PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Aug 2 2016
Describer: Mike Jones
NEON Plot ID: ORNL_001
Site ID: S2016TN001001
Pedon ID: S2016TN001001
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0495
Soil Name as Described/Sampled: Shady
Classification: Fine-loamy, mixed, subactive, thermic Typic Hapludults
Soil Name as Correlated:
Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Hamblen, Montevallo, Pettyjon, Waynesboro
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:
Local Physiographic Area:
Geomorphic Setting: on toeslope of tread of stream terrace on river valley
Upslope Shape: concave
Cross Slope Shape: concave
Particle Size Control Section: 14 to 34 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 2 to 14 cm.
argillic horizon 14 to 34 cm.

Country: United States
State: Tennessee
County: Anderson
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN001 -- Anderson County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: MvD -- Montevallo channery silt loam, 12 to 20 percent slopes
Pit Location:
Quad Name:
Std Latitude: 35.9321111
Std Longitude: -84.2701944
Latitude: 35 degrees 55 minutes 55.60 seconds north
Longitude: 84 degrees 16 minutes 12.70 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 746271 meters
UTM Northing: 3979863 meters
Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation:
Parent Material: fine-loamy alluvium derived from limestone, sandstone, and shale
Bedrock Kind: Shale and siltstone
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2016TN001001 **Pedon ID:** S2016TN001001

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
10.0	246.0	200	12.0			1,524	217	well		

Oi--0 to 2 centimeters (0.0 to 0.8 inches); slightly decomposed plant material; . Lab sample # 17N02576

A--2 to 5 centimeters (0.8 to 2.0 inches); dark brown (10YR 3/3) broken face loam; weak fine granular structure; soft, nonsticky, nonplastic; few medium roots throughout and many fine roots throughout; 10 percent nonflat subrounded indurated 2 to 75-millimeter Quartzite fragments; abrupt wavy boundary. Lab sample # 17N02577

AB--5 to 14 centimeters (2.0 to 5.5 inches); brown (10YR 4/3) broken face gravelly loam; weak fine subangular blocky, and weak medium subangular blocky structure; soft, nonsticky, slightly plastic; many medium roots throughout and common medium roots throughout; 25 percent nonflat subrounded indurated 2 to 75-millimeter Quartzite fragments; gradual wavy boundary. Lab sample # 17N02578

Bt--14 to 34 centimeters (5.5 to 13.4 inches); brown (7.5YR 4/4) broken face sandy clay loam; weak medium subangular blocky structure; soft, slightly sticky, nonplastic; few medium roots throughout and ; many very fine moderate-continuity tubular pores; 35 percent faint clay films on all faces of peds; 10 percent nonflat subrounded indurated 2 to 75-millimeter Quartzite fragments; diffuse wavy boundary. Lab sample # 17N02579

BC--34 to 100 centimeters (13.4 to 39.4 inches); yellowish brown (10YR 5/4) broken face gravelly loam; weak fine subangular blocky structure; soft, nonsticky, slightly plastic; few very fine roots throughout; 35 percent faint clay films on all faces of peds; 20 percent nonflat subrounded indurated 2 to 75-millimeter Quartzite fragments. Lab sample # 17N02580

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Aug 3 2016
Describer: Mike Jones
NEON Plot ID: ORNL_003
Site ID: S2016TN001003
Pedon ID: S2016TN001003
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0496
Soil Name as Described/Sampled: Montevallo
Classification: Loamy-skeletal, mixed, subactive, thermic Typic Dystrudepts
Soil Name as Correlated:
Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Apison, Armuchee, Coile, Sunlight, Townley
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:
Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of ridge on valley
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 4 to 44 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 4 to 12 cm.
cambic horizon 12 to 44 cm.
paralithic contact 44 to 69 cm.

Country: United States
State: Tennessee
County: Anderson
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN145 -- Roane County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: AoD2 -- Armuchee channery silty clay loam, 12 to 20 percent slopes, eroded
Pit Location:
Quad Name:
Std Latitude: 35.9656388
Std Longitude: -84.2309444
Latitude: 35 degrees 57 minutes 56.30 seconds north
Longitude: 84 degrees 13 minutes 51.40 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 749707 meters
UTM Northing: 3983683 meters
Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation:
Parent Material: skeletal loamy residuum weathered from shale and siltstone
Bedrock Kind: Sandstone and shale
Bedrock Depth: 44 centimeters
Bedrock Hardness: moderately cemented
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
44	69	bedrock, paralithic	

Cont. Site ID: S2016TN001003 **Pedon ID:** S2016TN001003

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
21.0	262.0	265	12.0			1,524	217	well		

Oi--0 to 4 centimeters (0.0 to 1.6 inches); slightly decomposed plant material; . Lab sample # 17N02581

BE--4 to 12 centimeters (1.6 to 4.7 inches); yellowish brown (10YR 5/4) broken face channery silty clay loam; moderate fine subangular blocky structure; soft, nonsticky, nonplastic; few medium roots throughout and many fine roots throughout and few coarse roots throughout; 20 percent flat subangular moderately cemented 2 to 150-millimeter Acid shale fragments; clear wavy boundary. Lab sample # 17N02582

Bw--12 to 44 centimeters (4.7 to 17.3 inches); yellowish brown (10YR 5/6) broken face very channery silty clay loam; moderate fine subangular blocky, and moderate medium subangular blocky structure; soft, nonsticky, nonplastic; few medium roots throughout and few fine roots throughout and few coarse roots throughout; 45 percent flat subangular moderately cemented 2 to 150-millimeter Acid shale fragments; abrupt wavy boundary. Lab sample # 17N02583

Cr--44 to 69 centimeters (17.3 to 27.2 inches); moderately cemented Sandstone and shale bedrock; .

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Sep 21 2016
Describer: David Moore
NEON Plot ID: ORNL_009

Site ID: S2016TN001009

Pedon ID: S2016TN001009

Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0497
Soil Name as Described/Sampled: Montevallo
Classification: Loamy-skeletal, mixed, subactive, thermic, shallow Typic Dystrudepts
Soil Name as Correlated:

Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Apison, Armuchee, Coile, Sunlight, Townley
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of ridge
on backslope of side slope of valley
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 25 to 33 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 20 cm.
cambic horizon 20 to 38 cm.
paralithic contact 38 to 63 cm.

Country: United States
State: Tennessee
County: Anderson
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN145 -- Roane County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: MvE -- Montevallo channery silt loam, 20 to 35 percent slopes
Pit Location:
Quad Name:
Std Latitude: 35.9742500
Std Longitude: -84.2278611

Latitude: 35 degrees 58 minutes 27.30 seconds north
Longitude: 84 degrees 13 minutes 40.30 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 749958 meters
UTM Northing: 3984646 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation:
Parent Material: skeletal loamy residuum weathered from shale and siltstone
Bedrock Kind: Sandstone and shale
Bedrock Depth: 20 centimeters
Bedrock Hardness: moderately cemented
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
38	63	bedrock, paralithic	

Cont. Site ID: S2016TN001009 **Pedon ID:** S2016TN001009

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
28.0	333.0	80	12.0			1,524	217	well		

A--0 to 8 centimeters (0.0 to 3.1 inches); dark brown (10YR 3/3) broken face very channery loam; weak fine granular structure; soft, nonsticky, nonplastic; 20 percent flat angular moderately cemented 2 to 150-millimeter Acid shale fragments and 20 percent flat angular indurated 2 to 150-millimeter Sandstone fragments; strongly acid, pH 5.5, pH indicator solutions; abrupt smooth boundary. Lab sample # 17N02584

BE--8 to 20 centimeters (3.1 to 7.9 inches); yellowish brown (10YR 5/4) broken face extremely channery loam; weak fine subangular blocky structure; soft, nonsticky, nonplastic; many very fine roots throughout and common fine roots throughout; 30 percent flat angular indurated 2 to 150-millimeter Sandstone fragments and 35 percent flat angular moderately cemented 2 to 150-millimeter Acid shale fragments; very strongly acid, pH 5.0, pH indicator solutions; clear smooth boundary. Lab sample # 17N02585

Bw--20 to 38 centimeters (7.9 to 15.0 inches); brown (7.5YR 5/4) broken face extremely channery loam; weak fine subangular blocky structure; soft, nonsticky, nonplastic; 35 percent flat angular moderately cemented 2 to 150-millimeter Acid shale fragments and 35 percent flat angular indurated 2 to 150-millimeter Sandstone fragments; very strongly acid, pH 5.0, pH indicator solutions; clear smooth boundary. Lab sample # 17N02586

Cr--38 to 63 centimeters (15.0 to 24.8 inches); bedrock; .

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Aug 24 2016
Describer: David Moore
NEON Plot ID: ORNL_012

Site ID: S2016TN001012

Pedon ID: S2016TN001012

Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0498
Soil Name as Described/Sampled: Sunlight
Classification: Loamy-skeletal, mixed, semiactive, thermic Inceptic Hapludults
Soil Name as Correlated:

Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Apison, Armuchee, Coile, Sunlight, Townley
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on summit of crest of ridge
on summit of crest of valley
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 18 to 22 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 18 cm.
argillic horizon 18 to 22 cm.
paralithic contact 22 to 47 cm.

Country: United States
State: Tennessee
County: Anderson
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN001 -- Anderson County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: ApE -- Armuchee-Montevallo complex, 25 to 60 percent slopes
Pit Location:
Quad Name:
Std Latitude: 35.9528888
Std Longitude: -84.2486111

Latitude: 35 degrees 57 minutes 10.40 seconds north
Longitude: 84 degrees 14 minutes 55.00 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 748153 meters
UTM Northing: 3982223 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation:
Parent Material: skeletal loamy residuum weathered from shale and siltstone
Bedrock Kind: Shale and siltstone
Bedrock Depth: 22 centimeters
Bedrock Hardness: moderately cemented
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
22	47	bedrock, paralithic	Moderately cemented

Cont. Site ID: S2016TN001012 **Pedon ID:** S2016TN001012

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
3.0	265.0	115	12.0			1,524	217	well		

A--0 to 7 centimeters (0.0 to 2.8 inches); very dark grayish brown (10YR 3/2) broken face channery silt loam; weak fine granular structure; soft, nonsticky, nonplastic; many very fine roots throughout and common medium roots throughout and common fine roots throughout; common fine moderate-continuity tubular pores; 25 percent flat subangular moderately cemented 2 to 150-millimeter Acid shale fragments; moderately acid, pH 6.0, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N02587

BA--7 to 18 centimeters (2.8 to 7.1 inches); 88 percent dark yellowish brown (10YR 4/4) broken face very channery silt loam; 12 percent medium faint irregular (10YR 5/2) mottles; weak fine subangular blocky structure; soft, nonsticky, nonplastic; common fine roots throughout; common fine moderate-continuity tubular pores; 45 percent flat subangular moderately cemented 2 to 150-millimeter Acid shale fragments; strongly acid, pH 5.5, pH indicator solutions; clear wavy boundary. Lab sample # 17N02588

Bt--18 to 22 centimeters (7.1 to 8.7 inches); 88 percent yellowish brown (10YR 5/8) broken face extremely channery silty clay loam; 12 percent medium faint irregular (10YR 5/4) mottles; weak medium subangular blocky structure; soft, nonsticky, nonplastic; few very fine roots throughout; 65 percent flat subangular moderately cemented 2 to 150-millimeter Acid shale fragments; very strongly acid, pH 5.0, pH indicator solutions; clear wavy boundary. Lab sample # 17N02589

Cr--22 to 47 centimeters (8.7 to 18.5 inches); moderately cemented Shale and siltstone bedrock; .

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Aug 3 2016
Describer: Mike Jones
NEON Plot ID: ORNL_015

Site ID: S2016TN001015

Pedon ID: S2016TN001015

Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0499
Soil Name as Described/Sampled: Montevallo
Classification: Loamy-skeletal, mixed, subactive, thermic, shallow Typic Dystrudepts
Soil Name as Correlated:

Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Apison, Armuchee, Coile, Sunlight, Townley
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on footslope of base slope of ridge on valley
Upslope Shape: linear
Cross Slope Shape: convex
Particle Size Control Section: 4 to 20 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 4 cm.
cambic horizon 4 to 20 cm.
paralithic contact 20 to 45 cm.

Country: United States
State: Tennessee
County: Anderson
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN001 -- Anderson County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: AoD2 -- Armuchee channery silty clay loam, 12 to 20 percent slopes, eroded
Pit Location:
Quad Name:
Std Latitude: 35.9648888
Std Longitude: -84.2380833

Latitude: 35 degrees 57 minutes 53.60 seconds north
Longitude: 84 degrees 14 minutes 17.10 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 749066 meters
UTM Northing: 3983581 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation:
Parent Material: skeletal loamy residuum weathered from shale and siltstone
Bedrock Kind: Acid shale
Bedrock Depth: 20 centimeters
Bedrock Hardness: moderately cemented
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
20	45	bedrock, paralithic	Moderately cemented

Cont. Site ID: S2016TN001015 **Pedon ID:** S2016TN001015

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
16.0	268.0	40	12.0			1,524	217	well		

Oi--0 to 4 centimeters (0.0 to 1.6 inches); slightly decomposed plant material; abrupt smooth boundary. Lab sample # 17N02590

Bw--4 to 20 centimeters (1.6 to 7.9 inches); dark brown (7.5YR 3/4) broken face very channery silty clay loam; weak fine subangular blocky structure; soft, nonsticky, nonplastic; few medium roots throughout and common fine roots throughout; 55 percent flat subangular moderately cemented 2 to 150-millimeter Acid shale fragments; clear wavy boundary. Lab sample # 17N02591

Cr--20 to 35 centimeters (7.9 to 13.8 inches); moderately cemented Acid shale bedrock; .

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Aug 2 2016
Describer: Mike Jones
NEON Plot ID: ORNL_018

Site ID: S2016TN001018

Pedon ID: S2016TN001018

Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0500
Soil Name as Described/Sampled: Series Not Designated
Classification: Loamy-skeletal, siliceous, subactive, thermic Typic Hapludults
Soil Name as Correlated:

Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: family
Associated Soils: Minvale
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on summit of side slope of stream terrace on river valley
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 12 to 32 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 2 to 12 cm.
argillic horizon 12 to 32 cm.

Country: United States
State: Tennessee
County: Anderson
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN001 -- Anderson County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: MnC -- Minvale silt loam, 5 to 12 percent slopes
Pit Location:
Quad Name:
Std Latitude: 35.9347499
Std Longitude: -84.2784722

Latitude: 35 degrees 56 minutes 5.10 seconds north
Longitude: 84 degrees 16 minutes 42.50 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 745516 meters
UTM Northing: 3980135 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation:
Parent Material: skeletal loamy alluvium derived from limestone, sandstone, and shale
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2016TN001018 **Pedon ID:** S2016TN001018

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
9.0	246.8	320	12.0			1,524	217	well		

Oi--0 to 2 centimeters (0.0 to 0.8 inches); slightly decomposed plant material; . Lab sample # 17N02592

A--2 to 12 centimeters (0.8 to 4.7 inches); very dark grayish brown (10YR 3/2) broken face very gravelly loamy sand; weak fine granular structure; very friable, nonsticky, nonplastic; many very fine roots throughout and many fine roots throughout; 20 percent nonflat subrounded indurated 2 to 75-millimeter Sandstone fragments and 25 percent nonflat subrounded indurated 2 to 75-millimeter Quartzite fragments; clear smooth boundary. Lab sample # 17N02593

Bt--12 to 32 centimeters (4.7 to 12.6 inches); dark yellowish brown (10YR 4/4) broken face extremely gravelly loamy sand; weak fine subangular blocky structure; very friable, nonsticky, nonplastic; many very fine roots throughout and few medium roots throughout and many fine roots throughout; 30 percent nonflat subrounded indurated 2 to 75-millimeter Quartzite fragments and 30 percent nonflat subrounded indurated 2 to 75-millimeter Sandstone fragments; gradual wavy boundary. Lab sample # 17N02594

C--32 to 100 centimeters (12.6 to 39.4 inches); yellowish brown (10YR 5/4) broken face extremely gravelly sand; loose, nonsticky, nonplastic; common medium roots throughout and common fine roots throughout and few coarse roots throughout; . Lab sample # 17N02595

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Sep 16 2016
Describer: David Moore
NEON Plot ID: ORNL_021

Site ID: S2016TN001021

Pedon ID: S2016TN001021

Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0501
Soil Name as Described/Sampled: Minvale
Classification: Fine-loamy, siliceous, subactive, thermic Typic Paleudults

Soil Name as Correlated:

Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Bodine, Fullerton, Pailo
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province

Physiographic Section: Tennessee section
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of ridge on valley
Upslope Shape: convex
Cross Slope Shape: concave
Particle Size Control Section: 26 to 76 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 26 cm.
argillic horizon 26 to 100 cm.

Country: United States
State: Tennessee
County: Anderson
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN145 -- Roane County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: FoD -- Fullerton-Pailo complex, 12 to 20 percent slopes
Pit Location:
Quad Name:
Std Latitude: 35.9552777
Std Longitude: -84.2213888

Latitude: 35 degrees 57 minutes 19.00 seconds north
Longitude: 84 degrees 13 minutes 17.00 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 750602 meters
UTM Northing: 3982558 meters

Primary Earth Cover: Grass/herbaceous cover
Secondary Earth Cover: Other grass/herbaceous cover
Existing Vegetation:
Parent Material: fine-loamy colluvium derived from chert
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2016TN001021 **Pedon ID:** S2016TN001021

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
17.0	280.0	307	12.0			1,524	217	well		

Ap--0 to 13 centimeters (0.0 to 5.1 inches); dark yellowish brown (10YR 4/4) broken face gravelly silt loam; weak fine granular structure; soft; many very fine roots throughout; common very fine moderate-continuity tubular pores; 0 percent nonflat subangular indurated 75 to 250-millimeter Chert fragments and 25 percent nonflat subangular indurated 2 to 75-millimeter Chert fragments; strongly acid, pH 5.5, pH indicator solutions; clear smooth boundary. Lab sample # 17N02596

BA--13 to 26 centimeters (5.1 to 10.2 inches); 88 percent brown (7.5YR 4/4) broken face gravelly silty clay loam; 12 percent medium distinct irregular (7.5YR 5/6) mottles; weak fine granular, and weak fine subangular blocky structure; soft; common very fine roots throughout; common very fine moderate-continuity tubular pores; 0 percent nonflat subangular indurated 75 to 250-millimeter Chert fragments and 30 percent nonflat subangular indurated 2 to 75-millimeter Chert fragments; very strongly acid, pH 5.0, pH indicator solutions; clear smooth boundary. Lab sample # 17N02597

Bt1--26 to 51 centimeters (10.2 to 20.1 inches); yellowish red (5YR 4/6) broken face gravelly silty clay loam; moderate medium subangular blocky structure; slightly hard; common very fine roots throughout; common very fine moderate-continuity tubular pores; 0 percent nonflat subangular indurated 75 to 250-millimeter Chert fragments and 25 percent nonflat subangular indurated 2 to 75-millimeter Chert fragments; very strongly acid, pH 5.0, pH indicator solutions; gradual smooth boundary. Lab sample # 17N02598

Bt2--51 to 100 centimeters (20.1 to 39.4 inches); 88 percent red (2.5YR 5/6) broken face very gravelly silty clay loam; moderate medium subangular blocky structure; moderately hard; few very fine roots throughout; common very fine moderate-continuity tubular pores; 0 percent nonflat subangular indurated 75 to 250-millimeter Chert fragments and 40 percent nonflat subangular indurated 2 to 75-millimeter Chert fragments; very strongly acid, pH 5.0, pH indicator solutions. Lab sample # 17N02599

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Aug 4 2016
Describer: Mike Jones
NEON Plot ID: ORNL_027

Site ID: S2016TN001027

Pedon ID: S2016TN001027

Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0502
Soil Name as Described/Sampled: Waynesboro
Classification: Fine, kaolinitic, thermic Typic Paleudults

Soil Name as Correlated:

Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Dewey, Etowah, Fullerton, Holston, Minvale
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on tread of stream terrace on river valley
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 20 to 70 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 20 cm.
argillic horizon 20 to 100 cm.

Country: United States
State: Tennessee
County: Anderson
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN001 -- Anderson County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: WbD -- Waynesboro loam, 12 to 20 percent slopes
Pit Location:
Quad Name:
Std Latitude: 35.9161944
Std Longitude: -84.2631111

Latitude: 35 degrees 54 minutes 58.30 seconds north
Longitude: 84 degrees 15 minutes 47.20 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 746960 meters
UTM Northing: 3978115 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation:
Parent Material: clayey alluvium derived from interbedded sedimentary rock
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2016TN001027 **Pedon ID:** S2016TN001027

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
16.0	250.5	81	12.0			1,524	217	well		

A--0 to 4 centimeters (0.0 to 1.6 inches); dark yellowish brown (10YR 3/4) broken face loam; moderate fine granular structure; very friable; many very fine roots throughout and common medium roots throughout and many fine roots throughout; 5 percent nonflat subrounded indurated 2 to 5-millimeter Quartzite fragments and 5 percent nonflat subrounded indurated 5 to 20-millimeter Quartzite fragments; abrupt smooth boundary. Lab sample # 17N02600

Bt1--4 to 20 centimeters (1.6 to 7.9 inches); yellowish red (5YR 4/6) broken face clay loam; weak fine subangular blocky, and moderate medium subangular blocky structure; friable; few medium roots throughout and common fine roots throughout and few coarse roots throughout; common fine moderate-continuity tubular pores; 45 percent distinct clay films on all faces of peds; 1 percent fine distinct spherical iron-manganese masses with clear boundaries On surfaces along pores and 1 percent fine distinct spherical iron-manganese masses with clear boundaries On faces of peds; 1 percent nonflat subrounded indurated 2 to 5-millimeter Quartzite fragments and 1 percent nonflat subrounded indurated 5 to 20-millimeter Quartzite fragments; clear smooth boundary. Lab sample # 17N02601

Bt2--20 to 100 centimeters (7.9 to 39.4 inches); red (2.5YR 4/6) broken face clay; moderate medium subangular blocky structure; slightly hard; few medium roots throughout and common fine roots throughout; common fine moderate-continuity tubular pores; 60 percent distinct clay films on all faces of peds; 1 percent fine distinct spherical iron-manganese masses with clear boundaries On faces of peds and 1 percent fine prominent spherical iron-manganese concretions with sharp boundaries Throughout; 1 percent nonflat subrounded indurated 2 to 5-millimeter Quartzite fragments and 1 percent nonflat subrounded indurated 5 to 20-millimeter Quartzite fragments. Lab sample # 17N02602

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Aug 26 2016
Describer: David Moore
NEON Plot ID: ORNL_029

Site ID: S2016TN001029

Pedon ID: S2016TN001029

Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0503
Soil Name as Described/Sampled: Barfield
Classification: Clayey, vermiculitic, thermic Lithic Hapludolls

Soil Name as Correlated:

Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Colbert, Gladeville, Lyerly
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on footslope of side slope of ridge on footslope of side slope of valley
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section:
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 6 cm.
argillic horizon 6 to 35 cm.
lithic contact 35 to 60 cm.

Country: United States
State: Tennessee
County: Anderson
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN001 -- Anderson County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: CfD -- Colbert-Lyerly-Rock outcrop complex, 5 to 20 percent slopes
Pit Location:
Quad Name:
Std Latitude: 35.9575000
Std Longitude: -84.2616666

Latitude: 35 degrees 57 minutes 27.00 seconds north
Longitude: 84 degrees 15 minutes 42.00 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 746961 meters
UTM Northing: 3982701 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation:
Parent Material: clayey residuum weathered from argillaceous limestone
Bedrock Kind: Argillaceous limestone
Bedrock Depth: 35 centimeters
Bedrock Hardness: indurated
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
35	60	bedrock, lithic	Indurated

Cont. Site ID: S2016TN001029 **Pedon ID:** S2016TN001029

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
12.0	280.0	203	12.0			1,524	217	well		

A--0 to 6 centimeters (0.0 to 2.4 inches); very dark grayish brown (10YR 3/2) broken face silty clay loam; strong coarse granular, and moderate medium subangular blocky structure; very hard, slightly sticky, slightly plastic; many very fine roots throughout and few medium roots throughout and many fine roots throughout and few coarse roots throughout; many fine moderate-continuity dendritic tubular pores; slightly acid, pH 6.5, pH indicator solutions; abrupt smooth boundary. Lab sample # 17N02603

Bt1--6 to 15 centimeters (2.4 to 5.9 inches); 88 percent dark brown (10YR 3/3) broken face silty clay; 12 percent medium distinct irregular (10YR 4/3) mottles; strong medium, and strong coarse subangular blocky structure; very hard, slightly sticky, slightly plastic; common very fine roots throughout and common medium roots throughout and common fine roots throughout and few coarse roots throughout; many very fine moderate-continuity tubular and few fine moderate-continuity tubular pores; 40 percent distinct clay films on all faces of peds; slightly acid, pH 6.5, pH indicator solutions; clear smooth boundary. Lab sample # 17N02604

Bt2--15 to 35 centimeters (5.9 to 13.8 inches); 76 percent dark yellowish brown (10YR 4/4) broken face silty clay; 12 percent medium distinct irregular (10YR 4/6) and 12 percent medium distinct irregular (7.5YR 4/6) mottles; very hard, slightly sticky, slightly plastic; neutral, pH 7.0, pH indicator solutions; abrupt smooth boundary. Lab sample # 17N02605

R--35 to 60 centimeters (13.8 to 23.6 inches); indurated Argillaceous limestone bedrock; .

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Sep 18 2016
Describer: David Moore
NEON Plot ID: ORNL_031

Site ID: S2016TN001031

Pedon ID: S2016TN001031

Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0504
Soil Name as Described/Sampled: Etowah
Classification: Fine-loamy, siliceous, semiactive, thermic Typic Paleudults

Soil Name as Correlated:

Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Dewey, Fullerton, Minvale, Shady, Waynesboro
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province

Physiographic Section: Tennessee section
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on tread of terrace on river valley
Upslope Shape: convex
Cross Slope Shape: concave
Particle Size Control Section: 36 to 86 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 36 cm.
argillic horizon 36 to 100 cm.

Country: United States
State: Tennessee
County: Anderson
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN145 -- Roane County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: DwD -- Dewey silt loam, 12 to 20 percent slopes
Pit Location:
Quad Name:
Std Latitude: 35.9483333
Std Longitude: -84.2219444

Latitude: 35 degrees 56 minutes 54.00 seconds north
Longitude: 84 degrees 13 minutes 19.00 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 750574 meters
UTM Northing: 3981786 meters

Primary Earth Cover: Grass/herbaceous cover
Secondary Earth Cover: Other grass/herbaceous cover
Existing Vegetation:
Parent Material: fine-loamy alluvium derived from sedimentary rock
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2016TN001031 **Pedon ID:** S2016TN001031

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
13.0	238.0	315	12.0			1,524	217	well		

Ap--0 to 18 centimeters (0.0 to 7.1 inches); dark brown (7.5YR 3/4) broken face gravelly silt loam; weak fine granular structure; soft, nonsticky, nonplastic; many very fine roots throughout and many fine roots throughout; common very fine moderate-continuity tubular and common fine moderate-continuity dendritic tubular pores; 0 percent nonflat subangular indurated 75 to 250-millimeter Sandstone fragments and 0 percent nonflat subangular indurated 20 to 75-millimeter Sandstone fragments and 5 percent nonflat subangular indurated 2 to 5-millimeter Sandstone fragments and 15 percent nonflat subangular indurated 5 to 20-millimeter Sandstone fragments; slightly acid, pH 6.5, pH indicator solutions; clear smooth boundary. Lab sample # 17N02606

AB--18 to 36 centimeters (7.1 to 14.2 inches); reddish brown (5YR 4/3) broken face gravelly silt loam; soft, nonsticky, nonplastic; 0 percent nonflat subangular indurated 75 to 250-millimeter Sandstone fragments and 0 percent nonflat subangular indurated 20 to 75-millimeter Sandstone fragments and 10 percent nonflat subangular indurated 2 to 5-millimeter Sandstone fragments and 10 percent nonflat subangular indurated 5 to 20-millimeter Sandstone fragments; moderately acid, pH 6.0, pH indicator solutions; clear smooth boundary. Lab sample # 17N02607

Bt1--36 to 64 centimeters (14.2 to 25.2 inches); yellowish red (5YR 4/6) broken face gravelly silty clay loam; weak medium subangular blocky structure; soft, slightly sticky, slightly plastic; 30 percent distinct clay films on all faces of peds; 10 percent very fine prominent spherical iron-manganese nodules with sharp boundaries Throughout; 0 percent nonflat subangular indurated 75 to 250-millimeter Sandstone fragments and 5 percent nonflat subangular indurated 5 to 20-millimeter Sandstone fragments and 10 percent nonflat subangular indurated 20 to 75-millimeter Sandstone fragments and 15 percent nonflat subangular indurated 2 to 5-millimeter Sandstone fragments; moderately acid, pH 6.0, pH indicator solutions; gradual smooth boundary. Lab sample # 17N02608

Bt2--64 to 100 centimeters (25.2 to 39.4 inches); 88 percent dark red (2.5YR 3/6) broken face silty clay loam; 12 percent medium distinct irregular (2.5YR 4/8) mottles; moderate medium subangular blocky structure; soft, slightly sticky, slightly plastic; 40 percent distinct clay films on all faces of peds; 20 percent fine prominent spherical iron-manganese nodules with sharp boundaries Throughout; 0 percent nonflat subangular indurated 75 to 250-millimeter Sandstone fragments and 0 percent nonflat subangular indurated 20 to 75-millimeter Sandstone fragments and 5 percent nonflat subangular indurated 2 to 5-millimeter Sandstone fragments and 5 percent nonflat subangular indurated 5 to 20-millimeter Sandstone fragments; strongly acid, pH 5.5, pH indicator solutions. Lab sample # 17N02609

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Sep 7 2016
Describer: David Moore
NEON Plot ID: ORNL_033
Site ID: S2016TN001033
Pedon ID: S2016TN001033
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0505
Soil Name as Described/Sampled: Montevallo
Classification: Loamy-skeletal, mixed, subactive, thermic Typic Dystrudepts
Soil Name as Correlated:
Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Apison, Armuchee, Coile, Montevallo, Sunlight, Townley
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:
Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of ridge
on backslope of side slope of valley
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 8 to 20 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 8 cm.
cambic horizon 8 to 20 cm.
paralithic contact 20 to 45 cm.

Country: United States
State: Tennessee
County: Anderson
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN001 -- Anderson County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit:
Pit Location:
Quad Name:
Std Latitude: 35.9616666
Std Longitude: -84.2269444
Latitude: 35 degrees 57 minutes 42.00 seconds north
Longitude: 84 degrees 13 minutes 37.00 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 750080 meters
UTM Northing: 3983252 meters
Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: skeletal loamy residuum weathered from shale and siltstone
Bedrock Kind: Shale and siltstone
Bedrock Depth: 20 centimeters
Bedrock Hardness: moderately cemented
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
20	45	bedrock, paralithic	Moderately cemented

Cont. Site ID: S2016TN001033 **Pedon ID:** S2016TN001033

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
8.0	252.0	35	12.0			1,524	217	well		

A--0 to 8 centimeters (0.0 to 3.1 inches); brown (10YR 4/3) broken face very channery loam; weak medium granular structure; soft, nonsticky, nonplastic; many very fine roots throughout and few medium roots throughout and many fine roots throughout and few coarse roots throughout; 40 percent flat subangular moderately cemented 2 to 150-millimeter Acid shale fragments; very strongly acid, pH 5.0, pH indicator solutions; abrupt smooth boundary. Lab sample # 17N02610

Bw--8 to 20 centimeters (3.1 to 7.9 inches); 88 percent dark yellowish brown (10YR 4/4) broken face very channery loam; 12 percent medium faint irregular (10YR 4/6) mottles; weak medium subangular blocky structure; soft, nonsticky, nonplastic; many very fine roots throughout and common medium roots throughout and many fine roots throughout; many very fine moderate-continuity dendritic tubular and many fine moderate-continuity dendritic tubular pores; 40 percent flat subangular moderately cemented 2 to 150-millimeter Acid shale fragments; very strongly acid, pH 5.0, pH indicator solutions; abrupt smooth boundary. Lab sample # 17N02611

Cr--20 to 45 centimeters (7.9 to 17.7 inches); moderately cemented Shale and siltstone bedrock; .

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Aug 16 2016
Describer: David Moore
NEON Plot ID: ORNL_040
Site ID: S2016TN001040
Pedon ID: S2016TN001040
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0506
Soil Name as Described/Sampled: Salacoa
Classification: Fine-loamy, mixed, active, thermic Typic Hapludalfs
Soil Name as Correlated:
Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Apison, Armuchee, Coile, Montevallo, Sunlight, Townley
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:
Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of ridge on valley
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 15 to 65 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 15 cm.
argillic horizon 15 to 100 cm.

Country: United States
State: Tennessee
County: Anderson
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN145 -- Roane County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: SfD -- Salacoa silt loam, 12 to 20 percent slopes
Pit Location:
Quad Name:
Std Latitude: 35.9755734
Std Longitude: -84.3036560
Latitude: 35 degrees 58 minutes 32.80 seconds north
Longitude: 84 degrees 18 minutes 13.50 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 743109 meters
UTM Northing: 3984624 meters
Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: fine-loamy colluvium derived from sandstone and shale
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2016TN001040 **Pedon ID:** S2016TN001040

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
15.0	274.0	189	12.0			1,524	217	well		

A--0 to 7 centimeters (0.0 to 2.8 inches); dark yellowish brown (10YR 3/4) broken face gravelly loam; weak medium granular structure; soft, nonsticky, nonplastic; many very fine roots throughout and few medium roots throughout and common fine roots throughout; 3 percent nonflat subangular indurated 2 to 5-millimeter Sandstone fragments and 3 percent nonflat subangular indurated 20 to 75-millimeter Sandstone fragments and 10 percent nonflat subangular indurated 5 to 20-millimeter Sandstone fragments; strongly acid, pH 5.5, pH indicator solutions; abrupt smooth boundary. Lab sample # 17N02612

BA--7 to 15 centimeters (2.8 to 5.9 inches); dark yellowish brown (10YR 4/4) broken face gravelly loam; weak medium subangular blocky structure; soft, nonsticky, nonplastic; few very fine roots throughout and few fine roots throughout; 3 percent nonflat subangular indurated 2 to 5-millimeter Sandstone fragments and 3 percent nonflat subangular indurated 20 to 75-millimeter Sandstone fragments and 10 percent nonflat subangular indurated 5 to 20-millimeter Sandstone fragments; strongly acid, pH 5.5, pH indicator solutions; clear smooth boundary. Lab sample # 17N02613

Bt1--15 to 36 centimeters (5.9 to 14.2 inches); strong brown (7.5YR 4/6) broken face gravelly clay loam; moderate medium subangular blocky structure; soft, nonsticky, nonplastic; few very fine roots throughout; 25 percent distinct clay films on all faces of peds; 3 percent nonflat subangular indurated 2 to 5-millimeter Sandstone fragments and 3 percent nonflat subangular indurated 20 to 75-millimeter Sandstone fragments and 10 percent nonflat subangular indurated 5 to 20-millimeter Sandstone fragments; strongly acid, pH 5.5, pH indicator solutions; gradual smooth boundary. Lab sample # 17N02614

2Bt2--36 to 60 centimeters (14.2 to 23.6 inches); channery clay loam; moderate medium subangular blocky structure; soft, nonsticky, nonplastic; 35 percent distinct clay films on all faces of peds; 20 percent flat subangular moderately cemented 2 to 150-millimeter Shale fragments; strongly acid, pH 5.5, pH indicator solutions; gradual smooth boundary. Lab sample # 17N02615

2Bt3--60 to 100 centimeters (23.6 to 39.4 inches); gravelly clay loam; moderate medium subangular blocky structure; soft, nonsticky, nonplastic; 40 percent distinct clay films on all faces of peds; strongly acid, pH 5.5, pH indicator solutions. Lab sample # 17N02616

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Aug 4 2016
Describer: Mike Jones
NEON Plot ID: ORNL_004

Site ID: S2016TN145004

Pedon ID: S2016TN145004
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0507
Soil Name as Described/Sampled: Bodine
Classification: Loamy-skeletal, siliceous, semiactive, thermic Typic Paleudults
Soil Name as Correlated:

Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Fullerton, Minvale, Pailo
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on shoulder of side slope of ridge on valley
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 23 to 44 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 23 cm.
argillic horizon 23 to 44 cm.

Country: United States
State: Tennessee
County: Roane
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN145 -- Roane County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: NOTCOM -- No Digital Data Available
Pit Location:
Quad Name:
Std Latitude: 35.9066944
Std Longitude: -84.2758611

Latitude: 35 degrees 54 minutes 28.02 seconds north
Longitude: 84 degrees 16 minutes 31.24 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 745838 meters
UTM Northing: 3977029 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation:
Parent Material: skeletal loamy creep deposits derived from chert over skeletal loamy residuum weathered from dolomite
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2016TN145004 **Pedon ID:** S2016TN145004

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
20.0	305.1	294	12.0			1,524	217	somewhat excessively		

Oe--0 to 5 centimeters (0.0 to 2.0 inches); moderately decomposed plant material; gradual smooth boundary. Lab sample # 17N02617

Bt1--5 to 23 centimeters (2.0 to 9.1 inches); yellowish brown (10YR 5/4) broken face gravelly clay loam; soft; many medium roots throughout and many fine roots throughout and few coarse roots throughout; 5 percent nonflat angular indurated 20 to 75-millimeter Chert fragments and 10 percent nonflat angular indurated 5 to 20-millimeter Chert fragments and 15 percent nonflat angular indurated 2 to 5-millimeter Chert fragments; diffuse smooth boundary. Lab sample # 17N02618

Bt2--23 to 36 centimeters (9.1 to 14.2 inches); 5/4 5/4) broken face gravelly clay loam; soft; few medium roots throughout and very few fine roots throughout; 5 percent nonflat angular indurated 20 to 75-millimeter Chert fragments and 25 percent nonflat angular indurated 5 to 20-millimeter Chert fragments and 30 percent nonflat angular indurated 2 to 5-millimeter Chert fragments; gradual smooth boundary. Lab sample # 17N02619

Bt3--36 to 44 centimeters (14.2 to 17.3 inches); extremely gravelly clay loam; soft; few fine roots throughout; 15 percent distinct clay films on rock fragments and 15 percent distinct clay films on vertical faces of peds; 15 percent nonflat angular indurated 20 to 75-millimeter Chert fragments and 30 percent nonflat angular indurated 2 to 5-millimeter Chert fragments and 30 percent nonflat angular indurated 5 to 20-millimeter Chert fragments. Lab sample # 17N02620

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Aug 3 2016
Describer: Jennifer Mason
NEON Plot ID: ORNL_007

Site ID: S2016TN145007

Pedon ID: S2016TN145007
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0508
Soil Name as Described/Sampled: Bodine
Classification: Loamy-skeletal, siliceous, semiactive, thermic Typic Paleudults
Soil Name as Correlated:

Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Fullerton, Minvale, Pailo
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of ridge on valley
Upslope Shape: linear
Cross Slope Shape: convex
Particle Size Control Section: 36 to 86 cm.

Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 36 cm.
argillic horizon 36 to 100 cm.

Country: United States
State: Tennessee
County: Roane
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN145 -- Roane County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: NOTCOM -- No Digital Data Available
Pit Location:
Quad Name:
Std Latitude: 35.9255280
Std Longitude: -84.3300120

Latitude: 35 degrees 55 minutes 31.00 seconds north
Longitude: 84 degrees 19 minutes 48.00 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 740895 meters
UTM Northing: 3978955 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation:
Parent Material: skeletal loamy creep deposits derived from chert over skeletal loamy residuum weathered from dolomite
Bedrock Kind: Argillaceous limestone
Bedrock Depth:
Bedrock Hardness: indurated
Bedrock Fracture Interval:
Surface Fragments: 10.0 percent nonflat angular indurated 76- to 250-millimeter Chert fragments
Description database: KSSL

Cont. Site ID: S2016TN145007 **Pedon ID:** S2016TN145007

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
20.0	280.0	92	12.0			1,524	217	somewhat excessively		

A--0 to 18 centimeters (0.0 to 7.1 inches); dark brown (10YR 3/3) broken face extremely gravelly silt loam; weak fine granular structure; soft; many very fine roots throughout and few medium roots throughout and few fine roots throughout and few coarse roots throughout; common very fine moderate-continuity dendritic tubular and few medium moderate-continuity tubular and common fine moderate-continuity tubular pores; 65 percent nonflat angular indurated 2 to 75-millimeter Chert fragments; strongly acid, pH 5.5, pH indicator solutions; diffuse smooth boundary. Lab sample # 17N02621

BA--18 to 36 centimeters (7.1 to 14.2 inches); dark yellowish brown (10YR 4/4) broken face extremely gravelly silt loam; weak medium subangular blocky structure; soft; many very fine roots throughout and few medium roots throughout and common fine roots throughout; few fine low-continuity tubular pores; 65 percent nonflat angular indurated 2 to 75-millimeter Chert fragments; strongly acid, pH 5.5, pH indicator solutions; diffuse smooth boundary. Lab sample # 17N02622

Bt1--36 to 60 centimeters (14.2 to 23.6 inches); brown (7.5YR 4/4) broken face extremely gravelly silty clay loam; weak medium granular, and weak fine subangular blocky structure; soft; 10 percent faint clay films on rock fragments and 10 percent faint clay films on all faces of peds; 80 percent nonflat angular indurated 2 to 75-millimeter Chert fragments; strongly acid, pH 5.5, pH indicator solutions; diffuse smooth boundary. Lab sample # 17N02623

Bt2--60 to 100 centimeters (23.6 to 39.4 inches); strong brown (7.5YR 4/6) broken face extremely gravelly silty clay loam; weak fine subangular blocky structure; soft; 30 percent faint 7.5YR 4/4), moist, clay films on rock fragments and 30 percent faint 7.5YR 4/4), moist, clay films on all faces of peds; 80 percent nonflat angular indurated 7 to 75-millimeter Chert fragments; strongly acid, pH 5.5, pH indicator solutions. Lab sample # 17N02624

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Aug 3 2016
Describer: Jennifer Mason
NEON Plot ID: ORNL_008

Site ID: S2016TN145008

Pedon ID: S2016TN145008
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0509
Soil Name as Described/Sampled: Minvale
Classification: Fine-loamy, siliceous, subactive, thermic Typic Paleudults

Soil Name as Correlated:

Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Bodine, Dewey, Fullerton, Pailo
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of ridge on valley
Upslope Shape: linear
Cross Slope Shape: concave
Particle Size Control Section: 17 to 67 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 23 cm.
argillic horizon 23 to 100 cm.

Country: United States
State: Tennessee
County: Roane
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN145 -- Roane County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: NOTCOM -- No Digital Data Available
Pit Location:
Quad Name:
Std Latitude: 35.9328520
Std Longitude: -84.3327370

Latitude: 35 degrees 55 minutes 58.26 seconds north
Longitude: 84 degrees 19 minutes 57.85 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 740625 meters
UTM Northing: 3979789 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation:
Parent Material: fine-loamy colluvium derived from chert over fine-loamy residuum weathered from dolomite
Bedrock Kind: Dolomite
Bedrock Depth:
Bedrock Hardness: indurated
Bedrock Fracture Interval:
Surface Fragments: 5.0 percent nonflat angular indurated 76- to 250-millimeter Chert fragments

Description database: KSSL

Cont. Site ID: S2016TN145008 **Pedon ID:** S2016TN145008

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
29.0	344.0	28	12.0			1,524	217	well		

A--0 to 10 centimeters (0.0 to 3.9 inches); dark olive brown (2.5Y 3/3) broken face extremely gravelly loam; weak fine granular structure; soft; many very fine roots throughout and few medium roots throughout and many fine roots throughout; few medium moderate-continuity dendritic tubular and common fine moderate-continuity dendritic tubular pores; 0 percent nonflat subangular indurated 75 to 250-millimeter Chert fragments and 75 percent nonflat subangular indurated 2 to 75-millimeter Chert fragments; moderately acid, pH 6.0, pH indicator solutions; gradual smooth boundary. Lab sample # 17N02625

E--10 to 23 centimeters (3.9 to 9.1 inches); light olive brown (2.5Y 5/3) broken face extremely gravelly loam; weak medium granular structure; soft; few medium roots throughout and many fine roots throughout; few medium moderate-continuity dendritic tubular and common fine moderate-continuity dendritic tubular pores; 0 percent nonflat subangular indurated 75 to 250-millimeter Chert fragments and 75 percent nonflat subangular indurated 2 to 75-millimeter Chert fragments; moderately acid, pH 6.0, pH indicator solutions; gradual smooth boundary. Lab sample # 17N02626

BE--23 to 36 centimeters (9.1 to 14.2 inches); yellowish brown (10YR 5/4) broken face gravelly loam; weak fine subangular blocky structure; soft; many very fine roots throughout and common medium roots throughout and common fine roots throughout; few medium moderate-continuity dendritic tubular and common fine moderate-continuity dendritic tubular pores; 0 percent nonflat subangular indurated 75 to 250-millimeter Chert fragments and 20 percent nonflat subangular indurated 2 to 75-millimeter Chert fragments; strongly acid, pH 5.5, pH indicator solutions; gradual smooth boundary. Lab sample # 17N02627

Bt1--36 to 61 centimeters (14.2 to 24.0 inches); 88 percent strong brown (7.5YR 5/6) broken face gravelly clay loam; 12 percent medium faint irregular (5YR 5/6) mottles; weak medium subangular blocky structure; soft; few very fine roots throughout and few medium roots throughout and few fine roots throughout; few fine moderate-continuity irregular pores; 35 percent distinct 2.5YR 4/8), moist, clay films on all faces of peds; 0 percent nonflat subangular indurated 75 to 250-millimeter Chert fragments and 20 percent nonflat subangular indurated 2 to 75-millimeter Chert fragments; very strongly acid, pH 5.0, pH indicator solutions; diffuse smooth boundary. Lab sample # 17N02628

2Bt2--61 to 100 centimeters (24.0 to 39.4 inches); 88 percent yellowish red (5YR 5/8) broken face gravelly silty clay loam; 12 percent fine distinct irregular (7.5YR 5/4) mottles; moderate medium subangular blocky structure; soft; few very fine roots throughout; few fine moderate-continuity irregular pores; 35 percent distinct 2.5YR 4/8), moist, clay films on all faces of peds; 0 percent nonflat subangular indurated 75 to 250-millimeter Chert fragments and 20 percent nonflat subangular indurated 2 to 75-millimeter Chert fragments; very strongly acid, pH 5.0, pH indicator solutions. Lab sample # 17N02629

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Aug 4 2016
Describer: Jennifer Mason
NEON Plot ID: ORNL_010

Site ID: S2016TN145010

Pedon ID: S2016TN145010
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0510
Soil Name as Described/Sampled: Sunlight
Classification: Loamy-skeletal, mixed, semiactive, thermic Inceptic Hapludults
Soil Name as Correlated:

Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Apison, Armuchee, Coile, Montevallo, Townley
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of ridge on valley
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 25 to 33 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 15 cm.
argillic horizon 15 to 33 cm.
paralithic contact 33 to 58 cm.

Country: United States
State: Tennessee
County: Roane
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN145 -- Roane County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: NOTCOM -- No Digital Data Available
Pit Location:
Quad Name:
Std Latitude: 35.9530555
Std Longitude: -84.3322222

Latitude: 35 degrees 57 minutes 11.00 seconds north
Longitude: 84 degrees 19 minutes 56.00 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 740610 meters
UTM Northing: 3982032 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation:
Parent Material: fine-loamy residuum weathered from interbedded sedimentary rock
Bedrock Kind: Sandstone and shale
Bedrock Depth: 33 centimeters
Bedrock Hardness: strongly cemented
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
33	58	bedrock, paralithic	Strongly cemented

Cont. Site ID: S2016TN145010 **Pedon ID:** S2016TN145010

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
17.0	305.0	63	12.0			1,524	217	well		

A--0 to 8 centimeters (0.0 to 3.1 inches); brown (10YR 4/3) broken face very channery loam; weak fine granular structure; soft; many very fine roots throughout and few medium roots throughout and many fine roots throughout and few coarse roots throughout; many very fine moderate-continuity tubular and many fine moderate-continuity dendritic tubular pores; 20 percent flat subangular very strongly cemented 2 to 150-millimeter Shale fragments and 20 percent flat subangular indurated 2 to 150-millimeter Sandstone fragments; very strongly acid, pH 5.0, pH indicator solutions; gradual smooth boundary. Lab sample # 17N02630

BE--8 to 15 centimeters (3.1 to 5.9 inches); yellowish brown (10YR 5/4) broken face very channery loam; weak fine subangular blocky structure; soft; common very fine roots throughout and few medium roots throughout and common fine roots throughout; common very fine moderate-continuity tubular and common fine moderate-continuity dendritic tubular pores; 20 percent flat subangular very strongly cemented 2 to 150-millimeter Shale fragments and 20 percent flat subangular indurated 2 to 150-millimeter Sandstone fragments; very strongly acid, pH 5.0, pH indicator solutions; gradual smooth boundary. Lab sample # 17N02631

Bt--15 to 33 centimeters (5.9 to 13.0 inches); 88 percent yellowish brown (10YR 5/6) broken face extremely channery clay loam; 12 percent fine distinct irregular (10YR 5/6) mottles; moderate medium subangular blocky structure; soft; common very fine roots throughout; few fine moderate-continuity tubular pores; 40 percent faint 10YR 4/6), moist, clay films on all faces of peds; 37 percent flat subangular very strongly cemented 2 to 150-millimeter Shale fragments and 38 percent flat subangular indurated 2 to 150-millimeter Sandstone fragments; very strongly acid, pH 5.0, pH indicator solutions; diffuse smooth boundary. Lab sample # 17N02632

Cr--33 to 58 centimeters (13.0 to 22.8 inches); strongly cemented Sandstone and shale bedrock; .

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Aug 2 2016
Describer: Jennifer Mason
NEON Plot ID: ORNL_014

Site ID: S2016TN145014

Pedon ID: S2016TN145014
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0511
Soil Name as Described/Sampled: Fullerton
Classification: Fine, kaolinitic, thermic Typic Paleudults

Soil Name as Correlated:

Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Bodine, Dewey, Minvale, Pailo
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of ridge on valley
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 30 to 80 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 30 cm.
argillic horizon 30 to 100 cm.

Country: United States
State: Tennessee
County: Roane
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN145 -- Roane County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: NOTCOM -- No Digital Data Available
Pit Location:
Quad Name:
Std Latitude: 35.9399410
Std Longitude: -84.3056280

Latitude: 35 degrees 56 minutes 23.78 seconds north
Longitude: 84 degrees 17 minutes 20.26 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 744553 meters
UTM Northing: 3980684 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation:
Parent Material: creep deposits derived from chert over clayey residuum weathered from dolomite
Bedrock Kind: Argillaceous limestone
Bedrock Depth:
Bedrock Hardness: indurated
Bedrock Fracture Interval:
Surface Fragments: 2.0 percent nonflat angular indurated 76- to 250-millimeter Chert fragments
Description database: KSSL

Cont. Site ID: S2016TN145014 **Pedon ID:** S2016TN145014

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
16.0	297.0	206	12.0			1,524	217	well		

A--0 to 10 centimeters (0.0 to 3.9 inches); dark brown (10YR 3/3) broken face very gravelly silt loam; weak fine granular structure; soft; many very fine roots throughout and many fine roots throughout; many fine moderate-continuity dendritic tubular pores; 0 percent nonflat angular indurated 75 to 250-millimeter Chert fragments and 40 percent nonflat angular indurated 2 to 75-millimeter Chert fragments; neutral, pH 7.0, pH indicator solutions; gradual smooth boundary. Lab sample # 17N02633

BA--10 to 30 centimeters (3.9 to 11.8 inches); 88 percent yellowish brown (10YR 5/8) broken face very gravelly silt loam; 12 percent medium faint irregular (7.5YR 5/8) mottles; weak medium subangular blocky structure; soft; common very fine roots throughout and few medium roots throughout; common fine moderate-continuity dendritic tubular pores; 0 percent nonflat angular indurated 75 to 250-millimeter Chert fragments and 40 percent nonflat angular indurated 2 to 75-millimeter Chert fragments; strongly acid, pH 5.5, pH indicator solutions; diffuse smooth boundary. Lab sample # 17N02634

Bt1--30 to 43 centimeters (11.8 to 16.9 inches); 88 percent yellowish red (5YR 4/6) broken face silty clay loam; 12 percent medium distinct irregular (2.5YR 5/ mottles; moderate medium subangular blocky structure; soft; few very fine roots throughout and few medium roots throughout; few fine moderate-continuity irregular pores; 10 percent nonflat angular indurated 2 to 75-millimeter Chert fragments; very strongly acid, pH 5.0, pH indicator solutions; gradual smooth boundary. Lab sample # 17N02635

Bt2--43 to 100 centimeters (16.9 to 39.4 inches); 88 percent red (2.5YR 4/6) broken face gravelly clay; 12 percent medium distinct irregular (5YR 5/8) mottles; strong medium subangular blocky structure; soft; few very fine roots throughout and few medium roots throughout; few fine moderate-continuity irregular pores; 35 percent distinct 7.5YR 4/6), moist, clay films on all faces of peds; 20 percent nonflat angular indurated 2 to 75-millimeter Chert fragments; very strongly acid, pH 5.0, pH indicator solutions. Lab sample # 17N02636

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Aug 4 2016
Describer: Jennifer Mason
NEON Plot ID: ORNL_032
Site ID: S2016TN145032
Pedon ID: S2016TN145032
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0512
Soil Name as Described/Sampled: Etowah
Classification: Fine-loamy, siliceous, semiactive, thermic Typic Paleudults
Soil Name as Correlated:
Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Dewey, Hamblen, Minvale, Waynesboro
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:
Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of stream terrace on river valley
Upslope Shape: concave
Cross Slope Shape: convex
Particle Size Control Section: 20 to 70 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 20 cm.
argillic horizon 20 to 100 cm.

Country: United States
State: Tennessee
County: Roane
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN145 -- Roane County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: NOTCOM -- No Digital Data Available
Pit Location:
Quad Name:
Std Latitude: 35.9251943
Std Longitude: -84.3299847
Latitude: 35 degrees 56 minutes 40.00 seconds north
Longitude: 84 degrees 19 minutes 36.00 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 741138 meters
UTM Northing: 3981090 meters
Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: fine-loamy alluvium derived from interbedded sedimentary rock over colluvium derived from interbedded sedimentary rock
Bedrock Kind: Argillaceous limestone
Bedrock Depth:
Bedrock Hardness: indurated
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2016TN145032 **Pedon ID:** S2016TN145032

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
10.0	261.0	320	12.0			1,524	217	well		

A--0 to 8 centimeters (0.0 to 3.1 inches); dark brown (10YR 3/3) broken face silt loam; moderate medium granular structure; soft; many very fine roots throughout and few medium roots throughout and common fine roots throughout; many medium moderate-continuity dendritic tubular pores; slightly acid, pH 6.5, pH indicator solutions; gradual wavy boundary. Lab sample # 17N02637

BA--8 to 20 centimeters (3.1 to 7.9 inches); brown (7.5YR 4/3) broken face silt loam; 12 percent fine distinct irregular (5YR 4/6) mottles; weak medium subangular blocky structure; soft; few very fine roots throughout and few very fine roots throughout and few medium roots throughout; common medium moderate-continuity dendritic tubular pores; moderately acid, pH 6.0, pH indicator solutions; gradual wavy boundary. Lab sample # 17N02638

Bt1--20 to 40 centimeters (7.9 to 15.7 inches); 88 percent yellowish red (5YR 4/6) broken face silt loam; 12 percent fine faint irregular (5YR 4/3) mottles; soft; few very fine roots throughout and few fine roots throughout; 15 percent faint 5YR 4/4), moist, clay films on all faces of peds; 15 percent medium prominent spherical moderately cemented 5YR 2.5/1), moist, iron-manganese nodules with sharp boundaries Throughout; very strongly acid, pH 5.0, pH indicator solutions; diffuse wavy boundary. Lab sample # 17N02639

Bt2--40 to 70 centimeters (15.7 to 27.6 inches); 88 percent yellowish red (5YR 4/6) broken face silty clay loam; 12 percent medium faint irregular (2.5YR 4/6) mottles; moderate medium subangular blocky structure; soft; 35 percent faint 5YR 4/4), moist, clay films on all faces of peds; 15 percent medium prominent spherical moderately cemented 5YR 2.5/1), moist, iron-manganese nodules Throughout; 2 percent nonflat rounded indurated 2 to 76-millimeter Sandstone fragments; very strongly acid, pH 5.0, pH indicator solutions; diffuse wavy boundary. Lab sample # 17N02640

Bt3--70 to 100 centimeters (27.6 to 39.4 inches); 88 percent yellowish red (5YR 5/6) broken face silty clay loam; 12 percent medium distinct irregular (7.5YR 5/6) mottles; strong medium subangular blocky structure; soft; 45 percent faint 5YR 4/6), moist, clay films on all faces of peds; 25 percent medium prominent spherical moderately cemented 5YR 2.5/1), moist, iron-manganese nodules with sharp boundaries Throughout; 2 percent nonflat rounded indurated 2 to 76-millimeter Sandstone fragments; very strongly acid, pH 5.0, pH indicator solutions. Lab sample # 17N02641

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Sep 7 2016
Describer: David Moore
NEON Plot ID: ORNL_035

Site ID: S2016TN145035

Pedon ID: S2016TN145035
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0513
Soil Name as Described/Sampled: Bodine
Classification: Loamy-skeletal, siliceous, semiactive, thermic Typic Paleudults
Soil Name as Correlated:

Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Bodine, Dewey, Minvale, Pailo
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of ridge on valley
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 26 to 45 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 26 cm.
argillic horizon 26 to 45 cm.

Country: United States
State: Tennessee
County: Roane
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN145 -- Roane County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: NOTCOM -- No Digital Data Available
Pit Location:
Quad Name:
Std Latitude: 35.9744444
Std Longitude: -84.3502777

Latitude: 35 degrees 58 minutes 28.00 seconds north
Longitude: 84 degrees 21 minutes 1.00 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 738917 meters
UTM Northing: 3984361 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: skeletal loamy creep deposits derived from chert over skeletal loamy residuum weathered from dolomite
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2016TN145035 **Pedon ID:** S2016TN145035

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
15.0	273.0	32	12.0			1,524	217	somewhat excessively		

A--0 to 15 centimeters (0.0 to 5.9 inches); brown (7.5YR 4/4) broken face extremely gravelly silt loam; weak medium granular structure; soft; common very fine roots throughout and few medium roots throughout and common fine roots throughout and few coarse roots throughout; 5 percent nonflat angular indurated 20 to 75-millimeter Chert fragments and 5 percent nonflat angular indurated 75 to 250-millimeter Chert fragments and 20 percent nonflat angular indurated 2 to 5-millimeter Chert fragments and 20 percent nonflat angular indurated 5 to 20-millimeter Chert fragments; very strongly acid, pH 5.0, pH indicator solutions; gradual smooth boundary. Lab sample # 17N02642

BA--15 to 26 centimeters (5.9 to 10.2 inches); 88 percent brown (7.5YR 4/4) broken face extremely gravelly silt loam; 12 percent fine faint irregular (7.5YR 4/6) mottles; weak fine subangular blocky structure; soft; few very fine roots throughout and few medium roots throughout and few fine roots throughout; 5 percent nonflat angular indurated 20 to 75-millimeter Chert fragments and 20 percent nonflat angular indurated 75 to 250-millimeter Chert fragments and 25 percent nonflat angular indurated 2 to 5-millimeter Chert fragments and 30 percent nonflat angular indurated 5 to 20-millimeter Chert fragments; very strongly acid, pH 4.5, pH indicator solutions; gradual smooth boundary. Lab sample # 17N02643

Bt--26 to 45 centimeters (10.2 to 17.7 inches); 88 percent yellowish red (5YR 5/6) broken face extremely gravelly silty clay loam; 12 percent fine faint irregular (7.5YR 5/4) mottles; moderate medium subangular blocky structure; soft; few fine roots throughout; 35 percent distinct clay films on all faces of peds; 5 percent nonflat angular indurated 20 to 75-millimeter Chert fragments and 20 percent nonflat angular indurated 75 to 250-millimeter Chert fragments and 30 percent nonflat angular indurated 2 to 5-millimeter Chert fragments and 30 percent nonflat angular indurated 5 to 20-millimeter Chert fragments; very strongly acid, pH 4.5, pH indicator solutions. Lab sample # 17N02644

PEDON DESCRIPTION -- NEON Site ORNL

Print Date: Apr 2 2018
Description Date: Sep 8 2016
Describer: David Moore
NEON Plot ID: ORNL_068

Site ID: S2016TN145068

Pedon ID: S2016TN145068
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0514
Soil Name as Described/Sampled: Fullerton
Classification: Fine, kaolinitic, thermic Typic Paleudults

Soil Name as Correlated:

Classification:
Pedon Type: confirmation description
Pedon Purpose: research site
Taxon Kind: series
Associated Soils: Bodine, Dewey, Minvale, Pailo
Physiographic Division: Appalachian Highlands
Physiographic Province: Valley and Ridge Province
Physiographic Section: Tennessee section
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on backslope of side slope of ridge on valley
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 17 to 100 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 17 cm.
argillic horizon 17 to 100 cm.

Country: United States
State: Tennessee
County: Roane
MLRA: 128 -- Southern Appalachian Ridges and Valleys
Soil Survey Area: TN145 -- Roane County, Tennessee
6-CLI -- Clinton, Tennessee
Map Unit: NOTCOM -- No Digital Data Available
Pit Location:
Quad Name:
Std Latitude: 35.9261111
Std Longitude: -84.4269444

Latitude: 35 degrees 55 minutes 34.00 seconds north
Longitude: 84 degrees 25 minutes 37.00 seconds west
Datum: WGS84
UTM Zone: 16
UTM Easting: 732144 meters
UTM Northing: 3978813 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Hardwoods
Existing Vegetation:
Parent Material: creep deposits derived from chert over clayey residuum weathered from dolomite
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2016TN145068 **Pedon ID:** S2016TN145068

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
22.0	264.0	205	12.0			1,524	217	well		

A--0 to 11 centimeters (0.0 to 4.3 inches); dark yellowish brown (10YR 3/4) broken face gravelly silt loam; weak fine granular structure; soft; many very fine roots throughout and few medium roots throughout and many fine roots throughout and common coarse roots throughout; common fine moderate-continuity tubular pores; 5 percent nonflat angular indurated 5 to 20-millimeter Chert fragments and 10 percent nonflat angular indurated 2 to 5-millimeter Chert fragments and 15 percent nonflat angular 20 to 75-millimeter Chert fragments; moderately acid, pH 6.0, pH indicator solutions; gradual smooth boundary. Lab sample # 17N02645

BA--11 to 17 centimeters (4.3 to 6.7 inches); 88 percent dark yellowish brown (10YR 4/4) broken face gravelly silt loam; soft; many very fine roots throughout and common medium roots throughout and many fine roots throughout; common medium moderate-continuity tubular and common fine moderate-continuity tubular pores; 5 percent nonflat angular indurated 20 to 75-millimeter Chert fragments and 10 percent nonflat angular indurated 5 to 20-millimeter Chert fragments and 12 percent nonflat angular indurated 2 to 5-millimeter Chert fragments; strongly acid, pH 5.5, pH indicator solutions; gradual smooth boundary. Lab sample # 17N02646

Bt1--17 to 60 centimeters (6.7 to 23.6 inches); cobbly silty clay; strong medium subangular blocky structure; soft; common very fine roots throughout and few fine roots; common fine moderate-continuity tubular pores; 30 percent distinct clay films on all faces of peds and 30 percent distinct clay films on rock fragments; 5 percent nonflat angular indurated 20 to 75-millimeter Chert fragments and 5 percent nonflat angular indurated 5 to 20-millimeter Chert fragments and 5 percent nonflat angular indurated 2 to 5-millimeter Chert fragments and 20 percent nonflat angular indurated 76 to 250-millimeter Chert fragments; strongly acid, pH 5.5, pH indicator solutions; diffuse wavy boundary. Lab sample # 17N02647

Bt2--60 to 100 centimeters (23.6 to 39.4 inches); 76 percent yellowish red (5YR 4/6) broken face cobbly silty clay; 12 percent medium distinct irregular (10YR 5/4) and 12 percent medium faint irregular (7.5YR 4/6) mottles; moderate medium subangular blocky structure; soft; few very fine roots throughout; 30 percent distinct clay films on all faces of peds and 30 percent distinct clay films on rock fragments; 5 percent nonflat angular indurated 2 to 5-millimeter Chert fragments and 5 percent nonflat angular indurated 5 to 20-millimeter Chert fragments and 5 percent nonflat angular indurated 20 to 75-millimeter Chert fragments and 20 percent nonflat angular indurated 76 to 250-millimeter Chert fragments; strongly acid, pH 5.5, pH indicator solutions. Lab sample # 17N02648