

LOCATION MONTALTO

MD+DE PA VA

Established Series

SYD/DAS/Rev. MJ-DHK

08/2013

MONTALTO SERIES

MLRA(s): 148

Depth Class: Very Deep

Drainage Class (Agricultural): Well Drained

Saturated Hydraulic Conductivity Class: Moderately low to moderately high

Permeability Class (obsolete): Moderate to moderately rapid in the A horizon, slow to moderate slow in the B horizon and moderate in the C horizon.

Landscape: Northern Piedmont

Parent Material: Residuum weathered from basic (gabbro) rocks

Slope: 0 to 60 percent

Mean Annual Air Temperature (type location): 55.7 degrees F.

Mean Annual Precipitation (type location): 43 inches

TAXONOMIC CLASS: Fine, mixed, semiactive, mesic Ultic Hapludalfs**TYPICAL PEDON:** Montalto silt loam, 3 to 8 percent slope in a cultivated field. (Colors are for moist soil unless otherwise indicated.)

Ap--0 to 20 centimeters (0 to 8 inches); dark brown (7.5YR 3/4) silt loam, brown (7.5YR 4/4), dry; moderate medium granular structure; friable, slightly sticky, slightly plastic; common fine and common medium roots throughout; few fine tubular and few very fine vesicular pores; 10 percent rounded gabbro fragments; moderately acid; clear wavy boundary. (0 to 25 cm thick)

BE--20 to 36 centimeters (8 to 14 inches); yellowish red (5YR 4/6) gravelly silt loam; moderate medium angular blocky structure; friable, nonsticky, slightly plastic; common fine and common medium roots throughout; few very fine vesicular pores; 5 percent faint reddish brown (5YR 4/4), moist, clay films; 15 percent prominent black (N 2/), moist, manganese coatings on faces of peds; 16 percent rounded gabbro fragments; slightly acid; clear wavy boundary. (0 to 30 cm thick)

Bt1--36 to 71 centimeters (14 to 28 inches); red (2.5YR 4/6) silty clay; 5 percent medium irregular olive yellow (2.5Y 6/6) and 5 percent fine irregular olive yellow (2.5Y 6/6) mottles; strong fine subangular blocky structure; friable, very sticky, moderately plastic; few fine roots and few medium roots in cracks; common very fine vesicular pores; 5 percent faint red (2.5YR 5/8), moist, clay films on all faces of peds; 15 percent prominent black (N 2/), moist, manganese coatings on faces of peds; 10 percent rounded gabbro fragments; slightly acid; clear wavy.

Bt2--71 to 117 centimeters (28 to 46 inches); dark red (2.5YR 3/6) clay; 5 percent medium irregular light olive brown (2.5Y 5/6) and 5 percent fine irregular light olive brown (2.5Y 5/6) mottles; strong coarse angular blocky structure parting to strong medium angular blocky structure; friable, very sticky, very plastic; few fine roots and few medium roots in cracks; few very fine vesicular pores; 5 percent faint red (2.5YR 4/6), moist, clay films on all faces of peds; 30 percent prominent black (N 2/), moist, manganese coatings on faces of peds; 13 percent rounded gabbro fragments; neutral; clear wavy boundary. (Combined thickness of the Bt horizon is 77 to 112 cm)

Bct--117 to 200 centimeters (46 to 80 inches); yellowish red (5YR 4/6) channery loam; 5 percent medium irregular light olive brown (2.5Y 5/6) and 5 percent fine irregular light olive brown (2.5Y 5/6) mottles; moderate medium subangular blocky structure; friable, moderately sticky, moderately plastic; few fine roots and few medium roots in cracks; few very fine vesicular pores; 25 percent faint red (2.5YR 4/6), moist, clay films on all faces of peds; 30 percent prominent black (N 2/), moist, manganese coatings on faces of peds; 5 percent gabbro channers and 25 percent parachanners; neutral.

TYPE LOCATION: Cecil County, MD; located in the vicinity of the Boy Scouts of America Camp Horseshoe on the east side of Octoraro Creek; from intersection of US-1 and Rt. 276 near Rising Sun, about 1.5 miles North and West along Slicers Mill Rd., to intersection with Spring Hill Rd., about 1 mile North on Spring Hill Rd. to intersection with Ridge Rd., about 0.6 miles West on Ridge Rd. to end, and about 700 feet South-Southwest into field, near edge of woods. USGS Rising Sun, MD topographic quadrangle; latitude 39 degrees 42 minutes 55.7 seconds N. and longitude 76 degrees 07 minutes 5.6 seconds W. NAD 83.

RANGE IN CHARACTERISTICS:

Depth to the top of the Argillic: 3 to 12 inches

Depth to the base of the Argillic: 40 to 80 inches

Solum thickness: 40 to 80 inches or more

Depth to Bedrock: Greater than 60 inches

Rock Fragment content: 0 to 30 percent, by volume throughout; surface stones 0 to 15 percent.

Soil Reaction: very strongly acid to slightly acid, except where limed

Range of Individual Horizons:

A or Ap horizon:

Color--hue of 2.5YR through 7.5YR, value of 3 or 4, and chroma of 1 through 4

Texture (fine-earth fraction)silt loam or silty clay loam

BE horizon:

Color--hue of 10R through 5YR, value of 3 or 4, and chroma of 4 through 8

Texture (fine-earth fraction)silt loam to silty clay loam

Bt horizon:

Color--hue of 10R through 5YR, value of 3 to 5, and chroma of 4 to 8

Texture (fine-earth fraction) dominantly clay or silty clay, but subhorizons may be silty clay loam or clay loam that is high in silt and low in sand

BC horizon:

Color--hue of 10R through 5YR, value of 3 to 5, and chroma of 4 to 8, or is neutral with value of 3 to 5

Texture (fine-earth fraction) loam, silt loam, clay loam or silty clay

C horizon (if it occurs):

Color has a wide range of color and is variegated in many pedons.

Texture (fine-earth fraction) silt loam to clay loam and silty clay loam.

COMPETING SERIES:

Series in the same family are:

[Lenberg](#)- have sola and paralithic contact of soft shale at 20 to 40 inches

[Pisgah](#)- formed in residuum weathered from limestone bedrock and have chert or limestone fragments

Series that were formerly competing (active family):

[Fauquier](#)- formed in residuum mafic rocks such as chloritic greenstone schist and metabasalt

[Needmore](#)- average hue of 7.5YR or yellower in the solum and substratum and have calcareous shale paralithic contact within 100 cm

Oak Level- formed in residuum from mixed felsic and mafic metamorphic and igneous rocks, contain a lower content of silt, and occur in the mesic portion of MLRA 136

[Orenda](#)- formed from hornblende gneiss and hornblende schist and have these rock fragments throughout the profile

[Peabody](#)- Peabody soils have calcareous shale paralithic contact within 100 cm inches.

[Rasalo](#)- formed in residuum from hornblende gneiss, gabbro, or other mafic crystalline rock, have a browner subsoil and occur in the southern mesic [Piedmont](#) (MLRA 136)

[Spray](#)- formed in residuum weathered from Triassic shale and have shale fragments in the substratum

GEOGRAPHIC SETTING:

Landscape: Northern Piedmont

Landform: Uplands

Geomorphic Component: Side slopes

Hillslope Profile Position: Summit, shoulder, back slope

Parent Material: Residuum weathered from basic (gabbro) rocks

Slope: 0 to 60 percent

Elevation: 80 to 985 feet

Frost-free period: 170 to 240 days

Mean Annual Air Temperature: 48 to 57 degrees F.

Mean Annual Precipitation: 37 to 52 inches

GEOGRAPHICALLY ASSOCIATED SOILS:

[Kelly](#)- is somewhat poorly drained and occupies lower landscape positions

[Legore](#)- has less than 35% clay in the particle size control section; occupies similar landscape positions

Mount Lucas- is moderately well drained to somewhat poorly drained and has less than 35 percent clay in the particle size control section; occupies lower landscape positions

[Neshaminy](#)- has less than 35% clay in the particle size control section; occupies similar landscape positions

[Relay](#)- has less than 35% clay in the particle size control section; occupies similar landscape positions

[Watchung](#)- is poorly drained and occupies lower landscape positions

DRAINAGE AND SATURATED HYDRAULIC CONDUCTIVITY:

Drainage Class (Agricultural): Well Drained

Internal Free Water Occurrence: Very deep

Index Surface Runoff: Low to high

Saturated Hydraulic Conductivity Class: moderately low to moderately high

Permeability Class (obsolete): Moderate to moderately rapid in the A horizon, slow to moderate slow in the B horizon and moderate in the C horizon

Shrink-swell Potential: Moderate to high

Flooding Frequency and Duration: None

Ponding Frequency and Duration: None

USE AND VEGETATION:

Major Uses: Used for growing general crops, pastures and orchards.

Dominant Vegetation: Where wooded Native vegetation includes: Hickory, Beech, Tulip Poplar, Black Oak, Black Locust and Black walnut.

DISTRIBUTION AND EXTENT:

Distribution: New Jersey, Delaware, Maryland, Pennsylvania and Virginia

Extent: The series is of moderate extent

MLRA SOIL SURVEY REGIONAL OFFICE (MO) RESPONSIBLE: Morgantown, West Virginia

SERIES ESTABLISHED: Berks County, Pennsylvania, 1909.

REMARKS: This 11/2009 revision updates the type location description and adjusts CEC activity class to semiactive, based on available data of five pedons. Three pedons were semiactive, one subactive and one active. Several pedons had CEC 8.4 data that used to make CEC 7.0 estimates. Competing series section was also revised.

Previous revision: 1/2006 WDC

Diagnostic horizons and soil characteristics recognized in this pedon are:

Ochric epipedon--the zone from 0 to 14 inches (Ap and BE horizons)

Argillic horizon--the zone from 14 to 46 inches (Bt horizons)

Ultic Hapludalfs subgroup base saturation (by sum of cations) of more than 35 percent but less than 60 percent at a depth of 1.25 meters below the top of the argillic horizon

Series control section--the zone from 0 to 60 inches

ADDITIONAL DATA: Characterization data is available from the NSSL for the following pedons: Soils sampled as S07MD015002 and 86MD510004. Particle size data is also available from the University of Maryland, College Park, MD.

Usersite ID: 07MD015002 and Userpedon ID: 07MD015002_Montalto

National Cooperative Soil Survey
U.S.A.