PEDON DESCRIPTION -- NEON Site TREE

Print Date: Oct 20 2017

Description Date: Oct 18 2016

Describer: Pete Weikle

NEON Plot ID: TREE_001

Site ID: S2016WI069001

Pedon ID: S2016WI069001

Site Note: This pedon is for the NEON sampling project at the TREE_001 site. 1 meter and 32 degrees from the SW 40m X 40m corner to the center of the soil pit.

Pedon Note: C1 horizon to a depth of 198cm; C2 horizon 198-200cm; 10YR 6/4, Sand, 2% gravel, 3% FED 10YR 7/3 and 5% F3M 10YR 5/6 redox. features.

Lab Source ID: KSSL

Lab Pedon #: 17N0440

Soil Name as Described/Sampled: Sayner

Classification: Sandy, mixed, frigid Entic Haplorthods

Soil Name as Correlated:

Classification:

Pedon Type: undefined observation

Pedon Purpose: research site

Taxon Kind: series

Associated Soils:

Physiographic Division:

Physiographic Province:

Physiographic Section:

State Physiographic Area:

Local Physiographic Area:

Geomorphic Setting: on backslope of side slope of disintegration moraine on outwash plain

Upslope Shape: convex

Cross Slope Shape: linear

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 15 cm.
albic horizon 6 to 15 cm.
spodic horizon 15 to 73 cm.

Country:

State: Wisconsin

County: Lincoln

MLRA: 94D -- Northern Highland Sandy Drift

Soil Survey Area: WI069 -- Lincoln County, Wisconsin
10-RHI -- Rhinelander, Wisconsin

Map Unit: VsD -- Vilas-Sayner loamy sands, 15 to 35 percent slopes

Pit Location: This pedon is for the NEON sampling project at the TREE_001 site. 1 meter and 32 degrees from the SW 40m X 40m corner to the center of the soil pit.

Quad Name: Harrison, Wisconsin

Std Latitude: 45.4876330

Std Longitude: -89.5700510

Latitude: 45 degrees 29 minutes 15.48 seconds north

Longitude: 89 degrees 34 minutes 12.18 seconds west

Datum: WGS84

UTM Zone:

UTM Easting:

UTM Northing:

Primary Earth Cover: Tree cover

Secondary Earth Cover: Intermixed conifers and hardwoods

Existing Vegetation: Allegheny blackberry, balsam fir, barren strawberry, beaked hazelnut, brackenfern, bunchberry dogwood, eastern white pine, fibrousroot sedge, lowbush blueberry, paper birch, Princess-Pine, red maple, red pine, twinflower

Parent Material: sandy outwash

Bedrock Kind:

Bedrock Depth:

Bedrock Hardness:

Bedrock Fracture Interval:

Surface Fragments:

Description database: KSSL

Cont. Site ID: S2016WI069001 **Pedon ID:** S2016WI069001

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	456.0	318						excessively		

Oe--0 to 3 centimeters (0.0 to 1.2 inches); very dark brown (10YR 2/2) moderately decomposed plant material; very fine roots and fine roots; clear smooth boundary. Lab sample # 17N02276

A--3 to 6 centimeters (1.2 to 2.4 inches); black (10YR 2/1) loamy sand; weak fine subangular blocky structure; very friable; very fine roots and medium roots and fine roots and coarse roots; clear smooth boundary. Lab sample # 17N02277

E--6 to 15 centimeters (2.4 to 5.9 inches); brown (7.5YR 4/2) loamy sand; weak fine subangular blocky, and weak medium subangular blocky structure; very friable; very fine roots and very coarse roots and medium roots and fine roots and coarse roots; clear wavy boundary. Lab sample # 17N02278

Bs1--15 to 37 centimeters (5.9 to 14.6 inches); dark brown (7.5YR 3/4) loamy sand; weak fine subangular blocky, and weak medium subangular blocky structure; very friable; very fine roots and very coarse roots and medium roots and fine roots and coarse roots; 4 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; gradual wavy boundary. Lab sample # 17N02279

Bs2--37 to 73 centimeters (14.6 to 28.7 inches); strong brown (7.5YR 4/6) gravelly sand; weak fine subangular blocky, and weak medium subangular blocky structure; very friable; very fine roots and medium roots and fine roots; 17 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; gradual wavy boundary. Lab sample # 17N02280

BC--73 to 95 centimeters (28.7 to 37.4 inches); yellowish brown (10YR 5/6) sand; weak medium subangular blocky structure; very friable; fine roots; 2 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 5 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; clear wavy boundary. Lab sample # 17N02281

C1--95 to 100 centimeters (37.4 to 39.4 inches); light yellowish brown (10YR 6/4) sand; structureless single grain; loose; 2 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N02282

PEDON DESCRIPTION -- NEON Site TREE

Print Date: Oct 20 2017

Description Date: Oct 17 2016

Describer: Pete Weikle

NEON Plot ID: TREE_006

Site ID: S2016WI069006

Pedon ID: S2016WI069006

Site Note: This pedon is for the NEON sampling project at the TREE_006 site. 1 meter and 86 degrees from the SW 40m X 40m corner to the center of the soil pit.

Pedon Note: Padwood taxadjunct based on lack of an argillic horizon and presence of lamellae

Lab Source ID: KSSL

Lab Pedon #: 17N0441

Soil Name as Described/Sampled: Padwood

Classification: Coarse-loamy, mixed, superactive, frigid Lamellic Oxyaquic Haplorthods

Soil Name as Correlated:

Classification:

Pedon Type: undefined observation

Pedon Purpose: research site

Taxon Kind: taxadjunct

Associated Soils:

Physiographic Division:

Physiographic Province:

Physiographic Section:

State Physiographic Area:

Local Physiographic Area:

Geomorphic Setting: on backslope of side slope of water worked moraine on outwash plain

Upslope Shape: linear

Cross Slope Shape: concave

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 14 cm.
albic horizon 10 to 14 cm.
spodic horizon 14 to 30 cm.
spodic materials 14 to 30 cm.
albic materials 30 to 100 cm.
glossic horizon 48 to 67 cm.
lamellae 67 to 100 cm.

Country:

State: Wisconsin

County: Lincoln

MLRA: 94D -- Northern Highland Sandy Drift

Soil Survey Area: WI069 -- Lincoln County, Wisconsin
10-RHI -- Rhinelander, Wisconsin

Map Unit: VsC -- Vilas-Sayner loamy sands, 6 to 15 percent slopes

Pit Location: This pedon is for the NEON sampling project at the TREE_006 site. 1 meter and 86 degrees from the SW 40m X 40m corner to the center of the soil pit.

Quad Name: Harrison, Wisconsin

Std Latitude: 45.4914130

Std Longitude: -89.5514920

Latitude: 45 degrees 29 minutes 29.08 seconds north

Longitude: 89 degrees 33 minutes 5.37 seconds west

Datum: WGS84

UTM Zone:

UTM Easting:

UTM Northing:

Primary Earth Cover: Tree cover

Secondary Earth Cover: Intermixed conifers and hardwoods

Existing Vegetation: balsam fir, eastern white pine, paper birch, Pennsylvania sedge, red pine, sphagnum

Parent Material: loamy glaciofluvial deposits over loamy till

Bedrock Kind:

Bedrock Depth:

Bedrock Hardness:

Bedrock Fracture Interval:

Surface Fragments:

Description database: KSSL

Cont. Site ID: S2016WI069006 **Pedon ID:** S2016WI069006

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	465.0	208						moderately well		

A--0 to 10 centimeters (0.0 to 3.9 inches); very dark brown (10YR 2/2) sandy loam; weak medium granular structure; very friable; very fine roots and medium roots and fine roots and coarse roots; clear wavy boundary. Lab sample # 17N02283

E--10 to 14 centimeters (3.9 to 5.5 inches); light brownish gray (10YR 6/2) sandy loam; weak medium subangular blocky structure; very friable; very fine roots and medium roots and fine roots; clear broken boundary. Lab sample # 17N02284

Bs--14 to 30 centimeters (5.5 to 11.8 inches); reddish brown (5YR 4/4) sandy loam; moderate medium subangular blocky structure; very friable; very fine roots and medium roots and fine roots; gradual smooth boundary. Lab sample # 17N02285

2E'--30 to 48 centimeters (11.8 to 18.9 inches); brown (7.5YR 5/4) sandy loam; moderate coarse subangular blocky structure; friable; very fine roots and fine roots; 5 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; gradual smooth boundary. Lab sample # 17N02286

2E/B--48 to 67 centimeters (18.9 to 26.4 inches); 60 percent brown (7.5YR 5/3) and 40 percent brown (7.5YR 4/4) gravelly sandy loam; moderate coarse subangular blocky structure; friable; fine roots; 8 percent medium prominent 2.5YR 3/6), moist, masses of oxidized iron On faces of peds; 3 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 12 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; clear smooth boundary. Lab sample # 17N02287

2E and Bt--67 to 100 centimeters (26.4 to 39.4 inches); 88 percent reddish brown (5YR 5/4) and 12 percent reddish brown (5YR 4/4) gravelly loamy sand; weak medium subangular blocky structure; friable; 20 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; 12 percent lamellae (lateral area percent). Lab sample # 17N02288. Bt part is sandy loam textured lamellae

PEDON DESCRIPTION -- NEON Site TREE

Print Date: Oct 20 2017
Description Date: Oct 18 2016
Describer: Pete Weikle
NEON Plot ID: TREE_009
Site ID: S2016WI069009

Pedon ID: S2016WI069009

Site Note: This pedon is for the NEON sampling project at the TREE_009 site. 1 meter and 26 degrees from the SW 40m X 40m corner to the center of the soil pit.

Pedon Note: Thickness of organic material is >160cm
Lab Source ID: KSSL
Lab Pedon #: 17N0442
Soil Name as Described/Sampled: Loxley
Classification: Dysic, frigid Typic Haplosaprists

Soil Name as Correlated:

Classification:
Pedon Type: undefined observation
Pedon Purpose: research site
Taxon Kind: series
Associated Soils:
Physiographic Division:
Physiographic Province:
Physiographic Section:

State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on toeslope of dip acid swamp on outwash plain
Upslope Shape: linear
Cross Slope Shape: linear
Particle Size Control Section: 0 to 100 cm.
Description origin: NASIS

Diagnostic Features: fibric soil materials 0 to 10 cm.
hemic soil materials 10 to 36 cm.
sapric soil materials 36 to 100 cm.

Country:
State: Wisconsin
County: Lincoln
MLRA: 94D -- Northern Highland Sandy Drift
Soil Survey Area: WI069 -- Lincoln County, Wisconsin
10-RHI -- Rhinelander, Wisconsin
Map Unit: Lu -- Lupton and Cathro soils, 0 to 1 percent slopes

Pit Location: This pedon is for the NEON sampling project at the TREE_009 site. 1 meter and 26 degrees from the SW 40m X 40m corner to the center of the soil pit.

Quad Name: Harrison, Wisconsin
Std Latitude: 45.4857300
Std Longitude: -89.5696500

Latitude: 45 degrees 29 minutes 8.63 seconds north
Longitude: 89 degrees 34 minutes 10.74 seconds west
Datum: WGS84
UTM Zone:
UTM Easting:
UTM Northing:

Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation: black spruce, bunchberry dogwood, eastern white pine, leatherleaf, lowbush blueberry, small cranberry, sphagnum, tamarack
Parent Material: mossy organic material over herbaceous organic material over woody organic material
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2016WI069009 **Pedon ID:** S2016WI069009

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	404.0							very poorly		

Oi--0 to 10 centimeters (0.0 to 3.9 inches); yellowish brown (10YR 5/6) peat; very strongly acid, pH 4.5, pH indicator strip. Lab sample # 17N02289

Oe--10 to 36 centimeters (3.9 to 14.2 inches); very dark brown (7.5YR 2.5/2) mucky peat; very strongly acid, pH 4.5, pH indicator strip. Lab sample # 17N02290

Oa--36 to 100 centimeters (14.2 to 39.4 inches); very dark brown (10YR 2/2) muck; very strongly acid, pH 4.5, pH indicator strip. Lab sample # 17N02291

PEDON DESCRIPTION -- NEON Site TREE

Print Date: Oct 20 2017

Description Date: Oct 17 2016

Describer: Pete Weikle

NEON Plot ID: TREE_011

Site ID: S2016WI069011

Pedon ID: S2016WI069011

Site Note: This pedon is for the NEON sampling project at the TREE_011 site. 3 meters and 84 degrees from the SW 40m X 40m corner to the center of the soil pit.

Pedon Note: augering stopped by coarse fragments at 90cm, no bulk sample was obtained

Lab Source ID: KSSL

Lab Pedon #: 17N0443

Soil Name as Described/Sampled: Cathro

Classification: Loamy, mixed, euic, frigid Terric Haplosaprists

Soil Name as Correlated:

Classification:

Pedon Type: undefined observation

Pedon Purpose: research site

Taxon Kind: series

Associated Soils:

Physiographic Division:

Physiographic Province:

Physiographic Section:

State Physiographic Area:

Local Physiographic Area:

Geomorphic Setting: on toeslope of talf drainageway on outwash plain

Upslope Shape: linear

Cross Slope Shape: linear

Particle Size Control Section: 84 to 90 cm.

Description origin: NASIS

Diagnostic Features: hemic soil materials 0 to 13 cm.
sapric soil materials 13 to 84 cm.

Country:

State: Wisconsin

County: Lincoln

MLRA: 94D -- Northern Highland Sandy Drift

Soil Survey Area: WI069 -- Lincoln County, Wisconsin
10-RHI -- Rhinelander, Wisconsin

Map Unit: Lu -- Lupton and Cathro soils, 0 to 1 percent slopes

Pit Location: This pedon is for the NEON sampling project at the TREE_011 site. 3 meters and 84 degrees from the SW 40m X 40m corner to the center of the soil pit.

Quad Name: Harrison, Wisconsin

Std Latitude: 45.4970540

Std Longitude: -89.5547610

Latitude: 45 degrees 29 minutes 49.39 seconds north

Longitude: 89 degrees 33 minutes 17.14 seconds west

Datum: WGS84

UTM Zone:

UTM Easting:

UTM Northing:

Primary Earth Cover: Shrub cover

Secondary Earth Cover: Swamp

Existing Vegetation: alder, balsam fir, blackberry, grass, native, sedge

Parent Material: herbaceous organic material over loamy till

Bedrock Kind:

Bedrock Depth:

Bedrock Hardness:

Bedrock Fracture Interval:

Surface Fragments:

Description database: KSSL

Cont. Site ID: S2016WI069011 **Pedon ID:** S2016WI069011

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	455.0							very poorly		

Oe--0 to 13 centimeters (0.0 to 5.1 inches); very dark brown (7.5YR 2/2) mucky peat; . Lab sample # 17N02292

Oa1--13 to 63 centimeters (5.1 to 24.8 inches); very dark brown (10YR 2/2) muck; . Lab sample # 17N02293

Oa2--63 to 84 centimeters (24.8 to 33.1 inches); black (2.5Y 2.5/1) muck; . Lab sample # 17N02294

Cg--84 to 90 centimeters (33.1 to 35.4 inches); dark grayish brown (2.5Y 4/2) cobbly sandy loam; 10 percent fine prominent 5GY 5/2), moist, iron depletions; 10 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments and 15 percent nonflat subangular indurated 75 to 250-millimeter Mixed rock fragments.

PEDON DESCRIPTION -- NEON Site TREE

Print Date: Oct 20 2017

Description Date: Oct 17 2016

Describer: Mark Krupinski

NEON Plot ID: TREE_017

Site ID: S2016WI069017

Pedon ID: S2016WI069017

Site Note: This pedon is for the NEON sampling project at the TREE_017 site. 8 meters and 30 degrees from the SW 40m X 40m corner to the center of the soil pit.

Pedon Note: 2E&Bt horizon at 119-136cm; 7.5YR 5/2 and 5/3; LS and SL textures; till PM; C2D F3M 5YR 5/6 redox features

Lab Source ID: KSSL

Lab Pedon #: 17N0444

Soil Name as Described/Sampled: Croswood

Classification: Sandy, mixed, frigid Oxyaquic Haplorthods

Soil Name as Correlated:

Classification:

Pedon Type: undefined observation

Pedon Purpose: research site

Taxon Kind: series

Associated Soils:

Physiographic Division:

Physiographic Province:

Physiographic Section:

State Physiographic Area:

Local Physiographic Area:

Geomorphic Setting: on footslope of base slope of outwash plain on outwash plain

Upslope Shape: concave

Cross Slope Shape: linear

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 6 to 13 cm.
spodic horizon 13 to 58 cm.

Country:

State: Wisconsin

County: Lincoln

MLRA: 94D -- Northern Highland Sandy Drift

Soil Survey Area: WI069 -- Lincoln County, Wisconsin
10-RHI -- Rhinelander, Wisconsin

Map Unit: VsC -- Vilas-Sayner loamy sands, 6 to 15 percent slopes

Pit Location: This pedon is for the NEON sampling project at the TREE_017 site. 8 meters and 30 degrees from the SW 40m X 40m corner to the center of the soil pit.

Quad Name: Harrison, Wisconsin

Std Latitude: 45.4921500

Std Longitude: -89.5768300

Latitude: 45 degrees 29 minutes 31.74 seconds north

Longitude: 89 degrees 34 minutes 36.58 seconds west

Datum: WGS84

UTM Zone:

UTM Easting:

UTM Northing:

Primary Earth Cover: Tree cover

Secondary Earth Cover: Intermixed conifers and hardwoods

Existing Vegetation: balsam fir, barren strawberry, beaked hazelnut, bigleaf aster, brackenfern, eastern white pine, paper birch, quaking aspen, red maple, sugar maple, white spruce

Parent Material: sandy outwash

Bedrock Kind:

Bedrock Depth:

Bedrock Hardness:

Bedrock Fracture Interval:

Surface Fragments:

Description database: KSSL

Cont. Site ID: S2016WI069017 **Pedon ID:** S2016WI069017

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
10.0	467.0	15						moderately well		

Oa--0 to 6 centimeters (0.0 to 2.4 inches); black (10YR 2/1) highly decomposed plant material; weak fine granular structure; very friable; . Lab sample # 17N02295. many uncoated sand grains

E/A--6 to 13 centimeters (2.4 to 5.1 inches); brown (7.5YR 4/2) loamy sand; 5 percent clay; weak fine subangular blocky structure; very friable; . Lab sample # 17N02296

Bhs--13 to 21 centimeters (5.1 to 8.3 inches); dark brown (7.5YR 3/3) loamy sand; 5 percent clay; weak very fine granular structure; very friable; . Lab sample # 17N02297

Bs1--21 to 39 centimeters (8.3 to 15.4 inches); strong brown (7.5YR 4/6) sand; 2 percent clay; structureless single grain; loose; . Lab sample # 17N02298

Bs2--39 to 58 centimeters (15.4 to 22.8 inches); strong brown (7.5YR 5/6) sand; 2 percent clay; structureless single grain; loose; . Lab sample # 17N02299

BC--58 to 100 centimeters (22.8 to 39.4 inches); light brown (7.5YR 6/4) sand; 2 percent clay; structureless single grain; loose; . Lab sample # 17N02300

PEDON DESCRIPTION -- NEON Site TREE

Print Date: Oct 20 2017

Description Date: Oct 17 2016

Describer: Mike Rokus

NEON Plot ID: TREE_019

Site ID: S2016WI069019

Pedon ID: S2016WI069019

Site Note: This pedon is for the NEON sampling project at the TREE_019 site. 8 meters and 60 degrees from the SW 40m X 40m corner to the center of the soil pit.

Pedon Note: Thin discontinuous O/A horizon exists

Lab Source ID: KSSL

Lab Pedon #: 17N0445

Soil Name as Described/Sampled: Croswood

Classification: Sandy, mixed, frigid Oxyaquic Haplorthods

Soil Name as Correlated:

Classification:

Pedon Type: undefined observation

Pedon Purpose: research site

Taxon Kind: series

Associated Soils:

Physiographic Division:

Physiographic Province:

Physiographic Section:

State Physiographic Area:

Local Physiographic Area:

Geomorphic Setting: on summit of interfluve of outwash plain on outwash plain

Upslope Shape: linear

Cross Slope Shape: linear

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 9 cm.
spodic horizon 9 to 55 cm.

Country:

State: Wisconsin

County: Lincoln

MLRA: 94D -- Northern Highland Sandy Drift

Soil Survey Area: WI069 -- Lincoln County, Wisconsin
10-RHI -- Rhinelander, Wisconsin

Map Unit: CsB -- Cublake loamy sand, 0 to 4 percent slopes

Pit Location: This pedon is for the NEON sampling project at the TREE_019 site. 8 meters and 60 degrees from the SW 40m X 40m corner to the center of the soil pit.

Quad Name: Harrison, Wisconsin

Std Latitude: 45.4942200

Std Longitude: -89.5740600

Latitude: 45 degrees 29 minutes 39.19 seconds north

Longitude: 89 degrees 34 minutes 26.61 seconds west

Datum: WGS84

UTM Zone:

UTM Easting:

UTM Northing:

Primary Earth Cover: Tree cover

Secondary Earth Cover: Intermixed conifers and hardwoods

Existing Vegetation: balsam fir, barren strawberry, black cherry, quaking aspen, red maple, red pine, ricegrass

Parent Material: sandy outwash over sandy till

Bedrock Kind:

Bedrock Depth:

Bedrock Hardness:

Bedrock Fracture Interval:

Surface Fragments:

Description database: KSSL

Cont. Site ID: S2016WI069019 **Pedon ID:** S2016WI069019

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	468.0	275						moderately well		

AE--0 to 9 centimeters (0.0 to 3.5 inches); black (10YR 2/1) sandy loam; weak medium granular structure; very friable; abrupt broken boundary. Lab sample # 17N02301. 30% uncoated sand grains

Bhs--9 to 19 centimeters (3.5 to 7.5 inches); dark brown (7.5YR 3/3) loamy sand; weak fine subangular blocky structure; very friable; clear smooth boundary. Lab sample # 17N02302

Bs1--19 to 37 centimeters (7.5 to 14.6 inches); brown (7.5YR 4/4) loamy sand; weak fine subangular blocky structure; friable; clear smooth boundary. Lab sample # 17N02303

Bs2--37 to 55 centimeters (14.6 to 21.7 inches); strong brown (7.5YR 5/6) sand; weak medium subangular blocky structure; very friable; clear smooth boundary. Lab sample # 17N02304

BC--55 to 84 centimeters (21.7 to 33.1 inches); light brown (7.5YR 6/4) sand; structureless single grain; loose; 2 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; abrupt wavy boundary. Lab sample # 17N02305

2C--84 to 100 centimeters (33.1 to 39.4 inches); dark yellowish brown (10YR 4/4) loamy sand; structureless massive; friable; 1 percent medium distinct 10YR 5/6), moist, masses of oxidized iron; 12 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N02306

PEDON DESCRIPTION -- NEON Site TREE

Print Date: Oct 20 2017

Description Date: Oct 18 2016

Describer: Mark Krupinski

NEON Plot ID: TREE_020

Site ID: S2016WI069020

Pedon ID: S2016WI069020

Site Note: This pedon is for the NEON sampling project at the TREE_020 site. 14 meters and 35 degrees from the SW 40m X 40m corner to the center of the soil pit.

Pedon Note:

Lab Source ID: KSSL

Lab Pedon #: 17N0446

Soil Name as Described/Sampled: Sayner

Classification: Sandy, mixed, frigid Entic Haplorthods

Soil Name as Correlated:

Classification:

Pedon Type: undefined observation

Pedon Purpose: research site

Taxon Kind: series

Associated Soils:

Physiographic Division:

Physiographic Province:

Physiographic Section:

State Physiographic Area:

Local Physiographic Area:

Geomorphic Setting: on backslope of side slope of outwash plain on outwash plain

Upslope Shape: concave

Cross Slope Shape: linear

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 7 to 17 cm.
albic horizon 7 to 17 cm.
spodic horizon 17 to 61 cm.

Country:

State: Wisconsin

County: Lincoln

MLRA: 94D -- Northern Highland Sandy Drift

Soil Survey Area: WI069 -- Lincoln County, Wisconsin
10-RHI -- Rhinelander, Wisconsin

Map Unit: VsD -- Vilas-Sayner loamy sands, 15 to 35 percent slopes

Pit Location: This pedon is for the NEON sampling project at the TREE_020 site. 14 meters and 35 degrees from the SW 40m X 40m corner to the center of the soil pit.

Quad Name: Harrison, Wisconsin

Std Latitude: 45.4922600

Std Longitude: -89.5601900

Latitude: 45 degrees 29 minutes 32.13 seconds north

Longitude: 89 degrees 33 minutes 36.68 seconds west

Datum: WGS84

UTM Zone:

UTM Easting:

UTM Northing:

Primary Earth Cover: Tree cover

Secondary Earth Cover: Intermixed conifers and hardwoods

Existing Vegetation: Allegheny blackberry, beaked hazelnut, bigleaf aster, brackenfern, columbine, eastern white pine, lowbush blueberry, northern red oak, paper birch, quaking aspen, red maple, ricegrass, strawberry, wintergreen

Parent Material: sandy outwash over sandy and gravelly outwash

Bedrock Kind:

Bedrock Depth:

Bedrock Hardness:

Bedrock Fracture Interval:

Surface Fragments:

Description database: KSSL

Cont. Site ID: S2016WI069020 **Pedon ID:** S2016WI069020

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	461.0	130						excessively		

Oa--0 to 7 centimeters (0.0 to 2.8 inches); black (10YR 2/1) highly decomposed plant material; weak fine granular structure; clear smooth boundary. Lab sample # 17N02307

E--7 to 17 centimeters (2.8 to 6.7 inches); brown (7.5YR 4/2) loamy sand; weak fine subangular blocky structure; 4 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; clear wavy boundary. Lab sample # 17N02308

Bs1--17 to 26 centimeters (6.7 to 10.2 inches); dark reddish brown (5YR 3/4) loamy sand; weak fine subangular blocky structure; 4 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; clear wavy boundary. Lab sample # 17N02309

Bs2--26 to 45 centimeters (10.2 to 17.7 inches); reddish brown (5YR 4/4) loamy sand; weak fine subangular blocky structure; 10 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; abrupt smooth boundary. Lab sample # 17N02310

2Bs3--45 to 61 centimeters (17.7 to 24.0 inches); strong brown (7.5YR 4/6) very gravelly loamy sand; structureless single grain; 15 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 25 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; gradual smooth boundary. Lab sample # 17N02311

2BC--61 to 100 centimeters (24.0 to 39.4 inches); 50 percent brown (7.5YR 5/4) and 50 percent strong brown (7.5YR 5/6) very cobbly sand; structureless single grain; 20 percent nonflat subrounded indurated 75 to 250-millimeter Mixed rock fragments and 25 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N02312

PEDON DESCRIPTION -- NEON Site TREE

Print Date: Oct 20 2017

Description Date: Oct 18 2016

Describer: Roger Risley

NEON Plot ID: TREE_021

Site ID: S2016WI069021

Pedon ID: S2016WI069021

Site Note: This pedon is for the NEON sampling project at the TREE_021 site. 4 meters and 55 degrees from the SW 40m X 40m corner to the center of the soil pit.

Pedon Note:

Lab Source ID: KSSL

Lab Pedon #: 17N0447

Soil Name as Described/Sampled: Sayner

Classification: Sandy, mixed, frigid Entic Haplorthods

Soil Name as Correlated:

Classification:

Pedon Type: undefined observation

Pedon Purpose: research site

Taxon Kind: series

Associated Soils:

Physiographic Division:

Physiographic Province:

Physiographic Section:

State Physiographic Area:

Local Physiographic Area:

Geomorphic Setting: on backslope of side slope of end moraine on outwash plain

Upslope Shape: linear

Cross Slope Shape: concave

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 5 to 19 cm.
albic horizon 5 to 19 cm.
spodic horizon 19 to 84 cm.

Country:

State: Wisconsin

County: Lincoln

MLRA: 94D -- Northern Highland Sandy Drift

Soil Survey Area: WI069 -- Lincoln County, Wisconsin
10-RHI -- Rhinelander, Wisconsin

Map Unit: VsC -- Vilas-Sayner loamy sands, 6 to 15 percent slopes

Pit Location: This pedon is for the NEON sampling project at the TREE_021 site. 4 meters and 55 degrees from the SW 40m X 40m corner to the center of the soil pit.

Quad Name: Harrison, Wisconsin

Std Latitude: 45.4970000

Std Longitude: -89.5982600

Latitude: 45 degrees 29 minutes 49.19 seconds north

Longitude: 89 degrees 35 minutes 53.73 seconds west

Datum: WGS84

UTM Zone:

UTM Easting:

UTM Northing:

Primary Earth Cover: Tree cover

Secondary Earth Cover: Hardwoods

Existing Vegetation: aster, balsam fir, beaked hazelnut, brackenfern, bunchberry dogwood, common mullein, eastern white pine, fibrousroot sedge, paper birch, Pennsylvania sedge, red maple, ricegrass, running clubmoss, sugar maple, woodfern, yarrow, yellow birch

Parent Material: sandy outwash over sandy and gravelly outwash

Bedrock Kind:

Bedrock Depth:

Bedrock Hardness:

Bedrock Fracture Interval:

Surface Fragments:

Description database: KSSL

Cont. Site ID: S2016WI069021 **Pedon ID:** S2016WI069021

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	475.0	15						excessively		

Oa--0 to 5 centimeters (0.0 to 2.0 inches); black (10YR 2/1) highly decomposed plant material; moderate fine granular structure; very friable; . Lab sample # 17N02313. many 10-25mm charcoal blocks

E--5 to 19 centimeters (2.0 to 7.5 inches); reddish gray (5YR 5/2) loamy sand; weak fine subangular blocky structure; very friable; . Lab sample # 17N02314

Bs1--19 to 26 centimeters (7.5 to 10.2 inches); dark reddish brown (5YR 3/4) loamy sand; weak very fine granular structure; friable; . Lab sample # 17N02315. 40% is 5YR 3/3 Bhs material

Bs2--26 to 39 centimeters (10.2 to 15.4 inches); strong brown (7.5YR 4/6) sand; structureless single grain; loose; . Lab sample # 17N02316

Bs3--39 to 61 centimeters (15.4 to 24.0 inches); strong brown (7.5YR 4/6) and yellowish red (5YR 4/6) sand; structureless single grain; loose; . Lab sample # 17N02317

2Bs4--61 to 84 centimeters (24.0 to 33.1 inches); brown (7.5YR 5/4) gravelly loamy sand; weak medium prismatic, and weak fine subangular blocky structure; friable; 15 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N02318

2BC--84 to 100 centimeters (33.1 to 39.4 inches); brown (7.5YR 5/4) stratified gravelly sand to gravelly loamy sand; structureless single grain; firm; 22 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N02319. one thin 5YR 4/6 lamellae

PEDON DESCRIPTION -- NEON Site TREE

Print Date: Oct 20 2017

Description Date: Oct 19 2016

Describer: Ryan Bevernitz

NEON Plot ID: TREE_024

Site ID: S2016WI069024

Pedon ID: S2016WI069024

Site Note: This pedon is for the NEON sampling project at the TREE_024 site. 11 meters and 15 degrees from the SW 40m X 40m corner to the center of the soil pit.

Pedon Note: "C2" horizon to a depth of 110cm; "2C3" horizon 110-130cm, 7.5YR 5/3 GRX-COS with 85% gravel; water is seeping in pit atop this horizon.

Lab Source ID: KSSL

Lab Pedon #: 17N0448

Soil Name as Described/Sampled: Croswell

Classification: Sandy, mixed, frigid Oxyaquic Haplorthods

Soil Name as Correlated:

Classification:

Pedon Type: undefined observation

Pedon Purpose: research site

Taxon Kind: series

Associated Soils:

Physiographic Division:

Physiographic Province:

Physiographic Section:

State Physiographic Area:

Local Physiographic Area:

Geomorphic Setting: on shoulder of tread of outwash terrace on outwash plain

Upslope Shape: linear

Cross Slope Shape: linear

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 16 cm.
albic horizon 8 to 16 cm.
spodic horizon 30 to 58 cm.

Country:

State: Wisconsin

County: Lincoln

MLRA: 94D -- Northern Highland Sandy Drift

Soil Survey Area: WI069 -- Lincoln County, Wisconsin
10-RHI -- Rhinelander, Wisconsin

Map Unit: VsB -- Vilas-Sayner loamy sands, 1 to 6 percent slopes

Pit Location: This pedon is for the NEON sampling project at the TREE_024 site. 11 meters and 15 degrees from the SW 40m X 40m corner to the center of the soil pit.

Quad Name: Harrison, Wisconsin

Std Latitude: 45.4891800

Std Longitude: -89.5502800

Latitude: 45 degrees 29 minutes 21.04 seconds north

Longitude: 89 degrees 33 minutes 1.01 seconds west

Datum: WGS84

UTM Zone:

UTM Easting:

UTM Northing:

Primary Earth Cover: Tree cover

Secondary Earth Cover: Intermixed conifers and hardwoods

Existing Vegetation: balsam fir, eastern white pine, Pennsylvania sedge, red maple, running clubmoss, sphagnum, twinflower, white spruce

Parent Material: sandy and gravelly outwash

Bedrock Kind:

Bedrock Depth:

Bedrock Hardness:

Bedrock Fracture Interval:

Surface Fragments:

Description database: KSSL

Cont. Site ID: S2016WI069024 **Pedon ID:** S2016WI069024

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	452.0	0						moderately well		

A--0 to 8 centimeters (0.0 to 3.1 inches); very dark gray (10YR 3/1) loamy sand; weak fine granular, and weak medium granular structure; very friable; very fine roots and very coarse roots and medium roots and fine roots and coarse roots; clear smooth boundary. Lab sample # 17N02320. 10% uncoated sand grains

E--8 to 16 centimeters (3.1 to 6.3 inches); brown (7.5YR 5/2) loamy sand; weak medium subangular blocky structure; very friable; very fine roots and medium roots and fine roots; clear wavy boundary. Lab sample # 17N02321

Bs1--16 to 30 centimeters (6.3 to 11.8 inches); dark reddish brown (5YR 3/4) loamy sand; weak medium subangular blocky structure; very friable; very fine roots and medium roots and fine roots; 2 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; gradual smooth boundary. Lab sample # 17N02322

Bs2--30 to 43 centimeters (11.8 to 16.9 inches); strong brown (7.5YR 4/6) loamy sand; weak medium subangular blocky structure; very friable; very fine roots and very coarse roots and medium roots and fine roots; 2 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; gradual smooth boundary. Lab sample # 17N02323

BC--43 to 58 centimeters (16.9 to 22.8 inches); strong brown (7.5YR 5/6) gravelly sand; weak medium subangular blocky structure; very friable; very fine roots and medium roots and fine roots; 20 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments; clear smooth boundary. Lab sample # 17N02324

C1--58 to 90 centimeters (22.8 to 35.4 inches); brown (7.5YR 5/4) sand; structureless single grain; loose; fine roots; 5 percent medium prominent 7.5YR 6/2), moist, iron depletions and 10 percent coarse prominent 2.5YR 3/6), moist, masses of oxidized iron; gradual smooth boundary. Lab sample # 17N02325

C2--90 to 100 centimeters (35.4 to 39.4 inches); brown (7.5YR 5/3) sand; structureless single grain; loose; 5 percent coarse prominent 7.5YR 5/6), moist, masses of oxidized iron. Lab sample # 17N02326

PEDON DESCRIPTION -- NEON Site TREE

Print Date: Oct 20 2017

Description Date: Oct 18 2016

Describer: Ryan Bevernitz

NEON Plot ID: TREE_041

Site ID: S2016WI069041

Pedon ID: S2016WI069041

Site Note: This pedon is for the NEON sampling project at the TREE_041 site. 2 meters and 51 degrees from the SW 40m X 40m corner to the center of the soil core.

Pedon Note: Free water observed at a depth of 26 cm

Lab Source ID: KSSL

Lab Pedon #: 17N0449

Soil Name as Described/Sampled: Moodig

Classification: Coarse-loamy, mixed, superactive, frigid Alfic Epiaquods

Soil Name as Correlated:

Classification:

Pedon Type: undefined observation

Pedon Purpose: research site

Taxon Kind: series

Associated Soils:

Physiographic Division:

Physiographic Province:

Physiographic Section:

State Physiographic Area:

Local Physiographic Area:

Geomorphic Setting: on summit of interfluve of ground moraine on outwash plain

Upslope Shape: linear

Cross Slope Shape: linear

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 11 cm.
spodic horizon 11 to 36 cm.
glossic horizon 36 to 64 cm.
albic materials 36 to 64 cm.
argillic horizon 64 to 100 cm.

Country:

State: Wisconsin

County: Lincoln

MLRA: 94D -- Northern Highland Sandy Drift

Soil Survey Area: WI069 -- Lincoln County, Wisconsin
10-RHI -- Rhinelander, Wisconsin

Map Unit: SbB -- Sarwet sandy loam, 2 to 6 percent slopes

Pit Location: This pedon is for the NEON sampling project at the TREE_041 site. 2 meters and 51 degrees from the SW 40m X 40m corner to the center of the soil core.

Quad Name: Harrison, Wisconsin

Std Latitude: 45.4940600

Std Longitude: -89.5882300

Latitude: 45 degrees 29 minutes 38.61 seconds north

Longitude: 89 degrees 35 minutes 17.62 seconds west

Datum: WGS84

UTM Zone:

UTM Easting:

UTM Northing:

Primary Earth Cover: Tree cover

Secondary Earth Cover: Hardwoods

Existing Vegetation: balsam fir, beaked hazelnut, blackberry, Canada mayflower, goldenrod, hophornbeam, interrupted fern, northern red oak, paper birch, Pennsylvania sedge, sugar maple, woodfern

Parent Material: loamy till over water worked sandy and loamy till

Bedrock Kind:

Bedrock Depth:

Bedrock Hardness:

Bedrock Fracture Interval:

Surface Fragments:

Description database: KSSL

Cont. Site ID: S2016WI069041 **Pedon ID:** S2016WI069041

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	457.0	70						somewhat poorly		

A--0 to 11 centimeters (0.0 to 4.3 inches); very dark brown (10YR 2/2) fine sandy loam; very friable; 3 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N02327. 0-5cm of patchy E-Horizon.

Bs--11 to 36 centimeters (4.3 to 14.2 inches); dark brown (7.5YR 3/4) fine sandy loam; very friable; 2 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N02328

E/B--36 to 64 centimeters (14.2 to 25.2 inches); 70 percent brown (7.5YR 4/3) and 30 percent brown (7.5YR 4/4) fine sandy loam; friable; 7 percent medium prominent 10YR 5/2), moist, iron depletions and 10 percent medium distinct 7.5YR 5/6), moist, masses of oxidized iron; 10 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N02329

2Bt--64 to 100 centimeters (25.2 to 39.4 inches); reddish brown (5YR 4/4) gravelly loamy sand; friable; 10 percent medium distinct 7.5YR 5/6), moist, masses of oxidized iron; 25 percent nonflat subangular indurated 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N02330

PEDON DESCRIPTION -- NEON Site TREE

Print Date: Oct 20 2017

Description Date: Oct 19 2016

Describer: Michael England

NEON Plot ID: TREE_050

Site ID: S2016WI069050

Pedon ID: S2016WI069050

Site Note: This pedon is for the NEON sampling project at the TREE_050 site. 4 meters and 30 degrees from the SW 40m X 40m corner to the center of the soil core.

Pedon Note: "2C2" horizon 118-146 cm, 5YR 4/4, GR-SL with 30% gravel, F3M 5YR 5/6 and FED 7.5YR 5/2 redox, till parent material.

Lab Source ID: KSSL

Lab Pedon #: 17N0450

Soil Name as Described/Sampled: Croswood

Classification: Sandy, mixed, frigid Oxyaquic Haplorthods

Soil Name as Correlated:

Classification:

Pedon Type: undefined observation

Pedon Purpose: research site

Taxon Kind: series

Associated Soils:

Physiographic Division:

Physiographic Province:

Physiographic Section:

State Physiographic Area:

Local Physiographic Area:

Geomorphic Setting: on summit of interfluve of ground moraine on outwash plain

Upslope Shape: linear

Cross Slope Shape: linear

Particle Size Control Section: 25 to 100 cm.

Description origin: NASIS

Diagnostic Features: ochric epipedon 0 to 17 cm.
spodic horizon 17 to 57 cm.

Country:

State: Wisconsin

County: Lincoln

MLRA: 94D -- Northern Highland Sandy Drift

Soil Survey Area: WI069 -- Lincoln County, Wisconsin
10-RHI -- Rhinelander, Wisconsin

Map Unit: SbB -- Sarwet sandy loam, 2 to 6 percent slopes

Pit Location: This pedon is for the NEON sampling project at the TREE_050 site. 4 meters and 30 degrees from the SW 40m X 40m corner to the center of the soil core.

Quad Name: Harrison, Wisconsin

Std Latitude: 45.4898800

Std Longitude: -89.5903600

Latitude: 45 degrees 29 minutes 23.56 seconds north

Longitude: 89 degrees 35 minutes 25.29 seconds west

Datum: WGS84

UTM Zone:

UTM Easting:

UTM Northing:

Primary Earth Cover: Tree cover

Secondary Earth Cover: Intermixed conifers and hardwoods

Existing Vegetation: balsam fir, eastern hemlock, fibrousroot sedge, hophornbeam, ladyfern, maidenhair fern, Pennsylvania sedge, red pine, sugar maple

Parent Material: sandy outwash

Bedrock Kind:

Bedrock Depth:

Bedrock Hardness:

Bedrock Fracture Interval:

Surface Fragments:

Description database: KSSL

Cont. Site ID: S2016WI069050 **Pedon ID:** S2016WI069050

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	463.0	280						moderately well		

A--0 to 17 centimeters (0.0 to 6.7 inches); very dark brown (10YR 2/2) sandy loam; 2 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N02331

Bs1--17 to 39 centimeters (6.7 to 15.4 inches); dark brown (7.5YR 3/4) sandy loam; 6 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N02332

Bs2--39 to 57 centimeters (15.4 to 22.4 inches); strong brown (7.5YR 4/6) loamy sand; 8 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N02333

BC--57 to 89 centimeters (22.4 to 35.0 inches); yellowish brown (10YR 5/6) sand; 12 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N02334

C1--89 to 100 centimeters (35.0 to 39.4 inches); dark yellowish brown (10YR 4/6) gravelly sand; 20 percent nonflat subrounded indurated 2 to 75-millimeter Mixed rock fragments. Lab sample # 17N02335