

# Major Land Resource Area 058A

## Northern Rolling High Plains, Northern Part

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### Ecological site keys

#### MLRA 58A Provisional ESD Key

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##### I. Site Occurs in a 10-14" precipitation zone

###### i. Site Receives additional moisture

###### A. Soil Saline ( $EC \geq 4$ ) and/or Sodic ( $SAR \geq 13$ ) within surface 4" (10 cm)

1 Seasonal high water table 24-40" from ground surface; salt tolerant plants dominate site ...  
R058AY737MT – Saline Subirrigated 10-19

2 Seasonal high water table > 40" from ground surface; site regularly receives more than normal soil moisture because of run-in or stream overflow; salt tolerant plants dominate site ... R058AY713MT – Saline Overflow 10-14

###### B. Soil neither saline nor sodic [ $EC \leq 4$ and $SAR \leq 13$ within surface 4" (10 cm)]

###### ii Seasonal high water table $\leq 40$ "

a. Seasonal high water table 24" to 40" (60-102 cm) ... R058AY738MT – Subirrigated 10-19

b. Seasonal high water table < 24" (60 cm) ... R058AY723MT – Wet Meadow 10-19

###### iii. Seasonal high water table > 40 " or sites receiving run-in moisture only

a. Site is located outside of the floodplain; Upland swales, coulees, and ephemeral drainageways ...  
R058AY720MT – Swale 10-14

b. Site is located inside the floodplain

1) Site Dominated by woody vegetation, typically lower stream terraces ... R058AY736MT –  
Riparian Woodland 10-19

2) Site dominated by herbaceous vegetation, typically upper stream terraces ... R058AY711MT –  
Overflow 10-14

###### ii. Site does not receive additional moisture

###### 1 Soil saline and/or sodic within surface 20" (50 cm) or soils with natric or relic natric horizons.

###### i. Massive, subangular blocky, or prismatic structure; effective rooting depth > 8" (20 cm)

a. Clay content  $\leq 35\%$  in surface mineral 4" (10 cm) [able to make a ribbon < 2" long] ...  
R058AY714MT – Saline Upland 10-14

b. Clay content > 35% in surface mineral 4" (10 cm) [able to make a ribbon > 2" long] ...  
R058AY706MT – Dense Clay Sodic 10-14

###### ii. Columnar structure, abrupt root or water restrictive clay layer present within 8" (20 cm) of soil surface

a. Less than 4" (10cm) of surface over clay layer (evidenced by columnar structure)

1) 1" (2.5 cm) or less of surface over clay layer (evidenced by columnar structure) ...  
R058AY712MT – Panspot 10-14

2) Greater than 1" (2.5 cm) of surface over clay layer (evidenced by columnar structure) ...  
R058AY721MT – Thin Claypan 10-14

b. Soil has 4 to 8" (10-20cm) of surface over clay layer (evidenced by columnar structure) ...  
R058AY703MT – Claypan 10-14

###### 2 Soil neither saline nor sodic [ $EC < 4$ and $SAR < 13$ within surface 20" (50 cm)]

i. Coarse granular clay (typically acid shales), site contains sandy vegetation (e.g. Prairie sandreed) ...

## R058AY704MT – Coarse Clay 10-14

### ii. Site not as above

- a. Soils shallow to very shallow [ $< 20"$  (50 cm) deep to bedrock, lithic, or paralithic root restrictive layer]
  - 1) Soil very shallow [ $< 10"$  (25cm) deep to bedrock, lithic, or paralithic root restrictive layer] ... R058AY722MT – Very Shallow 10-14
  - 2) Soil shallow [ $10"-20"$  (25-50cm) deep to bedrock, lithic, or paralithic root restrictive layer]
    - a) Clay content  $\leq 32\%$  in surface mineral 4" (10 cm) [ribbon  $< 2"$  long] ... R058AY717MT – Shallow 10-14
    - b) Clay content  $> 32\%$  in surface mineral 4" (ribbon length  $> 2"$  long) ... R058AY718MT – Shallow Clay 10-14
- b. Soils moderately deep, deep, or very deep [ $\geq 20"$  (50 cm) deep to bedrock, lithic, or paralithic root restrictive layer]
  - 1) Soil skeletal within 20" (50 cm) of the surface [averages  $\geq 35\%$  rock fragments in the  $10"-20"$  layer]
    - a) Soil sandy-skeletal
      - (1) Soil sandy-skeletal within 10 inches of the surface ... R058AY707MT – Gravelly 10-14
      - (2) Soil sandy-skeletal within 10-20 inches of the surface ... R058AY719MT – Shallow to Gravel 10-14
    - b) Soil loamy-skeletal ... R058AY709MT – Loamy Gravel 10-14
  - 2) Soil not skeletal in surface 20" (50 cm) [averages  $< 35\%$  rock fragments in the  $10"-20"$  layer]
    - a) Slope  $< 15\%$ 
      - (1) Fine sandy loam or coarser texture within surface mineral 4" ... R058AY715MT – Sandy 10-14
      - (2) Very fine sandy loam or finer texture within surface mineral 4"
        - a) Clay content is  $> 32\%$  in surface mineral 4" of mineral soil (ribbon  $> 2"$  long)
          - (1) Soil  $> 32\%$  to  $45\%$  clay within surface mineral 4" ... R058AY701MT – Clayey 10-14
          - (2) Soil  $> 45\%$  clay within surface mineral 2" ... R058AY705MT – Dense Clay Non-Sodic 10-14
        - b) Clay content is  $\leq 32\%$  in surface mineral 4" ... R058AY708MT – Loamy 10-14
    - b) Slope  $\geq 15\%$ 
      - (1) Fine sandy loam or coarser texture within surface mineral 4" ... R058AY716MT – Sandy Steep 10-14
      - (2) Very fine sandy loam or finer texture within surface mineral 4"
        - a) Clay content is  $> 32\%$  in surface mineral 4" of mineral soil (ribbon  $> 2"$  long) ... R058AY702MT – Clayey Steep 10-14
        - b) Clay content is  $\leq 32\%$  in surface mineral 4" ... R058AY710MT – Loamy Steep 10-14

## II. Site Occurs in a 15-19" precipitation zone

### A. Site Receives additional moisture

- 1 Soil Saline (EC  $> 4$  ) and/or Sodic (SAR  $> 13$ ) within surface 4" (10 cm)
  - i. Seasonal high water table 24-40" from ground surface; salt tolerant plants dominate site ... R058AY737MT – Saline Subirrigated 10-19
- 2 Soil neither saline nor sodic [EC  $< 4$  and SAR  $< 13$  within surface 4" (10 cm)]
  - i. Seasonal high water table  $\leq 40"$ 
    - a. Seasonal high water table 24" to 40" (60-102 cm) ... R058AY738MT – Subirrigated 10-19
    - b. Seasonal high water table  $< 24"$  (60 cm) ... R058AY723MT – Wet Meadow 10-19

- ii. Seasonal high water table > 40 " or sites receiving run-in moisture only
  - a. Site is located outside of the floodplain; Upland swales, coulees, and ephemeral drainageways ... R058AY726MT – Woody Draw 15-19
  - b. Site is located inside the floodplain
    - 1) Site Dominated by woody vegetation, typically lower stream terraces ... R058AY736MT – Riparian Woodland 10-19
    - 2) Site dominated by herbaceous vegetation, typically upper stream terraces ... R058AY729MT – Overflow 15-19

B. Site does not receive additional effective moisture

1 Trees or evidence of tree cover (i.e. burned stumps, charcoal in soil profile) common. Typically, shallow to moderately deep soils formed from interbedded sedimentary rock. ... R058AY730MT – Ponderosa Pine 15-19

2 Grassland or shrubland; typically trees (or evidence of tree cover) rare or absent

- i. Soils shallow to very shallow [ $< 20''$  (50 cm) deep to bedrock, lithic, or paralithic root restrictive layer]
  - a. Soil very shallow [ $< 10''$  (25cm) deep to bedrock, lithic, or paralithic root restrictive layer] ... R058AY735MT – Very Shallow 15-19
  - b. Soil shallow [ $10''$ - $20''$  (25-50cm) deep to bedrock, lithic, or paralithic root restrictive layer]
    - 1) Clay content  $\leq 32\%$  in surface mineral  $4''$  (10 cm) [ribbon  $< 2''$  long] ... R058AY733MT – Shallow 15-19
    - 2) Clay content  $> 32\%$  in surface mineral  $4''$  (ribbon length  $> 2''$  long) ... R058AY734MT – Shallow Clay 15-19
- ii. Soils moderately deep, deep, or very deep [ $\geq 20''$  (50 cm) deep to bedrock, lithic, or paralithic root restrictive layer]
  - a. Slope  $< 15\%$ 
    - 1) Fine sandy loam or coarser texture within surface mineral  $4''$  ... R058AY731MT – Sandy 15-19
    - 2) Very fine sandy loam or finer texture within surface mineral  $4''$ 
      - a) Clay content is  $> 32\%$  in surface mineral  $4''$  of mineral soil (ribbon  $> 2''$  long) ... R058AY724MT – Clayey 15-19
      - b) Clay content is  $\leq 32\%$  in surface mineral  $4''$  ... R058AY727MT – Loamy 15-19
  - b. Slope  $\geq 15\%$ 
    - 1) Fine sandy loam or coarser texture within surface mineral  $4''$  ... R058AY732MT – Sandy Steep 15-19
    - 2) Very fine sandy loam or finer texture within surface mineral  $4''$ 
      - a) Clay content is  $> 32\%$  in surface mineral  $4''$  of mineral soil (ribbon  $> 2''$  long) ... R058AY725MT – Clayey Steep 15-19
      - b) Clay content is  $\leq 32\%$  in surface mineral  $4''$  ... R058AY728MT – Loamy Steep 15-19