

Addendum OP-5b-4

NRCS Official Soil Series Descriptions

LOCATION PEPAL

WY

Tentative Series
Rev. HBR/PSD
12/1999

PEPAL SERIES

The Pepal series are deep, well drained soils that formed in calcareous alluvium and residuum. Pepal soils are on late Pleistocene terraces and alluvial fans. Slopes are 0 to 8 percent. The mean annual precipitation is about 8 inches. The mean annual temperature is about 43 degrees F.

TAXONOMIC CLASS: Coarse-loamy, mixed, superactive, frigid Typic Haplocalcids

TYPICAL PEDON: Pepal fine sandy loam, rangeland - (Colors are for dry soil unless otherwise noted).

A1--0 to 1 inch; light brownish gray (10YR 6/2) fine sandy loam, dark grayish brown (10YR 4/2) moist; weak fine platy structure; soft, very friable, nonsticky, nonplastic; few very fine roots; strongly effervescent, lime disseminated; moderately alkaline (pH 8.0); clear wavy boundary. (1 to 3 inches)

B2--1 to 15 inches; pale brown (10YR 6/3) fine sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft very friable, nonsticky, nonplastic; common very fine and fine roots; strongly effervescent, lime in filaments and threads; moderately alkaline (pH 8.2); clear wavy boundary. (5 to 18 inches thick)

C1ca--15 to 30 inches; very pale brown (10YR 7/3) fine sandy loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky, slightly plastic; few fine roots; violently effervescent, lime segregated in soft small masses and lenses and as crusts on gravel; moderately alkaline (pH 8.2); gradual wavy boundary. (6 to 50 inches thick)

C2--30 to 60 inches; light brownish gray (10YR 6/2) fine sandy loam, grayish brown (10YR 5/2) moist; massive; soft, very friable, slightly sticky, slightly plastic; few fine roots; strongly effervescent, lime mostly disseminated; moderately alkaline (pH 8.2).

TYPE LOCATION: Sweetwater County, Wyoming; NW1/4, NW1/4, Sec. 27, T21N, R110W about 8 miles west of Big Island Bridge on the Green River.

RANGE IN CHARACTERISTICS: The mean annual soil temperature is 43 degrees to 47 degrees F. The mean summer air temperature is 64 degrees to 68 degrees F. Gravel content is typically less than 15 percent but may range from 0 to 25 percent in any substratum. Depth to continuous horizons of carbonate accumulation ranges from 6 to 20 inches.

The A horizon has hue of 10YR or 2.5Y, value of 5 through 7 dry and 4 through 6 moist, and chroma of 2 or 3 dry and moist. Texture is fine sandy loam, sandy loam, or gravelly sandy loam with less than 25 percent gravel. The structure is platy or granular. Effervescence typically ranges from slight to strong, but some pedons may be leached free of carbonates in the thin strata. Reaction is mildly or moderately alkaline.

The C horizon has hue of 10YR or 2.5Y, value of 6 through 8 dry and 4 through 7 moist, and chroma of 2 through 4 dry and moist. Textures are fine sandy loam, sandy loam, or gravelly sandy loam. Thin strata of very gravelly sandy loam occur in some pedons. Coarse fragments range from 0 to 25 percent. Effervescence is strong or violent. Reaction is moderately or strongly alkaline. Calcium carbonate equivalent ranges from 15 to 35 percent in the calcic horizon.

COMPETING SERIES: These are McGinty and Teagulf (P) series. McGinty soils formed in alluvium from basalt and have 5 to 20 percent dark colored ferromagnesian mineral fragments. Teagulf soils have a paralithic contact at 20 to 40 inches.

GEOGRAPHIC SETTING: Pepal soils are on nearly level to sloping terraces and alluvial fans. Slopes range from 0 to 8 percent. They formed in mixed alluvium generated during the late Pliocene epoch. Elevations range from 6,000 to 7,000 feet. The mean annual precipitation is 6 to 9 inches. The mean annual air temperature is 38 to 45 degrees F., and summer air temperature is 61 degrees to 66 degrees F. The frost-free season is about 80 to 110 days.

GEOGRAPHICALLY ASSOCIATED SOILS: These are Cambarge (P), Leckman (P), and competing Teagulf (P) soils. Cambarge soils are loamy-skeletal. Leckman soils do not have a calcic horizon. Teagulf soils have a paralithic contact at a 20 to 40 inch depth. These soils may occur intermixed with the Pepal soils depending upon the degree of dissection of the land form.

DRAINAGE AND PERMEABILITY: Well drained; slow to medium runoff; moderately rapid permeability.

USE AND VEGETATION: These soils support native vegetation used mostly for domestic livestock grazing and wildlife habitat. Native vegetation at the type location is mainly big sagebrush, spiny hopsage, low rabbitbrush, shadscale, needleandthread, thickspike wheatgrass, Indian ricegrass, Sandberg bluegrass, pricklypear cactus, and phlox. These soils are well suited for irrigated cropland where water is available and are well suited for urban sites.

DISTRIBUTION AND EXTENT: Pepal soils occur in the Green River Basin of southwestern Wyoming. They are of moderate extent.

MLRA OFFICE RESPONSIBLE: Lakewood, Colorado

SERIES PROPOSED: 1979, Sweetwater County, Wyoming.

Classification updated to superactive Typic Haplocalcids from Typic Calciorthis December 1999.
Description last updated by state March 1980.

National Cooperative Soil Survey
U.S.A.

LOCATION TEAGULF

WY

Tentative Series
Rev. HBR/PSD
12/1999

TEAGULF SERIES

The Teagulf series consists of moderately deep, well drained soils that formed in modified residuum and slopewash alluvium from calcareous sedimentary rocks. Teagulf soils are on erosional upland plains and alluvial fans. Slopes are 0 to 8 percent. The mean annual precipitation is about 8 inches. The mean annual temperature is about 43 degrees F.

TAXONOMIC CLASS: Coarse-loamy, mixed, superactive, frigid Typic Haplocalcids

TYPICAL PEDON: Teagulf fine sandy loam - rangeland. (Colors are for dry soil unless otherwise stated).

A1--0 to 3 inches; light brownish gray (10YR 6/2) fine sandy loam, dark grayish brown (10YR 4/2) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; strongly effervescent, lime disseminated; moderately alkaline (pH 8.2); clear wavy boundary. (2 to 5 inches thick)

B2--3 to 10 inches; light brownish gray (10YR 6/2) fine sandy loam, dark grayish brown (10YR 4/2) moist; weak coarse prismatic structure; slightly hard, friable; slightly sticky, nonplastic; common fine roots; slightly effervescent, lime segregated in lower part; moderately alkaline (pH 8.2); clear wavy boundary. (5 to 16 inches thick)

C1ca--10 to 35 inches; light olive brown (2.5Y 5/4) fine sandy loam, olive brown (2.5Y 4/4) moist; massive; slightly hard, friable, slightly sticky, slightly plastic; few fine roots; strongly effervescent, lime is segregated in soft masses; strongly alkaline (pH 9.0).

C2r--35 inches; soft sandstone.

TYPE LOCATION: Sweetwater County, Wyoming; NW1/4, NE1/4, of Sec. 28, T20N, R110W. About 4 miles north of Westvaco.

RANGE IN CHARACTERISTICS: The mean annual soil temperature is 43 degrees to 47 degrees F. The mean summer soil temperature is 63 degrees to 68 degrees F. Coarse fragment content is typically less than 5 percent but ranges in some pedons from 0 to 15 percent and consists of gravel and channers. Depth to horizons of continuous carbonate accumulation is 7 to 20 inches. Depth to bedrock is typically 28 to 35 inches but may range from 20 to 40 inches.

The A horizon has hue of 10YR or 2.5Y; values of 5 through 7 dry, 4 or 5 moist; and chroma of 2 through 4 dry and moist. Textures are fine sandy loam, sandy loam, or loamy fine sand. Reaction is mildly or moderately alkaline. Effervescence ranges from none to strong. Salinity is 0 to 2 mmhos/cm.

The B horizon has hue of 10YR or 2.5Y; values of 5 through 7 dry, 4 or 5 moist; and chroma of 2 through 6 dry and moist. Textures are fine sandy loam or sandy loam. Reaction is mildly or moderately

alkaline. Structure is weak prismatic or weak subangular blocky. Effervescence is slight to strong. Salinity is 0 to 2 mmhos/cm.

The Cca horizon has hues of 10YR or 2.5Y; values of 6 or 8 dry, 4 to 6 moist; and chroma of 2 through 6 dry and moist. Textures are fine sandy loam or sandy loam. Reaction is moderately or strongly alkaline. Effervescence is strong or violent. Salinity is 0 to 4 mmhos/cm. Carbonate equivalent ranges from 8 to 25 percent.

COMPETING SERIES: These are McGinty and Pepal (P) series. Both soils are over 40 inches deep to bedrock and McGinty soils formed in alluvium from basalt.

GEOGRAPHIC SETTING: Teagulf soils are on nearly level and gently sloping erosional upland plains and alluvial fans. The soils formed in modified residuum and slopewash alluvium from sedimentary rocks. Slopes are 0 to 8 percent. Elevations range from 6,000 to 7,300 feet. Average annual precipitation is 6 to 9 inches. The mean annual air temperature is 38 degrees to 45 degrees F., and the mean summer air temperature is 61 degrees to 66 degrees F. The frost-free season is about 80 to 110 days.

GEOGRAPHICALLY ASSOCIATED SOILS: These are the Huguston, Terada, and competing Pepal soils. Huguston soils are less than 20 inches deep to bedrock. Terada soils lack calcic horizons. These soils occupy relative positions on the landscape.

DRAINAGE AND PERMEABILITY: Well drained; slow to medium runoff; moderately rapid permeability.

USE AND VEGETATION: These soils support native vegetation used for domestic livestock grazing and for wildlife habitat. Native vegetation at the type location is mainly big sagebrush, shadscale, low rabbitbrush, needleandthread, Indian ricegrass, thickspike wheatgrass, needleleaf sedge, pricklypear cactus, and phlox.

DISTRIBUTION AND EXTENT: Throughout the Green River basin of southwestern Wyoming. The series is extensive.

MLRA OFFICE RESPONSIBLE: Lakewood, Colorado

SERIES PROPOSED: Sweetwater County, Wyoming; 1979.

Classification updated to superactive Typic Haplocalcids from Typic Calciorthis December 1999. Description last updated by the state February 1980.

National Cooperative Soil Survey
U.S.A.

LOCATION POPOSHIA

WY+UT

Established Series
Rev. JEI/MCS/SSP
06/2009

POPOSHIA SERIES

The Poposhia series consists of very deep, well drained soils formed in alluvium and slope alluvium derived from shale interbedded with sandstone. The Poposhia soils are on coalescing fans, footslopes, fan aprons, hillslopes, and terraces. Slopes are 0 to 30 percent. The mean annual precipitation is 12 inches, and the mean annual temperature is 42 degrees F.

TAXONOMIC CLASS: Fine-loamy, mixed, superactive, frigid Ustic Haplocambids

TYPICAL PEDON: Poposhia loam on southwest-facing convex slope of 3 percent-native range. (Colors are for dry soil unless otherwise stated.)

A--0 to 3 inches; brown (10YR 5/3) loam, brown (10YR 4/3) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic many very fine, fine and few medium roots; slightly effervescent, carbonates disseminated; moderately alkaline (pH 8.0); abrupt smooth boundary. (2 to 8 inches thick)

Bk--3 to 15 inches; pale brown (10YR 6/3) clay loam, light olive brown (2.5Y 5/4) moist; weak medium prismatic structure; hard, firm, moderately sticky and moderately plastic; common very fine, fine, and few medium roots; slightly effervescent, carbonates disseminated and as few fine threads and seams; moderately alkaline (pH 8.2); clear wavy boundary. (6 to 20 inches thick)

C--15 to 60 inches; pale brown (10YR 6/3) loam, light olive brown (2.5Y 5/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine and medium roots to 22 inches; slightly effervescent, carbonates disseminated; moderately alkaline (pH 8.0).

TYPE LOCATION: Fremont County, Wyoming, about 5.8 miles south and 2.9 east of Hudson; 800 feet east, 2,975 feet south of the NW corner of sec. 23, T. 33 N., R. 98 W.

RANGE IN CHARACTERISTICS:

Soil moisture: The soil moisture control section is usually dry, but is moist in some parts for 30 to 50 cumulative days between June 10 and October 10; and is moist 50 to 65 percent of the time when the soil temperature is above 5 deg. C.; aridic regime bordering ustic.

Mean annual soil temperature: 42 to 47 degrees F.

Mean summer temperature: 59 to about 63 degrees F.

Depth to cambic horizon: 2 to 8 inches

The soil is typically calcareous throughout but may be leached a few inches in some pedons.

Particle-size control section: is loam, clay loam, or sandy clay loam with 18 to 35 percent clay, 20 to 50 percent silt, and 20 to 55 percent sand

A horizon:

Hue: 7.5YR through 2.5Y
Value: 4 through 7 dry, 3 through 5 moist
Chroma: 2 through 4 dry or moist
EC: 1 to 4 mmhos.
Rock fragments: 0 to 15 percent
Reaction: is slightly through strongly alkaline

Bk horizon:

Hue: 7.5YR through 2.5Y
Value: 5 through 8 dry, 4 through 6 moist
Chroma: 2 through 4 dry
Texture: loam, clay loam, and less commonly sandy clay loam
Rock fragments: 0 to 20 percent
Calcium carbonate equivalent: 4 to 14 percent
EC: 1 to 8 mmhos
Reaction: slightly through strongly alkaline

C horizon

Hue: 7.5YR through 2.5Y
Value: 5 through 7 dry, 4 through 6 moist
Chroma: 2 through 4 dry or moist
Texture: loam, clay loam, or sandy clay loam
Rock fragments: 0 to 20 percent
EC: 1 to 8 mmhos
Reaction: moderately or strongly alkaline

COMPETING SERIES: These are the Chaperton, Piceance, and Yamo series.

Chaperton: have a paralithic contact between 20 and 40 inches deep

Piceance: have a lithic contact between 20 and 40 inches deep

Yamo: have soil moisture control sections that are drier during the months of May and June

GEOGRAPHIC SETTING:

Parent material: alluvium and slope alluvium derived from shale interbedded with sandstone

Landform: gently sloping and moderately sloping coalescing fans, footslopes, hillslopes, and terraces

Slopes: 0 to 30 percent

Elevation: 5,200 to 7,800 feet

Mean annual temperature: 39 to 45 degrees F.

Mean annual precipitation: 8 to 15 inches

Frost-free period: 85 to 120 days

GEOGRAPHICALLY ASSOCIATED SOILS: These are the Absher, Blackhall, Blazon, Diamondville, Ryan Park, Tisworth, and the competing Delphill and Sinkson soils. Absher and Tisworth soils have a natric horizon. Blackhall, Blazon, and Diamondville soils have bedrock above 40 inches. Ryan Park soils are coarse-loamy. Diamondville and Ryan Park soils have argillic horizons.

DRAINAGE AND PERMEABILITY: Well drained; runoff is slow or medium; permeability is moderate.

USE AND VEGETATION: Mainly native range but some is used for irrigated small grain, hay, and pasture. Native vegetation is western wheatgrass, big sagebrush, Canby bluegrass, sheep fescue,

needleandthread, and some annual forbs (mustards). Poposhia soils are mainly correlated to ecological sites in the 10 to 14 inch zone in Wyoming. At the type location the potential native vegetation is mainly big sagebrush, thickspike wheatgrass, green needlegrass, bluebunch wheatgrass, and bottlebrush squirreltail.

DISTRIBUTION AND EXTENT: Southern and western Wyoming. The series is moderately extensive.

MLRA OFFICE RESPONSIBLE: Lakewood, Colorado

SERIES ESTABLISHED: Fremont County, Wyoming, East Part; 1985.

REMARKS: Diagnostic horizons and features recognized in this pedon are:

Ochric epipedon - 0 to 3 inches (A)

Cambic horizon - 3 to 15 inches (Bk)

Secondary calcium carbonate - 3 to 15 inches (Bk)

Classification was changed from Ustic Torriorthents to Ustic Haplocambids 5/1999.

Taxonomic version: Tenth Edition, 2006.

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