PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018
Description Date: Oct 25 2016
Describer: Jacob Isleib
NEON Plot ID: HARV_015

Site ID: S2016MA027015
Pedon ID: S2016MA027015
Site Note:

Pedon Note: Pedon description was assisted by Donald Parizek, Shawn Finn, and Michael Margo.
Lab Source ID: KSSL
Lab Pedon #: 17N0461
Soil Name as Described/Sampled: Chichester
Classification: Loamy-skeletal, mixed, superactive, frigid Typic Dystrudepts

Soil Name as Correlated:

Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: taxadjunct
Associated Soils:
Physiographic Division: Appalachian Highlands
Physiographic Province: New England Province

Physiographic Section: New England upland section
State Physiographic Area:

Local Physiographic Area: Harvard Forest
Geomorphic Setting: on backslope of side slope of hill on upland
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 31 to 106 cm.

Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 14 cm.
cambic horizon 14 to 78 cm.

Country: United States
State: Massachusetts
County: Worcester
MLRA: 144B -- New England and Eastern New York Upland, Northern Part
Soil Survey Area: 12-TOL -- Tolland, Connecticut
Map Unit:
Pit Location: plotID HARV_015 distance 19.6 M azimuth 76 reference point 40 X 40 SW measurement location pit center

Quad Name: Athol, Massachusetts
Std Latitude: 42.5386389
Std Longitude: -72.1820833

Latitude: 42 degrees 32 minutes 19.10 seconds north
Longitude: 72 degrees 10 minutes 55.50 seconds west
Datum: WGS84
UTM Zone: 18
UTM Easting: 731403 meters
UTM Northing: 4713432 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: skeletal coarse-loamy supraglacial meltout till derived from mica schist over skeletal sandy supraglacial meltout till derived from mica schist
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments: 0.1 percent nonflat subrounded indurated 250- to 600-millimeter Gneiss fragments

Description database: KSSL

Cont. Site ID: S2016MA027015 **Pedon ID:** S2016MA027015

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	370.0	129						well		

Oa--0 to 6 centimeters (0.0 to 2.4 inches); black (7.5YR 2.5/1) broken face highly decomposed plant material; weak fine granular structure; friable; very fine roots throughout and medium roots throughout and fine roots throughout and coarse roots throughout; 2 percent nonflat angular indurated 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 5.0, pH indicator solutions; abrupt smooth boundary. Lab sample # 17N02404. 2cm of Oe at the surface of horizon, too thin to sample.

BA--6 to 14 centimeters (2.4 to 5.5 inches); brown (10YR 4/3) broken face very cobbly fine sandy loam; weak medium subangular blocky, and weak fine subangular blocky structure; friable, nonsticky, nonplastic; very fine roots throughout and medium roots throughout and fine roots throughout and coarse roots throughout; 5 percent nonflat angular indurated 250 to 600-millimeter Mixed rock fragments and 15 percent nonflat angular indurated 2 to 75-millimeter Mixed rock fragments and 20 percent nonflat angular indurated 75 to 250-millimeter Mixed rock fragments; strongly acid, pH 5.2, pH indicator solutions; clear wavy boundary. Lab sample # 17N02405. Small pieces of charcoal present, most likley from the 1957 forest fire that burned through the forest, a detailed fire record is available at Harvard Forest.

Bw1--14 to 33 centimeters (5.5 to 13.0 inches); strong brown (7.5YR 4/6) broken face very cobbly fine sandy loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; very fine roots throughout and medium roots throughout and fine roots throughout and coarse roots throughout; 5 percent nonflat angular indurated 250 to 600-millimeter Mixed rock fragments and 15 percent nonflat angular indurated 2 to 75-millimeter Mixed rock fragments and 20 percent nonflat angular indurated 75 to 250-millimeter Mixed rock fragments; strongly acid, pH 5.4, pH indicator solutions; gradual wavy boundary. Lab sample # 17N02406

Bw2--33 to 53 centimeters (13.0 to 20.9 inches); dark yellowish brown (10YR 4/4) broken face very cobbly fine sandy loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; very fine roots throughout and medium roots throughout and fine roots throughout and coarse roots throughout; 5 percent nonflat angular indurated 250 to 600-millimeter Mixed rock fragments and 15 percent nonflat angular indurated 2 to 75-millimeter Mixed rock fragments and 20 percent nonflat angular indurated 75 to 250-millimeter Mixed rock fragments; moderately acid, pH 5.6, pH indicator solutions; gradual wavy boundary. Lab sample # 17N02407

BC--53 to 78 centimeters (20.9 to 30.7 inches); olive brown (2.5Y 4/3) broken face very gravelly sandy loam; weak coarse subangular blocky structure; friable, nonsticky, nonplastic; very fine roots throughout and medium roots throughout and fine roots throughout; 5 percent nonflat angular indurated 250 to 600-millimeter Mixed rock fragments and 15 percent nonflat angular indurated 75 to 250-millimeter Mixed rock fragments and 35 percent nonflat angular indurated 2 to 75-millimeter Mixed rock fragments; moderately acid, pH 5.6, pH indicator solutions; clear irregular boundary. Lab sample # 17N02408

C--78 to 100 centimeters (30.7 to 39.4 inches); light olive brown (2.5Y 5/3) broken face very gravelly loamy sand; massive; friable, nonsticky, nonplastic; very fine roots throughout and fine roots throughout; 5 percent nonflat angular indurated 250 to 600-millimeter Mixed rock fragments and 15 percent nonflat angular indurated 75 to 250-millimeter Mixed rock fragments and 35 percent nonflat angular indurated 2 to 75-millimeter Mixed rock fragments; moderately acid, pH 5.8, pH indicator solutions. Lab sample # 17N02409. Pockets of firmer soil in the C horizon.

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018
Description Date: Aug 9 2017
Describer: DONALD PARIZEK
NEON Plot ID: HARV_001

Site ID: S2017MA027001
Pedon ID: S2017MA027001

Site Note:

Pedon Note:

Lab Source ID: KSSL
Lab Pedon #: 17N0868
Soil Name as Described/Sampled: Canton
Classification: Loamy-skeletal over sandy or sandy-skeletal, mixed, superactive, mesic Typic Dystrudepts
Soil Name as Correlated:

Classification:
Pedon Type: taxadjunct to the series
Pedon Purpose: laboratory sampling site
Taxon Kind: taxadjunct
Associated Soils:
Physiographic Division: Appalachian Highlands
Physiographic Province: New England Province
Physiographic Section: New England upland section
State Physiographic Area:
Local Physiographic Area: Petersham, MA
Geomorphic Setting: on backslope of hill on glaciated upland
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 29 to 104 cm.

Description origin: NASIS
Diagnostic Features: ochric epipedon 4 to 14 cm.
cambic horizon 14 to 68 cm.

Country: United States
State: Massachusetts
County: Worcester
MLRA: 144A -- New England and Eastern New York Upland, Southern Part
Soil Survey Area: 12-TOL -- Tolland, Connecticut
Map Unit: 915E -- Montauk-Canton association, 15 to 35 percent slopes, extremely stony
Pit Location: plotID HARV_001 distance 12.9 M azimuth 48 reference point 40 X 40 SW measurement location pit center
Quad Name: Quabbin Reservoir, Massachusetts
Petersham, Massachusetts
Std Latitude: 42.4241944
Std Longitude: -72.2583889

Latitude: 42 degrees 25 minutes 27.10 seconds north
Longitude: 72 degrees 15 minutes 30.20 seconds west
Datum: WGS84
UTM Zone: 18
UTM Easting: 725547 meters
UTM Northing: 4700518 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: eolian over sandy meltout till
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments: 5.0 percent nonflat subrounded 600- to 1000-millimeter Gneiss fragments

Description database: KSSL

Cont. Site ID: S2017MA027001 **Pedon ID:** S2017MA027001

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
30.0	195.0	90						well		

Oi--0 to 4 centimeters (0.0 to 1.6 inches); brown (7.5YR 4/2) broken face slightly decomposed plant material; nonsticky, nonplastic; very strongly acid, pH 5.0, pH meter; abrupt wavy boundary. Lab sample # 17N04242

A--4 to 14 centimeters (1.6 to 5.5 inches); dark brown (10YR 3/3) broken face very stony fine sandy loam; weak medium subangular blocky structure; very friable, nonsticky, nonplastic; many very fine roots throughout and many medium roots throughout and many fine roots throughout and ; 5 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments and 10 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments and 20 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments; very strongly acid, pH 4.6, pH meter; clear wavy boundary. Lab sample # 17N04243

Bw1--14 to 39 centimeters (5.5 to 15.4 inches); dark yellowish brown (10YR 3/4) broken face cobbly fine sandy loam; weak medium subangular blocky structure; very friable, nonsticky, nonplastic; many very fine roots throughout and many medium roots throughout and many fine roots throughout and many coarse roots throughout; 5 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments and 10 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments and 15 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments; very strongly acid, pH 4.7, pH meter; clear wavy boundary. Lab sample # 17N04244. PARAROCK FRAGMENTS PRESENT

Bw2--39 to 68 centimeters (15.4 to 26.8 inches); dark yellowish brown (10YR 4/4) broken face very stony fine sandy loam; weak coarse subangular blocky structure; very friable, nonsticky, nonplastic; very fine roots throughout; 10 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments and 20 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments and 20 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments; very strongly acid, pH 4.9, pH meter; gradual wavy boundary. Lab sample # 17N04245

2C--68 to 100 centimeters (26.8 to 39.4 inches); extremely stony loamy coarse sand; massive; loose, nonsticky, nonplastic; 10 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments and 20 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments and 30 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments; very strongly acid, pH 4.8, pH meter. Lab sample # 17N04246

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018

Description Date: May 30 2017

Describer: Jacob Isleib

NEON Plot ID: HARV_005

Site ID: S2017MA027005

Pedon ID: S2017MA027005

Site Note:

Pedon Note: additional staff assisting with description included Milton Vega, Megan McClellan, Sam Amendola, Paul and Janet Bryant; Evidence of reduced iron sheen in free water of the pit

Lab Source ID: KSSL

Lab Pedon #: 17N0668

Soil Name as Described/Sampled: Montauk

Classification: Loamy-skeletal, mixed, active, mesic Oxyaquic Dystrudepts

Soil Name as Correlated:

Classification:

Pedon Type: taxadjunct to the series

Pedon Purpose: research site

Taxon Kind: taxadjunct

Associated Soils:

Physiographic Division: Appalachian Highlands

Physiographic Province: New England Province

Physiographic Section: New England upland section

State Physiographic Area:

Local Physiographic Area: Quabbin Reservoir Watershed

Geomorphic Setting: on backslope of side slope of hill on upland

Upslope Shape: convex

Cross Slope Shape: convex

Particle Size Control Section: 31 to 106 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 20 cm.
cambic horizon 20 to 63 cm.
densic contact 63 to cm.
densic materials 63 to 100 cm.
aquic conditions 63 to 100 cm.

Country: United States

State: Massachusetts

County: Worcester

MLRA: 144A -- New England and Eastern New York Upland, Southern Part

Soil Survey Area: MA614 -- Worcester County, Massachusetts, Northwestern Part
12-TOL -- Tolland, Connecticut

Map Unit: 927C -- Montauk-Scituate-Canton association, 3 to 15 percent slopes, extremely stony

Pit Location: plotID HARV_005 distance 6.6 M azimuth 58 reference point 40 X 40 SW measurement location pit center

Quad Name:

Std Latitude: 42.4893333

Std Longitude: -72.2753889

Latitude: 42 degrees 29 minutes 21.60 seconds north

Longitude: 72 degrees 16 minutes 31.40 seconds west

Datum: WGS84

UTM Zone: 18

UTM Easting: 723916 meters

UTM Northing: 4707706 meters

Primary Earth Cover: Tree cover

Secondary Earth Cover: Intermixed conifers and hardwoods

Existing Vegetation:

Parent Material: loamy eolian deposits and/or loamy till over sandy and loamy flow till derived from granite, gneiss, and/or schist

Bedrock Kind:

Bedrock Depth:

Bedrock Hardness:

Bedrock Fracture Interval:

Surface Fragments: 5.0 percent nonflat subangular 250- to 600-millimeter Mixed rock fragments

Description database: KSSL

Cont. Site ID: S2017MA027005 **Pedon ID:** S2017MA027005

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
63	100	densic material	Noncemented

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	185.0	218						well		

Oe--0 to 6 centimeters (0.0 to 2.4 inches); black (7.5YR 2.5/1) broken face stony moderately decomposed plant material; very friable; very fine roots throughout and coarse roots throughout and ; 5 percent nonflat subrounded 75 to 250-millimeter Mixed rock fragments and 20 percent nonflat subrounded 250 to 600-millimeter Mixed rock fragments; very strongly acid, pH 4.8, pH indicator solutions; clear smooth boundary. Lab sample # 17N03375

A--6 to 20 centimeters (2.4 to 7.9 inches); very dark gray (10YR 3/1) broken face stony highly organic fine sandy loam; moderate medium subangular blocky parts to weak medium granular, and moderate coarse subangular blocky parts to weak medium granular structure; friable; very fine roots throughout and medium roots throughout and fine roots throughout and coarse roots throughout; 2 percent nonflat subrounded 2 to 75-millimeter Mixed rock fragments and 5 percent nonflat subrounded 75 to 250-millimeter Mixed rock fragments and 20 percent nonflat subrounded 250 to 600-millimeter Mixed rock fragments; strongly acid, pH 5.2, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N03376

Bw--20 to 46 centimeters (7.9 to 18.1 inches); dark yellowish brown (10YR 4/4) broken face very stony fine sandy loam; weak medium subangular blocky, and weak coarse subangular blocky structure; friable; fine roots throughout and coarse roots throughout; 10 percent nonflat subrounded 2 to 75-millimeter Mixed rock fragments and 10 percent nonflat subangular 75 to 250-millimeter Mixed rock fragments and 30 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments; strongly acid, pH 5.2, pH indicator solutions; clear smooth boundary. Lab sample # 17N03377

BC--46 to 63 centimeters (18.1 to 24.8 inches); dark yellowish brown (10YR 4/4) broken face gravelly fine sandy loam; weak coarse subangular blocky structure; friable; fine roots throughout and coarse roots throughout; 5 percent nonflat subangular 75 to 250-millimeter Mixed rock fragments and 20 percent nonflat subangular 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 5.0, pH indicator solutions; clear smooth boundary. Lab sample # 17N03378

2Cd1--63 to 83 centimeters (24.8 to 32.7 inches); gravelly loamy sand; structureless massive; firm; 5 percent medium faint 5Y 4/2), moist, iron depletions Throughout and 15 percent medium prominent 2.5YR 3/6), moist, masses of oxidized iron Throughout; 5 percent nonflat subangular 75 to 250-millimeter Mixed rock fragments and 20 percent nonflat subangular 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 4.8, pH indicator solutions. Lab sample # 17N03379

2Cd2--83 to 100 centimeters (32.7 to 39.4 inches); olive gray (5Y 5/2) broken face gravelly sandy loam; structureless massive; firm; 25 percent coarse distinct 10YR 4/3), moist, iron-manganese masses Throughout; 5 percent nonflat subangular 75 to 250-millimeter Mixed rock fragments and 20 percent nonflat subangular 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N03380

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018
Description Date: Jun 27 2017
Describer: Donald Parizek
NEON Plot ID: HARV_006

Site ID: S2017MA027006
Pedon ID: S2017MA027006

Site Note:

Pedon Note: Jacob Isleib, David Zimmermann, and Milton Vega assisted with pedon description and sampling
Lab Source ID: KSSL
Lab Pedon #: 17N0669
Soil Name as Described/Sampled: Canton
Classification: Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Dystrudepts
Soil Name as Correlated:

Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils:
Physiographic Division: Appalachian Highlands
Physiographic Province: New England Province

Physiographic Section: New England upland section
State Physiographic Area:

Local Physiographic Area: Quabbin, MA
Geomorphic Setting: on backslope of side slope of hill on upland
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 31 to 100 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 6 to 11 cm.
cambic horizon 11 to 80 cm.
lithologic discontinuity 80 to cm.

Country: United States
State: Massachusetts
County: Worcester
MLRA: 144A -- New England and Eastern New York Upland, Southern Part
Soil Survey Area:
Map Unit: 915E -- Montauk-Canton association, 15 to 35 percent slopes, extremely stony
Pit Location: plotID HARV_006 distance 5.2 M azimuth 32 reference point 40 X 40 SW measurement location pit center

Quad Name: Quabbin Reservoir, Massachusetts
Std Latitude: 42.4029167
Std Longitude: -72.2540000

Latitude: 42 degrees 24 minutes 10.50 seconds north
Longitude: 72 degrees 15 minutes 14.40 seconds west
Datum: WGS84
UTM Zone: 18
UTM Easting: 725985 meters
UTM Northing: 4698167 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: loamy eolian deposits and/or sandy till
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2017MA027006 **Pedon ID:** S2017MA027006

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
6.0	190.0	300						well		

Oe--0 to 6 centimeters (0.0 to 2.4 inches); very dark brown (10YR 2/2) broken face moderately decomposed plant material; many very fine roots throughout and many medium roots throughout and many fine roots throughout; extremely acid, pH 4.2, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N03381

A--6 to 11 centimeters (2.4 to 4.3 inches); 60 percent dark brown (7.5YR 3/3) broken face and 40 percent dark brown (7.5YR 3/2) broken face fine sandy loam; weak fine subangular blocky structure; very friable; many very fine roots throughout and many medium roots throughout and many fine roots throughout and many coarse roots throughout; 3 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments; very strongly acid, pH 4.8, pH indicator solutions; clear wavy boundary. Lab sample # 17N03382

Bw1--11 to 32 centimeters (4.3 to 12.6 inches); dark yellowish brown (10YR 4/4) broken face fine sandy loam; weak medium subangular blocky structure; very friable; common very fine roots throughout and common medium roots throughout and common fine roots throughout; 1 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments and 2 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments and 5 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments; strongly acid, pH 5.4, pH indicator solutions; gradual wavy boundary. Lab sample # 17N03383

Bw2--32 to 53 centimeters (12.6 to 20.9 inches); dark yellowish brown (10YR 4/4) broken face fine sandy loam; weak coarse subangular blocky, and weak medium subangular blocky structure; very friable; common very fine roots throughout and common medium roots throughout and common fine roots throughout; 2 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments and 2 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments and 5 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments; very strongly acid, pH 5.0, pH indicator solutions; clear wavy boundary. Lab sample # 17N03384

BC--53 to 80 centimeters (20.9 to 31.5 inches); olive brown (2.5Y 4/3) broken face fine sandy loam; weak coarse subangular blocky structure; very friable; common very fine roots throughout and common medium roots throughout and common fine roots throughout and common coarse roots throughout; 2 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments and 10 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments; moderately acid, pH 5.6, pH indicator solutions; clear irregular boundary. Lab sample # 17N03385

2C--80 to 135 centimeters (31.5 to 53.1 inches); 70 percent dark gray (5Y 4/1) broken face and 30 percent light olive gray (5Y 6/2) broken face gravelly loamy sand; structureless massive; friable; few very fine roots throughout and few fine roots throughout; 2 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments and 25 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments; strongly acid, pH 5.4, pH indicator solutions; pockets of firm soil material in some areas. . Lab sample # 17N03386

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018
Description Date: Aug 16 2017
Describer: Donald Parizek
NEON Plot ID: HARV_008
Site ID: S2017MA027008
Pedon ID: S2017MA027008
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0869
Soil Name as Described/Sampled: Sutton
Classification: Coarse-loamy, mixed, superactive, mesic Aquic Dystrudepts
Soil Name as Correlated:
Classification:
Pedon Type: undefined observation
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils:
Physiographic Division: Appalachian Highlands
Physiographic Province: New England Province
Physiographic Section: New England upland section
State Physiographic Area:
Local Physiographic Area: Quabbin Reservoir Watershed
Geomorphic Setting: on backslope of depression on glaciated upland
Upslope Shape: concave
Cross Slope Shape: concave
Particle Size Control Section: 35 to 110 cm.
Description origin: Pedon PC 6.3b
Diagnostic Features: cambic horizon 19 to 54 cm.
aquic conditions 36 to 115 cm.

Country: United States
State: Massachusetts
County: Worcester
MLRA: 144A -- New England and Eastern New York Upland, Southern Part
Soil Survey Area: MA614 -- Worcester County, Massachusetts, Northwestern Part
12-TOL -- Tolland, Connecticut
Map Unit: 927C -- Montauk-Scituate-Canton association, 3 to 15 percent slopes, extremely stony
Pit Location: plotID HARV_008 distance 5.3 M azimuth 128 reference point 40 X 40 NW measurement location pit center
Quad Name:
Std Latitude: 42.4447778
Std Longitude: -72.2262222
Latitude: 42 degrees 26 minutes 41.20 seconds north
Longitude: 72 degrees 13 minutes 34.40 seconds west
Datum: WGS84
UTM Zone: 18
UTM Easting: 728119 meters
UTM Northing: 4702889 meters
Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: loamy melt-out till
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments: 3.0 percent nonflat subangular 250- to 600-millimeter Mixed rock fragments
Description database: KSSL

Cont. Site ID: S2017MA027008 **Pedon ID:** S2017MA027008

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
1.0	244.0	21						somewhat poorly		

Oe--0 to 10 centimeters (0.0 to 3.9 inches); reddish black (2.5YR 2.5/1) moderately decomposed plant material; many very fine roots throughout and many very coarse roots throughout and many medium roots throughout and many fine roots throughout and many coarse roots throughout; strongly acid, pH 5.5, pH meter; clear wavy boundary. Lab sample # 17N04247

A--10 to 19 centimeters (3.9 to 7.5 inches); black (5YR 2.5/1) highly organic gravelly fine sandy loam; moderate fine subangular blocky parts to weak fine granular structure; friable; many very fine roots throughout and many very coarse roots throughout and many medium roots throughout and many fine roots throughout and many coarse roots throughout; 5 percent nonflat subangular 75 to 250-millimeter Mixed rock fragments and 10 percent nonflat subangular 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 4.8, pH meter; clear wavy boundary. Lab sample # 17N04248

Bw1--19 to 36 centimeters (7.5 to 14.2 inches); dark yellowish brown (10YR 4/4) gravelly fine sandy loam; weak fine subangular blocky parts to weak fine granular structure; very friable; many very fine roots throughout and common medium roots throughout and many fine roots throughout and common coarse roots throughout; 5 percent fine distinct 5YR 3/4), moist, iron-manganese masses; 5 percent nonflat subangular 75 to 250-millimeter Mixed rock fragments and 5 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments and 20 percent nonflat subangular 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 4.5, pH meter; clear wavy boundary. Lab sample # 17N04249

Bw2--36 to 54 centimeters (14.2 to 21.3 inches); brown (10YR 4/3) gravelly fine sandy loam; weak medium subangular blocky, and weak coarse subangular blocky structure; very friable; common very fine roots throughout and common medium roots throughout and common fine roots throughout and common coarse roots throughout; 10 percent coarse distinct 5YR 3/4), moist, iron-manganese masses; 5 percent nonflat subangular 75 to 250-millimeter Mixed rock fragments and 5 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments and 20 percent nonflat subangular 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 4.6, pH meter; clear wavy boundary. Lab sample # 17N04250

BC--54 to 74 centimeters (21.3 to 29.1 inches); dark brown (10YR 3/3) very gravelly fine sandy loam; 8 percent clay; weak medium subangular blocky structure; friable; common very fine roots throughout and common very coarse roots throughout and common fine roots throughout; 2 percent coarse prominent 2.5YR 3/6) ironstone nodules Throughout and 5 percent coarse faint 10YR 4/2), moist, iron depletions Throughout and 20 percent coarse faint 7.5YR 4/3), moist, masses of oxidized iron Throughout; 2 percent nonflat subangular 75 to 250-millimeter Mixed rock fragments and 2 percent flat angular 150 to 250-millimeter Gneiss fragments and 40 percent nonflat subangular 2 to 75-millimeter Mixed rock fragments; extremely acid, pH 4.1, pH meter; clear wavy boundary. Lab sample # 17N04251

C--74 to 115 centimeters (29.1 to 45.3 inches); dark olive brown (2.5Y 3/3) very gravelly sandy loam; massive; friable; common very fine roots throughout and common medium roots throughout and common fine roots throughout; 4 percent coarse prominent 2.5YR 2.5/4), moist, ironstone nodules Throughout and 5 percent coarse prominent 2.5YR 2.5/1), moist, manganese masses Throughout and 10 percent coarse prominent 2.5YR 4/6), moist, masses of oxidized iron Throughout and 15 percent coarse distinct 10Y 4/1), moist, iron depletions Throughout; 40 percent nonflat subangular 2 to 75-millimeter Mixed rock fragments; extremely acid, pH 3.8, pH meter. Lab sample # 17N04252

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018
Description Date: Aug 23 2017
Describer: Donald Parizek
NEON Plot ID: HARV_011

Site ID: S2017MA027011

Pedon ID: S2017MA027011
Site Note:

Pedon Note: soil water seeping in pit at 27cm; Milton Vega, Paul and Janet Bryant assisted with the description and sampling
Lab Source ID: KSSL
Lab Pedon #: 17N0877
Soil Name as Described/Sampled: Newfields
Classification: Coarse-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Aquic Dystrudepts
Soil Name as Correlated:

Classification:
Pedon Type: undefined observation
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils:
Physiographic Division: Appalachian Highlands
Physiographic Province: New England Province

Physiographic Section: New England upland section
State Physiographic Area:

Local Physiographic Area: Quabbin Reservoir Watershed
Geomorphic Setting: on backslope of side slope of hill on glaciated upland
Upslope Shape: concave
Cross Slope Shape: linear
Particle Size Control Section: 30 to 105 cm.

Description origin: Pedon PC 6.3b
Diagnostic Features: cambic horizon 17 to 76 cm.
strongly contrasting particle size class 76 to cm.

Country: United States
State: Massachusetts
County: Worcester
MLRA: 144A -- New England and Eastern New York Upland, Southern Part
Soil Survey Area: MA614 -- Worcester County, Massachusetts, Northwestern Part
12-TOL -- Tolland, Connecticut
Map Unit:
Pit Location: plotID HARV_011 distance 11.8 M azimuth 38 reference point 40 X 40 SW measurement location pit center

Quad Name: Petersham, Massachusetts
Std Latitude: 42.4557500
Std Longitude: -72.2384444

Latitude: 42 degrees 27 minutes 20.70 seconds north
Longitude: 72 degrees 14 minutes 18.40 seconds west
Datum: WGS84
UTM Zone: 18
UTM Easting: 727074 meters
UTM Northing: 4704075 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: loamy melt-out till over sandy melt-out till
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments: 3.0 percent nonflat subrounded 250- to 600-millimeter Mixed rock fragments and 2.0 percent nonflat subrounded 600- to 1000-millimeter Mixed rock fragments

Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
76		strongly contrasting textural stratification	Noncemented

Cont. Site ID: S2017MA027011 **Pedon ID:** S2017MA027011

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
4.0	195.0	345						somewhat poorly		

Oa--0 to 5 centimeters (0.0 to 2.0 inches); black (10YR 2/1) highly decomposed plant material; many very fine roots throughout and many medium roots throughout and many fine roots throughout; abrupt wavy boundary. Lab sample # 17N04296

A--5 to 17 centimeters (2.0 to 6.7 inches); very dark brown (10YR 2/2) highly organic fine sandy loam; weak medium subangular blocky parts to moderate medium granular structure; very friable; many very fine roots throughout and many very coarse roots throughout and many medium roots throughout and many fine roots throughout and many coarse roots throughout; 2 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 2 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments and 10 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments; clear wavy boundary. Lab sample # 17N04297

Bw1--17 to 36 centimeters (6.7 to 14.2 inches); dark yellowish brown (10YR 4/4) stony fine sandy loam; weak medium subangular blocky structure; very friable; many very fine roots throughout and many very coarse roots throughout and many medium roots throughout and many fine roots throughout and many coarse roots throughout; 5 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 10 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments and 10 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments; gradual wavy boundary. Lab sample # 17N04298

Bw2--36 to 76 centimeters (14.2 to 29.9 inches); brown (10YR 4/3) gravelly fine sandy loam; weak coarse subangular blocky structure; friable; many very fine roots throughout and many medium roots throughout and many fine roots throughout and many coarse roots throughout; 2 percent fine distinct 10YR 5/2), moist, iron depletions and 5 percent fine prominent 7.5YR 3/4), moist, masses of reduced iron; 2 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 20 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments; clear wavy boundary. Lab sample # 17N04299

2Cg--76 to 105 centimeters (29.9 to 41.3 inches); dark grayish brown (2.5Y 4/2) gravelly loamy sand; massive; loose; few very fine roots throughout and few fine roots throughout; 20 percent very coarse prominent 5YR 3/4), moist, masses of oxidized iron; 5 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 10 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N04300

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018
Description Date: Aug 11 2017
Describer: Donald Parizek
NEON Plot ID: HARV_013

Site ID: S2017MA027013

Pedon ID: S2017MA027013

Site Note:

Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0876
Soil Name as Described/Sampled: Chatfield
Classification: Loamy-skeletal, mixed, superactive, mesic Typic Dystrudepts
Soil Name as Correlated:

Classification:
Pedon Type: undefined observation
Pedon Purpose: laboratory sampling site
Taxon Kind: taxadjunct
Associated Soils:
Physiographic Division: Appalachian Highlands
Physiographic Province: New England Province

Physiographic Section: New England upland section
State Physiographic Area:

Local Physiographic Area: Quabbin Reservoir Watershed
Geomorphic Setting: on shoulder of side slope of ridge on glaciated upland
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 29 to 97 cm.

Description origin: Pedon PC 6.3b
Diagnostic Features: cambic horizon 11 to 50 cm.
lithic contact 97 to cm.

Country: United States
State: Massachusetts
County: Worcester
MLRA: 144A -- New England and Eastern New York Upland, Southern Part
Soil Survey Area: MA614 -- Worcester County, Massachusetts, Northwestern Part
12-TOL -- Tolland, Connecticut
Map Unit: 926C -- Charlton-Chatfield association, 3 to 15 percent slopes, extremely stony
Pit Location: plotID HARV_013 distance 5.9 M azimuth 328 reference point 40 X 40 SE measurement location pit center
Quad Name:
Std Latitude: 42.3921111
Std Longitude: -72.2544722

Latitude: 42 degrees 23 minutes 31.60 seconds north
Longitude: 72 degrees 15 minutes 16.10 seconds west
Datum: WGS84
UTM Zone: 18
UTM Easting: 725985 meters
UTM Northing: 4696965 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: loamy melt-out till over sandy melt-out till
Bedrock Kind: Gneiss
Bedrock Depth: 97 centimeters
Bedrock Hardness: indurated
Bedrock Fracture Interval:
Surface Fragments: 1.0 percent subangular 600- to 1000-millimeter

Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
97	122	bedrock, lithic	Indurated

Cont. Site ID: S2017MA027013 **Pedon ID:** S2017MA027013

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	200.0	110						well		

Oe--0 to 4 centimeters (0.0 to 1.6 inches); dark reddish brown (5YR 2.5/2) moderately decomposed plant material; many very fine roots and many medium roots and many fine roots; extremely acid, pH 4.0, pH meter; abrupt wavy boundary. Lab sample # 17N04290

A--4 to 11 centimeters (1.6 to 4.3 inches); dark brown (10YR 3/3) very stony fine sandy loam; weak fine granular structure; very friable; many very fine roots and many very coarse roots and many medium roots and many fine roots and many coarse roots; 10 percent nonflat subangular 75 to 250-millimeter Mixed rock fragments and 10 percent nonflat subangular 2 to 75-millimeter Mixed rock fragments and 20 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments; extremely acid, pH 4.3, pH meter; clear wavy boundary. Lab sample # 17N04291

Bw1--11 to 27 centimeters (4.3 to 10.6 inches); dark yellowish brown (10YR 4/6) very stony fine sandy loam; moderate coarse subangular blocky structure; very friable; common very fine roots and common very coarse roots and common medium roots and common fine roots and common coarse roots; 10 percent nonflat subangular 75 to 250-millimeter Mixed rock fragments and 10 percent nonflat subangular 2 to 75-millimeter Mixed rock fragments and 20 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments; very strongly acid, pH 4.6, pH meter; clear wavy boundary. Lab sample # 17N04292

Bw2--27 to 50 centimeters (10.6 to 19.7 inches); dark yellowish brown (10YR 4/6) extremely stony fine sandy loam; weak medium subangular blocky structure; very friable; common very fine roots and common medium roots and common fine roots; 10 percent nonflat subangular 2 to 75-millimeter Mixed rock fragments and 20 percent nonflat subangular 75 to 250-millimeter Mixed rock fragments and 35 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments; very strongly acid, pH 4.6, pH meter; clear irregular boundary. Lab sample # 17N04293

BC--50 to 75 centimeters (19.7 to 29.5 inches); yellowish brown (10YR 5/6) extremely stony fine sandy loam; weak medium subangular blocky structure; friable; few very fine roots and few fine roots; 10 percent nonflat subangular 75 to 250-millimeter Mixed rock fragments and 30 percent nonflat subangular 2 to 75-millimeter Mixed rock fragments and 35 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments; very strongly acid, pH 4.8, pH meter; clear broken boundary. Lab sample # 17N04294

2C--75 to 97 centimeters (29.5 to 38.2 inches); gray (2.5Y 5/1) very stony loamy fine sand; massive; loose; few very fine roots and few fine roots; 10 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments and 10 percent nonflat subangular 75 to 250-millimeter Mixed rock fragments and 30 percent nonflat subangular 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 4.6, pH meter; clear irregular boundary. Lab sample # 17N04295

3R--97 to 122 centimeters (38.2 to 48.0 inches); indurated Gneiss bedrock; .

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018
Description Date: May 23 2017
Describer: Donald Parizek
NEON Plot ID: HARV_017

Site ID: S2017MA027017

Pedon ID: S2017MA027017

Site Note:

Pedon Note: diagnostic horizon: Oxyaquic at 55 cm; PSCS Depth range at 33-83 cm; additional staff assisting with description included Jacob Isleib, Milton Vega

Lab Source ID: KSSL
Lab Pedon #: 17N0670
Soil Name as Described/Sampled: Montauk
Classification: Coarse-loamy, mixed, active, mesic Oxyaquic Dystrudepts

Soil Name as Correlated:

Classification:
Pedon Type: correlates to named soil
Pedon Purpose: research site
Taxon Kind: series
Associated Soils:

Physiographic Division: Appalachian Highlands
Physiographic Province: New England Province

Physiographic Section: New England upland section
State Physiographic Area:

Local Physiographic Area: Quabbin Reservoir Watershed
Geomorphic Setting: on backslope of side slope of hill on upland
Upslope Shape: linear
Cross Slope Shape: convex
Particle Size Control Section: 33 to 83 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 15 cm.
cambic horizon 15 to 83 cm.
redox concentrations 55 to 132 cm.
densic contact 83 to 83 cm.

Country: United States
State: Massachusetts
County: Worcester
MLRA: 144A -- New England and Eastern New York Upland, Southern Part

Soil Survey Area: MA614 -- Worcester County, Massachusetts, Northwestern Part
12-TOL -- Tolland, Connecticut

Map Unit: 927C -- Montauk-Scituate-Canton association, 3 to 15 percent slopes, extremely stony

Pit Location: plotID HARV_017 distance 10.9 M azimuth 60 reference point 40 X 40 SW measurement location pit center

Quad Name: Quabbin Reservoir, Massachusetts

Std Latitude: 42.4816389
Std Longitude: -72.2673056

Latitude: 42 degrees 28 minutes 53.90 seconds north
Longitude: 72 degrees 16 minutes 2.30 seconds west
Datum: WGS84
UTM Zone: 18
UTM Easting: 724608 meters
UTM Northing: 4706873 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: loamy eolian deposits and/or loamy till over sandy lodgment till derived from gneiss and/or sandy lodgment till derived from granite and/or sandy lodgment till derived from schist

Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments: 1.0 percent nonflat subangular indurated 250- to 600-millimeter Mixed rock fragments

Description database: KSSL

Cont. Site ID: S2017MA027017 **Pedon ID:** S2017MA027017

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
83	132	densic material	Noncemented

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	220.0	291						well		

Oe--0 to 8 centimeters (0.0 to 3.1 inches); black (7.5YR 2.5/1) broken face moderately decomposed plant material; very friable; very fine roots throughout and fine roots throughout; very strongly acid, pH 4.8, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N03387

A--8 to 15 centimeters (3.1 to 5.9 inches); very dark grayish brown (10YR 3/2) broken face fine sandy loam; 4 percent clay; weak medium subangular blocky structure; friable; very fine roots throughout and coarse roots throughout; 2 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments and 2 percent nonflat subangular indurated 75 to 250-millimeter Mixed rock fragments and 2 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments; moderately acid, pH 5.6, pH indicator solutions; clear wavy boundary. Lab sample # 17N03388

Bw1--15 to 33 centimeters (5.9 to 13.0 inches); dark yellowish brown (10YR 4/4) broken face stony fine sandy loam; 4 percent clay; moderate coarse subangular blocky parts to moderate medium subangular blocky structure; friable; very fine roots throughout and very coarse roots throughout; 5 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments and 5 percent nonflat subangular indurated 75 to 250-millimeter Mixed rock fragments and 20 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments; strongly acid, pH 5.2, pH indicator solutions; gradual smooth boundary. Lab sample # 17N03389

Bw2--33 to 55 centimeters (13.0 to 21.7 inches); dark yellowish brown (10YR 4/4) broken face stony fine sandy loam; 4 percent clay; weak coarse subangular blocky structure; friable; very fine roots throughout and very coarse roots throughout; 5 percent nonflat subangular indurated 75 to 250-millimeter Mixed rock fragments and 5 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments and 10 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments; moderately acid, pH 5.6, pH indicator solutions; clear wavy boundary. Lab sample # 17N03390

2BC--55 to 83 centimeters (21.7 to 32.7 inches); light olive brown (2.5Y 5/3) broken face gravelly coarse sandy loam; 3 percent clay; weak coarse subangular blocky structure; friable; very fine roots between peds and fine roots between peds; 2 percent medium prominent irregular 7.5YR 4/4), moist, masses of oxidized iron with diffuse boundaries Throughout; 2 percent nonflat subangular indurated 75 to 250-millimeter Mixed rock fragments and 30 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments; strongly acid, pH 5.4, pH indicator solutions; gradual wavy boundary. Lab sample # 17N03391

2Cd--83 to 132 centimeters (32.7 to 52.0 inches); gray (2.5Y 5/1) broken face and gray (2.5Y 6/1) broken face gravelly loamy sand; 2 percent clay; structureless massive; firm; fine roots in cracks; 2 percent coarse prominent irregular 5YR 5/4), moist, masses of oxidized iron with diffuse boundaries Throughout; 5 percent nonflat subangular indurated 75 to 250-millimeter Mixed rock fragments and 20 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments; moderately acid, pH 5.6, pH indicator solutions. Lab sample # 17N03392

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018
Description Date: Aug 14 2017
Describer: Donald Parizek
NEON Plot ID: HARV_018
Site ID: S2017MA027018
Pedon ID: S2017MA027018
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0870
Soil Name as Described/Sampled: Scituate
Classification: Coarse-loamy, mixed, active, mesic Aquic Dystrudepts
Soil Name as Correlated:
Classification:
Pedon Type: undefined observation
Pedon Purpose: laboratory sampling site
Taxon Kind: taxadjunct
Associated Soils:
Physiographic Division: Appalachian Highlands
Physiographic Province: New England Province
Physiographic Section: New England upland section
State Physiographic Area:
Local Physiographic Area: Quabbin Reservoir Watershed
Geomorphic Setting: on backslope of side slope of hill on glaciated upland
Upslope Shape: linear
Cross Slope Shape: convex
Particle Size Control Section: 30 to 68 cm.
Description origin: Pedon PC 6.3b
Diagnostic Features: cambic horizon 14 to 47 cm.
densic contact 68 to cm.
densic materials 68 to 100 cm.

Country: United States
State: Massachusetts
County: Worcester
MLRA: 144A -- New England and Eastern New York Upland, Southern Part
Soil Survey Area: MA614 -- Worcester County, Massachusetts, Northwestern Part
12-TOL -- Tolland, Connecticut
Map Unit: 927C -- Montauk-Scituate-Canton association, 3 to 15 percent slopes, extremely stony
Pit Location: plotID HARV_018 distance 4.6 M azimuth 5 reference point 40 X 40 SW measurement location pit center
Quad Name:
Std Latitude: 42.4321111
Std Longitude: -72.2323056
Latitude: 42 degrees 25 minutes 55.60 seconds north
Longitude: 72 degrees 13 minutes 56.30 seconds west
Datum: WGS84
UTM Zone: 18
UTM Easting: 727665 meters
UTM Northing: 4701467 meters
Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation: American witchhazel, cinnamon fern, eastern white pine, lowbush blueberry, oak, sweet birch, winterberry
Parent Material: loamy eolian deposits and/or loamy flow till over sandy flow till
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments: 1.0 percent subrounded 250- to 600-millimeter Mixed rock fragments
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
68	100	densic material	Noncemented

Cont. Site ID: S2017MA027018 **Pedon ID:** S2017MA027018

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	227.0	123						moderately well		

Oe--0 to 5 centimeters (0.0 to 2.0 inches); dark reddish brown (2.5YR 2.5/3) moderately decomposed plant material; very friable, nonsticky, nonplastic; many very fine roots throughout and many fine roots throughout; very strongly acid, pH 4.8, pH indicator solutions; abrupt smooth boundary. Lab sample # 17N04253

Ap--5 to 14 centimeters (2.0 to 5.5 inches); dark olive brown (2.5Y 3/3) fine sandy loam; weak fine subangular blocky parts to moderate fine granular structure; very friable, nonsticky, nonplastic; many medium roots throughout and few coarse roots throughout and many coarse roots throughout; 2 percent nonflat subrounded 75 to 250-millimeter Mixed rock fragments and 2 percent nonflat subrounded 250 to 600-millimeter Mixed rock fragments and 5 percent nonflat subrounded 2 to 75-millimeter Mixed rock fragments; moderately acid, pH 5.6, pH indicator solutions; clear smooth boundary. Lab sample # 17N04254

Bw1--14 to 29 centimeters (5.5 to 11.4 inches); light olive brown (2.5Y 5/6) stony fine sandy loam; weak fine subangular blocky, and weak medium subangular blocky structure; friable, nonsticky, nonplastic; many medium roots throughout and many coarse roots throughout; 5 percent nonflat subrounded 75 to 250-millimeter Mixed rock fragments and 5 percent nonflat subrounded 250 to 600-millimeter Mixed rock fragments and 10 percent nonflat subrounded 2 to 75-millimeter Mixed rock fragments; strongly acid, pH 5.3, pH indicator solutions; gradual smooth boundary. Lab sample # 17N04255

Bw2--29 to 47 centimeters (11.4 to 18.5 inches); light olive brown (2.5Y 5/4) stony fine sandy loam; weak fine subangular blocky, and weak medium subangular blocky structure; friable, nonsticky, nonplastic; common medium roots throughout and common coarse roots throughout; 5 percent nonflat subrounded 75 to 250-millimeter Mixed rock fragments and 5 percent nonflat subrounded 250 to 600-millimeter Mixed rock fragments and 10 percent nonflat subrounded 2 to 75-millimeter Mixed rock fragments; strongly acid, pH 5.2, pH indicator solutions; clear wavy boundary. Lab sample # 17N04256

BC--47 to 68 centimeters (18.5 to 26.8 inches); grayish brown (2.5Y 5/2) fine sandy loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; few medium roots throughout; 2 percent fine faint 10YR 5/6), moist, masses of oxidized iron; 1 percent nonflat subrounded 75 to 250-millimeter Mixed rock fragments and 10 percent nonflat subrounded 2 to 75-millimeter Mixed rock fragments; clear smooth boundary. Lab sample # 17N04257

2Cd--68 to 100 centimeters (26.8 to 39.4 inches); gray (2.5Y 5/1) loamy fine sand; massive; firm, nonsticky, nonplastic; 5 percent medium distinct 10YR 3/3), moist, masses of oxidized iron and 5 percent medium distinct 5YR 4/6), moist, masses of oxidized iron and 5 percent coarse faint 2.5Y 5/1), moist, iron depletions and 10 percent coarse prominent 10YR 4/6), moist, masses of oxidized iron; 2 percent nonflat subrounded 75 to 250-millimeter Mixed rock fragments and 10 percent nonflat subrounded 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N04258

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018
Description Date: Aug 24 2017
Describer: Jacob Isleib
NEON Plot ID: HARV_021

Site ID: S2017MA027021

Pedon ID: S2017MA027021

Site Note:

Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0871
Soil Name as Described/Sampled: Sudbury
Classification: Sandy-skeletal, mixed, mesic Oxyaquic Udorthents

Soil Name as Correlated:

Classification:
Pedon Type: undefined observation
Pedon Purpose: laboratory sampling site
Taxon Kind: taxadjunct
Associated Soils:
Physiographic Division: Appalachian Highlands
Physiographic Province: New England Province

Physiographic Section: New England upland section
State Physiographic Area:

Local Physiographic Area: Quabbin Reservoir Watershed
Geomorphic Setting: on footslope of tread of swale on outwash terrace on glaciated upland
Upslope Shape: linear
Cross Slope Shape: concave
Particle Size Control Section: 31 to 106 cm.
Description origin: Pedon PC 6.3b
Diagnostic Features: aquic conditions 82 to 106 cm.

Country: United States
State: Massachusetts
County: Worcester
MLRA: 144A -- New England and Eastern New York Upland, Southern Part
Soil Survey Area: MA614 -- Worcester County, Massachusetts, Northwestern Part
12-TOL -- Tolland, Connecticut
Map Unit: 59A -- Bucksport and Wonsqueak mucks, 0 to 2 percent slopes
Pit Location: plotID HARV_021 distance 3.5 M azimuth 69 reference point 40 X 40 SW measurement location pit center
Quad Name: Petersham, Massachusetts
Std Latitude: 42.4522778
Std Longitude: -72.2507500

Latitude: 42 degrees 27 minutes 8.20 seconds north
Longitude: 72 degrees 15 minutes 2.70 seconds west
Datum: WGS84
UTM Zone: 18
UTM Easting: 726075 meters
UTM Northing: 4703657 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: loamy eolian deposits over sandy and gravelly glaciofluvial deposits
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
36		strongly contrasting textural stratification	Noncemented

Cont. Site ID: S2017MA027021 **Pedon ID:** S2017MA027021

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
1.0	176.0	115						moderately well		

Oe--0 to 6 centimeters (0.0 to 2.4 inches); reddish black (2.5YR 2.5/1) moderately decomposed plant material; nonsticky, nonplastic; many very fine roots throughout and many medium roots throughout and many fine roots throughout and many coarse roots throughout; extremely acid, pH 3.8, pH meter; abrupt smooth boundary. Lab sample # 17N04259

A--6 to 22 centimeters (2.4 to 8.7 inches); very dark brown (7.5YR 2.5/2) fine sandy loam; weak fine subangular blocky parts to weak fine granular structure; friable, nonsticky, nonplastic; common very fine roots throughout and many medium roots throughout and common fine roots throughout and many coarse roots throughout; 1 percent nonflat subrounded 75 to 250-millimeter Mixed rock fragments and 5 percent Charcoal fragments and 10 percent nonflat subrounded 2 to 75-millimeter Mixed rock fragments; extremely acid, pH 4.4, pH meter; abrupt irregular boundary. Lab sample # 17N04260

Bw--22 to 36 centimeters (8.7 to 14.2 inches); yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable, nonsticky, nonplastic; common medium roots throughout and common fine roots throughout and few coarse roots throughout; 2 percent nonflat subrounded 75 to 250-millimeter Mixed rock fragments and 10 percent nonflat subrounded 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 4.8, pH meter; clear wavy boundary. Lab sample # 17N04261

2BC--36 to 55 centimeters (14.2 to 21.7 inches); dark yellowish brown (10YR 4/4) very gravelly sand; weak medium subangular blocky parts to single grain; very friable, nonsticky, nonplastic; few medium roots throughout and few fine roots throughout and few coarse roots throughout; 10 percent nonflat subrounded 75 to 250-millimeter Mixed rock fragments and 40 percent nonflat subrounded 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 4.6, pH meter; clear smooth boundary. Lab sample # 17N04262

2C1--55 to 82 centimeters (21.7 to 32.3 inches); yellowish red (5YR 4/6) extremely gravelly coarse sand; single grain; loose, nonsticky, nonplastic; very few fine roots throughout; 20 percent nonflat subrounded 75 to 250-millimeter Mixed rock fragments and 50 percent nonflat subrounded 2 to 75-millimeter Mixed rock fragments; extremely acid, pH 4.4, pH meter; gradual wavy boundary. Lab sample # 17N04263

2C2--82 to 106 centimeters (32.3 to 41.7 inches); yellowish red (5YR 4/6) extremely gravelly coarse sand; single grain; loose, nonsticky, nonplastic; 25 percent nonflat subrounded 75 to 250-millimeter Mixed rock fragments and 60 percent nonflat subrounded 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 4.5, pH meter. Lab sample # 17N04264

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018

Description Date: May 9 2017

Describer: Donald Parizek

NEON Plot ID: HARV_022

Site ID: S2017MA027022

Pedon ID: S2017MA027022

Site Note:

Pedon Note: additional staff assisting with description included Jacob Isleib, Milton Vega

Lab Source ID: KSSL

Lab Pedon #: 17N0671

Soil Name as Described/Sampled: Windsor

Classification: Mixed, mesic Typic Udipsamments

Soil Name as Correlated:

Classification:

Pedon Type: correlates to named soil

Pedon Purpose: research site

Taxon Kind: series

Associated Soils:

Physiographic Division: Appalachian Highlands

Physiographic Province: New England Province

Physiographic Section: New England upland section

State Physiographic Area:

Local Physiographic Area: Quabbin Reservoir Watershed

Geomorphic Setting: on summit of tread of 1 kame terrace
on summit of tread of 2 valley

Upslope Shape: linear

Cross Slope Shape: linear

Particle Size Control Section: 29 to 107 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 29 cm.

Country: United States

State: Massachusetts

County: Worcester

MLRA: 144A -- New England and Eastern New York Upland, Southern Part

Soil Survey Area: MA614 -- Worcester County, Massachusetts, Northwestern Part
12-TOL -- Tolland, Connecticut

Map Unit: 253C -- Hinckley loamy sand, 8 to 15 percent slopes

Pit Location: plotID HARV_022 distance 8.2 M azimuth 60 reference point 40 X 40 SW measurement location pit center

Quad Name: Petersham, Massachusetts

Std Latitude: 42.4340556

Std Longitude: -72.1989444

Latitude: 42 degrees 26 minutes 2.60 seconds north

Longitude: 72 degrees 11 minutes 56.20 seconds west

Datum: WGS84

UTM Zone: 18

UTM Easting: 730402 meters

UTM Northing: 4701773 meters

Primary Earth Cover: Tree cover

Secondary Earth Cover: Conifers

Existing Vegetation:

Parent Material: sandy glaciofluvial deposits derived from gneiss and/or schist

Bedrock Kind:

Bedrock Depth:

Bedrock Hardness:

Bedrock Fracture Interval:

Surface Fragments: 0.0 percent

Description database: KSSL

Cont. Site ID: S2017MA027022 **Pedon ID:** S2017MA027022

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
1.0	195.0	90						excessively		

Oe--0 to 7 centimeters (0.0 to 2.8 inches); black (5YR 2.5/1) broken face moderately decomposed plant material; very friable; very fine roots throughout and fine roots throughout; extremely acid, pH 4.2, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N03393

Ap1--7 to 19 centimeters (2.8 to 7.5 inches); very dark brown (10YR 2/2) broken face sandy loam; weak medium subangular blocky parts to weak fine granular structure; very friable; medium roots and fine roots throughout and coarse roots throughout; 1 percent nonflat subrounded indurated 2 to 5-millimeter Mixed rock fragments; strongly acid, pH 5.2, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N03394. stripped sand grains

Ap2--19 to 29 centimeters (7.5 to 11.4 inches); very dark grayish brown (10YR 3/2) broken face sandy loam; weak coarse subangular blocky parts to weak fine granular structure; friable; medium roots throughout and fine roots throughout and coarse roots throughout; 1 percent nonflat subrounded indurated 2 to 5-millimeter Mixed rock fragments; strongly acid, pH 5.1, pH indicator solutions; clear wavy boundary. Lab sample # 17N03395. charcoal fragments at 20 cm. Approximately 2 cm in diameter.

Bw1--29 to 46 centimeters (11.4 to 18.1 inches); dark yellowish brown (10YR 4/4) broken face loamy sand; weak medium subangular blocky structure; friable; medium roots throughout and fine roots throughout and coarse roots throughout; 2 percent nonflat subrounded indurated 2 to 5-millimeter Mixed rock fragments; strongly acid, pH 5.4, pH indicator solutions; clear smooth boundary. Lab sample # 17N03396

Bw2--46 to 61 centimeters (18.1 to 24.0 inches); dark yellowish brown (10YR 4/4) broken face gravelly loamy sand; weak medium subangular blocky structure; friable; very fine roots throughout and medium roots throughout; 20 percent nonflat subrounded indurated 2 to 20-millimeter Mixed rock fragments; strongly acid, pH 5.4, pH indicator solutions; gradual smooth boundary. Lab sample # 17N03397

C1--61 to 90 centimeters (24.0 to 35.4 inches); light olive brown (2.5Y 5/3) broken face loamy sand; massive; friable; very fine roots throughout and fine roots throughout; strongly acid, pH 5.4, pH indicator solutions; clear wavy boundary. Lab sample # 17N03398

C2--90 to 99 centimeters (35.4 to 39.0 inches); light yellowish brown (2.5Y 6/4) broken face coarse sand; single grain; loose; 2 percent nonflat subrounded indurated 2 to 5-millimeter Mixed rock fragments; moderately acid, pH 5.6, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N03399

C3--99 to 155 centimeters (39.0 to 61.0 inches); light olive brown (2.5Y 5/4) broken face and grayish brown (2.5Y 5/2) broken face stratified gravelly sand to fine sand; single grain; loose; and 15 percent coarse 7.5YR 5/8) masses of reduced iron; fecal pellets; 20 percent nonflat subrounded indurated 2 to 20-millimeter Mixed rock fragments; slightly acid, pH 6.3, pH indicator solutions; abrupt smooth boundary. Lab sample # 17N03400. redox 2 chroma colors associated with parent materials ; Matrix color is stratified between gravelly sand and fine sand

C4--155 centimeters (61.0 inches); very gravelly coarse sand; single grain; loose; 40 percent nonflat subrounded indurated 2 to 20-millimeter Mixed rock fragments.

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018
Description Date: Aug 29 2017
Describer: DONALD PARIZEK
NEON Plot ID: HARV_024

Site ID: S2017MA027024
Pedon ID: S2017MA027024

Site Note:

Pedon Note: SATURATED TO SURFACE All pH reading were done with the CaCl2 method
Lab Source ID: KSSL
Lab Pedon #: 17N0872
Soil Name as Described/Sampled: Freetown
Classification: Dysic, mesic Typic Haplosaprists

Soil Name as Correlated:

Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils:
Physiographic Division: Appalachian Highlands
Physiographic Province: New England Province
Physiographic Section: New England upland section
State Physiographic Area:
Local Physiographic Area: QUABBIN RESERVOIR
Geomorphic Setting: on toeslope of tread of -- error in exists on --
Upslope Shape: concave
Cross Slope Shape: concave
Particle Size Control Section: 0 to 104 cm.
Description origin: NASIS
Diagnostic Features: hemic soil materials 0 to 9 cm.
sapric soil materials 9 to 104 cm.
hemic soil materials 104 to 140 cm.
lithologic discontinuity 140 to cm.

Country: United States
State: Massachusetts
County: Worcester
MLRA: 144A -- New England and Eastern New York Upland, Southern Part
Soil Survey Area: 12-TOL -- Tolland, Connecticut
Map Unit: 927C -- Montauk-Scituate-Canton association, 3 to 15 percent slopes, extremely stony
Pit Location: plotID HARV_024 distance 3.2 M azimuth 200 reference point 20 X 20 SW measurement location pit center
Quad Name: Quabbin Reservoir, Massachusetts
Std Latitude: 42.4598111
Std Longitude: -72.2511389

Latitude: 42 degrees 27 minutes 35.32 seconds north
Longitude: 72 degrees 15 minutes 4.10 seconds west
Datum: WGS84
UTM Zone: 18
UTM Easting: 726016 meters
UTM Northing: 4704498 meters

Primary Earth Cover: Shrub cover
Secondary Earth Cover: Other shrub cover
Existing Vegetation:
Parent Material: woody organic material
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2017MA027024 **Pedon ID:** S2017MA027024

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
0.0	178.0	0						very poorly		

Oe--0 to 9 centimeters (0.0 to 3.5 inches); yellowish brown (10YR 5/4) broken face and very dark grayish brown (10YR 3/2) rubbed mucky peat; 60 percent unrubbed fiber, 25 percent rubbed; massive; very friable; very fine roots throughout and very coarse roots throughout and medium roots throughout and fine roots throughout; 1 percent noncemented Wood fragments; abrupt boundary. Lab sample # 17N04265. 0% estimated mineral content

Oa1--9 to 18 centimeters (3.5 to 7.1 inches); black (5YR 2.5/1) broken face and reddish black (2.5YR 2.5/1) rubbed muck; 20 percent unrubbed fiber, 5 percent rubbed; massive; very friable; very fine roots throughout and very coarse roots throughout and fine roots throughout; 1 percent noncemented Wood fragments; 0% estimated mineral content; clear boundary. Lab sample # 17N04266

Oa2--18 to 37 centimeters (7.1 to 14.6 inches); black (7.5YR 2.5/1) broken face and black (7.5YR 2.5/1) rubbed woody muck; 15 percent unrubbed fiber, 5 percent rubbed; massive; very friable; very fine roots throughout and very coarse roots throughout and fine roots throughout; 20 percent noncemented Wood fragments; clear boundary. Lab sample # 17N04267. 0% estimated mineral content; Wood fragments appear to be hemlock (color: 5YR 5/8)

Oa3--37 to 71 centimeters (14.6 to 28.0 inches); black (10YR 2/1) rubbed muck; 5 percent unrubbed fiber, 2 percent rubbed; massive; very friable; very fine roots throughout and very coarse roots throughout; 10 percent noncemented Wood fragments; clear boundary. Lab sample # 17N04268. 0% estimated mineral content, trace charcoal fragments present

Oa4--71 to 104 centimeters (28.0 to 40.9 inches); dark reddish brown (5YR 2.5/2) broken face and black (5YR 2.5/1) rubbed woody muck; 15 percent unrubbed fiber, 5 percent rubbed; massive; very friable; fine roots top of horizon; 1 percent noncemented 2 to 20-millimeter Charcoal fragments and 20 percent noncemented Wood fragments; gradual boundary. Lab sample # 17N04269. 0% estimated mineral content

O'e--104 to 140 centimeters (40.9 to 55.1 inches); dark reddish brown (2.5YR 2.5/3) broken face and very dusky red (2.5YR 2.5/2) rubbed mucky peat; 60 percent unrubbed fiber, 20 percent rubbed; massive; very friable; 5 percent noncemented Wood fragments; gradual boundary. 0% estimated mineral content, irridescent green beetle shell in sample

2C--140 to 150 centimeters (55.1 to 59.1 inches); very dark grayish brown (2.5Y 3/2) broken face mucky silt loam; 5 percent unrubbed fiber, 0 percent rubbed; massive; very friable; .

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018
Description Date: Aug 25 2017
Describer: Donald Parizek
NEON Plot ID: HARV_027

Site ID: S2017MA027027
Pedon ID: S2017MA027027

Site Note:

Pedon Note: H2O seeping in at 36 cm; Jacob Isleib and Milton Vega assisted with the pedon description and sampling
Lab Source ID: KSSL
Lab Pedon #: 17N0873
Soil Name as Described/Sampled: Leicester
Classification: Loamy-skeletal, mixed, superactive, nonacid, mesic Typic Humaquepts
Soil Name as Correlated:

Classification:
Pedon Type: undefined observation
Pedon Purpose: laboratory sampling site
Taxon Kind: taxadjunct
Associated Soils:
Physiographic Division: Appalachian Highlands
Physiographic Province: New England Province

Physiographic Section: New England upland section
State Physiographic Area:
Local Physiographic Area: Petersham, MA
Geomorphic Setting: on footslope of base slope of hill on upland
Upslope Shape: convex
Cross Slope Shape: concave
Particle Size Control Section: 26 to 101 cm.

Description origin: NASIS

Diagnostic Features: umbric epipedon 0 to 52 cm.
cambic horizon 52 to 80 cm.

Country: United States
State: Massachusetts
County: Worcester
MLRA: 144A -- New England and Eastern New York Upland, Southern Part
Soil Survey Area: 12-TOL -- Tolland, Connecticut
Map Unit: 927C -- Montauk-Scituate-Canton association, 3 to 15 percent slopes, extremely stony
Pit Location: plotID HARV_027 distance 8.4 M azimuth 62 reference point 40 X 40 SW measurement location pit center

Quad Name: Quabbin Reservoir, Massachusetts
Std Latitude: 42.4302000
Std Longitude: -72.2534167

Latitude: 42 degrees 25 minutes 48.72 seconds north
Longitude: 72 degrees 15 minutes 12.30 seconds west
Datum: WGS84
UTM Zone: 18
UTM Easting: 725935 meters
UTM Northing: 4701203 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: loamy melt-out till
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments: 5.0 percent nonflat subrounded 76- to 250-millimeter Mixed rock fragments and 5.0 percent nonflat subangular 250- to 600-millimeter Mixed rock fragments

Description database: KSSL

Cont. Site ID: S2017MA027027 **Pedon ID:** S2017MA027027

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
6.0	182.0	348						poorly		

Oi--0 to 1 centimeters (0.0 to 0.4 inches); slightly decomposed plant material; very fine roots throughout and very coarse roots throughout and medium roots throughout and fine roots throughout and coarse roots throughout; abrupt broken boundary. Horizon not sampled

A1--1 to 16 centimeters (0.4 to 6.3 inches); black (10YR 2/1) broken face very stony mucky fine sandy loam; strong coarse granular structure; friable; very fine roots throughout and very coarse roots throughout and medium roots throughout and fine roots throughout and coarse roots throughout; 5 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments and 10 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments and 20 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments; strongly acid, pH 5.2, pH meter; gradual wavy boundary. Lab sample # 17N04273

A2--16 to 36 centimeters (6.3 to 14.2 inches); black (10YR 2/1) broken face very stony mucky fine sandy loam; strong coarse granular structure; friable; very fine roots throughout and very coarse roots throughout and medium roots throughout and fine roots throughout and coarse roots throughout; 5 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments and 10 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments and 20 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments; strongly acid, pH 5.4, pH meter; clear wavy boundary. Lab sample # 17N04274

A3--36 to 52 centimeters (14.2 to 20.5 inches); black (10YR 2/1) broken face very stony fine sandy loam; moderate coarse granular structure; friable; very fine roots throughout and medium roots throughout and fine roots throughout; 5 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments and 10 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments and 20 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments; strongly acid, pH 5.4, pH meter; clear wavy boundary. Lab sample # 17N04275

Bg--52 to 80 centimeters (20.5 to 31.5 inches); dark grayish brown (10YR 4/2) broken face very stony fine sandy loam; weak coarse subangular blocky structure; friable; 10 percent 10YR 4/4), moist, masses of oxidized iron Throughout; 5 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments and 10 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments and 20 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments; 5 percent krotovinas (volume percent); moderately acid, pH 5.6, pH meter; gradual boundary. Lab sample # 17N04276. some firm pockets

Cg--80 to 100 centimeters (31.5 to 39.4 inches); dark gray (2.5Y 4/1) broken face very stony sandy loam; massive; friable; 5 percent medium prominent 10YR 5/6), moist, masses of oxidized iron Throughout and 20 percent coarse prominent 10YR 3/6), moist, masses of oxidized iron Throughout; 10 percent nonflat subangular 2 to 78-millimeter Mixed rock fragments and 10 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments and 20 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments; moderately acid, pH 5.6, pH meter. Lab sample # 17N04277

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018
Description Date: Aug 22 2017
Describer: Donald Parizek
NEON Plot ID: HARV_029
Site ID: S2017MA027029
Pedon ID: S2017MA027029
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0874
Soil Name as Described/Sampled: Canton
Classification: Sandy-skeletal, mixed, mesic Typic Dystrudepts
Soil Name as Correlated:
Classification:
Pedon Type: undefined observation
Pedon Purpose: laboratory sampling site
Taxon Kind: taxadjunct
Associated Soils:
Physiographic Division: Appalachian Highlands
Physiographic Province: New England Province
Physiographic Section: New England upland section
State Physiographic Area:
Local Physiographic Area: Quabbin Reservoir Watershed
Geomorphic Setting: on backslope of side slope of hill on glaciated upland
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 31 to 106 cm.
Description origin: Pedon PC 6.3b
Diagnostic Features: cambic horizon 18 to 51 cm.
lithologic discontinuity 51 to cm.

Country: United States
State: Massachusetts
County: Worcester
MLRA: 144A -- New England and Eastern New York Upland, Southern Part
Soil Survey Area: MA614 -- Worcester County, Massachusetts, Northwestern Part
12-TOL -- Tolland, Connecticut
Map Unit: 927C -- Montauk-Scituate-Canton association, 3 to 15 percent slopes, extremely stony
Pit Location: plotID HARV_029 distance 21.4 M azimuth 289 reference point 40 X 40 SE measurement location pit center
Quad Name: Petersham, Massachusetts
Std Latitude: 42.4661407
Std Longitude: -72.2377332
Latitude: 42 degrees 27 minutes 58.11 seconds north
Longitude: 72 degrees 14 minutes 15.84 seconds west
Datum: WGS84
UTM Zone: 18
UTM Easting: 727095 meters
UTM Northing: 4705231 meters
Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: loamy eolian deposits and/or melt-out till over sandy melt-out till
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments: 1.0 percent nonflat subrounded indurated 250- to 600-millimeter Gneiss fragments
Description database: KSSL

Cont. Site ID: S2017MA027029 **Pedon ID:** S2017MA027029

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
11.0	211.0	355						well		

Oe--0 to 6 centimeters (0.0 to 2.4 inches); black (7.5YR 2.5/1) moderately decomposed plant material; many very fine roots throughout and many medium roots throughout and many fine roots throughout; extremely acid, pH 3.5, pH meter; clear wavy boundary. Lab sample # 17N04278

A--6 to 18 centimeters (2.4 to 7.1 inches); brown (10YR 4/3) stony sandy loam; weak medium granular structure; very friable, nonsticky, nonplastic; many very fine roots throughout and many very coarse roots throughout and many medium roots throughout and many fine roots throughout and many coarse roots throughout; 5 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments and 5 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 5 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments; very strongly acid, pH 4.7, pH meter; gradual wavy boundary. Lab sample # 17N04279

Bw1--18 to 38 centimeters (7.1 to 15.0 inches); dark yellowish brown (10YR 4/4) stony sandy loam; weak medium subangular blocky structure; very friable, nonsticky, nonplastic; many very fine roots throughout and many medium roots throughout and many fine roots throughout and few coarse roots throughout; 5 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 10 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments and 10 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 4.7, pH meter; clear wavy boundary. Lab sample # 17N04280

Bw2--38 to 51 centimeters (15.0 to 20.1 inches); yellowish brown (10YR 5/4) stony sandy loam; weak medium subangular blocky, and weak coarse subangular blocky structure; very friable, nonsticky, nonplastic; common very fine roots throughout and common medium roots throughout and common fine roots throughout; 5 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 10 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments and 10 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 4.6, pH meter; clear wavy boundary. Lab sample # 17N04281

2CB--51 to 68 centimeters (20.1 to 26.8 inches); light olive brown (2.5Y 5/3) extremely gravelly coarse sand; single grain; loose, nonsticky, nonplastic; common very fine roots throughout and common medium roots throughout and common fine roots throughout; 2 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 60 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 4.6, pH meter; clear irregular boundary. Lab sample # 17N04282

2C--68 to 106 centimeters (26.8 to 41.7 inches); 80 percent grayish brown (2.5Y 5/2) and 20 percent brown (10YR 4/3) extremely gravelly coarse sand; single grain; loose, nonsticky, nonplastic; few very fine roots throughout and few fine roots throughout; 2 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 70 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 4.7, pH meter. Lab sample # 17N04283

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018

Description Date: May 16 2017

Describer: Donald Parizek

NEON Plot ID: HARV_030

Site ID: S2017MA027030

Pedon ID: S2017MA027030

Site Note:

Pedon Note: coarse fragment kind is a mix of gneiss, schist, and granitic rock; full sampling staff included Donald Parizek, Jacob Isleib, Milton Vega, and Paul and Janet Bryant

Lab Source ID: KSSL

Lab Pedon #: 17N0672

Soil Name as Described/Sampled: Hinckley

Classification: Sandy-skeletal, mixed, mesic Typic Udorthents

Soil Name as Correlated: Hinckley

Classification: Sandy-skeletal, mixed, mesic Typic Udorthents

Pedon Type: correlates to named soil

Pedon Purpose: laboratory sampling site

Taxon Kind: series

Associated Soils:

Physiographic Division: Appalachian Highlands

Physiographic Province: New England Province

Physiographic Section: New England upland section

State Physiographic Area:

Local Physiographic Area: Quabbin Reservoir Watershed

Geomorphic Setting: on backslope of riser of kame terrace on glaciated upland

Upslope Shape: convex

Cross Slope Shape: convex

Particle Size Control Section: 30 to 105 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 5 to 10 cm.

Country: United States

State: Massachusetts

County: Worcester

MLRA: 144A -- New England and Eastern New York Upland, Southern Part

Soil Survey Area: MA614 -- Worcester County, Massachusetts, Northwestern Part
12-TOL -- Tolland, Connecticut

Map Unit: 253E -- Hinckley loamy sand, 25 to 35 percent slopes

Pit Location: plotID HARV_030 distance 7.6 M azimuth 242 reference point 20 X 20 SE measurement location pit center

Quad Name:

Std Latitude: 42.4229444

Std Longitude: -72.2188889

Latitude: 42 degrees 25 minutes 22.60 seconds north

Longitude: 72 degrees 13 minutes 8.00 seconds west

Datum: WGS84

UTM Zone: 18

UTM Easting: 728802 meters

UTM Northing: 4700485 meters

Primary Earth Cover: Tree cover

Secondary Earth Cover: Conifers

Existing Vegetation:

Parent Material: sandy and gravelly glaciofluvial deposits derived from schist and/or gneiss and/or granite

Bedrock Kind:

Bedrock Depth:

Bedrock Hardness:

Bedrock Fracture Interval:

Surface Fragments: 1.0 percent nonflat subrounded indurated 75- to 250-millimeter Mixed rock fragments

Description database: KSSL

Cont. Site ID: S2017MA027030 **Pedon ID:** S2017MA027030

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
32.0	166.0	140						excessively		

Oe--0 to 5 centimeters (0.0 to 2.0 inches); dark reddish brown (5YR 2.5/2) moderately decomposed plant material; very friable; many very fine roots and many medium roots and many fine roots; 5 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 5 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments; strongly acid, pH 5.2, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N03402. Thin 2cm Oi at surface (slightly decomposed plant material, mostly pine needles)

A1--5 to 12 centimeters (2.0 to 4.7 inches); black (7.5YR 2.5/1) highly organic gravelly sandy loam; 10 percent clay; weak medium subangular blocky parts to weak fine granular structure; very friable; many very fine roots and many medium roots and many fine roots and many coarse roots; 5 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments and 5 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 20 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; strongly acid, pH 5.1, pH indicator solutions; clear wavy boundary. Lab sample # 17N03403

A2--12 to 20 centimeters (4.7 to 7.9 inches); very dark brown (7.5YR 2.5/2) very gravelly sandy loam; 10 percent clay; moderate medium subangular blocky parts to weak fine granular structure; very friable; many very fine roots and many very coarse roots and many medium roots and many fine roots and many coarse roots; 5 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 10 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments and 30 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 5.0, pH indicator solutions; clear wavy boundary. Lab sample # 17N03404

Bw1--20 to 31 centimeters (7.9 to 12.2 inches); dark brown (7.5YR 3/4) stony coarse sandy loam; 8 percent clay; weak medium subangular blocky structure; friable; common very fine roots and common medium roots and common fine roots and common coarse roots; 5 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 10 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments and 15 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; strongly acid, pH 5.3, pH indicator solutions; clear wavy boundary. Lab sample # 17N03405

Bw2--31 to 48 centimeters (12.2 to 18.9 inches); brown (7.5YR 4/4) very gravelly loamy coarse sand; 5 percent clay; weak medium subangular blocky structure; friable; common very fine roots and common medium roots and common fine roots and common coarse roots; 5 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 35 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; strongly acid, pH 5.3, pH indicator solutions; gradual wavy boundary. Lab sample # 17N03406

BC1--48 to 90 centimeters (18.9 to 35.4 inches); dark yellowish brown (10YR 4/4) very gravelly loamy coarse sand; 5 percent clay; structureless single grain; loose; common very fine roots and common medium roots and common fine roots; 5 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 40 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; strongly acid, pH 5.2, pH indicator solutions; gradual wavy boundary. Lab sample # 17N03407

BC2--90 to 100 centimeters (35.4 to 39.4 inches); olive brown (2.5Y 4/4) very gravelly coarse sand; structureless single grain; loose; common very fine roots and common medium roots and common fine roots; 5 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 40 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; strongly acid, pH 5.3, pH indicator solutions; abrupt irregular boundary. Lab sample # 17N03408

C--100 to 112 centimeters (39.4 to 44.1 inches); olive brown (2.5Y 4/3) very gravelly coarse sand; structureless single grain; loose; few very fine roots and few medium roots and few fine roots; 10 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 40 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; strongly acid, pH 5.3, pH indicator solutions. Lab sample # 17N03409

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018
Description Date: Jun 14 2017
Describer: Jacob Isleib
NEON Plot ID: HARV_031
Site ID: S2017MA027031
Pedon ID: S2017MA027031
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0673
Soil Name as Described/Sampled: Agawam
Classification: Coarse-loamy over sandy or sandy-skeletal, mixed, active, mesic Typic Dystrudepts
Soil Name as Correlated:
Classification:
Pedon Type: taxadjunct to the series
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils:
Physiographic Division: Appalachian Highlands
Physiographic Province: New England Province
Physiographic Section: New England upland section
State Physiographic Area:
Local Physiographic Area: Quabbin Reservoir Watershed
Geomorphic Setting: on shoulder of tread of outwash terrace on glaciated upland
Upslope Shape: convex
Cross Slope Shape: linear
Particle Size Control Section: 29 to 104 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon 0 to 24 cm.
cambic horizon 24 to 54 cm.

Country: United States
State: Massachusetts
County: Worcester
MLRA: 144A -- New England and Eastern New York Upland, Southern Part
Soil Survey Area: MA614 -- Worcester County, Massachusetts, Northwestern Part
12-TOL -- Tolland, Connecticut
Map Unit: 253B -- Hinckley loamy sand, 3 to 8 percent slopes
Pit Location: plotID HARV_031 distance 19.8 M azimuth 26 reference point 40 X 40 SW measurement location pit center
Quad Name:
Std Latitude: 42.4673611
Std Longitude: -72.2603056
Latitude: 42 degrees 28 minutes 2.50 seconds north
Longitude: 72 degrees 15 minutes 37.10 seconds west
Datum: WGS84
UTM Zone: 18
UTM Easting: 725235 meters
UTM Northing: 4705306 meters
Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: loamy eolian deposits over sandy and gravelly glaciofluvial deposits derived from gneiss, granite, and/or schist
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2017MA027031 **Pedon ID:** S2017MA027031

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
2.0	160.0	120						well		

Oe--0 to 4 centimeters (0.0 to 1.6 inches); very dark brown (10YR 2/2) moderately decomposed plant material; very friable, nonsticky, nonplastic; many very fine roots throughout and many fine roots throughout; strongly acid, pH 5.2, pH indicator solutions; abrupt smooth boundary. Lab sample # 17N03410

A--4 to 11 centimeters (1.6 to 4.3 inches); very dark brown (7.5YR 2.5/2) highly organic sandy loam; weak fine granular, and weak medium granular structure; very friable, nonsticky, nonplastic; common very fine roots throughout and common medium roots throughout and common fine roots throughout and common coarse roots throughout; 2 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; strongly acid, pH 5.2, pH indicator solutions; clear smooth boundary. Lab sample # 17N03411

Ap--11 to 24 centimeters (4.3 to 9.4 inches); very dark brown (7.5YR 2.5/2) sandy loam; weak medium subangular blocky parts to weak medium granular structure; friable, nonsticky, nonplastic; few very fine roots throughout and common medium roots throughout and few fine roots throughout and common coarse roots throughout; 7 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; strongly acid, pH 5.4, pH indicator solutions; clear smooth boundary. Lab sample # 17N03412

Bw--24 to 54 centimeters (9.4 to 21.3 inches); dark brown (7.5YR 3/4) sandy loam; weak medium subangular blocky, and weak coarse subangular blocky structure; friable, nonsticky, nonplastic; very few very fine roots throughout and common medium roots throughout and very few fine roots throughout; 1 percent nonflat subangular moderately cemented 2 to 20-millimeter Charcoal fragments and 2 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 10 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; strongly acid, pH 5.4, pH indicator solutions; clear wavy boundary. Lab sample # 17N03413

2CB--54 to 77 centimeters (21.3 to 30.3 inches); dark yellowish brown (10YR 3/4) extremely gravelly coarse sand; structureless single grain; loose, nonsticky, nonplastic; very few very fine roots throughout and few medium roots throughout and very few fine roots throughout; 5 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 60 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; moderately acid, pH 5.8, pH indicator solutions; gradual wavy boundary. Lab sample # 17N03414

2C--77 to 104 centimeters (30.3 to 40.9 inches); grayish brown (10YR 5/2) extremely gravelly coarse sand; structureless single grain; loose, nonsticky, nonplastic; very few very fine roots throughout and very few fine roots throughout; 5 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 70 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; moderately acid, pH 5.8, pH indicator solutions. Lab sample # 17N03415

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018
Description Date: Jun 21 2017
Describer: Donald Parizek
NEON Plot ID: HARV_058

Site ID: S2017MA027058

Pedon ID: S2017MA027058

Site Note:

Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 17N0674
Soil Name as Described/Sampled: Montauk
Classification: Coarse-loamy, mixed, active, mesic Oxyaquic Dystrudepts

Soil Name as Correlated:

Classification:
Pedon Type: taxadjunct to the series
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils:
Physiographic Division: Appalachian Highlands
Physiographic Province: New England Province

Physiographic Section: New England upland section
State Physiographic Area:

Local Physiographic Area: Petersham, MA
Geomorphic Setting: on backslope of head slope of hill on upland
Upslope Shape: linear
Cross Slope Shape: convex
Particle Size Control Section: 30 to 105 cm.

Description origin: NASIS
Diagnostic Features: ochric epipedon 5 to 12 cm.
cambic horizon 12 to 66 cm.
densic contact 89 to cm.

Country: United States
State: Massachusetts
County: Worcester
MLRA: 144A -- New England and Eastern New York Upland, Southern Part
Soil Survey Area: MA614 -- Worcester County, Massachusetts, Northwestern Part
12-TOL -- Tolland, Connecticut
Map Unit: 915E -- Montauk-Canton association, 15 to 35 percent slopes, extremely stony
Pit Location: plotID HARV_058 distance 14.6 M azimuth 134 reference point 40 X 40 NW measurement location pit center
Quad Name: Quabbin Reservoir, Massachusetts
Std Latitude: 42.4698333
Std Longitude: -72.2523611

Latitude: 42 degrees 28 minutes 11.40 seconds north
Longitude: 72 degrees 15 minutes 8.50 seconds west
Datum: WGS84
UTM Zone: 18
UTM Easting: 725879 meters
UTM Northing: 4705602 meters

Primary Earth Cover: Tree cover
Secondary Earth Cover: Intermixed conifers and hardwoods
Existing Vegetation:
Parent Material: coarse-loamy till over sandy flow till
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments: nonflat subrounded 250- to 600-millimeter Mixed rock fragments and nonflat subangular 250- to 600-millimeter Mixed rock fragments

Description database: KSSL

Top Depth (cm)	Bottom Depth (cm)	Restriction Kind	Restriction Hardness
89	120	densic material	Noncemented

Cont. Site ID: S2017MA027058 **Pedon ID:** S2017MA027058

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
7.0	650.0	270						well		

Oe--0 to 5 centimeters (0.0 to 2.0 inches); black (10YR 2/1) broken face moderately decomposed plant material; very friable; very fine roots throughout and fine roots throughout; very strongly acid, pH 4.8, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N03416

A--5 to 12 centimeters (2.0 to 4.7 inches); very dark brown (7.5YR 2.5/3) broken face highly organic cobbly fine sandy loam; weak medium subangular blocky structure; friable; very fine roots throughout and coarse roots throughout; 10 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments and 10 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments; very strongly acid, pH 4.8, pH indicator solutions; clear broken boundary. Lab sample # 17N03417

Bw1--12 to 43 centimeters (4.7 to 16.9 inches); dark yellowish brown (10YR 4/4) broken face stony fine sandy loam; weak medium subangular blocky structure; friable; very fine roots throughout and very coarse roots throughout and medium roots throughout and coarse roots throughout; 5 percent nonflat subangular 250 to 600-millimeter Mixed rock fragments and 10 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments and 10 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments; strongly acid, pH 5.2, pH indicator solutions; clear wavy boundary. Lab sample # 17N03418

Bw2--43 to 66 centimeters (16.9 to 26.0 inches); dark yellowish brown (10YR 4/4) broken face cobbly sandy loam; friable; very fine roots throughout and medium roots throughout; 10 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments and 20 percent nonflat subrounded 2 to 76-millimeter Mixed rock fragments; strongly acid, pH 5.2, pH indicator solutions; clear wavy boundary. Lab sample # 17N03419

2BC--66 to 89 centimeters (26.0 to 35.0 inches); dark yellowish brown (10YR 4/4) broken face and dark grayish brown (2.5Y 4/2) broken face gravelly loamy sand; weak coarse subangular blocky structure; friable; very fine roots throughout and fine roots throughout; 2 percent fine distinct 7.5YR 4/4), moist, iron-manganese masses; 5 percent nonflat subangular 76 to 250-millimeter Mixed rock fragments and 20 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments; strongly acid, pH 5.4, pH indicator solutions; gradual wavy boundary. Lab sample # 17N03420

2Cd--89 to 120 centimeters (35.0 to 47.2 inches); gray (2.5Y 5/1) broken face loamy sand; structureless massive; firm; very fine roots in cracks and fine roots in cracks; silt coats; 10 percent nonflat subangular 2 to 76-millimeter Mixed rock fragments; strongly acid, pH 5.4, pH indicator solutions. Lab sample # 17N03421

PEDON DESCRIPTION -- NEON Site HARV

Print Date: Apr 4 2018

Description Date: Aug 28 2017

Describer: Donald Parizek, Jacob Isleib, Milton Vega

NEON Plot ID: HARV_059

Site ID: S2017MA027059

Pedon ID: S2017MA027059

Site Note: Watertable observed @95cm.

Pedon Note:

Lab Source ID: KSSL

Lab Pedon #: 17N0875

Soil Name as Described/Sampled: Newfields

Classification: Coarse-loamy over sandy or sandy-skeletal, mixed, active, mesic Oxyaquic Dystrudepts

Soil Name as Correlated:

Classification:

Pedon Type: representative pedon for component

Pedon Purpose: laboratory sampling site

Taxon Kind: series

Associated Soils:

Physiographic Division: Appalachian Highlands

Physiographic Province: New England Province

Physiographic Section: New England upland section

State Physiographic Area:

Local Physiographic Area: Quabbin Reservoir Watershed

Geomorphic Setting: on backslope of base slope of hill on upland

Upslope Shape: linear

Cross Slope Shape: linear

Particle Size Control Section: 30 to 105 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 5 to 25 cm.
cambic horizon 25 to 58 cm.
redox concentrations 80 to 105 cm.
aquic conditions 80 to 105 cm.

Country: United States

State: Massachusetts

County: Worcester

MLRA: 144A -- New England and Eastern New York Upland, Southern Part

Soil Survey Area: MA614 -- Worcester County, Massachusetts, Northwestern Part
12-TOL -- Tolland, Connecticut

Map Unit: 918B -- Ridgebury-Whitman association, 0 to 8 percent slopes, extremely stony

Pit Location: plotID HARV_059 distance 15.0 M azimuth 32 reference point 40 X 40 SW measurement location pit center

Quad Name: Quabbin Reservoir, Massachusetts

Std Latitude: 42.4807500

Std Longitude: -72.2756111

Latitude: 42 degrees 28 minutes 50.70 seconds north

Longitude: 72 degrees 16 minutes 32.20 seconds west

Datum: WGS84

UTM Zone: 18

UTM Easting: 723929 meters

UTM Northing: 4706753 meters

Primary Earth Cover: Tree cover

Secondary Earth Cover: Intermixed conifers and hardwoods

Existing Vegetation:

Parent Material: loamy eolian deposits over sandy and gravelly melt-out till derived from gneiss and/or granite and/or schist

Bedrock Kind:

Bedrock Depth:

Bedrock Hardness:

Bedrock Fracture Interval:

Surface Fragments:

Description database: KSSL

Cont. Site ID: S2017MA027059 **Pedon ID:** S2017MA027059

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
1.0	220.0	220						moderately well		

Oe--0 to 5 centimeters (0.0 to 2.0 inches); black (5YR 2.5/1) moderately decomposed plant material; very fine roots throughout and medium roots throughout and fine roots throughout and coarse roots throughout; extremely acid, pH 3.9, pH meter; abrupt smooth boundary. Lab sample # 17N04284

Ap--5 to 25 centimeters (2.0 to 9.8 inches); very dark grayish brown (10YR 3/2) fine sandy loam, pale brown (10YR 6/3), dry; weak fine subangular blocky parts to weak medium granular structure; friable, nonsticky, nonplastic; very fine roots throughout and very coarse roots throughout and medium roots throughout and fine roots throughout and coarse roots throughout; 2 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments and 2 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 2 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments; very strongly acid, pH 4.7, pH meter; abrupt smooth boundary. Lab sample # 17N04285

Bw--25 to 42 centimeters (9.8 to 16.5 inches); dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky, and weak coarse subangular blocky structure; friable, nonsticky, nonplastic; very fine roots throughout and medium roots throughout and fine roots throughout and coarse roots throughout; 2 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments and 5 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 5 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 4.9, pH meter; gradual smooth boundary. Lab sample # 17N04286

BC--42 to 58 centimeters (16.5 to 22.8 inches); brown (10YR 4/3) stony fine sandy loam; weak coarse subangular blocky structure; friable, nonsticky, nonplastic; very fine roots throughout and medium roots throughout and fine roots throughout; 5 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments and 7 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 10 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; very strongly acid, pH 4.7, pH meter; clear wavy boundary. Lab sample # 17N04287

2C--58 to 80 centimeters (22.8 to 31.5 inches); brown (10YR 4/3) extremely stony loamy sand; structureless massive; very friable, nonsticky, nonplastic; very fine roots throughout and fine roots throughout; 20 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments and 20 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 20 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments; very strongly acid, pH 4.9, pH meter; clear smooth boundary. Lab sample # 17N04288

2Cg--80 to 105 centimeters (31.5 to 41.3 inches); dark grayish brown (2.5Y 4/2) extremely stony coarse sand; structureless single grain; loose, nonsticky, nonplastic; 5 percent fine prominent irregular 10YR 2/1), moist, manganese coatings with diffuse boundaries Around rock fragments and 40 percent extremely coarse prominent irregular 5YR 3/4), moist, masses of oxidized iron with diffuse boundaries At top of horizon; 25 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments and 30 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 30 percent nonflat subrounded indurated 250 to 600-millimeter Mixed rock fragments; moderately acid, pH 5.6, pH meter. Lab sample # 17N04289