

Map Unit Description (MN)

Clay 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]

33B--Barnes loam, 1 to 3 percent slopes

Barnes

Extent: 90 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 1 to 3 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw (surface layer): .24

Land capability class, nonirrigated: 1

Hydric soil: no

Hydrologic group: B

Potential 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	loam	moderate	1.6 to 2.2 in	6.1 to 7.8
Bw1,Bw2 -- 9 to 18 in	loam	moderate	1.4 to 1.7 in	6.1 to 7.8
Bk1,Bk2,C -- 18 to 60 in	loam	moderate	5.8 to 7.9 in	7.4 to 8.4

33B2--Barnes loam, 2 to 6 percent slopes, eroded

Barnes, eroded

Extent: 90 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 2 to 6 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw (surface layer): .24

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential 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	loam	moderate	1.6 to 2.2 in	6.1 to 7.8
B1,B2 -- 9 to 18 in	loam	moderate	1.4 to 1.7 in	6.1 to 7.8
Bk1,Bk2,C -- 18 to 60 in	loam	moderate	5.8 to 7.9 in	7.4 to 8.4

33C2--Barnes loam, 6 to 12 percent slopes, eroded

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33C2--Barnes loam, 6 to 12 percent slopes, eroded

Barnes, eroded

Extent: 90 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 6 to 12 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw (surface layer): .24

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential 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	loam	moderate	1.6 to 2.2 in	6.1 to 7.8
B1,B2 -- 9 to 18 in	loam	moderate	1.4 to 1.7 in	6.1 to 7.8
Bk1,Bk2,C -- 18 to 60 in	loam	moderate	5.8 to 7.9 in	7.4 to 8.4

36--Flom clay loam

Flom

Extent: 90 percent of the unit

Landform(s): drainageways on moraines

Slope gradient: 0 to 2 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw (surface layer): .24

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: B/D

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A1 -- 0 to 14 in	clay loam	moderately slow	2.6 to 3.4 in	6.1 to 7.8
Bg -- 14 to 23 in	silty clay loam	moderately slow	1.3 to 1.6 in	6.6 to 8.4
Bkg,C -- 23 to 60 in	loam	moderately slow	5.2 to 7.0 in	7.4 to 8.4

38B--Waukon fine sandy loam, 1 to 6 percent slopes

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38B--Waukon fine sandy loam, 1 to 6 percent slopes

Waukon

Extent: 90 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 1 to 6 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .24

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential 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	fine sandy loam	moderately rapid	1.3 to 1.5 in	6.1 to 7.3
Bt -- 10 to 34 in	fine sandy loam	moderate	3.6 to 4.6 in	6.1 to 8.4
Bk,C -- 34 to 60 in	fine sandy loam	moderate	3.9 to 4.9 in	7.4 to 8.4

38B2--Waukon loam, 2 to 6 percent slopes, eroded

Waukon, eroded

Extent: 90 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 2 to 6 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw (surface layer): .24

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential 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	loam	moderate	1.6 to 1.9 in	6.1 to 7.3
Bt -- 8 to 21 in	sandy clay loam	moderate	1.9 to 2.5 in	6.1 to 8.4
Bk,C -- 21 to 60 in	fine sandy loam	moderate	5.8 to 7.4 in	7.4 to 8.4

38C--Waukon fine sandy loam, 6 to 12 percent slopes

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38C--Waukon fine sandy loam, 6 to 12 percent slopes

Waukon

Extent: 90 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 6 to 12 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .24

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential 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	fine sandy loam	moderately rapid	1.3 to 1.5 in	6.1 to 7.3
Bt -- 10 to 34 in	sandy clay loam	moderate	3.6 to 4.6 in	6.1 to 8.4
Bk,C -- 34 to 60 in	loam	moderate	3.9 to 4.9 in	7.4 to 8.4

38C2--Waukon loam, 6 to 12 percent slopes, eroded

Waukon, eroded

Extent: 90 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 6 to 12 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw (surface layer): .24

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential 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	loam	moderate	1.6 to 1.9 in	6.1 to 7.3
Bt -- 8 to 21 in	sandy clay loam	moderate	1.9 to 2.5 in	6.1 to 8.4
Bk,C -- 21 to 60 in	loam	moderate	5.8 to 7.4 in	7.4 to 8.4

38D--Waukon fine sandy loam, 12 to 18 percent slopes

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38D--Waukon fine sandy loam, 12 to 18 percent slopes

Waukon

Extent: 90 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 12 to 18 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .24

Land capability class, nonirrigated: 4e

Hydric soil: no

Hydrologic group: B

Potential 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	fine sandy loam	moderately rapid	1.3 to 1.5 in	6.1 to 7.3
Bt -- 10 to 34 in	sandy clay loam	moderate	3.6 to 4.6 in	6.1 to 8.4
Bk,C -- 34 to 60 in	loam	moderate	3.9 to 4.9 in	7.4 to 8.4

38D2--Waukon loam, 12 to 18 percent slopes, eroded

Waukon, eroded

Extent: 90 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 12 to 18 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw (surface layer): .24

Land capability class, nonirrigated: 4e

Hydric soil: no

Hydrologic group: B

Potential 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	loam	moderate	1.6 to 1.9 in	6.1 to 7.3
Bt -- 8 to 21 in	sandy clay loam	moderate	1.9 to 2.5 in	6.1 to 8.4
Bk,C -- 21 to 60 in	loam	moderate	5.8 to 7.4 in	7.4 to 8.4

38E--Waukon fine sandy loam, 18 to 30 percent slopes

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38E--Waukon fine sandy loam, 18 to 30 percent slopes

Waukon

Extent: 90 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 18 to 30 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .24

Land capability class, nonirrigated: 7e

Hydric soil: no

Hydrologic group: B

Potential 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 10 in	fine sandy loam	moderately rapid	1.3 to 1.5 in	6.1 to 7.3
Bt -- 10 to 34 in	sandy clay loam	moderate	3.6 to 4.6 in	6.1 to 8.4
Bk,C -- 34 to 60 in	loam	moderate	3.9 to 4.9 in	7.4 to 8.4

45B--Maddock fine sand, 0 to 4 percent slopes

Maddock

Extent: 90 percent of the unit

Landform(s): hillslopes on lake plains, hillslopes on moraines

Slope gradient: 0 to 4 percent

Parent material: eolian and lacustrine sands

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 250

Kw (surface layer): .15

Land capability class, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,B1 -- 0 to 16 in	fine sand	rapid	1.6 to 1.9 in	6.6 to 7.8
B2,C -- 16 to 60 in	fine sand	rapid	2.2 to 5.2 in	6.6 to 8.4

45C--Maddock fine sand, 4 to 12 percent slopes

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45C--Maddock fine sand, 4 to 12 percent slopes

Maddock

Extent: 90 percent of the unit

Landform(s): hillslopes on lake plains, hillslopes on moraines

Slope gradient: 4 to 12 percent

Parent material: eolian and lacustrine sands

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 250

Kw (surface layer): .15

Land capability class, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential frost action: low

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,B1 -- 0 to 16 in	fine sand	rapid	1.6 to 1.9 in	6.6 to 7.8
B2,C -- 16 to 60 in	fine sand	rapid	2.2 to 5.2 in	6.6 to 8.4

46--Borup loam

Borup

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: loamy over sandy lacustrine deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .24

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: B/D

Potential 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	moderately rapid	1.8 to 2.1 in	7.4 to 8.4
Bkg -- 9 to 18 in	very fine sandy loam	moderately rapid	1.5 to 1.8 in	7.4 to 8.4
C1,C2,C3,C4 -- 18 to 60 in	loamy very fine sand	rapid	6.3 to 7.9 in	7.4 to 8.4

47--Colvin silty clay loam

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47--Colvin silty clay loam

Colvin

Extent: 90 percent of the unit

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

Slope gradient: 0 to 1 percent

Parent material: silty lacustrine deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .28

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: C/D

Potential 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	silty clay loam	moderately slow	2.0 to 2.5 in	6.6 to 8.4
Bkg1,Bkg2 -- 11 to 23 in	silt loam	moderate	1.9 to 2.6 in	7.4 to 8.4
Cg1,Cg2 -- 23 to 60 in	silty clay loam	moderate	5.9 to 8.1 in	7.4 to 8.4

50--Cashel silty clay

Cashel, occasionally flooded

Extent: 90 percent of the unit

Landform(s): flats on flood plains

Slope gradient: 0 to 3 percent

Parent material: alluvium on floodplains

Restrictive feature(s):

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 (surface layer): .28

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: C

Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A1,A2 -- 0 to 17 in	silty clay	moderately slow	2.5 to 3.0 in	7.4 to 8.4
C1g,C2,A1b,C -- 17 to 60 in	silty clay	moderately slow	5.6 to 7.3 in	7.4 to 8.4

52--Augsburg silt loam

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52--Augsburg silt loam

Augsburg

Extent: 90 percent of the unit

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

Slope gradient: 0 to 1 percent

Parent material: loamy deposits over silty and clayey lacustrine sediments

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .28

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: B/D

Potential 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	silt loam	moderate	2.0 to 2.3 in	7.4 to 8.4
Bkg1,Bkg2 -- 10 to 18 in	silt loam	moderately rapid	1.7 to 1.9 in	7.4 to 8.4
Cg -- 18 to 31 in	very fine sandy loam	moderately rapid	2.2 to 2.9 in	7.4 to 8.4
2C1g,2Cg2 -- 31 to 60 in	silty clay	slow	2.9 to 4.0 in	7.4 to 8.4

56--Fargo silty clay loam

Fargo

Extent: 90 percent of the unit

Landform(s): flats on lake plains

Slope gradient: 0 to 1 percent

Parent material: clayey lacustrine deposits

Restrictive feature(s):

Flooding: rare

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 7

Wind erodibility index (WEI): 38

Kw (surface layer): .28

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: D

Potential 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	silty clay loam	slow	1.6 to 2.1 in	6.6 to 7.8
Bg -- 9 to 24 in	silty clay	slow	2.1 to 2.5 in	6.6 to 8.4
Bkg,Cg -- 24 to 60 in	silty clay	slow	5.0 to 6.1 in	7.9 to 8.4

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56--Fargo silty clay loam

57A--Fargo silty clay, 0 to 2 percent slopes

Fargo

Extent: 90 percent of the unit

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

Slope gradient: 1 to 2 percent

Parent material: clayey lacustrine deposits

Restrictive feature(s):

Flooding: rare

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw (surface layer): .28

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: D

Potential 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	silty clay	slow	1.8 to 2.1 in	6.6 to 7.8
Bg -- 12 to 24 in	silty clay	slow	1.7 to 2.1 in	6.6 to 8.4
Bkg,Cg -- 24 to 60 in	silty clay	slow	5.0 to 6.1 in	7.9 to 8.4

57B--Fargo silty clay, 2 to 6 percent slopes

Fargo

Extent: 90 percent of the unit

Landform(s): swales on lake plains

Slope gradient: 2 to 6 percent

Parent material: clayey lacustrine deposits

Restrictive feature(s):

Flooding: rare

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw (surface layer): .28

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: D

Potential 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	silty clay	slow	1.8 to 2.1 in	6.6 to 7.8
Bg -- 12 to 24 in	silty clay	slow	1.7 to 2.1 in	6.6 to 8.4
Bkg,Cg -- 24 to 60 in	silty clay	slow	5.0 to 6.1 in	7.9 to 8.4

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57B--Fargo silty clay, 2 to 6 percent slopes

58A--Kittson fine sandy loam, 0 to 2 percent slopes

Kittson

Extent: 90 percent of the unit

Landform(s): rises on till-floored lake plains

Slope gradient: 0 to 2 percent

Parent material: glaciolacustrine deposits over loamy glacial till

Restrictive feature(s):

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 (surface layer): .20

Land capability class, nonirrigated: 1

Hydric soil: no

Hydrologic group: B

Potential 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	fine sandy loam	moderately rapid	1.5 to 1.8 in	6.6 to 7.8
Bw -- 10 to 17 in	fine sandy loam	moderate	1.2 to 1.3 in	6.6 to 7.8
Bk -- 17 to 36 in	loam	moderate	2.8 to 3.4 in	7.4 to 8.4
C1,C2 -- 36 to 60 in	loam	moderate	3.6 to 4.3 in	7.4 to 8.4

58B--Kittson loam, 1 to 5 percent slopes

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58B--Kittson loam, 1 to 5 percent slopes

Kittson

Extent: 90 percent of the unit

Landform(s): hillslopes on moraines, hillslopes on till-floored lake plains

Slope gradient: 1 to 5 percent

Parent material: glaciolacustrine deposits over loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw (surface layer): .20

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential frost action: high

Representative soil profile:

	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A -- 0 to 10 in	loam	moderate	2.0 to 2.2 in	6.6 to 7.8
Bw -- 10 to 17 in	fine sandy loam	moderate	1.2 to 1.3 in	6.6 to 7.8
Bk -- 17 to 36 in	loam	moderate	2.8 to 3.4 in	7.4 to 8.4
C1,C2 -- 36 to 60 in	loam	moderate	3.6 to 4.3 in	7.4 to 8.4

59--Grimstad fine sandy loam

Map Unit Description (MN)

Clay 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]

59--Grimstad fine sandy loam

Grimstad

<p><i>Extent:</i> 90 percent of the unit</p> <p><i>Landform(s):</i> flats on till-floored lake plains, rises on till-floored lake plains</p> <p><i>Slope gradient:</i> 0 to 3 percent</p> <p><i>Parent material:</i> sandy lacustrine deposits over loamy glacial till</p> <p><i>Restrictive feature(s):</i></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> 3</p> <p><i>Wind erodibility index (WEI):</i> 86</p> <p><i>Kw (surface layer):</i> .20</p> <p><i>Land capability class, nonirrigated:</i> 2s</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> B</p> <p><i>Potential 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>
A1,A2 --	0 to 15 in fine sandy loam	moderately rapid	1.9 to 2.7 in	7.4 to 8.4
Bk,C1,C2 --	15 to 23 in loamy fine sand	rapid	0.6 to 1.1 in	7.4 to 9.0
2C3 --	23 to 60 in loam	moderate	4.1 to 7.0 in	7.4 to 9.0

60A--Glyndon loam, 0 to 2 percent slopes

Glyndon

<p><i>Extent:</i> 90 percent of the unit</p> <p><i>Landform(s):</i> flats on lake plains, rises on lake plains</p> <p><i>Slope gradient:</i> 0 to 2 percent</p> <p><i>Parent material:</i> silty lacustrine deposits</p> <p><i>Restrictive feature(s):</i></p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> moderately well 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 (surface layer):</i> .24</p> <p><i>Land capability class, nonirrigated:</i> 2s</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> B</p> <p><i>Potential 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>
A1,A2k --	0 to 13 in loam	moderate	2.6 to 3.0 in	7.4 to 9.0
Bk,C1 --	13 to 31 in loam	moderately rapid	3.1 to 3.6 in	7.4 to 9.0
C2,C3,C4 --	31 to 60 in loamy very fine sand	moderately rapid	4.3 to 5.5 in	7.4 to 9.0

Map Unit Description (MN)

Clay 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]

60B2--Glyndon loam, 2 to 6 percent slopes, eroded

Glyndon, eroded

Extent: 90 percent of the unit

Landform(s): rises on lake plains, hillslopes on lake plains

Slope gradient: 2 to 6 percent

Parent material: silty lacustrine deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .24

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A1,A2k -- 0 to 10 in	loam	moderate	2.0 to 2.3 in	7.4 to 9.0
Bk,C1 -- 10 to 25 in	very fine sandy loam	moderately rapid	2.6 to 3.1 in	7.4 to 9.0
C2,C3,C4 -- 25 to 60 in	very fine sand	moderately rapid	5.2 to 6.6 in	7.4 to 9.0

61--Arveson clay loam

Arveson

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: loamy mantle over sandy glaciolacustrine deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .24

Land capability class, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: B/D

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A1,A2k -- 0 to 14 in	clay loam	moderate	2.3 to 2.6 in	7.4 to 8.4
Bkg1,Bkg2 -- 14 to 34 in	loam	moderately rapid	3.0 to 3.3 in	7.4 to 8.4
Cg1,Cg2 -- 34 to 60 in	loamy sand	rapid	1.3 to 3.9 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

63--Rockwell clay loam

Rockwell

Extent: 90 percent of the unit

Landform(s): flats on till-floored lake plains, swales on till-floored lake plains

Slope gradient: 0 to 1 percent

Parent material: glaciolacustrine deposits over loamy glacial till

Restrictive feature(s):

Flooding: rare

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .24

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: B/D

Potential 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 loam	moderate	1.6 to 2.0 in	7.4 to 8.4
Bk1,Bk2 -- 9 to 18 in	fine sandy loam	moderately rapid	1.4 to 1.5 in	7.9 to 8.4
Cg1,Cg2 -- 18 to 28 in	fine sand	rapid	0.5 to 0.7 in	7.4 to 7.8
2Cg3 -- 28 to 60 in	silt loam	moderate	5.7 to 7.0 in	7.4 to 7.8

64--Ulen fine sandy loam

Ulen

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 3 percent

Parent material: sandy lacustrine deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .20

Land capability class, nonirrigated: 3s

Hydric soil: no

Hydrologic group: B

Potential 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 13 in	fine sandy loam	moderately rapid	1.7 to 2.3 in	7.4 to 8.4
Bk1,Bk2 -- 13 to 25 in	fine sand	rapid	0.7 to 1.2 in	7.9 to 8.4
C1,C2,C3 -- 25 to 60 in	fine sand	rapid	2.1 to 2.8 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

64--Ulen fine sandy loam

65--Foxhome fine sandy loam

Foxhome

Extent: 90 percent of the unit

Landform(s): ridges on lake plains

Slope gradient: 0 to 1 percent

Parent material: stratified outwash deposits over loamy glacial till

Restrictive feature(s):

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 (surface layer): .20

Land capability class, nonirrigated: 3s

Hydric soil: no

Hydrologic group: B

Potential 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	fine sandy loam	moderately rapid	1.3 to 1.8 in	6.6 to 7.8
Bw1,Bw2 -- 10 to 18 in	loamy sand	rapid	0.7 to 1.6 in	6.6 to 7.8
2C1 -- 18 to 27 in	very gravelly loamy sand	rapid	0.2 to 0.6 in	7.4 to 8.4
3C2,3C3 -- 27 to 60 in	loam	moderate	5.0 to 7.3 in	7.4 to 8.4

66--Flaming fine sand

Map Unit Description (MN)

Clay 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]

66--Flaming fine sand

Flaming

Extent: 90 percent of the unit

Landform(s): rises on alluvial fans on lake plains

Slope gradient: 0 to 3 percent

Parent material: sandy eolian and outwash deposits

Restrictive feature(s):

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 (surface layer): .15

Land capability class, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential 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 13 in	fine sand	rapid	0.9 to 1.2 in	5.6 to 7.3
Bw,Cg -- 13 to 60 in	fine sand	rapid	2.8 to 4.7 in	5.6 to 8.4

67A--Bearden silt loam, 0 to 2 percent slopes

Bearden

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: silty lacustrine deposits

Restrictive feature(s):

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 (surface layer): .28

Land capability class, nonirrigated: 2s

Hydric soil: no

Hydrologic group: C

Potential 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	silt loam	moderate	1.8 to 2.2 in	7.4 to 8.4
Bk1,Bk2 -- 9 to 31 in	silt loam	moderately slow	3.5 to 4.9 in	7.4 to 8.4
Cg1,Cg2,Cg3 - 31 to 60 in	silt loam	moderately slow	4.6 to 6.3 in	7.4 to 8.4

67B2--Bearden silt loam, 2 to 6 percent slopes, eroded

Map Unit Description (MN)

Clay 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]

67B2--Bearden silt loam, 2 to 6 percent slopes, eroded

Bearden, eroded

Extent: 90 percent of the unit

Landform(s): hillslopes on lake plains

Slope gradient: 2 to 6 percent

Parent material: silty lacustrine deposits

Restrictive feature(s):

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 (surface layer): .28

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: C

Potential 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	silt loam	moderate	1.8 to 2.2 in	7.4 to 8.4
Bk1,Bk2 -- 9 to 31 in	silt loam	moderately slow	3.5 to 4.9 in	7.4 to 8.4
Cg1,Cg2,Cg3 - 31 to 60 in	silt loam	moderately slow	4.6 to 6.3 in	7.4 to 8.4

68--Arveson clay loam, depressional

Arveson, depressional

Extent: 90 percent of the unit

Landform(s): depressions on lake plains

Slope gradient: 0 to 1 percent

Parent material: loamy mantle over sandy glaciolacustrine deposits

Restrictive feature(s):

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 4

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .24

Land capability class, nonirrigated: 4w

Hydric soil: yes

Hydrologic group: B/D

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A1,A2k -- 0 to 14 in	clay loam	moderate	2.3 to 2.6 in	7.4 to 8.4
Bkg1,Bkg2 -- 14 to 34 in	loam	moderately rapid	3.0 to 3.3 in	7.4 to 8.4
Cg1,Cg2 -- 34 to 60 in	sandy loam	rapid	1.3 to 3.9 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

71--Fossum loamy sand

Fossum

Extent: 90 percent of the unit

Landform(s): swales on lake plains

Slope gradient: 0 to 2 percent

Parent material: sandy glaciolacustrine deposits

Restrictive feature(s):

Flooding: rare

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw (surface layer): .17

Land capability class, nonirrigated: 4w

Hydric soil: yes

Hydrologic group: A/D

Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,Bkg -- 0 to 18 in	loamy sand	rapid	1.8 to 2.2 in	7.4 to 8.4
Cg -- 18 to 60 in	fine sand	rapid	2.1 to 3.8 in	7.4 to 8.4

93--Bearden silty clay loam

Bearden

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 2 percent

Parent material: silty lacustrine deposits

Restrictive feature(s):

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 (surface layer): .28

Land capability class, nonirrigated: 2s

Hydric soil: no

Hydrologic group: C

Potential 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	silty clay loam	moderately slow	2.0 to 2.7 in	7.4 to 8.4
Bk1,Bk2 -- 12 to 31 in	silty clay loam	moderately slow	3.1 to 4.2 in	7.4 to 8.4
Cg1,Cg2,Cg3 - 31 to 60 in	silt loam	moderately slow	4.6 to 6.3 in	7.4 to 8.4

127B--Sverdrup sandy loam, 1 to 4 percent slopes

Map Unit Description (MN)

Clay 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]

127B--Sverdrup sandy loam, 1 to 4 percent slopes

Sverdrup

Extent: 90 percent of the unit

Landform(s): hillslopes on outwash plains

Slope gradient: 1 to 4 percent

Parent material: loamy over sandy outwash deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .20

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential 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 9 in	sandy loam	moderately rapid	1.2 to 1.4 in	6.1 to 7.3
Bw1,Bw2 -- 9 to 21 in	sandy loam	moderately rapid	0.9 to 1.7 in	6.1 to 7.8
Bk,C -- 21 to 60 in	fine sand	rapid	0.8 to 2.3 in	7.4 to 8.4

127C--Sverdrup sandy loam, 4 to 12 percent slopes

Sverdrup

Extent: 90 percent of the unit

Landform(s): hillslopes on outwash plains

Slope gradient: 4 to 12 percent

Parent material: loamy over sandy outwash deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .20

Land capability class, nonirrigated: 4e

Hydric soil: no

Hydrologic group: B

Potential 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 9 in	sandy loam	moderately rapid	1.2 to 1.4 in	6.1 to 7.3
Bw1,Bw2 -- 9 to 21 in	sandy loam	moderately rapid	0.9 to 1.7 in	6.1 to 7.8
Bk,C -- 21 to 60 in	fine sand	rapid	0.8 to 2.3 in	7.4 to 8.4

148--Poppleton fine sand

Map Unit Description (MN)

Clay 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]

148--Poppleton fine sand

Poppleton

Extent: 90 percent of the unit

Landform(s): rises on alluvial fans on lake plains

Slope gradient: 0 to 2 percent

Parent material: sandy glaciolacustrine deposits

Restrictive feature(s):

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 (surface layer): .15

Land capability class, nonirrigated: 4s

Hydric soil: no

Hydrologic group: A

Potential 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	fine sand	rapid	0.6 to 0.8 in	5.6 to 7.3
Bw,Cg -- 8 to 60 in	fine sand	rapid	3.6 to 4.7 in	6.1 to 7.8

157A--Wahpeton silty clay, 0 to 2 percent slopes

Wahpeton, occasionally flooded

Extent: 90 percent of the unit

Landform(s): hillslopes on lake plains

Slope gradient: 0 to 2 percent

Parent material: clayey river terrace alluvium

Restrictive feature(s):

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 (surface layer): .28

Land capability class, nonirrigated: 2s

Hydric soil: no

Hydrologic group: C

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,Bg -- 0 to 34 in	silty clay	moderate	4.7 to 6.1 in	6.1 to 7.8
2AB,2Cg -- 34 to 60 in	silty clay	moderate	3.4 to 4.4 in	6.6 to 8.4

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

Map Unit Description (MN)

Clay 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]

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

Wahpeton, occasionally flooded

Extent: 90 percent of the unit

Landform(s): hillslopes on lake plains

Slope gradient: 2 to 6 percent

Parent material: clayey river terrace alluvium

Restrictive feature(s):

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 (surface layer): .28

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: C

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,Bg -- 0 to 34 in	silty clay	moderate	4.7 to 6.1 in	6.1 to 7.8
2AB,2Cg -- 34 to 60 in	silty clay	moderate	3.4 to 4.4 in	6.6 to 8.4

157C--Wahpeton silty clay, 6 to 12 percent slopes

Wahpeton, occasionally flooded

Extent: 90 percent of the unit

Landform(s): hillslopes on lake plains

Slope gradient: 6 to 12 percent

Parent material: clayey river terrace alluvium

Restrictive feature(s):

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 (surface layer): .28

Land capability class, nonirrigated: 4e

Hydric soil: no

Hydrologic group: C

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,Bg -- 0 to 34 in	silty clay	moderate	4.7 to 6.1 in	6.1 to 7.8
2AB,2Cg -- 34 to 60 in	silty clay	moderate	3.4 to 4.4 in	6.6 to 8.4

180B--Gonvick clay loam, 1 to 4 percent slopes

Map Unit Description (MN)

Clay 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]

180B--Gonvick clay loam, 1 to 4 percent slopes

Gonvick

Extent: 90 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 1 to 4 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw (surface layer): .24

Land capability class, nonirrigated: 1

Hydric soil: no

Hydrologic group: B

Potential 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	clay loam	moderate	2.2 to 2.4 in	6.1 to 7.3
Bt,Bw -- 11 to 22 in	clay loam	moderate	1.7 to 2.1 in	6.6 to 7.3
Bk,Cg -- 22 to 60 in	loam	moderate	5.7 to 7.2 in	7.4 to 8.4

184B--Hamerly loam, 1 to 4 percent slopes

Hamerly

Extent: 90 percent of the unit

Landform(s): hillslopes on moraines, rises on till-floored lake plains

Slope gradient: 1 to 4 percent

Parent material: loamy glacial till

Restrictive feature(s):

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 (surface layer): .24

Land capability class, nonirrigated: 2s

Hydric soil: no

Hydrologic group: B

Potential 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	loam	moderate	1.8 to 2.4 in	6.6 to 8.4
Bk1,Bk2 -- 10 to 30 in	loam	moderate	3.0 to 3.8 in	7.4 to 8.4
Cg -- 30 to 60 in	loam	moderately slow	4.2 to 5.7 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

236--Vallers loam

Vallers

Extent: 90 percent of the unit
Landform(s): flats on lake plains
Slope gradient: 0 to 2 percent
Parent material: loamy glacial till
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: poorly drained

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

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,Ak -- 0 to 13 in	loam	moderate	2.9 to 3.1 in	7.4 to 8.4
Bkg1,Bkg2 -- 13 to 26 in	clay loam	moderately slow	1.9 to 2.5 in	7.4 to 8.4
Cg -- 26 to 60 in	loam	moderately slow	5.8 to 6.4 in	7.4 to 8.4

245B--Lohnes coarse sandy loam, 1 to 6 percent slopes

Lohnes

Extent: 90 percent of the unit
Landform(s): ridges on lake plains, hillslopes on moraines
Slope gradient: 1 to 6 percent
Parent material: sandy and gravelly outwash deposits
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class: well drained

Soil loss tolerance (T factor): 3
Wind erodibility group (WEG): 3
Wind erodibility index (WEI): 86
Kw (surface layer): .17
Land capability class, nonirrigated: 4s
Hydric soil: no
Hydrologic group: A
Potential 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 9 in	coarse sandy loam	rapid	0.9 to 1.2 in	6.6 to 7.8
Bw,C1,C2 -- 9 to 60 in	coarse sand	rapid	1.5 to 3.6 in	7.4 to 8.4

293B--Swenoda sandy loam, 1 to 4 percent slopes

Map Unit Description (MN)

Clay 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]

293B--Swenoda sandy loam, 1 to 4 percent slopes

Swenoda

Extent: 90 percent of the unit

Landform(s): hillslopes on till-floored lake plains

Slope gradient: 1 to 4 percent

Parent material: loamy glaciolacustrine deposits over lake washed till

Restrictive feature(s):

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 (surface layer): .20

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential 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 13 in	sandy loam	moderately rapid	1.4 to 2.2 in	6.1 to 7.3
Bw1,Bw2 -- 13 to 32 in	sandy loam	moderately rapid	2.1 to 3.2 in	6.6 to 7.8
2C -- 32 to 60 in	loam	moderate	4.8 to 5.6 in	7.4 to 8.4

335--Urness mucky silt loam

Urness

Extent: 90 percent of the unit

Landform(s): depressions on moraines, lakebeds on moraines

Slope gradient: 0 to 1 percent

Parent material: limnic coprogenous earth

Restrictive feature(s):

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 (surface layer): .28

Land capability class, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: B/D

Potential 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	mucky silt loam	moderate	1.8 to 2.4 in	7.4 to 8.4
C1,C2,C3 -- 10 to 60 in	mucky silt loam	moderate	8.0 to 11.0 in	7.4 to 8.4

343A--Wheatville silt loam, 0 to 2 percent slopes

Map Unit Description (MN)

Clay 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]

343A--Wheatville silt loam, 0 to 2 percent slopes

Wheatville

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 2 percent

Parent material: loamy over clayey lacustrine deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .28

Land capability class, nonirrigated: 2s

Hydric soil: no

Hydrologic group: B

Potential 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	silt loam	moderately rapid	1.6 to 2.0 in	7.4 to 8.4
Bk1,Bk2 -- 9 to 23 in	very fine sandy loam	moderately rapid	2.1 to 2.9 in	7.4 to 8.4
2Cg -- 23 to 60 in	silty clay	slow	3.7 to 5.2 in	7.4 to 7.8

343B2--Wheatville loam, 2 to 6 percent slopes, eroded

Wheatville, eroded

Extent: 90 percent of the unit

Landform(s): hillslopes on lake plains

Slope gradient: 2 to 6 percent

Parent material: loamy over clayey lacustrine deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .28

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential 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 15 in	loam	moderately rapid	2.7 to 3.3 in	7.4 to 8.4
Bk1,Bk2 -- 15 to 23 in	very fine sandy loam	moderately rapid	1.2 to 1.7 in	7.4 to 8.4
2Cg -- 23 to 60 in	silty clay	slow	3.7 to 5.2 in	7.4 to 7.8

344--Quam clay loam

Map Unit Description (MN)

Clay 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]

344--Quam clay loam

Quam

Extent: 90 percent of the unit

Landform(s): depressions on moraines

Slope gradient: 0 to 1 percent

Parent material: local alluvium over loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 7

Wind erodibility index (WEI): 38

Kw (surface layer): .24

Land capability class, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: B/D

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A1 -- 0 to 12 in	clay loam	moderately slow	2.1 to 2.6 in	6.6 to 7.8
A2,A3,A4,A5 -- 12 to 60 in	clay loam	moderately slow	7.7 to 10.6 in	6.6 to 7.8
Ckg -- 60 to 65 in	clay loam	moderately slow	0.7 to 1.0 in	7.4 to 8.4

402B--Sioux sandy loam, 1 to 6 percent slopes

Sioux

Extent: 90 percent of the unit

Landform(s): hillslopes on beach ridges

Slope gradient: 1 to 6 percent

Parent material: sandy and gravelly outwash deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .20

Land capability class, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential 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 9 in	sandy loam	moderately rapid	1.0 to 1.4 in	6.6 to 8.4
AC -- 9 to 14 in	gravelly loamy coarse sand	moderately rapid	0.5 to 0.8 in	7.4 to 8.4
C -- 14 to 60 in	very gravelly loamy coarse sand	very rapid	1.4 to 2.7 in	7.4 to 8.4

402C--Sioux sandy loam, 6 to 12 percent slopes

Map Unit Description (MN)

Clay 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]

402C--Sioux sandy loam, 6 to 12 percent slopes

Sioux

Extent: 90 percent of the unit

Landform(s): hillslopes on beach ridges

Slope gradient: 6 to 12 percent

Parent material: sandy and gravelly outwash deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .20

Land capability class, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential 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 9 in	sandy loam	moderately rapid	1.0 to 1.4 in	6.6 to 8.4
AC -- 9 to 14 in	gravelly loamy sand	moderately rapid	0.5 to 0.8 in	7.4 to 8.4
C -- 14 to 60 in	very gravelly loamy sand	very rapid	1.4 to 2.7 in	7.4 to 8.4

402D--Sioux loamy coarse sand, 12 to 18 percent slopes

Sioux

Extent: 90 percent of the unit

Landform(s): moraines, hillslopes on outwash plains, hillslopes on outwash plains

Slope gradient: 12 to 18 percent

Parent material: sandy and gravelly outwash deposits

Restrictive feature(s):

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 (surface layer): .15

Land capability class, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential 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 12 in	loamy coarse sand	moderately rapid	0.9 to 1.4 in	6.6 to 8.4
C -- 12 to 60 in	very gravelly loamy sand	very rapid	1.4 to 2.9 in	7.4 to 8.4

402E--Sioux bouldery loamy coarse sand, 12 to 30 percent slopes

Map Unit Description (MN)

Clay 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]

402E--Sioux bouldery loamy coarse sand, 12 to 30 percent slopes

Sioux

Extent: 90 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 12 to 30 percent

Parent material: sandy and gravelly outwash deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 8

Wind erodibility index (WEI): 0

Kw (surface layer): .05

Land capability class, nonirrigated: 7s

Hydric soil: no

Hydrologic group: A

Potential 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 3 in	bouldery loamy coarse sand	rapid	0.2 to 0.4 in	6.6 to 8.4
AC -- 3 to 15 in	gravelly loamy sand	moderately rapid	0.9 to 1.4 in	6.6 to 8.4
C -- 15 to 60 in	very gravelly sand	very rapid	1.3 to 2.7 in	7.4 to 8.4

403--Viking sandy clay loam

Viking

Extent: 90 percent of the unit

Landform(s): flats on lake plains

Slope gradient: 0 to 2 percent

Parent material: water-worked clayey glacial till

Restrictive feature(s):

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 (surface layer): .24

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: D

Potential 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 12 in	sandy clay loam	moderate	2.1 to 2.4 in	6.6 to 7.8
Bg -- 12 to 21 in	clay	very slow	0.9 to 1.3 in	7.4 to 8.4
Bkg,Cg1,Cg2 -- 21 to 60 in	clay	very slow	3.5 to 5.1 in	7.4 to 8.4

413--Osakis loam

Map Unit Description (MN)

Clay 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]

413--Osakis loam

Osakis

Extent: 90 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: loamy over sandy and gravelly outwash deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw (surface layer): .24

Land capability class, nonirrigated: 3s

Hydric soil: no

Hydrologic group: B

Potential 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	loam	moderate	1.4 to 1.7 in	6.1 to 7.3
Bw -- 8 to 17 in	sandy loam	moderately rapid	1.3 to 1.7 in	6.1 to 7.3
2Bk -- 17 to 30 in	gravelly loamy sand	rapid	0.5 to 0.8 in	6.1 to 7.3
2C -- 30 to 60 in	gravelly coarse sand	rapid	0.6 to 1.2 in	7.4 to 8.4

425--Donaldson fine sandy loam

Map Unit Description (MN)

Clay 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]

425--Donaldson fine sandy loam

Donaldson

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 2 percent

Parent material: loamy lacustrine over clayey lacustrine deposits or clayey glacial till

Restrictive feature(s):

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 (surface layer): .20

Land capability class, nonirrigated: 1

Hydric soil: no

Hydrologic group: C

Potential 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	1.6 to 2.1 in	6.6 to 7.8
Bw1,Bw2 -- 9 to 20 in	very fine sandy loam	moderately rapid	1.9 to 2.1 in	6.6 to 8.4
Bk1,Bk2 -- 20 to 32 in	very fine sandy loam	moderately rapid	1.9 to 2.2 in	6.6 to 8.4
2Cg -- 32 to 60 in	clay	slow	2.5 to 3.6 in	7.4 to 8.4

426--Foldahl loamy fine sand

Foldahl

Extent: 90 percent of the unit

Landform(s): rises on till-floored lake plains

Slope gradient: 0 to 2 percent

Parent material: sandy lacustrine deposits over loamy lacustrine deposits

Restrictive feature(s):

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 (surface layer): .17

Land capability class, nonirrigated: 3s

Hydric soil: no

Hydrologic group: B

Potential 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	loamy fine sand	rapid	1.1 to 1.5 in	6.1 to 7.8
Bw1,Bw2,C1 -- 11 to 29 in	loamy fine sand	rapid	1.3 to 2.2 in	6.6 to 7.8
2Cg1,2Cg2 -- 29 to 60 in	loam	moderate	4.3 to 5.8 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

426--Foldahl loamy fine sand

429--Northcote clay

Northcote

Extent: 90 percent of the unit

Landform(s): flats on lake plains

Slope gradient: 0 to 2 percent

Parent material: clayey lacustrine deposits

Restrictive feature(s):

Flooding: rare

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw (surface layer): .28

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: D

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Ap,A1,A2 -- 0 to 18 in	clay	slow	2.4 to 2.9 in	6.6 to 7.3
Bg1,Bg2 -- 18 to 35 in	clay	slow	1.7 to 2.4 in	6.6 to 7.8
Cg1,Cg2 -- 35 to 60 in	clay	slow	2.5 to 3.5 in	7.4 to 8.4

435--Syrene sandy clay loam

Map Unit Description (MN)

Clay 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]

435--Syrene sandy clay loam

Syrene

<p><i>Extent:</i> 90 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> loamy lacustrine deposits over sandy lacustrine deposits</p> <p><i>Restrictive feature(s):</i></p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</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> 5</p> <p><i>Wind erodibility index (WEI):</i> 56</p> <p><i>Kw (surface layer):</i> .24</p> <p><i>Land capability class, nonirrigated:</i> 4w</p> <p><i>Hydric soil:</i> yes</p> <p><i>Hydrologic group:</i> B/D</p> <p><i>Potential 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>
A -- 0 to 9 in	sandy clay loam	moderate	1.6 to 1.8 in	7.4 to 8.4
Bkg -- 9 to 17 in	sandy clay loam	moderately rapid	1.2 to 1.5 in	7.9 to 8.4
2Bkg,2Cg -- 17 to 60 in	stratified gravelly coarse sand to loamy fine sand	rapid	0.9 to 1.7 in	7.4 to 8.4

494--Darnen loam

Darnen

<p><i>Extent:</i> 90 percent of the unit</p> <p><i>Landform(s):</i> hillslopes on moraines</p> <p><i>Slope gradient:</i> 1 to 2 percent</p> <p><i>Parent material:</i> local alluvium over glacial till</p> <p><i>Restrictive feature(s):</i></p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> moderately well drained</p>	<p><i>Soil loss tolerance (T factor):</i> 5</p> <p><i>Wind erodibility group (WEG):</i> 6</p> <p><i>Wind erodibility index (WEI):</i> 48</p> <p><i>Kw (surface layer):</i> .24</p> <p><i>Land capability class, nonirrigated:</i> 1</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> B</p> <p><i>Potential 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>
A1,A2 -- 0 to 25 in	loam	moderate	5.0 to 6.0 in	6.6 to 7.8
Bw1,Bw2 -- 25 to 48 in	loam	moderate	3.4 to 4.3 in	6.1 to 7.8
C -- 48 to 60 in	loam	moderate	1.7 to 2.2 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

506--Overly silty clay loam

Overly

Extent: 90 percent of the unit

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

Slope gradient: 0 to 3 percent

Parent material: silty and clayey lacustrine deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 7

Wind erodibility index (WEI): 38

Kw (surface layer): .28

Land capability class, nonirrigated: 1

Hydric soil: no

Hydrologic group: C

Potential 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 10 in	silty clay loam	moderately slow	1.7 to 2.3 in	6.6 to 7.8
Bw1,Bw2 -- 10 to 19 in	silty clay loam	moderately slow	1.5 to 2.0 in	6.6 to 8.4
Bk1,Bkg,Cg -- 19 to 60 in	stratified silt loam to silty clay	moderately slow	5.3 to 9.0 in	7.9 to 8.4

508--Wyndmere fine sandy loam

Wyndmere

Extent: 90 percent of the unit

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

Slope gradient: 0 to 3 percent

Parent material: loamy over sandy glaciolacustrine deposits

Restrictive feature(s):

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 (surface layer): .20

Land capability class, nonirrigated: 2s

Hydric soil: no

Hydrologic group: B

Potential 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	fine sandy loam	moderately rapid	1.3 to 1.8 in	6.6 to 8.4
Ak,Bk1,Bk2 -- 10 to 29 in	fine sandy loam	moderately rapid	2.3 to 3.3 in	7.4 to 8.4
C1,C2g -- 29 to 60 in	fine sand	rapid	1.5 to 4.9 in	7.4 to 8.4

509--Vallers bouldery loam

Map Unit Description (MN)

Clay 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]

509--Vallers bouldery loam

Vallers

Extent: 90 percent of the unit

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

Slope gradient: 0 to 1 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 8

Wind erodibility index (WEI): 0

Kw (surface layer): .17

Land capability class, nonirrigated: 5w

Hydric soil: yes

Hydrologic group: B

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,Ak -- 0 to 11 in	loam	moderate	2.4 to 2.6 in	7.4 to 8.4
Bkg1,Bkg2 -- 11 to 21 in	clay loam	moderately slow	1.5 to 1.9 in	7.9 to 8.4
Cg -- 21 to 60 in	loam	moderately slow	6.6 to 7.4 in	7.4 to 8.4

510--Elmville fine sandy loam

Elmville

Extent: 90 percent of the unit

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

Slope gradient: 0 to 3 percent

Parent material: loamy over clayey lacustrine deposits or glacial till

Restrictive feature(s):

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 (surface layer): .20

Land capability class, nonirrigated: 2s

Hydric soil: no

Hydrologic group: B

Potential frost action: high

<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	2.3 to 3.1 in	7.4 to 8.4
Bk1,Bk2,C1 -- 14 to 30 in	very fine sandy loam	moderately rapid	1.9 to 2.7 in	7.4 to 8.4
2C2 -- 30 to 60 in	clay	slow	3.0 to 4.2 in	7.4 to 7.8

Map Unit Description (MN)

Clay 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]

540--Seelyeville muck

Seelyeville

Extent: 90 percent of the unit

Landform(s): depressions on lake plains, depressions on moraines

Slope gradient: 0 to 1 percent

Parent material: highly decomposed herbaceous organic material

Restrictive feature(s):

Flooding: rare

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw (surface layer): .02

Land capability class, nonirrigated: 6w

Hydric soil: yes

Hydrologic group: A/D

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa1 -- 0 to 16 in	muck	moderately rapid	5.6 to 7.3 in	
Oa2,Oa3 -- 16 to 60 in	muck	moderately rapid	15.3 to 19.7 in	

543--Markey muck

Markey

Extent: 90 percent of the unit

Landform(s): depressions on outwash plains

Slope gradient: 0 to 1 percent

Parent material: highly decomposed herbaceous organic deposits over outwash deposits

Restrictive feature(s):

Flooding: rare

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw (surface layer): .02

Land capability class, nonirrigated: 6w

Hydric soil: yes

Hydrologic group: A/D

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa1,Oa2,Oa3 - 0 to 28 in	muck	moderately rapid	9.8 to 12.6 in	
2Cg -- 28 to 60 in	fine sand	rapid	1.0 to 2.6 in	

Map Unit Description (MN)

Clay 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]

544--Cathro muck

Cathro

Extent: 90 percent of the unit

Landform(s): depressions on lake plains, depressions on moraines

Slope gradient: 0 to 1 percent

Parent material: highly decomposed herbaceous organic deposits over loamy deposits

Restrictive feature(s):

Flooding: rare

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 2

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw (surface layer): .02

Land capability class, nonirrigated: 4w

Hydric soil: yes

Hydrologic group: A/D

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa1,Oa2 --	0 to 21 in muck	moderately rapid	9.4 to 11.5 in	
2Cg1,2Cg2 --	21 to 60 in clay loam	moderate	4.3 to 7.4 in	

545--Rondeau muck

Rondeau

Extent: 90 percent of the unit

Landform(s): depressions on lake plains, depressions on moraines

Slope gradient: 0 to 1 percent

Parent material: herbaceous organic material over limnic sediments and marl

Restrictive feature(s):

Flooding: rare

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 1

Wind erodibility group (WEG): 2

Wind erodibility index (WEI): 134

Kw (surface layer): .02

Land capability class, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: A/D

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Oa1,Oe,Oa2 --	0 to 50 in muck	moderately rapid	17.5 to 24.0 in	
Cg --	50 to 60 in marl	moderate	2.0 to 2.2 in	

Map Unit Description (MN)

Clay 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]

609--Dickey loamy fine sand

Dickey

Extent: 90 percent of the unit

Landform(s): rises, lake plains

Slope gradient: 0 to 2 percent

Parent material: sandy lacustrine deposits over glacial till or lacustrine deposits

Restrictive feature(s):

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 (surface layer): .17

Land capability class, nonirrigated: 3s

Hydric soil: no

Hydrologic group: B

Potential 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	0.8 to 1.2 in	6.1 to 7.8
Bw1,Bw2 -- 10 to 26 in	loamy sand	rapid	1.0 to 1.9 in	6.1 to 7.8
2Bw3,2C -- 26 to 60 in	silty clay loam	moderate	4.7 to 6.4 in	7.4 to 8.4

841--Urban land-Fargo complex

Urban land

Extent: 80 percent of the unit

Landform(s): flats on lake plains

Slope gradient: 0 to 1 percent

Parent material: clayey lacustrine deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: unranked

Hydrologic group:

Potential 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)

Clay 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]

841--Urban land-Fargo complex

Fargo

Extent: 20 percent of the unit

Landform(s): flats on lake plains

Slope gradient: 0 to 1 percent

Parent material: clayey lacustrine deposits

Restrictive feature(s):

Flooding: rare

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw (surface layer): .28

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: D

Potential 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 12 in	silty clay	slow	1.8 to 2.1 in	6.6 to 7.8
Bg -- 12 to 24 in	silty clay	slow	1.7 to 2.1 in	6.6 to 8.4
Bkg,Cg -- 24 to 60 in	clay	slow	5.0 to 6.1 in	7.9 to 8.4

892B--Sioux-Sverdrup complex, 1 to 6 percent slopes

Sioux

Extent: 50 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 1 to 6 percent

Parent material: sandy and gravelly outwash deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .20

Land capability class, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential 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	sandy loam	moderately rapid	1.1 to 1.5 in	6.6 to 8.4
AC -- 10 to 26 in	gravelly loamy sand	moderately rapid	1.6 to 2.4 in	7.4 to 8.4
C -- 26 to 60 in	very gravelly loamy sand	very rapid	1.0 to 2.0 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

892B--Sioux-Sverdrup complex, 1 to 6 percent slopes

Sverdrup

Extent: 35 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 1 to 6 percent

Parent material: loamy over sandy outwash deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .20

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential 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	sandy loam	moderately rapid	1.3 to 1.5 in	6.1 to 7.3
Bw -- 10 to 15 in	sandy loam	moderately rapid	0.4 to 0.7 in	6.1 to 7.8
Bk,C -- 15 to 60 in	fine sand	rapid	0.9 to 2.7 in	7.4 to 8.4

892C--Sioux-Sverdrup complex, 6 to 18 percent slopes

Sioux

Extent: 55 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 6 to 18 percent

Parent material: sandy and gravelly outwash deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .20

Land capability class, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential 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 8 in	sandy loam	moderately rapid	0.9 to 1.2 in	6.6 to 8.4
AC -- 8 to 12 in	gravelly loamy sand	moderately rapid	0.4 to 0.6 in	7.4 to 8.4
C -- 12 to 60 in	very gravelly loamy sand	very rapid	1.4 to 2.9 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

892C--Sioux-Sverdrup complex, 6 to 18 percent slopes

Sverdrup

<p><i>Extent:</i> 30 percent of the unit</p> <p><i>Landform(s):</i> moraines, -- error in exists on --</p> <p><i>Slope gradient:</i> 6 to 18 percent</p> <p><i>Parent material:</i> loamy over sandy outwash deposits</p> <p><i>Restrictive feature(s):</i></p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> well 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 (surface layer):</i> .20</p> <p><i>Land capability class, nonirrigated:</i> 6e</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> B</p> <p><i>Potential frost action:</i> low</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 10 in	sandy loam	moderately rapid	1.3 to 1.5 in	6.1 to 7.3
Bw -- 10 to 15 in	sandy loam	moderately rapid	0.4 to 0.7 in	6.1 to 7.8
Bk,C -- 15 to 60 in	fine sand	rapid	0.9 to 2.7 in	7.4 to 8.4

893E--Lohnes-Waukon complex, 12 to 30 percent slopes

Lohnes

<p><i>Extent:</i> 60 percent of the unit</p> <p><i>Landform(s):</i> hillslopes on moraines</p> <p><i>Slope gradient:</i> 12 to 15 percent</p> <p><i>Parent material:</i> sandy and gravelly outwash deposits</p> <p><i>Restrictive feature(s):</i></p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> well 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 (surface layer):</i> .17</p> <p><i>Land capability class, nonirrigated:</i> 6e</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> A</p> <p><i>Potential frost action:</i> low</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 10 in	coarse sandy loam	rapid	1.0 to 1.3 in	6.6 to 7.8
AC,C -- 10 to 60 in	coarse sand	rapid	1.5 to 3.5 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

893E--Lohnes-Waukon complex, 12 to 30 percent slopes

Waukon

Extent: 25 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 12 to 30 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .20

Land capability class, nonirrigated: 6e

Hydric soil: no

Hydrologic group: B

Potential 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 7 in	sandy loam	moderately rapid	0.9 to 1.1 in	6.1 to 7.3
Bt -- 7 to 19 in	clay loam	moderate	1.8 to 2.3 in	6.1 to 8.4
Bk,C -- 19 to 60 in	loam	moderate	6.1 to 7.7 in	7.4 to 8.4

903B--Barnes-Langhei loams, 1 to 6 percent slopes

Barnes

Extent: 60 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 1 to 6 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw (surface layer): .24

Land capability class, nonirrigated: 2e

Hydric soil: no

Hydrologic group: B

Potential 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	loam	moderate	1.6 to 2.2 in	6.1 to 7.8
Bw1 -- 9 to 15 in	loam	moderate	0.9 to 1.1 in	6.1 to 7.8
Bk,C -- 15 to 60 in	loam	moderate	6.3 to 8.5 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

903B--Barnes-Langhei loams, 1 to 6 percent slopes

Langhei

Extent: 30 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 2 to 6 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .32

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Apk -- 0 to 8 in	loam	moderate	1.3 to 1.7 in	6.6 to 8.4
Bk,C -- 8 to 60 in	loam	moderate	7.8 to 9.9 in	7.4 to 8.4

908--Bearden-Fargo complex

Bearden

Extent: 55 percent of the unit

Landform(s): ridges on lake plains, flats on lake plains

Slope gradient: 0 to 2 percent

Parent material: silty lacustrine deposits

Restrictive feature(s):

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 (surface layer): .28

Land capability class, nonirrigated: 2s

Hydric soil: no

Hydrologic group: C

Potential 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	silty clay loam	moderately slow	2.0 to 2.7 in	7.4 to 8.4
Bk1 -- 12 to 31 in	silty clay loam	moderately slow	3.1 to 4.2 in	7.4 to 8.4
Bk2 -- 31 to 44 in	silt loam	moderately slow	2.1 to 2.9 in	7.4 to 8.4
Cg -- 44 to 60 in	silt loam	slow	2.5 to 3.5 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

908--Bearden-Fargo complex

Fargo

Extent: 35 percent of the unit

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

Slope gradient: 0 to 1 percent

Parent material: clayey lacustrine deposits

Restrictive feature(s):

Flooding: rare

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw (surface layer): .28

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: D

Potential 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	silty clay	slow	1.8 to 2.1 in	6.6 to 7.3
A,Bg1 -- 12 to 24 in	silty clay	slow	1.7 to 2.1 in	6.6 to 8.4
Bg2 -- 24 to 39 in	silty clay	slow	2.1 to 2.5 in	7.9 to 8.4
Bkg,Cg -- 39 to 60 in	silty clay loam	moderate	3.1 to 4.2 in	7.9 to 8.4

935--Hegne-Fargo silty clays

Hegne

Extent: 55 percent of the unit

Landform(s): rises on lake plains, ridges on lake plains

Slope gradient: 0 to 2 percent

Parent material: clayey lacustrine deposits

Restrictive feature(s):

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 (surface layer): .28

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: D

Potential 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	silty clay	slow	1.3 to 1.5 in	7.4 to 8.4
Bkg1,Bkg2 -- 9 to 27 in	silty clay	slow	2.3 to 2.8 in	7.4 to 8.4
Bkg3 -- 27 to 34 in	silty clay	slow	0.6 to 1.1 in	7.4 to 8.4
Cg -- 34 to 60 in	clay	slow	2.1 to 3.6 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

935--Hegne-Fargo silty clays

Fargo

Extent: 40 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: clayey lacustrine deposits

Restrictive feature(s):

Flooding: rare

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw (surface layer): .28

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: D

Potential 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	silty clay	slow	1.8 to 2.1 in	6.6 to 7.8
Bkg -- 12 to 24 in	silty clay	slow	1.7 to 2.1 in	6.6 to 8.4
Cg -- 24 to 60 in	silty clay	slow	5.0 to 6.1 in	7.9 to 8.4

942C2--Langhei-Barnes loams, 6 to 12 percent slopes, eroded

Langhei, eroded

Extent: 60 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 6 to 12 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .32

Land capability class, nonirrigated: 4e

Hydric soil: no

Hydrologic group: B

Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Apk -- 0 to 8 in	loam	moderate	1.3 to 1.7 in	6.6 to 8.4
Bk -- 8 to 17 in	loam	moderate	1.4 to 1.7 in	7.9 to 8.4
C -- 17 to 60 in	loam	moderate	6.4 to 8.2 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

942C2--Langhei-Barnes loams, 6 to 12 percent slopes, eroded

Barnes, eroded

Extent: 30 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 6 to 12 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw (surface layer): .24

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential 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	loam	moderate	1.4 to 1.9 in	6.1 to 7.8
Bw -- 8 to 14 in	loam	moderate	0.9 to 1.2 in	6.1 to 7.8
Bk,C -- 14 to 60 in	loam	moderate	6.4 to 8.7 in	7.4 to 8.4

942D2--Langhei-Barnes loams, 12 to 18 percent slopes, eroded

Langhei, eroded

Extent: 65 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 12 to 18 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .32

Land capability class, nonirrigated: 6e

Hydric soil: no

Hydrologic group: B

Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Apk -- 0 to 8 in	loam	moderate	1.3 to 1.7 in	6.6 to 8.4
Bk,C -- 8 to 60 in	loam	moderate	7.8 to 9.9 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

942D2--Langhei-Barnes loams, 12 to 18 percent slopes, eroded

Barnes, eroded

Extent: 25 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 12 to 18 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw (surface layer): .24

Land capability class, nonirrigated: 4e

Hydric soil: no

Hydrologic group: B

Potential 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	loam	moderate	1.4 to 1.9 in	6.1 to 7.8
Bw -- 8 to 14 in	loam	moderate	0.9 to 1.2 in	6.1 to 7.8
Bk,C -- 14 to 60 in	loam	moderate	6.4 to 8.7 in	7.4 to 8.4

966C--Waukon-Sioux sandy loams, 4 to 12 percent slopes

Waukon

Extent: 55 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 4 to 12 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .20

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential 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	1.3 to 1.5 in	6.1 to 7.3
Bt -- 10 to 20 in	clay loam	moderate	1.5 to 1.9 in	6.1 to 8.4
Bk,C -- 20 to 60 in	loam	moderate	6.0 to 7.6 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

966C--Waukon-Sioux sandy loams, 4 to 12 percent slopes

Sioux

Extent: 35 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 4 to 12 percent

Parent material: sandy and gravelly outwash deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: excessively drained

Soil loss tolerance (T factor): 3

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .20

Land capability class, nonirrigated: 6s

Hydric soil: no

Hydrologic group: A

Potential 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 8 in	sandy loam	moderately rapid	0.9 to 1.2 in	6.6 to 8.4
AC -- 8 to 11 in	gravelly loamy sand	moderately rapid	0.3 to 0.5 in	7.4 to 8.4
C -- 11 to 60 in	very gravelly sand	very rapid	1.5 to 2.9 in	7.4 to 8.4

966D--Waukon-Sioux sandy loams, 12 to 18 percent slopes

Waukon

Extent: 55 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 12 to 18 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 3

Wind erodibility index (WEI): 86

Kw (surface layer): .20

Land capability class, nonirrigated: 4e

Hydric soil: no

Hydrologic group: B

Potential 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 10 in	sandy loam	moderately rapid	1.3 to 1.5 in	6.1 to 7.3
Bt -- 10 to 20 in	clay loam	moderate	1.5 to 1.9 in	6.1 to 8.4
Bk,C -- 20 to 60 in	loam	moderate	6.0 to 7.6 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

966D--Waukon-Sioux sandy loams, 12 to 18 percent slopes

Sioux

<i>Extent:</i> 35 percent of the unit	<i>Soil loss tolerance (T factor):</i> 3
<i>Landform(s):</i> hillslopes on moraines	<i>Wind erodibility group (WEG):</i> 3
<i>Slope gradient:</i> 12 to 18 percent	<i>Wind erodibility index (WEI):</i> 86
<i>Parent material:</i> sandy and gravelly outwash deposits	<i>Kw (surface layer):</i> .20
<i>Restrictive feature(s):</i>	<i>Land capability class, nonirrigated:</i> 6s
<i>Flooding:</i> none	<i>Hydric soil:</i> no
<i>Ponding:</i> none	<i>Hydrologic group:</i> A
<i>Drainage class:</i> excessively drained	<i>Potential 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 8 in	sandy loam	moderately rapid	0.9 to 1.2 in	6.6 to 8.4
AC -- 8 to 11 in	gravelly loamy sand	moderately rapid	0.3 to 0.5 in	7.4 to 8.4
C -- 11 to 60 in	very gravelly sand	very rapid	1.5 to 2.9 in	7.4 to 8.4

967B2--Waukon-Langhei loams, 1 to 6 percent slopes, eroded

Waukon, eroded

<i>Extent:</i> 60 percent of the unit	<i>Soil loss tolerance (T factor):</i> 5
<i>Landform(s):</i> hillslopes on moraines	<i>Wind erodibility group (WEG):</i> 6
<i>Slope gradient:</i> 1 to 6 percent	<i>Wind erodibility index (WEI):</i> 48
<i>Parent material:</i> loamy glacial till	<i>Kw (surface layer):</i> .20
<i>Restrictive feature(s):</i>	<i>Land capability class, nonirrigated:</i> 2e
<i>Flooding:</i> none	<i>Hydric soil:</i> no
<i>Ponding:</i> none	<i>Hydrologic group:</i> B
<i>Drainage class:</i> well drained	<i>Potential 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 8 in	loam	moderate	1.6 to 1.9 in	6.1 to 7.3
Bt -- 8 to 21 in	fine sandy loam	moderate	1.9 to 2.5 in	6.1 to 8.4
Bk,C -- 21 to 60 in	loam	moderate	5.8 to 7.4 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

967B2--Waukon-Langhei loams, 1 to 6 percent slopes, eroded

Langhei, eroded

Extent: 30 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 2 to 6 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .32

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Apk -- 0 to 7 in	loam	moderate	1.2 to 1.6 in	6.6 to 8.4
Bk,C -- 7 to 60 in	loam	moderate	7.9 to 10.0 in	7.4 to 8.4

979C2--Langhei-Waukon loams, 6 to 12 percent slopes, eroded

Langhei, eroded

Extent: 60 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 6 to 12 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .32

Land capability class, nonirrigated: 4e

Hydric soil: no

Hydrologic group: B

Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Apk -- 0 to 7 in	loam	moderate	1.2 to 1.6 in	6.6 to 8.4
Bk,C -- 7 to 60 in	loam	moderate	7.9 to 10.0 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

979C2--Langhei-Waukon loams, 6 to 12 percent slopes, eroded

Waukon, eroded

Extent: 30 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 6 to 12 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw (surface layer): .24

Land capability class, nonirrigated: 3e

Hydric soil: no

Hydrologic group: B

Potential 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	loam	moderate	1.6 to 1.9 in	6.1 to 7.3
Bt -- 8 to 21 in	clay loam	moderate	1.9 to 2.5 in	6.1 to 8.4
Bk,C -- 21 to 60 in	loam	moderate	5.8 to 7.4 in	7.4 to 8.4

979D2--Langhei-Waukon loams, 12 to 18 percent slopes, eroded

Langhei, eroded

Extent: 65 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 12 to 18 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .32

Land capability class, nonirrigated: 6e

Hydric soil: no

Hydrologic group: B

Potential frost action: moderate

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
Apk -- 0 to 7 in	loam	moderate	1.2 to 1.6 in	6.6 to 8.4
Bk,C -- 7 to 60 in	loam	moderate	7.9 to 10.0 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

979D2--Langhei-Waukon loams, 12 to 18 percent slopes, eroded

Waukon, eroded

Extent: 25 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 12 to 18 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw (surface layer): .24

Land capability class, nonirrigated: 4e

Hydric soil: no

Hydrologic group: B

Potential 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	loam	moderate	1.6 to 1.9 in	6.1 to 7.3
Bt -- 8 to 21 in	clay loam	moderate	1.9 to 2.5 in	6.1 to 8.4
Bk,C -- 21 to 60 in	loam	moderate	5.8 to 7.4 in	7.4 to 8.4

987--Rockwell loam, depressional

Rockwell, depressional

Extent: 90 percent of the unit

Landform(s): depressions on till-floored lake plains

Slope gradient: 0 to 1 percent

Parent material: glaciolacustrine deposits over loamy glacial till

Restrictive feature(s):

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 (surface layer): .24

Land capability class, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: B/D

Potential 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	loam	moderate	2.0 to 2.4 in	7.4 to 8.4
Bkg -- 11 to 18 in	fine sandy loam	moderately rapid	1.1 to 1.2 in	7.9 to 8.4
2Cg -- 18 to 28 in	fine sand	rapid	0.5 to 0.7 in	7.4 to 7.8
3Cg -- 28 to 60 in	silt loam	moderate	5.7 to 7.0 in	7.4 to 7.8

Map Unit Description (MN)

Clay 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]

1001--Haplaquolls and Udifluvents, level

Haplaquolls, level

Extent: 45 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: alluvial deposits

Restrictive feature(s):

Flooding: frequent

Ponding: none

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw (surface layer): .28

Land capability class, nonirrigated: 6w

Hydric soil: yes

Hydrologic group: D

Potential 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	silt loam	moderate	2.9 to 3.9 in	5.6 to 7.8
Bkg,Cg -- 16 to 80 in	stratified loamy sand to silt loam	rapid	2.6 to 12.8 in	5.6 to 7.8

Udifluvents, level

Extent: 45 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: alluvial deposits

Restrictive feature(s):

Flooding: frequent

Ponding: none

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 5

Wind erodibility index (WEI): 56

Kw (surface layer): .28

Land capability class, nonirrigated: 6w

Hydric soil: yes

Hydrologic group: D

Potential 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	silt loam	moderate	2.9 to 3.9 in	5.6 to 7.8
Cg -- 16 to 80 in	stratified loamy sand to silt loam	rapid	2.6 to 12.8 in	5.6 to 7.8

1005--Fluvaquents, loamy

Map Unit Description (MN)

Clay 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]

1005--Fluvaquents, loamy

Fluvaquents, loamy

Extent: 90 percent of the unit

Landform(s): abandoned channels on flood plains, swales on flood plains

Slope gradient: 0 to 2 percent

Parent material: recent alluvial deposits

Restrictive feature(s):

Flooding: frequent

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: yes

Hydrologic group: D

Potential 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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1006--Fluvaquents-Haploborolls complex

Fluvaquents

Extent: 55 percent of the unit

Landform(s): abandoned channels on flood plains, swales on flood plains

Slope gradient: 0 to 1 percent

Parent material: recent alluvial deposits

Restrictive feature(s):

Flooding: frequent

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: yes

Hydrologic group: D

Potential 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)

Clay 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]

1006--Fluvaquents-Haploborolls complex

Haploborolls

Extent: 35 percent of the unit
Landform(s): ridges on flood plains
Slope gradient: 0 to 1 percent
Parent material: recent alluvial deposits
Restrictive feature(s):
Flooding: none
Ponding: none
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw (surface layer):
Land capability class, nonirrigated:
Hydric soil: no
Hydrologic group: B
Potential 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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1029--Pits, gravel

Pits, gravel

Extent: 100 percent of the unit
Landform(s): beach ridges on lake plains, hillslopes on moraines
Slope gradient: 0 to 45 percent
Parent material: sandy and gravelly outwash or beach deposits
Restrictive feature(s):
Flooding:
Ponding:
Drainage class:

Soil loss tolerance (T factor):
Wind erodibility group (WEG):
Wind erodibility index (WEI):
Kw (surface layer):
Land capability class, nonirrigated:
Hydric soil: unranked
Hydrologic group:
Potential 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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1055--Haplaquolls and Histosols, ponded

Map Unit Description (MN)

Clay 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]

1055--Haplaquolls and Histosols, ponded

Haplaquolls, ponded

Extent: 45 percent of the unit

Landform(s): depressions on lake plains, depressions on moraines

Slope gradient: 0 to 1 percent

Parent material: lacustrine deposits or glacial till

Restrictive feature(s):

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: yes

Hydrologic group: D

Potential 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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Histosols, ponded

Extent: 45 percent of the unit

Landform(s): depressions on lake plains, depressions on moraines

Slope gradient: 0 to 1 percent

Parent material: herbaceous organic material

Restrictive feature(s):

Flooding: none

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: yes

Hydrologic group: D

Potential 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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1819--Glyndon silty clay loam

Map Unit Description (MN)

Clay 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]

1819--Glyndon silty clay loam

Glyndon

Extent: 90 percent of the unit

Landform(s): rises on lake plains

Slope gradient: 0 to 2 percent

Parent material: silty lacustrine deposits

Restrictive feature(s):

Flooding: none

Ponding: none

Drainage class: moderately well drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4L

Wind erodibility index (WEI): 86

Kw (surface layer): .28

Land capability class, nonirrigated: 2s

Hydric soil: no

Hydrologic group: B

Potential frost action: high

<i>Representative soil profile:</i>	<i>Texture</i>	<i>Permeability</i>	<i>Available water capacity</i>	<i>pH</i>
A,Bk1,Bk2 -- 0 to 29 in	silty clay loam	moderate	5.2 to 6.4 in	7.4 to 9.0
C -- 29 to 60 in	very fine sand	moderately rapid	4.6 to 5.8 in	7.4 to 9.0

1854--Wyndmere complex

Wyndmere

Extent: 70 percent of the unit

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

Slope gradient: 0 to 2 percent

Parent material: loamy over sandy glaciolacustrine deposits

Restrictive feature(s):

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 (surface layer): .20

Land capability class, nonirrigated: 3s

Hydric soil: no

Hydrologic group: B

Potential 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	fine sandy loam	moderately rapid	0.9 to 1.2 in	7.4 to 8.4
Ak,Bk1,Bk2 -- 10 to 29 in	fine sandy loam	moderately rapid	1.5 to 2.1 in	7.4 to 8.4
C1,C2g -- 29 to 60 in	fine sandy loam	moderately rapid	1.2 to 3.4 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

1854--Wyndmere complex

Wyndmere, moderately well drained

Extent: 20 percent of the unit

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

Slope gradient: 0 to 3 percent

Parent material: loamy over sandy glaciolacustrine deposits

Restrictive feature(s):

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 (surface layer): .20

Land capability class, nonirrigated: 2s

Hydric soil: no

Hydrologic group: B

Potential 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	1.0 to 1.4 in	6.6 to 8.4
Ak,Bk1,Bk2 -- 8 to 26 in	fine sandy loam	moderately rapid	2.2 to 3.1 in	7.4 to 8.4
C1,C2g -- 26 to 60 in	fine sandy loam	rapid	1.7 to 5.4 in	7.4 to 8.4

1871--Fargo silty clay, swales

Fargo, swales

Extent: 90 percent of the unit

Landform(s): swales on lake plains

Slope gradient: 0 to 1 percent

Parent material: clayey lacustrine deposits

Restrictive feature(s):

Flooding: rare

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw (surface layer): .28

Land capability class, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: D

Potential 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	silty clay	slow	1.8 to 2.1 in	6.6 to 7.8
Bg -- 12 to 24 in	clay	slow	1.7 to 2.1 in	6.6 to 8.4
Bkg,Cg -- 24 to 60 in	clay	slow	5.0 to 6.1 in	7.9 to 8.4

1872--Fargo silty clay, silty substratum

Map Unit Description (MN)

Clay 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]

1872--Fargo silty clay, silty substratum

Fargo, silty substratum

Extent: 90 percent of the unit

Landform(s): flats on lake plains

Slope gradient: 0 to 1 percent

Parent material: clayey lacustrine deposits

Restrictive feature(s):

Flooding: rare

Ponding: none

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw (surface layer): .28

Land capability class, nonirrigated: 2w

Hydric soil: yes

Hydrologic group: D

Potential 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	1.2 to 1.4 in	6.6 to 7.3
A -- 8 to 16 in	silty clay	slow	1.2 to 1.4 in	6.6 to 8.4
Bkg -- 16 to 36 in	silty clay	slow	2.8 to 3.3 in	7.9 to 8.4
Cg -- 36 to 60 in	silty clay loam	moderate	3.6 to 4.8 in	7.9 to 8.4

1873--Fargo silty clay, silty substratum, swales

Fargo, silty substratum, swales

Extent: 90 percent of the unit

Landform(s): swales on lake plains

Slope gradient: 0 to 1 percent

Parent material: clayey lacustrine deposits

Restrictive feature(s):

Flooding: rare

Ponding: frequent

Drainage class: poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 4

Wind erodibility index (WEI): 86

Kw (surface layer): .28

Land capability class, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: D

Potential 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	1.5 to 1.8 in	6.6 to 7.3
A -- 10 to 18 in	silty clay	slow	1.2 to 1.4 in	6.6 to 7.8
Bkg -- 18 to 30 in	silty clay	slow	1.7 to 2.0 in	7.9 to 8.4
Cg -- 30 to 60 in	silty clay loam	moderate	4.5 to 6.0 in	7.9 to 8.4

Map Unit Description (MN)

Clay 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]

1873--Fargo silty clay, silty substratum, swales

1874--Lohnes sandy loam

Lohnes

<p><i>Extent:</i> 90 percent of the unit</p> <p><i>Landform(s):</i> hillslopes on beach ridges, hillslopes on outwash plains</p> <p><i>Slope gradient:</i> 0 to 3 percent</p> <p><i>Parent material:</i> sandy and gravelly outwash deposits</p> <p><i>Restrictive feature(s):</i></p> <p><i>Flooding:</i> none</p> <p><i>Ponding:</i> none</p> <p><i>Drainage class:</i> moderately well 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 (surface layer):</i> .20</p> <p><i>Land capability class, nonirrigated:</i> 4e</p> <p><i>Hydric soil:</i> no</p> <p><i>Hydrologic group:</i> A</p> <p><i>Potential frost action:</i> low</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 14 in	sandy loam	rapid	1.4 to 1.8 in	6.6 to 7.8
Bw -- 14 to 23 in	loamy sand	rapid	0.3 to 0.6 in	6.6 to 7.8
C -- 23 to 60 in	coarse sand	rapid	1.1 to 2.6 in	7.4 to 8.4

1875--Flom clay loam, depressional

Map Unit Description (MN)

Clay 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]

1875--Flom clay loam, depressional

Flom, depressional

Extent: 90 percent of the unit

Landform(s): depressions on moraines

Slope gradient: 0 to 1 percent

Parent material: loamy glacial till

Restrictive feature(s):

Flooding: rare

Ponding: frequent

Drainage class: very poorly drained

Soil loss tolerance (T factor): 5

Wind erodibility group (WEG): 6

Wind erodibility index (WEI): 48

Kw (surface layer): .24

Land capability class, nonirrigated: 3w

Hydric soil: yes

Hydrologic group: B/D

Potential 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 14 in	clay loam	moderately slow	2.6 to 3.4 in	6.1 to 7.8
Bg -- 14 to 23 in	silty clay loam	moderately slow	1.3 to 1.6 in	6.6 to 8.4
Bkg,Cg -- 23 to 60 in	loam	moderately slow	5.2 to 7.0 in	7.4 to 8.4

1876--Divide loam, loamy substratum

Divide, loamy substratum

Extent: 90 percent of the unit

Landform(s): hillslopes on moraines

Slope gradient: 0 to 3 percent

Parent material: water-worked loamy till over sandy and gravelly outwash deposits

Restrictive feature(s):

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 (surface layer): .24

Land capability class, nonirrigated: 3s

Hydric soil: no

Hydrologic group: B

Potential 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 13 in	loam	moderate	2.3 to 2.9 in	7.4 to 8.4
Bk -- 13 to 21 in	loam	moderate	1.3 to 1.5 in	7.4 to 8.4
2Cg1 -- 21 to 44 in	stratified sand to gravelly sand	rapid	0.7 to 1.6 in	7.4 to 8.4
3Cg2 -- 44 to 60 in	loam	moderate	2.5 to 3.0 in	7.4 to 8.4

Map Unit Description (MN)

Clay 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]

1876--Divide loam, loamy substratum

M-W--Water, miscellaneous

Water, miscellaneous

Extent: 100 percent of the unit

Landform(s):

Slope gradient:

Parent material:

Restrictive feature(s):

Flooding:

Ponding:

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: unranked

Hydrologic group:

Potential 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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W--Water

Water

Extent: 100 percent of the unit

Landform(s):

Slope gradient:

Parent material:

Restrictive feature(s):

Flooding:

Ponding:

Drainage class:

Soil loss tolerance (T factor):

Wind erodibility group (WEG):

Wind erodibility index (WEI):

Kw (surface layer):

Land capability class, nonirrigated:

Hydric soil: unranked

Hydrologic group:

Potential 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 semi tabular listing of some soil and site properties and interpretations valuable in communicating the concept of a map unit. It also includes commonly used conservation planning information in one place for easy access. Major soil components are always displayed and minor components are also displayed if they are included in the database and they are selected at the time the report is generated.