**PEDON DESCRIPTION -- NEON Site SJER**

**Print Date:** Apr 4 2018
**Description Date:** Jun 13 2017
**Describer:** Andrew Brown; Jennifer Wood
**NEON Plot ID:** SJER_030
**Site ID:** S2017CA039001

**Pedon ID:** S2017CA039001

**Site Note:**
**Pedon Note:**
**Lab Source ID:** KSSL
**Lab Pedon #:** 17N0815
**Soil Name as Described/Sampled:** Friant
**Classification:** Loamy, mixed, superactive, thermic Lithic Haploxerolls
**Soil Name as Correlated:**
**Classification:**
**Pedon Type:** taxadjunct to the series
**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 nose slope of hill on foothills
**Upslope Shape:** linear
**Cross Slope Shape:** linear

**Particle Size Control Section:** 25 to 46 cm.

**Description origin:** NASIS

**Diagnostic Features:** mollic epipedon 1 to 46 cm.
lithic contact 46 to 200 cm.

**Country:** United States
**State:** California
**County:** Madera
**MLRA:** 18 -- Sierra Nevada Foothills
**Soil Survey Area:** CA651 -- Madera Area, California
**Map Unit:** AeD -- Ahwahnee and Vista rocky coarse sandy loams, 8 to 30 percent slopes
**Pit Location:**
**Quad Name:** Little Table Mountain, California
**Std Latitude:** 37.1237720
**Std Longitude:** -119.7509491

**Latitude:**
**Longitude:**
**Datum:** WGS84
**UTM Zone:** 11
**UTM Easting:** 255603 meters
**UTM Northing:** 4112146 meters

**Primary Earth Cover:** Grass/herbaceous cover
**Secondary Earth Cover:** Savanna rangeland
**Existing Vegetation:**
**Parent Material:** colluvium derived from granodiorite and/or residuum weathered from granodiorite

**Bedrock Kind:** Granodiorite
**Bedrock Depth:** 46 centimeters
**Bedrock Hardness:** strongly cemented
**Bedrock Fracture Interval:** 10 to less than 45 centimeters

**Surface Fragments:** 1.0 percent nonflat subrounded very strongly cemented 2- to 75-millimeter Granodiorite fragments and 1.0 percent nonflat subrounded very strongly cemented 75- to 250-millimeter Granodiorite fragments and 2.0 percent nonflat subrounded very strongly cemented 250- to 600-millimeter Granodiorite fragments

**Description database:** KSSL

| Top Depth (cm) | Bottom Depth (cm) | Restriction Kind | Restriction Hardness |
|---|---|---|---|
| 46 | 200 | bedrock, lithic | Strongly cemented |

**Cont. Site ID:** S2017CA039001 **Pedon ID:** S2017CA039001

| 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 | 485.0 | 163 | | | | | | well | | |

Oi--0 to 1 centimeters (0.0 to 0.4 inches); slightly decomposed plant material; common very fine roots throughout; very abrupt broken boundary.

A1--1 to 5 centimeters (0.4 to 2.0 inches); brown (10YR 5/3) crushed sandy loam, very dark brown (7.5YR 2.5/2) crushed, moist; 55 percent sand; 38 percent silt; 7 percent clay; moderate medium subangular blocky parts to moderate fine granular, and moderate medium subangular blocky parts to moderate medium granular, and moderate fine subangular blocky parts to moderate fine granular, and moderate fine subangular blocky parts to moderate medium granular structure; slightly hard, very friable, slightly sticky, nonplastic; common very fine roots throughout; many very fine irregular and common fine tubular pores; 10 percent nonflat subangular strongly cemented 2 to 76-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; neutral, pH 6.8, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N04059

A2--5 to 13 centimeters (2.0 to 5.1 inches); brown (10YR 5/3) crushed parastony sandy loam, very dark brown (7.5YR 2.5/2) crushed, moist; 55 percent sand; 36 percent silt; 9 percent clay; moderate fine subangular blocky parts to moderate fine granular, and moderate fine subangular blocky parts to moderate medium granular, and moderate medium subangular blocky parts to moderate fine granular, and moderate medium subangular blocky parts to moderate medium granular structure; slightly hard, very friable, slightly sticky, nonplastic; common very fine roots throughout and common medium roots throughout; many very fine irregular and common fine tubular pores; 5 percent nonflat subrounded weakly cemented 76 to 250-millimeter Granitoid fragments and 10 percent nonflat subangular strongly cemented 2 to 76-millimeter Granitoid fragments and 15 percent nonflat subrounded moderately cemented 250 to 600-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; slightly acid, pH 6.2, pH indicator solutions; clear wavy boundary. Lab sample # 17N04060

AB--13 to 46 centimeters (5.1 to 18.1 inches); brown (10YR 5/3) crushed very paracobbly loamy sand, very dark brown (7.5YR 2.5/2) crushed, moist; 72 percent sand; 23 percent silt; 5 percent clay; moderate fine subangular blocky, and moderate medium subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; common coarse roots top of horizon; common very fine irregular and common fine tubular pores; 5 percent nonflat subangular strongly cemented 2 to 76-millimeter Granitoid fragments and 15 percent nonflat subrounded moderately cemented 250 to 600-millimeter Granitoid fragments and 30 percent nonflat subrounded weakly cemented 76 to 250-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 6.0, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N04061, 17N04062

R--46 to 100 centimeters (18.1 to 39.4 inches); strongly cemented Granodiorite bedrock, fractured at intervals of 10 to less than 45 centimeters; Strongly cemented; noneffervescent, by HCl, 1 normal.

**PEDON DESCRIPTION -- NEON Site SJER**

**Print Date:** Apr 4 2018
**Description Date:** Jun 13 2017
**Describer:** Theresa Kunch; Cathy Scott
**NEON Plot ID:** SJER_021
**Site ID:** S2017CA039002

**Pedon ID:** S2017CA039002

**Site Note:**
**Pedon Note:**
**Lab Source ID:** KSSL
**Lab Pedon #:** 17N0816
**Soil Name as Described/Sampled:** Entic Haploxerolls
**Classification:** Sandy-skeletal, mixed, thermic Entic Haploxerolls
**Soil Name as Correlated:** Kernville
**Classification:** Sandy-skeletal, mixed, thermic Entic Haploxerolls
**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 structural bench on hillslope on foothills
**Upslope Shape:** convex
**Cross Slope Shape:** convex

**Particle Size Control Section:** 25 to 54 cm.

**Description origin:** NASIS

**Diagnostic Features:** mollic epipedon 0 to 54 cm.
lithic contact 56 to 200 cm.

**Country:** United States
**State:** California
**County:** Madera
**MLRA:** 18 -- Sierra Nevada Foothills
**Soil Survey Area:** CA651 -- Madera Area, California
**Map Unit:** AeD -- Ahwahnee and Vista rocky coarse sandy loams, 8 to 30 percent slopes
**Pit Location:**
**Quad Name:** Little Table Mountain, California
**Std Latitude:** 37.1106884
**Std Longitude:** -119.7506089

**Latitude:**
**Longitude:**
**Datum:** WGS84
**UTM Zone:** 11
**UTM Easting:** 255591 meters
**UTM Northing:** 4110693 meters

**Primary Earth Cover:** Grass/herbaceous cover
**Secondary Earth Cover:** Savanna rangeland
**Existing Vegetation:**
**Parent Material:** residuum weathered from granitoid and/or slope alluvium derived from granitoid

**Bedrock Kind:** Granitoid
**Bedrock Depth:** 54 centimeters
**Bedrock Hardness:** indurated
**Bedrock Fracture Interval:** 200 centimeters or more
**Surface Fragments:** 2.0 percent nonflat subrounded very strongly cemented 75- to 250-millimeter Granitoid fragments and 5.0 percent nonflat subrounded very strongly cemented 250- to 600-millimeter Granitoid fragments and 5.0 percent nonflat subrounded very strongly cemented 600- to 3000-millimeter Granitoid fragments

**Description database:** KSSL

| Top Depth (cm) | Bottom Depth (cm) | Restriction Kind | Restriction Hardness |
|---|---|---|---|
| 56 | 200 | bedrock, lithic | Very strongly cemented |

**Cont. Site ID:** S2017CA039002 **Pedon ID:** S2017CA039002

| 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 | 406.0 | 127 | | | | | | well | | |

A--0 to 7 centimeters (0.0 to 2.8 inches); dark grayish brown (10YR 4/2) loamy coarse sand, very dark brown (10YR 2/2), moist; 88 percent sand; 9 percent silt; 3 percent clay; weak fine granular structure; soft, very friable, nonsticky, nonplastic; many very fine roots throughout; many very fine irregular pores; 4 percent nonflat subrounded very strongly cemented 2 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; abrupt smooth boundary. Lab sample # 17N04063

BA--7 to 18 centimeters (2.8 to 7.1 inches); dark grayish brown (10YR 4/2) loamy coarse sand, very dark brown (10YR 2/2), moist; 85 percent sand; 11 percent silt; 4 percent clay; weak very coarse platy parts to weak medium subangular blocky, and weak very coarse platy parts to weak fine subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; common very fine roots throughout and common very coarse roots top of horizon and common fine roots throughout; common very coarse tubular and many fine irregular pores; 3 percent nonflat subrounded very strongly cemented 2 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; abrupt smooth boundary. Lab sample # 17N04064

Bw--18 to 32 centimeters (7.1 to 12.6 inches); brown (10YR 4/3) loamy coarse sand, very dark grayish brown (10YR 3/2), moist; 85 percent sand; 10 percent silt; 5 percent clay; weak medium subangular blocky, and weak coarse subangular blocky structure; slightly hard, friable, nonsticky, nonplastic; few fine roots throughout; many fine irregular pores; 3 percent nonflat subrounded strongly cemented 75 to 250-millimeter Granitoid fragments and 10 percent nonflat subrounded very strongly cemented 2 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; abrupt smooth boundary. Lab sample # 17N04065

C--32 to 54 centimeters (12.6 to 21.3 inches); brown (10YR 4/3) very gravelly coarse sand, dark brown (10YR 3/3), moist; 98 percent sand; 1 percent silt; 1 percent clay; structureless massive; moderately hard, firm, nonsticky, nonplastic; very few fine roots throughout; many fine irregular pores; 20 percent nonflat subrounded very strongly cemented 2 to 5-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; very abrupt smooth boundary. Lab sample # 17N04066

R--54 to 200 centimeters (21.3 to 78.7 inches); indurated Granitoid bedrock, fractured at intervals of 200 centimeters or more; Very strongly cemented; common very coarse roots top of horizon; noneffervescent, by HCl, 1 normal.

**PEDON DESCRIPTION -- NEON Site SJER**

**Print Date:** Apr 4 2018
**Description Date:** Jun 13 2017
**Describer:** Andrew Paolucci; Juliet Baker
**NEON Plot ID:** SJER_024
**Site ID:** S2017CA039003

**Pedon ID:** S2017CA039003

**Site Note:**
**Pedon Note:**
**Lab Source ID:** KSSL
**Lab Pedon #:** 17N0817
**Soil Name as Described/Sampled:** Tunis
**Classification:** Loamy, mixed, superactive, thermic, shallow Typic Haploxerolls
**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 foothills on backslope of side slope of hill
**Upslope Shape:** convex
**Cross Slope Shape:** convex
**Particle Size Control Section:** 25 to 43 cm.

**Description origin:** NASIS
**Diagnostic Features:** ? to ? cm.

**Country:** United States
**State:** California
**County:** Madera
**MLRA:** 18 -- Sierra Nevada Foothills
**Soil Survey Area:** CA651 -- Madera Area, California
**Map Unit:** AeD -- Ahwahnee and Vista rocky coarse sandy loams, 8 to 30 percent slopes
**Pit Location:**
**Quad Name:** Little Table Mountain, California
**Std Latitude:** 37.1073194
**Std Longitude:** -119.7515000

**Latitude:**
**Longitude:**
**Datum:** WGS84
**UTM Zone:** 11
**UTM Easting:** 255501 meters
**UTM Northing:** 4110321 meters

**Primary Earth Cover:** Grass/herbaceous cover
**Secondary Earth Cover:** Savanna rangeland
**Existing Vegetation:**
**Parent Material:** colluvium derived from granitoid and/or residuum weathered from granitoid
**Bedrock Kind:** Granitoid
**Bedrock Depth:** 43 centimeters
**Bedrock Hardness:** weakly cemented
**Bedrock Fracture Interval:**
**Surface Fragments:** 2.0 percent nonflat rounded indurated 250- to 600-millimeter Granitoid fragments and 1.0 percent nonflat rounded indurated 600- to 3000-millimeter Granitoid fragments
**Description database:** KSSL

| Top Depth (cm) | Bottom Depth (cm) | Restriction Kind | Restriction Hardness |
|---|---|---|---|
| 43 | 71 | bedrock, paralithic | Weakly cemented |
| 71 | 200 | bedrock, lithic | Strongly cemented |

**Cont. Site ID:** S2017CA039003 **Pedon ID:** S2017CA039003

| 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 | 392.0 | 135 | | | | | | well | | |

A--0 to 10 centimeters (0.0 to 3.9 inches); grayish brown (10YR 5/2) broken face sandy loam, very dark brown (10YR 2/2) broken face, moist; 70 percent sand; 26 percent silt; 4 percent clay; weak medium subangular blocky structure; soft, very friable, slightly sticky, nonplastic; common very fine roots throughout; common very fine irregular and common fine irregular pores; 2 percent nonflat subrounded strongly cemented 2 to 76-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; slightly acid, pH 6.3, pH meter; clear wavy boundary. Lab sample # 17N04067

BA--10 to 27 centimeters (3.9 to 10.6 inches); grayish brown (10YR 5/2) broken face stony sandy loam, 10YR 2/3 (10YR 2/3) broken face, moist; 68 percent sand; 26 percent silt; 6 percent clay; weak medium subangular blocky structure; slightly hard, friable, slightly sticky, nonplastic; common very fine roots throughout; few very fine irregular and common very fine tubular and common very coarse tubular and few medium tubular and few fine tubular pores; 3 percent nonflat subrounded strongly cemented 2 to 76-millimeter Granitoid fragments and 5 percent nonflat subrounded strongly cemented 76 to 250-millimeter Granitoid fragments and 10 percent nonflat subrounded very strongly cemented 250 to 600-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; slightly acid, pH 6.4, pH meter; gradual smooth boundary. Lab sample # 17N04068

Bw--27 to 43 centimeters (10.6 to 16.9 inches); brown (10YR 5/3) broken face sandy loam, brown (10YR 4/3) broken face, moist; 67 percent sand; 22 percent silt; 11 percent clay; weak medium subangular blocky structure; hard, firm, slightly sticky, nonplastic; common very fine roots throughout; common very fine tubular and few medium tubular and few fine tubular pores; 1 percent nonflat subrounded strongly cemented 2 to 76-millimeter Granitoid fragments and 5 percent nonflat subrounded very strongly cemented 76 to 250-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; slightly acid, pH 6.3, pH meter; abrupt wavy boundary. Lab sample # 17N04069

Cr--43 to 71 centimeters (16.9 to 28.0 inches); weakly cemented Granitoid bedrock; Weakly cemented; gradual wavy boundary.

R--71 to 100 centimeters (28.0 to 39.4 inches); bedrock; Strongly cemented; .

**PEDON DESCRIPTION -- NEON Site SJER**

**Print Date:** Apr 4 2018
**Description Date:** Jun 14 2017
**Describer:** Andrew Brown; Jennifer Wood
**NEON Plot ID:** SJER_023
**Site ID:** S2017CA039004

**Pedon ID:** S2017CA039004

**Site Note:**
**Pedon Note:**
**Lab Source ID:** KSSL
**Lab Pedon #:** 17N0818
**Soil Name as Described/Sampled:** Ahwahnee
**Classification:** Coarse-loamy, mixed, active, thermic Mollic Haploxeralfs
**Soil Name as Correlated:**
**Classification:**
**Pedon Type:** correlates to named soil
**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 nose slope of hill on foothills
**Upslope Shape:** convex
**Cross Slope Shape:** convex

**Particle Size Control Section:** 22 to 70 cm.

**Description origin:** NASIS

**Diagnostic Features:** ochric epipedon 0 to 22 cm.
argillic horizon 22 to 70 cm.
lithic contact 70 to 200 cm.

**Country:** United States
**State:** California
**County:** Madera
**MLRA:** 18 -- Sierra Nevada Foothills
**Soil Survey Area:** CA651 -- Madera Area, California
**Map Unit:** AeD -- Ahwahnee and Vista rocky coarse sandy loams, 8 to 30 percent slopes
**Pit Location:**
**Quad Name:** Millerton Lake West, California
**Std Latitude:** 37.0864679
**Std Longitude:** -119.7194138

**Latitude:**
**Longitude:**
**Datum:** WGS84
**UTM Zone:** 11
**UTM Easting:** 258287 meters
**UTM Northing:** 4107925 meters

**Primary Earth Cover:** Grass/herbaceous cover
**Secondary Earth Cover:** Savanna rangeland
**Existing Vegetation:**
**Parent Material:** colluvium derived from granodiorite and/or residuum weathered from granodiorite

**Bedrock Kind:** Granodiorite
**Bedrock Depth:** 70 centimeters
**Bedrock Hardness:** strongly cemented
**Bedrock Fracture Interval:** 10 to less than 45 centimeters

**Surface Fragments:** 2.0 percent nonflat subrounded very strongly cemented 2- to 75-millimeter Granodiorite fragments and 2.0 percent nonflat subrounded very strongly cemented 600- to 3000-millimeter Granodiorite fragments

**Description database:** KSSL

| Top Depth (cm) | Bottom Depth (cm) | Restriction Kind | Restriction Hardness |
|---|---|---|---|
| 70 | 200 | bedrock, lithic | Strongly cemented |

**Cont. Site ID:** S2017CA039004 **Pedon ID:** S2017CA039004

| 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 | 332.0 | 117 | | | | | | well | | |

A--0 to 5 centimeters (0.0 to 2.0 inches); dark grayish brown (10YR 4/2) crushed highly organic loamy sand, black (7.5YR 2.5/1) crushed, moist; 75 percent sand; 20 percent silt; 5 percent clay; moderate fine granular, and moderate medium granular structure; soft, very friable, nonsticky, nonplastic; many very fine roots throughout and common fine roots throughout; many very fine irregular pores; 3 percent nonflat subangular very strongly cemented 2 to 20-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; strongly acid, pH 5.5, pH meter; clear wavy boundary. Lab sample # 17N04070

BA--5 to 22 centimeters (2.0 to 8.7 inches); pale brown (10YR 6/3) broken face loamy sand, brown (7.5YR 4/3) broken face, moist; 75 percent sand; 19 percent silt; 6 percent clay; moderate fine subangular blocky, and moderate medium subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; common very fine roots throughout and few fine roots throughout; many very fine irregular pores; 3 percent nonflat subangular very strongly cemented 2 to 20-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.7, pH meter; clear wavy boundary. Lab sample # 17N04071

Bt1--22 to 32 centimeters (8.7 to 12.6 inches); very pale brown (10YR 7/4) broken face sandy loam, brown (7.5YR 5/4) broken face, moist; 70 percent sand; 19 percent silt; 11 percent clay; moderate fine subangular blocky, and moderate medium subangular blocky structure; hard, firm, slightly sticky, nonplastic; very few very fine roots throughout and many very fine roots around fragments and few fine roots throughout; common very fine irregular and common fine irregular pores; 1 percent faint clay films on surfaces along pores and 5 percent distinct clay bridges between sand grains; 3 percent nonflat subangular very strongly cemented 2 to 20-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; strongly acid, pH 5.3, pH meter; clear wavy boundary. Lab sample # 17N04072

Bt2--32 to 54 centimeters (12.6 to 21.3 inches); very pale brown (10YR 7/4) broken face sandy clay loam, brown (7.5YR 5/4) broken face, moist; 60 percent sand; 18 percent silt; 22 percent clay; moderate fine subangular blocky, and moderate medium subangular blocky, and moderate coarse subangular blocky structure; very hard, very firm, moderately sticky, moderately plastic; very few very fine roots throughout; few very fine irregular and common fine tubular pores; 2 percent faint clay films on surfaces along pores and 5 percent faint clay films on all faces of peds and 15 percent distinct clay bridges between sand grains; 5 percent nonflat subangular very strongly cemented 2 to 20-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; strongly acid, pH 5.3, pH meter; gradual wavy boundary. Lab sample # 17N04073

BCt--54 to 70 centimeters (21.3 to 27.6 inches); very pale brown (10YR 7/4) broken face sandy loam, brown (7.5YR 5/4) broken face, moist; 70 percent sand; 17 percent silt; 13 percent clay; moderate fine subangular blocky, and moderate medium subangular blocky structure; hard, firm, slightly sticky, nonplastic; very few very fine roots throughout and many very fine roots around fragments; common very fine irregular and common fine tubular pores; 1 percent faint clay films on surfaces along pores and 5 percent distinct clay bridges between sand grains; 5 percent nonflat subangular very strongly cemented 2 to 20-millimeter Granitoid fragments and 5 percent nonflat subangular very strongly cemented 20 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; strongly acid, pH 5.2, pH meter; abrupt irregular boundary. Lab sample # 17N04074

R--70 to 200 centimeters (27.6 to 78.7 inches); strongly cemented Granodiorite bedrock, fractured at intervals of 10 to less than 45 centimeters; Strongly cemented; noneffervescent, by HCl, 1 normal.

**PEDON DESCRIPTION -- NEON Site SJER**

**Print Date:** Apr 4 2018
**Description Date:** Jun 14 2017
**Describer:** Cathy Scott; Julie Baker
**NEON Plot ID:** SJER_014
**Site ID:** S2017CA039005

**Pedon ID:** S2017CA039005

**Site Note:**
**Pedon Note:**
**Lab Source ID:** KSSL
**Lab Pedon #:** 17N0819
**Soil Name as Described/Sampled:** Ahwahnee
**Classification:** Coarse-loamy, mixed, active, thermic Mollic Haploxeralfs
**Soil Name as Correlated:**
**Classification:**
**Pedon Type:** correlates to named soil
**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 nose slope of hill on foothills
**Upslope Shape:** linear
**Cross Slope Shape:** convex

**Particle Size Control Section:** 45 to 95 cm.

**Description origin:** NASIS

**Diagnostic Features:** ochric epipedon 0 to 18 cm.
cambic horizon 18 to 45 cm.
argillic horizon 45 to 97 cm.
lithic contact 97 to 200 cm.

**Country:** United States
**State:** California
**County:** Madera
**MLRA:** 18 -- Sierra Nevada Foothills
**Soil Survey Area:** CA651 -- Madera Area, California
**Map Unit:** ArF -- Ahwahnee and Vista very rocky coarse sandy loams, 30 to 75 percent slopes
**Pit Location:**
**Quad Name:** Millerton Lake West, California
**Std Latitude:** 37.0786863
**Std Longitude:** -119.7204710

**Latitude:**
**Longitude:**
**Datum:** WGS84
**UTM Zone:** 11
**UTM Easting:** 258168 meters
**UTM Northing:** 4107064 meters

**Primary Earth Cover:** Grass/herbaceous cover
**Secondary Earth Cover:** Grassland rangeland
**Existing Vegetation:**
**Parent Material:** colluvium derived from granitoid and/or residuum weathered from granitoid
**Bedrock Kind:** Granitoid
**Bedrock Depth:** 97 centimeters
**Bedrock Hardness:** indurated
**Bedrock Fracture Interval:** 200 centimeters or more
**Surface Fragments:** 1.0 percent nonflat subrounded indurated 250- to 600-millimeter Granitoid fragments and 1.0 percent nonflat subrounded indurated 600- to 3000-millimeter Granitoid fragments

**Description database:** KSSL

| Top Depth (cm) | Bottom Depth (cm) | Restriction Kind | Restriction Hardness |
|---|---|---|---|
| 97 | 200 | bedrock, lithic | Very strongly cemented |

**Cont. Site ID:** S2017CA039005 **Pedon ID:** S2017CA039005

| 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 | 283.0 | 170 | | | | | | well | | |

A--0 to 18 centimeters (0.0 to 7.1 inches); sandy loam; 72 percent sand; 24 percent silt; 4 percent clay; slightly hard, friable, slightly sticky, nonplastic; many very fine roots throughout and few fine roots throughout; common very fine irregular and common very coarse tubular and common medium tubular and common fine irregular pores; 7 percent nonflat subrounded very strongly cemented 2 to 5-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 6.0, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N04075

Bt1--18 to 45 centimeters (7.1 to 17.7 inches); coarse sandy loam; 72 percent sand; 23 percent silt; 5 percent clay; moderately hard, firm, slightly sticky, nonplastic; common very fine roots throughout; common very fine irregular and common medium tubular and common coarse tubular pores; 5 percent distinct clay bridges between sand grains and 15 percent distinct clay films on all faces of peds; 2 percent nonflat subrounded very strongly cemented 75 to 250-millimeter Granitoid fragments and 4 percent nonflat subrounded very strongly cemented 20 to 75-millimeter Granitoid fragments and 5 percent nonflat subrounded very strongly cemented 2 to 5-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; strongly acid, pH 5.4, pH indicator solutions; clear wavy boundary. Lab sample # 17N04076

Bt2--45 to 88 centimeters (17.7 to 34.6 inches); coarse sandy loam; 65 percent sand; 20 percent silt; 15 percent clay; very hard, extremely firm, moderately sticky, nonplastic; very few very fine roots throughout; common very fine irregular pores; 15 percent distinct clay bridges between sand grains and 40 percent distinct clay films on all faces of peds; 8 percent nonflat subrounded very strongly cemented 2 to 5-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.6, pH indicator solutions; abrupt smooth boundary. Lab sample # 17N04077

BCt--88 to 97 centimeters (34.6 to 38.2 inches); sandy loam; 60 percent sand; 24 percent silt; 16 percent clay; slightly hard, friable, moderately sticky, nonplastic; common very fine irregular pores; 15 percent distinct clay bridges between sand grains; 7 percent nonflat subrounded very strongly cemented 2 to 5-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.6, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N04078

R--97 to 102 centimeters (38.2 to 40.2 inches); indurated Granitoid bedrock, fractured at intervals of 200 centimeters or more; Indurated; .

**PEDON DESCRIPTION -- NEON Site SJER**

**Print Date:** Apr 4 2018
**Description Date:** Jun 14 2017
**Describer:** Theresa Kunch; Andrew Paolucci
**NEON Plot ID:** SJER_013
**Site ID:** S2017CA039006

**Pedon ID:** S2017CA039006

**Site Note:**
**Pedon Note:**
**Lab Source ID:** KSSL
**Lab Pedon #:** 17N0820
**Soil Name as Described/Sampled:** Vista
**Classification:** Sandy, mixed, thermic Entic Humixerepts
**Soil Name as Correlated:**
**Classification:**
**Pedon Type:** taxadjunct to the series
**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 foothills
on backslope of side slope of hill
**Upslope Shape:** linear

**Cross Slope Shape:** convex
**Particle Size Control Section:** 25 to 64 cm.

**Description origin:** NASIS

**Diagnostic Features:** mollic epipedon 0 to 32 cm.
paralithic contact 64 to 93 cm.
lithic contact 93 to 200 cm.

**Country:** United States
**State:** California
**County:** Madera
**MLRA:** 18 -- Sierra Nevada Foothills
**Soil Survey Area:** CA651 -- Madera Area, California
**Map Unit:** AeD -- Ahwahnee and Vista rocky coarse sandy loams, 8 to 30 percent slopes
**Pit Location:**
**Quad Name:** Millerton Lake West, California
**Std Latitude:** 37.0831894
**Std Longitude:** -119.7280460

**Latitude:**
**Longitude:**
**Datum:** WGS84
**UTM Zone:** 11
**UTM Easting:** 257509 meters
**UTM Northing:** 4107583 meters

**Primary Earth Cover:** Grass/herbaceous cover
**Secondary Earth Cover:** Savanna rangeland
**Existing Vegetation:**
**Parent Material:** colluvium derived from granitoid and/or residuum weathered from granitoid
**Bedrock Kind:** Granitoid
Granitoid
**Bedrock Depth:** 93 centimeters
64 centimeters
**Bedrock Hardness:** strongly cemented
moderately cemented
**Bedrock Fracture Interval:**
**Surface Fragments:** 1.0 percent nonflat subrounded indurated 250- to 600-millimeter Granitoid fragments and 3.0 percent nonflat subrounded indurated 600- to 3000-millimeter Granitoid fragments

**Description database:** KSSL

| Top Depth (cm) | Bottom Depth (cm) | Restriction Kind | Restriction Hardness |
|---|---|---|---|
| 64 | 93 | bedrock, paralithic | Moderately cemented |
| 93 | 200 | bedrock, lithic | Strongly cemented |

**Cont. Site ID:** S2017CA039006 **Pedon ID:** S2017CA039006

| Slope (%) | Elevation (meters) | Aspect (deg) | MAAT (C) | MSAT (C) | MWAT (C) | MAP (mm) | Frost-Free Days | Drainage Class | Slope Length (meters) | Upslope Length (meters) |
|---|---|---|---|---|---|---|---|---|---|---|
| 26.0 | 281.0 | 297 | | | | | | well | | |

A--0 to 7 centimeters (0.0 to 2.8 inches); grayish brown (10YR 5/2) crushed loamy coarse sand, very dark brown (10YR 2/2) crushed, moist; 80 percent sand; 15 percent silt; 5 percent clay; weak fine granular, and weak medium granular structure; slightly hard, friable, nonsticky, nonplastic; many very fine roots throughout and common fine roots throughout; common very fine tubular and common very fine irregular and common fine irregular pores; 4 percent nonflat subrounded very strongly cemented 2 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.6, pH meter; clear wavy boundary. Lab sample # 17N04079 A--0 to 7 centimeters (0.0 to 2.8 inches); grayish brown (10YR 5/2) crushed loamy coarse sand, very dark brown (10YR 2/2) crushed, moist; 80 percent sand; 15 percent silt; 5 percent clay; weak fine granular, and weak medium granular structure; slightly hard, friable, nonsticky, nonplastic; many very fine roots throughout and common fine roots throughout; common very fine tubular and common very fine irregular and common fine irregular pores; 4 percent nonflat subrounded very strongly cemented 2 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.6, pH meter; clear wavy boundary. Lab sample # 17N04079

Bw--7 to 32 centimeters (2.8 to 12.6 inches); grayish brown (10YR 5/2) broken face loamy sand, very dark grayish brown (10YR 3/2) broken face, moist; 80 percent sand; 15 percent silt; 5 percent clay; weak fine subangular blocky structure; slightly hard, friable, nonsticky, nonplastic; common very fine roots throughout and common medium roots throughout and common fine roots throughout and common coarse roots throughout; many very fine tubular and common medium dendritic tubular and common fine tubular and common coarse dendritic tubular pores; 1 percent nonflat subrounded moderately cemented 20 to 75-millimeter Granitoid fragments and 2 percent nonflat subrounded very strongly cemented 75 to 250-millimeter Granitoid fragments and 2 percent nonflat subrounded moderately cemented 75 to 250-millimeter Granitoid fragments and 3 percent nonflat subrounded very strongly cemented 2 to 20-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.7, pH meter; clear wavy boundary. Lab sample # 17N04080 Bw--7 to 32 centimeters (2.8 to 12.6 inches); grayish brown (10YR 5/2) broken face loamy sand, very dark grayish brown (10YR 3/2) broken face, moist; 80 percent sand; 15 percent silt; 5 percent clay; weak fine subangular blocky structure; slightly hard, friable, nonsticky, nonplastic; common very fine roots throughout and common medium roots throughout and common fine roots throughout and common coarse roots throughout; many very fine tubular and common medium dendritic tubular and common fine tubular and common coarse dendritic tubular pores; 1 percent nonflat subrounded moderately cemented 20 to 75-millimeter Granitoid fragments and 2 percent nonflat subrounded very strongly cemented 75 to 250-millimeter Granitoid fragments and 2 percent nonflat subrounded moderately cemented 75 to 250-millimeter Granitoid fragments and 3 percent nonflat subrounded very strongly cemented 2 to 20-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.7, pH meter; clear wavy boundary. Lab sample # 17N04080

BC--32 to 64 centimeters (12.6 to 25.2 inches); pale brown (10YR 6/3) broken face loamy coarse sand, brown (10YR 4/3) broken face, moist; 80 percent sand; 16 percent silt; 4 percent clay; weak medium subangular blocky, and weak coarse subangular blocky structure; moderately hard, firm, nonsticky, nonplastic; common very fine roots throughout and many very coarse roots throughout and common medium roots throughout and common fine roots throughout and common coarse roots throughout; common very fine tubular and few fine tubular pores; 5 percent nonflat subrounded very strongly cemented 2 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.9, pH meter; clear smooth boundary. Lab sample # 17N04081 BC--32 to 64 centimeters (12.6 to 25.2 inches); pale brown (10YR 6/3) broken face loamy coarse sand, brown (10YR 4/3) broken face, moist; 80 percent sand; 16 percent silt; 4 percent clay; weak medium subangular blocky, and weak coarse subangular blocky structure; moderately hard, firm, nonsticky, nonplastic; common very fine roots throughout and many very coarse roots throughout and common medium roots throughout and common fine roots throughout and common coarse roots throughout; common very fine tubular and few fine tubular pores; 5 percent nonflat subrounded very strongly cemented 2 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.9, pH meter; clear smooth boundary. Lab sample # 17N04081

Cr--64 to 93 centimeters (25.2 to 36.6 inches); brown (7.5YR 5/4) interior bedrock, strong brown (7.5YR 5/6) interior, moist; Moderately cemented; noneffervescent, by HCl, 1 normal; gradual smooth boundary. Cr--64 to 93 centimeters (25.2 to 36.6 inches); brown (7.5YR 5/4) interior moderately cemented Granitoid bedrock, strong brown (7.5YR 5/6) interior, moist; Moderately cemented; noneffervescent, by HCl, 1 normal; gradual smooth boundary.

R--93 to 200 centimeters (36.6 to 78.7 inches); brown (7.5YR 5/4) interior strongly cemented Granitoid bedrock, strong brown (7.5YR 5/6) interior, moist; Strongly cemented; noneffervescent, by HCl, 1 normal. R--93 to 200 centimeters (36.6 to 78.7 inches); brown (7.5YR 5/4) interior bedrock, strong brown (7.5YR 5/6) interior, moist; Strongly cemented; noneffervescent, by HCl, 1 normal.

**PEDON DESCRIPTION -- NEON Site SJER**

**Print Date:** Apr 4 2018
**Description Date:** Jun 14 2017
**Describer:** Andrew Brown; Jennifer Wood
**NEON Plot ID:** SJER_001
**Site ID:** S2017CA039007

**Pedon ID:** S2017CA039007

**Site Note:**
**Pedon Note:**
**Lab Source ID:** KSSL
**Lab Pedon #:** 17N0821
**Soil Name as Described/Sampled:** Vista
**Classification:** Mixed, thermic Typic Xeropsamments
**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 footslope of side slope of hill on foothills
**Upslope Shape:** concave
**Cross Slope Shape:** linear

**Particle Size Control Section:** 25 to 74 cm.
**Description origin:** NASIS
**Diagnostic Features:** mollic epipedon 0 to 24 cm.
lithic contact 74 to 200 cm.

**Country:** United States
**State:** California
**County:** Madera
**MLRA:** 18 -- Sierra Nevada Foothills
**Soil Survey Area:** CA651 -- Madera Area, California
**Map Unit:** AeD -- Ahwahnee and Vista rocky coarse sandy loams, 8 to 30 percent slopes
**Pit Location:**
**Quad Name:** Millerton Lake West, California
**Std Latitude:** 37.1067467
**Std Longitude:** -119.7199750

**Latitude:**
**Longitude:**
**Datum:** WGS84
**UTM Zone:** 11
**UTM Easting:** 258301 meters
**UTM Northing:** 4110177 meters

**Primary Earth Cover:** Grass/herbaceous cover
**Secondary Earth Cover:** Savanna rangeland
**Existing Vegetation:**
**Parent Material:** colluvium derived from granodiorite and/or residuum weathered from granodiorite
**Bedrock Kind:** Granodiorite
**Bedrock Depth:** 74 centimeters
**Bedrock Hardness:** strongly cemented
**Bedrock Fracture Interval:** 10 to less than 45 centimeters
**Surface Fragments:**
**Description database:** KSSL

| Top Depth (cm) | Bottom Depth (cm) | Restriction Kind | Restriction Hardness |
|---|---|---|---|
| 74 | 200 | bedrock, lithic | Strongly cemented |

**Cont. Site ID:** S2017CA039007 **Pedon ID:** S2017CA039007

| Slope (%) | Elevation (meters) | Aspect (deg) | MAAT (C) | MSAT (C) | MWAT (C) | MAP (mm) | Frost-Free Days | Drainage Class | Slope Length (meters) | Upslope Length (meters) |
|---|---|---|---|---|---|---|---|---|---|---|
| 19.0 | 400.0 | 104 | | | | | | well | | |

A--0 to 10 centimeters (0.0 to 3.9 inches); very dark brown (7.5YR 2.5/2) crushed loamy sand, brown (10YR 5/3) crushed, dry; 75 percent sand; 21 percent silt; 4 percent clay; weak medium subangular blocky parts to moderate fine granular, and weak medium subangular blocky parts to moderate medium granular structure; soft, very friable, nonsticky, nonplastic; common very fine roots throughout and few fine roots throughout; many very fine irregular pores; 3 percent nonflat subangular very strongly cemented 2 to 20-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; slightly acid, pH 6.4, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N04082

AB--10 to 24 centimeters (3.9 to 9.4 inches); dark brown (10YR 3/3) broken face loamy sand, brown (10YR 5/3) broken face, dry; 75 percent sand; 20 percent silt; 5 percent clay; moderate fine subangular blocky, and moderate medium subangular blocky structure; hard, friable, nonsticky, nonplastic; common very fine roots throughout and few medium roots throughout and few fine roots throughout; many very fine irregular and common very coarse tubular pores; 3 percent nonflat subangular very strongly cemented 2 to 20-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.8, pH indicator solutions; gradual wavy boundary. Lab sample # 17N04083

Bw--24 to 74 centimeters (9.4 to 29.1 inches); brown (7.5YR 4/4) broken face loamy sand, yellowish brown (10YR 5/4) broken face, dry; 75 percent sand; 19 percent silt; 6 percent clay; moderate fine subangular blocky, and moderate medium subangular blocky, and moderate coarse subangular blocky structure; hard, friable, nonsticky, nonplastic; common very fine roots throughout and common medium roots throughout and few fine roots throughout; many very fine irregular pores; 1 percent nonflat subangular very strongly cemented 20 to 75-millimeter Granitoid fragments and 3 percent nonflat subangular very strongly cemented 2 to 20-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.6, pH indicator solutions; abrupt irregular boundary. Lab sample # 17N04084

R--74 to 200 centimeters (29.1 to 78.7 inches); strongly cemented Granodiorite bedrock, fractured at intervals of 10 to less than 45 centimeters; Strongly cemented; .

**PEDON DESCRIPTION -- NEON Site SJER**

**Print Date:** Apr 4 2018
**Description Date:** Jun 14 2017
**Describer:** Cathy Scott; Julie Baker
**NEON Plot ID:** SJER_029
**Site ID:** S2017CA039008

**Pedon ID:** S2017CA039008

**Site Note:**
**Pedon Note:**
**Lab Source ID:** KSSL
**Lab Pedon #:** 17N0822
**Soil Name as Described/Sampled:** Vista
**Classification:** Mixed, thermic Typic Xeropsamments
**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 interfluve of foothills on backslope of interfluve of hill

**Upslope Shape:** linear

**Cross Slope Shape:** concave

**Particle Size Control Section:** 25 to 64 cm.

**Description origin:** NASIS

**Diagnostic Features:** ochric epipedon 0 to 18 cm.
paralithic contact 64 to 70 cm.
lithic contact 70 to 200 cm.

**Country:** United States
**State:** California
**County:** Madera
**MLRA:** 18 -- Sierra Nevada Foothills
**Soil Survey Area:** CA651 -- Madera Area, California

**Map Unit:** AeD -- Ahwahnee and Vista rocky coarse sandy loams, 8 to 30 percent slopes

**Pit Location:**
**Quad Name:** Millerton Lake West, California
**Std Latitude:** 37.0966706
**Std Longitude:** -119.7234196

**Latitude:**
**Longitude:**
**Datum:** WGS84
**UTM Zone:** 11
**UTM Easting:** 257963 meters
**UTM Northing:** 4109068 meters

**Primary Earth Cover:** Grass/herbaceous cover
**Secondary Earth Cover:** Grassland rangeland
**Existing Vegetation:**
**Parent Material:** slope alluvium derived from granitoid over residuum weathered from granitoid

**Bedrock Kind:** Granitoid
Granitoid

**Bedrock Depth:** 64 centimeters
70 centimeters

**Bedrock Hardness:** moderately cemented
very strongly cemented

**Bedrock Fracture Interval:** 200 centimeters or more
200 centimeters or more

**Surface Fragments:** 1.0 percent nonflat rounded indurated 600- to 3000-millimeter Granitoid fragments

**Description database:** KSSL

| Top Depth (cm) | Bottom Depth (cm) | Restriction Kind | Restriction Hardness |
|---|---|---|---|
| 64 | 70 | bedrock, paralithic | Moderately cemented |
| 70 | 200 | bedrock, lithic | Very strongly cemented |

**Cont. Site ID:** S2017CA039008 **Pedon ID:** S2017CA039008

| Slope (%) | Elevation (meters) | Aspect (deg) | MAAT (C) | MSAT (C) | MWAT (C) | MAP (mm) | Frost-Free Days | Drainage Class | Slope Length (meters) | Upslope Length (meters) |
|---|---|---|---|---|---|---|---|---|---|---|
| 13.0 | 360.0 | 242 | | | | | | well | | |

A--0 to 5 centimeters (0.0 to 2.0 inches); loamy sand; 85 percent sand; 10 percent silt; 5 percent clay; soft, very friable, nonsticky, nonplastic; many very fine roots throughout; common very fine irregular and common medium tubular pores; 1 percent nonflat subrounded very strongly cemented 2 to 5-millimeter Granitoid fragments and 1 percent nonflat subrounded very strongly cemented 5 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; neutral, pH 6.6, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N04085 A--0 to 5 centimeters (0.0 to 2.0 inches); loamy sand; 85 percent sand; 10 percent silt; 5 percent clay; soft, very friable, nonsticky, nonplastic; many very fine roots throughout; common very fine irregular and common medium tubular pores; 1 percent nonflat subrounded very strongly cemented 2 to 5-millimeter Granitoid fragments and 1 percent nonflat subrounded very strongly cemented 5 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; neutral, pH 6.6, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N04085

Bw1--5 to 15 centimeters (2.0 to 5.9 inches); loamy sand; 85 percent sand; 11 percent silt; 4 percent clay; slightly hard, friable, nonsticky, nonplastic; common very fine roots throughout and common fine roots throughout; common very fine irregular and common medium tubular pores; 1 percent nonflat subrounded very strongly cemented 5 to 75-millimeter Granitoid fragments and 1 percent nonflat subrounded very strongly cemented 75 to 250-millimeter Granitoid fragments and 4 percent nonflat subrounded very strongly cemented 2 to 5-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.6, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N04086 Bw1--5 to 15 centimeters (2.0 to 5.9 inches); loamy sand; 85 percent sand; 11 percent silt; 4 percent clay; slightly hard, friable, nonsticky, nonplastic; common very fine roots throughout and common fine roots throughout; common very fine irregular and common medium tubular pores; 1 percent nonflat subrounded very strongly cemented 5 to 75-millimeter Granitoid fragments and 1 percent nonflat subrounded very strongly cemented 75 to 250-millimeter Granitoid fragments and 4 percent nonflat subrounded very strongly cemented 2 to 5-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.6, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N04086

Bw2--15 to 43 centimeters (5.9 to 16.9 inches); loamy sand; 85 percent sand; 11 percent silt; 4 percent clay; slightly hard, friable, nonsticky, nonplastic; common very fine roots throughout; common very fine irregular and common fine tubular pores; 1 percent nonflat subrounded very strongly cemented 5 to 75-millimeter Granitoid fragments and 4 percent nonflat subrounded very strongly cemented 2 to 5-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.8, pH indicator solutions; clear wavy boundary. Lab sample # 17N04087 Bw2--15 to 43 centimeters (5.9 to 16.9 inches); loamy sand; 85 percent sand; 11 percent silt; 4 percent clay; slightly hard, friable, nonsticky, nonplastic; common very fine roots throughout; common very fine irregular and common fine tubular pores; 1 percent nonflat subrounded very strongly cemented 5 to 75-millimeter Granitoid fragments and 4 percent nonflat subrounded very strongly cemented 2 to 5-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.8, pH indicator solutions; clear wavy boundary. Lab sample # 17N04087

C--43 to 64 centimeters (16.9 to 25.2 inches); loamy sand; 85 percent sand; 12 percent silt; 3 percent clay; slightly hard, friable, nonsticky, nonplastic; few very fine roots throughout; common very fine irregular and common medium tubular pores; 2 percent nonflat subrounded very strongly cemented 5 to 75-millimeter Granitoid fragments and 4 percent nonflat subrounded very strongly cemented 2 to 5-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.8, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N04088 C--43 to 64 centimeters (16.9 to 25.2 inches); loamy sand; 85 percent sand; 12 percent silt; 3 percent clay; slightly hard, friable, nonsticky, nonplastic; few very fine roots throughout; common very fine irregular and common medium tubular pores; 2 percent nonflat subrounded very strongly cemented 5 to 75-millimeter Granitoid fragments and 4 percent nonflat subrounded very strongly cemented 2 to 5-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 5.8, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N04088

Cr--64 to 70 centimeters (25.2 to 27.6 inches); moderately cemented Granitoid bedrock, fractured at intervals of 200 centimeters or more; Moderately cemented; . Cr--64 to 70 centimeters (25.2 to 27.6 inches); bedrock; Moderately cemented; .

R--70 to 200 centimeters (27.6 to 78.7 inches); bedrock; Very strongly cemented; . R--70 to 200 centimeters (27.6 to 78.7 inches); very strongly cemented Granitoid bedrock, fractured at intervals of 200 centimeters or more; Very strongly cemented; .

**PEDON DESCRIPTION -- NEON Site SJER**

**Print Date:** Apr 4 2018
**Description Date:** Jun 14 2017
**Describer:** Andrew Paolucci; Theresa Kunch
**NEON Plot ID:** SJER_028
**Site ID:** S2017CA039009

**Pedon ID:** S2017CA039009

**Site Note:**
**Pedon Note:**
**Lab Source ID:** KSSL
**Lab Pedon #:** 17N0823
**Soil Name as Described/Sampled:** Kernville
**Classification:** Mixed, thermic, shallow Typic Xeropsamments
**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 hillslope on foothills

**Upslope Shape:** linear

**Cross Slope Shape:** linear
**Particle Size Control Section:** 25 to 40 cm.

**Description origin:** NASIS

**Diagnostic Features:** ochric epipedon 0 to 12 cm.
paralithic contact 40 to 67 cm.
lithic contact 67 to 200 cm.

**Country:** United States
**State:** California
**County:** Madera
**MLRA:** 18 -- Sierra Nevada Foothills
**Soil Survey Area:** CA651 -- Madera Area, California
**Map Unit:** ArF -- Ahwahnee and Vista very rocky coarse sandy loams, 30 to 75 percent slopes
**Pit Location:**
**Quad Name:** Millerton Lake West, California
**Std Latitude:** 37.0783229
**Std Longitude:** -119.7275475

**Latitude:**
**Longitude:**
**Datum:** WGS84
**UTM Zone:** 11
**UTM Easting:** 257537 meters
**UTM Northing:** 4107042 meters

**Primary Earth Cover:** Grass/herbaceous cover
**Secondary Earth Cover:** Grassland rangeland
**Existing Vegetation:**
**Parent Material:** colluvium derived from granitoid and/or residuum weathered from granitoid
**Bedrock Kind:** Granitoid
Granitoid
**Bedrock Depth:** 40 centimeters
67 centimeters
**Bedrock Hardness:** weakly cemented
strongly cemented
**Bedrock Fracture Interval:**
**Surface Fragments:** 5.0 percent nonflat subrounded very strongly cemented 250- to 600-millimeter Granitoid fragments and 10.0 percent nonflat subrounded very strongly cemented 600- to 3000-millimeter Granitoid fragments

**Description database:** KSSL

| Top Depth (cm) | Bottom Depth (cm) | Restriction Kind | Restriction Hardness |
|---|---|---|---|
| 40 | 67 | bedrock, paralithic | Weakly cemented |
| 67 | 200 | bedrock, lithic | Strongly cemented |

**Cont. Site ID:** S2017CA039009 **Pedon ID:** S2017CA039009

| 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 | 305.0 | 190 | | | | | | well | | |

A--0 to 12 centimeters (0.0 to 4.7 inches); dark brown (10YR 3/3) crushed loamy sand, brown (10YR 5/3) crushed, dry; 78 percent sand; 18 percent silt; 4 percent clay; weak fine subangular blocky, and weak medium subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; many very fine roots throughout; common very fine irregular and common very coarse tubular and few medium tubular and common fine tubular pores; 1 percent nonflat subrounded strongly cemented 2 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; slightly acid, pH 6.1, pH meter; clear wavy boundary. Lab sample # 17N04089 A--0 to 12 centimeters (0.0 to 4.7 inches); dark brown (10YR 3/3) crushed loamy sand, brown (10YR 5/3) crushed, dry; 78 percent sand; 18 percent silt; 4 percent clay; weak fine subangular blocky, and weak medium subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; many very fine roots throughout; common very fine irregular and common very coarse tubular and few medium tubular and common fine tubular pores; 1 percent nonflat subrounded strongly cemented 2 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; slightly acid, pH 6.1, pH meter; clear wavy boundary. Lab sample # 17N04089

Bw--12 to 40 centimeters (4.7 to 15.7 inches); dark yellowish brown (10YR 4/4) broken face loamy sand, yellowish brown (10YR 5/4) broken face, dry; 85 percent sand; 13 percent silt; 2 percent clay; weak coarse subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; common very fine roots throughout; few very fine irregular and common very fine interstitial and few fine irregular pores; 1 percent nonflat subrounded weakly cemented 75 to 250-millimeter Granitoid fragments and 2 percent nonflat subrounded strongly cemented 2 to 75-millimeter Granitoid fragments and 5 percent nonflat subrounded strongly cemented 250 to 600-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 6.0, pH meter; clear irregular boundary. Lab sample # 17N04090 Bw--12 to 40 centimeters (4.7 to 15.7 inches); dark yellowish brown (10YR 4/4) broken face loamy sand, yellowish brown (10YR 5/4) broken face, dry; 85 percent sand; 13 percent silt; 2 percent clay; weak coarse subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; common very fine roots throughout; few very fine irregular and common very fine interstitial and few fine irregular pores; 1 percent nonflat subrounded weakly cemented 75 to 250-millimeter Granitoid fragments and 2 percent nonflat subrounded strongly cemented 2 to 75-millimeter Granitoid fragments and 5 percent nonflat subrounded strongly cemented 250 to 600-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; moderately acid, pH 6.0, pH meter; clear irregular boundary. Lab sample # 17N04090

Cr--40 to 67 centimeters (15.7 to 26.4 inches); weakly cemented Granitoid bedrock; Weakly cemented; noneffervescent, by HCl, 1 normal; gradual smooth boundary. Cr--40 to 67 centimeters (15.7 to 26.4 inches); bedrock; Weakly cemented; noneffervescent, by HCl, 1 normal; gradual smooth boundary.

R--67 to 200 centimeters (26.4 to 78.7 inches); bedrock; Strongly cemented; noneffervescent, by HCl, 1 normal. R--67 to 200 centimeters (26.4 to 78.7 inches); strongly cemented Granitoid bedrock; Strongly cemented; noneffervescent, by HCl, 1 normal.

**PEDON DESCRIPTION -- NEON Site SJER**

**Print Date:** Apr 4 2018
**Description Date:** Jun 29 2017
**Describer:** Cathy Scott; Julie Baker
**NEON Plot ID:** SJER_003
**Site ID:** S2017CA039010

**Pedon ID:** S2017CA039010

**Site Note:**
**Pedon Note:**
**Lab Source ID:** KSSL
**Lab Pedon #:** 17N0824
**Soil Name as Described/Sampled:** Typic Argixerolls
**Classification:** Fine-loamy, mixed, active, thermic Typic Argixerolls
**Soil Name as Correlated:** Feethill
**Classification:** Fine-loamy, mixed, superactive, thermic Typic Argixerolls
**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:** hill on foothills

**Upslope Shape:**

**Cross Slope Shape:**

**Particle Size Control Section:** 22 to 64 cm.

**Description origin:** NASIS

**Diagnostic Features:** mollic epipedon 0 to 22 cm.
argillic horizon 22 to 64 cm.
paralithic contact 64 to 70 cm.
lithic contact 70 to 200 cm.

**Country:** United States
**State:** California
**County:** Madera
**MLRA:** 18 -- Sierra Nevada Foothills
**Soil Survey Area:** CA651 -- Madera Area, California
**Map Unit:** AeD -- Ahwahnee and Vista rocky coarse sandy loams, 8 to 30 percent slopes
**Pit Location:**
**Quad Name:** Millerton Lake West, California
**Std Latitude:** 37.1168321
**Std Longitude:** -119.7304496

**Latitude:**
**Longitude:**
**Datum:** WGS84
**UTM Zone:** 11
**UTM Easting:** 257402 meters
**UTM Northing:** 4111323 meters

**Primary Earth Cover:** Grass/herbaceous cover
**Secondary Earth Cover:** Savanna rangeland
**Existing Vegetation:**
**Parent Material:** residuum weathered from granitoid and/or slope alluvium derived from granitoid

**Bedrock Kind:** Granitoid
Granitoid

**Bedrock Depth:** 64 centimeters
70 centimeters

**Bedrock Hardness:** weakly cemented
very strongly cemented

**Bedrock Fracture Interval:** 200 centimeters or more
200 centimeters or more

**Surface Fragments:** 1.0 percent nonflat rounded indurated 250- to 600-millimeter Granitoid fragments and 1.0 percent nonflat rounded indurated 600- to 3000-millimeter Granitoid fragments

**Description database:** KSSL

| Top Depth (cm) | Bottom Depth (cm) | Restriction Kind | Restriction Hardness |
|---|---|---|---|
| 64 | 70 | bedrock, paralithic | Weakly cemented |
| 70 | 200 | bedrock, lithic | Very strongly cemented |

**Cont. Site ID:** S2017CA039010 **Pedon ID:** S2017CA039010

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

A--0 to 22 centimeters (0.0 to 8.7 inches); grayish brown (10YR 5/2) crushed coarse sandy loam, very dark grayish brown (10YR 3/2) crushed, moist; 72 percent sand; 21 percent silt; 7 percent clay; weak coarse subangular blocky structure; moderately hard, firm, slightly sticky, nonplastic; common very fine roots throughout and very few medium roots throughout and few fine roots throughout; common very fine irregular and common medium tubular and common fine irregular pores; 1 percent nonflat subangular very strongly cemented 75 to 250-millimeter Granitoid fragments and 2 percent nonflat subangular very strongly cemented 2 to 20-millimeter Granitoid fragments and 3 percent nonflat subangular very strongly cemented 20 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; strongly acid, pH 5.2, pH indicator solutions; gradual wavy boundary. Lab sample # 17N04091 A--0 to 22 centimeters (0.0 to 8.7 inches); grayish brown (10YR 5/2) crushed coarse sandy loam, very dark grayish brown (10YR 3/2) crushed, moist; 72 percent sand; 21 percent silt; 7 percent clay; weak coarse subangular blocky structure; moderately hard, firm, slightly sticky, nonplastic; common very fine roots throughout and very few medium roots throughout and few fine roots throughout; common very fine irregular and common medium tubular and common fine irregular pores; 1 percent nonflat subangular very strongly cemented 75 to 250-millimeter Granitoid fragments and 2 percent nonflat subangular very strongly cemented 2 to 20-millimeter Granitoid fragments and 3 percent nonflat subangular very strongly cemented 20 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; strongly acid, pH 5.2, pH indicator solutions; gradual wavy boundary. Lab sample # 17N04091

Bt1--22 to 58 centimeters (8.7 to 22.8 inches); brown (7.5YR 5/3) broken face sandy loam, brown (7.5YR 4/3) broken face, moist; 65 percent sand; 16 percent silt; 19 percent clay; moderate coarse subangular blocky structure; very hard, extremely firm, slightly sticky, moderately plastic; common medium roots throughout and few fine roots throughout and few coarse roots throughout; common very fine irregular and many very fine interstitial and common medium irregular and common fine irregular pores; 15 percent distinct clay films on all faces of peds and 30 percent distinct clay bridges between sand grains; 1 percent nonflat subangular very strongly cemented 2 to 20-millimeter Granitoid fragments and 1 percent nonflat subangular very strongly cemented 75 to 250-millimeter Granitoid fragments and 4 percent nonflat subangular very strongly cemented 20 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; strongly acid, pH 5.4, pH indicator solutions; clear wavy boundary. Lab sample # 17N04092 Bt1--22 to 58 centimeters (8.7 to 22.8 inches); brown (7.5YR 5/3) broken face sandy loam, brown (7.5YR 4/3) broken face, moist; 65 percent sand; 16 percent silt; 19 percent clay; moderate coarse subangular blocky structure; very hard, extremely firm, slightly sticky, moderately plastic; common medium roots throughout and few fine roots throughout and few coarse roots throughout; common very fine irregular and many very fine interstitial and common medium irregular and common fine irregular pores; 15 percent distinct clay films on all faces of peds and 30 percent distinct clay bridges between sand grains; 1 percent nonflat subangular very strongly cemented 2 to 20-millimeter Granitoid fragments and 1 percent nonflat subangular very strongly cemented 75 to 250-millimeter Granitoid fragments and 4 percent nonflat subangular very strongly cemented 20 to 75-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; strongly acid, pH 5.4, pH indicator solutions; clear wavy boundary. Lab sample # 17N04092

Bt2--58 to 64 centimeters (22.8 to 25.2 inches); brown (7.5YR 5/4) broken face sandy clay loam, brown (7.5YR 4/3) broken face, moist; 60 percent sand; 12 percent silt; 28 percent clay; moderate very coarse prismatic structure; very hard, extremely firm, moderately sticky, moderately plastic; common very coarse roots top of horizon and very few fine roots throughout; common fine interstitial and common fine irregular pores; 30 percent distinct clay bridges between sand grains and 30 percent distinct clay films on all faces of peds; 1 percent nonflat subangular very strongly cemented 2 to 20-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; extremely acid, pH 4.0, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N04093 Bt2--58 to 64 centimeters (22.8 to 25.2 inches); brown (7.5YR 5/4) broken face sandy clay loam, brown (7.5YR 4/3) broken face, moist; 60 percent sand; 12 percent silt; 28 percent clay; moderate very coarse prismatic structure; very hard, extremely firm, moderately sticky, moderately plastic; common very coarse roots top of horizon and very few fine roots throughout; common fine interstitial and common fine irregular pores; 30 percent distinct clay bridges between sand grains and 30 percent distinct clay films on all faces of peds; 1 percent nonflat subangular very strongly cemented 2 to 20-millimeter Granitoid fragments; noneffervescent, by HCl, 1 normal; extremely acid, pH 4.0, pH indicator solutions; abrupt wavy boundary. Lab sample # 17N04093

Cr--64 to 70 centimeters (25.2 to 27.6 inches); weakly cemented Granitoid bedrock, fractured at intervals of 200 centimeters or more; Weakly cemented; clear wavy boundary. Cr--64 to 70 centimeters (25.2 to 27.6 inches); bedrock; Weakly cemented; clear wavy boundary.

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R--70 to 200 centimeters (27.6 to 78.7 inches); bedrock; Very strongly cemented; . R--70 to 200 centimeters (27.6 to 78.7 inches); very strongly cemented Granitoid bedrock, fractured at intervals of 200 centimeters or more; Very strongly cemented; .