Borehole ID: **NC-EWDP-4PD** (Phase 6)

Non-Alluvium Logging Form Comments - Nye County Nuclear Waste Repository Project Office

Date Logged	Sample Number	Depth Interval (feet bgs) From	Depth Interval (feet bgs) To	Comments
8/7/2008	4PD-1770-1780	1770.00	1780.00	Ashflow tuff/alluvium contact at 1775 ft. Contact is sharp. Tuff is yellow in color overall with distinctive white pumice. Pumice is predominantly vitric and has a wispy texture. Much of the pumice has been plucked leaving ghost cavities in the matrix. Pumice has fragmented boundaries. Tuff is crystal and lithic poor. Mafics are entirely black manganese and is disseminated throughout matrix when present. Quartz crystals are small, clear, and occur as rounded or boxy grains. Lithics are rare and very small. Lithic shape is angular. Interval 1783.8 to 1790 ft is contaminated with sedimentary material from above in the borehole. The lower 26 ft (1820 - 1846.6 ft) is slightly weathered and brownish in color. From 1840 to 1846.6 ft the rock is argillic. The tuff interval drilled fast and cuttings were consistent. Large fragments (up to 1 cm) were preserved in the cuttings. The basalt weathered section is soft and drilling rate doubles. It's possible that the ash is an ashfall instead of an ashflow as its texture is similar to other bedded ashfalls in the area.
8/7/2008	4PD-1780-1783.8	1780.00	1783.80	
8/7/2008	4PD-1783.8-1790	1783.80	1790.00	
8/7/2008	4PD-1790-1800	1790.00	1800.00	
8/7/2008	4PD-1800-1810	1800.00	1810.00	
8/7/2008	4PD-1810-1820	1810.00	1820.00	
8/7/2008	4PD-1820-1830	1820.00	1830.00	
8/7/2008	4PD-1830-1840	1830.00	1840.00	
8/7/2008	4PD-1840-1846.6	1840.00	1846.60	
10/7/2008	4PD-1846.6-1850	1846.60	1850.00	Cuttings represented on this page were collected upon re-entry of borehole with 15 inch milltooth holeopener with a 7 7/8" pilot bit. Borehole was deepened and logged from 1846.6 to 1860 ft and sampled from 1850 to 1860 ft. Logging samples were collected with a 1/8" sieve (flour sifter) at the annulus trench so as to minimize mixing in the mud pit. Chips are coarse sand-sized particles. Lithology is same as samples collected previously in ashflow unit from 1775 ft. Material could be an ashfall instead of ashflow due to textural similarity to bedded tuff. Logging sample 1846.6 - 1850 ft is clean with less than 1% contamination from other formation materials.
10/7/2008	4PD-1850-1860	1850.00	1860.00	Cuttings represented on this page were collected upon re-entry of borehole with 15 inch milltooth holeopener with a 7 7/8" pilot bit. Borehole was deepened and logged from 1846.6 to 1860 ft and sampled from 1850 to 1860 ft. Logging samples were collected with a 1/8" sieve (flour sifter) at the annulus trench so as to minimize mixing in the mud pit. Chips are coarse sand-sized particles. Lithology is same as samples collected previously in ashflow unit from 1775 ft. Material could be an ashfall instead of ashflow due to textural similarity to bedded tuff. Logging sample 1846.6 - 1850 ft is clean with less than 1% contamination from other formation materials.