

The Pedon 21 series consists of deep, very poorly drained wide cracking soils with a high percentage of exchangeable sodium. They formed in mixed alluvium in basin rims and have slopes of less than 2 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is 62 degrees F.

TAXONOMIC CLASS:

TYPICAL PEDON: Pedon 21 clay - on a smooth slope of less than 2 percent under spikerush, joint grass, and other wetland grasses and forbs at 80 feet elevation. (Colors are for dry soil unless otherwise stated. When described on April 28, 1976, the soil was dry above 7 inches and moist below).

_____ --0 to 1 inch; olive gray (5Y 5/2) clay, olive gray (5Y 4/2) moist; strong coarse platy structure; cracks 3 cm wide; extremely hard, friable, very sticky and plastic; few very fine roots; common very fine tubular pores; strongly effervescent with disseminated lime; moderately alkaline (pH 8.0); abrupt smooth boundary. (1/2 to 2 inches thick)

_____ --1 to 7 inches; dark gray (5Y 4/1) clay, dark olive gray (5Y 3/2) moist; many medium prominent olive and light gray (5Y 5/3, 7/2) mottles, many medium prominent olive and light gray (5Y 4/3, 7/1) mottles moist; strong very coarse and coarse prismatic structure; cracks 3 cm wide; extremely hard, friable, sticky and plastic; common very fine roots; common very fine tubular and interstitial pores; strongly effervescent with disseminated lime and segregated as fine soft masses; moderately alkaline (pH 8.1); clear smooth boundary. (4 to 10 inches thick)

_____ --7 to 15 inches; olive gray (5Y 5/2) clay, dark olive gray (5Y 3/2) moist; many medium prominent olive and light gray (5Y 5/3, 7/2) mottles, many medium prominent black, dark olive gray and light gray (5Y 2/1, 3/2, 7/2) mottles moist; strong very coarse prismatic structure; intersecting slickensides intersecting peds at 20 degrees to horizontal axis; cracks 2 cm wide; extremely hard, friable, sticky and very plastic; common very fine roots; common very fine tubular and interstitial pores; strongly effervescent with disseminated lime and segregated as fine soft masses; ESP is 4; moderately alkaline (pH 8.2); clear smooth boundary. (4 to 10 inches thick)

_____ --15 to 34 inches; olive gray (5Y 5/2) clay, dark olive gray (5Y 3/2) moist; many medium distinct black (5Y 2/2) mottles moist; strong very coarse prismatic structure; sphenoids at 35 degrees to horizontal axis; cracks 1.5 cm wide; extremely hard, firm, sticky and very plastic; few very fine roots; common very fine tubular and interstitial pores; strongly effervescent with disseminated lime; moderately alkaline (pH 8.2); clear smooth boundary. (10 to 19 inches thick)

_____ --34 to 42 inches; pale yellow (2.5Y 7/4) clay loam, olive (5Y 4/3) moist; many fine prominent yellowish brown (10YR 5/6) mottles, many medium prominent yellowish brown and olive (10YR 5/6; 5Y 5/8) mottles moist; weak medium subangular blocky structure; very hard, friable, sticky and plastic; few very fine tubular and common very fine interstitial pores; violently effervescent with disseminated lime; ESP is 32; strongly alkaline (pH 8.8); clear smooth boundary. (6 to 10 inches thick)

_____ --42 to 61 inches; very pale brown (10YR 7/3) clay loam, olive (5Y 5/6) moist; common medium prominent yellowish brown (10YR 5/8) mottles moist; massive; very hard, friable, sticky and very plastic; few very fine tubular and common very fine interstitial pores; violently effervescent with disseminated lime; ESP is 24; very strongly alkaline (pH 9.0); abrupt smooth boundary. (12 to 20 inches thick)

_____ --61 to 70 inches; very pale brown (10YR 7/3) clay loam, olive (5Y 4/3) moist; many fine prominent yellowish brown and dark brown (10YR 3/3, 5/6) mottles moist; massive; 10 percent weakly cemented durinodes 5 to 15 mm in diameter; extremely hard, firm, sticky and plastic; violently effervescent with disseminated lime; very strongly alkaline (pH 9.2).

TYPE LOCATION: Merced County, California; 8 miles northwest of the city of Los Banos; 2,100 feet west of Santa Fe Grade and the Ingomar Duck Club clubhouse, 660 feet east and 50 feet south of the NW corner sec. 8, T. 9 S., R. 10 E.

GEOGRAPHIC SETTING: Pedon 21 soils are in the basin rim and very low alluvial fans of valleys. Slopes are 0 to 2 percent. The soils have formed in mixed alluvium derived from granitic and sedimentary rocks. Most of the areas are flat smooth ponds or basins. Elevations are 70 to 120 feet. The climate is semiarid with hot dry summers and cool moist winters. The mean annual precipitation is about 11 inches. The mean annual temperature is about 62 degrees F. Frost-free season is 210 to 280 days.

DRAINAGE AND PERMEABILITY: Very poorly drained. Pondered 1 to 1 1/2 feet deep from September through April; very slow permeability.

USE AND VEGETATION: These soils are pondered and used for waterfowl hunting with some areas used for limited grazing (during spring and summer) between hunting seasons. The vegetation is swampgrass, Baltic rush, alkali bullrush, sour clover, and other salt tolerant wetland grasses and forbs.