These are well-drained, medium-textured soils underlain by gravel. They formed under bunchgrass, from gravelly alluvium derived from loess and basalt rock. They are found at elevations of 1500 to 2400 feet. They occupy nearly level to strongly sloping outwash plains and terraces in Adams County.

**Representative Description:**

**BENGE silt loam**

- **Surface layer:** 0-10", very dark brown silt loam, granular, friable; small amount of gravel; pH 6.6-7.3
  - Water Holding Capacity: 0.23 in/in
  - Permeability: 0.63-2.0 in/hr
  - Shrink-Swell Potential: low
  - Engineering Classification: ML A-4

- **Subsoil:** 10-26", dark brown gravelly silt loam; prismatic, massive, very friable; gravel increases with depth; pH 7.4-7.8
  - Water Holding Capacity: 0.25 in/in
  - Permeability: 0.63-2.0 in/hr
  - Shrink-Swell Potential: low
  - Engineering Classification: SM or ML A-4

- **Substratum:** 26"+, basalt gravel and sand; pH 7.4-7.8
  - Water Holding Capacity: 0.05 in/in
  - Permeability: 6.3-20.0 in/hr
  - Shrink-Swell Potential: low
  - Engineering Classification: GP A-1

**Caution:** All Benge soils are not exactly like the one shown above. Differences in characteristics will affect suitability and limitations for uses. See Capability Classification Table.

**ABOUT THE SOIL GUIDE SHEETS:** Soil Guide Sheets are written primarily to indicate suitability for irrigation farming. In addition, some engineering properties are shown. These will serve as a preliminary guide but on-site investigation will be needed before making final decisions on non-agricultural uses. Certain terms and soil ratings may not be self explanatory. Refer to "Guide to the Use of Soil Guide Sheets".
**Capability Classification**

<table>
<thead>
<tr>
<th>Benge soils</th>
<th>(percent slope)</th>
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<tbody>
<tr>
<td></td>
<td>0-2</td>
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<tr>
<td>1. Silt loam 2/</td>
<td>IIs</td>
</tr>
<tr>
<td>2. Gravelly silt loam 2/</td>
<td>IIIe</td>
</tr>
<tr>
<td>3. Very stony silt loam 2/</td>
<td>VIE</td>
</tr>
<tr>
<td>4. Benge-Chard complex 2/</td>
<td>IIs</td>
</tr>
<tr>
<td>5. Silt loam, deep 1/</td>
<td>IIs</td>
</tr>
<tr>
<td>6. Silt loam, shallow 3/</td>
<td>IIs</td>
</tr>
</tbody>
</table>

Determine the depth of your soil. Depth affects the use and management. Total water holding capacity is less on shallower soil.

**Suitability as a source of:**
- Topsoil - Good
- Sand - Not suitable
- Gravel - Good (poorly graded gravel 20-40")
- Road Fill - Surface layer and substratum good

**Soil features affecting engineering uses:**
- Highway location - High frost action potential in uppermost 18-24 inches.
- Dikes, Levees, Embankments - Gravel at depth of 20-40 inches.
- Reservoir - Very rapid permeable gravel at depth of 20-40 inches.
- Septic disposal systems - Moderate permeability

**Suitability for irrigation farming:**
- Water holding capacity - Moderate
- Infiltration - Slow
- Permeability - Moderate; rapid below 2 feet
- Drainage - Well drained
- Salinity and alkali hazard - Low
- Erosion hazard - Slight; water erosion hazard increases with slope.

**General Evaluation:** Benge soils are productive under irrigation, but many of them are stony and shallow. Suitable for sprinkler irrigation. Have your soil tested to determine fertilizer needs. Suitable mostly for grain and forage crops.

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1/ Deep and very deep soils (40"+) with no inhibiting layers in the profile
2/ Moderately deep or moderately shallow soils (20-40") over sands, gravels, etc.
3/ Shallow soils (10-20") over sands, gravels, etc.

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