

Major Land Resource Area 060A

Pierre Shale Plains

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Ecological site keys

MLRA 60A

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 (15-60% 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 (A landscape feature not necessarily correlated to individual soil components)

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. ... R060AY016SD – Very Shallow

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

a. Yes. Is the soil derived from shale with numerous (up to 50%) weathered shale chips throughout the soil profile and the soil is acid (non-calcareous)?

1) Yes. ... R060AY043SD – Shallow Porous Clay

2) 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 (2-3" ribbon)?

a) Yes. ... R060AY017SD – Shallow Clay

b) No. Is the soil derived from shale? Very clayey surface texture (soil > 55% clay)(>3.0" ribbon)

(1) Yes. ... R060AY025SD – Shallow Dense Clay

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

(a) Yes. ... R060AY024SD – Shallow Loamy

(b) No. A Sandy loam or Loamy sand texture (0.25-0.5" ribbon)?

(1) Yes. ... R060AY044SD – Shallow Sandy

(2) No. See "Normal Landscape Positions"

b. 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. ... R060AY012SD – Thin Upland

2) No. See "Normal Landscape Positions"

II. NORMAL LANDSCAPE POSITIONS in Both Precipitation Zones (Upland, slopes normally linear, 1-6 percent except sandy/sands sites can have complex slopes, Back slope, Summit, Foot slope)

A. Dig hole to 20 inches. Are there visible salts within 16 inches of the surface?

1 Yes. Is there a claypan within 16 inches of the surface?

i. Yes. See "Other Landscape Positions"

ii. No. ... R060AY026SD – Saline Upland

2 No. Is the soil clayey and formed in acid or non-calcareous shale?

i. Yes. Does the soil contain many fragments of shale (>50%) and the plant the community resemble a sandy site?

- a. Yes. ... R060AY030SD – Porous Clay
- b. No. Refer to II.A.2.ii.a.1)
- ii. No. What is the surface and subsoil texture?
 - a. Clay, Silty Clay (40 to 55% clay) or Loamy Surface (1.75 –3.0" ribbon) with Clayey Subsoil?
 - 1) Yes. Determine Precipitation Zone.
 - a) 13-16". ... R060AY011SD – Clayey 13-16" P.Z.
 - b) 16-18". ... R060AY040SD – Clayey 16-18" P.Z.
 - 2) No. Clay or Silty Clay (> 55% clay). (> 3.0" ribbon)? Bare ground will be common.
 - a) Yes. ... R060AY018SD – Dense Clay
 - b) No. Loam, Silt loam, Silty, Clay loam, Clay Loam, Sandy clay loam, Very fine sandy loam (0.5–1.75" ribbon)?
 - (1) Yes. Is the site an old stream terrace?
 - (a) Yes. ... R060AY022SD – Loamy Terrace
 - (b) No. Determine Precipitation Zone.
 - (1) 13-16". ... R060AY010SD – Loamy 13-16" P.Z.
 - (2) 16-18". ... R060AY041SD – Loamy 16-18" P.Z.
 - (2) No. 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. ... R060AY042SD – Lowland
 - (2) No. ... R060AY009SD – Sandy
 - (b) No. Sand, Loamy sand, Loamy fine sand (no ribbon)?
 - (1) Yes. ... R060AY008SD – Sands

III. RUN-IN LANDSCAPE POSITIONS (Bottomlands, Drainageways, 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? * * Permanent water table is a water table that persists longer than the wettest part of the growing season typically until the month of August.

1 Yes. ... R060AY002SD – Wet Land

2 No. Is there evidence of a permanent water table within 2 to 5 feet of the surface? * * Permanent water table is a water table that persists longer than the wettest part of the growing season typically until the month of August.

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

a. Yes. ... R060AY036SD – Saline Subirrigated

b. No. ... R060AY003SD – Subirrigated

ii. Does water flow into and over/through the site?

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

1) Yes. ... R060AY007SD – Saline Lowland

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

a) Yes. ... R060AY021SD – Clayey Overflow

b) No. ... R060AY020SD – Loamy Overflow

b. No. See "Other Landscape Positions".

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. ... R060AY019SD – Closed Depression

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

a. Yes. ... R060AY015SD – Thin Claypan

b. No. ... R060AY013SD – Claypan

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

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

a. Yes. ... R060AY019SD – Closed Depression

ii. No. Re-think your position and start again!