USDA icon **Natural Resources Conservation Service**

Major Land Resource Area 055D
Glacial Lake Dakota

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Ecological site keys

MLRA 55D - Glacial Lake Dakota

I. Run-off Landscape Positions (upland, normally convex, short slopes)

A. Dig a hole to a depth of 20 inches. Is there a root restricting layer within 10 inches of the soil surface?

1 Yes ... R055DY016SD – Very Shallow

2 No: Is there a root restricting layer between 10 and 20 inches of the soil surface?

i. Yes: Is the root restricting layer gravel (>15% gravel by volume)?

a. Yes ... R055DY014SD – Shallow Gravel

b. No: The root restricting layer is bedrock (siltstone, shale, mudstone, sandstone, etc) ... R055DY043SD – Shallow Loamy

ii. No: Does the soil effervesce with acid (10% HCL) within 6 inches of the surface?

a. Yes ... R055DY012SD – Thin Upland

b. No: See "III. Normal Landscape Positions"

II. Normal Landscape Positions (upland, slopes normally linear except sandy/sands/choppy sands sites with complex slopes)

A. Dig a hole to a depth of 20 inches. Is there a claypan (columnar structure) within 16 inches of the surface?

1 Yes: See "IV. Other Landscape Positions"

2 No: What is the surface and subsoil texture?

i. Clay, Silty Clay (40-55% clay) or Loamy surface with Clayey Subsoil ... R055DY011SD – Clayey

ii. Loam, Silt Loam, Silty Clay Loam, Clay Loam, Sandy Clay Loam, Very Fine Sandy Loam ... R055DY010SD – Loamy

iii. Sandy Loam, Fine Sandy Loam, Loamy Very Fine Sand ... R055DY009SD – Sandy

iv. Sand, Loamy Sand, Loamy Fine Sand ... R055DY008SD – Sands

v. Loamy Fine Sand or Fine Sand on dunes with a slope typically >15% ... R055DY041SD – Choppy Sands

III. Run-in Landscape Positions (floodplains, drainageways, other open drainage systems-- NOT depressions)

A. Observe the soil profile to a depth of 60 inches. Is there evidence of a permanent water table within 2 feet of the surface and the site is dominated by hydrophytes?

1 Yes: Are there visible salts (sodium, gypsum, etc.) within 16 inches of the surface?

i. Yes ... R055DY007SD – Saline Lowland

ii. No ... R055DY002SD – Linear Meadow

2 No: Is there evidence of a permanent water table between 2 and 5 feet of the surface?

i. **Yes: Does the soil effervesce with acid at or near the surface?**

a. **Yes ...** R055DY006SD – Limy Subirrigated

b. **No: Is the soil texture Fine Sandy Loam, Sandy Loam, or Loamy Sand?**

1) **Yes ...** R055DY044SD – Subirrigated Sands

2) **No ...** R055DY003SD – Subirrigated

ii. **No: Does water flow into and over/through the site?**

a. **Yes: Does it have a flooding frequency?**

1) **Yes ...** R055DY040SD – Loamy Floodplain

2) **No ...** R055DY020SD – Loamy Overflow

b. **No: See "IV. Other Landscape Positions"**

IV. Other Landscape Positions (basins, depressions, run-off and/or run-in positions)

A. Is the site in an upland position?

1 Yes: Does the soil have a claypan within 16 inches of the surface?

ii. **Yes: Is the claypan within 4 inches of the surface?**

a. **Yes ...** R055DY015SD – Thin Claypan

b. **No: Is the surface soil texture fine sandy loam or silt loam?**

1) **Yes ...** R055DY042SD – Sandy Claypan

2) **No: All other textures ...** R055DY013SD – Claypan

iii. **No: Re-think your position and start again**

2 No: Is the area in a basin or closed depression with no outlet?

i. **Yes: To what degree does the site pond water?**

a. **The site ponds water for 4 to 8 weeks in the spring or after heavy rain and has high organic matter content ...** R055DY004SD – Wet Meadow

b. **The site ponds water until early summer and has high organic matter content ...** R055DY001SD – Shallow Marsh

c. **The site ponds water year round in most years and has high organic matter content ...** R055DY037SD – Deep Marsh

ii. **No: Re-think your position and start again**