

## Map Unit Description (MN)

Kittson 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]

### 50--Cashel clay, 0 to 2 percent slopes, flooded

#### Cashel, occasionally flooded

*Extent:* 85 percent of the unit

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

*Slope gradient:* 0 to 2 percent

*Parent material:* alluvium

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

*Flooding:* occasional

*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)* .32

*Land capability, nonirrigated* 2e

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,Cg1 -- 0 to 12 in	clay	moderately slow	1.77 to 2.13 in	7.4 to 8.4
Cg2,Cg3 -- 12 to 60 in	clay	moderately slow	6.24 to 8.17 in	7.4 to 8.4

### 157--Wahpeton silty clay, 0 to 2 percent slopes, flooded

#### Wahpeton, occasionally flooded

*Extent:* 85 percent of the unit

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

*Slope gradient:* 0 to 2 percent

*Parent material:* alluvium

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

*Flooding:* occasional

*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* 2s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,B1 -- 0 to 15 in	silty clay	moderate	2.09 to 2.69 in	6.1 to 7.8
B2..C -- 15 to 60 in	silty clay	moderate	5.83 to 7.63 in	6.6 to 8.4

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### 157B--Wahpeton silty clay, 2 to 6 percent slopes, flooded

#### Wahpeton, occasionally flooded

*Extent:* 85 percent of the unit

*Landform(s):* rises on flood plains

*Slope gradient:* 2 to 6 percent

*Parent material:* alluvium

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

*Flooding:* occasional

*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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,B1 -- 0 to 15 in	silty clay	moderate	2.09 to 2.69 in	6.1 to 7.8
B2..C -- 15 to 60 in	silty clay	moderate	5.83 to 7.63 in	6.6 to 8.4

### 429B--Northcote clay, 2 to 6 percent slopes

#### Northcote

*Extent:* 85 percent of the unit

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

*Slope gradient:* 2 to 6 percent

*Parent material:* 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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	clay	slow	1.18 to 1.45 in	6.6 to 7.3
Bg -- 9 to 18 in	clay	slow	0.91 to 1.27 in	6.6 to 7.8
Cg1..Cg3 -- 18 to 60 in	clay	slow	4.17 to 5.84 in	7.4 to 8.4

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### 1002--Alluvial land, 0 to 2 percent slopes, flooded

#### Alluvial land, frequently flooded

*Extent:* 100 percent of the unit

*Landform(s):* flats on flood plains, swales on flood plains

*Slope gradient:* 0 to 2 percent

*Parent material:* alluvium

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

*Flooding:* frequent

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated* 5w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:*

*Representative soil profile:*

*Texture*

*Permeability*

*Available water  
capacity*

*pH*

## Map Unit Description (MN)

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### 1006--Breaks and Alluvial land, flooded, 0 to 3 percent slopes

#### Breaks

*Extent:* 50 percent of the unit

*Landform(s):* hillslopes on flood plains

*Slope gradient:* 0 to 3 percent

*Parent material:* glaciolacustrine deposits

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

*Flooding:* none

*Ponding:* none

*Drainage class:* well drained

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated* 2e

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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#### Alluvial land, frequently flooded

*Extent:* 50 percent of the unit

*Landform(s):* flats on flood plains, swales on flood plains

*Slope gradient:* 0 to 1 percent

*Parent material:* alluvium

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

*Flooding:* frequent

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)*

*Land capability, nonirrigated* 5w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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## Map Unit Description (MN)

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### I13A--Espelie fine sandy loam, 0 to 2 percent slopes

#### Espelie

*Extent:* 75 percent of the unit

*Landform(s):* flats on lake plains, swales on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciolacustrine deposits over till

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

*Flooding:* none

*Ponding:* occasional

*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

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	moderately rapid	1.18 to 1.63 in	6.6 to 7.3
Bw1-2 -- 9 to 24 in	fine sand	rapid	0.90 to 1.65 in	6.6 to 7.8
2Bg-2Cg -- 24 to 80 in	clay	slow	5.03 to 10.62 in	7.4 to 8.4

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### I16F--Fluvaquents, flooded-Hapludolls complex, 0 to 30 percent slopes

#### Fluvaquents, frequently flooded

*Extent:* 55 percent of the unit

*Landform(s):* flats on flood plains, swales on flood plains

*Slope gradient:* 0 to 2 percent

*Parent material:* alluvium

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

*Flooding:* frequent

*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)* .20

*Land capability, nonirrigated* 6w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 16 in	fine sandy loam	moderately rapid	2.58 to 3.87 in	6.6 to 7.8
Cg -- 16 to 80 in	stratified loamy sand to silt loam	rapid	2.55 to 12.76 in	6.6 to 7.8

#### Hapludolls, rarely flooded

*Extent:* 25 percent of the unit

*Landform(s):* escarpments on flood plains

*Slope gradient:* 2 to 30 percent

*Parent material:* glaciolacustrine deposits and/or till

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

*Flooding:* rare

*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* 2e

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 9 in	loam	moderate	1.54 to 1.99 in	6.6 to 7.8
C -- 9 to 60 in	loam	moderate	7.11 to 11.17 in	7.4 to 8.4

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### I32A--Hilaire fine sandy loam, 0 to 3 percent slopes

#### Hilaire

*Extent:* 75 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* glaciolacustrine deposits over 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):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 2s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 10 in	fine sandy loam	moderately rapid	1.28 to 1.77 in	6.6 to 7.3
Bw1-Bw4 -- 10 to 34 in	fine sand	rapid	1.68 to 2.64 in	6.6 to 7.8
2BCK -- 34 to 80 in	clay	slow	4.15 to 8.75 in	7.4 to 8.4

### I34A--Huot fine sandy loam, 0 to 3 percent slopes

#### Huot

*Extent:* 75 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* glaciolacustrine deposits over 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):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 2s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,Ak -- 0 to 14 in	fine sandy loam	moderately rapid	1.84 to 2.55 in	7.4 to 8.4
Bk -- 14 to 26 in	loamy fine sand	moderately rapid	1.06 to 2.01 in	7.4 to 8.4
C1 -- 26 to 34 in	fine sand	rapid	0.47 to 0.87 in	7.4 to 8.4
2C2-3 -- 34 to 80 in	clay	slow	4.15 to 8.75 in	7.4 to 8.4

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### I40B--Maddock loamy fine sand, 1 to 6 percent slopes

#### Maddock

*Extent:* 75 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 1 to 6 percent

*Parent material:* 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):* 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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 10 in	loamy fine sand	rapid	0.89 to 1.18 in	6.6 to 7.8
Bw -- 10 to 14 in	fine sand	rapid	0.22 to 0.48 in	6.6 to 8.4
C -- 14 to 60 in	fine sand	rapid	2.28 to 4.57 in	6.6 to 8.4

### I41A--Markey muck, 0 to 1 percent slopes

#### Markey

*Extent:* 80 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over glaciolacustrine deposits

*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* 6w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 32 in	muck	moderately rapid	11.16 to 14.35 in	
Cg -- 32 to 60 in	fine sand	rapid	0.84 to 2.80 in	5.6 to 8.4

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### I42A--Markey muck, ponded, 0 to 1 percent slopes

#### Markey, ponded

*Extent:* 85 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over glaciolacustrine deposits

*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:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 32 in	muck	moderately rapid	11.16 to 14.35 in	6.1 to 7.8
Cg -- 32 to 60 in	fine sand	rapid	0.84 to 2.24 in	

### I47A--Poppleton fine sand, 0 to 3 percent slopes

#### Poppleton

*Extent:* 75 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* 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):* 1

*Wind erodibility index (WEI):* 250

*Kw factor (surface layer)* .15

*Land capability, nonirrigated* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 6 in	fine sand	rapid	0.35 to 0.53 in	5.6 to 7.3
E -- 6 to 9 in	fine sand	rapid	0.16 to 0.22 in	6.1 to 7.8
Bw -- 9 to 40 in	fine sand	rapid	1.56 to 2.18 in	6.1 to 7.8
C -- 40 to 60 in	fine sand	rapid	0.98 to 1.38 in	6.1 to 7.8

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### I48A--Radium loamy sand, 0 to 3 percent slopes

#### Radium

*Extent:* 75 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* beach 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):* 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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 14 in	loamy sand	rapid	0.85 to 1.70 in	6.1 to 7.8
Bw1-2 -- 14 to 33 in	sand	rapid	0.57 to 1.51 in	6.6 to 8.4
C1 -- 33 to 43 in	gravelly coarse sand	very rapid	0.20 to 0.49 in	7.4 to 8.4
C2-4 -- 43 to 80 in	sand	rapid	1.11 to 3.33 in	7.4 to 8.4

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### I57B--Sandberg-Radium complex, 1 to 6 percent slopes

#### Sandberg

*Extent:* 50 percent of the unit

*Landform(s):* beach ridges on lake plains

*Slope gradient:* 1 to 6 percent

*Parent material:* beach deposits

*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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 12 in	loamy sand	rapid	1.18 to 1.42 in	5.6 to 7.8
Bw -- 12 to 19 in	gravelly loamy coarse sand	rapid	0.21 to 0.71 in	6.1 to 7.8
Bk -- 19 to 29 in	gravelly coarse sand	very rapid	0.20 to 0.61 in	7.4 to 8.4
C -- 29 to 80 in	gravelly coarse sand	very rapid	1.02 to 2.03 in	7.4 to 8.4

#### Radium

*Extent:* 25 percent of the unit

*Landform(s):* beach ridges on lake plains

*Slope gradient:* 1 to 3 percent

*Parent material:* beach 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):* 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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 14 in	loamy sand	rapid	0.85 to 1.70 in	6.1 to 7.8
Bw1-2 -- 14 to 33 in	sand	rapid	0.57 to 1.51 in	6.6 to 8.4
C1 -- 33 to 43 in	very gravelly coarse sand	very rapid	0.20 to 0.49 in	7.4 to 8.4
C2-4 -- 43 to 80 in	sand	rapid	1.11 to 3.33 in	7.4 to 8.4

## Map Unit Description (MN)

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### I63A--Thiefriever fine sandy loam, 0 to 2 percent slopes

#### Thiefriever

*Extent:* 70 percent of the unit

*Landform(s):* flats on lake plains, swales on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciolacustrine deposits over till

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

*Flooding:* none

*Ponding:* occasional

*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

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap-A -- 0 to 12 in	fine sandy loam	moderately rapid	1.54 to 2.13 in	7.4 to 8.4
Bkg1-3 -- 12 to 23 in	loamy fine sand	moderately rapid	0.99 to 1.87 in	7.4 to 8.4
Cg1 -- 23 to 32 in	fine sand	rapid	0.54 to 1.00 in	7.4 to 8.4
2Cg2-3 -- 32 to 80 in	clay	slow	4.32 to 9.13 in	7.4 to 8.4

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### I75A--Radium-Sandberg-Garborg complex, 0 to 3 percent slopes

#### Radium

*Extent:* 40 percent of the unit

*Landform(s):* beach ridges on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* beach 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):* 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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 14 in	loamy sand	rapid	0.85 to 1.70 in	6.1 to 7.8
Bw1-2 -- 14 to 33 in	sand	rapid	0.57 to 1.51 in	6.6 to 8.4
C1 -- 33 to 43 in	very gravelly coarse sand	very rapid	0.20 to 0.49 in	7.4 to 8.4
C2-4 -- 43 to 80 in	sand	rapid	1.11 to 3.33 in	7.4 to 8.4

#### Sandberg

*Extent:* 20 percent of the unit

*Landform(s):* beach ridges on lake plains

*Slope gradient:* 1 to 6 percent

*Parent material:* beach deposits

*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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 12 in	loamy sand	rapid	1.18 to 1.42 in	5.6 to 7.8
Bw -- 12 to 19 in	gravelly loamy coarse sand	rapid	0.21 to 0.71 in	6.1 to 7.8
Bk -- 19 to 29 in	gravelly coarse sand	very rapid	0.20 to 0.61 in	7.4 to 8.4
C -- 29 to 80 in	gravelly coarse sand	very rapid	1.02 to 2.03 in	7.4 to 8.4

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### I75A--Radium-Sandberg-Garborg complex, 0 to 3 percent slopes

#### Garborg

*Extent:* 15 percent of the unit

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

*Slope gradient:* 0 to 3 percent

*Parent material:* glaciolacustrine 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):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .17

*Land capability, nonirrigated* 3w

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A -- 0 to 12 in	loamy fine sand	rapid	1.18 to 1.54 in	6.1 to 7.8
Bw1-3 -- 12 to 41 in	loamy fine sand	rapid	1.75 to 3.50 in	6.6 to 8.4
Bck -- 41 to 59 in	fine sand	rapid	1.09 to 1.81 in	7.4 to 8.4
C1-2 -- 59 to 80 in	fine sand	rapid	1.25 to 2.09 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I76A--Karlstad loamy sand, 0 to 3 percent slopes

#### Karlstad

*Extent:* 70 percent of the unit

*Landform(s):* beach ridges on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* beach deposits

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

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .17

*Land capability, nonirrigated* 3s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 6 in	loamy sand	rapid	0.53 to 0.65 in	5.6 to 7.3
E -- 6 to 7 in	loamy sand	rapid	0.06 to 0.15 in	5.6 to 7.3
Bt1 -- 7 to 10 in	sandy loam	moderately rapid	0.30 to 0.44 in	6.1 to 7.8
2Bt2 -- 10 to 14 in	gravelly sandy loam	moderately rapid	0.30 to 0.61 in	6.1 to 7.8
2C -- 14 to 80 in	stratified gravelly coarse sand to loamy fine sand	rapid	1.31 to 6.57 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I77A--Deerwood muck, dense till, 0 to 1 percent slopes

#### Deerwood

*Extent:* 75 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over glaciolacustrine deposits

*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):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .02

*Land capability, nonirrigated* 6w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 10 in	muck	moderately rapid	3.44 to 4.43 in	5.6 to 7.8
A -- 10 to 12 in	loamy sand	rapid	0.18 to 0.35 in	6.1 to 8.4
Cg -- 12 to 60 in	sand	rapid	0.96 to 3.36 in	7.4 to 8.4

### I78B--Marquette loamy sand, 1 to 8 percent slopes

#### Marquette

*Extent:* 65 percent of the unit

*Landform(s):* beach ridges on lake plains

*Slope gradient:* 1 to 8 percent

*Parent material:* beach deposits

*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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 7 in	loamy sand	rapid	0.64 to 0.78 in	5.6 to 7.3
Bt -- 7 to 16 in	very gravelly sandy loam	moderately rapid	0.36 to 0.81 in	6.6 to 8.4
C -- 16 to 80 in	stratified very gravelly coarse sand to fine sand	very rapid	1.28 to 2.55 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### 179A--Berner, Cathro, and Haug soils, ponded, dense till, 0 to 1 percent slopes

#### Cathro, ponded, dense till

*Extent:* 30 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over glaciolacustrine deposits or till

*Restrictive feature(s):* dense material at 30 to 50 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:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 40 in	muck	moderately rapid	14.06 to 18.07 in	5.6 to 7.8
A -- 40 to 42 in	loam	moderate	0.24 to 0.43 in	6.6 to 7.8
Cdg -- 42 to 80 in	loam	moderately slow	2.27 to 3.78 in	7.4 to 8.4

#### Berner, ponded, dense till

*Extent:* 30 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over glaciolacustrine deposits and/or till

*Restrictive feature(s):* dense material at 20 to 50 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:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 28 in	muck	moderately rapid	9.78 to 12.58 in	5.6 to 7.3
A -- 28 to 31 in	sandy loam	moderately rapid	0.31 to 0.57 in	6.1 to 7.3
Bg -- 31 to 44 in	sand	rapid	0.65 to 0.91 in	6.1 to 7.8
2Cdg -- 44 to 80 in	loam	moderately slow	1.79 to 3.58 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### 179A--Berner, Cathro, and Haug soils, ponded, dense till, 0 to 1 percent slopes

#### Haug, ponded

*Extent:* 30 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over glaciolacustrine deposits or till

*Restrictive feature(s):* dense material at 25 to 50 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)* .02

*Land capability, nonirrigated* 8w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

*Representative soil profile:*

	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 9 in	muck	moderately rapid	3.17 to 4.07 in	6.1 to 7.8
A -- 9 to 15 in	loam	moderate	0.71 to 1.30 in	6.6 to 8.4
Bkg -- 15 to 30 in	loam	moderate	1.80 to 2.84 in	7.4 to 8.4
Cdg -- 30 to 80 in	loam	moderately slow	2.50 to 5.00 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I80B--Karlstad-Marquette complex, 0 to 8 percent slopes

#### Karlstad

*Extent:* 45 percent of the unit

*Landform(s):* beach ridges on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* beach deposits

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

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .17

*Land capability, nonirrigated* 3s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 6 in	loamy sand	rapid	0.53 to 0.65 in	5.6 to 7.3
E -- 6 to 7 in	loamy sand	rapid	0.06 to 0.15 in	5.6 to 7.3
Bt1 -- 7 to 10 in	sandy loam	moderately rapid	0.30 to 0.44 in	6.1 to 7.8
2Bt2 -- 10 to 14 in	gravelly sandy loam	moderately rapid	0.30 to 0.61 in	6.1 to 7.8
2C -- 14 to 80 in	stratified gravelly coarse sand to loamy fine sand	rapid	1.31 to 6.57 in	7.4 to 8.4

#### Marquette

*Extent:* 25 percent of the unit

*Landform(s):* beach ridges on lake plains

*Slope gradient:* 1 to 8 percent

*Parent material:* beach deposits

*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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 7 in	loamy sand	rapid	0.64 to 0.78 in	5.6 to 7.3
Bt -- 7 to 16 in	very gravelly sandy loam	moderately rapid	0.36 to 0.81 in	6.6 to 8.4
C -- 16 to 80 in	stratified very gravelly coarse sand to fine sand	very rapid	1.28 to 2.55 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### 181A--Northwood muck, dense till, 0 to 1 percent slopes

#### Northwood, dense till

*Extent:* 70 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over glaciolacustrine deposits and/or till

*Restrictive feature(s):* dense material at 20 to 50 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 3

*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

*Representative soil profile:*

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa --	0 to 9 in	muck	moderately rapid	3.17 to 4.07 in	5.6 to 7.8
A --	9 to 14 in	loamy fine sand	rapid	0.51 to 0.92 in	6.1 to 7.8
Bg --	14 to 24 in	fine sand	rapid	0.20 to 0.98 in	6.1 to 8.4
2BCkg --	24 to 35 in	loam	moderate	1.21 to 2.09 in	7.4 to 8.4
2Cdg --	35 to 80 in	loam	moderately slow	2.24 to 4.49 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I82A--Cathro muck, dense till, 0 to 1 percent slopes

#### Cathro, dense till

*Extent:* 75 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over till

*Restrictive feature(s):* dense material at 30 to 50 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* 6w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 40 in	muck	moderately rapid	14.06 to 18.07 in	5.6 to 7.8
A -- 40 to 42 in	loam	moderate	0.24 to 0.43 in	6.6 to 7.8
Cdg -- 42 to 80 in	loam	moderately slow	2.27 to 3.78 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### **I83A--Wildwood muck, dense till, 0 to 1 percent slopes**

#### **Wildwood**

*Extent:* 75 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over glaciolacustrine deposits

*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):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .02

*Land capability, nonirrigated* 6w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

*Representative soil profile:*

	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 12 in	muck	moderately rapid	4.13 to 5.31 in	5.6 to 6.5
A -- 12 to 17 in	silty clay	slow	0.56 to 1.18 in	5.6 to 7.3
Bg -- 17 to 24 in	clay	slow	0.57 to 0.85 in	7.4 to 8.4
Cg -- 24 to 60 in	clay	slow	2.87 to 4.30 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I84A--Percy loam, 0 to 2 percent slopes, very cobbly

#### Percy, very cobbly

*Extent:* 70 percent of the unit

*Landform(s):* flats on lake plains, swales on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* till

*Restrictive feature(s):* dense material at 25 to 40 inches

*Flooding:* none

*Ponding:* occasional

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 3s

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	loam	moderate	1.50 to 1.73 in	6.6 to 8.4
Bkg -- 8 to 23 in	loam	moderate	1.65 to 2.84 in	7.4 to 8.4
Cdg -- 23 to 80 in	loam	moderately slow	2.85 to 5.71 in	7.4 to 8.4

### I85A--Percy loam, 0 to 2 percent slopes, bouldery

#### Percy, bouldery

*Extent:* 65 percent of the unit

*Landform(s):* flats on lake plains, swales on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* till

*Restrictive feature(s):* dense material at 25 to 40 inches

*Flooding:* none

*Ponding:* occasional

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 8

*Wind erodibility index (WEI):* 0

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 6s

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 8 in	loam	moderate	1.50 to 1.73 in	6.6 to 8.4
Bkg -- 8 to 23 in	loam	moderate	1.65 to 2.84 in	7.4 to 8.4
Cdg -- 23 to 80 in	loam	moderately slow	2.85 to 5.71 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I86A--Percy mucky loam, depressional, 0 to 1 percent slopes

#### Percy

*Extent:* 70 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* till

*Restrictive feature(s):* dense material at 25 to 40 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)* .20

*Land capability, nonirrigated* 6w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 8 in	mucky loam	moderate	1.57 to 1.73 in	6.6 to 8.4
Bkg -- 8 to 23 in	loam	moderate	1.65 to 2.84 in	7.4 to 8.4
Cdg -- 23 to 80 in	loam	moderately slow	2.85 to 5.71 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### **I87A--Pelan sandy loam, dense till, 0 to 3 percent slopes**

#### **Pelan, dense till**

*Extent:* 65 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* glaciolacustrine deposits over till

*Restrictive feature(s):* dense material at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 3s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 6 in	sandy loam	moderately rapid	0.59 to 0.83 in	6.1 to 7.3
E -- 6 to 9 in	sand	rapid	0.16 to 0.35 in	6.1 to 7.3
Bt -- 9 to 14 in	very gravelly sandy loam	moderate	0.31 to 0.61 in	6.1 to 7.8
Bw -- 14 to 32 in	very gravelly coarse sand	very rapid	0.18 to 0.71 in	7.4 to 8.4
2Cd -- 32 to 60 in	loam	moderately slow	1.40 to 2.80 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I88A--Haug muck, 0 to 1 percent slopes

#### Haug

*Extent:* 75 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over till

*Restrictive feature(s):* dense material at 25 to 50 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 3

*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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa -- 0 to 9 in	muck	moderately rapid	3.17 to 4.07 in	6.1 to 7.8
A -- 9 to 15 in	loam	moderate	0.71 to 1.30 in	6.6 to 8.4
Bkg -- 15 to 30 in	loam	moderate	1.80 to 2.84 in	7.4 to 8.4
Cdg -- 30 to 80 in	loam	moderately slow	3.00 to 5.00 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### 189A--Nereson fine sandy loam, 0 to 3 percent slopes, very cobbly

#### Nereson, very cobbly

*Extent:* 65 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* till

*Restrictive feature(s):* dense material at 25 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .17

*Land capability, nonirrigated* 3s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	fine sandy loam	moderately rapid	0.92 to 1.20 in	6.1 to 7.3
Bt -- 7 to 11 in	sandy loam	moderate	0.35 to 0.71 in	6.6 to 7.8
2Bk -- 11 to 29 in	loam	moderate	1.99 to 3.44 in	7.4 to 8.4
2Cd -- 29 to 80 in	loam	moderately slow	2.54 to 5.08 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### 190A--Redby loamy fine sand, dense till, 0 to 3 percent slopes

#### Redby

*Extent:* 65 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* glaciolacustrine 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):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .17

*Land capability, nonirrigated* 3w

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	loamy fine sand	rapid	0.46 to 0.61 in	5.6 to 6.5
E -- 5 to 10 in	loamy fine sand	rapid	0.24 to 0.47 in	5.6 to 6.5
Bw -- 10 to 35 in	fine sand	rapid	1.26 to 1.76 in	5.6 to 7.3
C -- 35 to 80 in	fine sand	rapid	2.24 to 3.14 in	6.1 to 7.8

### 191A--Rosewood fine sandy loam, dense till, 0 to 2 percent slopes

#### Rosewood

*Extent:* 70 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* sandy glaciofluvial deposits

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

*Flooding:* none

*Ponding:* occasional

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .24

*Land capability, nonirrigated* 3w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	fine sandy loam	moderately rapid	1.10 to 1.42 in	7.4 to 8.4
Bkg -- 8 to 18 in	fine sandy loam	moderately rapid	0.92 to 1.74 in	7.4 to 8.4
Cg -- 18 to 80 in	fine sand	rapid	3.09 to 6.18 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### 192A--Grano clay, dense till, 0 to 2 percent slopes

#### Grano

*Extent:* 75 percent of the unit

*Landform(s):* drainageways on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* clayey glaciolacustrine deposits

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

*Flooding:* none

*Ponding:* frequent

*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:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 16 in	clay	moderately slow	2.26 to 2.91 in	7.4 to 8.4
Cg1 -- 16 to 44 in	silty clay	slow	3.91 to 4.75 in	7.4 to 8.4
Cg2 -- 44 to 60 in	silty clay	slow	2.05 to 2.52 in	7.4 to 8.4

### 193A--Viking clay loam, dense till, 0 to 2 percent slopes

#### Viking

*Extent:* 75 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* clayey till

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

*Flooding:* none

*Ponding:* frequent

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 7

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .24

*Land capability, nonirrigated* 2w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	clay loam	moderately slow	1.63 to 1.81 in	7.4 to 7.8
Bg -- 9 to 33 in	clay	very slow	2.36 to 3.31 in	7.4 to 7.8
Cg -- 33 to 60 in	clay	very slow	2.44 to 3.53 in	7.9 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I94A--Strathcona fine sandy loam, dense till, 0 to 2 percent slopes

#### Strathcona, dense till

*Extent:* 65 percent of the unit

*Landform(s):* flats on lake plains, swales on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciolacustrine deposits over till

*Restrictive feature(s):* dense material at 20 to 40 inches

*Flooding:* none

*Ponding:* occasional

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 2w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	fine sandy loam	moderately rapid	1.57 to 1.77 in	7.4 to 8.4
Bkg -- 10 to 17 in	fine sandy loam	moderately rapid	0.64 to 1.20 in	7.4 to 8.4
Cg -- 17 to 28 in	fine sand	rapid	0.55 to 1.10 in	7.4 to 8.4
2Cdg -- 28 to 80 in	loam	moderately slow	2.60 to 5.20 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### 195A--Kratka and Strathcona soils, depressional, dense till, 0 to 1 percent slopes

#### Kratka, dense till

*Extent:* 35 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* glaciolacustrine deposits over till

*Restrictive feature(s):* dense material at 20 to 40 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 6w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 11 in	mucky fine sandy loam	moderately rapid	1.76 to 1.98 in	6.1 to 7.8
Bg -- 11 to 18 in	loamy fine sand	rapid	0.43 to 0.78 in	6.1 to 7.8
Cg -- 18 to 25 in	fine sand	rapid	0.35 to 0.71 in	6.6 to 7.8
2Cdg -- 25 to 80 in	loam	moderately slow	2.74 to 5.47 in	7.4 to 8.4

#### Strathcona, dense till

*Extent:* 35 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* glaciolacustrine deposits over till

*Restrictive feature(s):* dense material at 20 to 40 inches

*Flooding:* none

*Ponding:* frequent

*Drainage class:* very poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 6w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	mucky fine sandy loam	rapid	1.97 to 2.95 in	7.4 to 8.4
Bkg -- 10 to 17 in	fine sandy loam	moderately rapid	0.64 to 1.20 in	7.4 to 8.4
Cg -- 17 to 28 in	fine sand	rapid	0.55 to 1.10 in	7.4 to 8.4
2Cdg -- 28 to 80 in	loam	moderately slow	2.60 to 5.20 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### 196D--Serden-Aylmer-Bantry complex, 0 to 9 percent slopes

#### Serden

*Extent:* 35 percent of the unit

*Landform(s):* dunes on lake plains

*Slope gradient:* 3 to 9 percent

*Parent material:* sandy eolian deposits

*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):* 250

*Kw factor (surface layer)* .15

*Land capability, nonirrigated* 6s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 5 in	fine sand	rapid	0.41 to 0.61 in	6.1 to 7.3
C1 -- 5 to 14 in	fine sand	rapid	0.54 to 1.00 in	6.6 to 7.8
C2 -- 14 to 80 in	fine sand	rapid	3.29 to 5.92 in	6.6 to 7.8

#### Aylmer

*Extent:* 25 percent of the unit

*Landform(s):* dunes on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* wind-worked sandy glaciofluvial 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):* 1

*Wind erodibility index (WEI):* 250

*Kw factor (surface layer)* .15

*Land capability, nonirrigated* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 7 in	fine sand	rapid	0.57 to 0.85 in	6.6 to 7.3
C1 -- 7 to 24 in	fine sand	rapid	0.85 to 1.19 in	6.1 to 8.4
C2 -- 24 to 60 in	sand	rapid	1.79 to 2.51 in	6.1 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### 196D--Serden-Aylmer-Bantry complex, 0 to 9 percent slopes

#### Bantry

<i>Extent:</i> 15 percent of the unit	<i>Soil loss tolerance (T factor):</i> 5
<i>Landform(s):</i> swales on dunes	<i>Wind erodibility group (WEG):</i> 2
<i>Slope gradient:</i> 0 to 3 percent	<i>Wind erodibility index (WEI):</i> 134
<i>Parent material:</i> sandy glaciofluvial deposits and/or sandy eolian sands	<i>Kw factor (surface layer)</i> .17
<i>Restrictive feature(s):</i> greater than 60 inches	<i>Land capability, nonirrigated</i> 3s
<i>Flooding:</i> none	<i>Hydric soil:</i> no
<i>Ponding:</i> none	<i>Hydrologic group:</i> A
<i>Drainage class:</i> somewhat poorly drained	<i>Potential for frost action:</i> low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 4 in	loamy fine sand	rapid	0.31 to 0.47 in	6.1 to 7.8
C1 -- 4 to 16 in	fine sand	rapid	0.71 to 1.42 in	6.1 to 8.4
C2 -- 16 to 40 in	sand	rapid	1.22 to 1.71 in	6.1 to 8.4
C3 -- 40 to 60 in	fine sand	rapid	0.98 to 1.38 in	6.1 to 8.4

### 197A--Cormant loamy fine sand, dense till, 0 to 2 percent slopes

#### Cormant

<i>Extent:</i> 65 percent of the unit	<i>Soil loss tolerance (T factor):</i> 5
<i>Landform(s):</i> flats on lake plains, swales on lake plains	<i>Wind erodibility group (WEG):</i> 2
<i>Slope gradient:</i> 0 to 2 percent	<i>Wind erodibility index (WEI):</i> 134
<i>Parent material:</i> glaciolacustrine deposits	<i>Kw factor (surface layer)</i> .17
<i>Restrictive feature(s):</i> greater than 60 inches	<i>Land capability, nonirrigated</i> 4w
<i>Flooding:</i> none	<i>Hydric soil:</i> yes
<i>Ponding:</i> occasional	<i>Hydrologic group:</i> A/D
<i>Drainage class:</i> poorly drained	<i>Potential for frost action:</i> moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 6 in	loamy fine sand	rapid	0.53 to 0.71 in	6.1 to 7.3
Cg -- 6 to 60 in	fine sand	rapid	2.70 to 5.39 in	6.1 to 7.8

## Map Unit Description (MN)

Kittson County, Minnesota

### 198A--Ulen fine sandy loam, dense till, 0 to 3 percent slopes

#### Ulen

*Extent:* 65 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* sandy glaciofluvial 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):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 3e

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	rapid	1.27 to 1.63 in	7.4 to 8.4
Ak -- 9 to 13 in	loamy fine sand	rapid	0.31 to 0.67 in	7.4 to 8.4
Bk -- 13 to 42 in	loamy fine sand	rapid	1.46 to 3.79 in	7.9 to 8.4
C -- 42 to 60 in	fine sand	rapid	0.89 to 1.77 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I99A--Berner muck, dense till, 0 to 1 percent slopes

#### Berner, dense till

*Extent:* 75 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* organic material over glaciolacustrine deposits and/or till

*Restrictive feature(s):* dense material at 20 to 50 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* 6w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

*Representative soil profile:*

		<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa --	0 to 28 in	muck	moderately rapid	9.78 to 12.58 in	5.6 to 7.3
A --	28 to 31 in	sandy loam	moderately rapid	0.31 to 0.57 in	6.1 to 7.3
Bg --	31 to 44 in	sand	rapid	0.65 to 0.91 in	6.1 to 7.8
2Cd <sub>g</sub> --	44 to 80 in	loam	moderately slow	1.79 to 3.58 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I100A--Cormant and Rosewood soils, depressional, dense till, 0 to 1 percent slopes

#### Rosewood

*Extent:* 35 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* sandy glaciofluvial deposits

*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):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .24

*Land capability, nonirrigated* 6w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 8 in	fine sandy loam	moderately rapid	1.10 to 1.42 in	7.4 to 8.4
Bkg -- 8 to 18 in	fine sandy loam	moderately rapid	0.92 to 1.74 in	7.4 to 8.4
Cg -- 18 to 80 in	fine sand	rapid	3.09 to 6.18 in	7.4 to 8.4

#### Cormant

*Extent:* 35 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* glaciolacustrine deposits

*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):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .17

*Land capability, nonirrigated* 6w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 6 in	mucky loamy fine sand	rapid	0.59 to 0.71 in	6.1 to 7.3
Cg -- 6 to 60 in	fine sand	rapid	2.70 to 5.39 in	6.1 to 7.8

## Map Unit Description (MN)

Kittson County, Minnesota

### I101A--Foxhome sandy loam, dense till, 0 to 3 percent slopes

#### Foxhome, dense till

*Extent:* 65 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* glaciolacustrine deposits over till

*Restrictive feature(s):* dense material at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 3s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.28 to 1.48 in	6.6 to 7.8
Bw -- 10 to 15 in	sand	rapid	0.20 to 0.61 in	6.6 to 7.8
2Bw -- 15 to 23 in	very gravelly coarse sand	very rapid	0.16 to 0.55 in	7.4 to 8.4
3Cd -- 23 to 80 in	loam	moderately slow	2.85 to 5.71 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I102A--Mavie fine sandy loam, dense till, 0 to 2 percent slopes

#### Mavie, dense till

*Extent:* 65 percent of the unit

*Landform(s):* flats on lake plains, swales on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciolacustrine deposits over till

*Restrictive feature(s):* dense material at 20 to 40 inches

*Flooding:* none

*Ponding:* occasional

*Drainage class:* poorly drained

*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:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 12 in	fine sandy loam	moderately rapid	1.89 to 2.13 in	7.4 to 8.4
Bk -- 12 to 18 in	sandy loam	moderate	0.76 to 1.20 in	7.9 to 8.4
2C -- 18 to 39 in	very gravelly coarse sand	very rapid	0.42 to 1.46 in	7.4 to 8.4
3Cd -- 39 to 80 in	loam	moderately slow	2.05 to 4.09 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I103A--Kratka fine sandy loam, dense till, 0 to 2 percent slopes

#### Kratka, dense till

*Extent:* 65 percent of the unit

*Landform(s):* flats on lake plains, swales on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciolacustrine deposits over till

*Restrictive feature(s):* dense material at 20 to 40 inches

*Flooding:* none

*Ponding:* occasional

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 2w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 11 in	fine sandy loam	moderately rapid	1.76 to 1.98 in	6.1 to 7.8
Bg -- 11 to 18 in	loamy fine sand	rapid	0.43 to 0.78 in	6.1 to 7.8
Cg -- 18 to 25 in	fine sand	rapid	0.35 to 0.71 in	6.6 to 7.8
2Cdg -- 25 to 80 in	loam	moderately slow	2.74 to 5.47 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I104A--Strandquist loam, dense till, 0 to 2 percent slopes

#### Strandquist, dense till

*Extent:* 65 percent of the unit

*Landform(s):* flats on lake plains, swales on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciolacustrine deposits over till

*Restrictive feature(s):* dense material at 20 to 40 inches

*Flooding:* none

*Ponding:* occasional

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 4L

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .24

*Land capability, nonirrigated* 3w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	loam	moderate	1.97 to 2.17 in	6.6 to 8.4
2Bg -- 10 to 24 in	very gravelly sand	very rapid	0.28 to 0.99 in	7.4 to 8.4
3BCg -- 24 to 36 in	loam	moderate	1.30 to 2.24 in	7.4 to 8.4
3Cdg -- 36 to 80 in	loam	moderately slow	2.20 to 4.41 in	7.4 to 8.4

### I105A--Hangaard sandy loam, dense till, 0 to 2 percent slopes

#### Hangaard

*Extent:* 70 percent of the unit

*Landform(s):* flats on lake plains, swales on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* beach deposits

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

*Flooding:* none

*Ponding:* occasional

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .17

*Land capability, nonirrigated* 4w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	sandy loam	moderately rapid	1.28 to 1.48 in	6.6 to 7.8
A -- 10 to 15 in	loamy sand	rapid	0.36 to 0.72 in	6.6 to 7.8
Cg -- 15 to 80 in	coarse sand	very rapid	1.30 to 3.90 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I106A--Enstrom loamy fine sand, dense till, 0 to 3 percent slopes

#### Enstrom, dense till

*Extent:* 70 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* glaciolacustrine deposits over till

*Restrictive feature(s):* dense material at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .17

*Land capability, nonirrigated* 4s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	loamy fine sand	rapid	0.71 to 0.94 in	6.6 to 7.8
Bw -- 8 to 23 in	fine sand	rapid	0.75 to 1.50 in	6.6 to 8.4
C -- 23 to 33 in	fine sand	rapid	0.51 to 1.02 in	6.6 to 8.4
2Cd -- 33 to 60 in	loam	moderately slow	1.34 to 2.68 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I107A--Syrene mucky sandy loam, depressional, dense till, 0 to 1 percent slopes

#### Syrene

*Extent:* 70 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* beach deposits

*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):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 6w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 11 in	mucky sandy loam	moderately rapid	1.43 to 1.98 in	7.4 to 8.4
Bkg -- 11 to 18 in	sandy loam	moderately rapid	0.78 to 1.35 in	7.9 to 8.4
2Bkg -- 18 to 28 in	stratified gravelly coarse sand to loamy fine sand	very rapid	0.20 to 0.79 in	7.4 to 8.4
2Cg -- 28 to 80 in	stratified gravelly coarse sand to loamy fine sand	very rapid	1.04 to 4.16 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I108A--Syrene sandy loam, dense till, 0 to 2 percent slopes

#### Syrene

<p><i>Extent:</i> 65 percent of the unit</p> <p><i>Landform(s):</i> flats on lake plains, swales on lake plains</p> <p><i>Slope gradient:</i> 0 to 2 percent</p> <p><i>Parent material:</i> beach deposits</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> occasional</p> <p><i>Drainage class:</i> poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 3</p> <p><i>Wind erodibility group (WEG):</i> 3</p> <p><i>Wind erodibility index (WEI):</i> 86</p> <p><i>Kw factor (surface layer)</i> .20</p> <p><i>Land capability, nonirrigated</i> 4w</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> A/D</p> <p><i>Potential for frost action:</i> moderate</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 11 in	sandy loam	moderately rapid	1.43 to 1.65 in	7.4 to 8.4
Bkg -- 11 to 18 in	sandy loam	moderately rapid	0.78 to 1.35 in	7.9 to 8.4
2Bkg -- 18 to 28 in	stratified gravelly coarse sand to loamy fine sand	very rapid	0.20 to 0.79 in	7.4 to 8.4
2Cg -- 28 to 80 in	stratified gravelly coarse sand to loamy fine sand	very rapid	1.04 to 4.16 in	7.4 to 8.4

### I109A--Fluvaquents, 0 to 2 percent slopes, flooded

#### Fluvaquents, frequently flooded

<p><i>Extent:</i> 70 percent of the unit</p> <p><i>Landform(s):</i> flood plains</p> <p><i>Slope gradient:</i> 0 to 2 percent</p> <p><i>Parent material:</i> alluvium</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> frequent</p> <p><i>Ponding:</i> frequent</p> <p><i>Drainage class:</i> poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 5</p> <p><i>Wind erodibility group (WEG):</i> 5</p> <p><i>Wind erodibility index (WEI):</i> 56</p> <p><i>Kw factor (surface layer)</i> .20</p> <p><i>Land capability, nonirrigated</i> 6w</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> D</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 16 in	fine sandy loam	moderately rapid	2.58 to 3.87 in	6.6 to 7.8
Cg -- 16 to 80 in	stratified loamy sand to silt loam	rapid	2.55 to 12.76 in	6.6 to 7.8

## Map Unit Description (MN)

Kittson County, Minnesota

### I110A--Augsburg and Colvin soils, very poorly drained, 0 to 1 percent slopes

#### Augsburg

*Extent:* 40 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* coarse-silty glaciolacustrine deposits over clayey glaciolacustrine deposits

*Restrictive feature(s):* abrupt textural change at 20 to 40 i

*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* 4w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ak -- 0 to 11 in	silt loam	moderate	2.20 to 2.54 in	7.4 to 8.4
Bkg -- 11 to 18 in	very fine sandy loam	moderately rapid	1.20 to 1.56 in	7.4 to 8.4
Bg1 -- 18 to 33 in	very fine sandy loam	moderately rapid	2.54 to 3.29 in	7.4 to 8.4
2Bg2 -- 33 to 62 in	clay	slow	2.87 to 4.02 in	7.4 to 8.4

#### Colvin

*Extent:* 40 percent of the unit

*Landform(s):* depressions on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* fine-silty glaciolacustrine deposits

*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* 4w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 10 in	silty clay loam	moderate	1.57 to 2.26 in	6.6 to 8.4
Bkg -- 10 to 30 in	silty clay loam	slow	2.81 to 4.42 in	7.4 to 9.0
Cg -- 30 to 60 in	silty clay loam	slow	4.19 to 6.58 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I111A--Wheatville very fine sandy loam, 0 to 3 percent slopes

#### Wheatville

*Extent:* 53 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* coarse-silty glaciolacustrine deposits over clayey glaciolacustrine deposits

*Restrictive feature(s):* abrupt textural change at 20 to 40 i

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .28

*Land capability, nonirrigated* 2s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* high

*Representative soil profile:*

	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 13 in	very fine sandy loam	moderate	2.60 to 2.86 in	7.4 to 8.4
Bk -- 13 to 34 in	silt loam	moderate	3.55 to 4.59 in	7.4 to 8.4
2Bk -- 34 to 44 in	silty clay	slow	1.38 to 1.59 in	7.4 to 8.4
2C -- 44 to 102 in	silty clay	slow	7.52 to 8.68 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I112A--Augsburg very fine sandy loam, 0 to 2 percent slopes

#### Augsburg

*Extent:* 55 percent of the unit

*Landform(s):* swales on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* coarse-silty glaciolacustrine deposits over clayey glaciolacustrine deposits

*Restrictive feature(s):* abrupt textural change at 20 to 40 i

*Flooding:* none

*Ponding:* occasional

*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* 2w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	very fine sandy loam	moderately rapid	1.42 to 1.70 in	7.4 to 8.4
Ak -- 7 to 11 in	very fine sandy loam	moderately rapid	0.79 to 0.94 in	7.4 to 8.4
Bkg -- 11 to 18 in	very fine sandy loam	moderately rapid	1.20 to 1.56 in	7.4 to 8.4
Bg1 -- 18 to 33 in	very fine sandy loam	moderately rapid	2.54 to 3.29 in	7.4 to 8.4
2Bg2 -- 33 to 62 in	clay	slow	2.87 to 4.02 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I113A--Grimstad fine sandy loam, dense till, 0 to 2 percent slopes

#### Grimstad, dense till

*Extent:* 65 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciolacustrine deposits over till

*Restrictive feature(s):* dense material at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* somewhat poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 2s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	moderately rapid	1.36 to 1.63 in	7.4 to 8.4
Bk -- 9 to 22 in	loamy fine sand	rapid	1.17 to 2.21 in	7.4 to 8.4
C -- 22 to 28 in	fine sand	rapid	0.30 to 0.59 in	7.4 to 8.4
2Cd -- 28 to 60 in	loam	moderately slow	1.59 to 3.19 in	7.4 to 8.4

### I114A--Foldahl fine sandy loam, dense till, 0 to 3 percent slopes

#### Foldahl, dense till

*Extent:* 65 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* glaciolacustrine deposits over till

*Restrictive feature(s):* dense material at 20 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 2s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	fine sandy loam	moderately rapid	1.36 to 1.63 in	6.1 to 7.8
Bw -- 9 to 30 in	fine sand	rapid	1.46 to 2.50 in	6.6 to 7.8
2Cd -- 30 to 80 in	loam	moderately slow	2.50 to 5.00 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I115A--Garnes fine sandy loam, dense till, 0 to 3 percent slopes, very stony

#### Garnes, dense till

*Extent:* 65 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* glaciolacustrine deposits and till

*Restrictive feature(s):* dense material at 25 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 6

*Wind erodibility index (WEI):* 48

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 6s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 6 in	fine sandy loam	moderately rapid	0.89 to 1.06 in	6.1 to 7.3
E -- 6 to 9 in	loamy fine sand	rapid	0.19 to 0.35 in	6.1 to 7.3
Bt -- 9 to 14 in	clay loam	moderately slow	0.67 to 0.97 in	6.6 to 7.8
Bk -- 14 to 34 in	loam	moderate	2.17 to 3.74 in	7.4 to 8.4
Cd -- 34 to 80 in	loam	moderately slow	2.30 to 4.61 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I116A--Grygla loamy fine sand, dense till, 0 to 2 percent slopes

#### Grygla, dense till

*Extent:* 65 percent of the unit

*Landform(s):* flats on lake plains, swales on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* glaciolacustrine deposits over till

*Restrictive feature(s):* dense material at 20 to 42 inches

*Flooding:* none

*Ponding:* occasional

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .15

*Land capability, nonirrigated* 4w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 6 in	loamy fine sand	rapid	0.77 to 0.89 in	6.1 to 7.3
Bg -- 6 to 26 in	fine sand	rapid	1.00 to 2.21 in	6.6 to 7.8
2Bkg -- 26 to 42 in	loam	moderate	1.78 to 3.07 in	7.4 to 8.4
2Cdg -- 42 to 80 in	loam	moderately slow	1.89 to 3.78 in	7.4 to 8.4

### I117A--Skagen loam, 0 to 3 percent slopes, very cobbly

#### Skagen, very cobbly

*Extent:* 65 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* till

*Restrictive feature(s):* dense material at 25 to 42 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 4L

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 3s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	loam	moderate	1.54 to 1.99 in	7.4 to 8.4
Bk -- 9 to 42 in	loam	moderate	3.64 to 6.28 in	7.4 to 8.4
Cd -- 42 to 80 in	loam	moderately slow	1.89 to 3.78 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I118A--Poppleton fine sand, dense till, 0 to 2 percent slopes

#### Poppleton

*Extent:* 70 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* 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):* 1

*Wind erodibility index (WEI):* 250

*Kw factor (surface layer)* .15

*Land capability, nonirrigated* 4s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 6 in	fine sand	rapid	0.35 to 0.53 in	5.6 to 7.3
E -- 6 to 9 in	fine sand	rapid	0.16 to 0.22 in	6.1 to 7.8
Bw -- 9 to 40 in	fine sand	rapid	1.56 to 2.18 in	6.1 to 7.8
C -- 40 to 60 in	fine sand	rapid	0.98 to 1.38 in	6.1 to 7.8

## Map Unit Description (MN)

Kittson County, Minnesota

### I119A--Bearden silty clay loam, 0 to 1 percent slopes

#### Bearden

*Extent:* 58 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* fine-silty glaciolacustrine 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):* 4L

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .28

*Land capability, nonirrigated* 2s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	silty clay loam	moderate	1.20 to 1.63 in	7.4 to 8.4
ABk -- 7 to 18 in	silty clay loam	moderately slow	1.54 to 2.43 in	7.4 to 8.4
Bk -- 18 to 36 in	silty clay loam	moderately slow	2.48 to 3.90 in	7.4 to 8.4
C -- 36 to 60 in	silty clay loam	moderately slow	3.36 to 5.28 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I120A--Northcote clay, very poorly drained, 0 to 1 percent slopes

#### Northcote

*Extent:* 70 percent of the unit

*Landform(s):* swales on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* lacustrine deposits

*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)* .28

*Land capability, nonirrigated* 3w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 9 in	clay	very slow	1.36 to 1.63 in	6.6 to 7.8
Bg -- 9 to 20 in	clay	very slow	1.54 to 1.87 in	6.6 to 7.8
Bgss -- 20 to 57 in	clay	very slow	5.18 to 6.29 in	7.4 to 8.4
Cg -- 57 to 82 in	clay	very slow	3.22 to 3.72 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I121A--Glyndon-Ulen complex, 0 to 2 percent slopes

#### Glyndon

*Extent:* 55 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* coarse-silty glaciolacustrine 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):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .28

*Land capability, nonirrigated* 2s

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 11 in	very fine sandy loam	moderate	1.98 to 2.43 in	7.4 to 8.4
Bk -- 11 to 28 in	very fine sandy loam	moderately rapid	2.37 to 3.39 in	7.4 to 8.4
C -- 28 to 60 in	loamy very fine sand	moderately rapid	2.55 to 5.74 in	7.4 to 8.4

#### Ulen

*Extent:* 15 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* sandy glaciofluvial 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):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .17

*Land capability, nonirrigated* 4e

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	loamy fine sand	rapid	0.81 to 1.18 in	7.4 to 8.4
Ak -- 9 to 13 in	loamy fine sand	rapid	0.28 to 0.51 in	7.4 to 8.4
Bk -- 13 to 42 in	loamy fine sand	rapid	1.46 to 3.79 in	7.9 to 8.4
C -- 42 to 60 in	fine sand	rapid	0.89 to 2.13 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I122A--Borup-Rosewood complex, 0 to 2 percent slopes

#### Borup

*Extent:* 55 percent of the unit

*Landform(s):* swales on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* coarse-silty glaciolacustrine deposits

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

*Flooding:* none

*Ponding:* occasional

*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* 2w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 12 in	very fine sandy loam	moderately rapid	2.36 to 2.83 in	7.4 to 8.4
Bkg -- 12 to 34 in	very fine sandy loam	moderately rapid	3.09 to 4.85 in	7.4 to 8.4
Cg -- 34 to 60 in	loamy very fine sand	rapid	2.34 to 5.72 in	7.4 to 8.4

#### Rosewood

*Extent:* 15 percent of the unit

*Landform(s):* swales on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* sandy glaciofluvial deposits

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

*Flooding:* none

*Ponding:* occasional

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 2

*Wind erodibility index (WEI):* 134

*Kw factor (surface layer)* .24

*Land capability, nonirrigated* 3w

*Hydric soil:* yes

*Hydrologic group:* A/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 8 in	loamy fine sand	rapid	0.71 to 0.94 in	7.4 to 8.4
Bkg -- 8 to 18 in	loamy fine sand	rapid	0.51 to 1.54 in	7.4 to 8.4
Cg -- 18 to 80 in	fine sand	rapid	3.09 to 7.42 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I123A--Bearden-Colvin silty clay loams, 0 to 2 percent slopes

#### Bearden

*Extent:* 35 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* fine-silty glaciolacustrine 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):* 4L

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .28

*Land capability, nonirrigated* 2s

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	silty clay loam	moderate	1.20 to 1.63 in	7.4 to 8.4
ABk -- 7 to 18 in	silty clay loam	moderately slow	1.54 to 2.43 in	7.4 to 8.4
Bk -- 18 to 36 in	silty clay loam	moderately slow	2.48 to 3.90 in	7.4 to 8.4
C -- 36 to 60 in	silty clay loam	moderately slow	3.36 to 5.28 in	7.4 to 8.4

#### Colvin

*Extent:* 30 percent of the unit

*Landform(s):* swales on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* fine-silty glaciolacustrine deposits

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

*Flooding:* none

*Ponding:* occasional

*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* 2w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	silty clay loam	moderate	1.57 to 2.26 in	6.6 to 8.4
Bkg -- 10 to 30 in	silty clay loam	slow	2.81 to 4.42 in	7.4 to 9.0
Cg -- 30 to 60 in	silty clay loam	slow	4.19 to 6.58 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I124A--Colvin-Fargo complex, 0 to 2 percent slopes

#### Colvin

*Extent:* 50 percent of the unit

*Landform(s):* swales on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* fine-silty glaciolacustrine deposits

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

*Flooding:* none

*Ponding:* occasional

*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* 2w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	silty clay loam	moderate	1.57 to 2.26 in	6.6 to 8.4
Bkg -- 10 to 30 in	silty clay loam	slow	2.81 to 4.42 in	7.4 to 9.0
Cg -- 30 to 60 in	silty clay loam	slow	4.19 to 6.58 in	7.4 to 8.4

#### Fargo

*Extent:* 30 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* clayey glaciolacustrine deposits over silty glaciolacustrine deposits

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

*Flooding:* none

*Ponding:* frequent

*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:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	silty clay	slow	1.10 to 1.42 in	6.6 to 7.8
Bss -- 8 to 21 in	silty clay	slow	1.69 to 2.21 in	6.6 to 8.4
Bkg -- 21 to 32 in	silty clay	slow	1.43 to 1.87 in	7.9 to 8.4
Cg1 -- 32 to 50 in	silty clay	slow	2.17 to 3.08 in	7.9 to 8.4
2Cg2 -- 50 to 60 in	silt loam	moderate	1.38 to 1.97 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I125A--Skagen loam, 0 to 3 percent slopes

#### Skagen

*Extent:* 65 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* till

*Restrictive feature(s):* dense material at 25 to 42 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 4

*Wind erodibility group (WEG):* 4L

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 2e

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	loam	moderate	1.54 to 1.99 in	7.4 to 8.4
Bk -- 9 to 42 in	loam	moderate	3.64 to 6.28 in	7.4 to 8.4
Cd -- 42 to 80 in	loam	moderately slow	1.89 to 3.78 in	7.4 to 8.4

### I126A--Nereson fine sandy loam, 0 to 3 percent slopes

#### Nereson

*Extent:* 65 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* till

*Restrictive feature(s):* dense material at 25 to 40 inches

*Flooding:* none

*Ponding:* none

*Drainage class:* moderately well drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 3

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .17

*Land capability, nonirrigated* 1

*Hydric soil:* no

*Hydrologic group:* B

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	fine sandy loam	moderately rapid	0.99 to 1.20 in	6.1 to 7.3
Bt -- 7 to 11 in	sandy loam	moderate	0.35 to 0.71 in	6.6 to 7.8
2Bk -- 11 to 29 in	loam	moderate	1.99 to 3.44 in	7.4 to 8.4
2Cd -- 29 to 80 in	loam	moderately slow	2.54 to 5.08 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I127A--Percy loam, 0 to 2 percent slopes

#### Percy

*Extent:* 70 percent of the unit

*Landform(s):* flats on lake plains, swales on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* till

*Restrictive feature(s):* dense material at 25 to 40 inches

*Flooding:* none

*Ponding:* occasional

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 3

*Wind erodibility group (WEG):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .20

*Land capability, nonirrigated* 2w

*Hydric soil:* yes

*Hydrologic group:* B/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	loam	moderate	1.50 to 1.73 in	6.6 to 8.4
Bkg -- 8 to 23 in	loam	moderate	1.65 to 2.84 in	7.4 to 8.4
Cdg -- 23 to 80 in	loam	moderately slow	2.85 to 5.71 in	7.4 to 8.4

### I128A--Noyes sandy clay loam, 0 to 2 percent slopes

#### Noyes

*Extent:* 50 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* clayey glaciolacustrine 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):* 5

*Wind erodibility index (WEI):* 56

*Kw factor (surface layer)* .24

*Land capability, nonirrigated* 2w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 13 in	sandy clay loam	moderate	2.34 to 2.60 in	6.6 to 7.8
Btg -- 13 to 35 in	clay	very slow	1.98 to 2.87 in	6.6 to 8.4
Cg -- 35 to 60 in	clay	very slow	1.98 to 2.73 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I129A--Donaldson very fine sandy loam, 0 to 3 percent slopes

#### Donaldson

*Extent:* 50 percent of the unit

*Landform(s):* rises on lake plains

*Slope gradient:* 0 to 3 percent

*Parent material:* 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

*Kw factor (surface layer)* .28

*Land capability, nonirrigated* 1

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	very fine sandy loam	moderate	1.54 to 1.99 in	6.6 to 7.8
Bw -- 9 to 14 in	loamy very fine sand	moderately rapid	0.51 to 0.97 in	6.6 to 8.4
C -- 14 to 24 in	loamy very fine sand	moderately rapid	0.79 to 1.87 in	6.6 to 8.4
2C -- 24 to 60 in	clay	slow	2.87 to 7.17 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I130A--Hegne-Fargo silty clays, 0 to 2 percent slopes

#### Hegne

*Extent:* 43 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* clayey glaciolacustrine deposits

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

*Flooding:* none

*Ponding:* frequent

*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:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	silty clay	slow	1.48 to 1.77 in	7.4 to 8.4
Bkssg -- 10 to 34 in	silty clay	slow	3.36 to 4.08 in	7.4 to 8.4
Bg -- 34 to 50 in	silty clay	slow	2.26 to 3.23 in	7.4 to 8.4
Cg -- 50 to 80 in	silty clay	slow	3.89 to 5.98 in	7.4 to 8.4

#### Fargo

*Extent:* 36 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* clayey glaciolacustrine deposits

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

*Flooding:* none

*Ponding:* frequent

*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:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	silty clay	slow	1.18 to 1.42 in	6.6 to 7.8
Bss -- 8 to 21 in	silty clay	slow	1.82 to 2.21 in	6.6 to 8.4
Bkg -- 21 to 32 in	silty clay	slow	1.54 to 1.87 in	7.9 to 8.4
Cg -- 32 to 60 in	silty clay	slow	3.91 to 4.75 in	7.9 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I131B--Bearden-Lamoure, flooded, silty clay loams, 0 to 6 percent slopes

#### Bearden

<p><i>Extent:</i> 50 percent of the unit</p> <p><i>Landform(s):</i> terraces on flood plains</p> <p><i>Slope gradient:</i> 0 to 6 percent</p> <p><i>Parent material:</i> fine-silty glaciolacustrine deposits</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> somewhat poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 5</p> <p><i>Wind erodibility group (WEG):</i> 4L</p> <p><i>Wind erodibility index (WEI):</i> 86</p> <p><i>Kw factor (surface layer)</i> .28</p> <p><i>Land capability, nonirrigated</i> 2e</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> C</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	silty clay loam	moderate	1.20 to 1.63 in	7.4 to 8.4
ABk -- 7 to 18 in	silty clay loam	moderately slow	1.54 to 2.43 in	7.4 to 8.4
Bk -- 18 to 36 in	silty clay loam	moderately slow	2.48 to 3.90 in	7.4 to 8.4
C -- 36 to 60 in	silty clay loam	moderately slow	3.36 to 5.28 in	7.4 to 8.4

#### Lamoure, frequently flooded

<p><i>Extent:</i> 20 percent of the unit</p> <p><i>Landform(s):</i> flood plains</p> <p><i>Slope gradient:</i> 0 to 1 percent</p> <p><i>Parent material:</i> silty alluvium</p> <p><i>Restrictive feature(s):</i> greater than 60 inches</p> <p><i>Flooding:</i> frequent</p> <p><i>Ponding:</i> rare</p> <p><i>Drainage class:</i> poorly drained</p>	<p><i>Soil loss tolerance (T factor):</i> 5</p> <p><i>Wind erodibility group (WEG):</i> 4L</p> <p><i>Wind erodibility index (WEI):</i> 86</p> <p><i>Kw factor (surface layer)</i> .28</p> <p><i>Land capability, nonirrigated</i> 3w</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> C</p> <p><i>Potential for frost action:</i> high</p>
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<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 27 in	silty clay loam	moderately slow	4.35 to 6.25 in	7.4 to 8.4
Cg1 -- 27 to 34 in	silty clay loam	moderately slow	0.94 to 1.47 in	7.4 to 8.4
Cg2 -- 34 to 43 in	silt loam	moderate	1.45 to 1.99 in	7.4 to 8.4
Ab -- 43 to 52 in	loam	moderate	1.63 to 1.99 in	7.4 to 8.4
C'g -- 52 to 60 in	sandy loam	moderate	0.79 to 1.73 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I132A--Northcote-Eaglepoint clays, 0 to 2 percent slopes

#### Northcote

*Extent:* 45 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* clayey glaciolacustrine deposits

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

*Flooding:* none

*Ponding:* occasional

*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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	clay	very slow	1.36 to 1.63 in	6.6 to 7.8
Bg -- 9 to 20 in	clay	very slow	1.54 to 1.87 in	6.6 to 7.8
Bgss -- 20 to 57 in	clay	very slow	5.18 to 6.29 in	7.4 to 8.4
Cg -- 57 to 82 in	clay	very slow	3.22 to 3.72 in	7.4 to 8.4

#### Eaglepoint

*Extent:* 30 percent of the unit

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

*Slope gradient:* 0 to 2 percent

*Parent material:* clayey glaciolacustrine 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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	clay	very slow	0.98 to 1.28 in	7.4 to 8.4
Bkss -- 10 to 29 in	clay	very slow	1.54 to 2.51 in	7.9 to 8.4
Bk -- 29 to 48 in	clay	very slow	1.51 to 2.46 in	7.4 to 8.4
C -- 48 to 80 in	clay	very slow	2.55 to 3.51 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I133A--Northcote clay, 0 to 1 percent slopes

#### Northcote

*Extent:* 75 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* clayey glaciolacustrine deposits

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

*Flooding:* none

*Ponding:* occasional

*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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	clay	very slow	1.36 to 1.63 in	6.6 to 7.8
Bg -- 9 to 20 in	clay	very slow	1.54 to 1.87 in	6.6 to 7.8
Bgss -- 20 to 57 in	clay	very slow	5.18 to 6.29 in	7.4 to 8.4
Cg -- 57 to 82 in	clay	very slow	3.22 to 3.72 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I134A--Hegne-Fargo silty clays, silty substratum, 0 to 2 percent slopes

#### Hegne

<i>Extent:</i> 38 percent of the unit	<i>Soil loss tolerance (T factor):</i> 5
<i>Landform(s):</i> flats on lake plains	<i>Wind erodibility group (WEG):</i> 4
<i>Slope gradient:</i> 0 to 2 percent	<i>Wind erodibility index (WEI):</i> 86
<i>Parent material:</i> clayey glaciolacustrine deposits over silty glaciolacustrine deposits	<i>Kw factor (surface layer)</i> .28
<i>Restrictive feature(s):</i> greater than 60 inches	<i>Land capability, nonirrigated</i> 2w
<i>Flooding:</i> none	<i>Hydric soil:</i> yes
<i>Ponding:</i> frequent	<i>Hydrologic group:</i> D
<i>Drainage class:</i> poorly drained	<i>Potential for frost action:</i> high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	silty clay	slow	1.38 to 1.77 in	7.4 to 8.4
Bkssg -- 10 to 34 in	silty clay	slow	3.12 to 4.08 in	7.4 to 8.4
Bg -- 34 to 50 in	silty clay	slow	2.10 to 2.74 in	7.4 to 8.4
2Cg -- 50 to 60 in	silt loam	moderate	1.38 to 1.97 in	7.4 to 8.4

#### Fargo

<i>Extent:</i> 34 percent of the unit	<i>Soil loss tolerance (T factor):</i> 5
<i>Landform(s):</i> flats on lake plains	<i>Wind erodibility group (WEG):</i> 4
<i>Slope gradient:</i> 0 to 2 percent	<i>Wind erodibility index (WEI):</i> 86
<i>Parent material:</i> clayey glaciolacustrine deposits over silty glaciolacustrine deposits	<i>Kw factor (surface layer)</i> .28
<i>Restrictive feature(s):</i> greater than 60 inches	<i>Land capability, nonirrigated</i> 2w
<i>Flooding:</i> none	<i>Hydric soil:</i> yes
<i>Ponding:</i> frequent	<i>Hydrologic group:</i> D
<i>Drainage class:</i> poorly drained	<i>Potential for frost action:</i> high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	silty clay	slow	1.10 to 1.42 in	6.6 to 7.8
Bss -- 8 to 21 in	silty clay	slow	1.69 to 2.21 in	6.6 to 8.4
Bkg -- 21 to 32 in	silty clay	slow	1.43 to 1.87 in	7.9 to 8.4
Cg1 -- 32 to 50 in	silty clay	slow	2.17 to 3.08 in	7.9 to 8.4
2Cg2 -- 50 to 60 in	silt loam	moderate	1.38 to 1.97 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I135A--Wahpeton silty clay, 0 to 3 percent slopes, flooded

#### Wahpeton, occasionally flooded

*Extent:* 75 percent of the unit

*Landform(s):* natural levees on flood plains

*Slope gradient:* 0 to 3 percent

*Parent material:* clayey alluvium

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

*Flooding:* occasional

*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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 23 in	silty clay	moderate	3.43 to 4.11 in	6.1 to 7.8
Css -- 23 to 60 in	silty clay	moderate	5.18 to 7.40 in	6.6 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I135B--Wahpeton-Ludden silty clays, 0 to 6 percent slopes, flooded

#### Wahpeton, gently sloping, occasionally flooded

*Extent:* 50 percent of the unit

*Landform(s):* natural levees on flood plains

*Slope gradient:* 2 to 6 percent

*Parent material:* clayey alluvium

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

*Flooding:* occasional

*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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 23 in	silty clay	moderate	3.43 to 4.11 in	6.1 to 7.8
Css -- 23 to 60 in	silty clay	moderate	5.18 to 7.40 in	6.6 to 8.4

#### Ludden, frequently flooded

*Extent:* 20 percent of the unit

*Landform(s):* flood plains

*Slope gradient:* 0 to 1 percent

*Parent material:* clayey alluvium

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

*Flooding:* frequent

*Ponding:* rare

*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* 6w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 14 in	silty clay	slow	2.13 to 2.55 in	6.1 to 8.4
Bw -- 14 to 30 in	clay	slow	2.20 to 2.99 in	7.9 to 8.4
Cg -- 30 to 60 in	clay	slow	3.89 to 4.79 in	7.9 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I136F--Cashel-Lallie-Wahpeton silty clays, 0 to 15 percent slopes, flooded

#### Cashel, occasionally flooded

*Extent:* 30 percent of the unit

*Landform(s):* flood plains

*Slope gradient:* 0 to 2 percent

*Parent material:* clayey alluvium

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

*Flooding:* occasional

*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* 2e

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 7 in	silty clay	moderately slow	1.06 to 1.28 in	7.4 to 8.4
C -- 7 to 29 in	silty clay	moderately slow	2.87 to 3.75 in	7.4 to 8.4
Ab -- 29 to 35 in	silty clay	moderately slow	0.77 to 1.00 in	7.4 to 8.4
C' -- 35 to 47 in	silty clay loam	very slow	1.54 to 2.01 in	7.4 to 8.4
A'b -- 47 to 60 in	silty clay	very slow	1.69 to 2.21 in	7.4 to 8.4

#### Lallie, frequently flooded

*Extent:* 25 percent of the unit

*Landform(s):* terraces on flood plains

*Slope gradient:* 0 to 1 percent

*Parent material:* clayey glaciolacustrine deposits

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

*Flooding:* frequent

*Ponding:* frequent

*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* 3w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 2 in	silty clay	slow	0.35 to 0.43 in	6.6 to 9.0
Cg -- 2 to 24 in	silty clay	slow	3.09 to 5.07 in	7.4 to 8.4
Ab -- 24 to 32 in	silty clay	very slow	1.10 to 1.81 in	7.4 to 8.4
C'g -- 32 to 60 in	silty clay	very slow	3.63 to 6.43 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I136F--Cashel-Lallie-Wahpeton silty clays, 0 to 15 percent slopes, flooded

#### Wahpeton, sloping, occasionally flooded

*Extent:* 20 percent of the unit

*Landform(s):* natural levees on flood plains

*Slope gradient:* 2 to 15 percent

*Parent material:* clayey alluvium

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

*Flooding:* occasional

*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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 23 in	silty clay	moderate	3.43 to 4.11 in	6.1 to 7.8
Css -- 23 to 60 in	silty clay	moderate	5.18 to 7.40 in	6.6 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I137B--Sinai-Ludden, flooded, clays, very-fine family, 0 to 6 percent slopes

#### Sinai

*Extent:* 40 percent of the unit

*Landform(s):* terraces on flood plains

*Slope gradient:* 0 to 6 percent

*Parent material:* clayey 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):* 4

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .32

*Land capability, nonirrigated* 2e

*Hydric soil:* no

*Hydrologic group:* C

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 12 in	clay	slow	1.65 to 2.13 in	6.1 to 6.5
Bss -- 12 to 23 in	clay	slow	1.43 to 1.87 in	6.6 to 8.4
Bkss -- 23 to 42 in	clay	slow	2.51 to 3.28 in	7.9 to 8.4
C -- 42 to 60 in	clay	slow	2.13 to 2.66 in	7.9 to 8.4

#### Ludden, frequently flooded

*Extent:* 20 percent of the unit

*Landform(s):* flood plains

*Slope gradient:* 0 to 1 percent

*Parent material:* clayey alluvium

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

*Flooding:* frequent

*Ponding:* rare

*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5

*Wind erodibility group (WEG):* 4

*Wind erodibility index (WEI):* 86

*Kw factor (surface layer)* .32

*Land capability, nonirrigated* 2w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 14 in	clay	slow	1.98 to 2.55 in	6.1 to 8.4
Bw -- 14 to 30 in	clay	slow	2.05 to 2.68 in	7.9 to 8.4
Cg -- 30 to 60 in	clay	slow	3.59 to 4.49 in	7.9 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I138A--Fargo silty clay, very poorly drained, 0 to 1 percent slopes

#### Fargo

*Extent:* 65 percent of the unit

*Landform(s):* swales on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* clayey glaciolacustrine deposits

*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)* .28

*Land capability, nonirrigated* 3w

*Hydric soil:* yes

*Hydrologic group:* D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 8 in	silty clay	slow	1.18 to 1.42 in	6.6 to 7.8
Bss -- 8 to 21 in	silty clay	slow	1.82 to 2.21 in	6.6 to 8.4
Bkg -- 21 to 32 in	silty clay	slow	1.54 to 1.87 in	7.9 to 8.4
Cg -- 32 to 60 in	silty clay	slow	3.91 to 4.75 in	7.9 to 8.4

### I139A--Colvin silty clay loam, 0 to 1 percent slopes

#### Colvin

*Extent:* 70 percent of the unit

*Landform(s):* swales on lake plains

*Slope gradient:* 0 to 1 percent

*Parent material:* fine-silty glaciolacustrine deposits

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

*Flooding:* none

*Ponding:* occasional

*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* 2w

*Hydric soil:* yes

*Hydrologic group:* C/D

*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	silty clay loam	moderate	1.57 to 2.26 in	6.6 to 8.4
Bkg -- 10 to 30 in	silty clay loam	slow	2.81 to 4.42 in	7.4 to 9.0
Cg -- 30 to 60 in	silty clay loam	slow	4.19 to 6.58 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I140A--Northcote clay, saline, 0 to 2 percent slopes

#### Northcote, slightly saline

*Extent:* 73 percent of the unit

*Landform(s):* flats on lake plains

*Slope gradient:* 0 to 2 percent

*Parent material:* clayey glaciolacustrine deposits

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

*Flooding:* none

*Ponding:* occasional

*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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	clay	very slow	1.00 to 1.45 in	6.6 to 7.8
Bg -- 9 to 20 in	clay	very slow	1.21 to 1.65 in	6.6 to 7.8
Bgss -- 20 to 57 in	clay	very slow	4.07 to 5.55 in	7.4 to 8.4
Cg -- 57 to 82 in	clay	very slow	2.48 to 3.47 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I141B--Sinai-Ludden, flooded, complex, 0 to 6 percent slopes

#### Sinai

*Extent:* 53 percent of the unit  
*Landform(s):* terraces on flood plains  
*Slope gradient:* 0 to 6 percent  
*Parent material:* clayey 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):* 4  
*Wind erodibility index (WEI):* 86  
*Kw factor (surface layer)* .32  
*Land capability, nonirrigated* 2e  
*Hydric soil:* no  
*Hydrologic group:* C  
*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 12 in	silty clay	moderately slow	1.65 to 2.13 in	6.1 to 6.5
Bss -- 12 to 23 in	silty clay	slow	1.43 to 1.87 in	6.6 to 8.4
Bkss -- 23 to 42 in	silty clay	slow	2.51 to 3.28 in	7.9 to 8.4
C -- 42 to 60 in	silty clay	slow	2.13 to 2.66 in	7.9 to 8.4

#### Ludden, frequently flooded

*Extent:* 20 percent of the unit  
*Landform(s):* flood plains  
*Slope gradient:* 0 to 1 percent  
*Parent material:* clayey alluvium  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* frequent  
*Ponding:* rare  
*Drainage class:* poorly drained

*Soil loss tolerance (T factor):* 5  
*Wind erodibility group (WEG):* 4  
*Wind erodibility index (WEI):* 86  
*Kw factor (surface layer)* .32  
*Land capability, nonirrigated* 6w  
*Hydric soil:* yes  
*Hydrologic group:* D  
*Potential for frost action:* high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 14 in	clay	slow	1.98 to 2.55 in	6.1 to 8.4
Bw -- 14 to 30 in	clay	slow	2.20 to 2.99 in	7.9 to 8.4
Cg -- 30 to 60 in	clay	slow	3.89 to 4.79 in	7.9 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I145A--Northcote-Eaglepoint clays, saline, 0 to 2 percent slopes

#### Northcote, slightly saline

*Extent:* 40 percent of the unit  
*Landform(s):* flats on lake plains  
*Slope gradient:* 0 to 1 percent  
*Parent material:* clayey glaciolacustrine deposits  
*Restrictive feature(s):* greater than 60 inches  
*Flooding:* none  
*Ponding:* occasional  
*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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 9 in	clay	very slow	1.00 to 1.45 in	6.6 to 7.8
Bg -- 9 to 20 in	clay	very slow	1.21 to 1.65 in	6.6 to 7.8
Bgss -- 20 to 57 in	clay	very slow	4.07 to 5.55 in	7.4 to 8.4
Cg -- 57 to 82 in	clay	very slow	2.48 to 3.47 in	7.4 to 8.4

#### Eaglepoint, slightly saline

*Extent:* 30 percent of the unit  
*Landform(s):* flats on lake plains, rises on lake plains  
*Slope gradient:* 0 to 2 percent  
*Parent material:* clayey glaciolacustrine 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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap -- 0 to 10 in	clay	very slow	0.89 to 1.18 in	7.4 to 8.4
Bkss -- 10 to 29 in	clay	very slow	1.35 to 2.31 in	7.9 to 8.4
Bk -- 29 to 48 in	clay	very slow	1.32 to 2.27 in	7.4 to 8.4
C -- 48 to 80 in	clay	very slow	2.23 to 3.51 in	7.4 to 8.4

## Map Unit Description (MN)

Kittson County, Minnesota

### I200F--Dumps, Sanitary Landfill-Udorthents complex, 0 to 60 percent slopes

#### Dumps, sanitary landfill

*Extent:* 50 to 95 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 0 to 60 percent

*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:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>

#### Udorthents, shallow (sanitary landfill)

*Extent:* 5 to 50 percent of the unit

*Landform(s):* lake plains

*Slope gradient:* 0 to 60 percent

*Parent material:* variable loamy material

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

*Flooding:* none

*Ponding:* none

*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:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>

## Map Unit Description (MN)

Kittson County, Minnesota

### IGp--Pits, gravel and sand

#### Pits, gravel and sand

*Extent:* 85 percent of the unit

*Landform(s):* beach ridges, beach plains

*Slope gradient:* 0 to 60 percent

*Parent material:* glaciofluvial deposits

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

*Flooding:* none

*Ponding:* none

*Drainage class:*

*Soil loss tolerance (T factor):*

*Wind erodibility group (WEG):*

*Wind erodibility index (WEI):*

*Kw factor (surface layer)* .10

*Land capability, nonirrigated* 8s

*Hydric soil:* no

*Hydrologic group:* A

*Potential for frost action:* low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 6 in	extremely gravelly loamy coarse sand	very rapid	0.06 to 0.24 in	6.6 to 8.4
C -- 6 to 60 in	very gravelly sand	very rapid	0.54 to 2.16 in	6.6 to 8.4

### M-W--Miscellaneous water

#### Water, miscellaneous

*Extent:* 100 percent of the unit

*Landform(s):*

*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:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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## Map Unit Description (MN)

Kittson County, Minnesota

### W--Water

#### Water

*Extent:* 100 percent of the unit

*Landform(s):* depressions

*Slope gradient:*

*Parent material:*

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

*Flooding:* none

*Ponding:* frequent

*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:*

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
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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.