These are well-drained soils of medium texture-formed under bunchgrass vegetation in wind-lain deposits of mixed origin underlain by a lime-silica hardpan. They occupy gently sloping to steep uplands. These soils are associated with the Shano soils, and are found in Adams, Benton, Douglas, Franklin, Grant and Yakima Counties.

**Representative Description:**

**BURKE silt loam**

- **Surface soil:** 0-5". dark grayish-brown silt loam, granular, soft, friable, pH 7.6
  - Water Holding Capacity: 0.25
  - Permeability: 0.63-2.0
  - Shrink-Swell Potential: Low
  - Classification: ML A-4

- **Subsoil:** 5-7", dark grayish-brown silt loam, platy, soft, friable, pH 7.7
  - Water Holding Capacity: 0.25
  - Permeability: 0.63-2.0
  - Shrink-Swell Potential: Low
  - Classification: ML A-4

- **Upper Substratum:** 7-14", dark grayish-brown silt loam, prismatic, soft, friable, strongly calcareous, pH 8.4
  - Water Holding Capacity: 0.25
  - Permeability: 0.63-2.0
  - Shrink-Swell Potential: Low
  - Classification: ML A-4

- **Lower Substratum:** 14-25", grayish-brown silt loam, massive, soft, friable, strongly calcareous, pH 8.4
  - Water Holding Capacity: 0.27
  - Permeability: 0.63-2.0
  - Shrink-Swell Potential: Low
  - Classification: ML A-4

- **Lime-Silica hardpan underlain by basalt bedrock, 25"+**
  - Water Holding Capacity: 0.06-0.20
  - Permeability: --
  - Shrink-Swell Potential: --
  - Classification: --

**Caution:** All Burke soils are not like the one shown above. Differences in characteristics will affect suitability and limitations for various 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".
**Classification (percent slope)**

<table>
<thead>
<tr>
<th>BURKE soils</th>
<th>Irrigation Group</th>
<th>0-2</th>
<th>2-5</th>
<th>5-15</th>
<th>15-25</th>
<th>25-40</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fine sandy loam</td>
<td>H</td>
<td>IIe</td>
<td>IIe</td>
<td>IIIe</td>
<td>IVe</td>
<td>VIe</td>
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<tr>
<td>2. Silt loam</td>
<td>J</td>
<td>IIe</td>
<td>IIe</td>
<td>IIIe</td>
<td>IVe</td>
<td>VIe</td>
</tr>
<tr>
<td>3. Silt loam, eroded</td>
<td>J</td>
<td>IIIe</td>
<td>IIIe</td>
<td>IIIe</td>
<td>IVe</td>
<td>VIe</td>
</tr>
<tr>
<td>4. Very fine sandy loam, eroded</td>
<td>J</td>
<td>IIIe</td>
<td>IIIe</td>
<td>IIIe</td>
<td>IVe</td>
<td>VIe</td>
</tr>
<tr>
<td>5. Loam</td>
<td>J</td>
<td>IIe</td>
<td>IIe</td>
<td>IIe</td>
<td>IVe</td>
<td>VIe</td>
</tr>
<tr>
<td>6. Fine sandy loam, shallow</td>
<td>K</td>
<td>IVs</td>
<td>IVs</td>
<td>IVs</td>
<td>IVe</td>
<td>VIe</td>
</tr>
<tr>
<td>7. Silt loam, shallow</td>
<td>M</td>
<td>IVs</td>
<td>IVs</td>
<td>IVs</td>
<td>IVe</td>
<td>VIe</td>
</tr>
<tr>
<td>8. Gravelly silt loam</td>
<td>J6</td>
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<td>IVs</td>
<td>IVs</td>
<td>IVe</td>
<td>VIe</td>
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<tr>
<td>9. Cherty loam</td>
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<tr>
<td>10. Very fine sandy loam, shallow, eroded</td>
<td>M</td>
<td>Vle</td>
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<tr>
<td>11. Stony loam</td>
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<tr>
<td>12. Gravelly loam</td>
<td>J6</td>
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<td>Vle</td>
</tr>
</tbody>
</table>

**Suitability as a source of:**

- Topsoil - Fair
- Sand - Not suitable
- Gravel - Not suitable
- Road Fill - Fair

**Soil features affecting engineering uses:**

- Highway location - Moderate shrink-swell potential, hardpan at 15 to 36 inches, ripping or blasting may be necessary.
- Dikes, Levees - Susceptibility to piping and cracking, close control essential for compaction.
- Embankments - Impervious when compacted if close control is maintained, moderately susceptible to piping and cracking, low shearing strength.
- Reservoir - Moderate permeability, hardpan 15 to 36 inches.
- Septic disposal systems - Moderate permeability, hardpan 15 to 36 inches deep, poor permeability through lime-silica hardpan

**Suitability for irrigation farming:**

- Water holding capacity - Moderate
- Infiltration - Slow to moderate
- Permeability - Moderate, slow through lime-silica hardpan
- Drainage - Well drained
- Salinity and alkali hazard - Moderate
- Erosion hazard - Water erosion, slight; wind erosion, moderate.

**General Evaluation:** Burke soils produce well under irrigation but good water management is required, especially on soils shallow to hardpan. A drainage problem may develop if excess water is applied or if water seeps from higher lying soils. Leveling should be avoided if possible because of shallowness to hardpan and because of lime near the surface. Soil test to determine fertilizer requirements. Burke soils are suitable for row crops, hay and grain, but not for grapes or tree fruits.

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This Soil Guide Sheet was prepared by A. I. Dow, Extension Soils Specialist, Washington State University in cooperation with Charles D. Lenfesty, Soil Scientist, Robert F. Mitchel, State Soil Scientist, Soil Conservation Service, USDA; and Mel A. Hagood, Extension Irrigation and Water Use Specialist, Washington State University.