Borehole ID: **NC-EWDP-32P** (Phase 5)

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
4/6/2006	32P-400-402.5-D	400.00	402.50	We are taking a 5/16 split. Rock is reddish brown altered/weathered basalt.
4/6/2006	32P-402.5-405-D	402.50	405.00	"Fractures" - drilling a sequence of (high angle?) fractures lined with non-reactive beige (10YR 8/4) material.
4/6/2006	32P-405-407.5-D	405.00	407.50	From 400 ft-765 ft inject 0.5 gpm just to cool the drive head.
4/6/2006	32P-407.5-410-D	407.50	410.00	
4/6/2006	32P-410-412.5-D	410.00	412.50	
4/6/2006	32P-412.5-415-D	412.50	415.00	412.5 ft - water is clearer - now taking 6/16 split. CONTACT with grey (10YR 2/2) unit. 412.5 ft: - 422.5 ft scattered irregular vesicles through basalt.
4/6/2006	32P-415-417.5-D	415.00	417.50	412.5-425 ft -grey crystal-rich basalt with blocky orange brown crystals (iddingsite?).
4/6/2006	32P-417.5-420-D	417.50	420.00	Note glassy mafics with thin (1mm) reaction rims. Drusy cryptocrystalline quartz (?) on fractures.
4/6/2006	32P-420-422.5-D	420.00	422.50	
4/6/2006	32P-422.5-425-D	422.50	425.00	
4/6/2006	32P-425-427.5-D	425.00	427.50	425 ft - color change.
4/6/2006	32P-427.5-430-D	427.50	430.00	
4/6/2006	32P-430-432.5-D	430.00	432.50	Water temperature at the splitter is 84 degrees F.
4/6/2006	32P-432.5-435-D	432.50	435.00	435 ft - sample is 95% 6mm (or less) highly angular fragments of basalt, 5% uphole contamination, indicating that we are milling this material at the bit - slow ROP too.
4/6/2006	32P-435-437.5-D	435.00	437.50	
4/6/2006	32P-437.5-440-D	437.50	440.00	7-10% uphole contamination. Added a "pie" - our sample is now 7/16. 1% blue colored feldspar.
4/6/2006	32P-440-442.5-D	440.00	442.50	
4/6/2006	32P-442.5-445-D	442.50	445.00	Trace, irridescent sanidine, 1 % blue feldspar to max 2mm
4/6/2006	32P-445-447.5-D	445.00	447.50	Trace, oxy-bio. Trace, calcite along narrow fractures.
4/6/2006	32P-447.5-450-D	447.50	450.00	
4/6/2006	32P-450-452.5-D	450.00	452.50	1% or less rust/orange xls-altered pyroxene? Probably iddingsite. Soft (H=5.5) non-reactive coating on fractures (probably a zeolite).
4/6/2006	32P-452.5-455-D	452.50	455.00	Note 1% or less zoned grey amphiboles (probably a zeolite).
4/7/2006	32P-455-457.5-D	455.00	457.50	244 ft - H20 level, 0730, 4/07/06. Soft ~=5.5) non-reactive beige (7.5YR 8/6) coating (2-3mm) along fractures.
4/7/2006	32P-457.5-460-D	457.50	460.00	Mottled (alteration?). A few pieces at 457.5ft in chip tray are big enough to x-ray.
4/7/2006	32P-460-462.5-D	460.00	462.50	More amphiboles were noted in the core from USW VA-2 (torn out by the drilling?)
4/7/2006	32P-462.5-465-D	462.50	465.00	Note zoned amphibole with thin (0.5mm) reaction rim. Fractures are filled with soft beige zeolites, and wider fractures have late stage calcite.
4/7/2006	32P-465-467.5-D	465.00	467.50	
4/7/2006	32P-467.5-470-D	467.50	470.00	Again, late-stage calcite over earlier zeolite coats open fractures.
4/7/2006	32P-470-472.5-D	470.00	472.50	
4/7/2006	32P-472.5-475-D	472.50	475.00	Contact: strong color change to 5YR 3/4 - reddish brown, scoriacious, etc.

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4/7/2006	32P-475-477.5-D	475.00	477.50	Cinder: 80% is vesicular (small vesicles, 1mm or less). 10% zeolite. Looks like basal chill zone.
4/7/2006	32P-477.5-480-D	477.50	480.00	30% beige zeolites (7.5YR 8/6).
4/7/2006	32P-480-482.5-D	480.00	482.50	All "pies" taken out on sample side: 8/16 split, 30% beige (7.5YR 8/6) zeolite.
4/7/2006	32P-482.5-485-D	482.50	485.00	Rock is a melange - including 1-3% rounded grains. 480-485 ft: cemented vesicular rock.
4/7/2006	32P-485-487.5-D	485.00	487.50	Breccia: cemented with zeolite and minor calcite. Thin horizon of upper "massive" basalt.
4/7/2006	32P-487.5-490-D	487.50	490.00	More "massive" basalt to 488 ft (486 ft to 488 ft).
4/7/2006	32P-490-492.5-D	490.00	492.50	
4/7/2006	32P-492.5-495-D	492.50	495.00	494 ft - clay - CONTACT at 496 ft for sure. 492.5 to 497.5 ft - clayey sand, perhaps volcaniclastic sandstone.
4/7/2006	32P-495-497.5-D	495.00	497.50	"Lithics" are subrounded pebbles, etc. - looks conglomeratic. Matrix is green sand (?).
4/7/2006	32P-497.5-500-D	497.50	500.00	"Lithics" are subrounded pebbles, etc. - looks conglomeratic. Matrix is green sand (?).
4/10/2006	32P-940-945-D	940.00	945.00	940-945 ft is pale green clay-rich siltstone.
4/10/2006	32P-945-950-D	945.00	950.00	
4/10/2006	32P-950-955-D	950.00	955.00	954 ft - contact with yellow-brown (5Y 6/4) siltstone, very clayey.
4/10/2006	32P-955-960-D	955.00	960.00	Water temperature is 89 degrees F.
4/10/2006	32P-960-965-D	960.00	965.00	Contact - note reddish hue.
4/10/2006	32P-965-970-D	965.00	970.00	The clay and/or siltstone is laminated, appears to be dry.
4/10/2006	32P-970-975-D	970.00	975.00	
4/10/2006	32P-975-980-D	975.00	980.00	No gravel, and the clay is gelatinous rather than "balls." Note: weakly cemented sandstone unit.
4/10/2006	32P-980-985-D	980.00	985.00	
4/10/2006	32P-985-990-D	985.00	990.00	
4/10/2006	32P-990-995-D	990.00	995.00	
4/10/2006	32P-995-1000-D	995.00	1000.00	1000 ft T.D. 1048 4/10/06.