**BOREHOLE LOG** V-Site SWMU 16-029W

**Field Support Facility** Stake ID: VS23

Borehole ID: 16-609487 TA/FU: 116 Drill Depth From: 0ft To 20ft Page 1 of 1

Driller: Dave Stacnes - Precision Drilling Box: NA Start Date/Time: 3/18/10 @ 0910 End Date/Time: to 1005

Print Name

Drilling Equipment/Method: Delta Base Hollowstem Auger Drill Rig with 7 1/4" OD augers and 3 3/4" ID continuous sample core barrels. Auger are 5' in length.

Sampling Equipment/Method: Core Barrel Samplers

| Depth (Feet) | Recovery (feet per feet/ %) | Field Borehole Analytical Sample # | Field Screening Results | Top/Bottom of Core in Box | Lithology – Petrology - Soil | Graphic Log | Lithologic Unit | Notes |
|---|---|---|---|---|---|---|---|---|
| 0' - 5' | 36/60 | NA | 0.0 NA | NA | 0-2.0 ft Clayey silt, dark brn abundant pine needles, roots; 2.0-3.0 ft Qbt 4 tuff, fine ash, light gray, few lg brown pumice, abundant qtz phenocrysts, strongly welded. | | ML | 0905 Pothole to 2.0 ft refusal in Qbt4 |
| 5' - 10' | 24/60 | NA | 0.0 NA | NA | 5-7ft SAA | | Qbt 4 | 3-5 ft No Recovery |
| 10' - 15' | 36/60 | see notes | 0.0 NA | NA | 10-13ft SAA, 1/4" vertical clay fracture 11.5-12.0ft | | | 7-10 ft No Recovery |
| 15' - 20' | 36/60 | see notes | 0.0 NA | NA | 15-18ft SAA, no clay, very hard, very dry; 18-20ft No Recovery TD @ 20 ft | | NR | 13-15ft No Recovery; 0945 collected RE16-10-3837 (11-13ft); 1000 collected RE16-10-3838 (16-18ft); No Recovery (18-20ft) |

Prepared By: Amy K Howard / Amy K Howard 3/18/10
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Checked By: Elizabeth Bickos / Elizabeth Bickos 7/6/10
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**BOREHOLE LOG** V-Site SWMU 16-029W

**Field Support Facility** Stake ID: VS24

Borehole ID: 16-609489 TA/FU: 1116 Drill Depth From: 0ft To 15ft Page 1 of 1

Driller: Dave Stacnos - Precision Drilling Box: NA Start Date/Time: 3/18/10 @ 1345 End Date/Time to 1510

Print Name

Drilling Equipment/Method: Delta Base Hollowstem Auger Drill Rig with 7 1/4" OD augers and 3 3/4" ID Continuous Sample Core barrels. Auger are 5' in Length.

Sampling Equipment/Method: Core Barrel Samplers

| Depth (Feet) | Recovery (feet per feet/%) | Field Borehole Analytical Sample # | Field Screening Results | Top/Bottom of Core in Box | Lithology – Petrology - Soil | Graphic Log | Lithologic Unit | Notes |
|---|---|---|---|---|---|---|---|---|
| 0' - 5' | 36/60 | NA | 0.0 NA | NA | 0-1.0ft Clayey silt, medium brown, abundant pine needles/roots 1.0-3.0ft Qbt 4, light gray, fine ash, strongly welded, 1/2" dia brown pumice, sx. qtz. phenocrysts 3-5 ft No Recovery | | ML Qbt 4 NR | 1343 Potholed to 1.0ft to refusal in Qbt 4 tuff 3-5ft No Recovery |
| 5' - 10' | 24/60 | See notes ~~NA~~ | 0.0 NA | NA | 5-7ft SAA, small brown pumice < 1/2" dia. 7-10 ft No Recovery | | Qbt 4 NR | unable to drill any BHs today - poor recovery 1410 Collected RE16-10-3841 (5-7ft) |
| 10' - 15' | 12/60 | NA | 0.0 NA | NA | 10-11ft SAA, no brown pumice, small white pumice. 11-15ft No Recovery | | Qbt 4 NR | unable to sample planned depth → Ø recovery 1445 |
| 15' - 20' | 24/60 | See notes | 0.0 NA | NA | ~~TD @ 15.0ft~~ MLH 3/18/10 15-17ft SAA, very highly welded, 17-20ft No Recovery TD @ 20ft | | Qbt 4 NR | RE16-10-3842 (15-17ft) 17-20ft No Recovery |

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**BOREHOLE LOG** V-Site SWMU 16-029W

**Field Support Facility** Stake ID: VS28

Borehole ID: 16-609488 TA/FU: 116 Drill Depth From: 0ft To 15ft Page 1 of 1

Driller: Dave Starnes - Precision Drilling Box: NA Start Date/Time: 3/18/10 @ 1026 to 1125 End Date/Time

Print Name

Drilling Equipment/Method: Delta Base Hollowstem Auger Drill Rig with 7 1/4" OD augers and 3 3/4" ID continuous sample core barrels. Auger are 5' in length.

Sampling Equipment/Method: Core Barrel Samplers

| Depth (Feet) | Recovery (feet per feet/ %) | Field Borehole Analytical Sample # | Field Screening Results | Top/Bottom of Core in Box | Lithology – Petrology - Soil | Graphic Log | Lithologic Unit | Notes |
|---|---|---|---|---|---|---|---|---|
| 0' - 5' | 44/60 | NA | 0.0 NA | NA | 0-1.75ft Reddish brown clay, high plasticity, firm, mod. moist 1.75ft - 3.6ft Qbt 4 tuff medium gray, slightly moist large brown pumice to 1/2" dia abundant qtz phenocrysts 3.6-5.0ft No Recovery 5-7.5 ft SAA, grading to light gray, strongly welded 7.5-10ft No Recovery 10-13.5ft SAA 13.5-15.0ft No Recovery | | CH Qbt 4 NR | 1015 Pothole to 1.75ft refusal w/ hand auger in Qbt4. 18" fracture 2-3.5ft <1/10" clay + organic material |
| 5' - 10' | 31/60 | See notes ~~NA~~ MKH 3/18/10 | 0.0 NA | NA | | | Qbt 4 NR | 1105 Collected LE16-10-3839 (6.0-7.5ft) |
| 10' - 15' | 40/60 | see notes | 0.0 NA | NA | | | Qbt 4 NR | 1120 Collected PE16-10-3840 (12-13.5ft) |
| | | | | | TD @ 15.0 ft | | | |

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**BOREHOLE LOG** V-Site SWMU 16-029W

**Field Support Facility** Stake ID: VS29

Borehole ID: 16-609486 TA/FU: 116 Drill Depth From: 0ft To 20ft Page 1 of 1

Driller: Dave Stacros - Precision Drilling Box: NA Start Date/Time: 3/17/10, 1439 End Date/Time to 1545

Print Name

Drilling Equipment/Method: Delta Bore Hollowstem Auger Drill Rig with 7 1/4" OD augers and 3 3/4" ID Continuous Sample Core barrels. Auger are 5' in Length.

Sampling Equipment/Method: Core Barrel Samplers

| Depth (Feet) | Recovery (feet per feet/%) | Field Borehole Analytical Sample # | Field Screening Results | Top/Bottom of Core in Box | Lithology – Petrology - Soil | Graphic Log | Lithologic Unit | Notes |
|---|---|---|---|---|---|---|---|---|
| 0' - 5' | 40/60 | NA | 0.0<br>0.0<br>NA | NA | 0-2.5 ft Dark brown clayey silt, abundant pine needles/roots<br>2.5-3.5 ft Qbt 4, light gray fine ash matrix, strongly welded.<br>3.5-5.0 ft No Recovery | | ML<br>Qbt 4 | 1410 Pothole to hand auger refusal @ 2.5 ft |
| 5' - 10' | 5/60 | NA | 0.0<br>NA | NA | 5.0-9.0 ft SAA, large brown pumice to 1 1/2" dia @ 7-9 ft, hard, dry.<br>9-10 ft No Recovery | | Qbt 4<br>NR | |
| 10' - 15' | 24/60 | see notes | 0.0<br>NA | NA | 10-12 ft Qbt 4 tuff, light gray, fine ash matrix, strongly welded, hard, dry, ~5% qtz phenocrysts.<br>12-15 NR | | Qbt 4<br>NR | 1520 RE16-10-3835 VS 29 (10-12ft) + FD RE16-10-3848 |
| 15' - 20' | 36/60 | see notes | 0.0<br>NA | NA | 15-18 ft SAA<br>18-20 NR (No Recovery) | | Qbt 4<br>NR | 1540 RE16-10-3836 (16-18ft) TD @ 20ft |

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