

# Major Land Resource Area 064X

## Mixed Sandy and Silty Tableland and Badlands

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### Ecological site keys

#### MLRA 064X - Mixed Sandy & Silty Tablelands & Badlands (Run-off, Run-in, Normal, and Other Landscape Positions).

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

A. Is the site on a steep slope, escarpment, river break or slump area (25-60% slope), with exposed bedrock at or near the surface, and soils generally calcareous and of various depths? Deciduous trees and shrub are almost always present on this site.

1 Yes. Thin Breaks (R064XY050NE) This site is a landscape feature not necessarily correlated to individual soil components. ... R064XY050NE – Thin Breaks

2 No. Dig hole to a depth of 20 inches minimum. Is there root restrictive layer within 10 inches of the soil surface?

i. Yes.

a. Very Shallow (R064XY047NE) ... R064XY047NE – Very Shallow

b. Very Shallow HU (R064XY176WY) Hartville Uplift, Wyo. ... R064XY176WY – Very Shallow Hartville Uplift

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 (R064XY037NE). ... R064XY037NE – Thin Upland

2) No. See "Normal Landscape Positions"

b. Yes. Is the soil derived from shale, mudstone, or siltstone, with weathered parachannery fragments between the A and Cr horizon, and the soil is calcareous? The surface texture is Clayey (2-3" ribbon)?

1) Yes. Shallow Clayey (R064XY039NE). ... R064XY039NE – Shallow Clay

2) No. Is the soil 10 to 20 inches thick with a Clay loam, Silty clay loam, Sandy clay loam, or Silty surface texture (1-1.5" ribbon)? or a Sandy loam or Loamy sand surface texture (0.25-0.5" ribbon)?

a) Yes.

(1) Shallow (R064XY040NE) ... R064XY040NE – Shallow

(2) GX064X01X161 – Shallow Hartville Uplift, Wyo. ... R064XY162WY – Shallow Hartville Uplift

b) No. See "Normal Landscape Positions"

##### II. NORMAL LANDSCAPE POSITIONS in Both Precipitation zones (Upland, slopes normally linear, 1-6 percent except Sandy, Sands, and Gravelly sites which can have complex slopes, Back slope, Summit, Foot slope).

A. Dig hole to 20 inches. Is there a claypan within 16 inches of the surface?

1 Yes. "See Other Landscape Positions"

2 No. Skeletal soil with up to 60% coarse gravel, pebbles, cobbles, stone?

i. Yes. Gravelly HU (R064XY112WY). Only found in Hartville Uplift (HU) Area of Wyo. ... R064XY112WY – Gravelly Hartville Uplift

3 No. Determine surface and subsoil texture?

i. Clay or Silty Clay (40 to 55% clay) Surface (1.75 – 3.0" ribbon) with Clayey Subsoil?

a. Yes. Determine Precipitation Zone:

1) Clayey 14-17" PZ ... R064XY014NE – Clayey 14-17" PZ

2) Clayey 17-20" PZ ... R064XY035NE – Clayey 17-20" PZ

ii. Clay or Silty Clay (> 55% clay). (> 3.0" ribbon)? Bare ground will be common.

a. Yes. Dense Clay (R064XY045NE). ... R064XY045NE – Dense Clay

iii. Loam, Silt loam, Silty, Clay loam, Sandy clay loam, Very fine sandy loam? (0.5 – 1.75" ribbon)?

a. Yes. Is the site an old stream terrace?

1) No. Determine Precipitation Zone:

a) Loamy 14-17" PZ ... GX064X01X015 – Loamy 14-17" PZ

b) Loamy 17-20" PZ ... GX064X01X036 – Loamy 17-20" PZ

2) Yes. Is the site in the Badlands?

a) Yes. Badlands Terrace (R064XY048NE). ... R064XY048NE – Badlands Terrace

b) No. Loamy Terrace (R064XY028NE). ... GX064X01X028 – Loamy Terrace

iv. Sandy loam, Fine sandy loam, Loamy very fine sand (0.25-0.5" ribbon)?

a. Yes. Is the site a low stream terrace?

1) Yes. Sandy Lowland (R064XY029NE). ... R064XY029NE – Sandy Lowland

2) No. Is the site in an interdune landscape?

a) Yes. Interdunal Lowland (See MLRA 65 Sandy Lowland ES).

b) No. Determine Precipitation Zone:

(1) Sandy 14-17" PZ (R064XY011NE) ... R064XY011NE – Sandy 14-17" PZ

(2) Sandy 17-20" PZ (R064XY032NE). ... R064XY032NE – Sandy 17-20" PZ

v. Sand, Loamy sand, Loamy fine sand (no ribbon)?

a. Yes. Sands (R064XY012NE). ... R064XY012NE – Sands

b. No. Re-think Landscape Position and start again.

### III. RUN-IN LANDSCAPE POSITIONS (Bottomlands, Drainageways, Interdunes, etc., not depressions, Toe slope).

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

1 Yes. Is the site very sandy?

i. No. Wet Land (R064XY022NE). ... R064XY022NE – Wet Land

ii. Yes. Wet Subirrigated (R064XY002NE). ... R064XY002NE – Wet Subirrigated

2 Is there evidence of a permanent water table within 2 to 5 feet of the surface?

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

a. Yes. Saline Subirrigated (R064XY025NE). ... R064XY025NE – Saline Subirrigated

b. No. Subirrigated (R064XY024NE). ... R064XY024NE – Subirrigated

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

a. No. See "Other Landscape Positions"

b. Yes. Are there visible salts within 16 inches of the surface and permanently moist soil at 4 to 5 feet?

1) Yes. Saline Lowland (R064XY030NE). ... R064XY030NE – Saline Lowland

2) No. Is the area in "Badlands"?

a) Yes. Badlands Overflow (R064XY049NE). ... R064XY049NE – Badlands Overflow

b) No. Does the site occasionally flood and have a clayey or silty clay surface texture?

(1) Yes. Clayey Overflow (R064XY027NE). ... R064XY027NE – Clayey Overflow

(2) No. Does the site occasionally flood and have a Loam, Silt loam, Silty, Clay loam, Sandy clay loam, or Very fine sandy loam surface texture?

(a) Yes. Loamy Overflow (R064XY026NE). ... R064XY026NE – Loamy Overflow

IV. OTHER LANDSCAPE POSITIONS (Basin, Depression, Normal, Run-off and/or Run-in, All Hillslope Positions except Shoulder).

A. Dig a hole to 20 inches. Does the soil have a claypan within 16 inches?

1 Yes. Is it in a closed depression?

i. Yes. Closed Depression (R064XY065NE). ... R064XY065NE – Closed Depression

ii. No. Is the claypan within 4 inches of the surface?

a. Yes. Thin Claypan (R064XY046NE). ... R064XY046NE – Thin Claypan

b. No. Claypan is deeper than 4 inches - Claypan (R064XY044NE). ... R064XY044NE – Claypan

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

i. No. Re-think your Landscape Position and start again.

ii. Yes. Does the site pond water briefly after snowmelt or heavy rain or during abnormally wet years?

a. Yes. Closed Depression (R064XY065NE). ... R064XY065NE – Closed Depression