USDA icon **Natural Resources Conservation Service**

Major Land Resource Area 061X
Black Hills Foot Slopes

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Ecological site keys

MLRA 061X - Black Hills Foot Slopes - Rangeland (LRU's N-North, S-South, W/WY-West, and Y-Common), and Black Hills Foot Slopes - Forest Land (Low Elevation < 6,200').

I. RANGELAND (Soils usually have a mollic epipedon, lack an O horizon and do not have an E horizon. Rangelands may have conifer encroachment but are not Forest Sites).

A. RUN-OFF LANDSCAPE POSITIONS (Upland, normally convex short slopes > 6 percent, Shoulder).

1 Dig hole to a depth of 20 inches minimum. Is there root restrictive layer within 10 inches of the soil surface?

i. Yes. Very Shallow

a. West LRU ... R061XY176WY – Very Shallow (VS) 15-19" Precipitation Zone, Black Hills

b. Rest of MLRA ... R061XY016SD – Very Shallow

ii. No. Is there a root restricting layer within 10-20 inches of the surface?

a. No. Is the soil > 20 inches in depth with a thin surface layer (< 3") and effervesce at or near the surface (within 6")?

1) Yes. Thin Upland

a) North LRU ... R061XN012SD – Thin Upland-North (18-22" PZ)

b) South LRU ... R061XS012SD – Thin Upland-South (16-18" PZ)

2) No. See "Normal Landscape Positions"

b. Yes. Is the soil surface 10 to 20 inches with a Clay loam, Silty clay loam, Sandy clay loam or Silty texture (0.5-1.75" ribbon)?

1) Yes. Shallow Loamy

a) North LRU ... R061XN024SD – Shallow Loamy-North (18-22" PZ)

b) South LRU ... R061XS024SD – Shallow Loamy-South (16-18" PZ)

c) West LRU ... R061XW162WY – Shallow Loamy-West (16-20" PZ)

2) No. Is the soil surface Sandy loam or Loamy sand texture (0.25-0.5" ribbon)?

a) Yes. ... R061XW166WY – Shallow Sandy-West (16-20" PZ)

b) No. Is the soil derived from shale with weathered shale chips below 4" in the soil profile and the soil is calcareous, clayey surface texture (>1.75" ribbon)?

(1) Yes. Shallow Clayey

(a) West LRU ... R061XY158WY – Shallow Clayey (SwCy) 15-19" Precipitation Zone, Black Hills

(b) **Rest of MLRA ...** R061XY017SD – Shallow Clayey

(2) **No. On upland landscape. Is the soil mod. deep or deep and have many (> 35%) coarse fragments (rocks) at or near the surface and throughout the soil profile?**

(a) **Yes. Is mountain mahogany prevalent throughout the site?**

(1) **Yes. ...** R061XS044SD – Rocky Hills-South (16-18" PZ)

(2) **No. ...** R061XY029SD – Stony Hills

(b) **No. See "Normal Landscape Positions"**

B. NORMAL LANDSCAPE POSITIONS (Upland, slopes normally linear, 1 to 6 percent except sandy/sands sites can have complex slopes, Back slope, Summit, Foot slope).

1 Dig hole to 20 inches. Is there a root restrictive layer?

i. Yes. See "Run-Off Landscape Positions"

ii. No. Determine the surface and subsoil textures. Clay or Silty Clay (40 to 55% clay) Surface (>1.75" ribbon) and Clayey Subsoil?

a. Yes.

1) **North LRU ...** R061XN011SD – Clayey-North (18-22" PZ)

2) **South LRU ...** R061XS011SD – Clayey-South (16-18" PZ)

3) **West LRU ...** R061XW104WY – Clayey-West (16-20" PZ)

b. Determine the surface and subsoil textures. Loam, Silt loam, Silty, Clay Loam, Sandy clay loam, Very fine sandy loam (0.5 – 1.75" ribbon)?

1) **Yes. Is the site an old stream terrace?**

a) **No. Loamy - North (R061XN010SD), Ly - South (R061XS010SD), Ly - West (R061XY122WY).**

(1) **North LRU ...** R061XN010SD – Loamy-North (18-22" PZ)

(2) **South LRU ...** R061XS010SD – Loamy-South (16-18" PZ)

(3) **West LRU ...** R061XW112WY – Loamy-West (16-20" PZ)

b) **Yes. Loamy Terrace (R061XY022SD). ...** R061XY022SD – Loamy Terrace

2) **Determine the surface and subsoil textures. Sandy loam, Fine sandy loam, Loamy very fine sand (0.25-0.5" ribbon)?**

a) **Yes. Sandy**

(1) **West LRU ...** R061XY150WY – Sandy (Sy) 15-19" Precipitation Zone, Black Hills

(2) **Rest of MLRA ...** R061XY009SD – Sandy

b) **No. Soil surface and subsoil textures are Sand, Loamy sand, Loamy fine sand (no ribbon)?**

(1) **Yes. Sands**

(a) **West LRU ...** R061XY146WY – Sands (Sa) 15-19" Precipitation Zone, Black Hills

(b) **Rest of MLRA - Sands (R060A008SD).**

(2) **No. See "Run-In Landscape Positions"**

C. RUN-IN LANDSCAPE POSITIONS [Valley Bottomlands, Drainageways (not depressions), Toe slopes].

1 Observe the soil to a depth of 60 inches. Is there evidence of a permanent water table within 1 to 2 feet of the surface and the site is dominated by hydrophytes?

i. **Yes. Wet Land (R061XY002SD).**

ii. **No. Is there evidence of a permanent water table within 2 to 5 feet of the surface?**

a. **Yes. Does the soil have visible salt crystals within 6 inches?**

1) **Yes. Saline Subirrigated**

a) **West LRU ...** R061XY142WY – Saline Subirrigated (SS) 15-19" Precipitation Zone, Black Hills

b) **Rest of MLRA - Saline Subirrigated (R060AY036SD).**

2) **No. ...** R061XY003SD – Subirrigated

b. **No. Is the site on a low stream terrace adjacent to a stream? There may be a seasonal water table present (>5 feet of the surface).**

1) **Yes. Lowland**

a) **LRU West**

(1) **Not saline ...** R061XY128WY – Lowland (LL) 15-19" Precipitation Zone, Black Hills

(2) **Saline ...** R061XY138WY – Saline Lowland (SL) 15-19" Precipitation Zone, Black Hills

b) **Rest of MLRA ...** R061XY042SD – Lowland

2) **No. Does the site occasionally flood?**

a) **Yes. Overflow**

(1) **West LRU ...** R061XY130WY – Overflow (Ov) 15-19" Precipitation Zone, Black Hills

(2) **Rest of MLRA ...** R061XY020SD – Overflow

b) **No. Start Over.**