Map Unit Description (MN)
Meeker County, Minnesota

[Data apply to the entire extent of the map unit within the survey area. Map unit and soil properties for a specific parcel of land may vary somewhat and should be determined by onsite investigation]

8B--Sparta loamy sand, 1 to 6 percent slopes

Sparta

<table>
<thead>
<tr>
<th>Extent: 90 percent of the unit</th>
<th>Soil loss tolerance (T factor): 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landform(s): outwash plains</td>
<td>Wind erodibility group (WEG): 2</td>
</tr>
<tr>
<td>Slope gradient: 1 to 6 percent</td>
<td>Wind erodibility index (WEI): 134</td>
</tr>
<tr>
<td>Parent material: sandy outwash</td>
<td>Kw factor (surface layer) .05</td>
</tr>
<tr>
<td>Restrictive feature(s): greater than 60 inches</td>
<td>Land capability, nonirrigated: 4s</td>
</tr>
<tr>
<td>Flooding: none</td>
<td>Hydric soil: no</td>
</tr>
<tr>
<td>Ponding: none</td>
<td>Hydrologic group: A</td>
</tr>
<tr>
<td>Drainage class: excessively drained</td>
<td>Potential for frost action: low</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap, A -- 0 to 16 in</td>
<td>loamy sand</td>
<td>moderately rapid</td>
<td>1.45 to 1.94 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>Bw -- 16 to 29 in</td>
<td>loamy sand</td>
<td>rapid</td>
<td>0.65 to 1.43 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>C -- 29 to 60 in</td>
<td>sand</td>
<td>rapid</td>
<td>1.23 to 2.15 in</td>
<td>5.1 to 7.8</td>
</tr>
</tbody>
</table>

Darfur

<table>
<thead>
<tr>
<th>Extent: 5 percent of the unit</th>
<th>Soil loss tolerance (T factor):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landform(s): drainageways</td>
<td>Wind erodibility group (WEG):</td>
</tr>
<tr>
<td>Slope gradient:</td>
<td>Wind erodibility index (WEI):</td>
</tr>
<tr>
<td>Parent material:</td>
<td>Kw factor (surface layer)</td>
</tr>
<tr>
<td>Restrictive feature(s): greater than 60 inches</td>
<td>Land capability, nonirrigated:</td>
</tr>
<tr>
<td>Flooding:</td>
<td>Hydric soil: yes</td>
</tr>
<tr>
<td>Ponding:</td>
<td>Hydrologic group:</td>
</tr>
<tr>
<td>Drainage class:</td>
<td>Potential for frost action:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
8B--Sparta loamy sand, 1 to 6 percent slopes

Dassel

Extent: 5 percent of the unit
Landform(s): depressions
Slope gradient: 
Parent material: 
Restrictive feature(s): greater than 60 inches
Flooding: 
Ponding: 
Drainage class: 

Soil loss tolerance (T factor): 
Wind erodibility group (WEG): 
Wind erodibility index (WEI): 
Kw factor (surface layer):
Land capability, nonirrigated: 
Hydric soil: yes
Hydrologic group: 
Potential for frost action: 

Representative soil profile: 

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
8C--Sparta loamy sand, 6 to 12 percent slopes

Sparta

Extent: 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 6 to 12 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer): .05
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 7 in loamy sand</td>
<td>moderately rapid</td>
<td>0.64 to 0.85 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>Bw -- 7 to 13 in loamy fine sand</td>
<td>rapid</td>
<td>0.30 to 0.65 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>C -- 13 to 60 in sand</td>
<td>rapid</td>
<td>1.87 to 3.28 in</td>
<td>5.1 to 7.8</td>
</tr>
</tbody>
</table>

Darfur

Extent: 10 percent of the unit
Landform(s): drainageways
Restrictive feature(s): greater than 60 inches
Flooding: 
Ponding: 
Drainage class: 

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer):
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

8D--Sparta loamy sand, 12 to 25 percent slopes

Sparta

Extent: 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 12 to 25 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer): 0.05
Land capability, nonirrigated: 7s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap --</td>
<td>mod. rapid</td>
<td>0.81 to 1.09 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>Bw --</td>
<td>rapid</td>
<td>1.56 to 3.42 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>C --</td>
<td>rapid</td>
<td>0.79 to 1.38 in</td>
<td>5.1 to 7.8</td>
</tr>
</tbody>
</table>

Darfur

Extent: 10 percent of the unit
Landform(s): drainageways
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer):
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap --</td>
<td>mod. rapid</td>
<td>0.81 to 1.09 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>Bw --</td>
<td>rapid</td>
<td>1.56 to 3.42 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>C --</td>
<td>rapid</td>
<td>0.79 to 1.38 in</td>
<td>5.1 to 7.8</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit.
35--Blue Earth mucky silt loam, 0 to 1 percent slopes

Blue Earth

- **Extent:** 95 percent of the unit
- **Landform(s):** lakebeds
- **Slope gradient:** 0 to 1 percent
- **Parent material:** fine-silty coprogenic material
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

**Soil loss tolerance (T factor):** 5
**Wind erodibility group (WEG):** 4L
**Wind erodibility index (WEI):** 86
**Kw factor (surface layer):** .24
**Land capability, nonirrigated:** 3w

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap  - 0 to 8 in mucky silt loam</td>
<td>moderate</td>
<td>1.42 to 1.89 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C  - 8 to 60 in mucky silt loam</td>
<td>moderate</td>
<td>9.35 to 12.47 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Hydric soil:** yes
**Hydrologic group:** B/D

**Potential for frost action:** high

Canisteo

- **Extent:** 5 percent of the unit
- **Landform(s):** rims
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Soil loss tolerance (T factor):**
**Wind erodibility group (WEG):**
**Wind erodibility index (WEI):**
**Kw factor (surface layer):**
**Land capability, nonirrigated:**
**Hydric soil:** yes
**Hydrologic group:**
**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
Map Unit Description (MN)
Meeker County, Minnesota

39A--Wadena loam, 0 to 2 percent slopes

Wadena

<table>
<thead>
<tr>
<th>Extent:</th>
<th>90 percent of the unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landform(s):</td>
<td>outwash plains</td>
</tr>
<tr>
<td>Slope gradient:</td>
<td>0 to 2 percent</td>
</tr>
<tr>
<td>Parent material:</td>
<td>fine-loamy outwash over sandy outwash</td>
</tr>
<tr>
<td>Restrictive feature(s):</td>
<td>greater than 60 inches</td>
</tr>
<tr>
<td>Flooding:</td>
<td>none</td>
</tr>
<tr>
<td>Ponding:</td>
<td>none</td>
</tr>
<tr>
<td>Drainage class:</td>
<td>well drained</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A --</td>
<td>0 to 13 in</td>
<td>loam</td>
<td>moderate</td>
</tr>
<tr>
<td>Bw --</td>
<td>13 to 29 in</td>
<td>loam</td>
<td>moderate</td>
</tr>
<tr>
<td>2Bk --</td>
<td>29 to 60 in</td>
<td>stratified gravelly coarse sand to sand</td>
<td>very rapid</td>
</tr>
</tbody>
</table>

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48

Kw factor (surface layer): .28
Hydric soil: no
Hydrologic group: B
Potential for frost action: low

Biscay

<table>
<thead>
<tr>
<th>Extent:</th>
<th>10 percent of the unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landform(s):</td>
<td>drainageways</td>
</tr>
<tr>
<td>Parent material:</td>
<td></td>
</tr>
<tr>
<td>Restrictive feature(s):</td>
<td>greater than 60 inches</td>
</tr>
<tr>
<td>Flooding:</td>
<td></td>
</tr>
<tr>
<td>Ponding:</td>
<td></td>
</tr>
<tr>
<td>Drainage class:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

Soil loss tolerance (T factor): |
Wind erodibility group (WEG): |
Wind erodibility index (WEI): |
Kw factor (surface layer): |
Land capability, nonirrigated: |
Hydric soil: yes |
Hydrologic group: |
Potential for frost action: |

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Tabular Data Version Date: 07/03/2012
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41A--Estherville sandy loam, 0 to 2 percent slopes

Estherville

**Extent:** 90 percent of the unit

**Landform(s):** flats on outwash plains, rises on outwash plains

**Slope gradient:** 0 to 2 percent

**Parent material:** coarse-loamy outwash over sandy and gravelly outwash

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** somewhat excessively drained

**Soil loss tolerance (T factor):** 2

**Wind erodibility group (WEG):** 3

**Wind erodibility index (WEI):** 86

**Kw factor (surface layer):** .24

**Land capability, nonirrigated:** 3s

**Hydric soil:** no

**Hydrologic group:** A

**Potential for frost action:** low

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A -- 0 to 12 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>1.54 to 2.13 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw -- 12 to 15 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>0.41 to 0.57 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>2Bk -- 15 to 60 in</td>
<td>gravelly coarse sand</td>
<td>very rapid</td>
<td>0.90 to 1.80 in</td>
<td>6.6 to 8.4</td>
</tr>
</tbody>
</table>

Biscay

**Extent:** 10 percent of the unit

**Landform(s):** drainageways

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
85--Calco silty clay loam, 0 to 2 percent slopes, occasionally flooded

Calco, occasionally flooded

- **Extent**: 90 percent of the unit
- **Landform(s)**: flood plains
- **Slope gradient**: 0 to 2 percent
- **Parent material**: fine-silty alluvium
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: occasional
- **Ponding**: none
- **Drainage class**: poorly drained

**Soil loss tolerance (T factor)**: 5

**Wind erodibility group (WEG)**: 4L

**Wind erodibility index (WEI)**: 86

**Kw factor (surface layer)**: .24

**Land capability, nonirrigated**: 2w

**Hydric soil**: yes

**Hydrologic group**: B/D

**Potential for frost action**: high

**Representative soil profile**:  
<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A -- 0 to 22 in</td>
<td>moderate</td>
<td>4.63 to 5.07 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bg -- 22 to 60 in</td>
<td>moderate</td>
<td>7.94 to 8.69 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Havelock

- **Extent**: 10 percent of the unit
- **Landform(s)**: flood plains
- **Slope gradient**:  
- **Parent material**:  
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**:  
- **Ponding**:  
- **Drainage class**:  

**Soil loss tolerance (T factor)**:  

**Wind erodibility group (WEG)**:  

**Wind erodibility index (WEI)**:  

**Kw factor (surface layer)**:  

**Land capability, nonirrigated**:  

**Hydric soil**: yes

**Hydrologic group**:  

**Potential for frost action**:  

**Representative soil profile**:  
<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

86--Canisteo clay loam, moderately fine substratum, 0 to 2 percent slopes

Canisteo

**Extent:** 85 percent of the unit

**Landform(s):** rims on depressions on moraines, flats on moraines

**Slope gradient:** 0 to 2 percent

**Parent material:** fine-loamy till

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** poorly drained

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 4L

**Wind erodibility index (WEI):** 86

**Kw factor (surface layer):** greater than 60 inches

**Hydric soil:** yes

**Hydrologic group:** B/D

**Potential for frost action:** high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A -- 0 to 18 in</td>
<td>clay loam</td>
<td>moderate</td>
<td>3.26 to 3.98 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bkg1 -- 18 to 26 in</td>
<td>clay loam</td>
<td>moderate</td>
<td>1.18 to 1.50 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bkg2 -- 26 to 33 in</td>
<td>clay loam</td>
<td>moderate</td>
<td>0.85 to 1.28 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Cg -- 33 to 60 in</td>
<td>loam</td>
<td>moderate</td>
<td>3.75 to 4.28 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Glencoe

**Extent:** 10 percent of the unit

**Landform(s):** depressions

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
86--Canisteo clay loam, moderately fine substratum, 0 to 2 percent slopes

Seafort

Extent: 5 percent of the unit

Landform(s): moraines

Slope gradient: 

Parent material: 

Restrictive feature(s): greater than 60 inches

Flooding: 

Ponding: 

Drainage class: 

Soil loss tolerance (T factor): 

Wind erodibility group (WEG): 

Wind erodibility index (WEI): 

Kw factor (surface layer): 

Land capability, nonirrigated: 

Hydric soil: no 

Hydrologic group: 

Potential for frost action: 

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
96B--Collinwood silty clay loam, 3 to 6 percent slopes

Collinwood

**Extent:** 85 percent of the unit

**Landform(s):** hills on lake plains

**Slope gradient:** 3 to 6 percent

**Parent material:** clayey lacustrine deposits

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** moderately well drained

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 4

**Wind erodibility index (WEI):** 86

**Kw factor (surface layer):** .28

**Land capability, nonirrigated:** 2e

**Hydric soil:** no

**Hydrologic group:** C

**Potential for frost action:** high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>moderately slow</td>
<td>1.10 to 1.34 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw -- 8 to 32 in</td>
<td>moderately slow</td>
<td>3.12 to 3.84 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>C -- 32 to 60 in</td>
<td>moderately slow</td>
<td>3.07 to 4.19 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Waldorf

**Extent:** 10 percent of the unit

**Landform(s):** drainageways

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>moderately slow</td>
<td>1.10 to 1.34 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw -- 8 to 32 in</td>
<td>moderately slow</td>
<td>3.12 to 3.84 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>C -- 32 to 60 in</td>
<td>moderately slow</td>
<td>3.07 to 4.19 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
96B--Collinwood silty clay loam, 3 to 6 percent slopes

Lura

**Extent:** 5 percent of the unit

**Landform(s):** depressions

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
101B--Truman silt loam, 2 to 6 percent slopes

**Truman**

- **Extent:** 85 percent of the unit
- **Landform(s):** hills on lake plains
- **Slope gradient:** 2 to 6 percent
- **Parent material:** fine-silty lacustrine deposits
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A -- 0 to 14 in silt loam</td>
<td>moderate</td>
<td>2.83 to 3.26 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw -- 14 to 40 in silt loam</td>
<td>moderate</td>
<td>4.68 to 5.46 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>Bk -- 40 to 60 in silt loam</td>
<td>moderate</td>
<td>3.54 to 3.94 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Madelia**

- **Extent:** 10 percent of the unit
- **Landform(s):** drainageways
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
101B--Truman silt loam, 2 to 6 percent slopes

Okoboji

- **Extent:** 5 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

This report shows only the major soils in each map unit.
102B--Clarion loam, moderately fine substratum, 2 to 5 percent slopes

Clarion

- **Extent**: 85 percent of the unit
- **Landform(s)**: hills on moraines
- **Slope gradient**: 2 to 5 percent
- **Parent material**: fine-loamy till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: well drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A -- 0 to 12 in</td>
<td>loam</td>
<td>moderate</td>
<td>2.36 to 2.60 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw -- 12 to 27 in</td>
<td>loam</td>
<td>moderate</td>
<td>2.61 to 2.92 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>Bk -- 27 to 60 in</td>
<td>loam</td>
<td>moderate</td>
<td>5.56 to 6.21 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Webster

- **Extent**: 10 percent of the unit
- **Landform(s)**: drainageways
- **Parent material**: fine-loamy till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: well drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
102B--Clarion loam, moderately fine substratum, 2 to 5 percent slopes

Glencoe

- **Extent**: 5 percent of the unit
- **Landform(s)**: depressions
- **Slope gradient**:
- **Parent material**:
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**:
- **Ponding**:
- **Drainage class**:

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor)**: 

**Wind erodibility group (WEG)**: 

**Wind erodibility index (WEI)**: 

**Kw factor (surface layer)**: 

**Land capability, nonirrigated**:

**Hydric soil**: yes

**Hydrologic group**: 

**Potential for frost action**: 

This report shows only the major soils in each map unit.
106C2--Lester loam, 6 to 12 percent slopes, eroded

Lester, eroded

- **Extent:** 85 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 6 to 12 percent
- **Parent material:** fine-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 6
- **Wind erodibility index (WEI):** 48
- **Kw factor (surface layer):** 0.32
- **Land capability, nonirrigated:** 3e
- **Hydric soil:** no
- **Hydrologic group:** B
- **Potential for frost action:** moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 9 in loam</td>
<td>moderate</td>
<td>1.81 to 1.99 in</td>
<td>5.6 to 7.3</td>
<td></td>
</tr>
<tr>
<td>Bt -- 9 to 27 in clay loam</td>
<td>moderate</td>
<td>2.72 to 3.44 in</td>
<td>5.1 to 7.3</td>
<td></td>
</tr>
<tr>
<td>Bk -- 27 to 60 in loam</td>
<td>moderate</td>
<td>4.57 to 6.21 in</td>
<td>7.4 to 8.4</td>
<td></td>
</tr>
</tbody>
</table>

**Cordova**

- **Extent:** 10 percent of the unit
- **Landform(s):** drainageways
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**
- **Soil loss tolerance (T factor):**
- **Wind erodibility group (WEG):**
- **Wind erodibility index (WEI):**
- **Kw factor (surface layer):**
- **Hydric soil:** yes
- **Hydrologic group:**
- **Potential for frost action:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
106C2--Lester loam, 6 to 12 percent slopes, eroded

Glencoe

- **Extent:** 5 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**
112--Harps clay loam, 0 to 2 percent slopes

Harps

*Extent:* 85 percent of the unit

*Landform(s):* rims on moraines

*Slope gradient:* 0 to 2 percent

*Parent material:* fine-loamy till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 4L

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer):* .24

*Land capability, nonirrigated:* 2w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

**Representative soil profile:**

<table>
<thead>
<tr>
<th></th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,Ak --</td>
<td>0 to 19 in clay loam</td>
<td>moderate</td>
<td>3.59 to 3.97 in</td>
<td>7.9 to 8.4</td>
</tr>
<tr>
<td>Bkg1 --</td>
<td>19 to 25 in clay loam</td>
<td>moderate</td>
<td>1.07 to 1.20 in</td>
<td>7.9 to 8.4</td>
</tr>
<tr>
<td>Bkg2 --</td>
<td>25 to 60 in loam</td>
<td>moderate</td>
<td>4.85 to 6.58 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Okoboji**

*Extent:* 5 percent of the unit

*Landform(s):* depressions

*Slope gradient:* 0 to 2 percent

*Parent material:* fine-loamy till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 

*Wind erodibility group (WEG):* 

*Wind erodibility index (WEI):* 

*Kw factor (surface layer):* 

*Land capability, nonirrigated:* 

*Hydric soil:* yes

*Hydrologic group:* 

*Potential for frost action:* 

**Representative soil profile:**

<table>
<thead>
<tr>
<th></th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
112--Harps clay loam, 0 to 2 percent slopes

Seafort

- **Extent:** 5 percent of the unit
- **Landform(s):** moraines
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

Glencoe

- **Extent:** 5 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
113--Webster clay loam, 0 to 2 percent slopes

Webster

**Extent:** 85 percent of the unit

**Landform(s):** flats on moraines

**Slope gradient:** 0 to 2 percent

**Parent material:** fine-loamy till

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** poorly drained

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 6

**Wind erodibility index (WEI):** 48

**Kw factor (surface layer):** >60 inches, 0.24

**Land capability, nonirrigated:** 2w

**Hydric soil:** yes

**Hydrologic group:** B/D

**Potential for frost action:** high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A</td>
<td>moderate</td>
<td>3.22 to 3.56 in</td>
<td>6.6 to 7.3</td>
</tr>
<tr>
<td>Bg</td>
<td>moderate</td>
<td>1.13 to 1.28 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>Bkg</td>
<td>moderate</td>
<td>5.02 to 6.81 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Glencoe

**Extent:** 10 percent of the unit

**Landform(s):** depressions

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
113--Webster clay loam, 0 to 2 percent slopes

Nicollet

Extent: 5 percent of the unit
Landform(s): moraines
Slope gradient:
Parent material: 
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Representative soil profile: 

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil: no
Hydrologic group:
Potential for frost action:
114--Glencoe clay loam, depressional, 0 to 1 percent slopes

Glencoe, depressional

- **Extent:** 90 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** fine-loamy alluvium
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>clay loam</td>
<td>moderate</td>
<td>1.77 to 2.17 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>A</td>
<td>clay loam</td>
<td>moderate</td>
<td>4.32 to 5.28 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bg</td>
<td>clay loam</td>
<td>moderate</td>
<td>3.90 to 4.94 in</td>
<td>6.6 to 7.8</td>
</tr>
</tbody>
</table>

**Klossner**

- **Extent:** 5 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Texture</th>
<th>Permeability</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
114--Glencoe clay loam, depressional, 0 to 1 percent slopes

Canisteo

*Extent*: 5 percent of the unit

*Landform(s)*: rims

*Slope gradient*:

*Parent material*:

*Restrictive feature(s)*: greater than 60 inches

*Flooding*:

*Ponding*:

*Drainage class*:

*Soil loss tolerance (T factor)*:

*Wind erodibility group (WEG)*:

*Wind erodibility index (WEI)*:

*Kw factor (surface layer)*

*Land capability, nonirrigated*:

*Hydric soil*: yes

*Hydrologic group*:

*Potential for frost action*:

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
129--Cylinder loam, 0 to 1 percent slopes

**Cylinder**

*Extent:* 85 percent of the unit  
*Landform(s):* outwash plains  
*Slope gradient:* 0 to 1 percent  
*Parent material:* fine-loamy outwash over sandy outwash  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* somewhat poorly drained  

Soil loss tolerance (T factor): 3  
Wind erodibility group (WEG): 6  
Wind erodibility index (WEI): 48  
Kw factor (surface layer): 0.24  
Land capability, nonirrigated: 2s  
Hydric soil: no  
Hydrologic group: C  
Potential for frost action: high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>ApA</td>
<td>loam</td>
<td>moderate</td>
<td>2.99 to 3.29 in</td>
<td>5.6</td>
</tr>
<tr>
<td>Bw</td>
<td>loam</td>
<td>moderate</td>
<td>2.74 to 3.07 in</td>
<td>6.1</td>
</tr>
<tr>
<td>2Bk</td>
<td>gravelly sand</td>
<td>very rapid</td>
<td>0.57 to 1.15 in</td>
<td>6.6</td>
</tr>
</tbody>
</table>

**Biscay**

*Extent:* 10 percent of the unit  
*Landform(s):* drainageways  
*Slope gradient:*  
*Parent material:*  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:*  
*Ponding:*  
*Drainage class:*  

Soil loss tolerance (T factor):  
Wind erodibility group (WEG):  
Wind erodibility index (WEI):  
Kw factor (surface layer):  
Land capability, nonirrigated:  
Hydric soil: yes  
Hydrologic group:  
Potential for frost action:

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
129--Cylinder loam, 0 to 1 percent slopes

Wadena

- **Extent:** 5 percent of the unit
- **Landform(s):** outwash plains
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** no

**Hydrologic group:**

**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
130--Nicollet clay loam, 1 to 3 percent slopes

Nicollet

- **Extent**: 85 percent of the unit
- **Landform(s)**: rises on moraines
- **Slope gradient**: 1 to 3 percent
- **Parent material**: fine-loamy till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: somewhat poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap, A</td>
<td>clay loam</td>
<td>moderate</td>
<td>2.74 to 3.55 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw</td>
<td>clay loam</td>
<td>moderate</td>
<td>2.07 to 2.62 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>2Bk</td>
<td>loam</td>
<td>moderate</td>
<td>4.19 to 5.69 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Webster

- **Extent**: 10 percent of the unit
- **Landform(s)**: drainageways
- **Parent material**: 
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: 
- **Ponding**: 
- **Drainage class**: 

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
130--Nicollet clay loam, 1 to 3 percent slopes

Glencoe

*Extent:* 5 percent of the unit
*Landform(s):* depressions
*Slope gradient:*
*Parent material:*
*Restrictive feature(s):* greater than 60 inches
*Flooding:*
*Ponding:*
*Drainage class:*

*Soil loss tolerance (T factor):*
*Wind erodibility group (WEG):*
*Wind erodibility index (WEI):*
*Kw factor (surface layer)*
*Land capability, nonirrigated:*
*Hydric soil: yes*
*Hydrologic group:*
*Potential for frost action:*

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
134--Okoboji silty clay loam, depressional, 0 to 1 percent slopes

Okoboji, depressional

Extent: 85 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: fine-silty alluvium
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer): .28
Land capability, nonirrigated: 3w
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>moderately slow</td>
<td>1.65 to 1.81 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>A -- 8 to 28 in</td>
<td>moderately slow</td>
<td>3.61 to 4.02 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>Bg -- 28 to 60 in</td>
<td>moderately slow</td>
<td>5.74 to 6.38 in</td>
<td>6.6 to 8.4</td>
</tr>
</tbody>
</table>

Klossner

Extent: 5 percent of the unit
Landform(s): depressions
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>moderately slow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A -- 8 to 28 in</td>
<td>moderately slow</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bg -- 28 to 60 in</td>
<td>moderately slow</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
134--Okoboji silty clay loam, depressional, 0 to 1 percent slopes

**Harp**

- **Extent**: 5 percent of the unit
- **Landform(s)**: rims
- **Slope gradient**:
- **Parent material**:
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**:
- **Ponding**:
- **Drainage class**:

| Soil loss tolerance (T factor): |
| Wind erodibility group (WEG): |
| Wind erodibility index (WEI): |
| Kw factor (surface layer): |
| Land capability, nonirrigated: |
| Hydric soil: yes |
| Hydrologic group: |
| Potential for frost action: |

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Canisteo**

- **Extent**: 5 percent of the unit
- **Landform(s)**: rims
- **Slope gradient**:
- **Parent material**:
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**:
- **Ponding**:
- **Drainage class**:

| Soil loss tolerance (T factor): |
| Wind erodibility group (WEG): |
| Wind erodibility index (WEI): |
| Kw factor (surface layer): |
| Land capability, nonirrigated: |
| Hydric soil: yes |
| Hydrologic group: |
| Potential for frost action: |

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
136--Madelia silty clay loam, 0 to 2 percent slopes

Madelia

- **Extent**: 85 percent of the unit
- **Landform(s)**: flats on lake plains
- **Slope gradient**: 0 to 2 percent
- **Parent material**: fine-silty lacustrine deposits
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: poorly drained
- **Soil loss tolerance (T factor)**: 5
- **Wind erodibility group (WEG)**: 6
- **Wind erodibility index (WEI)**: 48
- **Kw factor (surface layer)**: .32
- **Land capability, nonirrigated**: 2w
- **Hydric soil**: yes
- **Hydrologic group**: B/D
- **Potential for frost action**: high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 16 in</td>
<td>silty clay loam</td>
<td>moderate</td>
<td>2.91 to 3.87 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>16 to 30 in</td>
<td>silt loam</td>
<td>moderate</td>
<td>2.20 to 3.03 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>30 to 60 in</td>
<td>silt loam</td>
<td>moderate</td>
<td>4.79 to 6.58 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Okoboji

- **Extent**: 10 percent of the unit
- **Landform(s)**: depressions
- **Slope gradient**: 
- **Parent material**: 
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: 
- **Ponding**: 
- **Drainage class**: 
- **Soil loss tolerance (T factor)**: 
- **Wind erodibility group (WEG)**: 
- **Wind erodibility index (WEI)**: 
- **Kw factor (surface layer)**: 
- **Land capability, nonirrigated**: 
- **Hydric soil**: yes
- **Hydrologic group**: 
- **Potential for frost action**: 

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
136--Madelia silty clay loam, 0 to 2 percent slopes

Spicer

<table>
<thead>
<tr>
<th>Extent:</th>
<th>5 percent of the unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landform(s):</td>
<td>rims</td>
</tr>
<tr>
<td>Slope gradient:</td>
<td></td>
</tr>
<tr>
<td>Parent material:</td>
<td></td>
</tr>
<tr>
<td>Restrictive feature(s):</td>
<td>greater than 60 inches</td>
</tr>
<tr>
<td>Flooding:</td>
<td></td>
</tr>
<tr>
<td>Ponding:</td>
<td></td>
</tr>
<tr>
<td>Drainage class:</td>
<td></td>
</tr>
<tr>
<td>Soil loss tolerance (T factor):</td>
<td></td>
</tr>
<tr>
<td>Wind erodibility group (WEG):</td>
<td></td>
</tr>
<tr>
<td>Wind erodibility index (WEI):</td>
<td></td>
</tr>
<tr>
<td>Kw factor (surface layer):</td>
<td></td>
</tr>
<tr>
<td>Land capability, nonirrigated:</td>
<td></td>
</tr>
<tr>
<td>Hydrologic group:</td>
<td></td>
</tr>
<tr>
<td>Potential for frost action:</td>
<td></td>
</tr>
</tbody>
</table>

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
140--Spicer silty clay loam, 0 to 2 percent slopes

Spicer

Extent: 85 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: fine-silty lacustrine deposits
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer): .32
Land capability, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A -- 0 to 14 in</td>
<td>moderate</td>
<td>2.55 to 3.40 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bkg1 -- 14 to 27 in</td>
<td>moderate</td>
<td>2.08 to 2.86 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bkg2 -- 27 to 60 in</td>
<td>moderate</td>
<td>5.23 to 7.19 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Madelia

Extent: 10 percent of the unit
Landform(s): drainageways
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor): 
Wind erodibility group (WEG): 
Wind erodibility index (WEI): 
Kw factor (surface layer): 
Land capability, nonirrigated: 
Hydric soil: yes 
Hydrologic group: 
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

140--Spicer silty clay loam, 0 to 2 percent slopes

Okoboji

Extent: 5 percent of the unit
Landform(s): depressions
Slope gradient:  
Parent material:  
Restrictive feature(s): greater than 60 inches  
Flooding:  
Ponding:  
Drainage class:  

Soil loss tolerance (T factor):  
Wind erodibility group (WEG):  
Wind erodibility index (WEI):  
Kw factor (surface layer):  
Land capability, nonirrigated:  
Hydric soil: yes  
Hydrologic group:
Potential for frost action:

Representative soil profile:  

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
143B--Chelsea loamy fine sand, 1 to 6 percent slopes

Chelsea

Extent: 90 percent of the unit
Landform(s): outwash plains
Slope gradient: 1 to 6 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer): .17
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 6 in</td>
<td>rapid</td>
<td>0.59 to 0.89 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>E&amp;Bt -- 6 to 60 in</td>
<td>rapid</td>
<td>3.24 to 4.31 in</td>
<td>5.1 to 6.5</td>
</tr>
</tbody>
</table>

Granby

Extent: 10 percent of the unit
Landform(s): drainageways
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer):
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
178--Granby fine sandy loam, 0 to 1 percent slopes

Granby

Extent: 85 percent of the unit
Landform(s): flats on outwash plains
Slope gradient: 0 to 1 percent
Parent material: coarse-loamy outwash over sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer): .20
Land capability, nonirrigated: 4w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: moderate

Representative soil profile:

<table>
<thead>
<tr>
<th></th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>2.08 to 2.34 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bg</td>
<td>fine sand</td>
<td>rapid</td>
<td>0.65 to 1.56 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>Cg</td>
<td>fine sand</td>
<td>rapid</td>
<td>1.69 to 3.05 in</td>
<td>6.6 to 8.4</td>
</tr>
</tbody>
</table>

Darfur

Extent: 10 percent of the unit
Landform(s): drainageways
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer):
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th></th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
178--Granby fine sandy loam, 0 to 1 percent slopes

Dassel

Extent: 5 percent of the unit
Landform(s): depressions
Slope gradient:  
Parent material:  
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):  
Wind erodibility group (WEG):  
Wind erodibility index (WEI):  
Kw factor (surface layer):

Land capability, nonirrigated:  
Hydric soil: yes
Hydrologic group:  
Potential for frost action:  

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
181--Litchfield loamy fine sand, 0 to 2 percent slopes

Litchfield

Extent: 85 percent of the unit
Landform(s): outwash plains
Slope gradient: 0 to 2 percent
Parent material: sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

土层描述

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A -- 0 to 20 in loamy fine sand</td>
<td>rapid</td>
<td>2.01 to 2.41 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>Bw -- 20 to 40 in stratified fine sand to very fine sandy loam</td>
<td>moderately rapid</td>
<td>1.41 to 3.21 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>Cg -- 40 to 60 in loamy fine sand</td>
<td>rapid</td>
<td>1.57 to 1.97 in</td>
<td>6.1 to 7.8</td>
</tr>
</tbody>
</table>

土壤侵蚀指数

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer): .10

土地利用能力

Land capability, nonirrigated: 3s
Hydrologic group: A
Potential for frost action: moderate

Darfur

Extent: 10 percent of the unit
Landform(s): drainageways
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Representative soil profile: | Texture |
---|---|
| Ap,A -- 0 to 20 in loamy fine sand | rapid |
| Bw -- 20 to 40 in stratified fine sand to very fine sandy loam | moderately rapid |
| Cg -- 40 to 60 in loamy fine sand | rapid |

Hydric soil: yes

Potential for frost action:
181--Litchfield loamy fine sand, 0 to 2 percent slopes

Dassel

*Extent:* 5 percent of the unit

*Landform(s):* depressions

*Slope gradient:*

*Parent material:*

*Restrictive feature(s):* greater than 60 inches

*Flooding:*

*Ponding:*

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated:*

*Hydric soil:* yes

*Hydrologic group:*

*Potential for frost action:*

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
183--Dassel mucky fine sandy loam, depressional, 0 to 1 percent slopes

Dassel, depressional

**Extent:** 85 percent of the unit  
**Landform(s):** depressions on outwash plains  
**Slope gradient:** 0 to 1 percent  
**Parent material:** coarse-loamy outwash over sandy outwash  
**Restrictive feature(s):** greater than 60 inches  
**Flooding:** none  
**Ponding:** frequent  

**Soil loss tolerance (T factor):** 3  
**Wind erodibility group (WEG):** 3  
**Wind erodibility index (WEI):** 86  
**Kw factor (surface layer):** .20  
**Land capability, nonirrigated:** 3w  
**Hydric soil:** yes  
**Hydrologic group:** A/D  
**Potential for frost action:** high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A -- 0 to 23 in</td>
<td>mucky fine sandy loam</td>
<td>moderately rapid</td>
<td>4.11 to 5.48 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bg -- 23 to 31 in</td>
<td>stratified loamy very fine sand to very fine sandy loam</td>
<td>moderately rapid</td>
<td>0.99 to 1.41 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Cg -- 31 to 60 in</td>
<td>fine sand</td>
<td>rapid</td>
<td>2.30 to 2.87 in</td>
<td>6.1 to 7.8</td>
</tr>
</tbody>
</table>

Darfur

**Extent:** 10 percent of the unit  
**Landform(s):** drainageways  
**Slope gradient:**  
**Parent material:**  
**Restrictive feature(s):** greater than 60 inches  
**Flooding:**  
**Ponding:**  

**Soil loss tolerance (T factor):**  
**Wind erodibility group (WEG):**  
**Wind erodibility index (WEI):**  
**Kw factor (surface layer):**  
**Land capability, nonirrigated:**  
**Hydric soil:** yes  
**Hydrologic group:**  
**Potential for frost action:**  

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

183--Dassel mucky fine sandy loam, depressional, 0 to 1 percent slopes
Litchfield

Extent: 5 percent of the unit
Landform(s): outwash plains
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil: no
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.

Tabular Data Version: 5
Tabular Data Version Date: 07/03/2012
### 197--Kingston silty clay loam, 1 to 3 percent slopes

**Kingston**

- **Extent:** 90 percent of the unit
- **Landform(s):** rises on lake plains
- **Slope gradient:** 1 to 3 percent
- **Parent material:** fine-silty lacustrine deposits
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** moderately well drained

- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 6
- **Wind erodibility index (WEI):** 48
- **Kw factor (surface layer):** 0.32
- **Hydrologic group:** B/D
- **Potential for frost action:** high

#### Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap, A -- 0 to 16 in silty clay loam</td>
<td>moderate</td>
<td>2.91 to 3.87 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw -- 16 to 25 in silty clay loam</td>
<td>moderate</td>
<td>1.45 to 1.81 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>C -- 25 to 60 in silt loam</td>
<td>moderate</td>
<td>5.54 to 6.93 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Okoboji**

- **Extent:** 5 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

- **Soil loss tolerance (T factor):**
- **Wind erodibility group (WEG):**
- **Wind erodibility index (WEI):**
- **Kw factor (surface layer):**
- **Hydric soil:** yes
- **Hydrologic group:**
- **Potential for frost action:**

#### Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
197--Kingston silty clay loam, 1 to 3 percent slopes

Madelia

Extent: 5 percent of the unit
Landform(s): drainageways
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile: Texture | Permeability | Available water capacity | pH
211--Lura silty clay, depressional, 0 to 1 percent slopes

Lura, depressional

- **Extent**: 90 percent of the unit
- **Landform(s)**: depressions
- **Slope gradient**: 0 to 1 percent
- **Parent material**: clayey lacustrine deposits
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: frequent
- **Soil loss tolerance (T factor)**: 5
- **Wind erodibility group (WEG)**: 4
- **Wind erodibility index (WEI)**: 86
- **Kw factor (surface layer)**: greater than 60 inches
- **Land capability, nonirrigated**: 3w
- **Hydric soil**: yes
- **Hydrologic group**: C/D
- **Potential for frost action**: high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A --</td>
<td>slow</td>
<td>3.36 to 4.08 in</td>
<td>6.1  to 7.8</td>
</tr>
<tr>
<td>Bg --</td>
<td>slow</td>
<td>0.99 to 1.20 in</td>
<td>6.1  to 7.3</td>
</tr>
<tr>
<td>Bkg --</td>
<td>moderately slow</td>
<td>3.16 to 5.46 in</td>
<td>6.6  to 7.8</td>
</tr>
</tbody>
</table>

Cosmos

- **Extent**: 5 percent of the unit
- **Landform(s)**: drainageways
- **Parent material**: clayey lacustrine deposits
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: frequent
- **Hydric soil**: yes
- **Hydrologic group**:
- **Potential for frost action**: high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A --</td>
<td>slow</td>
<td>3.36 to 4.08 in</td>
<td>6.1  to 7.8</td>
</tr>
<tr>
<td>Bg --</td>
<td>slow</td>
<td>0.99 to 1.20 in</td>
<td>6.1  to 7.3</td>
</tr>
<tr>
<td>Bkg --</td>
<td>moderately slow</td>
<td>3.16 to 5.46 in</td>
<td>6.6  to 7.8</td>
</tr>
</tbody>
</table>
211--Lura silty clay, depressional, 0 to 1 percent slopes

**Corvuso**

- **Extent:** 5 percent of the unit
- **Landform(s):** rims
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

This report shows only the major soils in each map unit
229--Waldorf silty clay loam, 0 to 2 percent slopes

**Waldorf**

*Extent:* 90 percent of the unit  
*Landform(s):* flats on lake plains  
*Slope gradient:* 0 to 2 percent  
*Parent material:* clayey lacustrine deposits  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* poorly drained  
*Soil loss tolerance (T factor):* 5  
*Wind erodibility group (WEG):* 4  
*Wind erodibility index (WEI):* 86  
*Kw factor (surface layer):* .28  
*Land capability, nonirrigated:* 2w  
*Hydric soil:* yes  
*Hydrologic group:* C/D  
*Potential for frost action:* high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 8 in</td>
<td>moderately slow</td>
<td>1.42 to 1.97 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bg</td>
<td>8 to 35 in</td>
<td>moderately slow</td>
<td>3.53 to 4.35 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>Bkg</td>
<td>35 to 60 in</td>
<td>moderately slow</td>
<td>4.96 to 5.46 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Lura**

*Extent:* 5 percent of the unit  
*Landform(s):* depressions  
*Slope gradient:*  
*Parent material:*  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:*  
*Ponding:*  
*Drainage class:*  
*Soil loss tolerance (T factor):*  
*Wind erodibility group (WEG):*  
*Wind erodibility index (WEI):*  
*Kw factor (surface layer):*  
*Land capability, nonirrigated:*  
*Hydric soil:* yes  
*Hydrologic group:*  
*Potential for frost action:*  

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
229--Waldorf silty clay loam, 0 to 2 percent slopes

Collinwood

- **Extent:** 5 percent of the unit
- **Landform(s):** lake plains
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** no

**Hydrologic group:**

**Potential for frost action:**

This report shows only the major soils in each map unit.
## 239--Le Sueur clay loam, 1 to 3 percent slopes

**Le Sueur**

- **Extent**: 85 percent of the unit
- **Landform(s)**: rises on moraines
- **Slope gradient**: 1 to 3 percent
- **Parent material**: fine-loamy till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: moderately well drained

### Soil loss tolerance

- **Soil loss tolerance (T factor)**: 5

### Wind erodibility

- **Wind erodibility group (WEG)**: 6
- **Wind erodibility index (WEI)**: 48

### Hydrologic

- **Kw factor (surface layer)**: 0.24
- **Hydraulic group**: B/D

### Land capability

- **Land capability, nonirrigated**: 1

### Drainage

- **Drainage class**: moderately well drained

### Potential for frost action

- **Potential for frost action**: high

### Representative soil profile:

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 14</td>
<td>clay loam</td>
<td>moderate</td>
<td>2.41 to 2.83 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>14 - 33</td>
<td>clay loam</td>
<td>moderate</td>
<td>2.83 to 3.59 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>33 - 60</td>
<td>loam</td>
<td>moderate</td>
<td>4.02 to 5.09 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

## Cordova

- **Extent**: 10 percent of the unit
- **Landform(s)**: drainageways
- **Parent material**:
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**:
- **Ponding**:
- **Drainage class**:

### Soil loss tolerance

- **Soil loss tolerance (T factor)**:

### Wind erodibility

- **Wind erodibility group (WEG)**:
- **Wind erodibility index (WEI)**:

### Hydrologic

- **Hydric soil**: yes
- **Hydric group**:

### Land capability

- **Land capability, nonirrigated**:

### Drainage

- **Drainage class**:

### Potential for frost action

- **Potential for frost action**:

### Representative soil profile:

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

239--Le Sueur clay loam, 1 to 3 percent slopes

Glencoe

- **Extent:** 5 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

This report shows only the major soils in each map unit
281--Darfur loam, 0 to 2 percent slopes

Darfur

- **Extent:** 85 percent of the unit
- **Landform(s):** flats on outwash plains
- **Slope gradient:** 0 to 2 percent
- **Parent material:** coarse-loamy outwash over sandy outwash
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A</td>
<td>0 to 23 in loam</td>
<td>moderate</td>
<td>4.57 to 5.02 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bg</td>
<td>23 to 30 in very fine sandy loam</td>
<td>moderately rapid</td>
<td>1.06 to 1.20 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>Cg</td>
<td>30 to 60 in stratified very fine sand to loamy very fine sand</td>
<td>moderately rapid</td>
<td>2.39 to 2.99 in</td>
<td>6.6 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 6

**Wind erodibility index (WEI):** 48

**Kw factor (surface layer):** .28

**Land capability, nonirrigated:** 2w

**Hydric soil:** yes

**Hydrologic group:** B/D

**Potential for frost action:** high

Dassel

- **Extent:** 10 percent of the unit
- **Landform(s):** depressions
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**
281--Darfur loam, 0 to 2 percent slopes

Litchfield

Extent: 5 percent of the unit
Landform(s): outwash plains
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil: no
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
286B--Shorewood silty clay loam, 3 to 6 percent slopes

Shorewood

Extent: 85 percent of the unit
Landform(s): hills on lake plains
Slope gradient: 3 to 6 percent
Parent material: clayey lacustrine deposits
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer): .28
Land capability, nonirrigated: 2e
Hydrologic group: C
Potential for frost action: high

Waldorf

Extent: 10 percent of the unit
Landform(s): drainageways
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer):
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A --</td>
<td>moderately slow</td>
<td>2.13 to 2.60 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt --</td>
<td>moderately slow</td>
<td>3.43 to 4.22 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>Bk --</td>
<td>moderate</td>
<td>3.03 to 3.46 in</td>
<td>6.6 to 7.8</td>
</tr>
</tbody>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

286B--Shorewood silty clay loam, 3 to 6 percent slopes

Okoboji

<table>
<thead>
<tr>
<th>Extent: 5 percent of the unit</th>
<th>Soil loss tolerance (T factor):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landform(s): depressions</td>
<td>Wind erodibility group (WEG):</td>
</tr>
<tr>
<td>Slope gradient:</td>
<td>Wind erodibility index (WEI):</td>
</tr>
<tr>
<td>Parent material:</td>
<td>Kw factor (surface layer)</td>
</tr>
<tr>
<td>Restrictive feature(s):</td>
<td>Land capability, nonirrigated:</td>
</tr>
<tr>
<td></td>
<td>Hydric soil: yes</td>
</tr>
<tr>
<td>Flooding:</td>
<td>Hydrologic group:</td>
</tr>
<tr>
<td>Ponding:</td>
<td>Potential for frost action:</td>
</tr>
</tbody>
</table>

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
Map Unit Description (MN)
Meeker County, Minnesota

311C2--Shorewood silty clay, 6 to 12 percent slopes, eroded

Shorewood, eroded

Extent: 85 percent of the unit
Landform(s): hills on lake plains
Slope gradient: 6 to 12 percent
Parent material: clayey lacustrine deposits
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4
Wind erodibility index (WEI): 86
Kw factor (surface layer): .24
Land capability, nonirrigated: 3e
Hydrologic group: C
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 6 in</td>
<td>moderately slow</td>
<td>0.83 to 1.00 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt -- 6 to 20 in</td>
<td>moderately slow</td>
<td>1.84 to 2.27 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>Bk -- 20 to 60 in</td>
<td>moderate</td>
<td>5.57 to 6.36 in</td>
<td>6.6 to 7.8</td>
</tr>
</tbody>
</table>

Waldorf

Extent: 10 percent of the unit
Landform(s): drainageways
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer):
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit

USDA Natural Resources Conservation Service
Tabular Data Version: 5
Tabular Data Version Date: 07/03/2012
311C2--Shorewood silty clay, 6 to 12 percent slopes, eroded

**Bold**

- **Extent:** 5 percent of the unit
- **Landform(s):** lake plains
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

This report shows only the major soils in each map unit.
327A--Dickman sandy loam, 0 to 2 percent slopes

**Dickman**

*Extent:* 90 percent of the unit

*Landform(s):* outwash plains

*Slope gradient:* 0 to 2 percent

*Parent material:* sandy outwash

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat excessively drained

*Soil loss tolerance (T factor):* 2

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer):* .20

*Land capability, nonirrigated:* 3s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A 0 to 12 in sandy loam</td>
<td>moderately rapid</td>
<td>1.54 to 1.77 in</td>
<td>5.6 to 6.5</td>
</tr>
<tr>
<td>Bw 12 to 18 in sandy loam</td>
<td>moderately rapid</td>
<td>0.76 to 0.88 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>2C 18 to 60 in sand</td>
<td>rapid</td>
<td>0.83 to 2.92 in</td>
<td>5.6 to 7.8</td>
</tr>
</tbody>
</table>

**Darfur**

*Extent:* 5 percent of the unit

*Landform(s):* drainageways

*Slope gradient:* 

*Parent material:* 

*Restrictive feature(s):* greater than 60 inches

*Flooding:* 

*Ponding:* 

*Drainage class:* 

*Soil loss tolerance (T factor):* 

*Wind erodibility group (WEG):* 

*Wind erodibility index (WEI):* 

*Kw factor (surface layer):* 

*Hydric soil:* yes

*Hydrologic group:* 

*Potential for frost action:* 

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
327A--Dickman sandy loam, 0 to 2 percent slopes

Litchfield

Extent: 5 percent of the unit
Landform(s): outwash plains
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil: no
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
327B--Dickman sandy loam, 2 to 6 percent slopes

Dickman

- **Extent**: 85 percent of the unit
- **Landform(s)**: outwash plains
- **Slope gradient**: 2 to 6 percent
- **Parent material**: sandy outwash
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: somewhat excessively drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A -- 0 to 12 in sandy loam</td>
<td>moderately rapid</td>
<td>1.54 to 1.77 in</td>
<td>5.6 to 6.5</td>
</tr>
<tr>
<td>Bw -- 12 to 30 in sandy loam</td>
<td>moderately rapid</td>
<td>2.17 to 2.54 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>2C -- 30 to 60 in sand</td>
<td>rapid</td>
<td>0.60 to 2.09 in</td>
<td>5.6 to 7.8</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor)**: 3

**Wind erodibility group (WEG)**: 3

**Wind erodibility index (WEI)**: 86

**Kw factor (surface layer)**: .20

**Land capability, nonirrigated**: 3e

**Hydric soil**: no

**Hydrologic group**: A

**Potential for frost action**: low

Litchfield

- **Extent**: 10 percent of the unit
- **Landform(s)**: outwash plains
- **Slope gradient**: outwash plains
- **Parent material**: sandy outwash
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: somewhat excessively drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A -- 0 to 12 in sandy loam</td>
<td>moderately rapid</td>
<td>1.54 to 1.77 in</td>
<td>5.6 to 6.5</td>
</tr>
<tr>
<td>Bw -- 12 to 30 in sandy loam</td>
<td>moderately rapid</td>
<td>2.17 to 2.54 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>2C -- 30 to 60 in sand</td>
<td>rapid</td>
<td>0.60 to 2.09 in</td>
<td>5.6 to 7.8</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor)**:

**Wind erodibility group (WEG)**:

**Wind erodibility index (WEI)**:

**Kw factor (surface layer)**:

**Land capability, nonirrigated**:

**Hydric soil**: no

**Hydrologic group**:

**Potential for frost action**: low
**327B--Dickman sandy loam, 2 to 6 percent slopes**

**Darfur**

- *Extent*: 5 percent of the unit
- *Landform(s)*: drainageways
- *Slope gradient*:
- *Parent material*:
- *Restrictive feature(s)*: greater than 60 inches
- *Flooding*:
- *Ponding*:
- *Drainage class*:

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

- Soil loss tolerance (*T factor)*:
- Wind erodibility group (*WEG)*:
- Wind erodibility index (*WEI)*:
- *Kw factor (surface layer)*:
- *Hydric soil*: yes
- *Hydrologic group*:
- *Potential for frost action*:

This report shows only the major soils in each map unit.
399--Biscay loam, depressional, 0 to 1 percent slopes

**Biscay, depressional**

- **Extent:** 85 percent of the unit
- **Landform(s):** depressions on outwash plains
- **Slope gradient:** 0 to 1 percent
- **Parent material:** fine-loamy outwash over sandy outwash
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A -- 0 to 14 in</td>
<td>moderate</td>
<td>2.83 to 3.12 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bg -- 14 to 25 in</td>
<td>moderate</td>
<td>1.87 to 2.09 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>2Cg -- 25 to 60 in</td>
<td>very rapid</td>
<td>0.69 to 1.39 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Mayer**

- **Extent:** 10 percent of the unit
- **Landform(s):** flats
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
399--Biscay loam, depressional, 0 to 1 percent slopes

**Klossner**

- **Extent**: 5 percent of the unit
- **Landform(s)**: depressions
- **Slope gradient**: 
- **Parent material**: 
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: 
- **Ponding**: 
- **Drainage class**: 

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil**: yes

**Hydrologic group:**

**Potential for frost action:**

This report shows only the major soils in each map unit.
415--Kanaranzi loam, 0 to 3 percent slopes

Kanaranzi

**Extent:** 85 percent of the unit  
**Landform(s):** flats on outwash plains, rises on outwash plains  
**Slope gradient:** 0 to 3 percent  
**Parent material:** coarse-loamy outwash over sandy outwash  
**Restrictive feature(s):** greater than 60 inches  
**Flooding:** none  
**Ponding:** none  
**Drainage class:** well drained  
**Soil loss tolerance (T factor):** 2  
**Wind erodibility group (WEG):** 6  
**Wind erodibility index (WEI):** 48  
**Kw factor (surface layer):** greater than 60 inches  
**Land capability, nonirrigated:** 3s  
**Hydric soil:** no  
**Hydrologic group:** B  
**Potential for frost action:** moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 9 in loam</td>
<td>moderate</td>
<td>1.54 to 1.90 in</td>
<td>5.6 to 7.3</td>
<td></td>
</tr>
<tr>
<td>Bw -- 9 to 18 in loam</td>
<td>moderate</td>
<td>1.36 to 1.72 in</td>
<td>5.6 to 7.8</td>
<td></td>
</tr>
<tr>
<td>2C -- 18 to 60 in gravelly coarse sand</td>
<td>very rapid</td>
<td>0.83 to 1.67 in</td>
<td>7.4 to 8.4</td>
<td></td>
</tr>
</tbody>
</table>

Biscay

**Extent:** 10 percent of the unit  
**Landform(s):** drainageways  
**Slope gradient:**  
**Parent material:**  
**Restrictive feature(s):** greater than 60 inches  
**Flooding:**  
**Ponding:**  
**Drainage class:**  
**Soil loss tolerance (T factor):**  
**Wind erodibility group (WEG):**  
**Wind erodibility index (WEI):**  
**Kw factor (surface layer):**  
**Land capability, nonirrigated:**  
**Hydric soil:** yes  
**Hydrologic group:**  
**Potential for frost action:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
415--Kanaranzi loam, 0 to 3 percent slopes

**Cylinder**

- **Extent**: 5 percent of the unit
- **Landform(s)**: outwash plains
- **Slope gradient**: 
- **Parent material**: 
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: 
- **Ponding**: 
- **Drainage class**: 

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer)**

**Land capability, nonirrigated:**

**Hydric soil**: no

**Hydrologic group**

**Potential for frost action**

---

This report shows only the major soils in each map unit.
423--Seaforth loam, 1 to 3 percent slopes

**Seaforth**

- **Extent**: 85 percent of the unit
- **Landform(s)**: rises on moraines
- **Slope gradient**: 1 to 3 percent
- **Parent material**: fine-loamy till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: moderately well drained

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Layer</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A</td>
<td>loam</td>
<td>moderate</td>
<td>2.01 to 2.83 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bk</td>
<td>loam</td>
<td>moderate</td>
<td>2.42 to 3.07 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C</td>
<td>loam</td>
<td>moderate</td>
<td>5.42 to 6.06 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor)**: 5
**Wind erodibility group (WEG)**: 4L
**Wind erodibility index (WEI)**: 86
**Kw factor (surface layer)**: .24
**Land capability, nonirrigated**: 2s
**Hydric soil**: no
**Hydrologic group**: B/D
**Potential for frost action**: high

**Canisteo**

- **Extent**: 10 percent of the unit
- **Landform(s)**: rims
- **Slope gradient**: 
- **Parent material**: 
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: 
- **Ponding**: 
- **Drainage class**: 

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Layer</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor)**: 
**Wind erodibility group (WEG)**: 
**Wind erodibility index (WEI)**: 
**Kw factor (surface layer)**: 
**Land capability, nonirrigated**: 
**Hydric soil**: yes
**Hydrologic group**: 
**Potential for frost action**: 

This report shows only the major soils in each map unit.
423--Seaforth loam, 1 to 3 percent slopes

Glencoe

Extent: 5 percent of the unit
Landform(s): depressions
Slope gradient: 
Parent material: 
Restrictive feature(s): greater than 60 inches
Flooding: 
Ponding: 
Drainage class: 

Soil loss tolerance (T factor): 
Wind erodibility group (WEG): 
Wind erodibility index (WEI): 
Kw factor (surface layer): 
Land capability, nonirrigated: 
Hydric soil: yes
Hydrologic group: 
Potential for frost action: 

Representative soil profile: 

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
511--Marcellon loam, 0 to 3 percent slopes

Marcellon

- **Extent:** 85 percent of the unit
- **Landform(s):** rises on moraines
- **Slope gradient:** 0 to 3 percent
- **Parent material:** coarse-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** somewhat poorly drained

- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 5
- **Wind erodibility index (WEI):** 56
- **Kw factor (surface layer):** .32
- **Land capability, nonirrigated:** 1
- **Hydrologic group:** B/D
- **Potential for frost action:** high

### Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A</td>
<td>moderate</td>
<td>2.21 to 3.12 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt</td>
<td>moderate</td>
<td>2.27 to 3.40 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk,C</td>
<td>moderately rapid</td>
<td>1.96 to 3.91 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Uniongrove

- **Extent:** 10 percent of the unit
- **Landform(s):** drainageways
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

### Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
511--Marcellon loam, 0 to 3 percent slopes

Lundlake

Extent: 5 percent of the unit
Landform(s): depressions
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile: | Texture | Permeability | Available water capacity | pH
---|---|---|---|---
523--Houghton muck, depressional, 0 to 1 percent slopes

Houghton, depressional

- **Extent:** 90 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** muck herbaceous organic material
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained
- **Soil loss tolerance (T factor):** 2
- **Wind erodibility group (WEG):** 2
- **Wind erodibility index (WEI):** 134
- **Kw factor (surface layer):** .02
- **Land capability, nonirrigated:** 3w
- **Hydric soil:** yes
- **Hydrologic group:** A/D
- **Potential for frost action:** high

<table>
<thead>
<tr>
<th>Representative soil profile</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa1 -- 0 to 7 in</td>
<td>muck</td>
<td>moderately rapid</td>
<td>2.48 to 3.19 in</td>
<td></td>
</tr>
<tr>
<td>Oa2 -- 7 to 60 in</td>
<td>muck</td>
<td>moderately rapid</td>
<td>18.46 to 23.74 in</td>
<td></td>
</tr>
</tbody>
</table>

Klossner

- **Extent:** 10 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**
- **Soil loss tolerance (T factor):**
- **Wind erodibility group (WEG):**
- **Wind erodibility index (WEI):**
- **Kw factor (surface layer):**
- **Land capability, nonirrigated:**
- **Hydric soil:** yes
- **Hydrologic group:**
- **Potential for frost action:**

<table>
<thead>
<tr>
<th>Representative soil profile</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
525--Muskego muck, depressional, 0 to 1 percent slopes

Muskego, depressional

- **Extent:** 90 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** muck herbaceous organic material over coprogenic material
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oap -- 0 to 10 in muck</td>
<td></td>
<td>moderately rapid</td>
<td>3.44 to 4.43 in</td>
<td></td>
</tr>
<tr>
<td>Oa -- 10 to 40 in muck</td>
<td></td>
<td>moderately rapid</td>
<td>10.61 to 13.64 in</td>
<td></td>
</tr>
<tr>
<td>Lco -- 40 to 60 in mucky silt loam</td>
<td>slow</td>
<td>3.54 to 4.72 in</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Blue Earth

- **Extent:** 10 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
### 539--Klossner muck, depressional, 0 to 1 percent slopes

**Klossner, depressional**

- **Extent:** 90 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** muck herbaceous organic material over fine-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa -- 0 to 28 in muck</td>
<td></td>
<td>moderately rapid</td>
<td>9.78 to 13.42 in</td>
<td></td>
</tr>
<tr>
<td>2A -- 28 to 45 in silt loam</td>
<td></td>
<td>moderate</td>
<td>3.72 to 4.40 in</td>
<td></td>
</tr>
<tr>
<td>2Cg -- 45 to 60 in loam</td>
<td></td>
<td>moderate</td>
<td>2.24 to 2.84 in</td>
<td></td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 1  
**Wind erodibility group (WEG):** 2  
**Wind erodibility index (WEI):** 134  
**Kw factor (surface layer):** .02  
**Land capability, nonirrigated:** 3w  
**Hydric soil:** yes  
**Hydrologic group:** B/D  
**Potential for frost action:** high

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### Okoboji

- **Extent:** 10 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
548--Medo muck, depressional, 0 to 1 percent slopes

Medo, depressional

**Extent:** 90 percent of the unit

**Landform(s):** depressions on outwash plains

**Slope gradient:** 0 to 1 percent

**Parent material:** muck herbaceous organic material over sandy and gravelly outwash

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** frequent

**Drainage class:** very poorly drained

**Soil loss tolerance (T factor):** 1

**Wind erodibility group (WEG):** 2

**Wind erodibility index (WEI):** 134

**Kw factor (surface layer):** .02

**Land capability, nonirrigated:** 3w

**Hydric soil:** yes

**Hydrologic group:** A/D

**Potential for frost action:** high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oap,Oa - 0 to 24 in muck</td>
<td>moderately rapid</td>
<td>8.41 to 10.81 in</td>
<td></td>
</tr>
<tr>
<td>2A - 24 to 29 in silt loam</td>
<td>moderately rapid</td>
<td>0.67 to 1.02 in</td>
<td></td>
</tr>
<tr>
<td>2Bg - 29 to 56 in sandy loam</td>
<td>moderately rapid</td>
<td>3.48 to 5.35 in</td>
<td></td>
</tr>
<tr>
<td>3Cg - 56 to 60 in sand</td>
<td>rapid</td>
<td>0.12 to 0.39 in</td>
<td></td>
</tr>
</tbody>
</table>

Dassel

**Extent:** 10 percent of the unit

**Landform(s):** depressions

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

610--Calco silty clay loam, 0 to 1 percent slopes, frequently flooded

Calco, frequently flooded

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extent</td>
<td>90 percent of the unit</td>
</tr>
<tr>
<td>Landform(s)</td>
<td>flood plains</td>
</tr>
<tr>
<td>Slope gradient</td>
<td>0 to 1 percent</td>
</tr>
<tr>
<td>Parent material</td>
<td>fine-silty alluvium</td>
</tr>
<tr>
<td>Restrictive feature(s)</td>
<td>greater than 60 inches</td>
</tr>
<tr>
<td>Flooding</td>
<td>frequent</td>
</tr>
<tr>
<td>Ponding</td>
<td>none</td>
</tr>
<tr>
<td>Drainage class</td>
<td>poorly drained</td>
</tr>
<tr>
<td>Soil loss tolerance (T factor)</td>
<td>5</td>
</tr>
<tr>
<td>Wind erodibility group (WEG)</td>
<td>4L</td>
</tr>
<tr>
<td>Wind erodibility index (WEI)</td>
<td>86</td>
</tr>
<tr>
<td>Kw factor (surface layer)</td>
<td>.24</td>
</tr>
<tr>
<td>Land capability, nonirrigated</td>
<td>5w</td>
</tr>
<tr>
<td>Hydrologic group</td>
<td>B/D</td>
</tr>
<tr>
<td>Potential for frost action</td>
<td>high</td>
</tr>
</tbody>
</table>

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>moderate</td>
<td>1.24 to 1.36 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>A2</td>
<td>moderate</td>
<td>10.33 to 11.32 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Cg</td>
<td>moderate</td>
<td>0.85 to 0.94 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Havelock

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
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<tbody>
<tr>
<td>Extent</td>
<td>10 percent of the unit</td>
</tr>
<tr>
<td>Landform(s)</td>
<td>flood plains</td>
</tr>
<tr>
<td>Slope gradient</td>
<td></td>
</tr>
<tr>
<td>Parent material</td>
<td></td>
</tr>
<tr>
<td>Restrictive feature(s)</td>
<td>greater than 60 inches</td>
</tr>
<tr>
<td>Flooding</td>
<td></td>
</tr>
<tr>
<td>Ponding</td>
<td></td>
</tr>
<tr>
<td>Drainage class</td>
<td></td>
</tr>
<tr>
<td>Soil loss tolerance (T factor)</td>
<td></td>
</tr>
<tr>
<td>Wind erodibility group (WEG)</td>
<td></td>
</tr>
<tr>
<td>Wind erodibility index (WEI)</td>
<td></td>
</tr>
<tr>
<td>Kw factor (surface layer)</td>
<td></td>
</tr>
<tr>
<td>Land capability, nonirrigated</td>
<td></td>
</tr>
<tr>
<td>Hydrologic group</td>
<td></td>
</tr>
<tr>
<td>Potential for frost action</td>
<td></td>
</tr>
</tbody>
</table>

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
611D--Hawick gravelly sandy loam, 12 to 25 percent slopes

Hawick

Extent: 85 percent of the unit

Landform(s): outwash plains

Slope gradient: 12 to 25 percent

Parent material: sandy and gravelly outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw factor (surface layer): .17

Land capability, nonirrigated: 7s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 7 in gravelly sandy loam</td>
<td>rapid</td>
<td>0.21 to 0.92 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bw -- 7 to 10 in gravelly loamy coarse sand</td>
<td>rapid</td>
<td>0.08 to 0.28 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>2Bk -- 10 to 60 in gravelly coarse sand</td>
<td>very rapid</td>
<td>1.00 to 3.00 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Minneopa

Extent: 10 percent of the unit

Landform(s): outwash plains

Slope gradient:

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding:

Ponding:

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer):

Land capability, nonirrigated:

Hydric soil: no

Hydrologic group:

Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
611D–Hawick gravelly sandy loam, 12 to 25 percent slopes

Biscay

**Extent:** 5 percent of the unit

**Landform(s):** drainage ways

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
612B–Wadenill loam, 2 to 6 percent slopes

Wadenill

- **Extent:** 85 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 2 to 6 percent
- **Parent material:** coarse-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A</td>
<td>loam</td>
<td>moderate</td>
<td>2.60 to 2.86 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw</td>
<td>13 to 30 in</td>
<td>moderately rapid</td>
<td>2.03 to 3.22 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>C</td>
<td>30 to 60 in</td>
<td>moderately rapid</td>
<td>3.29 to 5.69 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 5
- **Wind erodibility index (WEI):** 56
- **Kw factor (surface layer):** .32
- **Land capability, nonirrigated:** 2e
- **Hydric soil:** no
- **Hydrologic group:** B
- **Potential for frost action:** moderate

Uniongrove

- **Extent:** 10 percent of the unit
- **Landform(s):** drainageways
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

- **Soil loss tolerance (T factor):**
- **Wind erodibility group (WEG):**
- **Wind erodibility index (WEI):**
- **Kw factor (surface layer):**
- **Land capability, nonirrigated:**
- **Hydric soil:** yes
- **Hydrologic group:**
- **Potential for frost action:**
612B--Wadenill loam, 2 to 6 percent slopes

**Lundlake**

- **Extent:** 5 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

*This report shows only the major soils in each map unit*
613--Grovecity loam, 1 to 3 percent slopes

Grovecity

**Extent:** 85 percent of the unit

**Landform(s):** rises on moraines

**Slope gradient:** 1 to 3 percent

**Parent material:** coarse-loamy till

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** moderately well drained

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 5

**Wind erodibility index (WEI):** 56

**Kw factor (surface layer):** .28

**Land capability, nonirrigated:** 1

**Hydric soil:** no

**Hydrologic group:** A/D

**Potential for frost action:** high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A --</td>
<td>moderately rapid</td>
<td>2.99 to 3.29 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bw --</td>
<td>moderately rapid</td>
<td>1.80 to 2.84 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>C --</td>
<td>moderately rapid</td>
<td>3.29 to 5.69 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Uniongrove

**Extent:** 10 percent of the unit

**Landform(s):** drainageways

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
613--Grovecity loam, 1 to 3 percent slopes

Lundlake

- **Extent**: 5 percent of the unit
- **Landform(s)**: depressions
- **Slope gradient**:
- **Parent material**:
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**:
- **Ponding**:
- **Drainage class**:

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Soil loss tolerance <em>(T factor):</em>**</th>
<th>Wind erodibility group <em>(WEG):</em>**</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Wind erodibility index <em>(WEI):</em>**</th>
<th>Kw factor <em>(surface layer)</em></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Land capability, <em>nonirrigated</em>:***</th>
<th>Hydric soil: yes</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Hydrologic group:***</th>
<th>Potential for frost action:***</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
664--Zook silty clay loam, 0 to 2 percent slopes, occasionally flooded

**Zook, occasionally flooded**

- **Extent:** 90 percent of the unit
- **Landform(s):** flood plains
- **Slope gradient:** 0 to 2 percent
- **Parent material:** fine-silty alluvium
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** occasional
- **Ponding:** none
- **Drainage class:** poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 10 in</td>
<td>silty clay loam</td>
<td>moderately slow</td>
<td>2.07 to 2.26 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>10 to 41 in</td>
<td>silty clay</td>
<td>slow</td>
<td>3.42 to 4.04 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>41 to 60 in</td>
<td>silty clay loam</td>
<td>moderately slow</td>
<td>2.08 to 4.16 in</td>
<td>5.6 to 7.8</td>
</tr>
</tbody>
</table>

**Calco**

- **Extent:** 10 percent of the unit
- **Landform(s):** flood plains
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
740--Hamel-Glencoe, depressional complex, 0 to 3 percent slopes

Hamel

*Extent*: 70 percent of the unit  
*Landform(s)*: drainageways on moraines  
*Slope gradient*: 0 to 3 percent  
*Parent material*: fine-loamy till  
*Restrictive feature(s)*: greater than 60 inches  
*Flooding*: none  
*Ponding*: none  
*Drainage class*: poorly drained  
*Soil loss tolerance (T factor)*: 5  
*Wind erodibility group (WEG)*: 6  
*Wind erodibility index (WEI)*: 48  
*Kw factor (surface layer)*: 0.28  
*Hydric soil*: yes  
*Hydrologic group*: C/D  
*Land capability, nonirrigated*: 2w  
*Potential for frost action*: high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A</td>
<td>loam</td>
<td>moderate</td>
<td>5.59 to 6.71 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Btg</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>4.47 to 5.31 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bkg</td>
<td>loam</td>
<td>moderate</td>
<td>0.55 to 0.71 in</td>
<td>7.4 to 7.8</td>
</tr>
</tbody>
</table>

Glencoe, depressional

*Extent*: 20 percent of the unit  
*Landform(s)*: depressions, moraines  
*Slope gradient*: 0 to 2 percent  
*Parent material*: fine-loamy alluvium  
*Restrictive feature(s)*: greater than 60 inches  
*Flooding*: none  
*Ponding*: frequent  
*Drainage class*: very poorly drained  
*Soil loss tolerance (T factor)*: 5  
*Wind erodibility group (WEG)*: 6  
*Wind erodibility index (WEI)*: 48  
*Kw factor (surface layer)*: 0.24  
*Hydric soil*: yes  
*Hydrologic group*: B/D  
*Land capability, nonirrigated*: 3w  
*Potential for frost action*: high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A1</td>
<td>loam</td>
<td>moderate</td>
<td>2.69 to 3.29 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>A2</td>
<td>silty clay loam</td>
<td>moderate</td>
<td>5.39 to 6.58 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bg</td>
<td>clay loam</td>
<td>moderate</td>
<td>2.24 to 2.84 in</td>
<td>6.6 to 7.8</td>
</tr>
</tbody>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

740--Hamel-Glencoe, depressional complex, 0 to 3 percent slopes

Le Sueur

Extent: 10 percent of the unit
Landform(s): moraines
Slope gradient: 
Parent material: 
Restrictive feature(s): greater than 60 inches
Flooding: 
Ponding: 
Drainage class: 

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydraulic soil:
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
804B--Koronis-Sunburg-Hawick complex, 2 to 6 percent slopes

Koronis

Extent: 50 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: coarse-loamy till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer): .32

Representative soil profile:

<table>
<thead>
<tr>
<th></th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap --</td>
<td>0 to 8 in</td>
<td>loam</td>
<td>moderately rapid</td>
<td>1.57 to 1.73 in</td>
</tr>
<tr>
<td>Bt --</td>
<td>8 to 33 in</td>
<td>loam</td>
<td>moderately rapid</td>
<td>3.78 to 4.79 in</td>
</tr>
<tr>
<td>Bk --</td>
<td>33 to 60 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>2.94 to 4.28 in</td>
</tr>
</tbody>
</table>

Sunburg

Extent: 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 4 to 6 percent
Parent material: coarse-loamy till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer): .20

Representative soil profile:

<table>
<thead>
<tr>
<th></th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap --</td>
<td>0 to 9 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>1.45 to 1.63 in</td>
</tr>
<tr>
<td>Bk --</td>
<td>9 to 60 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>5.59 to 9.65 in</td>
</tr>
</tbody>
</table>
804B–Koronis-Sunburg-Hawick complex, 2 to 6 percent slopes

Hawick

- **Extent:** 15 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 2 to 6 percent
- **Parent material:** sandy and gravelly outwash
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** excessively drained

- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 2
- **Wind erodibility index (WEI):** 134
- **Kw factor (surface layer):** .05
- **Land capability, nonirrigated:** 4s
- **Hydrologic group:** A
- **Potential for frost action:** low

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap --</td>
<td>rapid</td>
<td>0.27 to 1.18 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bw --</td>
<td>rapid</td>
<td>1.19 to 3.98 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>2Bk --</td>
<td>very rapid</td>
<td>0.22 to 0.66 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Uniongrove

- **Extent:** 10 percent of the unit
- **Landform(s):** drainageways
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

- **Soil loss tolerance (T factor):**
- **Wind erodibility group (WEG):**
- **Wind erodibility index (WEI):**
- **Kw factor (surface layer):**
- **Land capability, nonirrigated:**
- **Hydrologic group:**
- **Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
804B--Koronis-Sunburg-Hawick complex, 2 to 6 percent slopes

Lundlake

Extent: 5 percent of the unit
Landform(s): depressions
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
804C2--Koronis-Sunburg-Hawick complex, 6 to 12 percent slopes, eroded

Koronis, eroded

- **Extent:** 45 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 6 to 12 percent
- **Parent material:** coarse-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>1.02 to 1.42 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt -- 8 to 26 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>2.72 to 3.44 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk -- 26 to 60 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>3.72 to 5.42 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Sunburg, eroded

- **Extent:** 25 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 6 to 12 percent
- **Parent material:** coarse-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 10 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>1.57 to 1.77 in</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>Bk -- 10 to 60 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>5.50 to 9.50 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
Map Unit Description (MN)

Meeker County, Minnesota

804C2--Koronis-Sunburg-Hawick complex, 6 to 12 percent slopes, eroded

Hawick, eroded

Extent: 15 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: sandy and gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 1
Wind erodibility index (WEI): 160
Kw factor (surface layer): .02
Land capability, nonirrigated: 4s
Hydrologic group: A
Potential for frost action: low

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 9 in</td>
<td>rapid</td>
<td>0.27 to 1.18 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>2Bk -- 9 to 60 in</td>
<td>rapid</td>
<td>1.52 to 5.08 in</td>
<td>6.1 to 7.8</td>
</tr>
</tbody>
</table>

Forestcity

Extent: 10 percent of the unit
Landform(s): drainageways
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer):
Land capability, nonirrigated:
Hydric soil:
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
# 804C2--Koronis-Sunburg-Hawick complex, 6 to 12 percent slopes, eroded

**Lundlake**

- **Extent:** 5 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

### Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
804D2--Koronis-Sunburg-Hawick complex, 12 to 18 percent slopes, eroded

**Koronis, eroded**

- **Extent:** 40 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 12 to 18 percent
- **Parent material:** coarse-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 3
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** greater than 60 inches
- **Hydreric soil:** no
- **Hydrologic group:** A
- **Land capability, nonirrigated:** 4e
- **Potential for frost action:** moderate

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 8 in</td>
<td>moderately rapid</td>
<td>1.02 to 1.42 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt</td>
<td>8 to 25 in</td>
<td>moderately rapid</td>
<td>2.60 to 3.29 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk</td>
<td>25 to 60 in</td>
<td>moderately rapid</td>
<td>3.81 to 5.54 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Sunburg, eroded**

- **Extent:** 35 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 12 to 18 percent
- **Parent material:** coarse-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 3
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** greater than 60 inches
- **Hydreric soil:** no
- **Hydrologic group:** A
- **Land capability, nonirrigated:** 4e
- **Potential for frost action:** moderate

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 7 in</td>
<td>moderately rapid</td>
<td>1.13 to 1.28 in</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>Bk</td>
<td>7 to 60 in</td>
<td>moderately rapid</td>
<td>5.80 to 10.02 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

804D2--Koronis-Sunburg-Hawick complex, 12 to 18 percent slopes, eroded

Hawick, eroded

**Extent:** 15 percent of the unit

**Landform(s):** hills on moraines

**Slope gradient:** 12 to 18 percent

**Parent material:** sandy and gravelly outwash

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** excessively drained

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 5

**Wind erodibility index (WEI):** 56

**Kw factor (surface layer):** .15

**Land capability, nonirrigated:** 6s

**Hydric soil:** no

**Hydrologic group:** A

**Potential for frost action:** low

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 7 in</td>
<td>gravelly coarse sandy loam</td>
<td>rapid</td>
<td>0.21 to 0.92 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bw -- 7 to 20 in</td>
<td>gravelly loamy coarse sand</td>
<td>rapid</td>
<td>0.39 to 1.30 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>2Bk -- 20 to 60 in</td>
<td>gravelly coarse sand</td>
<td>very rapid</td>
<td>0.80 to 2.39 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Forestcity

**Extent:** 10 percent of the unit

**Landform(s):** drainageways

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
804E--Koronis-Sunburg-Hawick complex, 18 to 40 percent slopes

**Koronis**

*Extent*: 50 percent of the unit
*Landform(s)*: hills on moraines
*Slope gradient*: 18 to 40 percent
*Parent material*: coarse-loamy till
*Restrictive feature(s)*: greater than 60 inches

*Flooding*: none
*Ponding*: none
*Drainage class*: well drained

*Soil loss tolerance (T factor)*: 5
*Wind erodibility group (WEG)*: 3
*Wind erodibility index (WEI)*: 86
*Kw factor (surface layer)*: .28

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap 0 to 5 in</td>
<td>moderately rapid</td>
<td>0.67 to 0.92 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt 5 to 21 in</td>
<td>moderately rapid</td>
<td>2.36 to 2.99 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk 21 to 60 in</td>
<td>moderately rapid</td>
<td>4.29 to 6.24 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Sunburg**

*Extent*: 25 percent of the unit
*Landform(s)*: hills on moraines
*Slope gradient*: 18 to 40 percent
*Parent material*: coarse-loamy till
*Restrictive feature(s)*: greater than 60 inches

*Flooding*: none
*Ponding*: none
*Drainage class*: well drained

*Soil loss tolerance (T factor)*: 5
*Wind erodibility group (WEG)*: 4L
*Wind erodibility index (WEI)*: 86
*Kw factor (surface layer)*: .32

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap 0 to 4 in</td>
<td>moderately rapid</td>
<td>0.63 to 0.71 in</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>Bk 4 to 60 in</td>
<td>moderately rapid</td>
<td>6.15 to 10.62 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
804E--Koronis-Sunburg-Hawick complex, 18 to 40 percent slopes

**Hawick**

- **Extent:** 15 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 18 to 40 percent
- **Parent material:** sandy and gravelly outwash
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 2
- **Wind erodibility index (WEI):** 134
- **Kw factor (surface layer):** > 60 inches
- **Representative soil profile:**
<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>rapid</td>
<td>0.43 to 1.84 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>2Bk</td>
<td>rapid</td>
<td>1.37 to 4.57 in</td>
<td>6.1 to 7.8</td>
</tr>
</tbody>
</table>

**Forestcity**

- **Extent:** 10 percent of the unit
- **Landform(s):** drainageways
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:** none
- **Hydric soil:** no
- **Hydric group:** A
- **Soil loss tolerance (T factor):**
- **Wind erodibility group (WEG):**
- **Wind erodibility index (WEI):**
- **Kw factor (surface layer):** > 60 inches
- **Representative soil profile:**
<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>rapid</td>
<td>0.43 to 1.84 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>2Bk</td>
<td>rapid</td>
<td>1.37 to 4.57 in</td>
<td>6.1 to 7.8</td>
</tr>
</tbody>
</table>
805C2--Sunburg-Wadenill complex, 6 to 12 percent slopes, eroded

### Sunburg, eroded

- **Extent:** 50 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 6 to 12 percent
- **Parent material:** coarse-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap  -- 0 to 8 in sandy loam</td>
<td>moderately rapid</td>
<td>1.26 to 1.42 in</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>Bk  -- 8 to 60 in sandy loam</td>
<td>moderately rapid</td>
<td>5.72 to 9.87 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

### Wadenill, eroded

- **Extent:** 40 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 6 to 12 percent
- **Parent material:** coarse-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap  -- 0 to 7 in loam</td>
<td>moderate</td>
<td>1.42 to 1.56 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw  -- 7 to 20 in loam</td>
<td>moderately rapid</td>
<td>1.56 to 2.47 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk  -- 20 to 60 in sandy loam</td>
<td>moderately rapid</td>
<td>4.37 to 7.56 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
805C2--Sunburg-Wadenill complex, 6 to 12 percent slopes, eroded

**Lundlake**

- **Extent:** 5 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Forestcity**

- **Extent:** 5 percent of the unit
- **Landform(s):** drainageways
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):** greater than 60 inches

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
805D2--Sunburg-Wadenill complex, 12 to 18 percent slopes, eroded

Sunburg, eroded

**Extent:** 65 percent of the unit

**Landform(s):** hills on moraines

**Slope gradient:** 12 to 18 percent

**Parent material:** coarse-loamy till

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** well drained

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 3

**Wind erodibility index (WEI):** 86

**Kw factor (surface layer):** greater than 60 inches .32

**Land capability, nonirrigated:** 4e

**Hydric soil:** no

**Hydrologic group:** A

**Potential for frost action:** moderate

### Representative soil profile:

<table>
<thead>
<tr>
<th>Profile</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 7 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>1.32</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6.57</td>
</tr>
<tr>
<td>Bk</td>
<td>7 to 60 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>5.80</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.40</td>
</tr>
</tbody>
</table>

Wadenill, eroded

**Extent:** 25 percent of the unit

**Landform(s):** hills on moraines

**Slope gradient:** 12 to 18 percent

**Parent material:** coarse-loamy till

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** well drained

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 5

**Wind erodibility index (WEI):** 56

**Kw factor (surface layer):** greater than 60 inches .20

**Land capability, nonirrigated:** 4e

**Hydric soil:** no

**Hydrologic group:** B

**Potential for frost action:** moderate

### Representative soil profile:

<table>
<thead>
<tr>
<th>Profile</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 7 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.42</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.60</td>
</tr>
<tr>
<td>Bw</td>
<td>7 to 18 in</td>
<td>loam</td>
<td>moderately rapid</td>
<td>1.32</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.60</td>
</tr>
<tr>
<td>Bk</td>
<td>18 to 60 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>4.59</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.40</td>
</tr>
</tbody>
</table>
805D2--Sunburg-Wadenill complex, 12 to 18 percent slopes, eroded

Forestcity

Extent: 10 percent of the unit
Landform(s): drainageways
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile:  

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
875B--Estherville-Hawick complex, 2 to 6 percent slopes

**Estherville**

- **Extent**: 60 percent of the unit
- **Landform(s)**: outwash plains
- **Slope gradient**: 2 to 6 percent
- **Parent material**: coarse-loamy outwash over sandy and gravelly outwash
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: somewhat excessively drained
- **Soil loss tolerance (T factor)**: 2
- **Wind erodibility group (WEG)**: 3
- **Wind erodibility index (WEI)**: 86
- **Kw factor (surface layer)**: .24
- **Hydric soil**: no
- **Hydrologic group**: A
- **Potential for frost action**: low

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 9 in sandy loam</td>
<td>moderately rapid</td>
<td>1.18 to 1.63 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw -- 9 to 14 in sandy loam</td>
<td>moderately rapid</td>
<td>0.67 to 0.92 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>2Bk -- 14 to 60 in gravelly coarse sand</td>
<td>very rapid</td>
<td>0.91 to 1.83 in</td>
<td>6.6 to 8.4</td>
</tr>
</tbody>
</table>

**Hawick**

- **Extent**: 30 percent of the unit
- **Landform(s)**: outwash plains
- **Slope gradient**: 2 to 6 percent
- **Parent material**: sandy and gravelly outwash
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: excessively drained
- **Soil loss tolerance (T factor)**: 5
- **Wind erodibility group (WEG)**: 3
- **Wind erodibility index (WEI)**: 86
- **Kw factor (surface layer)**: .24
- **Hydric soil**: no
- **Hydrologic group**: A
- **Potential for frost action**: low

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 7 in sandy loam</td>
<td>moderately rapid</td>
<td>0.92 to 1.06 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bw -- 7 to 11 in gravelly loamy coarse sand</td>
<td>rapid</td>
<td>0.12 to 0.39 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>2Bk -- 11 to 60 in gravelly coarse sand</td>
<td>very rapid</td>
<td>0.98 to 2.93 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
875B–Estherville-Hawick complex, 2 to 6 percent slopes

Biscay

Extent: 10 percent of the unit
Landform(s): drainageways
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI): Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile: Texture Permeability Available water capacity pH
875C–Hawick-Estherville complex, 6 to 12 percent slopes

Hawick

Extent: 60 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 6 to 12 percent
Parent material: sandy and gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56

Representative soil profile:

<table>
<thead>
<tr>
<th></th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 11 in gravelly sandy loam</td>
<td>rapid</td>
<td>0.33 to 1.43 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>2Bk</td>
<td>11 to 60 in gravelly coarse sand</td>
<td>very rapid</td>
<td>0.98 to 2.93 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Estherville

Extent: 25 percent of the unit
Landform(s): hills on outwash plains
Slope gradient: 6 to 12 percent
Parent material: coarse-loamy outwash over sandy and gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86

Representative soil profile:

<table>
<thead>
<tr>
<th></th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 8 in sandy loam</td>
<td>moderately rapid</td>
<td>1.02 to 1.42 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw</td>
<td>8 to 13 in sandy loam</td>
<td>moderately rapid</td>
<td>0.67 to 0.92 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>2Bk</td>
<td>13 to 60 in gravelly coarse sand</td>
<td>very rapid</td>
<td>0.94 to 1.87 in</td>
<td>6.6 to 8.4</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit.
### Biscay

- **Extent**: 10 percent of the unit
- **Landform(s)**: drainageways
- **Slope gradient**: 6 to 12 percent slopes
- **Parent material**: Biscay
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: 
- **Ponding**: 
- **Drainage class**:

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

### Minneopa

- **Extent**: 5 percent of the unit
- **Landform(s)**: outwash plains
- **Slope gradient**: 
- **Parent material**: 
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: 
- **Ponding**: 
- **Drainage class**:

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
887B--Clarion-Swanlake complex, 2 to 6 percent slopes

Clarion

Extent: 70 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 5 percent
Parent material: fine-loamy till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer): .28
Land capability, nonirrigated: 2e
Hydrologic group: B
Potential for frost action: moderate

Hydric soil: no

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>moderate</td>
<td>2.20 to 2.43 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw</td>
<td>moderate</td>
<td>3.21 to 3.59 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>Bk</td>
<td>moderate</td>
<td>5.09 to 5.69 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Swanlake

Extent: 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 4 to 6 percent
Parent material: fine-loamy till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer): .28
Land capability, nonirrigated: 2e
Hydrologic group: B
Potential for frost action: moderate

Hydric soil: no

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>moderate</td>
<td>1.57 to 1.89 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bk</td>
<td>moderate</td>
<td>0.67 to 0.75 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C</td>
<td>moderate</td>
<td>8.17 to 9.13 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
887B--Clarion-Swanlake complex, 2 to 6 percent slopes

Glencoe

<table>
<thead>
<tr>
<th>Extent:</th>
<th>5 percent of the unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landform(s):</td>
<td>depressions</td>
</tr>
<tr>
<td>Slope gradient:</td>
<td></td>
</tr>
<tr>
<td>Parent material:</td>
<td></td>
</tr>
<tr>
<td>Restrictive feature(s):</td>
<td>greater than 60 inches</td>
</tr>
<tr>
<td>Flooding:</td>
<td></td>
</tr>
<tr>
<td>Ponding:</td>
<td></td>
</tr>
<tr>
<td>Drainage class:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Soil loss tolerance (T factor):</th>
<th>Wind erodibility group (WEG):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wind erodibility index (WEI):</td>
</tr>
<tr>
<td></td>
<td>Kw factor (surface layer)</td>
</tr>
<tr>
<td>Land capability, nonirrigated:</td>
<td></td>
</tr>
<tr>
<td>Hydrologic group:</td>
<td></td>
</tr>
<tr>
<td>Potential for frost action:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

Webster

<table>
<thead>
<tr>
<th>Extent:</th>
<th>5 percent of the unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landform(s):</td>
<td>drainageways</td>
</tr>
<tr>
<td>Slope gradient:</td>
<td></td>
</tr>
<tr>
<td>Parent material:</td>
<td></td>
</tr>
<tr>
<td>Restrictive feature(s):</td>
<td>greater than 60 inches</td>
</tr>
<tr>
<td>Flooding:</td>
<td></td>
</tr>
<tr>
<td>Ponding:</td>
<td></td>
</tr>
<tr>
<td>Drainage class:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Soil loss tolerance (T factor):</th>
<th>Wind erodibility group (WEG):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wind erodibility index (WEI):</td>
</tr>
<tr>
<td></td>
<td>Kw factor (surface layer)</td>
</tr>
<tr>
<td>Land capability, nonirrigated:</td>
<td></td>
</tr>
<tr>
<td>Hydrologic group:</td>
<td></td>
</tr>
<tr>
<td>Potential for frost action:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
899--Harps-Okoboji, depressional complex, 0 to 2 percent slopes

**Harps**

- **Extent:** 60 percent of the unit
- **Landform(s):** rims on moraines
- **Slope gradient:** 0 to 2 percent
- **Parent material:** fine-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apk --</td>
<td>moderate</td>
<td>1.72 to 1.90 in</td>
<td>7.9 to 8.4</td>
</tr>
<tr>
<td>ABk --</td>
<td>moderate</td>
<td>3.21 to 3.59 in</td>
<td>7.9 to 8.4</td>
</tr>
<tr>
<td>Bk --</td>
<td>moderate</td>
<td>4.46 to 6.06 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Okoboji, depressional**

- **Extent:** 30 percent of the unit
- **Landform(s):** depressions, moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** fine-silty alluvium
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A --</td>
<td>moderately slow</td>
<td>3.56 to 3.89 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bg --</td>
<td>moderately slow</td>
<td>5.39 to 5.98 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>Bk --</td>
<td>moderately slow</td>
<td>2.34 to 2.60 in</td>
<td>6.6 to 8.4</td>
</tr>
</tbody>
</table>
899--Harps-Okoboji, depressional complex, 0 to 2 percent slopes

Seafort

**Extent:** 10 percent of the unit

**Landform(s):** moraines

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** no

**Hydrologic group:**

**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
**Map Unit Description (MN)**
Meeker County, Minnesota

---

### 909C2--Bold-Truman complex, 6 to 12 percent slopes, eroded

**Bold, eroded**

- **Extent:** 55 percent of the unit
- **Landform(s):** hills on lake plains
- **Slope gradient:** 6 to 12 percent
- **Parent material:** coarse-silty lacustrine deposits
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 7 in</td>
<td>moderate</td>
<td>1.49 to 1.70 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bk -- 7 to 60 in</td>
<td>moderate</td>
<td>10.55 to 12.66 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5
**Wind erodibility group (WEG):** 4L
**Wind erodibility index (WEI):** 86
**Kw factor (surface layer):** .49
**Land capability, nonirrigated:** 3e
**Hydrologic group:** B
**Potential for frost action:** high

### Truman, eroded

- **Extent:** 35 percent of the unit
- **Landform(s):** hills on lake plains
- **Slope gradient:** 6 to 12 percent
- **Parent material:** fine-silty lacustrine deposits
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 10 in</td>
<td>moderate</td>
<td>1.97 to 2.26 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw -- 10 to 31 in</td>
<td>moderate</td>
<td>3.83 to 4.46 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>Bk -- 31 to 60 in</td>
<td>moderate</td>
<td>5.17 to 5.75 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5
**Wind erodibility group (WEG):** 6
**Wind erodibility index (WEI):** 48
**Kw factor (surface layer):** .37
**Land capability, nonirrigated:** 3e
**Hydrologic group:** B
**Potential for frost action:** high

---

This report shows only the major soils in each map unit.
909C2--Bold-Truman complex, 6 to 12 percent slopes, eroded

**Okoboji**

- **Extent**: 5 percent of the unit
- **Landform(s)**: depressions
- **Slope gradient**:
- **Parent material**:
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**:
- **Ponding**:
- **Drainage class**:

**Representative soil profile**:  

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Madelia**

- **Extent**: 5 percent of the unit
- **Landform(s)**: drainageways
- **Slope gradient**:
- **Parent material**:
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**:
- **Ponding**:
- **Drainage class**:

**Representative soil profile**:  

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
909D2--Bold-Truman complex, 12 to 18 percent slopes, eroded

**Bold, eroded**

- **Extent:** 65 percent of the unit
- **Landform(s):** hills on lake plains
- **Slope gradient:** 12 to 18 percent
- **Parent material:** coarse-silty lacustrine deposits
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>moderate</td>
<td>1.49 to 1.70 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bk</td>
<td>moderate</td>
<td>10.55 to 12.66 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Truman, eroded**

- **Extent:** 25 percent of the unit
- **Landform(s):** hills on lake plains
- **Slope gradient:** 12 to 18 percent
- **Parent material:** fine-silty lacustrine deposits
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>moderate</td>
<td>2.60 to 2.99 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw</td>
<td>moderate</td>
<td>1.63 to 1.90 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>Bk</td>
<td>moderate</td>
<td>6.80 to 7.56 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
909D2--Bold-Truman complex, 12 to 18 percent slopes, eroded

Madelia

- **Extent**: 10 percent of the unit
- **Landform(s)**: drainageways
- **Slope gradient**:
- **Parent material**:
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**:
- **Ponding**:
- **Drainage class**:

**Soil loss tolerance (T factor)**:

**Wind erodibility group (WEG)**:

**Wind erodibility index (WEI)**:

**Kw factor (surface layer)**:

**Land capability, nonirrigated**:

**Hydric soil**: yes

**Hydrologic group**:

**Potential for frost action**:

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
920B--Clarion-Storden-Hawick complex, 2 to 6 percent slopes

Clarion

Extent: 50 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 5 percent
Parent material: fine-loamy till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer): .28
Land capability, nonirrigated: 2e
Hydrologic group: B
Potential for frost action: moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A -- 0 to 12 in</td>
<td>loam</td>
<td>moderate</td>
<td>2.36 to 2.60 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw -- 12 to 23 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.87 to 2.09 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>Bk -- 23 to 60 in</td>
<td>sandy loam</td>
<td>moderate</td>
<td>6.29 to 7.03 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Storden

Extent: 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 4 to 6 percent
Parent material: fine-loamy till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer): .32
Land capability, nonirrigated: 2e
Hydrologic group: B
Potential for frost action: moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 7 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.42 to 1.56 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bk -- 7 to 37 in</td>
<td>loam</td>
<td>moderate</td>
<td>4.49 to 5.69 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C -- 37 to 60 in</td>
<td>loam</td>
<td>moderate</td>
<td>3.43 to 4.34 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
920B--Clarion-Storden-Hawick complex, 2 to 6 percent slopes

Hawick

**Extent:** 15 percent of the unit

**Landform(s):** hills on moraines

**Slope gradient:** 2 to 6 percent

**Parent material:** sandy and gravelly outwash

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** excessively drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 9 in</td>
<td>gravelly sandy loam</td>
<td>rapid</td>
<td>0.27 to 1.18 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bw -- 9 to 28 in</td>
<td>gravelly coarse sand</td>
<td>rapid</td>
<td>0.57 to 1.89 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>2Bk -- 28 to 60 in</td>
<td>gravelly coarse sand</td>
<td>very rapid</td>
<td>0.64 to 1.91 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 5

**Wind erodibility index (WEI):** 56

**Kw factor (surface layer):** .17

**Land capability, nonirrigated:** 4s

**Hydric soil:** no

**Hydrologic group:** A

**Potential for frost action:** low

Webster

**Extent:** 10 percent of the unit

**Landform(s):** drainageways

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**
Map Unit Description (MN)
Meeker County, Minnesota

920B--Clarion-Storden-Hawick complex, 2 to 6 percent slopes

Glencoe

*Extent*: 5 percent of the unit

*Landform(s)*: depressions

*Slope gradient*:

*Parent material*:

*Restrictive feature(s)*: greater than 60 inches

*Flooding*:

*Ponding*:

*Drainage class*:

*Soil loss tolerance (T factor)*:

*Wind erodibility group (WEG)*:

*Wind erodibility index (WEI)*:

*Kw factor (surface layer)*:

*Land capability, nonirrigated*:

*Hydric soil*: yes

*Hydrologic group*:

*Potential for frost action*:

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
945D2--Lester-Storden complex, 12 to 18 percent slopes, eroded

Lester, eroded

Extent: 70 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: fine-loamy till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer) .32
Land capability, nonirrigated: 4e
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 9 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.81 to 1.99 in</td>
</tr>
<tr>
<td>Bt</td>
<td>9 to 26 in</td>
<td>clay loam</td>
<td>moderate</td>
<td>2.54 to 3.22 in</td>
</tr>
<tr>
<td>Bk</td>
<td>26 to 60 in</td>
<td>loam</td>
<td>moderate</td>
<td>4.74 to 6.43 in</td>
</tr>
</tbody>
</table>

Storden, eroded

Extent: 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: fine-loamy till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .32
Land capability, nonirrigated: 4e
Hydrologic group: B
Potential for frost action: moderate

Representative soil profile:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 5 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.02 to 1.13 in</td>
</tr>
<tr>
<td>Bk</td>
<td>5 to 28 in</td>
<td>loam</td>
<td>moderate</td>
<td>3.43 to 4.34 in</td>
</tr>
<tr>
<td>C</td>
<td>28 to 60 in</td>
<td>loam</td>
<td>moderate</td>
<td>4.78 to 6.06 in</td>
</tr>
</tbody>
</table>
945D2--Lester-Storden complex, 12 to 18 percent slopes, eroded

Hamel

Extent: 10 percent of the unit
Landform(s): drainageways
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer):
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
Map Unit Description (MN)
Meeker County, Minnesota

945E–Lester-Storden complex, 18 to 40 percent slopes

**Lester**

- **Extent**: 70 percent of the unit
- **Landform(s)**: hills on moraines
- **Slope gradient**: 18 to 40 percent
- **Parent material**: fine-loamy till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: well drained

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>moderate</td>
<td>1.42 to 1.56 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt</td>
<td>moderate</td>
<td>2.36 to 2.99 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>Bk</td>
<td>moderate</td>
<td>5.18 to 7.03 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Storden**

- **Extent**: 20 percent of the unit
- **Landform(s)**: hills on moraines
- **Slope gradient**: 18 to 40 percent
- **Parent material**: fine-loamy till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: well drained

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>moderate</td>
<td>1.81 to 1.99 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bk</td>
<td>moderate</td>
<td>3.13 to 3.96 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C</td>
<td>moderate</td>
<td>4.49 to 5.69 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
945E–Lester-Storden complex, 18 to 40 percent slopes

Hamel

- **Extent:** 10 percent of the unit
- **Landform(s):** drainageways
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

- **Soil loss tolerance (T factor):**
- **Wind erodibility group (WEG):**
- **Wind erodibility index (WEI):**
- **Kw factor (surface layer):**
- **Land capability, nonirrigated:**
- **Hydric soil:** yes
- **Hydrologic group:**
- **Potential for frost action:**

This report shows only the major soils in each map unit.
956--Canisteo-Glencoe, depressional complex, 0 to 2 percent slopes

**Canisteo**

- **Extent:** 65 percent of the unit
- **Landform(s):** rims on depressions on moraines, flats on moraines
- **Slope gradient:** 0 to 2 percent
- **Parent material:** fine-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** poorly drained

**Soil loss tolerance (T factor):** 5
**Wind erodibility group (WEG):** 4L
**Wind erodibility index (WEI):** 86
**Kw factor (surface layer):** .24
**Land capability, nonirrigated:** 2w
**Hydric soil:** yes
**Hydrologic group:** B/D
**Potential for frost action:** high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A</td>
<td>0 to 17 in clay loam</td>
<td>moderate</td>
<td>3.05 to 3.72 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>AB</td>
<td>17 to 23 in clay loam</td>
<td>moderate</td>
<td>0.89 to 1.12 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bkg</td>
<td>23 to 41 in clay loam</td>
<td>moderate</td>
<td>2.17 to 3.26 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Cg</td>
<td>41 to 60 in loam</td>
<td>moderate</td>
<td>2.65 to 3.02 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Glencoe, depressional**

- **Extent:** 25 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** fine-loamy alluvium
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

**Soil loss tolerance (T factor):** 5
**Wind erodibility group (WEG):** 6
**Wind erodibility index (WEI):** 48
**Kw factor (surface layer):** .24
**Land capability, nonirrigated:** 3w
**Hydric soil:** yes
**Hydrologic group:** B/D
**Potential for frost action:** high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 7 in clay loam</td>
<td>moderate</td>
<td>1.28 to 1.56 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>A</td>
<td>7 to 36 in clay loam</td>
<td>moderate</td>
<td>5.17 to 6.32 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bg</td>
<td>36 to 60 in loam</td>
<td>moderate</td>
<td>3.60 to 4.56 in</td>
<td>6.6 to 7.8</td>
</tr>
</tbody>
</table>
956--Canisteo-Glencoe, depressional complex, 0 to 2 percent slopes

**Seaforth**

- **Extent**: 10 percent of the unit
- **Landform(s)**: moraines
- **Slope gradient**:
- **Parent material**:
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**:
- **Ponding**:
- **Drainage class**:

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil**: no

**Hydrologic group:**

**Potential for frost action:**
960C2--Storden-Omsrud complex, 6 to 12 percent slopes, eroded

Storden, eroded

- **Extent:** 65 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 6 to 12 percent
- **Parent material:** fine-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 4L
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** .32
- **Land capability, nonirrigated:** 3e
- **Hydrologic group:** B
- **Potential for frost action:** moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap --</td>
<td>0 to 8 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.57 to 1.73 in</td>
</tr>
<tr>
<td>Bk --</td>
<td>8 to 21 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.95 to 2.47 in</td>
</tr>
<tr>
<td>C --</td>
<td>21 to 60 in</td>
<td>loam</td>
<td>moderate</td>
<td>5.85 to 7.41 in</td>
</tr>
</tbody>
</table>

Omsrud, eroded

- **Extent:** 25 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 6 to 12 percent
- **Parent material:** fine-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 6
- **Wind erodibility index (WEI):** 48
- **Kw factor (surface layer):** .28
- **Land capability, nonirrigated:** 3e
- **Hydrologic group:** B
- **Potential for frost action:** moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap --</td>
<td>0 to 9 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.81 to 1.99 in</td>
</tr>
<tr>
<td>Bw --</td>
<td>9 to 25 in</td>
<td>loam</td>
<td>moderate</td>
<td>2.74 to 3.07 in</td>
</tr>
<tr>
<td>Bk --</td>
<td>25 to 60 in</td>
<td>loam</td>
<td>moderate</td>
<td>5.89 to 6.58 in</td>
</tr>
</tbody>
</table>
960C2--Storden-Omsrud complex, 6 to 12 percent slopes, eroded

Hamel

**Extent:** 10 percent of the unit

**Landform(s):** drainageways

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
# Map Unit Description (MN)

## Meeker County, Minnesota

### 960D2--Storden-Omsrud complex, 12 to 18 percent slopes, eroded

**Storden, eroded**

<table>
<thead>
<tr>
<th>Extent:</th>
<th>65 percent of the unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landform(s):</td>
<td>hills on moraines</td>
</tr>
<tr>
<td>Slope gradient:</td>
<td>12 to 18 percent</td>
</tr>
<tr>
<td>Parent material:</td>
<td>fine-loamy till</td>
</tr>
<tr>
<td>Restrictive feature(s):</td>
<td>greater than 60 inches</td>
</tr>
<tr>
<td>Flooding:</td>
<td>none</td>
</tr>
<tr>
<td>Ponding:</td>
<td>none</td>
</tr>
<tr>
<td>Drainage class:</td>
<td>well drained</td>
</tr>
</tbody>
</table>

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 7 in loam</td>
<td>moderate</td>
<td>1.42 to 1.56 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bk -- 7 to 23 in loam</td>
<td>moderate</td>
<td>2.36 to 2.99 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C -- 23 to 60 in loam</td>
<td>moderate</td>
<td>5.55 to 7.03 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Omsrud, eroded**

<table>
<thead>
<tr>
<th>Extent:</th>
<th>25 percent of the unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landform(s):</td>
<td>hills on moraines</td>
</tr>
<tr>
<td>Slope gradient:</td>
<td>12 to 18 percent</td>
</tr>
<tr>
<td>Parent material:</td>
<td>fine-loamy till</td>
</tr>
<tr>
<td>Restrictive feature(s):</td>
<td>greater than 60 inches</td>
</tr>
<tr>
<td>Flooding:</td>
<td>none</td>
</tr>
<tr>
<td>Ponding:</td>
<td>none</td>
</tr>
<tr>
<td>Drainage class:</td>
<td>well drained</td>
</tr>
</tbody>
</table>

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in loam</td>
<td>moderate</td>
<td>1.57 to 1.73 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw -- 8 to 22 in loam</td>
<td>moderate</td>
<td>2.41 to 2.69 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>Bk -- 22 to 60 in loam</td>
<td>moderate</td>
<td>6.43 to 7.18 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
960D2--Storden-Omsrud complex, 12 to 18 percent slopes, eroded

Hamel

<table>
<thead>
<tr>
<th>Extent</th>
<th>Soil loss tolerance (T factor):</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 percent of the unit</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Landform(s):</th>
<th>Wind erodibility group (WEG):</th>
</tr>
</thead>
<tbody>
<tr>
<td>drainageways</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Slope gradient:</th>
<th>Wind erodibility index (WEI):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parent material:</th>
<th>Kw factor (surface layer)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Restrictive feature(s):</th>
<th>Land capability, nonirrigated:</th>
</tr>
</thead>
<tbody>
<tr>
<td>greater than 60 inches</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flooding:</th>
<th>Hydric soil:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ponding:</th>
<th>Hydrologic group:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drainage class:</th>
<th>Potential for frost action:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This report shows only the major soils in each unit.
Map Unit Description (MN)
Meeker County, Minnesota

978--Cordova-Rolfe, depressional complex, 0 to 2 percent slopes

Cordova

Extent: 60 percent of the unit
Landform(s): swales on moraines
Slope gradient: 0 to 2 percent
Parent material: fine-loamy till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer): .28
Hydric soil: yes
Hydrologic group: C/D
Land capability, nonirrigated: 2w
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A</td>
<td>moderately slow</td>
<td>2.69 to 3.29 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Btg</td>
<td>moderately slow</td>
<td>3.60 to 4.56 in</td>
<td>5.1 to 6.5</td>
</tr>
<tr>
<td>Bkg</td>
<td>moderate</td>
<td>2.92 to 3.34 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Rolfe, depressional

Extent: 30 percent of the unit
Landform(s): depressions
Slope gradient: 0 to 1 percent
Parent material: clayey alluvium over fine-loamy till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer): .32
Hydric soil: yes
Hydrologic group: C/D
Land capability, nonirrigated: 3w
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,AE</td>
<td>moderate</td>
<td>6.15 to 6.71 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>E</td>
<td>slow</td>
<td>1.34 to 1.59 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Btg</td>
<td>moderate</td>
<td>2.76 to 3.15 in</td>
<td>6.1 to 8.4</td>
</tr>
</tbody>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

978--Cordova-Rolfe, depressional complex, 0 to 2 percent slopes

Glencoe

- **Extent**: 10 percent of the unit
- **Landform(s)**: depressions
- **Slope gradient**: 0 to 2 percent
- **Parent material**: Cordova-Rolfe
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: ponding
- **Ponding**: ponding
- **Drainage class**: 10 percent of the unit

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>sand</td>
<td>rapid</td>
<td>0.71 to 1.42 in</td>
<td>6.6 to 7.3</td>
</tr>
<tr>
<td>sand</td>
<td>rapid</td>
<td>2.28 to 3.65 in</td>
<td>6.6 to 7.3</td>
</tr>
<tr>
<td>coarse sand</td>
<td>very rapid</td>
<td>0.60 to 1.00 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

1015--Udipsamments (cut and fill land)

**Udipsamments**

- **Extent**: 85 percent of the unit
- **Landform(s)**: outwash plains
- **Slope gradient**: 0 to 6 percent
- **Parent material**: sandy and gravelly outwash
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: excessively drained

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>sand</td>
<td>rapid</td>
<td>0.71 to 1.42 in</td>
<td>6.6 to 7.3</td>
</tr>
<tr>
<td>sand</td>
<td>rapid</td>
<td>2.28 to 3.65 in</td>
<td>6.6 to 7.3</td>
</tr>
<tr>
<td>coarse sand</td>
<td>very rapid</td>
<td>0.60 to 1.00 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit.
1016--Udorthents, Loamy (cut, and fill land)

Udorthents, loamy

- **Extent:** 85 percent of the unit
- **Landform(s):** moraines
- **Slope gradient:** 0 to 20 percent
- **Parent material:** loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

**Soil loss tolerance (T factor):** 5
**Wind erodibility group (WEG):** 4L
**Wind erodibility index (WEI):** 86
**Kw factor (surface layer):** .37
**Land capability, nonirrigated:** 6e
**Hydric soil:** no
**Hydrologic group:** A
**Potential for frost action:** moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bk -- 0 to 60 in</td>
<td>loam</td>
<td>moderately rapid</td>
<td>4.79 to 8.38 in</td>
<td>6.6 to 9.0</td>
</tr>
<tr>
<td>C -- 60 to 80 in</td>
<td>loam</td>
<td>moderately rapid</td>
<td>1.61 to 2.81 in</td>
<td>6.6 to 9.0</td>
</tr>
</tbody>
</table>
1030--Pits, gravel-Udipsamments complex

**Pits, gravel**

- **Extent**: 50 percent of the unit
- **Landform(s)**: outwash plains
- **Slope gradient**: 0 to 30 percent
- **Parent material**: sandy and gravelly outwash
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**:  

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Udipsamments**

- **Extent**: 50 percent of the unit
- **Landform(s)**: outwash plains
- **Slope gradient**: 0 to 30 percent
- **Parent material**: sandy and gravelly outwash
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: excessively drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bk  --  0 to 14 in</td>
<td>sand</td>
<td>rapid</td>
<td>0.71 to 1.42 in</td>
<td>6.6 to 7.3</td>
</tr>
<tr>
<td>C1  --  14 to 60 in</td>
<td>sand</td>
<td>rapid</td>
<td>2.28 to 3.65 in</td>
<td>6.6 to 7.3</td>
</tr>
<tr>
<td>C2  --  60 to 80 in</td>
<td>coarse sand</td>
<td>very rapid</td>
<td>0.60 to 1.00 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor)**: 5  
**Wind erodibility group (WEG)**: 1  
**Wind erodibility index (WEI)**: 220  
**Kw factor (surface layer)**: .05  
**Land capability, nonirrigated**: 8s  
**Hydric soil**: no  
**Hydrologic group**: A  
**Potential for frost action**: low  

---

This report shows only the major soils in each map unit.

**USDA Natural Resources Conservation Service**

Tabular Data Version: 5  
Tabular Data Version Date: 07/03/2012  
Page 124 of 260
1080--Klossner, Okoboji, and Glencoe soils, ponded, 0 to 1 percent slopes

Klossner, ponded

- **Extent:** 30 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** muck herbaceous organic material over fine-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained
- **Soil loss tolerance (T factor):** 1
- **Wind erodibility group (WEG):** 8
- **Wind erodibility index (WEI):** 0
- **Kw factor (surface layer):** .02
- **Land capability, nonirrigated:** 8w
- **Hydric soil:** yes
- **Hydrologic group:** B/D
- **Potential for frost action:** high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa -- 0 to 25 in</td>
<td>muck</td>
<td>moderately rapid</td>
<td>8.82 to 11.34 in</td>
<td></td>
</tr>
<tr>
<td>2A -- 25 to 60 in</td>
<td>silty clay loam</td>
<td>moderate</td>
<td>4.85 to 7.62 in</td>
<td></td>
</tr>
</tbody>
</table>

Okoboji, ponded

- **Extent:** 30 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** fine-silty alluvium
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 8
- **Wind erodibility index (WEI):** 0
- **Kw factor (surface layer):** .28
- **Land capability, nonirrigated:** 8w
- **Hydric soil:** yes
- **Hydrologic group:** C/D
- **Potential for frost action:** high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1 -- 0 to 10 in</td>
<td>mucky silty clay loam</td>
<td>moderate</td>
<td>2.17 to 2.46 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>A2 -- 10 to 42 in</td>
<td>silty clay loam</td>
<td>moderately slow</td>
<td>5.81 to 6.46 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>Bg -- 42 to 60 in</td>
<td>silty clay loam</td>
<td>moderately slow</td>
<td>3.19 to 3.54 in</td>
<td>6.6 to 7.8</td>
</tr>
</tbody>
</table>
1080--Klossner, Okoboji, and Glencoe soils, ponded, 0 to 1 percent slopes

Glencoe, ponded

- **Extent:** 30 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** fine-loamy alluvium
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained
- Soil loss tolerance (**T factor**): 5
- Wind erodibility group (**WEG**): 8
- Wind erodibility index (**WEI**): 0
- Kw factor (**Kw factor (surface layer)**): > 60 inches
- Soil erodibility index (**WEI**): 0
- Land capability, nonirrigated (**Land capability, nonirrigated**): 8w
- Hydrologic group (**Hydrologic group**): B/D
- Potential for frost action (**Potential for frost action**): high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A -- 0 to 42 in</td>
<td>silty clay loam</td>
<td>moderate</td>
<td>7.58 to 9.27 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bg -- 42 to 50 in</td>
<td>clay loam</td>
<td>moderate</td>
<td>1.18 to 1.50 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>Bkg -- 50 to 60 in</td>
<td>clay loam</td>
<td>moderate</td>
<td>1.48 to 1.87 in</td>
<td>7.4 to 7.8</td>
</tr>
</tbody>
</table>

Canisteo

- **Extent:** 10 percent of the unit
- **Landform(s):** rims
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**
- Soil loss tolerance (**T factor**):
- Wind erodibility group (**WEG**):
- Wind erodibility index (**WEI**):
- Kw factor (**Kw factor (surface layer)**):
- Soil erodibility index (**WEI**):
- Land capability, nonirrigated (**Land capability, nonirrigated**):
- Hydrologic group (**Hydrologic group**):
- Potential for frost action (**Potential for frost action**):

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

1096--Feldon-Dassel, depressional complex, 0 to 2 percent slopes

Feldon

Extent: 70 percent of the unit
Landform(s): flats on outwash plains
Slope gradient: 0 to 2 percent
Parent material: coarse-loamy outwash over sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer): .28
Land capability, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A</td>
<td>0 to 20 in loam</td>
<td>moderately rapid</td>
<td>3.61 to 4.02 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bg</td>
<td>20 to 26 in fine sandy loam</td>
<td>moderately rapid</td>
<td>0.89 to 1.00 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Cg</td>
<td>26 to 60 in stratified fine sand to fine sandy loam</td>
<td>rapid</td>
<td>1.69 to 2.37 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Dassel, depressional

Extent: 20 percent of the unit
Landform(s): depressions on outwash plains
Slope gradient: 0 to 1 percent
Parent material: coarse-loamy outwash over sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer): .28
Land capability, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A</td>
<td>0 to 21 in loam</td>
<td>moderately rapid</td>
<td>3.76 to 5.01 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bg</td>
<td>21 to 32 in stratified loamy fine sand to fine sandy loam</td>
<td>moderately rapid</td>
<td>1.32 to 1.87 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Cg</td>
<td>32 to 60 in stratified fine sand to loamy very fine sand to fine sandy loam</td>
<td>rapid</td>
<td>2.24 to 2.80 in</td>
<td>6.1 to 7.8</td>
</tr>
</tbody>
</table>
1096--Fieldon-Dassel, depressional complex, 0 to 2 percent slopes

Litchfield

- **Extent**: 10 percent of the unit
- **Landform(s)**: outwash plains
- **Slope gradient**: 
- **Parent material**: 
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: 
- **Ponding**: 
- **Drainage class**: 

---

**Representative soil profile**: 

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

---

This report shows only the major soils in each map unit.
1097--Mayer-Biscay, depressional complex, 0 to 2 percent slopes

Mayer

Extent: 70 percent of the unit
Landform(s): flats on outwash plains
Slope gradient: 0 to 2 percent
Parent material: fine-loamy outwash over sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer): .28
Hydric soil: yes
Hydrologic group: B/D
Land capability, nonirrigated: 2w
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A -- 0 to 16 in</td>
<td>moderate</td>
<td>3.23 to 3.55 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bkg -- 16 to 25 in</td>
<td>moderate</td>
<td>1.45 to 1.72 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>2Bkg -- 25 to 60 in</td>
<td>rapid</td>
<td>0.69 to 1.39 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Biscay, depressional

Extent: 20 percent of the unit
Landform(s): depressions on outwash plains
Slope gradient: 0 to 2 percent
Parent material: fine-loamy outwash over sandy outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer): .24
Hydric soil: yes
Hydrologic group: B/D
Land capability, nonirrigated: 3w
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A -- 0 to 20 in</td>
<td>moderate</td>
<td>4.02 to 4.42 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bg -- 20 to 25 in</td>
<td>moderate</td>
<td>0.87 to 0.97 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>2Bg -- 25 to 28 in</td>
<td>moderately rapid</td>
<td>0.30 to 0.47 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>2Bkg -- 28 to 60 in</td>
<td>very rapid</td>
<td>0.64 to 1.28 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
## 1098--Biscay-Biscay, depressional complex, 0 to 2 percent slopes

- **Extent:** percent of the unit
- **Landform(s):**
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):**
- **Flooding:**
- **Ponding:**
- **Drainage class:**
- **Soil loss tolerance (T factor):**
- **Wind erodibility group (WEG):**
- **Wind erodibility index (WEI):**
- **Kw factor (surface layer):**
- **Land capability, nonirrigated:**
- **Hydric soil:**
- **Hydrologic group:**
- **Potential for frost action:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
1099--Granby loamy fine sand, very wet, 0 to 1 percent slopes

Granby, very wet

- **Extent:** 85 percent of the unit
- **Landform(s):** depressions on outwash plains
- **Slope gradient:** 0 to 1 percent
- **Parent material:** coarse-loamy outwash over sandy outwash
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A</td>
<td>rapid</td>
<td>1.18 to 1.42 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bg</td>
<td>rapid</td>
<td>0.61 to 1.46 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>Cg</td>
<td>rapid</td>
<td>1.79 to 3.22 in</td>
<td>6.6 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5
**Wind erodibility group (WEG):** 8
**Wind erodibility index (WEI):** 0

**Hydric soil:** yes
**Hydrologic group:** A/D

**Land capability, nonirrigated:** 5

**Kw factor (surface layer):** greater than 60 inches

**Potential for frost action:** moderate

Darfur

- **Extent:** 5 percent of the unit
- **Landform(s):** flats

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**
Map Unit Description (MN)
Meeker County, Minnesota

1099--Granby loamy fine sand, very wet, 0 to 1 percent slopes

Klossner

- **Extent:** 5 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**
- **Soil loss tolerance (T factor):**
- **Wind erodibility group (WEG):**
- **Wind erodibility index (WEI):**
- **Kw factor (surface layer):**
- **Hydric soil:** yes
- **Land capability, nonirrigated:**
- **Hydrologic group:**
- **Potential for frost action:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

Fieldon

- **Extent:** 5 percent of the unit
- **Landform(s):** flats
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**
- **Soil loss tolerance (T factor):**
- **Wind erodibility group (WEG):**
- **Wind erodibility index (WEI):**
- **Kw factor (surface layer):**
- **Hydric soil:** yes
- **Land capability, nonirrigated:**
- **Hydrologic group:**
- **Potential for frost action:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

1100--Nicollet silty clay loam, 1 to 3 percent slopes

Nicollet

Extent: 85 percent of the unit
Landform(s): rises on moraines
Slope gradient: 1 to 3 percent
Parent material: fine-silty lacustrine deposits over fine-loamy till

Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer): .28

Land capability, nonirrigated: 1
Drainage class: somewhat poorly drained

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A -- 0 to 13 in silty clay loam</td>
<td>moderate</td>
<td>2.21 to 2.86 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw -- 13 to 26 in clay loam</td>
<td>moderate</td>
<td>1.95 to 2.47 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>Bk -- 26 to 60 in clay loam</td>
<td>moderate</td>
<td>4.74 to 6.43 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Webster

Extent: 10 percent of the unit
Landform(s): drainageways

Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:

Soil loss tolerance (T factor): no
Wind erodibility group (WEG): no
Wind erodibility index (WEI): no
Kw factor (surface layer): no

Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high
1100--Nicollet silty clay loam, 1 to 3 percent slopes

Okoboji

Extent: 5 percent of the unit

Landform(s): depressions

Slope gradient:

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding:

Ponding:

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer)

Land capability, nonirrigated:

Hydric soil: yes

Hydrologic group:

Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
1101--Webster silty clay loam, moderately fine substratum, 0 to 2 percent slopes

Webster

- **Extent:** 85 percent of the unit
- **Landform(s):** flats on moraines
- **Slope gradient:** 0 to 2 percent
- **Parent material:** fine-silty lacustrine deposits over fine-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A</td>
<td>moderate</td>
<td>3.59 to 3.97 in</td>
<td>6.6 to 7.3</td>
</tr>
<tr>
<td>Bg</td>
<td>moderate</td>
<td>0.82 to 0.92 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>Bkg</td>
<td>moderate</td>
<td>5.02 to 6.81 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 6

**Wind erodibility index (WEI):** 48

**Kw factor (surface layer):** .28

**Land capability, nonirrigated:** 2w

**Hydric soil:** yes

**Hydrologic group:** B/D

**Potential for frost action:** high

Okoboji

- **Extent:** 10 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
1101--Webster silty clay loam, moderately fine substratum, 0 to 2 percent slopes

Nicollet

- Extent: 5 percent of the unit
- Landform(s): moraines
- Slope gradient:
- Parent material:
- Restrictive feature(s): greater than 60 inches
- Flooding:
- Ponding:
- Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil: no
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
Map Unit Description (MN)
Meeker County, Minnesota

1159B--Strout-Arkton complex, 2 to 6 percent slopes

Strout

Extent: 70 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: thin discontinuous fine textured mantle over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,AB --</td>
<td>0 to 10 in</td>
<td>clay</td>
<td>moderately slow</td>
<td>1.38 to 1.87 in</td>
</tr>
<tr>
<td>Bw --</td>
<td>10 to 24 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>1.70 to 2.55 in</td>
</tr>
<tr>
<td>Bk --</td>
<td>24 to 80 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>5.59 to 8.39 in</td>
</tr>
</tbody>
</table>

 Arkton

Extent: 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 4 to 6 percent
Parent material: thin discontinuous fine textured mantle over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap --</td>
<td>0 to 9 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>1.36 to 1.72 in</td>
</tr>
<tr>
<td>Bk1 --</td>
<td>9 to 25 in</td>
<td>clay</td>
<td>moderately slow</td>
<td>1.61 to 3.07 in</td>
</tr>
<tr>
<td>Bk2 --</td>
<td>25 to 80 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>5.47 to 8.21 in</td>
</tr>
</tbody>
</table>

 Soil loss tolerance (T factor): 5
Wind erosibility group (WEG): 4
Wind erosibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 2e
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Potential for frost action: high

This report shows only the major soils in each map unit
1159B--Strout-Arktont complex, 2 to 6 percent slopes

Lura

**Extent:** 5 percent of the unit

**Landform(s):** depressions

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Soil</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

Cosmos

**Extent:** 5 percent of the unit

**Landform(s):** drainageways

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Soil</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
1162A--Kandiyohi clay, 0 to 2 percent slopes

Kandiyohi

<table>
<thead>
<tr>
<th>Extent</th>
<th>80 percent of the unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landform(s)</td>
<td>flats on moraines, rises on moraines</td>
</tr>
<tr>
<td>Slope gradient</td>
<td>0 to 2 percent</td>
</tr>
<tr>
<td>Parent material</td>
<td>fine textured mantle over firm till</td>
</tr>
<tr>
<td>Restrictive features</td>
<td>greater than 60 inches</td>
</tr>
<tr>
<td>Flooding</td>
<td>none</td>
</tr>
<tr>
<td>Ponding</td>
<td>none</td>
</tr>
<tr>
<td>Drainage class</td>
<td>somewhat poorly drained</td>
</tr>
</tbody>
</table>

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4
Wind erodibility index (WEI): 86
Kw factor (surface layer): .20
Land capability, nonirrigated: 2w

Hydric soil: no
Hydrologic group: C/D
Potential for frost action: high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 10 in</td>
<td>clay</td>
<td>moderately slow</td>
<td>1.57 to 2.17 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bw -- 10 to 23 in</td>
<td>clay</td>
<td>moderately slow</td>
<td>1.82 to 2.47 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bkg -- 23 to 29 in</td>
<td>clay</td>
<td>moderately slow</td>
<td>0.82 to 1.20 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>2Bkg -- 29 to 80 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>5.08 to 7.62 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Lura

<table>
<thead>
<tr>
<th>Extent</th>
<th>10 percent of the unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landform(s)</td>
<td>depressions</td>
</tr>
<tr>
<td>Slope gradient</td>
<td></td>
</tr>
<tr>
<td>Parent material</td>
<td></td>
</tr>
<tr>
<td>Restrictive features</td>
<td>greater than 60 inches</td>
</tr>
<tr>
<td>Flooding</td>
<td></td>
</tr>
<tr>
<td>Ponding</td>
<td></td>
</tr>
<tr>
<td>Drainage class</td>
<td></td>
</tr>
</tbody>
</table>

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4
Wind erodibility index (WEI): 86
Kw factor (surface layer): .20
Land capability, nonirrigated: 2w

Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1162A--Kandiyohi clay, 0 to 2 percent slopes

Cosmos

| Extent: | 10 percent of the unit |
| Landform(s): | drainageways |
| Slope gradient: | |
| Parent material: | |
| Restrictive feature(s): | greater than 60 inches |
| Flooding: | |
| Ponding: | |
| Drainage class: | |

| Soil loss tolerance (T factor): | Wind erodibility group (WEG): |
| Wind erodibility index (WEI): | Kw factor (surface layer) |
| Land capability, nonirrigated: | Hydric soil: yes |
| Hydrologic group: | Potential for frost action: |

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
1162B--Kandiyohi clay, 2 to 5 percent slopes

Kandiyohi

Extent: 80 percent of the unit

Landform(s): hills on moraines

Slope gradient: 2 to 5 percent

Parent material: fine textured mantle over firm till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw factor (surface layer): .20

Land capability, nonirrigated: 2e

Hydric soil: no

Hydrologic group: C/D

Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap --</td>
<td>moderately slow</td>
<td>1.57 to 2.17 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bw --</td>
<td>moderately slow</td>
<td>1.82 to 2.47 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bkg --</td>
<td>moderately slow</td>
<td>0.82 to 1.20 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>2Bkg --</td>
<td>moderately slow</td>
<td>5.08 to 7.62 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Lura

Extent: 10 percent of the unit

Landform(s): depressions

Slope gradient:

Parent material:

Restrictive feature(s): greater than 60 inches

Flooding:

Ponding:

Drainage class: 

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw factor (surface layer):

Land capability, nonirrigated:

Hydric soil: yes

Hydrologic group:

Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
1162B--Kandiyohi clay, 2 to 5 percent slopes

Cosmos

- **Extent:** 10 percent of the unit
- **Landform(s):** drainageways
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

### Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

---

This report shows only the major soils in each map unit.
1163--Cohoctah loam, 0 to 2 percent slopes, frequently flooded

Cohoctah, frequently flooded

- **Extent**: 90 percent of the unit
- **Landform(s)**: flood plains
- **Slope gradient**: 0 to 2 percent
- **Parent material**: coarse-loamy alluvium
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: frequent
- **Ponding**: none
- **Drainage class**: poorly drained

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A -- 0 to 17 in</td>
<td>loam</td>
<td>moderately rapid</td>
<td>3.05 to 4.06 in</td>
</tr>
<tr>
<td>Cg1 -- 17 to 22 in</td>
<td>loam</td>
<td>moderately rapid</td>
<td>0.61 to 1.02 in</td>
</tr>
<tr>
<td>Cg2 -- 22 to 60 in</td>
<td>stratified sand to loamy fine sand to fine sandy loam</td>
<td>very rapid</td>
<td>2.27 to 3.40 in</td>
</tr>
</tbody>
</table>

**Havelock**

- **Extent**: 10 percent of the unit
- **Landform(s)**: flood plains
- **Parent material**: coarse-loamy alluvium
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: frequent
- **Ponding**: none
- **Drainage class**: poorly drained

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
1165--Lundlake silty clay loam, depressional, 0 to 1 percent slopes

Lundlake, depressional

**Extent:** 85 percent of the unit

**Landform(s):** depressions on moraines

**Slope gradient:** 0 to 1 percent

**Parent material:** fine-loamy alluvium

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** frequent

**Drainage class:** very poorly drained

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 6

**Wind erodibility index (WEI):** 48

**Kw factor (surface layer):** .28

**Land capability, nonirrigated:** 3w

**Hydric soil:** yes

**Hydrologic group:** B/D

**Potential for frost action:** high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A --</td>
<td>moderate</td>
<td>2.41 to 3.12 in</td>
<td>6.6</td>
</tr>
<tr>
<td>AB --</td>
<td>moderate</td>
<td>3.55 to 4.59 in</td>
<td>6.6</td>
</tr>
<tr>
<td>Bg --</td>
<td>moderate</td>
<td>1.77 to 2.24 in</td>
<td>6.6</td>
</tr>
<tr>
<td>Bkg --</td>
<td>moderately rapid</td>
<td>1.30 to 1.95 in</td>
<td>7.4</td>
</tr>
</tbody>
</table>

Swedegrove

**Extent:** 10 percent of the unit

**Landform(s):** rims

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
1165--Lundlake silty clay loam, depressional, 0 to 1 percent slopes

**Grovecity**

- **Extent**: 5 percent of the unit
- **Landform(s)**: moraines
- **Slope gradient**:
- **Parent material**:
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**:
- **Ponding**:
- **Drainage class**:

<table>
<thead>
<tr>
<th><strong>Representative soil profile</strong></th>
<th><strong>Texture</strong></th>
<th><strong>Permeability</strong></th>
<th><strong>Available water capacity</strong></th>
<th><strong>pH</strong></th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor)**: 

**Wind erodibility group (WEG)**: 

**Wind erodibility index (WEI)**: 

**Kw factor (surface layer)**: 

**Land capability, nonirrigated**:

**Hydric soil**: no

**Hydrologic group**:

**Potential for frost action**:

This report shows only the major soils in each map unit.
**Map Unit Description (MN)**
*Meeker County, Minnesota*

### 1169--Corvuso-Lura, depressional complex, 0 to 2 percent slopes

**Corvuso**
- **Extent**: 60 percent of the unit
- **Landform(s)**: rims on depressions on moraines, flats on moraines
- **Slope gradient**: 0 to 2 percent
- **Parent material**: fine textured mantle over firm till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Soil loss tolerance (T factor)**: 5
- **Wind erodibility group (WEG)**: 4L
- **Wind erodibility index (WEI)**: 86
- **Kw factor (surface layer)**: 0.20
- **Land capability, nonirrigated**: 2w
- **Hydrologic group**: C/D
- **Potential for frost action**: high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 11 in</td>
<td>moderately slow</td>
<td>1.54 to 2.43 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bkg -- 11 to 28 in</td>
<td>moderately slow</td>
<td>2.20 to 3.22 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>2BCg -- 28 to 80 in</td>
<td>moderately slow</td>
<td>6.76 to 9.87 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Lura, depressional**
- **Extent**: 30 percent of the unit
- **Landform(s)**: depressions on moraines
- **Slope gradient**: 0 to 1 percent
- **Parent material**: clayey lacustrine sediments over firm till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Soil loss tolerance (T factor)**: 5
- **Wind erodibility group (WEG)**: 4
- **Wind erodibility index (WEI)**: 86
- **Kw factor (surface layer)**: 0.24
- **Hydrologic group**: C/D
- **Potential for frost action**: high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A -- 0 to 24 in</td>
<td>slow</td>
<td>3.36 to 4.08 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bg -- 24 to 31 in</td>
<td>slow</td>
<td>0.99 to 1.20 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bkg -- 31 to 60 in</td>
<td>moderately slow</td>
<td>3.16 to 5.46 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>2BCg -- 60 to 80 in</td>
<td>moderately slow</td>
<td>2.61 to 3.81 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
1169--Corvuso-Lura, depressional complex, 0 to 2 percent slopes

Kandiyohi

- **Extent:** 10 percent of the unit
- **Landform(s):** moraines
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

- **Soil loss tolerance (T factor):**
- **Wind erodibility group (WEG):**
- **Wind erodibility index (WEI):**
- **Kw factor (surface layer):**
- **Land capability, nonirrigated:**
- **Hydric soil:** no
- **Hydrologic group:**
- **Potential for frost action:**

This report shows only the major soils in each map unit.
Map Unit Description (MN)
Meeker County, Minnesota

1171C--Newlondon-Strout complex, 6 to 12 percent slopes, eroded

Newlondon, eroded

Extent: 45 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: thin discontinuous fine textured mantle over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24
Land capability, nonirrigated: 3e
Hydrologic group: C
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap - -</td>
<td>0 to 7 in</td>
<td>moderately slow</td>
<td>1.13 to 1.28 in 6.6 to 7.8</td>
</tr>
<tr>
<td>Bk - -</td>
<td>7 to 38 in</td>
<td>moderately slow</td>
<td>3.11 to 4.67 in 7.4 to 8.4</td>
</tr>
<tr>
<td>BC - -</td>
<td>38 to 80 in</td>
<td>moderately slow</td>
<td>5.43 to 7.93 in 7.4 to 8.4</td>
</tr>
</tbody>
</table>

Strout, eroded

Extent: 45 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: thin discontinuous fine textured mantle over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 3e
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap - -</td>
<td>0 to 9 in</td>
<td>moderately slow</td>
<td>1.27 to 1.72 in 6.1 to 7.3</td>
</tr>
<tr>
<td>Bw - -</td>
<td>9 to 23 in</td>
<td>moderately slow</td>
<td>1.65 to 2.48 in 5.6 to 7.3</td>
</tr>
<tr>
<td>BC - -</td>
<td>23 to 80 in</td>
<td>moderately slow</td>
<td>7.42 to 10.85 in 7.4 to 8.4</td>
</tr>
</tbody>
</table>
1171C--Newlondon-Strout complex, 6 to 12 percent slopes, eroded

**Danielson**

- **Extent:** 10 percent of the unit
- **Landform(s):** drainageways
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

---

Map Unit Description (MN)
Meeker County, Minnesota

---

This report shows only the major soils in each map unit.

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USDA Natural Resources Conservation Service

Tabular Data Version: 5
Tabular Data Version Date: 07/03/2012

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Map Unit Description (MN)
Meeker County, Minnesota

1172C--Sparta-Gardencity complex, 6 to 12 percent slopes

**Sparta**
- **Extent:** 70 percent of the unit
- **Landform(s):** outwash plains
- **Slope gradient:** 6 to 12 percent
- **Parent material:** sandy outwash
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** excessively drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A</td>
<td>0 to 18 in loamy sand</td>
<td>moderately rapid</td>
<td>1.63 to 2.17 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>Bw</td>
<td>18 to 55 in loamy fine sand</td>
<td>rapid</td>
<td>1.85 to 4.07 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>C</td>
<td>55 to 60 in sand</td>
<td>rapid</td>
<td>0.19 to 0.33 in</td>
<td>5.1 to 7.8</td>
</tr>
</tbody>
</table>

**Gardencity**
- **Extent:** 20 percent of the unit
- **Landform(s):** outwash plains
- **Slope gradient:** 6 to 12 percent
- **Parent material:** coarse-loamy glaciolacustrine deposits
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 7 in fine sandy loam</td>
<td>moderately rapid</td>
<td>1.13 to 1.42 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bw</td>
<td>7 to 24 in stratified fine sand to very fine sandy loam</td>
<td>moderately rapid</td>
<td>1.86 to 2.88 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>C</td>
<td>24 to 60 in stratified fine sand to silt loam</td>
<td>moderately rapid</td>
<td>3.58 to 6.09 in</td>
<td>6.1 to 8.4</td>
</tr>
</tbody>
</table>
1172C--Sparta-Gardencity complex, 6 to 12 percent slopes

**Darfur**

*Extent*: 10 percent of the unit  
*Landform(s)*: drainageways  
*Slope gradient*:  
*Parent material*:  
*Restrictive feature(s)*: greater than 60 inches  
*Flooding*:  
*Ponding*:  
*Drainage class*:  

*Soil loss tolerance (T factor)*:  
*Wind erodibility group (WEG)*:  
*Wind erodibility index (WEI)*:  
*Kw factor (surface layer)*:  
*Land capability, nonirrigated*:  
*Hydric soil*: yes  
*Hydrologic group*:  
*Potential for frost action*:  

**Representative soil profile**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
Map Unit Description (MN)
Meeker County, Minnesota

1173--Muskego and Klossner soils, depressional, 0 to 1 percent slopes, frequently flooded

**Muskego, frequently flooded**

- **Extent**: 45 percent of the unit
- **Landform(s)**: flood plains
- **Slope gradient**: 0 to 1 percent
- **Parent material**: muck herbaceous organic material over coprogenic material
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: frequent
- **Ponding**: frequent
- **Drainage class**: very poorly drained
- **Soil loss tolerance (T factor)**: 1
- **Wind erodibility group (WEG)**: 8
- **Wind erodibility index (WEI)**: 0
- **Kw factor (surface layer)**: 0.02
- **Land capability, nonirrigated**: 8w
- **Hydric soil**: yes
- **Hydrologic group**: A/D
- **Potential for frost action**: high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa --</td>
<td>0 to 45 in</td>
<td>moderately rapid</td>
<td>15.71 to 20.20 in</td>
</tr>
<tr>
<td>Lco --</td>
<td>45 to 60 in</td>
<td>slow</td>
<td>2.99 to 3.74 in</td>
</tr>
</tbody>
</table>

**Klossner, frequently flooded**

- **Extent**: 45 percent of the unit
- **Landform(s)**: flood plains
- **Slope gradient**: 0 to 1 percent
- **Parent material**: muck herbaceous organic material over fine-loamy till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: frequent
- **Ponding**: frequent
- **Drainage class**: very poorly drained
- **Soil loss tolerance (T factor)**: 1
- **Wind erodibility group (WEG)**: 8
- **Wind erodibility index (WEI)**: 0
- **Kw factor (surface layer)**: 0.02
- **Land capability, nonirrigated**: 8w
- **Hydric soil**: yes
- **Hydrologic group**: B/D
- **Potential for frost action**: high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa --</td>
<td>0 to 22 in</td>
<td>moderately rapid</td>
<td>7.72 to 10.58 in</td>
</tr>
<tr>
<td>2A --</td>
<td>22 to 45 in</td>
<td>moderate</td>
<td>5.02 to 5.94 in</td>
</tr>
<tr>
<td>2Bg --</td>
<td>45 to 60 in</td>
<td>moderate</td>
<td>2.69 to 3.29 in</td>
</tr>
</tbody>
</table>
### Map Unit Description (MN)

**Meeker County, Minnesota**

#### 1173--Muskego and Klossner soils, depressional, 0 to 1 percent slopes, frequently flooded

**Calco**

- **Extent:** 5 percent of the unit
- **Landform(s):** flood plains
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:**

**Hydrologic group:**

**Potential for frost action:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Okoboji**

- **Extent:** 5 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:**

**Hydrologic group:**

**Potential for frost action:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
1174--Danielson clay loam, 1 to 3 percent slopes

Danielson

- **Extent**: 85 percent of the unit
- **Landform(s)**: drainageways on moraines, swales on moraines
- **Slope gradient**: 1 to 3 percent
- **Parent material**: colluvium and fine textured mantle over firm till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: poorly drained

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap --</td>
<td>moderately slow</td>
<td>1.36 to 1.99 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>A1,A2,AB</td>
<td>moderately slow</td>
<td>3.75 to 5.09 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bg1 --</td>
<td>moderately slow</td>
<td>1.07 to 2.92 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>2Bg2 --</td>
<td>slow</td>
<td>2.01 to 5.17 in</td>
<td>6.6 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor)**: 5
**Wind erodibility group (WEG)**: 4
**Wind erodibility index (WEI)**: 86
**Kw factor (surface layer)**: .20

**Land capability, nonirrigated**: 2w

---

Lura

- **Extent**: 10 percent of the unit
- **Landform(s)**: depressions
- **Slope gradient**: 
- **Parent material**: 
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: 
- **Ponding**: 
- **Drainage class**: 

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lura</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1174--Danielson clay loam, 1 to 3 percent slopes

Strout

- **Extent:** 5 percent of the unit
- **Landform(s):** moraines
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

- **Soil loss tolerance (T factor):**
- **Wind erodibility group (WEG):**
- **Wind erodibility index (WEI):**
- **Kw factor (surface layer):**
- **Land capability, nonirrigated:**
- **Hydric soil:** no
- **Hydrologic group:**
- **Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
1175--Swedegrove loam, 0 to 2 percent slopes

Swedegrove

- **Extent:** 90 percent of the unit
- **Landform(s):** flats on moraines
- **Slope gradient:** 0 to 2 percent
- **Parent material:** coarse-loamy till
- **Restrictive feature(s):** greater than 60 inches
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 4L
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** .28
- **Land capability, nonirrigated:** 2w
- **Hydric soil:** yes
- **Hydrologic group:** A/D
- **Potential for frost action:** high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14 in</td>
<td>loam</td>
<td>moderately rapid</td>
<td>2.27 to 2.83 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>14-20 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>0.83 to 1.06 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>20-60 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>3.98 to 5.96 in</td>
<td>7.4 to 7.8</td>
</tr>
</tbody>
</table>

Lundlake

- **Extent:** 10 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Soil loss tolerance (T factor):**
- **Wind erodibility group (WEG):**
- **Wind erodibility index (WEI):**
- **Kw factor (surface layer):**
- **Land capability, nonirrigated:**
- **Hydric soil:** yes
- **Hydrologic group:**
- **Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
1176--Litchfield sandy loam, 0 to 2 percent slopes

**Litchfield**

- **Extent**: 85 percent of the unit
- **Landform(s)**: outwash plains
- **Slope gradient**: 0 to 2 percent
- **Parent material**: sandy outwash
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: moderately well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A -- 0 to 17 in sandy loam</td>
<td>moderately rapid</td>
<td>2.20 to 2.54 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bw -- 17 to 33 in loamy sand</td>
<td>rapid</td>
<td>1.45 to 1.78 in</td>
<td>6.6 to 7.3</td>
</tr>
<tr>
<td>Cg -- 33 to 60 in sand</td>
<td>rapid</td>
<td>1.34 to 1.87 in</td>
<td>6.6 to 7.3</td>
</tr>
</tbody>
</table>

**Darfur**

- **Extent**: 10 percent of the unit
- **Landform(s)**: drainageways
- **Slope gradient**:
- **Parent material**:
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**:
- **Ponding**:
- **Drainage class**:

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1176--Litchfield sandy loam, 0 to 2 percent slopes

Dassel

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extent</td>
<td>5 percent of the unit</td>
</tr>
<tr>
<td>Landform(s)</td>
<td>depressions</td>
</tr>
<tr>
<td>Slope gradient</td>
<td></td>
</tr>
<tr>
<td>Parent material</td>
<td></td>
</tr>
<tr>
<td>Restrictive feature(s)</td>
<td>greater than 60 inches</td>
</tr>
<tr>
<td>Flooding</td>
<td></td>
</tr>
<tr>
<td>Ponding</td>
<td></td>
</tr>
<tr>
<td>Drainage class</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>T factor:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soil loss tolerance</td>
<td></td>
</tr>
<tr>
<td>Wind erodibility group (WEG)</td>
<td></td>
</tr>
<tr>
<td>Wind erodibility index (WEI)</td>
<td></td>
</tr>
<tr>
<td>Kw factor (surface layer)</td>
<td></td>
</tr>
<tr>
<td>Land capability, nonirrigated</td>
<td>yes</td>
</tr>
<tr>
<td>Hydric soil</td>
<td>yes</td>
</tr>
<tr>
<td>Hydrologic group</td>
<td></td>
</tr>
<tr>
<td>Potential for frost action</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
1177C--Gardencity-Bold complex, 6 to 12 percent slopes, eroded

**Gardencity, eroded**

- **Extent:** 70 percent of the unit
- **Landform(s):** hills on lake plains
- **Slope gradient:** 6 to 12 percent
- **Parent material:** coarse-loamy glaciolacustrine deposits
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A -- 0 to 13 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>2.08 to 2.60 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bw -- 13 to 25 in</td>
<td>very fine sandy loam</td>
<td>moderately rapid</td>
<td>1.34 to 2.07 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>C -- 25 to 60 in</td>
<td>stratified fine sand to silt loam</td>
<td>moderately rapid</td>
<td>3.46 to 5.89 in</td>
<td>6.1 to 8.4</td>
</tr>
</tbody>
</table>

**Bold, eroded**

- **Extent:** 20 percent of the unit
- **Landform(s):** hills on lake plains
- **Slope gradient:** 6 to 12 percent
- **Parent material:** coarse-silty lacustrine deposits
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 7 in</td>
<td>silt loam</td>
<td>moderate</td>
<td>1.49 to 1.70 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bk -- 7 to 60 in</td>
<td>silt loam</td>
<td>moderate</td>
<td>10.55 to 12.66 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

1177C--Gardencity-Bold complex, 6 to 12 percent slopes, eroded

Darfur

Extent: 5 percent of the unit
Landform(s): drainageways
Slope gradient: 
Parent material: 
Restrictive feature(s): greater than 60 inches
Flooding: 
Ponding: 
Drainage class: 

Soil loss tolerance (T factor): 
Wind erodibility group (WEG): 
Wind erodibility index (WEI): 
Kw factor (surface layer): 
Land capability, nonirrigated: 
Hydric soil: yes 
Hydrologic group: 
Potential for frost action: 

Representative soil profile: 
Texture | Permeability | Available water capacity | pH

Madelia

Extent: 5 percent of the unit
Landform(s): drainageways
Slope gradient: 
Parent material: 
Restrictive feature(s): greater than 60 inches
Flooding: 
Ponding: 
Drainage class: 

Soil loss tolerance (T factor): 
Wind erodibility group (WEG): 
Wind erodibility index (WEI): 
Kw factor (surface layer): 
Land capability, nonirrigated: 
Hydric soil: yes 
Hydrologic group: 
Potential for frost action: 

Representative soil profile: 
Texture | Permeability | Available water capacity | pH
Map Unit Description (MN)
Meeker County, Minnesota

1178--Uniongrove loam, 0 to 2 percent slopes

Uniongrove

Extent: 85 percent of the unit
Landform(s): swales on moraines
Slope gradient: 0 to 2 percent
Parent material: coarse-loamy till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer): .24
Land capability, nonirrigated: 2w
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A --</td>
<td>0 to 16 in loam</td>
<td>moderately rapid</td>
<td>3.23 to 3.55 in</td>
</tr>
<tr>
<td>Bg --</td>
<td>16 to 30 in loam</td>
<td>moderately rapid</td>
<td>2.07 to 2.62 in</td>
</tr>
<tr>
<td>Cg --</td>
<td>30 to 60 in sandy loam</td>
<td>moderately rapid</td>
<td>2.99 to 4.49 in</td>
</tr>
</tbody>
</table>

Lundlake

Extent: 10 percent of the unit
Landform(s): depressions
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer):
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1178--Uniongrove loam, 0 to 2 percent slopes

**Swedegrove**

- **Extent:** 5 percent of the unit
- **Landform(s):** rims
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**
### 1184--Corvuso silty clay loam, 0 to 2 percent slopes

**Corvuso**

- **Extent:** 85 percent of the unit
- **Landform(s):** rims on depressions on moraines, flats on moraines
- **Slope gradient:** 0 to 2 percent
- **Parent material:** fine textured mantle over firm till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 11 in clay loam</td>
<td>moderately slow</td>
<td>1.54 to 2.43 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bkg -- 11 to 28 in clay</td>
<td>moderately slow</td>
<td>2.20 to 3.22 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>2BCg -- 28 to 80 in clay loam</td>
<td>moderately slow</td>
<td>6.76 to 9.87 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 4L

**Wind erodibility index (WEI):** 86

**Kw factor (surface layer):** > 60 inches

**Hydric soil:** yes

**Hydrologic group:** C/D

**Potential for frost action:** high

### Cosmos

- **Extent:** 10 percent of the unit
- **Landform(s):** drainageways
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
1184--Corvuso silty clay loam, 0 to 2 percent slopes
Lura

- **Extent:** 5 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Potential for frost action:**

---

This report shows only the major soils in each map unit
1185--Gardencity fine sandy loam, moderately wet, 0 to 2 percent slopes

Gardencity, moderately wet

- **Extent**: 85 percent of the unit
- **Landform(s)**: outwash plains
- **Slope gradient**: 0 to 2 percent
- **Parent material**: coarse-loamy glaciolacustrine deposits
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: moderately well drained
- **Soil loss tolerance (T factor)**: 5
- **Wind erodibility group (WEG)**: 3
- **Wind erodibility index (WEI)**: 86
- **Land capability, nonirrigated**: 1
- **Hydrologic group**: B
- **Potential for frost action**: high

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 19 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>3.02 to 3.78 in</td>
<td>6.6 to 7.3</td>
</tr>
<tr>
<td>19 to 24 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>0.56 to 0.87 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>24 to 60 in</td>
<td>stratified loamy fine sand to silt loam</td>
<td>moderately rapid</td>
<td>3.58 to 6.09 in</td>
<td>6.6 to 8.4</td>
</tr>
</tbody>
</table>

Darfur

- **Extent**: 10 percent of the unit
- **Landform(s)**: drainageways
- **Parent material**: Coarse-loamy glaciolacustrine deposits
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: moderately well drained
- **Soil loss tolerance (T factor)**: 5
- **Wind erodibility group (WEG)**: 3
- **Wind erodibility index (WEI)**: 86
- **Land capability, nonirrigated**: 1
- **Hydrologic group**: B
- **Potential for frost action**: high

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit.
1185--Gardencity fine sandy loam, moderately wet, 0 to 2 percent slopes

**Dassel**

- **Extent:** 5 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

---

This report shows only the major soils in each map unit.
1193--Cosmos silty clay, 0 to 2 percent slopes

Cosmos

**Extent:** 85 percent of the unit

**Landform(s):** flats on moraines, swales on moraines

**Slope gradient:** 0 to 2 percent

**Parent material:** fine textured mantle over firm till

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** poorly drained

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 4

**Wind erodibility index (WEI):** 86

**Kw factor (surface layer):** .28

**Land capability, nonirrigated:** 2w

**Hydric soil:** yes

**Hydrologic group:** C/D

**Potential for frost action:** high

### Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A,Abg</td>
<td>slow</td>
<td>2.39 to 3.29 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Btg</td>
<td>slow</td>
<td>2.09 to 2.84 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bhkg</td>
<td>moderately slow</td>
<td>0.65 to 1.12 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>2Bkg</td>
<td>moderately slow</td>
<td>4.41 to 6.61 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Lura

**Extent:** 10 percent of the unit

**Landform(s):** depressions

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

### Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
1193--Cosmos silty clay, 0 to 2 percent slopes

Corvuso

- **Extent:** 5 percent of the unit
- **Landform(s):** rims
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Map Unit Description (MN)**

Meeker County, Minnesota

---

This report shows only the major soils in each map unit.
1197--Cohoctah fine sandy loam, 0 to 2 percent slopes, occasionally flooded

Cohoctah, occasionally flooded

Extent: 90 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 2 percent
Parent material: coarse-loamy alluvium
Restrictive feature(s): greater than 60 inches
Flooding: occasional
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer): .20
Land capability, nonirrigated: 2w
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A -- 0 to 21  in</td>
<td>moderately rapid</td>
<td>2.71 to 4.59 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>A2 -- 21 to 36 in</td>
<td>moderately rapid</td>
<td>1.80 to 2.99 in</td>
<td>6.1 to 8.4</td>
</tr>
<tr>
<td>Cg -- 36 to 60 in</td>
<td>moderately rapid</td>
<td>1.92 to 4.80 in</td>
<td>6.1 to 8.4</td>
</tr>
</tbody>
</table>

Havelock

Extent: 10 percent of the unit
Landform(s): flood plains
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer):
Land capability, nonirrigated:
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
1203--Muskego, Blue Earth, and Houghton soils, ponded

**Muskego, ponded**

- **Extent:** 30 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** muck herbaceous organic material over coprogenic material
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa1 -- 0 to 10 in muck</td>
<td>moderately rapid</td>
<td>3.44 to 4.43 in</td>
<td></td>
</tr>
<tr>
<td>Oa2 -- 10 to 29 in muck</td>
<td>moderately rapid</td>
<td>6.75 to 8.68 in</td>
<td></td>
</tr>
<tr>
<td>Lco -- 29 to 60 in mucky silt loam</td>
<td>slow</td>
<td>5.53 to 7.37 in</td>
<td></td>
</tr>
</tbody>
</table>

**Blue Earth, ponded**

- **Extent:** 30 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** fine-silty coprogenic material
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A -- 0 to 50 in mucky silt loam</td>
<td>moderate</td>
<td>9.00 to 12.00 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>2Cg -- 50 to 60 in mucky silt loam</td>
<td>moderate</td>
<td>1.77 to 2.36 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
1203--Muskego, Blue Earth, and Houghton soils, ponded

Houghton, ponded

Extent: 30 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: muck herbaceous organic material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer): .02
Land capability, nonirrigated: 8w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile: Permeability | Available water capacity | pH
Oa -- 0 to 60 in muck | moderately rapid | 20.94 to 26.93 in

Okoboji

Extent: 10 percent of the unit
Landform(s): depressions
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor): 
Wind erodibility group (WEG): 
Wind erodibility index (WEI): 
Kw factor (surface layer) 
Land capability, nonirrigated: 
Hydric soil: yes 
Hydrologic group: 
Potential for frost action: 

Representative soil profile: Texture | Permeability | Available water capacity | pH
Oa -- 0 to 60 in muck | | |
1204B--Reedslake loam, 2 to 5 percent slopes

Reedslake

Extent: 85 percent of the unit

Landform(s): hills on moraines

Slope gradient: 2 to 5 percent

Parent material: fine-loamy till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw factor (surface layer): .28

Land capability, nonirrigated: 2e

Hydrologic group: B

Potential for frost action: moderate

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A -- 0 to 12 in loam</td>
<td>moderate</td>
<td>2.36 to 2.60 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt -- 12 to 26 in clay loam</td>
<td>moderate</td>
<td>2.13 to 2.69 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk,C -- 26 to 60 in loam</td>
<td>moderate</td>
<td>4.74 to 6.09 in</td>
<td>7.4 to 7.8</td>
</tr>
</tbody>
</table>

Cordova

Extent: 10 percent of the unit

Landform(s): drainageways

Slope gradient: 

Parent material: 

Restrictive feature(s): greater than 60 inches

Flooding: 

Ponding: 

Drainage class: 

Hydric soil: yes

Hydrologic group: 

Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
1204B--Reedslake loam, 2 to 5 percent slopes

Glencoe

Extent: 5 percent of the unit
Landform(s): depressions
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:
Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer)
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile:  

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
Map Unit Description (MN)
Meeker County, Minnesota

1213C--Cokato-Storden complex, 6 to 12 percent slopes, eroded

Cokato, eroded

- **Extent**: 70 percent of the unit
- **Landform(s)**: hills on moraines
- **Slope gradient**: 6 to 12 percent
- **Parent material**: fine-loamy till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: well drained
- **Soil loss tolerance (T factor)**: 5
- **Wind erodibility group (WEG)**: 6
- **Wind erodibility index (WEI)**: 48
- **Kw factor (surface layer)**: .24
- **Land capability, nonirrigated**: 3e
- **Hydrologic group**: B
- **Potential for frost action**: moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A -- 0 to 16 in</td>
<td>loam</td>
<td>moderate</td>
<td>3.23 to 3.55 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt -- 16 to 41 in</td>
<td>clay loam</td>
<td>moderate</td>
<td>3.72 to 4.71 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk,C -- 41 to 60 in</td>
<td>loam</td>
<td>moderate</td>
<td>2.65 to 3.40 in</td>
<td>7.4 to 7.8</td>
</tr>
</tbody>
</table>

Storden, eroded

- **Extent**: 20 percent of the unit
- **Landform(s)**: hills on moraines
- **Slope gradient**: 6 to 12 percent
- **Parent material**: fine-loamy till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: well drained
- **Soil loss tolerance (T factor)**: 5
- **Wind erodibility group (WEG)**: 4L
- **Wind erodibility index (WEI)**: 86
- **Kw factor (surface layer)**: .32
- **Land capability, nonirrigated**: 3e
- **Hydrologic group**: B
- **Potential for frost action**: moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 9 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.81 to 1.99 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bk -- 9 to 18 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.36 to 1.72 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C -- 18 to 60 in</td>
<td>loam</td>
<td>moderate</td>
<td>6.26 to 7.93 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
1213C--Cokato-Storden complex, 6 to 12 percent slopes, eroded

**Glencoe**

- **Extent:** 5 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

<table>
<thead>
<tr>
<th>Soil loss tolerance (T factor):</th>
<th>Wind erodibility group (WEG):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wind erodibility index (WEI):</td>
</tr>
<tr>
<td></td>
<td>Kw factor (surface layer)</td>
</tr>
<tr>
<td></td>
<td>Land capability, nonirrigated:</td>
</tr>
<tr>
<td></td>
<td>Hydrologic group:</td>
</tr>
<tr>
<td></td>
<td>Potential for frost action:</td>
</tr>
</tbody>
</table>

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Hamel**

- **Extent:** 5 percent of the unit
- **Landform(s):** drainageways
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

<table>
<thead>
<tr>
<th>Soil loss tolerance (T factor):</th>
<th>Wind erodibility group (WEG):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wind erodibility index (WEI):</td>
</tr>
<tr>
<td></td>
<td>Kw factor (surface layer)</td>
</tr>
<tr>
<td></td>
<td>Land capability, nonirrigated:</td>
</tr>
<tr>
<td></td>
<td>Hydrologic group:</td>
</tr>
<tr>
<td></td>
<td>Potential for frost action:</td>
</tr>
</tbody>
</table>

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
1220C--Cokato-Storden-Hawick complex, 6 to 12 percent slopes, eroded

Cokato, eroded

Extent: 55 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: fine-loamy till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer): .24
Land capability, nonirrigated: 3e
Hydrologic group: B
Potential for frost action: moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 10 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.97 to 2.17 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt -- 10 to 29 in</td>
<td>clay loam</td>
<td>moderate</td>
<td>2.89 to 3.67 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk,C 29 to 60 in</td>
<td>loam</td>
<td>moderate</td>
<td>4.30 to 5.53 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Storden, eroded

Extent: 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: fine-loamy till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer): .32
Land capability, nonirrigated: 3e
Hydrologic group: B
Potential for frost action: moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 9 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.81 to 1.99 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bk -- 9 to 60 in</td>
<td>loam</td>
<td>moderate</td>
<td>7.62 to 9.65 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
### 1220C--Cokato-Storden-Hawick complex, 6 to 12 percent slopes, eroded

**Hawick, eroded**

- **Extent:** 15 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 6 to 12 percent
- **Parent material:** sandy and gravelly outwash
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** excessively drained

#### Representative soil profile:

<table>
<thead>
<tr>
<th>Level</th>
<th>Depth (in)</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 8</td>
<td>gravelly sandy loam</td>
<td>rapid</td>
<td>0.24 to 1.02 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bw</td>
<td>8 to 33</td>
<td>gravelly loamy coarse sand</td>
<td>rapid</td>
<td>0.76 to 2.52 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>2C</td>
<td>33 to 60</td>
<td>gravelly coarse sand</td>
<td>very rapid</td>
<td>0.54 to 1.61 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5  
**Wind erodibility group (WEG):** 5  
**Wind erodibility index (WEI):** 56  
**Kw factor (surface layer):** 0.17  
**Land capability, nonirrigated:** 4s  
**Hydric soil:** no  
**Hydrologic group:** A  
**Potential for frost action:** low

### Glencoe

- **Extent:** 5 percent of the unit
- **Landform(s):** depressions
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

#### Representative soil profile:

<table>
<thead>
<tr>
<th>Level</th>
<th>Depth (in)</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 8</td>
<td>gravelly coarse sand</td>
<td>rapid</td>
<td>0.54 to 1.61 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bw</td>
<td>8 to 33</td>
<td>gravelly coarse sand</td>
<td>very rapid</td>
<td>0.54 to 1.61 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>2C</td>
<td>33 to 60</td>
<td>gravelly coarse sand</td>
<td>very rapid</td>
<td>0.54 to 1.61 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5  
**Wind erodibility group (WEG):**
**Wind erodibility index (WEI):**
**Kw factor (surface layer):**
**Land capability, nonirrigated:**
**Hydric soil:** yes  
**Hydrologic group:**
**Potential for frost action:**
1220C--Cokato-Storden-Hawick complex, 6 to 12 percent slopes, eroded

Hamel

<table>
<thead>
<tr>
<th>Extent: 5 percent of the unit</th>
<th>Soil loss tolerance (T factor):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landform(s): drainageways</td>
<td>Wind erodibility group (WEG):</td>
</tr>
<tr>
<td>Slope gradient:</td>
<td>Wind erodibility index (WEI):</td>
</tr>
<tr>
<td>Parent material:</td>
<td>Kw factor (surface layer)</td>
</tr>
<tr>
<td>Restrictive feature(s):</td>
<td>Land capability, nonirrigated:</td>
</tr>
<tr>
<td>Flooding:</td>
<td></td>
</tr>
<tr>
<td>Ponding:</td>
<td></td>
</tr>
<tr>
<td>Drainage class:</td>
<td></td>
</tr>
</tbody>
</table>

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

1356--Water, miscellaneous

Water, miscellaneous

<table>
<thead>
<tr>
<th>Extent: 100 percent of the unit</th>
<th>Soil loss tolerance (T factor):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landform(s):</td>
<td>Wind erodibility group (WEG):</td>
</tr>
<tr>
<td>Slope gradient:</td>
<td>Wind erodibility index (WEI):</td>
</tr>
<tr>
<td>Parent material:</td>
<td>Kw factor (surface layer)</td>
</tr>
<tr>
<td>Restrictive feature(s):</td>
<td>Land capability, nonirrigated:</td>
</tr>
<tr>
<td>Flooding:</td>
<td></td>
</tr>
<tr>
<td>Ponding:</td>
<td></td>
</tr>
<tr>
<td>Drainage class:</td>
<td></td>
</tr>
</tbody>
</table>

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
1383A--Shorewood silty clay loam, moderately wet, 0 to 3 percent slopes

Shorewood, moderately wet

**Extent:** 90 percent of the unit

**Landform(s):** hills on lake plains

**Slope gradient:** 0 to 3 percent

**Parent material:** clayey lacustrine deposits

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** somewhat poorly drained

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 6

**Wind erodibility index (WEI):** 48

**Kw factor (surface layer):** .28

**Land capability, nonirrigated:** 2w

**Hydrologic group:** C/D

**Potential for frost action:** high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap 0 to 9 in</td>
<td>silty clay loam</td>
<td>moderately slow</td>
<td>1.63 to 1.99 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt 9 to 46 in</td>
<td>silty clay</td>
<td>moderately slow</td>
<td>4.81 to 5.92 in</td>
<td>5.1 to 7.3</td>
</tr>
<tr>
<td>Bk 46 to 60 in</td>
<td>silty clay loam</td>
<td>moderate</td>
<td>1.93 to 2.20 in</td>
<td>6.6 to 7.8</td>
</tr>
</tbody>
</table>

**Rolfe**

**Extent:** 5 percent of the unit

**Landform(s):** depressions

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):** greater than 60 inches

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1383A--Shorewood silty clay loam, moderately wet, 0 to 3 percent slopes

Waldorf

- **Extent:** 5 percent of the unit
- **Landform(s):** drainageways
- **Slope gradient:**
- **Parent material:**
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:**
- **Ponding:**
- **Drainage class:**

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Land capability, nonirrigated:**

**Hydric soil:** yes

**Hydrologic group:**

**Potential for frost action:**

This report shows only the major soils in each map unit
1384--Minneopa loam, 0 to 2 percent slopes

**Minneopa**

*Extent:* 85 percent of the unit  
*Landform(s):* flats on outwash plains  
*Slope gradient:* 0 to 2 percent  
*Parent material:* coarse-loamy outwash over sandy and gravelly outwash  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* moderately well drained  
*Soil loss tolerance (T factor):* 2  
*Wind erodibility group (WEG):* 5  
*Wind erodibility index (WEI):* 56  
*Kw factor (surface layer):* .32  
*Land capability, nonirrigated:* 3s  
*Hydric soil:* no  
*Hydrologic group:* B/D  
*Potential for frost action:* moderate

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 7 in</td>
<td>moderate</td>
<td>1.28 to 1.56 in</td>
<td>6.1</td>
</tr>
<tr>
<td>Bw -- 7 to 15 in</td>
<td>moderately rapid</td>
<td>1.10 to 1.50 in</td>
<td>6.1</td>
</tr>
<tr>
<td>2Bw -- 15 to 25 in</td>
<td>very rapid</td>
<td>0.31 to 0.82 in</td>
<td>6.1</td>
</tr>
<tr>
<td>2C -- 25 to 60 in</td>
<td>very rapid</td>
<td>0.69 to 2.08 in</td>
<td>7.4</td>
</tr>
</tbody>
</table>

**Biscay**

*Extent:* 10 percent of the unit  
*Landform(s):* drainageways  
*Slope gradient:*  
*Parent material:*  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:*  
*Ponding:*  
*Drainage class:*  
*Soil loss tolerance (T factor):*  
*Wind erodibility group (WEG):*  
*Wind erodibility index (WEI):*  
*Kw factor (surface layer):*  
*Land capability, nonirrigated:*  
*Hydric soil:* yes  
*Hydrologic group:*  
*Potential for frost action:*  

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1384--Minneopa loam, 0 to 2 percent slopes

Estherville

- **Extent**: 5 percent of the unit
- **Landform(s)**: outwash plains
- **Slope gradient**:
- **Parent material**:
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**:
- **Ponding**:
- **Drainage class**:

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

- **Soil loss tolerance (T factor)**:
- **Wind erodibility group (WEG)**:
- **Wind erodibility index (WEI)**:
- **Kw factor (surface layer)**:
- **Land capability, nonirrigated**:
- **Hydric soil**: no
- **Hydrologic group**:
- **Potential for frost action**:

This report shows only the major soils in each map unit.
1385--Havelock loam, 0 to 2 percent slopes, frequently flooded

Havelock, frequently flooded

Extent: 90 percent of the unit
Landform(s): flood plains
Slope gradient: 0 to 2 percent
Parent material: fine-loamy alluvium
Restrictive feature(s): greater than 60 inches
Flooding: frequent
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer): .28
Land capability, nonirrigated: 5w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>moderate</td>
<td>2.99 to 3.29 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bg</td>
<td>moderate</td>
<td>4.65 to 5.11 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Cg</td>
<td>moderately rapid</td>
<td>2.81 to 3.68 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Calco

Extent: 10 percent of the unit
Landform(s): flood plains
Slope gradient:
Parent material:
Restrictive feature(s): greater than 60 inches
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw factor (surface layer):
Land capability, nonirrigated:
Hydric soil: yes
Hydrologic group:
Potential for frost action:

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit
1387A--Collinwood silty clay loam, moderately wet, 0 to 3 percent slopes

Collinwood, moderately wet

**Extent:** 90 percent of the unit
**Landform(s):** hills on lake plains
**Slope gradient:** 0 to 3 percent
**Parent material:** clayey lacustrine deposits
**Restrictive feature(s):** greater than 60 inches
**Flooding:** none
**Ponding:** none
**Drainage class:** somewhat poorly drained

- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 4
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** .28
- **Land capability, nonirrigated:** 2w
- **Hydric soil:** no
- **Hydrologic group:** C/D
- **Potential for frost action:** high

### Representative soil profile:

<table>
<thead>
<tr>
<th>Layer</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A</td>
<td>0 to 13 in</td>
<td>moderately slow</td>
<td>1.82 to 2.21 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw</td>
<td>13 to 32 in</td>
<td>moderately slow</td>
<td>2.46 to 3.02 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk</td>
<td>32 to 60 in</td>
<td>moderately slow</td>
<td>3.07 to 4.19 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Rolfe

**Extent:** 5 percent of the unit
**Landform(s):** depressions
**Parent material:**
**Restrictive feature(s):** greater than 60 inches
**Flooding:**
**Ponding:**
**Drainage class:**

- **Soil loss tolerance (T factor):**
- **Wind erodibility group (WEG):**
- **Wind erodibility index (WEI):**
- **Kw factor (surface layer):**
- **Land capability, nonirrigated:**
- **Hydric soil:** yes
- **Hydrologic group:**
- **Potential for frost action:**

### Representative soil profile:

<table>
<thead>
<tr>
<th>Layer</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
1387A--Collinwood silty clay loam, moderately wet, 0 to 3 percent slopes

Waldorf

**Extent**: 5 percent of the unit

**Landform(s)**: drainageways

**Slope gradient**: 

**Parent material**: 

**Restrictive feature(s)**: greater than 60 inches

**Flooding**: 

**Ponding**: 

**Drainage class**: 

**Soil loss tolerance (T factor)**: 

**Wind erodibility group (WEG)**: 

**Wind erodibility index (WEI)**: 

**Kw factor (surface layer)**: 

**Land capability, nonirrigated**: 

**Hydric soil**: yes

**Hydrologic group**: 

**Potential for frost action**: 

---

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

---

This report shows only the major soils in each map unit
1391B--Wadenill-Sunburg complex, 2 to 6 percent slopes

Wadenill

- **Extent**: 70 percent of the unit
- **Landform(s)**: hills on moraines
- **Slope gradient**: 2 to 6 percent
- **Parent material**: coarse-loamy till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: well drained

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 9 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.81 to 1.99 in</td>
</tr>
<tr>
<td>Bw</td>
<td>9 to 25 in</td>
<td>loam</td>
<td>moderately rapid</td>
<td>1.94 to 3.07 in</td>
</tr>
<tr>
<td>Bk</td>
<td>25 to 60 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>3.81 to 6.58 in</td>
</tr>
</tbody>
</table>

Sunburg

- **Extent**: 20 percent of the unit
- **Landform(s)**: hills on moraines
- **Slope gradient**: 4 to 6 percent
- **Parent material**: coarse-loamy till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: well drained

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 7 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>1.13 to 1.28 in</td>
</tr>
<tr>
<td>Bk</td>
<td>7 to 60 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>5.80 to 10.02 in</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit.
1391B--Wadenill-Sunburg complex, 2 to 6 percent slopes

Lundlake

| Extent: 5 percent of the unit                      | Soil loss tolerance (T factor): |
| Landform(s): depressions                           | Wind erodibility group (WEG): |
| Slope gradient:                                     | Wind erodibility index (WEI): |
| Parent material:                                    | Kw factor (surface layer):     |
| Restrictive feature(s): greater than 60 inches     | Land capability, nonirrigated: |
| Flooding:                                           | Hydric soil: yes               |
| Ponding:                                            | Hydrologic group:              |
| Drainage class:                                     | Potential for frost action:    |

Representative soil profile:  | Texture | Permeability | Available water capacity | pH |

Uniongrove

| Extent: 5 percent of the unit                      | Soil loss tolerance (T factor): |
| Landform(s): drainageways                         | Wind erodibility group (WEG): |
| Slope gradient:                                    | Wind erodibility index (WEI): |
| Parent material:                                   | Kw factor (surface layer):     |
| Restrictive feature(s): greater than 60 inches    | Land capability, nonirrigated: |
| Flooding:                                          | Hydric soil: yes               |
| Ponding:                                           | Hydrologic group:              |
| Drainage class:                                    | Potential for frost action:    |

Representative soil profile:  | Texture | Permeability | Available water capacity | pH |
# Map Unit Description (MN)
## Meeker County, Minnesota

### 1406--Medo, Dassel, and Biscay soils, ponded, 0 to 1 percent slopes

**Medo, ponded**

- **Extent**: 30 percent of the unit
- **Landform(s)**: depressions on outwash plains
- **Slope gradient**: 0 to 1 percent
- **Parent material**: muck herbaceous organic material over sandy and gravelly outwash
- **Restrictive feature(s)**: greater than 60 inches
- **Soil loss tolerance (T factor)**: 1
- **Wind erodibility group (WEG)**: 8
- **Wind erodibility index (WEI)**: 0
- **Kw factor (surface layer)**: .02
- **Land capability, nonirrigated**: 8w
- **Drainage class**: very poorly drained
- **Hydric soil**: yes
- **Hydrologic group**: A/D
- **Potential for frost action**: high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa</td>
<td>0 to 20 in</td>
<td>muck</td>
<td>moderately rapid</td>
<td>7.03 to 9.04 in</td>
<td></td>
</tr>
<tr>
<td>2A</td>
<td>20 to 28 in</td>
<td>mucky silt loam</td>
<td>moderately rapid</td>
<td>1.02 to 1.57 in</td>
<td></td>
</tr>
<tr>
<td>2Bg</td>
<td>28 to 34 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>0.77 to 1.18 in</td>
<td></td>
</tr>
<tr>
<td>3Bkg</td>
<td>34 to 60 in</td>
<td>fine sand</td>
<td>rapid</td>
<td>0.78 to 2.60 in</td>
<td></td>
</tr>
</tbody>
</table>

**Dassel, ponded**

- **Extent**: 30 percent of the unit
- **Landform(s)**: depressions on outwash plains
- **Slope gradient**: 0 to 1 percent
- **Parent material**: coarse-loamy outwash over sandy outwash
- **Restrictive feature(s)**: greater than 60 inches
- **Soil loss tolerance (T factor)**: 3
- **Wind erodibility group (WEG)**: 8
- **Wind erodibility index (WEI)**: 0
- **Kw factor (surface layer)**: .20
- **Land capability, nonirrigated**: 8w
- **Hydric soil**: yes
- **Hydrologic group**: A/D
- **Potential for frost action**: high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0 to 14 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>2.27 to 2.83 in</td>
<td>5.6</td>
</tr>
<tr>
<td>2AB</td>
<td>14 to 31 in</td>
<td>stratified loamy fine sand to fine sandy loam</td>
<td>moderately rapid</td>
<td>2.03 to 2.88 in</td>
<td>5.6</td>
</tr>
<tr>
<td>2Bg</td>
<td>31 to 60 in</td>
<td>stratified coarse sand to loamy sand</td>
<td>rapid</td>
<td>2.30 to 2.87 in</td>
<td>6.1</td>
</tr>
</tbody>
</table>
1406--Medo, Dassel, and Biscay soils, ponded, 0 to 1 percent slopes

Biscay, ponded

**Extent:** 30 percent of the unit
**Landform(s):** depressions on outwash plains
**Slope gradient:** 0 to 1 percent
**Parent material:** fine-loamy outwash over sandy outwash
**Restrictive feature(s):** greater than 60 inches
**Flooding:** none
**Ponding:** frequent
**Drainage class:** very poorly drained

 Soil loss tolerance (T factor): 3
 Wind erodibility group (WEG): 8
 Wind erodibility index (WEI): 0
 Kw factor (surface layer): .28
 Land capability, nonirrigated: 8w
 Hydric soil: yes
 Hydrologic group: B/D
 Potential for frost action: high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A -- 0 to 10 in mucky loam</td>
<td>moderate</td>
<td>1.97 to 2.17 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bg -- 10 to 29 in loam</td>
<td>moderate</td>
<td>3.28 to 3.67 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>2Cg -- 29 to 60 in stratified coarse sand to loamy sand</td>
<td>very rapid</td>
<td>0.61 to 1.23 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Houghton

**Extent:** 10 percent of the unit
**Landform(s):** depressions
**Slope gradient:**
**Parent material:**
**Restrictive feature(s):** greater than 60 inches
**Flooding:**
**Ponding:**
**Drainage class:**

 Soil loss tolerance (T factor): 
 Wind erodibility group (WEG): 
 Wind erodibility index (WEI): 
 Kw factor (surface layer) 
 Land capability, nonirrigated: 
 Hydric soil: yes 
 Hydrologic group: 
 Potential for frost action: 

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>

This report shows only the major soils in each map unit.
Map Unit Description (MN)
Meeker County, Minnesota

1801B--Gardencity very fine sandy loam, 2 to 6 percent slopes

Gardencity

**Extent:** 85 percent of the unit

**Landform(s):** hills on outwash plains

**Slope gradient:** 2 to 6 percent

**Parent material:** coarse-loamy glaciolacustrine deposits

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** well drained

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 3

**Wind erodibility index (WEI):** 86

**Kw factor (surface layer):** .37

**Hydric soil:** no

**Hydrologic group:** A

**Land capability, nonirrigated:** 2e

**Potential for frost action:** moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A -- 0 to 13 in</td>
<td>very fine sandy loam</td>
<td>moderately rapid</td>
<td>2.08 to 2.60 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bw -- 13 to 34 in</td>
<td>very fine sandy loam</td>
<td>moderately rapid</td>
<td>2.30 to 3.55 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>C -- 34 to 60 in</td>
<td>stratified loamy very fine sand to very fine sandy loam</td>
<td>moderately rapid</td>
<td>2.60 to 4.42 in</td>
<td>6.1 to 8.4</td>
</tr>
</tbody>
</table>

Sparta

**Extent:** 5 percent of the unit

**Landform(s):** outwash plains

**Slope gradient:**

**Parent material:**

**Restrictive feature(s):** greater than 60 inches

**Flooding:**

**Ponding:**

**Drainage class:**

**Soil loss tolerance (T factor):**

**Wind erodibility group (WEG):**

**Wind erodibility index (WEI):**

**Kw factor (surface layer):**

**Hydric soil:** no

**Hydrologic group:**

**Land capability, nonirrigated:**

**Potential for frost action:**

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

1801B--Gardencity very fine sandy loam, 2 to 6 percent slopes

Truman

- **Extent**: 5 percent of the unit
- **Landform(s)**: lake plains
- **Slope gradient**: 
- **Parent material**: 
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: 
- **Ponding**: 
- **Drainage class**: 
- **Soil loss tolerance (T factor)**: 
- **Wind erodibility group (WEG)**: 
- **Wind erodibility index (WEI)**: 
- **Kw factor (surface layer)**: 
- **Land capability, nonirrigated**: 
- **Hydric soil**: no
- **Hydrologic group**: 
- **Potential for frost action**: 

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

L13A--Klossner muck, depressional, 0 to 1 percent slopes

Klossner, drained

- **Extent**: 65 to 85 percent of the unit
- **Landform(s)**: depressions on moraines
- **Slope gradient**: 0 to 1 percent
- **Parent material**: herbaceous organic material over loamy glaciofluvial deposits
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: frequent
- **Drainage class**: very poorly drained
- **Hydric soil**: yes
- **Hydrologic group**: B/D
- **Potential for frost action**: high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Op -- 0 to 10 in</th>
<th>muck</th>
<th>moderately rapid</th>
<th>3.44 to 4.72 in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa -- 10 to 26 in</td>
<td>muck</td>
<td>moderately rapid</td>
<td>5.65 to 7.75 in</td>
</tr>
<tr>
<td>2A1 -- 26 to 36 in</td>
<td>mucky silty clay loam</td>
<td>moderate</td>
<td>2.17 to 2.56 in</td>
</tr>
<tr>
<td>2A2 -- 36 to 48 in</td>
<td>silty clay loam</td>
<td>moderate</td>
<td>2.20 to 2.69 in</td>
</tr>
<tr>
<td>2Gg -- 48 to 80 in</td>
<td>loam</td>
<td>moderate</td>
<td>4.78 to 6.06 in</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit.
L33A--Kandiyohi clay, 0 to 2 percent slopes

Kandiyohi

Extent: 70 to 90 percent of the unit
Landform(s): flats on moraines, rises on moraines
Slope gradient: 0 to 2 percent
Parent material: fine textured mantle over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20
Land capability, nonirrigated: 2w
Hydric soil: no
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile: | Texture | Permeability | Available water capacity | pH  
--- | --- | --- | --- | --- 
Ap -- 0 to 10 in | clay | moderately slow | 1.57 to 2.17 in | 6.1 to 7.3 
Bw -- 10 to 23 in | clay | moderately slow | 1.82 to 2.47 in | 6.1 to 7.3 
Bkg -- 23 to 29 in | clay | moderately slow | 0.82 to 1.20 in | 7.4 to 8.4 
2Bkg -- 29 to 80 in | clay loam | moderately slow | 5.08 to 7.62 in | 7.4 to 8.4
L33B--Kandiyohi clay, 2 to 5 percent slopes

**Kandiyohi**

- **Extent:** 70 to 90 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 2 to 5 percent
- **Parent material:** fine textured mantle over firm till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** somewhat poorly drained

**Soil loss tolerance (T factor):** 5
**Wind erodibility group (WEG):** 4
**Wind erodibility index (WEI):** 86
**Kw factor (surface layer):** .20
**Land capability, nonirrigated:** 2e
**Hydric soil:** no
**Hydrologic group:** C/D
**Potential for frost action:** high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 10</td>
<td>clay</td>
<td>moderately slow</td>
<td>1.57 to 2.17 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>10 to 23</td>
<td>clay</td>
<td>moderately slow</td>
<td>1.82 to 2.47 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>23 to 29</td>
<td>clay</td>
<td>moderately slow</td>
<td>0.82 to 1.20 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>29 to 80</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>5.08 to 7.62 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit.
L34A--Cosmos silty clay, 0 to 2 percent slopes

Cosmos

Extent: 75 to 95 percent of the unit
Landform(s): flats on moraines, swales on moraines
Slope gradient: 0 to 2 percent
Parent material: fine textured mantle over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Representative soil profile:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 15 in</td>
<td>silty clay</td>
<td>slow</td>
<td>2.39 to 3.29 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>15 to 30 in</td>
<td>silty clay</td>
<td>slow</td>
<td>2.09 to 2.84 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>30 to 36 in</td>
<td>silty clay</td>
<td>moderately slow</td>
<td>0.65 to 1.12 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>36 to 80 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>4.41 to 6.61 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4
Wind erodibility index (WEI): 86
Kw factor (surface layer): .28
Land capability, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

L83A--Webster clay loam, 0 to 2 percent slopes

Webster

Extent: 50 to 85 percent of the unit
Landform(s): flats on moraines, swales on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Representative soil profile:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 19 in</td>
<td>clay loam</td>
<td>moderate</td>
<td>3.59 to 3.97 in</td>
<td>6.6 to 7.3</td>
</tr>
<tr>
<td>19 to 26 in</td>
<td>clay loam</td>
<td>moderate</td>
<td>1.13 to 1.28 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>26 to 60 in</td>
<td>loam</td>
<td>moderate</td>
<td>5.08 to 6.43 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer): .24
Land capability, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high
Map Unit Description (MN)
Meeker County, Minnesota

L84A--Glencoe clay loam, depressional, 0 to 1 percent slopes

Glencoe, depressional

Extent: 75 to 100 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer): .24
Land capability, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile: | Texture | Permeability | Available water capacity | pH |
--- | --- | --- | --- | --- |
Ap,A -- 0 to 24 in | clay loam | moderate | 4.32 to 5.28 in | 6.1 to 7.8 |
ABg -- 24 to 35 in | clay loam | moderate | 1.98 to 2.43 in | 6.1 to 7.8 |
Bg -- 35 to 48 in | loam | moderate | 1.95 to 2.47 in | 6.6 to 7.8 |
Cg -- 48 to 60 in | loam | moderate | 1.77 to 2.24 in | 7.4 to 8.4 |
### L85A--Nicollet clay loam, 1 to 3 percent slopes

**Nicollet**

- **Extent:** 70 to 95 percent of the unit
- **Landform(s):** flats on moraines, rises on moraines
- **Slope gradient:** 1 to 3 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** somewhat poorly drained

**Soil Properties**

- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 6
- **Wind erodibility index (WEI):** 48
- **Kw factor (surface layer):** > 60 inches
- **Land capability, nonirrigated:** 1
- **Hydric soil:** no
- **Hydrologic group:** B/D
- **Potential for frost action:** high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 17</td>
<td>clay loam</td>
<td>moderate</td>
<td>2.88 to 3.72 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>17 to 33</td>
<td>clay loam</td>
<td>moderate</td>
<td>2.42 to 3.07 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>33 to 36</td>
<td>clay loam</td>
<td>moderate</td>
<td>0.41 to 0.52 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>36 to 60</td>
<td>loam</td>
<td>moderate</td>
<td>3.60 to 4.56 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L107A--Canisteo-Glencoe, depressional complex, 0 to 2 percent slopes

Canisteo

Extent: 30 to 70 percent of the unit
Landform(s): rims on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer): .24
Land capability, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A -- 0 to 18 in</td>
<td>clay loam</td>
<td>moderate</td>
<td>3.26 to 3.98 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bkg -- 18 to 39 in</td>
<td>loam</td>
<td>moderate</td>
<td>2.50 to 3.76 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Cg -- 39 to 80 in</td>
<td>loam</td>
<td>moderate</td>
<td>6.14 to 7.78 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Glencoe, depressional

Extent: 15 to 55 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer): .24
Land capability, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 10 in</td>
<td>clay loam</td>
<td>moderate</td>
<td>1.77 to 2.17 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>A,ABg -- 10 to 35 in</td>
<td>clay loam</td>
<td>moderate</td>
<td>4.54 to 5.54 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bg -- 35 to 48 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.95 to 2.47 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>Cg -- 48 to 60 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.77 to 2.24 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L163A--Okoboji silty clay loam, depressional, 0 to 1 percent slopes

Okoboji, depressional

- **Extent:** 70 to 95 percent of the unit
- **Landform(s):** depressions on lake plains, depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** lacustrine sediments over till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 26 in</td>
<td>silty clay loam</td>
<td>moderately slow</td>
<td>5.46 to 5.98 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>26 to 42 in</td>
<td>silty clay</td>
<td>moderately slow</td>
<td>2.91 to 3.23 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>42 to 60 in</td>
<td>silty clay loam</td>
<td>moderately slow</td>
<td>3.19 to 3.54 in</td>
<td>6.6 to 8.4</td>
</tr>
</tbody>
</table>

**Soil properties:**

- **Soil loss tolerance (T factor):** 5
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** .28
- **Hydric soil:** yes
- **Hydrologic group:** C/D
- **Land capability, nonirrigated:** 3w
- **Potential for frost action:** high
- **Drainage class:** very poorly drained

This report shows only the major soils in each map unit.
L164A--Lura silty clay, depressional, firm substratum, 0 to 1 percent slopes

Lura, firm substratum, depressional

- **Extent**: 85 to 95 percent of the unit
- **Landform(s)**: depressions on moraines
- **Slope gradient**: 0 to 1 percent
- **Parent material**: clayey lacustrine sediments over firm till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: frequent
- **Drainage class**: very poorly drained

- **Soil loss tolerance (T factor)**: 5
- **Wind erodibility group (WEG)**: 4
- **Wind erodibility index (WEI)**: 86
- **Kw factor (surface layer)**: .24
- **Land capability, nonirrigated**: 3w
- **Hydric soil**: yes
- **Hydrologic group**: C/D
- **Potential for frost action**: high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 24 in</td>
<td>silty clay</td>
<td>slow</td>
<td>3.36 to 4.08 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>24 to 31 in</td>
<td>silty clay</td>
<td>slow</td>
<td>0.99 to 1.20 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>31 to 60 in</td>
<td>silty clay</td>
<td>moderately slow</td>
<td>3.16 to 5.46 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>60 to 80 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>2.61 to 3.81 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

L166C2--Newlondon-Strout complex, 6 to 12 percent slopes, moderately eroded

Newlondon, moderately eroded

- **Extent:** 35 to 55 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 6 to 12 percent
- **Parent material:** thin discontinuous fine textured mantle over firm till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** moderately well drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 4L
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** .24
- **Land capability, nonirrigated:** 3e
- **Hydrologic group:** C
- **Potential for frost action:** high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 7 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>1.13 to 1.28 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>Bk -- 7 to 38 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>3.11 to 4.67 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>BC -- 38 to 80 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>5.43 to 7.93 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Strout, moderately eroded

- **Extent:** 35 to 55 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 6 to 12 percent
- **Parent material:** thin discontinuous fine textured mantle over firm till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** moderately well drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 4
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** .20
- **Land capability, nonirrigated:** 3e
- **Hydrologic group:** C
- **Potential for frost action:** moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 9 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>1.27 to 1.72 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bw -- 9 to 23 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>1.65 to 2.48 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>BC -- 23 to 80 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>7.42 to 10.85 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
**Map Unit Description (MN)**

**Meeker County, Minnesota**

---

**L166D2--Newlondon-Strout complex, 12 to 18 percent slopes, moderately eroded**

**Newlondon, moderately eroded**

*Extent:* 50 to 70 percent of the unit

*Landform(s):* hills on moraines

*Slope gradient:* 12 to 18 percent

*Parent material:* thin discontinuous fine textured mantle over firm till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 4L

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer):* .24

*Land capability, nonirrigated:* 4e

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 7 in clay loam</td>
<td>moderately slow</td>
<td>1.13 to 1.28 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>Bk -- 7 to 38 in clay loam</td>
<td>moderately slow</td>
<td>3.11 to 4.67 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>BC -- 38 to 80 in clay loam</td>
<td>moderately slow</td>
<td>5.43 to 7.93 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

---

**Strout, moderately eroded**

*Extent:* 20 to 30 percent of the unit

*Landform(s):* hills on moraines

*Slope gradient:* 12 to 18 percent

*Parent material:* thin discontinuous fine textured mantle over firm till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 4

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer):* .20

*Land capability, nonirrigated:* 4e

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 9 in clay loam</td>
<td>moderately slow</td>
<td>1.27 to 1.72 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bw -- 9 to 19 in clay loam</td>
<td>moderately slow</td>
<td>1.18 to 1.77 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>BC -- 19 to 80 in clay loam</td>
<td>moderately slow</td>
<td>7.93 to 11.59 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

---

This report shows only the major soils in each map unit

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**USDA Natural Resources Conservation Service**

Tabular Data Version: 5  
Tabular Data Version Date: 07/03/2012
L179A--Corvuso-Lura, depressional, firm substratum complex, 0 to 2 percent slopes

Corvuso

Extent: 50 to 70 percent of the unit
Landform(s): rims on depressions on moraines, flats on moraines
Slope gradient: 0 to 2 percent
Parent material: fine textured mantle over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer): >60 inches .20
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 11 in clay loam</td>
<td>moderately slow</td>
<td>1.54 to 2.43 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bkg -- 11 to 28 in clay</td>
<td>moderately slow</td>
<td>2.20 to 3.22 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>2BCg -- 28 to 80 in clay loam</td>
<td>moderately slow</td>
<td>6.76 to 9.87 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Lura, firm substratum, depressional

Extent: 30 to 50 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: clayey lacustrine sediments over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4
Wind erodibility index (WEI): 86
Kw factor (surface layer): >60 inches .24
Hydric soil: yes
Hydrologic group: C/D
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A -- 0 to 24 in silty clay</td>
<td>slow</td>
<td>3.36 to 4.08 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bg -- 24 to 31 in silty clay</td>
<td>slow</td>
<td>0.99 to 1.20 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bkg -- 31 to 60 in silty clay</td>
<td>moderately slow</td>
<td>3.16 to 5.46 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>2BCg -- 60 to 80 in clay loam</td>
<td>moderately slow</td>
<td>2.61 to 3.81 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L184A--Corvuso silty clay loam, 0 to 2 percent slopes

**Corvuso**

- **Extent:** 75 to 95 percent of the unit
- **Landform(s):** rims on depressions on moraines, flats on moraines
- **Slope gradient:** 0 to 2 percent
- **Parent material:** fine textured mantle over firm till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th></th>
<th>Text</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 11 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>1.54 to 2.43 in</td>
</tr>
<tr>
<td>Bkg</td>
<td>11 to 28 in</td>
<td>clay</td>
<td>moderately slow</td>
<td>2.20 to 3.22 in</td>
</tr>
<tr>
<td>2BCg</td>
<td>28 to 80 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>6.76 to 9.87 in</td>
</tr>
</tbody>
</table>

**Additional Data:**

- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 4L
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** .20
- **Land capability, nonirrigated:** 2w
- **Hydric soil:** yes
- **Hydrologic group:** C/D
- **Potential for frost action:** high

This report shows only the major soils in each map unit.
Map Unit Description (MN)
Meeker County, Minnesota

L185B--Strout-Arkton complex, 2 to 6 percent slopes

Strout

Extent: 60 to 80 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: thin discontinuous fine textured mantle over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4
Wind erodibility index (WEI): 86
Kw factor (surface layer): .20
Land capability, nonirrigated: 2e
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,AB --</td>
<td>0 to 10 in</td>
<td>moderately slow</td>
<td>1.38 to 1.87 in</td>
</tr>
<tr>
<td>Bw --</td>
<td>10 to 24 in</td>
<td>moderately slow</td>
<td>1.70 to 2.55 in</td>
</tr>
<tr>
<td>Bk --</td>
<td>24 to 80 in</td>
<td>moderately slow</td>
<td>5.59 to 8.39 in</td>
</tr>
</tbody>
</table>

Arkton

Extent: 15 to 25 percent of the unit
Landform(s): hills on moraines
Slope gradient: 4 to 6 percent
Parent material: thin discontinuous fine textured mantle over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer): .24
Land capability, nonirrigated: 2e
Hydrologic group: C
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap --</td>
<td>0 to 9 in</td>
<td>moderately slow</td>
<td>1.36 to 1.72 in</td>
</tr>
<tr>
<td>Bk1 --</td>
<td>9 to 25 in</td>
<td>moderately slow</td>
<td>1.61 to 3.07 in</td>
</tr>
<tr>
<td>Bk2 --</td>
<td>25 to 80 in</td>
<td>moderately slow</td>
<td>5.47 to 8.21 in</td>
</tr>
</tbody>
</table>
L186A--Danielson-Danielson, overwash complex, 1 to 4 percent slopes

**Danielson**

*Extent:* 60 to 80 percent of the unit  
*Landform(s):* drainageways on moraines, swales on moraines  
*Slope gradient:* 0 to 4 percent  
*Parent material:* colluvium and fine textured mantle over firm till  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* poorly drained  

*Soil loss tolerance (T factor):* 5  
*Wind erodibility group (WEG):* 4  
*Wind erodibility index (WEI):* 86  
*Kw factor (surface layer):* .20  
*Land capability, nonirrigated:* 2w  
*Hydric soil:* yes  
*Hydrologic group:* C/D  
*Potential for frost action:* high  

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 9 in clay loam</td>
<td>moderately slow</td>
<td>1.36 to 1.99 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>A1,A2,AB -- 9 to 36 in silty clay</td>
<td>moderately slow</td>
<td>3.75 to 5.09 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bg1 -- 36 to 51 in silty clay</td>
<td>moderately slow</td>
<td>1.07 to 2.92 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>2Bg2 -- 51 to 80 in silty clay loam</td>
<td>slow</td>
<td>2.01 to 5.17 in</td>
<td>6.6 to 8.4</td>
</tr>
</tbody>
</table>

**Danielson, overwash**

*Extent:* 15 to 25 percent of the unit  
*Landform(s):* drainageways on moraines, swales on moraines  
*Slope gradient:* 2 to 4 percent  
*Parent material:* colluvium and fine textured mantle over firm till  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* none  
*Drainage class:* somewhat poorly drained  

*Soil loss tolerance (T factor):* 5  
*Wind erodibility group (WEG):* 4  
*Wind erodibility index (WEI):* 86  
*Kw factor (surface layer):* .20  
*Land capability, nonirrigated:* 2w  
*Hydric soil:* no  
*Hydrologic group:* C/D  
*Potential for frost action:* high  

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 9 in clay loam</td>
<td>moderately slow</td>
<td>1.36 to 1.99 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>A1 -- 9 to 13 in clay loam</td>
<td>moderately slow</td>
<td>0.53 to 0.78 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>A2,A3,AB -- 13 to 36 in silty clay</td>
<td>moderately slow</td>
<td>3.25 to 4.41 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bg -- 36 to 51 in silty clay</td>
<td>moderately slow</td>
<td>1.07 to 2.92 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>2Bg -- 51 to 80 in silty clay loam</td>
<td>slow</td>
<td>2.01 to 5.17 in</td>
<td>6.6 to 8.4</td>
</tr>
</tbody>
</table>
L187A--Klossner, firm substratum, and Lura soils, ponded, 0 to 1 percent slopes

Klossner, firm substratum, ponded

Extent: 0 to 100 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: muck herbaceous organic material/loamy sediments over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer): .02

Hydric soil: yes
Hydrologic group: B/D
Land capability, nonirrigated: 8w
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa  -- 0 to 25 in muck</td>
<td>moderately rapid</td>
<td>8.82 to 11.34 in</td>
<td></td>
</tr>
<tr>
<td>2A,AC 25 to 60 in silty clay loam</td>
<td>moderate</td>
<td>4.85 to 7.62 in</td>
<td></td>
</tr>
<tr>
<td>3BCg 60 to 80 in clay loam</td>
<td>moderately slow</td>
<td>2.61 to 3.81 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Lura, firm substratum, ponded

Extent: 0 to 100 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: clayey lacustrine sediments over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer): .24

Hydric soil: yes
Hydrologic group: C/D
Land capability, nonirrigated: 8w
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A  -- 0 to 28 in silty clay loam</td>
<td>slow</td>
<td>3.91 to 4.75 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bg  28 to 60 in silty clay</td>
<td>slow</td>
<td>4.46 to 5.42 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>2BCg 60 to 80 in clay loam</td>
<td>moderately slow</td>
<td>2.61 to 3.81 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L191A—Blue Earth, Houghton, and Klossner soils, ponded, firm substratum, 0 to 1 percent slopes

Blue Earth, firm substratum, ponded

- **Extent**: 0 to 100 percent of the unit
- **Landform(s)**: depressions on moraines
- **Slope gradient**: 0 to 1 percent
- **Parent material**: fine-silty coprogenic material over firm till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: frequent
- **Drainage class**: very poorly drained
- **Soil loss tolerance (T factor)**: 5
- **Wind erodibility group (WEG)**: 8
- **Wind erodibility index (WEI)**: 0
- **Land capability, nonirrigated**: 8w
- **Hydric soil**: yes
- **Hydrologic group**: B/D
- **Potential for frost action**: high

<table>
<thead>
<tr>
<th>Representative soil profile</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>mucky silt loam</td>
<td>moderate</td>
<td>9.00 to 12.00 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>AC</td>
<td>mucky silt loam</td>
<td>moderate</td>
<td>1.77 to 2.36 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>2Cg</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>2.61 to 3.81 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Houghton, firm substratum, ponded

- **Extent**: 0 to 100 percent of the unit
- **Landform(s)**: depressions on moraines
- **Slope gradient**: 0 to 1 percent
- **Parent material**: muck herbaceous organic material over firm till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: frequent
- **Drainage class**: very poorly drained
- **Soil loss tolerance (T factor)**: 2
- **Wind erodibility group (WEG)**: 8
- **Wind erodibility index (WEI)**: 0
- **Land capability, nonirrigated**: 8w
- **Hydric soil**: yes
- **Hydrologic group**: A/D
- **Potential for frost action**: high

<table>
<thead>
<tr>
<th>Representative soil profile</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa</td>
<td>muck</td>
<td>moderately rapid</td>
<td>20.94 to 26.93 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>2BCg</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>2.61 to 3.81 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L191A--Blue Earth, Houghton, and Klossner soils, ponded, firm substratum, 0 to 1 percent slopes

Klossner, firm substratum, ponded

- **Extent:** 0 to 100 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** muck herbaceous organic material/loamy sediments over firm till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained
- **Soil loss tolerance (T factor):** 1
- **Wind erodibility group (WEG):** 8
- **Wind erodibility index (WEI):** 0
- **Kw factor (surface layer):** 0.02
- **Land capability, nonirrigated:** 8w
- **Hydric soil:** yes
- **Hydrologic group:** B/D
- **Potential for frost action:** high

<table>
<thead>
<tr>
<th>Representative soil profile</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa --</td>
<td>muck</td>
<td>moderately rapid</td>
<td>8.82 to 11.34 in</td>
<td></td>
</tr>
<tr>
<td>2A,AC --</td>
<td>silty clay loam</td>
<td>moderate</td>
<td>4.85 to 7.62 in</td>
<td></td>
</tr>
<tr>
<td>2BCg --</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>2.61 to 3.81 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L199A--Muskego-Klossner, depressional, firm substratum complex, 0 to 1 percent slopes

Muskego, drained, firm substratum

Extent: 25 to 60 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: muck herbaceous organic material over coprogenic material over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

<table>
<thead>
<tr>
<th>Representative soil profile</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa</td>
<td>0 to 10 in</td>
<td>muck</td>
<td>moderate rapid</td>
<td>3.44 to 4.43 in</td>
</tr>
<tr>
<td>Lco</td>
<td>10 to 40 in</td>
<td>muck</td>
<td>moderate rapid</td>
<td>10.61 to 13.64 in</td>
</tr>
<tr>
<td>2BCg</td>
<td>40 to 60 in</td>
<td>mucky silt loam</td>
<td>slow</td>
<td>3.54 to 4.72 in</td>
</tr>
<tr>
<td>2BCg</td>
<td>60 to 80 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>2.61 to 3.81 in</td>
</tr>
</tbody>
</table>

Klossner, drained, firm substratum

Extent: 20 to 50 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: muck herbaceous organic material/loamy sediments over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

<table>
<thead>
<tr>
<th>Representative soil profile</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa</td>
<td>0 to 28 in</td>
<td>muck</td>
<td>moderately rapid</td>
<td>9.78 to 13.42 in</td>
</tr>
<tr>
<td>2A</td>
<td>28 to 33 in</td>
<td>silt loam</td>
<td>moderate</td>
<td>1.13 to 1.33 in</td>
</tr>
<tr>
<td>2BCg1</td>
<td>33 to 60 in</td>
<td>loam</td>
<td>moderate</td>
<td>4.02 to 5.09 in</td>
</tr>
<tr>
<td>2BCg2</td>
<td>60 to 80 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>2.61 to 3.81 in</td>
</tr>
</tbody>
</table>
L200A--Klossner muck, depressional, firm substratum, 0 to 1 percent slopes

Klossner, drained, firm substratum

- **Extent**: 65 to 85 percent of the unit
- **Landform(s)**: depressions on moraines
- **Slope gradient**: 0 to 1 percent
- **Parent material**: muck herbaceous organic material/loamy sediments over firm till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: frequent
- **Drainage class**: very poorly drained

**Soil loss tolerance (T factor)**: 1

**Wind erodibility group (WEG)**: 2

**Wind erodibility index (WEI)**: 134

**Kw factor (surface layer)**: .02

**Land capability, nonirrigated**: 3w

**Hydric soil**: yes

**Hydrologic group**: B/D

**Potential for frost action**: high

**Representative soil profile**:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa --</td>
<td>0 to 28 in</td>
<td>moderately rapid</td>
<td>9.78 to 13.42 in</td>
</tr>
<tr>
<td>2A --</td>
<td>28 to 33 in</td>
<td>moderate</td>
<td>1.13 to 1.33 in</td>
</tr>
<tr>
<td>2BCg1 --</td>
<td>33 to 60 in</td>
<td>moderate</td>
<td>4.02 to 5.09 in</td>
</tr>
<tr>
<td>3BCg2 --</td>
<td>60 to 80 in</td>
<td>moderately slow</td>
<td>2.61 to 3.81 in</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit.
L204C2--Newlondon-Strout-Hawick complex, 6 to 12 percent slopes, moderately eroded

Newlondon

Extent: 50 to 70 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: thin discontinuous fine textured mantle over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer) .24

Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: C
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th></th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 7 in clay loam</td>
<td>moderately slow</td>
<td>1.13 to 1.28 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>Bk</td>
<td>7 to 38 in clay loam</td>
<td>moderately slow</td>
<td>3.11 to 4.67 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>BC</td>
<td>38 to 80 in clay loam</td>
<td>moderately slow</td>
<td>5.43 to 7.93 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Strout

Extent: 15 to 25 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: thin discontinuous fine textured mantle over firm till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: moderately well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4
Wind erodibility index (WEI): 86
Kw factor (surface layer) .20

Land capability, nonirrigated: 3e
Hydric soil: no
Hydrologic group: C
Potential for frost action: moderate

Representative soil profile:

<table>
<thead>
<tr>
<th></th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 9 in clay loam</td>
<td>moderately slow</td>
<td>1.27 to 1.72 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bw</td>
<td>9 to 23 in clay loam</td>
<td>moderately slow</td>
<td>1.65 to 2.48 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>BC</td>
<td>23 to 80 in clay loam</td>
<td>moderately slow</td>
<td>7.42 to 10.85 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L204C2--Newlondon-Strout-Hawick complex, 6 to 12 percent slopes, moderately eroded

Hawick

- **Extent:** 15 to 20 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 6 to 12 percent
- **Parent material:** sandy and gravelly outwash
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** excessively drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 10 in</td>
<td>loamy sand</td>
<td>rapid</td>
<td>0.98 to 1.18 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>10 to 21 in</td>
<td>loamy sand</td>
<td>rapid</td>
<td>0.33 to 1.10 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>21 to 60 in</td>
<td>sand</td>
<td>very rapid</td>
<td>0.78 to 2.34 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5
**Wind erodibility group (WEG):** 2
**Wind erodibility index (WEI):** 134
**Kw factor (surface layer):** .17
**Land capability, nonirrigated:** 4s
**Hydric soil:** no
**Hydrologic group:** A
**Potential for frost action:** low

---

*This report shows only the major soils in each map unit*
L204D2--Newlondon-Strout-Hawick complex, 12 to 18 percent slopes, moderately eroded

Newlondon

- **Extent:** 55 to 75 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 12 to 18 percent
- **Parent material:** thin discontinuous fine textured mantle over firm till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** moderately well drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 4L
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** .24
- **Land capability, nonirrigated:** 4e
- **Hydric soil:** no
- **Hydrologic group:** C
- **Potential for frost action:** high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap --</td>
<td>moderately slow</td>
<td>1.13 to 1.28 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>Bk --</td>
<td>moderately slow</td>
<td>3.11 to 4.67 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>BC --</td>
<td>moderately slow</td>
<td>5.43 to 7.93 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Strout

- **Extent:** 15 to 25 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 12 to 18 percent
- **Parent material:** thin discontinuous fine textured mantle over firm till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** moderately well drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 4
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** .20
- **Land capability, nonirrigated:** 4e
- **Hydric soil:** no
- **Hydrologic group:** C
- **Potential for frost action:** moderate

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap --</td>
<td>moderately slow</td>
<td>1.27 to 1.72 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bw --</td>
<td>moderately slow</td>
<td>1.18 to 1.77 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>BC --</td>
<td>moderately slow</td>
<td>7.93 to 11.59 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L204D2--Newlondon-Strout-Hawick complex, 12 to 18 percent slopes, moderately eroded

Hawick

Extent: 15 to 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: sandy and gravelly outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer): .10
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:

<table>
<thead>
<tr>
<th>Layer</th>
<th>Depth (in)</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,AB</td>
<td>0 to 11</td>
<td>gravelly loamy coarse sand</td>
<td>rapid</td>
<td>1.10 to 1.32 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bw</td>
<td>11 to 16</td>
<td>gravelly loamy coarse sand</td>
<td>rapid</td>
<td>0.15 to 0.51 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>C</td>
<td>16 to 60</td>
<td>gravelly coarse sand</td>
<td>very rapid</td>
<td>0.87 to 2.62 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit.
L205A--Blue Earth mucky silty clay loam, depressional, firm substratum, 0 to 1 percent slopes

Blue Earth, drained, firm substratum

- **Extent:** 80 to 100 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** fine-silty coprogenic material over firm till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

<table>
<thead>
<tr>
<th>Representative soil profile</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>mucky silty clay loam</td>
<td>moderate</td>
<td>1.42 to 1.89 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>AC -- 8 to 60 in</td>
<td>mucky silt loam</td>
<td>moderate</td>
<td>9.35 to 12.47 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>2Cg -- 60 to 80 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>2.61 to 3.81 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L206B--Strout-Arkton-Estherville complex, 2 to 6 percent slopes

**Strout**

- **Extent:** 50 to 70 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 2 to 6 percent
- **Parent material:** thin discontinuous fine textured mantle over firm till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** moderately well drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 4
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** .20
- **Land capability, nonirrigated:** 2e
- **Hydrologic group:** C
- **Potential for frost action:** moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,AB --</td>
<td>clay</td>
<td>moderately slow</td>
<td>1.38 to 1.87 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bw -- 10 to 24 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>1.70 to 2.55 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk -- 24 to 80 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>5.59 to 8.39 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Arkton**

- **Extent:** 15 to 25 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 4 to 6 percent
- **Parent material:** thin discontinuous fine textured mantle over firm till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** moderately well drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 4L
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** .24
- **Land capability, nonirrigated:** 2e
- **Hydrologic group:** C
- **Potential for frost action:** high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 9 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>1.36 to 1.72 in</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>Bk1 -- 9 to 25 in</td>
<td>clay</td>
<td>moderately slow</td>
<td>1.61 to 3.07 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bk2 -- 25 to 80 in</td>
<td>clay loam</td>
<td>moderately slow</td>
<td>5.47 to 8.21 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L206B--Strout-Arkton-Estherville complex, 2 to 6 percent slopes

Estherville

Extent: 15 to 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 2 to 6 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: somewhat excessively drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw factor (surface layer): .20
Land capability, nonirrigated: 3s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap, A  --  0 to 13 in</td>
<td>moderately rapid</td>
<td>1.69 to 2.34 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw1 -- 13 to 18 in</td>
<td>moderately rapid</td>
<td>0.61 to 0.85 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>2Bw2 -- 18 to 23 in</td>
<td>rapid</td>
<td>0.10 to 0.20 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>2C -- 23 to 60 in</td>
<td>rapid</td>
<td>0.74 to 1.48 in</td>
<td>6.6 to 8.4</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit
**Map Unit Description (MN)**
Meeker County, Minnesota

---

### L210F--Arkton-Strout complex, 18 to 40 percent slopes

**Arkton**

- **Extent:** 50 to 70 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 18 to 40 percent
- **Parent material:** thin discontinuous fine textured mantle over firm till
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 4
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** .10
- **Land capability, nonirrigated:** 7e
- **Hydric soil:** no
- **Hydrologic group:** C
- **Potential for frost action:** high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A -- 0 to 9 in clay</td>
<td>moderately slow</td>
<td>1.18 to 1.72 in</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>Bk -- 9 to 60 in clay</td>
<td>moderately slow</td>
<td>5.08 to 9.65 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>BCK -- 60 to 80 in clay loam</td>
<td>moderately slow</td>
<td>2.61 to 3.81 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Strout**

- **Extent:** 20 to 50 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 18 to 40 percent
- **Parent material:** thin discontinuous fine textured mantle over firm till
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 4
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** .20
- **Land capability, nonirrigated:** 7e
- **Hydric soil:** no
- **Hydrologic group:** C
- **Potential for frost action:** moderate

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, AB -- 0 to 12 in clay loam</td>
<td>moderately slow</td>
<td>1.65 to 2.24 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bw -- 12 to 20 in clay loam</td>
<td>moderately slow</td>
<td>0.99 to 1.49 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk -- 20 to 50 in clay</td>
<td>moderately slow</td>
<td>2.99 to 5.69 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>BCK -- 50 to 80 in clay loam</td>
<td>moderately slow</td>
<td>3.89 to 5.69 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

---

This report shows only the major soils in each map unit.

USDA Natural Resources Conservation Service
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L307B--Koronis loam, 2 to 6 percent slopes

**Koronis**

- **Extent**: 70 to 90 percent of the unit
- **Landform(s)**: hills on moraines
- **Slope gradient**: 2 to 6 percent
- **Parent material**: till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>loam</td>
<td>moderately rapid</td>
<td>1.57 to 1.73 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt -- 8 to 31 in</td>
<td>sandy clay loam</td>
<td>moderately rapid</td>
<td>3.48 to 4.41 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk -- 31 to 43 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>1.30 to 2.24 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C -- 43 to 80 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>4.07 to 5.92 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor)**: 5

**Wind erodibility group (WEG)**: 5

**Wind erodibility index (WEI)**: 56

**Kw factor (surface layer)**: .28

**Land capability, nonirrigated**: 2e

**Hydric soil**: no

**Hydrologic group**: A

**Potential for frost action**: moderate
L307C2--Koronis loam, 6 to 12 percent slopes, moderately eroded

Koronis, moderately eroded

Extent: 65 to 80 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
Land capability, nonirrigated: 3e
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:

<table>
<thead>
<tr>
<th>Layer</th>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 8 in</td>
<td>loam</td>
<td>moderately rapid</td>
<td>1.57 to 1.73 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt</td>
<td>8 to 31 in</td>
<td>sandy clay loam</td>
<td>moderately rapid</td>
<td>3.48 to 4.41 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk</td>
<td>31 to 43 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>1.30 to 2.24 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C</td>
<td>43 to 80 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>4.07 to 5.92 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

L307E--Koronis loam, 18 to 40 percent slopes

Koronis

Extent: 60 to 80 percent of the unit
Landform(s): hills on moraines
Slope gradient: 18 to 40 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer) .28
Land capability, nonirrigated: 6e
Hydrologic group: A
Potential for frost action: moderate

Representative soil profile:

<table>
<thead>
<tr>
<th>Layer</th>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0 to 7 in</td>
<td>loam</td>
<td>moderately rapid</td>
<td>1.42 to 1.56 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt</td>
<td>7 to 28 in</td>
<td>sandy clay loam</td>
<td>moderately rapid</td>
<td>3.13 to 3.96 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk</td>
<td>28 to 80 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>5.72 to 8.31 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L315C2--Sunburg-Wadenill-Hawick complex, 6 to 12 percent slopes, moderately eroded

Sunburg, moderately eroded

- **Extent:** 30 to 50 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 6 to 12 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 4L
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** .24
- **Land capability, nonirrigated:** 3e
- **Hydric soil:** no
- **Hydrologic group:** B
- **Potential for frost action:** moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.57 to 1.73 in</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>Bk -- 8 to 20 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>1.34 to 2.32 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C -- 20 to 80 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>6.58 to 9.57 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Wadenill, moderately eroded

- **Extent:** 20 to 40 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 6 to 12 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 5
- **Wind erodibility index (WEI):** 56
- **Kw factor (surface layer):** .24
- **Land capability, nonirrigated:** 3e
- **Hydric soil:** no
- **Hydrologic group:** B
- **Potential for frost action:** moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 10 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.97 to 2.17 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw -- 10 to 24 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>1.70 to 2.69 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>C -- 24 to 60 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>3.94 to 6.81 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

L315C2--Sunburg-Wadenill-Hawick complex, 6 to 12 percent slopes, moderately eroded

Hawick

Extent: 15 to 25 percent of the unit
Landform(s): hills on moraines
Slope gradient: 6 to 12 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer): .17
Land capability, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:  | Texture                     | Permeability | Available water capacity | pH  
------------------------------|---------------------------|--------------|-------------------------|------
Ap -- 0 to 10 in              | gravelly loamy coarse sand| rapid        | 0.98 to 1.18 in         | 6.1 to 7.8 |
Bw -- 10 to 14 in             | loamy coarse sand         | rapid        | 0.13 to 0.43 in         | 6.1 to 7.8 |
C -- 14 to 60 in              | coarse sand               | very rapid   | 0.91 to 2.74 in         | 7.4 to 8.4 |

This report shows only the major soils in each map unit
L315D2--Sunburg-Wadenill-Hawick complex, 12 to 18 percent slopes, moderately eroded

Sunburg, moderately eroded

**Extent:** 30 to 50 percent of the unit

**Landform(s):** hills on moraines

**Slope gradient:** 12 to 18 percent

**Parent material:** till

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap 0 to 7 in sandy loam</td>
<td>moderate</td>
<td>1.42 to 1.56 in</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>C 7 to 60 in fine sandy loam</td>
<td>moderately rapid</td>
<td>5.80 to 8.44 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 3

**Wind erodibility index (WEI):** 86

**Kw factor (surface layer):** .24

**Land capability, nonirrigated:** 4e

**Hydric soil:** no

**Hydrologic group:** B

**Potential for frost action:** moderate

Wadenill, moderately eroded

**Extent:** 20 to 40 percent of the unit

**Landform(s):** hills on moraines

**Slope gradient:** 12 to 18 percent

**Parent material:** till

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap 0 to 7 in loam</td>
<td>moderate</td>
<td>1.97 to 2.17 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw 10 to 24 in sandy loam</td>
<td>moderately rapid</td>
<td>1.70 to 2.69 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>C 24 to 60 in fine sandy loam</td>
<td>moderately rapid</td>
<td>3.94 to 6.81 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 5

**Wind erodibility index (WEI):** 56

**Kw factor (surface layer):** .24

**Land capability, nonirrigated:** 4e

**Hydric soil:** no

**Hydrologic group:** B

**Potential for frost action:** moderate
L315D2--Sunburg-Wadenill-Hawick complex, 12 to 18 percent slopes, moderately eroded

Hawick

Extent: 15 to 25 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer): .17
Land capability, nonirrigated: 6s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:

<table>
<thead>
<tr>
<th></th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 10 in</td>
<td>rapid</td>
<td>0.98 to 1.18 in</td>
<td>6.1</td>
</tr>
<tr>
<td>Bw</td>
<td>10 to 14 in</td>
<td>rapid</td>
<td>0.13 to 0.43 in</td>
<td>6.1</td>
</tr>
<tr>
<td>C</td>
<td>14 to 60 in</td>
<td>very rapid</td>
<td>0.91 to 2.74 in</td>
<td>7.4</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit

Tabular Data Version: 5
Tabular Data Version Date: 07/03/2012
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**Map Unit Description (MN)**
Meeker County, Minnesota

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**L317A--Barry loam, 0 to 2 percent slopes**

**Barry**

*Extent:* 75 to 90 percent of the unit

*Landform(s):* swales on moraines

*Slope gradient:* 0 to 2 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer):* .24

*Land capability, nonirrigated:* 2w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A</td>
<td>loam</td>
<td>moderately rapid</td>
<td>1.87 to 2.09 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Btg</td>
<td>sandy clay loam</td>
<td>moderate</td>
<td>3.31 to 3.97 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bkg</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>2.94 to 3.75 in</td>
<td>7.4 to 7.8</td>
</tr>
<tr>
<td>Cg</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>2.21 to 3.21 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

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This report shows only the major soils in each map unit.
L318A--Lundlake silty clay loam, 0 to 1 percent slopes

Lundlake

Extent: 80 to 100 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: colluvium over till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer): .24
Land capability, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A1,A2 -- 0 to 28 in</td>
<td>moderate</td>
<td>4.75 to 6.15 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>AB -- 28 to 36 in</td>
<td>moderate</td>
<td>1.34 to 1.73 in</td>
<td>6.6 to 7.3</td>
</tr>
<tr>
<td>2Bg1,2Bg2 -- 36 to 72 in</td>
<td>moderately rapid</td>
<td>3.62 to 5.43 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>2Cg -- 72 to 80 in</td>
<td>moderately rapid</td>
<td>0.79 to 1.18 in</td>
<td>7.4 to 7.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
L319A--Swedegrove-Lundlake complex, 0 to 2 percent slopes

Swedegrove

- **Extent:** 50 to 80 percent of the unit
- **Landform(s):** rims on moraines
- **Slope gradient:** 0 to 2 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** poorly drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 4L
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** .24
- **Land capability, nonirrigated:** 2w
- **Hydric soil:** yes
- **Hydrologic group:** A/D
- **Potential for frost action:** high

### Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,Ak -- 0 to 14 in loam</td>
<td>moderately rapid</td>
<td>2.27 to 2.83 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bkg1,Bkg2 -- 14 to 60 in loam</td>
<td>moderately rapid</td>
<td>6.39 to 8.22 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Cg -- 60 to 80 in sandy loam</td>
<td>moderately rapid</td>
<td>2.01 to 3.01 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Lundlake

- **Extent:** 15 to 25 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** colluvium over till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 6
- **Wind erodibility index (WEI):** 48
- **Kw factor (surface layer):** .24
- **Land capability, nonirrigated:** 3w
- **Hydric soil:** yes
- **Hydrologic group:** B/D
- **Potential for frost action:** high

### Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A1,A2 -- 0 to 28 in silty clay loam</td>
<td>moderate</td>
<td>4.75 to 6.15 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>AB -- 28 to 36 in loam</td>
<td>moderate</td>
<td>1.34 to 1.73 in</td>
<td>6.6 to 7.3</td>
</tr>
<tr>
<td>2Bg1,2Bg2 -- 36 to 72 in sandy loam</td>
<td>moderately rapid</td>
<td>3.62 to 5.43 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>2Cg -- 72 to 80 in sandy loam</td>
<td>moderately rapid</td>
<td>0.79 to 1.18 in</td>
<td>7.4 to 7.8</td>
</tr>
</tbody>
</table>
L320A--Muskego and Klossner soils, Lundlake catena, 0 to 1 percent slopes, frequently flooded

**Muskego, frequently flooded**

- **Extent:** 30 to 100 percent of the unit
- **Landform(s):** flats on flood plains
- **Slope gradient:** 0 to 1 percent
- **Parent material:** organic material over coprogenous earth
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** frequent
- **Ponding:** frequent
- **Drainage class:** very poorly drained
- **Soil loss tolerance (T factor):** 1
- **Wind erodibility group (WEG):** 2
- **Wind erodibility index (WEI):** 134
- **Kw factor (surface layer):** .02
- **Hydric soil:** yes
- **Hydrologic group:** C/D
- **Land capability, nonirrigated:** 6w
- **Potential for frost action:** high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa1 --</td>
<td>muck</td>
<td>moderately rapid</td>
<td>3.17 to 4.07 in</td>
</tr>
<tr>
<td>Oa2 --</td>
<td>muck</td>
<td>moderately rapid</td>
<td>9.37 to 12.05 in</td>
</tr>
<tr>
<td>Lco --</td>
<td>coprogenous earth</td>
<td>slow</td>
<td>4.32 to 5.76 in</td>
</tr>
</tbody>
</table>

**Klossner, frequently flooded**

- **Extent:** 30 to 100 percent of the unit
- **Landform(s):** flood plains
- **Slope gradient:** 0 to 1 percent
- **Parent material:** organic material over loamy glaciofluvial deposits
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** frequent
- **Ponding:** frequent
- **Drainage class:** very poorly drained
- **Soil loss tolerance (T factor):** 1
- **Wind erodibility group (WEG):** 2
- **Wind erodibility index (WEI):** 134
- **Kw factor (surface layer):** .02
- **Hydric soil:** yes
- **Hydrologic group:** B/D
- **Land capability, nonirrigated:** 6w
- **Potential for frost action:** high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa --</td>
<td>muck</td>
<td>moderately rapid</td>
<td>9.09 to 12.47 in</td>
</tr>
<tr>
<td>2A1 --</td>
<td>silt loam</td>
<td>moderate</td>
<td>1.56 to 1.84 in</td>
</tr>
<tr>
<td>2A2 --</td>
<td>loam</td>
<td>moderate</td>
<td>1.28 to 1.56 in</td>
</tr>
<tr>
<td>2Cg --</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>3.98 to 5.96 in</td>
</tr>
</tbody>
</table>
L321A--Swedegrove loam, 0 to 2 percent slopes

Swedegrove

Extent: 75 to 95 percent of the unit
Landform(s): rims on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer): .24
Land capability, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,Ak --</td>
<td>moderately rapid</td>
<td>2.27 to 2.83 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bkg1,Bkg2 --</td>
<td>moderately rapid</td>
<td>6.39 to 8.22 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Cg --</td>
<td>moderately rapid</td>
<td>2.01 to 3.01 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

L322A--Uniongrove loam, 0 to 2 percent slopes

Uniongrove

Extent: 70 to 90 percent of the unit
Landform(s): swales on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 6
Wind erodibility index (WEI): 48
Kw factor (surface layer): .24
Land capability, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A --</td>
<td>moderately rapid</td>
<td>3.23 to 3.55 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bg1,Bg2 --</td>
<td>moderately rapid</td>
<td>2.07 to 2.62 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bkg1,Bkg2 --</td>
<td>moderately rapid</td>
<td>2.99 to 4.49 in</td>
<td>7.4 to 7.8</td>
</tr>
<tr>
<td>Cg --</td>
<td>moderately rapid</td>
<td>2.01 to 3.01 in</td>
<td>7.4 to 7.8</td>
</tr>
</tbody>
</table>
L323A--Crowriver loam, 0 to 2 percent slopes

Crowriver

Extent: 85 to 100 percent of the unit
Landform(s): rims on moraines
Slope gradient: 0 to 2 percent
Parent material: till
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: poorly drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 4L
Wind erodibility index (WEI): 86
Kw factor (surface layer): .20
Land capability, nonirrigated: 2w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apk,Ak --</td>
<td>0 to 15 in</td>
<td>moderately rapid</td>
<td>2.09 to 2.99 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bkg1 --</td>
<td>15 to 22 in</td>
<td>moderately rapid</td>
<td>0.85 to 1.28 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bkg2 --</td>
<td>22 to 60 in</td>
<td>moderately rapid</td>
<td>3.78 to 5.67 in</td>
<td>7.4 to 7.8</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit
L324A--Forestcity, overwash-Forestcity complex, 1 to 4 percent slopes

**Forestcity, overwash**

<table>
<thead>
<tr>
<th>Extent:</th>
<th>35 to 55 percent of the unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Landform(s):</strong></td>
<td>drainageways on moraines</td>
</tr>
<tr>
<td><strong>Slope gradient:</strong></td>
<td>2 to 4 percent</td>
</tr>
<tr>
<td><strong>Parent material:</strong></td>
<td>colluvium over till</td>
</tr>
<tr>
<td><strong>Restrictive feature(s):</strong></td>
<td>greater than 60 inches</td>
</tr>
<tr>
<td><strong>Flooding:</strong></td>
<td>none</td>
</tr>
<tr>
<td><strong>Ponding:</strong></td>
<td>none</td>
</tr>
<tr>
<td><strong>Drainage class:</strong></td>
<td>somewhat poorly drained</td>
</tr>
<tr>
<td><strong>Soil loss tolerance (T factor):</strong></td>
<td>5</td>
</tr>
<tr>
<td><strong>Wind erodibility group (WEG):</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Wind erodibility index (WEI):</strong></td>
<td>86</td>
</tr>
<tr>
<td><strong>Kw factor (surface layer):</strong></td>
<td>.20</td>
</tr>
<tr>
<td><strong>Land capability, nonirrigated:</strong></td>
<td>2w</td>
</tr>
<tr>
<td><strong>Hydrologic group:</strong></td>
<td>B/D</td>
</tr>
<tr>
<td><strong>Potential for frost action:</strong></td>
<td>high</td>
</tr>
</tbody>
</table>

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A1 --</td>
<td>moderately rapid</td>
<td>5.02 to 5.73 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>A2,AB --</td>
<td>moderate</td>
<td>0.99 to 1.20 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>2Bg --</td>
<td>moderately rapid</td>
<td>1.86 to 2.88 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>2BCg --</td>
<td>moderately rapid</td>
<td>2.01 to 3.01 in</td>
<td>7.4 to 7.8</td>
</tr>
</tbody>
</table>

**Forestcity**

<table>
<thead>
<tr>
<th>Extent:</th>
<th>30 to 50 percent of the unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Landform(s):</strong></td>
<td>drainageways on moraines</td>
</tr>
<tr>
<td><strong>Slope gradient:</strong></td>
<td>1 to 3 percent</td>
</tr>
<tr>
<td><strong>Parent material:</strong></td>
<td>colluvium over till</td>
</tr>
<tr>
<td><strong>Restrictive feature(s):</strong></td>
<td>greater than 60 inches</td>
</tr>
<tr>
<td><strong>Flooding:</strong></td>
<td>none</td>
</tr>
<tr>
<td><strong>Ponding:</strong></td>
<td>none</td>
</tr>
<tr>
<td><strong>Drainage class:</strong></td>
<td>poorly drained</td>
</tr>
<tr>
<td><strong>Soil loss tolerance (T factor):</strong></td>
<td>5</td>
</tr>
<tr>
<td><strong>Wind erodibility group (WEG):</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Wind erodibility index (WEI):</strong></td>
<td>86</td>
</tr>
<tr>
<td><strong>Kw factor (surface layer):</strong></td>
<td>.20</td>
</tr>
<tr>
<td><strong>Land capability, nonirrigated:</strong></td>
<td>2w</td>
</tr>
<tr>
<td><strong>Hydrologic group:</strong></td>
<td>B/D</td>
</tr>
<tr>
<td><strong>Potential for frost action:</strong></td>
<td>high</td>
</tr>
</tbody>
</table>

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A1 --</td>
<td>moderately rapid</td>
<td>5.02 to 5.73 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>A2,AB --</td>
<td>moderate</td>
<td>0.99 to 1.20 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>2Bg --</td>
<td>moderately rapid</td>
<td>1.86 to 2.88 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>2BCg --</td>
<td>moderately rapid</td>
<td>2.01 to 3.01 in</td>
<td>7.4 to 7.8</td>
</tr>
</tbody>
</table>
L325A--Crowriver-Lundlake complex, 0 to 2 percent slopes

Crowriver

- **Extent:** 30 to 55 percent of the unit
- **Landform(s):** rims on moraines
- **Slope gradient:** 0 to 2 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** poorly drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apk,Ak</td>
<td>0 to 13 in</td>
<td>moderately rapid</td>
<td>1.82 to 2.60 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>ABk</td>
<td>13 to 17 in</td>
<td>moderately rapid</td>
<td>0.47 to 0.71 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bkg1,Bg2,Bg3</td>
<td>17 to 60 in</td>
<td>moderately rapid</td>
<td>4.29 to 6.44 in</td>
<td>7.4 to 7.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cg</td>
<td>60 to 80 in</td>
<td>moderately rapid</td>
<td>2.01 to 3.01 in</td>
<td>7.4 to 7.8</td>
</tr>
</tbody>
</table>

Lundlake

- **Extent:** 20 to 45 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** colluvium over till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A1,A2</td>
<td>0 to 28 in</td>
<td>moderate</td>
<td>4.75 to 6.15 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>AB</td>
<td>28 to 36 in</td>
<td>moderate</td>
<td>1.34 to 1.73 in</td>
<td>6.6 to 7.3</td>
</tr>
<tr>
<td>2Bg1,2Bg2</td>
<td>36 to 72 in</td>
<td>moderately rapid</td>
<td>3.62 to 5.43 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>2Cg</td>
<td>72 to 80 in</td>
<td>moderately rapid</td>
<td>0.79 to 1.18 in</td>
<td>7.4 to 7.8</td>
</tr>
</tbody>
</table>
L326B--Rohrbeck-Koronis complex, 1 to 6 percent slopes

**Rohrbeck**

- **Extent:** 25 to 60 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 1 to 5 percent
- **Parent material:** outwash over till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** moderately well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 6 in loamy sand</td>
<td>rapid</td>
<td>0.47 to 0.71 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>6 to 25 in loamy sand</td>
<td>rapid</td>
<td>1.35 to 2.12 in</td>
<td>5.6 to 6.5</td>
</tr>
<tr>
<td>25 to 41 in sandy loam</td>
<td>moderately rapid</td>
<td>2.36 to 2.83 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>41 to 60 in sandy loam</td>
<td>moderately rapid</td>
<td>2.83 to 3.40 in</td>
<td>7.4 to 7.8</td>
</tr>
<tr>
<td>60 to 80 in fine sandy loam</td>
<td>moderately rapid</td>
<td>2.21 to 3.21 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Koronis**

- **Extent:** 15 to 40 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 3 to 6 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 9 in sandy loam</td>
<td>moderately rapid</td>
<td>1.18 to 1.63 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>9 to 28 in sandy clay loam</td>
<td>moderately rapid</td>
<td>2.83 to 3.59 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>28 to 80 in fine sandy loam</td>
<td>moderately rapid</td>
<td>5.72 to 8.31 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

L330A--Muskego, Blue Earth and Houghton soils, lundlake catena, 0 to 1 percent slopes, ponded

Muskego, ponded

**Extent:** 0 to 100 percent of the unit  
**Landform(s):** depressions on moraines  
**Slope gradient:** 0 to 1 percent  
**Parent material:** organic material over coprogenous earth  
**Restrictive feature(s):** greater than 60 inches  
**Flooding:** none  
**Ponding:** frequent  
**Drainage class:** very poorly drained

<table>
<thead>
<tr>
<th>Representative soil profile</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa1 -- 0 to 9 in</td>
<td>muck</td>
<td>moderately rapid</td>
<td>3.17 to 4.07 in</td>
<td></td>
</tr>
<tr>
<td>Oa2 -- 9 to 36 in</td>
<td>muck</td>
<td>moderately rapid</td>
<td>9.37 to 12.05 in</td>
<td></td>
</tr>
<tr>
<td>Lco -- 36 to 60 in</td>
<td>coprogenous earth</td>
<td>slow</td>
<td>4.32 to 5.76 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 1  
**Wind erodibility group (WEG):** 8  
**Wind erodibility index (WEI):** 0  
**Kw factor (surface layer):** .02  
**Land capability, nonirrigated:** 8w  
**Hydric soil:** yes  
**Hydrologic group:** C/D  
**Potential for frost action:** high

Blue Earth, ponded

**Extent:** 0 to 100 percent of the unit  
**Landform(s):** depressions on moraines  
**Slope gradient:** 0 to 1 percent  
**Parent material:** coprogenous earth over till  
**Restrictive feature(s):** greater than 60 inches  
**Flooding:** none  
**Ponding:** frequent  
**Drainage class:** very poorly drained

<table>
<thead>
<tr>
<th>Representative soil profile</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A -- 0 to 50 in</td>
<td>silt loam</td>
<td>moderate</td>
<td>9.00 to 12.00 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Cg -- 50 to 60 in</td>
<td>silt loam</td>
<td>moderate</td>
<td>1.77 to 2.36 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5  
**Wind erodibility group (WEG):** 8  
**Wind erodibility index (WEI):** 0  
**Kw factor (surface layer):** .28  
**Land capability, nonirrigated:** 8w  
**Hydric soil:** yes  
**Hydrologic group:** B/D  
**Potential for frost action:** high
L330A--Muskego, Blue Earth and Houghton soils, lundlake catena, 0 to 1 percent slopes, ponded

Houghton, ponded

Extent: 0 to 100 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 2
Wind erodibility group (WEG): 8
Wind erodibility index (WEI): 0
Kw factor (surface layer): 0.02
Land capability, nonirrigated: 8w
Hydric soil: yes
Hydrologic group: A/D
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa--</td>
<td>0 to 80 in</td>
<td>moderately rapid</td>
<td>27.97 to 35.96 in</td>
</tr>
</tbody>
</table>

L331A--Klossner muck, lundlake catena, 0 to 1 percent slopes

Klossner, drained, lundlake catena

Extent: 65 to 85 percent of the unit
Landform(s): depressions on moraines
Slope gradient: 0 to 1 percent
Parent material: organic material over loamy deposits
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: frequent
Drainage class: very poorly drained

Soil loss tolerance (T factor): 1
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer): 0.02
Land capability, nonirrigated: 3w
Hydric soil: yes
Hydrologic group: B/D
Potential for frost action: high

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Op,Oa--</td>
<td>0 to 26 in</td>
<td>moderately rapid</td>
<td>9.09 to 12.47 in</td>
</tr>
<tr>
<td>2A1--</td>
<td>26 to 36 in</td>
<td>moderate</td>
<td>2.17 to 2.56 in</td>
</tr>
<tr>
<td>2A2--</td>
<td>36 to 48 in</td>
<td>moderate</td>
<td>2.20 to 2.69 in</td>
</tr>
<tr>
<td>2Cg--</td>
<td>48 to 80 in</td>
<td>moderately rapid</td>
<td>3.19 to 4.78 in</td>
</tr>
</tbody>
</table>
L332A--Blue Earth mucky silt loam, lundlake catena, 0 to 1 percent slopes

Blue Earth, lundlake catena

**Extent:** 80 to 95 percent of the unit

**Landform(s):** -- error in exists on --

**Slope gradient:** 0 to 1 percent

**Parent material:** coprogenous earth over till

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** frequent

**Drainage class:** very poorly drained

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 4L

**Wind erodibility index (WEI):** 86

**Kw factor (surface layer):** .28

**Land capability, nonirrigated:** 3w

**Hydric soil:** yes

**Hydrologic group:** B/D

**Potential for frost action:** high

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>moderate</td>
<td>1.42 to 1.89 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C -- 8 to 60 in</td>
<td>moderate</td>
<td>9.35 to 12.47 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>2Cg -- 60 to 80 in</td>
<td>moderately rapid</td>
<td>2.01 to 3.01 in</td>
<td>7.4 to 7.8</td>
</tr>
</tbody>
</table>
L334A--Houghton and Muskego soils, lundlake catena, 0 to 1 percent slopes

**Houghton, surface drained**

- **Extent**: 20 to 60 percent of the unit
- **Landform(s)**: depressions on moraines
- **Slope gradient**: 0 to 1 percent
- **Parent material**: organic material
- **Restricted feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: frequent
- **Drainage class**: very poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa --</td>
<td>0 to 80 in</td>
<td>moderately rapid</td>
<td>27.97 to 35.96 in</td>
</tr>
</tbody>
</table>

**Muskego, surface drained**

- **Extent**: 20 to 60 percent of the unit
- **Landform(s)**: depressions on moraines
- **Slope gradient**: 0 to 1 percent
- **Parent material**: organic material over coprogenous earth
- **Restricted feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: frequent
- **Drainage class**: very poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa1 --</td>
<td>0 to 9 in</td>
<td>moderately rapid</td>
<td>3.17 to 4.07 in</td>
</tr>
<tr>
<td>Oa2 --</td>
<td>9 to 36 in</td>
<td>moderately rapid</td>
<td>9.37 to 12.05 in</td>
</tr>
<tr>
<td>Lco --</td>
<td>36 to 60 in</td>
<td>slow</td>
<td>4.32 to 5.76 in</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit.
Map Unit Description (MN)
Meeker County, Minnesota

L335A--Klossner soils, lundlake catena, 0 to 1 percent slopes

Klossner, surface drained, lundlake catena

**Extent:** 50 to 100 percent of the unit

**Landform(s):** depressions on moraines

**Slope gradient:** 0 to 1 percent

**Parent material:** organic material over loamy deposits

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** frequent

**Drainage class:** very poorly drained

**Soil loss tolerance (T factor):** 1

**Wind erodibility group (WEG):** 2

**Wind erodibility index (WEI):** 134

**Kw factor (surface layer):** .02

**Land capability, nonirrigated:** 6w

**Hydric soil:** yes

**Hydrologic group:** B/D

**Potential for frost action:** high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa -- 0 to 26 in</td>
<td>muck</td>
<td>moderately rapid</td>
<td>9.09 to 12.47 in</td>
<td></td>
</tr>
<tr>
<td>2A1 -- 26 to 33 in</td>
<td>silt loam</td>
<td>moderate</td>
<td>1.56 to 1.84 in 6.1 to 7.4</td>
<td></td>
</tr>
<tr>
<td>2A2 -- 33 to 40 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.28 to 1.56 in 6.1 to 7.4</td>
<td></td>
</tr>
<tr>
<td>2Cg -- 40 to 80 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>3.98 to 5.96 in 7.4 to 7.8</td>
<td></td>
</tr>
</tbody>
</table>

Klossner, drained, lundlake catena

**Extent:** 0 to 40 percent of the unit

**Landform(s):** depressions on moraines

**Slope gradient:** 0 to 1 percent

**Parent material:** organic material over loamy deposits

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** frequent

**Drainage class:** very poorly drained

**Soil loss tolerance (T factor):** 1

**Wind erodibility group (WEG):** 2

**Wind erodibility index (WEI):** 134

**Kw factor (surface layer):** .02

**Land capability, nonirrigated:** 3w

**Hydric soil:** yes

**Hydrologic group:** B/D

**Potential for frost action:** high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Op -- 0 to 10 in</td>
<td>muck</td>
<td>moderately rapid</td>
<td>3.44 to 4.72 in</td>
<td></td>
</tr>
<tr>
<td>Oa -- 10 to 26 in</td>
<td>muck</td>
<td>moderately rapid</td>
<td>5.65 to 7.75 in</td>
<td></td>
</tr>
<tr>
<td>2A1 -- 26 to 36 in</td>
<td>mucky silty clay loam</td>
<td>moderate</td>
<td>2.17 to 2.56 in 6.1 to 7.4</td>
<td></td>
</tr>
<tr>
<td>2A2 -- 36 to 48 in</td>
<td>silty clay loam</td>
<td>moderate</td>
<td>2.20 to 2.69 in 6.1 to 7.4</td>
<td></td>
</tr>
<tr>
<td>2Cg -- 48 to 80 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>3.19 to 4.78 in 7.4 to 7.8</td>
<td></td>
</tr>
</tbody>
</table>
**Map Unit Description (MN)**

**Meeker County, Minnesota**

### L336A--Arctander, overwash-Arctander complex, 1 to 4 percent slopes

**Arctander, overwash**

- **Extent:** 40 to 60 percent of the unit
- **Landform(s):** drainageways on moraines, swales on moraines
- **Slope gradient:** 1 to 4 percent
- **Parent material:** colluvium over till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** somewhat poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 18 in</td>
<td>loam</td>
<td>moderately slow</td>
<td>3.26 to 3.62 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>18 to 40 in</td>
<td>loam</td>
<td>moderately slow</td>
<td>3.97 to 4.41 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>40 to 43 in</td>
<td>clay loam</td>
<td>moderate</td>
<td>0.52 to 0.61 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>43 to 56 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>1.43 to 1.82 in</td>
<td>7.4 to 7.8</td>
</tr>
<tr>
<td>56 to 80 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>2.64 to 4.56 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Arctander**

- **Extent:** 30 to 55 percent of the unit
- **Landform(s):** drainageways on moraines, swales on moraines
- **Slope gradient:** 1 to 3 percent
- **Parent material:** colluvium over till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 33 in</td>
<td>loam</td>
<td>moderately slow</td>
<td>6.02 to 6.69 in</td>
<td>5.6 to 7.8</td>
</tr>
<tr>
<td>33 to 43 in</td>
<td>clay loam</td>
<td>moderate</td>
<td>1.80 to 2.08 in</td>
<td>6.6 to 7.8</td>
</tr>
<tr>
<td>43 to 56 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>1.43 to 1.82 in</td>
<td>7.4 to 7.8</td>
</tr>
<tr>
<td>56 to 80 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>2.64 to 4.56 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

### L337B--Wadenill-Sunburg complex, 2 to 6 percent slopes

**Wadenill**

- **Extent**: 55 to 75 percent of the unit
- **Landform(s)**: hills on moraines
- **Slope gradient**: 2 to 6 percent
- **Parent material**: till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 10 in loam</td>
<td>moderate</td>
<td>1.97 to 2.17 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw -- 10 to 31 in sandy loam</td>
<td>moderately rapid</td>
<td>2.55 to 4.04 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>C -- 31 to 60 in fine sandy loam</td>
<td>moderately rapid</td>
<td>3.16 to 5.46 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

- **Soil loss tolerance (T factor)**: 5
- **Wind erodibility group (WEG)**: 5
- **Wind erodibility index (WEI)**: 56
- **Kw factor (surface layer)**: 0.24

**Sunburg**

- **Extent**: 15 to 25 percent of the unit
- **Landform(s)**: hills on moraines
- **Slope gradient**: 4 to 6 percent
- **Parent material**: till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in loam</td>
<td>moderate</td>
<td>1.57 to 1.73 in</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>Bk -- 8 to 20 in fine sandy loam</td>
<td>moderately rapid</td>
<td>1.34 to 2.32 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C -- 20 to 80 in fine sandy loam</td>
<td>moderately rapid</td>
<td>6.58 to 9.57 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

- **Soil loss tolerance (T factor)**: 5
- **Wind erodibility group (WEG)**: 4L
- **Wind erodibility index (WEI)**: 86
- **Kw factor (surface layer)**: 0.24

### This report shows only the major soils in each map unit
L340B--Wadenill-Sunburg-Hawick complex, 2 to 6 percent slopes

Wadenill

- **Extent:** 40 to 60 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 2 to 6 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap  -- 0 to 10 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.97 to 2.17 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw  -- 10 to 24 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>1.70 to 2.69 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>C   -- 24 to 60 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>3.94 to 6.81 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Sunburg

- **Extent:** 20 to 40 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 4 to 6 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap  -- 0 to 8 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.57 to 1.73 in</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>Bk  -- 8 to 20 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>1.34 to 2.32 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C   -- 20 to 80 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>6.58 to 9.57 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L340B--Wadenill-Sunburg-Hawick complex, 2 to 6 percent slopes

Hawick

Extent: 10 to 20 percent of the unit

Landform(s): hills on moraines

Slope gradient: 2 to 6 percent

Parent material: outwash

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw factor (surface layer): .17

Land capability, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential for frost action: low

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap 0 to 10 in</td>
<td>rapid</td>
<td>0.98 to 1.18 in</td>
<td>6.1  to 7.8</td>
</tr>
<tr>
<td>Bw 10 to 14 in</td>
<td>rapid</td>
<td>0.13 to 0.43 in</td>
<td>6.1  to 7.8</td>
</tr>
<tr>
<td>C 14 to 60 in</td>
<td>very rapid</td>
<td>0.91 to 2.74 in</td>
<td>7.4  to 8.4</td>
</tr>
</tbody>
</table>

L345A--Seaforth loam, Lundlake catena, 1 to 3 percent slopes

Seaforth, Lundlake catena

Extent: 60 to 90 percent of the unit

Landform(s): flats on moraines, rises on moraines

Slope gradient: 1 to 3 percent

Parent material: till

Restrictive feature(s): greater than 60 inches

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw factor (surface layer): .24

Land capability, nonirrigated: 2s

Hydric soil: no

Hydrologic group: B

Potential for frost action: moderate

Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap,A 0 to 13 in</td>
<td>moderately rapid</td>
<td>2.08 to 2.60 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>Bk1,Bk2 13 to 30 in</td>
<td>moderately rapid</td>
<td>1.69 to 2.54 in</td>
<td>7.4 to 7.8</td>
</tr>
<tr>
<td>C 30 to 80 in</td>
<td>moderately rapid</td>
<td>5.00 to 7.50 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
## L347A--Klossner and Lundlake soils, 0 to 1 percent slopes, ponded

### Klossner, lundlake catena, ponded

- **Extent:** 0 to 100 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** organic material over loamy deposits
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

**Soil loss tolerance (T factor):** 1

**Wind erodibility group (WEG):** 8

**Wind erodibility index (WEI):** 0

**Kw factor (surface layer):** .02

**Land capability, nonirrigated:** 8w

**Hydric soil:** yes

**Hydrologic group:** B/D

**Potential for frost action:** high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oa -- 0 to 26 in</td>
<td>muck</td>
<td>moderately rapid</td>
<td>9.09 to 12.47 in</td>
<td></td>
</tr>
<tr>
<td>2A1 -- 26 to 33 in</td>
<td>silt loam</td>
<td>moderate</td>
<td>1.56 to 1.84 in 6.1 to 7.4</td>
<td></td>
</tr>
<tr>
<td>2A2 -- 33 to 40 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.28 to 1.56 in 6.1 to 7.4</td>
<td></td>
</tr>
<tr>
<td>2Cg -- 40 to 80 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>3.98 to 5.96 in 7.4 to 7.8</td>
<td></td>
</tr>
</tbody>
</table>

### Lundlake, ponded

- **Extent:** 0 to 100 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** colluvium over till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 8

**Wind erodibility index (WEI):** 0

**Kw factor (surface layer):** .24

**Land capability, nonirrigated:** 8w

**Hydric soil:** yes

**Hydrologic group:** B/D

**Potential for frost action:** high

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A -- 0 to 26 in</td>
<td>mucky loam</td>
<td>moderate</td>
<td>4.42 to 5.72 in 6.6 to 7.3</td>
<td></td>
</tr>
<tr>
<td>Bg -- 26 to 56 in</td>
<td>loam</td>
<td>moderate</td>
<td>5.09 to 6.58 in 6.6 to 7.3</td>
<td></td>
</tr>
<tr>
<td>Bk -- 56 to 80 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>0.39 to 0.59 in 6.6 to 7.8</td>
<td></td>
</tr>
</tbody>
</table>
Map Unit Description (MN)
Meeker County, Minnesota

L350A--Marcellon loam, 0 to 3 percent slopes

**Marcellon**
- **Extent:** 75 to 95 percent of the unit
- **Landform(s):** rises on moraines
- **Slope gradient:** 0 to 3 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** somewhat poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A -- 0 to 13 in loam</td>
<td>moderate</td>
<td>2.21 to 3.12 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt -- 13 to 32 in loam</td>
<td>moderate</td>
<td>2.27 to 3.40 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk -- 32 to 80 in sandy loam</td>
<td>moderately rapid</td>
<td>3.36 to 6.72 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5
**Wind erodibility group (WEG):** 5
**Wind erodibility index (WEI):** 56
**Kw factor (surface layer):** .24
**Land capability, nonirrigated:** 1
**Hydrologic group:** B/D
**Potential for frost action:** high

L351A--Houghton muck, Lundlake catena, 0 to 1 percent slopes

**Houghton, drained**
- **Extent:** 65 to 85 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** organic material
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oap -- 0 to 10 in muck</td>
<td>moderately rapid</td>
<td>3.44 to 4.43 in</td>
<td></td>
</tr>
<tr>
<td>Oa -- 10 to 80 in muck</td>
<td>moderately rapid</td>
<td>24.53 to 31.54 in</td>
<td></td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 2
**Wind erodibility group (WEG):** 2
**Wind erodibility index (WEI):** 134
**Kw factor (surface layer):** .02
**Land capability, nonirrigated:** 3w
**Hydrologic group:** A/D
**Potential for frost action:** high

This report shows only the major soils in each map unit
Map Unit Description (MN)
Meeker County, Minnesota

L352A--Muskego muck, lundlake catena, 0 to 1 percent slopes

Muskego, drained, lundlake catena

- **Extent:** 70 to 95 percent of the unit
- **Landform(s):** depressions on moraines
- **Slope gradient:** 0 to 1 percent
- **Parent material:** organic material over coprogenous earth
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** frequent
- **Drainage class:** very poorly drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Op -- 0 to 9 in muck</td>
<td>moderately rapid</td>
<td>3.17 to 4.07 in</td>
<td></td>
</tr>
<tr>
<td>Oa -- 9 to 16 in muck</td>
<td>moderately rapid</td>
<td>2.48 to 3.19 in</td>
<td></td>
</tr>
<tr>
<td>Lco -- 16 to 76 in coprogenous earth</td>
<td>slow</td>
<td>10.77 to 14.36 in 6.6 to 8.4</td>
<td></td>
</tr>
<tr>
<td>2Cg -- 76 to 80 in sandy loam</td>
<td>moderately rapid</td>
<td>0.39 to 0.59 in 7.4 to 7.8</td>
<td></td>
</tr>
</tbody>
</table>

- **Soil loss tolerance (T factor):** 1
- **Wind erodibility group (WEG):** 2
- **Wind erodibility index (WEI):** 134
- **Kw factor (surface layer):** .02
- **Land capability, nonirrigated:** 3w

L353B--Wadenill loam, 2 to 6 percent slopes

Wadenill

- **Extent:** 75 to 95 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 2 to 6 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A -- 0 to 13 in loam</td>
<td>moderate</td>
<td>2.60 to 2.86 in 5.6 to 7.3</td>
<td></td>
</tr>
<tr>
<td>Bw -- 13 to 30 in loam</td>
<td>moderately rapid</td>
<td>2.03 to 3.22 in 5.6 to 7.3</td>
<td></td>
</tr>
<tr>
<td>C -- 30 to 60 in sandy loam</td>
<td>moderately rapid</td>
<td>3.29 to 5.69 in 7.4 to 8.4</td>
<td></td>
</tr>
</tbody>
</table>

- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 5
- **Wind erodibility index (WEI):** 56
- **Kw factor (surface layer):** .24
- **Hydric soil:** no
- **Land capability, nonirrigated:** 2e
- **Hydrologic group:** B
- **Potential for frost action:** moderate
Map Unit Description (MN)
Meeker County, Minnesota

L354A--Grovecity loam, 1 to 3 percent slopes

**Grovecity**

- **Extent:** 70 to 85 percent of the unit
- **Landform(s):** rises on moraines
- **Slope gradient:** 1 to 3 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** moderately well drained

<table>
<thead>
<tr>
<th>Representative soil profile</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap.A</td>
<td>loam</td>
<td>moderately rapid</td>
<td>2.99 to 3.29 in</td>
<td>6.1 to 7.3</td>
</tr>
<tr>
<td>Bw</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>1.80 to 2.84 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>C</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>5.50 to 9.50 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 5
- **Wind erodibility index (WEI):** 56
- **Kw factor (surface layer):** .20
- **Land capability, nonirrigated:** 1
- **Hydric soil:** no
- **Hydrologic group:** B
- **Potential for frost action:** high

This report shows only the major soils in each map unit
L355B--Koronis-Sunburg-Hawick complex, 2 to 6 percent slopes

**Koronis**

- **Extent:** 40 to 60 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 2 to 6 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 3
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** 0.24
- **Land capability, nonirrigated:** 2e
- **Drainage class:** well drained
- **Potential for frost action:** moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>1.02 to 1.42 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt -- 8 to 31 in</td>
<td>sandy clay loam</td>
<td>moderately rapid</td>
<td>3.48 to 4.41 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk -- 31 to 43 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>1.30 to 2.24 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C -- 43 to 80 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>4.07 to 5.92 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Sunburg**

- **Extent:** 15 to 25 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 4 to 6 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Soil loss tolerance (T factor):** 5
- **Wind erodibility group (WEG):** 3
- **Wind erodibility index (WEI):** 86
- **Kw factor (surface layer):** 0.24
- **Land capability, nonirrigated:** 2e
- **Hydric soil:** no
- **Hydrologic group:** B
- **Drainage class:** well drained
- **Potential for frost action:** moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 10 in</td>
<td>sandy loam</td>
<td>moderate</td>
<td>1.97 to 2.17 in</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>C -- 10 to 60 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>5.50 to 8.00 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L355B--Koronis-Sunburg-Hawick complex, 2 to 6 percent slopes

**Hawick**

- **Extent:** 10 to 20 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 2 to 6 percent
- **Parent material:** outwash
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** excessively drained

**Soil loss tolerance (T factor):** 5
**Wind erodibility group (WEG):** 3
**Wind erodibility index (WEI):** 86
**Kw factor (surface layer):** .10
**Land capability, nonirrigated:** 4s
**Hydric soil:** no
**Hydrologic group:** A
**Potential for frost action:** low

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Layer</th>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 7 in</td>
<td>sandy loam</td>
<td>rapid</td>
<td>0.21 to 0.92 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bw,C</td>
<td>7 to 80 in</td>
<td>gravelly coarse sand</td>
<td>very rapid</td>
<td>1.46 to 4.37 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit.
L355C2--Koronis-Sunburg-Hawick complex, 6 to 12 percent slopes, moderately eroded

Koronis, moderately eroded

**Extent:** 35 to 55 percent of the unit

**Landform(s):** hills on moraines

**Slope gradient:** 6 to 12 percent

**Parent material:** till

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** well drained

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 3

**Wind erodibility index (WEI):** 86

**Kw factor (surface layer):** .24

**Hydric soil:** no

**Hydrologic group:** A

**Potential for frost action:** moderate

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in sandy loam</td>
<td>moderately rapid</td>
<td>1.02 to 1.42 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt -- 8 to 31 in sandy clay loam</td>
<td>moderately rapid</td>
<td>3.48 to 4.41 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk -- 31 to 43 in fine sandy loam</td>
<td>moderately rapid</td>
<td>1.30 to 2.24 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C -- 43 to 80 in fine sandy loam</td>
<td>moderately rapid</td>
<td>4.07 to 5.92 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Sunburg, moderately eroded

**Extent:** 20 to 30 percent of the unit

**Landform(s):** hills on moraines

**Slope gradient:** 6 to 12 percent

**Parent material:** till

**Restrictive feature(s):** greater than 60 inches

**Flooding:** none

**Ponding:** none

**Drainage class:** well drained

**Soil loss tolerance (T factor):** 5

**Wind erodibility group (WEG):** 3

**Wind erodibility index (WEI):** 86

**Kw factor (surface layer):** .24

**Hydric soil:** no

**Hydrologic group:** B

**Potential for frost action:** moderate

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 10 in sandy loam</td>
<td>moderate</td>
<td>1.97 to 2.17 in</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>C -- 10 to 60 in fine sandy loam</td>
<td>moderately rapid</td>
<td>5.50 to 8.00 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L355C2--Koronis-Sunburg-Hawick complex, 6 to 12 percent slopes, moderately eroded

Hawick

- **Extent:** 10 to 25 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 6 to 12 percent
- **Parent material:** outwash
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** excessively drained

**Soil loss tolerance (T factor):** 5
**Wind erodibility group (WEG):** 5
**Wind erodibility index (WEI):** 56
**Kw factor (surface layer):** .10
**Land capability, nonirrigated:** 4s
**Hydric soil:** no
**Hydrologic group:** A
**Potential for frost action:** low

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>gravelly sandy loam</td>
<td>rapid</td>
<td>0.21 to 0.92 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bw,C</td>
<td>gravelly coarse sand</td>
<td>very rapid</td>
<td>1.46 to 4.37 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit.
### L355D2--Koronis-Sunburg-Hawick complex, 12 to 18 percent slopes, moderately eroded

**Koronis, moderately eroded**

- **Extent:** 30 to 50 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 12 to 18 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

#### Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>1.02 to 1.42 in 5.6 to 7.3</td>
</tr>
<tr>
<td>Bt</td>
<td>sandy clay loam</td>
<td>moderately rapid</td>
<td>3.48 to 4.41 in 5.6 to 7.3</td>
</tr>
<tr>
<td>Bk</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>1.30 to 2.24 in 7.4 to 8.4</td>
</tr>
<tr>
<td>C</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>4.07 to 5.92 in 7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Sunburg, moderately eroded**

- **Extent:** 20 to 40 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 12 to 18 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

#### Representative soil profile:

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>sandy loam</td>
<td>moderate</td>
<td>1.42 to 1.56 in 6.6 to 8.4</td>
</tr>
<tr>
<td>C</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>5.80 to 8.44 in 7.4 to 8.4</td>
</tr>
</tbody>
</table>
L355D2--Koronis-Sunburg-Hawick complex, 12 to 18 percent slopes, moderately eroded

Hawick

Extent: 10 to 20 percent of the unit
Landform(s): hills on moraines
Slope gradient: 12 to 18 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 5
Wind erodibility index (WEI): 56
Kw factor (surface layer): .17
Hydraulic soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:

<table>
<thead>
<tr>
<th>Layer</th>
<th>Depth</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 7</td>
<td>gravelly sandy loam</td>
<td>rapid</td>
<td>0.21 to 0.92 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bw</td>
<td>7 to 20</td>
<td>gravelly loamy coarse sand</td>
<td>rapid</td>
<td>0.39 to 1.30 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bk</td>
<td>20 to 60</td>
<td>gravelly coarse sand</td>
<td>very rapid</td>
<td>0.80 to 2.39 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit.
Map Unit Description (MN)
Meeker County, Minnesota

L355E--Koronis-Sunburg-Hawick complex, 18 to 40 percent slopes

Koronis

**Extent:** 30 to 70 percent of the unit  
**Landform(s):** hills on moraines  
**Slope gradient:** 18 to 40 percent  
**Parent material:** till  
**Restrictive feature(s):** greater than 60 inches  
**Soil loss tolerance (T factor):** 5  
**Wind erodibility group (WEG):** 3  
**Wind erodibility index (WEI):** 86  
**Kw factor (surface layer):** .24  
**Hydric soil:** no  
**Hydrologic group:** A  
**Potential for frost action:** moderate

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 5</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>0.67 to 0.92</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>5 to 21</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>2.36 to 2.99</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>21 to 60</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>4.29 to 6.24</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

Sunburg

**Extent:** 15 to 25 percent of the unit  
**Landform(s):** hills on moraines  
**Slope gradient:** 18 to 40 percent  
**Parent material:** till  
**Restrictive feature(s):** greater than 60 inches  
**Soil loss tolerance (T factor):** 5  
**Wind erodibility group (WEG):** 3  
**Wind erodibility index (WEI):** 86  
**Kw factor (surface layer):** .24  
**Hydric soil:** no  
**Hydrologic group:** B  
**Potential for frost action:** moderate

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Depth (in)</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 7</td>
<td>fine sandy loam</td>
<td>moderate</td>
<td>1.42 to 1.56</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>7 to 60</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>5.80 to 8.44</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L355E--Koronis-Sunburg-Hawick complex, 18 to 40 percent slopes

Hawick

Extent: 10 to 25 percent of the unit
Landform(s): hills on moraines
Slope gradient: 18 to 40 percent
Parent material: outwash
Restrictive feature(s): greater than 60 inches
Flooding: none
Ponding: none
Drainage class: excessively drained

Soil loss tolerance (T factor): 5
Wind erodibility group (WEG): 2
Wind erodibility index (WEI): 134
Kw factor (surface layer): .17
Land capability, nonirrigated: 7s
Hydric soil: no
Hydrologic group: A
Potential for frost action: low

Representative soil profile:

<table>
<thead>
<tr>
<th>Layer</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>gravelly loamy sand</td>
<td>rapid</td>
<td>0.43 to 1.84 in</td>
<td>6.1 to 7.8</td>
</tr>
<tr>
<td>Bk</td>
<td>gravelly coarse sand</td>
<td>rapid</td>
<td>1.37 to 4.57 in</td>
<td>6.1 to 7.8</td>
</tr>
</tbody>
</table>
L356C2--Sunburg-Wadenill complex, 6 to 12 percent slopes, moderately eroded

Sunburg, moderately eroded

*Extent*: 50 to 70 percent of the unit
*Landform(s)*: hills on moraines
*Slope gradient*: 6 to 12 percent
*Parent material*: till
*Restrictive feature(s)*: greater than 60 inches
*Flooding*: none
*Ponding*: none
*Drainage class*: well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>moderate</td>
<td>1.57 to 1.73 in</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>Bk -- 8 to 20 in</td>
<td>moderately rapid</td>
<td>1.34 to 2.32 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C -- 20 to 80 in</td>
<td>moderately rapid</td>
<td>6.58 to 9.57 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor)**: 5
**Wind erodibility group (WEG)**: 4L
**Wind erodibility index (WEI)**: 86
**Kw factor (surface layer)**: .24
**Land capability, nonirrigated**: 3e
**Hydric soil**: no
**Hydrologic group**: B
**Potential for frost action**: moderate

Wadenill, moderately eroded

*Extent*: 20 to 40 percent of the unit
*Landform(s)*: hills on moraines
*Slope gradient*: 6 to 12 percent
*Parent material*: till
*Restrictive feature(s)*: greater than 60 inches
*Flooding*: none
*Ponding*: none
*Drainage class*: well drained

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 10 in</td>
<td>moderate</td>
<td>1.97 to 2.17 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw -- 10 to 31 in</td>
<td>moderately rapid</td>
<td>2.55 to 4.04 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>C -- 31 to 80 in</td>
<td>moderately rapid</td>
<td>5.37 to 9.28 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor)**: 5
**Wind erodibility group (WEG)**: 3
**Wind erodibility index (WEI)**: 86
**Kw factor (surface layer)**: .24
**Land capability, nonirrigated**: 3e
**Hydric soil**: no
**Hydrologic group**: B
**Potential for frost action**: moderate
L356D2--Sunburg-Wadenill complex, 12 to 18 percent slopes, moderately eroded

**Sunburg, moderately eroded**

- **Extent**: 60 to 80 percent of the unit
- **Landform(s)**: hills on moraines
- **Slope gradient**: 12 to 18 percent
- **Parent material**: till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: well drained
- **Soil loss tolerance (T factor)**: 5
- **Wind erodibility group (WEG)**: 4L
- **Wind erodibility index (WEI)**: 86
- **Kw factor (surface layer)**: .24
- **Land capability, nonirrigated**: 4e
- **Drainage class**: well drained
- **Hydrologic group**: B
- **Potential for frost action**: moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.57 to 1.73 in</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>Bk -- 8 to 20 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>1.34 to 2.32 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C -- 20 to 80 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>6.58 to 9.57 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Wadenill, moderately eroded**

- **Extent**: 15 to 30 percent of the unit
- **Landform(s)**: hills on moraines
- **Slope gradient**: 12 to 18 percent
- **Parent material**: till
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**: none
- **Ponding**: none
- **Drainage class**: well drained
- **Soil loss tolerance (T factor)**: 5
- **Wind erodibility group (WEG)**: 3
- **Wind erodibility index (WEI)**: 86
- **Kw factor (surface layer)**: .24
- **Land capability, nonirrigated**: 4e
- **Hydrologic group**: A
- **Potential for frost action**: moderate

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 10 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>1.57 to 1.77 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bw -- 10 to 31 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>2.55 to 4.04 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>C -- 31 to 80 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>5.37 to 9.28 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L357B--Koronis-Sunburg complex, 2 to 6 percent slopes

**Koronis**

*Extent:* 50 to 80 percent of the unit

*Landform(s):* hills on moraines

*Slope gradient:* 2 to 6 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer):* .24

*Land capability, nonirrigated:* 2e

*Hydrologic group:* A

*Potential for frost action:* moderate

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt -- 8 to 31 in</td>
<td>sandy clay loam</td>
<td>moderately rapid</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk -- 31 to 43 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C -- 43 to 80 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Sunburg**

*Extent:* 15 to 25 percent of the unit

*Landform(s):* hills on moraines

*Slope gradient:* 4 to 6 percent

*Parent material:* till

*Restrictive feature(s):* greater than 60 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 4L

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer):* .24

*Land capability, nonirrigated:* 2e

*Hydrologic group:* B

*Potential for frost action:* moderate

**Representative soil profile:**

<table>
<thead>
<tr>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>loam</td>
<td>moderate</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>Bk -- 8 to 20 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C -- 20 to 80 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>
L357C2--Koronis-Sunburg complex, 6 to 12 percent slopes, moderately eroded

Koronis, moderately eroded

**Extent:** 50 to 75 percent of the unit  
**Landform(s):** hills on moraines  
**Slope gradient:** 6 to 12 percent  
**Parent material:** till  
**Restrictive feature(s):** greater than 60 inches  
**Flooding:** none  
**Ponding:** none  
**Drainage class:** well drained  

**Representative soil profile:**

<table>
<thead>
<tr>
<th></th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 8 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>1.02 to 1.42 in</td>
</tr>
<tr>
<td>Bt</td>
<td>8 to 31 in</td>
<td>sandy clay loam</td>
<td>moderately rapid</td>
<td>3.48 to 4.41 in</td>
</tr>
<tr>
<td>Bk</td>
<td>31 to 43 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>1.30 to 2.24 in</td>
</tr>
<tr>
<td>C</td>
<td>43 to 80 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>4.07 to 5.92 in</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5  
**Wind erodibility group (WEG):** 3  
**Wind erodibility index (WEI):** 86  
**Kw factor (surface layer):** .24  
**Land capability, nonirrigated:** 3e  
**Hydric soil:** no  
**Hydrologic group:** A  
**Potential for frost action:** moderate

Sunburg, moderately eroded

**Extent:** 15 to 30 percent of the unit  
**Landform(s):** hills on moraines  
**Slope gradient:** 8 to 12 percent  
**Parent material:** till  
**Restrictive feature(s):** greater than 60 inches  
**Flooding:** none  
**Ponding:** none  
**Drainage class:** well drained  

**Representative soil profile:**

<table>
<thead>
<tr>
<th></th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap</td>
<td>0 to 8 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.57 to 1.73 in</td>
</tr>
<tr>
<td>Bk</td>
<td>8 to 20 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>1.34 to 2.32 in</td>
</tr>
<tr>
<td>C</td>
<td>20 to 80 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>6.58 to 9.57 in</td>
</tr>
</tbody>
</table>

**Soil loss tolerance (T factor):** 5  
**Wind erodibility group (WEG):** 4L  
**Wind erodibility index (WEI):** 86  
**Kw factor (surface layer):** .24  
**Land capability, nonirrigated:** 3e  
**Hydric soil:** no  
**Hydrologic group:** B  
**Potential for frost action:** moderate

This report shows only the major soils in each map unit.
L357D2--Koronis-Sunburg complex, 12 to 18 percent slopes, moderately eroded

**Koronis, moderately eroded**

- **Extent:** 55 to 75 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 12 to 18 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>sandy loam</td>
<td>moderately rapid</td>
<td>1.02 to 1.42 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bt -- 8 to 31 in</td>
<td>sandy clay loam</td>
<td>moderately rapid</td>
<td>3.48 to 4.41 in</td>
<td>5.6 to 7.3</td>
</tr>
<tr>
<td>Bk -- 31 to 43 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>1.30 to 2.24 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C -- 43 to 80 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>4.07 to 5.92 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

**Sunburg, moderately eroded**

- **Extent:** 15 to 35 percent of the unit
- **Landform(s):** hills on moraines
- **Slope gradient:** 12 to 18 percent
- **Parent material:** till
- **Restrictive feature(s):** greater than 60 inches
- **Flooding:** none
- **Ponding:** none
- **Drainage class:** well drained

<table>
<thead>
<tr>
<th>Representative soil profile:</th>
<th>Texture</th>
<th>Permeability</th>
<th>Available water capacity</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ap -- 0 to 8 in</td>
<td>loam</td>
<td>moderate</td>
<td>1.57 to 1.73 in</td>
<td>6.6 to 8.4</td>
</tr>
<tr>
<td>Bk -- 8 to 20 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>1.34 to 2.32 in</td>
<td>7.4 to 8.4</td>
</tr>
<tr>
<td>C -- 20 to 80 in</td>
<td>fine sandy loam</td>
<td>moderately rapid</td>
<td>6.58 to 9.57 in</td>
<td>7.4 to 8.4</td>
</tr>
</tbody>
</table>

This report shows only the major soils in each map unit.
### Map Unit Description (MN)
Meeker County, Minnesota

---

**W--Water**

**Water**

- **Extent**: 100 percent of the unit
- **Landform(s)**:
- **Slope gradient**:
- **Parent material**:
- **Restrictive feature(s)**: greater than 60 inches
- **Flooding**:
- **Ponding**:
- **Drainage class**:

**Representative soil profile**: | **Texture** | **Permeability** | **Available water capacity** | **pH**
--- | --- | --- | --- | ---

This report provides a semitabular listing of some soil and site properties and interpretations that are valuable in communicating the concept of a map unit. The report also provides easy access to the commonly used conservation planning information in one place. The major soil components in each map unit are displayed. Minor components may be displayed if they are included in the database and are selected at the time the report is generated.