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 1.5 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: F028AY074NV

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

Contrasting Inclusions

Eaglepass and similar soils
Composition: 0 to 5 percent
Slope: 30 to 50 percent
Landform: Summits of mountains
Typical vegetation: Scribner needlegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, littleleaf mountain mahogany, other shrubs
Ecological site: R028AY029NV—Limestone hill

Rock outcrop
Composition: 0 to 5 percent
Slope: 30 to 50 percent
Landform: Mountains

Ursine and similar soils
Composition: 0 to 5 percent
Slope: 8 to 30 percent
Landform: Upper fan remnants
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs
Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Engineering" and "Soil Properties" sections

1100—Linoyer-Heist association

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont
Elevation: 5,700 to 6,300
Precipitation: 8 to 12 inches
Air temperature: 45 to 52 degrees Fahrenheit
Frost-free period: 100 to 140 days

Composition

Linoyer very fine sandy loam, 0 to 2 percent slopes—45 percent
Heist loamy sand, moist, 0 to 4 percent slopes—40 percent
Ravendog loam, 0 to 4 percent slopes—8 percent
Medburn silt loam, 0 to 8 percent slopes—5 percent
Ravendog loam, 0 to 2 percent slopes—2 percent

Component Description

Linoyer and similar soils
Landform: Stream terraces
Slope: 0 to 2 percent
Parent material: Alluvium and lacustrine deposits derived from sandstone and limestone
Typical vegetation: Other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs, Indian ricegrass, bottlebrush squirreltail, other perennial grasses

Typical profile:
Layer 1—0 to 11 inches; very fine sandy loam
Layer 2—11 to 60 inches; very 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): Moderately High, (Permeability class: Moderate)
Available water capacity: About 10 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Irrigated land capability: 2e
Nonirrigated land capability: 6e
Ecological site: R028AY030NV—Silty 8-10 P.Z.

Component Description

Heist and similar soils
Landform: Fan skirts
Slope: 0 to 4 percent
Parent material: Alluvium derived from welded tuff and limestone
Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:
Layer 1—0 to 8 inches; loamy sand
Layer 2—8 to 20 inches; fine sandy loam
Layer 3—20 to 60 inches; 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: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions

Ravendog and similar soils
Composition: 0 to 8 percent
Slope: 0 to 4 percent
Landform: Inset fans
Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs
Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Medburn and similar soils
Composition: 0 to 5 percent
Slope: 0 to 8 percent
Landform: Inset fans
Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, other perennial grasses, other perennial forbs, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs
Ecological site: R028AY005NV—Sandy 8-10 P.Z.

Ravendog and similar soils
Composition: 0 to 2 percent
Slope: 0 to 2 percent
Landform: Drainageways
Typical vegetation: Basin wildrye, creeping wildrye, other perennial grasses, other perennial forbs, big sagebrush, other shrubs
Ecological site: R028AY025NV—Dry floodplain

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

1103—Patter-Sevenmile association

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont
Elevation: 5,600 to 5,800
Precipitation: 8 to 12 inches
Air temperature: 45 to 52 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Patter gravelly sandy loam, 0 to 2 percent slopes—50 percent
Sevenmile ashy sandy loam, moist, 2 to 4 percent slopes—40 percent
Linoyer very fine sandy loam, 0 to 2 percent slopes—4 percent
Badland, 2 to 15 percent slopes—2 percent
Chuckridge gravelly loam, 0 to 2 percent slopes—2 percent
Linco gravelly sandy loam, 4 to 15 percent slopes—1 percent
Baberwit sandy loam, 2 to 15 percent slopes—1 percent

Component Description

Patter and similar soils
Landform: Flood plains
Slope: 0 to 2 percent
Parent material: Alluvium derived from mixed rocks with minor amounts of volcanic ash
Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:
Surface rock fragments: About 15 percent gravel
Layer 1—0 to 2 inches; gravelly sandy loam
Layer 2—2 to 14 inches; ashy silt loam
Layer 3—14 to 47 inches; ashy silt loam
Layer 4—47 to 60 inches; gravelly ashy 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 9 inches
Present flooding: Occasional
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Irrigated land capability: 2e
Nonirrigated land capability: 6e
Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Component Description

Sevenmile and similar soils
Landform: Drainageways
Slope: 2 to 4 percent
Parent material: Alluvium derived from welded tuff and some limestone and quartzite
Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs

Typical profile:
Surface rock fragments: About 5 percent fine gravel, 10 percent gravel
Layer 1—0 to 11 inches; ashy sandy loam
Layer 2—11 to 35 inches; loam
Layer 3—35 to 60 inches; stratified extremely gravelly loamy coarse sand to 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): High, (Permeability class: Moderately rapid)
Available water capacity: About 10 inches
Present flooding: Rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 6s
Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

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

Contrasting Inclusions

Linoyer and similar soils
Composition: 0 to 4 percent
Slope: 0 to 2 percent
Landform: Stream terraces
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, fourwing saltbush, winterfat, other shrubs
Ecological site: R028AY030NV—Silty 8-10 P.Z.

Badland
Composition: 0 to 2 percent
Slope: 2 to 15 percent
Landform: Fan remnants

Chuckridge and similar soils
Composition: 0 to 2 percent
Slope: 0 to 2 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs
Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Linco and similar soils
Composition: 0 to 1 percent
Slope: 4 to 15 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs
Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Baberwit and similar soils
Composition: 0 to 1 percent
Slope: 2 to 15 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, pigmy sagebrush, other shrubs
Ecological site: R028AY007NV—Gravelly barren fan

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section

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

1104—Colval-Penoyer association

Map Unit Setting

MLRA: 29
Landscape: Bolson
Elevation: 4,500 to 5,650
Precipitation: 6 to 8 inches
Air temperature: 54 to 57 degrees Fahrenheit
Frost-free period: 130 to 160 days

Composition

Colval silt loam, 0 to 2 percent slopes—60 percent
Penoyer very fine sandy loam, 0 to 4 percent slopes—30 percent
Geer fine sandy loam, 2 to 8 percent slopes—4 percent
Slaw silt loam, 0 to 2 percent slopes—4 percent
Cliffdown very gravelly sandy loam, 2 to 8 percent slopes—2 percent

Component Description

Colval and similar soils
Landform: Basin floors
Slope: 0 to 2 percent
Parent material: Alluvium over lacustrine deposits derived from welded tuff and limestone
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, shadscale, Bonneville saltbush, greenmolly kochia, other shrubs

Typical profile:
Layer 1—0 to 5 inches; silt loam
Layer 2—5 to 11 inches; silty clay loam
Layer 3—11 to 23 inches; silty clay loam
Layer 4—23 to 60 inches; silt loam

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): Moderately Low, (Permeability class: Slow)
Salinity: Saline within 40 inches
Available water capacity: About 9 inches
Present flooding: None
Present ponding: Rare
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 6c
Ecological site: R029XY159NV—Deep silty 5-8 P.Z.

Component Description

Penoyer and similar soils
Landform: Upper inset fans

Slope: 0 to 4 percent
Parent material: Alluvium derived from limestone, welded tuff and lacustrine deposits
Typical vegetation: Indian ricegrass, other perennial grasses, bud sagebrush, winterfat, other shrubs

Typical profile:
Layer 1—0 to 8 inches; very fine sandy loam
Layer 2—8 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)
Available water capacity: About 12 inches
Present flooding: Rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Irrigated land capability: 1
Nonirrigated land capability: 7c
Ecological site: R029XY020NV—Silty 5-8 P.Z.

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

Contrasting Inclusions

Geer and similar soils
Composition: 0 to 4 percent
Slope: 2 to 8 percent
Landform: Fan skirts
Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs
Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Slaw and similar soils
Composition: 0 to 4 percent
Slope: 0 to 2 percent
Landform: Basin floors
Typical vegetation: Inland saltgrass, other perennial grasses, alkali sacaton, other perennial forbs, shadscale, saltbush, black greasewood, other shrubs, seepweed
Ecological site: R029XY076NV—Sodic flat

Cliffdown and similar soils
Composition: 0 to 2 percent
Slope: 2 to 8 percent
Landform: Fan skirts
Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs
Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section

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

1106—Patter-Linco association

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont
Elevation: 5,600 to 5,850
Precipitation: 8 to 10 inches
Air temperature: 45 to 51 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Patter gravelly sandy loam, 0 to 4 percent slopes—45 percent
Linco gravelly sandy loam, 2 to 8 percent slopes—40 percent
Ravendog loam, dry, 2 to 4 percent slopes—7 percent
Ravendog loam, 2 to 4 percent slopes—6 percent
Baberwit sandy loam, 2 to 8 percent slopes—2 percent

Component Description

Patter and similar soils
Landform: Flood plains
Slope: 0 to 4 percent
Parent material: Alluvium derived from mixed rocks with minor amounts of volcanic ash
Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:
Surface rock fragments: About 15 percent gravel
Layer 1—0 to 2 inches; gravelly sandy loam
Layer 2—2 to 14 inches; silt loam
Layer 3—14 to 47 inches; silt loam
Layer 4—47 to 60 inches; gravelly 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 9 inches
Present flooding: Occasional
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Irrigated land capability: 2e
Nonirrigated land capability: 6e
Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Component Description

Linco and similar soils
Landform: Fan remnants

Slope: 2 to 8 percent
Parent material: Alluvium derived from mixed rocks
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:
Layer 1—0 to 8 inches; gravelly sandy loam
Layer 2—8 to 25 inches; gravelly fine sandy loam
Layer 3—25 to 60 inches; 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): 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: 7c
Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

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

Contrasting Inclusions

Ravendog and similar soils
Composition: 0 to 7 percent
Slope: 2 to 4 percent
Landform: Fan skirts
Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs
Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Ravendog and similar soils
Composition: 0 to 6 percent
Slope: 2 to 4 percent
Landform: Fan skirts
Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs
Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

Baberwit and similar soils
Composition: 0 to 2 percent
Slope: 2 to 8 percent
Landform: Fan remnants
Typical vegetation: Needleandthread, galleta, Indian ricegrass, other perennial grasses, other perennial forbs, pigmy sagebrush, other shrubs
Ecological site: R028AY007NV—Gravelly barren fan

Management

For information about managing this map unit, see the following sections and associated tables of this publication: "Range" section

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

1110—Nuhelen-Chubard-Rock outcrop association

Map Unit Setting

MLRA: 28A
Landscape: Mountains
Elevation: 6,050 to 8,150
Precipitation: 8 to 12 inches
Air temperature: 45 to 50 degrees Fahrenheit
Frost-free period: 90 to 120 days

Composition

Nuhelen gravelly coarse sandy loam, cool, 8 to 50 percent slopes—40 percent
Chubard very gravelly sandy loam, cool, 8 to 30 percent slopes—35 percent
Rock outcrop, 30 to 75 percent slopes—15 percent
Lien very gravelly ashy loam, 4 to 15 percent slopes—10 percent

Component Description

Nuhelen and similar soils
Landform: Backslopes and summits of mountains, north aspect
Slope: 8 to 50 percent
Parent material: Colluvium derived from tuff with minor amounts of volcanic ash over residuum weathered from tuff
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon
Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:
Surface rock fragments: About 2 percent cobbles, 10 percent gravel, 20 percent fine gravel
Layer 1—0 to 4 inches; gravelly coarse sandy loam
Layer 2—4 to 6 inches; very gravelly sandy loam
Layer 3—6 to 13 inches; very cobbly sandy clay loam
Layer 4—13 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: 7 to 14 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)
Available water capacity: About 1.1 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: F028AY074NV

Component Description

Chubard and similar soils
Landform: Mountains

Slope: 8 to 30 percent
Parent material: Colluvium derived from welded tuff with minor amounts of volcanic ash over residuum weathered from welded tuff
Typical vegetation: Indian ricegrass, needleandthread, galleta, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs

Typical profile:
Surface rock fragments: About 50 percent gravel, 15 percent cobbles, 15 percent stones
Layer 1—0 to 4 inches; very gravelly sandy loam
Layer 2—4 to 7 inches; extremely gravelly sandy clay loam
Layer 3—7 to 10 inches; extremely gravelly clay loam
Layer 4—10 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: 6 to 14 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
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: R028AY004NV—Shallow calcareous slope 8-10 P.Z.

Component Description

Rock outcrop
Landform: Mountains
Slope: 30 to 75 percent

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

Contrasting Inclusions

Lien and similar soils
Composition: 0 to 10 percent
Slope: 4 to 15 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs
Ecological site: R028AY035NV—Shallow clay loam 10-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1111—Nuhelen-Farepeak association

Map Unit Setting

MLRA: 29

Landscape: Mountains
Elevation: 5,850 to 7,200
Precipitation: 10 to 14 inches
Air temperature: 43 to 50 degrees Fahrenheit
Frost-free period: 70 to 110 days

Composition

Nuhelen very stony loam, dry, 15 to 50 percent slopes—45 percent
Farepeak very gravelly ashy loam, 30 to 50 percent slopes—40 percent
Farepeak very gravelly ashy loam, 2 to 4 percent slopes—9 percent
Rock outcrop, 30 to 50 percent slopes—6 percent

Component Description

Nuhelen and similar soils
Landform: Mountains, north aspect
Slope: 15 to 50 percent
Parent material: Colluvium derived from tuff with minor amounts of volcanic ash over residuum weathered from tuff
Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, black sagebrush, green ephedra, other perennial grasses, other perennial forbs, other shrubs, Utah juniper, goldenweed, Stansbury cliffrose, desert bitterbrush
Site index: Utah juniper—15 at an age base of 100 years
Site index: Singleleaf pinyon—30 at an age base of 100 years

Typical profile:
Surface rock fragments: About 10 percent stones
Layer 1—0 to 4 inches; very stony loam
Layer 2—4 to 6 inches; very gravelly sandy loam
Layer 3—6 to 13 inches; very cobbly sandy clay loam
Layer 4—13 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: 7 to 14 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)
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: F029XY071NV

Component Description

Farepeak and similar soils
Landform: Backslopes of mountains
Slope: 30 to 50 percent
Parent material: Colluvium and residuum derived from welded tuff
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon
Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:
Surface rock fragments: About 40 percent gravel, 15 percent cobbles, 10 percent stones
Layer 1—0 to 3 inches; very gravelly ashy loam
Layer 2—3 to 13 inches; very gravelly ashy sandy clay loam
Layer 3—13 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: 10 to 14 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: F028AY099NV

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

Contrasting Inclusions

Farepeak and similar soils
Composition: 0 to 9 percent
Slope: 2 to 4 percent
Landform: Mountains
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, Sandberg bluegrass, other perennial grasses, buckwheat, other perennial forbs, Wyoming big sagebrush, desert bitterbrush, other shrubs, Utah juniper, singleleaf pinyon
Ecological site: F029XY065NV

Rock outcrop
Composition: 0 to 6 percent
Slope: 30 to 50 percent
Landform: Mountains

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1113—Farepeak-Slockey-Schoolmarm association

Map Unit Setting

MLRA: 28A
Landscape: Mountains
Elevation: 6,700 to 7,600
Precipitation: 12 to 16 inches
Air temperature: 43 to 45 degrees Fahrenheit
Frost-free period: 70 to 100 days

Composition

Farepeak very gravelly ashy loam, 15 to 30 percent slopes—40 percent
Slockey very gravelly ashy sandy clay loam, 15 to 30 percent slopes—25 percent
Schoolmarm gravelly ashy sandy loam, 4 to 30 percent slopes—20 percent
Rock outcrop, 30 to 50 percent slopes—9 percent
Hamtah very stony ashy sandy clay loam, 15 to 30 percent slopes—3 percent
Starflyer very cobbly ashy coarse sandy loam, 8 to 30 percent slopes—3 percent

Component Description

Farepeak and similar soils
Landform: Backslopes of mountains
Slope: 15 to 30 percent
Parent material: Colluvium and residuum derived from welded tuff
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon
Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:
Surface rock fragments: About 40 percent gravel, 15 percent cobbles, 10 percent stones
Layer 1—0 to 3 inches; very gravelly ashy loam
Layer 2—3 to 13 inches; very gravelly ashy sandy clay loam
Layer 3—13 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: 10 to 14 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: F028AY099NV

Component Description

Slockey and similar soils
Landform: Rock pediments
Slope: 15 to 30 percent
Parent material: Colluvium and residuum derived from welded tuff
Typical vegetation: Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees

Typical profile:
Layer 1—0 to 4 inches; very gravelly ashy sandy clay loam
Layer 2—4 to 9 inches; very gravelly ashy sandy clay loam
Layer 3—9 to 21 inches; very gravelly ashy sandy clay loam
Layer 4—21 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: Paralithic bedrock: 20 to 39 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: R028AY088NV—Gravelly clay 12-14 P.Z.

Component Description

Schoolmarm and similar soils
Landform: Mountains
Slope: 4 to 30 percent
Parent material: Residuum and colluvium derived from welded tuff
Typical vegetation: Thurber's needlegrass, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:
Layer 1—0 to 3 inches; gravelly ashy sandy loam
Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam
Layer 3—11 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: 10 to 14 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
Available water capacity: About 2 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7e
Ecological site: R028AY126NV—Cobbly claypan

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

Contrasting Inclusions

Rock outcrop
Composition: 0 to 9 percent
Slope: 30 to 50 percent
Landform: Mountains

Hamtah and similar soils
Composition: 0 to 3 percent
Slope: 15 to 30 percent
Landform: Hills
Typical vegetation: Thurber's needlegrass, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Ecological site: R028AY066NV—Gravelly loam 12-14 P.Z.

Starflyer and similar soils
Composition: 0 to 3 percent
Slope: 8 to 30 percent
Landform: Mountains
Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, muttongrass, other shrubs
Ecological site: R028AY064NV—Shallow loam 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1114—Slockey-Schoolmarm-Rock outcrop association

Map Unit Setting

MLRA: 28A
Landscape: Mountains
Elevation: 7,150 to 8,250
Precipitation: 12 to 16 inches
Air temperature: 43 to 45 degrees Fahrenheit
Frost-free period: 70 to 100 days

Composition

Slockey very gravelly ashy sandy clay loam, 15 to 30 percent slopes—35 percent
Schoolmarm gravelly ashy sandy loam, 8 to 30 percent slopes—30 percent
Rock outcrop, 15 to 50 percent slopes—20 percent
Udel extremely gravelly sandy loam, 30 to 50 percent slopes—9 percent
Hackwood gravelly silt loam, 30 to 50 percent slopes—6 percent

Component Description

Slockey and similar soils
Landform: Mountains
Slope: 15 to 30 percent
Parent material: Colluvium and residuum derived from welded tuff
Typical vegetation: Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees

Typical profile:
Layer 1—0 to 4 inches; very gravelly ashy sandy clay loam
Layer 2—4 to 9 inches; very gravelly ashy sandy clay loam
Layer 3—9 to 21 inches; very gravelly ashy sandy clay loam
Layer 4—21 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: Paralithic bedrock: 20 to 39 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: R028AY088NV—Gravelly clay 12-14 P.Z.

Component Description

Schoolmarm and similar soils
Landform: Backslopes of hills
Slope: 8 to 30 percent
Parent material: Residuum and colluvium derived from welded tuff
Typical vegetation: Thurber's needlegrass, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:
Layer 1—0 to 3 inches; gravelly ashy sandy loam
Layer 2—3 to 11 inches; very gravelly ashy sandy clay loam
Layer 3—11 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: 10 to 14 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
Available water capacity: About 2 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7e
Ecological site: R028AY126NV—Cobbly claypan

Component Description

Rock outcrop
Landform: Mountains
Slope: 15 to 50 percent

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

Contrasting Inclusions

Udel and similar soils
Composition: 0 to 9 percent
Slope: 30 to 50 percent
Landform: Mountains
Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—other perennial forbs, muttongrass, other perennial grasses, bluebunch wheatgrass, mountain big sagebrush, curl-leaf mountain mahogany, other shrubs, other trees
Ecological site: R028AY059NV—Mahogany savanna

Hackwood and similar soils
Composition: 0 to 6 percent

Slope: 30 to 50 percent
Landform: Mountains
Typical vegetation: Forest canopy—Engelmann's spruce, quaking aspen Forest understory—Fendler's meadowrue, white fir, other perennial grasses, other perennial forbs, mountain brome, nodding brome, slender wheatgrass, Utah serviceberry, Oregongrape, willow, other shrubs, snowberry, Engelmann's spruce, quaking aspen
Ecological site: F028AY078NV

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1115—Nuhelen-Rock outcrop-Newvil association

Map Unit Setting

MLRA: 28A
Landscape: Mountains
Elevation: 6,400 to 7,050
Precipitation: 10 to 14 inches
Air temperature: 45 to 50 degrees Fahrenheit
Frost-free period: 90 to 110 days

Composition

Nuhelen very cobbly sandy loam, cool, 8 to 15 percent slopes—50 percent
Rock outcrop, 15 to 50 percent slopes—20 percent
Newvil very gravelly coarse sandy loam, 2 to 15 percent slopes—15 percent
Nevu gravelly ashy sandy loam, 2 to 8 percent slopes—7 percent
Nuhelen gravelly sandy loam, 30 to 50 percent slopes—6 percent
Slockey very gravelly ashy sandy clay loam, 15 to 50 percent slopes—1 percent
Ravendog loam, 2 to 4 percent slopes—1 percent

Component Description

Nuhelen and similar soils
Landform: Mountains, north aspect
Slope: 8 to 15 percent
Parent material: Colluvium derived from tuff with minor amounts of volcanic ash over residuum weathered from tuff
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon
Site index: Singleleaf pinyon—45 at an age base of 100 years

Typical profile:
Surface rock fragments: About 2 percent cobbles, 10 percent gravel, 20 percent fine subrounded gravel
Layer 1—0 to 4 inches; very cobbly sandy loam
Layer 2—4 to 6 inches; very gravelly sandy loam
Layer 3—6 to 13 inches; very cobbly sandy clay loam
Layer 4—13 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: 7 to 14 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)
Available water capacity: About 1.1 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: F028AY074NV

Component Description

Rock outcrop
Landform: Mountains
Slope: 15 to 50 percent

Component Description

Newvil and similar soils
Landform: Fan remnants
Slope: 2 to 15 percent
Parent material: Alluvium derived from welded tuff
Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, other shrubs
Site index: Utah juniper—30 at an age base of 100 years
Site index: Singleleaf pinyon—30 at an age base of 100 years

Typical profile:
Layer 1—0 to 3 inches; very gravelly coarse sandy loam
Layer 2—3 to 12 inches; gravelly sandy clay loam
Layer 3—12 to 17 inches; gravelly loam
Layer 4—17 to 48 inches; cemented material
Layer 5—48 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 high
Depth to restrictive feature: Duripan: 15 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: R028AY036NV—Shallow clay loam 12-14 P.Z.

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

Contrasting Inclusions

Nevu and similar soils
Composition: 0 to 7 percent

Slope: 2 to 8 percent
Landform: Summits of upper fan remnants
Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees
Ecological site: R028AY088NV—Gravelly clay 12-14 P.Z.

Nuhelen and similar soils
Composition: 0 to 6 percent
Slope: 30 to 50 percent
Landform: Mountains, north aspect
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon
Ecological site: F028AY074NV

Slockey and similar soils
Composition: 0 to 1 percent
Slope: 15 to 50 percent
Landform: Rock pediments
Typical vegetation: Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees
Ecological site: R028AY088NV—Gravelly clay 12-14 P.Z.

Ravendog and similar soils
Composition: 0 to 1 percent
Slope: 2 to 4 percent
Landform: Fan skirts
Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs
Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1120—Watoopah-Chuckmill association

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont
Elevation: 5,950 to 6,250
Precipitation: 8 to 10 inches
Air temperature: 45 to 52 degrees Fahrenheit
Frost-free period: 90 to 120 days

Composition

Watoopah gravelly loamy sand, cool, 2 to 8 percent slopes—70 percent
Chuckmill gravelly ashy loam, 8 to 15 percent slopes—15 percent
Heist loamy sand, 0 to 4 percent slopes—7 percent
Biblesprings loam, 2 to 8 percent slopes—5 percent

Medburn silt loam, 8 to 15 percent slopes—3 percent

Component Description

Watoopah and similar soils
Landform: Summits of fan remnants
Slope: 2 to 8 percent
Parent material: Alluvium derived from welded tuff and rhyolite with minor amounts of volcanic ash
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:
Layer 1—0 to 4 inches; gravelly loamy sand
Layer 2—4 to 14 inches; sandy loam
Layer 3—14 to 40 inches; gravelly loamy sand
Layer 4—40 to 60 inches; stratified very gravelly coarse sand to 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 4 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description

Chuckmill and similar soils
Landform: Fan remnants
Slope: 8 to 15 percent
Parent material: Alluvium derived from welded tuff
Typical vegetation: Indian ricegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush, other shrubs, Utah juniper

Typical profile:
Layer 1—0 to 4 inches; gravelly ashy loam
Layer 2—4 to 14 inches; gravelly ashy clay 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: Duripan: 14 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: R028AY027NV—Shallow calcareous hill 8-10 P.Z.

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

Contrasting Inclusions

Heist and similar soils
Composition: 0 to 7 percent
Slope: 0 to 4 percent
Landform: Inset fans
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Biblesprings and similar soils
Composition: 0 to 5 percent
Slope: 2 to 8 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Medburn and similar soils
Composition: 0 to 3 percent
Slope: 8 to 15 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

1130—Handpah-Chuckridge-Sevenmile association

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont
Elevation: 5,700 to 6,350
Precipitation: 8 to 12 inches
Air temperature: 50 to 55 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Handpah gravelly sandy loam, cool, 0 to 4 percent slopes—40 percent
Chuckridge gravelly loam, 0 to 4 percent slopes—35 percent
Sevenmile ashy sandy loam, 0 to 2 percent slopes—15 percent
Heist loamy sand, 2 to 8 percent slopes—5 percent
Ratleflat gravelly sandy loam, 2 to 4 percent slopes—3 percent
Ravendog loam, 0 to 2 percent slopes—2 percent

Component Description

Handpah and similar soils
Landform: Summits of fan remnants
Slope: 0 to 4 percent
Parent material: Alluvium derived from volcanic rocks
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Typical profile:
Layer 1—0 to 2 inches; gravelly sandy loam
Layer 2—2 to 8 inches; gravelly sandy clay loam
Layer 3—8 to 14 inches; very gravelly sandy loam
Layer 4—14 to 18 inches; cemented material
Layer 5—18 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): Moderately High, (Permeability class: Moderately slow)
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: R028AY017NV—Shallow loam 8-10 P.Z.

Component Description

Chuckridge and similar soils
Landform: Summits of fan remnants
Slope: 0 to 4 percent
Parent material: Alluvium derived from rhyolite and basalt
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:
Layer 1—0 to 2 inches; gravelly loam
Layer 2—2 to 11 inches; gravelly clay loam
Layer 3—11 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: 7 to 14 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Sevenmile and similar soils
Landform: Inset fans
Slope: 0 to 2 percent
Parent material: Alluvium derived from welded tuff and some limestone and quartzite
Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:
Surface rock fragments: About 5 percent fine gravel, 10 percent gravel
Layer 1—0 to 11 inches; ashy sandy loam
Layer 2—11 to 35 inches; loam
Layer 3—35 to 60 inches; stratified extremely gravelly loamy coarse sand to 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): High, (Permeability class: Moderately rapid)
Available water capacity: About 10 inches
Present flooding: Rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 6s
Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions

Heist and similar soils
Composition: 0 to 5 percent
Slope: 2 to 8 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Ratleflat and similar soils
Composition: 0 to 3 percent
Slope: 2 to 4 percent
Landform: Summits of fan remnants
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Ravendog and similar soils
Composition: 0 to 2 percent
Slope: 0 to 2 percent

Landform: Drainageways
Typical vegetation: Basin wildrye, creeping wildrye, other perennial grasses, other perennial forbs, big sagebrush, other shrubs
Ecological site: R028AY025NV—Dry floodplain

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

1131—Handpah-Watoopah-Littleailie association

Map Unit Setting

MLRA: 29
Landscape: Fan piedmont
Elevation: 4,900 to 6,100
Precipitation: 8 to 10 inches
Air temperature: 45 to 52 degrees Fahrenheit
Frost-free period: 90 to 130 days

Composition

Handpah gravelly fine sandy loam, 2 to 8 percent slopes—40 percent
Watoopah gravelly loamy sand, 2 to 8 percent slopes—30 percent
Littleailie gravelly sandy loam, 4 to 15 percent slopes—15 percent
Veet gravelly sandy loam, 0 to 4 percent slopes—9 percent
Annabella sandy loam, 0 to 4 percent slopes—6 percent

Component Description

Handpah and similar soils
Landform: Fan remnants
Slope: 2 to 8 percent
Parent material: Alluvium derived from volcanic rocks
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:
Layer 1—0 to 2 inches; gravelly fine sandy loam
Layer 2—2 to 8 inches; gravelly clay loam
Layer 3—8 to 14 inches; very gravelly sandy loam
Layer 4—14 to 18 inches; cemented material
Layer 5—18 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): Moderately Low, (Permeability class: Slow)
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: R029XY006NV—Loamy 8-10 P.Z.

Component Description

Watoopah and similar soils
Landform: Fan remnants
Slope: 2 to 8 percent
Parent material: Alluvium derived from welded tuff and rhyolite with minor amounts of volcanic ash
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:
Layer 1—0 to 4 inches; gravelly loamy sand
Layer 2—4 to 14 inches; sandy loam
Layer 3—14 to 40 inches; gravelly loamy sand
Layer 4—40 to 60 inches; stratified very gravelly coarse sand to 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): 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: R029XY049NV—Sandy loam 8-12 P.Z.

Component Description

Littleailie and similar soils
Landform: Fan remnants
Slope: 4 to 15 percent
Parent material: Alluvium derived from welded tuff with a minor amounts of volcanic ash and alluvium derived from limestone
Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:
Surface rock fragments: About 15 percent fine gravel, 20 percent gravel
Layer 1—0 to 3 inches; gravelly sandy loam
Layer 2—3 to 8 inches; gravelly sandy loam
Layer 3—8 to 19 inches; very gravelly sandy loam
Layer 4—19 to 41 inches; cemented material
Layer 5—41 to 62 inches; extremely gravelly loamy 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: Duripan: 14 to 20 inches

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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

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

Contrasting Inclusions

Veet and similar soils
Composition: 0 to 9 percent
Slope: 0 to 4 percent
Landform: Inset fans
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs
Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Annabella and similar soils
Composition: 0 to 6 percent
Slope: 0 to 4 percent
Landform: Inset fans
Typical vegetation: Other shrubs, Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush
Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

1132—Handpah-Veet association

Map Unit Setting

MLRA: 29
Landscape: Fan piedmont
Elevation: 4,550 to 6,450
Precipitation: 8 to 10 inches
Air temperature: 50 to 55 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Handpah gravelly sandy loam, 2 to 15 percent slopes—70 percent
Veet gravelly sandy loam, 2 to 8 percent slopes—20 percent
Annabella sandy loam, 0 to 4 percent slopes—7 percent
Handpah very gravelly sandy loam, 15 to 30 percent slopes—3 percent

Component Description

Handpah and similar soils
Landform: Fan remnants

Slope: 2 to 15 percent
Parent material: Alluvium derived from volcanic rocks
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:
Layer 1—0 to 2 inches; gravelly sandy loam
Layer 2—2 to 8 inches; gravelly sandy clay loam
Layer 3—8 to 14 inches; very gravelly sandy loam
Layer 4—14 to 18 inches; cemented material
Layer 5—18 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): Moderately High, (Permeability class: Moderately slow)
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: R029XY006NV—Loamy 8-10 P.Z.

Component Description

Veet and similar soils
Landform: Inset fans
Slope: 2 to 8 percent
Parent material: Alluvium derived from welded tuff
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:
Layer 1—0 to 4 inches; gravelly sandy loam
Layer 2—4 to 16 inches; very gravelly sandy loam
Layer 3—16 to 60 inches; stratified very gravelly loamy coarse sand to 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: Rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

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

Contrasting Inclusions

Annabella and similar soils
Composition: 0 to 7 percent
Slope: 0 to 4 percent
Landform: Drainageways
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush
Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Handpah and similar soils
Composition: 0 to 3 percent
Slope: 15 to 30 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs
Ecological site: R029XY010NV—Loamy slope 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

1133—Lojet-Qwynn-Littleailie association

Map Unit Setting

MLRA: 29
Landscape: Fan piedmont
Elevation: 4,700 to 7,000
Precipitation: 8 to 10 inches
Air temperature: 47 to 53 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Lojet coarse sandy loam, 0 to 4 percent slopes—40 percent
Qwynn gravelly coarse sandy loam, thick surface, 2 to 8 percent slopes—30 percent
Littleailie gravelly sandy loam, 2 to 8 percent slopes—20 percent
Gardenvalley gravelly fine sandy loam, 0 to 4 percent slopes—5 percent
Devildog very gravelly coarse sandy loam, 2 to 8 percent slopes—5 percent

Component Description

Lojet and similar soils
Landform: Fan remnants
Slope: 0 to 4 percent
Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:
Surface rock fragments: About 10 percent fine gravel, 10 percent gravel
Layer 1—0 to 4 inches; coarse sandy loam

Layer 2—4 to 11 inches; sandy clay loam
Layer 3—11 to 35 inches; gravelly sandy clay loam
Layer 4—35 to 41 inches; cemented material
Layer 5—41 to 60 inches; very gravelly coarse sandy 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: Duripan: 20 to 39 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
Available water capacity: About 5 inches
Present flooding: Very rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 6c
Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Component Description

Qwynn and similar soils
Landform: Fan remnants
Slope: 2 to 8 percent
Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash and alluvium derived from limestone
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:
Surface rock fragments: About 10 percent fine gravel, 15 percent gravel
Layer 1—0 to 7 inches; gravelly coarse sandy loam
Layer 2—7 to 28 inches; gravelly sandy loam
Layer 3—28 to 52 inches; gravelly sandy clay loam
Layer 4—52 to 70 inches; very gravelly 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 6 inches
Present flooding: Very rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 6c
Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Component Description

Littleailie and similar soils
Landform: Fan remnants
Slope: 2 to 8 percent

Parent material: Alluvium derived from welded tuff with a minor component of limestone
Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:
Surface rock fragments: About 15 percent fine gravel, 20 percent gravel
Layer 1—0 to 3 inches; gravelly sandy loam
Layer 2—3 to 8 inches; gravelly sandy loam
Layer 3—8 to 19 inches; very gravelly sandy loam
Layer 4—19 to 41 inches; cemented material
Layer 5—41 to 62 inches; extremely gravelly loamy 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: Duripan: 14 to 20 inches
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: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

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

Contrasting Inclusions

Gardenvalley and similar soils
Composition: 0 to 5 percent
Slope: 0 to 4 percent
Landform: Fan skirts
Typical vegetation: Indian ricegrass, galleta, bud sagebrush, fourwing saltbush, winterfat, other shrubs
Ecological site: R029XY042NV—Coarse silty 5-8 P.Z.

Devildog and similar soils
Composition: 0 to 5 percent
Slope: 2 to 8 percent
Landform: Inset fans
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs
Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Engineering" and "Soil Properties" sections

1134—Lojet-Chuckmill-Sevenmile association

Map Unit Setting

MLRA: 28A

Landscape: Fan piedmont
Elevation: 5,750 to 6,500
Precipitation: 8 to 12 inches
Air temperature: 47 to 53 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Lojet coarse sandy loam, 0 to 4 percent slopes—40 percent
Chuckmill gravelly ashy loam, 2 to 8 percent slopes—35 percent
Sevenmile ashy sandy loam, moist, 0 to 2 percent slopes—15 percent
Devildog very gravelly coarse sandy loam, 2 to 8 percent slopes—5 percent
Qwynn gravelly coarse sandy loam, 2 to 8 percent slopes—3 percent
Sevenmile ashy sandy loam, 2 to 4 percent slopes—2 percent

Component Description

Lojet and similar soils
Landform: Fan remnants
Slope: 0 to 4 percent
Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Typical profile:
Surface rock fragments: About 10 percent fine gravel, 10 percent gravel
Layer 1—0 to 4 inches; coarse sandy loam
Layer 2—4 to 11 inches; sandy clay loam
Layer 3—11 to 35 inches; gravelly sandy clay loam
Layer 4—35 to 41 inches; cemented material
Layer 5—41 to 60 inches; very gravelly coarse sandy 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: Duripan: 20 to 39 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderate)
Available water capacity: About 5 inches
Present flooding: Very rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 6c
Ecological site: R028AY017NV—Shallow loam 8-10 P.Z.

Component Description

Chuckmill and similar soils
Landform: Fan remnants
Slope: 2 to 8 percent
Parent material: Alluvium derived from welded tuff
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:
Layer 1—0 to 4 inches; gravelly ashy loam
Layer 2—4 to 14 inches; gravelly ashy clay 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: Duripan: 7 to 14 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)
Available water capacity: About 2 inches
Present flooding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Sevenmile and similar soils
Landform: Inset fans
Slope: 0 to 2 percent
Parent material: Alluvium derived from welded tuff and some limestone and quartzite
Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:
Surface rock fragments: About 5 percent fine gravel, 10 percent gravel
Layer 1—0 to 11 inches; ashy sandy loam
Layer 2—11 to 35 inches; loam
Layer 3—35 to 60 inches; stratified extremely gravelly loamy coarse sand to 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): High, (Permeability class: Moderately rapid)
Available water capacity: About 10 inches
Present flooding: Rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 6s
Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions

Devildog and similar soils
Composition: 0 to 5 percent
Slope: 2 to 8 percent
Landform: Inset fans

Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Qwynn and similar soils
Composition: 0 to 3 percent
Slope: 2 to 8 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Sevenmile and similar soils
Composition: 0 to 2 percent
Slope: 2 to 4 percent
Landform: Inset fans
Typical vegetation: Basin wildrye, creeping wildrye, other perennial grasses, other perennial forbs, big sagebrush, other shrubs
Ecological site: R028AY025NV—Dry floodplain

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Engineering" and "Soil Properties" sections

1138—Littleailie-Lien-Sevenmile association

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont
Elevation: 5,850 to 7,100
Precipitation: 8 to 12 inches
Air temperature: 45 to 52 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Littleailie gravelly sandy loam, 0 to 4 percent slopes—50 percent
Lien very gravelly loam, 2 to 8 percent slopes—20 percent
Sevenmile ashy sandy loam, 0 to 2 percent slopes—15 percent
Handpah gravelly sandy loam, 2 to 4 percent slopes—9 percent
Jarab very gravelly sandy loam, 4 to 15 percent slopes—3 percent
Ravendog loam, 2 to 4 percent slopes—3 percent

Component Description

Littleailie and similar soils
Landform: Fan remnants
Slope: 0 to 4 percent
Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash and alluvium derived from limestone
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:
Surface rock fragments: About 15 percent fine gravel, 20 percent gravel

Layer 1—0 to 3 inches; gravelly sandy loam
Layer 2—3 to 8 inches; gravelly sandy loam
Layer 3—8 to 19 inches; very gravelly sandy loam
Layer 4—19 to 41 inches; cemented material
Layer 5—41 to 62 inches; extremely gravelly loamy 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: Duripan: 14 to 20 inches
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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Lien and similar soils
Landform: Upper fan remnants
Slope: 2 to 8 percent
Parent material: Alluvium derived from tuff with minor amounts of volcanic ash
Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:
Layer 1—0 to 3 inches; very gravelly loam
Layer 2—3 to 8 inches; very gravelly fine sandy loam
Layer 3—8 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
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: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: R028AY035NV—Shallow clay loam 10-12 P.Z.

Component Description

Sevenmile and similar soils
Landform: Inset fans
Slope: 0 to 2 percent

Parent material: Alluvium derived from welded tuff and some limestone and quartzite
Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:
Surface rock fragments: About 5 percent fine gravel, 10 percent gravel
Layer 1—0 to 11 inches; ashy sandy loam
Layer 2—11 to 35 inches; loam
Layer 3—35 to 60 inches; stratified extremely gravelly loamy coarse sand to 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): High, (Permeability class: Moderately rapid)
Available water capacity: About 10 inches
Present flooding: Rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 6s
Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions

Handpah and similar soils
Composition: 0 to 9 percent
Slope: 2 to 4 percent
Landform: Summits of fan remnants
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Jarab and similar soils
Composition: 0 to 3 percent
Slope: 4 to 15 percent
Landform: Fan remnants
Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, other shrubs
Ecological site: R028AY036NV—Shallow clay loam 12-14 P.Z.

Ravendog and similar soils
Composition: 0 to 3 percent
Slope: 2 to 4 percent
Landform: Fan skirts
Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs
Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication: "Range" section

"Forest land" section
"Engineering" and "Soil Properties" sections

1140—Cowgil-Yody-Fax association

Map Unit Setting

MLRA: 28B
Landscape: Fan piedmont
Elevation: 5,900 to 6,550
Precipitation: 8 to 14 inches
Air temperature: 45 to 50 degrees Fahrenheit
Frost-free period: 90 to 120 days

Composition

Cowgil very gravelly sandy loam, 4 to 15 percent slopes—35 percent
Yody gravelly sandy loam, 2 to 8 percent slopes—30 percent
Fax very cobbly coarse sandy loam, 4 to 15 percent slopes—20 percent
Pyrat gravelly sandy loam, 2 to 8 percent slopes—5 percent
McIvey very gravelly loam, 15 to 30 percent slopes—5 percent
Pern silt loam, 2 to 8 percent slopes—5 percent

Component Description

Cowgil and similar soils
Landform: Fan remnants
Slope: 4 to 15 percent
Parent material: Alluvium derived from quartzite, shale, and dolomite
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Typical profile:
Layer 1—0 to 4 inches; very gravelly sandy loam
Layer 2—4 to 21 inches; very gravelly sandy clay loam
Layer 3—21 to 61 inches; very cobbly 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)
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: R028BY010NV—Loamy 8-10 P.Z.

Component Description

Yody and similar soils
Landform: Fan remnants
Slope: 2 to 8 percent
Parent material: Alluvium derived from volcanic rocks

Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, other perennial grasses, other perennial forbs, spiny hopsage, other shrubs, Wyoming big sagebrush

Typical profile:
Layer 1—0 to 4 inches; gravelly sandy loam
Layer 2—4 to 30 inches; gravelly sandy clay loam
Layer 3—30 to 36 inches; gravelly sandy loam
Layer 4—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: Duripan: 30 to 39 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
Irrigated land capability: 3e
Nonirrigated land capability: 6s
Ecological site: R028BY086NV—Gravelly clay 10-12 P.Z.

Component Description

Fax and similar soils
Landform: Fan remnants
Slope: 4 to 15 percent
Parent material: Alluvium derived from andesite and quartzite
Typical vegetation: Thurber's needlegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, antelope bitterbrush

Typical profile:
Layer 1—0 to 3 inches; very cobbly coarse sandy loam
Layer 2—3 to 12 inches; very cobbly sandy clay loam
Layer 3—12 to 22 inches; very cobbly coarse sandy loam
Layer 4—22 to 48 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: 20 to 36 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: R028BY007NV—Loamy 10-12 P.Z.

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

Contrasting Inclusions

Pyrat and similar soils
Composition: 0 to 5 percent
Slope: 2 to 8 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs
Ecological site: R028BY010NV—Loamy 8-10 P.Z.

McIvey warm and similar soils
Composition: 0 to 5 percent
Classification: Clayey-skeletal, smectitic, mesic Aridic Argixerolls; this soil is taxadjunct to the McIvey series. It is warmer than typical for the series and has an aridic soil moisture regime.
Slope: 15 to 30 percent
Landform: Backslopes of rock pediments
Typical vegetation: Western needlegrass, Thurber's needlegrass, basin wildrye, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, antelope bitterbrush, snowberry
Ecological site: R028BY015NV—Loamy slope 12-16 P.Z.

Pern and similar soils
Composition: 0 to 5 percent
Slope: 2 to 8 percent
Landform: Inset fans
Typical vegetation: Basin wildrye, Nevada bluegrass, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs
Ecological site: R028BY003NV—Loamy bottom 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

1150—Zoda-Cath association

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont
Elevation: 5,900 to 6,550
Precipitation: 8 to 10 inches
Air temperature: 47 to 52 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Zoda gravelly ashy sandy loam, 0 to 4 percent slopes—45 percent
Cath silt loam, 0 to 4 percent slopes—40 percent
Heist loamy sand, 0 to 4 percent slopes—4 percent
Heist loamy sand, 0 to 4 percent slopes, occasionally flooded—4 percent
Geer fine sandy loam, 0 to 4 percent slopes—4 percent
Chuckridge gravelly loam, 4 to 8 percent slopes—3 percent

Component Description

Zoda and similar soils
Landform: Lower fan remnants
Slope: 0 to 4 percent
Parent material: Alluvium derived from welded tuff
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:
Surface rock fragments: About 7 percent gravel, 8 percent fine gravel
Layer 1—0 to 5 inches; gravelly ashy sandy loam
Layer 2—5 to 15 inches; gravelly ashy sandy clay loam
Layer 3—15 to 24 inches; gravelly ashy sandy clay loam
Layer 4—24 to 32 inches; cemented material
Layer 5—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: Medium
Depth to restrictive feature: Duripan: 20 to 40 inches
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: 7e
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description

Cath and similar soils
Landform: Upper fan remnants
Slope: 0 to 4 percent
Parent material: Alluvium derived from mixed rock sources
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:
Layer 1—0 to 3 inches; silt loam
Layer 2—3 to 21 inches; clay loam
Layer 3—21 to 33 inches; very gravelly loam
Layer 4—33 to 60 inches; stratified very gravelly loamy coarse sand to 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 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: 6c
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

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

Contrasting Inclusions

Heist and similar soils
Composition: 0 to 4 percent
Slope: 0 to 4 percent
Landform: Lower fan remnants
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Heist and similar soils
Composition: 0 to 4 percent
Slope: 0 to 4 percent
Landform: Drainageways
Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs
Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Geer and similar soils
Composition: 0 to 4 percent
Slope: 0 to 4 percent
Landform: Fan skirts
Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs
Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

Chuckridge and similar soils
Composition: 0 to 3 percent
Slope: 4 to 8 percent
Landform: Summits of fan remnants
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs
Ecological site: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Engineering" and "Soil Properties" sections

1151—Watoopah-Zoda-Sevenmile association

Map Unit Setting

MLRA: 29
Landscape: Fan piedmont
Elevation: 4,850 to 6,100
Precipitation: 8 to 10 inches
Air temperature: 46 to 53 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Watoopah gravelly loamy sand, warm, 0 to 4 percent slopes—45 percent
Zoda gravelly ashy sandy loam, 2 to 8 percent slopes—30 percent
Sevenmile ashy sandy loam, 0 to 2 percent slopes—15 percent
Handpah gravelly sandy loam, 2 to 4 percent slopes—5 percent
Littleailie gravelly sandy loam, 2 to 8 percent slopes—5 percent

Component Description

Watoopah and similar soils
Landform: Fan remnants
Slope: 0 to 4 percent
Parent material: Alluvium derived from volcanic ash, welded tuff, and rhyolite
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:
Layer 1—0 to 4 inches; gravelly loamy sand
Layer 2—4 to 14 inches; sandy loam
Layer 3—14 to 40 inches; gravelly loamy sand
Layer 4—40 to 60 inches; stratified very gravelly coarse sand to 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 4 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Component Description

Zoda and similar soils
Landform: Fan remnants
Slope: 2 to 8 percent
Parent material: Alluvium derived from welded tuff
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial grasses, Wyoming big sagebrush

Typical profile:
Surface rock fragments: About 8 percent fine gravel, 7 percent gravel
Layer 1—0 to 5 inches; gravelly ashy sandy loam
Layer 2—5 to 15 inches; gravelly ashy sandy clay loam
Layer 3—15 to 24 inches; gravelly ashy sandy clay loam
Layer 4—24 to 32 inches; cemented material
Layer 5—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: 20 to 40 inches
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: 7e
Ecological site: R029XY006NV—Loamy 8-10 P.Z.

Component Description

Sevenmile and similar soils
Landform: Inset fans
Slope: 0 to 2 percent
Parent material: Alluvium derived from welded tuff and some limestone and quartzite
Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Typical profile:
Surface rock fragments: About 5 percent fine gravel, 10 percent gravel
Layer 1—0 to 11 inches; ashy sandy loam
Layer 2—11 to 35 inches; loam
Layer 3—35 to 60 inches; stratified extremely gravelly loamy coarse sand to 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): High, (Permeability class: Moderately rapid)
Available water capacity: About 10 inches
Present flooding: Rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 6s
Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions

Handpah and similar soils
Composition: 0 to 5 percent
Slope: 2 to 4 percent
Landform: Summits of fan remnants
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, other perennial forbs, Wyoming big sagebrush, Nevada ephedra, other shrubs
Ecological site: R029XY010NV—Loamy slope 8-10 P.Z.

Littleailie and similar soils
Composition: 0 to 5 percent
Slope: 2 to 8 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs
Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Engineering" and "Soil Properties" sections

1154—Qwynn-Ragnel association

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont
Elevation: 5,960 to 6,600
Precipitation: 8 to 10 inches
Air temperature: 47 to 53 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Qwynn gravelly coarse sandy loam, 0 to 2 percent slopes—45 percent
Ragnel very gravelly loamy sand, 0 to 4 percent slopes—40 percent
Ravendog loam, 0 to 2 percent slopes—5 percent
Veet very gravelly sandy loam, 0 to 2 percent slopes—5 percent
Crestline fine sandy loam, 0 to 2 percent slopes—5 percent

Component Description

Qwynn and similar soils
Landform: Fan remnants
Slope: 0 to 2 percent
Parent material: Alluvium derived from welded tuff with minor amounts of volcanic ash and alluvium derived from limestone
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:
Surface rock fragments: About 10 percent fine gravel, 15 percent gravel
Layer 1—0 to 3 inches; gravelly coarse sandy loam
Layer 2—3 to 28 inches; gravelly sandy loam
Layer 3—28 to 52 inches; gravelly sandy clay loam
Layer 4—52 to 70 inches; very gravelly 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 6 inches
Present flooding: Very rare

Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 6c
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description

Ragnel and similar soils
Landform: Barrier beaches
Slope: 0 to 4 percent
Parent material: Alluvium derived from mixed rock sources
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:
Layer 1—0 to 3 inches; very gravelly loamy sand
Layer 2—3 to 11 inches; very gravelly sandy loam
Layer 3—11 to 60 inches; 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: None
Present ponding: None
Natural drainage class: Somewhat excessively drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

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

Contrasting Inclusions

Ravendog and similar soils
Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Drainageways
Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs
Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Veet and similar soils
Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Inset fans
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Crestline and similar soils
Composition: 0 to 5 percent

Slope: 0 to 2 percent
Landform: Fan remnants
Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, greenmolly kochia, other shrubs
Ecological site: R028AY001NV—Silt flat

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Engineering" and "Soil Properties" sections

1160—Silent-Koyen association

Map Unit Setting

MLRA: 29
Landscape: Fan piedmont
Elevation: 5,150 to 6,000
Precipitation: 6 to 8 inches
Air temperature: 52 to 57 degrees Fahrenheit
Frost-free period: 130 to 160 days

Composition

Silent gravelly sandy loam, 4 to 8 percent slopes—60 percent
Koyen gravelly fine sandy loam, droughty, 2 to 8 percent slopes—30 percent
Riverwash extremely gravelly coarse sand, 0 to 2 percent slopes—5 percent
Tybo gravelly fine sandy loam, 2 to 8 percent slopes—5 percent

Component Description

Silent and similar soils
Landform: Fan remnants
Slope: 4 to 8 percent
Parent material: Alluvium derived from welded tuff and limestone
Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:
Layer 1—0 to 4 inches; gravelly sandy loam
Layer 2—4 to 12 inches; clay loam
Layer 3—12 to 17 inches; gravelly clay loam
Layer 4—17 to 27 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 20 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately 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: 7s
Ecological site: R029XY017NV—Loamy 5-8 P.Z.

Component Description

Koyen and similar soils
Landform: Inset fans
Slope: 2 to 8 percent
Parent material: Alluvium derived from volcanic rocks with a high component of loess
Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat

Typical profile:
Layer 1—0 to 4 inches; gravelly fine sandy loam
Layer 2—4 to 45 inches; sandy loam
Layer 3—45 to 60 inches; 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: Moderately rapid)
Available water capacity: About 6 inches
Present flooding: Rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Irrigated land capability: 2s
Nonirrigated land capability: 7c
Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

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

Contrasting Inclusions

Riverwash
Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Drainageways

Tybo and similar soils
Composition: 0 to 5 percent
Slope: 2 to 8 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, desert needlegrass, bush muhly, galleta, other perennial grasses, other perennial forbs, other shrubs, fourwing saltbush, Nevada ephedra, spiny hopsage, winterfat
Ecological site: R029XY079NV—Droughty loam 5-8 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

1170—Haunchee-Hardol-Xine association

Map Unit Setting

MLRA: 28B
Landscape: Mountains
Elevation: 7,500 to 8,600
Precipitation: 14 to 22 inches
Air temperature: 36 to 44 degrees Fahrenheit
Frost-free period: 50 to 90 days

Composition

Haunchee very cobbly loam, 15 to 50 percent slopes—50 percent
Hardol very gravelly silt loam, 30 to 50 percent slopes—20 percent
Xine very gravelly loam, 15 to 30 percent slopes—15 percent
Hardzem channery loam, 30 to 50 percent slopes—5 percent
Haunchee very cobbly loam, 8 to 30 percent slopes—5 percent
Rock outcrop, 15 to 50 percent slopes—5 percent

Component Description

Haunchee and similar soils
Landform: Backslopes of mountains
Slope: 15 to 50 percent
Parent material: Residuum and colluvium derived from limestone, shale, and dolomite
Typical vegetation: Needlegrass, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, other shrubs, snowberry

Typical profile:
Layer 1—0 to 7 inches; very cobbly loam
Layer 2—7 to 19 inches; very gravelly loam
Layer 3—19 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 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: R028BY032NV—Stony mahogany savanna

Component Description

Hardol and similar soils
Landform: Backslopes of mountains
Slope: 30 to 50 percent
Parent material: Residuum and colluvium derived from limestone and dolomite
Typical vegetation: Letterman needlegrass, Columbia needlegrass, mountain brome, slender wheatgrass, spike fescue, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, other shrubs, snowberry

Typical profile:
Layer 1—0 to 8 inches; very gravelly silt loam
Layer 2—8 to 33 inches; extremely gravelly silt loam
Layer 3—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: 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: 7s
Ecological site: R028BY085NV—Calcareous loam 16+ P.Z.

Component Description

Xine and similar soils
Landform: Backslopes of mountains
Slope: 15 to 30 percent
Parent material: Residuum and colluvium derived from shale and limestone
Typical vegetation: Basin wildrye, Canby bluegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Typical profile:
Layer 1—0 to 10 inches; very gravelly loam
Layer 2—10 to 35 inches; very cobbly loam
Layer 3—35 to 45 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 3 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: R028BY088NV—Calcareous loam 14-16 P.Z.

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

Contrasting Inclusions

Hardzem and similar soils
Composition: 0 to 5 percent
Slope: 30 to 50 percent
Landform: Backslopes of upper mountains, northwest to northeast aspects

Typical vegetation: Forest canopy—white fir Forest understory—spike fescue, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, mountain big sagebrush, common juniper, Oregongrape, other shrubs, white fir
Ecological site: F028BY063NV

Haunchee and similar soils
Composition: 0 to 5 percent
Slope: 8 to 30 percent
Landform: Shoulders of mountains
Typical vegetation: Columbia needlegrass, western needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, other shrubs
Ecological site: R028BY043NV—Calcareous mahogany savanna

Rock outcrop
Composition: 0 to 5 percent
Slope: 15 to 50 percent
Landform: Mountains

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1171—Haunchee-Hardzem-Rock outcrop association

Map Unit Setting

MLRA: 28B
Landscape: Mountains
Elevation: 6,850 to 9,750
Precipitation: 16 to 27 inches
Air temperature: 36 to 44 degrees Fahrenheit
Frost-free period: 50 to 70 days

Composition

Haunchee very cobbly loam, 30 to 75 percent slopes—40 percent
Hardzem channery loam, 30 to 75 percent slopes—30 percent
Rock outcrop, 30 to 75 percent slopes—15 percent
Guiser extremely cobbly loam, 30 to 75 percent slopes—5 percent
Hardol very gravelly silt loam, 30 to 75 percent slopes—5 percent
Wardbay very gravelly loam, 30 to 75 percent slopes—5 percent

Component Description

Haunchee and similar soils
Landform: Backslopes of mountains
Slope: 30 to 75 percent
Parent material: Residuum and colluvium derived from limestone, shale, and dolomite
Typical vegetation: Needlegrass, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, other shrubs, snowberry

Typical profile:
Layer 1—0 to 7 inches; very cobbly loam
Layer 2—7 to 19 inches; very gravelly very fine sandy loam

Layer 3—19 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 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: R028BY032NV—Stony mahogany savanna

Component Description

Hardzem and similar soils
Landform: Backslopes of mountains
Slope: 30 to 75 percent
Parent material: Residuum and colluvium derived from limestone and shale
Typical vegetation: Forest canopy—white fir Forest understory—spike fescue, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, mountain big sagebrush, common juniper, Oregongrape, other shrubs, white fir
Site index: White fir—43 at an age base of 50 years

Typical profile:
Layer 1—0 to 1 inches; channery loam
Layer 2—1 to 21 inches; very channery loam
Layer 3—21 to 52 inches; bedrock
Layer 4—52 to 56 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 40 inches
Saturated hydraulic conductivity class (root zone): Moderately Low, (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: 7e
Ecological site: F028BY063NV

Component Description

Rock outcrop
Landform: Mountains
Slope: 30 to 75 percent

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

Contrasting Inclusions

Guiser and similar soils
Composition: 0 to 5 percent
Slope: 30 to 75 percent
Landform: Mountains
Typical vegetation: Forest canopy—quaking aspen, white fir Forest understory—mountain brome, slender wheatgrass, spike fescue, Nevada bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, common juniper, Oregongrape, other shrubs, white fir, quaking aspen
Ecological site: F028BY055NV

Hardol and similar soils
Composition: 0 to 5 percent
Slope: 30 to 75 percent
Landform: Backslopes of mountains
Typical vegetation: Indian ricegrass, Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, snowberry
Ecological site: R028BY042NV—Mahogany thicket

Wardbay and similar soils
Composition: 0 to 5 percent
Slope: 30 to 75 percent
Landform: Mountains
Typical vegetation: Canby bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs
Ecological site: R028BY070NV—Shallow loam 16+ P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1172—Haunchee-Wardbay-Hardzem association

Map Unit Setting

MLRA: 28B
Landscape: Mountains
Elevation: 8,500 to 10,000
Precipitation: 14 to 30 inches
Air temperature: 36 to 44 degrees Fahrenheit
Frost-free period: 30 to 70 days

Composition

Haunchee very cobbly loam, 15 to 50 percent slopes—35 percent
Wardbay very gravelly loam, 15 to 50 percent slopes—30 percent
Hardzem channery loam, 15 to 50 percent slopes—20 percent
Eganroc very stony loam, 30 to 75 percent slopes—5 percent
Hardol very gravelly silt loam, 30 to 75 percent slopes—5 percent
Rock outcrop, 15 to 50 percent slopes—4 percent
Hapgood very gravelly loam, 30 to 50 percent slopes—1 percent

Component Description

Haunchee and similar soils
Landform: Backslopes of mountains

Slope: 15 to 50 percent
Parent material: Residuum and colluvium derived from limestone, shale, and dolomite
Typical vegetation: Needlegrass, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, other shrubs, snowberry

Typical profile:
Layer 1—0 to 7 inches; very cobbly loam
Layer 2—7 to 19 inches; very gravelly very fine sandy loam
Layer 3—19 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 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: R028BY032NV—Stony mahogany savanna

Component Description

Wardbay and similar soils
Landform: Backslopes of mountains
Slope: 15 to 50 percent
Parent material: Colluvium derived from limestone and dolomite and/or residuum weathered from limestone and dolomite
Typical vegetation: Canby bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs

Typical profile:
Layer 1—0 to 18 inches; very gravelly loam
Layer 2—18 to 45 inches; extremely cobbly silt loam
Layer 3—45 to 55 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: 40 to 60 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: R028BY070NV—Shallow loam 16+ P.Z.

Component Description

Hardzem and similar soils
Landform: Backslopes of mountains
Slope: 15 to 50 percent
Parent material: Residuum and colluvium derived from limestone and shale
Typical vegetation: Forest canopy—white fir Forest understory—mountain big sagebrush, spike fescue, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, common juniper, Oregongrape, other shrubs, white fir
Site index: White fir—43 at an age base of 50 years

Typical profile:
Layer 1—0 to 1 inches; channery loam
Layer 2—1 to 21 inches; very channery loam
Layer 3—21 to 52 inches; bedrock
Layer 4—52 to 56 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 40 inches
Saturated hydraulic conductivity class (root zone): Moderately Low, (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: 7e
Ecological site: F028BY063NV

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

Contrasting Inclusions

Eganroc and similar soils
Composition: 0 to 5 percent
Slope: 30 to 75 percent
Landform: Mountains
Typical vegetation: Forest canopy—white fir Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, goldenweed, mountain big sagebrush, Oregongrape, other shrubs, white fir, limber pine, Great Basin bristlecone pine
Ecological site: F028BY049NV

Hardol and similar soils
Composition: 0 to 5 percent
Slope: 30 to 75 percent
Landform: Backslopes of mountains
Typical vegetation: Indian ricegrass, Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, snowberry
Ecological site: R028BY042NV—Mahogany thicket

Rock outcrop
Composition: 0 to 4 percent
Slope: 15 to 50 percent

Landform: Mountains

Hapgood and similar soils
Composition: 0 to 1 percent
Slope: 30 to 50 percent
Landform: Backslopes of mountains
Typical vegetation: Letterman needlegrass, bluegrass, other perennial grasses, other perennial forbs, slender buckwheat, other shrubs, penstemon, lupine
Ecological site: R028BY051NV—Snowpocket

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1180—Eoj-McIvey association

Map Unit Setting

MLRA: 28B
Landscape: Mountains
Elevation: 6,400 to 9,200
Precipitation: 12 to 18 inches
Air temperature: 40 to 45 degrees Fahrenheit
Frost-free period: 70 to 100 days

Composition

Eoj very stony loam, 15 to 30 percent slopes—40 percent
Eoj very stony loam, 4 to 15 percent slopes—30 percent
McIvey gravelly loam, 8 to 30 percent slopes—15 percent
Hutchley very gravelly loam, 15 to 50 percent slopes—6 percent
Rock outcrop, 4 to 30 percent slopes—5 percent
Tusel cobbly loam, 15 to 50 percent slopes—4 percent

Component Description

Eoj and similar soils
Landform: Backslopes of mountains
Slope: 15 to 30 percent
Parent material: Residuum and colluvium derived from quartzite and limestone
Typical vegetation: Western needlegrass, pine needlegrass, Thurber's needlegrass, muttongrass, Sandberg bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:
Layer 1—0 to 6 inches; very stony loam
Layer 2—6 to 60 inches; cobbly clay

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): Low, (Permeability class: Very slow)
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: R028BY037NV—Claypan 12-14 P.Z.

Component Description

Eoj and similar soils
Landform: Backslopes of mountains
Slope: 4 to 15 percent
Parent material: Residuum and colluvium derived from quartzite and limestone
Typical vegetation: Western needlegrass, pine needlegrass, Thurber's needlegrass, muttongrass, Sandberg bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs

Typical profile:
Layer 1—0 to 6 inches; very stony loam
Layer 2—6 to 60 inches; cobbly clay

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): Low, (Permeability class: Very slow)
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: R028BY037NV—Claypan 12-14 P.Z.

Component Description

McIvey and similar soils
Landform: Backslopes of mountains
Slope: 8 to 30 percent
Parent material: Alluvium or colluvium derived from quartzite and shale
Typical vegetation: Thurber's needlegrass, basin wildrye, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Typical profile:
Layer 1—0 to 13 inches; gravelly loam
Layer 2—13 to 18 inches; very gravelly loam
Layer 3—18 to 23 inches; very gravelly clay loam
Layer 4—23 to 62 inches; very gravelly clay
Layer 5—62 to 80 inches; extremely cobbly clay 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): Low, (Permeability class: Very slow)

Available water capacity: About 6 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 6e
Ecological site: R028BY030NV—Loamy 12-16 P.Z.

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

Contrasting Inclusions

Hutchley and similar soils
Composition: 0 to 6 percent
Slope: 15 to 50 percent
Landform: Backslopes of mountains
Typical vegetation: Bluebunch wheatgrass, Thurber's needlegrass, other perennial grasses, other perennial forbs, low sagebrush, black sagebrush, other shrubs
Ecological site: R028BY034NV—Mountain ridge 12-14 P.Z.

Rock outcrop
Composition: 0 to 5 percent
Slope: 4 to 30 percent
Landform: Mountains

Tusel and similar soils
Composition: 0 to 4 percent
Slope: 15 to 50 percent
Landform: Backslopes of mountains
Typical vegetation: Other perennial grasses, slender wheatgrass, mountain brome, Idaho fescue, bluegrass, mountain big sagebrush, snowberry, Utah serviceberry, western chokecherry, other shrubs, other perennial forbs
Ecological site: R025XY004NV—Loamy slope 16+ P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Engineering" and "Soil Properties" sections

1190—Pookaloo-Cavehill-Rock outcrop association

Map Unit Setting

MLRA: 28B
Landscape: Mountains
Elevation: 6,200 to 9,400
Precipitation: 12 to 16 inches
Air temperature: 41 to 50 degrees Fahrenheit
Frost-free period: 60 to 115 days

Composition

Pookaloo very gravelly loam, 15 to 50 percent slopes—40 percent
Cavehill gravelly loam, dry, 15 to 50 percent slopes—30 percent
Rock outcrop, 30 to 75 percent slopes—15 percent
Cavehill gravelly loam, 15 to 50 percent slopes—5 percent

Tecomar extremely gravelly silt loam, 15 to 50 percent slopes—5 percent
Xine very gravelly loam, 15 to 30 percent slopes—3 percent
Onkeyo very gravelly silt loam, 8 to 15 percent slopes—2 percent

Component Description

Pookaloo and similar soils
Landform: Mountains, south aspect
Slope: 15 to 50 percent
Parent material: Alluvium derived from welded tuff and minor components of limestone
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, Stansbury cliffrose, other shrubs, singleleaf pinyon
Site index: Singleleaf pinyon—40 at an age base of 100 years

Typical profile:
Layer 1—0 to 3 inches; very gravelly loam
Layer 2—3 to 14 inches; very gravelly loam
Layer 3—14 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: 14 to 20 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: F028BY060NV

Component Description

Cavehill and similar soils
Landform: Backslopes of mountains, north aspect
Slope: 15 to 50 percent
Parent material: Residuum and colluvium derived from limestone, dolomite and loess
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, basin wildrye, Canby bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, singleleaf pinyon
Site index: Singleleaf pinyon—50 at an age base of 100 years

Typical profile:
Surface rock fragments: About 30 percent fine gravel, 30 percent gravel, 5 percent cobbles
Layer 1—0 to 3 inches; gravelly loam
Layer 2—3 to 10 inches; gravelly loam
Layer 3—10 to 27 inches; very cobbly loam
Layer 4—27 to 31 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 3 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: F028BY062NV

Component Description

Rock outcrop
Landform: Mountains
Slope: 30 to 75 percent

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

Contrasting Inclusions

Cavehill and similar soils
Composition: 0 to 5 percent
Slope: 15 to 50 percent
Landform: Backslopes of mountains, north aspect
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, basin wildrye, Canby bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, singleleaf pinyon
Ecological site: F028BY062NV

Tecomar and similar soils
Composition: 0 to 5 percent
Slope: 15 to 50 percent
Landform: Mountains
Typical vegetation: Indian ricegrass, bluebunch wheatgrass, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs
Ecological site: R028BY008NV—Shallow calcareous slope 10-14 P.Z.

Xine and similar soils
Composition: 0 to 3 percent
Slope: 15 to 30 percent
Landform: Mountains
Typical vegetation: Basin wildrye, Canby bluegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs
Ecological site: R028BY088NV—Calcareous loam 14-16 P.Z.

Onkeyo and similar soils
Composition: 0 to 2 percent
Slope: 8 to 15 percent
Landform: Backslopes of mountains, north aspect
Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, bluebunch wheatgrass, antelope bitterbrush, other shrubs
Ecological site: R028BY079NV—Shallow loam 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication: "Range" section

"Forest land" section
"Engineering" and "Soil Properties" sections

1200—Urmafot-Bobs-Palinor association

Map Unit Setting

MLRA: 28B
Landscape: Fan piedmont
Elevation: 6,050 to 7,500
Precipitation: 8 to 16 inches
Air temperature: 43 to 48 degrees Fahrenheit
Frost-free period: 70 to 120 days

Composition

Urmafot very gravelly loam, 2 to 8 percent slopes—40 percent
Bobs very gravelly loam, 8 to 30 percent slopes—25 percent
Palinor gravelly loam, 2 to 8 percent slopes—20 percent
Pookaloo very gravelly loam, 15 to 50 percent slopes—7 percent
Shantown gravelly loamy sand, 0 to 4 percent slopes—5 percent
Urmafot very gravelly loam, 8 to 15 percent slopes—2 percent
Tulase silt loam, 0 to 4 percent slopes—1 percent

Component Description

Urmafot and similar soils
Landform: Upper fan remnants
Slope: 2 to 8 percent
Parent material: Alluvium derived from mixed rock sources
Typical vegetation: Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, winterfat, other shrubs

Typical profile:
Layer 1—0 to 10 inches; very gravelly loam
Layer 2—10 to 20 inches; gravelly loam
Layer 3—20 to 39 inches; cemented material
Layer 4—39 to 60 inches; stratified extremely gravelly coarse sandy loam to extremely gravelly sandy 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: Duripan: 9 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: R028BY006NV—Shallow calcareous loam 10-14 P.Z.

Component Description

Bobs and similar soils
Landform: Upper fan remnants

Slope: 8 to 30 percent
Parent material: Alluvium derived from limestone and dolomite with a component of loess high in volcanic ash
Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, other shrubs

Typical profile:
Layer 1—0 to 3 inches; very gravelly loam
Layer 2—3 to 14 inches; gravelly loam
Layer 3—14 to 20 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): 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: R028BY094NV—Calcareous loam 10-14 P.Z.

Component Description

Palinor and similar soils
Landform: Lower fan remnants
Slope: 2 to 8 percent
Parent material: Alluvium derived from limestone and dolomite
Typical vegetation: Indian ricegrass, green rabbitbrush, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, bottlebrush squirreltail, other shrubs

Typical profile:
Layer 1—0 to 10 inches; gravelly loam
Layer 2—10 to 18 inches; extremely gravelly fine sandy loam
Layer 3—18 to 30 inches; cemented material
Layer 4—30 to 60 inches; stratified gravelly sandy loam to extremely gravelly 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: Duripan: 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: R028BY011NV—Shallow calcareous loam 8-10 P.Z.

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

Contrasting Inclusions

Pookaloo and similar soils
Composition: 0 to 7 percent
Slope: 15 to 50 percent
Landform: Rock pediments, north to east aspects
Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, Stansbury cliffrose, other shrubs, singleleaf pinyon
Ecological site: F028BY060NV

Shantown and similar soils
Composition: 0 to 5 percent
Slope: 0 to 4 percent
Landform: Inset fans
Typical vegetation: Thurber's needlegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, antelope bitterbrush
Ecological site: R028BY007NV—Loamy 10-12 P.Z.

Urmafot and similar soils
Composition: 0 to 2 percent
Slope: 8 to 15 percent
Landform: Upper fan remnants
Typical vegetation: Indian ricegrass, bluebunch wheatgrass, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs
Ecological site: R028BY008NV—Shallow calcareous slope 10-14 P.Z.

Tulase and similar soils
Composition: 0 to 1 percent
Slope: 0 to 4 percent
Landform: Inset fans
Typical vegetation: Thickspike wheatgrass, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs
Ecological site: R028BY045NV—Loamy fan 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

1210—Palinor very gravelly loam, 2 to 15 percent slopes

Map Unit Setting

MLRA: 28B
Landscape: Fan piedmont
Elevation: 5,400 to 6,600
Precipitation: 8 to 10 inches
Air temperature: 45 to 48 degrees Fahrenheit
Frost-free period: 100 to 120 days

Composition

Palinor very gravelly loam, 2 to 15 percent slopes—85 percent
Parisa gravelly loam, 2 to 8 percent slopes—4 percent
Rebel sandy loam, 0 to 4 percent slopes—3 percent
Hessing silt loam, 0 to 1 percent slopes—2 percent
Linoyer gravelly fine sandy loam, 0 to 4 percent slopes—2 percent
Zerk gravelly loam, 0 to 4 percent slopes—2 percent
Zimbob very gravelly loam, 8 to 15 percent slopes—2 percent

Component Description

Palinor and similar soils
Landform: Fan remnants
Slope: 2 to 15 percent
Parent material: Alluvium derived from limestone and dolomite
Typical vegetation: Indian ricegrass, green rabbitbrush, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, bottlebrush squirreltail, other shrubs

Typical profile:
Layer 1—0 to 10 inches; very gravelly loam
Layer 2—10 to 18 inches; extremely gravelly fine sandy loam
Layer 3—18 to 30 inches; cemented material
Layer 4—30 to 60 inches; stratified gravelly sandy loam to extremely gravelly 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: Duripan: 14 to 20 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: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: R028BY011NV—Shallow calcareous loam 8-10 P.Z.

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

Contrasting Inclusions

Parisa and similar soils
Composition: 0 to 4 percent
Slope: 2 to 8 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs
Ecological site: R028BY010NV—Loamy 8-10 P.Z.

Rebel and similar soils
Composition: 0 to 3 percent
Slope: 0 to 4 percent
Landform: Inset fans

Typical vegetation: Other perennial grasses, Indian ricegrass, bottlebrush squirreltail, needleandthread, other perennial forbs, Wyoming big sagebrush, other shrubs
Ecological site: R028BY010NV—Loamy 8-10 P.Z.

Hessing and similar soils
Composition: 0 to 2 percent
Slope: 0 to 1 percent
Landform: Fan skirts
Typical vegetation: Indian ricegrass, other perennial grasses, bottlebrush squirreltail, other perennial forbs, bud sagebrush, shadscale, other shrubs
Ecological site: R028BY017NV—Loamy 5-8 P.Z.

Linoyer and similar soils
Composition: 0 to 2 percent
Slope: 0 to 4 percent
Landform: Inset fans
Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, winterfat, other shrubs
Ecological site: R028BY084NV—Coarse silty 6-8 P.Z.

Zerk and similar soils
Composition: 0 to 2 percent
Slope: 0 to 4 percent
Landform: Inset fans
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, shadscale, winterfat, Douglas rabbitbrush, bud sagebrush
Ecological site: R028BY075NV—Coarse gravelly loam 6-8 P.Z.

Zimbob and similar soils
Composition: 0 to 2 percent
Slope: 8 to 15 percent
Landform: Hills
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, other shrubs
Ecological site: R028BY016NV—Shallow calcareous slope 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

1211—Palinor-Urmafot-Urmafot, very shallow association

Map Unit Setting

MLRA: 28B
Landscape: Fan piedmont
Elevation: 6,000 to 7,600
Precipitation: 8 to 16 inches
Air temperature: 45 to 48 degrees Fahrenheit
Frost-free period: 100 to 120 days

Composition

Palinor gravelly loam, 8 to 15 percent slopes—45 percent

Urmafot gravelly sandy loam, 2 to 8 percent slopes—25 percent
Urmafot gravelly loam, 4 to 15 percent slopes—15 percent
Xine very gravelly loam, 15 to 30 percent slopes—5 percent
Izar very gravelly loam, 8 to 30 percent slopes—5 percent
Tulase silt loam, 2 to 4 percent slopes—3 percent
Pern silt loam, 2 to 4 percent slopes—2 percent

Component Description

Palinor and similar soils
Landform: Fan remnants
Slope: 8 to 15 percent
Parent material: Alluvium derived from limestone and dolomite
Typical vegetation: Indian ricegrass, green rabbitbrush, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, bottlebrush squirreltail, other shrubs

Typical profile:
Layer 1—0 to 3 inches; gravelly loam
Layer 2—3 to 16 inches; extremely gravelly fine sandy loam
Layer 3—16 to 35 inches; cemented material
Layer 4—35 to 60 inches; stratified gravelly sandy loam to extremely gravelly 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: Duripan: 14 to 20 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: R028BY011NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Urmafot and similar soils
Landform: Upper fan remnants
Slope: 2 to 8 percent
Parent material: Alluvium derived from mixed rock sources
Typical vegetation: Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, winterfat, other shrubs

Typical profile:
Layer 1—0 to 10 inches; gravelly sandy loam
Layer 2—10 to 20 inches; gravelly loam
Layer 3—20 to 39 inches; cemented material
Layer 4—39 to 60 inches; stratified extremely gravelly coarse sandy loam to extremely gravelly sandy 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: Duripan: 9 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: R028BY006NV—Shallow calcareous loam 10-14 P.Z.

Component Description

Urmafot and similar soils
Landform: Fan remnants
Slope: 4 to 15 percent
Parent material: Alluvium derived from mixed rock sources
Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, Stansbury cliffrose, other shrubs, singleleaf pinyon
Site index: Utah juniper—25 at an age base of 100 years
Site index: Singleleaf pinyon—25 at an age base of 100 years

Typical profile:
Layer 1—0 to 10 inches; gravelly loam
Layer 2—10 to 20 inches; gravelly loam
Layer 3—20 to 39 inches; cemented material
Layer 4—39 to 60 inches; stratified extremely gravelly coarse sandy loam to extremely gravelly sandy 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: Duripan: 9 to 20 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: F028BY060NV

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

Contrasting Inclusions

Xine and similar soils
Composition: 0 to 5 percent
Slope: 15 to 30 percent
Landform: Mountains
Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, other shrubs
Ecological site: R028BY094NV—Calcareous loam 10-14 P.Z.

Izar and similar soils
Composition: 0 to 5 percent
Slope: 8 to 30 percent
Landform: Rock pediments
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, other shrubs
Ecological site: R028BY016NV—Shallow calcareous slope 8-10 P.Z.

Tulase and similar soils
Composition: 0 to 3 percent
Slope: 2 to 4 percent
Landform: Inset fans
Typical vegetation: Thickspike wheatgrass, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs
Ecological site: R028BY045NV—Loamy fan 8-12 P.Z.

Pern and similar soils
Composition: 0 to 2 percent
Slope: 2 to 4 percent
Landform: Inset fans
Typical vegetation: Basin wildrye, Nevada bluegrass, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs
Ecological site: R028BY003NV—Loamy bottom 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

1212—Palinor-Yody-Broland association

Map Unit Setting

MLRA: 28B
Landscape: Fan piedmont
Elevation: 6,500 to 6,700
Precipitation: 8 to 10 inches
Air temperature: 45 to 48 degrees Fahrenheit
Frost-free period: 100 to 120 days

Composition

Palinor gravelly loam, 2 to 8 percent slopes—40 percent
Yody gravelly sandy loam, 2 to 8 percent slopes—25 percent
Broland very gravelly loam, 4 to 15 percent slopes—20 percent
Sodhouse gravelly loam, 4 to 15 percent slopes—5 percent
Abgese sandy loam, 2 to 8 percent slopes—4 percent
Enko sandy loam, 2 to 8 percent slopes—4 percent
Linoyer gravelly fine sandy loam, 0 to 4 percent slopes—2 percent

Component Description

Palinor and similar soils
Landform: Fan remnants

Slope: 2 to 8 percent
Parent material: Alluvium derived from limestone and dolomite
Typical vegetation: Indian ricegrass, green rabbitbrush, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, bottlebrush squirreltail, other shrubs

Typical profile:
Layer 1—0 to 10 inches; gravelly loam
Layer 2—10 to 18 inches; extremely gravelly fine sandy loam
Layer 3—18 to 30 inches; cemented material
Layer 4—30 to 60 inches; stratified gravelly sandy loam to extremely gravelly 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: Duripan: 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: R028BY011NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Yody and similar soils
Landform: Fan remnants
Slope: 2 to 8 percent
Parent material: Alluvium derived from volcanic rocks
Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, other perennial grasses, other perennial forbs, spiny hopsage, other shrubs, Wyoming big sagebrush

Typical profile:
Layer 1—0 to 4 inches; gravelly sandy loam
Layer 2—4 to 30 inches; gravelly sandy clay loam
Layer 3—30 to 36 inches; gravelly sandy loam
Layer 4—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: Duripan: 30 to 39 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
Irrigated land capability: 3e

Nonirrigated land capability: 6s
Ecological site: R028BY086NV—Gravelly clay 10-12 P.Z.

Component Description

Broland and similar soils
Landform: Fan remnants
Slope: 4 to 15 percent
Parent material: Alluvium derived from volcanic rock
Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:
Layer 1—0 to 3 inches; very gravelly loam
Layer 2—3 to 9 inches; gravelly clay loam
Layer 3—9 to 16 inches; extremely gravelly sandy clay loam
Layer 4—16 to 19 inches; very gravelly sandy loam
Layer 5—19 to 40 inches; cemented material
Layer 6—40 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: High
Depth to restrictive feature: Duripan: 14 to 20 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)
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: R028BY089NV—Shallow clay loam 10-12 P.Z.

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

Contrasting Inclusions

Sodhouse and similar soils
Composition: 0 to 5 percent
Slope: 4 to 15 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, winterfat, other shrubs
Ecological site: R028BY084NV—Coarse silty 6-8 P.Z.

Abgese and similar soils
Composition: 0 to 4 percent
Slope: 2 to 8 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs
Ecological site: R028BY010NV—Loamy 8-10 P.Z.

Enko and similar soils
Composition: 0 to 4 percent
Slope: 2 to 8 percent
Landform: Inset fans
Typical vegetation: Thurber's needlegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, antelope bitterbrush
Ecological site: R028BY007NV—Loamy 10-12 P.Z.

Linoyer and similar soils
Composition: 0 to 2 percent
Slope: 0 to 4 percent
Landform: Inset fans
Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, winterfat, other shrubs
Ecological site: R028BY084NV—Coarse silty 6-8 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

1215—Ursine-Jarab association

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont
Elevation: 6,050 to 7,500
Precipitation: 8 to 14 inches
Air temperature: 49 to 53 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Ursine gravelly loam, 2 to 15 percent slopes—50 percent
Jarab very gravelly sandy loam, 4 to 15 percent slopes—40 percent
Lodar very gravelly loam, 15 to 30 percent slopes—5 percent
Ravendog loam, 2 to 8 percent slopes—4 percent
Bigspring gravelly sandy loam, 2 to 4 percent slopes—1 percent

Component Description

Ursine and similar soils
Landform: Fan remnants
Slope: 2 to 15 percent
Parent material: Alluvium derived from limestone with a minor component of quartzite
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, black sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:
Layer 1—0 to 2 inches; gravelly loam
Layer 2—2 to 8 inches; gravelly loam
Layer 3—8 to 16 inches; very gravelly sandy loam
Layer 4—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): 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: R028AY013NV—Shallow calcareous loam 8-10 P.Z.

Component Description

Jarab and similar soils
Landform: Fan remnants
Slope: 4 to 15 percent
Parent material: Alluvium derived from limestone and from quartzite
Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose, other shrubs
Site index: Utah juniper—65 at an age base of 100 years
Site index: Singleleaf pinyon—65 at an age base of 100 years

Typical profile:
Layer 1—0 to 4 inches; very gravelly sandy loam
Layer 2—4 to 13 inches; very gravelly loam
Layer 3—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: High
Depth to restrictive feature: Duripan: 10 to 20 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)
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: R028AY043NV—Shallow calcareous loam 10-14 P.Z.

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

Contrasting Inclusions

Lodar and similar soils
Composition: 0 to 5 percent
Slope: 15 to 30 percent
Landform: Backslopes of mountains

Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon
Ecological site: F028AY074NV

Ravendog and similar soils
Composition: 0 to 4 percent
Slope: 2 to 8 percent
Landform: Inset fans
Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs
Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Bigspring and similar soils
Composition: 0 to 1 percent
Slope: 2 to 4 percent
Landform: Basin floor remnants
Typical vegetation: Basin wildrye, western wheatgrass, Nevada bluegrass, other perennial grasses, other perennial forbs, basin big sagebrush
Ecological site: R028AY090NV—Loamy bottom 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1220—Lien-Devildog association

Map Unit Setting

MLRA: 29
Landscape: Fan piedmont
Elevation: 5,400 to 6,550
Precipitation: 8 to 10 inches
Air temperature: 50 to 53 degrees Fahrenheit
Frost-free period: 110 to 150 days

Composition

Lien very gravelly sandy loam, warm, 4 to 15 percent slopes—60 percent
Devildog very gravelly ashy coarse sandy loam, 2 to 8 percent slopes—35 percent
Riverwash extremely gravelly coarse sand, 0 to 4 percent slopes—3 percent
Farepeak very gravelly ashy loam, 15 to 30 percent slopes—2 percent

Component Description

Lien and similar soils
Landform: Fan remnants
Slope: 4 to 15 percent
Parent material: Alluvium derived from tuff with minor amounts of volcanic ash
Typical vegetation: Other perennial forbs, black sagebrush, Nevada ephedra, muttongrass, other shrubs, other trees, Indian ricegrass, Thurber's needlegrass, blue grama, needleandthread, other perennial grasses

Typical profile:
Layer 1—0 to 3 inches; very gravelly sandy loam

Layer 2—3 to 8 inches; very gravelly fine sandy loam
Layer 3—8 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
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: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: R029XY104NV—Shallow clay loam 8-12 P.Z.

Component Description

Devildog and similar soils
Landform: Inset fans
Slope: 2 to 8 percent
Parent material: Alluvium derived from welded tuff with additions of volcanic ash
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs

Typical profile:
Surface rock fragments: About 15 percent gravel
Layer 1—0 to 4 inches; very gravelly ashy coarse sandy loam
Layer 2—4 to 12 inches; gravelly ashy coarse sandy loam
Layer 3—12 to 38 inches; stratified extremely gravelly coarse sand to very gravelly coarse sandy loam
Layer 4—38 to 60 inches; 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: Moderate)
Available water capacity: About 5 inches
Present flooding: Rare
Present ponding: None
Natural drainage class: Somewhat excessively drained

Interpretive Groups
Nonirrigated land capability: 6c
Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

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

Contrasting Inclusions

Riverwash
Composition: 0 to 3 percent
Slope: 0 to 4 percent

Landform: Drainageways

Farepeak and similar soils
Composition: 0 to 2 percent
Slope: 15 to 30 percent
Landform: Mountains
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curlleaf mountainmahogany, antelope bitterbrush, other shrubs, Utah juniper, singleleaf pinyon
Ecological site: F028AY099NV

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1230—Yotes-Sevenmile association

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont
Elevation: 5,400 to 7,000
Precipitation: 8 to 12 inches
Air temperature: 45 to 52 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Yotes gravelly ashy sandy loam, 2 to 8 percent slopes—65 percent
Sevenmile ashy sandy loam, 0 to 4 percent slopes—20 percent
Chuckridge gravelly loam, 4 to 15 percent slopes—5 percent
Geer fine sandy loam, 0 to 4 percent slopes—5 percent
Kolda silt loam, 0 to 2 percent slopes—5 percent

Component Description

Yotes and similar soils
Landform: Fan remnants
Slope: 2 to 8 percent
Parent material: Alluvium derived from welded tuff
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, Wyoming big sagebrush, spiny hopsage, winterfat, other shrubs

Typical profile:
Surface rock fragments: About 7 percent gravel, 8 percent fine gravel
Layer 1—0 to 12 inches; gravelly ashy sandy loam
Layer 2—12 to 21 inches; gravelly ashy loam
Layer 3—21 to 60 inches; gravelly ashy 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 5 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7e
Ecological site: R028AY015NV—Loamy 8-10 P.Z.

Component Description

Sevenmile and similar soils
Landform: Inset fans
Slope: 0 to 4 percent
Parent material: Alluvium derived from welded tuff and some limestone and quartzite
Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs

Typical profile:
Surface rock fragments: About 5 percent fine gravel, 10 percent gravel
Layer 1—0 to 11 inches; ashy sandy loam
Layer 2—11 to 35 inches; loam
Layer 3—35 to 60 inches; stratified extremely gravelly loamy coarse sand to 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): High, (Permeability class: Moderately rapid)
Available water capacity: About 10 inches
Present flooding: Rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 6s
Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

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

Contrasting Inclusions

Chuckridge and similar soils
Composition: 0 to 5 percent
Slope: 4 to 15 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, wild crab apple, Stansbury cliffrose, other shrubs
Ecological site: R028AY050NV—Gravelly clay 10-12 P.Z.

Geer and similar soils
Composition: 0 to 5 percent
Slope: 0 to 4 percent
Landform: Inset fans
Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Ecological site: R028AY002NV—Coarse silty 5-8 P.Z.

Kolda and similar soils
Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Basin floors
Typical vegetation: Sedge, rush, basin wildrye, mat muhly, alkali bluegrass, Nevada bluegrass, other perennial grasses, other perennial forbs, other shrubs
Ecological site: R028BY001NV—Wet meadow 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

1231—Newvil-Nevu-Ponyspring association

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont
Elevation: 6,300 to 7,500
Precipitation: 10 to 14 inches
Air temperature: 45 to 50 degrees Fahrenheit
Frost-free period: 90 to 120 days

Composition

Newvil very gravelly coarse sandy loam, 4 to 30 percent slopes—50 percent
Nevu gravelly ashy sandy loam, 4 to 15 percent slopes—20 percent
Ponyspring gravelly ashy loamy fine sand, 4 to 15 percent slopes—15 percent
Sevenmile ashy sandy loam, moist, 0 to 4 percent slopes—5 percent
Littleailie gravelly sandy loam, 2 to 15 percent slopes—3 percent
Modem very gravelly ashy sandy loam, 2 to 8 percent slopes—3 percent
Okayview gravelly ashy coarse sandy loam, 2 to 8 percent slopes—3 percent
Qwynn gravelly coarse sandy loam, 2 to 8 percent slopes—1 percent

Component Description

Newvil and similar soils
Landform: Fan remnants
Slope: 4 to 30 percent
Parent material: Alluvium derived from welded tuff
Typical vegetation: Indian ricegrass, Thurber's needlegrass, blue grama, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, Nevada ephedra, muttongrass, other shrubs, other trees

Typical profile:
Layer 1—0 to 3 inches; very gravelly coarse sandy loam
Layer 2—3 to 12 inches; gravelly sandy clay loam
Layer 3—12 to 17 inches; gravelly loam
Layer 4—17 to 48 inches; cemented material
Layer 5—48 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 high
Depth to restrictive feature: Duripan: 15 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: R029XY104NV—Shallow clay loam 8-12 P.Z.

Component Description

Nevu and similar soils
Landform: Summits of upper fan remnants
Slope: 4 to 15 percent
Parent material: Alluvium derived from welded tuff
Typical vegetation: Stansbury cliffrose, other shrubs, Indian ricegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, big sagebrush, fourwing saltbush

Typical profile:
Layer 1—0 to 5 inches; gravelly ashy sandy loam
Layer 2—5 to 27 inches; gravelly ashy sandy clay loam
Layer 3—27 to 36 inches; cemented material
Layer 4—36 to 60 inches; gravelly ashy sandy 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: Duripan: 20 to 27 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)
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: R029XY029NV—Loamy 10-12 P.Z.

Component Description

Ponyspring and similar soils
Landform: Fan remnants
Slope: 4 to 15 percent
Parent material: Alluvium derived from welded tuff
Typical vegetation: Bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, Thurber's needlegrass, basin wildrye, muttongrass, other perennial grasses

Typical profile:
Surface rock fragments: About 40 percent gravel
Layer 1—0 to 6 inches; gravelly ashy loamy fine sand
Layer 2—6 to 30 inches; gravelly ashy sandy clay loam

Layer 3—30 to 60 inches; gravelly ashy 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: Slow)
Available water capacity: About 7 inches
Present flooding: Rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 6e
Ecological site: R028AY092NV—Loamy 12-14 P.Z.

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

Contrasting Inclusions

Sevenmile and similar soils
Composition: 0 to 5 percent
Slope: 0 to 4 percent
Landform: Drainageways
Typical vegetation: Indian ricegrass, needleandthread, basin wildrye, western wheatgrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs
Ecological site: R029XY114NV—Loamy fan 8-10 P.Z.

Littleailie and similar soils
Composition: 0 to 3 percent
Slope: 2 to 15 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs
Ecological site: R029XY008NV—Shallow calcareous loam 8-12 P.Z.

Modem and similar soils
Composition: 0 to 3 percent
Slope: 2 to 8 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, big sagebrush, fourwing saltbush, Stansbury cliffrose, other shrubs
Ecological site: R029XY029NV—Loamy 10-12 P.Z.

Okayview and similar soils
Composition: 0 to 3 percent
Slope: 2 to 8 percent
Landform: Rock pediments
Typical vegetation: Indian ricegrass, needleandthread, muttongrass, other perennial grasses, other perennial forbs, big sagebrush, fourwing saltbush, Stansbury cliffrose, other shrubs
Ecological site: R029XY029NV—Loamy 10-12 P.Z.

Qwynn and similar soils
Composition: 0 to 1 percent
Slope: 2 to 8 percent

Landform: Fan remnants
Typical vegetation: Indian ricegrass, desert needlegrass, needleandthread, galleta, other perennial grasses, Wyoming big sagebrush, fourwing saltbush, winterfat, other shrubs
Ecological site: R029XY049NV—Sandy loam 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1232—Nevu-Ponyspring-Okayview association

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont
Elevation: 5,400 to 7,250
Precipitation: 10 to 14 inches
Air temperature: 45 to 50 degrees Fahrenheit
Frost-free period: 90 to 110 days

Composition

Nevu gravelly ashy sandy loam, 0 to 8 percent slopes—35 percent
Ponyspring gravelly ashy loamy coarse sand, 0 to 8 percent slopes—30 percent
Okayview gravelly ashy coarse sandy loam, 4 to 15 percent slopes—20 percent
Plegomir very gravelly sandy loam, 2 to 8 percent slopes—5 percent
Ravendog loam, 0 to 4 percent slopes—4 percent
Rock outcrop, 4 to 15 percent slopes—4 percent
Schoolmarm gravelly ashy coarse sandy loam, 4 to 15 percent slopes—2 percent

Component Description

Nevu and similar soils
Landform: Summits of upper fan remnants
Slope: 0 to 8 percent
Parent material: Alluvium derived from welded tuff
Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, wild crab apple, Stansbury cliffrose, other shrubs

Typical profile:
Layer 1—0 to 5 inches; gravelly ashy sandy loam
Layer 2—5 to 27 inches; gravelly ashy sandy clay loam
Layer 3—27 to 36 inches; cemented material
Layer 4—36 to 60 inches; gravelly ashy sandy 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: Duripan: 20 to 27 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)
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: R028AY050NV—Gravelly clay 10-12 P.Z.

Component Description

Ponyspring and similar soils
Landform: Fan remnants
Slope: 0 to 8 percent
Parent material: Alluvium derived from welded tuff
Typical vegetation: Thurber's needlegrass, basin wildrye, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Typical profile:
Surface rock fragments: About 40 percent gravel
Layer 1—0 to 6 inches; gravelly ashy loamy coarse sand
Layer 2—6 to 30 inches; gravelly ashy sandy clay loam
Layer 3—30 to 60 inches; gravelly ashy 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: Slow)
Available water capacity: About 7 inches
Present flooding: Rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 6e
Ecological site: R028AY092NV—Loamy 12-14 P.Z.

Component Description

Okayview and similar soils
Landform: Rock pediments
Slope: 4 to 15 percent
Parent material: Residuum and colluvium derived from welded tuff
Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, muttongrass, other shrubs

Typical profile:
Surface rock fragments: About 5 percent stones, 10 percent cobbles, 5 percent gravel, 5 percent fine gravel
Layer 1—0 to 3 inches; gravelly ashy coarse sandy loam
Layer 2—3 to 11 inches; ashy sandy clay loam
Layer 3—11 to 21 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

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: 7e
Ecological site: R028AY064NV—Shallow loam 10-14 P.Z.

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

Contrasting Inclusions

Plegomir and similar soils
Composition: 0 to 5 percent
Slope: 2 to 8 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, green ephedra, other shrubs, Utah juniper
Ecological site: F028AY041NV

Ravendog and similar soils
Composition: 0 to 4 percent
Slope: 0 to 4 percent
Landform: Fan skirts
Typical vegetation: Thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs
Ecological site: R028AY091NV—Loamy fan 10-14 P.Z.

Rock outcrop
Composition: 0 to 4 percent
Slope: 4 to 15 percent
Landform: Hills

Schoolmarm and similar soils
Composition: 0 to 2 percent
Slope: 4 to 15 percent
Landform: Rock pediments
Typical vegetation: Thurber's needlegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs
Ecological site: R028AY094NV—Claypan 12-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1240—Sycomat-Escalante-Gravier association

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont

Elevation: 5,600 to 5,950
Precipitation: 6 to 10 inches
Air temperature: 46 to 52 degrees Fahrenheit
Frost-free period: 100 to 120 days

Composition

Sycomat gravelly sandy loam, 0 to 2 percent slopes—65 percent
Escalante very gravelly sandy loam, 0 to 2 percent slopes—15 percent
Gravier gravelly loam, 0 to 4 percent slopes—15 percent
Heist loamy sand, 0 to 4 percent slopes—5 percent

Component Description

Sycomat and similar soils
Landform: Fan remnants
Slope: 0 to 2 percent
Parent material: Alluvium derived from mixed rock sources
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, sand dropseed, other perennial forbs, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:
Layer 1—0 to 5 inches; gravelly sandy loam
Layer 2—5 to 26 inches; gravelly loam
Layer 3—26 to 45 inches; sandy loam
Layer 4—45 to 60 inches; very 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 4 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: R028AY018NV—Coarse gravelly loam 5-8 P.Z.

Component Description

Escalante and similar soils
Landform: Inset fans
Slope: 0 to 2 percent
Parent material: Alluvium derived from rhyolite and some limestone
Typical vegetation: Indian ricegrass, galleta, bud sagebrush, shadscale, winterfat, other shrubs

Typical profile:
Layer 1—0 to 3 inches; very gravelly sandy loam
Layer 2—3 to 27 inches; gravelly sandy loam
Layer 3—27 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: 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: R028AY002NV—Coarse silty 5-8 P.Z.

Component Description

Gravier and similar soils
Landform: Fan skirts
Slope: 0 to 4 percent
Parent material: Alluvium derived from limestone and welded tuff
Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, Nevada ephedra, greenmolly kochia, winterfat, other shrubs

Typical profile:
Layer 1—0 to 4 inches; gravelly loam
Layer 2—4 to 41 inches; stratified extremely gravelly coarse sandy loam to very gravelly loam
Layer 3—41 to 65 inches; extremely 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): Moderately High, (Permeability class: Moderate)
Sodicity: Sodic within 40 inches
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: R028AY012NV—Loamy 5-8 P.Z.

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

Contrasting Inclusions

Heist and similar soils
Composition: 0 to 5 percent
Slope: 0 to 4 percent
Landform: Drainageways
Typical vegetation: Indian ricegrass, thickspike wheatgrass, needleandthread, basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, winterfat, other shrubs
Ecological site: R028AY031NV—Loamy fan 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Engineering" and "Soil Properties" sections

1270—Heusser-Wambolt association

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont
Elevation: 6,500 to 8,500
Precipitation: 14 to 16 inches
Air temperature: 40 to 45 degrees Fahrenheit
Frost-free period: 70 to 100 days

Composition

Heusser extremely gravelly loam, 8 to 30 percent slopes—55 percent
Wambolt extremely gravelly loam, 8 to 30 percent slopes—30 percent
Fax very cobbly coarse sandy loam, 15 to 30 percent slopes—7 percent
Badena very cobbly loam, 8 to 30 percent slopes—5 percent
Hackwood gravelly silt loam, 15 to 50 percent slopes—3 percent

Component Description

Heusser and similar soils
Landform: Backslopes of fan remnants
Slope: 8 to 30 percent
Parent material: Alluvium derived from quartzite
Typical vegetation: Thurber's needlegrass, needleandthread, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees

Typical profile:
Surface rock fragments: About 35 percent gravel, 20 percent cobbles, 10 percent stones
Layer 1—0 to 12 inches; extremely gravelly loam
Layer 2—12 to 24 inches; extremely gravelly loam
Layer 3—24 to 60 inches; extremely gravelly clay

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 Low, (Permeability class: Slow)
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: R028AY088NV—Gravelly clay 12-14 P.Z.

Component Description

Wambolt and similar soils
Landform: Summits of fan remnants
Slope: 8 to 30 percent
Parent material: Alluvium and colluvium derived from quartzite
Typical vegetation: Muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curl-leaf mountain mahogany, other shrubs, other trees

Typical profile:
Layer 1—0 to 10 inches; extremely gravelly loam
Layer 2—10 to 36 inches; extremely gravelly clay loam
Layer 3—36 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: 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: R028AY059NV—Mahogany savanna

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

Contrasting Inclusions

Fax and similar soils
Composition: 0 to 7 percent
Slope: 15 to 30 percent
Landform: Fan remnants
Typical vegetation: Thurber's needlegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, antelope bitterbrush
Ecological site: R028BY007NV—Loamy 10-12 P.Z.

Badena and similar soils
Composition: 0 to 5 percent
Slope: 8 to 30 percent
Landform: Lower fan remnants
Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Wyoming big sagebrush, other shrubs
Ecological site: R028AY095NV—Loamy 10-12 P.Z.

Hackwood and similar soils
Composition: 0 to 3 percent
Slope: 15 to 50 percent
Landform: Mountains
Typical vegetation: Forest canopy—quaking aspen Forest understory—other shrubs, meadowrue, snowberry, nodding brome, other perennial forbs, other perennial grasses, quaking aspen, slender wheatgrass, needlegrass, mountain big sagebrush, mountain brome
Ecological site: R028AY073NV—Aspen thicket

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1280—Badena very cobbly loam, 2 to 8 percent slopes

Map Unit Setting

MLRA: 28A
Landscape: Fan piedmont
Elevation: 6,250 to 7,350
Precipitation: 10 to 14 inches
Air temperature: 45 to 48 degrees Fahrenheit
Frost-free period: 90 to 110 days

Composition

Badena very cobbly fine sandy loam, 2 to 15 percent slopes—90 percent
Badena very cobbly loam, 8 to 15 percent slopes—7 percent
Zafod very gravelly sandy loam, 4 to 8 percent slopes—3 percent

Component Description

Badena and similar soils
Landform: Fan remnants
Slope: 2 to 15 percent
Parent material: Alluvium derived from quartzite
Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Wyoming big sagebrush, other shrubs

Typical profile:
Layer 1—0 to 5 inches; very cobbly fine sandy loam
Layer 2—5 to 10 inches; very cobbly loam
Layer 3—10 to 25 inches; extremely cobbly sandy clay loam
Layer 4—25 to 60 inches; extremely cobbly 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): 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: R028AY095NV—Loamy 10-12 P.Z.

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

Contrasting Inclusions

Badena and similar soils
Composition: 0 to 7 percent
Slope: 8 to 15 percent
Landform: Lower fan remnants
Typical vegetation: Thurber's needlegrass, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs
Ecological site: R028AY066NV—Gravelly loam 12-14 P.Z.

Zafod and similar soils
Composition: 0 to 3 percent
Slope: 4 to 8 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Wyoming big sagebrush, other shrubs
Ecological site: R028AY095NV—Loamy 10-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Engineering" and "Soil Properties" sections

1291—Zimbob-Pookaloo-Cavehill association

Map Unit Setting

MLRA: 28B
Landscape: Mountains
Elevation: 5,800 to 8,800
Precipitation: 12 to 16 inches
Air temperature: 41 to 50 degrees Fahrenheit
Frost-free period: 70 to 115 days

Composition

Zimbob very gravelly sandy loam, 8 to 30 percent slopes—35 percent
Pookaloo very gravelly loam, 15 to 50 percent slopes—30 percent
Cavehill gravelly loam, dry, 15 to 50 percent slopes—20 percent
Tecomar extremely gravelly loam, 4 to 15 percent slopes—8 percent
Rock outcrop, 50 to 75 percent slopes—7 percent

Component Description

Zimbob and similar soils
Landform: Backslopes of lower mountains, west to south aspects
Slope: 8 to 30 percent
Parent material: Residuum and colluvium derived from limestone and dolomite
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, other shrubs

Typical profile:
Layer 1—0 to 2 inches; very gravelly sandy loam
Layer 2—2 to 11 inches; very gravelly loam
Layer 3—11 to 21 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): Moderately High, (Permeability class: Moderate)
Available water capacity: About 1.1 inches
Present flooding: None
Present ponding: None

Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: R028BY016NV—Shallow calcareous slope 8-10 P.Z.

Component Description

Pookaloo and similar soils
Landform: Mountains, north to east aspects
Slope: 15 to 50 percent
Parent material: Alluvium derived from welded tuff and minor components of limestone
Typical vegetation: Forest canopy—Utah juniper, singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, Stansbury cliffrose, other shrubs, singleleaf pinyon
Site index: Utah juniper—20 at an age base of 100 years
Site index: Singleleaf pinyon—20 at an age base of 100 years

Typical profile:
Layer 1—0 to 3 inches; very gravelly loam
Layer 2—3 to 14 inches; very gravelly loam
Layer 3—14 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: 14 to 20 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: F028BY060NV

Component Description

Cavehill and similar soils
Landform: Backslopes of upper mountains
Slope: 15 to 50 percent
Parent material: Residuum and colluvium derived from limestone, dolomite and loess
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, basin wildrye, Canby bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, singleleaf pinyon
Site index: Singleleaf pinyon—50 at an age base of 100 years

Typical profile:
Surface rock fragments: About 30 percent fine gravel, 30 percent gravel, 5 percent cobbles
Layer 1—0 to 3 inches; gravelly loam
Layer 2—3 to 10 inches; gravelly loam
Layer 3—10 to 27 inches; very cobbly loam
Layer 4—27 to 31 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 3 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 7s
Ecological site: F028BY062NV

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

Contrasting Inclusions

Tecomar and similar soils
Composition: 0 to 8 percent
Slope: 4 to 15 percent
Landform: Backslopes of mountains, north aspect
Typical vegetation: Indian ricegrass, bluebunch wheatgrass, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs
Ecological site: R028BY008NV—Shallow calcareous slope 10-14 P.Z.

Rock outcrop
Composition: 0 to 7 percent
Slope: 50 to 75 percent
Landform: Mountains

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1300—Pioche-Birchcreek-Cropper association

Map Unit Setting

MLRA: 28B
Landscape: Mountains
Elevation: 6,200 to 8,050
Precipitation: 12 to 16 inches
Air temperature: 41 to 50 degrees Fahrenheit
Frost-free period: 75 to 110 days

Composition

Pioche extremely stony loam, 15 to 50 percent slopes—50 percent
Birchcreek very cobbly sandy loam, 15 to 50 percent slopes—20 percent
Cropper very cobbly loam, 15 to 50 percent slopes—15 percent
Upatad very gravelly silt loam, 15 to 50 percent slopes—5 percent
Cassiro family cobbly loam, 8 to 30 percent slopes—5 percent

Selti very stony coarse sandy loam, 2 to 8 percent slopes—3 percent
Rock outcrop, 15 to 50 percent slopes—2 percent

Component Description

Pioche and similar soils
Landform: Mountains, south aspect
Slope: 15 to 50 percent
Parent material: Residuum and colluvium derived from welded tuff
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, Thurber's needlegrass, basin wildrye, Canby bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, singleleaf pinyon
Site index: Singleleaf pinyon—50 at an age base of 100 years

Typical profile:
Layer 1—0 to 2 inches; extremely stony loam
Layer 2—2 to 13 inches; very cobbly clay
Layer 3—13 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: 6 to 15 inches
Saturated hydraulic conductivity class (root zone): Moderately Low, (Permeability class: Slow)
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: F028BY062NV

Component Description

Birchcreek and similar soils
Landform: Backslopes of mountains
Slope: 15 to 50 percent
Parent material: Alluvium derived from andesite over colluvium derived from andesite
Typical vegetation: Indian ricegrass, western needlegrass, Thurber's needlegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush

Typical profile:
Layer 1—0 to 3 inches; very cobbly sandy loam
Layer 2—3 to 13 inches; very cobbly clay loam
Layer 3—13 to 21 inches; very cobbly clay
Layer 4—21 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: 20 to 39 inches
Saturated hydraulic conductivity class (root zone): Moderately Low, (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: 6s
Ecological site: R028BY046NV—Gravelly loam 12-14 P.Z.

Component Description

Cropper and similar soils
Landform: Backslopes of mountains, north aspect
Slope: 15 to 50 percent
Parent material: Residuum and colluvium derived from andesite
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—muttongrass, bluebunch wheatgrass, serviceberry, mountain big sagebrush, curlleaf mountainmahogany, antelope bitterbrush, snowberry, singleleaf pinyon
Site index: Singleleaf pinyon—70 at an age base of 100 years

Typical profile:
Layer 1—0 to 4 inches; very cobbly loam
Layer 2—4 to 15 inches; extremely gravelly clay loam
Layer 3—15 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: 14 to 20 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)
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: F028BY058NV

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

Contrasting Inclusions

Upatad and similar soils
Composition: 0 to 5 percent
Slope: 15 to 50 percent
Landform: Mountains
Typical vegetation: Bluebunch wheatgrass, Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, black sagebrush
Ecological site: R028BY093NV—Shallow clay loam 12-14 P.Z.

Cassiro family and similar soils
Composition: 0 to 5 percent
Classification: Clayey-skeletal, smectitic, mesic Aridic Argixerolls
Slope: 8 to 30 percent
Landform: Fan remnants

Typical vegetation: Indian ricegrass, western needlegrass, Thurber's needlegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush
Ecological site: R028BY046NV—Gravelly loam 12-14 P.Z.

Selti and similar soils
Composition: 0 to 3 percent
Slope: 2 to 8 percent
Landform: Drainageways
Typical vegetation: Thurber's needlegrass, needleandthread, other perennial grasses, bluebunch wheatgrass, other perennial forbs, big sagebrush, antelope bitterbrush
Ecological site: R028BY007NV—Loamy 10-12 P.Z.

Rock outcrop
Composition: 0 to 2 percent
Slope: 15 to 50 percent
Landform: Mountains

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1307—Kyler-Amtoft-Eaglepass association

Map Unit Setting

MLRA: 28A
Landscape: Hills
Elevation: 6,150 to 7,400
Precipitation: 8 to 12 inches
Air temperature: 48 to 52 degrees Fahrenheit
Frost-free period: 100 to 120 days

Composition

Kyler extremely cobbly loam, cool, 8 to 30 percent slopes—50 percent
Amtoft very gravelly loam, moist, 15 to 30 percent slopes—20 percent
Eaglepass extremely stony loam, cool, 15 to 50 percent slopes—15 percent
Lodar very gravelly loam, 8 to 30 percent slopes—6 percent
Rock outcrop, 15 to 50 percent slopes—5 percent
Baberwit sandy loam, 2 to 15 percent slopes—4 percent

Component Description

Kyler and similar soils
Landform: Backslopes of hills
Slope: 8 to 30 percent
Parent material: Residuum and colluvium derived from limestone and dolomite
Typical vegetation: Indian ricegrass, needleandthread, galleta, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, winterfat, other shrubs

Typical profile:
Layer 1—0 to 3 inches; extremely cobbly loam

Layer 2—3 to 11 inches; very gravelly loam
Layer 3—11 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: 6 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: R028AY004NV—Shallow calcareous slope 8-10 P.Z.

Component Description

Amtoft and similar soils
Landform: Backslopes of hills, north aspect
Slope: 15 to 30 percent
Parent material: Residuum weathered from limestone, sandstone, and shale
Typical vegetation: Indian ricegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon

Typical profile:
Layer 1—0 to 3 inches; very gravelly loam
Layer 2—3 to 11 inches; very gravelly loam
Layer 3—11 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: 10 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: 7s
Ecological site: R028AY102NV—Shallow calcareous hill 10-14 P.Z.

Component Description

Eaglepass and similar soils
Landform: Hills
Slope: 15 to 50 percent
Parent material: Residuum and colluvium derived from limestone and dolomite
Typical vegetation: Littleleaf mountain mahogany, other shrubs, Scribner needlegrass, galleta, other perennial grasses, other perennial forbs, black sagebrush

Typical profile:
Surface rock fragments: About 15 percent stones, 10 percent cobbles, 60 percent gravel
Layer 1—0 to 2 inches; extremely stony loam
Layer 2—2 to 6 inches; extremely gravelly sandy loam
Layer 3—6 to 10 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 6 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: 7s
Ecological site: R028AY029NV—Limestone hill

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

Contrasting Inclusions

Lodar and similar soils
Composition: 0 to 6 percent
Slope: 8 to 30 percent
Landform: Backslopes of hills
Typical vegetation: Forest canopy—singleleaf pinyon Forest understory—Indian ricegrass, bottlebrush squirreltail, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, black sagebrush, curlleaf mountainmahogany, wild crab apple, Stansbury cliffrose, other shrubs, Utah juniper, singleleaf pinyon
Ecological site: F028AY074NV

Rock outcrop
Composition: 0 to 5 percent
Slope: 15 to 50 percent
Landform: Backslopes of hills

Baberwit and similar soils
Composition: 0 to 4 percent
Slope: 2 to 15 percent
Landform: Lower hills
Typical vegetation: Indian ricegrass, needleandthread, galleta, other perennial grasses, other perennial forbs, pigmy sagebrush, other shrubs
Ecological site: R028AY007NV—Gravelly barren fan

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

1310—Duffer-Kolda association

Map Unit Setting

MLRA: 28B
Landscape: Basin floors
Elevation: 6,400 to 6,750
Precipitation: 7 to 10 inches
Air temperature: 45 to 50 degrees Fahrenheit
Frost-free period: 100 to 120 days

Composition

Duffer silt loam, moist, 0 to 2 percent slopes—40 percent
Duffer silt loam, 0 to 2 percent slopes, frequently flooded—30 percent
Kolda silt loam, 0 to 2 percent slopes—15 percent
Sheffit silt loam, 0 to 2 percent slopes—10 percent
Boofuss silty clay, 0 to 2 percent slopes—5 percent

Component Description

Duffer and similar soils
Landform: Flood plains
Slope: 0 to 2 percent
Parent material: Loess, alluvium and lacustrine deposits from mixed rock sources
Typical vegetation: Inland saltgrass, basin wildrye, western wheatgrass, other perennial forbs, other perennial grasses, black greasewood, alkali sacaton, other shrubs

Typical profile:
Layer 1—0 to 11 inches; silt loam
Layer 2—11 to 48 inches; silty clay loam
Layer 3—48 to 66 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 12 inches
Present flooding: Occasional
Present ponding: None
Water table: Present
Natural drainage class: Somewhat poorly drained

Interpretive Groups
Irrigated land capability: 4w
Nonirrigated land capability: 7w
Ecological site: R028BY004NV—Saline bottom

Component Description

Duffer and similar soils
Landform: Flood plains
Slope: 0 to 2 percent
Parent material: Loess, alluvium and lacustrine deposits from mixed rock sources

Typical vegetation: Sedge, inland saltgrass, Baltic rush, bluegrass, other perennial grasses, alkaligrass, alkali sacaton, alkali cordgrass, other perennial forbs, other shrubs

Typical profile:
Layer 1—0 to 11 inches; silt loam
Layer 2—11 to 48 inches; silty clay loam
Layer 3—48 to 66 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 12 inches
Present flooding: Frequent
Present ponding: None
Water table: Present
Natural drainage class: Poorly drained

Interpretive Groups
Irrigated land capability: 4w
Nonirrigated land capability: 7w
Ecological site: R028BY002NV—Saline meadow

Component Description

Kolda and similar soils
Landform: Lake plains
Slope: 0 to 2 percent
Parent material: Alluvium over lacustrine deposits derived from mixed rock sources
Typical vegetation: Sedge, rush, basin wildrye, mat muhly, alkali bluegrass, Nevada bluegrass, other perennial grasses, other perennial forbs, other shrubs

Typical profile:
Layer 1—0 to 6 inches; silt loam
Layer 2—6 to 22 inches; silt loam
Layer 3—22 to 60 inches; clay

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)
Salinity: Saline within 40 inches
Available water capacity: About 10 inches
Present flooding: None
Present ponding: None
Water table: Present
Natural drainage class: Very poorly drained

Interpretive Groups
Irrigated land capability: 6w
Nonirrigated land capability: 7w

Ecological site: R028BY001NV—Wet meadow 10-14 P.Z.

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

Contrasting Inclusions

Sheffit and similar soils
Composition: 0 to 10 percent
Slope: 0 to 2 percent
Landform: Lake plains
Typical vegetation: Indian ricegrass, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, rubber rabbitbrush, black greasewood, other shrubs
Ecological site: R028BY028NV—Sodic terrace 8-10 P.Z.

Boofuss and similar soils
Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Lake plains
Typical vegetation: Alkali sacaton, other perennial grasses, inland saltgrass, black greasewood, shadscale, other shrubs
Ecological site: R028BY020NV—Sodic flat 5-8 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

1320—Broland-Yody association

Map Unit Setting

MLRA: 28B
Landscape: Fan piedmont
Elevation: 6,350 to 7,200
Precipitation: 8 to 10 inches
Air temperature: 45 to 48 degrees Fahrenheit
Frost-free period: 100 to 120 days

Composition

Broland very gravelly loam, 2 to 8 percent slopes—45 percent
Yody gravelly sandy loam, 2 to 8 percent slopes—40 percent
Palinor gravelly loam, 4 to 15 percent slopes—5 percent
Palinor gravelly loam, 2 to 8 percent slopes—5 percent
Tulase silt loam, 0 to 2 percent slopes—5 percent

Component Description

Broland and similar soils
Landform: Fan remnants
Slope: 2 to 8 percent
Parent material: Alluvium derived from volcanic rock
Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, other perennial grasses, other perennial forbs, black sagebrush, other shrubs

Typical profile:
Layer 1—0 to 3 inches; very gravelly loam

Layer 2—3 to 9 inches; gravelly clay loam
Layer 3—9 to 16 inches; extremely gravelly sandy clay loam
Layer 4—16 to 19 inches; extremely gravelly sandy loam
Layer 5—19 to 40 inches; cemented material
Layer 6—40 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: High
Depth to restrictive feature: Duripan: 14 to 20 inches
Saturated hydraulic conductivity class (root zone): Moderately High, (Permeability class: Moderately slow)
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: R028BY089NV—Shallow clay loam 10-12 P.Z.

Component Description

Yody and similar soils
Landform: Fan remnants
Slope: 2 to 8 percent
Parent material: Alluvium derived from volcanic rocks
Typical vegetation: Indian ricegrass, Thurber's needlegrass, needleandthread, other perennial grasses, other perennial forbs, spiny hopsage, other shrubs, Wyoming big sagebrush

Typical profile:
Layer 1—0 to 4 inches; gravelly sandy loam
Layer 2—4 to 30 inches; gravelly sandy clay loam
Layer 3—30 to 36 inches; gravelly sandy loam
Layer 4—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: Duripan: 30 to 39 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
Irrigated land capability: 3e
Nonirrigated land capability: 6s
Ecological site: R028BY086NV—Gravelly clay 10-12 P.Z.

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

Contrasting Inclusions

Palinor and similar soils
Composition: 0 to 5 percent
Slope: 4 to 15 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, needleandthread, Sandberg bluegrass, other perennial grasses, other perennial forbs, black sagebrush, shadscale, other shrubs
Ecological site: R028BY016NV—Shallow calcareous slope 8-10 P.Z.

Palinor and similar soils
Composition: 0 to 5 percent
Slope: 2 to 8 percent
Landform: Fan remnants
Typical vegetation: Indian ricegrass, needleandthread, Sandberg bluegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, pigmy sagebrush, other shrubs
Ecological site: R028BY040NV—Barren fan 8-12 P.Z.

Tulase and similar soils
Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Inset fans
Typical vegetation: Basin wildrye, other perennial grasses, other perennial forbs, Wyoming big sagebrush, thickspike wheatgrass, winterfat, other shrubs
Ecological site: R028BY045NV—Loamy fan 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables of this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

1330—Amelar-Eoj-Hardol association

Map Unit Setting

MLRA: 28B
Landscape: Mountains
Elevation: 8,150 to 9,200
Precipitation: 12 to 30 inches
Air temperature: 39 to 45 degrees Fahrenheit
Frost-free period: 50 to 100 days

Composition

Amelar gravelly silt loam, 15 to 30 percent slopes—35 percent
Eoj very stony loam, moist, 8 to 30 percent slopes—30 percent
Hardol very gravelly silt loam, 15 to 50 percent slopes—20 percent
Onkeyo very gravelly silt loam, 15 to 50 percent slopes—4 percent
Adobe very gravelly silt loam, 30 to 50 percent slopes—4 percent
Haunchee very cobbly loam, 15 to 50 percent slopes—4 percent
Pharo gravelly loam, 15 to 50 percent slopes—2 percent
Kolda silt loam, 0 to 2 percent slopes—1 percent

Component Description

Amelar and similar soils
Landform: Backslopes of mountains
Slope: 15 to 30 percent
Parent material: Alluvium and colluvium derived from limestone
Typical vegetation: Indian ricegrass, muttongrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, Utah serviceberry, mountain big sagebrush, antelope bitterbrush, other shrubs

Typical profile:
Layer 1—0 to 6 inches; gravelly silt loam
Layer 2—6 to 15 inches; very cobbly clay loam
Layer 3—15 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: Moderately slow)
Available water capacity: About 7 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups
Nonirrigated land capability: 6e
Ecological site: R028BY091NV—Gravelly calcareous loam 14+ P.Z.

Component Description

Eoj and similar soils
Landform: Backslopes of mountains
Slope: 8 to 30 percent
Parent material: Residuum and colluvium derived from quartzite and limestone
Typical vegetation: Other perennial forbs, other perennial grasses, muttongrass, bluebunch wheatgrass, other shrubs, low sagebrush, antelope bitterbrush

Typical profile:
Layer 1—0 to 6 inches; very stony loam
Layer 2—6 to 60 inches; cobbly clay

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): Low, (Permeability class: Very slow)
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: R028BY092NV—Calcareous claypan 14-16 P.Z.