

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

Borehole ID: NC-GWE-OV-2 Drill Depth From: 0.0 to 119.78 ft Page: 1 of 2

Driller: Evan Barto/Ray Wilson Start Date/Time: 11/14/10 at 1340 End Date/Time: 1/13/11 at 1445

Drilling Equip./Method: Bucket Auger/16" Auger IR. TH-60/Conventional Air-Foam Sampling Equip. Method: Auger/Cyclone Collector

DEPTH (FEET)	Drilling Time (min/5 ft)	DESCRIPTION OF LITHOLOGY-PETROLOGY	GRAPHIC LOG	LITHOLOGIC UNIT	NOTES
0-15	65	0-15 ft Silty Sand with Gravel (SM) brown (7.5YR 5/4), 45% fine-grained sand, 35% gravel, 20% silt, gravels are fine to coarse and range from ¼" to 3". A few (<5%) cobble-sized clasts. Gravels are sub-rounded to sub-angular. Material is dry and reacts strongly to HCl. No cement. Clasts are volcanic in origin. @2ft gravel content decreases to 20% and size decreases to ¼ to 2".		Qal	All colors logged wet. Borehole caving because of loose, dry material.
10-13.5	20	@ 10 ft material becomes moist. Sand size increases to fine-medium-coarse.			Borehole stability improves after 4 ft, moisture at 10 ft
13.5-15	32	@13.5 ft becomes clayey (5%) and moisture increases.			Groundwater at 15 ft.
15-20	30	15-20 ft clayey Gravel with Sand (GC) light yellowish-brown (10YR 6/4) 65% gravel up to 3", 20% clay, 15% fine-medium-coarse grained sand. Gravels are subrounded to subangular and composed of volcanic clasts with thick coats of cement up to 4mm. Clay has high plasticity and reacts strongly to HCl. Sediments are wet.			Large boulder at ~ 17 ft.
20-25	3	20 ft to 25 ft Well-Graded Gravel with Sand (GW): white yellowish-brown (2.5Y 6/4) 65% gravel, 35% sand, gravels are subrounded to subangular, up to 1 ½" in size and composed of 2 volcanic lithologies. 2 predominate lithologies are: Reddish-brown (5YR 4/3) densely-welded ash flow tuff and black (GLEYS 1 2.5/N) densely-welded ash-flow tuff, no observed cementation, weak reaction to 10% HCl. Samples are wet.			Due to saturated condition of sediments it was not necessary to use drilling additives (foam) to advance the borehole.
25-100	3	25 ft to 100 ft- Well-Graded Sand with Gravel (SW) reddish-gray (10R 6/1) 60% sand, 40% gravel composed of ash-flow tuff, with no cementation, weak reaction to 10% HCl, samples are wet.			
35-100	2	From 35 to 100 ft color changes to white yellowish-brown (2.5Y 6/4).			
40-44	4				
44-48	4				
48-50	2				
50-53	3				
53-57	2				
57-60	3				
60-63	2				
63-67	3				
67-71	4				
71-74	3				
74-78	4				
78-82	3				
82-86	4				
86-90	4				
90-93	3				
93-97	4				

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CUTTINGS SAMPLE LOG

CONTINUATION

Borehole ID: NC-GWE-OV-2 Drill Depth From: 0.0' to 119.78' Page: 2 of 2

DEPTH (FEET)	Drilling Time (min/5 ft)	DESCRIPTION OF LITHOLOGY-PETROLOGY	GRAPHIC LOG	LITHOLOGIC UNIT	NOTES
110	7	100 to 110 ft Well-Graded Gravel with Sand (GW): light red (2.5YR 6/8), coarse gravels up to 3" and a few cobble sized clasts up to 4" in size, 55% gravel, 45% sand. Gravels are subrounded to subangular, and are volcanic in origin. Three primary lithologies are represented, a reddish-brown (5YR 5/3) to dark grayish-brown (2.5Y 4/2) densely-welded tuff that's phenocryst poor and lithic rich. A greenish-black (GLE 1 2.5/1) densely-welded tuff, phenocryst poor, lithic rich but most of the lithics are plucked out, and a pale yellow (5Y 8/2) moderately-welded ash-flow tuff with the lithics plucked out. No cementation, weak reaction to 10% HCl. Samples are wet.		Qal.	100 to 110 ft some cobbles have been reduced in size from drill bit.
110	5				
110	7	110 ft to 119.78 ft Clayey Sand (SC): light red (2.5YR 6/8), 25% clay, 75% fine to coarse sand. Clay has moderate to high plasticity, sand grains are subangular to rounded, no cementation, weak reaction to 10% HCl, samples are wet.			
119.78	4	119.78 TD.			
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