.50		
790: McClanahan-----	60	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Restrictive layer	0.50	Rock fragments	0.75		
		Rock fragments	0.50				
Beerbo-----	25	Moderately suited		Unsuited		Moderately suited	
		Sandiness	0.50	Rock fragments	1.00	Slope	0.50
		Rock fragments	0.50	Slope	1.00	Sandiness	0.50
		Restrictive layer	0.50	Sandiness	0.50		
Seralin family-----	5	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75	Sandiness	0.50
		Sandiness	0.50	Sandiness	0.50		
805: Buckspring-----	40	Moderately suited		Unsuited		Moderately suited	
		Rock fragments	0.50	Rock fragments	1.00	Slope	0.50
				Slope	1.00		
Fletcherpeak-----	25	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	1.00		
Seralin-----	20	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Sandiness	0.50	Rock fragments	0.75	Sandiness	0.50
		Slope	0.50	Sandiness	0.50		
Mackscanyon-----	7	Moderately suited		Unsuited		Moderately suited	
		Slope	0.50	Slope	1.00	Slope	0.50
		Rock fragments	0.50	Rock fragments	0.75		
Woodspring-----	5	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.75		
				Slope	0.50		

TABLE 8.--Forestland Planting and Harvesting

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
806: Buckspring-----	55	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 1.00	Moderately suited Slope	0.50
Torriorthentic Haplustolls-----	3	Moderately suited Rock fragments	0.50	Unsuited Rock fragments Slope	1.00 0.50	Well suited	
815: Wheelerwell-----	50	Moderately suited Sandiness Rock fragments	0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.50 0.50	Moderately suited Slope Sandiness	0.50 0.50
Wheelerpass-----	35	Unsuited Restrictive layer Rock fragments Slope	1.00 0.50 0.50	Unsuited Slope Restrictive layer Rock fragments	1.00 1.00 0.75	Poorly suited Slope	1.00
Pachic Argiustolls--	7	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Moderately suited Slope	0.50
Traley-----	3	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope	1.00
833: Virgin Peak-----	75	Poorly suited Restrictive layer Rock fragments Slope	0.75 0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope	1.00
Lithic Haplustolls--	5	Moderately suited Sandiness Rock fragments Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Sandiness	1.00 0.50
Pachic Argiustolls--	5	Moderately suited Slope	0.50	Unsuited Slope Rock fragments	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50
845: Maryjane-----	2	Moderately suited Sandiness Rock fragments	0.50 0.50	Poorly suited Rock fragments Sandiness Slope	0.75 0.50 0.50	Moderately suited Sandiness	0.50
865: Mackscanyon-----	85	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Moderately suited Slope	0.50

TABLE 8.--Forestland Planting and Harvesting

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
866: Doespring-----	40	Moderately suited Rock fragments	0.50	Unsuited Slope Rock fragments	1.00 0.75	Moderately suited Slope	0.50
Doespring, cool----	8	Moderately suited Rock fragments	0.50	Unsuited Slope Rock fragments	1.00 0.75	Moderately suited Slope	0.50
Maryjane-----	2	Moderately suited Sandiness Rock fragments	0.50 0.50	Poorly suited Rock fragments Slope Sandiness	0.75 0.75 0.50	Moderately suited Sandiness Slope	0.50 0.50
867: Doespring-----	5	Moderately suited Rock fragments	0.50	Unsuited Slope Rock fragments	1.00 0.75	Moderately suited Slope	0.50
868: Mackscanyon-----	65	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	
885: Luckystrike-----	85	Moderately suited Sandiness Rock fragments	0.50 0.50	Poorly suited Rock fragments Slope Sandiness	0.75 0.50 0.50	Moderately suited Sandiness	0.50
Mackscanyon-----	5	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Moderately suited Slope	0.50
Robbersfire-----	4	Moderately suited Slope Rock fragments	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope	1.00
905: Mountmummy-----	40	Moderately suited Rock fragments Sandiness Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Sandiness	1.00 0.50
Thesisters-----	25	Unsuited Restrictive layer Sandiness Rock fragments Slope	1.00 0.50 0.50 0.50	Unsuited Slope Restrictive layer Rock fragments Sandiness	1.00 1.00 0.75 0.50	Poorly suited Slope Sandiness	1.00 0.50
Maryjane-----	20	Moderately suited Sandiness Rock fragments	0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Moderately suited Slope Sandiness	0.50 0.50
Fletcherpeak-----	5	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 1.00	Poorly suited Slope	1.00

TABLE 8.--Forestland Planting and Harvesting

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Robbersfire-----	5	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Aridic Calciustolls-	1	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Sandiness	0.50	Rock fragments	0.75	Sandiness	0.50
		Slope	0.50	Sandiness	0.50		
915: Maryjane-----	40	Moderately suited		Unsuited		Poorly suited	
		Sandiness	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75	Sandiness	0.50
		Slope	0.50	Sandiness	0.50		
Robbersfire-----	30	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Kitgram-----	15	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Fletcherpeak-----	4	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	1.00		
Maryjane-----	4	Moderately suited		Poorly suited		Moderately suited	
		Sandiness	0.50	Rock fragments	0.75	Sandiness	0.50
		Rock fragments	0.50	Slope	0.75	Slope	0.50
				Sandiness	0.50		
Mountmummy-----	3	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Sandiness	0.50	Rock fragments	0.75	Sandiness	0.50
		Slope	0.50	Sandiness	0.50		
Ladyofsnow-----	2	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75	Low strength	0.50
916: Maryjane-----	85	Moderately suited		Poorly suited		Moderately suited	
		Sandiness	0.50	Rock fragments	0.75	Sandiness	0.50
		Rock fragments	0.50	Slope	0.75	Slope	0.50
				Sandiness	0.50		
Maryjane-----	6	Moderately suited		Unsuited		Poorly suited	
		Sandiness	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75	Sandiness	0.50
		Slope	0.50	Sandiness	0.50		
Petrocalcic Calciustolls-----	5	Well suited		Moderately suited		Moderately suited	
				Slope	0.50	Low strength	0.50
				Rock fragments	0.50		

TABLE 8.--Forestland Planting and Harvesting

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
925:							
Lastone-----	55	Moderately suited		Unsuited		Moderately suited	
		Restrictive layer	0.50	Rock fragments	1.00	Slope	0.50
		Rock fragments	0.50	Slope	1.00		
Lastone, steep-----	30	Moderately suited		Unsuited		Poorly suited	
		Restrictive layer	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	1.00		
		Slope	0.50				
Traley-----	5	Moderately suited		Unsuited		Poorly suited	
		Slope	0.50	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	0.75		
Lithic Ustorthents--	1	Unsuited		Unsuited		Poorly suited	
		Restrictive layer	1.00	Slope	1.00	Slope	1.00
		Rock fragments	0.50	Rock fragments	1.00		
		Slope	0.50	Restrictive layer	1.00		

TABLE 9.--Damage by Fire and Seedling Mortality on Forestland

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
195: Sed-----	4	High Texture/slope/rock fragments	1.00	Moderate Soil reaction	0.50
321: Seralin-----	30	High Texture/slope/surface depth/rock fragments	1.00	Moderate Soil reaction Available water	0.50 0.50
Lithic Calciustolls-	9	High Texture/slope/surface depth/rock fragments	1.00	Moderate Soil reaction Salinity	0.50 0.50
Typic Haplustolls---	6	High Texture/surface depth/rock fragments	1.00	Moderate Soil reaction Salinity	0.50 0.50
322: Seralin, moist-----	5	High Texture/slope/surface depth/rock fragments	1.00	Moderate Available water Carbonate content Soil reaction	0.50 0.50 0.50
323: Lithic Calciustolls-	9	High Texture/slope/surface depth/rock fragments	1.00	Moderate Soil reaction Salinity	0.50 0.50
Typic Haplustolls---	6	High Texture/surface depth/rock fragments	1.00	Moderate Soil reaction Salinity	0.50 0.50

TABLE 9.--Damage by Fire and Seedling Mortality on Forestland

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
351: Seralin-----	85	High Texture/slope/sur- face depth/rock fragments	1.00	Moderate Carbonate content	0.50
				Soil reaction	0.50
				Available water	0.50
352: Seralin-----	45	High Texture/slope/sur- face depth/rock fragments	1.00	Moderate Soil reaction	0.50
				Available water	0.50
Traley-----	25	High Texture/slope/roc- k fragments	1.00	Moderate Available water	0.50
Aridic Calciustolls-	8	High Texture/slope/sur- face depth/rock fragments	1.00	Moderate Soil reaction	0.50
				Salinity	0.50
Seralin-----	4	High Texture/slope/sur- face depth/rock fragments	1.00	Moderate Carbonate content	0.50
				Soil reaction	0.50
				Available water	0.50
Lithic Ustorthents--	3	High Texture/slope/sur- face depth	1.00	Low	
355: Seralin-----	40	High Texture/slope/sur- face depth/rock fragments	1.00	Moderate Carbonate content	0.50
				Soil reaction	0.50
				Available water	0.50
Devilsthumb-----	30	High Texture/slope/sur- face depth/rock fragments	1.00	Moderate Carbonate content	0.50
				Available water	0.50
Fletcherpeak-----	7	High Texture/slope/sur- face depth/rock fragments	1.00	Moderate Soil reaction	0.50

TABLE 9.--Damage by Fire and Seedling Mortality on Forestland

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Buckspring-----	5	High Texture/surface depth/rock fragments	1.00	High Available water	1.00
422: Seralin-----	3	High Texture/slope/sur face depth/rock fragments	1.00	Moderate Soil reaction	0.50
645: Jumbopeak-----	3	High Texture/slope/sur face depth	1.00	Low Available water	0.50
646: Jumbopeak-----	25	High Texture/slope/sur face depth	1.00	Low	
Jumbopeak-----	5	High Texture/slope/sur face depth	1.00	Low	
700: Lithic Ustic Torriorthents-----	4	High Texture/slope/sur face depth/rock fragments	1.00	Low	
705: Charkiln-----	45	Low		Moderate Available water	0.50
Woodspring-----	20	Low		High Available water Soil reaction Carbonate content	1.00 1.00 0.50
Buckspring-----	15	High Texture/slope/sur face depth/rock fragments	1.00	Low	
Fletcherpeak-----	9	High Texture/slope/sur face depth/rock fragments	1.00	Moderate Soil reaction	0.50
Ustic Haplocalcids--	7	Not rated Not rated Not rated Not rated Not rated		Not rated Not rated Not rated	

TABLE 9.--Damage by Fire and Seedling Mortality on Forestland

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Maryjane-----	4	High Texture/slope/sur face depth/rock fragments	1.00	High Carbonate content	1.00
715: Troughspring-----	40	Low		High Soil reaction Carbonate content	1.00 0.50
Charkiln-----	25	Low		Moderate Available water	0.50
Buckspring-----	20	High Texture/slope/sur face depth/rock fragments	1.00	Low	
Fletcherpeak-----	8	High Texture/slope/sur face depth/rock fragments	1.00	Moderate Available water Soil reaction	0.50 0.50
Maryjane-----	5	Low		High Carbonate content	1.00
716: Troughspring-----	85	Low Texture/rock fragments	0.10	High Available water Soil reaction Carbonate content	1.00 1.00 0.50
Doespring-----	4	Low		High Carbonate content Soil reaction	1.00 0.50
Fletcherpeak-----	4	High Texture/slope/sur face depth/rock fragments	1.00	Moderate Soil reaction	0.50
Mackscanyon-----	4	High Texture/slope/roc k fragments	1.00	Moderate Carbonate content Soil reaction	0.50 0.50
Maryjane-----	3	Low		High Carbonate content	1.00
725: Mackscanyon-----	55	High Texture/slope/roc k fragments	1.00	Moderate Carbonate content Soil reaction	0.50 0.50

TABLE 9.--Damage by Fire and Seedling Mortality on Forestland

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Woodspring-----	6	Low		High	
				Available water	1.00
				Soil reaction	1.00
				Carbonate content	0.50
732: Typic Petrocalcids--	5	High		High	
		Texture/slope/sur	1.00	Carbonate content	1.00
		face depth/rock			
		fragments		Soil reaction	0.50
772: Lamadre-----	50	Low		Low	
Robbersfire-----	35	Moderate		High	
		Texture/slope/sur	0.50	Soil reaction	1.00
		face depth/rock			
		fragments		Available water	0.50
Seralin-----	5	High		Moderate	
		Texture/slope/sur	1.00	Available water	0.50
		face depth/rock			
		fragments		Carbonate content	0.50
				Soil reaction	0.50
775: Ladyofsnow-----	35	Low		High	
				Carbonate content	1.00
				Soil reaction	1.00
Robbersfire-----	30	Moderate		High	
		Texture/slope/sur	0.50	Carbonate content	1.00
		face depth/rock			
		fragments		Soil reaction	1.00
				Available water	0.50
Maryjane-----	20	High		High	
		Texture/slope/sur	1.00	Carbonate content	1.00
		face depth/rock			
		fragments			
Kitgram-----	3	Low		Moderate	
				Carbonate content	0.50
Maryjane-----	3	Low		High	
				Carbonate content	1.00
790: McClanahan-----	60	High		High	
		Texture/slope/sur	1.00	Available water	1.00
		face depth/rock			
		fragments			

TABLE 9.--Damage by Fire and Seedling Mortality on Forestland

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Beerbo-----	25	High Texture/slope/sur face depth/rock fragments	1.00	Moderate Available water	0.50
Seralin family-----	5	High Texture/slope/sur face depth/rock fragments	1.00	Moderate Available water	0.50
805: Buckspring-----	40	High Texture/slope/sur face depth/rock fragments	1.00	Low	
Fletcherpeak-----	25	High Texture/slope/sur face depth/rock fragments	1.00	Moderate Soil reaction	0.50
Seralin-----	20	High Texture/slope/sur face depth/rock fragments	1.00	Moderate Soil reaction Available water	0.50 0.50
Mackscanyon-----	7	High Texture/slope/roc k fragments	1.00	Moderate Carbonate content Soil reaction	0.50 0.50
Woodspring-----	5	Low		High Available water Soil reaction Carbonate content	1.00 1.00 0.50
806: Buckspring-----	55	High Texture/slope/sur face depth/rock fragments	1.00	Low	
Torriorthentic Haplustolls-----	3	Low		High Available water Soil reaction	1.00 0.50
815: Wheelerwell-----	50	High Texture/slope/sur face depth/rock fragments	1.00	Low	
Wheelerpass-----	35	High Texture/slope/sur face depth/rock fragments	1.00	High Available water	1.00

TABLE 9.--Damage by Fire and Seedling Mortality on Forestland

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Pachic Argiustolls--	7	Low		Low	
Traley-----	3	High Texture/slope/rock fragments	1.00	Moderate Available water	0.50
833: Virgin Peak-----	75	Moderate Texture/slope/rock fragments	0.50	Low	
Lithic Haplustolls--	5	Moderate Texture/slope/rock fragments	0.50	Low	
Pachic Argiustolls--	5	Low Texture/rock fragments	0.10	Low	
845: Maryjane-----	2	Low		High Carbonate content Available water	1.00 1.00
865: Mackscanyon-----	85	High Texture/slope/rock fragments	1.00	Moderate Carbonate content Soil reaction	0.50 0.50
866: Doespring-----	40	Moderate Texture/slope/sur- face depth/rock fragments	0.50	High Carbonate content Available water Soil reaction	1.00 0.50 0.50
Doespring, cool-----	8	Low		High Carbonate content Soil reaction	1.00 0.50
Maryjane-----	2	Low		High Carbonate content	1.00
867: Doespring-----	5	Moderate Texture/slope/sur- face depth/rock fragments	0.50	High Carbonate content Available water Soil reaction	1.00 0.50 0.50
868: Mackscanyon-----	65	Low		High Available water Carbonate content Soil reaction	1.00 0.50 0.50

TABLE 9.--Damage by Fire and Seedling Mortality on Forestland

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
885: Luckystrike-----	85	Low		High	
				Available water	1.00
Mackscanyon-----	5	High		Moderate	
		Texture/slope/rock fragments	1.00	Carbonate content	0.50
				Soil reaction	0.50
Robbersfire-----	4	Moderate		High	
		Texture/slope/surface depth/rock fragments	0.50	Carbonate content	1.00
				Soil reaction	1.00
				Available water	0.50
905: Mountmummy-----	40	High		High	
		Texture/slope/surface depth/rock fragments	1.00	Carbonate content	1.00
				Available water	1.00
Thesisters-----	25	High		High	
		Texture/slope/surface depth/rock fragments	1.00	Carbonate content	1.00
				Available water	1.00
				Soil reaction	0.50
Maryjane-----	20	High		High	
		Texture/slope/surface depth/rock fragments	1.00	Carbonate content	1.00
Fletcherpeak-----	5	High		Moderate	
		Texture/slope/surface depth/rock fragments	1.00	Soil reaction	0.50
Robbersfire-----	5	Moderate		High	
		Texture/slope/surface depth/rock fragments	0.50	Carbonate content	1.00
				Soil reaction	1.00
				Available water	0.50
Aridic Calciustolls-	1	High		Low	
		Texture/slope/surface depth/rock fragments	1.00		
915: Maryjane-----	40	High		High	
		Texture/slope/surface depth/rock fragments	1.00	Carbonate content	1.00

TABLE 9.--Damage by Fire and Seedling Mortality on Forestland

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Robbersfire-----	30	Moderate Texture/slope/sur face depth/rock fragments	0.50	High Carbonate content	1.00
				Soil reaction	1.00
				Available water	0.50
Kitgram-----	15	Moderate Texture/slope/sur face depth/rock fragments	0.50	Moderate Carbonate content	0.50
				Available water	0.50
Fletcherpeak-----	4	High Texture/slope/sur face depth/rock fragments	1.00	Moderate Soil reaction	0.50
Maryjane-----	4	Low		High Carbonate content	1.00
Mountmummy-----	3	High Texture/slope/sur face depth/rock fragments	1.00	High Carbonate content	1.00
				Available water	1.00
Ladyofsnow-----	2	Low		High Carbonate content	1.00
				Soil reaction	1.00
916: Maryjane-----	85	Low		High Carbonate content	1.00
Maryjane-----	6	High Texture/slope/sur face depth/rock fragments	1.00	High Carbonate content	1.00
Petrocalcic Calciustolls-----	5	Moderate Texture/rock fragments	0.50	High Carbonate content	1.00
				Available water	1.00
925: Lastone-----	55	Moderate Texture/slope/sur face depth/rock fragments	0.50	Moderate Available water	0.50
Lastone, steep-----	30	Moderate Texture/slope/sur face depth/rock fragments	0.50	High Available water	1.00

TABLE 9.--Damage by Fire and Seedling Mortality on Forestland

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
Traley-----	5	High Texture/slope/rock fragments	1.00	Moderate Available water	0.50
Lithic Ustorthents--	1	High Texture/slope/surface depth	1.00	Low	

TABLE 10.--Haul Roads, Log Landings, and Soil Rutting on Forestland

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
195: Sed-----	4	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
321: Seralin-----	30	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Low strength	0.50
Lithic Calciustolls-	9	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Typic Haplustolls---	6	Severe Restrictive layer Slope Sandiness	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
322: Seralin, moist-----	5	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Low strength	0.50
323: Lithic Calciustolls-	9	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Typic Haplustolls---	6	Severe Restrictive layer Slope Sandiness	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
351: Seralin-----	85	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Low strength	0.50
352: Seralin-----	45	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Low strength	0.50
Traley-----	25	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Aridic Calciustolls-	8	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10

TABLE 10.--Haul Roads, Log Landings, and Soil Rutting on Forestland

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Seralin-----	4	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Low strength	0.50
Lithic Ustorthents--	3	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
355: Seralin-----	40	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Low strength	0.50
Devilsthumb-----	30	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Fletcherpeak-----	7	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
Buckspring-----	5	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
422: Seralin-----	3	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Low strength	0.50
645: Jumbopeak-----	3	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Low strength	0.50
646: Jumbopeak-----	25	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Low strength	0.50
Jumbopeak-----	5	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Low strength	0.50
700: Lithic Ustic Torriorthents-----	4	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
705: Charkiln-----	45	Slight		Moderately suited Slope	0.50	Moderate Low strength	0.50
Woodspring-----	20	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
Buckspring-----	15	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope	1.00	Slight Strength	0.10

TABLE 10.--Haul Roads, Log Landings, and Soil Rutting on Forestland

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Fletcherpeak-----	9	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Ustic Haplocalcids--	7	Slight		Moderately suited Slope	0.50	Slight	
Maryjane-----	4	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
715: Troughspring-----	40	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Charkiln-----	25	Slight		Moderately suited Slope	0.50	Moderate Low strength	0.50
Buckspring-----	20	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Fletcherpeak-----	8	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Maryjane-----	5	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
716: Troughspring-----	85	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
Doespring-----	4	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Fletcherpeak-----	4	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Mackscanyon-----	4	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Maryjane-----	3	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
725: Mackscanyon-----	55	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Woodspring-----	6	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
732: Typic Petrocalcids--	5	Severe Slope Low strength	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00

TABLE 10.--Haul Roads, Log Landings, and Soil Rutting on Forestland

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
772:							
Lamadre-----	50	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Robbersfire-----	35	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Seralin-----	5	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Low strength	0.50
775:							
Ladyofsnow-----	35	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
Robbersfire-----	30	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Maryjane-----	20	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Kitgram-----	3	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Maryjane-----	3	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
790:							
McClanahan-----	60	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Beerbo-----	25	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Seralin family-----	5	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
805:							
Buckspring-----	40	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Fletcherpeak-----	25	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Seralin-----	20	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Low strength	0.50
Mackscanyon-----	7	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10

TABLE 10.--Haul Roads, Log Landings, and Soil Rutting on Forestland

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Woodspring-----	5	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
806: Buckspring-----	55	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Torriorthentic Haplustolls-----	3	Severe Restrictive layer	1.00	Moderately suited Slope	0.50	Moderate Low strength	0.50
815: Wheelerwell-----	50	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Low strength	0.50
Wheelerpass-----	35	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Pachic Argiustolls--	7	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Traley-----	3	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
833: Virgin Peak-----	75	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Lithic Haplustolls--	5	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Pachic Argiustolls--	5	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
845: Maryjane-----	2	Moderate Sandiness	0.50	Moderately suited Slope Sandiness	0.50 0.50	Slight Strength	0.10
865: Mackscanyon-----	85	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
866: Doespring-----	40	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
Doespring, cool-----	8	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope	1.00	Slight Strength	0.10

TABLE 10.--Haul Roads, Log Landings, and Soil Rutting on Forestland

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Maryjane-----	2	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
867: Doespring-----	5	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope	1.00	Slight Strength	0.10
868: Mackscanyon-----	65	Slight		Moderately suited Slope	0.50	Slight Strength	0.10
885: Luckystrike-----	85	Slight		Moderately suited Slope Sandiness	0.50 0.50	Moderate Low strength	0.50
Mackscanyon-----	5	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
Robbersfire-----	4	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
905: Mountmummy-----	40	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Thesisters-----	25	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Moderate Low strength	0.50
Maryjane-----	20	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Fletcherpeak-----	5	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Robbersfire-----	5	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Aridic Calciustolls-	1	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
915: Maryjane-----	40	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Robbersfire-----	30	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Kitgram-----	15	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10

TABLE 10.--Haul Roads, Log Landings, and Soil Rutting on Forestland

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Fletcherpeak-----	4	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Maryjane-----	4	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Mountmummy-----	3	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Ladyofsnow-----	2	Severe Slope	1.00	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
916: Maryjane-----	85	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Maryjane-----	6	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
Petrocalcic Calciustolls-----	5	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope Low strength	1.00 0.50	Severe Low strength	1.00
925: Lastone-----	55	Severe Restrictive layer Slope	1.00 0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
Lastone, steep-----	30	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Traley-----	5	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
Lithic Ustorthents--	1	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10

TABLE 11.--Hazard of Erosion and Suitability for Roads on Forestland

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
195: Sed-----	4	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
321: Seralin-----	30	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Lithic Calciustolls-	9	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Typic Haplustolls---	6	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
322: Seralin, moist-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
323: Lithic Calciustolls-	9	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Typic Haplustolls---	6	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
351: Seralin-----	85	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
352: Seralin-----	45	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Traley-----	25	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Aridic Calciustolls-	8	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Seralin-----	4	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50

TABLE 11.--Hazard of Erosion and Suitability for Roads on Forestland

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Lithic Ustorthents--	3	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
355: Seralin-----	40	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Devilsthumb-----	30	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Fletcherpeak-----	7	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Buckspring-----	5	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00
422: Seralin-----	3	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
645: Jumbopeak-----	3	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
646: Jumbopeak-----	25	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Jumbopeak-----	5	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
700: Lithic Ustic Torriorthents-----	4	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
705: Charkiln-----	45	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Woodspring-----	20	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Buckspring-----	15	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Fletcherpeak-----	9	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Ustic Haplocalcids--	7	Slight		Moderate Slope/erodibility Slope/erodibility	0.50 0.50	Moderately suited Slope	0.50

TABLE 11.--Hazard of Erosion and Suitability for Roads on Forestland

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Maryjane-----	4	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
715: Troughspring-----	40	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Charkiln-----	25	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Buckspring-----	20	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Fletcherpeak-----	8	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Maryjane-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
716: Troughspring-----	85	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
Doespring-----	4	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Fletcherpeak-----	4	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Mackscanyon-----	4	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Maryjane-----	3	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
725: Mackscanyon-----	55	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Woodspring-----	6	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
732: Typic Petrocalcids--	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
772: Lamadre-----	50	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Robbersfire-----	35	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00

TABLE 11.--Hazard of Erosion and Suitability for Roads on Forestland

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Seralin-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
775: Ladyofsnow-----	35	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
Robbersfire-----	30	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Maryjane-----	20	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Kitgram-----	3	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Maryjane-----	3	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
790: McClanahan-----	60	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Beerbo-----	25	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Seralin family-----	5	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
805: Buckspring-----	40	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Fletcherpeak-----	25	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Seralin-----	20	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Mackscanyon-----	7	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Woodspring-----	5	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
806: Buckspring-----	55	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00

TABLE 11.--Hazard of Erosion and Suitability for Roads on Forestland

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Torriorthentic Haplustolls-----	3	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
815: Wheelerwell-----	50	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Wheelerpass-----	35	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Pachic Argiustolls--	7	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Traley-----	3	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
833: Virgin Peak-----	75	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Lithic Haplustolls--	5	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Pachic Argiustolls--	5	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
845: Maryjane-----	2	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Sandiness	0.50 0.50
865: Mackscanyon-----	85	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
866: Doespring-----	40	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Doespring, cool----	8	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Maryjane-----	2	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
867: Doespring-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
868: Mackscanyon-----	65	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50

TABLE 11.--Hazard of Erosion and Suitability for Roads on Forestland

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
885:							
Luckystrike-----	85	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope Sandiness	0.50 0.50
Mackscanyon-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Robbersfire-----	4	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
905:							
Mountmummy-----	40	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Thesisters-----	25	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Maryjane-----	20	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Fletcherpeak-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Robbersfire-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Aridic Calciustolls-	1	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
915:							
Maryjane-----	40	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Robbersfire-----	30	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Kitgram-----	15	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Fletcherpeak-----	4	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Maryjane-----	4	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Mountmummy-----	3	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50

TABLE 11.--Hazard of Erosion and Suitability for Roads on Forestland

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Ladyofsnow-----	2	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
916: Maryjane-----	85	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Maryjane-----	6	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Petrocalcic Calciustolls-----	5	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50
925: Lastone-----	55	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Lastone, steep-----	30	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Traley-----	5	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
Lithic Ustorthents--	1	Very severe Slope/erodibility	0.95	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
970: Mountmummy-----	7	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
Ladyofsnow-----	3	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Low strength	1.00 0.50

TABLE 12.--Source of Gravel and Sand

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
100: Newera-----	50	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
Newera, steep-----	35	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.00
101: Glencarb-----	100	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
105: Galehills-----	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.01
106: Galehills-----	55	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.01
Zeheme-----	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.02
107: Galehills-----	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.01
Calwash-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
110: Tenwell-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Crosgrain-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
111: Tenwell-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Shamock-----	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.04
112: Arizo-----	100	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.07
		Bottom layer	0.12	Bottom layer	0.12
113: Arizo, gypsiferous substratum-----	95	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.19	Thickest layer	0.57
115: Whitebasin-----	35	Not rated		Fair	
				Bottom layer	0.02
				Thickest layer	0.02
Upperline-----	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
Hardbasin-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
120: Crosgrain-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Tenwell-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
121: Sweetspring-----	80	Fair		Fair	
		Thickest layer	0.57	Thickest layer	0.03
		Bottom layer	0.62	Bottom layer	0.35
Carrizo-----	15	Fair		Fair	
		Bottom layer	0.12	Bottom layer	0.54
		Thickest layer	0.25	Thickest layer	0.63
125: Bobzbulz-----	55	Fair		Fair	
		Thickest layer	0.14	Bottom layer	0.05
		Bottom layer	0.56	Thickest layer	0.05
Snapcan-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
134: Newera, steep-----	55	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
Nipton-----	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
135: Nippeno-----	35	Good		Poor	
		Thickest layer	0.00	Bottom layer	0.00
				Thickest layer	0.00
Mountmcull-----	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Newera-----	20	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
140: Haleburu-----	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.04
141: Nipton-----	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
Haleburu-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.04
Rock outcrop-----	20	Not rated		Not rated	
143: Haleburu-----	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.04
Haleburu, dry-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.04
144: Haleburu-----	55	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.04
Hiddensun-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
146: Haleburu-----	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.04
Nipton-----	35	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
147: Haleburu-----	65	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.04
Nipton-----	20	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
148: Haleburu-----	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.04
Seanna-----	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
150: Hypoint-----	90	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.04
		Thickest layer	0.00	Bottom layer	0.22
151: Bluepoint-----	65	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.28
Arizo-----	20	Fair		Fair	
		Bottom layer	0.25	Thickest layer	0.06
		Thickest layer	0.38	Bottom layer	0.82
155: Bitterridge-----	65	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Helkitchen-----	20	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
160: Lanip-----	65	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
Kidwell-----	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
165:					
Upperline-----	40	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
Weiser-----	30	Fair		Fair	
		Bottom layer	0.38	Thickest layer	0.01
		Thickest layer	0.44	Bottom layer	0.03
Whitebasin-----	15	Not rated		Fair	
				Bottom layer	0.02
				Thickest layer	0.02
167:					
Upperline-----	50	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
St. Thomas-----	20	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
Upperline, dry-----	15	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
168:					
Upperline-----	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
170:					
Tenwell-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Lanip-----	35	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
175:					
St. Thomas-----	35	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
St. Thomas, dry-----	30	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
Rock outcrop-----	20	Not rated		Not rated	
176:					
St. Thomas-----	50	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
St. Thomas, dry-----	35	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
177:					
St. Thomas-----	35	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
Upperline-----	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
Whitebasin-----	20	Not rated		Fair	
				Bottom layer	0.02
				Thickest layer	0.02
178:					
St. Thomas-----	35	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.29	Thickest layer	0.00
Iceberg-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop-----	25	Not rated		Not rated	
180:					
Kidwell-----	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Tenwell-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
185:					
Lastchance-----	40	Fair		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.12	Thickest layer	0.00
Lastchance, high elevation-----	30	Fair		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.12	Bottom layer	0.00
Commski-----	15	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.00
		Bottom layer	0.50	Bottom layer	0.03
186:					
Lastchance-----	40	Fair		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.12	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Ferrogold-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Commski-----	15	Fair		Fair	
		Bottom layer	0.50	Thickest layer	0.03
		Thickest layer	0.50	Bottom layer	0.05
190: Filaree-----	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Lanip-----	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
Nickel-----	15	Fair		Fair	
		Thickest layer	0.19	Bottom layer	0.03
		Bottom layer	0.38	Thickest layer	0.04
191: Bluepoint-----	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.12
Grapevine, overblown	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.08
Grapevine-----	15	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.08
192: Bluepoint-----	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.12
Bluepoint, hummocky-	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.12
195: Cruzspring-----	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Schader-----	30	Fair		Poor	
		Thickest layer	0.26	Bottom layer	0.00
		Bottom layer	0.50	Thickest layer	0.00
Rock outcrop-----	15	Not rated		Not rated	
200: Commski-----	40	Fair		Fair	
		Bottom layer	0.50	Thickest layer	0.00
		Thickest layer	0.50	Bottom layer	0.03

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Weiser-----	35	Fair		Fair	
		Bottom layer	0.38	Thickest layer	0.01
		Thickest layer	0.44	Bottom layer	0.03
Threelakes-----	10	Fair		Fair	
		Bottom layer	0.50	Thickest layer	0.00
		Thickest layer	0.56	Bottom layer	0.03
201: Commski-----	85	Fair		Fair	
Bottom layer		0.50	Thickest layer	0.00	
Thickest layer		0.50	Bottom layer	0.03	
202: Commski-----	70	Fair		Fair	
Thickest layer		0.12	Thickest layer	0.00	
Bottom layer		0.50	Bottom layer	0.03	
Lastchance-----	15	Fair		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.12	Thickest layer	0.00
203: Commski-----	35	Fair		Fair	
Thickest layer		0.12	Thickest layer	0.00	
Bottom layer		0.50	Bottom layer	0.03	
Oldspan-----	30	Fair		Fair	
		Thickest layer	0.30	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.04
Lastchance-----	20	Fair		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.12	Thickest layer	0.00
205: Callville-----	55	Poor		Fair	
Bottom layer		0.00	Bottom layer	0.01	
Thickest layer		0.00	Thickest layer	0.01	
Badland-----	30	Not rated		Not rated	
Guardian-----	10	Not rated		Not rated	
207: Callville-----	60	Poor		Fair	
Bottom layer		0.00	Bottom layer	0.01	
Thickest layer		0.00	Thickest layer	0.01	
Callville, steep----	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.01
		Thickest layer	0.00	Thickest layer	0.01
210: Nickel-----	55	Fair		Fair	
Thickest layer		0.00	Bottom layer	0.03	
Bottom layer		0.38	Thickest layer	0.04	

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Arizo-----	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.75
		Bottom layer	0.25	Bottom layer	0.82
211: Nickel-----	50	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.38	Thickest layer	0.04
Crosgrain-----	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
220: Haymont-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Haymont, moist-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bluepoint-----	20	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.12
		Thickest layer	0.00	Thickest layer	0.12
221: Haymont, dry-----	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Haymont-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
225: Baseline-----	50	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
Callville-----	20	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.01
		Thickest layer	0.00	Thickest layer	0.01
Badland-----	15	Not rated		Not rated	
226: Baseline-----	90	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
227: Baseline-----	65	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Gypwash-----	20	Fair		Fair	
		Thickest layer	0.22	Thickest layer	0.05
		Bottom layer	0.45	Bottom layer	0.13
228: Baseline-----	40	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
Guardian-----	30	Not rated		Not rated	
Baseline-----	15	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
230: Wechech-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Weiser-----	40	Fair		Fair	
		Bottom layer	0.38	Thickest layer	0.01
		Thickest layer	0.44	Bottom layer	0.03
231: Wechech-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
232: Wechech-----	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Upperline-----	15	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
233: Ifteen, overblown---	30	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.50	Thickest layer	0.02
Wechech-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
234: Wechech-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
235: Gypwash-----	45	Fair		Fair	
		Thickest layer	0.22	Thickest layer	0.05
		Bottom layer	0.45	Bottom layer	0.13

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Callville-----	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.01
		Thickest layer	0.00	Thickest layer	0.01
Carrizo-----	15	Fair		Fair	
		Thickest layer	0.25	Thickest layer	0.14
		Bottom layer	0.38	Bottom layer	0.51
237: Wechech, moist-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Wechech-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
240: Crosgrain-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Irongold-----	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.31	Bottom layer	0.14
Nickel-----	10	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.38	Thickest layer	0.04
241: Crosgrain-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Typic Torriorthents-	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.03
Nickel-----	20	Fair		Fair	
		Thickest layer	0.19	Bottom layer	0.03
		Bottom layer	0.38	Thickest layer	0.04
250: Mormon Mesa-----	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Naye-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
255: Tumarion-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Nipton-----	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
Rock outcrop, Basalt	10	Not rated		Not rated	
260: Naye-----	55	Poor		Poor	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.00	Thickest layer	0.00	
Bitter Spring-----	35	Fair		Fair	
		Thickest layer	0.38	Thickest layer	0.04
		Bottom layer	0.50	Bottom layer	0.31
261: Vace-----	50	Poor		Poor	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.00	Thickest layer	0.00	
Jean-----	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.29	Bottom layer	0.29
265: Azureridge-----	85	Poor		Poor	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.00	Thickest layer	0.00	
270: Bard-----	40	Poor		Poor	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.00	Thickest layer	0.00	
Nickel-----	25	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.38	Thickest layer	0.04
Limewash-----	20	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
271: Moapa-----	50	Poor		Fair	
Bottom layer		0.00	Bottom layer	0.27	
Thickest layer		0.00	Thickest layer	0.27	
Bluepoint-----	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.12
272: Moapa-----	45	Poor		Fair	
Bottom layer		0.00	Bottom layer	0.27	
Thickest layer		0.00	Thickest layer	0.27	

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Bluepoint-----	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.28
Rock outcrop-----	20	Not rated		Not rated	
285: Heleweiser, rarely flooded-----	55	Fair		Fair	
Thickest layer		0.12	Thickest layer	0.06	
Bottom layer		0.38	Bottom layer	0.14	
Carrizo-----	25	Fair		Fair	
		Bottom layer	0.38	Thickest layer	0.06
		Thickest layer	0.62	Bottom layer	0.51
Teebar-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
286: Heleweiser-----	45	Fair		Fair	
Thickest layer		0.12	Thickest layer	0.06	
Bottom layer		0.38	Bottom layer	0.14	
Heleweiser, extremely gravelly surface-----	25	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.06
		Bottom layer	0.38	Bottom layer	0.14
Carrizo-----	20	Fair		Fair	
		Thickest layer	0.25	Thickest layer	0.14
		Bottom layer	0.38	Bottom layer	0.51
287: Heleweiser, rarely flooded-----	70	Fair		Fair	
Thickest layer		0.12	Thickest layer	0.06	
Bottom layer		0.38	Bottom layer	0.14	
Heleweiser-----	15	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.06
		Bottom layer	0.38	Bottom layer	0.14
288: Heleweiser-----	70	Fair		Fair	
Thickest layer		0.12	Thickest layer	0.06	
Bottom layer		0.38	Bottom layer	0.14	
Teebar-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
289: Heleweiser-----	35	Fair		Fair	
Thickest layer		0.12	Thickest layer	0.06	
Bottom layer		0.38	Bottom layer	0.14	

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Upperline-----	30	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.03
		Thickest layer	0.00	Thickest layer	0.03
Nickel-----	20	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.38	Thickest layer	0.04
290: Rock outcrop, sandstone-----	45	Not rated		Not rated	
Moapa-----	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.27
		Thickest layer	0.00	Thickest layer	0.27
Bluepoint-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.28
291: Rock outcrop-----	50	Not rated		Not rated	
Highland-----	35	Poor		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.00	Thickest layer	0.03
292: Rock outcrop, metamorphic-----	65	Not rated		Not rated	
Nupper-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.14	Bottom layer	0.02
294: Rock outcrop-----	90	Not rated		Not rated	
298: Rock outcrop-----	35	Not rated		Not rated	
Redneedle-----	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.01
Heleweiser-----	20	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.06
		Bottom layer	0.38	Bottom layer	0.14
310: Weiser-----	65	Fair		Fair	
		Bottom layer	0.38	Thickest layer	0.01
		Thickest layer	0.44	Bottom layer	0.03

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Arizo-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.75
		Bottom layer	0.25	Bottom layer	0.82
311: Weiser-----	50	Fair		Fair	
		Bottom layer	0.38	Thickest layer	0.01
		Thickest layer	0.44	Bottom layer	0.03
Threelakes-----	35	Fair		Fair	
		Bottom layer	0.50	Thickest layer	0.00
		Thickest layer	0.56	Bottom layer	0.03
313: Weiser-----	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.03
Oldspan-----	30	Fair		Fair	
		Thickest layer	0.30	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.04
Wechech-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
314: Weiser-----	70	Fair		Fair	
		Bottom layer	0.38	Thickest layer	0.01
		Thickest layer	0.44	Bottom layer	0.03
Wechech-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
315: Weiser-----	45	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.02
Weiser, gravelly surface-----	40	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.40	Thickest layer	0.00
320: Boxspring-----	50	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
Zeheme-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.02
Rock outcrop-----	15	Not rated		Not rated	

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
321:					
Boxspring-----	40	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
Seralin-----	30	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.25	Thickest layer	0.00
Rock outcrop-----	15	Not rated		Not rated	
322:					
Boxspring-----	50	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
Potosi-----	25	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.44	Thickest layer	0.00
Rock outcrop-----	10	Not rated		Not rated	
323:					
Boxspring-----	40	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
Scrapy-----	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.04
Rock outcrop-----	15	Not rated		Not rated	
325:					
Sandpan-----	55	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.37	Thickest layer	0.31
Rositas-----	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.34
		Thickest layer	0.00	Bottom layer	0.82
330:					
Ramshead-----	50	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.30	Thickest layer	0.00
St. Thomas-----	20	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
Rock outcrop-----	15	Not rated		Not rated	

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
335: Teebar-----	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
336: Teebar-----	55	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Sandpan-----	35	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.37	Thickest layer	0.31
340: Zeheme, steep-----	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.02
Zeheme-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.02
Rock outcrop-----	20	Not rated		Not rated	
341: Zeheme-----	85	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.02
342: Zeheme-----	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.02
Potosi-----	20	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.44	Thickest layer	0.00
Rock outcrop-----	15	Not rated		Not rated	
343: Zeheme-----	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.02
Rock outcrop-----	20	Not rated		Not rated	
Boxspring-----	15	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
351: Seralin-----	85	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.25	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
352:					
Seralin-----	45	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.25	Thickest layer	0.00
Traley-----	25	Fair		Fair	
		Thickest layer	0.12	Bottom layer	0.04
		Bottom layer	0.12	Thickest layer	0.04
Rock outcrop-----	15	Not rated		Not rated	
355:					
Seralin-----	40	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.25	Thickest layer	0.00
Devilsthumb-----	30	Fair		Poor	
		Thickest layer	0.13	Bottom layer	0.00
		Bottom layer	0.25	Thickest layer	0.00
Ednagrey-----	15	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
360:					
Bracken-----	45	Not rated		Not rated	
Arizo-----	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.12
Badland-----	15	Not rated		Not rated	
365:					
Callville-----	45	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.01
		Thickest layer	0.00	Thickest layer	0.01
Gypwash-----	25	Fair		Fair	
		Thickest layer	0.22	Thickest layer	0.05
		Bottom layer	0.45	Bottom layer	0.13
Badland-----	20	Not rated		Not rated	
375:					
Iceberg-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop-----	25	Not rated		Not rated	
Helkitchen-----	15	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
376:					
Iceberg-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
St. Thomas-----	30	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.29	Thickest layer	0.00
Rock outcrop-----	20	Not rated		Not rated	
380:					
Tonopah-----	45	Fair		Fair	
		Thickest layer	0.12	Thickest layer	0.03
		Bottom layer	0.50	Bottom layer	0.42
Arizo-----	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.75
		Bottom layer	0.25	Bottom layer	0.82
390:					
Tipnat-----	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Hypoint-----	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.22
Grapevine-----	20	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.08
391:					
Tipnat-----	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Hypoint-----	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.22
Bluepoint-----	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.12
400:					
Arizo-----	55	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.12	Bottom layer	0.70
Cafetal-----	30	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
405: Oxyaquic Torrifluvents-----	65	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.01
		Bottom layer	0.00	Bottom layer	0.04
Gypwash-----	20	Fair		Fair	
		Thickest layer	0.22	Thickest layer	0.05
		Bottom layer	0.45	Bottom layer	0.13
411: Bludiamond, very gravelly surface---	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bludiamond-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Diamondhil-----	20	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.01	Thickest layer	0.01
415: Valatier-----	85	Fair		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.12	Thickest layer	0.00
421: Moentria-----	85	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.25	Thickest layer	0.00
422: Moentria-----	75	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.25	Thickest layer	0.00
Purob-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
430: Bluepoint-----	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.12
Tipnat-----	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Grapevine, overblown	20	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.08

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
431: Hypoint, thick surface-----	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.22
Vegastorm-----	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.03
Hypoint-----	15	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.08
		Thickest layer	0.00	Bottom layer	0.22
441: Corbilt-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
450: Arizo-----	70	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.75
		Bottom layer	0.25	Bottom layer	0.82
Arizo, frequently flooded-----	15	Fair		Fair	
		Bottom layer	0.25	Thickest layer	0.06
		Thickest layer	0.38	Bottom layer	0.82
451: Arizo-----	40	Fair		Fair	
		Bottom layer	0.12	Thickest layer	0.03
		Thickest layer	0.37	Bottom layer	0.12
Peskah-----	25	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.59	Thickest layer	0.12
Crosgrain-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
454: Arizo-----	50	Fair		Fair	
		Bottom layer	0.25	Thickest layer	0.06
		Thickest layer	0.38	Bottom layer	0.82
Riverwash-----	35	Fair		Fair	
		Bottom layer	0.25	Bottom layer	0.63
		Thickest layer	0.62	Thickest layer	0.63
455: Arizo-----	50	Fair		Fair	
		Bottom layer	0.12	Thickest layer	0.03
		Thickest layer	0.37	Bottom layer	0.12
Tenwell-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
460:					
Pahrump-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Wodavar-----	25	Fair		Fair	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.04
Vegastorm-----	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.03
461:					
Pahrump, saline----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Pahrump-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Bluepoint-----	15	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.12
		Thickest layer	0.00	Thickest layer	0.12
470:					
Filaree-----	60	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Seanna-----	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
475:					
Guardian-----	45	Not rated		Not rated	
Sunrock-----	20	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.03	Thickest layer	0.00
Badland-----	20	Not rated		Not rated	
477:					
Guardian, calcareous surface-----	45	Not rated		Not rated	
Baseline-----	25	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
Guardian-----	15	Not rated		Not rated	

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
478: Guardian, calcareous surface-----	45	Not rated		Not rated	
Baseline-----	40	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
480: Vace-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Vace, stony surface-	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Arizo-----	15	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.02
		Bottom layer	0.12	Bottom layer	0.70
481: Vace-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Wechech-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Wechech, steep-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
490: Ifteen-----	85	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.50	Bottom layer	0.00
500: Playas-----	90	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
501: Dams-----	100	Not rated		Not rated	
504: Pits, quarry-----	100	Not rated		Not rated	
505: Pits, gravel-----	99	Fair		Fair	
		Bottom layer	0.44	Bottom layer	0.63
		Thickest layer	0.63	Thickest layer	0.63

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
506: Pits-----	50	Not rated		Not rated	
Dumps-----	50	Not rated		Not rated	
508: Dumps, landfill----	100	Not rated		Not rated	
510: Railroad-----	65	Fair		Poor	
		Bottom layer	0.06	Bottom layer	0.00
		Thickest layer	0.06	Thickest layer	0.00
Railroad, steep----	20	Fair		Poor	
		Bottom layer	0.06	Bottom layer	0.00
		Thickest layer	0.06	Thickest layer	0.00
520: Nolena-----	50	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.06
Rock outcrop-----	35	Not rated		Not rated	
521: Nolena-----	65	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.06
Nipton-----	20	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
522: Nolena-----	45	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.06
Meadview-----	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.00	Bottom layer	0.09
523: Nolena, moist-----	50	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.06
Nolena-----	35	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.06
530: Seanna-----	55	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Botleg-----	30	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
531: Seanna-----	65	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Rock outcrop-----	25	Not rated		Not rated	
532: Seanna-----	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Goldroad-----	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.06
Rock outcrop-----	15	Not rated		Not rated	
535: Blackmesa-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Sunrock-----	40	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.03	Thickest layer	0.00
540: Sunrock-----	65	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.03	Thickest layer	0.00
Rock outcrop-----	25	Not rated		Not rated	
541: Sunrock-----	40	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.03	Thickest layer	0.00
Haleburu-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.04
Rock outcrop-----	20	Not rated		Not rated	
542: Sunrock-----	45	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.03	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Callville-----	25	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.01
		Thickest layer	0.00	Thickest layer	0.01
Badland-----	15	Not rated		Not rated	
550: Cheme-----	60	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.01	Thickest layer	0.01
Riverbend-----	25	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.13
		Bottom layer	0.19	Thickest layer	0.53
Carrizo-----	10	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.51
		Bottom layer	0.38	Thickest layer	0.52
551: Cheme-----	40	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.01	Thickest layer	0.01
Carrizo-----	25	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.51
		Bottom layer	0.38	Thickest layer	0.52
Huevi-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
552: Cheme-----	50	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.01	Thickest layer	0.01
Huevi, dry-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Huevi-----	15	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
560: Rositas-----	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.34
		Thickest layer	0.00	Bottom layer	0.82
Rositas, gravelly surface-----	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.34
		Thickest layer	0.00	Bottom layer	0.82

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Riverbend, rarely flooded-----	15	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.10
		Bottom layer	0.19	Bottom layer	0.13
565: Govwash-----	45	Not rated		Not rated	
Guardian-----	30	Not rated		Not rated	
Badland-----	10	Not rated		Not rated	
570: Carrizo-----	70	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.51
		Bottom layer	0.38	Thickest layer	0.52
Carrizo, rarely flooded-----	20	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.51
		Bottom layer	0.38	Thickest layer	0.52
571: Carrizo, rarely flooded-----	45	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.51
		Bottom layer	0.38	Thickest layer	0.52
Carrizo-----	25	Fair		Fair	
		Thickest layer	0.25	Thickest layer	0.14
		Bottom layer	0.38	Bottom layer	0.51
Riverbend, rarely flooded-----	20	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.10
		Bottom layer	0.19	Bottom layer	0.13
572: Carrizo-----	90	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.51
		Bottom layer	0.38	Thickest layer	0.52
573: Carrizo-----	35	Fair		Fair	
		Bottom layer	0.38	Bottom layer	0.51
		Thickest layer	0.62	Thickest layer	0.52
Riverbend, rarely flooded-----	30	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.13
		Bottom layer	0.19	Thickest layer	0.53
Riverbend-----	20	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.13
		Bottom layer	0.19	Thickest layer	0.53

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
574:					
Carrizo-----	55	Fair		Fair	
		Bottom layer	0.38	Bottom layer	0.51
		Thickest layer	0.62	Thickest layer	0.52
Sunrock-----	35	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.03	Thickest layer	0.00
575:					
Carrizo-----	50	Fair		Fair	
		Thickest layer	0.25	Bottom layer	0.08
		Bottom layer	0.49	Thickest layer	0.08
Carrizo, cobbly surface-----	30	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.08
		Bottom layer	0.49	Thickest layer	0.12
581:					
Threelakes-----	65	Fair		Fair	
		Bottom layer	0.50	Thickest layer	0.00
		Thickest layer	0.56	Bottom layer	0.03
Weiser-----	20	Fair		Fair	
		Bottom layer	0.38	Thickest layer	0.01
		Thickest layer	0.44	Bottom layer	0.03
590:					
Riverbend-----	50	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.13
		Bottom layer	0.19	Thickest layer	0.53
Carrizo-----	40	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.51
		Bottom layer	0.38	Thickest layer	0.52
591:					
Riverbend-----	55	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.13
		Bottom layer	0.19	Thickest layer	0.53
Carrwash-----	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.05
		Thickest layer	0.00	Bottom layer	0.51
592:					
Riverbend-----	70	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.13
		Bottom layer	0.19	Thickest layer	0.53
Carrizo-----	20	Fair		Fair	
		Thickest layer	0.25	Thickest layer	0.14
		Bottom layer	0.38	Bottom layer	0.51

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
593:					
Riverbend, rarely flooded-----	40	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.13
		Bottom layer	0.19	Thickest layer	0.53
Cheme-----	30	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.01	Thickest layer	0.01
Carrizo-----	15	Fair		Fair	
		Bottom layer	0.38	Bottom layer	0.51
		Thickest layer	0.62	Thickest layer	0.52
600:					
Huevi-----	70	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Cheme-----	15	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.01	Thickest layer	0.01
601:					
Huevi-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Huevi, dry-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
603:					
Huevi, dry-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
604:					
Huevi, dry-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Hiller-----	40	Fair		Poor	
		Bottom layer	0.12	Bottom layer	0.00
		Thickest layer	0.12	Thickest layer	0.00
605:					
Huevi, dry-----	45	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Badland-----	40	Not rated		Not rated	
606:					
Huevi-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Huevi, dry-----	35	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Cheme-----	15	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.01	Thickest layer	0.01
610: Goldroad-----	60	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.06
Rock outcrop-----	25	Not rated		Not rated	
612: Goldroad-----	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.06
Seanna-----	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Rock outcrop-----	15	Not rated		Not rated	
613: Goldroad-----	35	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.06
Haleburu-----	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.04
Rock outcrop-----	15	Not rated		Not rated	
620: Arizo-----	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.08
		Bottom layer	0.19	Bottom layer	0.57
Lanip-----	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
621: Orwash-----	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.12
		Thickest layer	0.00	Bottom layer	0.12
622: Orwash-----	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.02
		Thickest layer	0.00	Bottom layer	0.12

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Arizo-----	30	Fair		Fair	
		Bottom layer	0.25	Thickest layer	0.06
		Thickest layer	0.38	Bottom layer	0.82
Lanip-----	20	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
630: Tenwell-----	85	Poor		Poor	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.00	Thickest layer	0.00	
635: Aguachiquita-----	50	Poor		Poor	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.00	Thickest layer	0.00	
Azureridge-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
640: Cetrepas-----	40	Poor		Poor	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.00	Thickest layer	0.00	
Nolena-----	30	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.06
Rock outcrop-----	15	Not rated		Not rated	
645: Goldbutte-----	50	Poor		Fair	
Thickest layer		0.00	Thickest layer	0.00	
Bottom layer		0.00	Bottom layer	0.06	
Nolena-----	35	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.06
646: Goldbutte-----	40	Poor		Fair	
Thickest layer		0.00	Thickest layer	0.00	
Bottom layer		0.00	Bottom layer	0.06	
Jumbopeak-----	25	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Rock outcrop-----	20	Not rated		Not rated	
650: Peskah-----	50	Fair		Fair	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.59	Thickest layer	0.12	

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Crosgrain-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
651: Peskah-----	50	Fair		Fair	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.59	Thickest layer	0.12	
Arizo-----	35	Fair		Fair	
		Bottom layer	0.12	Thickest layer	0.03
		Thickest layer	0.37	Bottom layer	0.12
660: Crosgrain-----	85	Poor		Poor	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.00	Thickest layer	0.00	
661: Crosgrain-----	85	Poor		Poor	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.00	Thickest layer	0.00	
662: Crosgrain-----	65	Poor		Poor	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.00	Thickest layer	0.00	
Arizo-----	20	Fair		Fair	
		Bottom layer	0.25	Thickest layer	0.06
		Thickest layer	0.38	Bottom layer	0.82
663: Crosgrain-----	30	Poor		Poor	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.00	Thickest layer	0.00	
Kidwell-----	30	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.04
Arizo-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.08
		Bottom layer	0.19	Bottom layer	0.57
665: Crosgrain-----	55	Poor		Poor	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.00	Thickest layer	0.00	
Vace-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
670: Nipton-----	45	Poor		Fair	
Thickest layer		0.00	Thickest layer	0.00	
Bottom layer		0.00	Bottom layer	0.04	

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Highland-----	25	Poor		Fair	
		Thickest layer	0.00	Bottom layer	0.03
		Bottom layer	0.00	Thickest layer	0.03
Rock outcrop-----	15	Not rated		Not rated	
673: Nolena, moist-----	50	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.06
Newera, steep-----	35	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.00
674: Nipton-----	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
Rubble land-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Railroad-----	20	Fair		Poor	
		Bottom layer	0.06	Bottom layer	0.00
		Thickest layer	0.06	Thickest layer	0.00
680: Lanfair-----	65	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.00	Bottom layer	0.61
Hoppswell-----	20	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.07
690: Hoppswell-----	55	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.07
Ustidur-----	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.50	Bottom layer	0.04
691: Hoppswell-----	50	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.07
Jetmine-----	35	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.04

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
700:					
Mountmcull-----	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.03
Nippeno-----	35	Good		Poor	
		Thickest layer	0.00	Bottom layer	0.00
				Thickest layer	0.00
701:					
Nippeno-----	45	Good		Poor	
		Thickest layer	0.00	Bottom layer	0.00
				Thickest layer	0.00
Nipton-----	40	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
705:					
Charkiln-----	45	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.12	Thickest layer	0.01
Woodspring-----	20	Fair		Poor	
		Thickest layer	0.12	Bottom layer	0.00
		Bottom layer	0.50	Thickest layer	0.00
Buckspring-----	15	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
710:					
Arizo-----	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.08
		Bottom layer	0.19	Bottom layer	0.57
Lanfair-----	25	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.03
		Bottom layer	0.00	Bottom layer	0.61
Riverwash-----	20	Fair		Fair	
		Bottom layer	0.25	Bottom layer	0.63
		Thickest layer	0.62	Thickest layer	0.63
715:					
Troughspring-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Charkiln-----	25	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.12	Thickest layer	0.01
Buckspring-----	20	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
716: Troughspring-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
721: Corncreek-----	35	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.56	Thickest layer	0.04
Badland-----	30	Not rated		Not rated	
Pahrump-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
723: Corncreek-----	50	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.56	Thickest layer	0.04
Haymont, dry-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
725: Mackscanyon-----	55	Fair		Poor	
		Thickest layer	0.12	Bottom layer	0.00
		Bottom layer	0.25	Thickest layer	0.00
Purob-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
731: Purob-----	60	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Irongold-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.31	Bottom layer	0.14
732: Purob-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
733: Purob-----	85	Poor		Poor	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.00
734: Purob-----	75	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Niavi-----	10	Fair		Fair	
		Thickest layer	0.29	Bottom layer	0.11
		Bottom layer	0.29	Thickest layer	0.11
740: Varwash, moderately sloping-----	55	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.29	Bottom layer	0.29
Varwash-----	35	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.29	Bottom layer	0.29
741: Varwash, moderately sloping-----	45	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.29	Bottom layer	0.29
Varwash-----	30	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.04
		Bottom layer	0.29	Bottom layer	0.29
Carrizo-----	15	Fair		Fair	
		Thickest layer	0.25	Thickest layer	0.14
		Bottom layer	0.38	Bottom layer	0.51
750: Haleburu-----	55	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.04
Crosgrain-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop-----	10	Not rated		Not rated	
751: Nipton-----	50	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
Nolena, moist-----	35	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.06
752: Nipton-----	55	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
Newera, steep-----	30	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
753:					
Nipton-----	35	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.04
Hiddensun-----	30	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Haleburu-----	20	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.04
754:					
Haleburu-----	65	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.06	Bottom layer	0.04
Hiddensun-----	20	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
760:					
Searchlight-----	85	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.03
		Thickest layer	0.00	Bottom layer	0.05
772:					
Lamadre-----	50	Fair		Poor	
		Thickest layer	0.56	Bottom layer	0.00
		Bottom layer	0.71	Thickest layer	0.00
Robbersfire-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
775:					
Ladyofsnow-----	35	Fair		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.47	Thickest layer	0.02
Robbersfire-----	30	Fair		Poor	
		Bottom layer	0.25	Bottom layer	0.00
		Thickest layer	0.25	Thickest layer	0.00
Maryjane-----	20	Fair		Poor	
		Thickest layer	0.12	Thickest layer	0.00
		Bottom layer	0.50	Bottom layer	0.00
780:					
Prisonear-----	85	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.02
781:					
Prisonear-----	65	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.02

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Bluepoint-----	20	Poor		Fair	
		Bottom layer	0.00	Bottom layer	0.12
		Thickest layer	0.00	Thickest layer	0.12
790:					
McClanahan-----	60	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
Beerbo-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
801:					
Nippeno-----	55	Good		Poor	
		Thickest layer	0.00	Bottom layer	0.00
				Thickest layer	0.00
Newera, steep-----	30	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
805:					
Buckspring-----	40	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Fletcherpeak-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Seralin-----	20	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.25	Thickest layer	0.00
806:					
Buckspring-----	55	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Scrapy-----	40	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.25	Bottom layer	0.04
810:					
Straycow-----	40	Fair		Poor	
		Thickest layer	0.12	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
Newera-----	35	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
Rubble land-----	10	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
815:					
Wheelerwell-----	50	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Wheelerpass-----	35	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.25	Thickest layer	0.00
820:					
Newera-----	70	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
Rock outcrop-----	15	Not rated		Not rated	
821:					
Helkitchen-----	60	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
St. Thomas-----	25	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
830:					
Puelzmine-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
833:					
Virgin Peak-----	75	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
Rock outcrop-----	15	Not rated		Not rated	
840:					
Potosi-----	50	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.44	Thickest layer	0.00
Zeheme-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.02
Rock outcrop-----	10	Not rated		Not rated	
845:					
Leecanyon-----	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.50	Bottom layer	0.07
Goodwater-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
850: Birdspring-----	55	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.00
Birdspring, moderately sloping-	30	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.00
851: Birdspring-----	50	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.00
Zeheme-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.12	Bottom layer	0.02
Rock outcrop-----	15	Not rated		Not rated	
852: Birdspring-----	65	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.00
Rock outcrop-----	20	Not rated		Not rated	
853: Birdspring-----	40	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.00
St. Thomas-----	30	Fair		Poor	
		Thickest layer	0.01	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.00
Rock outcrop-----	15	Not rated		Not rated	
854: Birdspring-----	40	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.00
Birdspring, dry-----	25	Fair		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.38	Bottom layer	0.00
Rock outcrop-----	20	Not rated		Not rated	
860: Straycow-----	45	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Highland-----	25	Poor		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.03
Straycow, moderately sloping-----	15	Fair		Poor	
		Thickest layer	0.12	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
865: Mackscanyon-----	85	Fair		Poor	
Thickest layer		0.12	Bottom layer	0.00	
Bottom layer		0.25	Thickest layer	0.00	
866: Goodwater-----	45	Poor		Poor	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.00	Thickest layer	0.00	
Doespring-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
867: Goodwater-----	85	Poor		Poor	
Bottom layer		0.00	Bottom layer	0.00	
Thickest layer		0.00	Thickest layer	0.00	
868: Mackscanyon-----	65	Fair		Poor	
Thickest layer		0.12	Bottom layer	0.00	
Bottom layer		0.25	Thickest layer	0.00	
Goodwater-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
870: Irongold-----	85	Fair		Fair	
Thickest layer		0.00	Thickest layer	0.00	
Bottom layer		0.31	Bottom layer	0.14	
871: Irongold-----	45	Fair		Fair	
Thickest layer		0.00	Thickest layer	0.00	
Bottom layer		0.31	Bottom layer	0.14	
Irongold, moderately sloping-----	25	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.31	Bottom layer	0.14
Weiser-----	15	Fair		Fair	
		Bottom layer	0.38	Thickest layer	0.01
		Thickest layer	0.44	Bottom layer	0.03

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
872:					
Irongold-----	60	Fair		Fair	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.31	Bottom layer	0.14
Wechech-----	25	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
875:					
Kylecanyon-----	50	Fair		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.03	Thickest layer	0.00
Goodwater-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
880:					
Nonamewash-----	65	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.06
		Thickest layer	0.00	Bottom layer	0.11
Rositas-----	20	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.34
		Thickest layer	0.00	Bottom layer	0.82
885:					
Luckystrike-----	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
890:					
Ripley-----	45	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.13
Holtville-----	40	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.00
		Thickest layer	0.00	Bottom layer	0.25
900:					
Urban land-----	70	Not rated		Not rated	
Huevi-----	10	Poor		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.00	Thickest layer	0.00
Riverbend-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.13
		Thickest layer	0.00	Bottom layer	0.53
905:					
Mountmummy-----	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
Thesisters-----	25	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
Maryjane-----	20	Fair		Poor	
		Thickest layer	0.12	Thickest layer	0.00
		Bottom layer	0.50	Bottom layer	0.00
910: Carrwash-----	75	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.05
		Thickest layer	0.00	Bottom layer	0.51
Riverbend, rarely flooded-----	15	Fair		Fair	
		Thickest layer	0.00	Bottom layer	0.13
		Bottom layer	0.19	Thickest layer	0.53
911: Carrwash-----	50	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.05
		Thickest layer	0.00	Bottom layer	0.51
Carrwash, steep-----	35	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.05
		Thickest layer	0.00	Bottom layer	0.51
915: Maryjane-----	40	Fair		Poor	
		Thickest layer	0.12	Thickest layer	0.00
		Bottom layer	0.50	Bottom layer	0.00
Robbersfire-----	30	Fair		Poor	
		Bottom layer	0.25	Bottom layer	0.00
		Thickest layer	0.25	Thickest layer	0.00
Kitgram-----	15	Fair		Poor	
		Thickest layer	0.14	Bottom layer	0.00
		Bottom layer	0.14	Thickest layer	0.00
916: Maryjane-----	85	Fair		Poor	
		Thickest layer	0.12	Thickest layer	0.00
		Bottom layer	0.50	Bottom layer	0.00
920: Tanazza-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Wechech-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Wodavar-----	15	Fair		Fair	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.38	Thickest layer	0.04

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
925: Lastone-----	55	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.62	Thickest layer	0.00
Lastone, steep-----	30	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.62	Thickest layer	0.00
930: Cololag-----	50	Fair		Fair	
		Thickest layer	0.25	Bottom layer	0.03
		Bottom layer	0.38	Thickest layer	0.10
Badland-----	35	Not rated		Not rated	
940: Mesabase-----	65	Fair		Fair	
		Bottom layer	0.12	Bottom layer	0.10
		Thickest layer	0.12	Thickest layer	0.10
Azsand-----	25	Fair		Fair	
		Bottom layer	0.18	Bottom layer	0.07
		Thickest layer	0.18	Thickest layer	0.07
941: Mesabase-----	95	Fair		Fair	
		Bottom layer	0.12	Bottom layer	0.10
		Thickest layer	0.12	Thickest layer	0.10
950: Drygyp-----	70	Not rated		Not rated	
Drygyp, gravelly surface-----	20	Not rated		Not rated	
951: Drygyp, gravelly surface-----	45	Not rated		Not rated	
Guardian, calcareous surface-----	25	Not rated		Not rated	
Baseline-----	15	Fair		Poor	
		Thickest layer	0.04	Bottom layer	0.00
		Bottom layer	0.12	Thickest layer	0.00
952: Drygyp-----	85	Not rated		Not rated	

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
955:					
Drygyp, gravelly surface-----	55	Not rated		Not rated	
Bluegyp-----	30	Not rated		Not rated	
965:					
Azsand-----	45	Fair		Fair	
		Bottom layer	0.18	Bottom layer	0.07
		Thickest layer	0.18	Thickest layer	0.07
Mesabase-----	30	Fair		Fair	
		Bottom layer	0.12	Bottom layer	0.10
		Thickest layer	0.12	Thickest layer	0.10
Rositas, gravelly surface-----	10	Poor		Fair	
		Bottom layer	0.00	Thickest layer	0.34
		Thickest layer	0.00	Bottom layer	0.82
970:					
Rubble land-----	45	Not rated		Not rated	
Charpeak-----	25	Fair		Poor	
		Thickest layer	0.34	Bottom layer	0.00
		Bottom layer	0.62	Thickest layer	0.00
Rock outcrop, limestone-----	15	Not rated		Not rated	
980:					
Orrubo-----	80	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
981:					
Torriorthents-----	35	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Haplocalcids-----	30	Fair		Poor	
		Thickest layer	0.00	Bottom layer	0.00
		Bottom layer	0.50	Thickest layer	0.00
Rock outcrop-----	20	Not rated		Not rated	
982:					
Winkel-----	65	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
Rock outcrop-----	15	Not rated		Not rated	

TABLE 12.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
998: Miscellaneous water-	100	Not rated		Not rated	
999: Water-----	100	Not rated		Not rated	

TABLE 13.--Engineering Properties

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
100: Newera-----	0-2	Very gravelly sandy loam	GM, SM	A-1, A-2	0-5	0-5	35-60	25-50	20-40	15-30	15-25	NP-5
	2-6	Very gravelly sandy clay loam, very gravelly loam, very gravelly clay loam, extremely gravelly sandy clay loam	GC	A-2	0-5	0-5	30-55	20-50	15-45	10-30	29-46	12-25
	6-16	Bedrock			---	---	---	---	---	---	---	---
Newera, steep---	0-2	Extremely gravelly sandy loam	GP, GW-GC, GP-GC	A-2	0-5	0-5	23-35	8-25	5-18	3-10	17-28	3-10
	2-6	Very gravelly sandy clay loam, very gravelly loam, very gravelly clay loam, extremely gravelly sandy clay loam	GC	A-2	0-5	0-5	30-55	20-50	15-45	10-30	29-46	12-25
	6-16	Bedrock			---	---	---	---	---	---	---	---
101: Glencarb-----	0-6	Very fine sandy loam	CL-ML, ML	A-4	0	0	100	100	85-95	55-65	20-30	NP-10
	6-60	Stratified very fine sandy loam to silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	75-85	20-30	5-15





TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Crosgrain-----	0-2	Extremely gravelly fine sandy loam	GP, GP-GC	A-1, A-2	0-5	0-15	15-30	10-25	5-20	0-10	18-30	4-12
	2-11	Very gravelly loam, very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loam	GC-GM, GC	A-2	0-5	0-8	30-55	20-45	15-40	10-30	20-32	6-13
	11-24	Cemented material			---	---	---	---	---	---	---	---
	24-60	Cemented material			---	---	---	---	---	---	---	---
111: Tenwell-----	0-1	Very gravelly loamy coarse sand	GM, SM, SP- SM, GP-GM	A-1	0	0-5	30-55	25-50	18-35	5-15	15-23	1-5
	1-4	Gravelly sandy loam	SC-SM	A-1	0	0-5	55-80	50-75	30-50	15-30	17-23	3-7
	4-9	Sandy loam	SC	A-2	0	0-5	85-95	80-90	45-60	20-35	22-30	7-12
	9-22	Gravelly sandy clay loam	SC, GC	A-2	0	0-5	55-80	50-75	40-65	20-40	31-42	13-21
	22-60	Cemented material			---	---	---	---	---	---	---	---
Shamock-----	0-1	Very gravelly loamy sand	GM, GP-GM, SP-SM, SM	A-1	0	0	30-55	25-50	15-30	5-15	0-21	NP-4
	1-32	Gravelly fine sandy loam, gravelly sandy loam	SC-SM, SM	A-1, A-2, A-4	0	0	55-80	50-75	40-55	20-40	16-23	2-6
	32-60	Cemented material			---	---	---	---	---	---	---	---
112: Arizo-----	0-2	Very gravelly loamy sand	GM, GP-GM, SM, SP-SM	A-1	0-5	0-15	40-60	30-50	15-30	5-15	0-21	NP-4
	2-60	Stratified extremely gravelly loamy sand to cobbly coarse sand	GP, GP-GM	A-1	0-5	5-30	35-55	20-50	10-30	0-10	0-19	NP-3







TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
121: Sweetspring-----	0-1	Extremely gravelly loam	GP-GC, GC-GM	A-2, A-1	0	3-15	20-35	10-25	10-23	6-18	19-30	4-12
	1-4	Extremely gravelly sandy clay loam, very gravelly very fine sandy loam, extremely gravelly loam	GP-GC, GC	A-2	0	5-23	20-45	10-35	10-30	5-15	26-38	10-19
	4-17	Very gravelly fine sandy loam, extremely gravelly fine sandy loam, extremely gravelly sandy loam	GP-GC, GW-GM	A-2, A-1	0	8-25	20-45	10-35	7-22	4-12	16-25	2-7
	17-62	Stratified extremely gravelly coarse sand to extremely gravelly loamy sand	GW	A-1	0	5-20	18-40	8-30	5-20	0-5	15-25	NP-5
Carrizo-----	0-10	Extremely gravelly sand	GW-GM, GP, SP, GP-GM	A-1	0	0-10	35-55	15-40	5-35	0-10	0-14	NP
	10-60	Extremely gravelly coarse sand, very gravelly coarse sand, very gravelly sand	GW-GM, GM, GP, SM, SP	A-1	0-5	0-25	30-65	15-60	5-35	0-15	0-14	NP













TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
148: Haleburu-----	0-2	Extremely gravelly sandy loam	GP-GC	A-1	0-10	0-20	15-35	10-25	7-20	5-12	17-25	3-7
	2-11	Very gravelly sandy loam, very gravelly fine sandy loam, very gravelly loam	GM, GC-GM, SP-SM, SM	A-1, A-2	0-5	0-15	35-60	30-50	20-40	12-30	17-30	3-12
	11-21	Bedrock			---	---	---	---	---	---	---	---
Seanna-----	0-2	Extremely cobble coarse sandy loam	GC, GC-GM	A-2	0-10	40-50	25-50	15-35	10-25	10-15	18-30	4-12
	2-10	Very gravelly sandy loam	SC, SC-SM, GC, GC-GM	A-1, A-2	0	0	55-75	30-50	20-35	10-25	18-30	4-12
	10-20	Bedrock			---	---	---	---	---	---	---	---
150: Hypoint-----	0-2	Gravelly sandy loam	SM, SC-SM	A-1, A-2	0	0-5	65-85	50-75	35-50	20-30	15-23	1-6
	2-60	Stratified sand to very gravelly coarse sand	SM	A-1	0	0-5	65-85	55-75	25-50	10-25	0-21	NP-4
151: Bluepoint-----	0-9	Gravelly loamy fine sand	SM	A-2	0	0	70-90	60-75	50-65	10-25	0-19	NP
	9-60	Fine sand, loamy fine sand, loamy sand, sand	SM	A-2, A-4	0	0	90-100	80-100	60-80	15-40	0-19	NP-3
Arizo-----	0-6	Extremely gravelly coarse sandy loam	GM, GP-GM	A-1	0-5	0-7	25-40	15-25	10-25	5-15	15-20	NP-5
	6-60	Stratified very gravelly coarse sand to extremely gravelly sand	GW, GP-GM, SP-SM, SP, GP	A-1	0-5	0-25	25-55	10-45	5-30	0-7	0-18	NP-2



TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
160: Lanip-----	0-1	Very gravelly sandy loam	GM, SM	A-1, A-2	0	0	35-60	25-50	20-40	15-30	15-25	NP-5
	1-15	Gravelly loam, gravelly sandy loam	ML, SM, GM, SC-SM	A-2, A-4	0	0	65-75	55-75	40-60	25-55	15-25	NP-5
	15-39	Clay loam, sandy clay loam, gravelly sandy clay loam	CL, SC	A-6	0	0	70-95	60-90	50-80	40-65	30-40	10-20
	39-48	Gravelly sandy loam	SM, GM	A-1, A-2, A-4	0	0	65-85	55-75	40-60	20-40	15-25	NP-5
	48-60	Very gravelly sandy loam, very gravelly loamy sand	GM, SM	A-1, A-2	0	0	40-60	30-50	15-35	10-30	15-25	NP-5
Kidwell-----	0-1	Very gravelly sandy loam	GC-GM, GM	A-1, A-2	0	0	35-55	30-50	20-35	10-20	17-30	3-12
	1-9	Sandy loam, gravelly sandy loam	GC-GM, SC-SM, SM	A-2, A-1	0	0	65-95	60-90	40-60	20-30	17-30	3-12
	9-15	Gravelly sandy clay loam, gravelly clay loam	GC, SC	A-2, A-6	0	0	55-95	50-75	45-70	30-45	31-42	13-21
	15-31	Gravelly sandy clay loam, gravelly clay loam	GC, SC	A-2, A-6	0	0	55-95	50-75	45-70	30-45	31-42	13-21
	31-60	Gravelly sandy loam, gravelly coarse sandy loam, sandy loam	SC-SM, SM, GC-GM, GM	A-1, A-2	0	0	60-95	50-85	35-55	15-30	17-30	3-12





























TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Ferrogold-----	0-3	Extremely gravelly loam	GW-GC, GP-GC	A-1, A-2	0-5	5-15	15-30	10-25	10-20	5-10	20-30	5-10
	3-9	Very gravelly loam, very gravelly fine sandy loam	GC-GM, GW-GC	A-1, A-2	0-5	0-10	35-53	30-48	15-45	5-30	20-30	5-10
	9-15	Very gravelly loam, very gravelly fine sandy loam, extremely gravelly fine sandy loam, extremely gravelly loam	GC-GM, GW-GC	A-1, A-2	0-5	0-10	25-60	20-50	15-45	5-30	20-30	5-10
	15-60	Cemented material			---	---	---	---	---	---	---	---
Commski-----	0-5	Very gravelly fine sandy loam	GM	A-1, A-2	0-5	0-10	35-55	25-50	20-40	10-30	25-30	NP-5
	5-14	Extremely gravelly sandy loam	GP-GM, GW-GM	A-1	0-5	0-10	25-35	15-25	10-20	5-10	25-30	NP-5
	14-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly fine sandy loam	GP-GM, GW-GM	A-1	0-5	5-20	25-35	15-25	10-20	5-10	25-30	NP-5

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
190: Filaree-----	0-2	Very gravelly fine sandy loam	GC-GM, SC-SM	A-1	0	0	40-60	30-50	25-40	12-25	16-27	2-10
	2-22	Stratified gravelly fine sandy loam to fine sandy loam	SC-SM	A-2	0	0	70-95	60-90	45-70	30-45	16-27	2-10
	22-60	Stratified gravelly coarse sandy loam to very gravelly fine sandy loam	SC-SM, GC-GM	A-1, A-2	0	0	60-85	50-75	35-50	15-30	16-27	2-10
Lanip-----	0-1	Very gravelly sandy loam	GM, SM	A-1, A-2	0	0	35-60	25-50	20-40	15-30	15-25	NP-5
	1-15	Gravelly loam, gravelly sandy loam	ML, SM, GM, SC-SM	A-2, A-4	0	0	65-75	55-75	40-60	25-55	15-25	NP-5
	15-39	Clay loam, sandy clay loam, gravelly sandy clay loam	CL, SC	A-6	0	0	70-95	60-90	50-80	40-65	30-40	10-20
	39-48	Gravelly sandy loam	SM, GM	A-1, A-2, A-4	0	0	65-85	55-75	40-60	20-40	15-25	NP-5
	48-60	Very gravelly sandy loam, very gravelly loamy sand	GM, SM	A-1, A-2	0	0	40-60	30-50	15-35	10-30	15-25	NP-5

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Nickel-----	0-6	Very gravelly sandy loam	GC-GM, GM	A-1, A-2	0	0	35-55	30-50	20-35	10-20	17-30	3-12
	6-11	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam, very gravelly coarse sandy loam	GP-GC, GC-GM, GC	A-1, A-2	0-5	0-15	30-55	20-45	12-30	7-18	17-27	3-10
	11-60	Extremely gravelly sandy loam, extremely gravelly coarse sandy loam, very gravelly sandy loam, very gravelly coarse sandy loam	GP-GC, GW-GC	A-1, A-2	0-5	0-10	25-50	10-35	6-23	3-12	17-27	3-10
191: Bluepoint-----	0-6	Loamy fine sand	SM	A-2, A-4	0	0	90-100	80-100	60-80	15-40	0-19	NP-3
	6-60	Fine sand, loamy fine sand, loamy sand, sand	SM	A-2, A-4	0	0	90-100	80-100	60-80	15-40	0-19	NP-3
Grapevine, overblown-----	0-10	Loamy sand	SM	A-2	0	0	100	95-100	65-75	20-30	0-19	NP-2
	10-60	Stratified sandy loam to clay loam	SC-SM, SC	A-4, A-2	0	0	85-100	80-100	55-85	25-55	20-30	6-12
Grapevine-----	0-4	Gravelly loamy sand	SM	A-1, A-2	0	0	70-85	55-75	35-55	10-20	0-19	NP-2
	4-60	Stratified sandy loam to clay loam	SC, SC-SM	A-4, A-2	0	0	85-100	80-100	55-85	25-55	20-30	6-12



TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Schader-----	0-2	Extremely gravelly sandy loam	GC-GM, GP-GC, GP	A-1, A-2	0-10	5-15	15-40	10-35	5-25	0-15	20-25	5-10
	2-9	Very gravelly loam, very gravelly sandy loam	GC-GM	A-1, A-2	0-5	2-15	30-55	25-50	15-40	15-35	20-30	5-10
	9-28	Extremely gravelly loam, extremely gravelly clay loam, extremely gravelly sandy clay loam	GC, GP-GC	A-2	0-5	5-25	20-45	15-35	10-35	5-25	30-40	10-20
	28-38	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	
200: Commski-----	0-3	Extremely gravelly loam	GW-GM, GM	A-1	0-10	0-10	20-35	10-25	10-25	7-17	15-25	NP-5
	3-60	Extremely gravelly sandy loam, extremely gravelly coarse sandy loam, extremely gravelly fine sandy loam	GW-GM	A-1	0-5	0-10	20-35	10-25	7-18	4-10	25-30	NP-5
Weiser-----	0-6	Extremely gravelly fine sandy loam	GM, GP-GM	A-1	0-5	0-15	25-40	15-30	10-25	5-15	18-30	NP-5
	6-60	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly fine sandy loam	GP-GC, GP-GM, GC-GM, GM	A-1, A-2	0-15	5-25	20-45	10-35	7-25	4-15	16-29	2-10

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Threelakes-----	0-4	Extremely gravelly loamy sand	GP-GM, GP	A-1	0-5	10-23	30-50	15-30	5-15	0-10	10-15	NP-5
	4-31	Extremely gravelly fine sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0-5	0-10	20-35	10-25	5-20	0-10	16-27	2-10
	31-60	Stratified extremely gravelly fine sandy loam to extremely gravelly loamy coarse sand	GP, GW-GC	A-1, A-2	0-5	0-8	20-40	10-25	5-20	0-10	17-27	3-10
201: Commski-----	0-3	Extremely gravelly loam	GM, GW-GM	A-1	0-10	0-10	20-35	10-25	10-25	7-17	15-25	NP-5
	3-60	Extremely gravelly sandy loam, extremely gravelly coarse sandy loam, extremely gravelly fine sandy loam	GW-GM	A-1	0-5	0-10	20-35	10-25	7-18	4-10	25-30	NP-5
202: Commski-----	0-5	Very gravelly fine sandy loam	GM	A-1, A-2	0-5	0-10	35-55	25-50	20-40	10-30	25-30	NP-5
	5-60	Extremely gravelly sandy loam, extremely gravelly coarse sandy loam, extremely gravelly fine sandy loam	GW-GM	A-1	0-5	0-10	20-35	10-25	7-18	4-10	25-30	NP-5

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
Lastchance-----	0-2	Extremely gravelly loam	GC-GM, GC	A-1, A-2	0-3	0-15	20-35	15-25	15-25	10-20	19-28	4-10
	2-20	Very gravelly loam, very gravelly sandy loam, very gravelly fine sandy loam, extremely gravelly fine sandy loam, extremely gravelly sandy loam	GC-GM, GC	A-1, A-2	0	0-15	25-55	20-50	15-40	12-30	18-29	4-12
	20-60	Cemented material			---	---	---	---	---	---	---	---
203: Commski-----	0-5	Very gravelly fine sandy loam	GM	A-1, A-2	0-5	0-10	35-55	25-50	20-40	10-30	25-30	NP-5
	5-60	Extremely gravelly sandy loam, extremely gravelly coarse sandy loam, extremely gravelly fine sandy loam	GW-GM	A-1	0-5	0-10	20-35	10-25	7-18	4-10	25-30	NP-5





TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Callville, steep	0-2	Gravelly fine sandy loam	GM, SM	A-2	0	0-5	60-85	50-75	40-60	25-35	0-14	NP
	2-25	Gravelly gypsiferous fine sandy loam, gypsiferous fine sandy loam, gravelly gypsiferous sandy loam, gypsiferous sandy loam	SM, SC-SM, GM, GC-GM	A-2, A-4	0	0	70-100	60-90	45-70	25-50	16-30	2-10
	25-43	Bedrock			---	---	---	---	---	---	---	---
	43-53	Bedrock			---	---	---	---	---	---	---	---
210: Nickel-----	0-4	Gravelly sandy loam	SM	A-1	0-3	0-5	65-90	50-75	35-50	15-25	15-20	NP-5
	4-11	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam, very gravelly coarse sandy loam	GP-GC, GC-GM, GC	A-1, A-2	0-5	0-15	30-55	20-45	12-30	7-18	17-27	3-10
	11-60	Extremely gravelly sandy loam, extremely gravelly coarse sandy loam, very gravelly sandy loam, very gravelly coarse sandy loam	GP-GC, GW-GC	A-1, A-2	0-5	0-10	25-50	10-35	6-23	3-12	17-27	3-10

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Arizo-----	0-2	Very gravelly loamy sand	GM, GP-GM, SM, SP-SM	A-1	0-5	0-15	40-60	30-50	15-30	5-15	0-21	NP-4
	2-6	Sand	SP-SM	A-2	0	0	85-100	80-100	40-70	5-12	0-21	NP-4
	6-60	Stratified very gravelly coarse sand to extremely gravelly sand	GP-GM, SP-SM, SP, GP, GW	A-1	0-5	0-25	25-55	10-45	5-30	0-7	0-18	NP-2
211: Nickel-----	0-3	Extremely cobble fine sandy loam	GC-GM, GC	A-1, A-2	8-30	25-50	35-55	25-50	20-40	12-25	17-27	3-10
	3-11	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam, very gravelly coarse sandy loam	GP-GC, GC-GM, GC	A-1, A-2	0-5	0-15	30-55	20-45	12-30	7-18	17-27	3-10
	11-60	Extremely gravelly sandy loam, extremely gravelly coarse sandy loam, very gravelly sandy loam, very gravelly coarse sandy loam	GP-GC, GW-GC	A-1, A-2	0-5	0-10	25-50	10-35	6-23	3-12	17-27	3-10

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Crosgrain-----	0-3	Very cobbly fine sandy loam	GM, SM	A-1, A-2	0-15	26-41	50-75	40-65	35-50	20-35	15-25	NP-5
	3-11	Very gravelly loam, very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loam	GC-GM, GC	A-2	0-5	0-8	30-55	20-45	15-40	10-30	20-32	6-13
	11-24	Cemented material			---	---	---	---	---	---	---	---
	24-60	Cemented material			---	---	---	---	---	---	---	---
220: Haymont-----	0-2	Loam	ML, CL-ML	A-4	0	0	100	92-100	80-95	60-85	15-25	NP-5
	2-13	Silt loam, very fine sandy loam	ML, CL-ML	A-4	0	0	100	92-100	85-100	65-90	15-25	NP-5
	13-29	Silt loam, very fine sandy loam	ML, CL-ML	A-4	0	0	100	92-100	85-100	65-90	15-25	NP-5
	29-60	Silt loam, very fine sandy loam	ML, CL-ML	A-4	0	0	100	92-100	85-100	65-90	15-25	NP-5
Haymont, moist--	0-2	Loam	ML, CL-ML	A-4	0	0	100	92-100	80-95	60-85	15-25	NP-5
	2-13	Silt loam, very fine sandy loam	ML, CL-ML	A-4	0	0	100	92-100	85-100	65-90	15-25	NP-5
	13-29	Silt loam, very fine sandy loam	ML, CL-ML	A-4	0	0	100	92-100	85-100	65-90	15-25	NP-5
	29-60	Silt loam, very fine sandy loam	ML, CL-ML	A-4	0	0	100	92-100	85-100	65-90	15-25	NP-5
Bluepoint-----	0-14	Fine sand	SM	A-2, A-4	0	0	90-100	80-100	60-80	15-40	0-19	NP-3
	14-60	Fine sand, loamy fine sand, loamy sand, sand	SM	A-2, A-4	0	0	90-100	80-100	60-80	15-40	0-19	NP-3





TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
227: Baseline-----	0-3	Extremely gravelly fine sandy loam	GP-GM, GM	A-1	0	0	25-40	15-25	10-25	5-20	15-20	NP-5
	3-9	Gravelly fine sandy loam, gravelly sandy loam, very gravelly fine sandy loam	SM, SP-SM, GP-GM, GM	A-1, A-2	0	0	50-85	40-75	30-75	5-55	15-20	NP-5
	9-22	Very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loam	GP-GM, SP-SM, SM, GM	A-1	0	0	30-60	20-35	10-30	5-25	20-25	NP-5
	22-32	Bedrock			---	---	---	---	---	---	---	---
Gypwash-----	0-1	Extremely gravelly fine sandy loam	GP-GC	A-1	0	0-5	16-30	13-28	11-26	6-14	18-25	4-7
	1-4	Gravelly fine sandy loam	SC-SM	A-2, A-1	0	0	66-85	53-77	47-73	22-37	16-23	2-6
	4-27	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam, very gravelly sandy loam	GP-GC	A-1	0	0	35-45	13-33	8-21	5-13	18-23	4-6
	27-61	Stratified extremely gravelly gypsiferous coarse sandy loam to very gravelly gypsiferous sandy loam	GW-GM, GM, GP-GM	A-1	0	0-3	30-37	12-31	8-21	5-13	15-21	1-4















TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
240: Crosgrain-----	0-2	Extremely gravelly fine sandy loam	GP, GP-GC	A-2, A-1	0-5	0-15	15-30	10-25	5-20	0-10	18-30	4-12
	2-11	Very gravelly loam, very gravelly sandy loam, extremely gravelly sandy loam, extremely gravelly loam	GC-GM, GC	A-2	0-5	0-8	30-55	20-45	15-40	10-30	20-32	6-13
	11-24	Cemented material			---	---	---	---	---	---	---	---
	24-60	Cemented material			---	---	---	---	---	---	---	---
Irongold-----	0-1	Extremely gravelly loam	GM	A-1	0-5	0-10	25-35	15-25	15-20	10-15	15-25	NP-5
	1-7	Gravelly loam, loam	SM, ML, GM, CL-ML	A-4	0-5	0-5	70-95	60-90	50-80	45-70	15-25	NP-5
	7-11	Very gravelly loam, very gravelly sandy loam, gravelly loam, gravelly sandy loam	GM, SM	A-1, A-2, A-4	0-5	0-10	35-65	30-60	20-50	15-40	15-25	NP-5
	11-34	Cemented material			---	---	---	---	---	---	---	---
	34-60	Extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0-5	0-5	30-45	10-25	5-10	0-10	0-21	NP-4















TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
285: Heleweiser, rarely flooded-	0-3	Extremely gravelly fine sandy loam	GP-GM, GM	A-1	0	0-5	25-40	15-25	10-25	5-20	15-20	NP-5
	3-5	Gravelly fine sandy loam, gravelly sandy loam	SC-SM, SC, GC-GM	A-2, A-1	0	0-5	60-80	55-75	35-55	20-40	20-27	6-10
	5-11	Gravelly fine sandy loam, gravelly sandy loam, very gravelly fine sandy loam	SC-SM, SC, GC, GC-GM	A-2, A-1	0	0-5	35-80	30-75	20-50	10-40	20-27	6-10
	11-20	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GM, GW-GM, GC-GM, GW-GC	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	20-34	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GM, GW-GC, GW-GM	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	34-68	Stratified very gravelly coarse sandy loam to extremely gravelly loamy coarse sand	GP-GM	A-1	0	0-10	25-50	15-40	10-30	5-12	16-23	2-6



TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
286: Heleweiser-----	0-1	Very gravelly sandy loam	GC, GC-GM, GM	A-2, A-1	0	0-10	35-55	30-50	20-35	12-20	16-27	2-10
	1-5	Gravelly fine sandy loam, gravelly sandy loam	SC-SM, SC, GC-GM	A-2, A-1	0	0-5	60-80	55-75	35-55	20-40	20-27	6-10
	5-11	Gravelly fine sandy loam, gravelly sandy loam, very gravelly fine sandy loam	SC-SM, SC, GC, GC-GM	A-2, A-1	0	0-5	35-80	30-75	20-50	10-40	20-27	6-10
	11-20	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GM, GW-GM, GC-GM, GW-GC	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	20-34	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GM, GW-GC, GW-GM	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	34-68	Stratified very gravelly coarse sandy loam to extremely gravelly loamy coarse sand	GP-GM	A-1	0	0-10	25-50	15-40	10-30	5-12	16-23	2-6

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Heleweiser, extremely gravelly surface-----	0-2	Extremely gravelly fine sandy loam	GP-GM, GM	A-1	0	0-5	25-40	15-25	10-25	5-20	15-20	NP-5
	2-5	Gravelly fine sandy loam, gravelly sandy loam	SC-SM, SC, GC-GM	A-2, A-1	0	0-5	60-80	55-75	35-55	20-40	20-27	6-10
	5-11	Gravelly fine sandy loam, gravelly sandy loam, very gravelly fine sandy loam	SC-SM, SC, GC, GC-GM	A-2, A-1	0	0-5	35-80	30-75	20-50	10-40	20-27	6-10
	11-20	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GM, GW-GM, GC-GM, GW-GC	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	20-34	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GM, GW-GC, GW-GM	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	34-68	Stratified very gravelly coarse sandy loam to extremely gravelly loamy coarse sand	GP-GM	A-1	0	0-10	25-50	15-40	10-30	5-12	16-23	2-6

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Carrizo-----	0-7	Extremely gravelly loamy sand	GP-GM, GP	A-1	0-5	10-20	30-50	15-30	5-15	0-10	10-15	NP-5
	7-60	Stratified extremely gravelly coarse sand to very gravelly sand	GW, GP, GP-GM	A-1	0-15	0-15	25-55	15-45	5-25	0-7	0-20	NP-4

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
287: Heleweiser, rarely flooded-	0-3	Extremely gravelly fine sandy loam	GP-GM, GM	A-1	0	0-5	25-40	15-25	10-25	5-20	15-20	NP-5
	3-5	Gravelly fine sandy loam, gravelly sandy loam	SC-SM, SC, GC-GM	A-2, A-1	0	0-5	60-80	55-75	35-55	20-40	20-27	6-10
	5-11	Gravelly fine sandy loam, gravelly sandy loam, very gravelly fine sandy loam	SC-SM, SC, GC, GC-GM	A-2, A-1	0	0-5	35-80	30-75	20-50	10-40	20-27	6-10
	11-20	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GM, GW-GM, GC-GM, GW-GC	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	20-34	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GM, GW-GC, GW-GM	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	34-68	Stratified very gravelly coarse sandy loam to extremely gravelly loamy coarse sand	GP-GM	A-1	0	0-10	25-50	15-40	10-30	5-12	16-23	2-6

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Heleweiser-----	0-1	Very gravelly sandy loam	GC, GC-GM, GM	A-2, A-1	0	0-10	35-55	30-50	20-35	12-20	16-27	2-10
	1-5	Gravelly fine sandy loam, gravelly sandy loam	SC-SM, SC, GC-GM	A-2, A-1	0	0-5	60-80	55-75	35-55	20-40	20-27	6-10
	5-11	Gravelly fine sandy loam, gravelly sandy loam, very gravelly fine sandy loam	SC-SM, SC, GC, GC-GM	A-2, A-1	0	0-5	35-80	30-75	20-50	10-40	20-27	6-10
	11-20	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GM, GW-GM, GC-GM, GW-GC	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	20-34	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GM, GW-GC, GW-GM	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	34-68	Stratified very gravelly coarse sandy loam to extremely gravelly loamy coarse sand	GP-GM	A-1	0	0-10	25-50	15-40	10-30	5-12	16-23	2-6

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
288: Heleweiser-----	0-1	Very gravelly sandy loam	GC, GC-GM, GM	A-2, A-1	0	0-10	35-55	30-50	20-35	12-20	16-27	2-10
	1-5	Gravelly fine sandy loam, gravelly sandy loam	SC-SM, SC, GC-GM	A-2, A-1	0	0-5	60-80	55-75	35-55	20-40	20-27	6-10
	5-11	Gravelly fine sandy loam, gravelly sandy loam, very gravelly fine sandy loam	SC-SM, SC, GC, GC-GM	A-2, A-1	0	0-5	35-80	30-75	20-50	10-40	20-27	6-10
	11-20	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GM, GW-GM, GC-GM, GW-GC	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	20-34	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GM, GW-GC, GW-GM	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	34-68	Stratified very gravelly coarse sandy loam to extremely gravelly loamy coarse sand	GP-GM	A-1	0	0-10	25-50	15-40	10-30	5-12	16-23	2-6



TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
289: Heleweiser-----	0-1	Very gravelly sandy loam	GC, GC-GM, GM	A-2, A-1	0	0-10	35-55	30-50	20-35	12-20	16-27	2-10
	1-5	Gravelly fine sandy loam, gravelly sandy loam	SC-SM, SC, GC-GM	A-2, A-1	0	0-5	60-80	55-75	35-55	20-40	20-27	6-10
	5-11	Gravelly fine sandy loam, gravelly sandy loam, very gravelly fine sandy loam	SC-SM, SC, GC, GC-GM	A-2, A-1	0	0-5	35-80	30-75	20-50	10-40	20-27	6-10
	11-20	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GM, GW-GM, GC-GM, GW-GC	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	20-34	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GW-GC, GM, GW-GM	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	34-68	Stratified very gravelly coarse sandy loam to extremely gravelly loamy coarse sand	GP-GM	A-1	0	0-10	25-50	15-40	10-30	5-12	16-23	2-6









TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
Heleweiser-----	0-1	Very gravelly sandy loam	GC, GC-GM, GM	A-2, A-1	0	0-10	35-55	30-50	20-35	12-20	16-27	2-10
	1-5	Gravelly fine sandy loam, gravelly sandy loam	SC-SM, SC, GC-GM	A-2, A-1	0	0-5	60-80	55-75	35-55	20-40	20-27	6-10
	5-11	Gravelly fine sandy loam, gravelly sandy loam, very gravelly fine sandy loam	SC-SM, SC, GC, GC-GM	A-2, A-1	0	0-5	35-80	30-75	20-50	10-40	20-27	6-10
	11-20	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GM, GW-GM, GC-GM, GW-GC	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	20-34	Very gravelly sandy loam, very gravelly coarse sandy loam, extremely gravelly sandy loam, extremely gravelly coarse sandy loam	GM, GW-GC, GW-GM	A-1	0	0-5	25-50	15-40	10-30	5-15	16-23	2-6
	34-68	Stratified very gravelly coarse sandy loam to extremely gravelly loamy coarse sand	GP-GM	A-1	0	0-10	25-50	15-40	10-30	5-12	16-23	2-6

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
310: Weiser-----	0-6	Extremely gravelly fine sandy loam	GM, GP-GM	A-1	0-5	0-15	25-40	15-30	10-25	5-15	18-30	NP-5
	6-60	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly fine sandy loam	GP-GC, GP-GM, GC-GM, GM	A-1, A-2	0-15	5-25	20-45	10-35	7-25	4-15	16-29	2-10
Arizo-----	0-2	Very gravelly loamy sand	GM, GP-GM, SM, SP-SM	A-1	0-5	0-15	40-60	30-50	15-30	5-15	0-21	NP-4
	2-6	Sand	SP-SM	A-2	0	0	85-100	80-100	40-70	5-12	0-21	NP-4
	6-60	Stratified very gravelly coarse sand to extremely gravelly sand	GP-GM, SP-SM, SP, GP, GW	A-1	0-5	0-25	25-55	10-45	5-30	0-7	0-18	NP-2
311: Weiser-----	0-6	Extremely gravelly fine sandy loam	GM, GP-GM	A-1	0-5	0-15	25-40	15-30	10-25	5-15	18-30	NP-5
	6-60	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly fine sandy loam	GP-GC, GP-GM, GC-GM, GM	A-1, A-2	0-15	5-25	20-45	10-35	7-25	4-15	16-29	2-10

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Threelakes-----	0-3	Extremely gravelly fine sandy loam	GP-GC, GP-GM, GP	A-1, A-2	0-5	0-10	20-35	10-25	5-20	0-10	16-27	2-10
	3-31	Extremely gravelly fine sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0-5	0-10	20-35	10-25	5-20	0-10	16-27	2-10
	31-60	Stratified extremely gravelly fine sandy loam to extremely gravelly loamy coarse sand	GP, GW-GC	A-1, A-2	0-5	0-8	20-40	10-25	5-20	0-10	17-27	3-10
313: Weiser-----	0-2	Extremely gravelly loam	GC-GM, GC, GP-GC	A-1, A-2	0-10	0-23	20-40	10-30	10-25	7-20	19-30	4-12
	2-10	Gravelly fine sandy loam, gravelly loam	GC, GC-GM, SC-SM, SC	A-2, A-4, A-6	0-5	0-5	60-80	55-75	45-70	30-50	17-30	4-12
	10-60	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly fine sandy loam	GP-GC, GP-GM, GC-GM, GM	A-1, A-2	0-15	5-25	20-45	10-35	7-25	4-15	16-29	2-10

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Oldspan-----	0-3	Gravelly fine sandy loam	SM, GM, SC- SM, GC-GM	A-2	0	0-5	60-85	50-75	40-65	20-35	18-26	3-7
	3-10	Fine sandy loam, loam	ML, CL-ML	A-4	0	0-5	85-100	75-100	65-90	50-70	18-26	3-7
	10-20	Fine sandy loam, loam	CL-ML	A-4	0	0-5	85-100	75-100	65-90	50-70	18-26	3-7
	20-40	Stratified extremely gravelly loam to extremely gravelly loamy coarse sand	GC-GM, GM, GP-GC, GP-GM	A-1	0-5	0-15	20-40	10-30	10-20	5-15	17-25	3-7
	40-60	Stratified extremely gravelly fine sandy loam to extremely gravelly loamy coarse sand	GP-GM, GM, GW-GC, GC- GM, GP-GC	A-1	0-5	0-15	25-45	10-30	10-20	5-15	17-25	3-7
Wechech-----	0-2	Very gravelly sandy loam	GC, GC-GM	A-1, A-2	0	5-15	35-55	30-50	20-35	10-20	18-30	4-12
	2-7	Very gravelly sandy loam, very gravelly fine sandy loam	GC-GM	A-1, A-2	0	0-5	35-55	30-50	20-35	12-25	18-30	4-12
	7-13	Very gravelly sandy loam, very gravelly fine sandy loam	GC-GM, GC	A-2, A-1	0	0-10	35-50	30-45	15-40	8-25	18-30	4-12
	13-60	Cemented material			---	---	---	---	---	---	---	---
314: Weiser-----	0-6	Extremely gravelly fine sandy loam	GM, GP-GM	A-1	0-5	0-15	25-40	15-30	10-25	5-15	18-30	NP-5
	6-60	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly fine sandy loam	GP-GC, GP-GM, GC-GM, GM	A-1, A-2	0-15	5-25	20-45	10-35	7-25	4-15	16-29	2-10

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
Wechech-----	0-2	Very gravelly sandy loam	GC, GC-GM	A-1, A-2	0	5-15	35-55	30-50	20-35	10-20	18-30	4-12
	2-7	Very gravelly sandy loam, very gravelly fine sandy loam	GC-GM	A-1, A-2	0	0-5	35-55	30-50	20-35	12-25	18-30	4-12
	7-13	Very gravelly sandy loam, very gravelly fine sandy loam	GC-GM, GC	A-2, A-1	0	0-10	35-50	30-45	15-40	8-25	18-30	4-12
	13-60	Cemented material			---	---	---	---	---	---	---	---
315: Weiser-----	0-1	Very gravelly fine sandy loam	SC-SM	A-1, A-2	0-5	0-20	30-71	6-56	5-53	3-32	19-30	4-12
	1-60	Extremely gravelly fine sandy loam, very gravelly loam, very gravelly sandy loam, extremely gravelly sandy loam, very gravelly fine sandy loam, extremely gravelly loam	GP-GC, GM	A-1, A-2	0-20	1-25	30-52	6-39	5-34	2-20	16-29	2-10

























TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
380: Tonopah-----	0-1	Extremely gravelly sandy loam	GP, GP-GC, GP-GM	A-1, A-2	0	0-5	20-35	10-25	5-15	0-10	16-27	2-10
	1-9	Very gravelly sandy loam, extremely gravelly sandy loam	GW-GC, GC-GM, GC, GP-GC	A-1, A-2	0-5	0-15	25-55	15-45	10-30	5-15	17-27	3-10
	9-60	Extremely gravelly sand, very gravelly loamy sand, very gravelly sand, extremely gravelly loamy sand	GP, GW	A-1	0	0-30	20-45	10-35	5-20	0-5	0-23	NP-6
Arizo-----	0-2	Very gravelly loamy sand	GM, GP-GM, SM, SP-SM	A-1	0-5	0-15	40-60	30-50	15-30	5-15	0-21	NP-4
	2-6	Sand	SP-SM	A-2	0	0	85-100	80-100	40-70	5-12	0-21	NP-4
	6-60	Stratified very gravelly coarse sand to extremely gravelly sand	GP-GM, SP-SM, SP, GP, GW	A-1	0-5	0-25	25-55	10-45	5-30	0-7	0-18	NP-2
390: Tipnat-----	0-3	Loamy sand	SM	A-2	0	0	85-100	80-100	50-70	20-30	16-21	2-4
	3-13	Sandy clay loam, loam, clay loam	CL, SC	A-6	0	0	85-100	80-100	55-75	40-60	31-42	13-21
	13-60	Stratified sand to very gravelly sandy clay loam	SC-SM, SC	A-2	0	0	85-100	80-100	40-60	25-45	17-30	3-12
Hypoint-----	0-2	Gravelly loamy sand	SM	A-1, A-2	0	0	70-85	55-75	35-55	10-20	0-19	NP-2
	2-60	Stratified sand to very gravelly coarse sand	SM	A-1	0	0-5	65-85	55-75	25-50	10-25	0-21	NP-4

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Grapevine-----	0-1	Gravelly loamy sand	SM	A-1, A-2	0	0	70-85	55-75	35-55	10-20	0-19	NP-2
	1-60	Stratified sandy loam to clay loam	SC-SM, SC	A-4, A-2	0	0	85-100	80-100	55-85	25-55	20-30	6-12
391:												
Tipnat-----	0-3	Loamy sand	SM	A-2	0	0	85-100	80-100	50-70	20-30	16-21	2-4
	3-13	Sandy clay loam, loam, clay loam	CL, SC	A-6	0	0	85-100	80-100	55-75	40-60	31-42	13-21
	13-60	Stratified sand to very gravelly sandy clay loam	SC-SM, SC	A-2	0	0	85-100	80-100	40-60	25-45	17-30	3-12
Hypoint-----	0-2	Gravelly loamy sand	SM	A-1, A-2	0	0	70-85	55-75	35-55	10-20	0-19	NP-2
	2-60	Stratified sand to very gravelly coarse sand	SM	A-1	0	0-5	65-85	55-75	25-50	10-25	0-21	NP-4
Bluepoint-----	0-9	Gravelly loamy fine sand	SM	A-2	0	0	70-90	60-75	50-65	10-25	0-19	NP
	9-60	Fine sand, loamy fine sand, loamy sand, sand	SM	A-2, A-4	0	0	90-100	80-100	60-80	15-40	0-19	NP-3
400:												
Arizo-----	0-4	Extremely stony sandy loam	GM, GC, GC-GM	A-1	25-40	15-40	35-60	25-50	15-35	10-20	16-27	2-10
	4-60	Stratified very gravelly loamy sand to extremely stony coarse sand	GW-GM, GP, GP-GM	A-1	5-15	5-15	35-55	20-50	10-30	0-10	0-22	NP-6

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Cafetal-----	0-3	Extremely stony loam	GM	A-1, A-2	25-40	25-40	30-45	25-40	20-35	15-30	20-25	NP-5
	3-13	Very cobbly loam, very cobbly sandy clay loam, very stony loam	GC, GC-GM, SC, SC-SM	A-2, A-6	5-40	25-50	45-70	40-65	30-55	25-45	29-39	12-19
	13-22	Extremely stony loam, extremely cobbly loam, extremely cobbly fine sandy loam	GM	A-1, A-2	15-38	15-38	30-50	25-45	20-40	15-30	20-25	NP-5
	22-38	Stratified extremely cobbly loam to extremely cobbly loamy sand	GM	A-1, A-2	10-30	25-50	30-50	25-45	20-40	10-30	15-25	NP-5
	38-60	Extremely cobbly coarse sandy loam	GC-GM, GP-GC	A-1, A-2	10-30	25-50	30-55	25-50	15-30	10-15	16-27	2-10
405: Oxyaquic Torrifluvents--	0-2	Very fine sandy loam	SM, ML	A-2, A-4	0	0	95-100	90-100	85-100	30-80	15-25	NP-5
	2-5	Loamy sand	SM	A-2, A-4	0	0	100	90-100	10-80	10-45	15-20	NP
	5-40	Stratified loamy sand to very fine sandy loam	CL-ML, SC-SM, SM, ML	A-4, A-2	0	0	90-100	80-100	10-100	10-80	15-35	NP-10
	40-60	Stratified extremely gravelly coarse sand to gravelly sandy loam	SC-SM, GC-GM, ML, CL-ML	A-2, A-4, A-1	0	10-30	35-80	25-75	0-70	0-55	17-32	2-12







TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
422: Moentria-----	0-3	Extremely gravelly loam	GC, GC-GM	A-2	0-5	0-8	25-35	15-25	10-20	10-20	19-30	4-12
	3-9	Very gravelly loam, extremely gravelly loam, very gravelly very fine sandy loam, very gravelly fine sandy loam, extremely gravelly very fine sandy loam, extremely gravelly fine sandy loam	GC, GC-GM	A-2	0	0-5	25-45	15-35	15-30	10-25	18-30	4-12
	9-19	Bedrock			---	---	---	---	---	---	---	---
	19-29	Bedrock			---	---	---	---	---	---	---	---
Purob-----	0-3	Extremely gravelly loam	GC, GC-GM	A-2	0-5	0-10	25-40	15-30	13-25	10-20	18-29	3-10
	3-8	Gravelly loam, very gravelly loam	GC-GM, GC, SC, SC-SM	A-4, A-6, A-2	0-5	0-5	45-80	35-70	30-60	25-50	22-34	7-14
	8-19	Very gravelly loam, extremely gravelly loam, extremely gravelly clay loam	GC, GC-GM	A-2	0-5	0-15	25-55	15-45	15-35	10-30	22-31	7-14
	19-60	Cemented material			---	---	---	---	---	---	---	---
430: Bluepoint-----	0-9	Gravelly loamy fine sand	SM	A-2	0	0	70-90	60-75	50-65	10-25	0-19	NP
	9-60	Fine sand, loamy fine sand, loamy sand, sand	SM	A-2, A-4	0	0	90-100	80-100	60-80	15-40	0-19	NP-3

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Tipnat-----	0-3	Loamy sand	SM	A-2	0	0	85-100	80-100	50-70	20-30	16-21	2-4
	3-13	Sandy clay loam, loam, clay loam	CL, SC	A-6	0	0	85-100	80-100	55-75	40-60	31-42	13-21
	13-60	Stratified sand to very gravelly sandy clay loam	SC-SM, SC	A-2	0	0	85-100	80-100	40-60	25-45	17-30	3-12
Grapevine, overblown-----	0-10	Loamy sand	SM	A-2	0	0	100	95-100	65-75	20-30	0-19	NP-2
	10-60	Stratified sandy loam to clay loam	SC-SM, SC	A-4, A-2	0	0	85-100	80-100	55-85	25-55	20-30	6-12
431: Hypoint, thick surface-----	0-7	Gravelly loamy fine sand	SM	A-2	0	0	70-90	60-75	50-65	10-25	0-20	NP-3
	7-60	Stratified sand to very gravelly coarse sand	SM	A-1	0	0-5	65-85	55-75	25-50	10-25	0-21	NP-4
Vegastorm-----	0-3	Fine sandy loam	ML, SC-SM	A-4	0	0	85-100	80-100	60-80	40-55	16-27	2-9
	3-20	Gravelly sandy loam, gravelly loam, loam	SC-SM, GC-GM	A-2, A-4	0	0	65-95	55-85	40-65	30-50	18-26	4-8
	20-26	Silt loam	CL-ML, CL	A-4	0	0	85-100	75-100	70-100	65-95	20-29	5-10
	26-60	Gravelly sandy loam, gravelly loam, gravelly fine sandy loam	GC-GM, SC-SM, GC, SC	A-2, A-4	0	0	60-80	50-70	35-60	25-45	20-29	5-10
Hypoint-----	0-2	Gravelly loamy sand	SM	A-1, A-2	0	0	70-85	55-75	35-55	10-20	0-19	NP-2
	2-60	Stratified sand to very gravelly coarse sand	SM	A-1	0	0-5	65-85	55-75	25-50	10-25	0-21	NP-4

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
441: Corbilt-----	0-4	Gravelly loamy fine sand	SM	A-2	0	0	65-80	55-75	50-65	15-30	0-20	NP-4
	4-32	Gravelly fine sandy loam, gravelly sandy loam	SC-SM	A-1, A-2, A-4	0	0	65-80	55-75	45-65	20-45	16-23	2-6
	32-56	Very gravelly sandy loam	SM	A-1, A-2	0-10	0-10	60-70	50-60	35-55	20-30	0-20	NP-3
	56-60	Cemented material			---	---	---	---	---	---	---	---
450: Arizo-----	0-2	Very gravelly loamy sand	GM, GP-GM, SM, SP-SM	A-1	0-5	0-15	40-60	30-50	15-30	5-15	0-21	NP-4
	2-6	Sand	SP-SM	A-2	0	0	85-100	80-100	40-70	5-12	0-21	NP-4
	6-60	Stratified very gravelly coarse sand to extremely gravelly sand	GP-GM, SP-SM, SP, GP, GW	A-1	0-5	0-25	25-55	10-45	5-30	0-7	0-18	NP-2
Arizo, frequently flooded-----	0-6	Extremely gravelly coarse sandy loam	GM, GP-GM	A-1	0-5	0-7	25-40	15-25	10-25	5-15	15-20	NP-5
	6-60	Stratified very gravelly coarse sand to extremely gravelly sand	GW, GP, GP- GM, SP-SM, SP	A-1	0-5	0-25	25-55	10-45	5-30	0-7	0-18	NP-2
451: Arizo-----	0-6	Extremely gravelly sandy loam	GP, GP-GC, GP-GM	A-1, A-2	0-5	0-15	20-35	10-25	5-15	0-10	16-27	2-10
	6-60	Stratified extremely gravelly loamy sand to cobbly coarse sand	GP, GP-GM	A-1	0-5	5-30	35-55	20-50	10-30	0-10	0-19	NP-3





TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
460: Pahrump-----	0-2	Gravelly loam	GC-GM, ML, SC-SM	A-4	0	0	65-85	55-75	45-65	35-55	18-29	3-10
	2-6	Loam, very fine sandy loam	CL-ML, ML	A-4	0	0	85-100	80-100	75-95	60-70	19-27	3-7
	6-46	Very gravelly silt loam, very gravelly loam	GC	A-2	0	0	35-55	30-50	25-45	20-35	28-39	10-16
	46-60	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	90-100	85-100	80-95	50-60	15-29	1-10
Wodavar-----	0-3	Extremely gravelly fine sandy loam	GC, GC-GM, GP-GC	A-1, A-2	0	0	20-30	15-25	10-20	5-15	18-27	4-9
	3-16	Very gravelly sandy loam	GC, GC-GM	A-1, A-2	0	0	35-55	30-50	20-40	10-30	18-27	4-9
	16-33	Cemented material			---	---	---	---	---	---	---	---
	33-60	Very gravelly loam, extremely gravelly loam	GC-GM, GC	A-1, A-2	0	0	35-55	25-45	20-45	20-25	20-29	5-10
Vegastorm-----	0-3	Gravelly fine sandy loam	GM, SC-SM, SM, GC-GM	A-2, A-4	0	0	60-85	50-75	40-60	25-45	16-26	1-8
	3-20	Gravelly sandy loam, gravelly loam, loam	SC-SM, GC-GM	A-2, A-4	0	0	65-95	55-85	40-65	30-50	18-26	4-8
	20-26	Silt loam	CL-ML, CL	A-4	0	0	85-100	75-100	70-100	65-95	20-29	5-10
	26-60	Gravelly sandy loam, gravelly loam, gravelly fine sandy loam	GC-GM, SC-SM, GC, SC	A-2, A-4	0	0	60-80	50-70	35-60	25-45	20-29	5-10

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
461: Pahrump, saline-	0-2	Gravelly loam	GC-GM, ML, SC-SM	A-4	0	0	65-85	55-75	45-65	35-55	18-29	3-10
	2-6	Loam, very fine sandy loam	CL-ML, ML	A-4	0	0	85-100	80-100	75-95	60-70	19-27	3-7
	6-46	Very gravelly silt loam, very gravelly loam	GC	A-2	0	0	35-55	30-50	25-45	20-35	28-39	10-16
	46-60	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	90-100	85-100	80-95	50-60	15-29	1-10
Pahrump-----	0-2	Gravelly loam	GC-GM, ML, SC-SM	A-4	0	0	65-85	55-75	45-65	35-55	18-29	3-10
	2-6	Loam, very fine sandy loam	CL-ML, ML	A-4	0	0	85-100	80-100	75-95	60-70	19-27	3-7
	6-46	Very gravelly silt loam, very gravelly loam	GC	A-2	0	0	35-55	30-50	25-45	20-35	28-39	10-16
	46-60	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	90-100	85-100	80-95	50-60	15-29	1-10
Bluepoint-----	0-14	Fine sand	SM	A-2, A-4	0	0	90-100	80-100	60-80	15-40	0-19	NP-3
	14-60	Fine sand, loamy fine sand, loamy sand, sand	SM	A-2, A-4	0	0	90-100	80-100	60-80	15-40	0-19	NP-3
470: Filaree-----	0-2	Very gravelly fine sandy loam	GC-GM, SC-SM	A-1	0	0	40-60	30-50	25-40	12-25	16-27	2-10
	2-22	Stratified gravelly fine sandy loam to fine sandy loam	SC-SM	A-2	0	0	70-95	60-90	45-70	30-45	16-27	2-10
	22-60	Stratified gravelly coarse sandy loam to very gravelly fine sandy loam	SC-SM, GC-GM	A-1, A-2	0	0	60-85	50-75	35-50	15-30	16-27	2-10

























TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
550: Cheme-----	0-2	Extremely gravelly sandy loam	GC, GC-GM, GP-GC	A-1, A-2	0-5	5-15	20-50	5-25	5-25	5-20	18-30	4-12
	2-6	Very gravelly loam	GC, SC, GC- GM, SC-SM	A-1, A-2	0	0	30-65	25-45	20-40	15-35	18-30	4-12
	6-18	Extremely gravelly sandy loam	GP-GC, GC-GM, GP, GW-GC, GC	A-1, A-2	0	5-10	20-35	5-20	5-20	0-15	18-30	4-12
	18-42	Cemented material			---	---	---	---	---	---	---	---
	42-60	Bedrock			---	---	---	---	---	---	---	---
Riverbend-----	0-3	Extremely gravelly coarse sandy loam	GM, GP-GM	A-1	0-5	0-7	25-40	15-25	10-25	5-15	15-20	NP-5
	3-10	Very gravelly coarse sand, very gravelly loamy coarse sand	GM, GP-GM, GP-GC, GC-GM	A-1	0-5	0-5	40-60	30-50	20-30	5-15	0-23	NP-6
	10-60	Stratified extremely gravelly coarse sand to very gravelly loamy coarse sand	GM, GP-GM, GC-GM, GP- GC, GW-GM	A-1	0-10	0-10	25-60	15-50	10-30	5-15	0-23	NP-6
Carrizo-----	0-7	Very cobbly coarse sand	GP-GM, SP-SM	A-1	0-15	25-45	45-70	35-60	20-40	5-10	0-21	NP-4
	7-60	Stratified extremely gravelly coarse sand to very gravelly sand	GW, GP, GP-GM	A-1	0-15	0-15	25-55	15-45	5-25	0-7	0-20	NP-4

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
551: Cheme-----	0-2	Extremely gravelly sandy loam	GC, GC-GM, GP-GC	A-1, A-2	0-5	5-15	20-50	5-25	5-25	5-20	18-30	4-12
	2-6	Very gravelly loam	GC, SC, GC- GM, SC-SM	A-1, A-2	0	0	30-65	25-45	20-40	15-35	18-30	4-12
	6-18	Extremely gravelly sandy loam	GP-GC, GC-GM, GP, GW-GC, GC	A-1, A-2	0	5-10	20-35	5-20	5-20	0-15	18-30	4-12
	18-42	Cemented material			---	---	---	---	---	---	---	---
	42-60	Bedrock			---	---	---	---	---	---	---	---
Carrizo-----	0-7	Very cobbly coarse sand	GP-GM, SP-SM	A-1	0-15	25-45	45-70	35-60	20-40	5-10	0-21	NP-4
	7-60	Stratified extremely gravelly coarse sand to very gravelly sand	GW, GP, GP-GM	A-1	0-15	0-15	25-55	15-45	5-25	0-7	0-20	NP-4
Huevi-----	0-5	Extremely gravelly sandy loam	GP-GC, GW-GC	A-1, A-2	0-5	10-30	20-40	10-30	7-20	4-12	18-30	4-12
	5-18	Very gravelly fine sandy loam, extremely gravelly sandy loam, very gravelly sandy loam, very gravelly loam	GW-GC, GC-GM, GC	A-1, A-2	0-5	5-15	25-55	15-45	10-30	5-20	18-30	4-12
	18-60	Extremely cobbly coarse sandy loam, extremely cobbly sandy loam, very cobbly sandy loam, very cobbly coarse sandy loam	GC-GM, GW-GC, GC, SW-SC	A-1, A-2	0-5	35-60	30-60	25-55	15-35	4-20	18-30	4-12

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
552: Cheme-----	0-2	Extremely gravelly sandy loam	GC, GC-GM, GP-GC	A-1, A-2	0-5	5-15	20-50	5-25	5-25	5-20	18-30	4-12
	2-6	Very gravelly loam	GC, SC, GC- GM, SC-SM	A-1, A-2	0	0	30-65	25-45	20-40	15-35	18-30	4-12
	6-18	Extremely gravelly sandy loam	GP-GC, GC-GM, GP, GW-GC, GC	A-1, A-2	0	5-10	20-35	5-20	5-20	0-15	18-30	4-12
	18-42	Cemented material			---	---	---	---	---	---	---	---
	42-60	Bedrock			---	---	---	---	---	---	---	---
Huevi, dry-----	0-5	Extremely gravelly sandy loam	GW-GC, GP-GC	A-1, A-2	0-5	10-30	20-40	10-30	7-20	4-12	18-30	4-12
	5-18	Very gravelly fine sandy loam, extremely gravelly sandy loam, very gravelly sandy loam, very gravelly loam	GW-GC, GC-GM, GC	A-1, A-2	0-5	5-15	25-55	15-45	10-30	5-20	18-30	4-12
	18-60	Extremely cobble coarse sandy loam, extremely cobble sandy loam, very cobble sandy loam, very cobble coarse sandy loam	GC-GM, GW-GC, GC, SW-SC	A-1, A-2	0-5	35-60	30-60	25-55	15-35	4-20	18-30	4-12

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Huevi-----	0-5	Very gravelly sandy loam	GM, GC-GM, SM, SC-SM	A-1, A-2	0-5	0-8	50-67	35-54	26-46	14-26	17-27	3-10
	5-18	Very gravelly fine sandy loam, extremely gravelly sandy loam, very gravelly sandy loam, very gravelly loam	GW-GC, GC-GM, GC	A-1, A-2	0-5	5-15	25-55	15-45	10-30	5-20	18-30	4-12
	18-60	Extremely cobble coarse sandy loam, extremely cobble sandy loam, very cobble sandy loam, very cobble coarse sandy loam	GC-GM, GW-GC, GC, SW-SC	A-1, A-2	0-5	35-60	30-60	25-55	15-35	4-20	18-30	4-12
560: Rositas-----	0-5	Fine sand	SM	A-2	0	0	100	95-100	65-80	20-35	0-19	NP-2
	5-60	Sand, fine sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0	0	100	92-100	50-80	5-30	0-19	NP-2
Rositas, gravelly surface-----	0-5	Gravelly fine sand	SM	A-2, A-1	0	0	85-95	50-75	35-60	10-20	0-18	NP-2
	5-60	Sand, fine sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0	0	100	92-100	50-80	5-30	0-19	NP-2
Riverbend, rarely flooded-	0-7	Gravelly loamy sand	SM	A-1, A-2	0	0	70-90	55-75	30-60	15-35	16-21	2-4
	7-60	Stratified extremely gravelly coarse sand to very gravelly loamy coarse sand	GM, GP-GM, GC-GM, GP- GC, GW-GM	A-1	0-10	0-10	25-60	15-50	10-30	5-15	0-23	NP-6

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
565: Govwash-----	0-1	Gravelly sandy loam	SM, SC, SC- SM, GC-GM	A-2	0	0	65-85	55-75	40-60	20-35	16-30	2-12
	1-3	Sandy clay loam, loam	SC, CL	A-2, A-6	0	0	85-100	75-90	15-90	15-80	22-38	6-18
	3-6	Gravelly gypsiferous sandy loam, gravelly gypsiferous fine sandy loam	SC-SM, GC-GM, SC, CL-ML	A-4, A-1, A-2	0	0	65-85	55-75	35-60	10-55	16-30	2-12
	6-56	Gypsiferous material			0	0	---	---	---	---	---	---
	56-63	Gypsiferous bedrock			---	---	---	---	---	---	---	---
	63-73	Gypsiferous bedrock			---	---	---	---	---	---	---	---
	Guardian-----	0-2	Gypsiferous fine sandy loam	SC-SM, SC	A-2, A-4	0	0	100	90-100	65-100	10-70	18-29
	2-4	Gypsiferous material			0	0	---	---	---	---	---	---
	4-19	Gypsiferous material			0	0	---	---	---	---	---	---
	19-29	Gypsiferous bedrock			---	---	---	---	---	---	---	---
Badland-----	---	---	---	---	---	---	---	---	---	---	---	---
570: Carrizo-----	0-2	Extremely gravelly coarse sand	GW, GP	A-1	0-5	0-5	20-35	10-25	5-15	0-5	0-20	NP-4
	2-10	Gravelly coarse sand	SW-SM, SP-SM	A-1	0	0-5	60-85	50-75	25-45	5-10	0-20	NP-4
	10-60	Stratified extremely gravelly coarse sand to very gravelly sand	GP, GP-GM, GW	A-1	0-15	0-15	25-55	15-45	5-25	0-7	0-20	NP-4

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Carrizo, rarely flooded-----	0-7	Very cobbly coarse sand	GP-GM, SP-SM	A-1	0-15	25-45	45-70	35-60	20-40	5-10	0-21	NP-4
	7-60	Stratified extremely gravelly coarse sand to very gravelly sand	GW, GP, GP-GM	A-1	0-15	0-15	25-55	15-45	5-25	0-7	0-20	NP-4
571: Carrizo, rarely flooded-----	0-7	Very cobbly coarse sand	GP-GM, SP-SM	A-1	0-15	25-45	45-70	35-60	20-40	5-10	0-21	NP-4
	7-60	Stratified extremely gravelly coarse sand to very gravelly sand	GW, GP, GP-GM	A-1	0-15	0-15	25-55	15-45	5-25	0-7	0-20	NP-4
Carrizo-----	0-7	Extremely gravelly loamy sand	GP-GM, GP	A-1	0-5	10-20	30-50	15-30	5-15	0-10	10-15	NP-5
	7-60	Stratified extremely gravelly coarse sand to very gravelly sand	GW, GP, GP-GM	A-1	0-15	0-15	25-55	15-45	5-25	0-7	0-20	NP-4
Riverbend, rarely flooded-	0-7	Gravelly loamy sand	SM	A-1, A-2	0	0	70-90	55-75	30-60	15-35	16-21	2-4
	7-60	Stratified extremely gravelly coarse sand to very gravelly loamy coarse sand	GM, GP-GM, GC-GM, GP- GC, GW-GM	A-1	0-10	0-10	25-60	15-50	10-30	5-15	0-23	NP-6

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
572: Carrizo-----	0-7	Very cobbly coarse sand	GP-GM, SP-SM	A-1	0-15	25-45	45-70	35-60	20-40	5-10	0-21	NP-4
	7-60	Stratified extremely gravelly coarse sand to very gravelly sand	GW, GP, GP-GM	A-1	0-15	0-15	25-55	15-45	5-25	0-7	0-20	NP-4
573: Carrizo-----	0-10	Extremely gravelly coarse sand	GW, GP	A-1	0-5	0-5	20-35	10-25	5-15	0-5	0-20	NP-4
	10-60	Stratified extremely gravelly coarse sand to very gravelly sand	GW, GP, GP-GM	A-1	0-15	0-15	25-55	15-45	5-25	0-7	0-20	NP-4
Riverbend, rarely flooded-	0-3	Extremely gravelly coarse sandy loam	GM, GP-GM	A-1	0-5	0-7	25-40	15-25	10-25	5-15	15-20	NP-5
	3-10	Very gravelly coarse sand, very gravelly loamy coarse sand	GM, GP-GM, GP-GC, GC-GM	A-1	0-5	0-5	40-60	30-50	20-30	5-15	0-23	NP-6
	10-60	Stratified extremely gravelly coarse sand to very gravelly loamy coarse sand	GM, GP-GM, GC-GM, GP- GC, GW-GM	A-1	0-10	0-10	25-60	15-50	10-30	5-15	0-23	NP-6



TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
575: Carrizo-----	0-13	Very gravelly loamy sand	GP-GM, GW-GM	A-1	0-15	0-15	35-45	30-40	15-30	5-10	10-15	NP
	13-60	Stratified extremely gravelly loamy sand to extremely stony coarse sand	GW-GM, GP	A-1	0-35	0-35	20-40	10-30	5-20	3-10	10-15	NP
Carrizo, cobbly surface-----	0-3	Very cobbly loamy sand	GP-GM, SP-SM	A-1	0-15	25-45	45-70	35-60	20-40	5-10	0-21	NP-4
	3-60	Stratified extremely gravelly loamy sand to extremely stony coarse sand	GP, GW-GM	A-1	0-35	0-35	20-40	10-30	5-20	3-10	10-15	NP
581: Threelakes-----	0-3	Extremely gravelly fine sandy loam	GP-GC, GP-GM, GP	A-1, A-2	0-5	0-10	20-35	10-25	5-20	0-10	16-27	2-10
	3-31	Extremely gravelly fine sandy loam, extremely gravelly sandy loam	GP, GP-GM, GP-GC	A-1, A-2	0-5	0-10	20-35	10-25	5-20	0-10	16-27	2-10
	31-60	Stratified extremely gravelly fine sandy loam to extremely gravelly loamy coarse sand	GP, GW-GC	A-1, A-2	0-5	0-8	20-40	10-25	5-20	0-10	17-27	3-10

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Weiser-----	0-6	Extremely gravelly fine sandy loam	GM, GP-GM	A-1	0-5	0-15	25-40	15-30	10-25	5-15	18-30	NP-5
	6-60	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly fine sandy loam	GP-GC, GP-GM, GC-GM, GM	A-1, A-2	0-15	5-25	20-45	10-35	7-25	4-15	16-29	2-10
590: Riverbend-----	0-3	Extremely gravelly coarse sandy loam	GM, GP-GM	A-1	0-5	0-7	25-40	15-25	10-25	5-15	15-20	NP-5
	3-10	Very gravelly coarse sand, very gravelly loamy coarse sand	GM, GP-GM, GP-GC, GC-GM	A-1	0-5	0-5	40-60	30-50	20-30	5-15	0-23	NP-6
	10-60	Stratified extremely gravelly coarse sand to very gravelly loamy coarse sand	GM, GP-GM, GC-GM, GP- GC, GW-GM	A-1	0-10	0-10	25-60	15-50	10-30	5-15	0-23	NP-6
Carrizo-----	0-7	Very cobbly coarse sand	GP-GM, SP-SM	A-1	0-15	25-45	45-70	35-60	20-40	5-10	0-21	NP-4
	7-60	Stratified extremely gravelly coarse sand to very gravelly sand	GW, GP, GP-GM	A-1	0-15	0-15	25-55	15-45	5-25	0-7	0-20	NP-4

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
591: Riverbend-----	0-3	Extremely gravelly coarse sandy loam	GM, GP-GM	A-1	0-5	0-7	25-40	15-25	10-25	5-15	15-20	NP-5
	3-10	Very gravelly coarse sand, very gravelly loamy coarse sand	GM, GP-GM, GP-GC, GC-GM	A-1	0-5	0-5	40-60	30-50	20-30	5-15	0-23	NP-6
	10-60	Stratified extremely gravelly coarse sand to very gravelly loamy coarse sand	GM, GP-GM, GC-GM, GP- GC, GW-GM	A-1	0-10	0-10	25-60	15-50	10-30	5-15	0-23	NP-6
Carrwash-----	0-3	Very gravelly coarse sandy loam	SM, SP-SM	A-1	0	0-8	60-80	30-50	15-35	10-15	0-20	NP-4
	3-8	Very gravelly coarse sandy loam	SM, SP-SM	A-1	0	0-5	60-80	30-50	15-35	10-15	0-20	NP-4
	8-60	Stratified extremely gravelly coarse sand to very gravelly loamy coarse sand	SP-SM	A-1	0	0-5	60-80	30-50	15-30	5-10	0-18	NP-2

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
592: Riverbend-----	0-3	Extremely gravelly coarse sandy loam	GM, GP-GM	A-1	0-5	0-7	25-40	15-25	10-25	5-15	15-20	NP-5
	3-10	Very gravelly coarse sand, very gravelly loamy coarse sand	GM, GP-GM, GP-GC, GC-GM	A-1	0-5	0-5	40-60	30-50	20-30	5-15	0-23	NP-6
	10-60	Stratified extremely gravelly coarse sand to very gravelly loamy coarse sand	GM, GP-GM, GC-GM, GP- GC, GW-GM	A-1	0-10	0-10	25-60	15-50	10-30	5-15	0-23	NP-6
Carrizo-----	0-7	Extremely gravelly loamy sand	GP-GM, GP	A-1	0-5	10-20	30-50	15-30	5-15	0-10	10-15	NP-5
	7-60	Stratified extremely gravelly coarse sand to very gravelly sand	GW, GP, GP-GM	A-1	0-15	0-15	25-55	15-45	5-25	0-7	0-20	NP-4
593: Riverbend, rarely flooded-	0-3	Extremely gravelly coarse sandy loam	GM, GP-GM	A-1	0-5	0-7	25-40	15-25	10-25	5-15	15-20	NP-5
	3-10	Very gravelly coarse sand, very gravelly loamy coarse sand	GM, GP-GM, GP-GC, GC-GM	A-1	0-5	0-5	40-60	30-50	20-30	5-15	0-23	NP-6
	10-60	Stratified extremely gravelly coarse sand to very gravelly loamy coarse sand	GM, GP-GM, GC-GM, GP- GC, GW-GM	A-1	0-10	0-10	25-60	15-50	10-30	5-15	0-23	NP-6

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Cheme-----	0-2	Extremely gravelly sandy loam	GC, GC-GM, GP-GC	A-1, A-2	0-5	5-15	20-50	5-25	5-25	5-20	18-30	4-12
	2-6	Very gravelly loam	GC, SC, GC- GM, SC-SM	A-1, A-2	0	0	30-65	25-45	20-40	15-35	18-30	4-12
	6-18	Extremely gravelly sandy loam	GP-GC, GC-GM, GP, GW-GC, GC	A-1, A-2	0	5-10	20-35	5-20	5-20	0-15	18-30	4-12
	18-42	Cemented material			---	---	---	---	---	---	---	---
	42-60	Bedrock			---	---	---	---	---	---	---	---
Carrizo-----	0-10	Extremely gravelly coarse sand	GW, GP	A-1	0-5	0-5	20-35	10-25	5-15	0-5	0-20	NP-4
	10-60	Stratified extremely gravelly coarse sand to very gravelly sand	GW, GP, GP-GM	A-1	0-15	0-15	25-55	15-45	5-25	0-7	0-20	NP-4
600: Huevi-----	0-5	Extremely gravelly sandy loam	GP-GC, GW-GC	A-1, A-2	0-5	10-30	20-40	10-30	7-20	4-12	18-30	4-12
	5-18	Very gravelly fine sandy loam, extremely gravelly sandy loam, very gravelly sandy loam, very gravelly loam	GW-GC, GC-GM, GC	A-1, A-2	0-5	5-15	25-55	15-45	10-30	5-20	18-30	4-12
	18-60	Extremely cobble coarse sandy loam, extremely cobble sandy loam, very cobble sandy loam, very cobble coarse sandy loam	GC-GM, GW-GC, GC, SW-SC	A-1, A-2	0-5	35-60	30-60	25-55	15-35	4-20	18-30	4-12

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Cheme-----	0-2	Extremely gravelly sandy loam	GC, GC-GM, GP-GC	A-1, A-2	0-5	5-15	20-50	5-25	5-25	5-20	18-30	4-12
	2-6	Very gravelly loam	GC, SC, GC- GM, SC-SM	A-1, A-2	0	0	30-65	25-45	20-40	15-35	18-30	4-12
	6-18	Extremely gravelly sandy loam	GP-GC, GC-GM, GP, GW-GC, GC	A-1, A-2	0	5-10	20-35	5-20	5-20	0-15	18-30	4-12
	18-42	Cemented material			---	---	---	---	---	---	---	---
	42-60	Bedrock			---	---	---	---	---	---	---	---
601: Huevi-----	0-5	Extremely gravelly sandy loam	GP-GC, GW-GC	A-1, A-2	0-5	10-30	20-40	10-30	7-20	4-12	18-30	4-12
	5-18	Very gravelly fine sandy loam, extremely gravelly sandy loam, very gravelly sandy loam, very gravelly loam	GW-GC, GC-GM, GC	A-1, A-2	0-5	5-15	25-55	15-45	10-30	5-20	18-30	4-12
	18-60	Extremely cobble coarse sandy loam, extremely cobble sandy loam, very cobble sandy loam, very cobble coarse sandy loam	GC-GM, GW-GC, GC, SW-SC	A-1, A-2	0-5	35-60	30-60	25-55	15-35	4-20	18-30	4-12

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Huevi, dry-----	0-5	Extremely gravelly sandy loam	GP-GC, GW-GC	A-1, A-2	0-5	10-30	20-40	10-30	7-20	4-12	18-30	4-12
	5-18	Very gravelly fine sandy loam, extremely gravelly sandy loam, very gravelly sandy loam, very gravelly loam	GW-GC, GC-GM, GC	A-1, A-2	0-5	5-15	25-55	15-45	10-30	5-20	18-30	4-12
	18-60	Extremely cobble coarse sandy loam, extremely cobble sandy loam, very cobble sandy loam, very cobble coarse sandy loam	GC-GM, GW-GC, GC, SW-SC	A-1, A-2	0-5	35-60	30-60	25-55	15-35	4-20	18-30	4-12
603: Huevi, dry-----	0-5	Extremely gravelly sandy loam	GP-GC, GW-GC	A-1, A-2	0-5	10-30	20-40	10-30	7-20	4-12	18-30	4-12
	5-18	Very gravelly fine sandy loam, extremely gravelly sandy loam, very gravelly sandy loam, very gravelly loam	GW-GC, GC-GM, GC	A-1, A-2	0-5	5-15	25-55	15-45	10-30	5-20	18-30	4-12
	18-60	Extremely cobble coarse sandy loam, extremely cobble sandy loam, very cobble sandy loam, very cobble coarse sandy loam	GC-GM, GW-GC, GC, SW-SC	A-1, A-2	0-5	35-60	30-60	25-55	15-35	4-20	18-30	4-12

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
604: Huevi, dry-----	0-5	Extremely stony sandy loam	GM, SM	A-1	25-50	15-40	30-60	20-35	15-25	10-20	15-25	NP-5
	5-18	Very gravelly fine sandy loam, extremely gravelly sandy loam, very gravelly sandy loam, very gravelly loam	GW-GC, GC-GM, GC	A-1, A-2	0-5	5-15	25-55	15-45	10-30	5-20	18-30	4-12
	18-60	Extremely cobble coarse sandy loam, extremely cobble sandy loam, very cobble sandy loam, very cobble coarse sandy loam	GC-GM, GW-GC, GC, SW-SC	A-1, A-2	0-5	35-60	30-60	25-55	15-35	4-20	18-30	4-12
Hiller-----	0-3	Extremely gravelly sandy loam	GP-GC	A-1	5-15	5-15	15-35	10-30	7-20	3-13	18-30	4-12
	3-8	Very gravelly sandy loam, very gravelly loam	GC-GM, GC	A-1, A-2	0-5	5-25	35-55	30-50	20-35	10-25	18-30	4-12
	8-14	Very gravelly loam, very gravelly sandy loam	GC-GM, GC	A-2, A-1	0-5	5-15	35-55	30-50	20-35	20-35	18-30	4-12
	14-60	Very gravelly loam, very gravelly sandy loam	GC, GC-GM	A-1, A-2	0-10	5-15	35-55	30-50	20-35	20-35	18-30	4-12



TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
606: Huevi-----	0-5	Very gravelly sandy loam	GM, GC-GM, SM, SC-SM	A-1, A-2	0-5	0-8	50-67	35-54	26-46	14-26	17-27	3-10
	5-18	Very gravelly fine sandy loam, extremely gravelly sandy loam, very gravelly loam, very gravelly sandy loam	GW-GC, GC-GM, GC	A-1, A-2	0-5	5-15	25-55	15-45	10-30	5-20	18-30	4-12
	18-60	Extremely cobble coarse sandy loam, extremely cobble sandy loam, very cobble sandy loam, very cobble coarse sandy loam	GC-GM, GW-GC, GC, SW-SC	A-1, A-2	0-5	35-60	30-60	25-55	15-35	4-20	18-30	4-12
Huevi, dry-----	0-5	Extremely gravelly sandy loam	GP-GC, GW-GC	A-1, A-2	0-5	10-30	20-40	10-30	7-20	4-12	18-30	4-12
	5-18	Very gravelly fine sandy loam, extremely gravelly sandy loam, very gravelly sandy loam, very gravelly loam	GW-GC, GC-GM, GC	A-1, A-2	0-5	5-15	25-55	15-45	10-30	5-20	18-30	4-12
	18-60	Extremely cobble coarse sandy loam, extremely cobble sandy loam, very cobble sandy loam, very cobble coarse sandy loam	GC-GM, GW-GC, GC, SW-SC	A-1, A-2	0-5	35-60	30-60	25-55	15-35	4-20	18-30	4-12



TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
613: Goldroad-----	0-1	Extremely gravelly sandy loam	GP-GM, GW-GM	A-1	0-5	0-25	40-50	10-20	5-15	0-10	15-25	NP-5
	1-5	Extremely gravelly coarse sandy loam, very gravelly sandy loam	SM, SP-SM, GM	A-1	0-5	0-15	40-70	15-45	10-30	5-20	15-25	NP-5
	5-15	Bedrock			---	---	---	---	---	---	---	---
Haleburu-----	0-2	Extremely gravelly sandy loam	GP-GC	A-1	0-10	0-20	15-35	10-25	7-20	5-12	17-25	3-7
	2-11	Very gravelly sandy loam, very gravelly fine sandy loam, very gravelly loam	GM, GC-GM, SP-SM, SM	A-1, A-2	0-5	0-15	35-60	30-50	20-40	12-30	17-30	3-12
	11-21	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
620: Arizo-----	0-2	Extremely gravelly sandy loam	GP-GM, GP, GW-GM	A-1	0-5	0-10	20-40	10-25	6-17	3-10	15-20	NP-5
	2-9	Gravelly loamy sand	SM	A-1, A-2	0	0-5	70-85	55-75	35-55	10-20	0-21	NP-4
	9-60	Stratified very gravelly coarse sand to extremely gravelly loamy sand	GP, GP-GM	A-1	0-15	5-25	30-55	15-35	5-20	0-10	0-22	NP-6

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Lanip-----	0-2	Gravelly sandy loam	SM	A-1, A-2	0	0-5	65-85	50-75	40-55	20-35	0-14	NP
	2-15	Gravelly loam, gravelly sandy loam	ML, SM, GM, SC-SM	A-2, A-4	0	0	65-75	55-75	40-60	25-55	15-25	NP-5
	15-39	Clay loam, sandy clay loam, gravelly sandy clay loam	CL, SC	A-6	0	0	70-95	60-90	50-80	40-65	30-40	10-20
	39-48	Gravelly sandy loam	SM, GM	A-1, A-2, A-4	0	0	65-85	55-75	40-60	20-40	15-25	NP-5
	48-60	Very gravelly sandy loam, very gravelly loamy sand	GM, SM	A-1, A-2	0	0	40-60	30-50	15-35	10-30	15-25	NP-5
621: Orwash-----	0-2	Gravelly loamy coarse sand	SM	A-1	0	0-5	85-95	55-70	30-50	10-20	0-20	NP-4
	2-60	Stratified loamy sand to very gravelly coarse sand	SM	A-1	0	0-5	85-95	50-75	30-50	10-20	0-20	NP-3
622: Orwash-----	0-2	Gravelly sandy loam	SM	A-1, A-2	0	0-5	85-95	55-70	35-50	20-30	0-20	NP-4
	2-60	Stratified loamy sand to very gravelly coarse sand	SM	A-1	0	0-5	85-95	50-75	30-50	10-20	0-20	NP-3
Arizo-----	0-6	Extremely gravelly coarse sandy loam	GM, GP-GM	A-1	0-5	0-7	25-40	15-25	10-25	5-15	15-20	NP-5
	6-60	Stratified very gravelly coarse sand to extremely gravelly sand	GW, GP, GP-GM, SP-SM, SP	A-1	0-5	0-25	25-55	10-45	5-30	0-7	0-18	NP-2











TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
651: Peskah-----	0-1	Extremely gravelly fine sandy loam	GP, GP-GC	A-2	0-8	0-15	15-30	10-25	5-20	0-10	19-30	4-12
	1-4	Gravelly sandy loam, very gravelly fine sandy loam, gravelly fine sandy loam, very gravelly sandy loam	SC, GC-GM, GC, SC-SM	A-2	0-5	0-5	45-80	35-75	25-45	15-30	19-30	4-12
	4-8	Gravelly sandy clay loam, gravelly sandy loam	SC, SC-SM, GC, GC-GM	A-2	0	0-10	60-80	50-75	20-45	15-35	29-46	12-25
	8-15	Very gravelly sandy loam, very gravelly sandy clay loam	GC, GC-GM	A-2	0	0-5	35-55	30-50	15-40	10-30	29-46	12-25
	15-43	Stratified very gravelly sandy loam to extremely gravelly coarse sand	GP, GP-GM	A-1	0-5	0-15	15-30	10-25	5-15	0-10	16-27	2-10
	43-60	Cemented material			---	---	---	---	---	---	---	---
	Arizo-----	0-6	Extremely gravelly sandy loam	GP, GP-GC, GP-GM	A-1, A-2	0-5	0-15	20-35	10-25	5-15	0-10	16-27
6-60		Stratified extremely gravelly loamy sand to cobbly coarse sand	GP, GP-GM	A-1	0-5	5-30	35-55	20-50	10-30	0-10	0-19	NP-3





TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Kidwell-----	0-1	Very gravelly sandy loam	GC-GM, GM	A-1, A-2	0	0	35-55	30-50	20-35	10-20	17-30	3-12
	1-9	Sandy loam, gravelly sandy loam	GC-GM, SC-SM, SM	A-2, A-1	0	0	65-95	60-90	40-60	20-30	17-30	3-12
	9-15	Gravelly sandy clay loam, gravelly clay loam	GC, SC	A-2, A-6	0	0	55-95	50-75	45-70	30-45	31-42	13-21
	15-31	Gravelly sandy clay loam, gravelly clay loam	GC, SC	A-2, A-6	0	0	55-95	50-75	45-70	30-45	31-42	13-21
	31-60	Gravelly sandy loam, gravelly coarse sandy loam, sandy loam	SC-SM, SM, GC-GM, GM	A-1, A-2	0	0	60-95	50-85	35-55	15-30	17-30	3-12
Arizo-----	0-2	Extremely gravelly sandy loam	GP-GM, GP, GW-GM	A-1	0-5	0-10	20-40	10-25	6-17	3-10	15-20	NP-5
	2-9	Gravelly loamy sand	SM	A-2, A-1	0	0-5	70-85	55-75	35-55	10-20	0-21	NP-4
	9-60	Stratified very gravelly coarse sand to extremely gravelly loamy sand	GP, GP-GM	A-1	0-15	5-25	30-55	15-35	5-20	0-10	0-22	NP-6





TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
674: Nipton-----	0-2	Extremely stony sandy loam	GM, SM	A-1	25-45	15-40	30-60	20-35	15-25	10-20	15-25	NP-5
	2-12	Very gravelly sandy loam, very gravelly loam	GM, SM	A-1	0-5	0-15	40-60	30-50	20-35	10-20	15-25	NP-5
	12-22	Bedrock			---	---	---	---	---	---	---	---
Rubble land-----	0-60	Boulders	GW, GP	A-1	30-65	30-65	0-10	0-5	0-5	0	0-14	NP
Railroad-----	0-3	Extremely stony sandy loam	GW-GC, GP-GC	A-1	15-30	15-30	20-40	15-35	10-20	5-10	17-25	3-7
	3-11	Very gravelly fine sandy loam	GC-GM, GC	A-1, A-2	0-5	0-15	40-55	30-45	20-35	10-20	17-28	3-10
	11-34	Very gravelly fine sandy loam, very gravelly loam	GC-GM, GC	A-1, A-2	0-5	0-15	40-55	30-45	20-35	15-30	17-28	3-10
	34-44	Bedrock			---	---	---	---	---	---	---	---
680: Lanfair-----	0-2	Extremely gravelly sandy loam	GW-GC, GP-GC, SP-SC	A-1	0-12	0-12	25-55	10-25	5-15	5-10	18-28	3-9
	2-9	Gravelly sandy loam, gravelly fine sandy loam	SC-SM, GC-GM	A-1, A-2, A-4	0	0	60-85	50-75	35-50	20-40	18-28	3-9
	9-15	Very gravelly sandy loam, very gravelly fine sandy loam	GC-GM, SC-SM	A-1, A-2	0	0	50-70	30-50	20-40	10-30	18-28	3-9
	15-60	Very gravelly coarse sand, extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly loamy coarse sand	SW-SM, GP, GP-GM, SP, SP-SM	A-1	0-10	0-10	45-80	20-50	10-30	0-10	0-21	NP-4

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Hoppswell-----	0-2	Extremely gravelly sandy loam	GP-GM, GM, GW-GM	A-1	0-8	0-12	20-35	10-25	10-20	5-15	15-25	NP-5
	2-15	Very gravelly sandy clay loam	GC, SC	A-2	0	0	45-65	25-50	15-40	10-30	30-40	10-20
	15-64	Stratified extremely gravelly coarse sand to very gravelly sandy loam	GM, GP-GM	A-1	0-5	0-5	35-50	20-35	10-20	5-15	15-20	NP-5
690: Hoppswell-----	0-2	Extremely gravelly sandy loam	GM, GW-GM, GP-GM	A-1	0-8	0-12	20-35	10-25	10-20	5-15	15-25	NP-5
	2-15	Very gravelly sandy clay loam	GC, SC	A-2	0	0	45-65	25-50	15-40	10-30	30-40	10-20
	15-64	Stratified extremely gravelly coarse sand to very gravelly sandy loam	GM, GP-GM	A-1	0-5	0-5	35-50	20-35	10-20	5-15	15-20	NP-5
Ustidur-----	0-2	Extremely gravelly sandy loam	GP-GC, GP	A-1, A-2	0-5	0-10	15-30	10-25	5-15	0-10	20-31	4-12
	2-6	Extremely gravelly sandy loam, very gravelly sandy loam	GC, GW-GC, GC-GM	A-1, A-2	0-5	0-15	20-45	15-40	10-25	5-15	20-31	4-12
	6-38	Cemented material			---	---	---	---	---	---	---	---
	38-60	Extremely gravelly sandy loam, extremely gravelly loamy sand	GP, GW-GM	A-1	0-5	0-15	20-35	10-25	5-15	0-10	15-20	NP-5



TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
701: Nippeno-----	0-2	Very gravelly loam	GC-GM, GC	A-2	0-5	0-15	50-70	30-50	25-40	20-30	21-33	6-13
	2-6	Very gravelly sandy clay loam, very gravelly loam, very gravelly clay loam	GC	A-2	0	0-15	40-55	30-45	25-40	15-35	32-47	13-25
	6-15		GW	A-1	0	0	0-10	0-5	0	0	---	---
	15-25	Bedrock			---	---	---	---	---	---	---	---
Nipton-----	0-1	Extremely gravelly sandy loam	GW-GM, GP, GP-GM	A-1	0-10	10-30	20-35	10-25	5-20	4-12	15-25	NP-5
	1-5	Very gravelly sandy loam, very gravelly loam	GM, SM	A-1	0-5	0-15	40-60	30-50	20-35	10-20	15-25	NP-5
	5-15	Bedrock			---	---	---	---	---	---	---	---
705: CharkiIn-----	0-1	Slightly decomposed plant material			---	---	---	---	---	---	---	---
	1-5	Gravelly fine sandy loam	SC-SM, GC-GM, GM	A-2	0-5	0-15	55-85	50-75	40-60	25-40	20-35	2-7
	5-9	Very gravelly fine sandy loam	GC	A-2	0	0	30-55	25-50	20-40	15-35	25-33	7-12
	9-65	Loam, gravelly loam, clay loam, gravelly clay loam	CL, SC	A-6	0	0-15	75-95	70-90	30-80	15-65	32-47	13-25

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Woodspring-----	0-0	Slightly decomposed plant material			0	0	---	---	---	---	---	---
	0-2	Gravelly sandy loam	SM, SC-SM	A-1, A-2	0-5	0-5	55-80	50-75	35-50	15-30	26-44	1-6
	2-9	Very gravelly sandy loam, very gravelly loam	GC-GM, GC	A-1, A-2	0-5	0-15	35-55	30-50	20-40	10-20	21-33	4-10
	9-61	Extremely gravelly sandy loam, very gravelly sandy loam	GP-GC, GW-GC, GC, GC-GM	A-1, A-2	0-5	5-25	20-40	10-35	5-25	4-15	20-33	4-10
Buckspring-----	0-2	Very gravelly loam	GC, GC-GM	A-4, A-1, A-2	0-5	5-15	35-60	30-50	25-45	20-40	21-31	4-10
	2-10	Extremely cobble loam, extremely cobble silt loam, very cobble loam, very cobble silt loam	GC	A-4, A-2	0-5	30-55	30-55	25-50	25-45	20-45	21-31	4-10
	10-17	Extremely cobble loam, extremely cobble silt loam, very cobble loam, very cobble silt loam	GC	A-4, A-2	0-5	30-55	30-55	25-50	25-45	20-45	26-38	10-17
	17-27	Bedrock			---	---	---	---	---	---	---	---
710: Arizo-----	0-2	Extremely gravelly sandy loam	GP-GM, GP, GW-GM	A-1	0-5	0-10	20-40	10-25	6-17	3-10	15-20	NP-5
	2-9	Gravelly loamy sand	SM	A-2, A-1	0	0-5	70-85	55-75	35-55	10-20	0-21	NP-4
	9-60	Stratified very gravelly coarse sand to extremely gravelly loamy sand	GP, GP-GM	A-1	0-15	5-25	30-55	15-35	5-20	0-10	0-22	NP-6

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Lanfair-----	0-2	Extremely gravelly sandy loam	GW-GC, GP-GC, SP-SC	A-1	0-12	0-12	25-55	10-25	5-15	5-10	18-28	3-9
	2-9	Gravelly sandy loam, gravelly fine sandy loam	SC-SM, GC-GM	A-1, A-2, A-4	0	0	60-85	50-75	35-50	20-40	18-28	3-9
	9-15	Very gravelly sandy loam, very gravelly fine sandy loam	GC-GM, SC-SM	A-1, A-2	0	0	50-70	30-50	20-40	10-30	18-28	3-9
	15-60	Very gravelly coarse sand, extremely gravelly loamy coarse sand, extremely gravelly coarse sand, very gravelly loamy coarse sand	SW-SM, GP, GP-GM, SP, SP-SM	A-1	0-10	0-10	45-80	20-50	10-30	0-10	0-21	NP-4
Riverwash-----	0-6	Extremely gravelly coarse sand	GP, GW	A-1	0-10	0-25	10-40	10-35	5-25	0-5	0-14	NP
	6-60	Stratified extremely gravelly coarse sand to gravelly sand	GP, GW, SP, SW	A-1	0-10	0-25	25-55	25-50	10-30	0-5	0-14	NP

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
715: Troughspring----	0-2	Slightly decomposed plant material			---	---	---	---	---	---	---	---
	2-9	Very gravelly silt loam	GM	A-2	0-5	0-10	35-55	30-50	25-45	18-40	35-51	12-19
	9-14	Very gravelly silt loam, very gravelly loam	GC	A-2	0-5	0-15	35-55	30-50	27-48	18-40	33-47	12-19
	14-24	Extremely gravelly silt loam, extremely gravelly loam, very gravelly silt loam	GC	A-2	0-5	5-15	35-45	20-40	18-28	14-25	29-37	11-14
	24-63	Cemented material			---	---	---	---	---	---	---	---
Charkiln-----	0-1	Slightly decomposed plant material			---	---	---	---	---	---	---	---
	1-5	Gravelly fine sandy loam	GC-GM, GM, SC-SM	A-2	0-5	0-15	55-85	50-75	40-60	25-40	20-35	2-7
	5-9	Very gravelly fine sandy loam	GC	A-2	0	0	30-55	25-50	20-40	15-35	25-33	7-12
	9-65	Loam, clay loam, gravelly clay loam, gravelly loam	CL, SC	A-6	0	0-15	75-95	70-90	30-80	15-65	32-47	13-25



TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
721: Corncreek-----	0-1	Extremely gravelly fine sandy loam	GP, GP-GM	A-1	0	0-5	20-35	10-25	5-20	0-10	15-25	NP-5
	1-4	Gravelly fine sandy loam, fine sandy loam	SM, GM	A-2	0	0-5	65-95	60-90	50-65	25-45	15-25	NP-5
	4-31	Extremely gravelly fine sandy loam, extremely gravelly sandy loam	GP, GP-GM	A-1	0	0-5	20-35	10-25	5-20	0-10	15-25	NP-5
	31-60	Silt loam, loam, gravelly loam	ML, CL-ML	A-4	0	0	80-95	70-90	55-75	50-65	20-25	NP-5
Badland-----	---	---	---	---	---	---	---	---	---	---	---	---
Pahrump-----	0-2	Gravelly loam	GC-GM, ML, SC-SM	A-4	0	0	65-85	55-75	45-65	35-55	18-29	3-10
	2-6	Loam, very fine sandy loam	CL-ML, ML	A-4	0	0	85-100	80-100	75-95	60-70	19-27	3-7
	6-46	Very gravelly silt loam, very gravelly loam	GC	A-2	0	0	35-55	30-50	25-45	20-35	28-39	10-16
	46-60	Very fine sandy loam, silt loam	CL-ML, ML	A-4	0	0	90-100	85-100	80-95	50-60	15-29	1-10

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
723: Corncreek-----	0-1	Extremely gravelly fine sandy loam	GP, GP-GM	A-1	0	0-5	20-35	10-25	5-20	0-10	15-25	NP-5
	1-4	Gravelly fine sandy loam, fine sandy loam	SM, GM	A-2	0	0-5	65-95	60-90	50-65	25-45	15-25	NP-5
	4-31	Extremely gravelly fine sandy loam, extremely gravelly sandy loam	GP, GP-GM	A-1	0	0-5	20-35	10-25	5-20	0-10	15-25	NP-5
	31-60	Silt loam, loam, gravelly loam	ML, CL-ML	A-4	0	0	80-95	70-90	55-75	50-65	20-25	NP-5
Haymont, dry----	0-2	Silt loam	CL-ML, ML	A-4	0	0	100	92-100	80-95	60-85	15-25	NP-5
	2-13	Silt loam, very fine sandy loam	ML, CL-ML	A-4	0	0	100	92-100	85-100	65-90	15-25	NP-5
	13-29	Silt loam, very fine sandy loam	ML, CL-ML	A-4	0	0	100	92-100	85-100	65-90	15-25	NP-5
	29-60	Silt loam, very fine sandy loam	ML, CL-ML	A-4	0	0	100	92-100	85-100	65-90	15-25	NP-5
725: Mackscanyon-----	0-6	Very gravelly silt loam	GC, GC-GM	A-2	0-5	0-10	40-60	30-50	30-45	25-40	21-34	4-11
	6-60	Very gravelly loam, extremely gravelly loam, very gravelly sandy loam, extremely gravelly sandy loam	GC, GC-GM	A-2, A-1	0-5	0-10	25-50	15-40	15-35	10-30	19-30	4-11

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Purob-----	0-3	Extremely gravelly loam	GC, GC-GM	A-2	0-5	0-10	25-40	15-30	13-25	10-20	18-29	3-10
	3-8	Gravelly loam, very gravelly loam	GC-GM, GC, SC, SC-SM	A-4, A-6, A-2	0-5	0-5	45-80	35-70	30-60	25-50	22-34	7-14
	8-19	Very gravelly loam, extremely gravelly loam, extremely gravelly clay loam	GC, GC-GM	A-2	0-5	0-15	25-55	15-45	15-35	10-30	22-31	7-14
	19-60	Cemented material			---	---	---	---	---	---	---	---
731: Purob-----	0-3	Extremely gravelly loam	GC, GC-GM	A-2	0-5	0-10	25-40	15-30	13-25	10-20	18-29	3-10
	3-8	Gravelly loam, very gravelly loam	GC-GM, GC, SC, SC-SM	A-4, A-6, A-2	0-5	0-5	45-80	35-70	30-60	25-50	22-34	7-14
	8-19	Very gravelly loam, extremely gravelly loam, extremely gravelly clay loam	GC, GC-GM	A-2	0-5	0-15	25-55	15-45	15-35	10-30	22-31	7-14
	19-60	Cemented material			---	---	---	---	---	---	---	---
Irongold-----	0-1	Extremely gravelly loam	GM	A-1	0-5	0-10	25-35	15-25	15-20	10-15	15-25	NP-5
	1-7	Gravelly loam, loam	SM, ML, GM, CL-ML	A-4	0-5	0-5	70-95	60-90	50-80	45-70	15-25	NP-5
	7-11	Very gravelly loam, very gravelly sandy loam, gravelly loam, gravelly sandy loam	GM, SM	A-1, A-2, A-4	0-5	0-10	35-65	30-60	20-50	15-40	15-25	NP-5
	11-34	Cemented material			---	---	---	---	---	---	---	---
	34-60	Extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0-5	0-5	30-45	10-25	5-10	0-10	0-21	NP-4



TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Niavi-----	0-2	Extremely cobble fine sandy loam	GP-GC, GC-GM	A-1, A-2	0-5	30-55	20-45	10-35	10-30	5-15	20-25	5-10
	2-8	Extremely gravelly sandy loam, extremely gravelly coarse sandy loam, very gravelly sandy loam, very gravelly fine sandy loam	GC-GM, GP-GC	A-1, A-2	0-5	10-30	15-55	10-45	5-35	5-20	20-25	5-10
	8-29	Stratified extremely gravelly coarse sand to extremely gravelly coarse sandy loam	GW-GM, GP, GP-GM	A-1	0-5	10-30	15-45	5-30	5-20	0-5	15-15	NP-5
	29-60	Stratified extremely gravelly coarse sand to extremely gravelly coarse sandy loam	GW-GM, GP, GP-GM	A-1	0-5	10-30	15-45	5-30	5-20	0-5	15-15	NP-5
740: Varwash, moderately sloping-----	0-5	Extremely gravelly sandy loam	GP-GC, GW-GC	A-1, A-2	0-5	10-30	20-40	10-30	7-20	4-12	18-30	4-12
	5-13	Very gravelly sandy loam, very gravelly coarse sandy loam	SC-SM, GC-GM, SP-SC, GP-GC	A-1, A-2	0-5	0-15	40-60	30-50	15-35	7-20	16-27	2-10
	13-60	Stratified very gravelly coarse sand to extremely gravelly sand	GP, GP-GM, GW	A-1	0-5	5-25	20-50	10-40	5-25	0-7	0-21	NP-4

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Varwash-----	0-4	Extremely gravelly loam	GC, GC-GM, GP-GC	A-2	5-15	5-15	20-40	10-25	9-23	6-15	18-30	3-12
	4-13	Very gravelly sandy loam, very gravelly coarse sandy loam	SC-SM, GC-GM, SP-SC, GP-GC	A-1, A-2	0-5	0-15	40-60	30-50	15-35	7-20	16-27	2-10
	13-60	Stratified very gravelly coarse sand to extremely gravelly sand	GP, GP-GM, GW	A-1	0-5	5-25	20-50	10-40	5-25	0-7	0-21	NP-4
741: Varwash, moderately sloping-----	0-5	Extremely gravelly sandy loam	GP-GC, GW-GC	A-1, A-2	0-5	10-30	20-40	10-30	7-20	4-12	18-30	4-12
	5-13	Very gravelly sandy loam, very gravelly coarse sandy loam	SC-SM, GC-GM, SP-SC, GP-GC	A-1, A-2	0-5	0-15	40-60	30-50	15-35	7-20	16-27	2-10
	13-60	Stratified very gravelly coarse sand to extremely gravelly sand	GP, GP-GM, GW	A-1	0-5	5-25	20-50	10-40	5-25	0-7	0-21	NP-4
Varwash-----	0-4	Extremely gravelly loam	GC, GC-GM, GP-GC	A-2	5-15	5-15	20-40	10-25	9-23	6-15	18-30	3-12
	4-13	Very gravelly sandy loam, very gravelly coarse sandy loam	SC-SM, GC-GM, SP-SC, GP-GC	A-1, A-2	0-5	0-15	40-60	30-50	15-35	7-20	16-27	2-10
	13-60	Stratified very gravelly coarse sand to extremely gravelly sand	GP, GP-GM, GW	A-1	0-5	5-25	20-50	10-40	5-25	0-7	0-21	NP-4







TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Hiddensun-----	0-3	Very gravelly fine sandy loam	GM, SM	A-1	0-5	5-23	40-60	30-50	25-45	15-25	15-20	NP-5
	3-15	Very cobbly fine sandy loam, extremely cobbly fine sandy loam	GM, SM	A-1, A-2	0-5	37-60	50-80	40-70	30-60	15-30	15-20	NP-5
	15-25	Bedrock			---	---	---	---	---	---	---	---
760: Searchlight-----	0-2	Extremely gravelly sandy loam	GP-GM, GP	A-1	0-1	0-1	35-50	10-25	5-15	2-10	15-20	NP-5
	2-12	Stratified gravelly sandy loam to gravelly loamy coarse sand	SM, GM	A-1, A-2	0-1	0-1	50-85	35-75	20-45	10-30	10-20	NP-5
	12-17	Gravelly coarse sandy loam	SC-SM	A-4, A-2, A-1	0-1	0-1	70-85	50-75	30-50	20-40	20-25	5-10
	17-33	Gravelly sandy loam, gravelly coarse sandy loam	SC-SM	A-2, A-1	0-1	0-1	70-85	50-75	30-50	20-35	20-25	5-10
	33-60	Stratified very gravelly loamy coarse sand to gravelly loamy coarse sand	SP-SM, SM, GP-GM	A-1	0-1	0-1	50-70	30-50	15-30	5-15	10-15	NP-5
772: Lamadre-----	0-4	Very channery loam	GC-GM	A-1, A-2	0	0-5	40-55	30-45	25-40	20-30	23-36	4-10
	4-8	Extremely channery loam	GM, GW-GC, GP-GC	A-1, A-2	0	0-5	20-35	10-25	9-20	7-15	21-34	4-10
	8-39	Extremely channery loam	GW-GC, GP-GC	A-1, A-2	0	0-15	20-35	10-25	9-20	7-15	19-29	4-10
	39-60		GW	A-2	0-2	8-15	0-5	0-5	0-3	0-1	19-29	4-10

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Robbersfire-----	0-1	Slightly decomposed plant material			---	---	---	---	---	---	---	---
	1-2	Very gravelly silt loam	GM	A-2, A-4, A-5	0-5	0-10	40-60	30-50	30-45	25-40	29-46	5-12
	2-14	Very gravelly silt loam, very gravelly loam, extremely gravelly loam	SC, GC	A-2, A-6	0-5	2-10	30-60	20-50	20-45	15-40	33-49	12-19
	14-56	Very cobbly loam, extremely cobbly loam	GM, SM, GC-GM, SC-SM	A-1, A-2	0-10	25-40	40-60	35-55	20-50	17-35	18-36	3-8
	56-66	Bedrock			---	---	---	---	---	---	---	---
775: Ladyofsnow-----	0-0	Slightly decomposed plant material			---	---	---	---	---	---	---	---
	0-7	Gravelly silt loam	CL-ML, ML	A-4	0-8	0-8	60-85	55-75	50-70	50-70	15-25	NP-5
	7-11	Very gravelly loam	GM	A-2	0-5	0-8	35-55	30-50	28-45	20-35	15-25	NP-5
	11-36	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam	GW-GM, GP-GM	A-1	0-10	0-23	25-40	10-25	5-20	4-10	15-25	NP-5
	36-59	Extremely cobbly coarse sandy loam, extremely cobbly sandy loam	GW-GM, GM, GP-GM	A-1	15-30	25-50	25-50	10-35	5-25	4-15	15-25	NP-5



















TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Zeheme-----	0-2	Extremely gravelly fine sandy loam	GM, GW-GM, GP-GM	A-1	0-5	0-15	25-40	15-30	10-25	5-15	18-30	NP-5
	2-9	Very gravelly fine sandy loam, very gravelly sandy loam	GM	A-1, A-2	0	5-25	35-55	30-50	20-40	15-30	18-30	NP-5
	9-19	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
845: Leecanyon-----	0-2	Very gravelly loam	GM	A-2	0	0-5	45-60	35-50	30-45	25-35	15-25	NP-5
	2-8	Gravelly silt loam, gravelly fine sandy loam, very gravelly fine sandy loam, very gravelly sandy loam	GM, SM, ML	A-4	0	0-5	55-85	40-75	35-70	30-60	15-25	NP-5
	8-18	Very gravelly loam, very gravelly sandy loam, very gravelly fine sandy loam	GM, SM	A-2	0	0-5	50-65	35-50	30-45	25-35	15-25	NP-5
	18-42	Cemented material			---	---	---	---	---	---	---	---
	42-55	Extremely gravelly loamy sand, extremely gravelly loamy fine sand	GP-GM, GW-GM	A-1	0-5	8-25	25-40	15-30	10-20	5-10	0-21	NP-4













TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
870: Irongold-----	0-1	Extremely gravelly loam	GM	A-1	0-5	0-10	25-35	15-25	15-20	10-15	15-25	NP-5
	1-7	Gravelly loam, loam	SM, ML, GM, CL-ML	A-4	0-5	0-5	70-95	60-90	50-80	45-70	15-25	NP-5
	7-11	Very gravelly loam, very gravelly sandy loam, gravelly loam, gravelly sandy loam	GM, SM	A-1, A-2, A-4	0-5	0-10	35-65	30-60	20-50	15-40	15-25	NP-5
	11-34	Cemented material			---	---	---	---	---	---	---	---
	34-60	Extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0-5	0-5	30-45	10-25	5-10	0-10	0-21	NP-4
871: Irongold-----	0-1	Extremely gravelly loam	GM	A-1	0-5	0-10	25-35	15-25	15-20	10-15	15-25	NP-5
	1-7	Gravelly loam, loam	SM, ML, GM, CL-ML	A-4	0-5	0-5	70-95	60-90	50-80	45-70	15-25	NP-5
	7-11	Very gravelly loam, very gravelly sandy loam, gravelly loam, gravelly sandy loam	GM, SM	A-1, A-2, A-4	0-5	0-10	35-65	30-60	20-50	15-40	15-25	NP-5
	11-34	Cemented material			---	---	---	---	---	---	---	---
	34-60	Extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0-5	0-5	30-45	10-25	5-10	0-10	0-21	NP-4

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
						Pct	Pct					Pct
Irongold, moderately sloping-----	In											
	0-1	Extremely gravelly loam	GM	A-1	0-5	0-10	25-35	15-25	15-20	10-15	15-25	NP-5
	1-7	Gravelly loam, loam	SM, ML, GM, CL-ML	A-4	0-5	0-5	70-95	60-90	50-80	45-70	15-25	NP-5
	7-11	Very gravelly loam, very gravelly sandy loam, gravelly loam, gravelly sandy loam	GM, SM	A-1, A-2, A-4	0-5	0-10	35-65	30-60	20-50	15-40	15-25	NP-5
	11-34	Cemented material			---	---	---	---	---	---	---	---
	34-60	Extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0-5	0-5	30-45	10-25	5-10	0-10	0-21	NP-4
Weiser-----	0-6	Extremely gravelly fine sandy loam	GM, GP-GM	A-1	0-5	0-15	25-40	15-30	10-25	5-15	18-30	NP-5
	6-60	Very gravelly loam, extremely gravelly sandy loam, extremely gravelly fine sandy loam	GP-GC, GP-GM, GC-GM, GM	A-1, A-2	0-15	5-25	20-45	10-35	7-25	4-15	16-29	2-10
872: Irongold-----	0-1	Extremely gravelly loam	GM	A-1	0-5	0-10	25-35	15-25	15-20	10-15	15-25	NP-5
	1-7	Gravelly loam, loam	SM, ML, GM, CL-ML	A-4	0-5	0-5	70-95	60-90	50-80	45-70	15-25	NP-5
	7-11	Very gravelly loam, very gravelly sandy loam, gravelly loam, gravelly sandy loam	GM, SM	A-1, A-2, A-4	0-5	0-10	35-65	30-60	20-50	15-40	15-25	NP-5
	11-34	Cemented material			---	---	---	---	---	---	---	---
	34-60	Extremely gravelly loamy coarse sand	GP, GP-GM	A-1	0-5	0-5	30-45	10-25	5-10	0-10	0-21	NP-4



TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Goodwater-----	0-2	Very gravelly loam	GC-GM, SC-SM	A-2, A-1	0-8	0-15	41-65	27-50	20-42	10-23	18-28	3-10
	2-11	Extremely gravelly sandy loam, very gravelly sandy loam, very gravelly loam, extremely gravelly loam	SP-SC, GP-GC, SC-SM, GC-GM	A-1, A-2	0-8	0-20	37-65	22-50	16-41	9-26	18-27	3-10
	11-14	Cemented material			---	---	---	---	---	---	---	---
880:												
Nonamewash-----	0-8	Loamy fine sand	SM, SC-SM	A-2	0	0	98-100	95-100	70-80	25-35	16-23	2-6
	8-60	Stratified fine sand to loamy fine sand	SM, SC-SM	A-2	0	0	100	100	70-80	20-30	16-23	2-6
Rositas-----	0-5	Fine sand	SM	A-2	0	0	100	95-100	65-80	20-35	0-19	NP-2
	5-60	Sand, fine sand, loamy sand	SM, SP-SM	A-1, A-2, A-3	0	0	100	92-100	50-80	5-30	0-19	NP-2
885:												
Luckystrike-----	0-3	Gravelly loam	SC, CL, SC- SM, GC	A-4, A-2	0-5	0-5	60-85	50-75	45-70	30-55	20-30	6-13
	3-8	Very gravelly loam	GC	A-2	0-5	0-8	40-55	30-50	25-45	20-40	33-49	13-20
	8-19	Extremely gravelly loam	GW-GC, GP-GC, GC	A-2	0-5	0-10	30-45	10-25	10-25	5-20	30-41	13-21
	19-30	Extremely gravelly sandy loam	GP-GC, GW-GC, GP	A-2	0-5	0-10	30-45	10-25	5-20	0-10	21-33	6-13
	30-60	Extremely cobble sandy loam	SW-SC, GW-GC, GC, SC	A-2	0-10	45-60	40-60	20-40	15-25	5-15	21-33	6-13
890:												
Ripley-----	0-6	Silt loam	CL-ML, CL	A-4	0	0	100	100	75-85	55-75	20-32	6-13
	6-34	Stratified silt loam to very fine sandy loam	CL-ML, ML	A-4	0	0	100	100	95-100	80-90	16-30	2-12
	34-60	Fine sand, sand, loamy sand	SM	A-2	0	0	100	100	50-80	10-20	0-23	NP-6

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Holtville-----	0-5	Silt loam	CL	A-6	0	0	100	100	85-100	55-95	21-37	6-17
	5-23	Clay, silty clay, silty clay loam	CH, CL	A-7	0	0	100	100	90-100	75-95	46-66	25-40
	23-31	Silty clay, clay, silty clay loam	CL, CH	A-7	0	0	100	100	95-100	90-95	46-66	25-40
	31-42	Very fine sandy loam	CL-ML, ML	A-4	0	0	100	100	75-85	50-60	17-31	2-12
	42-60	Fine sand	CL-ML, ML, SC-SM, SM	A-2, A-4	0	0	100	100	75-95	35-55	0-24	NP-6
900: Urban land-----	---	---	---	---	---	---	---	---	---	---	---	---
Huevi-----	0-5	Very gravelly sandy loam	GM, GC-GM, SM, SC-SM	A-1, A-2	0-5	0-8	50-67	35-54	26-46	14-26	17-27	3-10
	5-18	Very gravelly fine sandy loam, extremely gravelly sandy	GW-GC, GC-GM, GC	A-1, A-2	0-5	5-15	25-55	15-45	10-30	5-20	18-30	4-12
	18-60	Extremely cobble coarse sandy loam, extremely cobble sandy loam, very cobble sandy loam, very cobble coarse sandy loam	GC-GM, GW-GC, GC, SW-SC	A-1, A-2	0-5	35-60	30-60	25-55	15-35	4-20	18-30	4-12



TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Thesisters-----	0-1	Extremely gravelly silt loam	GM	A-2	0-5	0-8	25-35	15-25	15-25	10-20	26-40	7-12
	1-6	Extremely gravelly silt loam, very gravelly silt loam, extremely gravelly loam, very gravelly loam	GC	A-2	0-5	0-8	25-60	15-50	10-45	5-35	24-34	7-12
	6-16	Bedrock			---	---	---	---	---	---	---	---
Maryjane-----	0-1	Slightly decomposed plant material			---	---	---	---	---	---	---	---
	1-4	Extremely gravelly silt loam	GW-GM, GM, GP-GM	A-2	0-10	0-10	30-45	10-25	10-25	5-20	37-57	9-17
	4-13	Extremely gravelly loam, extremely gravelly silt loam	GC, GW-GC, GP-GC	A-2	0-8	0-8	30-45	10-25	10-25	5-20	27-42	10-16
	13-35	Very gravelly loam, extremely gravelly loam	GC-GM, GC	A-2	0-10	0-10	25-50	10-35	10-30	5-25	19-29	4-8
	35-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam, very gravelly coarse sandy loam, very gravelly sandy loam	GP, GW-GM, GP-GM	A-1	0-10	0-10	20-45	10-35	6-22	3-12	17-26	1-5

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
910: Carrwash-----	0-3	Very gravelly coarse sandy loam	SM, SP-SM	A-1	0	0-8	60-80	30-50	15-35	10-15	0-20	NP-4
	3-8	Very gravelly coarse sandy loam	SM, SP-SM	A-1	0	0-5	60-80	30-50	15-35	10-15	0-20	NP-4
	8-60	Stratified extremely gravelly coarse sand to very gravelly loamy coarse sand	SP-SM	A-1	0	0-5	60-80	30-50	15-30	5-10	0-18	NP-2
Riverbend, rarely flooded-	0-3	Extremely gravelly coarse sandy loam	GM, GP-GM	A-1	0-5	0-7	25-40	15-25	10-25	5-15	15-20	NP-5
	3-10	Very gravelly coarse sand, very gravelly loamy coarse sand	GM, GP-GM, GP-GC, GC-GM	A-1	0-5	0-5	40-60	30-50	20-30	5-15	0-23	NP-6
	10-60	Stratified extremely gravelly coarse sand to very gravelly loamy coarse sand	GM, GP-GM, GC-GM, GP- GC, GW-GM	A-1	0-10	0-10	25-60	15-50	10-30	5-15	0-23	NP-6
911: Carrwash-----	0-3	Very gravelly coarse sandy loam	SM, SP-SM	A-1	0	0-8	60-80	30-50	15-35	10-15	0-20	NP-4
	3-8	Very gravelly coarse sandy loam	SM, SP-SM	A-1	0	0-5	60-80	30-50	15-35	10-15	0-20	NP-4
	8-60	Stratified extremely gravelly coarse sand to very gravelly loamy coarse sand	SP-SM	A-1	0	0-5	60-80	30-50	15-30	5-10	0-18	NP-2

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Carrwash, steep-	0-3	Very gravelly coarse sandy loam	SM, SP-SM	A-1	0	0-8	60-80	30-50	15-35	10-15	0-20	NP-4
	3-8	Very gravelly coarse sandy loam	SM, SP-SM	A-1	0	0-5	60-80	30-50	15-35	10-15	0-20	NP-4
	8-60	Stratified extremely gravelly coarse sand to very gravelly loamy coarse sand	SP-SM	A-1	0	0-5	60-80	30-50	15-30	5-10	0-18	NP-2
915: Maryjane-----	0-1	Slightly decomposed plant material			---	---	---	---	---	---	---	---
	1-4	Extremely gravelly silt loam	GW-GM, GM, GP-GM	A-2	0-10	0-10	30-45	10-25	10-25	5-20	37-57	9-17
	4-13	Extremely gravelly loam, extremely gravelly silt loam	GC, GW-GC, GP-GC	A-2	0-8	0-8	30-45	10-25	10-25	5-20	27-42	10-16
	13-35	Very gravelly loam, extremely gravelly loam	GC-GM, GC	A-2	0-10	0-10	25-50	10-35	10-30	5-25	19-29	4-8
	35-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam, very gravelly coarse sandy loam, very gravelly sandy loam	GP, GW-GM, GP-GM	A-1	0-10	0-10	20-45	10-35	6-22	3-12	17-26	1-5



TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
916: Maryjane-----	0-1	Slightly decomposed plant material			---	---	---	---	---	---	---	---
	1-4	Extremely gravelly loam	GW-GM, GM, GP-GM	A-2	0-10	0-10	30-45	10-25	10-25	5-20	37-57	9-17
	4-13	Extremely gravelly loam, extremely gravelly silt loam	GC, GW-GC, GP-GC	A-2	0-8	0-8	30-45	10-25	10-25	5-20	27-42	10-16
	13-35	Very gravelly loam, extremely gravelly loam	GC-GM, GC	A-2	0-10	0-10	25-50	10-35	10-30	5-25	19-29	4-8
	35-60	Extremely gravelly coarse sandy loam, extremely gravelly sandy loam, very gravelly coarse sandy loam, very gravelly sandy loam	GP, GW-GM, GP-GM	A-1	0-10	0-10	20-45	10-35	6-22	3-12	17-26	1-5







TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
940: Mesabase-----	0-1	Extremely gravelly sandy loam	GP-GC, GW-GM	A-1	0	5-10	15-30	10-25	5-20	3-10	17-27	3-10
	1-5	Very gravelly sandy loam	GM, GC-GM	A-1, A-2	0	0-5	35-55	30-50	20-35	10-20	17-27	3-10
	5-11	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand	GP, GW-GM, GP-GM	A-1	0	0-5	15-30	10-25	5-20	3-10	0-21	NP-4
	11-38	Very gravelly loamy sand, very gravelly loamy coarse sand	GM, GP-GM, SM	A-1	0	0-5	35-55	30-50	15-40	5-15	0-21	NP-4
	38-48	Bedrock			---	---	---	---	---	---	---	---
Azsand-----	0-8	Fine sand	SM	A-2, A-4	0	0	80-100	70-100	70-90	15-40	10-15	NP
	8-14	Loamy sand, loamy fine sand, gravelly loamy sand	SM	A-1, A-2	0	0	70-100	60-100	30-70	10-25	10-15	NP
	14-36	Very gravelly loamy sand	GM, GP-GM, GW-GM, SM, SP-SM	A-1	0	0-5	35-55	30-50	15-30	5-15	15-17	NP
	36-62	Very gravelly loamy sand	GP-GM, GM, GW-GM, SM, SP-SM	A-1	0	0-5	35-55	30-50	15-30	5-15	15-17	NP

TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
941: Mesabase-----	0-1	Extremely gravelly sandy loam	GP-GC, GW-GM	A-1	0	5-10	15-30	10-25	5-20	3-10	17-27	3-10
	1-5	Very gravelly sandy loam	GM, GC-GM	A-1, A-2	0	0-5	35-55	30-50	20-35	10-20	17-27	3-10
	5-11	Extremely gravelly loamy sand, extremely gravelly loamy coarse sand	GP, GW-GM	A-1	0	0-5	15-30	10-25	5-20	3-10	0-21	NP-4
	11-38	Very gravelly loamy sand, very gravelly loamy coarse sand	GM, GP-GM, SM	A-1	0	0-5	35-55	30-50	15-40	5-15	0-21	NP-4
	38-48	Bedrock			---	---	---	---	---	---	---	---
950: Drygyp-----	0-2	Fine sand	SM	A-2, A-4	0	0	95-100	90-100	70-90	15-40	10-15	NP-3
	2-7	Gypsiferous material			0	0	---	---	---	---	---	---
	7-13	Cemented material			0	0	---	---	---	---	---	---
	13-65	Cemented material			0	0	---	---	---	---	---	---
Drygyp, gravelly surface-----	0-2	Gravelly gypsiferous sandy loam	SC-SM	A-1	0	0	65-85	55-75	30-45	15-30	17-24	3-7
	2-7	Gypsiferous material			0	0	---	---	---	---	---	---
	7-13	Cemented material			0	0	---	---	---	---	---	---
	13-65	Cemented material			0	0	---	---	---	---	---	---



TABLE 13.--Engineering Properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
952: Drygyp-----	0-2	Gypsiferous fine sandy loam	SC-SM	A-2, A-4	0	0	100	90-100	65-100	10-70	18-29	4-12
	2-7	Gypsiferous material			0	0	---	---	---	---	---	---
	7-13	Cemented material			0	0	---	---	---	---	---	---
	13-65	Cemented material			0	0	---	---	---	---	---	---
955: Drygyp, gravelly surface-----	0-2	Gravelly gypsiferous sandy loam	SC-SM	A-1	0	0	65-85	55-75	30-45	15-30	17-24	3-7
	2-7	Gypsiferous material			0	0	---	---	---	---	---	---
	7-13	Cemented material			0	0	---	---	---	---	---	---
	13-65	Cemented material			0	0	---	---	---	---	---	---
Bluegyp-----	0-2	Gypsiferous material			0	0	---	---	---	---	---	---
	2-11	Gypsiferous material			0	0	---	---	---	---	---	---
	11-43	Gypsiferous material			0	0	---	---	---	---	---	---
	43-53	Gypsiferous bedrock			---	---	---	---	---	---	---	---
965: Azsand-----	0-8	Fine sand	SM	A-2, A-4	0	0	80-100	70-100	70-90	15-40	10-15	NP
	8-14	Loamy sand, loamy fine sand, gravelly loamy sand	SM	A-1, A-2	0	0	70-100	60-100	30-70	10-25	10-15	NP
	14-36	Very gravelly loamy sand	GW-GM, GM, GP-GM, SM, SP-SM	A-1	0	0-5	35-55	30-50	15-30	5-15	15-17	NP
	36-62	Very gravelly loamy sand	GW-GM, GP-GM, GM, SM, SP- SM	A-1	0	0-5	35-55	30-50	15-30	5-15	15-17	NP







TABLE 14.--Physical Soil Properties

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
100:												
Newera-----	0-2	6-15	1.50-1.70	14.00-42.00	0.05-0.06	0.0-2.9	0.0-0.5	.10	.37	1	6	48
	2-6	18-35	1.40-1.60	1.40-14.00	0.04-0.13	3.0-5.9	0.0-0.5	.10	.24			
	6-16	---	---	0.00-0.01	---	---	---	---	---			
Newera, steep-----	0-2	6-16	1.45-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-6	18-35	1.40-1.60	1.40-14.00	0.04-0.13	3.0-5.9	0.0-0.5	.10	.24			
	6-16	---	---	0.00-0.01	---	---	---	---	---			
101:												
Glencarb-----	0-6	10-20	1.40-1.55	4.00-14.00	0.15-0.17	0.0-2.9	0.5-1.0	.32	.32	5	3	86
	6-60	18-35	1.30-1.50	1.40-14.00	0.17-0.19	3.0-5.9	0.0-0.5	.55	.55			
105:												
Galehills-----	0-2	6-10	1.50-1.65	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.05	.28	1	8	0
	2-7	6-10	1.50-1.65	14.00-42.00	0.04-0.09	0.0-2.9	0.0-0.2	.05	.28			
	7-17	---	---	0.00-1.40	---	---	---	---	---			
106:												
Galehills-----	0-2	6-10	1.50-1.65	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.05	.28	1	8	0
	2-7	6-10	1.50-1.65	14.00-42.00	0.04-0.09	0.0-2.9	0.0-0.2	.05	.28			
	7-17	---	---	0.00-1.40	---	---	---	---	---			
Zeheme-----	0-3	8-18	1.40-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	3-9	8-18	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28			
	9-19	---	---	0.00-0.01	---	---	---	---	---			
107:												
Galehills-----	0-2	6-10	1.50-1.65	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.05	.28	1	8	0
	2-7	6-10	1.50-1.65	14.00-42.00	0.04-0.09	0.0-2.9	0.0-0.2	.05	.28			
	7-17	---	---	0.00-1.40	---	---	---	---	---			
Calwash-----	0-2	10-20	1.40-1.60	4.00-14.00	0.07-0.10	0.0-2.9	0.0-0.5	.10	.24	1	6	48
	2-9	20-27	1.30-1.50	1.40-4.00	0.11-0.15	3.0-6.0	0.0-0.2	.55	.55			
	9-17	---	---	0.01-1.40	0.03-0.05	---	---	---	---			
	17-27	---	---	0.00-0.01	---	---	---	---	---			
110:												
Tenwell-----	0-1	4-10	1.55-1.70	42.00-141.00	0.03-0.07	0.0-2.9	0.0-0.5	.02	.10	2	3	86
	1-4	6-12	1.55-1.70	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.28			
	4-9	12-18	1.55-1.70	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.20	.28			
	9-22	20-30	1.50-1.70	1.40-4.00	0.10-0.14	3.0-5.9	0.0-0.5	.10	.24			
	22-60	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Crosgrain-----	0-2	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	10-20	1.45-1.60	4.00-14.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-24	---	---	0.00-0.01	---	---	---	---	---			
	24-60	---	---	0.01-0.42	---	---	---	---	---			
111:												
Tenwell-----	0-1	4-10	1.55-1.70	42.00-141.00	0.03-0.07	0.0-2.9	0.0-0.5	.02	.10	2	3	86
	1-4	6-12	1.55-1.70	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.28			
	4-9	12-18	1.55-1.70	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.20	.28			
	9-22	20-30	1.50-1.70	1.40-4.00	0.10-0.14	3.0-5.9	0.0-0.5	.10	.24			
	22-60	---	---	0.00-0.01	---	---	---	---	---			
Shamock-----	0-1	3-8	1.50-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.15	.24	2	3	86
	1-32	5-10	1.55-1.70	14.00-42.00	0.09-0.11	0.0-2.9	0.0-0.5	.20	.32			
	32-60	---	---	0.01-0.42	---	---	---	---	---			
112:												
Arizo-----	0-2	2-8	1.45-1.65	42.00-141.00	0.04-0.06	0.0-2.0	0.0-0.5	.05	.24	5	3	86
	2-60	1-6	1.45-1.65	42.00-705.00	0.03-0.04	0.0-2.0	0.0-0.5	.10	.32			
113:												
Arizo, gypsiferous substratum-----	0-2	5-15	1.50-1.60	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.43	4	6	48
	2-40	2-10	1.50-1.60	42.00-141.00	0.04-0.06	0.0-2.0	0.0-0.5	.05	.24			
	40-60	---	1.20-1.30	0.00-141.00	---	---	---	---	---			
115:												
Whitebasin-----	0-1	6-12	1.40-1.60	4.00-14.00	0.13-0.17	0.0-2.9	0.0-0.5	.49	.49	2	3	86
	1-11	---	1.00-1.20	14.00-42.00	0.09-0.13	---	0.0-0.2	---	---			
	11-28	---	1.00-1.20	14.00-42.00	0.09-0.13	---	0.0-0.2	---	---			
	28-38	---	1.40-1.70	0.01-1.40	---	---	---	---	---			
Upperline-----	0-2	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.5	.10	.28	3	6	48
	2-12	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.2	.10	.32			
	12-35	6-15	1.30-1.55	14.00-42.00	0.04-0.09	0.0-2.9	0.0-0.2	.05	.28			
	35-39	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.2	.32	.32			
	39-49	---	1.60-1.80	0.42-1.40	---	---	---	---	---			
Hardbasin-----	0-1	5-12	1.50-1.70	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.5	.28	.32	1	3	86
	1-7	---	1.10-1.35	0.01-0.42	---	---	---	---	---			
	7-12	---	1.60-1.80	0.01-0.42	---	---	---	---	---			
	12-31	---	1.40-1.60	0.42-4.00	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
120: Crosgrain-----	0-2	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	10-20	1.45-1.60	4.00-14.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-24	---	---	0.00-0.01	---	---	---	---	---			
	24-60	---	---	0.01-0.42	---	---	---	---	---			
Tenwell-----	0-1	4-10	1.55-1.70	42.00-141.00	0.03-0.07	0.0-2.9	0.0-0.5	.02	.10	2	3	86
	1-4	6-12	1.55-1.70	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.28			
	4-9	12-18	1.55-1.70	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.20	.28			
	9-22	20-30	1.50-1.70	1.40-4.00	0.10-0.14	3.0-5.9	0.0-0.5	.10	.24			
	22-60	---	---	0.00-0.01	---	---	---	---	---			
121: Sweetspring-----	0-1	8-18	1.40-1.50	4.00-14.00	0.02-0.07	1.0-2.9	0.0-0.5	.05	.43	5	8	0
	1-4	15-27	1.40-1.50	1.40-14.00	0.04-0.09	2.0-4.5	0.0-0.5	.10	.43			
	4-17	5-12	1.50-1.60	14.00-42.00	0.02-0.07	0.0-2.9	0.0-0.5	.05	.32			
	17-62	1-5	1.65-1.75	42.00-141.00	0.02-0.05	0.0-2.0	0.0-0.5	.02	.15			
Carrizo-----	0-10	0-4	1.60-1.70	141.00- 705.00	0.03-0.04	0.0-2.9	0.0-0.5	.10	.15	5	2	134
	10-60	0-5	1.60-1.70	141.00- 705.00	0.03-0.04	0.0-2.9	0.0-0.2	.02	.10			
125: Bobzbulz-----	0-1	8-10	1.35-1.50	14.00-42.00	0.03-0.08	0.0-2.9	0.1-0.5	.10	.20	2	6	48
	1-9	12-20	1.35-1.50	14.00-42.00	0.03-0.08	0.0-2.9	0.1-0.2	.10	.20			
	9-14	12-20	1.35-1.50	14.00-42.00	0.03-0.08	0.0-2.9	0.1-0.2	.10	.20			
	14-30	12-20	1.35-1.50	14.00-42.00	0.03-0.08	0.0-2.9	0.1-0.2	.05	.20			
	30-60	---	---	1.40-4.20	---	---	---	---	---			
Snapcan-----	0-2	8-15	1.45-1.55	14.00-42.00	0.02-0.09	0.0-2.9	0.1-0.5	.05	.32	2	8	0
	2-8	18-24	1.35-1.45	4.00-14.00	0.05-0.11	3.0-5.0	0.1-0.2	.02	.37			
	8-15	18-24	1.35-1.45	4.00-14.00	0.01-0.08	3.0-5.0	0.1-0.2	.02	.37			
	15-26	18-24	1.40-1.50	4.00-14.00	0.01-0.08	3.0-5.0	0.1-0.2	.05	.24			
	26-60	---	---	0.01-0.42	---	---	---	---	---			
134: Newera, steep-----	0-2	6-16	1.45-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-6	18-35	1.40-1.60	1.40-14.00	0.04-0.13	3.0-5.9	0.0-0.5	.10	.24			
	6-16	---	---	0.00-0.01	---	---	---	---	---			
Nipton-----	0-1	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	1-5	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	5-15	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
135:												
Nippeno-----	0-2	10-20	1.35-1.55	4.00-14.00	0.06-0.12	0.0-2.9	0.5-1.0	.10	.37	1	7	38
	2-6	20-35	1.20-1.40	1.40-4.00	0.06-0.10	3.0-6.0	0.5-1.0	.10	.24			
	6-15	---	---	41.00-705.00	0.02-0.03	---	---	---	---			
	15-25	---	---	0.00-0.01	---	---	---	---	---			
Mountmcull-----	0-2	10-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.5-1.0	.05	.32	1	8	0
	2-8	10-18	1.50-1.65	4.00-42.00	0.06-0.10	0.0-2.9	0.5-1.0	.10	.32			
	8-18	---	---	0.00-0.01	---	---	---	---	---			
Newera-----	0-2	6-15	1.50-1.70	14.00-42.00	0.05-0.06	0.0-2.9	0.0-0.5	.10	.37	1	6	48
	2-6	18-35	1.40-1.60	1.40-14.00	0.04-0.13	3.0-5.9	0.0-0.5	.10	.24			
	6-16	---	---	0.00-0.01	---	---	---	---	---			
140:												
Haleburu-----	0-2	6-12	1.50-1.70	14.00-42.00	0.03-0.04	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	6-18	1.50-1.70	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.20			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
141:												
Nipton-----	0-1	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	1-5	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	5-15	---	---	0.00-0.01	---	---	---	---	---			
Haleburu-----	0-2	6-12	1.50-1.70	14.00-42.00	0.03-0.04	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	6-18	1.50-1.70	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.20			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
143:												
Haleburu-----	0-2	6-12	1.50-1.70	14.00-42.00	0.03-0.04	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	6-18	1.50-1.70	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.20			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Haleburu, dry-----	0-2	6-12	1.50-1.70	14.00-42.00	0.03-0.04	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	6-18	1.50-1.70	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.20			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
144:												
Haleburu-----	0-3	8-18	1.30-1.40	14.00-42.00	0.03-0.05	0.0-2.9	1.0-2.0	.02	.28	1	8	0
	3-11	6-18	1.50-1.70	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.20			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Hiddensun-----	0-3	6-15	1.30-1.45	14.00-42.00	0.06-0.08	0.0-2.9	0.5-1.0	.15	.37	1	6	48
	3-15	6-12	1.30-1.45	14.00-42.00	0.06-0.09	0.0-2.9	0.0-0.5	.15	.49			
	15-25	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
146: Haleburu-----	0-2	6-12	1.50-1.70	14.00-42.00	0.03-0.04	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	6-18	1.50-1.70	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.20			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Nipton-----	0-1	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	1-5	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	5-15	---	---	0.00-0.01	---	---	---	---	---			
147: Haleburu-----	0-2	6-12	1.50-1.70	14.00-42.00	0.03-0.04	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	6-18	1.50-1.70	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.20			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Nipton-----	0-1	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	1-5	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	5-15	---	---	0.00-0.01	---	---	---	---	---			
148: Haleburu-----	0-2	6-12	1.50-1.70	14.00-42.00	0.03-0.04	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	6-18	1.50-1.70	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.20			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Seanna-----	0-2	8-18	1.25-1.50	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.24	2	8	0
	2-10	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.05	.20			
	10-20	---	---	0.01-0.42	---	---	---	---	---			
150: Hypoint-----	0-2	4-10	1.50-1.60	14.00-42.00	0.07-0.09	0.0-2.9	0.0-0.5	.20	.32	5	5	56
	2-60	1-8	1.60-1.70	42.00-141.00	0.04-0.06	0.0-1.5	0.0-0.5	.10	.20			
151: Bluepoint-----	0-9	2-6	1.45-1.65	42.00-141.00	0.05-0.08	0.0-2.0	0.0-0.5	.05	.17	5	2	134
	9-60	2-6	1.50-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.17	.17			
Arizo-----	0-6	6-12	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.2-0.8	.02	.24	5	8	0
	6-60	0-5	1.45-1.65	141.00- 705.00	0.03-0.06	0.0-2.0	0.0-0.5	.10	.32			
155: Bitterridge-----	0-2	18-25	1.30-1.50	4.00-14.00	0.03-0.07	3.0-5.0	0.0-0.5	.05	.37	1	8	0
	2-12	18-25	1.30-1.50	4.00-14.00	0.06-0.12	3.0-5.0	0.0-0.2	.10	.28			
	12-16	---	---	1.40-4.00	---	---	---	---	---			
	16-26	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Helkitchen-----	0-3	8-18	1.45-1.55	14.00-42.00	0.02-0.06	0.0-2.9	0.0-0.5	.05	.24	1	8	0
	3-7	5-15	1.40-1.55	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.37			
	7-12	5-18	1.40-1.55	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.10	.32			
	12-22	---	---	0.00-0.01	---	---	---	---	---			
160:												
Lanip-----	0-1	6-15	1.50-1.70	14.00-42.00	0.05-0.06	0.0-2.9	0.0-0.5	.10	.37	5	6	48
	1-15	5-15	1.55-1.70	14.00-42.00	0.09-0.15	0.0-2.9	0.0-0.5	.24	.49			
	15-39	20-35	1.45-1.65	1.40-4.00	0.12-0.18	3.0-5.9	0.0-0.5	.32	.43			
	39-48	6-15	1.50-1.70	14.00-42.00	0.09-0.11	0.0-2.9	0.0-0.5	.20	.37			
	48-60	4-15	1.55-1.75	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.15	.37			
Kidwell-----	0-1	6-18	1.55-1.75	14.00-42.00	0.07-0.11	0.0-2.9	0.0-0.5	.10	.28	5	6	48
	1-9	6-18	1.55-1.70	14.00-42.00	0.09-0.13	0.0-2.9	0.0-0.5	.20	.28			
	9-15	20-30	1.50-1.70	1.40-4.00	0.16-0.21	3.0-5.9	0.0-0.5	.10	.17			
	15-31	20-30	1.55-1.70	1.40-4.00	0.16-0.21	3.0-5.9	0.0-0.5	.10	.17			
	31-60	6-18	1.55-1.75	14.00-42.00	0.07-0.11	0.0-2.9	0.0-0.5	.20	.28			
165:												
Upperline-----	0-2	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.5	.10	.28	3	6	48
	2-12	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.2	.10	.32			
	12-35	6-15	1.30-1.55	14.00-42.00	0.04-0.09	0.0-2.9	0.0-0.2	.05	.28			
	35-39	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.2	.32	.32			
	39-49	---	1.60-1.80	0.42-1.40	---	---	---	---	---			
Weiser-----	0-6	8-18	1.40-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.5	.05	.32	5	8	0
	6-60	6-18	1.30-1.50	4.00-42.00	0.02-0.06	0.0-2.9	0.0-0.5	.05	.32			
Whitebasin-----	0-1	6-12	1.40-1.60	4.00-14.00	0.13-0.17	0.0-2.9	0.0-0.5	.49	.49	2	3	86
	1-11	---	1.00-1.20	14.00-42.00	0.09-0.13	---	0.0-0.2	---	---			
	11-28	---	1.00-1.20	14.00-42.00	0.09-0.13	---	0.0-0.2	---	---			
	28-38	---	1.40-1.70	0.01-1.40	---	---	---	---	---			
167:												
Upperline-----	0-2	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.5	.10	.28	3	6	48
	2-12	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.2	.10	.32			
	12-35	6-15	1.30-1.55	14.00-42.00	0.04-0.09	0.0-2.9	0.0-0.2	.05	.28			
	35-39	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.2	.32	.32			
	39-49	---	1.60-1.80	0.42-1.40	---	---	---	---	---			
St. Thomas-----	0-2	5-15	1.50-1.60	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.43	1	6	48
	2-14	6-18	1.15-1.35	4.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.10	.43			
	14-24	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Upperline, dry-----	0-2	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.5	.10	.28	3	6	48
	2-12	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.2	.10	.32			
	12-35	6-15	1.30-1.55	14.00-42.00	0.04-0.09	0.0-2.9	0.0-0.2	.05	.28			
	35-39	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.2	.32	.32			
	39-49	---	1.60-1.80	0.42-1.40	---	---	---	---	---			
168:												
Upperline-----	0-2	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.5	.10	.28	3	6	48
	2-12	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.2	.10	.32			
	12-35	6-15	1.30-1.55	14.00-42.00	0.04-0.09	0.0-2.9	0.0-0.2	.05	.28			
	35-39	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.2	.32	.32			
	39-49	---	1.60-1.80	0.42-1.40	---	---	---	---	---			
170:												
Tenwell-----	0-1	4-10	1.55-1.70	42.00-141.00	0.03-0.07	0.0-2.9	0.0-0.5	.02	.10	2	3	86
	1-4	6-12	1.55-1.70	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.28			
	4-9	12-18	1.55-1.70	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.20	.28			
	9-22	20-30	1.50-1.70	1.40-4.00	0.10-0.14	3.0-5.9	0.0-0.5	.10	.24			
	22-60	---	---	0.00-0.01	---	---	---	---	---			
Lanip-----	0-1	6-15	1.50-1.70	14.00-42.00	0.05-0.06	0.0-2.9	0.0-0.5	.10	.37	5	6	48
	1-15	5-15	1.55-1.70	14.00-42.00	0.09-0.15	0.0-2.9	0.0-0.5	.24	.49			
	15-39	20-35	1.45-1.65	1.40-4.00	0.12-0.18	3.0-5.9	0.0-0.5	.32	.43			
	39-48	6-15	1.50-1.70	14.00-42.00	0.09-0.11	0.0-2.9	0.0-0.5	.20	.37			
	48-60	4-15	1.55-1.75	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.15	.37			
175:												
St. Thomas-----	0-4	6-15	1.35-1.50	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.02	.32	1	8	0
	4-10	6-18	1.15-1.35	4.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.10	.43			
	10-20	---	---	0.00-0.01	---	---	---	---	---			
St. Thomas, dry-----	0-2	5-15	1.50-1.60	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.43	1	6	48
	2-14	6-18	1.15-1.35	4.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.10	.43			
	14-24	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	
176:												
St. Thomas-----	0-2	6-15	1.15-1.35	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32	1	8	0
	2-14	6-18	1.15-1.35	4.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.10	.43			
	14-24	---	---	0.00-0.01	---	---	---	---	---			
St. Thomas, dry-----	0-2	5-15	1.50-1.60	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.43	1	6	48
	2-14	6-18	1.15-1.35	4.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.10	.43			
	14-24	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
177:												
St. Thomas-----	0-2	6-15	1.15-1.35	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32	1	8	0
	2-14	6-18	1.15-1.35	4.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.10	.43			
	14-24	---	---	0.00-0.01	---	---	---	---	---			
Upperline-----	0-2	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.5	.10	.28	3	6	48
	2-12	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.2	.10	.32			
	12-35	6-15	1.30-1.55	14.00-42.00	0.04-0.09	0.0-2.9	0.0-0.2	.05	.28			
	35-39	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.2	.32	.32			
	39-49	---	1.60-1.80	0.42-1.40	---	---	---	---	---			
Whitebasin-----	0-1	6-12	1.40-1.60	4.00-14.00	0.13-0.17	0.0-2.9	0.0-0.5	.49	.49	2	3	86
	1-11	---	1.00-1.20	14.00-42.00	0.09-0.13	---	0.0-0.2	---	---			
	11-28	---	1.00-1.20	14.00-42.00	0.09-0.13	---	0.0-0.2	---	---			
	28-38	---	1.40-1.70	0.01-1.40	---	---	---	---	---			
178:												
St. Thomas-----	0-7	6-15	1.35-1.50	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.02	.32	1	8	0
	7-17	---	---	0.00-0.00	---	---	---	---	---			
Iceberg-----	0-2	8-18	1.35-1.40	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28	1	8	0
	2-7	8-15	1.40-1.55	4.00-14.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.43			
	7-17	8-15	1.40-1.55	4.00-14.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.43			
	17-27	---	---	0.00-0.03	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
180:												
Kidwell-----	0-1	6-18	1.55-1.75	14.00-42.00	0.07-0.11	0.0-2.9	0.0-0.5	.10	.28	5	6	48
	1-9	6-18	1.55-1.70	14.00-42.00	0.09-0.13	0.0-2.9	0.0-0.5	.20	.28			
	9-15	20-30	1.50-1.70	1.40-4.00	0.16-0.21	3.0-5.9	0.0-0.5	.10	.17			
	15-31	20-30	1.55-1.70	1.40-4.00	0.16-0.21	3.0-5.9	0.0-0.5	.10	.17			
	31-60	6-18	1.55-1.75	14.00-42.00	0.07-0.11	0.0-2.9	0.0-0.5	.20	.28			
Tenwell-----	0-4	2-8	1.50-1.60	42.00-141.00	0.02-0.05	0.0-2.9	1.0-2.0	.02	.15	2	6	48
	4-9	12-18	1.55-1.70	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.24			
	9-22	20-30	1.50-1.70	1.40-4.00	0.10-0.14	3.0-5.9	0.0-0.5	.10	.24			
	22-60	---	---	0.00-0.01	---	---	---	---	---			
185:												
Lastchance-----	0-2	8-16	1.40-1.55	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.49	2	8	0
	2-20	8-18	1.45-1.65	4.00-14.00	0.04-0.11	0.0-2.9	0.0-0.3	.10	.32			
	20-60	---	---	0.00-1.40	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Lastchance, high elevation-----	0-2	8-16	1.40-1.55	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.49	2	8	0
	2-20	8-18	1.45-1.65	4.00-14.00	0.04-0.11	0.0-2.9	0.0-0.3	.10	.32			
	20-60	---	---	0.00-1.40	---	---	---	---	---			
Commski-----	0-5	10-18	1.40-1.60	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.32	5	6	48
	5-60	5-15	1.40-1.60	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32			
186:												
Lastchance-----	0-2	12-20	1.40-1.50	4.00-14.00	0.04-0.07	0.0-3.0	0.3-0.7	.05	.37	2	8	0
	2-20	8-18	1.45-1.65	4.00-14.00	0.04-0.11	0.0-3.0	0.0-0.3	.10	.32			
	20-60	---	---	0.00-1.40	---	---	---	---	---			
Ferrogold-----	0-3	10-18	1.40-1.50	4.00-14.00	0.04-0.08	0.0-3.0	0.4-0.9	.05	.32	1	8	0
	3-9	10-18	1.50-1.55	4.00-14.00	0.04-0.11	0.0-3.0	0.2-0.5	.10	.32			
	9-15	10-18	1.55-1.70	4.00-14.00	0.04-0.11	0.0-3.0	0.0-0.3	.10	.32			
	15-60	---	---	0.00-1.40	---	---	---	---	---			
Commski-----	0-5	10-18	1.40-1.60	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.32	5	6	48
	5-14	5-15	1.40-1.60	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32			
	14-60	5-15	1.50-1.70	4.00-14.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.28			
190:												
Filaree-----	0-2	5-15	1.50-1.60	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.15	.43	5	6	48
	2-22	5-15	1.50-1.60	14.00-42.00	0.09-0.14	0.0-2.9	0.0-0.5	.32	.43			
	22-60	5-15	1.50-1.60	14.00-42.00	0.07-0.11	0.0-2.9	0.0-0.5	.20	.32			
Lanip-----	0-1	6-15	1.50-1.70	14.00-42.00	0.05-0.06	0.0-2.9	0.0-0.5	.10	.37	5	6	48
	1-15	5-15	1.55-1.70	14.00-42.00	0.09-0.15	0.0-2.9	0.0-0.5	.24	.49			
	15-39	20-35	1.45-1.65	1.40-4.00	0.12-0.18	3.0-5.9	0.0-0.5	.32	.43			
	39-48	6-15	1.50-1.70	14.00-42.00	0.09-0.11	0.0-2.9	0.0-0.5	.20	.37			
	48-60	4-15	1.55-1.75	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.15	.37			
Nickel-----	0-6	6-18	1.55-1.75	14.00-42.00	0.07-0.11	0.0-2.9	0.0-0.5	.10	.28	5	6	48
	6-11	6-15	1.59-1.79	14.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.05	.32			
	11-60	6-15	1.55-1.75	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.32			
191:												
Bluepoint-----	0-6	2-6	1.45-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.28	.32	5	2	134
	6-60	2-6	1.50-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.17	.17			
Grapevine, overblown-	0-10	3-5	1.50-1.70	42.00-141.00	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17	2	2	134
	10-60	10-18	1.40-1.60	14.00-42.00	0.11-0.16	0.0-2.9	0.0-0.5	.24	.32			
Grapevine-----	0-4	3-5	1.50-1.70	42.00-141.00	0.05-0.06	0.0-2.9	0.0-0.5	.28	.32	2	2	134
	4-60	10-18	1.40-1.60	14.00-42.00	0.11-0.16	0.0-2.9	0.0-0.5	.24	.32			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
192:												
Bluepoint-----	0-6	2-6	1.45-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.28	.32	5	2	134
	6-60	2-6	1.50-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.17	.17			
Bluepoint, hummocky--	0-6	2-6	1.45-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.28	.32	5	2	134
	6-60	2-6	1.50-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.17	.17			
195:												
Cruzspring-----	0-1	8-16	1.40-1.55	14.00-42.00	0.03-0.05	0.0-3.0	0.3-1.0	.05	.32	1	8	0
	1-3	8-16	1.40-1.55	14.00-42.00	0.04-0.09	0.0-3.0	0.3-1.0	.10	.32			
	3-11	15-20	1.43-1.55	4.00-14.00	0.03-0.09	0.0-3.0	0.0-0.6	.10	.37			
	11-13	---	---	0.01-42.00	---	---	---	---	---			
	13-23	---	---	0.00-4.00	---	---	---	---	---			
Schader-----	0-2	8-15	1.40-1.50	14.00-42.00	0.03-0.05	0.0-3.0	0.5-1.0	.05	.28	2	8	0
	2-9	8-18	1.40-1.50	4.00-14.00	0.06-0.11	0.0-3.0	0.4-1.0	.10	.37			
	9-28	20-30	1.40-1.50	4.00-14.00	0.04-0.07	3.0-6.0	0.1-0.5	.05	.37			
	28-38	---	---	0.00-0.42	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
200:												
Commski-----	0-3	8-18	1.35-1.60	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.49	5	8	0
	3-60	5-15	1.40-1.60	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32			
Weiser-----	0-6	8-18	1.40-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.5	.05	.32	5	8	0
	6-60	6-18	1.30-1.50	4.00-42.00	0.02-0.06	0.0-2.9	0.0-0.5	.05	.32			
Threelakes-----	0-4	2-8	1.50-1.60	42.00-141.00	0.02-0.05	0.0-1.5	1.0-2.0	.02	.15	5	6	48
	4-31	6-15	1.30-1.50	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.37			
	31-60	6-15	1.30-1.55	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.37			
201:												
Commski-----	0-3	8-18	1.35-1.60	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.49	5	8	0
	3-60	5-15	1.40-1.60	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32			
202:												
Commski-----	0-5	10-18	1.40-1.60	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.32	5	6	48
	5-60	5-15	1.40-1.60	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32			
Lastchance-----	0-2	8-15	1.40-1.50	4.00-14.00	0.04-0.07	0.0-3.0	0.3-0.7	.05	.37	2	8	0
	2-20	8-18	1.45-1.65	4.00-14.00	0.04-0.11	0.0-2.9	0.0-0.3	.10	.32			
	20-60	---	---	0.00-1.40	---	---	---	---	---			
203:												
Commski-----	0-5	10-18	1.40-1.60	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.32	5	6	48
	5-60	5-15	1.40-1.60	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Oldspan-----	0-3	8-15	1.40-1.55	14.00-42.00	0.09-0.13	0.0-2.9	0.0-0.5	.17	.32	3	5	56
	3-10	8-15	1.40-1.55	4.00-14.00	0.12-0.17	0.0-2.9	0.0-0.5	.32	.43			
	10-20	8-15	1.45-1.60	4.00-14.00	0.12-0.17	0.0-2.9	0.0-0.5	.32	.43			
	20-40	6-12	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.0-0.5	.05	.37			
	40-60	6-12	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32			
Lastchance-----	0-2	8-16	1.40-1.55	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.49	2	8	0
	2-20	8-18	1.45-1.65	4.00-14.00	0.04-0.11	0.0-2.9	0.0-0.3	.10	.32			
	20-60	---	---	0.00-1.40	---	---	---	---	---			
205:												
Callville-----	0-2	8-18	1.45-1.65	14.00-42.00	0.11-0.15	0.0-2.9	0.0-0.2	.37	.43	2	3	86
	2-25	5-18	1.25-1.45	14.00-42.00	0.08-0.14	0.0-2.9	0.0-0.5	.20	.28			
	25-43	---	---	0.00-1.40	---	---	---	---	---			
	43-53	---	---	0.00-0.42	---	---	---	---	---			
Badland-----	---	---	---	---	---	---	---	---	---	---	---	---
Guardian-----	0-2	8-18	1.10-1.35	14.00-42.00	0.13-0.15	0.0-2.9	0.0-0.5	.37	.43	1	3	86
	2-4	---	1.10-1.35	14.00-42.00	0.11-0.13	---	0.0-0.2	---	---			
	4-19	---	1.10-1.35	14.00-42.00	0.13-0.15	---	0.0-0.2	---	---			
	19-29	---	---	0.01-0.42	---	---	---	---	---			
207:												
Callville-----	0-2	5-10	1.15-1.35	14.00-42.00	0.08-0.13	0.0-2.9	0.0-0.5	.15	.17	2	3	86
	2-25	5-18	1.25-1.45	14.00-42.00	0.08-0.14	0.0-2.9	0.0-0.5	.20	.28			
	25-43	---	---	0.00-1.40	---	---	---	---	---			
	43-53	---	---	0.00-0.42	---	---	---	---	---			
Callville, steep-----	0-2	4-10	1.40-1.55	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.5	.20	.37	2	5	56
	2-25	5-18	1.25-1.45	14.00-42.00	0.08-0.14	0.0-2.9	0.0-0.5	.20	.28			
	25-43	---	---	0.00-1.40	---	---	---	---	---			
	43-53	---	---	0.00-0.42	---	---	---	---	---			
210:												
Nickel-----	0-4	7-12	1.45-1.60	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.5	.15	.24	5	5	56
	4-11	6-15	1.59-1.79	14.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.05	.32			
	11-60	6-15	1.55-1.75	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.32			
Arizo-----	0-2	2-8	1.45-1.65	42.00-141.00	0.04-0.06	0.0-2.0	0.0-0.5	.05	.24	5	3	86
	2-6	2-8	1.45-1.65	42.00-141.00	0.04-0.08	0.0-2.0	0.0-0.5	.10	.15			
	6-60	0-5	1.45-1.65	141.00- 705.00	0.03-0.06	0.0-2.0	0.0-0.5	.10	.32			



TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
226: Baseline-----	0-3	8-12	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	2	8	0
	3-9	8-12	1.50-1.65	4.00-14.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.28			
	9-22	8-15	1.40-1.60	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.02	.49			
	22-32	---	---	0.00-0.01	---	---	---	---	---			
227: Baseline-----	0-3	8-12	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	2	8	0
	3-9	8-12	1.50-1.65	4.00-14.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.28			
	9-22	8-15	1.40-1.60	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.02	.49			
	22-32	---	---	0.00-0.01	---	---	---	---	---			
Gypwash-----	0-1	8-12	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	1-4	5-10	1.50-1.65	14.00-42.00	0.09-0.11	0.0-2.9	0.0-0.5	.28	.55			
	4-27	8-10	1.50-1.65	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28			
	27-61	4-8	1.35-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28			
228: Baseline-----	0-3	8-12	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	2	8	0
	3-9	8-12	1.50-1.65	4.00-14.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.28			
	9-22	8-15	1.40-1.60	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.02	.49			
	22-32	---	---	0.00-0.01	---	---	---	---	---			
Guardian-----	0-2	8-18	1.10-1.35	14.00-42.00	0.13-0.15	0.0-2.9	0.0-0.5	.37	.43	1	3	86
	2-4	---	1.10-1.35	14.00-42.00	0.11-0.13	---	0.0-0.2	---	---			
	4-19	---	1.10-1.35	14.00-42.00	0.13-0.15	---	0.0-0.2	---	---			
	19-29	---	---	0.01-0.42	---	---	---	---	---			
Baseline-----	0-3	8-12	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	2	8	0
	3-9	8-12	1.50-1.65	4.00-14.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.28			
	9-22	8-15	1.40-1.60	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.02	.49			
	22-32	---	---	0.00-0.01	---	---	---	---	---			
230: Wechech-----	0-2	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.15	.43	1	6	48
	2-7	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.20	.43			
	7-13	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.10	.43			
	13-60	---	1.80-2.20	0.00-0.01	---	---	---	---	---			
Weiser-----	0-6	8-18	1.40-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.5	.05	.32	5	8	0
	6-60	6-18	1.30-1.50	4.00-42.00	0.02-0.06	0.0-2.9	0.0-0.5	.05	.32			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
231:												
Wehech-----	0-4	8-16	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.05	.24	1	6	48
	4-7	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.20	.43			
	7-13	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.10	.43			
	13-60	---	1.80-2.20	0.00-0.01	---	---	---	---	---			
232:												
Wehech-----	0-4	8-16	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.05	.24	1	6	48
	4-7	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.20	.43			
	7-13	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.10	.43			
	13-60	---	1.80-2.20	0.00-0.01	---	---	---	---	---			
Upperline-----	0-2	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.5	.10	.28	3	6	48
	2-12	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.2	.10	.32			
	12-35	6-15	1.30-1.55	14.00-42.00	0.04-0.09	0.0-2.9	0.0-0.2	.05	.28			
	35-39	6-15	1.30-1.55	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.2	.32	.32			
	39-49	---	1.60-1.80	0.42-1.40	---	---	---	---	---			
233:												
Ifteen, overblown----	0-10	2-6	1.45-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.17	.17	2	1	250
	10-15	8-16	1.35-1.45	4.00-14.00	0.14-0.15	0.0-2.9	0.0-0.5	.43	.49			
	15-36	8-16	1.35-1.50	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.43	.49			
	36-60	6-12	1.45-1.65	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32			
Wehech-----	0-3	2-6	1.45-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.17	.17	1	2	134
	3-7	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.20	.43			
	7-13	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.10	.43			
	13-60	---	1.80-2.20	0.00-0.01	---	---	---	---	---			
234:												
Wehech-----	0-2	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.15	.43	1	6	48
	2-7	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.20	.43			
	7-13	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.10	.43			
	13-60	---	1.80-2.20	0.00-0.01	---	---	---	---	---			
235:												
Gypwash-----	0-1	8-12	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	1-4	5-10	1.50-1.65	14.00-42.00	0.09-0.11	0.0-2.9	0.0-0.5	.28	.55			
	4-27	8-10	1.50-1.65	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28			
	27-61	4-8	1.35-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28			
Callville-----	0-2	5-15	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.05	.24	2	6	48
	2-25	5-18	1.25-1.45	14.00-42.00	0.08-0.14	0.0-2.9	0.0-0.5	.20	.28			
	25-43	---	---	0.00-1.40	---	---	---	---	---			
	43-53	---	---	0.00-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Carrizo-----	0-7	2-8	1.50-1.60	42.00-141.00	0.02-0.05	0.0-1.5	1.0-2.0	.02	.15	5	6	48
	7-60	0-8	1.60-1.75	141.00- 705.00	0.02-0.05	0.0-1.5	0.0-0.5	.02	.10			
237:												
Wechech, moist-----	0-4	8-16	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.05	.24	1	6	48
	4-7	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.20	.43			
	7-13	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.10	.43			
	13-60	---	1.80-2.20	0.00-0.01	---	---	---	---	---			
Wechech-----	0-2	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.15	.43	1	6	48
	2-7	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.20	.43			
	7-13	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.10	.43			
	13-60	---	1.80-2.20	0.00-0.01	---	---	---	---	---			
240:												
Crosgrain-----	0-2	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	10-20	1.45-1.60	4.00-14.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-24	---	---	0.00-0.01	---	---	---	---	---			
	24-60	---	---	0.01-0.42	---	---	---	---	---			
Irongold-----	0-1	8-16	1.40-1.55	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.49	1	8	0
	1-7	8-16	1.35-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.28	.43			
	7-11	8-16	1.35-1.55	4.00-14.00	0.06-0.10	0.0-2.9	0.0-0.5	.20	.49			
	11-34	---	---	0.01-0.42	---	---	---	---	---			
	34-60	2-8	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
Nickel-----	0-4	7-12	1.45-1.60	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.5	.15	.24	5	5	56
	4-11	6-15	1.59-1.79	14.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.05	.32			
	11-60	6-15	1.55-1.75	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.32			
241:												
Crosgrain-----	0-2	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	10-20	1.45-1.60	4.00-14.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-24	---	---	0.00-0.01	---	---	---	---	---			
	24-60	---	---	0.01-0.42	---	---	---	---	---			
Typic Torriorthents--	0-3	8-12	1.40-1.55	14.00-42.00	0.09-0.11	0.0-2.9	0.0-0.5	.05	.32	3	6	48
	3-60	5-30	1.60-1.70	0.42-1.40	0.10-0.18	3.0-5.9	0.0-0.5	.43	.49			
Nickel-----	0-6	6-18	1.55-1.75	14.00-42.00	0.07-0.11	0.0-2.9	0.0-0.5	.10	.28	5	6	48
	6-11	6-15	1.59-1.79	14.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.05	.32			
	11-60	6-15	1.55-1.75	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.32			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
250:												
Mormon Mesa-----	0-2	5-15	1.40-1.60	14.00-42.00	0.07-0.10	0.0-2.9	0.0-0.5	.15	.28	1	6	48
	2-14	5-15	1.40-1.60	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.5	.32	.37			
	14-60	---	---	0.00-0.01	---	---	---	---	---			
Naye-----	0-7	5-18	1.50-1.65	14.00-42.00	0.10-0.12	0.0-2.9	0.0-0.5	.20	.37	2	5	56
	7-25	5-18	1.50-1.65	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.32			
	25-40	---	---	0.00-0.01	---	---	---	---	---			
255:												
Tumarion-----	0-2	10-18	1.40-1.60	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.43	1	8	0
	2-5	10-18	1.15-1.25	4.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.43			
	5-7	---	---	0.00-0.01	---	---	---	---	---			
	7-17	---	---	0.00-0.01	---	---	---	---	---			
Nipton-----	0-1	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	1-5	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	5-15	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop, Basalt-	---	---	---	---	---	---	---	---	---	---	---	---
260:												
Naye-----	0-7	5-18	1.50-1.65	14.00-42.00	0.10-0.12	0.0-2.9	0.0-0.5	.20	.37	2	5	56
	7-25	5-18	1.50-1.65	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.32			
	25-40	---	---	0.00-0.01	---	---	---	---	---			
Bitter Spring-----	0-2	8-18	1.40-1.50	4.00-14.00	0.09-0.15	0.0-2.9	0.0-0.5	.28	.43	5	5	56
	2-3	18-27	1.40-1.50	1.40-4.00	0.10-0.18	3.0-6.0	0.0-0.5	.24	.28			
	3-7	8-18	1.40-1.50	14.00-42.00	0.07-0.13	0.0-2.9	0.0-0.5	.17	.28			
	7-22	6-15	1.45-1.55	14.00-42.00	0.03-0.09	0.0-2.9	0.0-0.2	.05	.28			
	22-60	2-8	1.70-1.80	42.00-705.00	0.03-0.05	0.0-2.0	0.0-0.2	.02	.17			
261:												
Vace-----	0-2	8-18	1.40-1.55	14.00-42.00	0.06-0.11	0.0-2.9	0.0-0.5	.20	.37	1	5	56
	2-8	8-18	1.30-1.45	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.37	.43			
	8-60	---	---	0.00-0.01	---	---	---	---	---			
Jean-----	0-1	0-5	1.40-1.60	42.00-141.00	0.06-0.08	0.0-2.9	0.0-0.5	.17	.28	3	2	134
	1-18	0-5	1.40-1.60	42.00-141.00	0.08-0.10	0.0-2.9	0.0-0.5	.20	.24			
	18-60	0-5	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.5	.10	.28			
265:												
Azureridge-----	0-2	6-15	1.60-1.80	14.00-42.00	0.03-0.06	0.0-2.9	0.2-0.5	.05	.32	1	6	48
	2-9	6-15	1.60-1.80	14.00-42.00	0.04-0.09	0.0-2.9	0.0-0.5	.10	.32			
	9-14	---	---	0.42-1.40	---	---	---	---	---			
	14-24	---	---	0.01-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
270:												
Bard-----	0-3	8-18	1.40-1.55	14.00-42.00	0.06-0.11	0.0-2.9	0.0-0.5	.20	.37	1	5	56
	3-14	8-15	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.32	.37			
	14-29	---	---	0.00-0.01	---	---	---	---	---			
Nickel-----	0-4	7-12	1.45-1.60	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.5	.15	.24	5	5	56
	4-11	6-15	1.59-1.79	14.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.05	.32			
	11-60	6-15	1.55-1.75	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.32			
Limewash-----	0-1	5-12	1.45-1.60	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	1-3	4-10	1.45-1.60	42.00-141.00	0.05-0.09	0.0-2.9	0.0-0.5	.10	.20			
	3-6	5-12	1.45-1.60	14.00-42.00	0.09-0.13	0.0-2.9	0.0-0.5	.15	.28			
	6-17	6-15	1.35-1.50	14.00-42.00	0.09-0.13	0.0-2.9	0.0-0.5	.20	.32			
	17-29	---	---	0.42-1.40	---	---	---	---	---			
271:												
Moapa-----	0-2	0-5	1.55-1.70	41.00-141.00	0.04-0.08	0.0-2.0	0.0-0.5	.15	.15	2	1	250
	2-38	0-5	1.60-1.75	41.00-141.00	0.04-0.08	0.0-2.0	0.0-0.5	.15	.15			
	38-39	---	---	0.01-0.42	---	---	---	---	---			
	39-49	---	---	0.00-0.01	---	---	---	---	---			
Bluepoint-----	0-6	2-6	1.45-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.28	.32	5	2	134
	6-60	2-6	1.50-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.17	.17			
272:												
Moapa-----	0-2	0-5	1.55-1.70	41.00-141.00	0.04-0.08	0.0-2.0	0.0-0.5	.15	.15	2	1	250
	2-38	0-5	1.60-1.75	41.00-141.00	0.04-0.08	0.0-2.0	0.0-0.5	.15	.15			
	38-39	---	---	0.01-0.42	---	---	---	---	---			
	39-49	---	---	0.00-0.01	---	---	---	---	---			
Bluepoint-----	0-6	2-6	1.45-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.28	.32	5	2	134
	6-60	2-6	1.50-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.17	.17			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
285:												
Heleweiser, rarely flooded-----	0-3	8-12	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	3-5	10-15	1.50-1.65	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.28			
	5-11	10-15	1.50-1.65	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.32			
	11-20	5-10	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28			
	20-34	5-10	1.50-1.65	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.28			
	34-68	5-10	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.20			
Carrizo-----	0-10	4-12	1.55-1.70	14.00-42.00	0.03-0.08	0.0-2.9	0.0-0.5	.02	.20	5	8	0
	10-60	0-8	1.60-1.75	141.00- 705.00	0.02-0.05	0.0-1.5	0.0-0.5	.02	.10			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Teebar-----	0-2	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-7	6-15	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.10	.32			
	7-72	---	---	0.00-0.01	---	---	---	---	---			
286:												
Heleweiser-----	0-1	5-15	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.05	.24	5	6	48
	1-5	10-15	1.50-1.65	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.28			
	5-11	10-15	1.50-1.65	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.32			
	11-20	5-10	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28			
	20-34	5-10	1.50-1.65	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.28			
	34-68	5-10	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.20			
Heleweiser, extremely gravelly surface----	0-2	8-12	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	2-5	10-15	1.50-1.65	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.28			
	5-11	10-15	1.50-1.65	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.32			
	11-20	5-10	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28			
	20-34	5-10	1.50-1.65	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.28			
	34-68	5-10	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.20			
Carrizo-----	0-7	2-8	1.50-1.60	42.00-141.00	0.02-0.05	0.0-1.5	1.0-2.0	.02	.15	5	6	48
	7-60	0-8	1.60-1.75	141.00- 705.00	0.02-0.05	0.0-1.5	0.0-0.5	.02	.10			
287:												
Heleweiser, rarely flooded-----	0-3	8-12	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	3-5	10-15	1.50-1.65	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.28			
	5-11	10-15	1.50-1.65	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.32			
	11-20	5-10	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28			
	20-34	5-10	1.50-1.65	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.28			
	34-68	5-10	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.20			
Heleweiser-----	0-1	5-15	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.05	.24	5	6	48
	1-5	10-15	1.50-1.65	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.28			
	5-11	10-15	1.50-1.65	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.32			
	11-20	5-10	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28			
	20-34	5-10	1.50-1.65	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.28			
	34-68	5-10	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.20			



TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Highland-----	0-3	8-16	1.30-1.40	4.00-14.00	0.03-0.07	0.0-2.9	0.0-0.5	.05	.37	2	8	0
	3-13	18-27	1.30-1.50	4.00-14.00	0.07-0.11	3.0-5.8	0.0-0.5	.15	.43			
	13-26	18-35	1.20-1.40	1.40-14.00	0.07-0.13	3.0-6.0	0.0-0.5	.15	.37			
	26-40	6-12	1.35-1.55	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.37			
	40-50	---	---	0.00-0.01	---	---	---	---	---			
292: Rock outcrop, metamorphic-----	---	---	---	---	---	---	---	---	---	---	---	---
Nupper-----	0-3	5-10	1.50-1.60	42.00-141.00	0.06-0.08	0.0-2.9	0.0-0.5	.02	.24	1	6	48
	3-13	8-15	1.45-1.55	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.28			
	13-23	---	---	0.00-1.40	---	---	---	---	---			
294: Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
298: Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
Redneedle-----	0-1	6-12	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.37	1	6	48
	1-5	6-12	1.50-1.65	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.2	.17	.37			
	5-15	---	---	0.00-1.40	---	---	---	---	---			
Heleweiser-----	0-1	5-15	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.05	.24	5	6	48
	1-5	10-15	1.50-1.65	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.28			
	5-11	10-15	1.50-1.65	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.32			
	11-20	5-10	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28			
	20-34	5-10	1.50-1.65	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.28			
	34-68	5-10	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.20			
310: Weiser-----	0-6	8-18	1.40-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.5	.05	.32	5	8	0
	6-60	6-18	1.30-1.50	4.00-42.00	0.02-0.06	0.0-2.9	0.0-0.5	.05	.32			
Arizo-----	0-2	2-8	1.45-1.65	42.00-141.00	0.04-0.06	0.0-2.0	0.0-0.5	.05	.24	5	3	86
	2-6	2-8	1.45-1.65	42.00-141.00	0.04-0.08	0.0-2.0	0.0-0.5	.10	.15			
	6-60	0-5	1.45-1.65	141.00- 705.00	0.03-0.06	0.0-2.0	0.0-0.5	.10	.32			
311: Weiser-----	0-6	8-18	1.40-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.5	.05	.32	5	8	0
	6-60	6-18	1.30-1.50	4.00-42.00	0.02-0.06	0.0-2.9	0.0-0.5	.05	.32			
Threelakes-----	0-3	5-15	1.30-1.50	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.37	5	8	0
	3-31	6-15	1.30-1.50	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.37			
	31-60	6-15	1.30-1.55	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.37			



TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
321:												
Boxspring-----	0-2	10-18	1.40-1.60	4.00-14.00	0.03-0.07	0.0-2.9	0.0-0.5	.15	.43	1	8	0
	2-15	10-18	1.45-1.60	4.00-14.00	0.03-0.10	0.0-2.9	0.0-0.5	.17	.43			
	15-25	---	---	0.00-0.01	---	---	---	---	---			
Seralin-----	0-2	10-18	1.40-1.55	4.00-14.00	0.03-0.07	0.0-2.9	0.8-2.0	.10	.49	1	8	0
	2-14	10-18	1.35-1.55	4.00-14.00	0.03-0.09	0.0-2.9	0.5-1.0	.17	.43			
	14-24	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
322:												
Boxspring-----	0-2	10-18	1.40-1.60	4.00-14.00	0.03-0.07	0.0-2.9	0.0-0.5	.15	.43	1	8	0
	2-15	10-18	1.45-1.60	4.00-14.00	0.03-0.10	0.0-2.9	0.0-0.5	.17	.43			
	15-25	---	---	0.00-0.01	---	---	---	---	---			
Potosi-----	0-2	8-15	1.40-1.60	4.00-14.00	0.03-0.07	0.0-2.9	0.0-0.5	.05	.43	1	8	0
	2-11	8-15	1.40-1.60	4.00-14.00	0.03-0.08	0.0-2.9	0.0-0.5	.05	.37			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
323:												
Boxspring-----	0-2	10-18	1.40-1.60	4.00-14.00	0.03-0.07	0.0-2.9	0.0-0.5	.15	.43	1	8	0
	2-15	10-18	1.45-1.60	4.00-14.00	0.03-0.10	0.0-2.9	0.0-0.5	.17	.43			
	15-25	---	---	0.00-0.01	---	---	---	---	---			
Scrapy-----	0-1	5-15	1.45-1.50	14.00-42.00	0.04-0.08	0.0-2.9	0.5-1.0	.05	.28	1	6	48
	1-12	5-15	1.42-1.48	14.00-42.00	0.04-0.11	0.0-2.9	0.0-0.5	.05	.32			
	12-22	---	---	0.00-0.42	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
325:												
Sandpan-----	0-1	6-10	1.60-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.32	.55	2	2	134
	1-6	6-10	1.60-1.70	14.00-42.00	0.07-0.10	0.0-2.9	0.0-0.5	.24	.32			
	6-16	6-10	1.70-1.75	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.49			
	16-38	6-10	1.70-1.75	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.15			
	38-70	---	---	0.00-0.02	---	---	---	---	---			
Rositas-----	0-5	0-5	1.45-1.70	42.00-141.00	0.05-0.07	0.0-1.5	0.0-0.5	.20	.20	5	1	250
	5-60	0-5	1.45-1.70	42.00-141.00	0.05-0.08	0.0-1.5	0.0-0.5	.20	.20			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
330: Ramshead-----	0-1	8-18	1.45-1.55	4.00-14.00	0.04-0.11	0.0-2.9	0.0-0.5	.05	.43	1	8	0
	1-6	8-18	1.45-1.55	4.00-14.00	0.04-0.11	0.0-2.9	0.0-0.5	.10	.43			
	6-8	---	---	0.01-0.42	---	---	---	---	---			
	8-18	---	---	0.00-0.01	---	---	---	---	---			
St. Thomas-----	0-2	6-15	1.15-1.35	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32	1	8	0
	2-14	6-18	1.15-1.35	4.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.10	.43			
	14-24	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
335: Teebar-----	0-2	6-15	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.10	.32	1	6	48
	2-7	6-15	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.10	.32			
	7-72	---	---	0.00-0.01	---	---	---	---	---			
336: Teebar-----	0-2	6-15	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.10	.32	1	6	48
	2-7	6-15	1.35-1.50	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.10	.32			
	7-72	---	---	0.00-0.01	---	---	---	---	---			
Sandpan-----	0-1	6-10	1.60-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.32	.55	2	2	134
	1-6	6-10	1.60-1.70	14.00-42.00	0.07-0.10	0.0-2.9	0.0-0.5	.24	.32			
	6-16	6-10	1.70-1.75	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.49			
	16-38	6-10	1.70-1.75	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.15			
	38-70	---	---	0.00-0.02	---	---	---	---	---			
340: Zeheme, steep-----	0-4	8-18	1.35-1.40	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.05	.28	1	8	0
	4-13	8-18	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28			
	13-23	---	---	0.00-0.01	---	---	---	---	---			
Zeheme-----	0-4	8-18	1.35-1.40	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.05	.28	1	8	0
	4-13	8-18	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28			
	13-23	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
341: Zeheme-----	0-3	8-18	1.40-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	3-9	8-18	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28			
	9-19	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
342:												
Zeheme-----	0-3	8-18	1.40-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	3-9	8-18	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28			
	9-19	---	---	0.00-0.01	---	---	---	---	---			
Potosi-----	0-2	8-15	1.40-1.60	4.00-14.00	0.03-0.07	0.0-2.9	0.0-0.5	.05	.43	1	8	0
	2-11	8-15	1.40-1.60	4.00-14.00	0.03-0.08	0.0-2.9	0.0-0.5	.05	.37			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
343:												
Zeheme-----	0-3	8-18	1.40-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	3-9	8-18	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28			
	9-19	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
Boxspring-----	0-2	10-18	1.40-1.60	4.00-14.00	0.03-0.07	0.0-2.9	0.0-0.5	.15	.43	1	8	0
	2-15	10-18	1.45-1.60	4.00-14.00	0.03-0.10	0.0-2.9	0.0-0.5	.17	.43			
	15-25	---	---	0.00-0.01	---	---	---	---	---			
351:												
Seralin-----	0-2	10-18	1.40-1.60	4.00-14.00	0.03-0.07	0.0-2.9	0.0-0.5	.15	.43	1	8	0
	2-14	10-18	1.35-1.55	4.00-14.00	0.03-0.09	0.0-2.9	0.5-1.0	.17	.43			
	14-24	---	---	0.00-0.01	---	---	---	---	---			
352:												
Seralin-----	0-2	10-18	1.40-1.55	4.00-14.00	0.03-0.07	0.0-2.9	0.8-2.0	.10	.49	1	8	0
	2-14	10-18	1.35-1.55	4.00-14.00	0.03-0.09	0.0-2.9	0.5-1.0	.17	.43			
	14-24	---	---	0.00-0.01	---	---	---	---	---			
Traley-----	0-8	12-18	1.25-1.40	4.00-14.00	0.08-0.12	0.0-2.9	1.0-2.0	.17	.49	3	6	48
	8-17	18-27	1.20-1.40	4.00-14.00	0.10-0.13	3.0-5.0	0.5-1.0	.15	.43			
	17-27	18-27	1.20-1.40	4.00-14.00	0.10-0.13	3.0-5.0	0.5-1.0	.15	.43			
	27-48	8-18	1.30-1.50	14.00-42.00	0.04-0.09	0.0-2.9	0.0-0.5	.05	.28			
	48-58	---	---	0.42-4.00	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
355:												
Seralin-----	0-2	10-18	1.40-1.60	4.00-14.00	0.03-0.07	0.0-2.9	0.0-0.5	.15	.43	1	8	0
	2-14	10-18	1.35-1.55	4.00-14.00	0.03-0.09	0.0-2.9	0.5-1.0	.17	.43			
	14-24	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Devilsthumb-----	0-1	7-15	1.40-1.50	4.00-14.00	0.06-0.12	0.0-2.9	0.5-1.5	.15	.43	2	7	38
	1-7	7-15	1.40-1.50	4.00-14.00	0.06-0.12	0.0-2.9	0.5-1.5	.15	.43			
	7-11	8-18	1.40-1.50	4.00-14.00	0.06-0.12	0.0-2.9	1.0-2.0	.15	.43			
	11-26	8-18	1.40-1.50	4.00-14.00	0.06-0.12	0.0-2.9	1.0-2.0	.15	.43			
	26-36	---	---	0.00-4.00	---	---	---	---	---			
Ednagrey-----	0-2	7-15	1.45-1.55	14.00-42.00	0.04-0.06	0.0-2.9	0.2-0.8	.10	.32	1	8	0
	2-8	7-15	1.50-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.15	.43			
	8-18	---	---	0.00-4.00	---	---	---	---	---			
360:												
Bracken-----	0-9	6-12	1.00-1.20	14.00-42.00	0.09-0.13	---	---	---	---	3	3	86
	9-49	6-12	1.00-1.20	14.00-42.00	0.09-0.13	---	---	---	---			
	49-59	---	1.35-1.55	0.00-0.42	---	---	---	---	---			
Arizo-----	0-6	5-15	1.50-1.60	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.43	5	6	48
	6-60	1-6	1.45-1.65	42.00-705.00	0.03-0.04	0.0-2.0	0.0-0.5	.10	.32			
Badland-----	---	---	---	---	---	---	---	---	---	---	---	---
365:												
Callville-----	0-2	10-18	1.30-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28	2	8	0
	2-25	5-18	1.25-1.45	14.00-42.00	0.08-0.14	0.0-2.9	0.0-0.5	.20	.28			
	25-43	---	---	0.00-1.40	---	---	---	---	---			
	43-53	---	---	0.00-0.42	---	---	---	---	---			
Gypwash-----	0-1	8-12	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	1-4	5-10	1.50-1.65	14.00-42.00	0.09-0.11	0.0-2.9	0.0-0.5	.28	.55			
	4-27	8-10	1.50-1.65	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28			
	27-61	4-8	1.35-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28			
Badland-----	---	---	---	---	---	---	---	---	---	---	---	---
375:												
Iceberg-----	0-2	8-18	1.35-1.40	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28	1	8	0
	2-7	8-15	1.40-1.55	4.00-14.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.43			
	7-17	8-15	1.40-1.55	4.00-14.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.43			
	17-27	---	---	0.00-0.03	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	
Helkitchen-----	0-3	5-18	1.35-1.50	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.02	.32	1	8	0
	3-7	5-18	1.40-1.55	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.37			
	7-12	5-18	1.40-1.55	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.10	.32			
	12-22	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
376:												
Iceberg-----	0-2	8-18	1.35-1.40	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28	1	8	0
	2-7	8-15	1.40-1.55	4.00-14.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.43			
	7-17	8-15	1.40-1.55	4.00-14.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.43			
	17-27	---	---	0.00-0.03	---	---	---	---	---			
St. Thomas-----	0-7	6-15	1.35-1.50	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.02	.32	1	8	0
	7-17	---	---	0.00-0.00	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
380:												
Tonopah-----	0-1	5-15	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	1-9	6-15	1.55-1.70	14.00-42.00	0.04-0.09	0.0-2.9	0.0-0.5	.10	.32			
	9-60	2-10	1.55-1.75	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.20			
Arizo-----	0-2	2-8	1.45-1.65	42.00-141.00	0.04-0.06	0.0-2.0	0.0-0.5	.05	.24	5	3	86
	2-6	2-8	1.45-1.65	42.00-141.00	0.04-0.08	0.0-2.0	0.0-0.5	.10	.15			
	6-60	0-5	1.45-1.65	141.00- 705.00	0.03-0.06	0.0-2.0	0.0-0.5	.10	.32			
390:												
Tipnat-----	0-3	5-8	1.45-1.60	42.00-141.00	0.04-0.08	0.0-2.9	0.0-0.5	.15	.17	3	2	134
	3-13	20-30	1.40-1.60	1.40-4.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	13-60	6-18	1.45-1.60	4.00-14.00	0.07-0.10	0.0-2.9	0.0-0.5	.20	.24			
Hypoint-----	0-2	3-5	1.50-1.70	42.00-141.00	0.05-0.06	0.0-2.9	0.0-0.5	.10	.17	5	2	134
	2-60	1-8	1.60-1.70	42.00-141.00	0.04-0.06	0.0-1.5	0.0-0.5	.10	.20			
Grapevine-----	0-1	3-5	1.50-1.70	42.00-141.00	0.05-0.06	0.0-2.9	0.0-0.5	.28	.32	2	2	134
	1-60	10-18	1.40-1.60	14.00-42.00	0.11-0.16	0.0-2.9	0.0-0.5	.24	.32			
391:												
Tipnat-----	0-3	5-8	1.45-1.60	42.00-141.00	0.04-0.08	0.0-2.9	0.0-0.5	.15	.17	3	2	134
	3-13	20-30	1.40-1.60	1.40-4.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	13-60	6-18	1.45-1.60	4.00-14.00	0.07-0.10	0.0-2.9	0.0-0.5	.20	.24			
Hypoint-----	0-2	3-5	1.50-1.70	42.00-141.00	0.05-0.06	0.0-2.9	0.0-0.5	.10	.17	5	2	134
	2-60	1-8	1.60-1.70	42.00-141.00	0.04-0.06	0.0-1.5	0.0-0.5	.10	.20			
Bluepoint-----	0-9	2-6	1.45-1.65	42.00-141.00	0.05-0.08	0.0-2.0	0.0-0.5	.05	.17	5	2	134
	9-60	2-6	1.50-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.17	.17			
400:												
Arizo-----	0-4	5-18	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.28	5	8	0
	4-60	2-10	1.45-1.65	42.00-705.00	0.03-0.06	0.0-2.0	0.0-0.5	.10	.24			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Cafetal-----	0-3	12-18	1.35-1.50	4.00-14.00	0.03-0.07	0.0-2.9	0.0-0.5	.05	.43	5	8	0
	3-13	18-27	1.30-1.50	1.40-14.00	0.06-0.11	3.0-6.0	0.0-0.5	.10	.37			
	13-22	10-18	1.45-1.65	4.00-42.00	0.03-0.07	0.0-2.9	0.0-0.5	.05	.32			
	22-38	8-15	1.40-1.60	4.00-42.00	0.03-0.07	0.0-2.9	0.0-0.5	.05	.28			
	38-60	5-15	1.40-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
405: Oxyaquic Torrifluvents-----	0-2	8-18	1.55-1.65	42.00-141.00	0.15-0.17	0.0-2.9	0.2-1.0	.32	.37	5	3	86
	2-5	5-12	1.55-1.65	42.00-141.00	0.06-0.08	0.0-2.9	0.5-1.5	.37	.43			
	5-40	5-25	1.55-1.65	14.00-42.00	0.13-0.15	0.0-2.9	0.5-1.5	.17	.24			
	40-60	5-18	1.55-1.65	42.00-141.00	0.03-0.07	0.0-2.9	0.5-1.5	.02	.20			
Gypwash-----	0-1	8-12	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	1-4	5-10	1.50-1.65	14.00-42.00	0.09-0.11	0.0-2.9	0.0-0.5	.28	.55			
	4-27	8-10	1.50-1.65	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28			
	27-61	4-8	1.35-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28			
411: Bludiamond, very gravelly surface----	0-1	8-18	1.40-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.5-1.0	.02	.20	2	6	48
	1-16	20-25	1.50-1.60	1.40-4.00	0.07-0.11	3.0-4.0	0.0-0.5	.10	.28			
	16-26	15-25	1.50-1.60	1.40-4.00	0.05-0.08	2.0-4.0	0.0-0.5	.10	.28			
	26-36	6-12	1.30-1.50	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.10	.32			
	36-60	---	---	0.01-0.42	---	---	---	---	---			
Bludiamond-----	0-8	3-8	1.50-1.60	14.00-42.00	0.08-0.10	0.0-2.0	0.1-0.6	.20	.24	2	2	134
	8-16	20-25	1.50-1.60	1.40-4.00	0.07-0.11	3.0-4.0	0.0-0.5	.10	.28			
	16-26	15-25	1.50-1.60	1.40-4.00	0.05-0.08	2.0-4.0	0.0-0.5	.10	.28			
	26-36	6-12	1.30-1.50	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.10	.32			
	36-60	---	---	0.01-0.42	---	---	---	---	---			
Diamondhil-----	0-2	6-15	1.20-1.45	14.00-42.00	0.06-0.08	0.0-2.9	0.5-1.0	.15	.43	2	6	48
	2-10	20-30	1.35-1.55	1.40-4.00	0.05-0.08	3.0-6.0	0.0-0.5	.10	.37			
	10-19	18-27	1.35-1.60	4.00-14.00	0.05-0.08	3.0-6.0	0.0-0.5	.05	.24			
	19-31	6-15	1.40-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32			
	31-60	---	---	0.42-1.40	---	---	---	---	---			
415: Valatier-----	0-2	7-12	1.45-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.5-1.0	.05	.24	3	8	0
	2-21	10-18	1.30-1.40	4.00-42.00	0.05-0.10	0.0-2.9	0.1-0.5	.10	.37			
	21-33	2-10	1.50-1.60	42.00-141.00	0.02-0.04	0.0-2.9	0.1-0.5	.05	.15			
	33-60	---	---	0.01-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
421:												
Moentria-----	0-3	8-18	1.30-1.45	4.00-14.00	0.03-0.07	0.0-2.9	0.1-0.7	.10	.49	1	8	0
	3-9	8-18	1.30-1.45	4.00-14.00	0.05-0.09	0.0-2.9	0.0-0.5	.15	.49			
	9-19	---	---	1.40-4.00	---	---	---	---	---			
	19-29	---	---	0.00-0.42	---	---	---	---	---			
422:												
Moentria-----	0-3	8-18	1.30-1.45	4.00-14.00	0.03-0.07	0.0-2.9	0.1-0.7	.10	.49	1	8	0
	3-9	8-18	1.30-1.45	4.00-14.00	0.05-0.09	0.0-2.9	0.0-0.5	.15	.49			
	9-19	---	---	1.40-4.00	---	---	---	---	---			
	19-29	---	---	0.00-0.42	---	---	---	---	---			
Purob-----	0-3	7-18	1.30-1.45	4.00-14.00	0.03-0.07	0.0-2.9	0.1-0.7	.10	.43	1	8	0
	3-8	12-24	1.30-1.45	4.00-14.00	0.09-0.14	0.0-2.9	0.0-0.5	.20	.43			
	8-19	12-27	1.00-1.20	4.00-14.00	0.05-0.11	0.0-2.9	0.0-0.5	.15	.43			
	19-60	---	---	0.00-0.01	---	---	---	---	---			
430:												
Bluepoint-----	0-9	2-6	1.45-1.65	42.00-141.00	0.05-0.08	0.0-2.0	0.0-0.5	.05	.17	5	2	134
	9-60	2-6	1.50-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.17	.17			
Tipnat-----	0-3	5-8	1.45-1.60	42.00-141.00	0.04-0.08	0.0-2.9	0.0-0.5	.15	.17	3	2	134
	3-13	20-30	1.40-1.60	1.40-4.00	0.14-0.19	3.0-5.9	0.0-0.5	.24	.28			
	13-60	6-18	1.45-1.60	4.00-14.00	0.07-0.10	0.0-2.9	0.0-0.5	.20	.24			
Grapevine, overblown-	0-10	3-5	1.50-1.70	42.00-141.00	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17	2	2	134
	10-60	10-18	1.40-1.60	14.00-42.00	0.11-0.16	0.0-2.9	0.0-0.5	.24	.32			
431:												
Hypoint, thick surface-----	0-7	2-6	1.45-1.65	42.00-141.00	0.05-0.08	0.0-2.9	0.0-0.5	.05	.17	5	2	134
	7-60	1-8	1.60-1.70	42.00-141.00	0.04-0.06	0.0-1.5	0.0-0.5	.10	.20			
Vegastorm-----	0-3	5-15	1.35-1.55	14.00-42.00	0.12-0.15	0.0-2.9	0.0-0.5	.28	.32	3	3	86
	3-20	8-15	1.50-1.60	14.00-42.00	0.07-0.12	0.0-2.9	0.0-0.5	.20	.32			
	20-26	10-18	1.45-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.43	.49			
	26-60	10-18	1.50-1.60	14.00-42.00	0.07-0.12	0.0-2.9	0.0-0.5	.24	.37			
Hypoint-----	0-2	3-5	1.50-1.70	42.00-141.00	0.05-0.06	0.0-2.9	0.0-0.5	.10	.17	5	2	134
	2-60	1-8	1.60-1.70	42.00-141.00	0.04-0.06	0.0-1.5	0.0-0.5	.10	.20			
441:												
Corbilt-----	0-4	3-8	1.45-1.55	42.00-141.00	0.09-0.10	0.0-2.9	0.0-0.1	.15	.28	5	2	134
	4-32	5-10	1.35-1.55	14.00-42.00	0.11-0.13	0.0-2.9	0.0-0.5	.15	.28			
	32-56	2-6	1.35-1.55	14.00-42.00	0.06-0.07	0.0-2.9	0.0-0.5	.10	.28			
	56-60	---	---	0.42-1.40	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
450:												
Arizo-----	0-2	2-8	1.45-1.65	42.00-141.00	0.04-0.06	0.0-2.0	0.0-0.5	.05	.24	5	3	86
	2-6	2-8	1.45-1.65	42.00-141.00	0.04-0.08	0.0-2.0	0.0-0.5	.10	.15			
	6-60	0-5	1.45-1.65	141.00- 705.00	0.03-0.06	0.0-2.0	0.0-0.5	.10	.32			
Arizo, frequently flooded-----	0-6	6-12	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.2-0.8	.02	.24	5	8	0
	6-60	0-5	1.45-1.65	141.00- 705.00	0.03-0.06	0.0-2.0	0.0-0.5	.10	.32			
451:												
Arizo-----	0-6	5-15	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	6-60	1-6	1.45-1.65	42.00-705.00	0.03-0.04	0.0-2.0	0.0-0.5	.10	.32			
Peskah-----	0-1	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.2-0.5	.02	.24	2	8	0
	1-4	8-18	1.50-1.70	14.00-42.00	0.06-0.12	0.0-2.9	0.2-0.5	.20	.28			
	4-8	18-35	1.40-1.60	1.00-4.00	0.09-0.10	3.0-5.9	0.0-0.5	.10	.15			
	8-15	18-35	1.40-1.60	1.00-4.00	0.06-0.07	3.0-5.9	0.0-0.5	.05	.15			
	15-43	5-15	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.15			
	43-60	---	---	0.01-0.42	---	---	---	---	---			
Crosgrain-----	0-1	10-18	1.40-1.60	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.43	1	8	0
	1-11	10-20	1.45-1.60	4.00-14.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-24	---	---	0.00-0.01	---	---	---	---	---			
	24-60	---	---	0.01-0.42	---	---	---	---	---			
454:												
Arizo-----	0-6	6-12	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.2-0.8	.02	.24	5	8	0
	6-60	0-5	1.45-1.65	141.00- 705.00	0.03-0.06	0.0-2.0	0.0-0.5	.10	.32			
Riverwash-----	0-6	0-1	1.60-1.70	42.00-141.00	0.01-0.02	0.0-2.9	0.0-0.1	.02	.10	--	5	56
	6-60	0-1	1.60-1.70	42.00-141.00	0.02-0.03	0.0-2.9	0.0-0.1	.10	.02			
455:												
Arizo-----	0-6	5-15	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	6-60	1-6	1.45-1.65	42.00-705.00	0.03-0.04	0.0-2.0	0.0-0.5	.10	.32			
Tenwell-----	0-1	6-15	1.50-1.70	14.00-42.00	0.05-0.06	0.0-2.9	0.0-0.5	.10	.37	2	6	48
	1-4	6-12	1.55-1.70	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.28			
	4-9	12-18	1.55-1.70	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.20	.28			
	9-22	20-30	1.50-1.70	1.40-4.00	0.10-0.14	3.0-5.9	0.0-0.5	.10	.24			
	22-60	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
460:												
Pahrump-----	0-2	8-18	1.20-1.30	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.20	.37	3	5	56
	2-6	10-18	1.20-1.30	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.37	.37			
	6-46	18-30	1.00-1.10	1.40-4.00	0.08-0.10	3.0-5.0	0.0-0.5	.15	.55			
	46-60	5-18	1.00-1.10	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.37	.37			
Wodavar-----	0-3	8-16	1.45-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	3-16	8-16	1.45-1.55	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.10	.32			
	16-33	---	---	0.00-0.01	---	---	---	---	---			
	33-60	10-18	1.45-1.55	4.00-14.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.49			
Vegastorm-----	0-3	5-15	1.50-1.60	14.00-42.00	0.08-0.10	0.0-2.9	0.0-0.5	.15	.28	3	5	56
	3-20	8-15	1.50-1.60	14.00-42.00	0.07-0.12	0.0-2.9	0.0-0.5	.20	.32			
	20-26	10-18	1.45-1.55	4.00-14.00	0.19-0.21	0.0-2.9	0.0-0.5	.43	.49			
	26-60	10-18	1.50-1.60	14.00-42.00	0.07-0.12	0.0-2.9	0.0-0.5	.24	.37			
461:												
Pahrump, saline-----	0-2	8-18	1.20-1.30	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.20	.37	3	5	56
	2-6	10-18	1.20-1.30	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.37	.37			
	6-46	18-30	1.00-1.10	1.40-4.00	0.08-0.10	3.0-5.0	0.0-0.5	.15	.55			
	46-60	5-18	1.00-1.10	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.37	.37			
Pahrump-----	0-2	8-18	1.20-1.30	4.00-14.00	0.12-0.15	0.0-2.9	0.0-0.5	.20	.37	3	5	56
	2-6	10-18	1.20-1.30	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.37	.37			
	6-46	18-30	1.00-1.10	1.40-4.00	0.08-0.10	3.0-5.0	0.0-0.5	.15	.55			
	46-60	5-18	1.00-1.10	4.00-14.00	0.15-0.17	0.0-2.9	0.0-0.5	.37	.37			
Bluepoint-----	0-14	2-6	1.45-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.17	.17	5	1	250
	14-60	2-6	1.50-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.17	.17			
470:												
Filaree-----	0-2	5-15	1.50-1.60	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.15	.43	5	6	48
	2-22	5-15	1.50-1.60	14.00-42.00	0.09-0.14	0.0-2.9	0.0-0.5	.32	.43			
	22-60	5-15	1.50-1.60	14.00-42.00	0.07-0.11	0.0-2.9	0.0-0.5	.20	.32			
Seanna-----	0-2	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.20	2	8	0
	2-10	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.05	.20			
	10-20	---	---	0.01-0.42	---	---	---	---	---			
475:												
Guardian-----	0-2	8-18	1.10-1.35	14.00-42.00	0.13-0.15	0.0-2.9	0.0-0.5	.37	.43	1	3	86
	2-4	---	1.10-1.35	14.00-42.00	0.11-0.13	---	0.0-0.2	---	---			
	4-19	---	1.10-1.35	14.00-42.00	0.13-0.15	---	0.0-0.2	---	---			
	19-29	---	---	0.01-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Sunrock-----	0-2	5-18	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.28	1	8	0
	2-9	5-18	1.55-1.75	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.15	.28			
	9-19	---	---	0.00-0.01	---	---	---	---	---			
Badland-----	---	---	---	---	---	---	---	---	---	---	---	---
477: Guardian, calcareous surface-----	0-2	6-12	1.00-1.20	14.00-42.00	0.09-0.13	0.0-2.9	0.0-0.5	.17	.20	1	3	86
	2-4	---	1.10-1.35	14.00-42.00	0.11-0.13	---	0.0-0.2	---	---			
	4-19	---	1.10-1.35	14.00-42.00	0.13-0.15	---	0.0-0.2	---	---			
	19-29	---	---	0.01-0.42	---	---	---	---	---			
Baseline-----	0-3	8-12	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	2	8	0
	3-9	8-12	1.50-1.65	4.00-14.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.28			
	9-22	8-15	1.40-1.60	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.02	.49			
	22-32	---	---	0.00-0.01	---	---	---	---	---			
Guardian-----	0-2	8-18	1.10-1.35	14.00-42.00	0.13-0.15	0.0-2.9	0.0-0.5	.37	.43	1	3	86
	2-4	---	1.10-1.35	14.00-42.00	0.11-0.13	---	0.0-0.2	---	---			
	4-19	---	1.10-1.35	14.00-42.00	0.13-0.15	---	0.0-0.2	---	---			
	19-29	---	---	0.01-0.42	---	---	---	---	---			
478: Guardian, calcareous surface-----	0-2	6-12	1.00-1.20	14.00-42.00	0.09-0.13	0.0-2.9	0.0-0.5	.17	.20	1	3	86
	2-4	---	1.10-1.35	14.00-42.00	0.11-0.13	---	0.0-0.2	---	---			
	4-19	---	1.10-1.35	14.00-42.00	0.13-0.15	---	0.0-0.2	---	---			
	19-29	---	---	0.01-0.42	---	---	---	---	---			
Baseline-----	0-3	8-12	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	2	8	0
	3-9	8-12	1.50-1.65	4.00-14.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.28			
	9-22	8-15	1.40-1.60	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.02	.49			
	22-32	---	---	0.00-0.01	---	---	---	---	---			
480: Vace-----	0-2	8-18	1.40-1.55	14.00-42.00	0.06-0.11	0.0-2.9	0.0-0.5	.20	.37	1	5	56
	2-8	8-18	1.30-1.45	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.37	.43			
	8-60	---	---	0.00-0.01	---	---	---	---	---			
Vace, stony surface--	0-3	6-12	1.40-1.55	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	3-8	8-18	1.30-1.45	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.37	.43			
	8-60	---	---	0.00-0.01	---	---	---	---	---			
Arizo-----	0-4	5-18	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.28	5	8	0
	4-60	2-10	1.45-1.65	42.00-705.00	0.03-0.06	0.0-2.0	0.0-0.5	.10	.24			



TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
510: Railroad-----	0-3	6-12	1.40-1.55	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	2	8	0
	3-11	6-16	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.0-0.5	.15	.43			
	11-34	6-16	1.45-1.60	14.00-42.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.43			
	34-44	---	---	0.00-0.01	---	---	---	---	---			
Railroad, steep-----	0-3	6-12	1.40-1.55	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	2	8	0
	3-11	6-16	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.0-0.5	.15	.43			
	11-34	6-16	1.45-1.60	14.00-42.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.43			
	34-44	---	---	0.00-0.01	---	---	---	---	---			
520: Nolena-----	0-2	8-18	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.02	.20	1	8	0
	2-5	8-18	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.20			
	5-11	---	---	0.01-0.42	---	---	---	---	---			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
521: Nolena-----	0-2	8-18	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.02	.20	1	8	0
	2-5	8-18	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.20			
	5-11	---	---	0.01-0.42	---	---	---	---	---			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Nipton-----	0-1	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	1-5	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	5-15	---	---	0.00-0.01	---	---	---	---	---			
522: Nolena-----	0-2	8-18	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.02	.20	1	8	0
	2-5	8-18	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.20			
	5-11	---	---	0.01-0.42	---	---	---	---	---			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Meadview-----	0-2	8-15	1.40-1.55	14.00-52.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.28	5	8	0
	2-25	6-15	1.60-1.80	14.00-42.00	0.04-0.09	0.0-2.9	0.0-0.5	.10	.32			
	25-60	5-15	1.55-1.75	14.00-42.00	0.04-0.08	0.0-2.9	0.0-0.5	.05	.17			
523: Nolena, moist-----	0-2	8-18	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.02	.20	1	8	0
	2-5	8-18	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.20			
	5-11	---	---	0.01-0.42	---	---	---	---	---			
	11-21	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Nolena-----	0-2	8-18	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.02	.20	1	8	0
	2-5	8-18	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.20			
	5-11	---	---	0.01-0.42	---	---	---	---	---			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
530:												
Seanna-----	0-2	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.20	2	8	0
	2-10	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.05	.20			
	10-20	---	---	0.01-0.42	---	---	---	---	---			
Botleg-----	0-2	18-27	1.50-1.70	4.00-14.00	0.02-0.06	3.0-4.5	0.0-0.5	.05	.32	1	8	0
	2-10	27-35	1.45-1.60	1.40-4.00	0.04-0.08	4.5-6.0	0.0-0.5	.05	.17			
	10-20	---	---	0.01-0.42	---	---	---	---	---			
531:												
Seanna-----	0-2	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.20	2	8	0
	2-10	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.05	.20			
	10-20	---	---	0.01-0.42	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
532:												
Seanna-----	0-2	8-18	1.25-1.50	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.24	2	8	0
	2-10	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.05	.20			
	10-20	---	---	0.01-0.42	---	---	---	---	---			
Goldroad-----	0-1	6-12	1.40-1.55	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	1-5	5-15	1.55-1.75	14.00-42.00	0.03-0.07	0.0-2.9	0.0-0.5	.05	.28			
	5-15	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
535:												
Blackmesa-----	0-2	5-15	1.55-1.65	14.00-42.00	0.08-0.13	0.0-2.9	0.0-0.5	.20	.32	1	5	56
	2-8	5-15	1.55-1.65	14.00-42.00	0.08-0.13	0.0-2.9	0.0-0.5	.15	.32			
	8-13	5-15	1.50-1.60	14.00-42.00	0.09-0.13	0.0-2.9	0.0-0.5	.17	.32			
	13-53	---	---	0.00-0.01	---	---	---	---	---			
Sunrock-----	0-2	5-18	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.28	1	8	0
	2-9	5-18	1.55-1.75	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.15	.28			
	9-19	---	---	0.00-0.01	---	---	---	---	---			
540:												
Sunrock-----	0-2	5-18	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.28	1	8	0
	2-9	5-18	1.55-1.75	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.15	.28			
	9-19	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
541:												
Sunrock-----	0-2	5-18	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.10	.28	1	8	0
	2-9	5-18	1.55-1.75	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.15	.28			
	9-19	---	---	0.00-0.01	---	---	---	---	---			
Haleburu-----	0-2	8-15	1.35-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.8-2.0	.05	.32	1	8	0
	2-11	6-18	1.50-1.70	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.20			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
542:												
Sunrock-----	0-3	6-12	1.30-1.45	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.5	.10	.37	1	6	48
	3-9	5-18	1.55-1.75	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.15	.28			
	9-19	---	---	0.00-0.01	---	---	---	---	---			
Callville-----	0-2	5-15	1.50-1.60	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.43	2	6	48
	2-25	5-18	1.25-1.45	14.00-42.00	0.08-0.14	0.0-2.9	0.0-0.5	.20	.28			
	25-43	---	---	0.00-1.40	---	---	---	---	---			
	43-53	---	---	0.00-0.42	---	---	---	---	---			
Badland-----	---	---	---	---	---	---	---	---	---	---	---	---
550:												
Cheme-----	0-2	8-18	1.40-1.55	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-6	8-18	1.40-1.50	4.00-14.00	0.06-0.12	0.0-2.9	0.0-0.5	.10	.43			
	6-18	8-18	1.45-1.65	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32			
	18-42	---	---	0.00-0.01	---	---	---	---	---			
	42-60	---	---	0.42-1.40	---	---	---	---	---			
Riverbend-----	0-3	6-12	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.2-0.8	.02	.24	5	8	0
	3-10	2-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05			
	10-60	0-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05			
Carrizo-----	0-7	2-8	1.50-1.60	141.00- 705.00	0.02-0.05	0.0-1.5	0.2-0.8	.02	.10	5	2	134
	7-60	0-8	1.60-1.75	141.00- 705.00	0.02-0.05	0.0-1.5	0.0-0.5	.02	.10			
551:												
Cheme-----	0-2	8-18	1.40-1.55	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-6	8-18	1.40-1.50	4.00-14.00	0.06-0.12	0.0-2.9	0.0-0.5	.10	.43			
	6-18	8-18	1.45-1.65	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32			
	18-42	---	---	0.00-0.01	---	---	---	---	---			
	42-60	---	---	0.42-1.40	---	---	---	---	---			



TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Guardian-----	0-2	8-18	1.10-1.35	14.00-42.00	0.13-0.15	0.0-2.9	0.0-0.5	.37	.43	1	3	86
	2-4	---	1.10-1.35	14.00-42.00	0.11-0.13	---	0.0-0.2	---	---			
	4-19	---	1.10-1.35	14.00-42.00	0.13-0.15	---	0.0-0.2	---	---			
	19-29	---	---	---	0.01-0.42	---	---	---	---			
Badland-----	---	---	---	---	---	---	---	---	---	---	---	---
570: Carrizo-----	0-2	2-8	1.60-1.75	141.00- 705.00	0.03-0.05	0.0-1.5	0.0-0.5	.02	.10	5	5	56
	2-10	0-8	1.60-1.75	141.00- 705.00	0.03-0.07	0.0-1.5	0.0-0.5	.05	.10			
	10-60	0-8	1.60-1.75	141.00- 705.00	0.02-0.05	0.0-1.5	0.0-0.5	.02	.10			
Carrizo, rarely flooded-----	0-7	2-8	1.50-1.60	141.00- 705.00	0.02-0.05	0.0-1.5	0.2-0.8	.02	.10	5	2	134
	7-60	0-8	1.60-1.75	141.00- 705.00	0.02-0.05	0.0-1.5	0.0-0.5	.02	.10			
571: Carrizo, rarely flooded-----	0-7	2-8	1.50-1.60	141.00- 705.00	0.02-0.05	0.0-1.5	0.2-0.8	.02	.10	5	2	134
	7-60	0-8	1.60-1.75	141.00- 705.00	0.02-0.05	0.0-1.5	0.0-0.5	.02	.10			
Carrizo-----	0-7	2-8	1.50-1.60	42.00-141.00	0.02-0.05	0.0-1.5	1.0-2.0	.02	.15	5	6	48
	7-60	0-8	1.60-1.75	141.00- 705.00	0.02-0.05	0.0-1.5	0.0-0.5	.02	.10			
Riverbend, rarely flooded-----	0-7	2-8	1.45-1.60	42.00-141.00	0.03-0.07	0.0-2.9	0.0-0.5	.10	.17	5	2	134
	7-60	0-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05			
572: Carrizo-----	0-7	2-8	1.50-1.60	141.00- 705.00	0.02-0.05	0.0-1.5	0.2-0.8	.02	.10	5	2	134
	7-60	0-8	1.60-1.75	141.00- 705.00	0.02-0.05	0.0-1.5	0.0-0.5	.02	.10			
573: Carrizo-----	0-10	2-8	1.60-1.75	141.00- 705.00	0.03-0.05	0.0-1.5	0.0-0.5	.02	.10	5	5	56
	10-60	0-8	1.60-1.75	141.00- 705.00	0.02-0.05	0.0-1.5	0.0-0.5	.02	.10			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind	Wind	
								Kw	Kf	T	erodi- bility group	erodi- bility index	
	In	Pct	g/cc	um/sec	In/in	Pct	Pct						
Riverbend, rarely flooded-----	0-3	6-12	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.2-0.8	.02	.24	5	8	0	
	3-10	2-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05				
	10-60	0-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05				
Riverbend-----	0-3	6-12	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.2-0.8	.02	.24	5	8	0	
	3-10	2-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05				
	10-60	0-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05				
574: Carrizo-----	0-7	2-8	1.60-1.75	141.00- 705.00	0.03-0.05	0.0-1.5	0.0-0.5	.02	.10	5	5	56	
	7-60	0-8	1.60-1.75	141.00- 705.00	0.02-0.05	0.0-1.5	0.0-0.5	.02	.10				
Sunrock-----	0-2	6-18	1.20-1.45	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.10	.32	1	6	48	
	2-9	5-18	1.55-1.75	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.15	.28				
	9-19	---	---	0.00-0.01	---	---	---	---	---				
575: Carrizo-----	0-13	2-5	1.45-1.65	42.00-141.00	0.02-0.04	0.0-1.5	0.2-0.5	.05	.17	5	3	86	
	13-60	2-5	1.55-1.65	42.00-141.00	0.01-0.04	0.0-1.5	0.1-0.2	.02	.17				
Carrizo, cobbly surface-----	0-3	2-8	1.45-1.65	42.00-141.00	0.02-0.05	0.0-1.5	0.1-0.5	.02	.17	5	3	86	
	3-60	2-5	1.55-1.65	42.00-141.00	0.01-0.04	0.0-1.5	0.1-0.2	.02	.17				
581: Threelakes-----	0-3	5-15	1.30-1.50	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.37	5	8	0	
	3-31	6-15	1.30-1.50	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.37				
	31-60	6-15	1.30-1.55	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.37				
Weiser-----	0-6	8-18	1.40-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.5	.05	.32	5	8	0	
	6-60	6-18	1.30-1.50	4.00-42.00	0.02-0.06	0.0-2.9	0.0-0.5	.05	.32				
590: Riverbend-----	0-3	6-12	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.2-0.8	.02	.24	5	8	0	
	3-10	2-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05				
	10-60	0-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05				
Carrizo-----	0-7	2-8	1.50-1.60	141.00- 705.00	0.02-0.05	0.0-1.5	0.2-0.8	.02	.10	5	2	134	
	7-60	0-8	1.60-1.75	141.00- 705.00	0.02-0.05	0.0-1.5	0.0-0.5	.02	.10				

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
591:												
Riverbend-----	0-3	6-12	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.2-0.8	.02	.24	5	8	0
	3-10	2-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05			
	10-60	0-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05			
Carrwash-----	0-3	2-8	1.30-1.50	14.00-42.00	0.04-0.06	0.0-1.5	0.0-0.5	.05	.17	5	6	48
	3-8	2-8	1.45-1.65	14.00-42.00	0.04-0.06	0.0-1.5	0.0-0.5	.05	.17			
	8-60	0-5	1.45-1.65	42.00-141.00	0.03-0.06	0.0-1.0	0.0-0.5	.05	.15			
592:												
Riverbend-----	0-3	6-12	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.2-0.8	.02	.24	5	8	0
	3-10	2-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05			
	10-60	0-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05			
Carrizo-----	0-7	2-8	1.50-1.60	42.00-141.00	0.02-0.05	0.0-1.5	1.0-2.0	.02	.15	5	6	48
	7-60	0-8	1.60-1.75	141.00- 705.00	0.02-0.05	0.0-1.5	0.0-0.5	.02	.10			
593:												
Riverbend, rarely flooded-----	0-3	6-12	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.2-0.8	.02	.24	5	8	0
	3-10	2-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05			
	10-60	0-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05			
Cheme-----	0-2	8-18	1.40-1.55	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-6	8-18	1.40-1.50	4.00-14.00	0.06-0.12	0.0-2.9	0.0-0.5	.10	.43			
	6-18	8-18	1.45-1.65	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32			
	18-42	---	---	0.00-0.01	---	---	---	---	---			
	42-60	---	---	0.42-1.40	---	---	---	---	---			
Carrizo-----	0-10	2-8	1.60-1.75	141.00- 705.00	0.03-0.05	0.0-1.5	0.0-0.5	.02	.10	5	5	56
	10-60	0-8	1.60-1.75	141.00- 705.00	0.02-0.05	0.0-1.5	0.0-0.5	.02	.10			
600:												
Huevi-----	0-5	8-18	1.30-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	5-18	8-18	1.40-1.55	4.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	18-60	8-18	1.35-1.55	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.32			
Cheme-----	0-2	8-18	1.40-1.55	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-6	8-18	1.40-1.50	4.00-14.00	0.06-0.12	0.0-2.9	0.0-0.5	.10	.43			
	6-18	8-18	1.45-1.65	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32			
	18-42	---	---	0.00-0.01	---	---	---	---	---			
	42-60	---	---	0.42-1.40	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
601:												
Huevi-----	0-5	8-18	1.30-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	5-18	8-18	1.40-1.55	4.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	18-60	8-18	1.35-1.55	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.32			
Huevi, dry-----	0-5	8-18	1.30-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	5-18	8-18	1.40-1.55	4.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	18-60	8-18	1.35-1.55	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.32			
603:												
Huevi, dry-----	0-5	8-18	1.30-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	5-18	8-18	1.40-1.55	4.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	18-60	8-18	1.35-1.55	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.32			
604:												
Huevi, dry-----	0-5	8-15	1.35-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.8-2.0	.05	.32	5	8	0
	5-18	8-18	1.40-1.55	4.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	18-60	8-18	1.35-1.55	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.32			
Hiller-----	0-3	8-18	1.30-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	3-8	8-18	1.40-1.55	4.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	8-14	8-18	1.40-1.55	4.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	14-60	8-18	1.40-1.55	4.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
605:												
Huevi, dry-----	0-5	8-18	1.30-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	5-18	8-18	1.40-1.55	4.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	18-60	8-18	1.35-1.55	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.32			
Badland-----	---	---	---	---	---	---	---	---	---	---	---	---
606:												
Huevi-----	0-5	6-15	1.60-1.80	14.00-42.00	0.03-0.06	0.0-2.9	0.2-0.5	.05	.32	5	6	48
	5-18	8-18	1.40-1.55	4.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	18-60	8-18	1.35-1.55	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.32			
Huevi, dry-----	0-5	8-18	1.30-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	5-18	8-18	1.40-1.55	4.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	18-60	8-18	1.35-1.55	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.32			
Cheme-----	0-2	8-18	1.40-1.55	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-6	8-18	1.40-1.50	4.00-14.00	0.06-0.12	0.0-2.9	0.0-0.5	.10	.43			
	6-18	8-18	1.45-1.65	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32			
	18-42	---	---	0.00-0.01	---	---	---	---	---			
	42-60	---	---	0.42-1.40	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
610: Goldroad-----	0-1	5-15	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28	1	8	0
	1-5	5-15	1.55-1.75	14.00-42.00	0.03-0.07	0.0-2.9	0.0-0.5	.05	.28			
	5-15	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
612: Goldroad-----	0-1	5-15	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28	1	8	0
	1-5	5-15	1.55-1.75	14.00-42.00	0.03-0.07	0.0-2.9	0.0-0.5	.05	.28			
	5-15	---	---	0.00-0.01	---	---	---	---	---			
Seanna-----	0-2	8-18	1.25-1.50	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.24	2	8	0
	2-10	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.05	.20			
	10-20	---	---	0.01-0.42	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
613: Goldroad-----	0-1	5-15	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28	1	8	0
	1-5	5-15	1.55-1.75	14.00-42.00	0.03-0.07	0.0-2.9	0.0-0.5	.05	.28			
	5-15	---	---	0.00-0.01	---	---	---	---	---			
Haleburu-----	0-2	6-12	1.50-1.70	14.00-42.00	0.03-0.04	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	6-18	1.50-1.70	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.20			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
620: Arizo-----	0-2	6-12	1.45-1.65	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28	5	8	0
	2-9	2-8	1.50-1.70	42.00-141.00	0.05-0.06	0.0-2.0	0.0-0.5	.28	.32			
	9-60	2-10	1.50-1.60	42.00-141.00	0.04-0.06	0.0-2.0	0.0-0.5	.05	.24			
Lanip-----	0-2	5-10	1.50-1.70	14.00-42.00	0.08-0.10	0.0-2.9	0.0-0.5	.20	.37	5	5	56
	2-15	5-15	1.55-1.70	14.00-42.00	0.09-0.15	0.0-2.9	0.0-0.5	.24	.49			
	15-39	20-35	1.45-1.65	1.40-4.00	0.12-0.18	3.0-5.9	0.0-0.5	.32	.43			
	39-48	6-15	1.50-1.70	14.00-42.00	0.09-0.11	0.0-2.9	0.0-0.5	.20	.37			
	48-60	4-15	1.55-1.75	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.15	.37			
621: Orwash-----	0-2	3-7	1.50-1.60	42.00-141.00	0.03-0.07	0.0-2.9	0.0-0.5	.05	.10	5	2	134
	2-60	2-6	1.45-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.20			
622: Orwash-----	0-2	3-7	1.40-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.0-0.5	.15	.28	5	5	56
	2-60	2-6	1.45-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.20			



TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
645: Goldbutte-----	0-4	6-15	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.5-1.0	.02	.24	1	8	0
	4-5	6-15	1.45-1.60	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.5	.05	.24			
	5-6	---	---	0.01-0.42	---	---	---	---	---			
	6-16	---	---	0.00-0.07	---	---	---	---	---			
Nolena-----	0-2	8-18	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.02	.20	1	8	0
	2-5	8-18	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.20			
	5-11	---	---	0.01-0.42	---	---	---	---	---			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
646: Goldbutte-----	0-4	6-15	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.5-1.0	.02	.24	1	8	0
	4-5	6-15	1.45-1.60	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.5	.05	.24			
	5-6	---	---	0.01-0.42	---	---	---	---	---			
	6-16	---	---	0.00-0.07	---	---	---	---	---			
Jumbopeak-----	0-2	2-8	1.50-1.60	42.00-141.00	0.02-0.05	0.0-2.9	1.0-2.0	.02	.15	3	6	48
	2-9	6-12	1.30-1.50	14.00-42.00	0.04-0.08	0.0-2.9	1.0-2.0	.10	.20			
	9-17	12-18	1.40-1.60	14.00-42.00	0.04-0.08	0.0-2.9	0.5-1.0	.10	.20			
	17-29	6-12	1.30-1.50	14.00-42.00	0.04-0.09	0.0-2.9	0.5-1.0	.10	.20			
	29-39	---	---	0.01-0.42	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
650: Peskah-----	0-1	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.2-0.5	.02	.24	2	8	0
	1-4	8-18	1.50-1.70	14.00-42.00	0.06-0.12	0.0-2.9	0.2-0.5	.20	.28			
	4-8	18-35	1.40-1.60	1.00-4.00	0.09-0.10	3.0-5.9	0.0-0.5	.10	.15			
	8-15	18-35	1.40-1.60	1.00-4.00	0.06-0.07	3.0-5.9	0.0-0.5	.05	.15			
	15-43	5-15	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.15			
	43-60	---	---	0.01-0.42	---	---	---	---	---			
Crosgrain-----	0-2	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	10-20	1.45-1.60	4.00-14.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-24	---	---	0.00-0.01	---	---	---	---	---			
	24-60	---	---	0.01-0.42	---	---	---	---	---			
651: Peskah-----	0-1	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.2-0.5	.02	.24	2	8	0
	1-4	8-18	1.50-1.70	14.00-42.00	0.06-0.12	0.0-2.9	0.2-0.5	.20	.28			
	4-8	18-35	1.40-1.60	1.00-4.00	0.09-0.10	3.0-5.9	0.0-0.5	.10	.15			
	8-15	18-35	1.40-1.60	1.00-4.00	0.06-0.07	3.0-5.9	0.0-0.5	.05	.15			
	15-43	5-15	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.15			
	43-60	---	---	0.01-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Arizo-----	0-6	5-15	1.55-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	5	8	0
	6-60	1-6	1.45-1.65	42.00-705.00	0.03-0.04	0.0-2.0	0.0-0.5	.10	.32			
660:												
Crosgrain-----	0-1	10-18	1.40-1.60	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.43	1	8	0
	1-11	10-20	1.45-1.60	4.00-14.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-24	---	---	0.00-0.01	---	---	---	---	---			
	24-60	---	---	0.01-0.42	---	---	---	---	---			
661:												
Crosgrain-----	0-3	10-18	1.45-1.65	4.00-14.00	0.06-0.12	0.0-2.9	0.0-0.5	.15	.43	1	6	48
	3-11	10-20	1.45-1.60	4.00-14.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-24	---	---	0.00-0.01	---	---	---	---	---			
	24-60	---	---	0.01-0.42	---	---	---	---	---			
662:												
Crosgrain-----	0-1	10-18	1.40-1.60	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.43	1	8	0
	1-11	10-20	1.45-1.60	4.00-14.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-24	---	---	0.00-0.01	---	---	---	---	---			
	24-60	---	---	0.01-0.42	---	---	---	---	---			
Arizo-----												
Arizo-----	0-6	6-12	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.2-0.8	.02	.24	5	8	0
	6-60	0-5	1.45-1.65	141.00- 705.00	0.03-0.06	0.0-2.0	0.0-0.5	.10	.32			
663:												
Crosgrain-----	0-2	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	10-20	1.45-1.60	4.00-14.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-24	---	---	0.00-0.01	---	---	---	---	---			
	24-60	---	---	0.01-0.42	---	---	---	---	---			
Kidwell-----												
Kidwell-----	0-1	6-18	1.55-1.75	14.00-42.00	0.07-0.11	0.0-2.9	0.0-0.5	.10	.28	5	6	48
	1-9	6-18	1.55-1.70	14.00-42.00	0.09-0.13	0.0-2.9	0.0-0.5	.20	.28			
	9-15	20-30	1.50-1.70	1.40-4.00	0.16-0.21	3.0-5.9	0.0-0.5	.10	.17			
	15-31	20-30	1.55-1.70	1.40-4.00	0.16-0.21	3.0-5.9	0.0-0.5	.10	.17			
	31-60	6-18	1.55-1.75	14.00-42.00	0.07-0.11	0.0-2.9	0.0-0.5	.20	.28			
Arizo-----												
Arizo-----	0-2	6-12	1.45-1.65	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28	5	8	0
	2-9	2-8	1.50-1.70	42.00-141.00	0.05-0.06	0.0-2.0	0.0-0.5	.28	.32			
	9-60	2-10	1.50-1.60	42.00-141.00	0.04-0.06	0.0-2.0	0.0-0.5	.05	.24			
665:												
Crosgrain-----	0-2	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	10-20	1.45-1.60	4.00-14.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-24	---	---	0.00-0.01	---	---	---	---	---			
	24-60	---	---	0.01-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Vace-----	0-2	8-18	1.40-1.55	14.00-42.00	0.06-0.11	0.0-2.9	0.0-0.5	.20	.37	1	5	56
	2-8	8-18	1.30-1.45	4.00-14.00	0.12-0.16	0.0-2.9	0.0-0.5	.37	.43			
	8-60	---	---	0.00-0.01	---	---	---	---	---			
670:												
Nipton-----	0-2	8-15	1.35-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-12	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	12-22	---	---	0.00-0.01	---	---	---	---	---			
Highland-----	0-3	8-16	1.30-1.40	4.00-14.00	0.03-0.07	0.0-2.9	0.0-0.5	.05	.37	2	8	0
	3-13	18-27	1.30-1.50	4.00-14.00	0.07-0.11	3.0-5.8	0.0-0.5	.15	.43			
	13-26	18-35	1.20-1.40	1.40-14.00	0.07-0.13	3.0-6.0	0.0-0.5	.15	.37			
	26-40	6-12	1.35-1.55	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.37			
	40-50	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
673:												
Nolena, moist-----	0-2	8-18	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.02	.20	1	8	0
	2-5	8-18	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.20			
	5-11	---	---	0.01-0.42	---	---	---	---	---			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Newera, steep-----	0-2	6-16	1.45-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-6	18-35	1.40-1.60	1.40-14.00	0.04-0.13	3.0-5.9	0.0-0.5	.10	.24			
	6-16	---	---	0.00-0.01	---	---	---	---	---			
674:												
Nipton-----	0-2	8-15	1.35-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-12	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	12-22	---	---	0.00-0.01	---	---	---	---	---			
Rubble land-----	0-60	0-0	1.70-2.35	141.00- 705.00	0.00-0.10	0.0-2.9	0.0-0.1	---	---	---	---	---
Railroad-----	0-3	6-12	1.40-1.55	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	2	8	0
	3-11	6-16	1.35-1.55	14.00-42.00	0.07-0.10	0.0-2.9	0.0-0.5	.15	.43			
	11-34	6-16	1.45-1.60	14.00-42.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.43			
	34-44	---	---	0.00-0.01	---	---	---	---	---			
680:												
Lanfair-----	0-2	6-14	1.40-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.5-1.0	.02	.28	2	8	0
	2-9	6-14	1.40-1.60	14.00-42.00	0.07-0.09	0.0-2.9	0.5-1.0	.15	.28			
	9-15	6-14	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.5-1.0	.05	.28			
	15-60	2-8	1.55-1.75	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.15			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Hoppswell-----	0-2	8-15	1.25-1.45	14.00-42.00	0.02-0.04	0.0-2.9	0.2-0.8	.05	.32	5	8	0
	2-15	20-30	1.35-1.55	1.40-4.00	0.06-0.12	3.0-5.9	0.2-0.8	.10	.24			
	15-64	3-12	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.24			
690:												
Hoppswell-----	0-2	8-15	1.25-1.45	14.00-42.00	0.02-0.04	0.0-2.9	0.2-0.8	.05	.32	5	8	0
	2-15	20-30	1.35-1.55	1.40-4.00	0.06-0.12	3.0-5.9	0.2-0.8	.10	.24			
	15-64	3-12	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.24			
Ustidur-----	0-2	8-18	1.40-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.5-1.0	.02	.20	1	8	0
	2-6	8-18	1.55-1.75	14.00-42.00	0.03-0.07	0.0-2.9	0.5-1.0	.05	.20			
	6-38	---	---	0.42-1.40	---	---	---	---	---			
	38-60	4-12	1.30-1.50	14.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
691:												
Hoppswell-----	0-2	7-12	1.45-1.60	14.00-42.00	0.08-0.12	0.0-2.9	0.2-7.5	.15	.24	5	5	56
	2-15	20-30	1.35-1.55	1.40-4.00	0.06-0.12	3.0-5.9	0.2-0.8	.10	.24			
	15-64	3-12	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.24			
Jetmine-----	0-2	8-17	1.40-1.60	14.00-42.00	0.09-0.13	0.0-2.9	0.1-0.5	.24	.32	1	3	86
	2-16	8-17	1.45-1.60	14.00-42.00	0.08-0.13	0.0-2.9	0.0-0.5	.20	.32			
	16-60	---	---	0.01-0.42	---	---	---	---	---			
700:												
Mountmcull-----	0-2	10-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.5-1.0	.05	.32	1	8	0
	2-8	10-18	1.50-1.65	4.00-42.00	0.06-0.10	0.0-2.9	0.5-1.0	.10	.32			
	8-18	---	---	0.00-0.01	---	---	---	---	---			
Nippeno-----	0-2	10-20	1.35-1.55	4.00-14.00	0.06-0.12	0.0-2.9	0.5-1.0	.10	.37	1	7	38
	2-6	20-35	1.20-1.40	1.40-4.00	0.06-0.10	3.0-6.0	0.5-1.0	.10	.24			
	6-15	---	---	41.00-705.00	0.02-0.03	---	---	---	---			
	15-25	---	---	0.00-0.01	---	---	---	---	---			
701:												
Nippeno-----	0-2	10-20	1.35-1.55	4.00-14.00	0.06-0.12	0.0-2.9	0.5-1.0	.10	.37	1	7	38
	2-6	20-35	1.20-1.40	1.40-4.00	0.06-0.10	3.0-6.0	0.5-1.0	.10	.24			
	6-15	---	---	41.00-705.00	0.02-0.03	---	---	---	---			
	15-25	---	---	0.00-0.01	---	---	---	---	---			
Nipton-----	0-1	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	1-5	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	5-15	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
705: Charkiln-----	0-1	---	0.25-1.00	141.00- 705.00	---	---	20-50	---	---	5	7	38
	1-5	5-12	1.25-1.50	5.00-11.00	0.10-0.13	0.0-2.9	2.0-5.0	.15	.32			
	5-9	12-18	1.35-1.45	14.00-42.00	0.08-0.11	1.0-2.9	1.0-2.0	.10	.37			
	9-65	20-35	1.50-1.60	1.40-4.00	0.13-0.18	3.0-5.9	0.5-1.0	.17	.24			
Woodspring-----	0-0	---	0.50-1.00	141.00- 705.00	---	---	25-80	---	---	5	7	38
	0-2	4-10	1.30-1.40	4.00-42.00	0.09-0.09	0.0-2.9	5.0-10	.24	.43			
	2-9	8-15	1.35-1.45	4.00-42.00	0.07-0.09	0.0-2.9	1.0-3.0	.10	.32			
	9-61	8-15	1.35-1.45	4.00-42.00	0.03-0.09	0.0-2.9	0.6-3.0	.05	.32			
Buckspring-----	0-2	8-15	1.40-1.50	4.00-14.00	0.06-0.13	0.0-2.9	1.0-2.0	.15	.43	1	6	48
	2-10	8-15	1.45-1.55	4.00-14.00	0.04-0.10	0.0-2.9	1.0-2.0	.10	.32			
	10-17	15-25	1.45-1.55	4.00-14.00	0.04-0.10	2.5-5.0	0.2-0.8	.10	.32			
	17-27	---	---	0.00-4.00	---	---	---	---	---			
710: Arizo-----	0-2	6-12	1.45-1.65	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28	5	8	0
	2-9	2-8	1.50-1.70	42.00-141.00	0.05-0.06	0.0-2.0	0.0-0.5	.28	.32			
	9-60	2-10	1.50-1.60	42.00-141.00	0.04-0.06	0.0-2.0	0.0-0.5	.05	.24			
Lanfair-----	0-2	6-14	1.40-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.5-1.0	.02	.28	2	8	0
	2-9	6-14	1.40-1.60	14.00-42.00	0.07-0.09	0.0-2.9	0.5-1.0	.15	.28			
	9-15	6-14	1.40-1.60	14.00-42.00	0.05-0.07	0.0-2.9	0.5-1.0	.05	.28			
	15-60	2-8	1.55-1.75	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.15			
Riverwash-----	0-6	0-1	1.60-1.70	42.00-141.00	0.01-0.02	0.0-2.9	0.0-0.1	.02	.10	--	5	56
	6-60	0-1	1.60-1.70	42.00-141.00	0.02-0.03	0.0-2.9	0.0-0.1	.10	.02			
715: Troughspring-----	0-2	---	0.30-0.50	141.00- 705.00	---	---	60-80	---	---	2	7	38
	2-9	18-27	1.25-1.35	4.00-14.00	0.08-0.11	3.0-6.0	3.0-6.0	.15	.37			
	9-14	18-27	1.25-1.37	4.00-14.00	0.08-0.11	3.0-6.0	2.0-4.0	.10	.37			
	14-24	18-27	1.40-1.48	4.00-14.00	0.08-0.13	3.0-6.0	0.2-0.8	.05	.37			
	24-63	---	---	4.00-14.00	---	---	---	---	---			
Charkiln-----	0-1	---	0.25-1.00	141.00- 705.00	---	---	20-50	---	---	5	7	38
	1-5	5-12	1.25-1.50	5.00-11.00	0.10-0.13	0.0-2.9	2.0-5.0	.15	.32			
	5-9	12-18	1.35-1.45	14.00-42.00	0.08-0.11	1.0-2.9	1.0-2.0	.10	.37			
	9-65	20-35	1.50-1.60	1.40-4.00	0.13-0.18	3.0-5.9	0.5-1.0	.17	.24			



TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
731: Purob-----	0-3	7-18	1.30-1.45	4.00-14.00	0.03-0.07	0.0-2.9	0.1-0.7	.10	.43	1	8	0
	3-8	12-24	1.30-1.45	4.00-14.00	0.09-0.14	0.0-2.9	0.0-0.5	.20	.43			
	8-19	12-27	1.00-1.20	4.00-14.00	0.05-0.11	0.0-2.9	0.0-0.5	.15	.43			
	19-60	---	---	0.00-0.01	---	---	---	---	---			
Irongold-----	0-1	8-16	1.40-1.55	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.49	1	8	0
	1-7	8-16	1.35-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.28	.43			
	7-11	8-16	1.35-1.55	4.00-14.00	0.06-0.10	0.0-2.9	0.0-0.5	.20	.49			
	11-34	---	---	0.01-0.42	---	---	---	---	---			
	34-60	2-8	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
732: Purob-----	0-3	7-18	1.30-1.45	4.00-14.00	0.03-0.07	0.0-2.9	0.1-0.7	.10	.43	1	8	0
	3-8	12-24	1.30-1.45	4.00-14.00	0.09-0.14	0.0-2.9	0.0-0.5	.20	.43			
	8-19	12-27	1.00-1.20	4.00-14.00	0.05-0.11	0.0-2.9	0.0-0.5	.15	.43			
	19-60	---	---	0.00-0.01	---	---	---	---	---			
733: Purob-----	0-3	7-18	1.30-1.45	4.00-14.00	0.03-0.07	0.0-2.9	0.1-0.7	.10	.43	1	8	0
	3-8	12-24	1.30-1.45	4.00-14.00	0.09-0.14	0.0-2.9	0.0-0.5	.20	.43			
	8-19	12-27	1.00-1.20	4.00-14.00	0.05-0.11	0.0-2.9	0.0-0.5	.15	.43			
	19-60	---	---	0.00-0.01	---	---	---	---	---			
734: Purob-----	0-3	10-20	1.10-1.30	14.00-42.00	0.09-0.11	0.0-2.9	0.8-2.0	.15	.28	1	5	56
	3-19	18-25	1.10-1.30	14.00-42.00	0.12-0.14	3.0-5.9	0.5-1.0	.24	.43			
	19-26	---	---	0.00-0.01	---	---	---	---	---			
Niavi-----	0-2	8-15	1.40-1.50	14.00-42.00	0.03-0.06	0.0-2.9	0.4-0.8	.05	.28	5	8	0
	2-8	8-15	1.40-1.55	14.00-42.00	0.03-0.08	0.0-2.9	0.3-0.8	.05	.28			
	8-29	3-8	1.45-1.65	42.00-141.00	0.03-0.05	0.0-2.0	0.1-0.6	.02	.10			
	29-60	3-8	1.50-1.65	42.00-141.00	0.03-0.05	0.0-2.0	0.0-0.3	.02	.10			
740: Varwash, moderately sloping-----	0-5	8-18	1.30-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	2	8	0
	5-13	5-15	1.40-1.55	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	13-60	2-8	1.45-1.60	42.00-705.00	0.03-0.05	0.0-2.0	0.0-0.5	.02	.15			
Varwash-----	0-4	7-18	1.25-1.50	4.00-14.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	2	8	0
	4-13	5-15	1.40-1.55	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	13-60	2-8	1.45-1.60	42.00-705.00	0.03-0.05	0.0-2.0	0.0-0.5	.02	.15			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
741: Varwash, moderately sloping-----	0-5	8-18	1.30-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	2	8	0
	5-13	5-15	1.40-1.55	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	13-60	2-8	1.45-1.60	42.00-705.00	0.03-0.05	0.0-2.0	0.0-0.5	.02	.15			
Varwash-----	0-4	7-18	1.25-1.50	4.00-14.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	2	8	0
	4-13	5-15	1.40-1.55	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	13-60	2-8	1.45-1.60	42.00-705.00	0.03-0.05	0.0-2.0	0.0-0.5	.02	.15			
Carrizo-----	0-7	2-8	1.50-1.60	42.00-141.00	0.02-0.05	0.0-1.5	1.0-2.0	.02	.15	5	6	48
	7-60	0-8	1.60-1.75	141.00- 705.00	0.02-0.05	0.0-1.5	0.0-0.5	.02	.10			
750: Haleburu-----	0-3	8-18	1.30-1.40	14.00-42.00	0.03-0.05	0.0-2.9	1.0-2.0	.02	.28	1	8	0
	3-11	6-18	1.50-1.70	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.20			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Crosgrain-----	0-3	10-18	1.45-1.65	4.00-14.00	0.06-0.12	0.0-2.9	0.0-0.5	.15	.43	1	6	48
	3-11	10-20	1.45-1.60	4.00-14.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.43			
	11-24	---	---	0.00-0.01	---	---	---	---	---			
	24-60	---	---	0.01-0.42	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
751: Nipton-----	0-2	8-15	1.35-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-12	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	12-22	---	---	0.00-0.01	---	---	---	---	---			
Nolena, moist-----	0-2	8-15	1.35-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-5	8-18	1.50-1.70	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.20			
	5-11	---	---	0.01-0.42	---	---	---	---	---			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
752: Nipton-----	0-1	8-18	1.50-1.70	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	1-5	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	5-15	---	---	0.00-0.01	---	---	---	---	---			
Newera, steep-----	0-2	6-16	1.45-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-6	18-35	1.40-1.60	1.40-14.00	0.04-0.13	3.0-5.9	0.0-0.5	.10	.24			
	6-16	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
753:												
Nipton-----	0-2	8-15	1.35-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-12	8-18	1.50-1.70	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	12-22	---	---	0.00-0.01	---	---	---	---	---			
Hiddensun-----	0-3	6-12	1.30-1.45	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.5	.10	.37	1	6	48
	3-15	6-12	1.30-1.45	14.00-42.00	0.06-0.09	0.0-2.9	0.0-0.5	.15	.49			
	15-25	---	---	0.00-0.01	---	---	---	---	---			
Haleburu-----	0-2	6-12	1.50-1.70	14.00-42.00	0.03-0.04	0.0-2.9	0.0-0.5	.02	.24	1	8	0
	2-11	6-18	1.50-1.70	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.20			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
754:												
Haleburu-----	0-2	8-15	1.35-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.8-2.0	.05	.32	1	8	0
	2-11	6-18	1.50-1.70	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.05	.20			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Hiddensun-----	0-3	6-12	1.30-1.45	14.00-42.00	0.05-0.09	0.0-2.9	0.0-0.5	.10	.37	1	6	48
	3-15	6-12	1.30-1.45	14.00-42.00	0.06-0.09	0.0-2.9	0.0-0.5	.15	.49			
	15-25	---	---	0.00-0.01	---	---	---	---	---			
760:												
Searchlight-----	0-2	5-12	1.35-1.60	14.00-42.00	0.02-0.05	0.0-2.9	0.0-0.5	.05	.24	5	8	0
	2-12	3-12	1.40-1.65	14.00-141.00	0.04-0.08	0.0-2.9	0.0-0.2	.10	.24			
	12-17	12-18	1.35-1.60	14.00-42.00	0.06-0.09	0.0-2.9	0.0-0.2	.10	.17			
	17-33	12-18	1.35-1.55	14.00-42.00	0.07-0.11	0.0-2.9	0.0-0.2	.15	.24			
	33-60	2-10	1.45-1.70	42.00-141.00	0.02-0.05	0.0-2.9	0.0-0.2	.05	.17			
772:												
Lamadre-----	0-4	8-16	1.30-1.45	4.00-14.00	0.07-0.10	0.0-2.9	2.0-4.0	.10	.32	3	7	38
	4-8	8-16	1.30-1.45	4.00-14.00	0.03-0.06	0.0-2.9	1.0-3.0	.05	.32			
	8-39	8-16	1.30-1.45	4.00-14.00	0.03-0.06	0.0-2.9	0.2-1.0	.05	.32			
	39-60	8-16	---	42.00-141.00	---	0.0-2.9	0.0-0.2	.02	.02			
Robbersfire-----	0-1	---	0.35-0.60	141.00- 705.00	---	---	30-50	---	---	3	7	38
	1-2	10-18	1.00-1.15	4.00-14.00	0.06-0.13	0.0-2.9	4.0-8.0	.10	.32			
	2-14	18-27	1.30-1.50	4.00-14.00	0.05-0.13	3.0-6.0	2.0-5.0	.17	.43			
	14-56	7-15	1.15-1.25	4.00-14.00	0.04-0.10	0.0-2.9	0.2-5.0	.10	.37			
	56-66	---	---	0.00-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
775: Ladyofsnow-----	0-0	---	0.35-0.70	141.00- 705.00	---	---	20-50	---	---	5	7	38
	0-7	10-20	1.00-1.50	4.00-14.00	0.10-0.17	0.0-2.9	1.0-3.0	.24	.37			
	7-11	7-18	1.00-1.50	4.00-14.00	0.06-0.12	0.0-2.9	3.0-7.0	.05	.37			
	11-36	4-10	1.25-1.40	14.00-42.00	0.02-0.05	0.0-2.9	0.5-3.0	.02	.24			
	36-59	4-10	1.25-1.40	14.00-42.00	0.02-0.05	0.0-2.9	0.5-1.0	.02	.24			
Robbersfire-----	0-1	---	0.35-0.60	141.00- 705.00	---	---	30-50	---	---	3	7	38
	1-2	10-18	1.00-1.15	4.00-14.00	0.06-0.13	0.0-2.9	4.0-8.0	.10	.32			
	2-10	18-27	1.30-1.50	4.00-14.00	0.05-0.13	3.0-6.0	2.0-5.0	.17	.43			
	10-41	4-15	1.15-1.25	4.00-42.00	0.04-0.10	0.0-2.9	0.2-5.0	.10	.37			
	41-51	---	---	0.00-0.42	---	---	---	---	---			
Maryjane-----	0-1	---	0.25-0.40	141.00- 705.00	---	---	50-70	---	---	5	7	38
	1-4	15-25	0.70-1.00	4.00-14.00	0.03-0.07	2.0-5.0	5.0-10	.10	.55			
	4-13	15-25	0.90-1.10	4.00-14.00	0.03-0.07	2.0-5.0	0.5-3.0	.05	.37			
	13-35	8-18	1.30-1.50	4.00-14.00	0.03-0.09	0.0-2.9	0.5-1.0	.05	.32			
	35-60	6-15	1.10-1.25	14.00-42.00	0.03-0.07	0.0-2.9	0.5-1.0	.05	.32			
780: Prisonear-----	0-3	1-8	1.50-1.70	42.00-141.00	0.05-0.07	0.0-2.9	0.0-0.5	.24	.28	2	1	250
	3-9	1-8	1.50-1.70	42.00-141.00	0.05-0.09	0.0-2.9	0.0-0.5	.24	.28			
	9-31	2-8	1.50-1.70	42.00-141.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.28			
	31-35	2-8	1.55-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.28			
	35-60	---	---	0.01-1.40	---	---	---	---	---			
781: Prisonear-----	0-3	1-8	1.50-1.70	42.00-141.00	0.05-0.07	0.0-2.9	0.0-0.5	.24	.28	2	1	250
	3-9	1-8	1.50-1.70	42.00-141.00	0.05-0.09	0.0-2.9	0.0-0.5	.24	.28			
	9-31	2-8	1.50-1.70	42.00-141.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.28			
	31-35	2-8	1.55-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.28			
	35-60	---	---	0.42-1.40	---	---	---	---	---			
Bluepoint-----	0-14	2-6	1.45-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.17	.17	5	1	250
	14-60	2-6	1.50-1.65	42.00-141.00	0.05-0.10	0.0-2.0	0.0-0.5	.17	.17			
790: McClanahan-----	0-2	15-27	1.20-1.30	4.00-14.00	0.06-0.08	1.5-4.0	0.5-1.0	.10	.43	2	8	0
	2-11	18-32	1.40-1.50	1.40-4.00	0.07-0.09	3.0-6.0	0.0-0.5	.10	.37			
	11-21	---	---	0.01-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Beerbo-----	0-3	8-18	1.30-1.40	14.00-42.00	0.03-0.05	0.0-2.9	1.0-2.0	.02	.28	1	8	0
	3-11	18-27	1.40-1.55	4.00-14.00	0.04-0.07	3.0-5.9	0.5-1.0	.05	.32			
	11-18	---	---	0.42-1.40	---	---	---	---	---			
	18-28	---	---	0.00-0.01	---	---	---	---	---			
801:												
Nippeno-----	0-2	10-20	1.35-1.55	4.00-14.00	0.06-0.12	0.0-2.9	0.5-1.0	.10	.37	1	7	38
	2-6	20-35	1.20-1.40	1.40-4.00	0.06-0.10	3.0-6.0	0.5-1.0	.10	.24			
	6-15	---	---	41.00-705.00	0.02-0.03	---	---	---	---			
	15-25	---	---	0.00-0.01	---	---	---	---	---			
Newera, steep-----	0-2	6-16	1.45-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-6	18-35	1.40-1.60	1.40-14.00	0.04-0.13	3.0-5.9	0.0-0.5	.10	.24			
	6-16	---	---	0.00-0.01	---	---	---	---	---			
805:												
Buckspring-----	0-2	8-15	1.40-1.50	4.00-14.00	0.06-0.13	0.0-2.9	1.0-2.0	.15	.43	1	6	48
	2-10	8-15	1.45-1.55	4.00-14.00	0.04-0.10	0.0-2.9	1.0-2.0	.10	.32			
	10-17	15-25	1.45-1.55	4.00-14.00	0.04-0.10	2.5-5.0	0.2-0.8	.10	.32			
	17-27	---	---	0.00-4.00	---	---	---	---	---			
Fletcherpeak-----	0-1	7-15	1.45-1.55	4.00-14.00	0.03-0.08	0.0-2.0	1.0-3.0	.10	.43	1	8	0
	1-6	15-25	1.45-1.55	4.00-14.00	0.07-0.10	2.0-5.0	0.5-2.0	.20	.55			
	6-13	15-25	1.45-1.55	4.00-14.00	0.06-0.12	2.0-5.0	0.5-2.0	.10	.43			
	13-23	---	---	0.00-4.00	---	---	---	---	---			
Seralin-----	0-2	10-18	1.40-1.55	4.00-14.00	0.03-0.07	0.0-2.9	0.8-2.0	.10	.49	1	8	0
	2-14	10-18	1.35-1.55	4.00-14.00	0.03-0.09	0.0-2.9	0.5-1.0	.17	.43			
	14-24	---	---	0.00-0.01	---	---	---	---	---			
806:												
Buckspring-----	0-2	8-15	1.40-1.50	4.00-14.00	0.06-0.13	0.0-2.9	1.0-2.0	.15	.43	1	6	48
	2-10	8-15	1.45-1.55	4.00-14.00	0.04-0.10	0.0-2.9	1.0-2.0	.10	.32			
	10-17	15-25	1.45-1.55	4.00-14.00	0.04-0.10	2.5-5.0	0.2-0.8	.10	.32			
	17-27	---	---	0.00-4.00	---	---	---	---	---			
Scrapy-----	0-1	5-15	1.45-1.50	14.00-42.00	0.04-0.08	0.0-2.9	0.5-1.0	.05	.28	1	6	48
	1-12	5-15	1.42-1.48	14.00-42.00	0.04-0.11	0.0-2.9	0.0-0.5	.05	.32			
	12-22	---	---	0.00-0.42	---	---	---	---	---			
810:												
Straycow-----	0-3	12-24	1.15-1.25	4.00-14.00	0.05-0.08	1.5-4.0	0.5-1.0	.17	.43	2	7	38
	3-19	27-35	1.30-1.50	1.40-4.00	0.08-0.13	4.5-6.0	0.0-0.5	.10	.28			
	19-29	---	---	0.42-1.40	---	---	---	---	---			



TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
840:												
Potosi-----	0-2	8-15	1.40-1.60	4.00-14.00	0.03-0.07	0.0-2.9	0.0-0.5	.05	.43	1	8	0
	2-11	8-15	1.40-1.60	4.00-14.00	0.03-0.08	0.0-2.9	0.0-0.5	.05	.37			
	11-21	---	---	0.00-0.01	---	---	---	---	---			
Zeheme-----	0-2	8-18	1.40-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	2-9	8-18	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28			
	9-19	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
845:												
Leecanyon-----	0-2	8-15	1.30-1.50	4.00-14.00	0.07-0.12	0.0-2.9	1.0-2.0	.10	.32	1	6	48
	2-8	6-15	1.20-1.30	4.00-14.00	0.10-0.17	0.0-2.9	1.0-2.0	.15	.24			
	8-18	8-15	1.30-1.50	4.00-14.00	0.07-0.12	0.0-2.9	0.5-1.0	.10	.32			
	18-42	---	1.60-1.80	0.42-1.40	0.00-0.01	---	---	---	---			
	42-55	2-8	1.50-1.60	42.00-141.00	0.02-0.04	0.0-2.0	0.2-0.8	.05	.24			
Goodwater-----	0-2	7-15	1.40-1.60	14.00-42.00	0.05-0.09	0.0-2.9	0.2-0.8	.10	.28	1	6	48
	2-11	7-15	1.40-1.60	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.5	.05	.28			
	11-14	---	---	0.00-0.42	---	---	---	---	---			
850:												
Birdspring-----	0-1	6-12	1.40-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.0-0.5	.10	.55	1	8	0
	1-4	6-12	1.40-1.60	14.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.15	.55			
	4-14	---	---	0.00-0.01	---	---	---	---	---			
Birdspring, moderately sloping--	0-3	8-15	1.35-1.40	4.00-14.00	0.05-0.10	0.0-2.9	0.0-0.5	.05	.43	1	8	0
	3-9	6-12	1.40-1.60	14.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.15	.55			
	9-19	---	---	0.00-0.01	---	---	---	---	---			
851:												
Birdspring-----	0-3	8-15	1.35-1.40	4.00-14.00	0.05-0.10	0.0-2.9	0.0-0.5	.05	.43	1	8	0
	3-9	6-12	1.40-1.60	14.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.15	.55			
	9-19	---	---	0.00-0.01	---	---	---	---	---			
Zeheme-----	0-4	8-18	1.35-1.40	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.05	.28	1	8	0
	4-13	8-18	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.10	.28			
	13-23	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
852:												
Birdspring-----	0-1	6-12	1.40-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.0-0.5	.10	.55	1	8	0
	1-4	6-12	1.40-1.60	14.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.15	.55			
	4-14	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
853:												
Birdspring-----	0-1	6-12	1.40-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.0-0.5	.10	.55	1	8	0
	1-4	6-12	1.40-1.60	14.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.15	.55			
	4-14	---	---	0.00-0.01	---	---	---	---	---			
St. Thomas-----	0-2	6-15	1.15-1.35	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32	1	8	0
	2-14	6-18	1.15-1.35	4.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.10	.43			
	14-24	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
854:												
Birdspring-----	0-1	6-12	1.40-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.0-0.5	.10	.55	1	8	0
	1-4	6-12	1.40-1.60	14.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.15	.55			
	4-14	---	---	0.00-0.01	---	---	---	---	---			
Birdspring, dry-----	0-1	6-12	1.40-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.0-0.5	.10	.55	1	8	0
	1-4	6-12	1.40-1.60	14.00-42.00	0.04-0.07	0.0-2.9	0.0-0.5	.15	.55			
	4-14	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
860:												
Straycow-----	0-2	12-20	1.35-1.55	14.00-42.00	0.03-0.05	2.0-3.0	0.0-0.5	.05	.32	2	8	0
	2-7	27-35	1.30-1.50	1.40-4.00	0.08-0.13	4.5-6.0	0.0-0.5	.10	.28			
	7-20	---	---	0.42-1.40	---	---	---	---	---			
Highland-----	0-3	8-16	1.30-1.40	4.00-14.00	0.03-0.07	0.0-2.9	0.0-0.5	.05	.37	2	8	0
	3-13	18-27	1.30-1.50	4.00-14.00	0.07-0.11	3.0-5.8	0.0-0.5	.15	.43			
	13-26	18-35	1.20-1.40	1.40-14.00	0.07-0.13	3.0-6.0	0.0-0.5	.15	.37			
	26-30	6-12	1.35-1.55	14.00-42.00	0.06-0.08	0.0-2.9	0.0-0.5	.15	.37			
	30-40	---	---	0.00-0.01	---	---	---	---	---			
Straycow, moderately sloping-----	0-2	12-24	1.35-1.55	4.00-14.00	0.06-0.12	1.5-4.0	0.5-1.0	.10	.37	2	7	38
	2-19	27-35	1.30-1.50	1.40-4.00	0.08-0.13	4.5-6.0	0.0-0.5	.10	.28			
	19-29	---	---	0.42-1.40	---	---	---	---	---			
865:												
Mackscanyon-----	0-6	8-18	1.45-1.55	4.00-14.00	0.07-0.13	0.0-2.9	1.0-2.5	.15	.43	5	6	48
	6-60	8-18	1.45-1.55	4.00-14.00	0.04-0.10	0.0-2.9	0.2-1.0	.10	.37			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
866: Goodwater-----	0-2	7-15	1.40-1.60	14.00-42.00	0.05-0.09	0.0-2.9	0.2-0.8	.10	.28	1	6	48
	2-11	7-15	1.40-1.60	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.5	.05	.28			
	11-14	---	---	0.00-0.42	---	---	---	---	---			
Doespring-----	0-2	7-15	1.30-1.50	4.00-14.00	0.06-0.12	0.0-2.9	1.0-3.0	.17	.43	1	6	48
	2-7	7-15	1.30-1.50	4.00-14.00	0.06-0.12	0.0-2.9	1.0-3.0	.15	.43			
	7-18	7-15	1.30-1.50	14.00-42.00	0.04-0.09	0.0-2.9	1.0-2.0	.10	.37			
	18-26	---	---	0.00-0.42	---	---	---	---	---			
	26-36	---	---	0.00-0.42	---	---	---	---	---			
867: Goodwater-----	0-2	7-15	1.40-1.60	14.00-42.00	0.05-0.09	0.0-2.9	0.2-0.8	.10	.28	1	6	48
	2-11	7-15	1.40-1.60	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.5	.05	.28			
	11-14	---	---	0.00-0.42	---	---	---	---	---			
868: Mackscanyon-----	0-6	8-18	1.45-1.55	4.00-14.00	0.07-0.13	0.0-2.9	1.0-2.5	.15	.43	5	6	48
	6-60	8-18	1.45-1.55	4.00-14.00	0.04-0.10	0.0-2.9	0.2-1.0	.10	.37			
Goodwater-----	0-2	7-15	1.40-1.60	14.00-42.00	0.05-0.09	0.0-2.9	0.2-0.8	.10	.28	1	6	48
	2-11	7-15	1.40-1.60	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.5	.05	.28			
	11-14	---	---	0.00-0.42	---	---	---	---	---			
870: Irongold-----	0-1	8-16	1.40-1.55	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.49	1	8	0
	1-7	8-16	1.35-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.28	.43			
	7-11	8-16	1.35-1.55	4.00-14.00	0.06-0.10	0.0-2.9	0.0-0.5	.20	.49			
	11-34	---	---	0.01-0.42	---	---	---	---	---			
	34-60	2-8	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
871: Irongold-----	0-1	8-16	1.40-1.55	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.49	1	8	0
	1-7	8-16	1.35-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.28	.43			
	7-11	8-16	1.35-1.55	4.00-14.00	0.06-0.10	0.0-2.9	0.0-0.5	.20	.49			
	11-34	---	---	0.01-0.42	---	---	---	---	---			
	34-60	2-8	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
Irongold, moderately sloping-----	0-1	8-16	1.40-1.55	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.49	1	8	0
	1-7	8-16	1.35-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.28	.43			
	7-11	8-16	1.35-1.55	4.00-14.00	0.06-0.10	0.0-2.9	0.0-0.5	.20	.49			
	11-34	---	---	0.01-0.42	---	---	---	---	---			
	34-60	2-8	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
Weiser-----	0-6	8-18	1.40-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.1-0.5	.05	.32	5	8	0
	6-60	6-18	1.30-1.50	4.00-42.00	0.02-0.06	0.0-2.9	0.0-0.5	.05	.32			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
872: Irongold-----	0-1	8-16	1.40-1.55	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.49	1	8	0
	1-7	8-16	1.35-1.55	4.00-14.00	0.12-0.18	0.0-2.9	0.0-0.5	.28	.43			
	7-11	8-16	1.35-1.55	4.00-14.00	0.06-0.10	0.0-2.9	0.0-0.5	.20	.49			
	11-34	---	---	0.01-0.42	---	---	---	---	---			
	34-60	2-8	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
Wechech-----	0-4	8-16	1.50-1.65	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.5	.05	.24	1	6	48
	4-7	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.20	.43			
	7-13	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.10	.43			
	13-60	---	1.80-2.20	0.00-0.01	---	---	---	---	---			
875: Kylecanyon-----	0-4	8-15	1.30-1.45	4.00-14.00	0.04-0.07	0.0-2.9	1.0-2.5	.10	.43	2	8	0
	4-12	8-15	1.30-1.45	4.00-14.00	0.07-0.15	0.0-2.9	1.0-2.5	.20	.43			
	12-24	8-15	1.30-1.50	4.00-42.00	0.04-0.09	0.0-2.9	0.5-1.0	.10	.43			
	24-26	---	---	0.01-0.42	---	---	---	---	---			
	26-59	---	---	0.01-0.42	---	---	---	---	---			
Goodwater-----	0-2	7-15	1.40-1.60	14.00-42.00	0.05-0.09	0.0-2.9	0.2-0.8	.10	.28	1	6	48
	2-11	7-15	1.40-1.60	14.00-42.00	0.03-0.09	0.0-2.9	0.2-0.5	.05	.28			
	11-14	---	---	0.00-0.42	---	---	---	---	---			
880: Nonamewash-----	0-8	5-10	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.0-0.5	.10	.10	5	2	134
	8-60	5-10	1.35-1.55	14.00-42.00	0.08-0.10	0.0-2.9	0.0-0.5	.10	.10			
Rositas-----	0-5	0-5	1.45-1.70	42.00-141.00	0.05-0.07	0.0-1.5	0.0-0.5	.20	.20	5	1	250
	5-60	0-5	1.45-1.70	42.00-141.00	0.05-0.08	0.0-1.5	0.0-0.5	.20	.20			
885: Luckystrike-----	0-3	10-20	1.40-1.50	4.00-14.00	0.11-0.15	0.0-2.9	2.0-5.0	.24	.43	5	7	38
	3-8	20-30	1.45-1.55	4.00-14.00	0.07-0.11	0.0-2.9	2.0-5.0	.15	.43			
	8-19	20-30	1.45-1.55	4.00-14.00	0.04-0.07	0.0-2.9	0.5-1.0	.05	.37			
	19-30	10-20	1.50-1.60	14.00-42.00	0.02-0.05	0.0-2.9	0.5-1.0	.05	.32			
	30-60	10-20	1.50-1.60	14.00-42.00	0.02-0.07	0.0-2.9	0.5-1.0	.10	.24			
890: Ripley-----	0-6	10-20	1.25-1.40	4.00-14.00	0.11-0.17	0.0-2.9	0.0-0.5	.43	.43	3	4L	86
	6-34	5-18	1.30-1.45	4.00-14.00	0.09-0.16	0.0-2.9	0.0-0.5	.55	.55			
	34-60	2-10	1.55-1.75	42.00-141.00	0.04-0.07	0.0-2.9	0.0-0.5	.20	.20			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Holtville-----	0-5	10-25	1.40-1.50	4.00-14.00	0.15-0.20	0.0-2.9	0.5-1.0	.43	.43	5	4L	86
	5-23	35-55	1.35-1.55	0.42-1.40	0.14-0.16	6.0-9.0	0.5-1.0	.20	.20			
	23-31	35-55	1.35-1.45	0.42-1.40	0.13-0.17	6.0-9.0	0.5-1.0	.24	.24			
	31-42	5-18	1.25-1.35	14.00-42.00	0.13-0.17	0.0-2.9	0.5-1.0	.55	.55			
	42-60	0-10	1.50-1.60	42.00-141.00	0.05-0.08	0.0-2.9	0.5-1.0	.17	.17			
900: Urban land-----	---	---	---	---	---	---	---	---	---	---	---	---
Huevi-----	0-5	6-15	1.60-1.80	14.00-42.00	0.03-0.06	0.0-2.9	0.2-0.5	.05	.32	5	6	48
	5-18	8-18	1.40-1.55	4.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.32			
	18-60	8-18	1.35-1.55	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.32			
Riverbend-----	0-3	6-12	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.2-0.8	.02	.24	5	8	0
	3-10	2-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05			
	10-19	0-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05			
	19-31	0-12	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.15			
	31-60	2-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05			
905: Mountmummy-----	0-2	10-18	0.50-1.25	4.00-14.00	0.03-0.07	0.0-2.9	4.0-8.0	.10	.55	2	8	0
2-12	8-18	0.50-1.25	4.00-14.00	0.03-0.07	0.0-2.9	2.0-5.0	.10	.55				
12-24	8-18	0.75-1.25	4.00-42.00	0.02-0.07	0.0-2.9	2.0-5.0	.05	.55				
24-34	---	---	0.00-1.40	---	---	---	---	---				
Thesisters-----	0-1	12-20	1.30-1.50	4.00-14.00	0.04-0.07	0.0-2.9	2.0-5.0	.05	.43	1	8	0
	1-6	12-20	1.30-1.50	4.00-14.00	0.06-0.12	0.0-2.9	1.0-2.0	.15	.49			
	6-16	---	---	0.00-1.40	---	---	---	---	---			
Maryjane-----	0-1	---	0.25-0.40	141.00- 705.00	---	---	50-70	---	---	5	7	38
	1-4	15-25	0.70-1.00	4.00-14.00	0.03-0.07	2.0-5.0	5.0-10	.10	.55			
	4-13	15-25	0.90-1.10	4.00-14.00	0.03-0.07	2.0-5.0	0.5-3.0	.05	.37			
	13-35	8-18	1.30-1.50	4.00-14.00	0.03-0.09	0.0-2.9	0.5-1.0	.05	.32			
	35-60	6-15	1.10-1.25	14.00-42.00	0.03-0.07	0.0-2.9	0.5-1.0	.05	.32			
910: Carrwash-----	0-3	2-8	1.30-1.50	14.00-42.00	0.04-0.06	0.0-1.5	0.0-0.5	.05	.17	5	6	48
3-8	2-8	1.45-1.65	14.00-42.00	0.04-0.06	0.0-1.5	0.0-0.5	.05	.17				
8-60	0-5	1.45-1.65	42.00-141.00	0.03-0.06	0.0-1.0	0.0-0.5	.05	.15				
Riverbend, rarely flooded-----	0-3	6-12	1.45-1.60	14.00-42.00	0.03-0.07	0.0-2.9	0.2-0.8	.02	.24	5	8	0
3-10	2-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05				
10-60	0-10	1.55-1.75	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.02	.05				

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
911:												
Carrwash-----	0-3	2-8	1.30-1.50	14.00-42.00	0.04-0.06	0.0-1.5	0.0-0.5	.05	.17	5	6	48
	3-8	2-8	1.45-1.65	14.00-42.00	0.04-0.06	0.0-1.5	0.0-0.5	.05	.17			
	8-60	0-5	1.45-1.65	42.00-141.00	0.03-0.06	0.0-1.0	0.0-0.5	.05	.15			
Carrwash, steep-----	0-3	2-8	1.30-1.50	14.00-42.00	0.04-0.06	0.0-1.5	0.0-0.5	.05	.17	5	6	48
	3-8	2-8	1.45-1.65	14.00-42.00	0.04-0.06	0.0-1.5	0.0-0.5	.05	.17			
	8-60	0-5	1.45-1.65	42.00-141.00	0.03-0.06	0.0-1.0	0.0-0.5	.05	.15			
915:												
Maryjane-----	0-1	---	0.25-0.40	141.00- 705.00	---	---	50-70	---	---	5	7	38
	1-4	15-25	0.70-1.00	4.00-14.00	0.03-0.07	2.0-5.0	5.0-10	.10	.55			
	4-13	15-25	0.90-1.10	4.00-14.00	0.03-0.07	2.0-5.0	0.5-3.0	.05	.37			
	13-35	8-18	1.30-1.50	4.00-14.00	0.03-0.09	0.0-2.9	0.5-1.0	.05	.32			
	35-60	6-15	1.10-1.25	14.00-42.00	0.03-0.07	0.0-2.9	0.5-1.0	.05	.32			
Robbersfire-----	0-1	---	0.35-0.60	141.00- 705.00	---	---	30-50	---	---	3	7	38
	1-2	10-18	1.00-1.15	4.00-14.00	0.06-0.13	0.0-2.9	4.0-8.0	.10	.32			
	2-10	18-27	1.30-1.50	4.00-14.00	0.05-0.13	3.0-6.0	2.0-5.0	.17	.43			
	10-41	4-15	1.15-1.25	4.00-42.00	0.04-0.10	0.0-2.9	0.2-5.0	.10	.37			
	41-51	---	---	0.00-0.42	---	---	---	---	---			
Kitgram-----	0-2	7-18	1.30-1.50	4.00-14.00	0.07-0.12	0.0-2.9	2.0-5.0	.15	.37	2	7	38
	2-23	6-18	1.40-1.60	14.00-42.00	0.04-0.09	0.0-2.9	1.0-3.0	.05	.32			
	23-33	---	---	0.00-4.00	---	---	---	---	---			
916:												
Maryjane-----	0-1	---	0.25-0.40	141.00- 705.00	---	---	50-70	---	---	5	7	38
	1-4	15-25	0.70-1.00	4.00-14.00	0.03-0.07	2.0-5.0	5.0-10	.10	.55			
	4-13	15-25	0.90-1.10	4.00-14.00	0.03-0.07	2.0-5.0	0.5-3.0	.05	.37			
	13-35	8-18	1.30-1.50	4.00-14.00	0.03-0.09	0.0-2.9	0.5-1.0	.05	.32			
	35-60	6-15	1.10-1.25	14.00-42.00	0.03-0.07	0.0-2.9	0.5-1.0	.05	.32			
920:												
Tanazza-----	0-2	5-15	1.35-1.55	14.00-42.00	0.12-0.15	0.0-2.9	0.0-0.5	.28	.32	4	3	86
	2-4	8-18	1.50-1.70	14.00-42.00	0.13-0.16	0.0-2.9	0.0-0.5	.32	.32			
	4-15	15-27	1.20-1.40	4.00-14.00	0.15-0.20	3.0-5.9	0.0-0.5	.49	.49			
	15-31	25-35	1.20-1.40	1.40-4.00	0.19-0.21	3.0-5.9	0.0-0.5	.43	.43			
	31-37	---	1.15-1.35	0.42-141.00	---	---	0.0-0.5	---	---			
	37-45	25-35	1.20-1.40	1.40-4.00	0.19-0.21	3.0-5.9	0.0-0.5	.43	.43			
	45-60	---	1.15-1.35	0.42-141.00	---	---	0.0-0.2	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Wechech-----	0-2	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.15	.43	1	6	48
	2-7	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.20	.43			
	7-13	8-18	1.40-1.60	14.00-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.10	.43			
	13-60	---	1.80-2.20	0.00-0.01	---	---	---	---	---			
Wodavar-----	0-3	8-16	1.45-1.60	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32	1	8	0
	3-16	8-16	1.45-1.55	14.00-42.00	0.05-0.07	0.0-2.9	0.0-0.5	.10	.32			
	16-33	---	---	0.00-0.01	---	---	---	---	---			
	33-60	10-18	1.45-1.55	4.00-14.00	0.07-0.11	0.0-2.9	0.0-0.5	.15	.49			
925:												
Lastone-----	0-2	7-15	1.49-1.55	14.00-42.00	0.07-0.11	1.0-2.9	1.5-3.0	.17	.32	1	5	56
	2-9	10-20	1.42-1.47	4.00-14.00	0.02-0.10	1.0-2.9	1.0-2.0	.05	.37			
	9-14	---	---	0.42-1.40	---	---	---	---	---			
	14-24	---	---	0.00-0.01	---	---	---	---	---			
Lastone, steep-----	0-2	7-15	1.49-1.55	14.00-42.00	0.07-0.11	1.0-2.9	1.5-3.0	.17	.32	1	5	56
	2-9	10-20	1.42-1.47	4.00-14.00	0.02-0.10	1.0-2.9	1.0-2.0	.05	.37			
	9-14	---	---	0.42-1.40	---	---	---	---	---			
	14-24	---	---	0.00-0.01	---	---	---	---	---			
930:												
Cololag-----	0-3	10-18	1.46-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28	5	8	0
	3-14	2-12	1.55-1.65	14.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
	14-24	10-18	1.40-1.55	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.28			
	24-31	8-18	1.55-1.65	14.00-42.00	0.08-0.11	0.0-2.9	0.0-0.5	.15	.24			
	31-65	8-15	1.30-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.32			
Badland-----	---	---	---	---	---	---	---	---	---	---	---	---
940:												
Mesabase-----	0-1	6-15	1.30-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28	2	8	0
	1-5	6-15	1.30-1.50	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.28			
	5-11	3-8	1.55-1.65	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
	11-38	3-8	1.55-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.24			
	38-48	---	---	0.00-0.01	---	---	---	---	---			
Azsand-----	0-8	2-6	1.50-1.70	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.17	5	1	250
	8-14	3-5	1.55-1.65	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.5	.24	.32			
	14-36	5-8	1.55-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32			
	36-62	5-8	1.55-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
941: Mesabase-----	0-1	6-15	1.30-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28	2	8	0
	1-5	6-15	1.30-1.50	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.28			
	5-11	3-8	1.55-1.65	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
	11-38	3-8	1.55-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.24			
	38-48	---	---	0.00-0.01	---	---	---	---	---			
950: Drygyp-----	0-2	2-6	1.50-1.70	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.17	1	1	250
	2-7	---	1.00-1.20	14.00-42.00	0.13-0.15	---	---	---	---			
	7-13	---	1.00-1.20	4.00-14.00	---	---	---	---	---			
	13-65	---	1.00-1.20	14.00-42.00	---	---	---	---	---			
Drygyp, gravelly surface-----	0-2	6-12	1.00-1.20	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.2	.17	.20	1	5	56
	2-7	---	1.00-1.20	14.00-42.00	0.13-0.15	---	---	---	---			
	7-13	---	1.00-1.20	4.00-14.00	---	---	---	---	---			
	13-65	---	1.00-1.20	14.00-42.00	---	---	---	---	---			
951: Drygyp, gravelly surface-----	0-2	6-12	1.00-1.20	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.2	.17	.20	1	5	56
	2-7	---	1.00-1.20	14.00-42.00	0.13-0.15	---	---	---	---			
	7-13	---	1.00-1.20	4.00-14.00	---	---	---	---	---			
	13-65	---	1.00-1.20	14.00-42.00	---	---	---	---	---			
Guardian, calcareous surface-----	0-2	6-12	1.00-1.20	14.00-42.00	0.09-0.13	0.0-2.9	0.0-0.5	.17	.20	1	3	86
	2-4	---	1.10-1.35	14.00-42.00	0.11-0.13	---	0.0-0.2	---	---			
	4-19	---	1.10-1.35	14.00-42.00	0.13-0.15	---	0.0-0.2	---	---			
	19-29	---	---	0.01-0.42	---	---	---	---	---			
Baseline-----	0-3	8-12	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.32	2	8	0
	3-9	8-12	1.50-1.65	4.00-14.00	0.09-0.12	0.0-2.9	0.0-0.5	.15	.28			
	9-22	8-15	1.40-1.60	4.00-14.00	0.04-0.06	0.0-2.9	0.0-0.5	.02	.49			
	22-32	---	---	0.00-0.01	---	---	---	---	---			
952: Drygyp-----	0-2	8-18	1.10-1.35	14.00-42.00	0.13-0.15	0.0-2.9	0.0-0.2	.37	.43	1	3	86
	2-7	---	1.00-1.20	14.00-42.00	0.13-0.15	---	---	---	---			
	7-13	---	1.00-1.20	4.00-14.00	---	---	---	---	---			
	13-65	---	1.00-1.20	14.00-42.00	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
955: Drygyp, gravelly surface-----	0-2	6-12	1.00-1.20	14.00-42.00	0.08-0.12	0.0-2.9	0.0-0.2	.17	.20	1	5	56
	2-7	---	1.00-1.20	14.00-42.00	0.13-0.15	---	---	---	---			
	7-13	---	1.00-1.20	4.00-14.00	---	---	---	---	---			
	13-65	---	1.00-1.20	14.00-42.00	---	---	---	---	---			
Bluegyp-----	0-2	---	1.10-1.35	42.00-141.00	0.13-0.15	---	---	---	---	3	3	86
	2-11	---	1.10-1.35	42.00-141.00	0.13-0.15	---	---	---	---			
	11-43	---	1.10-1.35	42.00-141.00	0.11-0.13	---	---	---	---			
	43-53	---	---	0.00-0.05	---	---	---	---	---			
965: Azsand-----	0-8	2-6	1.50-1.70	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.5	.15	.17	5	1	250
	8-14	3-5	1.55-1.65	42.00-141.00	0.06-0.10	0.0-2.9	0.0-0.5	.24	.32			
	14-36	5-8	1.55-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32			
	36-62	5-8	1.55-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.10	.32			
Mesabase-----	0-1	6-15	1.30-1.50	14.00-42.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.28	2	8	0
	1-5	6-15	1.30-1.50	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.10	.28			
	5-11	3-8	1.55-1.65	42.00-141.00	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
	11-38	3-8	1.55-1.65	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.24			
	38-48	---	---	0.00-0.01	---	---	---	---	---			
Rositas, gravelly surface-----	0-5	0-5	1.50-1.70	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.5	.15	.24	5	1	250
	5-60	0-5	1.45-1.70	42.00-141.00	0.05-0.08	0.0-2.9	0.0-0.5	.20	.20			
970: Rubble land-----	---	---	---	---	---	---	---	---	---	---	---	---
Charpeak-----	0-2	8-15	1.30-1.50	14.00-42.00	0.02-0.06	0.0-2.9	0.2-0.8	.05	.28	2	8	0
	2-8	8-15	1.20-1.40	14.00-42.00	0.02-0.06	0.0-2.9	0.2-0.8	.05	.28			
	8-29	8-15	1.15-1.35	14.00-42.00	0.02-0.06	0.0-2.9	0.2-0.8	.05	.28			
	29-39	---	---	1.40-4.00	---	---	---	---	---			
Rock outcrop, limestone-----	---	---	---	---	---	---	---	---	---	---	---	---
980: Orrubo-----	0-2	10-18	1.25-1.40	4.00-14.00	0.06-0.10	0.0-2.9	0.1-0.5	.15	.32	1	6	48
	2-7	10-18	1.35-1.50	14.00-42.00	0.04-0.08	0.0-2.9	0.1-0.2	.10	.28			
	7-13	10-18	1.25-1.40	4.00-14.00	0.02-0.04	0.0-2.9	0.1-0.2	.05	.32			
	13-19	---	---	0.00-0.07	---	---	---	---	---			
	19-60	---	---	1.40-4.20	---	---	---	---	---			



TABLE 15.--Chemical Soil Properties

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
100:							
Newera-----	0-2	4.8-12	7.9-8.4	0	0	0.0-2.0	0-5
	2-6	13-27	7.4-8.4	0	0	0	0
	6-16	---	---	---	---	---	---
Newera, steep-----	0-2	4.8-13	7.4-8.4	0	0	0	0
	2-6	13-27	7.4-8.4	0	0	0	0
	6-16	---	---	---	---	---	---
101:							
Glencarb-----	0-6	6.8-14	7.9-9.0	40-60	0	4.0-8.0	5-12
	6-60	3.6-17	7.9-9.0	40-60	0-5	8.0-32.0	13-60
105:							
Galehills-----	0-2	4.8-8.6	7.9-9.0	0-5	0	0.0-2.0	0-1
	2-7	4.8-8.4	7.9-9.0	10-25	0	0.0-2.0	0-1
	7-17	---	---	---	---	---	---
106:							
Galehills-----	0-2	4.8-8.6	7.9-9.0	0-5	0	0.0-2.0	0-1
	2-7	4.8-8.4	7.9-9.0	10-25	0	0.0-2.0	0-1
	7-17	---	---	---	---	---	---
Zeheme-----	0-3	2.4-11	7.9-8.4	10-30	0	0.0-2.0	0-5
	3-9	2.4-11	7.9-8.4	20-40	0	0.0-2.0	0-5
	9-19	---	---	---	---	---	---
107:							
Galehills-----	0-2	4.8-8.6	7.9-9.0	0-5	0	0.0-2.0	0-1
	2-7	4.8-8.4	7.9-9.0	10-25	0	0.0-2.0	0-1
	7-17	---	---	---	---	---	---
Calwash-----	0-2	7.6-16	8.4-9.0	15-25	0	0.0-2.0	1-5
	2-9	14-21	8.4-9.0	15-30	0	0.0-2.0	1-5
	9-17	---	---	---	---	---	---
	17-27	---	---	---	---	---	---
110:							
Tenwell-----	0-1	3.3-8.6	7.9-9.0	5-10	0	0.0-2.0	0
	1-4	4.8-10	8.5-9.0	5-10	0	0.0-2.0	0
	4-9	8.9-15	8.5-9.0	5-15	0	0.0-2.0	0
	9-22	14-23	8.5-9.0	5-15	0	0.0-2.0	0
	22-60	---	---	---	---	---	---
Crosgrain-----	0-2	6.2-15	7.9-8.4	1-5	0	0.0-2.0	0-5
	2-11	7.6-16	7.9-9.0	5-15	0	0.0-2.0	0-5
	11-24	---	---	---	---	---	---
	24-60	---	---	---	---	---	---
111:							
Tenwell-----	0-1	3.3-8.6	7.9-9.0	5-10	0	0.0-2.0	0
	1-4	4.8-10	8.5-9.0	5-10	0	0.0-2.0	0
	4-9	8.9-15	8.5-9.0	5-15	0	0.0-2.0	0
	9-22	14-23	8.5-9.0	5-15	0	0.0-2.0	0
	22-60	---	---	---	---	---	---
Shamock-----	0-1	2.6-7.1	7.9-9.0	0-5	0	0.0-2.0	1-5
	1-32	4.1-8.6	7.9-9.0	1-10	0	0.0-2.0	1-5
	32-60	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
112: Arizo-----	0-2	1.4-6.1	7.4-9.0	0-5	0	0.0-2.0	1-5
	2-60	0.8-4.7	7.4-9.0	1-10	0	0.0-2.0	1-12
113: Arizo, gypsiferous substratum-----	0-2	3.1-11	7.4-8.4	0-5	0	0.0-4.0	1-5
	2-40	1.4-7.4	7.9-9.0	1-10	0	0.0-2.0	0-5
	40-60	---	7.9-8.4	1-5	40-60	0.0-4.0	0-3
115: Whitebasin-----	0-1	4.6-9.4	7.4-8.4	1-5	0-5	0.0-2.0	0-2
	1-11	---	7.4-8.4	0-3	50-90	0.0-2.0	0-1
	11-28	---	7.4-8.4	0-2	40-70	2.0-4.0	0-1
	28-38	---	---	---	---	---	---
Upperline-----	0-2	1.9-9.5	7.8-8.4	5-20	0-1	0.0-2.0	0-2
	2-12	1.9-8.0	7.8-8.4	15-30	0-1	0.0-2.0	0-2
	12-35	1.9-8.0	7.8-8.4	15-30	0-1	0.0-2.0	0-2
	35-39	1.9-8.0	7.8-8.4	15-30	0-1	0.0-2.0	0-4
	39-49	---	---	---	---	---	---
Hardbasin-----	0-1	4.1-10	7.4-8.4	0-3	1-10	2.0-4.0	0-2
	1-7	---	---	---	---	---	---
	7-12	---	---	---	---	---	---
	12-31	---	---	---	---	---	---
120: Crosgrain-----	0-2	6.2-15	7.9-8.4	1-5	0	0.0-2.0	0-5
	2-11	7.6-16	7.9-9.0	5-15	0	0.0-2.0	0-5
	11-24	---	---	---	---	---	---
	24-60	---	---	---	---	---	---
Tenwell-----	0-1	3.3-8.6	7.9-9.0	5-10	0	0.0-2.0	0
	1-4	4.8-10	8.5-9.0	5-10	0	0.0-2.0	0
	4-9	8.9-15	8.5-9.0	5-15	0	0.0-2.0	0
	9-22	14-23	8.5-9.0	5-15	0	0.0-2.0	0
	22-60	---	---	---	---	---	---
121: Sweetspring-----	0-1	5.8-13	7.9-9.0	10-15	0	1.0-2.0	0-5
	1-4	9.8-18	7.9-9.0	5-10	0	1.0-3.0	0-5
	4-17	4.0-9.4	7.9-9.0	10-25	0-1	8.0-16.0	0-5
	17-62	1.0-4.6	7.9-9.0	10-25	0-1	2.0-4.0	0-1
Carrizo-----	0-10	0.0-3.3	7.9-8.4	0	0	0.0-4.0	0
	10-60	0.0-3.7	7.9-8.4	0	0	0.0-4.0	0
125: Bobzbulz-----	0-1	6.6-8.6	7.9-9.0	0-10	0	0.0-2.0	0-13
	1-9	9.6-16	7.9-9.0	0-10	0	0.0-2.0	0-13
	9-14	9.6-16	7.9-9.0	0-10	0	0.0-2.0	0-13
	14-30	9.6-16	7.9-9.0	5-15	0	0.0-2.0	0-13
	30-60	---	---	---	---	---	---
Snapcan-----	0-2	6.6-12	7.9-9.0	1-5	0	2.0-4.0	0-2
	2-8	14-18	7.9-9.0	1-5	0	2.0-4.0	0-2
	8-15	14-18	7.9-9.0	1-5	0	2.0-4.0	0-2
	15-26	14-18	7.9-9.0	5-15	0	2.0-4.0	0-2
	26-60	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
134:							
Newera, steep-----	0-2	4.8-13	7.4-8.4	0	0	0	0
	2-6	13-27	7.4-8.4	0	0	0	0
	6-16	---	---	---	---	---	---
Nipton-----	0-1	6.2-15	7.4-8.4	0	0	0	0
	1-5	6.2-15	7.4-8.4	0	0	0	0
	5-15	---	---	---	---	---	---
135:							
Nippeno-----	0-2	8.6-17	7.4-7.8	0	0	0	0
	2-6	16-27	7.4-8.4	0	0	0	0
	6-15	---	---	---	---	---	---
	15-25	---	---	---	---	---	---
Mountmcull-----	0-2	8.6-15	6.6-7.8	0	0	0	0
	2-8	8.6-15	6.6-7.8	0	0	0	0
	8-18	---	---	---	---	---	---
Newera-----	0-2	4.8-12	7.9-8.4	0	0	0.0-2.0	0-5
	2-6	13-27	7.4-8.4	0	0	0	0
	6-16	---	---	---	---	---	---
140:							
Haleburu-----	0-2	4.8-10	7.9-9.0	0-5	0	0.0-2.0	0-5
	2-11	4.8-15	7.9-9.0	0-10	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---
141:							
Nipton-----	0-1	6.2-15	7.4-8.4	0	0	0	0
	1-5	6.2-15	7.4-8.4	0	0	0	0
	5-15	---	---	---	---	---	---
Haleburu-----	0-2	4.8-10	7.9-9.0	0-5	0	0.0-2.0	0-5
	2-11	4.8-15	7.9-9.0	0-10	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
143:							
Haleburu-----	0-2	4.8-10	7.9-9.0	0-5	0	0.0-2.0	0-5
	2-11	4.8-15	7.9-9.0	0-10	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---
Haleburu, dry-----	0-2	4.8-10	7.9-9.0	0-5	0	0.0-2.0	0-5
	2-11	4.8-15	7.9-9.0	0-10	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---
144:							
Haleburu-----	0-3	7.3-16	6.6-9.0	0	0	0	0
	3-11	4.8-15	7.9-9.0	0-10	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---
Hiddensun-----	0-3	5.5-13	7.9-8.4	5-10	0	0.0-2.0	0-8
	3-15	4.8-10	7.9-9.0	15-30	0	0.0-2.0	0-5
	15-25	---	---	---	---	---	---
146:							
Haleburu-----	0-2	4.8-10	7.9-9.0	0-5	0	0.0-2.0	0-5
	2-11	4.8-15	7.9-9.0	0-10	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Nipton-----	0-1	6.2-15	7.4-8.4	0	0	0	0
	1-5	6.2-15	7.4-8.4	0	0	0	0
	5-15	---	---	---	---	---	---
147: Haleburu-----	0-2	4.8-10	7.9-9.0	0-5	0	0.0-2.0	0-5
	2-11	4.8-15	7.9-9.0	0-10	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---
Nipton-----	0-1	6.2-15	7.4-8.4	0	0	0	0
	1-5	6.2-15	7.4-8.4	0	0	0	0
	5-15	---	---	---	---	---	---
148: Haleburu-----	0-2	4.8-10	7.9-9.0	0-5	0	0.0-2.0	0-5
	2-11	4.8-15	7.9-9.0	0-10	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---
Seanna-----	0-2	6.2-15	7.9-8.4	5-10	0	0.0-2.0	0-5
	2-10	6.2-15	7.9-9.0	5-15	0	0.0-2.0	0-5
	10-20	---	---	---	---	---	---
150: Hypoint-----	0-2	2.5-7.4	7.9-8.4	0-5	0	0.0-2.0	1-5
	2-60	0.8-6.1	7.9-9.0	0-5	0	0.0-2.0	1-5
151: Bluepoint-----	0-9	1.4-4.7	7.4-9.0	0-5	0	0.0-2.0	0-5
	9-60	1.4-4.7	7.4-9.0	0-5	0-2	0.0-4.0	1-12
Arizo-----	0-6	4.5-8.9	7.9-8.4	0-5	0	0.0-2.0	0-1
	6-60	0.0-4.0	7.9-9.0	1-5	0	0.0-2.0	1-5
155: Bitterridge-----	0-2	4.5-13	7.9-8.4	20-40	0	0.0-2.0	0-2
	2-12	4.5-11	7.9-8.4	20-45	0	0.0-2.0	0-2
	12-16	---	---	---	---	---	---
	16-26	---	---	---	---	---	---
Helkitchen-----	0-3	2.4-11	7.9-9.0	25-40	0	0.0-2.0	0-2
	3-7	1.6-9.5	7.9-8.4	30-45	0	2.0-4.0	0-2
	7-12	1.6-11	7.9-8.4	40-80	0	2.0-4.0	0-2
	12-22	---	---	---	---	---	---
160: Lanip-----	0-1	4.8-12	7.9-8.4	0	0	0.0-2.0	0-5
	1-15	4.1-12	7.9-9.0	1-5	0	0.0-2.0	0-5
	15-39	14-27	7.9-9.0	5-15	0	0.0-2.0	0-5
	39-48	4.8-12	7.9-9.0	5-15	0	0.0-2.0	0-5
	48-60	3.3-12	7.9-9.0	5-15	0	0.0-2.0	0-5
Kidwell-----	0-1	4.8-15	7.9-8.4	0	0	0.0-2.0	0-5
	1-9	4.8-15	7.9-8.4	0	0	0.0-2.0	0-5
	9-15	14-23	7.9-8.4	0	0	0.0-2.0	0-5
	15-31	14-23	7.9-9.0	15-25	0	0.0-2.0	0-5
	31-60	4.8-15	7.9-8.4	5-15	0	0.0-2.0	0-5



TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
176:							
St. Thomas-----	0-2	1.9-9.5	7.9-9.0	25-40	0	0.0-2.0	0-5
	2-14	1.9-11	7.9-9.0	30-60	0	0.0-2.0	0-5
	14-24	---	---	---	---	---	---
St. Thomas, dry-----	0-2	1.6-9.5	7.4-8.4	0	0	0.0-4.0	1-5
	2-14	1.9-11	7.9-9.0	30-60	0	0.0-2.0	0-5
	14-24	---	---	---	---	---	---
177:							
St. Thomas-----	0-2	1.9-9.5	7.9-9.0	25-40	0	0.0-2.0	0-5
	2-14	1.9-11	7.9-9.0	30-60	0	0.0-2.0	0-5
	14-24	---	---	---	---	---	---
Upperline-----	0-2	1.9-9.5	7.8-8.4	5-20	0-1	0.0-2.0	0-2
	2-12	1.9-8.0	7.8-8.4	15-30	0-1	0.0-2.0	0-2
	12-35	1.9-8.0	7.8-8.4	15-30	0-1	0.0-2.0	0-2
	35-39	1.9-8.0	7.8-8.4	15-30	0-1	0.0-2.0	0-4
	39-49	---	---	---	---	---	---
Whitebasin-----	0-1	4.6-9.4	7.4-8.4	1-5	0-5	0.0-2.0	0-2
	1-11	---	7.4-8.4	0-3	50-90	0.0-2.0	0-1
	11-28	---	7.4-8.4	0-2	40-70	2.0-4.0	0-1
	28-38	---	---	---	---	---	---
178:							
St. Thomas-----	0-7	1.9-9.5	7.9-8.4	25-40	0	2.0-4.0	0-2
	7-17	---	---	---	---	---	---
Iceberg-----	0-2	2.4-11	7.9-8.4	20-40	0	0.0-2.0	0-5
	2-7	2.4-9.5	7.9-8.4	35-50	0	0.0-2.0	0-5
	7-17	2.4-9.5	7.9-8.4	35-50	0	0.0-2.0	0-5
	17-27	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
180:							
Kidwell-----	0-1	4.8-15	7.9-8.4	0	0	0.0-2.0	0-5
	1-9	4.8-15	7.9-8.4	0	0	0.0-2.0	0-5
	9-15	14-23	7.9-8.4	0	0	0.0-2.0	0-5
	15-31	14-23	7.9-9.0	15-25	0	0.0-2.0	0-5
	31-60	4.8-15	7.9-8.4	5-15	0	0.0-2.0	0-5
Tenwell-----	0-4	2.1-7.5	6.1-7.3	0	0	0.0-2.0	0-5
	4-9	8.9-15	8.5-9.0	5-15	0	0.0-2.0	0
	9-22	14-23	8.5-9.0	5-15	0	0.0-2.0	0
	22-60	---	---	---	---	---	---
185:							
Lastchance-----	0-2	2.4-10	7.9-9.0	15-30	0	0.0-2.0	0-5
	2-20	2.4-9.7	7.9-9.0	20-50	0	0.4-4.0	1-13
	20-60	---	---	---	---	---	---
Lastchance, high elevation-----	0-2	2.4-10	7.9-9.0	15-30	0	0.0-2.0	0-5
	2-20	2.4-9.7	7.9-9.0	20-50	0	0.4-4.0	1-13
	20-60	---	---	---	---	---	---
Commski-----	0-5	2.9-11	7.9-9.0	15-30	0	0.0-2.0	1-5
	5-60	1.6-9.5	7.9-9.0	25-45	0	0.0-4.0	1-12



TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
200:							
Commski-----	0-3	2.4-11	7.9-9.0	15-30	0	0.0-2.0	1-5
	3-60	1.6-9.5	7.9-9.0	25-45	0	0.0-4.0	1-12
Weiser-----	0-6	3.8-11	7.9-8.4	10-20	0	0.0-2.0	0-5
	6-60	1.6-9.5	7.9-9.0	20-40	0	0.0-2.0	0-5
Threelakes-----	0-4	2.1-8.0	6.1-7.3	0	0	0.0-2.0	0-5
	4-31	1.9-9.5	8.5-9.0	30-50	0	0.0-2.0	1-12
	31-60	1.9-9.5	8.5-9.5	30-50	0	2.0-8.0	13-45
201:							
Commski-----	0-3	2.4-11	7.9-9.0	15-30	0	0.0-2.0	1-5
	3-60	1.6-9.5	7.9-9.0	25-45	0	0.0-4.0	1-12
202:							
Commski-----	0-5	2.9-11	7.9-9.0	15-30	0	0.0-2.0	1-5
	5-60	1.6-9.5	7.9-9.0	25-45	0	0.0-4.0	1-12
Lastchance-----	0-2	5.0-10	7.9-9.0	5-20	0	0.2-2.0	1-5
	2-20	2.4-9.7	7.9-9.0	20-50	0	0.4-4.0	1-13
	20-60	---	---	---	---	---	---
203:							
Commski-----	0-5	2.9-11	7.9-9.0	15-30	0	0.0-2.0	1-5
	5-60	1.6-9.5	7.9-9.0	25-45	0	0.0-4.0	1-12
Oldspan-----	0-3	1.9-6.2	7.9-8.4	10-25	0	0.0-2.0	0-4
	3-10	1.9-6.2	7.9-8.4	15-25	0	0.0-2.0	0-4
	10-20	1.9-6.2	7.9-9.0	15-30	0	0.0-2.0	0-4
	20-40	1.4-5.1	7.9-9.0	35-60	0	2.0-4.0	13-30
	40-60	1.4-5.1	7.9-9.0	35-60	0	4.0-8.0	13-45
Lastchance-----	0-2	2.4-10	7.9-9.0	15-30	0	0.0-2.0	0-5
	2-20	2.4-9.7	7.9-9.0	20-50	0	0.4-4.0	1-13
	20-60	---	---	---	---	---	---
205:							
Callville-----	0-2	4.1-9.5	7.4-8.4	0-3	1-10	2.0-4.0	1-5
	2-25	2.6-9.6	7.4-8.4	0-5	15-25	2.0-4.0	0-1
	25-43	---	---	---	---	---	---
	43-53	---	---	---	---	---	---
Badland-----	---	---	---	---	---	---	---
Guardian-----	0-2	5.8-13	7.4-8.4	0	15-25	2.0-4.0	0-1
	2-4	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	4-19	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	19-29	---	---	---	---	---	---
207:							
Callville-----	0-2	2.6-5.4	7.4-8.4	1-5	1-10	2.0-4.0	0-1
	2-25	2.6-9.6	7.4-8.4	0-5	15-25	2.0-4.0	0-1
	25-43	---	---	---	---	---	---
	43-53	---	---	---	---	---	---
Callville, steep-----	0-2	2.1-5.4	7.4-8.4	1-5	1-10	2.0-4.0	0-1
	2-25	2.6-9.6	7.4-8.4	0-5	15-25	2.0-4.0	0-1
	25-43	---	---	---	---	---	---
	43-53	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
210:							
Nickel-----	0-4	5.5-10	7.9-8.4	1-5	0	0.0-2.0	0-1
	4-11	4.8-12	7.9-9.0	0-10	0	0.0-4.0	0-5
	11-60	4.8-12	7.9-9.0	5-25	0	0.0-4.0	0-5
Arizo-----	0-2	1.4-6.1	7.4-9.0	0-5	0	0.0-2.0	1-5
	2-6	1.4-6.1	7.9-8.4	0-5	0	0.0-2.0	1-5
	6-60	0.0-4.0	7.9-9.0	1-5	0	0.0-2.0	1-5
211:							
Nickel-----	0-3	4.8-12	7.9-9.0	0-10	0	0.0-2.0	0-5
	3-11	4.8-12	7.9-9.0	0-10	0	0.0-4.0	0-5
	11-60	4.8-12	7.9-9.0	5-25	0	0.0-4.0	0-5
Crosgrain-----	0-3	5.5-13	7.4-8.4	1-5	0	0.0-2.0	0-5
	3-11	7.6-16	7.9-9.0	5-15	0	0.0-2.0	0-5
	11-24	---	---	---	---	---	---
	24-60	---	---	---	---	---	---
220:							
Haymont-----	0-2	6.2-15	7.9-9.0	15-35	0	8.0-16.0	13-45
	2-13	4.1-15	8.5-9.5	15-35	0	8.0-16.0	13-45
	13-29	4.1-15	8.5-9.5	15-35	0-2	16.0-32.0	13-45
	29-60	4.1-15	8.5-9.5	15-35	0-2	16.0-32.0	13-45
Haymont, moist-----	0-2	6.2-15	7.9-9.0	15-35	0	8.0-16.0	13-45
	2-13	4.1-15	8.5-9.5	15-35	0	8.0-16.0	13-45
	13-29	4.1-15	8.5-9.5	15-35	0-2	16.0-32.0	13-45
	29-60	4.1-15	8.5-9.5	15-35	0-2	16.0-32.0	13-45
Bluepoint-----	0-14	1.4-4.7	7.4-9.0	0-5	0-2	0.0-2.0	1-5
	14-60	1.4-4.7	7.4-9.0	0-5	0-2	0.0-4.0	1-12
221:							
Haymont, dry-----	0-2	6.2-15	7.9-8.4	15-35	0	8.0-16.0	13-45
	2-13	4.1-15	8.5-9.5	15-35	0	8.0-16.0	13-45
	13-29	4.1-15	8.5-9.5	15-35	0-2	16.0-32.0	13-45
	29-60	4.1-15	8.5-9.5	15-35	0-2	16.0-32.0	13-45
Haymont-----	0-2	6.2-15	7.9-9.0	15-35	0	8.0-16.0	13-45
	2-13	4.1-15	8.5-9.5	15-35	0	8.0-16.0	13-45
	13-29	4.1-15	8.5-9.5	15-35	0-2	16.0-32.0	13-45
	29-60	4.1-15	8.5-9.5	15-35	0-2	16.0-32.0	13-45
225:							
Baseline-----	0-3	2.4-7.9	7.9-9.0	10-20	0	2.0-4.0	0-1
	3-9	2.4-7.9	7.9-9.0	20-35	0-1	4.0-8.0	0-5
	9-22	2.4-9.5	7.9-9.0	30-45	0-1	4.0-8.0	5-10
	22-32	---	---	---	---	---	---
Callville-----	0-2	2.6-8.0	7.9-8.4	2-5	0	0.0-2.0	0-2
	2-25	2.6-9.6	7.4-8.4	0-5	15-25	2.0-4.0	0-1
	25-43	---	---	---	---	---	---
	43-53	---	---	---	---	---	---
Badland-----	---	---	---	---	---	---	---
226:							
Baseline-----	0-3	2.4-7.9	7.9-9.0	10-20	0	2.0-4.0	0-1
	3-9	2.4-7.9	7.9-9.0	20-35	0-1	4.0-8.0	0-5
	9-22	2.4-9.5	7.9-9.0	30-45	0-1	4.0-8.0	5-10
	22-32	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
227:							
Baseline-----	0-3	2.4-7.9	7.9-9.0	10-20	0	2.0-4.0	0-1
	3-9	2.4-7.9	7.9-9.0	20-35	0-1	4.0-8.0	0-5
	9-22	2.4-9.5	7.9-9.0	30-45	0-1	4.0-8.0	5-10
	22-32	---	---	---	---	---	---
Gypwash-----	0-1	2.4-7.9	7.9-9.0	20-40	0	2.0-4.0	0-1
	1-4	1.6-6.8	7.9-8.4	20-40	0	2.0-4.0	0-2
	4-27	2.4-6.8	7.9-8.4	30-40	0-3	2.0-4.0	0-2
	27-61	1.4-5.6	7.9-8.4	30-50	15-35	2.0-4.0	0-1
228:							
Baseline-----	0-3	2.4-7.9	7.9-9.0	10-20	0	2.0-4.0	0-1
	3-9	2.4-7.9	7.9-9.0	20-35	0-1	4.0-8.0	0-5
	9-22	2.4-9.5	7.9-9.0	30-45	0-1	4.0-8.0	5-10
	22-32	---	---	---	---	---	---
Guardian-----	0-2	5.8-13	7.4-8.4	0	15-25	2.0-4.0	0-1
	2-4	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	4-19	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	19-29	---	---	---	---	---	---
Baseline-----	0-3	2.4-7.9	7.9-9.0	10-20	0	2.0-4.0	0-1
	3-9	2.4-7.9	7.9-9.0	20-35	0-1	4.0-8.0	0-5
	9-22	2.4-9.5	7.9-9.0	30-45	0-1	4.0-8.0	5-10
	22-32	---	---	---	---	---	---
230:							
Wehech-----	0-2	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	2-7	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	7-13	2.4-11	8.5-9.0	30-50	0	0.0-4.0	1-5
	13-60	---	---	---	---	---	---
Weiser-----	0-6	3.8-11	7.9-8.4	10-20	0	0.0-2.0	0-5
	6-60	1.6-9.5	7.9-9.0	20-40	0	0.0-2.0	0-5
231:							
Wehech-----	0-4	2.4-10	7.9-8.4	5-25	0	0.0-2.0	0-1
	4-7	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	7-13	2.4-11	8.5-9.0	30-50	0	0.0-4.0	1-5
	13-60	---	---	---	---	---	---
232:							
Wehech-----	0-4	2.4-10	7.9-8.4	5-25	0	0.0-2.0	0-1
	4-7	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	7-13	2.4-11	8.5-9.0	30-50	0	0.0-4.0	1-5
	13-60	---	---	---	---	---	---
Upperline-----	0-2	1.9-9.5	7.8-8.4	5-20	0-1	0.0-2.0	0-2
	2-12	1.9-8.0	7.8-8.4	15-30	0-1	0.0-2.0	0-2
	12-35	1.9-8.0	7.8-8.4	15-30	0-1	0.0-2.0	0-2
	35-39	1.9-8.0	7.8-8.4	15-30	0-1	0.0-2.0	0-4
	39-49	---	---	---	---	---	---
233:							
Ifteen, overblown----	0-10	0.8-4.4	7.4-9.0	0-5	0-2	0.0-2.0	1-5
	10-15	2.4-10	8.5-9.0	15-30	0	0.0-2.0	0
	15-36	2.4-10	8.5-9.0	40-60	0	0.0-2.0	0
	36-60	1.9-7.9	7.9-9.0	20-35	0	0.0-2.0	0

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Wechech-----	0-3	0.8-4.4	7.4-9.0	0-5	0-2	0.0-2.0	1-5
	3-7	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	7-13	2.4-11	8.5-9.0	30-50	0	0.0-4.0	1-5
	13-60	---	---	---	---	---	---
234:							
Wechech-----	0-2	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	2-7	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	7-13	2.4-11	8.5-9.0	30-50	0	0.0-4.0	1-5
	13-60	---	---	---	---	---	---
235:							
Gypwash-----	0-1	2.4-7.9	7.9-9.0	20-40	0	2.0-4.0	0-1
	1-4	1.6-6.8	7.9-8.4	20-40	0	2.0-4.0	0-2
	4-27	2.4-6.8	7.9-8.4	30-40	0-3	2.0-4.0	0-2
	27-61	1.4-5.6	7.9-8.4	30-50	15-35	2.0-4.0	0-1
Callville-----	0-2	2.6-8.0	7.9-8.4	2-5	0	0.0-2.0	0-2
	2-25	2.6-9.6	7.4-8.4	0-5	15-25	2.0-4.0	0-1
	25-43	---	---	---	---	---	---
	43-53	---	---	---	---	---	---
Carrizo-----	0-7	1.9-6.8	6.1-7.3	0	0	0.0-2.0	0-5
	7-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
237:							
Wechech, moist-----	0-4	2.4-10	7.9-8.4	5-25	0	0.0-2.0	0-1
	4-7	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	7-13	2.4-11	8.5-9.0	30-50	0	0.0-4.0	1-5
	13-60	---	---	---	---	---	---
Wechech-----	0-2	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	2-7	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	7-13	2.4-11	8.5-9.0	30-50	0	0.0-4.0	1-5
	13-60	---	---	---	---	---	---
240:							
Crosgrain-----	0-2	6.2-15	7.9-8.4	1-5	0	0.0-2.0	0-5
	2-11	7.6-16	7.9-9.0	5-15	0	0.0-2.0	0-5
	11-24	---	---	---	---	---	---
	24-60	---	---	---	---	---	---
Irongold-----	0-1	6.2-13	7.9-8.4	15-30	0	0.0-2.0	0-5
	1-7	6.2-13	7.9-8.4	15-30	0	0.0-2.0	0-5
	7-11	6.2-13	7.9-8.4	20-40	0	0.0-2.0	0-5
	11-34	---	---	---	---	---	---
	34-60	1.8-7.1	8.5-9.0	50-70	0	0	0-5
Nickel-----	0-4	5.5-10	7.9-8.4	1-5	0	0.0-2.0	0-1
	4-11	4.8-12	7.9-9.0	0-10	0	0.0-4.0	0-5
	11-60	4.8-12	7.9-9.0	5-25	0	0.0-4.0	0-5
241:							
Crosgrain-----	0-2	6.2-15	7.9-8.4	1-5	0	0.0-2.0	0-5
	2-11	7.6-16	7.9-9.0	5-15	0	0.0-2.0	0-5
	11-24	---	---	---	---	---	---
	24-60	---	---	---	---	---	---
Typic Torriorthents--	0-3	4.7-8.6	7.9-9.0	0-5	0-10	2.0-4.0	---
	3-60	3.1-19	7.9-9.0	---	0-10	2.0-8.0	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Nickel-----	0-6	4.8-15	7.9-8.4	0	0	0.0-2.0	0-5
	6-11	4.8-12	7.9-9.0	0-10	0	0.0-4.0	0-5
	11-60	4.8-12	7.9-9.0	5-25	0	0.0-4.0	0-5
250: Mormon Mesa-----	0-2	1.6-6.8	7.9-8.4	20-40	0	0.0-2.0	0-5
	2-14	1.6-6.8	7.9-9.0	40-60	0-1	0.0-2.0	0-5
	14-60	---	---	---	---	---	---
Naye-----	0-7	1.6-9.5	7.9-9.0	40-80	0	0.0-2.0	0-5
	7-25	1.6-9.5	7.9-9.0	40-80	0-5	0.0-2.0	0-2
	25-40	---	---	---	---	---	---
255: Tumarion-----	0-2	7.6-15	7.9-8.4	5-15	0	0.0-2.0	0
	2-5	7.6-15	7.9-8.4	5-15	0	0.0-4.0	0
	5-7	---	---	---	---	---	---
	7-17	---	---	---	---	---	---
Nipton-----	0-1	6.2-15	7.4-8.4	0	0	0	0
	1-5	6.2-15	7.4-8.4	0	0	0	0
	5-15	---	---	---	---	---	---
Rock outcrop, Basalt-	---	---	---	---	---	---	---
260: Naye-----	0-7	1.6-9.5	7.9-9.0	40-80	0	0.0-2.0	0-5
	7-25	1.6-9.5	7.9-9.0	40-80	0-5	0.0-2.0	0-2
	25-40	---	---	---	---	---	---
Bitter Spring-----	0-2	5.8-13	8.5-9.0	10-15	0	1.0-4.0	2-12
	2-3	11-18	7.9-9.0	5-10	0-1	1.0-4.0	2-12
	3-7	5.8-13	7.9-9.0	5-15	0-1	8.0-16.0	2-12
	7-22	4.6-11	7.9-9.0	10-25	0-1	30.0-40.0	2-12
	22-60	1.9-6.5	8.5-9.0	5-15	0	10.0-15.0	2-12
261: Vace-----	0-2	6.2-15	7.9-9.0	15-30	0	0.0-4.0	0-5
	2-8	6.2-15	7.9-9.0	15-30	0	0.0-4.0	1-5
	8-60	---	---	---	---	---	---
Jean-----	0-1	0.0-4.0	7.9-9.0	5-15	0	0.0-2.0	0-5
	1-18	0.0-4.0	7.9-9.0	5-15	0	0.0-2.0	0-5
	18-60	0.0-4.0	7.9-9.0	5-15	0	0.0-2.0	0-5
265: Azureridge-----	0-2	5.3-12	7.9-8.4	1-10	0	0.0-2.0	0-2
	2-9	4.8-12	7.9-8.4	1-10	0	0.0-2.0	0-2
	9-14	---	---	---	---	---	---
	14-24	---	---	---	---	---	---
270: Bard-----	0-3	2.2-9.5	7.9-9.0	15-30	0	0.0-2.0	0-5
	3-14	1.6-3.8	7.9-9.0	30-40	0	0.0-2.0	5-12
	14-29	---	---	---	---	---	---
Nickel-----	0-4	5.5-10	7.9-8.4	1-5	0	0.0-2.0	0-1
	4-11	4.8-12	7.9-9.0	0-10	0	0.0-4.0	0-5
	11-60	4.8-12	7.9-9.0	5-25	0	0.0-4.0	0-5

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Limewash-----	0-1	2.6-6.4	7.9-8.4	0-2	0-2	0.0-2.0	0
	1-3	2.1-5.4	7.9-8.4	0-2	0-2	0.0-2.0	0
	3-6	2.6-6.4	7.9-8.4	0-2	0-2	0.0-2.0	0
	6-17	3.1-8.0	7.9-8.4	0-2	10-30	0.0-4.0	0
	17-29	---	---	---	---	---	---
271:							
Moapa-----	0-2	0.0-4.0	7.9-8.4	1-10	0	0.0-2.0	0-5
	2-38	0.0-4.0	7.9-9.0	1-10	0-3	0.0-2.0	0-5
	38-39	---	---	---	---	---	---
	39-49	---	---	---	---	---	---
Bluepoint-----	0-6	1.4-4.7	7.4-9.0	0-5	0-2	0.0-2.0	1-5
	6-60	1.4-4.7	7.4-9.0	0-5	0-2	0.0-4.0	1-12
272:							
Moapa-----	0-2	0.0-4.0	7.9-8.4	1-10	0	0.0-2.0	0-5
	2-38	0.0-4.0	7.9-9.0	1-10	0-3	0.0-2.0	0-5
	38-39	---	---	---	---	---	---
	39-49	---	---	---	---	---	---
Bluepoint-----	0-6	1.4-4.7	7.4-9.0	0-5	0-2	0.0-2.0	1-5
	6-60	1.4-4.7	7.4-9.0	0-5	0-2	0.0-4.0	1-12
Rock outcrop-----	---	---	---	---	---	---	---
285:							
Heleweiser, rarely flooded-----	0-3	6.2-10	7.9-9.0	2-5	0	0.0-2.0	0-2
	3-5	7.6-12	7.9-9.0	2-5	0	0.0-2.0	0-2
	5-11	7.6-12	7.9-9.0	5-20	0	0.0-2.0	0-2
	11-20	4.1-8.6	7.9-9.0	10-30	0	0.0-2.0	0-5
	20-34	4.1-8.6	7.9-9.0	10-30	1-3	0.0-2.0	0-1
	34-68	4.1-8.6	7.9-9.0	5-20	1-3	0.0-2.0	0-1
Carrizo-----	0-10	2.5-8.6	7.9-8.4	5-10	0	0.0-2.0	0
	10-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
Teebar-----	0-2	2.4-11	7.9-8.4	20-30	0	0.0-2.0	0-5
	2-7	1.9-9.5	7.9-9.0	30-50	0	0.0-4.0	1-5
	7-72	---	---	---	---	---	---
286:							
Heleweiser-----	0-1	4.1-12	7.9-8.4	2-5	0	0.0-2.0	0-2
	1-5	7.6-12	7.9-9.0	2-5	0	0.0-2.0	0-2
	5-11	7.6-12	7.9-9.0	5-20	0	0.0-2.0	0-2
	11-20	4.1-8.6	7.9-9.0	10-30	0	0.0-2.0	0-5
	20-34	4.1-8.6	7.9-9.0	10-30	1-3	0.0-2.0	0-1
	34-68	4.1-8.6	7.9-9.0	5-20	1-3	0.0-2.0	0-1
Heleweiser, extremely gravelly surface----	0-2	6.2-10	7.9-9.0	2-5	0	0.0-2.0	0-2
	2-5	7.6-12	7.9-9.0	2-5	0	0.0-2.0	0-2
	5-11	7.6-12	7.9-9.0	5-20	0	0.0-2.0	0-2
	11-20	4.1-8.6	7.9-9.0	10-30	0	0.0-2.0	0-5
	20-34	4.1-8.6	7.9-9.0	10-30	1-3	0.0-2.0	0-1
	34-68	4.1-8.6	7.9-9.0	5-20	1-3	0.0-2.0	0-1
Carrizo-----	0-7	1.9-6.8	6.1-7.3	0	0	0.0-2.0	0-5
	7-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5



TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Highland-----	0-3	6.2-13	7.4-7.8	0-2	0	0.0-2.0	0-5
	3-13	13-21	7.4-8.4	1-5	0	0.0-2.0	0-5
	13-26	13-27	7.9-8.4	1-5	0	0.0-2.0	0-5
	26-40	4.8-10	7.9-8.4	1-10	0	0.0-2.0	0-5
	40-50	---	---	---	---	---	---
292: Rock outcrop, metamorphic-----	---	---	---	---	---	---	---
Nupper-----	0-3	4.1-8.6	6.6-7.8	0	0	0.0-2.0	0
	3-13	6.2-12	6.6-7.8	0	0	0.0-2.0	0
	13-23	---	---	---	---	---	---
294: Rock outcrop-----	---	---	---	---	---	---	---
298: Rock outcrop-----	---	---	---	---	---	---	---
Redneedle-----	0-1	4.8-10	7.9-8.4	1-15	0	0.0-2.0	0-1
	1-5	4.8-9.9	7.9-9.0	1-15	0	0.0-2.0	0-1
	5-15	---	---	---	---	---	---
Heleweiser-----	0-1	4.1-12	7.9-8.4	2-5	0	0.0-2.0	0-2
	1-5	7.6-12	7.9-9.0	2-5	0	0.0-2.0	0-2
	5-11	7.6-12	7.9-9.0	5-20	0	0.0-2.0	0-2
	11-20	4.1-8.6	7.9-9.0	10-30	0	0.0-2.0	0-5
	20-34	4.1-8.6	7.9-9.0	10-30	1-3	0.0-2.0	0-1
	34-68	4.1-8.6	7.9-9.0	5-20	1-3	0.0-2.0	0-1
310: Weiser-----	0-6	3.8-11	7.9-8.4	10-20	0	0.0-2.0	0-5
	6-60	1.6-9.5	7.9-9.0	20-40	0	0.0-2.0	0-5
Arizo-----	0-2	1.4-6.1	7.4-9.0	0-5	0	0.0-2.0	1-5
	2-6	1.4-6.1	7.9-8.4	0-5	0	0.0-2.0	1-5
	6-60	0.0-4.0	7.9-9.0	1-5	0	0.0-2.0	1-5
311: Weiser-----	0-6	3.8-11	7.9-8.4	10-20	0	0.0-2.0	0-5
	6-60	1.6-9.5	7.9-9.0	20-40	0	0.0-2.0	0-5
Threelakes-----	0-3	1.6-9.5	8.5-9.0	25-50	0	0.0-2.0	1-5
	3-31	1.9-9.5	8.5-9.0	30-50	0	0.0-2.0	1-12
	31-60	1.9-9.5	8.5-9.5	30-50	0	2.0-8.0	13-45
313: Weiser-----	0-2	3.8-11	7.9-9.0	10-20	0	0.0-2.0	0-5
	2-10	1.9-11	7.9-9.0	35-50	0	0.0-2.0	0-5
	10-60	1.6-9.5	7.9-9.0	20-40	0	0.0-2.0	0-5
Oldspan-----	0-3	1.9-6.2	7.9-8.4	10-25	0	0.0-2.0	0-4
	3-10	1.9-6.2	7.9-8.4	15-25	0	0.0-2.0	0-4
	10-20	1.9-6.2	7.9-9.0	15-30	0	0.0-2.0	0-4
	20-40	1.4-5.1	7.9-9.0	35-60	0	2.0-4.0	13-30
	40-60	1.4-5.1	7.9-9.0	35-60	0	4.0-8.0	13-45
Wechech-----	0-2	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	2-7	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	7-13	2.4-11	8.5-9.0	30-50	0	0.0-4.0	1-5
	13-60	---	---	---	---	---	---



TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
325: Sandpan-----	0-1	4.6-8.1	7.9-8.4	5-8	0	0.0-2.0	0
	1-6	4.6-8.1	7.9-8.4	5-8	0	0.0-2.0	0
	6-16	4.6-8.1	7.9-8.4	10-20	0	0.0-2.0	0
	16-38	4.6-8.1	7.9-8.4	10-20	0	0.0-2.0	0
	38-70	---	---	---	---	---	---
Rositas-----	0-5	0.0-4.0	7.9-8.4	0-2	0	0.0-2.0	0
	5-60	0.0-4.0	7.9-8.4	1-5	0	0.0-2.0	0-5
330: Ramshead-----	0-1	6.2-15	7.9-9.0	5-15	0-3	2.0-8.0	0-5
	1-6	6.2-15	7.9-9.0	5-15	0-3	2.0-8.0	0-5
	6-8	---	---	---	---	---	---
	8-18	---	---	---	---	---	---
St. Thomas-----	0-2	1.9-9.5	7.9-9.0	25-40	0	0.0-2.0	0-5
	2-14	1.9-11	7.9-9.0	30-60	0	0.0-2.0	0-5
	14-24	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
335: Teebar-----	0-2	1.9-9.5	7.9-9.0	20-30	0	0.0-4.0	1-5
	2-7	1.9-9.5	7.9-9.0	30-50	0	0.0-4.0	1-5
	7-72	---	---	---	---	---	---
336: Teebar-----	0-2	1.9-9.5	7.9-9.0	20-30	0	0.0-4.0	1-5
	2-7	1.9-9.5	7.9-9.0	30-50	0	0.0-4.0	1-5
	7-72	---	---	---	---	---	---
Sandpan-----	0-1	4.6-8.1	7.9-8.4	5-8	0	0.0-2.0	0
	1-6	4.6-8.1	7.9-8.4	5-8	0	0.0-2.0	0
	6-16	4.6-8.1	7.9-8.4	10-20	0	0.0-2.0	0
	16-38	4.6-8.1	7.9-8.4	10-20	0	0.0-2.0	0
	38-70	---	---	---	---	---	---
340: Zeheme, steep-----	0-4	2.4-11	7.9-8.4	15-30	0	0.0-2.0	0-2
	4-13	2.4-11	7.9-8.4	20-40	0	0.0-2.0	0-5
	13-23	---	---	---	---	---	---
Zeheme-----	0-4	2.4-11	7.9-8.4	15-30	0	0.0-2.0	0-2
	4-13	2.4-11	7.9-8.4	20-40	0	0.0-2.0	0-5
	13-23	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
341: Zeheme-----	0-3	2.4-11	7.9-8.4	10-30	0	0.0-2.0	0-5
	3-9	2.4-11	7.9-8.4	20-40	0	0.0-2.0	0-5
	9-19	---	---	---	---	---	---
342: Zeheme-----	0-3	2.4-11	7.9-8.4	10-30	0	0.0-2.0	0-5
	3-9	2.4-11	7.9-8.4	20-40	0	0.0-2.0	0-5
	9-19	---	---	---	---	---	---
Potosi-----	0-2	2.4-9.5	7.9-8.4	15-30	0	0.0-2.0	0-5
	2-11	2.4-9.5	7.9-8.4	15-30	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Rock outcrop-----	---	---	---	---	---	---	---
343:							
Zeheme-----	0-3	2.4-11	7.9-8.4	10-30	0	0.0-2.0	0-5
	3-9	2.4-11	7.9-8.4	20-40	0	0.0-2.0	0-5
	9-19	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
Boxspring-----	0-2	2.9-11	7.9-8.4	30-40	0	0.0-2.0	0-3
	2-15	2.9-11	7.9-9.0	30-40	0	0.0-4.0	0-5
	15-25	---	---	---	---	---	---
351:							
Seralin-----	0-2	7.6-15	7.9-8.4	30-40	0	0.0-2.0	0-5
	2-14	8.6-15	7.9-8.4	0-10	0	0.0-4.0	1-5
	14-24	---	---	---	---	---	---
352:							
Seralin-----	0-2	8.8-16	7.9-8.4	0	0	0.0-4.0	1-5
	2-14	8.6-15	7.9-8.4	0-10	0	0.0-4.0	1-5
	14-24	---	---	---	---	---	---
Traley-----	0-8	10-16	7.4-7.8	0-1	0	0	0
	8-17	15-22	7.4-7.8	1-5	0	0	0
	17-27	15-22	7.4-7.8	1-5	0	0	0
	27-48	6.2-15	7.9-9.0	5-15	0	0.0-2.0	0-5
	48-58	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
355:							
Seralin-----	0-2	7.6-15	7.9-8.4	30-40	0	0.0-2.0	0-5
	2-14	8.6-15	7.9-8.4	0-10	0	0.0-4.0	1-5
	14-24	---	---	---	---	---	---
Devilsthumb-----	0-1	6.3-13	6.6-8.4	0-1	0	0	0
	1-7	6.3-13	7.4-8.4	0-4	0	0	0
	7-11	7.3-16	7.4-8.4	5-15	0	0	0
	11-26	7.3-16	7.4-8.4	15-30	0	0	0
	26-36	---	---	---	---	---	---
Ednagrey-----	0-2	6.1-13	7.9-8.4	1-10	0	0	0
	2-8	5.5-12	7.9-8.4	10-20	0	0	0
	8-18	---	---	---	---	---	---
360:							
Bracken-----	0-9	---	7.4-8.4	0-10	40-80	2.0-4.0	0-1
	9-49	---	7.4-8.4	0-10	40-80	2.0-4.0	0-1
	49-59	---	---	---	---	---	---
Arizo-----	0-6	3.1-11	7.4-8.4	0-5	0	0.0-4.0	1-5
	6-60	0.8-4.7	7.4-8.4	1-10	0	0.0-2.0	1-12
Badland-----	---	---	---	---	---	---	---
365:							
Callville-----	0-2	5.1-9.6	7.9-8.4	5-10	0	2.0-4.0	0-2
	2-25	2.6-9.6	7.4-8.4	0-5	15-25	2.0-4.0	0-1
	25-43	---	---	---	---	---	---
	43-53	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Gypwash-----	0-1	2.4-7.9	7.9-9.0	20-40	0	2.0-4.0	0-1
	1-4	1.6-6.8	7.9-8.4	20-40	0	2.0-4.0	0-2
	4-27	2.4-6.8	7.9-8.4	30-40	0-3	2.0-4.0	0-2
	27-61	1.4-5.6	7.9-8.4	30-50	15-35	2.0-4.0	0-1
Badland-----	---	---	---	---	---	---	---
375:							
Iceberg-----	0-2	2.4-11	7.9-8.4	20-40	0	0.0-2.0	0-5
	2-7	2.4-9.5	7.9-8.4	35-50	0	0.0-2.0	0-5
	7-17	2.4-9.5	7.9-8.4	35-50	0	0.0-2.0	0-5
	17-27	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
Helkitchen-----	0-3	1.6-11	7.9-8.4	20-40	0	2.0-4.0	0-2
	3-7	1.6-11	7.9-8.4	40-80	0	2.0-4.0	0-2
	7-12	1.6-11	7.9-8.4	40-80	0	2.0-4.0	0-2
	12-22	---	---	---	---	---	---
376:							
Iceberg-----	0-2	2.4-11	7.9-8.4	20-40	0	0.0-2.0	0-5
	2-7	2.4-9.5	7.9-8.4	35-50	0	0.0-2.0	0-5
	7-17	2.4-9.5	7.9-8.4	35-50	0	0.0-2.0	0-5
	17-27	---	---	---	---	---	---
St. Thomas-----	0-7	1.9-9.5	7.9-8.4	25-40	0	2.0-4.0	0-2
	7-17	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
380:							
Tonopah-----	0-1	4.0-11	7.9-9.0	1-10	0	0.0-2.0	0-5
	1-9	4.6-11	7.9-9.0	1-10	0	0.0-2.0	0-5
	9-60	1.9-8.1	8.5-9.0	10-40	0	0.0-4.0	0-12
Arizo-----	0-2	1.4-6.1	7.4-9.0	0-5	0	0.0-2.0	1-5
	2-6	1.4-6.1	7.9-8.4	0-5	0	0.0-2.0	1-5
	6-60	0.0-4.0	7.9-9.0	1-5	0	0.0-2.0	1-5
390:							
Tipnat-----	0-3	4.1-7.1	8.5-9.0	1-10	0	0.0-4.0	5-12
	3-13	14-23	8.5-9.5	5-15	0-3	4.0-8.0	13-45
	13-60	4.8-15	8.5-9.5	5-15	1-5	8.0-16.0	13-30
Hypoint-----	0-2	2.0-4.0	7.9-9.0	1-3	0	4.0-8.0	5-13
	2-60	0.8-6.1	7.9-9.0	0-5	0	0.0-2.0	1-5
Grapevine-----	0-1	2.6-4.6	8.6-9.0	1-3	0	4.0-8.0	5-13
	1-60	7.6-15	7.9-9.0	15-35	0-5	4.0-8.0	5-13
391:							
Tipnat-----	0-3	4.1-7.1	8.5-9.0	1-10	0	0.0-4.0	5-12
	3-13	14-23	8.5-9.5	5-15	0-3	4.0-8.0	13-45
	13-60	4.8-15	8.5-9.5	5-15	1-5	8.0-16.0	13-30
Hypoint-----	0-2	2.0-4.0	7.9-9.0	1-3	0	4.0-8.0	5-13
	2-60	0.8-6.1	7.9-9.0	0-5	0	0.0-2.0	1-5
Bluepoint-----	0-9	1.4-4.7	7.4-9.0	0-5	0	0.0-2.0	0-5
	9-60	1.4-4.7	7.4-9.0	0-5	0-2	0.0-4.0	1-12

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
400:							
Arizo-----	0-4	3.1-12	7.4-8.4	1-15	0	2.0-4.0	0
	4-60	1.4-7.4	7.4-9.0	1-10	0	0.0-2.0	1-12
Cafetal-----	0-3	8.9-15	7.9-8.4	1-5	0	0.0-2.0	0-5
	3-13	13-21	7.9-8.4	1-5	2-5	0.0-4.0	0-5
	13-22	7.6-15	8.5-9.0	3-10	0	0.0-4.0	0-5
	22-38	6.2-12	7.9-8.4	5-15	0	0.0-4.0	0-5
	38-60	4.1-12	7.9-8.4	5-10	0	0.0-4.0	0-5
405:							
Oxyaquic Torrifluents-----	0-2	5.7-13	7.9-9.0	2-40	0-3	1.0-4.0	0-2
	2-5	4.0-9.4	7.9-9.0	2-40	0-3	1.0-4.0	0-2
	5-40	4.0-18	7.9-9.0	2-40	0-3	1.0-4.0	0-2
	40-60	4.0-13	7.9-9.0	2-40	0-3	1.0-4.0	0-2
Gypwash-----	0-1	2.4-7.9	7.9-9.0	20-40	0	2.0-4.0	0-1
	1-4	1.6-6.8	7.9-8.4	20-40	0	2.0-4.0	0-2
	4-27	2.4-6.8	7.9-8.4	30-40	0-3	2.0-4.0	0-2
	27-61	1.4-5.6	7.9-8.4	30-50	15-35	2.0-4.0	0-1
411:							
Bludiamond, very gravelly surface----	0-1	7.1-15	7.9-8.4	0-5	0	0	0
	1-16	14-20	7.9-8.4	0-5	0	0.0-2.0	1-5
	16-26	11-20	7.9-8.4	15-30	0	0.0-4.0	1-12
	26-36	4.8-10	7.9-9.0	15-30	0	0.0-4.0	1-12
	36-60	---	---	---	---	---	---
Bludiamond-----	0-8	2.7-7.1	7.9-8.4	0-5	0	0.0-2.0	1-5
	8-16	14-20	7.9-8.4	0-5	0	0.0-2.0	1-5
	16-26	11-20	7.9-8.4	15-30	0	0.0-4.0	1-12
	26-36	4.8-10	7.9-9.0	15-30	0	0.0-4.0	1-12
	36-60	---	---	---	---	---	---
Diamondhil-----	0-2	5.5-13	7.4-8.4	0-5	0	0.0-2.0	1-5
	2-10	14-23	7.4-8.4	0-10	0	0.0-2.0	1-5
	10-19	13-21	7.4-8.4	15-30	0	0.0-2.0	1-5
	19-31	4.8-12	7.9-9.0	30-50	0	0.0-4.0	1-12
	31-60	---	---	---	---	---	---
415:							
Valatier-----	0-2	6.3-10	7.4-7.8	0	0	0.0-2.0	0-5
	2-21	8.1-15	7.4-7.8	0	0	0.0-2.0	0-5
	21-33	1.9-8.6	7.4-7.8	0-3	0	0.0-2.0	0-5
	33-60	---	---	---	---	---	---
421:							
Moentria-----	0-3	6.6-15	7.9-8.4	15-35	0	0.0-2.0	0-5
	3-9	6.2-15	7.9-8.4	15-35	0	0.0-2.0	0-5
	9-19	---	7.9-8.4	---	---	---	---
	19-29	---	---	---	---	---	---
422:							
Moentria-----	0-3	6.6-15	7.9-8.4	15-35	0	0.0-2.0	0-5
	3-9	6.2-15	7.9-8.4	15-35	0	0.0-2.0	0-5
	9-19	---	7.9-8.4	---	---	---	---
	19-29	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Purob-----	0-3	3.0-9.2	7.9-8.4	15-25	0	0.0-2.0	0-5
	3-8	3.1-12	7.9-8.4	10-25	0	0.0-2.0	0-5
	8-19	1.8-11	7.9-8.4	30-80	0	0.0-2.0	1-5
	19-60	---	---	---	---	---	---
430:							
Bluepoint-----	0-9	1.4-4.7	7.4-9.0	0-5	0	0.0-2.0	0-5
	9-60	1.4-4.7	7.4-9.0	0-5	0-2	0.0-4.0	1-12
Tipnat-----	0-3	4.1-7.1	8.5-9.0	1-10	0	0.0-4.0	5-12
	3-13	14-23	8.5-9.5	5-15	0-3	4.0-8.0	13-45
	13-60	4.8-15	8.5-9.5	5-15	1-5	8.0-16.0	13-30
Grapevine, overblown-	0-10	2.6-4.6	7.9-9.0	1-3	0	2.0-4.0	1-5
	10-60	7.6-15	7.9-9.0	15-35	0-5	4.0-8.0	5-13
431:							
Hypoint, thick surface-----	0-7	1.4-4.7	7.4-9.0	1-5	0	0.0-2.0	0-5
	7-60	0.8-6.1	7.9-9.0	0-5	0	0.0-2.0	1-5
Vegastorm-----	0-3	1.6-8.4	8.5-9.0	10-25	0-1	2.0-4.0	1-5
	3-20	2.2-7.9	7.9-9.0	25-40	0	2.0-4.0	1-5
	20-26	2.4-9.0	7.9-9.0	15-30	0-1	2.0-4.0	1-5
	26-60	2.4-9.0	7.9-9.0	40-65	0-1	2.0-4.0	1-5
Hypoint-----	0-2	2.0-4.0	7.9-9.0	1-3	0	4.0-8.0	5-13
	2-60	0.8-6.1	7.9-9.0	0-5	0	0.0-2.0	1-5
441:							
Corbilt-----	0-4	2.6-6.6	7.9-8.4	5-10	0	0.0-2.0	0-5
	4-32	4.1-8.6	7.9-9.0	5-20	0	0.0-2.0	1-5
	32-56	1.8-5.5	8.5-9.6	10-20	0	0.0-2.0	1-12
	56-60	---	---	---	---	---	---
450:							
Arizo-----	0-2	1.4-6.1	7.4-9.0	0-5	0	0.0-2.0	1-5
	2-6	1.4-6.1	7.9-8.4	0-5	0	0.0-2.0	1-5
	6-60	0.0-4.0	7.9-9.0	1-5	0	0.0-2.0	1-5
Arizo, frequently flooded-----	0-6	4.5-8.9	7.9-8.4	0-5	0	0.0-2.0	0-1
	6-60	0.0-4.0	7.9-9.0	1-5	0	0.0-2.0	1-5
451:							
Arizo-----	0-6	3.1-11	7.9-8.4	1-10	0	0.0-2.0	0-5
	6-60	0.8-4.7	7.4-8.4	1-10	0	0.0-2.0	1-12
Peskah-----	0-1	6.8-15	7.9-8.4	0-5	0	0.0-2.0	0-5
	1-4	6.8-15	7.9-8.4	0-5	0	0.0-2.0	0-5
	4-8	13-27	7.9-8.4	0-5	0	0.0-2.0	0-5
	8-15	13-27	7.9-8.4	0-10	0	0.0-2.0	0-5
	15-43	4.1-12	7.9-8.4	0-10	0	0.0-2.0	0-5
	43-60	---	---	---	---	---	---
Crosgrain-----	0-1	7.6-15	7.9-8.4	1-10	0	0.0-2.0	0
	1-11	7.6-16	7.9-9.0	5-15	0	0.0-2.0	0-5
	11-24	---	---	---	---	---	---
	24-60	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
454:							
Arizo-----	0-6	4.5-8.9	7.9-8.4	0-5	0	0.0-2.0	0-1
	6-60	0.0-4.0	7.9-9.0	1-5	0	0.0-2.0	1-5
Riverwash-----	0-6	---	7.4-9.0	0	0	0	0
	6-60	---	7.4-9.0	0	0	0	0
455:							
Arizo-----	0-6	3.1-11	7.9-8.4	1-10	0	0.0-2.0	0-5
	6-60	0.8-4.7	7.4-8.4	1-10	0	0.0-2.0	1-12
Tenwell-----	0-1	4.8-12	7.9-8.4	0	0	0.0-2.0	0-5
	1-4	4.8-10	8.5-9.0	5-10	0	0.0-2.0	0
	4-9	8.9-15	8.5-9.0	5-15	0	0.0-2.0	0
	9-22	14-23	8.5-9.0	5-15	0	0.0-2.0	0
	22-60	---	---	---	---	---	---
460:							
Pahrump-----	0-2	1.9-9.0	7.9-9.0	25-35	0	0.0-2.0	0-5
	2-6	1.6-5.6	7.9-9.0	30-45	0	0.0-2.0	0-5
	6-46	3.6-12	7.9-9.6	25-60	0	2.0-8.0	5-12
	46-60	1.1-9.0	8.5-9.6	15-25	0	4.0-16.0	13-30
Wodavar-----	0-3	2.2-8.4	7.9-8.4	15-25	0	0.0-4.0	1-5
	3-16	2.2-8.4	9.1-9.6	25-40	0-2	0.0-4.0	1-12
	16-33	---	---	---	---	---	---
	33-60	2.4-9.0	8.5-9.0	40-60	0-2	0.0-4.0	1-5
Vegastorm-----	0-3	1.4-7.9	7.9-8.4	10-25	0	0.0-2.0	1-5
	3-20	2.2-7.9	7.9-9.0	25-40	0	2.0-4.0	1-5
	20-26	2.4-9.0	7.9-9.0	15-30	0-1	2.0-4.0	1-5
	26-60	2.4-9.0	7.9-9.0	40-65	0-1	2.0-4.0	1-5
461:							
Pahrump, saline-----	0-2	1.9-9.0	7.9-9.0	25-35	0	0.0-2.0	0-5
	2-6	1.6-5.6	7.9-9.0	30-45	0	0.0-2.0	0-5
	6-46	3.6-12	7.9-9.6	25-60	0	2.0-8.0	5-12
	46-60	1.1-9.0	8.5-9.6	15-25	0	4.0-16.0	13-30
Pahrump-----	0-2	1.9-9.0	7.9-9.0	25-35	0	0.0-2.0	0-5
	2-6	1.6-5.6	7.9-9.0	30-45	0	0.0-2.0	0-5
	6-46	3.6-12	7.9-9.6	25-60	0	2.0-8.0	5-12
	46-60	1.1-9.0	8.5-9.6	15-25	0	4.0-16.0	13-30
Bluepoint-----	0-14	1.4-4.7	7.4-9.0	0-5	0-2	0.0-2.0	1-5
	14-60	1.4-4.7	7.4-9.0	0-5	0-2	0.0-4.0	1-12
470:							
Filaree-----	0-2	4.1-12	7.4-8.4	0	0	0.0-4.0	1-5
	2-22	4.1-12	7.4-8.4	0	0	0.0-4.0	1-5
	22-60	4.1-12	7.9-9.0	1-5	0	2.0-8.0	1-12
Seanna-----	0-2	6.2-15	7.9-8.4	1-10	0	0.0-2.0	0-5
	2-10	6.2-15	7.9-9.0	5-15	0	0.0-2.0	0-5
	10-20	---	---	---	---	---	---
475:							
Guardian-----	0-2	5.8-13	7.4-8.4	0	15-25	2.0-4.0	0-1
	2-4	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	4-19	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	19-29	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Sunrock-----	0-2	4.1-15	7.4-8.4	1-15	0	2.0-4.0	0
	2-9	4.1-15	7.4-8.4	1-15	0	2.0-4.0	0
	9-19	---	---	---	---	---	---
Badland-----	---	---	---	---	---	---	---
477:							
Guardian, calcareous surface-----	0-2	4.6-9.4	7.4-8.4	0-10	40-80	0.0-2.0	0-2
	2-4	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	4-19	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	19-29	---	---	---	---	---	---
Baseline-----	0-3	2.4-7.9	7.9-9.0	10-20	0	2.0-4.0	0-1
	3-9	2.4-7.9	7.9-9.0	20-35	0-1	4.0-8.0	0-5
	9-22	2.4-9.5	7.9-9.0	30-45	0-1	4.0-8.0	5-10
	22-32	---	---	---	---	---	---
Guardian-----	0-2	5.8-13	7.4-8.4	0	15-25	2.0-4.0	0-1
	2-4	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	4-19	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	19-29	---	---	---	---	---	---
478:							
Guardian, calcareous surface-----	0-2	4.6-9.4	7.4-8.4	0-10	40-80	0.0-2.0	0-2
	2-4	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	4-19	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	19-29	---	---	---	---	---	---
Baseline-----	0-3	2.4-7.9	7.9-9.0	10-20	0	2.0-4.0	0-1
	3-9	2.4-7.9	7.9-9.0	20-35	0-1	4.0-8.0	0-5
	9-22	2.4-9.5	7.9-9.0	30-45	0-1	4.0-8.0	5-10
	22-32	---	---	---	---	---	---
480:							
Vace-----	0-2	6.2-15	7.9-9.0	15-30	0	0.0-4.0	0-5
	2-8	6.2-15	7.9-9.0	15-30	0	0.0-4.0	1-5
	8-60	---	---	---	---	---	---
Vace, stony surface--	0-3	4.8-10	7.9-8.4	5-15	0	0.0-2.0	0-5
	3-8	6.2-15	7.9-9.0	15-30	0	0.0-4.0	1-5
	8-60	---	---	---	---	---	---
Arizo-----	0-4	3.1-12	7.4-8.4	1-15	0	2.0-4.0	0
	4-60	1.4-7.4	7.4-9.0	1-10	0	0.0-2.0	1-12
481:							
Vace-----	0-2	6.2-15	7.9-9.0	15-30	0	0.0-4.0	0-5
	2-8	6.2-15	7.9-9.0	15-30	0	0.0-4.0	1-5
	8-60	---	---	---	---	---	---
Wechech-----	0-2	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	2-7	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	7-13	2.4-11	8.5-9.0	30-50	0	0.0-4.0	1-5
	13-60	---	---	---	---	---	---
Wechech, steep-----	0-2	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	2-7	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	7-13	2.4-11	8.5-9.0	30-50	0	0.0-4.0	1-5
	13-60	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
490:							
Iftteen-----	0-2	1.9-7.9	7.9-8.4	10-25	0	0.0-2.0	0
	2-15	2.4-10	8.5-9.0	15-30	0	0.0-2.0	0
	15-36	2.4-10	8.5-9.0	40-60	0	0.0-2.0	0
	36-60	1.9-7.9	7.9-9.0	20-35	0	0.0-2.0	0
500:							
Playas-----	0-6	---	8.5-9.0	1-10	1-10	4.0-16.0	13-45
	6-60	---	8.5-9.0	1-10	1-10	4.0-16.0	13-45
501:							
Dams-----	---	---	---	---	---	---	---
504:							
Pits, quarry-----	---	---	---	---	---	---	---
505:							
Pits, gravel-----	0-6	---	---	---	---	0	---
	6-60	---	---	---	---	0	---
506:							
Pits-----	---	---	---	---	---	---	---
Dumps-----	---	---	---	---	---	---	---
508:							
Dumps, landfill-----	---	---	---	---	---	---	---
510:							
Railroad-----	0-3	4.8-10	7.9-8.4	5-15	0	0.0-2.0	0-5
	3-11	4.8-13	7.9-8.4	5-15	0	0.0-2.0	0-5
	11-34	4.8-13	7.9-9.0	15-30	0	0.0-2.0	0-5
	34-44	---	---	---	---	---	---
Railroad, steep-----	0-3	4.8-10	7.9-8.4	5-15	0	0.0-2.0	0-5
	3-11	4.8-13	7.9-8.4	5-15	0	0.0-2.0	0-5
	11-34	4.8-13	7.9-9.0	15-30	0	0.0-2.0	0-5
	34-44	---	---	---	---	---	---
520:							
Nolena-----	0-2	6.2-15	7.4-8.4	1-3	0	0	0
	2-5	6.2-15	7.4-8.4	1-3	0	0	0
	5-11	---	---	---	---	---	---
	11-21	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
521:							
Nolena-----	0-2	6.2-15	7.4-8.4	1-3	0	0	0
	2-5	6.2-15	7.4-8.4	1-3	0	0	0
	5-11	---	---	---	---	---	---
	11-21	---	---	---	---	---	---
Nipton-----	0-1	6.2-15	7.4-8.4	0	0	0	0
	1-5	6.2-15	7.4-8.4	0	0	0	0
	5-15	---	---	---	---	---	---
522:							
Nolena-----	0-2	6.2-15	7.4-8.4	1-3	0	0	0
	2-5	6.2-15	7.4-8.4	1-3	0	0	0
	5-11	---	---	---	---	---	---
	11-21	---	---	---	---	---	---



TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
541:							
Sunrock-----	0-2	4.1-15	7.4-8.4	1-15	0	2.0-4.0	0
	2-9	4.1-15	7.4-8.4	1-15	0	2.0-4.0	0
	9-19	---	---	---	---	---	---
Haleburu-----	0-2	7.2-13	6.1-9.0	0	0	0	0
	2-11	4.8-15	7.9-9.0	0-10	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
542:							
Sunrock-----	0-3	4.8-10	7.9-8.4	1-15	0	0.0-2.0	0-5
	3-9	4.1-15	7.4-8.4	1-15	0	2.0-4.0	0
	9-19	---	---	---	---	---	---
Callville-----	0-2	2.6-8.0	7.4-8.4	1-5	1-10	2.0-4.0	0-1
	2-25	2.6-9.6	7.4-8.4	0-5	15-25	2.0-4.0	0-1
	25-43	---	---	---	---	---	---
	43-53	---	---	---	---	---	---
Badland-----	---	---	---	---	---	---	---
550:							
Cheme-----	0-2	6.2-15	7.9-9.0	0-5	0	0.0-2.0	1-5
	2-6	6.2-15	7.9-9.0	5-15	0	0.0-2.0	1-5
	6-18	6.2-15	7.9-9.0	15-25	0	0.0-2.0	5-12
	18-42	---	---	---	---	---	---
	42-60	---	---	---	---	---	---
Riverbend-----	0-3	5.1-9.6	7.9-8.4	0-5	0	0.0-2.0	0-1
	3-10	1.9-8.1	7.9-8.4	0-5	0	0.0-2.0	0-1
	10-60	0.0-8.1	7.9-8.4	5-20	0	0.0-2.0	0-1
Carrizo-----	0-7	1.7-6.3	7.4-8.4	0-5	0	0.0-2.0	1-5
	7-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
551:							
Cheme-----	0-2	6.2-15	7.9-9.0	0-5	0	0.0-2.0	1-5
	2-6	6.2-15	7.9-9.0	5-15	0	0.0-2.0	1-5
	6-18	6.2-15	7.9-9.0	15-25	0	0.0-2.0	5-12
	18-42	---	---	---	---	---	---
	42-60	---	---	---	---	---	---
Carrizo-----	0-7	1.7-6.3	7.4-8.4	0-5	0	0.0-2.0	1-5
	7-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
Huevi-----	0-5	6.2-15	7.9-9.0	5-10	0	0.0-2.0	0-5
	5-18	6.2-15	7.9-9.0	10-30	0	0.0-2.0	0-5
	18-60	6.2-15	7.9-9.0	5-25	0	0.0-2.0	0-5
552:							
Cheme-----	0-2	6.2-15	7.9-9.0	0-5	0	0.0-2.0	1-5
	2-6	6.2-15	7.9-9.0	5-15	0	0.0-2.0	1-5
	6-18	6.2-15	7.9-9.0	15-25	0	0.0-2.0	5-12
	18-42	---	---	---	---	---	---
	42-60	---	---	---	---	---	---
Huevi, dry-----	0-5	6.2-15	7.9-9.0	5-10	0	0.0-2.0	0-5
	5-18	6.2-15	7.9-9.0	10-30	0	0.0-2.0	0-5
	18-60	6.2-15	7.9-9.0	5-25	0	0.0-2.0	0-5

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Huevi-----	0-5	5.3-12	7.9-8.4	1-10	0	0.0-2.0	0-2
	5-18	6.2-15	7.9-9.0	10-30	0	0.0-2.0	0-5
	18-60	6.2-15	7.9-9.0	5-25	0	0.0-2.0	0-5
560:							
Rositas-----	0-5	0.0-4.0	7.9-8.4	0-2	0	0.0-2.0	0
	5-60	0.0-4.0	7.9-8.4	1-5	0	0.0-2.0	0-5
Rositas, gravelly surface-----	0-5	0.0-4.0	7.9-8.4	0-2	0	0.0-2.0	0-5
	5-60	0.0-4.0	7.9-8.4	0-5	0	0.0-2.0	0-5
Riverbend, rarely flooded-----	0-7	1.9-6.7	7.9-9.0	0-5	0	0.0-2.0	0-5
	7-60	0.0-8.1	7.9-8.4	5-20	0	0.0-2.0	0-1
565:							
Govwash-----	0-1	4.0-13	7.4-8.4	2-5	2-5	2.0-4.0	1-5
	1-3	7.0-17	7.4-8.4	2-5	2-5	2.0-4.0	1-5
	3-6	4.0-13	7.4-8.4	5-15	15-25	2.0-4.0	0-1
	6-56	---	7.8-8.4	0-1	40-60	2.0-4.0	1-5
	56-63	---	---	---	---	---	---
	63-73	---	---	---	---	---	---
Guardian-----	0-2	5.8-13	7.4-8.4	0	15-25	2.0-4.0	0-1
	2-4	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	4-19	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	19-29	---	---	---	---	---	---
Badland-----	---	---	---	---	---	---	---
570:							
Carrizo-----	0-2	1.4-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
	2-10	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
	10-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
Carrizo, rarely flooded-----	0-7	1.7-6.3	7.4-8.4	0-5	0	0.0-2.0	1-5
	7-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
571:							
Carrizo, rarely flooded-----	0-7	1.7-6.3	7.4-8.4	0-5	0	0.0-2.0	1-5
	7-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
Carrizo-----	0-7	1.9-6.8	6.1-7.3	0	0	0.0-2.0	0-5
	7-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
Riverbend, rarely flooded-----	0-7	1.9-6.7	7.9-9.0	0-5	0	0.0-2.0	0-5
	7-60	0.0-8.1	7.9-8.4	5-20	0	0.0-2.0	0-1
572:							
Carrizo-----	0-7	1.7-6.3	7.4-8.4	0-5	0	0.0-2.0	1-5
	7-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
573:							
Carrizo-----	0-10	1.4-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
	10-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Riverbend, rarely flooded-----	0-3	5.1-9.6	7.9-8.4	0-5	0	0.0-2.0	0-1
	3-10	1.9-8.1	7.9-8.4	0-5	0	0.0-2.0	0-1
	10-60	0.0-8.1	7.9-8.4	5-20	0	0.0-2.0	0-1
Riverbend-----	0-3	5.1-9.6	7.9-8.4	0-5	0	0.0-2.0	0-1
	3-10	1.9-8.1	7.9-8.4	0-5	0	0.0-2.0	0-1
	10-60	0.0-8.1	7.9-8.4	5-20	0	0.0-2.0	0-1
574:							
Carrizo-----	0-7	1.4-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
	7-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
Sunrock-----	0-2	4.8-15	7.4-8.4	1-15	0	0.0-2.0	1-5
	2-9	4.1-15	7.4-8.4	1-15	0	2.0-4.0	0
	9-19	---	---	---	---	---	---
575:							
Carrizo-----	0-13	1.7-4.0	7.4-8.4	0-5	0	0.0-2.0	0-13
	13-60	1.6-3.7	7.4-8.4	0-2	0	0.0-2.0	0-13
Carrizo, cobbly surface-----	0-3	1.6-6.1	7.4-8.4	0-5	0	0.0-2.0	0-13
	3-60	1.6-3.7	7.4-8.4	0-2	0	0.0-2.0	0-13
581:							
Threelakes-----	0-3	1.6-9.5	8.5-9.0	25-50	0	0.0-2.0	1-5
	3-31	1.9-9.5	8.5-9.0	30-50	0	0.0-2.0	1-12
	31-60	1.9-9.5	8.5-9.5	30-50	0	2.0-8.0	13-45
Weiser-----	0-6	3.8-11	7.9-8.4	10-20	0	0.0-2.0	0-5
	6-60	1.6-9.5	7.9-9.0	20-40	0	0.0-2.0	0-5
590:							
Riverbend-----	0-3	5.1-9.6	7.9-8.4	0-5	0	0.0-2.0	0-1
	3-10	1.9-8.1	7.9-8.4	0-5	0	0.0-2.0	0-1
	10-60	0.0-8.1	7.9-8.4	5-20	0	0.0-2.0	0-1
Carrizo-----	0-7	1.7-6.3	7.4-8.4	0-5	0	0.0-2.0	1-5
	7-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
591:							
Riverbend-----	0-3	5.1-9.6	7.9-8.4	0-5	0	0.0-2.0	0-1
	3-10	1.9-8.1	7.9-8.4	0-5	0	0.0-2.0	0-1
	10-60	0.0-8.1	7.9-8.4	5-20	0	0.0-2.0	0-1
Carrwash-----	0-3	1.4-6.1	7.9-8.4	0-5	0	0.0-2.0	0-2
	3-8	1.4-6.1	7.9-9.0	0-5	0	0.0-2.0	0-2
	8-60	0.0-4.0	7.9-9.0	0-5	0	0.0-2.0	0-2
592:							
Riverbend-----	0-3	5.1-9.6	7.9-8.4	0-5	0	0.0-2.0	0-1
	3-10	1.9-8.1	7.9-8.4	0-5	0	0.0-2.0	0-1
	10-60	0.0-8.1	7.9-8.4	5-20	0	0.0-2.0	0-1
Carrizo-----	0-7	1.9-6.8	6.1-7.3	0	0	0.0-2.0	0-5
	7-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
593:							
Riverbend, rarely flooded-----	0-3	5.1-9.6	7.9-8.4	0-5	0	0.0-2.0	0-1
	3-10	1.9-8.1	7.9-8.4	0-5	0	0.0-2.0	0-1
	10-60	0.0-8.1	7.9-8.4	5-20	0	0.0-2.0	0-1
Cheme-----	0-2	6.2-15	7.9-9.0	0-5	0	0.0-2.0	1-5
	2-6	6.2-15	7.9-9.0	5-15	0	0.0-2.0	1-5
	6-18	6.2-15	7.9-9.0	15-25	0	0.0-2.0	5-12
	18-42	---	---	---	---	---	---
	42-60	---	---	---	---	---	---
Carrizo-----	0-10	1.4-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
	10-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
600:							
Huevi-----	0-5	6.2-15	7.9-9.0	5-10	0	0.0-2.0	0-5
	5-18	6.2-15	7.9-9.0	10-30	0	0.0-2.0	0-5
	18-60	6.2-15	7.9-9.0	5-25	0	0.0-2.0	0-5
Cheme-----	0-2	6.2-15	7.9-9.0	0-5	0	0.0-2.0	1-5
	2-6	6.2-15	7.9-9.0	5-15	0	0.0-2.0	1-5
	6-18	6.2-15	7.9-9.0	15-25	0	0.0-2.0	5-12
	18-42	---	---	---	---	---	---
	42-60	---	---	---	---	---	---
601:							
Huevi-----	0-5	6.2-15	7.9-9.0	5-10	0	0.0-2.0	0-5
	5-18	6.2-15	7.9-9.0	10-30	0	0.0-2.0	0-5
	18-60	6.2-15	7.9-9.0	5-25	0	0.0-2.0	0-5
Huevi, dry-----	0-5	6.2-15	7.9-9.0	5-10	0	0.0-2.0	0-5
	5-18	6.2-15	7.9-9.0	10-30	0	0.0-2.0	0-5
	18-60	6.2-15	7.9-9.0	5-25	0	0.0-2.0	0-5
603:							
Huevi, dry-----	0-5	6.2-15	7.9-9.0	5-10	0	0.0-2.0	0-5
	5-18	6.2-15	7.9-9.0	10-30	0	0.0-2.0	0-5
	18-60	6.2-15	7.9-9.0	5-25	0	0.0-2.0	0-5
604:							
Huevi, dry-----	0-5	7.2-13	6.1-9.0	0	0	0	0
	5-18	6.2-15	7.9-9.0	10-30	0	0.0-2.0	0-5
	18-60	6.2-15	7.9-9.0	5-25	0	0.0-2.0	0-5
Hiller-----	0-3	6.2-15	7.9-8.4	5-10	0	0.0-2.0	0-5
	3-8	6.2-15	7.9-8.4	5-10	0	2.0-4.0	0-5
	8-14	6.2-15	7.9-9.0	10-20	0	2.0-4.0	5-10
	14-60	6.2-15	7.9-9.0	15-25	0	4.0-8.0	5-10
605:							
Huevi, dry-----	0-5	6.2-15	7.9-9.0	5-10	0	0.0-2.0	0-5
	5-18	6.2-15	7.9-9.0	10-30	0	0.0-2.0	0-5
	18-60	6.2-15	7.9-9.0	5-25	0	0.0-2.0	0-5
Badland-----	---	---	---	---	---	---	---
606:							
Huevi-----	0-5	5.3-12	7.9-8.4	1-10	0	0.0-2.0	0-2
	5-18	6.2-15	7.9-9.0	10-30	0	0.0-2.0	0-5
	18-60	6.2-15	7.9-9.0	5-25	0	0.0-2.0	0-5

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Huevi, dry-----	0-5	6.2-15	7.9-9.0	5-10	0	0.0-2.0	0-5
	5-18	6.2-15	7.9-9.0	10-30	0	0.0-2.0	0-5
	18-60	6.2-15	7.9-9.0	5-25	0	0.0-2.0	0-5
Cheme-----	0-2	6.2-15	7.9-9.0	0-5	0	0.0-2.0	1-5
	2-6	6.2-15	7.9-9.0	5-15	0	0.0-2.0	1-5
	6-18	6.2-15	7.9-9.0	15-25	0	0.0-2.0	5-12
	18-42	---	---	---	---	---	---
	42-60	---	---	---	---	---	---
610:							
Goldroad-----	0-1	4.1-12	7.9-8.4	1-10	0	0.0-2.0	0
	1-5	4.1-12	7.9-8.4	1-10	0	0.0-2.0	0
	5-15	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
612:							
Goldroad-----	0-1	4.1-12	7.9-8.4	1-10	0	0.0-2.0	0
	1-5	4.1-12	7.9-8.4	1-10	0	0.0-2.0	0
	5-15	---	---	---	---	---	---
Seanna-----	0-2	6.2-15	7.9-8.4	5-10	0	0.0-2.0	0-5
	2-10	6.2-15	7.9-9.0	5-15	0	0.0-2.0	0-5
	10-20	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
613:							
Goldroad-----	0-1	4.1-12	7.9-8.4	1-10	0	0.0-2.0	0
	1-5	4.1-12	7.9-8.4	1-10	0	0.0-2.0	0
	5-15	---	---	---	---	---	---
Haleburu-----	0-2	4.8-10	7.9-9.0	0-5	0	0.0-2.0	0-5
	2-11	4.8-15	7.9-9.0	0-10	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
620:							
Arizo-----	0-2	3.6-8.6	7.9-8.4	0-5	0	0.0-2.0	0
	2-9	1.4-6.1	7.9-8.4	0-5	0	0.0-2.0	0
	9-60	1.4-7.4	7.9-9.0	1-10	0	0.0-2.0	0
Lanip-----	0-2	4.1-8.6	7.9-9.0	0-10	0	0.0-2.0	5-12
	2-15	4.1-12	7.9-9.0	1-5	0	0.0-2.0	0-5
	15-39	14-27	7.9-9.0	5-15	0	0.0-2.0	0-5
	39-48	4.8-12	7.9-9.0	5-15	0	0.0-2.0	0-5
	48-60	3.3-12	7.9-9.0	5-15	0	0.0-2.0	0-5
621:							
Orwash-----	0-2	2.0-5.4	7.9-9.0	0-10	0	0.0-2.0	1-5
	2-60	1.4-4.7	7.9-9.0	5-15	0	0.0-2.0	5-12
622:							
Orwash-----	0-2	2.0-5.4	7.9-9.0	0-10	0	0.0-2.0	5-12
	2-60	1.4-4.7	7.9-9.0	5-15	0	0.0-2.0	5-12
Arizo-----	0-6	4.5-8.9	7.9-8.4	0-5	0	0.0-2.0	0-1
	6-60	0.0-4.0	7.9-9.0	1-5	0	0.0-2.0	1-5

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Lanip-----	0-2	4.1-8.6	7.9-9.0	0-10	0	0.0-2.0	5-12
	2-15	4.1-12	7.9-9.0	1-5	0	0.0-2.0	0-5
	15-39	14-27	7.9-9.0	5-15	0	0.0-2.0	0-5
	39-48	4.8-12	7.9-9.0	5-15	0	0.0-2.0	0-5
	48-60	3.3-12	7.9-9.0	5-15	0	0.0-2.0	0-5
630:							
Tenwell-----	0-1	4.8-12	7.9-8.4	0	0	0.0-2.0	0-5
	1-4	4.8-10	8.5-9.0	5-10	0	0.0-2.0	0
	4-9	8.9-15	8.5-9.0	5-15	0	0.0-2.0	0
	9-22	14-23	8.5-9.0	5-15	0	0.0-2.0	0
	22-60	---	---	---	---	---	---
635:							
Aguachiquita-----	0-3	5.5-10	7.9-8.4	1-5	0	0.0-2.0	0-1
	3-10	5.5-10	7.9-8.4	1-5	0	0.0-2.0	0-1
	10-20	5.5-10	7.9-8.4	1-5	0	0.0-2.0	0-1
	20-43	---	---	---	---	---	---
	43-53	---	---	---	---	---	---
Azureridge-----	0-2	5.3-12	7.9-8.4	1-10	0	0.0-2.0	0-2
	2-9	4.8-12	7.9-8.4	1-10	0	0.0-2.0	0-2
	9-14	---	---	---	---	---	---
	14-24	---	---	---	---	---	---
640:							
Cetrepas-----	0-2	7.2-13	6.1-7.3	0	0	0	0
	2-6	7.1-13	6.1-7.3	0	0	0	0
	6-13	14-21	6.1-7.3	0	0	0	0
	13-24	---	---	---	---	---	---
	24-34	---	---	---	---	---	---
Nolena-----	0-2	6.2-12	7.4-8.4	0	0	0	0
	2-5	6.2-15	7.4-8.4	1-3	0	0	0
	5-11	---	---	---	---	---	---
	11-21	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
645:							
Goldbutte-----	0-4	5.5-13	6.6-7.3	0	0	0.0-2.0	0-1
	4-5	5.3-12	6.6-7.8	0	0	0.0-2.0	0-1
	5-6	---	---	---	---	---	---
	6-16	---	---	---	---	---	---
Nolena-----	0-2	6.2-15	7.4-8.4	1-3	0	0	0
	2-5	6.2-15	7.4-8.4	1-3	0	0	0
	5-11	---	---	---	---	---	---
	11-21	---	---	---	---	---	---
646:							
Goldbutte-----	0-4	5.5-13	6.6-7.3	0	0	0.0-2.0	0-1
	4-5	5.3-12	6.6-7.8	0	0	0.0-2.0	0-1
	5-6	---	---	---	---	---	---
	6-16	---	---	---	---	---	---
Jumbopeak-----	0-2	2.1-7.5	6.1-7.3	0	0	0.0-2.0	0
	2-9	5.6-11	6.6-7.8	0	0	0.0-2.0	0-3
	9-17	10-15	6.6-7.3	0	0	0.0-2.0	0-3
	17-29	5.5-10	6.1-7.3	0-1	0	0.0-2.0	0-3
	29-39	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Rock outcrop-----	---	---	---	---	---	---	---
650:							
Peskah-----	0-1	6.8-15	7.9-8.4	0-5	0	0.0-2.0	0-5
	1-4	6.8-15	7.9-8.4	0-5	0	0.0-2.0	0-5
	4-8	13-27	7.9-8.4	0-5	0	0.0-2.0	0-5
	8-15	13-27	7.9-8.4	0-10	0	0.0-2.0	0-5
	15-43	4.1-12	7.9-8.4	0-10	0	0.0-2.0	0-5
	43-60	---	---	---	---	---	---
Crosgrain-----	0-2	6.2-15	7.9-8.4	1-5	0	0.0-2.0	0-5
	2-11	7.6-16	7.9-9.0	5-15	0	0.0-2.0	0-5
	11-24	---	---	---	---	---	---
	24-60	---	---	---	---	---	---
651:							
Peskah-----	0-1	6.8-15	7.9-8.4	0-5	0	0.0-2.0	0-5
	1-4	6.8-15	7.9-8.4	0-5	0	0.0-2.0	0-5
	4-8	13-27	7.9-8.4	0-5	0	0.0-2.0	0-5
	8-15	13-27	7.9-8.4	0-10	0	0.0-2.0	0-5
	15-43	4.1-12	7.9-8.4	0-10	0	0.0-2.0	0-5
	43-60	---	---	---	---	---	---
Arizo-----	0-6	3.1-11	7.9-8.4	1-10	0	0.0-2.0	0-5
	6-60	0.8-4.7	7.4-8.4	1-10	0	0.0-2.0	1-12
660:							
Crosgrain-----	0-1	7.6-15	7.9-8.4	1-10	0	0.0-2.0	0
	1-11	7.6-16	7.9-9.0	5-15	0	0.0-2.0	0-5
	11-24	---	---	---	---	---	---
	24-60	---	---	---	---	---	---
661:							
Crosgrain-----	0-3	7.6-15	7.9-9.0	5-15	0	0.0-2.0	0
	3-11	7.6-16	7.9-9.0	5-15	0	0.0-2.0	0-5
	11-24	---	---	---	---	---	---
	24-60	---	---	---	---	---	---
662:							
Crosgrain-----	0-1	7.6-15	7.9-8.4	1-10	0	0.0-2.0	0
	1-11	7.6-16	7.9-9.0	5-15	0	0.0-2.0	0-5
	11-24	---	---	---	---	---	---
	24-60	---	---	---	---	---	---
Arizo-----	0-6	4.5-8.9	7.9-8.4	0-5	0	0.0-2.0	0-1
	6-60	0.0-4.0	7.9-9.0	1-5	0	0.0-2.0	1-5
663:							
Crosgrain-----	0-2	6.2-15	7.9-8.4	1-5	0	0.0-2.0	0-5
	2-11	7.6-16	7.9-9.0	5-15	0	0.0-2.0	0-5
	11-24	---	---	---	---	---	---
	24-60	---	---	---	---	---	---
Kidwell-----	0-1	4.8-15	7.9-8.4	0	0	0.0-2.0	0-5
	1-9	4.8-15	7.9-8.4	0	0	0.0-2.0	0-5
	9-15	14-23	7.9-8.4	0	0	0.0-2.0	0-5
	15-31	14-23	7.9-9.0	15-25	0	0.0-2.0	0-5
	31-60	4.8-15	7.9-8.4	5-15	0	0.0-2.0	0-5
Arizo-----	0-2	3.6-8.6	7.9-8.4	0-5	0	0.0-2.0	0
	2-9	1.4-6.1	7.9-8.4	0-5	0	0.0-2.0	0
	9-60	1.4-7.4	7.9-9.0	1-10	0	0.0-2.0	0

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
665:							
Crosgrain-----	0-2	6.2-15	7.9-8.4	1-5	0	0.0-2.0	0-5
	2-11	7.6-16	7.9-9.0	5-15	0	0.0-2.0	0-5
	11-24	---	---	---	---	---	---
	24-60	---	---	---	---	---	---
Vace-----	0-2	6.2-15	7.9-9.0	15-30	0	0.0-4.0	0-5
	2-8	6.2-15	7.9-9.0	15-30	0	0.0-4.0	1-5
	8-60	---	---	---	---	---	---
670:							
Nipton-----	0-2	6.2-12	7.4-8.4	0	0	0	0
	2-12	6.2-15	7.4-8.4	0	0	0	0
	12-22	---	---	---	---	---	---
Highland-----	0-3	6.2-13	7.4-7.8	0-2	0	0.0-2.0	0-5
	3-13	13-21	7.4-8.4	1-5	0	0.0-2.0	0-5
	13-26	13-27	7.9-8.4	1-5	0	0.0-2.0	0-5
	26-40	4.8-10	7.9-8.4	1-10	0	0.0-2.0	0-5
	40-50	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
673:							
Nolena, moist-----	0-2	6.2-15	7.4-8.4	1-3	0	0	0
	2-5	6.2-15	7.4-8.4	1-3	0	0	0
	5-11	---	---	---	---	---	---
	11-21	---	---	---	---	---	---
Newera, steep-----	0-2	4.8-13	7.4-8.4	0	0	0	0
	2-6	13-27	7.4-8.4	0	0	0	0
	6-16	---	---	---	---	---	---
674:							
Nipton-----	0-2	6.2-12	7.4-8.4	0	0	0	0
	2-12	6.2-15	7.4-8.4	0	0	0	0
	12-22	---	---	---	---	---	---
Rubble land-----	0-60	---	---	0	0	0	0
Railroad-----	0-3	4.8-10	7.9-8.4	5-15	0	0.0-2.0	0-5
	3-11	4.8-13	7.9-8.4	5-15	0	0.0-2.0	0-5
	11-34	4.8-13	7.9-9.0	15-30	0	0.0-2.0	0-5
	34-44	---	---	---	---	---	---
680:							
Lanfair-----	0-2	5.3-11	7.9-8.4	0-5	0	0.0-2.0	0
	2-9	5.3-11	7.9-8.4	0-5	0	0.0-2.0	0
	9-15	5.3-11	7.9-8.4	0-5	0	0.0-4.0	0
	15-60	1.9-6.7	7.9-8.4	0-5	0	0.0-4.0	0
Hoppswell-----	0-2	6.9-13	7.9-8.4	0	0	0.0-2.0	0
	2-15	16-24	7.9-8.4	0	0	0.0-2.0	0
	15-64	2.6-10	7.9-9.0	1-10	0	0.0-2.0	0
690:							
Hoppswell-----	0-2	6.9-13	7.9-8.4	0	0	0.0-2.0	0
	2-15	16-24	7.9-8.4	0	0	0.0-2.0	0
	15-64	2.6-10	7.9-9.0	1-10	0	0.0-2.0	0

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Ustidur-----	0-2	7.1-15	7.9-9.0	10-20	0	0	0
	2-6	7.1-15	7.9-9.0	20-30	0	0	0
	6-38	---	---	---	---	---	---
	38-60	3.3-10	7.9-9.0	1-15	0	0	0
691:							
Hoppswell-----	0-2	6.1-11	7.9-8.4	1-5	0	0.0-2.0	0-1
	2-15	16-24	7.9-8.4	0	0	0.0-2.0	0
	15-64	2.6-10	7.9-9.0	1-10	0	0.0-2.0	0
Jetmine-----	0-2	6.6-14	7.9-9.0	10-20	0	0.0-2.0	0-5
	2-16	6.2-14	7.9-9.0	15-25	0	0.0-2.0	0-5
	16-60	---	---	---	---	---	---
700:							
Mountmcull-----	0-2	8.6-15	6.6-7.8	0	0	0	0
	2-8	8.6-15	6.6-7.8	0	0	0	0
	8-18	---	---	---	---	---	---
Nippeno-----	0-2	8.6-17	7.4-7.8	0	0	0	0
	2-6	16-27	7.4-8.4	0	0	0	0
	6-15	---	---	---	---	---	---
	15-25	---	---	---	---	---	---
701:							
Nippeno-----	0-2	8.6-17	7.4-7.8	0	0	0	0
	2-6	16-27	7.4-8.4	0	0	0	0
	6-15	---	---	---	---	---	---
	15-25	---	---	---	---	---	---
Nipton-----	0-1	6.2-15	7.4-8.4	0	0	0	0
	1-5	6.2-15	7.4-8.4	0	0	0	0
	5-15	---	---	---	---	---	---
705:							
Charkiln-----	0-1	---	---	0	0	0	0
	1-5	4.9-11	6.6-7.3	0	0	0.0-2.0	0
	5-9	10-16	6.6-7.3	0	0	0.0-2.0	0
	9-65	16-27	6.6-7.3	0	0	0.0-2.0	0
Woodspring-----	0-0	46-88	---	0	0	0	0
	0-2	4.1-9.7	7.9-8.4	5-15	0	0.0-2.0	0-2
	2-9	7.3-13	7.9-8.4	5-15	0	0.0-2.0	0-2
	9-61	7.1-13	7.9-8.4	10-35	0	0.0-2.0	0-2
Buckspring-----	0-2	7.3-13	6.6-7.8	0-5	0	0	0
	2-10	7.3-13	6.6-7.8	0-5	0	0	0
	10-17	12-20	6.6-7.8	0-5	0	0	0
	17-27	---	---	---	---	---	---
710:							
Arizo-----	0-2	3.6-8.6	7.9-8.4	0-5	0	0.0-2.0	0
	2-9	1.4-6.1	7.9-8.4	0-5	0	0.0-2.0	0
	9-60	1.4-7.4	7.9-9.0	1-10	0	0.0-2.0	0
Lanfair-----	0-2	5.3-11	7.9-8.4	0-5	0	0.0-2.0	0
	2-9	5.3-11	7.9-8.4	0-5	0	0.0-2.0	0
	9-15	5.3-11	7.9-8.4	0-5	0	0.0-4.0	0
	15-60	1.9-6.7	7.9-8.4	0-5	0	0.0-4.0	0
Riverwash-----	0-6	---	7.4-9.0	0	0	0	0
	6-60	---	7.4-9.0	0	0	0	0

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
715:							
Troughspring-----	0-2	73-88	---	0	0	0	0
	2-9	17-29	7.4-7.8	0-10	0	0.0-1.0	0-5
	9-14	16-26	7.9-8.4	10-25	0	0.0-1.0	0-5
	14-24	8.0-12	7.9-8.4	40-80	0	0.0-1.0	0-5
	24-63	---	---	50-80	---	---	---
Charkiln-----	0-1	---	---	0	0	0	0
	1-5	4.9-11	6.6-7.3	0	0	0.0-2.0	0
	5-9	10-16	6.6-7.3	0	0	0.0-2.0	0
	9-65	16-27	6.6-7.3	0	0	0.0-2.0	0
Buckspring-----	0-2	7.3-13	6.6-7.8	0-5	0	0	0
	2-10	7.3-13	6.6-7.8	0-5	0	0	0
	10-17	12-20	6.6-7.8	0-5	0	0	0
	17-27	---	---	---	---	---	---
716:							
Troughspring-----	0-2	73-88	---	0	0	0	0
	2-9	17-29	7.4-7.8	0-10	0	0.0-1.0	0-5
	9-14	16-26	7.9-8.4	10-25	0	0.0-1.0	0-5
	14-24	8.0-12	7.9-8.4	40-80	0	0.0-1.0	0-5
	24-63	---	---	50-80	---	---	---
721:							
Corncreek-----	0-1	2.4-11	7.9-9.0	30-60	0	0.0-2.0	1-5
	1-4	2.4-11	7.9-9.0	30-60	0	0.0-2.0	1-5
	4-31	2.4-11	8.5-9.0	45-75	0	0.0-2.0	1-5
	31-60	2.9-11	8.5-9.6	70-95	0-1	2.0-4.0	13-30
Badland-----	---	---	---	---	---	---	---
Pahrump-----	0-2	1.9-9.0	7.9-9.0	25-35	0	0.0-2.0	0-5
	2-6	1.6-5.6	7.9-9.0	30-45	0	0.0-2.0	0-5
	6-46	3.6-12	7.9-9.6	25-60	0	2.0-8.0	5-12
	46-60	1.1-9.0	8.5-9.6	15-25	0	4.0-16.0	13-30
723:							
Corncreek-----	0-1	2.4-11	7.9-9.0	30-60	0	0.0-2.0	1-5
	1-4	2.4-11	7.9-9.0	30-60	0	0.0-2.0	1-5
	4-31	2.4-11	8.5-9.0	45-75	0	0.0-2.0	1-5
	31-60	2.9-11	8.5-9.6	70-95	0-1	2.0-4.0	13-30
Haymont, dry-----	0-2	6.2-15	7.9-8.4	15-35	0	8.0-16.0	13-45
	2-13	4.1-15	8.5-9.5	15-35	0	8.0-16.0	13-45
	13-29	4.1-15	8.5-9.5	15-35	0-2	16.0-32.0	13-45
	29-60	4.1-15	8.5-9.5	15-35	0-2	16.0-32.0	13-45
725:							
Mackscanyon-----	0-6	6.7-15	7.9-8.4	15-25	0	0	0
	6-60	4.7-12	7.9-8.4	25-55	0	0	0
Purob-----	0-3	3.0-9.2	7.9-8.4	15-25	0	0.0-2.0	0-5
	3-8	3.1-12	7.9-8.4	10-25	0	0.0-2.0	0-5
	8-19	1.8-11	7.9-8.4	30-80	0	0.0-2.0	1-5
	19-60	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
731:							
Purob-----	0-3	3.0-9.2	7.9-8.4	15-25	0	0.0-2.0	0-5
	3-8	3.1-12	7.9-8.4	10-25	0	0.0-2.0	0-5
	8-19	1.8-11	7.9-8.4	30-80	0	0.0-2.0	1-5
	19-60	---	---	---	---	---	---
Irongold-----	0-1	6.2-13	7.9-8.4	15-30	0	0.0-2.0	0-5
	1-7	6.2-13	7.9-8.4	15-30	0	0.0-2.0	0-5
	7-11	6.2-13	7.9-8.4	20-40	0	0.0-2.0	0-5
	11-34	---	---	---	---	---	---
	34-60	1.8-7.1	8.5-9.0	50-70	0	0	0-5
732:							
Purob-----	0-3	3.0-9.2	7.9-8.4	15-25	0	0.0-2.0	0-5
	3-8	3.1-12	7.9-8.4	10-25	0	0.0-2.0	0-5
	8-19	1.8-11	7.9-8.4	30-80	0	0.0-2.0	1-5
	19-60	---	---	---	---	---	---
733:							
Purob-----	0-3	3.0-9.2	7.9-8.4	15-25	0	0.0-2.0	0-5
	3-8	3.1-12	7.9-8.4	10-25	0	0.0-2.0	0-5
	8-19	1.8-11	7.9-8.4	30-80	0	0.0-2.0	1-5
	19-60	---	---	---	---	---	---
734:							
Purob-----	0-3	7.6-17	7.9-9.0	10-30	0	0.0-4.0	0-5
	3-19	11-17	7.9-9.0	40-60	0	0.0-4.0	0-5
	19-26	---	---	---	---	---	---
Niavi-----	0-2	6.7-12	7.9-8.4	1-3	0	0.0-2.0	0-5
	2-8	6.6-12	7.9-8.4	1-3	0	0.0-2.0	0-5
	8-29	2.8-6.8	7.9-8.4	3-12	0	0.0-2.0	0-5
	29-60	2.6-6.6	7.9-8.4	5-12	0	0.0-4.0	0-12
740:							
Varwash, moderately sloping-----	0-5	5.8-13	7.9-9.0	5-10	0	0.0-2.0	0-5
	5-13	4.0-11	7.9-8.4	15-25	0	0.0-2.0	0-5
	13-60	1.9-6.7	7.9-8.4	15-25	0-5	0.0-2.0	0-5
Varwash-----	0-4	5.2-13	7.9-8.4	5-10	0	0.0-2.0	0-5
	4-13	4.0-11	7.9-8.4	15-25	0	0.0-2.0	0-5
	13-60	1.9-6.7	7.9-8.4	15-25	0-5	0.0-2.0	0-5
741:							
Varwash, moderately sloping-----	0-5	5.8-13	7.9-9.0	5-10	0	0.0-2.0	0-5
	5-13	4.0-11	7.9-8.4	15-25	0	0.0-2.0	0-5
	13-60	1.9-6.7	7.9-8.4	15-25	0-5	0.0-2.0	0-5
Varwash-----	0-4	5.2-13	7.9-8.4	5-10	0	0.0-2.0	0-5
	4-13	4.0-11	7.9-8.4	15-25	0	0.0-2.0	0-5
	13-60	1.9-6.7	7.9-8.4	15-25	0-5	0.0-2.0	0-5
Carrizo-----	0-7	1.9-6.8	6.1-7.3	0	0	0.0-2.0	0-5
	7-60	0.0-6.1	7.9-8.4	0-10	0	0.0-4.0	1-5
750:							
Haleburu-----	0-3	7.3-16	6.6-9.0	0	0	0	0
	3-11	4.8-15	7.9-9.0	0-10	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Crosgrain-----	0-3	7.6-15	7.9-9.0	5-15	0	0.0-2.0	0
	3-11	7.6-16	7.9-9.0	5-15	0	0.0-2.0	0-5
	11-24	---	---	---	---	---	---
	24-60	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
751:							
Nipton-----	0-2	6.2-12	7.4-8.4	0	0	0	0
	2-12	6.2-15	7.4-8.4	0	0	0	0
	12-22	---	---	---	---	---	---
Nolena, moist-----	0-2	6.2-12	7.4-8.4	0	0	0	0
	2-5	6.2-15	7.4-8.4	1-3	0	0	0
	5-11	---	---	---	---	---	---
	11-21	---	---	---	---	---	---
752:							
Nipton-----	0-1	6.2-15	7.4-8.4	0	0	0	0
	1-5	6.2-15	7.4-8.4	0	0	0	0
	5-15	---	---	---	---	---	---
Newera, steep-----	0-2	4.8-13	7.4-8.4	0	0	0	0
	2-6	13-27	7.4-8.4	0	0	0	0
	6-16	---	---	---	---	---	---
753:							
Nipton-----	0-2	6.2-12	7.4-8.4	0	0	0	0
	2-12	6.2-15	7.4-8.4	0	0	0	0
	12-22	---	---	---	---	---	---
Hiddensun-----	0-3	4.8-10	7.9-8.4	5-10	0	0.0-2.0	0-5
	3-15	4.8-10	7.9-9.0	15-30	0	0.0-2.0	0-5
	15-25	---	---	---	---	---	---
Haleburu-----	0-2	4.8-10	7.9-9.0	0-5	0	0.0-2.0	0-5
	2-11	4.8-15	7.9-9.0	0-10	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---
754:							
Haleburu-----	0-2	7.2-13	6.1-9.0	0	0	0	0
	2-11	4.8-15	7.9-9.0	0-10	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---
Hiddensun-----	0-3	4.8-10	7.9-8.4	5-10	0	0.0-2.0	0-5
	3-15	4.8-10	7.9-9.0	15-30	0	0.0-2.0	0-5
	15-25	---	---	---	---	---	---
760:							
Searchlight-----	0-2	4.1-10	7.9-9.0	5-10	0	0.0-2.0	0-5
	2-12	2.6-9.9	7.9-9.0	5-10	0	0.0-2.0	0-5
	12-17	8.9-14	7.9-9.0	5-10	0	0.0-2.0	0-5
	17-33	8.9-14	7.9-9.0	5-10	0	0.0-2.0	0-5
	33-60	1.8-8.4	7.9-9.0	5-10	0	0.0-2.0	0-5
772:							
Lamadre-----	0-4	7.5-14	6.6-7.3	0	0	0	0
	4-8	7.3-14	7.4-7.8	0-5	0	0	0
	8-39	6.8-14	7.9-8.4	2-10	0	0.0-2.0	0
	39-60	6.2-13	7.9-8.4	2-10	0	0	0

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Robbersfire-----	0-1	50-65	---	0	0	0	0
	1-2	11-22	7.4-7.8	0-5	0	0.0-2.0	0
	2-14	16-28	7.4-8.4	0-10	0	0.0-2.0	0
	14-56	4.2-14	7.9-8.4	50-90	0	0.0-2.0	0
	56-66	---	---	---	---	---	---
775:							
Ladyofsnow-----	0-0	42-65	---	0	0	0	0
	0-7	8.1-19	7.4-7.8	0-10	0	0.0-2.0	0
	7-11	7.9-22	7.9-8.4	40-75	0	0.0-2.0	0
	11-36	3.2-11	7.9-8.4	50-85	0	0.0-2.0	0
	36-59	2.5-4.6	7.9-8.4	50-85	0	0.0-2.0	0
Robbersfire-----	0-1	50-65	---	0	0	0	0
	1-2	11-22	7.4-7.8	0-5	0	0.0-2.0	0
	2-10	16-28	7.4-8.4	0-10	0	0.0-2.0	0
	10-41	2.7-14	7.9-8.4	50-90	0	0.0-2.0	0
	41-51	---	---	---	---	---	---
Maryjane-----	0-1	65-81	6.1-6.5	0	0	0	0
	1-4	17-31	7.4-7.8	5-20	0	0	0
	4-13	9.5-21	7.4-8.4	60-100	0	0	0
	13-35	3.8-9.8	7.9-8.4	60-100	0	0	0
	35-60	2.5-5.3	7.9-8.4	60-100	0	0	0
780:							
Prisonear-----	0-3	1.0-6.7	8.5-9.0	10-25	0	0.0-2.0	0-5
	3-9	1.0-6.7	8.5-9.0	10-25	0	0.0-2.0	0-5
	9-31	1.9-6.7	8.5-9.0	10-25	0	0.0-4.0	0-5
	31-35	1.9-6.7	8.5-9.0	20-35	0	0.0-4.0	1-5
	35-60	---	---	---	---	---	---
781:							
Prisonear-----	0-3	1.0-6.7	8.5-9.0	10-25	0	0.0-2.0	0-5
	3-9	1.0-6.7	8.5-9.0	10-25	0	0.0-2.0	0-5
	9-31	1.9-6.7	8.5-9.0	10-25	0	0.0-4.0	0-5
	31-35	1.9-6.7	8.5-9.0	20-35	0	0.0-4.0	1-5
	35-60	---	---	---	---	---	---
Bluepoint-----	0-14	1.4-4.7	7.4-9.0	0-5	0-2	0.0-2.0	1-5
	14-60	1.4-4.7	7.4-9.0	0-5	0-2	0.0-4.0	1-12
790:							
McClanahan-----	0-2	12-22	6.6-7.3	0	0	0.0-2.0	0-5
	2-11	13-23	6.6-7.3	0	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---
Beerbo-----	0-3	7.3-16	6.6-7.3	0	0	0	0
	3-11	15-22	6.6-7.3	0	0	0	0
	11-18	---	---	---	---	---	---
	18-28	---	---	---	---	---	---
801:							
Nippeno-----	0-2	8.6-17	7.4-7.8	0	0	0	0
	2-6	16-27	7.4-8.4	0	0	0	0
	6-15	---	---	---	---	---	---
	15-25	---	---	---	---	---	---
Newera, steep-----	0-2	4.8-13	7.4-8.4	0	0	0	0
	2-6	13-27	7.4-8.4	0	0	0	0
	6-16	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
805:							
Buckspring-----	0-2	7.3-13	6.6-7.8	0-5	0	0	0
	2-10	7.3-13	6.6-7.8	0-5	0	0	0
	10-17	12-20	6.6-7.8	0-5	0	0	0
	17-27	---	---	---	---	---	---
Fletcherpeak-----	0-1	6.4-13	7.4-8.4	0-2	0	0	0
	1-6	12-21	7.4-8.4	1-5	0	0	0
	6-13	12-21	7.4-8.4	1-5	0	0	0
	13-23	---	---	---	---	---	---
Seralin-----	0-2	8.8-16	7.9-8.4	0	0	0.0-4.0	1-5
	2-14	8.6-15	7.9-8.4	0-10	0	0.0-4.0	1-5
	14-24	---	---	---	---	---	---
806:							
Buckspring-----	0-2	7.3-13	6.6-7.8	0-5	0	0	0
	2-10	7.3-13	6.6-7.8	0-5	0	0	0
	10-17	12-20	6.6-7.8	0-5	0	0	0
	17-27	---	---	---	---	---	---
Scrapy-----	0-1	3.8-11	7.9-8.4	20-40	0-2	0.0-2.0	0-5
	1-12	1.6-9.5	7.9-9.0	20-40	0-1	0.0-2.0	0-5
	12-22	---	---	---	---	---	---
810:							
Straycow-----	0-3	10-20	6.6-7.8	0	0	0.0-4.0	0
	3-19	19-27	6.6-7.3	0	0	0	0-5
	19-29	---	---	---	---	---	---
Newera-----	0-3	10-20	6.6-7.8	0	0	0.0-4.0	0
	3-12	13-27	7.4-8.4	0	0	0	0
	12-22	---	---	---	---	---	---
Rubble land-----	0-60	---	---	0	0	0	0
815:							
Wheelerwell-----	0-2	7.3-13	6.6-7.8	0-1	0	0.0-2.0	0
	2-6	13-22	6.6-7.8	0-1	0	0.0-2.0	0
	6-27	15-27	6.1-7.8	0-1	0	0.0-2.0	0
	27-37	---	---	---	---	---	---
Wheelerpass-----	0-1	6.4-12	6.1-7.3	0	0	0	0
	1-11	12-21	6.1-7.3	0	0	0	0
	11-21	---	---	---	---	---	---
820:							
Newera-----	0-2	4.8-12	7.9-8.4	0	0	0.0-2.0	0-5
	2-6	13-27	7.4-8.4	0	0	0	0
	6-16	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
821:							
Helkitchen-----	0-3	2.4-11	7.9-9.0	25-40	0	0.0-2.0	0-2
	3-7	1.6-9.5	7.9-8.4	30-45	0	2.0-4.0	0-2
	7-12	1.6-11	7.9-8.4	40-80	0	2.0-4.0	0-2
	12-22	---	---	---	---	---	---
St. Thomas-----	0-2	1.9-9.5	7.9-9.0	25-40	0	0.0-2.0	0-5
	2-14	1.9-11	7.9-9.0	30-60	0	0.0-2.0	0-5
	14-24	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
830:							
Puelzmine-----	0-2	6.6-15	7.9-8.4	15-30	0	0.0-2.0	0-5
	2-17	7.6-15	7.9-9.0	15-40	0	0.0-2.0	0-5
	17-37	---	---	---	---	---	---
	37-47	---	---	---	---	---	---
833:							
Virgin Peak-----	0-7	7.3-16	6.6-7.3	0	0	0	0
	7-14	---	---	---	---	---	---
	14-24	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
840:							
Potosi-----	0-2	2.4-9.5	7.9-8.4	15-30	0	0.0-2.0	0-5
	2-11	2.4-9.5	7.9-8.4	15-30	0	0.0-2.0	0-5
	11-21	---	---	---	---	---	---
Zeheme-----	0-2	2.4-11	7.9-8.4	10-30	0	0.0-2.0	0-5
	2-9	2.4-11	7.9-8.4	20-40	0	0.0-2.0	0-5
	9-19	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
845:							
Leecanyon-----	0-2	6.7-13	7.9-8.4	40-70	0	0	0
	2-8	5.3-13	7.9-8.4	25-40	0	0	0
	8-18	5.6-11	7.9-9.0	30-70	0	0	0
	18-42	---	---	---	---	---	---
	42-55	1.5-6.3	7.9-8.4	30-60	0	0	0
Goodwater-----	0-2	4.2-11	7.9-8.4	40-70	0	0	0
	2-11	4.2-9.5	7.9-8.4	40-70	0	0	0
	11-14	---	---	---	---	---	---
850:							
Birdspring-----	0-1	1.9-7.9	7.9-8.4	15-25	0	0.0-2.0	0-5
	1-4	1.9-7.9	7.9-8.4	15-25	0	0.0-2.0	0-5
	4-14	---	---	---	---	---	---
Birdspring, moderately sloping--	0-3	2.4-9.5	7.9-8.4	15-25	0	0.0-2.0	0-5
	3-9	1.9-7.9	7.9-8.4	15-25	0	0.0-2.0	0-5
	9-19	---	---	---	---	---	---
851:							
Birdspring-----	0-3	2.4-9.5	7.9-8.4	15-25	0	0.0-2.0	0-5
	3-9	1.9-7.9	7.9-8.4	15-25	0	0.0-2.0	0-5
	9-19	---	---	---	---	---	---
Zeheme-----	0-4	2.4-11	7.9-8.4	15-30	0	0.0-2.0	0-2
	4-13	2.4-11	7.9-8.4	20-40	0	0.0-2.0	0-5
	13-23	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
852:							
Birdspring-----	0-1	1.9-7.9	7.9-8.4	15-25	0	0.0-2.0	0-5
	1-4	1.9-7.9	7.9-8.4	15-25	0	0.0-2.0	0-5
	4-14	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Rock outcrop-----	---	---	---	---	---	---	---
853:							
Birdspring-----	0-1	1.9-7.9	7.9-8.4	15-25	0	0.0-2.0	0-5
	1-4	1.9-7.9	7.9-8.4	15-25	0	0.0-2.0	0-5
	4-14	---	---	---	---	---	---
St. Thomas-----	0-2	1.9-9.5	7.9-9.0	25-40	0	0.0-2.0	0-5
	2-14	1.9-11	7.9-9.0	30-60	0	0.0-2.0	0-5
	14-24	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
854:							
Birdspring-----	0-1	1.9-7.9	7.9-8.4	15-25	0	0.0-2.0	0-5
	1-4	1.9-7.9	7.9-8.4	15-25	0	0.0-2.0	0-5
	4-14	---	---	---	---	---	---
Birdspring, dry-----	0-1	1.9-7.9	7.9-8.4	15-25	0	0.0-2.0	0-5
	1-4	1.9-7.9	7.9-8.4	15-25	0	0.0-2.0	0-5
	4-14	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---
860:							
Straycow-----	0-2	8.9-16	6.6-7.3	0	0	0	0-5
	2-7	19-27	6.6-7.3	0	0	0	0-5
	7-20	---	---	---	---	---	---
Highland-----	0-3	6.2-13	7.4-7.8	0-2	0	0.0-2.0	0-5
	3-13	13-21	7.4-8.4	1-5	0	0.0-2.0	0-5
	13-26	13-27	7.9-8.4	1-5	0	0.0-2.0	0-5
	26-30	4.8-10	7.9-8.4	1-10	0	0.0-2.0	0-5
	30-40	---	---	---	---	---	---
Straycow, moderately sloping-----	0-2	10-20	7.4-7.8	0	0	0	0
	2-19	19-27	6.6-7.3	0	0	0	0-5
	19-29	---	---	---	---	---	---
865:							
Mackscanyon-----	0-6	6.7-15	7.9-8.4	15-25	0	0	0
	6-60	4.7-12	7.9-8.4	25-55	0	0	0
866:							
Goodwater-----	0-2	4.2-11	7.9-8.4	40-70	0	0	0
	2-11	4.2-9.5	7.9-8.4	40-70	0	0	0
	11-14	---	---	---	---	---	---
Doespring-----	0-2	6.0-15	7.9-8.4	30-50	0	0.0-2.0	0-5
	2-7	6.0-15	7.9-8.4	30-50	0	0.0-2.0	0-5
	7-18	6.0-13	7.9-8.4	40-60	0	0.0-2.0	0-5
	18-26	---	---	---	---	---	---
	26-36	---	---	---	---	---	---
867:							
Goodwater-----	0-2	4.2-11	7.9-8.4	40-70	0	0	0
	2-11	4.2-9.5	7.9-8.4	40-70	0	0	0
	11-14	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
868:							
Mackscanyon-----	0-6	6.7-15	7.9-8.4	15-25	0	0	0
	6-60	4.7-12	7.9-8.4	25-55	0	0	0
Goodwater-----	0-2	4.2-11	7.9-8.4	40-70	0	0	0
	2-11	4.2-9.5	7.9-8.4	40-70	0	0	0
	11-14	---	---	---	---	---	---
870:							
Irongold-----	0-1	6.2-13	7.9-8.4	15-30	0	0.0-2.0	0-5
	1-7	6.2-13	7.9-8.4	15-30	0	0.0-2.0	0-5
	7-11	6.2-13	7.9-8.4	20-40	0	0.0-2.0	0-5
	11-34	---	---	---	---	---	---
	34-60	1.8-7.1	8.5-9.0	50-70	0	0	0-5
871:							
Irongold-----	0-1	6.2-13	7.9-8.4	15-30	0	0.0-2.0	0-5
	1-7	6.2-13	7.9-8.4	15-30	0	0.0-2.0	0-5
	7-11	6.2-13	7.9-8.4	20-40	0	0.0-2.0	0-5
	11-34	---	---	---	---	---	---
	34-60	1.8-7.1	8.5-9.0	50-70	0	0	0-5
Irongold, moderately sloping-----	0-1	6.2-13	7.9-8.4	15-30	0	0.0-2.0	0-5
	1-7	6.2-13	7.9-8.4	15-30	0	0.0-2.0	0-5
	7-11	6.2-13	7.9-8.4	20-40	0	0.0-2.0	0-5
	11-34	---	---	---	---	---	---
	34-60	1.8-7.1	8.5-9.0	50-70	0	0	0-5
Weiser-----	0-6	3.8-11	7.9-8.4	10-20	0	0.0-2.0	0-5
	6-60	1.6-9.5	7.9-9.0	20-40	0	0.0-2.0	0-5
872:							
Irongold-----	0-1	6.2-13	7.9-8.4	15-30	0	0.0-2.0	0-5
	1-7	6.2-13	7.9-8.4	15-30	0	0.0-2.0	0-5
	7-11	6.2-13	7.9-8.4	20-40	0	0.0-2.0	0-5
	11-34	---	---	---	---	---	---
	34-60	1.8-7.1	8.5-9.0	50-70	0	0	0-5
Wechech-----	0-4	2.4-10	7.9-8.4	5-25	0	0.0-2.0	0-1
	4-7	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	7-13	2.4-11	8.5-9.0	30-50	0	0.0-4.0	1-5
	13-60	---	---	---	---	---	---
875:							
Kylecanyon-----	0-4	6.7-13	7.9-8.4	5-15	0	0.0-2.0	0
	4-12	6.7-13	7.9-8.4	5-15	0	0.0-2.0	0
	12-24	4.4-8.8	7.9-8.4	30-50	0	0.0-2.0	0
	24-26	---	---	---	---	---	---
	26-59	---	---	---	---	---	---
Goodwater-----	0-2	4.2-11	7.9-8.4	40-70	0	0	0
	2-11	4.2-9.5	7.9-8.4	40-70	0	0	0
	11-14	---	---	---	---	---	---
880:							
Nonamewash-----	0-8	3.1-7.4	7.9-8.4	1-5	0	2.0-4.0	5-12
	8-60	3.1-7.4	7.9-9.0	1-5	0-1	2.0-4.0	5-12
Rositas-----	0-5	0.0-4.0	7.9-8.4	0-2	0	0.0-2.0	0
	5-60	0.0-4.0	7.9-8.4	1-5	0	0.0-2.0	0-5

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
885:							
Luckystrike-----	0-3	9.1-18	6.6-7.3	0-5	0	0	0
	3-8	17-25	6.6-7.3	0-5	0	0	0
	8-19	16-24	7.9-8.4	0-5	0	0	0
	19-30	8.6-17	7.9-8.4	20-40	0	0	0
	30-60	8.6-17	7.9-8.4	20-40	0	0	0
890:							
Ripley-----	0-6	7.6-16	7.9-9.0	3-10	0-1	8.0-16.0	5-12
	6-34	4.1-15	7.9-9.0	5-10	0-1	8.0-16.0	5-12
	34-60	1.8-8.6	7.9-8.4	1-5	0	2.0-8.0	1-12
Holtville-----	0-5	6.2-17	7.4-9.0	10-15	0-2	2.0-8.0	5-10
	5-23	27-41	7.4-8.4	2-10	0-2	2.0-12.0	4-20
	23-31	27-41	7.4-8.4	2-10	0-2	2.0-12.0	4-20
	31-42	3.4-13	7.4-8.4	2-10	0-2	2.0-12.0	4-20
	42-60	0.0-7.8	7.4-8.4	2-10	0-2	2.0-12.0	4-20
900:							
Urban land-----	---	---	---	---	---	---	---
Huevi-----	0-5	5.3-12	7.9-8.4	1-10	0	0.0-2.0	0-2
	5-18	6.2-15	7.9-9.0	10-30	0	0.0-2.0	0-5
	18-60	6.2-15	7.9-9.0	5-25	0	0.0-2.0	0-5
Riverbend-----	0-3	5.1-9.6	6.6-7.3	0	0	0.0-2.0	0-1
	3-10	1.9-8.1	7.9-8.4	0-5	0	0.0-2.0	0-1
	10-19	0.0-8.1	7.9-8.4	10-20	0	0.0-2.0	0-1
	19-31	0.0-9.4	7.9-8.4	10-20	0	0.0-2.0	0-1
	31-60	1.9-8.1	7.9-8.4	5-10	0	0.0-2.0	0-1
905:							
Mountmummy-----	0-2	11-19	7.4-7.8	20-40	0	0.5-1.0	0
	2-12	8.0-17	7.4-8.4	40-80	0	0.5-1.0	0
	12-24	5.4-10	7.4-8.4	40-80	0	0.5-1.0	0
	24-34	---	---	---	---	---	---
Thesisters-----	0-1	11-20	7.4-8.4	10-30	0	0	0
	1-6	9.4-16	7.4-8.4	60-80	0	0	0
	6-16	---	---	---	---	---	---
Maryjane-----	0-1	65-81	6.1-6.5	0	0	0	0
	1-4	17-31	7.4-7.8	5-20	0	0	0
	4-13	9.5-21	7.4-8.4	60-100	0	0	0
	13-35	3.8-9.8	7.9-8.4	60-100	0	0	0
	35-60	2.5-5.3	7.9-8.4	60-100	0	0	0
910:							
Carrwash-----	0-3	1.4-6.1	7.9-8.4	0-5	0	0.0-2.0	0-2
	3-8	1.4-6.1	7.9-9.0	0-5	0	0.0-2.0	0-2
	8-60	0.0-4.0	7.9-9.0	0-5	0	0.0-2.0	0-2
Riverbend, rarely flooded-----	0-3	5.1-9.6	7.9-8.4	0-5	0	0.0-2.0	0-1
	3-10	1.9-8.1	7.9-8.4	0-5	0	0.0-2.0	0-1
	10-60	0.0-8.1	7.9-8.4	5-20	0	0.0-2.0	0-1
911:							
Carrwash-----	0-3	1.4-6.1	7.9-8.4	0-5	0	0.0-2.0	0-2
	3-8	1.4-6.1	7.9-9.0	0-5	0	0.0-2.0	0-2
	8-60	0.0-4.0	7.9-9.0	0-5	0	0.0-2.0	0-2

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
Carrwash, steep-----	0-3	1.4-6.1	7.9-8.4	0-5	0	0.0-2.0	0-2
	3-8	1.4-6.1	7.9-9.0	0-5	0	0.0-2.0	0-2
	8-60	0.0-4.0	7.9-9.0	0-5	0	0.0-2.0	0-2
915:							
Maryjane-----	0-1	65-81	6.1-6.5	0	0	0	0
	1-4	17-31	7.4-7.8	5-20	0	0	0
	4-13	9.5-21	7.4-8.4	60-100	0	0	0
	13-35	3.8-9.8	7.9-8.4	60-100	0	0	0
	35-60	2.5-5.3	7.9-8.4	60-100	0	0	0
Robbersfire-----	0-1	50-65	---	0	0	0	0
	1-2	11-22	7.4-7.8	0-5	0	0.0-2.0	0
	2-10	16-28	7.4-8.4	0-10	0	0.0-2.0	0
	10-41	2.7-14	7.9-8.4	50-90	0	0.0-2.0	0
	41-51	---	---	---	---	---	---
Kitgram-----	0-2	7.2-20	7.4-7.8	0-5	0	0	0
	2-23	5.3-17	7.9-8.4	30-70	0	0	0
	23-33	---	---	---	---	---	---
916:							
Maryjane-----	0-1	65-81	6.1-6.5	0	0	0	0
	1-4	17-31	7.4-7.8	5-20	0	0	0
	4-13	9.5-21	7.4-8.4	60-100	0	0	0
	13-35	3.8-9.8	7.9-8.4	60-100	0	0	0
	35-60	2.5-5.3	7.9-8.4	60-100	0	0	0
920:							
Tanazza-----	0-2	4.0-10	7.9-9.0	15-30	0-1	0.0-4.0	0-5
	2-4	5.2-10	7.9-9.0	30-60	0-1	0.0-4.0	0-5
	4-15	8.7-13	7.9-9.0	40-80	0-1	0.0-4.0	0-5
	15-31	14-17	7.9-9.0	40-80	5-40	0.0-4.0	0-5
	31-37	---	7.9-9.0	5-20	40-80	0.0-4.0	0-5
	37-45	14-17	7.9-9.0	40-80	10-40	0.0-4.0	0-5
	45-60	---	7.9-9.0	5-20	40-80	0.0-4.0	0-5
Wechech-----	0-2	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	2-7	2.4-11	8.5-9.0	20-30	0	0.0-4.0	1-5
	7-13	2.4-11	8.5-9.0	30-50	0	0.0-4.0	1-5
	13-60	---	---	---	---	---	---
Wodavar-----	0-3	2.2-8.4	7.9-8.4	15-25	0	0.0-4.0	1-5
	3-16	2.2-8.4	9.1-9.6	25-40	0-2	0.0-4.0	1-12
	16-33	---	---	---	---	---	---
	33-60	2.4-9.0	8.5-9.0	40-60	0-2	0.0-4.0	1-5
925:							
Lastone-----	0-2	6.5-13	7.4-8.4	0	0	0	0
	2-9	8.9-17	7.4-8.4	0-1	0	0.0-1.0	0
	9-14	---	---	---	---	---	---
	14-24	---	---	---	---	---	---
Lastone, steep-----	0-2	6.5-13	7.4-8.4	0	0	0	0
	2-9	8.9-17	7.4-8.4	0-1	0	0.0-1.0	0
	9-14	---	---	---	---	---	---
	14-24	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
930:							
Cololag-----	0-3	7.6-15	7.9-9.0	5-10	0	2.0-4.0	0-2
	3-14	1.8-10	7.9-9.0	10-20	0	2.0-4.0	0-2
	14-24	7.6-15	7.9-9.0	5-10	0	2.0-4.0	0-2
	24-31	6.2-15	7.9-9.0	15-25	0	2.0-4.0	0-2
	31-65	6.2-12	7.9-9.0	15-25	0	2.0-4.0	0-2
Badland-----	---	---	---	---	---	---	---
940:							
Mesabase-----	0-1	4.6-11	7.9-9.0	1-3	0	0.0-2.0	0-1
	1-5	4.6-11	7.9-9.0	2-4	0	0.0-2.0	0-1
	5-11	2.6-6.7	7.9-9.0	2-4	0	2.0-4.0	0-5
	11-38	2.6-6.7	7.9-9.0	5-20	0	2.0-4.0	0-5
	38-48	---	---	---	---	---	---
Azsand-----	0-8	1.9-5.3	7.9-9.0	1-5	0	0.0-2.0	0-3
	8-14	2.6-4.6	7.9-9.0	2-5	0	0.0-2.0	1-3
	14-36	4.0-6.7	7.9-9.0	10-15	0	2.0-4.0	0-5
	36-62	4.0-6.7	7.9-9.0	10-15	0	2.0-4.0	0-5
941:							
Mesabase-----	0-1	4.6-11	7.9-9.0	1-3	0	0.0-2.0	0-1
	1-5	4.6-11	7.9-9.0	2-4	0	0.0-2.0	0-1
	5-11	2.6-6.7	7.9-9.0	2-4	0	2.0-4.0	0-5
	11-38	2.6-6.7	7.9-9.0	5-20	0	2.0-4.0	0-5
	38-48	---	---	---	---	---	---
950:							
Drygyp-----	0-2	1.9-5.3	7.9-8.4	0-3	0	0.0-2.0	0-3
	2-7	---	7.4-7.8	1-5	40-90	1.0-3.0	0-2
	7-13	---	---	1-5	40-90	---	---
	13-65	---	---	1-5	40-90	---	---
Drygyp, gravelly surface-----	0-2	4.6-9.1	7.4-8.4	1-15	15-25	0.0-2.0	0-2
	2-7	---	7.4-7.8	1-5	40-90	1.0-3.0	0-2
	7-13	---	---	1-5	40-90	---	---
	13-65	---	---	1-5	40-90	---	---
951:							
Drygyp, gravelly surface-----	0-2	4.6-9.1	7.4-8.4	1-15	15-25	0.0-2.0	0-2
	2-7	---	7.4-7.8	1-5	40-90	1.0-3.0	0-2
	7-13	---	---	1-5	40-90	---	---
	13-65	---	---	1-5	40-90	---	---
Guardian, calcareous surface-----	0-2	4.6-9.4	7.4-8.4	0-10	40-80	0.0-2.0	0-2
	2-4	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	4-19	---	7.4-8.4	0	40-60	2.0-4.0	0-1
	19-29	---	---	---	---	---	---
Baseline-----	0-3	2.4-7.9	7.9-9.0	10-20	0	2.0-4.0	0-1
	3-9	2.4-7.9	7.9-9.0	20-35	0-1	4.0-8.0	0-5
	9-22	2.4-9.5	7.9-9.0	30-45	0-1	4.0-8.0	5-10
	22-32	---	---	---	---	---	---

TABLE 15.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
952: Drygyp-----	0-2	5.8-13	7.4-8.4	1-5	15-25	2.0-4.0	0-1
	2-7	---	7.4-7.8	1-5	40-90	1.0-3.0	0-2
	7-13	---	---	1-5	40-90	---	---
	13-65	---	---	1-5	40-90	---	---
955: Drygyp, gravelly surface-----	0-2	4.6-9.1	7.4-8.4	1-15	15-25	0.0-2.0	0-2
	2-7	---	7.4-7.8	1-5	40-90	1.0-3.0	0-2
	7-13	---	---	1-5	40-90	---	---
	13-65	---	---	1-5	40-90	---	---
Bluegyp-----	0-2	---	7.8-8.4	0-1	40-60	2.0-4.0	1-5
	2-11	---	7.8-8.4	0-1	40-60	2.0-4.0	1-5
	11-43	---	7.9-8.4	0-1	40-60	4.0-8.0	5-13
	43-53	---	---	---	---	---	---
965: Azsand-----	0-8	1.9-5.3	7.9-9.0	1-5	0	0.0-2.0	0-3
	8-14	2.6-4.6	7.9-9.0	2-5	0	0.0-2.0	1-3
	14-36	4.0-6.7	7.9-9.0	10-15	0	2.0-4.0	0-5
	36-62	4.0-6.7	7.9-9.0	10-15	0	2.0-4.0	0-5
Mesabase-----	0-1	4.6-11	7.9-9.0	1-3	0	0.0-2.0	0-1
	1-5	4.6-11	7.9-9.0	2-4	0	0.0-2.0	0-1
	5-11	2.6-6.7	7.9-9.0	2-4	0	2.0-4.0	0-5
	11-38	2.6-6.7	7.9-9.0	5-20	0	2.0-4.0	0-5
	38-48	---	---	---	---	---	---
Rositas, gravelly surface-----	0-5	0.0-4.0	7.9-8.4	0-2	0	0.0-2.0	0-5
	5-60	0.0-4.0	7.9-8.4	1-5	0	0.0-2.0	0-5
970: Rubble land-----	---	---	---	---	---	---	---
Charpeak-----	0-2	6.9-12	7.9-8.4	5-15	0	0.0-2.0	0
	2-8	6.9-12	7.9-8.4	10-25	0	0.0-2.0	0
	8-29	6.9-12	7.9-8.4	10-25	0	0.0-2.0	0
	29-39	---	---	---	---	---	---
Rock outcrop, limestone-----	---	---	---	---	---	---	---
980: Orrubo-----	0-2	4.5-11	7.9-8.4	40-60	0	0.0-2.0	0-13
	2-7	4.5-8.8	7.9-8.4	35-60	0	0.0-2.0	0-13
	7-13	4.5-8.8	7.9-8.4	40-60	0	0.0-2.0	0-13
	13-19	---	---	---	---	---	---
	19-60	---	---	---	---	---	---
981: Torriorthents-----	0-3	6.5-10	7.9-8.4	0-5	0	0.0-2.0	0-13
	3-14	6.5-10	7.9-9.0	5-30	0-15	0.0-10.0	0-13
	14-25	22-29	7.9-9.0	5-30	0-15	6.0-14.0	0-13
	25-66	22-29	7.9-9.0	5-30	0-15	6.0-20.0	0-13
Haplocalcids-----	0-2	7.6-9.4	7.9-8.4	5-15	0	0.0-2.0	0-13
	2-21	7.6-11	7.9-9.0	15-25	0	0.0-2.0	0-13
	21-60	7.6-11	7.9-9.0	15-25	0	0.0-6.0	0-13



TABLE 16.--Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
100: Newera-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Newera, steep-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
101: Glencarb-----	C	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
105: Galehills-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
106: Galehills-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Zeheme-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
107: Galehills-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Calwash-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
110: Tenwell-----	C	Very high	January	---	---	---	---	None	Very brief	Rare
February			---	---	---	---	None	Very brief	Rare	
March			---	---	---	---	None	Very brief	Rare	
April			---	---	---	---	None	Very brief	Rare	
May			---	---	---	---	None	Extremely brief	Very rare	
June			---	---	---	---	None	Extremely brief	Very rare	
July			---	---	---	---	None	Very brief	Rare	
August			---	---	---	---	None	Very brief	Rare	
September			---	---	---	---	None	Very brief	Rare	
October			---	---	---	---	None	Very brief	Rare	
November			---	---	---	---	None	Very brief	Rare	
December			---	---	---	---	None	Very brief	Rare	
Crosgrain-----			D	Very high	January	---	---	---	---	None
February	---	---			---	---	None	---	None	
March	---	---			---	---	None	---	None	
April	---	---			---	---	None	---	None	
May	---	---			---	---	None	---	None	
June	---	---			---	---	None	---	None	
July	---	---			---	---	None	---	None	
August	---	---			---	---	None	---	None	
September	---	---			---	---	None	---	None	
October	---	---			---	---	None	---	None	
November	---	---			---	---	None	---	None	
December	---	---			---	---	None	---	None	
111: Tenwell-----	C	Very high			January	---	---	---	---	None
February			---	---	---	---	None	Very brief	Rare	
March			---	---	---	---	None	Very brief	Rare	
April			---	---	---	---	None	Very brief	Rare	
May			---	---	---	---	None	Extremely brief	Very rare	
June			---	---	---	---	None	Extremely brief	Very rare	
July			---	---	---	---	None	Very brief	Rare	
August			---	---	---	---	None	Very brief	Rare	
September			---	---	---	---	None	Very brief	Rare	
October			---	---	---	---	None	Very brief	Rare	
November			---	---	---	---	None	Very brief	Rare	
December			---	---	---	---	None	Very brief	Rare	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Shamock-----	B	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
112: Arizo-----	A	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Occasional
			July	---	---	---	---	None	Very brief	Occasional
			August	---	---	---	---	None	Very brief	Occasional
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
113: Arizo, gypsiferous substratum-----	A	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
115: Whitebasin-----	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Upperline-----	A	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Hardbasin-----	D	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
120: Crosgrain-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Tenwell-----	C	Very high	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
121: Sweetspring-----	C	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Carrizo-----	A	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Occasional
			August	---	---	---	---	None	Very brief	Occasional
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Rare
December	---	---	---	---	None	Very brief	Rare			
125: Bobzbulz-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Snapcan-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
134: Newera, steep-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nipton-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
135: Nippeno-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Mountmcull-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Newera-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
140: Haleburu-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
141: Nipton-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Haleburu-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
143: Haleburu-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Haleburu, dry-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
144: Haleburu-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Hiddensun-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
146: Haleburu-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nipton-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
147: Haleburu-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nipton-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
148: Haleburu-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Seanna-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
150: Hypoint-----	A	Very low								
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
151: Bluepoint-----	A	Negligible								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Arizo-----	A	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Frequent
			February	---	---	---	---	None	Very brief	Frequent
			March	---	---	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Frequent
			August	---	---	---	---	None	Very brief	Frequent
			September	---	---	---	---	None	Very brief	Frequent
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Frequent
December	---	---	---	---	None	Very brief	Frequent			
155: Bitteridge-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Helkitchen-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
160: Lanip-----	C	Medium	January	---	---	---	---	None	Very brief	Rare
February			---	---	---	---	None	Very brief	Rare	
March			---	---	---	---	None	Very brief	Rare	
April			---	---	---	---	None	Very brief	Rare	
May			---	---	---	---	None	Very brief	Very rare	
June			---	---	---	---	None	Very brief	Very rare	
July			---	---	---	---	None	Very brief	Rare	
August			---	---	---	---	None	Very brief	Rare	
September			---	---	---	---	None	Very brief	Rare	
October			---	---	---	---	None	Very brief	Rare	
November			---	---	---	---	None	Very brief	Rare	
December			---	---	---	---	None	Very brief	Rare	
Kidwell-----			C	Medium	January	---	---	---	---	None
February	---	---			---	---	None	Very brief	Occasional	
March	---	---			---	---	None	Very brief	Occasional	
April	---	---			---	---	None	Very brief	Occasional	
May	---	---			---	---	None	Very brief	Rare	
June	---	---			---	---	None	Very brief	Rare	
July	---	---			---	---	None	Very brief	Occasional	
August	---	---			---	---	None	Very brief	Occasional	
September	---	---			---	---	None	Very brief	Occasional	
October	---	---			---	---	None	Very brief	Occasional	
November	---	---			---	---	None	Very brief	Rare	
December	---	---			---	---	None	Very brief	Rare	
165: Upperline-----	A	Medium			January	---	---	---	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Weiser-----	B	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
December	---	---	---	---	None	Very brief	Very rare			
Whitebasin-----	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
167: Upperline-----	A	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
St. Thomas-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Upperline, dry-----	A	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
168: Upperline-----	A	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
170: Tenwell-----	C	Very high	January	---	---	---	---	None	Very brief	Rare
February			---	---	---	---	None	Very brief	Rare	
March			---	---	---	---	None	Very brief	Rare	
April			---	---	---	---	None	Very brief	Rare	
May			---	---	---	---	None	Extremely brief	Very rare	
June			---	---	---	---	None	Extremely brief	Very rare	
July			---	---	---	---	None	Very brief	Rare	
August			---	---	---	---	None	Very brief	Rare	
September			---	---	---	---	None	Very brief	Rare	
October			---	---	---	---	None	Very brief	Rare	
November			---	---	---	---	None	Very brief	Rare	
December			---	---	---	---	None	Very brief	Rare	
Lanip-----	C	Medium	January	---	---	---	---	None	Very brief	Rare
February			---	---	---	---	None	Very brief	Rare	
March			---	---	---	---	None	Very brief	Rare	
April			---	---	---	---	None	Very brief	Rare	
May			---	---	---	---	None	Very brief	Very rare	
June			---	---	---	---	None	Very brief	Very rare	
July			---	---	---	---	None	Very brief	Rare	
August			---	---	---	---	None	Very brief	Rare	
September			---	---	---	---	None	Very brief	Rare	
October			---	---	---	---	None	Very brief	Rare	
November			---	---	---	---	None	Very brief	Rare	
December			---	---	---	---	None	Very brief	Rare	
175: St. Thomas-----	D	Very high	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
St. Thomas, dry-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
176: St. Thomas-----	D	Very high	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
St. Thomas, dry-----			D	Very high	January	---	---	---	---	None
	February	---			---	---	---	None	---	None
	March	---			---	---	---	None	---	None
	April	---			---	---	---	None	---	None
	May	---			---	---	---	None	---	None
	June	---			---	---	---	None	---	None
	July	---			---	---	---	None	---	None
	August	---			---	---	---	None	---	None
	September	---			---	---	---	None	---	None
	October	---			---	---	---	None	---	None
	November	---			---	---	---	None	---	None
	December	---			---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
177: St. Thomas-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Upperline-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Whitebasin-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
178: St. Thomas-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Iceberg-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
180: Kidwell-----	C	Medium	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Occasional
			August	---	---	---	---	None	Very brief	Occasional
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Tenwell-----	C	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
185: Lastchance-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Lastchance, high elevation	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Commski-----	A	Medium		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
186: Lastchance-----	D	High	Jan-Dec	---	---	---	---	None	---	---
Ferrogold-----	D	High	Jan-Dec	---	---	---	---	None	---	---
Commski-----	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
190: Filaree-----	A	Very low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Lanip-----	C	Medium	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Nickel-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
191: Bluepoint-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Grapevine, overblown-----	A	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Grapevine-----	A	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
192: Bluepoint-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Bluepoint, hummocky-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
195: Cruzspring-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Schader-----	C	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Rock outcrop-----	---	---								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
200: Commski-----	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Weiser-----	B	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare
Threelakes-----	A	Low								
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Occasional
			August	---	---	---	---	None	Very brief	Occasional
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
201: Commski-----	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
202: Commski-----	A	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Lastchance-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
203: Commski-----	A	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Oldspan-----	B	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Lastchance-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
205: Callville-----	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Badland-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Guardian-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
207: Callville-----	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Callville, steep-----	C	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
210: Nickel-----	A	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Arizo-----	A	Low								
			January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
211: Nickel-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Crosgrain-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
220: Haymont-----	B	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Haymont, moist-----	B	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Bluepoint-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			221: Haymont, dry-----	B	Low	January	---	---	---	---
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Haymont-----	B	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
225: Baseline-----	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Callville-----	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Badland-----	D	---		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
226: Baseline-----	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
227: Baseline-----	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Gypwash-----	A	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
228: Baseline-----	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Guardian-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Baseline-----	C	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
230: Wechech-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Weiser-----	B	Low								
			January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
231: Wechech-----	D	Very high	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
232: Wechech-----			D	Very high	January	---	---	---	---	None
February	---	---			---	---	None	---	None	
March	---	---			---	---	None	---	None	
April	---	---			---	---	None	---	None	
May	---	---			---	---	None	---	None	
June	---	---			---	---	None	---	None	
July	---	---			---	---	None	---	None	
August	---	---			---	---	None	---	None	
September	---	---			---	---	None	---	None	
October	---	---			---	---	None	---	None	
November	---	---			---	---	None	---	None	
December	---	---			---	---	None	---	None	
Upperline-----	A	Medium			January	---	---	---	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
233: Ifteen, overblown-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Wechech-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
234: Wechech-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
235: Gypwash-----	A	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Callville-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Carrizo-----	A	Very low	January	---	---	---	---	None	Very brief	Frequent
			February	---	---	---	---	None	Very brief	Frequent
			March	---	---	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Frequent
			August	---	---	---	---	None	Very brief	Frequent
			September	---	---	---	---	None	Very brief	Frequent
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Frequent
			December	---	---	---	---	None	Very brief	Frequent

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
237: Wechech, moist-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Wechech-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
240: Crosgrain-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Irongold-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nickel-----	A	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
241: Crosgrain-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Typic Torriorthents-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nickel-----	A	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
250: Mormon Mesa-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Naye-----	C	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
255: Tumarion-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nipton-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rock outcrop, Basalt-----	---	---		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
260: Naye-----	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Bitter Spring-----	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
261: Vace-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Jean-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
265: Azureridge-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
270: Bard-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nickel-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Limewash-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
271: Moapa-----	A	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Bluepoint-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
272: Moapa-----	A	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Bluepoint-----	A	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
285: Heleweiser, rarely flooded	A	Very low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
			Carrizo-----	A	Very low	January	---	---	---	---
February	---	---				---	---	None	Very brief	Rare
March	---	---				---	---	None	Very brief	Rare
April	---	---				---	---	None	Very brief	Rare
May	---	---				---	---	None	Very brief	Very rare
June	---	---				---	---	None	Very brief	Very rare
July	---	---				---	---	None	Very brief	Rare
August	---	---				---	---	None	Very brief	Rare
September	---	---				---	---	None	Very brief	Rare
October	---	---				---	---	None	Very brief	Rare
November	---	---				---	---	None	Very brief	Rare
December	---	---				---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Teebar-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			286: Heleweiser-----	A	Low	January	---	---	---	---
February	---	---				---	---	None	---	None
March	---	---				---	---	None	---	None
April	---	---				---	---	None	---	None
May	---	---				---	---	None	---	None
June	---	---				---	---	None	---	None
July	---	---				---	---	None	---	None
August	---	---				---	---	None	---	None
September	---	---				---	---	None	---	None
October	---	---				---	---	None	---	None
November	---	---				---	---	None	---	None
December	---	---				---	---	None	---	None
Heleweiser, extremely gravelly surface-----	A	Very low				January	---	---	---	---
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Carrizo-----	A	Negligible		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Frequent
			February	---	---	---	---	None	Very brief	Frequent
			March	---	---	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Frequent
			August	---	---	---	---	None	Very brief	Frequent
			September	---	---	---	---	None	Very brief	Frequent
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Frequent
			December	---	---	---	---	None	Very brief	Frequent
287: Heleweiser, rarely flooded	A	Very low								
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Heleweiser-----	A	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
288: Heleweiser-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Teebar-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
289: Heleweiser-----	A	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Upperline-----	A	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Nickel-----	A	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
290: Rock outcrop, sandstone---	---	---								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Moapa-----	A	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Bluepoint-----	A	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
291: Rock outcrop-----	---	---								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Highland-----	C	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
292: Rock outcrop, metamorphic-	---	---								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nupper-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
294: Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
298: Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
Redneedle-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Heleweiser-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
310: Weiser-----	B	Low	January	---	---	---	---	None	Very brief	Very rare
February			---	---	---	---	None	Very brief	Very rare	
March			---	---	---	---	None	Very brief	Very rare	
April			---	---	---	---	None	Very brief	Very rare	
May			---	---	---	---	None	Very brief	Very rare	
June			---	---	---	---	None	Very brief	Very rare	
July			---	---	---	---	None	Very brief	Very rare	
August			---	---	---	---	None	Very brief	Very rare	
September			---	---	---	---	None	Very brief	Very rare	
October			---	---	---	---	None	Very brief	Very rare	
November			---	---	---	---	None	Very brief	Very rare	
December			---	---	---	---	None	Very brief	Very rare	
Arizo-----			A	Low	January	---	---	---	---	None
February	---	---			---	---	None	Very brief	Very rare	
March	---	---			---	---	None	Very brief	Very rare	
April	---	---			---	---	None	Very brief	Very rare	
May	---	---			---	---	None	Very brief	Very rare	
June	---	---			---	---	None	Very brief	Very rare	
July	---	---			---	---	None	Very brief	Very rare	
August	---	---			---	---	None	Very brief	Very rare	
September	---	---			---	---	None	Very brief	Very rare	
October	---	---			---	---	None	Very brief	Very rare	
November	---	---			---	---	None	Very brief	Very rare	
December	---	---			---	---	None	Very brief	Very rare	
311: Weiser-----	B	Low			January	---	---	---	---	None
February			---	---	---	---	None	Very brief	Very rare	
March			---	---	---	---	None	Very brief	Very rare	
April			---	---	---	---	None	Very brief	Very rare	
May			---	---	---	---	None	Very brief	Very rare	
June			---	---	---	---	None	Very brief	Very rare	
July			---	---	---	---	None	Very brief	Very rare	
August			---	---	---	---	None	Very brief	Very rare	
September			---	---	---	---	None	Very brief	Very rare	
October			---	---	---	---	None	Very brief	Very rare	
November			---	---	---	---	None	Very brief	Very rare	
December			---	---	---	---	None	Very brief	Very rare	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Threelakes-----	A	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
December	---	---	---	---	None	Very brief	Rare			
313: Weiser-----	B	Low	January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare
Oldspan-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Wechech-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
314: Weiser-----	B	Low								
			January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare
Wechech-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
315: Weiser-----	A	Low	January	---	---	---	---	None	Very brief	Rare
February			---	---	---	---	None	Very brief	Rare	
March			---	---	---	---	None	Very brief	Rare	
July			---	---	---	---	None	Very brief	Very rare	
August			---	---	---	---	None	Very brief	Rare	
September			---	---	---	---	None	Very brief	Rare	
December			---	---	---	---	None	Very brief	Rare	
Weiser, gravelly surface--			C	Low	Jan-Dec	---	---	---	---	None
320: Boxspring-----	D	Very high	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Zeheme-----	D	Very high	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rock outcrop-----	---	---		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
321: Boxspring-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Seralin-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rock outcrop-----	---	---		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
322: Boxspring-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Potosi-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rock outcrop-----	---	---		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
323: Boxspring-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Scrapy-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rock outcrop-----	---	---		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
325: Sandpan-----	A	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rositas-----	A	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
330: Ramshead-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
St. Thomas-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
335: Teebar-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
336: Teebar-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Sandpan-----	A	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
340: Zeheme, steep-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Zeheme-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
341: Zeheme-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
342: Zeheme-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Potosi-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
343: Zeheme-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
Boxspring-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
351: Seralin-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
352: Seralin-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Traley-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
355: Seralin-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Devilsthumb-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Ednagrey-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
360: Bracken-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Arizo-----	A	Low	January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare
Badland-----	D	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
365: Callville-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			Gypwash-----	A	Low	January	---	---	---	---
February	---	---				---	---	None	Very brief	Rare
March	---	---				---	---	None	Very brief	Rare
April	---	---				---	---	None	Very brief	Rare
May	---	---				---	---	None	Extremely brief	Very rare
June	---	---				---	---	None	Extremely brief	Very rare
July	---	---				---	---	None	Very brief	Rare
August	---	---				---	---	None	Very brief	Rare
September	---	---				---	---	None	Very brief	Rare
October	---	---				---	---	None	Very brief	Rare
November	---	---				---	---	None	Very brief	Rare
December	---	---				---	---	None	Very brief	Rare
Badland-----	D	Very high				January	---	---	---	---
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
375: Iceberg-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
Helkitchen-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
376: Iceberg-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
St. Thomas-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
380: Tonopah-----	A	Low	January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare
			Arizo-----	A	Low	January	---	---	---	---
February	---	---				---	---	None	Very brief	Very rare
March	---	---				---	---	None	Very brief	Very rare
April	---	---				---	---	None	Very brief	Very rare
May	---	---				---	---	None	Very brief	Very rare
June	---	---				---	---	None	Very brief	Very rare
July	---	---				---	---	None	Very brief	Very rare
August	---	---				---	---	None	Very brief	Very rare
September	---	---				---	---	None	Very brief	Very rare
October	---	---				---	---	None	Very brief	Very rare
November	---	---				---	---	None	Very brief	Very rare
December	---	---				---	---	None	Very brief	Very rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
390: Tipnat-----	C	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Hypoint-----	A	Very low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Grapevine-----	A	Very low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
391: Tipnat-----	C	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Hypoint-----	A	Very low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Bluepoint-----	A	Negligible		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
December	---	---	---	---	None	Very brief	Rare			
400: Arizo-----	A	Low	January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare
Cafetal-----	C	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
405: Oxyaquic Torrifluvents-----	A/D	Very low	January	1.8-3.0	>6.0	---	---	None	Very brief	Rare
			February	1.3-2.5	>6.0	---	---	None	Very brief	Occasional
			March	0.8-2.0	>6.0	---	---	None	Long	Frequent
			April	0.7-1.9	>6.0	---	---	None	Long	Frequent
			May	2.8-4.0	>6.0	---	---	None	Long	Frequent
			June	4.0-5.2	>6.0	---	---	None	Brief	Occasional
			July	4.1-5.3	>6.0	---	---	None	Brief	Occasional
			August	4.3-5.5	>6.0	---	---	None	Brief	Occasional
			September	3.9-5.1	>6.0	---	---	None	Brief	Occasional
			October	3.2-4.4	>6.0	---	---	None	Brief	Occasional
			November	2.6-3.8	>6.0	---	---	None	Very brief	Occasional
			December	2.0-4.9	>6.0	---	---	None	Very brief	Rare
			December	1.8-3.0	>6.0	---	---	None	Very brief	Rare
Gypwash-----	A	Very low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
411: Bludiamond, very gravelly surface-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Bludiamond-----	C	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Diamondhil-----	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
415: Valatier-----	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
421: Moentria-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
422: Moentria-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Purob-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
430: Bluepoint-----	A	Negligible	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Tipnat-----	C	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Grapevine, overblown-----	A	Very low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
431: Hypoint, thick surface----	A	Very low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Vegastorm-----	B	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Hypoint-----	A	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
December	---	---	---	---	None	Very brief	Rare			
441: Corbilt-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
450: Arizo-----	A	Low	January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Arizo, frequently flooded-	A	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Frequent
			February	---	---	---	---	None	Very brief	Frequent
			March	---	---	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Frequent
			August	---	---	---	---	None	Very brief	Frequent
			September	---	---	---	---	None	Very brief	Frequent
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Frequent
December	---	---	---	---	None	Very brief	Frequent			
451: Arizo-----	A	Very low								
			January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
December	---	---	---	---	None	Very brief	Very rare			
Peskah-----	C	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Crosgrain-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
454: Arizo-----	A	Low								
			January	---	---	---	---	None	Very brief	Frequent
			February	---	---	---	---	None	Very brief	Frequent
			March	---	---	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Frequent
			August	---	---	---	---	None	Very brief	Frequent
			September	---	---	---	---	None	Very brief	Frequent
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Frequent
December	---	---	---	---	None	Very brief	Frequent			
Riverwash-----	A	Negligible								
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Occasional
			August	---	---	---	---	None	Very brief	Occasional
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Rare
December	---	---	---	---	None	Very brief	Rare			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
455: Arizo-----	A	Low	January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare
Tenwell-----	C	Very high	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
460: Pahrump-----	C	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Wodavar-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Vegastorm-----	B	Low								
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
December	---	---	---	---	None	Very brief	Rare			
461: Pahrump, saline-----	C	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Pahrump-----	C	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Bluepoint-----	A	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
470: Filaree-----	A	Low								
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
December	---	---	---	---	None	Very brief	Rare			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Seanna-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
475: Guardian-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Sunrock-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Badland-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
477: Guardian, calcareous surface-----	D	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Baseline-----	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Guardian-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
478: Guardian, calcareous surface-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Baseline-----	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
480: Vace-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Vace, stony surface-----			D	Very high	January	---	---	---	---	None
	February	---			---	---	---	None	---	None
	March	---			---	---	---	None	---	None
	April	---			---	---	---	None	---	None
	May	---			---	---	---	None	---	None
	June	---			---	---	---	None	---	None
	July	---			---	---	---	None	---	None
	August	---			---	---	---	None	---	None
	September	---			---	---	---	None	---	None
	October	---			---	---	---	None	---	None
	November	---			---	---	---	None	---	None
	December	---			---	---	---	None	---	None
Arizo-----	A	Low			January	---	---	---	---	None
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
481: Vace-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Wechech-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Wechech, steep-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
490: Ifteen-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
500: Playas-----	D	Negligible	January	---	---	---	Very long	Frequent	---	None
			February	---	---	---	Very long	Frequent	---	None
			March	---	---	---	Very long	Frequent	---	None
			April	---	---	---	Very long	Frequent	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
501: Dams-----	---	Very high	Jan-Dec	---	---	---	---	None	---	---
504: Pits, quarry-----	---	Very high	Jan-Dec	---	---	---	---	None	---	---

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
505: Pits, gravel-----	A	Negligible	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
506: Pits-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Dumps-----	---	---	Jan-Dec	---	---	---	---	None	---	---
508: Dumps, landfill-----	---	---	Jan-Dec	---	---	---	---	None	---	---

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
510: Railroad-----	B	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Railroad, steep-----	B	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
520: Nolena-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rock outcrop-----	---	---		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
521: Nolena-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nipton-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
522: Nolena-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Meadview-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
523: Nolena, moist-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Nolena-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
530: Seanna-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Botleg-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
531: Seanna-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
532: Seanna-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Goldroad-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
535: Blackmesa-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Sunrock-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
540: Sunrock-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
541: Sunrock-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Haleburu-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
542: Sunrock-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Callville-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Badland-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
550: Cheme-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Riverbend-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Carrizo-----	A	Negligible	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
551: Cheme-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Carrizo-----	A	Negligible	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Huevi-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
552: Cheme-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Huevi, dry-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Huevi-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
560: Rositas-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rositas, gravelly surface-	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Riverbend, rarely flooded-	A	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
565: Govwash-----	C	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			Guardian-----	D	Very high	January	---	---	---	---
February	---	---				---	---	None	---	None
March	---	---				---	---	None	---	None
April	---	---				---	---	None	---	None
May	---	---				---	---	None	---	None
June	---	---				---	---	None	---	None
July	---	---				---	---	None	---	None
August	---	---				---	---	None	---	None
September	---	---				---	---	None	---	None
October	---	---				---	---	None	---	None
November	---	---				---	---	None	---	None
December	---	---				---	---	None	---	None
Badland-----	D	Very high				January	---	---	---	---
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
570: Carrizo-----	A	Very low	January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare
Carrizo, rarely flooded---	A	Negligible	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
571: Carrizo, rarely flooded---	A	Negligible	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Carrizo-----	A	Negligible		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Frequent
			February	---	---	---	---	None	Very brief	Frequent
			March	---	---	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Frequent
			August	---	---	---	---	None	Very brief	Frequent
			September	---	---	---	---	None	Very brief	Frequent
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Frequent
December	---	---	---	---	None	Very brief	Frequent			
Riverbend, rarely flooded-	A	Low								
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
December	---	---	---	---	None	Very brief	Rare			
572: Carrizo-----	A	Negligible								
January			---	---	---	---	None	Very brief	Frequent	
February			---	---	---	---	None	Very brief	Frequent	
March			---	---	---	---	None	Very brief	Frequent	
April			---	---	---	---	None	Very brief	Frequent	
May			---	---	---	---	None	Very brief	Rare	
June			---	---	---	---	None	Very brief	Rare	
July			---	---	---	---	None	Very brief	Frequent	
August			---	---	---	---	None	Very brief	Frequent	
September			---	---	---	---	None	Very brief	Frequent	
October			---	---	---	---	None	Very brief	Occasional	
November			---	---	---	---	None	Very brief	Frequent	
December	---	---	---	---	None	Very brief	Frequent			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
573: Carrizo-----	A	Very low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Riverbend, rarely flooded-	A	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Riverbend-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
574: Carrizo-----	A	Very low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Sunrock-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
575: Carrizo-----	A	Negligible	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Occasional
			July	---	---	---	---	None	Very brief	Occasional
			August	---	---	---	---	None	Very brief	Occasional
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Carrizo, cobbly surface---	A	Negligible		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Occasional
			July	---	---	---	---	None	Very brief	Occasional
			August	---	---	---	---	None	Very brief	Occasional
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
581: Threelakes-----	A	Low								
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Weiser-----	B	Low								
			January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
590: Riverbend-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Carrizo-----	A	Negligible	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
591: Riverbend-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Carrwash-----	A	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
December	---	---	---	---	None	Very brief	Very rare			
592: Riverbend-----	A	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Carrizo-----	A	Negligible								
			January	---	---	---	---	None	Very brief	Frequent
			February	---	---	---	---	None	Very brief	Frequent
			March	---	---	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Frequent
			August	---	---	---	---	None	Very brief	Frequent
			September	---	---	---	---	None	Very brief	Frequent
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Frequent
December	---	---	---	---	None	Very brief	Frequent			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
593: Riverbend, rarely flooded-	A	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Cheme-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Carrizo-----	A	Negligible	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
600: Huevi-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Cheme-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
601: Huevi-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Huevi, dry-----	B	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
603: Huevi, dry-----	B	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
604: Huevi, dry-----	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Hiller-----	B	Medium		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
605: Huevi, dry-----	B	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Badland-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
606: Huevi-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Huevi, dry-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Cheme-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
610: Goldroad-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
612: Goldroad-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None



TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
620: Arizo-----	A	Low	Jan-Dec	---	---	---	---	None	---	---
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Occasional
			August	---	---	---	---	None	Very brief	Occasional
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Lanip-----	C	High	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
			621: Orwash-----	A	Very low	January	---	---	---	---
February	---	---				---	---	None	Very brief	Rare
March	---	---				---	---	None	Very brief	Rare
April	---	---				---	---	None	Very brief	Rare
May	---	---				---	---	None	Extremely brief	Very rare
June	---	---				---	---	None	Extremely brief	Very rare
July	---	---				---	---	None	Very brief	Rare
August	---	---				---	---	None	Very brief	Rare
September	---	---				---	---	None	Very brief	Rare
October	---	---				---	---	None	Very brief	Rare
November	---	---				---	---	None	Very brief	Rare
December	---	---				---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
622: Orwash-----	A	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Arizo-----	A	Low	January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare
Lanip-----	C	High	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
630: Tenwell-----	C	Very high	January	---	---	---	---	None	Very brief	Rare
February			---	---	---	---	None	Very brief	Rare	
March			---	---	---	---	None	Very brief	Rare	
April			---	---	---	---	None	Very brief	Rare	
May			---	---	---	---	None	Extremely brief	Very rare	
June			---	---	---	---	None	Extremely brief	Very rare	
July			---	---	---	---	None	Very brief	Rare	
August			---	---	---	---	None	Very brief	Rare	
September			---	---	---	---	None	Very brief	Rare	
October			---	---	---	---	None	Very brief	Rare	
November			---	---	---	---	None	Very brief	Rare	
December			---	---	---	---	None	Very brief	Rare	
635: Aguachiquita-----	D	Medium	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Azureridge-----	D	Very high	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
640: Cetrepas-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nolena-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
645: Goldbutte-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nolena-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
646: Goldbutte-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Jumbopeak-----	C	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
650: Peskah-----	C	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Crosgrain-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
651: Peskah-----	C	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Arizo-----	A	Low								
			January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
660: Crosgrain-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
661: Crosgrain-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
662: Crosgrain-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Arizo-----	A	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Frequent
			February	---	---	---	---	None	Very brief	Frequent
			March	---	---	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Frequent
			August	---	---	---	---	None	Very brief	Frequent
			September	---	---	---	---	None	Very brief	Frequent
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Frequent
December	---	---	---	---	None	Very brief	Frequent			
663: Crosgrain-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Kidwell-----	C	High								
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
December	---	---	---	---	None	Very brief	Rare			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Arizo-----	A	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Occasional
			August	---	---	---	---	None	Very brief	Occasional
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
665: Crosgrain-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Vace-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
670: Nipton-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Highland-----	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
673: Nolena, moist-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Newera, steep-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
674: Nipton-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rubble land-----	A	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Railroad-----	B	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
680: Lanfair-----	A	Very low								
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Hoppswell-----	C	High		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare
690: Hoppswell-----	C	High	January	---	---	---	---	None	Very brief	Very rare
February			---	---	---	---	None	Very brief	Very rare	
March			---	---	---	---	None	Very brief	Very rare	
April			---	---	---	---	None	Very brief	Very rare	
May			---	---	---	---	None	Very brief	Very rare	
June			---	---	---	---	None	Very brief	Very rare	
July			---	---	---	---	None	Very brief	Very rare	
August			---	---	---	---	None	Very brief	Very rare	
September			---	---	---	---	None	Very brief	Very rare	
October			---	---	---	---	None	Very brief	Very rare	
November			---	---	---	---	None	Very brief	Very rare	
December			---	---	---	---	None	Very brief	Very rare	
Ustidur-----			D	High	January	---	---	---	---	None
	February	---			---	---	---	None	---	None
	March	---			---	---	---	None	---	None
	April	---			---	---	---	None	---	None
	May	---			---	---	---	None	---	None
	June	---			---	---	---	None	---	None
	July	---			---	---	---	None	---	None
	August	---			---	---	---	None	---	None
	September	---			---	---	---	None	---	None
	October	---			---	---	---	None	---	None
	November	---			---	---	---	None	---	None
	December	---			---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
691: Hoppswell-----	C	High	January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare
Jetmine-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
700: Mountmcull-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Nippeno-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
701: Nippeno-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nipton-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
705: Charkiln-----	C	Medium	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Woodspring-----			B	Low	January	---	---	---	---	None
February	---	---			---	---	None	---	None	
March	---	---			---	---	None	---	None	
April	---	---			---	---	None	---	None	
May	---	---			---	---	None	---	None	
June	---	---			---	---	None	---	None	
July	---	---			---	---	None	---	None	
August	---	---			---	---	None	---	None	
September	---	---			---	---	None	---	None	
October	---	---			---	---	None	---	None	
November	---	---			---	---	None	---	None	
December	---	---			---	---	None	---	None	
Buckspring-----	D	Very high			January	---	---	---	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
710: Arizo-----	A	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Occasional
			August	---	---	---	---	None	Very brief	Occasional
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Lanfair-----	A	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Riverwash-----	A	Negligible	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Occasional
			August	---	---	---	---	None	Very brief	Occasional
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
715: Troughspring-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Charkiln-----	C	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Buckspring-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
716: Troughspring-----	C	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
721: Corncreek-----	B	Very low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Badland-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Pahrump-----	C	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
723: Corncreek-----	B	Very low								
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Haymont, dry-----	B	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
725: Mackscanyon-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Purob-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
731: Purob-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Irongold-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
732: Purob-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
733: Purob-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
734: Purob-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Niavi-----	A	Very low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Occasional
			August	---	---	---	---	None	Very brief	Occasional
			September	---	---	---	---	None	Very brief	Occasional
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
740: Varwash, moderately sloping-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Varwash-----	B	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
741: Varwash, moderately sloping-----	A	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Varwash-----	B	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Carrizo-----	A	Negligible		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Frequent
			February	---	---	---	---	None	Very brief	Frequent
			March	---	---	---	---	None	Very brief	Frequent
			April	---	---	---	---	None	Very brief	Frequent
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Frequent
			August	---	---	---	---	None	Very brief	Frequent
			September	---	---	---	---	None	Very brief	Frequent
			October	---	---	---	---	None	Very brief	Occasional
			November	---	---	---	---	None	Very brief	Frequent
			December	---	---	---	---	None	Very brief	Frequent
750: Haleburu-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			Crosgrain-----	D	Very high	January	---	---	---	---
February	---	---				---	---	None	---	None
March	---	---				---	---	None	---	None
April	---	---				---	---	None	---	None
May	---	---				---	---	None	---	None
June	---	---				---	---	None	---	None
July	---	---				---	---	None	---	None
August	---	---				---	---	None	---	None
September	---	---				---	---	None	---	None
October	---	---				---	---	None	---	None
November	---	---				---	---	None	---	None
December	---	---				---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rock outcrop-----	---	---		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
751: Nipton-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nolena, moist-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
752: Nipton-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Newera, steep-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
753: Nipton-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Hiddensun-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Haleburu-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
754: Haleburu-----	D	Very high								
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Hiddensun-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
760: Searchlight-----	A	Very low								
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
772: Lamadre-----	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Robbersfire-----	B	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
775: Ladyofsnow-----	B	High	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Robbersfire-----			B	High	January	---	---	---	---	None
	February	---			---	---	---	None	---	None
	March	---			---	---	---	None	---	None
	April	---			---	---	---	None	---	None
	May	---			---	---	---	None	---	None
	June	---			---	---	---	None	---	None
	July	---			---	---	---	None	---	None
	August	---			---	---	---	None	---	None
	September	---			---	---	---	None	---	None
	October	---			---	---	---	None	---	None
	November	---			---	---	---	None	---	None
	December	---			---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Maryjane-----	B	Medium		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
780: Prisonear-----	A	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
781: Prisonear-----	A	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Bluepoint-----	A	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
790: McClanahan-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Beerbo-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
801: Nippeno-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Newera, steep-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
805: Buckspring-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Fletcherpeak-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Seralin-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
806: Buckspring-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Scrapy-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
810: Straycow-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Newera-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rubble land-----	A	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
815: Wheelerwell-----	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Wheelerpass-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
820: Newera-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
821: Helkitchen-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
St. Thomas-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
830: Puelzmine-----	D	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
833: Virgin Peak-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rock outcrop-----	---	---		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
840: Potosi-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Zeheme-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rock outcrop-----	---	---		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
845: Leecanyon-----	D	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Goodwater-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
850: Birdspring-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Birdspring, moderately sloping-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
851: Birdspring-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Zeheme-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
852: Birdspring-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rock outcrop-----	---	---		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
853: Birdspring-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
St. Thomas-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rock outcrop-----	---	---		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
854: Birdspring-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Birdspring, dry-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rock outcrop-----	---	---		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
860: Straycow-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Highland-----	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Straycow, moderately sloping-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			865: Mackscanyon-----	B	High	January	---	---	---	---
February	---	---				---	---	None	---	None
March	---	---				---	---	None	---	None
April	---	---				---	---	None	---	None
May	---	---				---	---	None	---	None
June	---	---				---	---	None	---	None
July	---	---				---	---	None	---	None
August	---	---				---	---	None	---	None
September	---	---				---	---	None	---	None
October	---	---				---	---	None	---	None
November	---	---				---	---	None	---	None
December	---	---				---	---	None	---	None
866: Goodwater-----	D	Very high				January	---	---	---	---
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Doespring-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
867: Goodwater-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
868: Mackscanyon-----	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Goodwater-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
870: Irongold-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
871: Irongold-----	D	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Irongold, moderately sloping-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Weiser-----	B	Low								
			January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare
872: Irongold-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table			Ponding		Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Wechech-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
875: Kylecanyon-----	C	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Goodwater-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
880: Nonamewash-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rositas-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
885: Luckystrike-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
890: Ripley-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Holtville-----	D	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
900: Urban land-----	---	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Huevi-----	B	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Riverbend-----	A	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
905: Mountmummy-----	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Thesisters-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Maryjane-----	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
910: Carrwash-----	A	Low								
			January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
December	---	---	---	---	None	Very brief	Very rare			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Riverbend, rarely flooded-	A	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Extremely brief	Very rare
			June	---	---	---	---	None	Extremely brief	Very rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
December	---	---	---	---	None	Very brief	Rare			
911: Carrwash-----	A	Low	January	---	---	---	---	None	Very brief	Very rare
February			---	---	---	---	None	Very brief	Very rare	
March			---	---	---	---	None	Very brief	Very rare	
April			---	---	---	---	None	Very brief	Very rare	
May			---	---	---	---	None	Very brief	Very rare	
June			---	---	---	---	None	Very brief	Very rare	
July			---	---	---	---	None	Very brief	Very rare	
August			---	---	---	---	None	Very brief	Very rare	
September			---	---	---	---	None	Very brief	Very rare	
October			---	---	---	---	None	Very brief	Very rare	
November			---	---	---	---	None	Very brief	Very rare	
December			---	---	---	---	None	Very brief	Very rare	
Carrwash, steep-----	A	Medium	January	---	---	---	---	None	Very brief	Very rare
			February	---	---	---	---	None	Very brief	Very rare
			March	---	---	---	---	None	Very brief	Very rare
			April	---	---	---	---	None	Very brief	Very rare
			May	---	---	---	---	None	Very brief	Very rare
			June	---	---	---	---	None	Very brief	Very rare
			July	---	---	---	---	None	Very brief	Very rare
			August	---	---	---	---	None	Very brief	Very rare
			September	---	---	---	---	None	Very brief	Very rare
			October	---	---	---	---	None	Very brief	Very rare
			November	---	---	---	---	None	Very brief	Very rare
			December	---	---	---	---	None	Very brief	Very rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
915: Maryjane-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Robbersfire-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Kitgram-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
916: Maryjane-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
920: Tanazza-----	C	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Wechech-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Wodavar-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
925: Lastone-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Lastone, steep-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
930: Cololag-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Badland-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
940: Mesabase-----	A	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Azsand-----	A	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
941: Mesabase-----	A	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
950: Drygyp-----	D	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Drygyp, gravelly surface--	D	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
951: Drygyp, gravelly surface--	D	Very low								
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Guardian, calcareous surface-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Baseline-----	C	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
952: Drygyp-----	D	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
955: Drygyp, gravelly surface--	D	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Bluegyp-----	D	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
965: Azsand-----	A	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Mesabase-----	A	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rositas, gravelly surface-	A	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
970: Rubble land-----	---	---	Jan-Dec	---	---	---	---	None	---	---
Charpeak-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			Rock outcrop, limestone---	---	---	Jan-Dec	---	---	---	---

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
980: Orrubo-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
981: Torriorthents-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Haplocalcids-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
982: Winkel-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	Jan-Dec	---	---	---	---	None	---	---
998: Miscellaneous water-----	---	---	Jan-Dec	---	---	---	---	None	---	---
999: Water-----	---	---	Jan-Dec	---	---	---	---	None	---	---

TABLE 17.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
100:		In	In				
Newera-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Newera, steep-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
101:							
Glencarb-----	---	---	---	---	None	High	High
105:							
Galehills-----	Lithic bedrock	3-8	10-10	Indurated	None	High	Low
106:							
Galehills-----	Lithic bedrock	3-8	10-10	Indurated	None	High	Low
Zeheme-----	Lithic bedrock	7-14	10-10	Indurated	Low	High	Low
107:							
Galehills-----	Lithic bedrock	3-8	10-10	Indurated	None	High	Low
Calwash-----	Paralithic bedrock	6-10	4-10	Moderately cemented	Low	High	Low
	Lithic bedrock	10-20	10-10	Indurated			
110:							
Tenwell-----	Duripan	20-35	25-40	Indurated	Low	High	Low
Crosgrain-----	Duripan	6-14	10-15	Indurated	---	High	Low
	Duripan	21-24	---	Moderately cemented			
111:							
Tenwell-----	Duripan	20-35	25-40	Indurated	Low	High	Low
Shamock-----	Duripan	25-39	20-35	Indurated	Low	High	Low
112:							
Arizo-----	---	---	---	---	Low	High	Low
113:							
Arizo, gypsiferous substratum-----	---	---	---	---	Low	High	High

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
115:		In	In				
Whitebasin-----	Paralithic bedrock	20-30	10-10	Weakly cemented	Low	High	High
Upperline-----	Paralithic bedrock	30-39	10-10	Very weakly cemented	Low	High	Low
Hardbasin-----	Petrogypsic	1-4	4-8	Weakly cemented	Low	High	High
	Petrogypsic	5-10	4-8	Very strongly cemented			
	Paralithic bedrock	10-20	10-20	Very weakly cemented			
120:							
Crosgrain-----	Duripan	6-14	10-15	Indurated	---	High	Low
	Duripan	21-24	---	Moderately cemented			
Tenwell-----	Duripan	20-35	25-40	Indurated	Low	High	Low
121:							
Sweetspring-----	---	---	---	---	None	High	High
Carrizo-----	---	---	---	---	None	High	Low
125:							
Bobzbulz-----	Paralithic bedrock	22-32	28-38	Moderately cemented	None	High	Low
Snapcan-----	Paralithic bedrock	22-30	34-34	Moderately cemented	None	High	Low
134:							
Newera, steep-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Nipton-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
135:							
Nippeno-----	Lithic bedrock	13-20	10-10	Indurated	Low	High	Low
Mountmcull-----	Lithic bedrock	4-10	10-10	Indurated	Low	Moderate	Low
Newera-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
140: Haleburu-----	Lithic bedrock	In 4-14	In 10-10	Indurated	Low	High	Low
141: Nipton-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Haleburu-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
143: Haleburu-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Haleburu, dry-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
144: Haleburu-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Hiddensun-----	Lithic bedrock	14-20	10-10	Indurated	Low	High	Low
146: Haleburu-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Nipton-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
147: Haleburu-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Nipton-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
148: Haleburu-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Seanna-----	Paralithic bedrock	7-14	10-10	Moderately cemented	Low	High	Low
150: Hypoint-----	---	---	---	---	None	High	Low
151: Bluepoint-----	---	---	---	---	---	High	Low
Arizo-----	---	---	---	---	Low	High	Low



TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
176:		In	In				
St. Thomas-----	Lithic bedrock	4-14	10-10	Indurated	None	High	Low
St. Thomas, dry-----	Lithic bedrock	4-14	10-10	Indurated	None	High	Low
177:							
St. Thomas-----	Lithic bedrock	4-14	10-10	Indurated	None	High	Low
Upperline-----	Paralithic bedrock	30-39	10-10	Very weakly cemented	Low	High	Low
Whitebasin-----	Paralithic bedrock	20-30	10-10	Weakly cemented	Low	High	High
178:							
St. Thomas-----	Lithic bedrock	4-14	10-10	Indurated	None	High	Low
Iceberg-----	Lithic bedrock	10-20	10-10	Indurated	None	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
180:							
Kidwell-----	---	---	---	---	Low	High	Low
Tenwell-----	Duripan	20-35	25-40	Indurated	Low	High	Low
185:							
Lastchance-----	Petrocalcic	20-30	30-39	Very strongly cemented	Low	High	Low
Lastchance, high elevation-----	Petrocalcic	20-30	30-39	Very strongly cemented	Low	High	Low
Commski-----	---	---	---	---	Low	High	Low
186:							
Lastchance-----	Petrocalcic	20-30	30-39	Very strongly cemented	Moderate	High	Low
Ferrogold-----	Petrocalcic	14-20	24-49	Very strongly cemented	Moderate	High	Low
Commski-----	---	---	---	---	Low	High	Low

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
190:		In	In				
Filaree-----	---	---	---	---	None	High	Low
Lanip-----	---	---	---	---	Low	High	Low
Nickel-----	---	---	---	---	None	High	Low
191:							
Bluepoint-----	---	---	---	---	---	High	Low
Grapevine, overblown---	---	---	---	---	---	High	High
Grapevine-----	---	---	---	---	---	High	High
192:							
Bluepoint-----	---	---	---	---	---	High	Low
Bluepoint, hummocky---	---	---	---	---	---	High	Low
195:							
Cruzspring-----	Paralithic bedrock	10-14	1-8	Weakly cemented	Moderate	High	Low
	Lithic bedrock	12-20	10-10	Indurated			
Schader-----	Lithic bedrock	20-39	10-10	Indurated	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
200:							
Commski-----	---	---	---	---	Low	High	Low
Weiser-----	---	---	---	---	None	High	Low
Threelakes-----	---	---	---	---	Low	High	Low
201:							
Commski-----	---	---	---	---	Low	High	Low
202:							
Commski-----	---	---	---	---	Low	High	Low
Lastchance-----	Petrocalcic	20-30	30-39	Very strongly cemented	Low	High	Low

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
203:		In	In				
Commski-----	---	---	---	---	Low	High	Low
Oldspan-----	---	---	---	---	Low	High	Low
Lastchance-----	Petrocalcic	20-30	30-39	Very strongly cemented	Low	High	Low
205:							
Callville-----	Paralithic bedrock	20-39	15-25	Moderately cemented	None	High	High
	Lithic bedrock	39-59	10-10	Indurated			
Badland-----	---	---	---	---	None	High	High
Guardian-----	Paralithic bedrock	14-20	10-10	Moderately cemented	None	High	High
207:							
Callville-----	Paralithic bedrock	20-39	15-25	Moderately cemented	None	High	High
	Lithic bedrock	39-59	10-10	Indurated			
Callville, steep-----	Paralithic bedrock	20-39	15-25	Moderately cemented	None	High	High
	Lithic bedrock	39-59	10-10	Indurated			
210:							
Nickel-----	---	---	---	---	None	High	Low
Arizo-----	---	---	---	---	Low	High	Low
211:							
Nickel-----	---	---	---	---	None	High	Low
Crosgrain-----	Duripan	6-14	10-15	Indurated	---	High	Low
	Duripan	21-24	---	Moderately cemented			

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
220:		In	In				
Haymont-----	---	---	---	---	---	High	High
Haymont, moist-----	---	---	---	---	---	High	High
Bluepoint-----	---	---	---	---	Low	High	High
221:							
Haymont, dry-----	---	---	---	---	---	High	High
Haymont-----	---	---	---	---	---	High	High
225:							
Baseline-----	Paralithic bedrock	20-39	10-10	Moderately cemented	None	High	High
Callville-----	Paralithic bedrock	20-39	15-25	Moderately cemented	None	High	High
	Lithic bedrock	39-59	10-10	Indurated			
Badland-----	---	---	---	---	None	High	High
226:							
Baseline-----	Paralithic bedrock	20-39	10-10	Moderately cemented	None	High	High
227:							
Baseline-----	Paralithic bedrock	20-39	10-10	Moderately cemented	None	High	High
Gypwash-----	---	---	---	---	None	High	High
228:							
Baseline-----	Paralithic bedrock	20-39	10-10	Moderately cemented	None	High	High
Guardian-----	Paralithic bedrock	14-20	10-10	Moderately cemented	None	High	High
Baseline-----	Paralithic bedrock	20-39	10-10	Moderately cemented	None	High	High
230:							
Wechech-----	Petrocalcic	8-14	46-52	Indurated	Low	High	Low
Weiser-----	---	---	---	---	None	High	Low

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
231: Wechech-----	Petrocalcic	In 8-14	In 46-52	Indurated	Low	High	Low
232: Wechech-----	Petrocalcic	8-14	46-52	Indurated	Low	High	Low
Upperline-----	Paralithic bedrock	30-39	10-10	Very weakly cemented	Low	High	Low
233: Ifteen, overblown-----	---	---	---	---	---	High	Low
Wechech-----	Petrocalcic	8-14	46-52	Indurated	Low	High	Low
234: Wechech-----	Petrocalcic	8-14	46-52	Indurated	Low	High	Low
235: Gypwash-----	---	---	---	---	None	High	High
Callville-----	Paralithic bedrock	20-39	15-25	Moderately cemented	None	High	High
	Lithic bedrock	39-59	10-10	Indurated			
Carrizo-----	---	---	---	---	None	High	Low
237: Wechech, moist-----	Petrocalcic	8-14	46-52	Indurated	Low	High	Low
Wechech-----	Petrocalcic	8-14	46-52	Indurated	Low	High	Low
240: Crosgrain-----	Duripan	6-14	10-15	Indurated	---	High	Low
	Duripan	21-24	---	Moderately cemented			
Irongold-----	Petrocalcic	10-14	18-30	Weakly cemented	Low	High	Low
Nickel-----	---	---	---	---	None	High	Low

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
241:		In	In				
Crosgrain-----	Duripan	6-14	10-15	Indurated	---	High	Low
	Duripan	21-24	---	Moderately cemented			
Typic Torriorthents----	---	---	---	---	Low	High	High
Nickel-----	---	---	---	---	None	High	Low
250:							
Mormon Mesa-----	Petrocalcic	10-20	40-50	Indurated	---	High	Low
Naye-----	Petrocalcic	20-39	4-24	Strongly cemented	None	High	Low
255:							
Tumarion-----	Duripan	5-14	1-6	Very strongly cemented	Low	High	Low
	Lithic bedrock	7-20	10-10	Indurated			
Nipton-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Rock outcrop, Basalt----	---	---	---	---	---	---	---
260:							
Naye-----	Petrocalcic	20-39	4-24	Strongly cemented	Low	High	Low
Bitter Spring-----	---	---	---	---	None	High	High
261:							
Vace-----	Petrocalcic	4-14	45-55	Indurated	Low	High	Low
Jean-----	---	---	---	---	None	High	Low
265:							
Azureridge-----	Duripan	7-14	3-10	Moderately cemented	Low	High	Low
	Paralithic bedrock	10-20	10-10	Moderately cemented			

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
270:		In	In				
Bard-----	Petrocalcic	14-20	20-48	Indurated	None	High	Low
Nickel-----	---	---	---	---	None	High	Low
Limewash-----	Paralithic bedrock	14-20	6-16	Moderately cemented	None	High	High
271:							
Moapa-----	Paralithic bedrock	21-38	1-7	Moderately cemented	None	Moderate	Low
	Lithic bedrock	22-39	10-10	Very strongly cemented			
Bluepoint-----	---	---	---	---	---	High	Low
272:							
Moapa-----	Paralithic bedrock	21-38	1-7	Moderately cemented	None	Moderate	Low
	Lithic bedrock	22-39	10-10	Very strongly cemented			
Bluepoint-----	---	---	---	---	---	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
285:							
Heleweiser, rarely flooded-----	---	---	---	---	None	High	High
Carrizo-----	---	---	---	---	None	High	Low
Teebar-----	Petrocalcic	4-10	64-130	Indurated	None	High	Low
286:							
Heleweiser-----	---	---	---	---	None	High	High
Heleweiser, extremely gravelly surface-----	---	---	---	---	None	High	High
Carrizo-----	---	---	---	---	None	High	Low





TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
321:		In	In				
Boxspring-----	Lithic bedrock	14-20	10-10	Indurated	Low	High	Low
Seralin-----	Lithic bedrock	8-14	10-10	Indurated	Low	Low	High
Rock outcrop-----	---	---	---	---	---	---	---
322:							
Boxspring-----	Lithic bedrock	14-20	10-10	Indurated	Low	High	Low
Potosi-----	Lithic bedrock	8-14	10-10	Indurated	Low	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
323:							
Boxspring-----	Lithic bedrock	14-20	10-10	Indurated	Low	High	Low
Scrapy-----	Lithic bedrock	10-14	10-10	Indurated	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
325:							
Sandpan-----	Petrocalcic	20-39	28-39	Indurated	None	High	Low
Rositas-----	---	---	---	---	None	High	Low
330:							
Ramshead-----	Paralithic bedrock	4-10	1-4	Moderately cemented	None	High	High
	Lithic bedrock	5-14	10-10	Indurated			
St. Thomas-----	Lithic bedrock	4-14	10-10	Indurated	None	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
335:							
Teebar-----	Petrocalcic	4-10	64-130	Indurated	None	High	Low
336:							
Teebar-----	Petrocalcic	4-10	64-130	Indurated	None	High	Low
Sandpan-----	Petrocalcic	20-39	28-39	Indurated	None	High	Low

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
340:		In	In				
Zeheme, steep-----	Lithic bedrock	7-14	10-10	Indurated	Low	High	Low
Zeheme-----	Lithic bedrock	7-14	10-10	Indurated	Low	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
341:							
Zeheme-----	Lithic bedrock	7-14	10-10	Indurated	Low	High	Low
342:							
Zeheme-----	Lithic bedrock	7-14	10-10	Indurated	Low	High	Low
Potosi-----	Lithic bedrock	8-14	10-10	Indurated	Low	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
343:							
Zeheme-----	Lithic bedrock	7-14	10-10	Indurated	Low	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
Boxspring-----	Lithic bedrock	14-20	10-10	Indurated	Low	High	Low
351:							
Seralin-----	Lithic bedrock	8-14	10-10	Indurated	Low	Low	High
352:							
Seralin-----	Lithic bedrock	8-14	10-10	Indurated	Low	Low	High
Traley-----	Lithic bedrock	39-59	10-10	Indurated	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
355:							
Seralin-----	Lithic bedrock	8-14	10-10	Indurated	Low	Low	High
Devilsthumb-----	Lithic bedrock	20-39	10-10	Indurated	Moderate	Moderate	Low
Ednagrey-----	Lithic bedrock	4-10	10-10	Indurated	Moderate	High	Low

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
360:		In	In				
Bracken-----	Paralithic bedrock	39-59	20-20	Moderately cemented	None	High	High
Arizo-----	---	---	---	---	Low	High	Low
Badland-----	---	---	---	---	None	High	High
365:							
Callville-----	Paralithic bedrock	20-39	15-25	Moderately cemented	None	High	High
	Lithic bedrock	39-59	10-10	Indurated			
Gypwash-----	---	---	---	---	None	High	High
Badland-----	---	---	---	---	None	High	High
375:							
Iceberg-----	Lithic bedrock	10-20	10-10	Indurated	None	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
Helkitchen-----	Lithic bedrock	8-14	10-10	Indurated	None	High	Low
376:							
Iceberg-----	Lithic bedrock	10-20	10-10	Indurated	None	High	Low
St. Thomas-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
380:							
Tonopah-----	---	---	---	---	None	High	Low
Arizo-----	---	---	---	---	Low	High	Low
390:							
Tipnat-----	---	---	---	---	---	High	High
Hypoint-----	---	---	---	---	None	High	Low
Grapevine-----	---	---	---	---	---	High	High

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
391:		In	In				
Tipnat-----	---	---	---	---	---	High	High
Hypoint-----	---	---	---	---	None	High	Low
Bluepoint-----	---	---	---	---	---	High	Low
400:							
Arizo-----	---	---	---	---	Low	High	Low
Cafetal-----	---	---	---	---	None	High	Low
405:							
Oxyaquic Torrifluvents-	---	---	---	---	None	High	High
Gypwash-----	---	---	---	---	None	High	High
411:							
Bludiamond, very gravelly surface-----	Petrocalcic	21-39	20-39	Moderately cemented	Low	High	Low
Bludiamond-----	Petrocalcic	21-39	20-39	Moderately cemented	Low	High	Low
Diamondhil-----	Duripan	24-39	20-36	Very strongly cemented	Low	High	Low
415:							
Valatier-----	Duripan	30-39	20-31	Very strongly cemented	Low	Moderate	Low
421:							
Moentria-----	Paralithic bedrock	4-10	6-16	Weakly cemented	Low	High	Low
	Lithic bedrock	10-20	10-10	Very strongly cemented			

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
422:		In	In				
Moentria-----	Paralithic bedrock	4-10	6-16	Weakly cemented	Low	High	Low
	Lithic bedrock	10-20	10-10	Very strongly cemented			
Purob-----	Petrocalcic	14-20	40-46	Very strongly cemented	Low	High	Low
430:							
Bluepoint-----	---	---	---	---	---	High	Low
Tipnat-----	---	---	---	---	---	High	High
Grapevine, overblown---	---	---	---	---	---	High	High
431:							
Hypoint, thick surface-	---	---	---	---	None	High	Low
Vegastorm-----	---	---	---	---	Low	High	Low
Hypoint-----	---	---	---	---	None	High	Low
441:							
Corbilt-----	Duripan	39-59	4-24	Strongly cemented	Low	High	Low
450:							
Arizo-----	---	---	---	---	Low	High	Low
Arizo, frequently flooded-----	---	---	---	---	Low	High	Low
451:							
Arizo-----	---	---	---	---	Low	High	Low
Peskah-----	Duripan	39-60	10-20	Moderately cemented	None	High	Low
Crosgrain-----	Duripan	6-14	10-15	Indurated	---	High	Low
	Duripan	21-24	---	Moderately cemented			

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
454:		In	In				
Arizo-----	---	---	---	---	Low	High	Low
Riverwash-----	---	---	---	---	Moderate	---	---
455:							
Arizo-----	---	---	---	---	Low	High	Low
Tenwell-----	Duripan	20-35	25-40	Indurated	Low	High	Low
460:							
Pahrump-----	---	---	---	---	Low	High	Low
Wodavar-----	Petrocalcic	10-20	8-30	Indurated	Low	High	Low
Vegastorm-----	---	---	---	---	Low	High	Low
461:							
Pahrump, saline-----	---	---	---	---	Low	High	Low
Pahrump-----	---	---	---	---	Low	High	Low
Bluepoint-----	---	---	---	---	Low	High	High
470:							
Filaree-----	---	---	---	---	None	High	Low
Seanna-----	Paralithic bedrock	7-14	10-10	Moderately cemented	Low	High	Low
475:							
Guardian-----	Paralithic bedrock	14-20	10-10	Moderately cemented	None	High	High
Sunrock-----	Lithic bedrock	4-20	10-10	Indurated	None	High	Low
Badland-----	---	---	---	---	None	High	High

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness		Hardness	Uncoated steel	Concrete
477:		In	In				
Guardian, calcareous surface-----	Paralithic bedrock	14-20	10-10	Moderately cemented	None	High	High
Baseline-----	Paralithic bedrock	20-39	10-10	Moderately cemented	None	High	High
Guardian-----	Paralithic bedrock	14-20	10-10	Moderately cemented	None	High	High
478:							
Guardian, calcareous surface-----	Paralithic bedrock	14-20	10-10	Moderately cemented	None	High	High
Baseline-----	Paralithic bedrock	20-39	10-10	Moderately cemented	None	High	High
480:							
Vace-----	Petrocalcic	4-14	45-55	Indurated	Low	High	Low
Vace, stony surface---	Petrocalcic	4-14	45-55	Indurated	Low	High	Low
Arizo-----	---	---	---	---	Low	High	Low
481:							
Vace-----	Petrocalcic	4-14	45-55	Indurated	Low	High	Low
Wechech-----	Petrocalcic	8-14	46-52	Indurated	Low	High	Low
Wechech, steep-----	Petrocalcic	8-14	46-52	Indurated	Low	High	Low
490:							
Ifteen-----	---	---	---	---	---	High	Low
500:							
Playas-----	---	---	---	---	None	High	High
501:							
Dams-----	---	---	---	---	---	---	---
504:							
Pits, quarry-----	---	---	---	---	---	---	---
505:							
Pits, gravel-----	---	---	---	---	None	---	---

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
506:		In	In				
Pits-----	---	---	---	---	---	---	---
Dumps-----	---	---	---	---	---	---	---
508:							
Dumps, landfill-----	---	---	---	---	---	---	---
510:							
Railroad-----	Lithic bedrock	30-39	10-10	Indurated	Low	High	Low
Railroad, steep-----	Lithic bedrock	30-39	10-10	Indurated	Low	High	Low
520:							
Nolena-----	Paralithic bedrock	4-14	5-10	Moderately cemented	Low	High	Low
	Lithic bedrock	10-20	10-10	Very strongly cemented			
Rock outcrop-----	---	---	---	---	---	---	---
521:							
Nolena-----	Paralithic bedrock	4-14	5-10	Moderately cemented	Low	High	Low
	Lithic bedrock	10-20	10-10	Very strongly cemented			
Nipton-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
522:							
Nolena-----	Paralithic bedrock	4-14	5-10	Moderately cemented	Low	High	Low
	Lithic bedrock	10-20	10-10	Very strongly cemented			
Meadview-----	---	---	---	---	Low	High	Low



TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
541:		In	In				
Sunrock-----	Lithic bedrock	4-20	10-10	Indurated	None	High	Low
Haleburu-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
542:							
Sunrock-----	Lithic bedrock	4-20	10-10	Indurated	None	High	Low
Callville-----	Paralithic bedrock	20-39	15-25	Moderately cemented	None	High	High
	Lithic bedrock	39-59	10-10	Indurated			
Badland-----	---	---	---	---	None	High	High
550:							
Cheme-----	Duripan	7-20	12-24	Indurated	None	High	Low
	Paralithic bedrock	30-50	10-30	Moderately cemented			
Riverbend-----	---	---	---	---	None	High	Low
Carrizo-----	---	---	---	---	None	High	Low
551:							
Cheme-----	Duripan	7-20	12-24	Indurated	None	High	Low
	Paralithic bedrock	30-50	10-30	Moderately cemented			
Carrizo-----	---	---	---	---	None	High	Low
Huevi-----	---	---	---	---	None	High	Low
552:							
Cheme-----	Duripan	7-20	12-24	Indurated	None	High	Low
	Paralithic bedrock	30-50	10-30	Moderately cemented			
Huevi, dry-----	---	---	---	---	None	High	Low
Huevi-----	---	---	---	---	None	High	Low

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
560:		In	In				
Rositas-----	---	---	---	---	None	High	Low
Rositas, gravelly surface-----	---	---	---	---	None	High	Low
Riverbend, rarely flooded-----	---	---	---	---	None	High	Low
565:							
Govwash-----	Paralithic bedrock	39-59	6-10	Weakly cemented	None	High	High
	Lithic bedrock	49-69	10-10	Strongly cemented			
Guardian-----	Paralithic bedrock	14-20	10-10	Moderately cemented	None	High	High
Badland-----	---	---	---	---	None	High	High
570:							
Carrizo-----	---	---	---	---	None	High	Low
Carrizo, rarely flooded	---	---	---	---	None	High	Low
571:							
Carrizo, rarely flooded	---	---	---	---	None	High	Low
Carrizo-----	---	---	---	---	None	High	Low
Riverbend, rarely flooded-----	---	---	---	---	None	High	Low
572:							
Carrizo-----	---	---	---	---	None	High	Low
573:							
Carrizo-----	---	---	---	---	None	High	Low
Riverbend, rarely flooded-----	---	---	---	---	None	High	Low
Riverbend-----	---	---	---	---	None	High	Low

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
574: Carrizo-----	---	In	In	---	None	High	Low
Sunrock-----	Lithic bedrock	4-20	10-10	Indurated	None	High	Low
575: Carrizo-----	---	---	---	---	None	Low	Low
Carrizo, cobbly surface	---	---	---	---	None	Low	Low
581: Threelakes-----	---	---	---	---	Low	High	Low
Weiser-----	---	---	---	---	None	High	Low
590: Riverbend-----	---	---	---	---	None	High	Low
Carrizo-----	---	---	---	---	None	High	Low
591: Riverbend-----	---	---	---	---	None	High	Low
Carrwash-----	---	---	---	---	None	High	Low
592: Riverbend-----	---	---	---	---	None	High	Low
Carrizo-----	---	---	---	---	None	High	Low
593: Riverbend, rarely flooded-----	---	---	---	---	None	High	Low
Cheme-----	Duripan	7-20	12-24	Indurated	None	High	Low
	Paralithic bedrock	30-50	10-30	Moderately cemented			
Carrizo-----	---	---	---	---	None	High	Low



TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
612:		In	In				
Goldroad-----	Lithic bedrock	4-10	10-10	Indurated	None	High	Low
Seanna-----	Paralithic bedrock	7-14	10-10	Moderately cemented	Low	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
613:							
Goldroad-----	Lithic bedrock	4-10	10-10	Indurated	None	High	Low
Haleburu-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
620:							
Arizo-----	---	---	---	---	Low	High	Low
Lanip-----	---	---	---	---	Low	High	Low
621:							
Orwash-----	---	---	---	---	Low	High	Low
622:							
Orwash-----	---	---	---	---	Low	High	Low
Arizo-----	---	---	---	---	Low	High	Low
Lanip-----	---	---	---	---	Low	High	Low
630:							
Tenwell-----	Duripan	20-35	25-40	Indurated	Low	High	Low
635:							
Aguachiquita-----	Duripan	20-30	15-35	Very weakly cemented	Low	High	Low
	Paralithic bedrock	39-59	10-10	Weakly cemented			
Azureridge-----	Duripan	7-14	3-10	Moderately cemented	Low	High	Low
	Paralithic bedrock	10-20	10-10	Moderately cemented			

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
640:		In	In				
Cetrepas-----	Paralithic bedrock	8-14	---	Moderately cemented	Low	Moderate	Low
	Lithic bedrock	20-39	10-10	Indurated			
Nolena-----	Paralithic bedrock	4-14	5-10	Moderately cemented	Low	High	Low
	Lithic bedrock	10-20	10-10	Very strongly cemented			
Rock outcrop-----	---	---	---	---	---	---	---
645:							
Goldbutte-----	Paralithic bedrock	4-10	1-4	Weakly cemented	Low	Moderate	Low
	Lithic bedrock	5-14	10-10	Indurated			
Nolena-----	Paralithic bedrock	4-14	5-10	Moderately cemented	Low	High	Low
	Lithic bedrock	10-20	10-10	Very strongly cemented			
646:							
Goldbutte-----	Paralithic bedrock	4-10	1-4	Weakly cemented	Low	Moderate	Low
	Lithic bedrock	5-14	10-10	Indurated			
Jumbopeak-----	Paralithic bedrock	20-39	10-10	Moderately cemented	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---
650:							
Peskah-----	Duripan	39-60	10-20	Moderately cemented	None	High	Low
Crosgrain-----	Duripan	6-14	10-15	Indurated	---	High	Low
	Duripan	21-24	---	Moderately cemented			

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
651:		In	In				
Peskah-----	Duripan	39-60	10-20	Moderately cemented	None	High	Low
Arizo-----	---	---	---	---	Low	High	Low
660:							
Crosgrain-----	Duripan	6-14	10-15	Indurated	---	High	Low
	Duripan	21-24	---	Moderately cemented			
661:							
Crosgrain-----	Duripan	6-14	10-15	Indurated	---	High	Low
	Duripan	21-24	---	Moderately cemented			
662:							
Crosgrain-----	Duripan	6-14	10-15	Indurated	---	High	Low
	Duripan	21-24	---	Moderately cemented			
Arizo-----	---	---	---	---	Low	High	Low
663:							
Crosgrain-----	Duripan	6-14	10-15	Indurated	---	High	Low
	Duripan	21-24	---	Moderately cemented			
Kidwell-----	---	---	---	---	Low	High	Low
Arizo-----	---	---	---	---	Low	High	Low
665:							
Crosgrain-----	Duripan	6-14	10-15	Indurated	---	High	Low
	Duripan	21-24	---	Moderately cemented			
Vace-----	Petrocalcic	4-14	45-55	Indurated	Low	High	Low

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
670:		In	In				
Nipton-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Highland-----	Lithic bedrock	30-40	10-10	Indurated	Low	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
673:							
Nolena, moist-----	Paralithic bedrock	4-14	5-10	Moderately cemented	Low	High	Low
	Lithic bedrock	10-20	10-10	Very strongly cemented			
Newera, steep-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
674:							
Nipton-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Rubble land-----	Lithic bedrock	40-40	---	Indurated	None	---	---
Railroad-----	Lithic bedrock	30-39	10-10	Indurated	---	High	Low
680:							
Lanfair-----	---	---	---	---	Low	High	Low
Hoppswell-----	---	---	---	---	---	High	Low
690:							
Hoppswell-----	---	---	---	---	---	High	Low
Ustidur-----	Duripan	4-14	20-39	Weakly cemented	Moderate	High	Low
691:							
Hoppswell-----	---	---	---	---	---	High	Low
Jetmine-----	Duripan	14-20	40-46	Weakly cemented	Low	High	Low
700:							
Mountmull-----	Lithic bedrock	4-10	10-10	Indurated	Low	Moderate	Low
Nippeno-----	Lithic bedrock	13-20	10-10	Indurated	Low	High	Low
701:							
Nippeno-----	Lithic bedrock	13-20	10-10	Indurated	Low	High	Low
Nipton-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
705:		In	In				
Charkiln-----	---	---	---	---	Moderate	Moderate	Low
Woodspring-----	---	---	---	---	Moderate	Moderate	Low
Buckspring-----	Lithic bedrock	14-20	4-4	Indurated	Moderate	Moderate	Low
710:							
Arizo-----	---	---	---	---	Low	High	Low
Lanfair-----	---	---	---	---	Low	High	Low
Riverwash-----	---	---	---	---	Moderate	---	---
715:							
Troughspring-----	Petrocalcic	20-39	24-43	Strongly cemented	Moderate	High	Low
Charkiln-----	---	---	---	---	Moderate	Moderate	Low
Buckspring-----	Lithic bedrock	14-20	4-4	Indurated	Moderate	Moderate	Low
716:							
Troughspring-----	Petrocalcic	20-39	24-43	Strongly cemented	Moderate	High	Low
721:							
Corncreek-----	---	---	---	---	Low	High	Moderate
Badland-----	---	---	---	---	None	High	High
Pahrump-----	---	---	---	---	Low	High	Low
723:							
Corncreek-----	---	---	---	---	Low	High	Moderate
Haymont, dry-----	---	---	---	---	---	High	High
725:							
Mackscanyon-----	---	---	---	---	Moderate	High	Low
Purob-----	Petrocalcic	14-20	40-46	Very strongly cemented	Low	High	Low
731:							
Purob-----	Petrocalcic	14-20	40-46	Very strongly cemented	Low	High	Low
Irongold-----	Petrocalcic	10-14	18-30	Weakly cemented	Low	High	Low

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness		Hardness	Uncoated steel	Concrete
732: Purob-----	Petrocalcic	In 14-20	In 40-46	Very strongly cemented	Low	High	Low
733: Purob-----	Petrocalcic	14-20	40-46	Very strongly cemented	Low	High	Low
734: Purob-----	Petrocalcic	14-20	4-17	Very strongly cemented	None	High	Moderate
Niavi-----	---	---	---	---	Low	High	Low
740: Varwash, moderately sloping-----	---	---	---	---	None	High	Low
Varwash-----	---	---	---	---	None	High	Low
741: Varwash, moderately sloping-----	---	---	---	---	None	High	Low
Varwash-----	---	---	---	---	None	High	Low
Carrizo-----	---	---	---	---	None	High	Low
750: Haleburu-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Crosgrain-----	Duripan	6-14	10-15	Indurated	---	High	Low
	Duripan	21-24	---	Moderately cemented			
Rock outcrop-----	---	---	---	---	---	---	---
751: Nipton-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Nolena, moist-----	Paralithic bedrock	4-14	5-10	Moderately cemented	Low	High	Low
	Lithic bedrock	10-20	10-10	Very strongly cemented			

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
752:		In	In				
Nipton-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Newera, steep-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
753:							
Nipton-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Hiddensun-----	Lithic bedrock	14-20	10-10	Indurated	Low	High	Low
Haleburu-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
754:							
Haleburu-----	Lithic bedrock	4-14	10-10	Indurated	Low	High	Low
Hiddensun-----	Lithic bedrock	14-20	10-10	Indurated	Low	High	Low
760:							
Searchlight-----	---	---	---	---	Low	High	Low
772:							
Lamadre-----	---	---	---	---	Low	Moderate	Low
Robbersfire-----	Lithic bedrock	39-59	10-10	Indurated	Low	Moderate	Low
775:							
Ladyofsnow-----	---	---	---	---	Low	High	Low
Robbersfire-----	Lithic bedrock	39-59	10-10	Indurated	Low	Moderate	Low
Maryjane-----	---	---	---	---	Low	High	Low
780:							
Prisonear-----	Petrocalcic	30-39	20-30	Indurated	---	High	Low
781:							
Prisonear-----	Petrocalcic	30-39	20-30	Indurated	---	High	Low
Bluepoint-----	---	---	---	---	Low	High	High





TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
852:		In	In				
Birdspring-----	Lithic bedrock	4-10	10-10	Indurated	---	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
853:							
Birdspring-----	Lithic bedrock	4-10	10-10	Indurated	---	High	Low
St. Thomas-----	Lithic bedrock	4-14	10-10	Indurated	None	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
854:							
Birdspring-----	Lithic bedrock	4-10	10-10	Indurated	---	High	Low
Birdspring, dry-----	Lithic bedrock	4-10	10-10	Indurated	---	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
860:							
Straycow-----	Paralithic bedrock	5-13	9-18	Moderately cemented	Low	Moderate	Low
Highland-----	Lithic bedrock	30-39	10-10	Indurated	Low	High	Low
Straycow, moderately sloping-----	Paralithic bedrock	5-20	10-10	Moderately cemented	Low	Moderate	Low
865:							
Mackscanyon-----	---	---	---	---	Moderate	High	Low
866:							
Goodwater-----	Petrocalcic	10-20	3-3	Very weakly cemented	Low	High	Low
Doespring-----	Petrocalcic	10-20	6-20	Moderately cemented	Low	High	Low
	Lithic bedrock	20-39	10-10	Strongly cemented			
867:							
Goodwater-----	Petrocalcic	10-20	3-3	Very weakly cemented	Low	High	Low

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
868: Mackscanyon-----	---	In	In	---	Moderate	High	Low
Goodwater-----	Petrocalcic	10-20	3-3	Very weakly cemented	Low	High	Low
870: Irongold-----	Petrocalcic	10-14	18-30	Weakly cemented	Low	High	Low
871: Irongold-----	Petrocalcic	10-14	18-30	Weakly cemented	Low	High	Low
Irongold, moderately sloping-----	Petrocalcic	10-14	18-30	Weakly cemented	Low	High	Low
Weiser-----	---	---	---	---	None	High	Low
872: Irongold-----	Petrocalcic	10-14	18-30	Weakly cemented	Low	High	Low
Wechech-----	Petrocalcic	8-14	46-52	Indurated	Low	High	Low
875: Kylecanyon-----	Petrocalcic	20-39	1-3	Indurated	Low	High	Low
	Petrocalcic	21-43	17-38	Moderately cemented			
Goodwater-----	Petrocalcic	10-20	3-3	Very weakly cemented	Low	High	Low
880: Nonamewash-----	---	---	---	---	None	High	Low
Rositas-----	---	---	---	---	None	High	Low
885: Luckystrike-----	---	---	---	---	Moderate	High	Low
890: Ripley-----	---	---	---	---	None	High	Low
Holtville-----	---	---	---	---	None	High	Low

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
900:		In	In				
Urban land-----	---	---	---	---	None	---	---
Huevi-----	---	---	---	---	None	High	Low
Riverbend-----	---	---	---	---	None	High	Low
905:							
Mountmummy-----	Lithic bedrock	20-39	10-10	Indurated	Moderate	High	Low
The sisters-----	Lithic bedrock	4-20	10-10	Indurated	Low	High	Low
Maryjane-----	---	---	---	---	Low	High	Low
910:							
Carrwash-----	---	---	---	---	None	High	Low
Riverbend, rarely flooded-----	---	---	---	---	None	High	Low
911:							
Carrwash-----	---	---	---	---	None	High	Low
Carrwash, steep-----	---	---	---	---	None	High	Low
915:							
Maryjane-----	---	---	---	---	Low	High	Low
Robbersfire-----	Lithic bedrock	39-59	10-10	Indurated	Low	Moderate	Low
Kitgram-----	Lithic bedrock	20-39	10-10	Indurated	Low	High	Low
916:							
Maryjane-----	---	---	---	---	Low	High	Low
920:							
Tanazza-----	---	---	---	---	None	High	High
Wechech-----	Petrocalcic	8-14	46-52	Indurated	Low	High	Low
Wodavar-----	Petrocalcic	10-20	8-30	Indurated	Low	High	Low

TABLE 17.--Soil Features--Continued

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
925: Lastone-----	Paralithic bedrock	8-14	2-7	Moderately cemented	Moderate	High	Low
	Lithic bedrock	10-20	10-10	Indurated			
Lastone, steep-----	Paralithic bedrock	8-14	2-7	Moderately cemented	Moderate	High	Low
	Lithic bedrock	10-20	10-10	Indurated			
930: Cololag-----	---	---	---	---	None	High	Low
Badland-----	---	---	---	---	None	High	High
940: Mesabase-----	Paralithic bedrock	20-39	10-10	Weakly cemented	None	High	Low
Azsand-----	---	---	---	---	None	High	Low
941: Mesabase-----	Paralithic bedrock	20-39	10-10	Weakly cemented	None	High	Low
950: Drygyp-----	Petrogypsic	4-10	4-7	Moderately cemented	None	High	High
	Petrogypsic	8-17	47-53	Weakly cemented			
Drygyp, gravelly surface-----	Petrogypsic	4-10	4-7	Moderately cemented	None	High	High
	Petrogypsic	8-17	47-53	Weakly cemented			





TABLE 18.--Taxonomic Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Aguachiquita-----	Loamy-skeletal, mixed, superactive, thermic Cambidic Haplodurids
Arizo-----	Sandy-skeletal, mixed, thermic Typic Torriorthents
Azsand-----	Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids
Azureridge-----	Loamy-skeletal, mixed, superactive, thermic, shallow Cambidic Haplodurids
Bard-----	Loamy, carbonatic, thermic, shallow Calcic Petrocalcids
Baseline-----	Loamy-skeletal, carbonatic, hyperthermic Typic Haplocalcids
Beerbo-----	Loamy-skeletal, mixed, superactive, mesic, shallow Aridic Argiustolls
Birdspring-----	Loamy-skeletal, carbonatic, thermic Lithic Torriorthents
Bitter Spring-----	Sandy-skeletal, mixed, thermic Typic Calciargids
Bitterridge-----	Loamy-skeletal, carbonatic, thermic, shallow Typic Haplocalcids
Blackmesa-----	Loamy, mixed, active, hyperthermic, shallow Typic Haplodurids
Bludiamond-----	Loamy-skeletal, mixed, superactive, thermic Argic Petrocalcids
Bluegyp-----	Coarse-loamy, gypsic, hyperthermic Leptic Haplogypsid
Bluepoint-----	Mixed, thermic Typic Torripsamments
Bobzbulz-----	Loamy-skeletal, mixed, superactive, thermic Typic Haplocambids
Botleg-----	Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplargids
Boxspring-----	Loamy-skeletal, carbonatic, mesic Lithic Ustic Torriorthents
Bracken-----	Coarse-loamy, gypsic, thermic Leptic Haplogypsid
Buckspring-----	Loamy-skeletal, mixed, superactive, mesic Aridic Lithic Argiustolls
Cafetal-----	Loamy-skeletal, mixed, superactive, thermic Durinodic Calciargids
Callville-----	Coarse-loamy, mixed, active, hyperthermic Leptic Haplogypsid
Calwash-----	Loamy, mixed, superactive, calcareous, thermic, shallow Typic Torriorthents
Carrizo-----	Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Carrwash-----	Sandy-skeletal, mixed, hyperthermic Typic Torriorthents
Cetrepas-----	Loamy-skeletal, mixed, superactive, mesic, shallow Ustic Haplargids
Charkiln-----	Fine-loamy, mixed, superactive, mesic Aridic Argiustolls
Charpeak-----	Loamy-skeletal, mixed, superactive Typic Eutrocryepts
Cheme-----	Loamy-skeletal, mixed, superactive, hyperthermic, shallow Typic Haplodurids
Cololag-----	Loamy-skeletal, mixed, superactive, hyperthermic Typic Calciargids
Commski-----	Loamy-skeletal, carbonatic, thermic Typic Haplocalcids
Corbilt-----	Coarse-loamy, mixed, superactive, thermic Duric Haplocalcids
Corncreek-----	Loamy-skeletal, carbonatic, thermic Sodic Haplocalcids
Crosgrain-----	Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Cruzspring-----	Loamy-skeletal, mixed, superactive, mesic, shallow Typic Haplargids
Devilsthumb-----	Loamy-skeletal, mixed, superactive, frigid Aridic Calciustepts
Diamondhil-----	Loamy-skeletal, mixed, superactive, mesic Ustic Argidurids
Doespring-----	Loamy-skeletal, carbonatic, mesic, shallow Petrocalcic Calciustolls
Drygyp-----	Loamy, gypsic, hyperthermic, shallow Typic Petrogypsid
Ednagrey-----	Loamy-skeletal, mixed, superactive, calcareous, mesic Lithic Ustic   Torriorthents
Ferrogold-----	Loamy-skeletal, carbonatic, thermic, shallow Calcic Petrocalcids
Filaree-----	Coarse-loamy, mixed, superactive, thermic Typic Haplocambids
Fletcherpeak-----	Loamy-skeletal, mixed, superactive, frigid Aridic Lithic Argiustolls
Galehills-----	Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic   Torriorthents
Glencarb-----	Fine-silty, carbonatic, thermic Typic Torrifluvents
Goldbutte-----	Loamy-skeletal, mixed, superactive, nonacid, mesic, shallow Typic   Torriorthents
Goldroad-----	Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic   Torriorthents
Goodwater-----	Loamy-skeletal, carbonatic, mesic, shallow Calcic Petrocalcids
Govwash-----	Coarse-loamy, gypsic, hyperthermic Leptic Haplogypsid
Grapevine-----	Coarse-loamy, mixed, superactive, thermic Typic Haplocalcids
Guardian-----	Loamy, gypsic, hyperthermic, shallow Leptic Haplogypsid
Gypwash-----	Loamy-skeletal, carbonatic, hyperthermic Typic Calcigypsid
Haleburu-----	Loamy-skeletal, mixed, superactive, calcareous, thermic Lithic   Torriorthents
Haplocalcids-----	Haplocalcids
Hardbasin-----	Loamy, mixed, superactive, thermic, shallow Typic Petrogypsid
Haymont-----	Coarse-silty, mixed, superactive, calcareous, thermic Typic Torriorthents
Heleweiser-----	Loamy-skeletal, mixed, superactive, hyperthermic Typic Haplocalcids
Helkitchen-----	Loamy-skeletal, carbonatic, thermic Lithic Haplocalcids

TABLE 18.--Taxonomic Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Hiddensun-----	Loamy-skeletal, mixed, superactive, thermic Lithic Haplocalcids
Highland-----	Loamy-skeletal, mixed, superactive, thermic Typic Haplargids
Hiller-----	Loamy-skeletal, mixed, superactive, thermic Durinodic Haplocalcids
Holtville-----	Clayey over loamy, smectitic over mixed, superactive, calcareous,   hyperthermic Typic Torrifluvents
Hoppswell-----	Loamy-skeletal, mixed, superactive, thermic Ustic Haplargids
Huevi-----	Loamy-skeletal, mixed, superactive, hyperthermic Durinodic Haplocalcids
Hypoint-----	Sandy, mixed, thermic Typic Torriorthents
Iceberg-----	Loamy-skeletal, carbonatic, hyperthermic Lithic Haplocalcids
Ifteen-----	Coarse-loamy, carbonatic, thermic Durinodic Haplocalcids
Irongold-----	Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids
Jean-----	Sandy-skeletal, mixed, thermic Typic Torriorthents
Jetmine-----	Loamy, mixed, superactive, thermic, shallow Cambidic Haplodurids
Jumbopeak-----	Loamy-skeletal, mixed, superactive, mesic Aridic Argiustolls
Kidwell-----	Fine-loamy, mixed, superactive, thermic Typic Calciargids
Kitgram-----	Loamy-skeletal, carbonatic, frigid Pachic Calciustolls
Kylecanyon-----	Loamy-skeletal, carbonatic, mesic Petrocalcic Calciustolls
Ladyofsnow-----	Loamy-skeletal, carbonatic Oxyaquic Eutrocryepts
Lamadre-----	Loamy-skeletal, mixed, superactive, frigid Torriorthentic Haplustolls
Lanfair-----	Sandy-skeletal, mixed, thermic Ustic Haplocambids
Lanip-----	Fine-loamy, mixed, superactive, thermic Typic Calciargids
Lastchance-----	Loamy-skeletal, carbonatic, thermic Calcic Petrocalcids
Lastone-----	Loamy-skeletal, mixed, superactive, mesic, shallow Ustic Haplargids
Leecanyon-----	Loamy-skeletal, carbonatic, mesic, shallow Petrocalcic Calciustolls
Limewash-----	Loamy, mixed, active, thermic, shallow Leptic Haplogypsis
Luckystrike-----	Loamy-skeletal, mixed, superactive, mesic Calcic Argiustolls
Mackscanyon-----	Loamy-skeletal, carbonatic, mesic Aridic Calciustolls
Maryjane-----	Loamy-skeletal, carbonatic, frigid Pachic Calciustolls
McClanahan-----	Loamy-skeletal, mixed, superactive, mesic, shallow Ustic Haplargids
Meadview-----	Sandy-skeletal, mixed, thermic Durinodic Haplocalcids
Mesabase-----	Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids
Moapa-----	Mixed, thermic Typic Torripsamments
Moentria-----	Loamy-skeletal, mixed, superactive, calcareous, mesic, shallow Typic   Torriorthents
Mormon Mesa-----	Loamy, carbonatic, thermic, shallow Calcic Petrocalcids
Mountmcull-----	Loamy-skeletal, mixed, superactive, nonacid, mesic Lithic Ustic   Torriorthents
Mountmummy-----	Loamy-skeletal, carbonatic, frigid Pachic Calciustolls
Naye-----	Loamy-skeletal, carbonatic, thermic Typic Petrocalcids
Newera-----	Loamy-skeletal, mixed, superactive, thermic Lithic Haplargids
Niavi-----	Sandy-skeletal, mixed, thermic Typic Haplocalcids
Nickel-----	Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Nippeno-----	Loamy-skeletal over fragmental, mixed, superactive, mesic Lithic Ustic   Haplargids
Nipton-----	Loamy-skeletal, mixed, superactive, nonacid, thermic Lithic Torriorthents
Nolena-----	Loamy-skeletal, mixed, superactive, nonacid, thermic, shallow Typic   Torriorthents
Nonamewash-----	Sandy, mixed, hyperthermic Typic Torrifluvents
Nupper-----	Loamy-skeletal, mixed, superactive, nonacid, mesic Lithic Ustic   Torriorthents
Oldspan-----	Loamy-skeletal, carbonatic, thermic Sodic Haplocalcids
Orrubo-----	Loamy-skeletal, carbonatic, thermic, shallow Calcic Petrocalcids
Orwash-----	Sandy, mixed, thermic Typic Torriorthents
Oxyaquic Torrifluvents---	Thermic Oxyaquic Torrifluvents
Pahrump-----	Loamy-skeletal, carbonatic, thermic Petronodic Haplocalcids
Peskah-----	Loamy-skeletal, mixed, superactive, thermic Duric Petroargids
Potosi-----	Loamy-skeletal, carbonatic, mesic Lithic Torriorthents
Prisonear-----	Sandy, mixed, thermic Calcic Petrocalcids
Puelzmine-----	Loamy-skeletal, mixed, superactive, thermic, shallow Cambidic Haplodurids
Purob-----	Loamy-skeletal, carbonatic, mesic, shallow Calcic Petrocalcids
Railroad-----	Loamy-skeletal, mixed, superactive, thermic Typic Haplocalcids
Ramshead-----	Loamy-skeletal, mixed, superactive, calcareous, hyperthermic, shallow Typic   Torriorthents
Redneedle-----	Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic   Torriorthents

TABLE 18.--Taxonomic Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Ripley-----	Coarse-silty over sandy or sandy-skeletal, mixed, superactive, calcareous, hyperthermic Typic Torrifluvents
Riverbend-----	Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids
Robbersfire-----	Loamy-skeletal, carbonatic, frigid Calcic Haplustepts
Rositas-----	Mixed, hyperthermic Typic Torripsamments
Sandpan-----	Sandy-skeletal, mixed, hyperthermic Calcic Petrocalcids
Schader-----	Loamy-skeletal, mixed, superactive, mesic Xeric Haplargids
Scrapy-----	Loamy-skeletal, carbonatic, mesic Lithic Ustic Haplocalcids
Seanna-----	Loamy-skeletal, mixed, superactive, calcareous, thermic, shallow Typic Torriorthents
Searchlight-----	Coarse-loamy, mixed, superactive, thermic Typic Haplargids
Seralin-----	Loamy-skeletal, mixed, superactive, mesic Aridic Lithic Haplustolls
Shamock-----	Coarse-loamy, mixed, superactive, thermic Typic Haplodurids
Snapcan-----	Loamy-skeletal, mixed, superactive, hyperthermic Typic Haplocambids
St. Thomas-----	Loamy-skeletal, carbonatic, thermic Lithic Torriorthents
Straycow-----	Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplargids
Sunrock-----	Loamy-skeletal, mixed, superactive, calcareous, hyperthermic Lithic Torriorthents
Sweetspring-----	Sandy-skeletal, mixed, hyperthermic Petronodic Calciargids
Tanazza-----	Fine-silty, gypsic, thermic Typic Calcigypsid
Teebar-----	Loamy-skeletal, carbonatic, hyperthermic, shallow Typic Petrocalcids
Tenwell-----	Fine-loamy, mixed, superactive, thermic Typic Argidurids
Thesisters-----	Loamy-skeletal, carbonatic, frigid Aridic Lithic Haplustolls
Threelakes-----	Loamy-skeletal, carbonatic, thermic Typic Torriorthents
Tipnat-----	Fine-loamy, mixed, superactive, thermic Typic Natrargids
Tonopah-----	Sandy-skeletal, mixed, thermic Typic Haplocalcids
Torriorthents-----	Torriorthents
Traley-----	Loamy-skeletal, mixed, superactive, mesic Calcic Argiustolls
Troughspring-----	Loamy-skeletal, carbonatic, mesic Petrocalcic Paleustolls
Tumarion-----	Loamy-skeletal, mixed, superactive, thermic, shallow Typic Haplodurids
Typic Torriorthents-----	Thermic Typic Torriorthents
Upperline-----	Loamy-skeletal, carbonatic, thermic Typic Haplocalcids
Ustidur-----	Loamy-skeletal, mixed, superactive, thermic, shallow Cambic Haplodurids
Vace-----	Loamy, mixed, superactive, thermic, shallow Typic Petrocalcids
Valatier-----	Loamy-skeletal, mixed, superactive, mesic Typic Argidurids
Varwash-----	Sandy-skeletal, mixed, hyperthermic Typic Haplocalcids
Vegastorm-----	Coarse-loamy, carbonatic, thermic Petronodic Haplocalcids
Virgin Peak-----	Loamy-skeletal, mixed, superactive, mesic, shallow Aridic Haplustolls
Wechech-----	Loamy-skeletal, carbonatic, thermic, shallow Calcic Petrocalcids
Weiser-----	Loamy-skeletal, carbonatic, thermic Typic Haplocalcids
Wheelerpass-----	Loamy-skeletal, mixed, superactive, frigid Aridic Lithic Argiustolls
Wheelerwell-----	Loamy-skeletal, mixed, superactive, mesic Aridic Argiustolls
Whitebasin-----	Coarse-loamy, gypsic, thermic Leptic Haplogypsid
Winkel-----	Loamy-skeletal, mixed, superactive, thermic, shallow Calcic Petrocalcids
Wodavar-----	Loamy-skeletal, carbonatic, thermic, shallow Calcic Petrocalcids
Woodspring-----	Loamy-skeletal, mixed, superactive, mesic Pachic Calciustolls
Zeheme-----	Loamy-skeletal, carbonatic, thermic Lithic Haplocalcids

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