PEDON DESCRIPTION -- NEON Site WREF

Print Date: Oct 14 2018
Description Date: Aug 7 2018
Describer: Daniel Ufnar
NEON Plot ID: WREF_002
Site ID: S2018WA059002

Pedon ID: S2018WA059002
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 18N2113
Soil Name as Described/Sampled: Stabler
Classification: Medial, amorphic, mesic Vitric Hapludands
Soil Name as Correlated:
Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils:
Physiographic Division:
Physiographic Province:
Physiographic Section:
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on shoulder of nose slope of hills
on shoulder of nose slope of hillslope
Upslope Shape: convex
Cross Slope Shape: convex
Particle Size Control Section: 10 to 110 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon to cm.
cambic horizon 10 to cm.
andic soil properties 10 to cm.
lithologic discontinuity 66 to cm.

Country:
State: Washington
County: Skamania
MLRA: 3 -- Olympic and Cascade Mountains
Soil Survey Area: WA760 -- Gifford Pinchot National Forest Area, Washington
Map Unit:
Pit Location:
Quad Name:
Std Latitude: 45.8111360
Std Longitude: -121.9907380

Latitude:
Longitude:
Datum:
UTM Zone:
UTM Easting:
UTM Northing:

Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: volcanic ash mixed with colluvium derived from basalt over debris flow deposits
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2018WA059002 **Pedon ID:** S2018WA059002

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
25.0	567.0	120						well		

Oi--0 to 3 centimeters (0.0 to 1.2 inches); slightly decomposed plant material; abrupt smooth boundary. Lab sample # 18N06340

Oe--3 to 10 centimeters (1.2 to 3.9 inches); moderately decomposed plant material; abrupt wavy boundary. Lab sample # 18N06341

A--10 to 32 centimeters (3.9 to 12.6 inches); black (7.5YR 2.5/1) broken face medial loam, dark brown (7.5YR 3/2) broken face, dry; 35 percent sand; 22 percent clay; moderate fine granular structure; soft, very friable, slightly sticky, slightly plastic; weakly smeary; common very fine roots and common medium roots and common fine roots and common coarse roots; few medium irregular and common fine irregular pores; 5 percent nonflat indurated 20 to 75-millimeter Basalt fragments and 5 percent nonflat indurated 75 to 250-millimeter Basalt fragments; clear wavy boundary. Lab sample # 18N06342

Bw1--32 to 66 centimeters (12.6 to 26.0 inches); dark brown (7.5YR 3/4) broken face medial silt loam, brown (7.5YR 4/4) broken face, dry; 20 percent sand; 25 percent clay; moderate medium subangular blocky structure; moderately hard, friable, slightly sticky, slightly plastic; weakly smeary; common very fine roots and common medium roots and common fine roots and few coarse roots; common very fine tubular and few medium irregular and few fine tubular pores; 5 percent nonflat indurated 20 to 75-millimeter Basalt fragments; abrupt wavy boundary. Lab sample # 18N06343

2Bw2--66 to 100 centimeters (26.0 to 39.4 inches); brown (7.5YR 4/2) broken face medial loam, brown (7.5YR 5/3) broken face, dry; 35 percent sand; 22 percent clay; moderate coarse subangular blocky structure; hard, firm, slightly sticky, slightly plastic; weakly smeary; few very fine roots and few fine roots; common very fine tubular pores; 10 percent nonflat moderately cemented 2 to 5-millimeter Volcanic rock fragments. Lab sample # 18N06344

PEDON DESCRIPTION -- NEON Site WREF

Print Date: Oct 14 2018
Description Date: Aug 7 2018
Describer: Jason Martin
NEON Plot ID: WREF_009
Site ID: S2018WA059009

Pedon ID: S2018WA059009
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 18N2873
Soil Name as Described/Sampled: Vitric Hapludands
Classification: Medial-skeletal, amorphic, frigid Vitric Hapludands
Soil Name as Correlated:
Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: taxon above family
Associated Soils:
Physiographic Division:
Physiographic Province:
Physiographic Section:
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on side slope of hills
on side slope of debris slide on debris chute cinder cone
Upslope Shape: linear
Cross Slope Shape: concave
Particle Size Control Section: 3 to 103 cm.

Description origin: NASIS
Diagnostic Features: ochric epipedon to cm.
andic soil properties 3 to cm.
cambic horizon 3 to cm.

Country:
State: Washington
County: Skamania
MLRA: 3 -- Olympic and Cascade Mountains
Soil Survey Area: WA760 -- Gifford Pinchot National Forest Area, Washington
Map Unit:
Pit Location:
Quad Name:
Std Latitude: 45.8358570
Std Longitude: -122.0017390

Latitude:
Longitude:
Datum:
UTM Zone:
UTM Easting:
UTM Northing:

Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: volcanic ash mixed with colluvium derived from basalt
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments: 30.0 percent nonflat indurated 250- to 600-millimeter Volcanic rock fragments
Description database: KSSL

Cont. Site ID: S2018WA059009 **Pedon ID:** S2018WA059009

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
51.0	829.0	254						well		

Oi--0 to 3 centimeters (0.0 to 1.2 inches); slightly decomposed plant material; abrupt wavy boundary. Lab sample # 18N06833

A--3 to 9 centimeters (1.2 to 3.5 inches); very dark brown (10YR 2/2) broken face gravelly medial sandy loam, dark grayish brown (10YR 4/2) broken face, dry; 55 percent sand; 4 percent clay; weak fine granular structure; soft, very friable, nonsticky, nonplastic; weakly smeary; few medium roots throughout and common fine roots throughout; many very fine irregular and common fine irregular pores; 5 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 25 percent nonflat indurated 2 to 5-millimeter Basalt fragments; clear wavy boundary. Lab sample # 18N06834

Bw1--9 to 25 centimeters (3.5 to 9.8 inches); dark brown (7.5YR 3/4) broken face very gravelly medial sandy loam, yellowish brown (10YR 5/4) broken face, dry; 55 percent sand; 6 percent clay; weak fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; weakly smeary; few very coarse roots throughout and common medium roots throughout and common fine roots throughout; common fine irregular and common fine dendritic tubular pores; 10 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 30 percent nonflat indurated 2 to 5-millimeter Basalt fragments; clear wavy boundary. Lab sample # 18N06835

Bw2--25 to 46 centimeters (9.8 to 18.1 inches); dark brown (7.5YR 3/4) broken face very gravelly medial sandy loam, brown (7.5YR 4/4) broken face, dry; 60 percent sand; 9 percent clay; weak fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; weakly smeary; common medium roots throughout and many fine roots throughout and common coarse roots throughout; common fine irregular and common fine dendritic tubular pores; 2 percent nonflat indurated 250 to 600-millimeter Basalt fragments and 3 percent nonflat indurated 75 to 250-millimeter Basalt fragments and 5 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 30 percent nonflat indurated 2 to 5-millimeter Basalt fragments; clear wavy boundary. Lab sample # 18N06836

Bw3--46 to 100 centimeters (18.1 to 39.4 inches); dark yellowish brown (10YR 3/4) broken face extremely stony medial sandy loam, yellowish brown (10YR 5/4) broken face, dry; 65 percent sand; 10 percent clay; weak fine subangular blocky structure; soft, very friable, slightly sticky, nonplastic; weakly smeary; few medium roots throughout and few fine roots throughout; many very fine irregular pores; 10 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 10 percent nonflat indurated 75 to 250-millimeter Basalt fragments and 25 percent nonflat indurated 250 to 600-millimeter Basalt fragments and 25 percent nonflat indurated 2 to 5-millimeter Basalt fragments. Lab sample # 18N06837

PEDON DESCRIPTION -- NEON Site WREF

Print Date: Oct 14 2018
Description Date: Aug 7 2018
Describer: Jason Martin
NEON Plot ID: WREF_011
Site ID: S2018WA059011

Pedon ID: S2018WA059011
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 18N2114
Soil Name as Described/Sampled: Stabler
Classification: Medial, amorphic, frigid Vitric Hapludands
Soil Name as Correlated:
Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling 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 cinder cone on backslope of side slope of hills
Upslope Shape: convex
Cross Slope Shape: linear
Particle Size Control Section: 2 to 102 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon to cm.
andic soil properties 2 to cm.
cambic horizon 2 to cm.

Country:
State: Washington
County: Skamania
MLRA: 3 -- Olympic and Cascade Mountains
Soil Survey Area: WA760 -- Gifford Pinchot National Forest Area, Washington
Map Unit:
Pit Location:
Quad Name:
Std Latitude: 45.8345990
Std Longitude: -121.9835040

Latitude:
Longitude:
Datum:
UTM Zone:
UTM Easting:
UTM Northing:

Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: volcanic ash mixed with colluvium derived from basalt
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2018WA059011 **Pedon ID:** S2018WA059011

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
18.0	645.0	106						well		

Oi--0 to 2 centimeters (0.0 to 0.8 inches); slightly decomposed plant material; abrupt wavy boundary. Lab sample # 18N06345

A--2 to 9 centimeters (0.8 to 3.5 inches); dark yellowish brown (10YR 3/4) broken face gravelly medial sandy loam, yellowish brown (10YR 5/4) broken face, dry; 65 percent sand; 8 percent clay; moderate very fine granular structure; soft, very friable, nonsticky, nonplastic; weakly smeary; few very fine roots and common medium roots and few fine roots and common coarse roots; common very fine tubular and many very fine irregular pores; 5 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 10 percent nonflat indurated 2 to 5-millimeter Basalt fragments; clear wavy boundary. Lab sample # 18N06346

Bw1--9 to 42 centimeters (3.5 to 16.5 inches); dark brown (7.5YR 3/4) broken face gravelly medial sandy loam, brown (7.5YR 5/4) broken face, dry; 65 percent sand; 10 percent clay; weak very fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; weakly smeary; common very fine roots and few very coarse roots and common medium roots and common fine roots and common coarse roots; many very fine tubular and common fine tubular pores; 5 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 15 percent nonflat indurated 2 to 5-millimeter Basalt fragments; gradual wavy boundary. Lab sample # 18N06347

Bw2--42 to 67 centimeters (16.5 to 26.4 inches); dark brown (7.5YR 3/4) broken face very gravelly medial sandy loam, brown (7.5YR 4/4) broken face, dry; 65 percent sand; 10 percent clay; weak fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; weakly smeary; common very fine roots and few medium roots and common fine roots and few coarse roots; many very fine tubular and few medium irregular pores; 10 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 10 percent nonflat indurated 20 to 75-millimeter Basalt fragments and 10 percent nonflat indurated 75 to 250-millimeter Basalt fragments and 20 percent nonflat indurated 2 to 5-millimeter Basalt fragments; clear wavy boundary. Lab sample # 18N06348

Bw3--67 to 100 centimeters (26.4 to 39.4 inches); dark yellowish brown (10YR 3/6) broken face extremely gravelly medial sandy loam, dark yellowish brown (10YR 4/6) broken face, dry; 65 percent sand; 4 percent clay; weak fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; weakly smeary; few very fine roots; many very fine irregular pores; 5 percent nonflat indurated 250 to 600-millimeter Basalt fragments and 10 percent nonflat indurated 20 to 75-millimeter Basalt fragments and 10 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 15 percent nonflat indurated 75 to 250-millimeter Basalt fragments and 25 percent nonflat indurated 2 to 5-millimeter Basalt fragments. Lab sample # 18N06349

PEDON DESCRIPTION -- NEON Site WREF

Print Date: Oct 14 2018
Description Date: Aug 8 2018
Describer: Dan Ufnar
NEON Plot ID: WREF_012
Site ID: S2018WA059012

Pedon ID: S2018WA059012
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 18N2115
Soil Name as Described/Sampled: Vitrandic Humudepts
Classification: Loamy-skeletal, mixed, superactive, mesic Vitrandic Humudepts
Soil Name as Correlated:
Classification:
Pedon Type: undefined observation
Pedon Purpose: laboratory sampling site
Taxon Kind: family
Associated Soils:
Physiographic Division:
Physiographic Province:
Physiographic Section:
State Physiographic Area:
Local Physiographic Area:
Geomorphic Setting: on tread of stream terrace on valley
Upslope Shape: linear
Cross Slope Shape: linear
Particle Size Control Section: 30 to 105 cm.
Description origin: NASIS
Diagnostic Features: umbric epipedon 5 to 68 cm.
cambic horizon 68 to cm.

Country:
State: Washington
County: Skamania
MLRA: 3 -- Olympic and Cascade Mountains
Soil Survey Area: WA760 -- Gifford Pinchot National Forest Area, Washington
Map Unit:
Pit Location:
Quad Name:
Std Latitude: 45.8404640
Std Longitude: -121.8634280

Latitude:
Longitude:
Datum:
UTM Zone:
UTM Easting:
UTM Northing:

Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: alluvium
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2018WA059012 **Pedon ID:** S2018WA059012

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	321.0	0						well		

Oe--0 to 5 centimeters (0.0 to 2.0 inches); moderately decomposed plant material; abrupt smooth boundary. Lab sample # 18N06350

A--5 to 34 centimeters (2.0 to 13.4 inches); very dark brown (7.5YR 2.5/2) broken face very gravelly sandy loam, dark brown (7.5YR 3/2) broken face, dry; 60 percent sand; 14 percent clay; strong fine granular structure; soft, very friable; many very fine roots throughout and common medium roots throughout and common fine roots throughout and few coarse roots throughout; many very fine irregular pores; 5 percent nonflat indurated 75 to 250-millimeter Mixed rock fragments and 20 percent nonflat indurated 20 to 75-millimeter Mixed rock fragments and 30 percent nonflat indurated 2 to 5-millimeter Mixed rock fragments; clear wavy boundary. Lab sample # 18N06351

Bw1--34 to 68 centimeters (13.4 to 26.8 inches); very dark brown (7.5YR 2.5/3) broken face extremely gravelly sandy loam, dark brown (7.5YR 3/4) broken face, dry; 60 percent sand; 12 percent clay; weak fine subangular blocky structure; soft, very friable; common very fine roots throughout and common medium roots throughout; few very fine tubular and common fine irregular pores; 10 percent nonflat indurated 2 to 5-millimeter Mixed rock fragments and 20 percent nonflat indurated 75 to 250-millimeter Mixed rock fragments and 35 percent nonflat indurated 20 to 75-millimeter Mixed rock fragments; clear wavy boundary. Lab sample # 18N06352

Bw2--68 to 100 centimeters (26.8 to 39.4 inches); dark brown (7.5YR 3/3) broken face extremely gravelly loamy sand, dark brown (7.5YR 3/4) broken face, dry; 90 percent sand; 3 percent clay; weak very fine subangular blocky structure; soft, very friable; few very fine roots throughout; common fine interstitial pores; 10 percent nonflat indurated 75 to 250-millimeter Mixed rock fragments and 20 percent nonflat indurated 2 to 5-millimeter Mixed rock fragments and 35 percent nonflat indurated 20 to 75-millimeter Mixed rock fragments. Lab sample # 18N06353

PEDON DESCRIPTION -- NEON Site WREF

Print Date: Oct 14 2018
Description Date: Aug 8 2018
Describer: Elizabeth Carp
NEON Plot ID: WREF_013
Site ID: S2018WA059013

Pedon ID: S2018WA059013
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 18N2116
Soil Name as Described/Sampled: Stabler
Classification: Medial, amorphic, frigid Vitric Hapludands
Soil Name as Correlated:
Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling 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 cinder cone on backslope of side slope of hills
Upslope Shape: linear
Cross Slope Shape: linear
Particle Size Control Section: 4 to 104 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon to cm.
cambic horizon 4 to cm.
andic soil properties 4 to cm.

Country:
State: Washington
County: Skamania
MLRA: 3 -- Olympic and Cascade Mountains
Soil Survey Area: WA760 -- Gifford Pinchot National Forest Area, Washington
Map Unit:
Pit Location:
Quad Name:
Std Latitude: 45.8357720
Std Longitude: -122.0189130

Latitude:
Longitude:
Datum:
UTM Zone:
UTM Easting:
UTM Northing:

Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: volcanic ash mixed with colluvium derived from basalt
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2018WA059013 **Pedon ID:** S2018WA059013

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
14.0	618.0	286						well		

Oi--0 to 4 centimeters (0.0 to 1.6 inches); slightly decomposed plant material; abrupt wavy boundary. Lab sample # 18N06354

Bw1--4 to 20 centimeters (1.6 to 7.9 inches); dark brown (7.5YR 3/4) broken face gravelly medial sandy loam, brown (7.5YR 4/4) broken face, dry; 55 percent sand; 10 percent clay; weak very fine granular structure; soft, very friable, nonsticky, nonplastic; weakly smeary; few very fine roots and common medium roots and common fine roots and few coarse roots; common medium irregular and common fine tubular pores; 10 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 15 percent nonflat indurated 2 to 5-millimeter Basalt fragments; clear wavy boundary. Lab sample # 18N06355

Bw2--20 to 42 centimeters (7.9 to 16.5 inches); dark brown (7.5YR 3/4) broken face gravelly medial sandy loam, brown (7.5YR 4/4) broken face, dry; 60 percent sand; 10 percent clay; weak very fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; weakly smeary; few very fine roots and few very coarse roots and common medium roots and common fine roots; few very fine tubular and common medium irregular and common fine irregular and common fine tubular pores; 2 percent nonflat indurated 250 to 600-millimeter Basalt fragments and 10 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 15 percent nonflat indurated 2 to 5-millimeter Basalt fragments; clear wavy boundary. Lab sample # 18N06356

Bw3--42 to 58 centimeters (16.5 to 22.8 inches); dark yellowish brown (10YR 3/6) broken face gravelly medial sandy loam, dark yellowish brown (10YR 4/6) broken face, dry; 40 percent sand; 12 percent clay; weak fine subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; weakly smeary; few medium roots and common fine roots; few medium irregular and few fine irregular pores; 10 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 15 percent nonflat indurated 2 to 5-millimeter Basalt fragments; clear wavy boundary. Lab sample # 18N06357

Bw4--58 to 100 centimeters (22.8 to 39.4 inches); dark yellowish brown (10YR 3/6) broken face very gravelly medial sandy loam, dark yellowish brown (10YR 4/6) broken face, dry; 45 percent sand; 13 percent clay; weak fine subangular blocky structure; soft, very friable, slightly sticky, slightly plastic; weakly smeary; common medium roots and few fine roots; few fine irregular pores; 5 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 10 percent nonflat indurated 2 to 5-millimeter Basalt fragments and 20 percent nonflat indurated 20 to 75-millimeter Basalt fragments and 20 percent nonflat indurated 75 to 250-millimeter Basalt fragments. Lab sample # 18N06358

PEDON DESCRIPTION -- NEON Site WREF

Print Date: Oct 14 2018
Description Date: Aug 8 2018
Describer: Daniel Ufnar
NEON Plot ID: WREF_016
Site ID: S2018WA059016

Pedon ID: S2018WA059016
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 18N2117
Soil Name as Described/Sampled: Stabler
Classification: Medial, amorphic, mesic Vitric Hapludands
Soil Name as Correlated:
Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils:
Physiographic Division:
Physiographic Province:
Physiographic Section:
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on side slope of hills on debris flow
Upslope Shape: linear
Cross Slope Shape: convex
Particle Size Control Section: 8 to 108 cm.
Description origin: NASIS

Diagnostic Features: ochric epipedon to cm.
andic soil properties 8 to cm.
cambic horizon 8 to cm.

Country:
State: Washington
County: Skamania
MLRA: 3 -- Olympic and Cascade Mountains
Soil Survey Area: WA760 -- Gifford Pinchot National Forest Area, Washington
Map Unit:
Pit Location:
Quad Name:
Std Latitude: 45.8262780
Std Longitude: -121.9938170

Latitude:
Longitude:
Datum:
UTM Zone:
UTM Easting:
UTM Northing:

Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: volcanic ash mixed with colluvium derived from basalt
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2018WA059016 **Pedon ID:** S2018WA059016

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
5.0	588.0	120						well		

Oi--0 to 3 centimeters (0.0 to 1.2 inches); slightly decomposed plant material; abrupt wavy boundary. Lab sample # 18N06359

Oe--3 to 8 centimeters (1.2 to 3.1 inches); moderately decomposed plant material; abrupt wavy boundary. Lab sample # 18N06360

A--8 to 40 centimeters (3.1 to 15.7 inches); brown (10YR 4/3) broken face gravelly medial loam, yellowish brown (10YR 5/4) broken face, dry; 50 percent sand; 15 percent clay; strong fine granular structure; slightly hard, friable, slightly sticky, slightly plastic; weakly smeary; common very coarse roots and common medium roots and common fine roots and common coarse roots; many fine irregular pores; 5 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 15 percent nonflat indurated 2 to 5-millimeter Basalt fragments; gradual wavy boundary. Lab sample # 18N06361

Bw1--40 to 77 centimeters (15.7 to 30.3 inches); dark yellowish brown (10YR 4/4) broken face gravelly medial loam, light yellowish brown (10YR 6/4) broken face, dry; 45 percent sand; 15 percent clay; moderate fine subangular blocky structure; soft, very friable, slightly sticky, slightly plastic; weakly smeary; many very coarse roots and many medium roots and many fine roots and common coarse roots; common fine tubular pores; 5 percent nonflat indurated 75 to 250-millimeter Basalt fragments and 10 percent nonflat indurated 2 to 5-millimeter Basalt fragments and 10 percent nonflat indurated 5 to 20-millimeter Basalt fragments; gradual wavy boundary. Lab sample # 18N06362

Bw2--77 to 100 centimeters (30.3 to 39.4 inches); brown (10YR 4/3) broken face medial loam, pale brown (10YR 6/3) broken face, dry; 50 percent sand; 20 percent clay; weak fine subangular blocky structure; soft, very friable, slightly sticky, slightly plastic; weakly smeary; many very coarse roots and few medium roots and few fine roots and common coarse roots; common fine tubular pores; 5 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 5 percent nonflat indurated 75 to 250-millimeter Basalt fragments. Lab sample # 18N06363

PEDON DESCRIPTION -- NEON Site WREF

Print Date: Oct 14 2018
Description Date: Aug 7 2018
Describer: Daniel Ufnar
NEON Plot ID: WREF_019
Site ID: S2018WA059019

Pedon ID: S2018WA059019
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 18N2118
Soil Name as Described/Sampled: Stabler
Classification: Medial, amorphic, mesic Vitric Hapludands
Soil Name as Correlated:
Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils:
Physiographic Division:
Physiographic Province:
Physiographic Section:
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on side slope of debris flow on hills
Upslope Shape: linear
Cross Slope Shape: convex
Particle Size Control Section: 7 to 107 cm.
Description origin: NASIS

Diagnostic Features: ochric epipedon to cm.
andic soil properties 7 to cm.
cambic horizon 7 to cm.

Country:
State: Washington
County: Skamania
MLRA: 3 -- Olympic and Cascade Mountains
Soil Survey Area: WA760 -- Gifford Pinchot National Forest Area, Washington
Map Unit:
Pit Location:
Quad Name:
Std Latitude: 45.8197270
Std Longitude: -121.9688380

Latitude:
Longitude:
Datum:
UTM Zone:
UTM Easting:
UTM Northing:

Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: volcanic ash mixed with colluvium derived from basalt
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2018WA059019 **Pedon ID:** S2018WA059019

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	441.0	120						well		

Oi--0 to 7 centimeters (0.0 to 2.8 inches); slightly decomposed plant material; abrupt smooth boundary. Lab sample # 18N06364

A--7 to 41 centimeters (2.8 to 16.1 inches); dark yellowish brown (10YR 3/4) broken face gravelly medial sandy loam, dark yellowish brown (10YR 4/4) broken face, dry; strong fine granular structure; soft, very friable, nonsticky, nonplastic; weakly smeary; common medium roots and many fine roots and common coarse roots; many very fine irregular pores; 10 percent nonflat indurated 2 to 5-millimeter Basalt fragments and 15 percent nonflat indurated 5 to 20-millimeter Basalt fragments; clear wavy boundary. Lab sample # 18N06365

Bw1--41 to 71 centimeters (16.1 to 28.0 inches); dark yellowish brown (10YR 3/6) broken face gravelly medial sandy loam, yellowish brown (10YR 5/6) broken face, dry; weak fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; weakly smeary; few very coarse roots and common medium roots and common fine roots and common coarse roots; common very fine tubular and few medium irregular pores; 10 percent nonflat indurated 2 to 5-millimeter Basalt fragments and 15 percent nonflat indurated 5 to 20-millimeter Basalt fragments; gradual wavy boundary. Lab sample # 18N06366

Bw2--71 to 100 centimeters (28.0 to 39.4 inches); dark yellowish brown (10YR 4/6) broken face medial sandy loam, yellowish brown (10YR 5/6) broken face, dry; weak medium subangular blocky structure; soft, very friable, nonsticky, nonplastic; weakly smeary; few very coarse roots and common medium roots and few fine roots and common coarse roots; common very fine tubular and few medium irregular pores; 10 percent nonflat indurated 5 to 20-millimeter Basalt fragments. Lab sample # 18N06367

PEDON DESCRIPTION -- NEON Site WREF

Print Date: Oct 14 2018
Description Date: Aug 8 2018
Describer: Max Ross
NEON Plot ID: WREF_024
Site ID: S2018WA059024

Pedon ID: S2018WA059024
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 18N2119
Soil Name as Described/Sampled: Stabler
Classification: Medial, amorphic, frigid Vitric Hapludands
Soil Name as Correlated:
Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling 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 cinder cone on backslope of side slope of hills
Upslope Shape: convex
Cross Slope Shape: linear
Particle Size Control Section: 8 to 108 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon to cm.
cambic horizon 8 to cm.
andic soil properties 8 to cm.
lithologic discontinuity 86 to cm.

Country:
State: Washington
County: Skamania
MLRA: 3 -- Olympic and Cascade Mountains
Soil Survey Area: WA760 -- Gifford Pinchot National Forest Area, Washington
Map Unit:
Pit Location:
Quad Name:
Std Latitude: 45.8489690
Std Longitude: -121.9968190

Latitude:
Longitude:
Datum:
UTM Zone:
UTM Easting:
UTM Northing:

Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: volcanic ash mixed with colluvium derived from basalt over debris flow deposits
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2018WA059024 **Pedon ID:** S2018WA059024

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	629.0	230						well		

Oi--0 to 8 centimeters (0.0 to 3.1 inches); slightly decomposed plant material; abrupt wavy boundary. Lab sample # 18N06368

Bw1--8 to 18 centimeters (3.1 to 7.1 inches); dark yellowish brown (10YR 4/4) broken face and dark yellowish brown (10YR 4/6) broken face medial sandy loam; 60 percent sand; 5 percent clay; moderate very fine granular structure; soft, very friable, nonsticky, nonplastic; weakly smeary; few medium roots and few fine roots and few coarse roots; many very fine irregular and few medium irregular pores; abrupt wavy boundary. Lab sample # 18N06369

Bw2--18 to 45 centimeters (7.1 to 17.7 inches); dark yellowish brown (10YR 3/6) broken face and dark yellowish brown (10YR 4/4) broken face medial sandy loam; 60 percent sand; 9 percent clay; moderate very fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; weakly smeary; few very fine roots and few medium roots and common fine roots and few coarse roots; many very fine tubular and many very fine irregular and few medium tubular pores; 5 percent nonflat indurated 2 to 5-millimeter Basalt fragments; clear wavy boundary. Lab sample # 18N06370

Bw3--45 to 86 centimeters (17.7 to 33.9 inches); dark yellowish brown (10YR 3/6) broken face and dark yellowish brown (10YR 4/4) broken face medial sandy loam; 60 percent sand; 7 percent clay; moderate fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; weakly smeary; few very fine roots and few medium roots and common fine roots and few coarse roots; many very fine irregular and few fine tubular pores; 5 percent nonflat indurated 2 to 5-millimeter Basalt fragments; clear smooth boundary. Lab sample # 18N06371

2Bw4--86 to 100 centimeters (33.9 to 39.4 inches); dark yellowish brown (10YR 4/4) broken face and yellowish brown (10YR 5/6) broken face gravelly medial sandy loam; 60 percent sand; 11 percent clay; weak fine subangular blocky structure; slightly hard, friable, nonsticky, nonplastic; weakly smeary; few very fine roots and few medium roots; common very fine irregular pores; 2 percent nonflat indurated 75 to 250-millimeter Basalt fragments and 10 percent nonflat indurated 2 to 5-millimeter Basalt fragments and 10 percent nonflat indurated 5 to 75-millimeter Basalt fragments. Lab sample # 18N06372

PEDON DESCRIPTION -- NEON Site WREF

Print Date: Oct 14 2018
Description Date: Aug 8 2018
Describer: Max Ross
NEON Plot ID: WREF_026
Site ID: S2018WA059026

Pedon ID: S2018WA059026
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 18N2120
Soil Name as Described/Sampled: Vitric Hapludands
Classification: Medial-skeletal, amorphic, frigid Vitric Hapludands
Soil Name as Correlated:
Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: taxon above family
Associated Soils:
Physiographic Division:
Physiographic Province:
Physiographic Section:
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on side slope of cinder cone
on side slope of hills
Upslope Shape: linear
Cross Slope Shape: linear
Particle Size Control Section: 6 to 106 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon to cm.
cambic horizon 6 to cm.
andic soil properties 6 to cm.

Country:
State: Washington
County: Skamania
MLRA: 3 -- Olympic and Cascade Mountains
Soil Survey Area: WA760 -- Gifford Pinchot National Forest Area, Washington
Map Unit:
Pit Location:
Quad Name:
Std Latitude: 45.8426360
Std Longitude: -122.0083830

Latitude:
Longitude:
Datum:
UTM Zone:
UTM Easting:
UTM Northing:

Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: volcanic ash mixed with colluvium derived from basalt
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2018WA059026 **Pedon ID:** S2018WA059026

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
25.0	678.0	290						well		

Oi--0 to 6 centimeters (0.0 to 2.4 inches); slightly decomposed plant material; abrupt wavy boundary. Lab sample # 18N06373

Bw1--6 to 29 centimeters (2.4 to 11.4 inches); dark yellowish brown (10YR 3/4) broken face gravelly medial sandy loam, yellowish brown (10YR 5/4) broken face, dry; 70 percent sand; 6 percent clay; moderate very fine granular structure; soft, very friable, nonsticky, nonplastic; weakly smeary; many very fine roots throughout and few medium roots throughout and common fine roots throughout and few coarse roots throughout; common very fine irregular pores; 3 percent nonflat indurated 250 to 600-millimeter Basalt fragments and 5 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 15 percent nonflat indurated 2 to 5-millimeter Basalt fragments; abrupt wavy boundary. Lab sample # 18N06374

Bw2--29 to 61 centimeters (11.4 to 24.0 inches); dark yellowish brown (10YR 3/4) broken face gravelly medial sandy loam, yellowish brown (10YR 5/4) broken face, dry; 65 percent sand; 8 percent clay; weak very fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; weakly smeary; common very fine roots throughout and few medium roots throughout and common fine roots throughout and few coarse roots throughout; common very fine irregular and common medium tubular and common fine tubular pores; 2 percent nonflat indurated 20 to 75-millimeter Basalt fragments and 10 percent nonflat indurated 5 to 20-millimeter Basalt fragments and 15 percent nonflat indurated 2 to 5-millimeter Basalt fragments; abrupt wavy boundary. Lab sample # 18N06375

Bw3--61 to 100 centimeters (24.0 to 39.4 inches); dark yellowish brown (10YR 3/4) broken face very stony medial sandy loam, yellowish brown (10YR 5/4) broken face, dry; 65 percent sand; 8 percent clay; weak very fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; weakly smeary; few medium roots throughout and few fine roots throughout and few coarse roots throughout; common very fine irregular and few medium tubular and few fine tubular pores; 5 percent nonflat indurated 75 to 250-millimeter Basalt fragments and 10 percent nonflat indurated 2 to 5-millimeter Basalt fragments and 10 percent nonflat indurated 5 to 75-millimeter Basalt fragments and 30 percent nonflat indurated 250 to 600-millimeter Basalt fragments. Lab sample # 18N06376

PEDON DESCRIPTION -- NEON Site WREF

Print Date: Oct 14 2018
Description Date: Aug 6 2018
Describer: Dan Ufnar
NEON Plot ID: WREF_027
Site ID: S2018WA059027

Pedon ID: S2018WA059027
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 18N2121
Soil Name as Described/Sampled: Stabler
Classification: Medial, amorphic, mesic Vitric Hapludands
Soil Name as Correlated:
Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils:
Physiographic Division:
Physiographic Province:
Physiographic Section:
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on side slope of hills
on side slope of debris flow on cinder cone
Upslope Shape: linear
Cross Slope Shape: concave
Particle Size Control Section: 10 to 110 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon to cm.
andic soil properties 10 to cm.
cambic horizon 10 to cm.
lithologic discontinuity 70 to cm.

Country:
State: Washington
County: Skamania
MLRA: 3 -- Olympic and Cascade Mountains
Soil Survey Area: WA760 -- Gifford Pinchot National Forest Area, Washington
Map Unit:
Pit Location:
Quad Name:
Std Latitude: 45.8187310
Std Longitude: -121.9758910

Latitude:
Longitude:
Datum:
UTM Zone:
UTM Easting:
UTM Northing:

Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: volcanic ash over debris flow deposits
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2018WA059027 **Pedon ID:** S2018WA059027

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
22.0	491.0	128						well		

Oi--0 to 3 centimeters (0.0 to 1.2 inches); slightly decomposed plant material; abrupt smooth boundary. Lab sample # 18N06377

Oe--3 to 10 centimeters (1.2 to 3.9 inches); moderately decomposed plant material; abrupt smooth boundary. Lab sample # 18N06378

Ac--10 to 43 centimeters (3.9 to 16.9 inches); dark brown (7.5YR 3/3) broken face medial sandy loam; 60 percent sand; 13 percent clay; moderate fine granular structure; soft, very friable, slightly sticky, slightly plastic; weakly smeary; common medium roots throughout and common fine roots throughout and few coarse roots throughout; many fine irregular pores; 2 percent nonflat strongly cemented 2 to 5-millimeter Iron-manganese concretions; clear wavy boundary. Lab sample # 18N06379

Bw1--43 to 70 centimeters (16.9 to 27.6 inches); dark yellowish brown (10YR 4/4) broken face medial sandy loam; 60 percent sand; 15 percent clay; weak fine subangular blocky structure; soft, friable, slightly sticky, slightly plastic; weakly smeary; many medium roots throughout and common fine roots throughout and common coarse roots throughout; few medium irregular and common fine irregular pores; clear wavy boundary. Lab sample # 18N06380

2Bw2--70 to 100 centimeters (27.6 to 39.4 inches); dark yellowish brown (10YR 4/6) broken face medial sandy loam; 65 percent sand; 6 percent clay; weak coarse subangular blocky structure; hard, firm, nonsticky, nonplastic; weakly smeary; common medium roots throughout and few fine roots throughout and common coarse roots throughout; few fine irregular pores; . Lab sample # 18N06381

PEDON DESCRIPTION -- NEON Site WREF

Print Date: Oct 14 2018
Description Date: Aug 8 2018
Describer: Dan Ufnar
NEON Plot ID: WREF_070
Site ID: S2018WA059070

Pedon ID: S2018WA059070
Site Note:
Pedon Note:
Lab Source ID: KSSL
Lab Pedon #: 18N2122
Soil Name as Described/Sampled: Stabler
Classification: Medial, amorphic, mesic Vitric Hapludands
Soil Name as Correlated:
Classification:
Pedon Type: correlates to named soil
Pedon Purpose: laboratory sampling site
Taxon Kind: series
Associated Soils:
Physiographic Division:
Physiographic Province:
Physiographic Section:
State Physiographic Area:

Local Physiographic Area:
Geomorphic Setting: on side slope of hills
on side slope of debris flow on cinder cone
Upslope Shape: linear
Cross Slope Shape: linear
Particle Size Control Section: 5 to 105 cm.
Description origin: NASIS
Diagnostic Features: ochric epipedon to cm.
cambic horizon 5 to cm.
andic soil properties 5 to cm.
lithologic discontinuity 70 to cm.

Country:
State: Washington
County: Skamania
MLRA: 3 -- Olympic and Cascade Mountains
Soil Survey Area: WA659 -- Skamania County Area, Washington
Map Unit:
Pit Location:
Quad Name:
Std Latitude: 45.8240590
Std Longitude: -121.9555490

Latitude:
Longitude:
Datum:
UTM Zone:
UTM Easting:
UTM Northing:

Primary Earth Cover: Tree cover
Secondary Earth Cover: Conifers
Existing Vegetation:
Parent Material: volcanic ash over debris flow deposits
Bedrock Kind:
Bedrock Depth:
Bedrock Hardness:
Bedrock Fracture Interval:
Surface Fragments:
Description database: KSSL

Cont. Site ID: S2018WA059070 **Pedon ID:** S2018WA059070

Slope (%)	Elevation (meters)	Aspect (deg)	MAAT (C)	MSAT (C)	MWAT (C)	MAP (mm)	Frost-Free Days	Drainage Class	Slope Length (meters)	Upslope Length (meters)
5.0	378.0	2						well		

Oi--0 to 5 centimeters (0.0 to 2.0 inches); slightly decomposed plant material; . Lab sample # 18N06382

A--5 to 25 centimeters (2.0 to 9.8 inches); very dark brown (7.5YR 2/2) broken face medial sandy loam, very dark grayish brown (10YR 3/2) broken face, dry; 65 percent sand; 10 percent clay; strong fine granular structure; slightly hard, friable, nonsticky, nonplastic; moderately smeary; few medium roots and common fine roots; many very fine irregular pores; 10 percent nonflat indurated 2 to 5-millimeter Basalt fragments. Lab sample # 18N06383

Bw1--25 to 60 centimeters (9.8 to 23.6 inches); dark yellowish brown (10YR 3/4) broken face medial sandy loam; 60 percent sand; 13 percent clay; moderate fine subangular blocky structure; soft, very friable, slightly sticky, slightly plastic; weakly smeary; few fine roots; common very fine irregular pores; 10 percent nonflat indurated 2 to 5-millimeter Basalt fragments. Lab sample # 18N06384

Bw2--60 to 70 centimeters (23.6 to 27.6 inches); dark yellowish brown (10YR 4/4) broken face medial sandy loam; 60 percent sand; 14 percent clay; moderate fine subangular blocky structure; soft, very friable, slightly sticky, slightly plastic; weakly smeary; few fine roots; common very fine tubular pores; 10 percent nonflat indurated 2 to 5-millimeter Basalt fragments. Lab sample # 18N06385

2Bw3--70 to 100 centimeters (27.6 to 39.4 inches); dark yellowish brown (10YR 4/6) broken face medial loam; 50 percent sand; 20 percent clay; weak medium subangular blocky structure; moderately hard, firm, slightly sticky, slightly plastic; weakly smeary; few fine roots; few very fine tubular pores; 10 percent nonflat moderately cemented 2 to 5-millimeter Volcanic rock fragments. Lab sample # 18N06386