

## **300A--Norcross very cobbly loam, 0 to 10 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5400 feet

Precipitation: 16 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Norcross very cobbly ashy loam, 0 to 10 percent slopes--85 percent

Casebeer very cobbly loam, 0 to 6 percent slopes--10 percent

Rock Outcrop, 15 to 40 percent slopes--5 percent

### ***Component Description***

#### **Norcross and similar soils**

Landform: Plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: low sagebrush, bluebunch wheatgrass, onepike oatgrass, Sandberg bluegrass, Idaho fescue

#### **Typical profile:**

A1--0 to 3 inches; very cobbly ashy loam

A2--3 to 6 inches; cobbly ashy loam

Bt1--6 to 10 inches; cobbly ashy clay loam

Bt2--10 to 18 inches; clay

Bt3--18 to 20 inches; clay

Bqm--20 to 31 inches; duripan

R--31 to 35 inches; unweathered bedrock

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

### **Component Properties and Qualities**

Slope: 0 to 10 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 12 to 20 inches

Bedrock (lithic): 18 to 46 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY216OR--Stony Claypan 14-20 Pz

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

### ***Contrasting Inclusions***

#### **Casebeer and similar soils**

Composition: 0 to 10 percent

Landform: summits of plateaus

Typical vegetation: Thurber's needlegrass, Sandberg bluegrass, Idaho fescue, bluebunch wheatgrass, low sagebrush

Ecological site: 021XY204OR--Shallow Stony 10-20 Pz

**Rock Outcrop**

Composition: 0 to 5 percent

Landform: unspecified

Ecological site: None assigned

**Management**

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

**310A--Norcross, extremely cobbly-Dranket-Norcross complex, 0 to 10 percent slopes****Map Unit Setting**

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5400 feet

Precipitation: 16 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

**Composition**

Norcross extremely cobbly ashy loam, 0 to 10 percent slopes--50 percent

Dranket very cobbly loam, 0 to 10 percent slopes--20 percent

Norcross very cobbly ashy loam, 0 to 10 percent slopes--15 percent

Rock Outcrop, 10 to 30 percent slopes--5 percent

Casebeer very cobbly loam, 0 to 6 percent slopes--5 percent

Royst cobbly loam, 10 to 30 percent slopes--3 percent

Olene gravelly clay, 0 to 1 percent slopes--2 percent

**Component Description****Norcross wooded and similar soils**

Landform: Plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: Idaho fescue, low sagebrush, Sandberg bluegrass, western juniper

**Typical profile:**

A1--0 to 3 inches; extremely cobbly ashy loam

A2--3 to 6 inches; cobbly ashy loam

Bt1--6 to 10 inches; cobbly ashy clay loam

Bt2--10 to 18 inches; clay

Bt3--18 to 20 inches; clay

Bqm--20 to 31 inches; duripan

R--31 to 35 inches; unweathered bedrock

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

**Component Properties and Qualities**

Slope: 0 to 10 percent

Runoff: High  
Depth to Restrictive Feature: Duripan: 12 to 20 inches  
    Bedrock (lithic): 18 to 46 inches  
Permeability class (root zone): Slow  
Available water capacity: About 3 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e  
Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

### ***Component Description***

#### **Dranket and similar soils**

Landform: summits of plateaus  
Parent material: Volcanic ash and residuum weathered from basalt  
Typical vegetation: western juniper, Idaho fescue, Sandberg bluegrass, low sagebrush

#### **Typical profile:**

A1--0 to 2 inches; very cobbly loam  
A2--2 to 8 inches; very cobbly loam  
Bt1--8 to 15 inches; very cobbly clay loam  
Bt2--15 to 23 inches; clay  
Btq--23 to 25 inches; gravelly clay  
Bqm--25 to 28 inches; duripan  
R--28 to 32 inches; unweathered bedrock  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

### **Component Properties and Qualities**

Slope: 0 to 10 percent  
Runoff: High  
Depth to Restrictive Feature: Duripan: 20 to 30 inches  
    Bedrock (lithic): 25 to 40 inches  
Permeability class (root zone): Slow  
Available water capacity: About 4 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e  
Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

### ***Component Description***

#### **Norcross and similar soils**

Landform: Plateaus  
Parent material: Volcanic ash and residuum weathered from basalt  
Typical vegetation: bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass, onespikes oatgrass, low sagebrush

#### **Typical profile:**

A1--0 to 3 inches; very cobbly ashy loam  
A2--3 to 6 inches; cobbly ashy loam  
Bt1--6 to 10 inches; cobbly ashy clay loam  
Bt2--10 to 18 inches; clay

Bt3--18 to 20 inches; clay

Bqm--20 to 31 inches; duripan

R--31 to 35 inches;

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

### **Component Properties and Qualities**

Slope: 0 to 10 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 12 to 20 inches

Bedrock (lithic): 18 to 46 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY216OR--Stony Claypan 14-20 Pz

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

### ***Contrasting Inclusions***

#### **Rock Outcrop**

Composition: 0 to 5 percent

Landform: unspecified

Ecological site: None assigned

#### **Casebeer and similar soils**

Composition: 0 to 5 percent

Landform: summits of plateaus

Typical vegetation: low sagebrush, bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass, Thurber's needlegrass

Ecological site: 021XY204OR--Shallow Stony 10-20 Pz

#### **Royst and similar soils**

Composition: 0 to 3 percent

Landform: Escarpments

Typical vegetation: ponderosa pine, Idaho fescue, curl-leaf mountain mahogany, bluebunch wheatgrass, antelope bitterbrush

Ecological site: 021XY402OR--Mahogany Rockland 10-20 Pz

#### **Olene and similar soils**

Composition: 0 to 2 percent

Landform: Drainageways

Typical vegetation: California oatgrass, sedge

Ecological site: 021XY509--Semi-Wet Meadow

### ***Management***

Major uses: ---

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

"Range" section

"Forest land" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **312A--Norcross-Dranket complex, 0 to 8 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5400 feet

Precipitation: 16 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Norcross extremely cobbly ashy loam, 0 to 8 percent slopes--65 percent

Dranket very cobbly loam, 0 to 8 percent slopes--20 percent

Rock Outcrop, 5 to 20 percent slopes--3 percent

Casebeer very cobbly loam, 0 to 6 percent slopes--2 percent

Royst cobbly loam, 10 to 30 percent slopes--2 percent

Olene gravelly clay, 0 to 1 percent slopes--2 percent

Pankeybasin loam, 1 to 3 percent slopes--2 percent

Schnipps cobbly loam, 5 to 15 percent slopes--2 percent

Benhall cobbly loam, 2 to 20 percent slopes--2 percent

### ***Component Description***

#### **Norcross wooded and similar soils**

Landform: Plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: western juniper, Sandberg bluegrass, low sagebrush, Idaho fescue

#### **Typical profile:**

A1--0 to 3 inches; extremely cobbly ashy loam

A2--3 to 6 inches; cobbly ashy loam

Bt1--6 to 10 inches; cobbly ashy clay loam

Bt2--10 to 18 inches; clay

Bt3--18 to 20 inches; clay

Bqm--20 to 31 inches; duripan

R--31 to 35 inches; unweathered bedrock

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

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

Slope: 0 to 8 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 12 to 20 inches

Bedrock (lithic): 18 to 46 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

### ***Component Description***

#### **Dranket and similar soils**

Landform: summits of plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: low sagebrush, Sandberg bluegrass, western juniper, Idaho fescue

#### **Typical profile:**

A1--0 to 2 inches; very cobbly loam

A2--2 to 8 inches; very cobbly loam

Bt1--8 to 15 inches; very cobbly clay loam

Bt2--15 to 23 inches; clay

Btq--23 to 25 inches; gravelly clay

Bqm--25 to 28 inches; duripan

R--28 to 32 inches; unweathered bedrock

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

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

Slope: 0 to 8 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 20 to 30 inches

Bedrock (lithic): 25 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

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

### ***Contrasting Inclusions***

#### **Rock Outcrop**

Composition: 0 to 3 percent

Landform: unspecified

Ecological site: None assigned

#### **Casebeer and similar soils**

Composition: 0 to 2 percent

Landform: summits of plateaus

Typical vegetation: Thurber's needlegrass, low sagebrush, Sandberg bluegrass, Idaho fescue, bluebunch wheatgrass

Ecological site: 021XY204OR--Shallow Stony 10-20 Pz

#### **Royst and similar soils**

Composition: 0 to 2 percent

Landform: escarpments

Typical vegetation: antelope bitterbrush, ponderosa pine, Idaho fescue, curl-leaf mountain mahogany, bluebunch wheatgrass

Ecological site: 021XY402OR--Mahogany Rockland 10-20 Pz

#### **Olene and similar soils**

Composition: 0 to 2 percent

Landform: drainage ways  
Typical vegetation: California oatgrass, sedge  
Ecological site: 021XY509--Semi-Wet Meadow

**Pankeybasin and similar soils**

Composition: 0 to 2 percent  
Landform: footslopes of plateaus  
Typical vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush, Sandberg bluegrass  
Ecological site: 021XY214OR--Claypan 14-20 Pz

**Schnipps and similar soils**

Composition: 0 to 2 percent  
Landform: hills  
Typical vegetation: antelope bitterbrush, curlleaf mountainmahogany, bluebunch wheatgrass, western needlegrass, Idaho fescue  
Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz

**Benhall and similar soils**

Composition: 0 to 2 percent  
Landform: hills  
Typical vegetation: ponderosa pine, Idaho fescue, common snowberry, Ross' sedge  
Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz

***Management***

Major uses: ---  
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:  
"Range" section  
"Forest land" section  
"Recreation" section  
"Engineering" and "Soil Properties" sections

**320A--Pankeybasin loam, 1 to 2 percent slopes**

***Map Unit Setting***

MLRA: 21  
Landscape: Tableland  
Elevation: 4800 to 5000 feet  
Precipitation: 17 to 19 inches  
Air temperature: 43 to 45 degrees Fahrenheit  
Frost-free period: 50 to 80 days

***Composition***

Pankeybasin loam, 1 to 2 percent slopes--85 percent  
Boulder Lake silt loam, 0 to 1 percent slopes--5 percent  
Norcross very cobbly ashy loam, 0 to 4 percent slopes--5 percent  
Dranket very cobbly loam, 0 to 10 percent slopes--3 percent  
Schnipps cobbly loam, 2 to 6 percent slopes--2 percent

***Component Description***

**Pankeybasin and similar soils**

Landform: footslopes of plateaus

Parent material: Volcanic ash and residuum weathered from basalt  
Typical vegetation: Sandberg bluegrass, Idaho fescue, bluebunch wheatgrass, low sagebrush

**Typical profile:**

A1--0 to 2 inches; loam  
A2--2 to 7 inches; gravelly loam  
Bt1--7 to 11 inches; clay loam  
Bt2--11 to 19 inches; clay  
Btq--19 to 23 inches; clay  
Bqkm1--23 to 32 inches; duripan  
Bqkm2--32 to 65 inches; duripan  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

**Component Properties and Qualities**

Slope: 1 to 2 percent  
Runoff: High  
Depth to Restrictive Feature: Duripan: 20 to 25 inches  
Duripan: 26 to 35 inches  
Permeability class (root zone): Slow  
Available water capacity: About 3 inches  
Present flooding: None  
Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 5c  
Ecological site: 021XY214OR--Claypan 14-20 Pz  
Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

***Contrasting Inclusions***

**Boulder Lake and similar soils**

Composition: 0 to 5 percent  
Landform: depressions  
Typical vegetation: mat muhly, Nevada bluegrass, silver sagebrush, slender wheatgrass  
Ecological site: 021XY314OR--Dry Meadow

**Norcross and similar soils**

Composition: 0 to 5 percent  
Landform: plateaus  
Typical vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush, Sandberg bluegrass, onespikes oatgrass  
Ecological site: 021XY216OR--Stony Claypan 14-20 Pz

**Dranket and similar soils**

Composition: 0 to 3 percent  
Landform: summits of plateaus  
Typical vegetation: western juniper, Idaho fescue, Sandberg bluegrass, low sagebrush  
Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

**Schnipps and similar soils**

Composition: 0 to 2 percent  
Landform: hills  
Typical vegetation: curleaf mountainmahogany, western needlegrass, Idaho fescue, bluebunch wheatgrass, antelope bitterbrush  
Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **330B--Casebeer-Norcross-Dranket complex, 1 to 8 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5300 feet

Precipitation: 16 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Casebeer very cobbly loam, 1 to 6 percent slopes--35 percent

Norcross very cobbly ashy loam, 0 to 6 percent slopes--30 percent

Dranket very stony loam, 1 to 8 percent slopes--20 percent

Rock Outcrop, 2 to 20 percent slopes--5 percent

Boulder Lake silt loam, 0 to 1 percent slopes--5 percent

Schnipps cobbly loam, 2 to 10 percent slopes--3 percent

Benhall cobbly loam, 2 to 20 percent slopes--2 percent

### ***Component Description***

#### **Casebeer and similar soils**

Landform: summits of plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: Sandberg bluegrass, Idaho fescue, bluebunch wheatgrass, Thurber's needlegrass, low sagebrush

#### **Typical profile:**

A1--0 to 2 inches; very cobbly loam

A2--2 to 5 inches; cobbly clay loam

Bt1--5 to 8 inches; clay loam

Bt2--8 to 12 inches; clay

Bt3--12 to 14 inches; clay

Bqm1--14 to 26 inches; duripan

Bqm2--26 to 30 inches; duripan

R--30 to 60 inches; unweathered bedrock

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

### **Component Properties and Qualities**

Slope: 1 to 6 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 10 to 20 inches

Duripan: 12 to 26 inches

Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow  
Available water capacity: About 2 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e  
Ecological site: 021XY204OR--Shallow Stony 10-20 Pz

### ***Component Description***

#### **Norcross and similar soils**

Landform: plateaus  
Parent material: Volcanic ash and residuum weathered from basalt  
Typical vegetation: Sandberg bluegrass, onespoke oatgrass, bluebunch wheatgrass, Idaho fescue, low sagebrush

#### **Typical profile:**

A1--0 to 3 inches; very cobbly ashy loam  
A2--3 to 6 inches; cobbly ashy loam  
Bt1--6 to 10 inches; cobbly ashy clay loam  
Bt2--10 to 18 inches; clay  
Bt3--18 to 20 inches; clay  
Bqm--20 to 31 inches; duripan  
R--31 to 35 inches; unweathered bedrock  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

### **Component Properties and Qualities**

Slope: 0 to 6 percent  
Runoff: High  
Depth to Restrictive Feature: Duripan: 12 to 20 inches  
    Bedrock (lithic): 18 to 46 inches  
Permeability class (root zone): Slow  
Available water capacity: About 3 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e  
Ecological site: 021XY216OR--Stony Claypan 14-20 Pz

### ***Component Description***

#### **Dranket and similar soils**

Landform: summits of plateaus  
Parent material: Volcanic ash and residuum weathered from basalt  
Typical vegetation: Idaho fescue, Sandberg bluegrass, low sagebrush, western juniper

#### **Typical profile:**

A1--0 to 2 inches; very stony loam  
A2--2 to 8 inches; very cobbly loam  
Bt1--8 to 15 inches; very cobbly clay loam  
Bt2--15 to 23 inches; clay  
Btq--23 to 25 inches; gravelly clay  
Bqm--25 to 28 inches; duripan  
R--28 to 32 inches; unweathered bedrock

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

### **Component Properties and Qualities**

Slope: 1 to 8 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 20 to 30 inches

    Bedrock (lithic): 25 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

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

### ***Contrasting Inclusions***

#### **Rock Outcrop**

Composition: 0 to 5 percent

Landform: unspecified

Ecological site: None assigned

#### **Boulder Lake and similar soils**

Composition: 0 to 5 percent

Landform: depressions

Typical vegetation: Nevada bluegrass, mat muhly, slender wheatgrass, silver sagebrush

Ecological site: 021XY314OR--Dry Meadow

#### **Schnipps and similar soils**

Composition: 0 to 3 percent

Landform: hills

Typical vegetation: antelope bitterbrush, bluebunch wheatgrass, western needlegrass, curlleaf mountainmahogany, Idaho fescue

Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz

#### **Benhall and similar soils**

Composition: 0 to 2 percent

Landform: hills

Typical vegetation: common snowberry, ponderosa pine, Idaho fescue, Ross' sedge

Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **331B--Norcross-Dranket-Casebeer very cobbly loams, 0 to 6 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5400 feet

Precipitation: 16 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Norcross very cobbly ashy loam, 0 to 6 percent slopes--45 percent

Dranket very cobbly loam, 0 to 6 percent slopes--30 percent

Casebeer very cobbly loam, 0 to 6 percent slopes--15 percent

Schnipps cobbly loam, 2 to 6 percent slopes--5 percent

Rock Outcrop, 5 to 20 percent slopes--3 percent

Benhall cobbly loam, 2 to 10 percent slopes--2 percent

### ***Component Description***

#### **Norcross and similar soils**

Landform: plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: low sagebrush, Idaho fescue, Sandberg bluegrass, onespikes oatgrass, bluebunch wheatgrass

#### **Typical profile:**

A1--0 to 3 inches; very cobbly ashy loam

A2--3 to 6 inches; cobbly ashy loam

Bt1--6 to 10 inches; cobbly ashy clay loam

Bt2--10 to 18 inches; clay

Bt3--18 to 20 inches; clay

Bqm--20 to 31 inches; duripan

R--31 to 35 inches; unweathered bedrock

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

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

Slope: 0 to 6 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 12 to 20 inches

Bedrock (lithic): 18 to 46 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY216OR--Stony Claypan 14-20 Pz

### ***Component Description***

#### **Dranket and similar soils**

Landform: summits of plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: Idaho fescue, low sagebrush, Sandberg bluegrass, western juniper

**Typical profile:**

A1--0 to 2 inches; very cobbly loam

A2--2 to 8 inches; very cobbly loam

Bt1--8 to 15 inches; very cobbly clay loam

Bt2--15 to 23 inches; clay

Btq--23 to 25 inches; gravelly clay

Bqm--25 to 28 inches; duripan

R--28 to 32 inches; unweathered bedrock

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

**Component Properties and Qualities**

Slope: 0 to 6 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 20 to 30 inches

    Bedrock (lithic): 25 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

**Component Description****Casebeer and similar soils**

Landform: summits of plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: low sagebrush, Thurber's needlegrass, bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass

**Typical profile:**

A1--0 to 2 inches; very cobbly loam

A2--2 to 5 inches; cobbly clay loam

Bt1--5 to 8 inches; clay loam

Bt2--8 to 12 inches; clay

Bt3--12 to 14 inches; clay

Bqm1--14 to 26 inches; duripan

Bqm2--26 to 30 inches; duripan

R--30 to 60 inches; unweathered bedrock

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

**Component Properties and Qualities**

Slope: 0 to 6 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 10 to 20 inches

    Duripan: 12 to 26 inches

    Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY204OR--Shallow Stony 10-20 Pz

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

### ***Contrasting Inclusions***

#### **Schnipps and similar soils**

Composition: 0 to 5 percent

Landform: hills

Typical vegetation: western needlegrass, Idaho fescue, bluebunch wheatgrass, antelope bitterbrush, curlleaf mountainmahogany

Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz

#### **Rock Outcrop**

Composition: 0 to 3 percent

Landform: unspecified

Ecological site: None assigned

#### **Benhall and similar soils**

Composition: 0 to 2 percent

Landform: hills

Typical vegetation: ponderosa pine, common snowberry, Ross' sedge, Idaho fescue

Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **335B--Norcross-Casebeer complex, 1 to 10 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5400 feet

Precipitation: 16 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Norcross very cobbly ashy loam, 1 to 10 percent slopes--55 percent

Casebeer extremely cobbly loam, 1 to 6 percent slopes--30 percent

Pankeybasin loam, 1 to 3 percent slopes--5 percent

Schnipps cobbly loam, 5 to 15 percent slopes--5 percent

Rock Outcrop, 5 to 40 percent slopes--5 percent

### ***Component Description***

#### **Norcross wooded and similar soils**

Landform: plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: low sagebrush, western juniper, Sandberg bluegrass, Idaho fescue

#### **Typical profile:**

A1--0 to 3 inches; very cobbly ashy loam

A2--3 to 6 inches; cobbly ashy loam

Bt1--6 to 10 inches; cobbly ashy clay loam

Bt2--10 to 18 inches; clay

Bt3--18 to 20 inches; clay

Bqm--20 to 31 inches; duripan

R--31 to 35 inches; unweathered bedrock

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

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

Slope: 1 to 10 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 12 to 20 inches

Bedrock (lithic): 18 to 46 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY501OR--Juniper Claypan 14-20 Pz

### ***Component Description***

#### **Casebeer and similar soils**

Landform: summits of plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: Sandberg bluegrass, Idaho fescue, bluebunch wheatgrass, low sagebrush, Thurber's needlegrass

#### **Typical profile:**

A1--0 to 2 inches; extremely cobbly loam

A2--2 to 5 inches; cobbly clay loam

Bt1--5 to 8 inches; clay loam

Bt2--8 to 12 inches; clay

Bt3--12 to 14 inches; clay

Bqm1--14 to 26 inches; duripan

Bqm2--26 to 30 inches; duripan

R--30 to 60 inches; unweathered bedrock

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

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

Slope: 1 to 6 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 10 to 20 inches

Duripan: 12 to 26 inches

Bedrock (lithic): 20 to 40 inches  
Permeability class (root zone): Slow  
Available water capacity: About 2 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7e  
Ecological site: 021XY204OR--Shallow Stony 10-20 Pz  
Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Pankeybasin and similar soils**

Composition: 0 to 5 percent  
Landform: footslopes of plateaus  
Typical vegetation: low sagebrush, bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass  
Ecological site: 021XY214OR--Claypan 14-20 Pz

#### **Schnipps and similar soils**

Composition: 0 to 5 percent  
Landform: hills  
Typical vegetation: antelope bitterbrush, bluebunch wheatgrass, Idaho fescue, western needlegrass, curleaf mountainmahogany  
Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz

#### **Rock Outcrop**

Composition: 0 to 5 percent  
Landform: unspecified  
Ecological site: None assigned

### ***Management***

Major uses: ---  
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:  
"Range" section  
"Recreation" section  
"Engineering" and "Soil Properties" sections

## **340A--Norcross, thick surface-Casebeer complex, 0 to 4 percent slopes**

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

MLRA: 21  
Landscape: Tableland  
Elevation: 4800 to 5400 feet  
Precipitation: 16 to 20 inches  
Air temperature: 43 to 45 degrees Fahrenheit  
Frost-free period: 50 to 80 days

### ***Composition***

Norcross very cobbly ashy loam, 0 to 4 percent slopes--45 percent  
Casebeer very cobbly loam, 0 to 4 percent slopes--40 percent  
Schnipps cobbly loam, 5 to 15 percent slopes--5 percent

Rock Outcrop, 5 to 40 percent slopes--3 percent  
Dranket very cobbly loam, 0 to 10 percent slopes--3 percent  
Benhall cobbly loam, 2 to 10 percent slopes--2 percent  
Boulder Lake silt loam, 0 to 1 percent slopes--2 percent

### ***Component Description***

#### **Norcross and similar soils**

Landform: plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: Sandberg bluegrass, low sagebrush, Idaho fescue, onespikes oatgrass, bluebunch wheatgrass

#### **Typical profile:**

A1--0 to 3 inches; very cobbly ashy loam

A2--3 to 6 inches; cobbly ashy loam

Bt1--6 to 10 inches; cobbly ashy clay loam

Bt2--10 to 18 inches; clay

Bt3--18 to 20 inches; clay

Bqm--20 to 31 inches; duripan

R--31 to 35 inches; unweathered bedrock

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

### **Component Properties and Qualities**

Slope: 0 to 4 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 12 to 20 inches

Bedrock (lithic): 18 to 46 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY216OR--Stony Claypan 14-20 Pz

### ***Component Description***

#### **Casebeer and similar soils**

Landform: summits of plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: Idaho fescue, Thurber's needlegrass, low sagebrush, Sandberg bluegrass, bluebunch wheatgrass

#### **Typical profile:**

A1--0 to 2 inches; very cobbly loam

A2--2 to 5 inches; cobbly clay loam

Bt1--5 to 8 inches; clay loam

Bt2--8 to 12 inches; clay

Bt3--12 to 14 inches; clay

Bqm1--14 to 26 inches; duripan

Bqm2--26 to 30 inches; duripan

R--30 to 60 inches; unweathered bedrock

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

### **Component Properties and Qualities**

Slope: 0 to 4 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 10 to 20 inches

Duripan: 12 to 26 inches

Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY204OR--Shallow Stony 10-20 Pz

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

### ***Contrasting Inclusions***

#### **Schnipps and similar soils**

Composition: 0 to 5 percent

Landform: hills

Typical vegetation: Idaho fescue, bluebunch wheatgrass, curlleaf mountainmahogany, western needlegrass, antelope bitterbrush

Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz

#### **Rock Outcrop**

Composition: 0 to 3 percent

Landform: unspecified

Ecological site: None assigned

#### **Dranket and similar soils**

Composition: 0 to 3 percent

Landform: summits of plateaus

Typical vegetation: Idaho fescue, low sagebrush, Sandberg bluegrass, western juniper

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

#### **Benhall and similar soils**

Composition: 0 to 2 percent

Landform: hills

Typical vegetation: ponderosa pine, common snowberry, Ross' sedge, Idaho fescue

Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz

#### **Boulder Lake and similar soils**

Composition: 0 to 2 percent

Landform: depressions

Typical vegetation: slender wheatgrass, Nevada bluegrass, silver sagebrush, mat muhly

Ecological site: 021XY314OR--Dry Meadow

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section  
"Engineering" and "Soil Properties" sections

### **342A--Casebeer very stony loam, 0 to 4 percent slopes**

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

MLRA: 21  
Landscape: Tableland  
Elevation: 4700 to 5400 feet  
Precipitation: 16 to 20 inches  
Air temperature: 43 to 45 degrees Fahrenheit  
Frost-free period: 50 to 80 days

#### ***Composition***

Casebeer very stony loam, 0 to 4 percent slopes--85 percent  
Devaul cobbly loam, 2 to 8 percent slopes--5 percent  
Dranket very cobbly loam, 0 to 10 percent slopes--5 percent  
Norcross very cobbly ashy loam, 0 to 4 percent slopes--3 percent  
Jennett loam, 0 to 1 percent slopes--2 percent

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

##### **Casebeer and similar soils**

Landform: summits of plateaus  
Parent material: Volcanic ash and residuum weathered from basalt  
Typical vegetation: bluebunch wheatgrass, Sandberg bluegrass, Idaho fescue, Thurber's needlegrass, low sagebrush

#### **Typical profile:**

A1--0 to 2 inches; very stony loam  
A2--2 to 5 inches; cobbly clay loam  
Bt1--5 to 8 inches; clay loam  
Bt2--8 to 12 inches; clay  
Bt3--12 to 14 inches; clay  
Bqm1--14 to 26 inches; duripan  
Bqm2--26 to 30 inches; duripan  
R--30 to 60 inches; unweathered bedrock  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

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

Slope: 0 to 4 percent  
Runoff: High  
Depth to Restrictive Feature: Duripan: 10 to 20 inches  
    Duripan: 12 to 26 inches  
    Bedrock (lithic): 20 to 40 inches  
Permeability class (root zone): Slow  
Available water capacity: About 2 inches  
Present flooding: None  
Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 6e  
Ecological site: 021XY204OR--Shallow Stony 10-20 Pz

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

### ***Contrasting Inclusions***

#### **Devaul and similar soils**

Composition: 0 to 5 percent

Landform: toeslopes of hills

Typical vegetation: Idaho fescue, antelope bitterbrush, Sandberg bluegrass, mountain big sagebrush, bluebunch wheatgrass

Ecological site: 021XY218OR--Shrubby Loam 16-20 Pz

#### **Dranket and similar soils**

Composition: 0 to 5 percent

Landform: summits of plateaus

Typical vegetation: Sandberg bluegrass, western juniper, low sagebrush, Idaho fescue

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

#### **Norcross and similar soils**

Composition: 0 to 3 percent

Landform: plateaus

Typical vegetation: low sagebrush, bluebunch wheatgrass, onespoke oatgrass, Sandberg bluegrass, Idaho fescue

Ecological site: 021XY216OR--Stony Claypan 14-20 Pz

#### **Jennett and similar soils**

Composition: 0 to 2 percent

Landform: drainageways

Typical vegetation: Nevada bluegrass, Idaho fescue, Canby bluegrass

Ecological site: 021XY506OR--Claypan Bottom 12-18 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **343A--Jennett loam, 0 to 1 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4700 to 4900 feet

Precipitation: 16 to 18 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Jennett loam, 0 to 1 percent slopes--85 percent

Casebeer very cobbly loam, 0 to 1 percent slopes--5 percent

Dranket very cobbly loam, 0 to 10 percent slopes--5 percent

Norcross very cobbly ashy loam, 0 to 4 percent slopes--3 percent

Boulder Lake silt loam, 0 to 1 percent slopes--2 percent

### ***Component Description***

#### **Jennett and similar soils**

Landform: drainageways

Parent material: Alluvium and lacustrine deposits derived from basalt

Typical vegetation: Idaho fescue, Nevada bluegrass, Canby bluegrass

#### **Typical profile:**

A1--0 to 2 inches; loam

A2--2 to 8 inches; silt loam

Btg--8 to 13 inches; silty clay loam

Bt--13 to 21 inches; clay

Btqm--21 to 36 inches; duripan

Bkqm--36 to 62 inches; duripan

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

### **Component Properties and Qualities**

Slope: 0 to 1 percent

Runoff: Medium

Depth to Restrictive Feature: Duripan: 20 to 30 inches

Duripan: 30 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 4 inches

Present flooding: None

Present ponding: Frequent

Water table: Present

Natural drainage class: Moderately well drained

### **Interpretive Groups**

Nonirrigated land capability: 4s

Ecological site: 021XY506OR--Claypan Bottom 12-18 Pz

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

### ***Contrasting Inclusions***

#### **Casebeer and similar soils**

Composition: 0 to 5 percent

Landform: summits of plateaus

Typical vegetation: Sandberg bluegrass, Idaho fescue, bluebunch wheatgrass, low sagebrush, Thurber's needlegrass

Ecological site: 021XY204OR--Shallow Stony 10-20 Pz

#### **Dranket and similar soils**

Composition: 0 to 5 percent

Landform: summits of plateaus

Typical vegetation: Sandberg bluegrass, low sagebrush, Idaho fescue, western juniper

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

#### **Norcross and similar soils**

Composition: 0 to 3 percent

Landform: plateaus

Typical vegetation: low sagebrush, Idaho fescue, Sandberg bluegrass, onespoke oatgrass, bluebunch wheatgrass

Ecological site: 021XY216OR--Stony Claypan 14-20 Pz

### **Boulder Lake and similar soils**

Composition: 0 to 2 percent

Landform: depressions

Typical vegetation: slender wheatgrass, silver sagebrush, Nevada bluegrass, mat muhly

Ecological site: 021XY314OR--Dry Meadow

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **344A--Norcross-Boulder Lake-Jennett complex, 0 to 1 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 4900 feet

Precipitation: 16 to 19 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Norcross very cobbly ashy loam, 0 to 1 percent slopes--40 percent

Boulder Lake silt loam, 0 to 1 percent slopes--35 percent

Jennett loam, 0 to 1 percent slopes--15 percent

Casebeer very cobbly loam, 0 to 1 percent slopes--5 percent

Dranket very cobbly loam, 0 to 10 percent slopes--3 percent

Rock Outcrop, 5 to 20 percent slopes--2 percent

### ***Component Description***

#### **Norcross ponded and similar soils**

Landform: plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: low sagebrush, bluebunch wheatgrass, Sandberg bluegrass, Idaho fescue

### **Typical profile:**

A1--0 to 3 inches; very cobbly ashy loam

A2--3 to 6 inches; cobbly ashy loam

Bt1--6 to 10 inches; cobbly ashy clay loam

Bt2--10 to 18 inches; clay

Bt3--18 to 20 inches; clay

Bqm--20 to 31 inches; duripan

R--31 to 35 inches; unweathered bedrock

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

### **Component Properties and Qualities**

Slope: 0 to 1 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 12 to 20 inches

Bedrock (lithic): 18 to 46 inches  
Permeability class (root zone): Slow  
Available water capacity: About 3 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e  
Ecological site: 021XY214OR--Claypan 14-20 Pz

### ***Component Description***

#### **Boulder Lake and similar soils**

Landform: depressions  
Parent material: Alluvium derived from basalt  
Typical vegetation: silver sagebrush, mat muhly, Nevada bluegrass, slender wheatgrass

#### **Typical profile:**

A--0 to 4 inches; silt loam  
Bw--4 to 12 inches; silty clay loam  
Bss--12 to 38 inches; silty clay  
Bk--38 to 65 inches; clay loam  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

### **Component Properties and Qualities**

Slope: 0 to 1 percent  
Runoff: Negligible  
Permeability class (root zone): Very slow  
Available water capacity: About 10 inches  
Present flooding: None  
Present ponding: Frequent  
Water table: Present  
Natural drainage class: Somewhat poorly drained

### **Interpretive Groups**

Nonirrigated land capability: 6w  
Ecological site: 021XY314OR--Dry Meadow

### ***Component Description***

#### **Jennett and similar soils**

Landform: drainageways  
Parent material: Alluvium and lacustrine deposits derived from basalt  
Typical vegetation: Idaho fescue, Nevada bluegrass, Canby bluegrass

#### **Typical profile:**

A1--0 to 2 inches; loam  
A2--2 to 8 inches; silt loam  
Btg--8 to 13 inches; silty clay loam  
Bt--13 to 21 inches; clay  
Btqm--21 to 36 inches; duripan  
Bkqm--36 to 62 inches; duripan  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

### **Component Properties and Qualities**

Slope: 0 to 1 percent

Runoff: Medium

Depth to Restrictive Feature: Duripan: 20 to 30 inches

Duripan: 30 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 4 inches

Present flooding: None

Present ponding: Frequent

Water table: Present

Natural drainage class: Moderately well drained

### **Interpretive Groups**

Nonirrigated land capability: 4s

Ecological site: 021XY506OR--Claypan Bottom 12-18 Pz

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

### ***Contrasting Inclusions***

#### **Casebeer and similar soils**

Composition: 0 to 5 percent

Landform: summits of plateaus

Typical vegetation: Idaho fescue, bluebunch wheatgrass, Sandberg bluegrass, Thurber's needlegrass, low sagebrush

Ecological site: 021XY204OR--Shallow Stony 10-20 Pz

#### **Dranket and similar soils**

Composition: 0 to 3 percent

Landform: summits of plateaus

Typical vegetation: Idaho fescue, western juniper, Sandberg bluegrass, low sagebrush

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

#### **Rock Outcrop**

Composition: 0 to 2 percent

Landform: unspecified

Ecological site: None assigned

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **345A--Casebeer-Pankeybasin complex, 0 to 4 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5000 feet

Precipitation: 17 to 19 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Casebeer very cobbly loam, 0 to 4 percent slopes--70 percent  
Pankeybasin very cobbly loam, 1 to 4 percent slopes--15 percent  
Dranket very cobbly loam, 0 to 10 percent slopes--8 percent  
Schnipps cobbly loam, 5 to 15 percent slopes--7 percent

### ***Component Description***

#### **Casebeer and similar soils**

Landform: summits of plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: low sagebrush, Thurber's needlegrass, bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass

#### **Typical profile:**

A1--0 to 2 inches; very cobbly loam

A2--2 to 5 inches; cobbly clay loam

Bt1--5 to 8 inches; clay loam

Bt2--8 to 12 inches; clay

Bt3--12 to 14 inches; clay

Bqm1--14 to 26 inches; duripan

Bqm2--26 to 30 inches; duripan

R--30 to 60 inches; unweathered bedrock

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

### **Component Properties and Qualities**

Slope: 0 to 4 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 10 to 20 inches

Duripan: 12 to 26 inches

Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY204OR--Shallow Stony 10-20 Pz

### ***Component Description***

#### **Pankeybasin stony and similar soils**

Landform: footslopes of plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: Sandberg bluegrass, low sagebrush, onespoke oatgrass, bluebunch wheatgrass, Idaho fescue

#### **Typical profile:**

A1--0 to 2 inches; very cobbly loam

A2--2 to 7 inches; gravelly loam

Bt1--7 to 11 inches; clay loam

Bt2--11 to 19 inches; clay

Btq--19 to 23 inches; clay

Bqkm1--23 to 32 inches; duripan

Bqkm2--32 to 65 inches; duripan

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

### **Component Properties and Qualities**

Slope: 1 to 4 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 20 to 25 inches

Duripan: 26 to 35 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 5c

Ecological site: 021XY216OR--Stony Claypan 14-20 Pz

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

### ***Contrasting Inclusions***

#### **Dranket and similar soils**

Composition: 0 to 8 percent

Landform: summits of plateaus

Typical vegetation: Idaho fescue, western juniper, low sagebrush, Sandberg bluegrass

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

#### **Schnipps and similar soils**

Composition: 0 to 7 percent

Landform: hills

Typical vegetation: antelope bitterbrush, Idaho fescue, bluebunch wheatgrass, curlleaf mountainmahogany, western needlegrass

Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **350B--Woolencanyon-Notchcorral-Wonser complex, 0 to 8 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4200 to 5000 feet

Precipitation: 14 to 16 inches

Air temperature: 45 to 47 degrees Fahrenheit

Frost-free period: 60 to 90 days

### ***Composition***

Woolencanyon very stony clay loam, 1 to 8 percent slopes--45 percent  
Notchcorral very cobbly loam, 1 to 8 percent slopes--25 percent  
Wonser extremely cobbly loam, 0 to 4 percent slopes--20 percent  
Bumpheads very stony loam, 1 to 10 percent slopes--3 percent  
Boulder Lake silt loam, 0 to 1 percent slopes--3 percent  
Olene gravelly clay, 0 to 1 percent slopes--2 percent  
Rock Outcrop, 5 to 20 percent slopes--2 percent

### ***Component Description***

#### **Woolencanyon and similar soils**

Landform: summits of plateaus

Parent material: Volcanic ash, and residuum weathered from basalt

Typical vegetation: western juniper, Sandberg bluegrass, low sagebrush, bluebunch wheatgrass, Idaho fescue

#### **Typical profile:**

A--0 to 2 inches; very stony clay loam

Bt--2 to 5 inches; cobbly clay loam

Btss--5 to 12 inches; clay

Bqkm--12 to 19 inches; duripan

R--19 to 23 inches; unweathered bedrock

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

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

Slope: 1 to 8 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 12 to 19 inches

Bedrock (lithic): 14 to 26 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY505OR--Juniper Claypan 12-16 Pz

### ***Component Description***

#### **Notchcorral and similar soils**

Landform: summits of plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: Idaho fescue, western juniper, Sandberg bluegrass, bluebunch wheatgrass, low sagebrush

#### **Typical profile:**

A--0 to 3 inches; very cobbly loam

Bt1--3 to 6 inches; gravelly clay loam

Bt2--6 to 11 inches; clay

Bt3--11 to 22 inches; clay

Bkqm1--22 to 31 inches; duripan

Bkqm2--31 to 50 inches; duripan

R--50 to 60 inches; unweathered bedrock

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

### **Component Properties and Qualities**

Slope: 1 to 8 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 20 to 25 inches

Duripan: 30 to 35 inches

Bedrock (lithic): 40 to 60 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY505OR--Juniper Claypan 12-16 Pz

### **Component Description**

#### **Wonser and similar soils**

Landform: summits of plateaus

Parent material: Volcanic ash, and residuum weathered from basalt

Typical vegetation: low sagebrush, Thurber needlegrass, bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass

#### **Typical profile:**

A--0 to 2 inches; extremely cobbly loam

Bt1--2 to 4 inches; cobbly clay loam

Bt2--4 to 6 inches; cobbly clay

Bt3--6 to 13 inches; cobbly clay

Bqm--13 to 15 inches; duripan

R--15 to 19 inches; unweathered bedrock

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

### **Component Properties and Qualities**

Slope: 0 to 4 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 12 to 20 inches

Bedrock (lithic): 13 to 26 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: 021XY204OR--Shallow Stony 10-20 Pz

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

### **Contrasting Inclusions**

#### **Bumpheads and similar soils**

Composition: 0 to 3 percent

Landform: hills

Typical vegetation: ponderosa pine, Idaho fescue, western needlegrass, curl-leaf mountain mahogany, western juniper, antelope bitterbrush, bluebunch wheatgrass

Ecological site: 021XY508OR--Juniper Dry Pine 14-16 Pz

**Boulder Lake and similar soils**

Composition: 0 to 3 percent

Landform: depressions

Typical vegetation: slender wheatgrass, Nevada bluegrass, mat muhly, silver sagebrush

Ecological site: 021XY314OR--Dry Meadow

**Olene and similar soils**

Composition: 0 to 2 percent

Landform: drainageways

Typical vegetation: California oatgrass, sedge

Ecological site: 021XY509--Semi-Wet Meadow

**Rock Outcrop**

Composition: 0 to 2 percent

Landform: unspecified

Ecological site: None assigned

***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

**360B--Devaul-Norcross complex, 2 to 15 percent slopes*****Map Unit Setting***

MLRA: 21

Landscape: Tableland

Elevation: 4900 to 5100 feet

Precipitation: 17 to 19 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

***Composition***

Devaul cobbly loam, 2 to 15 percent slopes--45 percent

Norcross very cobbly ashy loam, 2 to 8 percent slopes--40 percent

Pankeybasin loam, 1 to 6 percent slopes--10 percent

Schnipps cobbly loam, 5 to 15 percent slopes--5 percent

***Component Description*****Devaul and similar soils**

Landform: toeslopes of plateaus

Parent material: Alluvium derived from basalt and welded tuff

Typical vegetation: bluebunch wheatgrass, Idaho fescue, antelope bitterbrush, Sandberg bluegrass, mountain big sagebrush

**Typical profile:**

A1--0 to 3 inches; cobbly loam

A2--3 to 12 inches; cobbly loam

Bt1--12 to 18 inches; cobbly clay loam  
Bt2--18 to 33 inches; very cobbly clay loam  
Bt3--33 to 42 inches; very cobbly clay loam  
Bt4--42 to 56 inches; very cobbly clay loam  
Cr--56 to 66 inches; weathered bedrock

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

### **Component Properties and Qualities**

Slope: 2 to 15 percent  
Runoff: High  
Depth to Restrictive Feature: Bedrock (paralithic): 45 to 60 inches  
Permeability class (root zone): Moderately slow  
Available water capacity: About 7 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 4e  
Ecological site: 021XY218OR--Shrubby Loam 16-20 Pz

### **Component Description**

#### **Norcross wooded and similar soils**

Landform: plateaus  
Parent material: Volcanic ash and residuum weathered from basalt  
Typical vegetation: low sagebrush, Idaho fescue, Sandberg bluegrass, western juniper

### **Typical profile:**

A1--0 to 3 inches; very cobbly ashy loam  
A2--3 to 6 inches; cobbly ashy loam  
Bt1--6 to 10 inches; cobbly ashy clay loam  
Bt2--10 to 18 inches; clay  
Bt3--18 to 20 inches; clay  
Bqm--20 to 31 inches; duripan  
R--31 to 35 inches; unweathered bedrock

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

### **Component Properties and Qualities**

Slope: 2 to 8 percent  
Runoff: High  
Depth to Restrictive Feature: Duripan: 12 to 20 inches  
    Bedrock (lithic): 18 to 46 inches  
Permeability class (root zone): Slow  
Available water capacity: About 3 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e  
Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz  
Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Pankeybasin and similar soils**

Composition: 0 to 10 percent

Landform: footslopes of plateaus

Typical vegetation: Idaho fescue, Sandberg bluegrass, bluebunch wheatgrass, low sagebrush

Ecological site: 021XY214OR--Claypan 14-20 Pz

#### **Schnipps and similar soils**

Composition: 0 to 5 percent

Landform: hills

Typical vegetation: bluebunch wheatgrass, antelope bitterbrush, curlleaf mountainmahogany, western needlegrass, Idaho fescue

Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **362B--Casebeer-Devaul-Norcross complex, 2 to 8 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5100 feet

Precipitation: 17 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Casebeer extremely cobbly loam, 2 to 6 percent slopes--30 percent

Devaul cobbly loam, 2 to 8 percent slopes--30 percent

Norcross extremely cobbly ashy loam, 2 to 8 percent slopes--25 percent

Pankeybasin loam, 1 to 6 percent slopes--5 percent

Schnipps cobbly loam, 5 to 15 percent slopes--5 percent

Benhall cobbly loam, 2 to 20 percent slopes--5 percent

### ***Component Description***

#### **Casebeer and similar soils**

Landform: summits of plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, low sagebrush, Idaho fescue, Sandberg bluegrass

#### **Typical profile:**

A1--0 to 2 inches; extremely cobbly loam

A2--2 to 5 inches; cobbly clay loam

Bt1--5 to 8 inches; clay loam

Bt2--8 to 12 inches; clay

Bt3--12 to 14 inches; clay  
Bqm1--14 to 26 inches; duripan  
Bqm2--26 to 30 inches; duripan  
R--30 to 60 inches; unweathered bedrock  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

### **Component Properties and Qualities**

Slope: 2 to 6 percent  
Runoff: High  
Depth to Restrictive Feature: Duripan: 10 to 20 inches  
    Duripan: 12 to 26 inches  
    Bedrock (lithic): 20 to 40 inches  
Permeability class (root zone): Very slow  
Available water capacity: About 2 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7e  
Ecological site: 021XY204OR--Shallow Stony 10-20 Pz

### ***Component Description***

#### **Devaul and similar soils**

Landform: toeslopes of hills  
Parent material: Alluvium derived from basalt and welded tuff  
Typical vegetation: Sandberg bluegrass, bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Idaho fescue

#### **Typical profile:**

A1--0 to 3 inches; cobbly loam  
A2--3 to 12 inches; cobbly loam  
Bt1--12 to 18 inches; cobbly clay loam  
Bt2--18 to 33 inches; very cobbly clay loam  
Bt3--33 to 42 inches; very cobbly clay loam  
Bt4--42 to 56 inches; very cobbly clay loam  
Cr--56 to 66 inches; weathered bedrock  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

### **Component Properties and Qualities**

Slope: 2 to 8 percent  
Runoff: High  
Depth to Restrictive Feature: Bedrock (paralithic): 45 to 60 inches  
Permeability class (root zone): Moderately slow  
Available water capacity: About 7 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 4e  
Ecological site: 021XY218OR--Shrubby Loam 16-20 Pz

### ***Component Description***

#### **Norcross wooded and similar soils**

Landform: plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: western juniper, Idaho fescue, low sagebrush, Sandberg bluegrass

#### **Typical profile:**

A1--0 to 3 inches; extremely cobbly ashy loam

A2--3 to 6 inches; cobbly ashy loam

Bt1--6 to 10 inches; cobbly ashy clay loam

Bt2--10 to 18 inches; clay

Bt3--18 to 20 inches; clay

Bqm--20 to 31 inches; duripan

R--31 to 35 inches; unweathered bedrock

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

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

Slope: 2 to 8 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 12 to 20 inches

Bedrock (lithic): 18 to 46 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

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

### ***Contrasting Inclusions***

#### **Pankeybasin and similar soils**

Composition: 0 to 5 percent

Landform: footslopes of plateaus

Typical vegetation: Idaho fescue, low sagebrush, bluebunch wheatgrass, Sandberg bluegrass

Ecological site: 021XY214OR--Claypan 14-20 Pz

#### **Schnipps and similar soils**

Composition: 0 to 5 percent

Landform: hills

Typical vegetation: western needlegrass, curlleaf mountainmahogany, antelope bitterbrush, bluebunch wheatgrass, Idaho fescue

Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz

#### **Benhall and similar soils**

Composition: 0 to 5 percent

Landform: hills

Typical vegetation: Idaho fescue, ponderosa pine, common snowberry, Ross' sedge

Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

### **370B--Widmer-Lorella complex, 2 to 10 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4140 to 4400 feet

Precipitation: 13 to 15 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 60 to 90 days

#### ***Composition***

Widmer stony loam, 2 to 10 percent slopes--60 percent

Lorella stony loam, 2 to 6 percent slopes--25 percent

Rock Outcrop, 5 to 20 percent slopes--5 percent

Casebeer very cobbly loam, 1 to 6 percent slopes--5 percent

Grohs cobbly loam, 2 to 20 percent slopes--5 percent

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

##### **Widmer and similar soils**

Landform: summits of plateaus

Parent material: Residuum weathered from basalt

Typical vegetation: antelope bitterbrush, Thurber needlegrass, mountain big sagebrush, Sandberg bluegrass, bluebunch wheatgrass, Idaho fescue

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

A--0 to 3 inches; stony loam

Bt1--3 to 8 inches; very cobbly clay loam

Bt2--8 to 12 inches; cobbly clay loam

Bt3--12 to 18 inches; clay

CBt--18 to 31 inches; paragravelly loam

Cr--31 to 41 inches; weathered bedrock

R--41 to 51 inches; unweathered bedrock

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

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

Slope: 2 to 10 percent

Runoff: High

Depth to Restrictive Feature: Bedrock (paralithic): 31 to 41 inches

Bedrock (lithic): 39 to 50 inches

Permeability class (root zone): Slow

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

##### **Interpretive Groups**

Nonirrigated land capability: 4e

Ecological site: 021XY200OR--Juniper Loamy Hills 10-14 Pz

### ***Component Description***

#### **Lorella and similar soils**

Landform: hills

Parent material: Colluvium and residuum weathered from basalt

Typical vegetation: bluebunch wheatgrass, low sagebrush, Idaho fescue, western juniper, Sandberg bluegrass

#### **Typical profile:**

A--0 to 2 inches; stony loam

Bt1--2 to 6 inches; very cobbly loam

Bt2--6 to 13 inches; very cobbly clay

Btkq--13 to 19 inches; very cobbly clay

R--19 to 23 inches; unweathered bedrock

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

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

Slope: 2 to 6 percent

Runoff: High

Depth to Restrictive Feature: Bedrock (lithic): 10 to 20 inches

Permeability class (root zone): Slow

Available water capacity: About 1.6 inches

Present flooding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7e

Ecological site: 021XY505OR--Juniper Claypan 12-16 Pz

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

### ***Contrasting Inclusions***

#### **Rock Outcrop**

Composition: 0 to 5 percent

Landform: unspecified

Ecological site: None assigned

#### **Casebeer and similar soils**

Composition: 0 to 5 percent

Landform: summits of plateaus

Typical vegetation: bluebunch wheatgrass, low sagebrush, Thurber's needlegrass, Idaho fescue, Sandberg bluegrass

Ecological site: 021XY204OR--Shallow Stony 10-20 Pz

#### **Grohs and similar soils**

Composition: 0 to 5 percent

Landform: backslopes of hills

Typical vegetation: ponderosa pine, curlleaf mountainmahogany, western needlegrass, Idaho fescue, antelope bitterbrush, bluebunch wheatgrass, western juniper

Ecological site: 021XY508OR--Juniper Dry Pine 14-16 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

### **380C--Menbo-Drakce-Rock outcrop complex, 15 to 40 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4400 to 5300 feet

Precipitation: 14 to 18 inches

Air temperature: 43 to 47 degrees Fahrenheit

Frost-free period: 50 to 90 days

#### ***Composition***

Menbo very stony loam, 15 to 40 percent slopes--40 percent

Drakce very stony loam, 15 to 40 percent slopes--30 percent

Rock Outcrop, 15 to 40 percent slopes--20 percent

Norcross very cobbly ashy loam, 0 to 10 percent slopes--5 percent

Dranket very cobbly loam, 2 to 15 percent slopes--5 percent

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

##### **Menbo cool and similar soils**

Landform: shoulders of hills

Parent material: Residuum and colluvium derived from basalt

Typical vegetation: antelope bitterbrush, mountain big sagebrush, Idaho fescue, bluebunch wheatgrass

#### **Typical profile:**

A1--0 to 4 inches; very stony loam

A2--4 to 10 inches; very cobbly clay loam

Bt1--10 to 20 inches; very cobbly clay loam

Bt2--20 to 28 inches; very cobbly clay

R--28 to 32 inches; unweathered bedrock

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

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

Slope: 15 to 40 percent

Runoff: Very high

Depth to Restrictive Feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: 021XY312OR--North Slopes 14-18 Pz

### ***Component Description***

#### **Drakce and similar soils**

Landform: escarpments

Parent material: Colluvium derived from basalt

Typical vegetation: bluebunch wheatgrass, antelope bitterbrush, Idaho fescue, mountain big sagebrush

#### **Typical profile:**

A1--0 to 3 inches; very stony loam

A2--3 to 9 inches; very cobbly clay loam

Bt1--9 to 14 inches; very cobbly clay loam

Bt2--14 to 21 inches; very cobbly clay

Bt3--21 to 44 inches; extremely cobbly clay

2R--44 to 60 inches; unweathered bedrock

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

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

Slope: 15 to 40 percent

Runoff: Very high

Depth to Restrictive Feature: Bedrock (lithic): 40 to 50 inches

Permeability class (root zone): Slow

Available water capacity: About 5 inches

Present flooding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY308OR--South Slopes 14-18 Pz

### ***Component Description***

#### **Rock Outcrop**

Landform: unspecified

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

Slope: 15 to 40 percent

#### **Interpretive Groups**

Nonirrigated land capability: Not determined

Ecological site: None assigned

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

### ***Contrasting Inclusions***

#### **Norcross and similar soils**

Composition: 0 to 5 percent

Landform: plateaus

Typical vegetation: Idaho fescue, Sandberg bluegrass, onespoke oatgrass, bluebunch wheatgrass, low sagebrush

Ecological site: 021XY216OR--Stony Claypan 14-20 Pz

#### **Dranket and similar soils**

Composition: 0 to 5 percent

Landform: summits of plateaus

Typical vegetation: low sagebrush, Idaho fescue, Sandberg bluegrass, western juniper

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

## ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **390A--Teeltruc ashy sandy loam, 2 to 5 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5000 feet

Precipitation: 17 to 19 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Teeltruc ashy sandy loam, 2 to 5 percent slopes--85 percent

Schnipps cobbly loam, 5 to 15 percent slopes--8 percent

Pankeybasin loam, 1 to 3 percent slopes--7 percent

### ***Component Description***

#### **Teeltruc and similar soils**

Landform: toeslopes of plateaus

Parent material: Eolian deposits over volcanic ash and alluvium derived from basalt

Typical vegetation: Idaho fescue, bluebunch wheatgrass, mountain big sagebrush, Sandberg bluegrass, antelope bitterbrush

#### **Typical profile:**

A--0 to 15 inches; ashy sandy loam

Bw1--15 to 26 inches; ashy sandy loam

Bw2--26 to 51 inches; cobbly ashy sandy loam

Bq--51 to 61 inches; ashy sandy loam

R--61 to 65 inches; unweathered bedrock

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

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

Slope: 2 to 5 percent

Runoff: Very low

Depth to Restrictive Feature: Duripan: 40 to 55 inches

Bedrock (lithic): 60 to 80 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 4e

Ecological site: 021XY218OR--Shrubby Loam 16-20 Pz

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

### ***Contrasting Inclusions***

#### **Schnipps and similar soils**

Composition: 0 to 8 percent

Landform: hills

Typical vegetation: Idaho fescue, curlleaf mountainmahogany, western needlegrass, antelope bitterbrush, bluebunch wheatgrass

Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz

#### **Pankeybasin and similar soils**

Composition: 0 to 7 percent

Landform: footslopes of plateaus

Typical vegetation: Idaho fescue, bluebunch wheatgrass, Sandberg bluegrass, low sagebrush

Ecological site: 021XY214OR--Claypan 14-20 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **392B--Teeltruc-Schnipps complex, 2 to 15 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5000 feet

Precipitation: 17 to 19 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Teeltruc ashy sandy loam, 2 to 8 percent slopes--65 percent

Schnipps very stony loam, 5 to 15 percent slopes--20 percent

Pankeybasin loam, 1 to 3 percent slopes--5 percent

Benhall cobbly loam, 2 to 20 percent slopes--5 percent

Norcross very cobbly ashy loam, 0 to 4 percent slopes--5 percent

### ***Component Description***

#### **Teeltruc and similar soils**

Landform: toeslopes of plateaus

Parent material: Eolian deposits over volcanic ash and alluvium derived from basalt

Typical vegetation: Idaho fescue, antelope bitterbrush, Sandberg bluegrass, mountain big sagebrush, bluebunch wheatgrass

#### **Typical profile:**

A--0 to 15 inches; ashy sandy loam

Bw1--15 to 26 inches; ashy sandy loam

Bw2--26 to 51 inches; cobbly ashy sandy loam

Bq--51 to 61 inches; ashy sandy loam

R--61 to 65 inches; unweathered bedrock

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

### **Component Properties and Qualities**

Slope: 2 to 8 percent

Runoff: Very low

Depth to Restrictive Feature: Duripan: 40 to 55 inches

Bedrock (lithic): 60 to 80 inches

Permeability class (root zone): Moderately rapid

Available water capacity: About 6 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 4e

Ecological site: 021XY218OR--Shrubby Loam 16-20 Pz

### **Component Description**

#### **Schnipps moist and similar soils**

Landform: hills

Parent material: Alluvium and residuum weathered from basalt

Typical vegetation: antelope bitterbrush, Saskatoon serviceberry, ponderosa pine, curlleaf mountainmahogany, Ross' sedge, Idaho fescue

#### **Typical profile:**

A1--0 to 3 inches; very stony loam

A2--3 to 14 inches; cobbly loam

Bt1--14 to 25 inches; cobbly clay loam

Bt2--25 to 49 inches; very cobbly clay loam

Crt--49 to 65 inches; weathered bedrock

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

### **Component Properties and Qualities**

Slope: 5 to 15 percent

Runoff: Very high

Depth to Restrictive Feature: Bedrock (paralithic): 40 to 50 inches

Permeability class (root zone): Slow

Available water capacity: About 7 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 4e

Ecological site: 021XY410XY--Pine-Mahogany-Fescue 16-20 Pz

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

### **Contrasting Inclusions**

#### **Pankeybasin and similar soils**

Composition: 0 to 5 percent

Landform: footslopes of plateaus

Typical vegetation: bluebunch wheatgrass, Sandberg bluegrass, Idaho fescue, low sagebrush

Ecological site: 021XY214OR--Claypan 14-20 Pz

**Benhall and similar soils**

Composition: 0 to 5 percent

Landform: hills

Typical vegetation: Idaho fescue, Ross' sedge, common snowberry, ponderosa pine

Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz

**Norcross and similar soils**

Composition: 0 to 5 percent

Landform: plateaus

Typical vegetation: onespoke oatgrass, low sagebrush, Idaho fescue, bluebunch wheatgrass, Sandberg bluegrass

Ecological site: 021XY216OR--Stony Claypan 14-20 Pz

***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

**400C--Schnipps cobbly loam, 6 to 20 percent slopes*****Map Unit Setting***

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5450 feet

Precipitation: 17 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

***Composition***

Schnipps cobbly loam, 6 to 20 percent slopes--85 percent

Royst cobbly loam, 15 to 50 percent slopes--5 percent

Rock Outcrop, 10 to 30 percent slopes--5 percent

Dranket very cobbly loam, 0 to 10 percent slopes--5 percent

***Component Description*****Schnipps and similar soils**

Landform: hills

Parent material: Alluvium and residuum weathered from basalt

Typical vegetation: Idaho fescue, bluebunch wheatgrass, antelope bitterbrush, western needlegrass, curlleaf mountainmahogany

**Typical profile:**

A1--0 to 3 inches; cobbly loam

A2--3 to 14 inches; cobbly loam

Bt1--14 to 25 inches; cobbly clay loam

Bt2--25 to 49 inches; very cobbly clay loam

Crt--49 to 65 inches; weathered bedrock

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

### **Component Properties and Qualities**

Slope: 6 to 20 percent  
Runoff: Very high  
Depth to Restrictive Feature: Bedrock (paralithic): 40 to 50 inches  
Permeability class (root zone): Slow  
Available water capacity: About 7 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 4e  
Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz  
Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Royst and similar soils**

Composition: 0 to 5 percent  
Landform: escarpments  
Typical vegetation: bluebunch wheatgrass, antelope bitterbrush, ponderosa pine, Idaho fescue, curl-leaf mountain mahogany  
Ecological site: 021XY402OR--Mahogany Rockland 10-20 Pz

#### **Rock Outcrop**

Composition: 0 to 5 percent  
Landform: unspecified  
Ecological site: None assigned

#### **Dranket and similar soils**

Composition: 0 to 5 percent  
Landform: summits of plateaus  
Typical vegetation: western juniper, Idaho fescue, low sagebrush, Sandberg bluegrass  
Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

### ***Management***

Major uses: ---  
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:  
"Range" section  
"Forest land" section  
"Recreation" section  
"Engineering" and "Soil Properties" sections

## **402C--Devaul-Schnipps complex, 6 to 20 percent slopes**

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

MLRA: 21  
Landscape: Tableland  
Elevation: 4800 to 5100 feet  
Precipitation: 17 to 20 inches  
Air temperature: 43 to 45 degrees Fahrenheit  
Frost-free period: 50 to 80 days

### ***Composition***

Devaul cobbly loam, 6 to 15 percent slopes--60 percent  
Schnipps cobbly loam, 10 to 20 percent slopes--30 percent  
Dranket very cobbly loam, 0 to 10 percent slopes--5 percent  
Royst cobbly loam, 15 to 50 percent slopes--3 percent  
Rock Outcrop, 10 to 30 percent slopes--2 percent

### ***Component Description***

#### **Devaul and similar soils**

Landform: toeslopes of plateaus  
Parent material: Alluvium derived from basalt and welded tuff  
Typical vegetation: Sandberg bluegrass, antelope bitterbrush, Idaho fescue, mountain big sagebrush, bluebunch wheatgrass

#### **Typical profile:**

A1--0 to 3 inches; cobbly loam  
A2--3 to 12 inches; cobbly loam  
Bt1--12 to 18 inches; cobbly clay loam  
Bt2--18 to 33 inches; very cobbly clay loam  
Bt3--33 to 42 inches; very cobbly clay loam  
Bt4--42 to 56 inches; very cobbly clay loam  
Cr--56 to 66 inches; weathered bedrock  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

### **Component Properties and Qualities**

Slope: 6 to 15 percent  
Runoff: High  
Depth to Restrictive Feature: Bedrock (paralithic): 45 to 60 inches  
Permeability class (root zone): Moderately slow  
Available water capacity: About 7 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 4e  
Ecological site: 021XY218OR--Shrubby Loam 16-20 Pz

### ***Component Description***

#### **Schnipps and similar soils**

Landform: hills  
Parent material: Alluvium and residuum weathered from basalt  
Typical vegetation: curleaf mountainmahogany, Idaho fescue, western needlegrass, antelope bitterbrush, bluebunch wheatgrass

#### **Typical profile:**

A1--0 to 3 inches; cobbly loam  
A2--3 to 14 inches; cobbly loam  
Bt1--14 to 25 inches; cobbly clay loam  
Bt2--25 to 49 inches; very cobbly clay loam  
Crt--49 to 65 inches; weathered bedrock  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

### **Component Properties and Qualities**

Slope: 10 to 20 percent  
Runoff: Very high  
Depth to Restrictive Feature: Bedrock (paralithic): 40 to 50 inches  
Permeability class (root zone): Slow  
Available water capacity: About 7 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 4e  
Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz  
Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Dranket and similar soils**

Composition: 0 to 5 percent  
Landform: summits of plateaus  
Typical vegetation: western juniper, low sagebrush, Idaho fescue, Sandberg bluegrass  
Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

#### **Royst and similar soils**

Composition: 0 to 3 percent  
Landform: escarpments  
Typical vegetation: bluebunch wheatgrass, curl-leaf mountain mahogany, Idaho fescue, ponderosa pine, antelope bitterbrush  
Ecological site: 021XY402OR--Mahogany Rockland 10-20 Pz

#### **Rock Outcrop**

Composition: 0 to 2 percent  
Landform: unspecified  
Ecological site: None assigned

### ***Management***

Major uses: ---  
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:  
"Range" section  
"Forest land" section  
"Recreation" section  
"Engineering" and "Soil Properties" sections

## **410D--Drakce-Rock outcrop complex, 15 to 50 percent slopes**

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

MLRA: 21  
Landscape: Tableland  
Elevation: 4400 to 5300 feet  
Precipitation: 14 to 18 inches  
Air temperature: 45 to 47 degrees Fahrenheit  
Frost-free period: 60 to 90 days

### ***Composition***

Drakce very stony loam, 15 to 50 percent slopes--65 percent  
Rock Outcrop unweathered bedrock, 15 to 50 percent slopes--20 percent  
Royst cobbly loam, 15 to 50 percent slopes--10 percent  
Dranket very cobbly loam, 0 to 10 percent slopes--5 percent

### ***Component Description***

#### **Drakce and similar soils**

Landform: escarpments  
Parent material: Colluvium derived from basalt  
Typical vegetation: antelope bitterbrush, Idaho fescue, mountain big sagebrush, bluebunch wheatgrass

#### **Typical profile:**

A1--0 to 3 inches; very stony loam  
A2--3 to 9 inches; very cobbly clay loam  
Bt1--9 to 14 inches; very cobbly clay loam  
Bt2--14 to 21 inches; very cobbly clay  
Bt3--21 to 44 inches; extremely cobbly clay  
2R--44 to 60 inches; unweathered bedrock  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

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

Slope: 15 to 50 percent  
Runoff: Very high  
Depth to Restrictive Feature: Bedrock (lithic): 40 to 50 inches  
Permeability class (root zone): Slow  
Available water capacity: About 5 inches  
Present flooding: None  
Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 6e  
Ecological site: 021XY308OR--South Slopes 14-18 Pz

### ***Component Description***

#### **Rock Outcrop**

Landform: unspecified

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

Slope: 15 to 50 percent

#### **Interpretive Groups**

Nonirrigated land capability: Not determined  
Ecological site: None assigned  
Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Royst and similar soils**

Composition: 0 to 10 percent  
Landform: escarpments  
Typical vegetation: bluebunch wheatgrass, curl-leaf mountain mahogany, Idaho fescue, ponderosa pine, antelope bitterbrush  
Ecological site: 021XY402OR--Mahogany Rockland 10-20 Pz

### **Dranket and similar soils**

Composition: 0 to 5 percent

Landform: summits of plateaus

Typical vegetation: western juniper, Sandberg bluegrass, low sagebrush, Idaho fescue

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Forest land" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **500C--Mound-Royst-Rock outcrop complex, 10 to 30 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4700 to 5200 feet

Precipitation: 18 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Mound very stony loam, 10 to 30 percent slopes--40 percent

Royst cobbly loam, 10 to 30 percent slopes--30 percent

Rock Outcrop unweathered bedrock, 20 to 30 percent slopes--15 percent

Dranket very cobbly loam, 2 to 15 percent slopes--8 percent

Schnipps cobbly loam, 5 to 15 percent slopes--7 percent

### ***Component Description***

#### **Mound and similar soils**

Landform: hills

Parent material: Colluvium over residuum weathered from basalt

Typical vegetation: ponderosa pine, Idaho fescue, Ross' sedge, common snowberry, longstolon sedge

#### **Typical profile:**

A1--0 to 3 inches; very stony loam

A2--3 to 16 inches; very cobbly loam

Bt--16 to 42 inches; very cobbly clay loam

Bt--16 to 42 inches; very cobbly clay

Cr--42 to 56 inches; weathered bedrock

R--56 to 60 inches; unweathered bedrock

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

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

Slope: 10 to 30 percent

Runoff: Very high

Depth to Restrictive Feature: Bedrock (paralithic): 40 to 60 inches

Bedrock (lithic): 45 to 60 inches  
Permeability class (root zone): Slow  
Available water capacity: About 9 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e  
Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz

### ***Component Description***

#### **Royst and similar soils**

Landform: escarpments  
Parent material: Volcanic ash and colluvium over residuum weathered from basalt  
Typical vegetation: antelope bitterbrush, ponderosa pine, Idaho fescue, curl-leaf mountain mahogany, bluebunch wheatgrass

#### **Typical profile:**

A1--0 to 6 inches; cobbly loam  
A2--6 to 13 inches; cobbly clay loam  
Bt1--13 to 26 inches; cobbly clay loam  
Bt2--26 to 38 inches; very paragravelly clay  
Cr--38 to 45 inches; weathered bedrock  
R--45 to 60 inches; unweathered bedrock  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

### **Component Properties and Qualities**

Slope: 10 to 30 percent  
Runoff: Very high  
Depth to Restrictive Feature: Bedrock (paralithic): 20 to 40 inches  
    Bedrock (lithic): 40 to 60 inches  
Permeability class (root zone): Slow  
Available water capacity: About 5 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7e  
Ecological site: 021XY402OR--Mahogany Rockland 10-20 Pz

### ***Component Description***

#### **Rock Outcrop**

Landform: unspecified

### **Component Properties and Qualities**

Slope: 20 to 30 percent

### **Interpretive Groups**

Nonirrigated land capability: Not determined  
Ecological site: None assigned  
Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Dranket and similar soils**

Composition: 0 to 8 percent

Landform: summits of plateaus

Typical vegetation: Idaho fescue, low sagebrush, Sandberg bluegrass, western juniper

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

#### **Schnipps and similar soils**

Composition: 0 to 7 percent

Landform: hills

Typical vegetation: western needlegrass, curlleaf mountainmahogany, bluebunch wheatgrass, antelope bitterbrush, Idaho fescue

Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Forest land" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **505D--Menbo-Drakce-Rock outcrop complex, 35 to 65 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4400 to 5300 feet

Precipitation: 14 to 18 inches

Air temperature: 43 to 47 degrees Fahrenheit

Frost-free period: 50 to 90 days

### ***Composition***

Menbo very stony loam, 35 to 65 percent slopes--40 percent

Drakce very stony loam, 35 to 65 percent slopes--25 percent

Rock Outcrop, 35 to 65 percent slopes--20 percent

Royst cobbly loam, 30 to 50 percent slopes--5 percent

Olene gravelly clay, 0 to 1 percent slopes--5 percent

Benhall cobbly loam, 2 to 20 percent slopes--5 percent

### ***Component Description***

#### **Menbo and similar soils**

Landform: shoulders of hills

Parent material: Residuum and colluvium derived from basalt

Typical vegetation: Ross' sedge, curlleaf mountainmahogany, western serviceberry, ponderosa pine, Idaho fescue, antelope bitterbrush

#### **Typical profile:**

A1--0 to 4 inches; very stony loam

A2--4 to 10 inches; very cobbly clay loam

Bt1--10 to 20 inches; very cobbly clay loam

Bt2--20 to 28 inches; very cobbly clay  
R--28 to 32 inches; unweathered bedrock

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

### **Component Properties and Qualities**

Slope: 35 to 65 percent

Runoff: Very high

Depth to Restrictive Feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: 021XY410OR--Pine-Mahogany-Fescue 16-20 Pz

### **Component Description**

#### **Drakce and similar soils**

Landform: escarpments

Parent material: Colluvium derived from basalt

Typical vegetation: Idaho fescue, antelope bitterbrush, mountain big sagebrush, bluebunch wheatgrass

### **Typical profile:**

A1--0 to 3 inches; very stony loam

A2--3 to 9 inches; very cobbly clay loam

Bt1--9 to 14 inches; very cobbly clay loam

Bt2--14 to 21 inches; very cobbly clay

Bt3--21 to 44 inches; extremely cobbly clay

2R--44 to 60 inches; unweathered bedrock

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

### **Component Properties and Qualities**

Slope: 35 to 65 percent

Runoff: Very high

Depth to Restrictive Feature: Bedrock (lithic): 40 to 50 inches

Permeability class (root zone): Slow

Available water capacity: About 5 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY308OR--South Slopes 14-18 Pz

### **Component Description**

#### **Rock Outcrop**

Landform: unspecified

### **Component Properties and Qualities**

Slope: 35 to 65 percent

### **Interpretive Groups**

Nonirrigated land capability: Not determined

Ecological site: None assigned

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

### ***Contrasting Inclusions***

#### **Royst and similar soils**

Composition: 0 to 5 percent

Landform: escarpments

Typical vegetation: antelope bitterbrush, bluebunch wheatgrass, curl-leaf mountain mahogany, Idaho fescue, ponderosa pine

Ecological site: 021XY402OR--Mahogany Rockland 10-20 Pz

#### **Olene and similar soils**

Composition: 0 to 5 percent

Landform: drainageways

Typical vegetation: sedge, California oatgrass

Ecological site: 021XY509--Semi-Wet Meadow

#### **Benhall and similar soils**

Composition: 0 to 5 percent

Landform: hills

Typical vegetation: ponderosa pine, common snowberry, Idaho fescue, Ross' sedge

Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Forest land" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **510B--Schnipps-Norcross complex, 2 to 15 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5400 feet

Precipitation: 17 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Schnipps cobbly loam, 4 to 15 percent slopes--45 percent

Norcross very cobbly ashy loam, 2 to 8 percent slopes--40 percent

Rock Outcrop, 5 to 20 percent slopes--5 percent

Royst cobbly loam, 10 to 30 percent slopes--3 percent

Pankeybasin loam, 1 to 6 percent slopes--3 percent

Benhall cobbly loam, 2 to 20 percent slopes--2 percent

Casebeer very cobbly loam, 2 to 6 percent slopes--2 percent

### ***Component Description***

#### **Schnipps moist and similar soils**

Landform: hills

Parent material: Alluvium and residuum weathered from basalt

Typical vegetation: Saskatoon serviceberry, Ross' sedge, curleaf mountainmahogany, antelope bitterbrush, ponderosa pine, Idaho fescue

#### **Typical profile:**

A1--0 to 3 inches; cobbly loam

A2--3 to 14 inches; cobbly loam

Bt1--14 to 25 inches; cobbly clay loam

Bt2--25 to 49 inches; very cobbly clay loam

Crt--49 to 65 inches; weathered bedrock

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

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

Slope: 4 to 15 percent

Runoff: Very high

Depth to Restrictive Feature: Bedrock (paralithic): 40 to 50 inches

Permeability class (root zone): Slow

Available water capacity: About 7 inches

Present flooding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 4e

Ecological site: 021XY410XY--Pine-Mahogany-Fescue 16-20 Pz

### ***Component Description***

#### **Norcross wooded and similar soils**

Landform: plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: Sandberg bluegrass, low sagebrush, Idaho fescue, western juniper

#### **Typical profile:**

A1--0 to 3 inches; very cobbly ashy loam

A2--3 to 6 inches; cobbly ashy loam

Bt1--6 to 10 inches; cobbly ashy clay loam

Bt2--10 to 18 inches; clay

Bt3--18 to 20 inches; clay

Bqm--20 to 31 inches; duripan

R--31 to 35 inches; unweathered bedrock

R--31 to 35 inches; unweathered bedrock

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

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

Slope: 2 to 8 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 12 to 20 inches

Bedrock (lithic): 18 to 46 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

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

### ***Contrasting Inclusions***

#### **Rock Outcrop**

Composition: 0 to 5 percent

Landform: unspecified

Ecological site: None assigned

#### **Royst and similar soils**

Composition: 0 to 3 percent

Landform: escarpments

Typical vegetation: ponderosa pine, Idaho fescue, curl-leaf mountain mahogany, bluebunch wheatgrass, antelope bitterbrush

Ecological site: 021XY402OR--Mahogany Rockland 10-20 Pz

#### **Pankeybasin and similar soils**

Composition: 0 to 3 percent

Landform: footslopes of plateaus

Typical vegetation: low sagebrush, bluebunch wheatgrass, Idaho fescue, Sandberg bluegrass

Ecological site: 021XY214OR--Claypan 14-20 Pz

#### **Benhall and similar soils**

Composition: 0 to 2 percent

Landform: hills

Typical vegetation: Idaho fescue, Ross' sedge, common snowberry, ponderosa pine

Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz

#### **Casebeer and similar soils**

Composition: 0 to 2 percent

Landform: summits of plateaus

Typical vegetation: Sandberg bluegrass, Idaho fescue, bluebunch wheatgrass, low sagebrush, Thurber's needlegrass

Ecological site: 021XY204OR--Shallow Stony 10-20 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Forest land" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **515B--Bumpheads, high precipitation-Mound-Norcross complex, 1 to 10 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5200 feet

Precipitation: 17 to 19 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Bumpheads very stony loam, 1 to 10 percent slopes--35 percent

Mound cobbly loam, 1 to 10 percent slopes--30 percent

Norcross extremely cobbly ashy loam, 1 to 10 percent slopes--25 percent

Royst cobbly loam, 10 to 30 percent slopes--5 percent

Pankeybasin loam, 1 to 6 percent slopes--3 percent

Jennett loam, 0 to 1 percent slopes--2 percent

### ***Component Description***

#### **Bumpheads moist and similar soils**

Landform: hills

Parent material: Residuum weathered from basalt

Typical vegetation: antelope bitterbrush, ponderosa pine, Saskatoon serviceberry, Idaho fescue, curl-leaf mountain mahogany, Ross' sedge

#### **Typical profile:**

A1--0 to 3 inches; very stony loam

A2--3 to 12 inches; cobbly loam

Bt1--12 to 22 inches; cobbly clay loam

Bt2--22 to 34 inches; very cobbly clay

Crt--34 to 38 inches; weathered bedrock

R--38 to 60 inches; unweathered bedrock

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

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

Slope: 1 to 10 percent

Runoff: High

Depth to Restrictive Feature: Bedrock (paralithic): 24 to 40 inches

Bedrock (lithic): 25 to 48 inches

Permeability class (root zone): Slow

Available water capacity: About 5 inches

Present flooding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY410OR--Pine-Mahogany-Fescue 16-20 Pz

### ***Component Description***

#### **Mound and similar soils**

Landform: hills

Parent material: Colluvium over residuum weathered from basalt

Typical vegetation: Ross' sedge, longstolon sedge, common snowberry, ponderosa pine, Idaho fescue

**Typical profile:**

A1--0 to 3 inches; cobbly loam

A2--3 to 16 inches; very cobbly loam

Bt--16 to 42 inches; very cobbly clay

Bt--16 to 42 inches; very cobbly clay loam

Cr--42 to 56 inches; weathered bedrock

R--56 to 60 inches; unweathered bedrock

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

**Component Properties and Qualities**

Slope: 1 to 10 percent

Runoff: Very high

Depth to Restrictive Feature: Bedrock (paralithic): 40 to 60 inches

    Bedrock (lithic): 45 to 60 inches

Permeability class (root zone): Slow

Available water capacity: About 9 inches

Present flooding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz

***Component Description***

**Norcross wooded and similar soils**

Landform: plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: western juniper, Sandberg bluegrass, low sagebrush, Idaho fescue

**Typical profile:**

A1--0 to 3 inches; extremely cobbly ashy loam

A2--3 to 6 inches; cobbly ashy loam

Bt1--6 to 10 inches; cobbly ashy clay loam

Bt2--10 to 18 inches; clay

Bt3--18 to 20 inches; clay

Bqm--20 to 31 inches; duripan

R--31 to 35 inches; unweathered bedrock

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

**Component Properties and Qualities**

Slope: 1 to 10 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 12 to 20 inches

    Bedrock (lithic): 18 to 46 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

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

### ***Contrasting Inclusions***

#### **Royst and similar soils**

Composition: 0 to 5 percent

Landform: escarpments

Typical vegetation: Idaho fescue, antelope bitterbrush, ponderosa pine, curl-leaf mountain mahogany, bluebunch wheatgrass

Ecological site: 021XY402OR--Mahogany Rockland 10-20 Pz

#### **Pankeybasin and similar soils**

Composition: 0 to 3 percent

Landform: footslopes of plateaus

Typical vegetation: low sagebrush, bluebunch wheatgrass, Sandberg bluegrass, Idaho fescue

Ecological site: 021XY214OR--Claypan 14-20 Pz

#### **Jennett and similar soils**

Composition: 0 to 2 percent

Landform: drainageways

Typical vegetation: Idaho fescue, Canby bluegrass, Nevada bluegrass

Ecological site: 021XY506OR--Claypan Bottom 12-18 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Forest land" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **517B--Bumpheads-Mound-Norcross complex, 1 to 10 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5200 feet

Precipitation: 17 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Bumpheads very stony loam, 1 to 10 percent slopes--40 percent

Mound stony loam, 1 to 10 percent slopes--30 percent

Norcross extremely cobbly ashy loam, 1 to 10 percent slopes--20 percent

Casebeer very cobbly loam, 1 to 6 percent slopes--5 percent

Pankeybasin loam, 1 to 3 percent slopes--3 percent

Devaul cobbly loam, 2 to 8 percent slopes--2 percent

### ***Component Description***

#### **Bumpheads and similar soils**

Landform: hills

Parent material: Residuum weathered from basalt

Typical vegetation: bluebunch wheatgrass, western needlegrass, ponderosa pine, curl-leaf mountain mahogany, antelope bitterbrush, western juniper, Idaho fescue

#### **Typical profile:**

A1--0 to 3 inches; very stony loam

A2--3 to 12 inches; cobbly loam

Bt1--12 to 22 inches; cobbly clay loam

Bt2--22 to 34 inches; very cobbly clay

Crt--34 to 38 inches; weathered bedrock

R--38 to 60 inches; unweathered bedrock

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

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

Slope: 1 to 10 percent

Runoff: High

Depth to Restrictive Feature: Bedrock (paralithic): 24 to 40 inches

Bedrock (lithic): 25 to 48 inches

Permeability class (root zone): Slow

Available water capacity: About 5 inches

Present flooding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY508OR--Juniper Dry Pine 14-16 Pz

### ***Component Description***

#### **Mound and similar soils**

Landform: hills

Parent material: Colluvium over residuum weathered from basalt

Typical vegetation: longstolon sedge, ponderosa pine, Idaho fescue, Ross' sedge, common snowberry

#### **Typical profile:**

A1--0 to 3 inches; stony loam

A2--3 to 16 inches; very cobbly loam

Bt--16 to 42 inches; very cobbly clay

Bt--16 to 42 inches; very cobbly clay loam

Cr--42 to 56 inches; weathered bedrock

R--56 to 60 inches; unweathered bedrock

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

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

Slope: 1 to 10 percent

Runoff: Very high

Depth to Restrictive Feature: Bedrock (paralithic): 40 to 60 inches

Bedrock (lithic): 45 to 60 inches

Permeability class (root zone): Slow

Available water capacity: About 9 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz

### ***Component Description***

#### **Norcross wooded and similar soils**

Landform: plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: western juniper, Sandberg bluegrass, low sagebrush, Idaho fescue

#### **Typical profile:**

A1--0 to 3 inches; extremely cobbly ashy loam

A2--3 to 6 inches; cobbly ashy loam

Bt1--6 to 10 inches; cobbly ashy clay loam

Bt2--10 to 18 inches; clay

Bt3--18 to 20 inches; clay

Bqm--20 to 31 inches; duripan

R--31 to 35 inches; unweathered bedrock

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

### **Component Properties and Qualities**

Slope: 1 to 10 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 12 to 20 inches

Bedrock (lithic): 18 to 46 inches

Permeability class (root zone): Slow

Available water capacity: About 3 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

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

### ***Contrasting Inclusions***

#### **Casebeer and similar soils**

Composition: 0 to 5 percent

Landform: summits of plateaus

Typical vegetation: low sagebrush, Sandberg bluegrass, Idaho fescue, bluebunch wheatgrass, Thurber's needlegrass

Ecological site: 021XY204OR--Shallow Stony 10-20 Pz

#### **Pankeybasin and similar soils**

Composition: 0 to 3 percent

Landform: footslopes of plateaus

Typical vegetation: Sandberg bluegrass, bluebunch wheatgrass, Idaho fescue, low sagebrush

Ecological site: 021XY214OR--Claypan 14-20 Pz

#### **Devaul and similar soils**

Composition: 0 to 2 percent

Landform: toeslopes of hills  
Typical vegetation: bluebunch wheatgrass, mountain big sagebrush, Sandberg bluegrass, antelope bitterbrush, Idaho fescue  
Ecological site: 021XY218OR--Shrubby Loam 16-20 Pz

### ***Management***

Major uses: ---  
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:  
"Range" section  
"Forest land" section  
"Recreation" section  
"Engineering" and "Soil Properties" sections

## **520B--Mound-Benhall complex, 2 to 20 percent slopes**

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

MLRA: 21  
Landscape: Tableland  
Elevation: 4800 to 5400 feet  
Precipitation: 18 to 20 inches  
Air temperature: 43 to 45 degrees Fahrenheit  
Frost-free period: 50 to 80 days

### ***Composition***

Mound stony loam, 2 to 20 percent slopes--45 percent  
Benhall cobbly loam, 2 to 20 percent slopes--40 percent  
Norcross very cobbly ashly loam, 0 to 4 percent slopes--5 percent  
Schnipps cobbly loam, 5 to 15 percent slopes--5 percent  
Royst cobbly loam, 10 to 30 percent slopes--3 percent  
Olene gravelly clay, 0 to 1 percent slopes--2 percent

### ***Component Description***

#### **Mound and similar soils**

Landform: hills  
Parent material: Colluvium over residuum weathered from basalt  
Typical vegetation: Idaho fescue, longstolon sedge, ponderosa pine, Ross' sedge, common snowberry

#### **Typical profile:**

A1--0 to 3 inches; stony loam  
A2--3 to 16 inches; very cobbly loam  
Bt--16 to 42 inches; very cobbly clay  
Bt--16 to 42 inches; very cobbly clay loam  
Cr--42 to 56 inches; weathered bedrock  
R--56 to 60 inches; unweathered bedrock  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

### **Component Properties and Qualities**

Slope: 2 to 20 percent  
Runoff: Very high  
Depth to Restrictive Feature: Bedrock (paralithic): 40 to 60 inches  
Bedrock (lithic): 45 to 60 inches

Permeability class (root zone): Slow  
Available water capacity: About 9 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e  
Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz

### ***Component Description***

#### **Benhall and similar soils**

Landform: hills  
Parent material: Slope alluvium over residuum weathered from basalt and welded tuff  
Typical vegetation: Ross' sedge, common snowberry, Idaho fescue, ponderosa pine

#### **Typical profile:**

A1--0 to 3 inches; cobbly loam  
A2--3 to 21 inches; very gravelly loam  
Bt1--21 to 32 inches; very cobbly clay loam  
Bt2--32 to 38 inches; very cobbly clay loam  
Cr--38 to 60 inches; weathered bedrock  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

### **Component Properties and Qualities**

Slope: 2 to 20 percent  
Runoff: Medium  
Depth to Restrictive Feature: Bedrock (paralithic): 38 to 40 inches  
Permeability class (root zone): Moderately slow  
Available water capacity: About 5 inches  
Present flooding: None  
Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 4e  
Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz  
Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Norcross and similar soils**

Composition: 0 to 5 percent  
Landform: plateaus  
Typical vegetation: bluebunch wheatgrass, onespoke oatgrass, Sandberg bluegrass, low sagebrush, Idaho fescue  
Ecological site: 021XY216OR--Stony Claypan 14-20 Pz

#### **Schnipps and similar soils**

Composition: 0 to 5 percent  
Landform: hills  
Typical vegetation: western needlegrass, curlleaf mountainmahogany, Idaho fescue, bluebunch wheatgrass, antelope bitterbrush  
Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz

#### **Royst and similar soils**

Composition: 0 to 3 percent























R--57 to 61 inches; unweathered bedrock

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

### **Component Properties and Qualities**

Slope: 2 to 20 percent

Runoff: High

Depth to Restrictive Feature: Bedrock (paralithic): 40 to 59 inches

    Bedrock (lithic): 50 to 70 inches

Permeability class (root zone): Slow

Available water capacity: About 5 inches

Present flooding: None

Natural drainage class: Well drained

### **Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz

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

### ***Contrasting Inclusions***

#### **Lorella and similar soils**

Composition: 0 to 6 percent

Landform: hills

Typical vegetation: Idaho fescue, bluebunch wheatgrass, low sagebrush, Sandberg bluegrass, western juniper

Ecological site: 021XY505OR--Juniper Claypan 12-16 Pz

#### **Notchcorral and similar soils**

Composition: 0 to 5 percent

Landform: summits of plateaus

Typical vegetation: Idaho fescue, bluebunch wheatgrass, Sandberg bluegrass, low sagebrush, western juniper

Ecological site: 021XY505OR--Juniper Claypan 12-16 Pz

#### **Royst and similar soils**

Composition: 0 to 4 percent

Landform: escarpments

Typical vegetation: Idaho fescue, ponderosa pine, antelope bitterbrush, bluebunch wheatgrass, curl-leaf mountain mahogany

Ecological site: 021XY402OR--Mahogany Rockland 10-20 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Forest land" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **543B--Carrbutte stony loam, 2 to 15 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4700 to 5200 feet  
Precipitation: 16 to 18 inches  
Air temperature: 45 to 47 degrees Fahrenheit  
Frost-free period: 60 to 90 days

### ***Composition***

Carrbutte stony loam, 2 to 15 percent slopes--85 percent  
Grohs cobbly loam, 2 to 20 percent slopes--8 percent  
Notchcorral very cobbly loam, 1 to 8 percent slopes--7 percent

### ***Component Description***

#### **Carrbutte and similar soils**

Landform: hills  
Parent material: Loess over residuum weathered from basalt  
Typical vegetation: Ross' sedge, Idaho fescue, ponderosa pine, common snowberry

#### **Typical profile:**

A1--0 to 3 inches; stony loam  
A2--3 to 10 inches; very cobbly loam  
Bt1--10 to 21 inches; very cobbly clay loam  
Bt2--21 to 41 inches; very cobbly clay  
Crt--41 to 57 inches; weathered bedrock  
R--57 to 61 inches; unweathered bedrock  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

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

Slope: 2 to 15 percent  
Runoff: High  
Depth to Restrictive Feature: Bedrock (paralithic): 40 to 59 inches  
    Bedrock (lithic): 50 to 70 inches  
Permeability class (root zone): Slow  
Available water capacity: About 5 inches  
Present flooding: None  
Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 6e  
Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz  
Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Grohs and similar soils**

Composition: 0 to 8 percent  
Landform: backslopes of hills  
Typical vegetation: Idaho fescue, bluebunch wheatgrass, antelope bitterbrush, western needlegrass, curlleaf mountainmahogany, ponderosa pine, western juniper  
Ecological site: 021XY508OR--Juniper Dry Pine 14-16 Pz

#### **Notchcorral and similar soils**

Composition: 0 to 7 percent  
Landform: summits of plateaus  
Typical vegetation: western juniper, Idaho fescue, low sagebrush, Sandberg bluegrass, bluebunch wheatgrass  
Ecological site: 021XY505OR--Juniper Claypan 12-16 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Forest land" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **550C--Menbo very stony loam, 15 to 40 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4400 to 5300 feet

Precipitation: 14 to 18 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Menbo very stony loam, 15 to 40 percent slopes--85 percent

Royst cobbly loam, 15 to 40 percent slopes--5 percent

Rock Outcrop, 15 to 40 percent slopes--5 percent

Benhall cobbly loam, 2 to 20 percent slopes--5 percent

### ***Component Description***

#### **Menbo and similar soils**

Landform: shoulders of hills

Parent material: Residuum and colluvium derived from basalt

Typical vegetation: western serviceberry, curleaf mountainmahogany, ponderosa pine, Ross' sedge, Idaho fescue, antelope bitterbrush

#### **Typical profile:**

A1--0 to 4 inches; very stony loam

A2--4 to 10 inches; very cobbly clay loam

Bt1--10 to 20 inches; very cobbly clay loam

Bt2--20 to 28 inches; very cobbly clay

R--28 to 32 inches; unweathered bedrock

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

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

Slope: 15 to 40 percent

Runoff: Very high

Depth to Restrictive Feature: Bedrock (lithic): 20 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 2 inches

Present flooding: None

Natural drainage class: Well drained

#### **Interpretive Groups**

Nonirrigated land capability: 7s

Ecological site: 021XY410OR--Pine-Mahogany-Fescue 16-20 Pz

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

### ***Contrasting Inclusions***

#### **Royst and similar soils**

Composition: 0 to 5 percent

Landform: escarpments

Typical vegetation: antelope bitterbrush, ponderosa pine, Idaho fescue, curl-leaf mountain mahogany, bluebunch wheatgrass

Ecological site: 021XY402OR--Mahogany Rockland 10-20 Pz

#### **Rock Outcrop**

Composition: 0 to 5 percent

Landform: unspecified

Ecological site: None assigned

#### **Benhall and similar soils**

Composition: 0 to 5 percent

Landform: hills

Typical vegetation: Idaho fescue, ponderosa pine, common snowberry, Ross' sedge

Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Forest land" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **560C--Drakce-Dranket complex, 4 to 35 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5200 feet

Precipitation: 16 to 18 inches

Air temperature: 43 to 47 degrees Fahrenheit

Frost-free period: 50 to 90 days

### ***Composition***

Drakce very stony loam, 15 to 35 percent slopes--45 percent

Dranket very stony loam, 4 to 15 percent slopes--40 percent

Royst cobbly loam, 15 to 35 percent slopes--5 percent

Rock Outcrop, 15 to 40 percent slopes--5 percent

Schnipps cobbly loam, 5 to 15 percent slopes--5 percent

### ***Component Description***

#### **Drakce and similar soils**

Landform: escarpments

Parent material: Colluvium derived from basalt

Typical vegetation: mountain big sagebrush, Idaho fescue, antelope bitterbrush, bluebunch wheatgrass

**Typical profile:**

A1--0 to 3 inches; very stony loam

A2--3 to 9 inches; very cobbly clay loam

Bt1--9 to 14 inches; very cobbly clay loam

Bt2--14 to 21 inches; very cobbly clay

Bt3--21 to 44 inches; extremely cobbly clay

2R--44 to 60 inches; unweathered bedrock

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

**Component Properties and Qualities**

Slope: 15 to 35 percent

Runoff: Very high

Depth to Restrictive Feature: Bedrock (lithic): 40 to 50 inches

Permeability class (root zone): Slow

Available water capacity: About 5 inches

Present flooding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY308OR--South Slopes 14-18 Pz

**Component Description**

**Dranket and similar soils**

Landform: summits of plateaus

Parent material: Volcanic ash and residuum weathered from basalt

Typical vegetation: Idaho fescue, low sagebrush, Sandberg bluegrass, western juniper

**Typical profile:**

A1--0 to 2 inches; very stony loam

A2--2 to 8 inches; very cobbly loam

Bt1--8 to 15 inches; very cobbly clay loam

Bt2--15 to 23 inches; clay

Btq--23 to 25 inches; gravelly clay

Bqm--25 to 28 inches; duripan

R--28 to 32 inches; unweathered bedrock

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

**Component Properties and Qualities**

Slope: 4 to 15 percent

Runoff: High

Depth to Restrictive Feature: Duripan: 20 to 30 inches

Bedrock (lithic): 25 to 40 inches

Permeability class (root zone): Slow

Available water capacity: About 4 inches

Present flooding: None

Natural drainage class: Well drained

**Interpretive Groups**

Nonirrigated land capability: 6e

Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

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

### ***Contrasting Inclusions***

#### **Royst and similar soils**

Composition: 0 to 5 percent

Landform: escarpments

Typical vegetation: antelope bitterbrush, ponderosa pine, curl-leaf mountain mahogany, Idaho fescue, bluebunch wheatgrass

Ecological site: 021XY402OR--Mahogany Rockland 10-20 Pz

#### **Rock Outcrop**

Composition: 0 to 5 percent

Landform: unspecified

Ecological site: None assigned

#### **Schnipps and similar soils**

Composition: 0 to 5 percent

Landform: hills

Typical vegetation: bluebunch wheatgrass, Idaho fescue, antelope bitterbrush, western needlegrass, curlleaf mountainmahogany

Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Forest land" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **600A--Boulder Lake-Hippyjim silty clay loams, 0 to 1 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5000 feet

Precipitation: 17 to 19 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Boulder Lake silty clay loam, 0 to 1 percent slopes--55 percent

Hippyjim silty clay loam, 0 to 1 percent slopes--35 percent

Jennett loam, 0 to 1 percent slopes--10 percent

### ***Component Description***

#### **Boulder Lake and similar soils**

Landform: depressions

Parent material: Alluvium derived from basalt

Typical vegetation: mat muhly, silver sagebrush, Nevada bluegrass, slender wheatgrass

**Typical profile:**

A--0 to 4 inches; silty clay loam

Bw--4 to 12 inches; silty clay loam

Bss--12 to 38 inches; silty clay

Bk--38 to 65 inches; clay loam

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

**Component Properties and Qualities**

Slope: 0 to 1 percent

Runoff: Negligible

Permeability class (root zone): Very slow

Available water capacity: About 10 inches

Present flooding: None

Present ponding: Frequent

Water table: Present

Natural drainage class: Somewhat poorly drained

**Interpretive Groups**

Nonirrigated land capability: 6w

Ecological site: 021XY314OR--Dry Meadow

***Component Description*****Hippyjim and similar soils**

Landform: depressions

Parent material: Alluvium and lacustrine deposits derived from basalt

Typical vegetation: spikerush, sedge

**Typical profile:**

A1--0 to 4 inches; silty clay loam

A2--4 to 10 inches; silty clay loam

E--10 to 13 inches; silty clay loam

Btss--13 to 28 inches; clay

Bq--28 to 47 inches; clay

Cr--47 to 62 inches; weathered bedrock

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

**Component Properties and Qualities**

Slope: 0 to 1 percent

Runoff: Negligible

Depth to Restrictive Feature: Bedrock (paralithic): 45 to 62 inches

Permeability class (root zone): Very slow

Available water capacity: About 8 inches

Present flooding: None

Present ponding: Frequent

Water table: Present

Natural drainage class: Poorly drained

**Interpretive Groups**

Nonirrigated land capability: 6s

Ecological site: 021XY503OR--Ephemeral Lakebed

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

### ***Contrasting Inclusions***

#### **Jennett and similar soils**

Composition: 0 to 10 percent

Landform: drainageways

Typical vegetation: Nevada bluegrass, Canby bluegrass, Idaho fescue

Ecological site: 021XY506OR--Claypan Bottom 12-18 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **602A--Boulder Lake silt loam, 0 to 1 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5200 feet

Precipitation: 17 to 19 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Boulder Lake silt loam, 0 to 1 percent slopes--85 percent

Hippyjim silty clay loam, 0 to 1 percent slopes--8 percent

Jennett loam, 0 to 1 percent slopes--7 percent

### ***Component Description***

#### **Boulder Lake and similar soils**

Landform: depressions

Parent material: Alluvium derived from basalt

Typical vegetation: slender wheatgrass, Nevada bluegrass, mat muhly, silver sagebrush

### **Typical profile:**

A--0 to 4 inches; silt loam

Bw--4 to 12 inches; silty clay loam

Bss--12 to 38 inches; silty clay

Bk--38 to 65 inches; clay loam

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

### **Component Properties and Qualities**

Slope: 0 to 1 percent

Runoff: Negligible

Permeability class (root zone): Very slow

Available water capacity: About 10 inches

Present flooding: None

Present ponding: Frequent

Water table: Present

Natural drainage class: Somewhat poorly drained

### **Interpretive Groups**

Nonirrigated land capability: 6w

Ecological site: 021XY314OR--Dry Meadow

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

### ***Contrasting Inclusions***

#### **Hippyjim and similar soils**

Composition: 0 to 8 percent

Landform: depressions

Typical vegetation: sedge, spikerush

Ecological site: 021XY503OR--Ephemeral Lakebed

#### **Jennett and similar soils**

Composition: 0 to 7 percent

Landform: drainageways

Typical vegetation: Nevada bluegrass, Canby bluegrass, Idaho fescue

Ecological site: 021XY506OR--Claypan Bottom 12-18 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **605A--Boulder Lake-Cressler complex, 0 to 2 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5000 feet

Precipitation: 17 to 19 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Boulder Lake silt loam, 0 to 1 percent slopes--45 percent

Cressler silty clay loam, 0 to 2 percent slopes--40 percent

Olene gravelly clay, 0 to 1 percent slopes--8 percent

Benhall cobbly loam, 2 to 20 percent slopes--7 percent

### ***Component Description***

#### **Boulder Lake and similar soils**

Landform: depressions

Parent material: Alluvium derived from basalt

Typical vegetation: silver sagebrush, mat muhly, Nevada bluegrass, slender wheatgrass

#### **Typical profile:**

A--0 to 4 inches; silt loam

Bw--4 to 12 inches; silty clay loam

Bss--12 to 38 inches; silty clay

Bk--38 to 65 inches; clay loam

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

### **Component Properties and Qualities**

Slope: 0 to 1 percent

Runoff: Negligible

Permeability class (root zone): Very slow

Available water capacity: About 10 inches

Present flooding: None

Present ponding: Frequent

Water table: Present

Natural drainage class: Somewhat poorly drained

### **Interpretive Groups**

Nonirrigated land capability: 6w

Ecological site: 021XY314OR--Dry Meadow

### ***Component Description***

#### **Cressler and similar soils**

Landform: drainageways

Parent material: Alluvium derived from basalt

Typical vegetation: Nebraska sedge, tufted hairgrass

### **Typical profile:**

A--0 to 6 inches; silty clay loam

Bt1--6 to 15 inches; silty clay

Bt2--15 to 38 inches; silty clay

BC--38 to 48 inches; clay loam

C--48 to 60 inches; extremely stony clay

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

### **Component Properties and Qualities**

Slope: 0 to 2 percent

Runoff: Negligible

Permeability class (root zone): Slow

Available water capacity: About 8 inches

Present flooding: None

Present ponding: Frequent

Water table: Present

Natural drainage class: Somewhat poorly drained

### **Interpretive Groups**

Nonirrigated land capability: 5w

Ecological site: 021XY406OR--Wet Meadow

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

### ***Contrasting Inclusions***

#### **Olene and similar soils**

Composition: 0 to 8 percent

Landform: drainageways

Typical vegetation: California oatgrass, sedge

Ecological site: 021XY509--Semi-Wet Meadow

### **Benhall and similar soils**

Composition: 0 to 7 percent

Landform: hills

Typical vegetation: Idaho fescue, ponderosa pine, common snowberry, Ross' sedge

Ecological site: 021XY414OR--Pine-Sedge-Fescue 16-24 Pz

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **610A--Hippyjim silty clay loam, 0 to 1 percent slopes**

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

MLRA: 21

Landscape: Tableland

Elevation: 4800 to 5000 feet

Precipitation: 17 to 19 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

### ***Composition***

Hippyjim silty clay loam, 0 to 1 percent slopes--85 percent

Boulder Lake silt loam, 0 to 1 percent slopes--5 percent

Olene gravelly clay, 0 to 1 percent slopes--5 percent

Dranket very cobbly loam, 0 to 10 percent slopes--3 percent

Water, to percent slopes--2 percent

### ***Component Description***

#### **Hippyjim and similar soils**

Landform: depressions

Parent material: Alluvium and lacustrine deposits derived from basalt

Typical vegetation: spikerush, sedge

### **Typical profile:**

A1--0 to 4 inches; silty clay loam

A2--4 to 10 inches; silty clay loam

E--10 to 13 inches; silty clay loam

Btss--13 to 28 inches; clay

Bq--28 to 47 inches; clay

Cr--47 to 62 inches; weathered bedrock

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

### **Component Properties and Qualities**

Slope: 0 to 1 percent

Runoff: Negligible

Depth to Restrictive Feature: Bedrock (paralithic): 45 to 62 inches

Permeability class (root zone): Very slow

Available water capacity: About 8 inches  
Present flooding: None  
Present ponding: Frequent  
Water table: Present  
Natural drainage class: Poorly drained

### **Interpretive Groups**

Nonirrigated land capability: 6s  
Ecological site: 021XY503OR--Ephemeral Lakebed  
Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Boulder Lake and similar soils**

Composition: 0 to 5 percent  
Landform: depressions  
Typical vegetation: slender wheatgrass, Nevada bluegrass, mat muhly, silver sagebrush  
Ecological site: 021XY314OR--Dry Meadow

#### **Olene and similar soils**

Composition: 0 to 5 percent  
Landform: drainageways  
Typical vegetation: sedge, California oatgrass  
Ecological site: 021XY509--Semi-Wet Meadow

#### **Dranket and similar soils**

Composition: 0 to 3 percent  
Landform: summits of plateaus  
Typical vegetation: western juniper, low sagebrush, Idaho fescue, Sandberg bluegrass  
Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

### **Water**

Composition: 0 to 2 percent  
Landform: unspecified  
Ecological site: None assigned

### ***Management***

Major uses: ---

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

"Range" section

"Recreation" section

"Engineering" and "Soil Properties" sections

## **615A--Olene-Boulder Lake complex, 0 to 1 percent slopes**

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

MLRA: 21  
Landscape: Tableland  
Elevation: 5100 to 5300 feet  
Precipitation: 18 to 20 inches  
Air temperature: 43 to 45 degrees Fahrenheit  
Frost-free period: 50 to 80 days

### ***Composition***

Olene gravelly clay, 0 to 1 percent slopes--45 percent  
Boulder Lake silt loam, 0 to 1 percent slopes--40 percent  
Dranket very cobbly loam, 0 to 10 percent slopes--5 percent  
Jennett loam, 0 to 1 percent slopes--5 percent  
Schnipps cobbly loam, 5 to 15 percent slopes--5 percent

### ***Component Description***

#### **Olene and similar soils**

Landform: drainageways  
Parent material: Alluvium derived from basalt  
Typical vegetation: sedge, California oatgrass

#### **Typical profile:**

A1--0 to 2 inches; gravelly clay  
A2--2 to 8 inches; clay  
Bss--8 to 26 inches; clay  
BC--26 to 42 inches; very cobbly clay  
C--42 to 52 inches; very gravelly clay  
Cr--52 to 62 inches; weathered bedrock  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

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

Slope: 0 to 1 percent  
Runoff: Medium  
Depth to Restrictive Feature: Bedrock (paralithic): 45 to 60 inches  
Permeability class (root zone): Very slow  
Available water capacity: About 7 inches  
Present flooding: None  
Present ponding: Frequent  
Water table: Present  
Natural drainage class: Poorly drained

#### **Interpretive Groups**

Nonirrigated land capability: 4s  
Ecological site: 021XY509--Semi-Wet Meadow

### ***Component Description***

#### **Boulder Lake and similar soils**

Landform: depressions  
Parent material: Alluvium derived from basalt  
Typical vegetation: mat muhly, slender wheatgrass, Nevada bluegrass, silver sagebrush

#### **Typical profile:**

A--0 to 4 inches; silt loam  
Bw--4 to 12 inches; silty clay loam  
Bss--12 to 38 inches; silty clay  
Bk--38 to 65 inches; clay loam  
See "Chemical Properties of Soils" table and the "Physical Properties of Soils" table for more information.

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

Slope: 0 to 1 percent

Runoff: Negligible  
Permeability class (root zone): Very slow  
Available water capacity: About 10 inches  
Present flooding: None  
Present ponding: Frequent  
Water table: Present  
Natural drainage class: Somewhat poorly drained

### **Interpretive Groups**

Nonirrigated land capability: 6w  
Ecological site: 021XY314OR--Dry Meadow  
Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

### ***Contrasting Inclusions***

#### **Dranket and similar soils**

Composition: 0 to 5 percent  
Landform: summits of plateaus  
Typical vegetation: Sandberg bluegrass, low sagebrush, western juniper, Idaho fescue  
Ecological site: 021XY501OR--Juniper Claypan 16-20 Pz

#### **Jennett and similar soils**

Composition: 0 to 5 percent  
Landform: drainageways  
Typical vegetation: Nevada bluegrass, Canby bluegrass, Idaho fescue  
Ecological site: 021XY506OR--Claypan Bottom 12-18 Pz

#### **Schnipps and similar soils**

Composition: 0 to 5 percent  
Landform: hills  
Typical vegetation: Idaho fescue, antelope bitterbrush, western needlegrass, bluebunch wheatgrass, curlleaf mountainmahogany  
Ecological site: 021XY420XY--Juniper-Mahogany-Fescue 16-20 Pz

### ***Management***

Major uses: ---  
For information about managing this map unit, see the following sections and associated tables in Part II of this publication:  
"Range" section  
"Recreation" section  
"Engineering" and "Soil Properties" sections