Custom Soil Resource Report for Sandoval County Area, New Mexico, Parts of Los Alamos, Sandoval, and Rio Arriba Counties
Soil Map–Sandoval County Area, New Mexico, Parts of Los Alamos, Sandoval, and Rio Arriba Counties
(Rio West Subarea)

**MAP LEGEND**

- **Area of Interest (AOI)**
- **Soils**
- **Special Point Features**
  - Blowout
  - Borrow Pit
  - Clay Spot
  - Closed Depression
  - Gravel Pit
  - Gravelly Spot
  - Landfill
  - Lava Flow
  - Marsh or swamp
  - Mine or Quarry
  - Miscellaneous Water
  - Perennial Water
  - Rock Outcrop
  - Saline Spot
  - Sandy Spot
  - Severely Eroded Spot
  - Sinkhole
  - Slide or Slip
  - Sodic Spot
  - Spoil Area
  - Stony Spot
- **Very Stony Spot**
- **Wet Spot**
- **Other**
- **Special Line Features**
  - Gully
  - Short Steep Slope
  - Other
- **Political Features**
  - Cities
- **Water Features**
  - Oceans
  - Streams and Canals
- **Transportation**
  - Rails
  - Interstate Highways
  - US Routes
  - Major Roads

**MAP INFORMATION**

Map Scale: 1:34,600 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Coordinate System: UTM Zone 13N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sandoval County Area, New Mexico, Parts of Los Alamos, Sandoval, and Rio Arriba Counties
Survey Area Data: Version 7, Dec 9, 2008

Date(s) aerial images were photographed: 10/6/1996

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
## Map Unit Legend

<table>
<thead>
<tr>
<th>Map Unit Symbol</th>
<th>Map Unit Name</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
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<tbody>
<tr>
<td>66</td>
<td>Zia sandy loam, 3 to 6 percent slopes</td>
<td>752.2</td>
<td>12.5%</td>
</tr>
<tr>
<td>111</td>
<td>Rock outcrop-Zia complex, 8 to 25 percent slopes</td>
<td>955.1</td>
<td>15.9%</td>
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<tr>
<td>114</td>
<td>Zia-San Mateo association, 0 to 9 percent slopes</td>
<td>181.5</td>
<td>3.0%</td>
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<tr>
<td>120</td>
<td>Pinavetes loamy sand, 3 to 5 percent slopes</td>
<td>603.3</td>
<td>10.0%</td>
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<tr>
<td>143</td>
<td>Clovis fine sandy loam, 1 to 4 percent slopes</td>
<td>296.2</td>
<td>4.9%</td>
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<td>170</td>
<td>San Mateo loam, 0 to 3 percent slopes</td>
<td>489.2</td>
<td>8.1%</td>
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<td>190</td>
<td>Zia-Skyvillage-Rock outcrop complex, 5 to 40 percent slopes</td>
<td>254.6</td>
<td>4.2%</td>
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<td>211</td>
<td>Zia-Clovis association, 2 to 10 percent slopes</td>
<td>1,151.0</td>
<td>19.1%</td>
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<td>234</td>
<td>Querencia-Zia complex, 2 to 8 percent slopes</td>
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<td>235</td>
<td>Sandoval fine sandy loam, 3 to 15 percent slopes</td>
<td>738.3</td>
<td>12.3%</td>
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<td>236</td>
<td>Sparank clay loam, moderately saline, sodic, 0 to 1 percent slopes</td>
<td>44.9</td>
<td>0.7%</td>
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<td>240</td>
<td>Penistaja-Hagerman association, 1 to 5 percent slopes</td>
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<td>850</td>
<td>Water</td>
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<td>0.0%</td>
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<td><strong>Totals for Area of Interest</strong></td>
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<td><strong>6,024.5</strong></td>
<td><strong>100.0%</strong></td>
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</tbody>
</table>
Interpretive groups

Land capability (nonirrigated): 7e
Ecological site: Limy (R070CY108NM)

Typical profile

0 to 4 inches: Loam
4 to 23 inches: Loam
23 to 36 inches: Loam
36 to 60 inches: Sandy loam

66—Zia sandy loam, 3 to 6 percent slopes

Map Unit Setting

Elevation: 5,100 to 5,700 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 120 to 140 days

Map Unit Composition

Zia and similar soils: 85 percent

Description of Zia

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits over fan alluvium derived from sandstone

Properties and qualities

Slope: 3 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water capacity: Moderate (about 7.2 inches)

Interpretive groups

Land capability (nonirrigated): 6c
Ecological site: Sandy (R035XA113NM)

Typical profile

0 to 4 inches: Sandy loam
4 to 60 inches: Sandy loam
111—Rock outcrop-Zia complex, 8 to 25 percent slopes

Map Unit Setting

Elevation: 5,400 to 6,400 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 120 to 140 days

Map Unit Composition

Rock outcrop: 50 percent
Zia and similar soils: 35 percent

Description of Rock Outcrop

Setting

Landform: Breaks, escarpments

Properties and qualities

Depth to restrictive feature: 0 inches to lithic bedrock
Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)

Interpretive groups

Land capability (nonirrigated): 8s

Typical profile

0 to 60 inches: Bedrock

Description of Zia

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits over fan alluvium derived from sandstone

Properties and qualities

Slope: 8 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water capacity: Moderate (about 8.3 inches)
Interpretive groups
- Land capability (nonirrigated): 6e
- Ecological site: Foothills (R035XA131NM)

Typical profile
- 0 to 5 inches: Sandy loam
- 5 to 60 inches: Fine sandy loam

112—Tijeras gravelly fine sandy loam, 1 to 5 percent slopes

Map Unit Setting
- Elevation: 5,100 to 5,600 feet
- Mean annual precipitation: 8 to 10 inches
- Mean annual air temperature: 53 to 55 degrees F
- Frost-free period: 140 to 160 days

Map Unit Composition
- Tijeras and similar soils: 85 percent

Description of Tijeras

Setting
- Landform: Fan remnants
- Landform position (two-dimensional): Footslope
- Landform position (three-dimensional): Side slope
- Down-slope shape: Linear
- Across-slope shape: Linear
- Parent material: Fan alluvium derived from granite

Properties and qualities
- Slope: 1 to 5 percent
- Depth to restrictive feature: More than 80 inches
- Drainage class: Well drained
- Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
- Depth to water table: More than 80 inches
- Frequency of flooding: None
- Frequency of ponding: None
- Calcium carbonate, maximum content: 10 percent
- Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
- Sodium adsorption ratio, maximum: 5.0
- Available water capacity: Moderate (about 6.5 inches)

Interpretive groups
- Land capability (nonirrigated): 7c
- Ecological site: Sandy (R042XA051NM)

Typical profile
- 0 to 3 inches: Gravelly fine sandy loam
- 3 to 14 inches: Sandy clay loam
- 14 to 60 inches: Gravelly sandy loam
114—Zia-San Mateo association, 0 to 9 percent slopes

Map Unit Setting
- **Elevation**: 5,500 to 6,200 feet
- **Mean annual precipitation**: 10 to 13 inches
- **Mean annual air temperature**: 52 to 54 degrees F
- **Frost-free period**: 120 to 140 days

Map Unit Composition
- **San mateo and similar soils**: 40 percent
- **Zia and similar soils**: 40 percent

Description of Zia

Setting
- **Landform**: Alluvial fans
- **Landform position (two-dimensional)**: Footslope
- **Landform position (three-dimensional)**: Rise
- **Down-slope shape**: Linear
- **Across-slope shape**: Linear
- **Parent material**: Eolian deposits over fan alluvium derived from sandstone

Properties and qualities
- **Slope**: 1 to 9 percent
- **Depth to restrictive feature**: More than 80 inches
- **Drainage class**: Well drained
- **Capacity of the most limiting layer to transmit water (Ksat)**: High (2.00 to 6.00 in/hr)
- **Depth to water table**: More than 80 inches
- **Frequency of flooding**: None
- **Frequency of ponding**: None
- **Calcium carbonate, maximum content**: 15 percent
- **Maximum salinity**: Nonsaline (0.0 to 2.0 mmhos/cm)
- **Sodium adsorption ratio, maximum**: 5.0
- **Available water capacity**: Moderate (about 8.4 inches)

Interpretive groups
- **Land capability (nonirrigated)**: 6c
- **Ecological site**: Sandy (R035XA113NM)

Typical profile
- **0 to 3 inches**: Fine sandy loam
- **3 to 60 inches**: Fine sandy loam

Description of San Mateo

Setting
- **Landform**: Flood plains, valley sides, alluvial fans
- **Landform position (two-dimensional)**: Footslope
- **Landform position (three-dimensional)**: Rise
- **Down-slope shape**: Linear
- **Across-slope shape**: Linear
- **Parent material**: Stream alluvium derived from sandstone and shale
Properties and qualities
Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Slightly saline to strongly saline (5.0 to 30.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water capacity: High (about 9.3 inches)

Interpretive groups
Land capability classification (irrigated): 2e
Land capability (nonirrigated): 6e
Ecological site: Swale (R035XA120NM)

Typical profile
0 to 7 inches: Sandy loam
7 to 60 inches: Stratified sandy loam to loam to clay loam to silty clay loam

120—Pinavetes loamy sand, 3 to 5 percent slopes

Map Unit Setting
Elevation: 5,300 to 6,000 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 120 to 140 days

Map Unit Composition
Pinavetes and similar soils: 85 percent

Description of Pinavetes
Setting
Landform: Valley sides, dunes
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Eolian deposits derived from sandstone

Properties and qualities
Slope: 3 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Available water capacity: Very low (about 2.9 inches)

Interpretive groups
- Land capability (nonirrigated): 6e
- Ecological site: Deep Sand (R035XA115NM)

Typical profile
- 0 to 10 inches: Loamy sand
- 10 to 35 inches: Sand
- 35 to 60 inches: Sand

124—Rock outcrop

Map Unit Setting
- Elevation: 5,300 to 6,000 feet
- Mean annual precipitation: 10 to 13 inches
- Mean annual air temperature: 52 to 54 degrees F

Map Unit Composition
- Rock outcrop: 90 percent

Description of Rock Outcrop

Setting
- Landform: Escarpments, mesas

Properties and qualities
- Depth to restrictive feature: 0 inches to lithic bedrock
- Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)

Interpretive groups
- Land capability (nonirrigated): 8s

Typical profile
- 0 to 60 inches: Bedrock

129—Menefee clay loam, 5 to 35 percent slopes

Map Unit Setting
- Elevation: 6,800 to 7,800 feet
- Mean annual precipitation: 13 to 16 inches
- Mean annual air temperature: 48 to 52 degrees F
- Frost-free period: 110 to 130 days
143—Clovis fine sandy loam, 1 to 4 percent slopes

Map Unit Setting
- **Elevation:** 6,000 to 6,600 feet
- **Mean annual precipitation:** 10 to 13 inches
- **Mean annual air temperature:** 52 to 54 degrees F
- **Frost-free period:** 120 to 140 days

Map Unit Composition
- **Clovis and similar soils:** 85 percent

Description of Clovis

Setting
- **Landform:** Fan remnants, mesas, plains
- **Landform position (two-dimensional):** Footslope
- **Landform position (three-dimensional):** Side slope
- **Down-slope shape:** Linear
- **Across-slope shape:** Linear
- **Parent material:** Eolian deposits over slope alluvium derived from sandstone and shale

Properties and qualities
- **Slope:** 1 to 4 percent
- **Depth to restrictive feature:** More than 80 inches
- **Drainage class:** Well drained
- **Capacity of the most limiting layer to transmit water (Ksat):** Moderately high to high (0.60 to 2.00 in/hr)
- **Depth to water table:** More than 80 inches
- **Frequency of flooding:** None
- **Frequency of ponding:** None
- **Calcium carbonate, maximum content:** 25 percent
- **Maximum salinity:** Nonsaline (0.0 to 2.0 mmhos/cm)
- **Sodium adsorption ratio, maximum:** 1.0
- **Available water capacity:** Moderate (about 8.9 inches)

Interpretive groups
- **Land capability (nonirrigated):** 6c
- **Ecological site:** Loamy (R035XA112NM)

Typical profile
- **0 to 3 inches:** Fine sandy loam
- **3 to 7 inches:** Sandy clay loam
- **7 to 12 inches:** Sandy clay loam
- **12 to 22 inches:** Sandy clay loam
- **22 to 34 inches:** Sandy clay loam
- **34 to 60 inches:** Sandy clay loam
Drainage class: Well drained  
Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)  
Depth to water table: More than 80 inches  
Frequency of flooding: None  
Frequency of ponding: None  
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)  
Available water capacity: Moderate (about 7.0 inches)  

Interpretive groups  
Land capability (nonirrigated): 7c  
Ecological site: Pseudo tsuga menziesii-Pinus ponderosa/Festuca arizonica (F048AY009NM)  

Typical profile  
0 to 3 inches: Loam  
3 to 24 inches: Clay loam  
24 to 39 inches: Sandy clay loam  
39 to 60 inches: Bedrock  

170—San Mateo loam, 0 to 3 percent slopes  

Map Unit Setting  
Elevation: 5,800 to 6,800 feet  
Mean annual precipitation: 10 to 13 inches  
Mean annual air temperature: 52 to 54 degrees F  
Frost-free period: 120 to 140 days  

Map Unit Composition  
San mateo and similar soils: 85 percent  

Description of San Mateo  

Setting  
Landform: Alluvial fans, valley sides, flood plains  
Landform position (two-dimensional): Toeslope  
Landform position (three-dimensional): Rise  
Down-slope shape: Linear  
Across-slope shape: Linear  
Parent material: Stream alluvium derived from sandstone and shale  

Properties and qualities  
Slope: 0 to 3 percent  
Depth to restrictive feature: More than 80 inches  
Drainage class: Well drained  
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)  
Depth to water table: More than 80 inches  
Frequency of flooding: Rare  
Frequency of ponding: None  
Calcium carbonate, maximum content: 10 percent  
Maximum salinity: Nonsaline to slightly saline (1.0 to 8.0 mmhos/cm)
Sodium adsorption ratio, maximum: 30.0  
Available water capacity: High (about 10.8 inches)

Interpretive groups  
Land capability classification (irrigated): 2e  
Land capability (nonirrigated): 6e  
Ecological site: Swale (R035XA120NM)

Typical profile  
0 to 2 inches: Loam  
2 to 10 inches: Clay loam  
10 to 23 inches: Clay loam  
23 to 32 inches: Clay loam  
32 to 54 inches: Clay loam  
54 to 60 inches: Clay loam

180—Councilor-Esleno-Mespun complex, 5 to 30 percent slopes

Map Unit Setting  
Elevation: 6,600 to 7,000 feet  
Mean annual precipitation: 10 to 13 inches  
Mean annual air temperature: 48 to 52 degrees F  
Frost-free period: 110 to 130 days

Map Unit Composition  
Councilor and similar soils: 40 percent  
Esleno and similar soils: 30 percent  
Mespun and similar soils: 25 percent

Description of Councilor  
Setting  
Landform: Valley floors, valley sides, fan remnants, stream terraces  
Landform position (two-dimensional): Toeslope  
Landform position (three-dimensional): Side slope  
Down-slope shape: Linear  
Across-slope shape: Linear  
Parent material: Eolian deposits over stream alluvium derived from sandstone and shale

Properties and qualities  
Slope: 5 to 30 percent  
Depth to restrictive feature: More than 80 inches  
Drainage class: Well drained  
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)  
Depth to water table: More than 80 inches  
Frequency of flooding: None  
Frequency of ponding: None  
Calcium carbonate, maximum content: 10 percent  
Maximum salinity: Nonsaline to very slightly saline (2.0 to 4.0 mmhos/cm)  
Sodium adsorption ratio, maximum: 2.0
8 to 13 inches: Very gravelly clay loam
13 to 20 inches: Extremely gravelly sandy loam
20 to 60 inches: Fragmental material

190—Zia-Skyvillage-Rock outcrop complex, 5 to 40 percent slopes

Map Unit Setting
   Elevation: 5,800 to 6,400 feet
   Mean annual precipitation: 10 to 13 inches
   Mean annual air temperature: 52 to 54 degrees F
   Frost-free period: 120 to 140 days

Map Unit Composition
   Zia and similar soils: 35 percent
   Skyvillage and similar soils: 25 percent
   Rock outcrop: 15 percent

Description of Zia

Setting
   Landform: Alluvial fans
   Landform position (two-dimensional): Toeslope
   Landform position (three-dimensional): Rise
   Down-slope shape: Linear
   Across-slope shape: Linear
   Parent material: Eolian deposits over fan alluvium derived from sandstone

Properties and qualities
   Slope: 5 to 20 percent
   Depth to restrictive feature: More than 80 inches
   Drainage class: Well drained
   Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
   Depth to water table: More than 80 inches
   Frequency of flooding: None
   Frequency of ponding: None
   Calcium carbonate, maximum content: 15 percent
   Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
   Available water capacity: Moderate (about 7.2 inches)

Interpretive groups
   Land capability (nonirrigated): 6c
   Ecological site: Sandy (R035XA113NM)

Typical profile
   0 to 5 inches: Sandy loam
   5 to 28 inches: Sandy loam
   28 to 60 inches: Sandy loam

Description of Skyvillage

Setting
   Landform: Breaks, cuestas, hills, mesas, ridges, structural benches
   Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Head slope, side slope, nose slope  
Down-slope shape: Linear  
Across-slope shape: Linear  
Parent material: Slope alluvium derived from sandstone

Properties and qualities
  Slope: 5 to 40 percent  
  Depth to restrictive feature: 6 to 20 inches to lithic bedrock  
  Drainage class: Well drained  
  Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)  
  Depth to water table: More than 80 inches  
  Frequency of flooding: None  
  Frequency of ponding: None  
  Calcium carbonate, maximum content: 10 percent  
  Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)  
  Available water capacity: Very low (about 2.3 inches)

Interpretive groups
  Land capability (nonirrigated): 7s  
  Ecological site: Shallow Sandstone (R035XG121NM)

Typical profile
  0 to 2 inches: Fine sandy loam  
  2 to 11 inches: Fine sandy loam  
  11 to 16 inches: Fine sandy loam  
  16 to 60 inches: Bedrock

Description of Rock Outcrop

Setting
  Landform: Escarpments, breaks

Properties and qualities
  Depth to restrictive feature: 0 inches to lithic bedrock  
  Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)

Interpretive groups
  Land capability (nonirrigated): 8s

Typical profile
  0 to 60 inches: Bedrock

191—Sheppard loamy fine sand, 3 to 8 percent slopes

Map Unit Setting
  Elevation: 5,200 to 5,700 feet  
  Mean annual precipitation: 8 to 10 inches  
  Mean annual air temperature: 53 to 55 degrees F  
  Frost-free period: 140 to 160 days
210—Ildefonso very stony loam, 25 to 70 percent slopes, rubbly

Map Unit Setting
*Elevation:* 5,000 to 5,800 feet
*Mean annual precipitation:* 10 to 13 inches
*Mean annual air temperature:* 52 to 54 degrees F
*Frost-free period:* 120 to 140 days

Map Unit Composition
*Ildefonso and similar soils:* 85 percent

Description of Ildefonso

Setting
*Landform:* Mesas, fan remnants, hills
*Landform position (two-dimensional):* Backslope
*Landform position (three-dimensional):* Side slope
*Down-slope shape:* Linear
*Across-slope shape:* Linear
*Parent material:* Fan alluvium over colluvium derived from sandstone and shale

Properties and qualities
*Slope:* 25 to 70 percent
*Depth to restrictive feature:* More than 80 inches
*Drainage class:* Well drained
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.60 to 2.00 in/hr)
*Depth to water table:* More than 80 inches
*Frequency of flooding:* None
*Frequency of ponding:* None
*Calcium carbonate, maximum content:* 20 percent
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 4.0 mmhos/cm)
*Available water capacity:* Low (about 4.8 inches)

Interpretive groups
*Land capability (nonirrigated):* 7e
*Ecological site:* Limy (R035XG129NM)

Typical profile
0 to 3 inches: Very stony loam
3 to 9 inches: Very stony loam
9 to 60 inches: Very stony loam

211—Zia-Clovis association, 2 to 10 percent slopes

Map Unit Setting
*Elevation:* 5,500 to 6,400 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 120 to 140 days

Map Unit Composition
Zia and similar soils: 45 percent
Clovis and similar soils: 30 percent

Description of Zia
Setting
Landform: Plateaus
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits derived from sandstone over fan alluvium derived from sandstone; eolian deposits and alluvium derived from sandstone and shale

Properties and qualities
Slope: 2 to 10 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: Moderate (about 7.6 inches)

Interpretive groups
Land capability (nonirrigated): 6c
Ecological site: Sandy (R035XA113NM)

Typical profile
0 to 5 inches: Sandy loam
5 to 14 inches: Sandy loam
14 to 33 inches: Sandy loam
33 to 46 inches: Sandy clay loam
46 to 60 inches: Sandy loam

Description of Clovis
Setting
Landform: Fan remnants, plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian deposits derived from sandstone over fan alluvium derived from sandstone and shale; eolian deposits and alluvium derived from sandstone and shale
Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 25 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: Moderate (about 8.9 inches)

Interpretive groups

Land capability (nonirrigated): 6c
Ecological site: Loamy (R035XA112NM)

Typical profile

0 to 5 inches: Fine sandy loam
5 to 60 inches: Sandy clay loam

213—Pinavetes-Rock outcrop complex, 15 to 35 percent slopes

Map Unit Setting

Elevation: 5,600 to 6,100 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 120 to 140 days

Map Unit Composition

Pinavetes and similar soils: 55 percent
Rock outcrop: 30 percent

Description of Pinavetes

Setting

Landform: Dunes, valley sides
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Eolian deposits derived from sandstone

Properties and qualities

Slope: 15 to 35 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (6.00 to 20.00 in/hr)
234—Querencia-Zia complex, 2 to 8 percent slopes

Map Unit Setting
- **Elevation:** 5,800 to 6,900 feet
- **Mean annual precipitation:** 10 to 13 inches
- **Mean annual air temperature:** 52 to 54 degrees F
- **Frost-free period:** 120 to 140 days

Map Unit Composition
- **Querencia and similar soils:** 60 percent
- **Zia and similar soils:** 20 percent

Description of Querencia

Setting
- **Landform:** Stream terraces, valley sides, alluvial fans
- **Landform position (two-dimensional):** Toeslope
- **Landform position (three-dimensional):** Rise
- **Down-slope shape:** Linear
- **Across-slope shape:** Linear
- **Parent material:** Fan alluvium over colluvium derived from sandstone and shale

Properties and qualities
- **Slope:** 2 to 8 percent
- **Depth to restrictive feature:** More than 80 inches
- **Drainage class:** Well drained
- **Capacity of the most limiting layer to transmit water (Ksat):** Moderately high to high (0.60 to 2.00 in/hr)
- **Depth to water table:** More than 80 inches
- **Frequency of flooding:** None
- **Frequency of ponding:** None
- **Calcium carbonate, maximum content:** 10 percent
- **Maximum salinity:** Non saline (0.0 to 2.0 mmhos/cm)
- **Sodium adsorption ratio, maximum:** 5.0
- **Available water capacity:** High (about 9.4 inches)

Interpretive groups
- **Land capability (nonirrigated):** 6c
- **Ecological site:** Loamy (R035XA112NM)

Typical profile
- 0 to 3 inches: Fine sandy loam
- 3 to 25 inches: Loam
- 25 to 60 inches: Stratified loam to fine sandy loam

Description of Zia

Setting
- **Landform:** Alluvial fans
- **Landform position (two-dimensional):** Toeslope
- **Landform position (three-dimensional):** Rise
- **Down-slope shape:** Linear
Across-slope shape: Linear
Parent material: Eolian deposits over fan alluvium derived from sandstone

Properties and qualities
Slope: 2 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water capacity: Moderate (about 7.2 inches)

Interpretive groups
Land capability (nonirrigated): 6c
Ecological site: Sandy (R035XA113NM)

Typical profile
0 to 11 inches: Sandy loam
11 to 60 inches: Sandy loam

235—Sandoval fine sandy loam, 3 to 15 percent slopes

Map Unit Setting
Elevation: 5,800 to 6,400 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 120 to 140 days

Map Unit Composition
Sandoval and similar soils: 85 percent

Description of Sandoval
Setting
Landform: Ridges, hills
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Slope alluvium derived from shale

Properties and qualities
Slope: 3 to 15 percent
Depth to restrictive feature: 10 to 20 inches to paralithic bedrock
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.02 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Gypsum, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 13.0
Available water capacity: Low (about 3.7 inches)

Interpretive groups
Land capability (nonirrigated): 7s
Ecological site: Shallow (R035XG116NM)

Typical profile
0 to 2 inches: Fine sandy loam
2 to 16 inches: Clay loam
16 to 19 inches: Clay loam
19 to 60 inches: Bedrock

236—Sparank clay loam, moderately saline, sodic, 0 to 1 percent slopes

Map Unit Setting
Elevation: 5,800 to 6,400 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 120 to 140 days

Map Unit Composition
Sparank, moderately saline, sodic, and similar soils: 85 percent

Description of Sparank, Moderately Saline, Sodic
Setting
Landform: Flood plains, valley sides, alluvial fans, stream terraces, valley floors
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stream alluvium derived from sandstone and shale

Properties and qualities
Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Slightly saline to moderately saline (8.0 to 16.0 mmhos/cm)
Sodium adsorption ratio, maximum: 30.0
Available water capacity: High (about 10.3 inches)

Interpretive groups

Land capability (nonirrigated): 7s
Ecological site: Salty Bottomland (R036XB010NM)

Typical profile

0 to 2 inches: Clay loam
2 to 10 inches: Silty clay
10 to 24 inches: Silty clay
24 to 40 inches: Silty clay loam
40 to 44 inches: Silty clay
44 to 60 inches: Silty clay

237—Sparank silty clay loam, 0 to 3 percent slopes

Map Unit Setting

Elevation: 5,500 to 6,400 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 120 to 140 days

Map Unit Composition

Sparank and similar soils: 85 percent

Description of Sparank

Setting

Landform: Alluvial fans, flood plains, stream terraces, valley floors, valley sides
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stream alluvium derived from sandstone and shale

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to very slightly saline (2.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 10.0
Available water capacity: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability (nonirrigated): 6c
Ecological site: Clayey Bottomland (R035XA119NM)
Typical profile
0 to 4 inches: Silty clay loam
4 to 60 inches: Silty clay loam

240—Penistaja-Hagerman association, 1 to 5 percent slopes

Map Unit Setting
Elevation: 6,000 to 6,400 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 120 to 140 days

Map Unit Composition
Penistaja and similar soils: 45 percent
Hagerman and similar soils: 35 percent

Description of Penistaja

Setting
Landform: Alluvial fans, bajadas, cuestas, hills, mesas, plateaus
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Nose slope, head slope, side slope, rise
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Eolian material and slope alluvium derived from sandstone and shale

Properties and qualities
Slope: 1 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 2.0
Available water capacity: High (about 9.4 inches)

Interpretive groups
Land capability (nonirrigated): 6c
Ecological site: Loamy (R035XA112NM)

Typical profile
0 to 5 inches: Fine sandy loam
5 to 14 inches: Clay loam
14 to 29 inches: Sandy clay loam
29 to 60 inches: Stratified sandy clay loam to fine sandy loam to loam
Description of Hagerman

Setting
- **Landform**: Hills, mesas, ridges
  - **Landform position (two-dimensional)**: Shoulder
  - **Landform position (three-dimensional)**: Crest
- **Down-slope shape**: Convex
- **Across-slope shape**: Linear
- **Parent material**: Eolian material and slope alluvium derived from sandstone and shale

Properties and qualities
- **Slope**: 1 to 5 percent
- **Depth to restrictive feature**: 20 to 40 inches to lithic bedrock
- **Drainage class**: Well drained
- **Capacity of the most limiting layer to transmit water (Ksat)**: Very low to low (0.00 to 0.01 in/hr)
- **Depth to water table**: More than 80 inches
- **Frequency of flooding**: None
- **Frequency of ponding**: None
- **Calcium carbonate, maximum content**: 10 percent
- **Maximum salinity**: Nonsaline (0.0 to 2.0 mmhos/cm)
- **Available water capacity**: Low (about 4.7 inches)

Interpretive groups
- **Land capability (nonirrigated)**: 6c
- **Ecological site**: Loamy (R035XA112NM)

Typical profile
- **0 to 2 inches**: Fine sandy loam
- **2 to 9 inches**: Clay loam
- **9 to 24 inches**: Clay loam
- **24 to 60 inches**: Bedrock

250—Pinavetes loamy fine sand, 5 to 15 percent slopes

Map Unit Setting
- **Elevation**: 5,200 to 5,700 feet
- **Mean annual precipitation**: 10 to 13 inches
- **Mean annual air temperature**: 52 to 54 degrees F
- **Frost-free period**: 120 to 140 days

Map Unit Composition
- **Pinavetes and similar soils**: 90 percent

Description of Pinavetes

Setting
- **Landform**: Dunes, valley sides
  - **Landform position (two-dimensional)**: Shoulder
850—Water

Map Unit Composition
Water: 95 percent

DAM—Dam

Map Unit Composition
Dam: 100 percent