

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

NC-EWDP-55

Borehole ID _____ Drill Depth From 0 To 60 Page 1 of 21

Driller BRYAN MORRIS/BOYLES BROS Start Date/Time 1-22-99, 1526 End Date/Time 2-10-99/0835

Drilling Equip./Method AP-1000 / 11" CROWDER OUT BIT Sampling Equip./Method CYCLONE / CUTTINGS
 DRILLED WITH AIR AND IR THT 75E / REVERSE CIRCULATION

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
5	BCS 0000 1651 (2 MIN)	VALLEY FILL GRAVELLY SAND: Coarse subrand, carbonate coated volcanic gravel, fine silty sand, gray orange (10YR 7/4)			
10	BCS 0000 1652 (5 MIN)	Increased amount of gravel & cobbles. Pale yellow (10YR 6/2) Moist			HARD @ 6'
15	BCS 0000 1653 (4 MIN)	SANDY GRAVEL: Fine - coarse sand, coarse subang - subrand, carbonate coated gravels & cobbles (10YR 7/4) silty.			
20	BCS 0000 1654 (4 min)	Very silty with fine sand & subrand cobbles No carbonate coating			
25	BCS 0000 1655 (3 MIN)	Increased amount of fine gravels			HARD @ 22'
30	BCS 0000 1656 (4 MIN)	Increased amount of fine gravel & coarse sand Decreased amount of silt.			
35	BCS 0000 1657 (4 MIN)				
40	BCS 000 1658 (8 MIN)	INCREASED AMOUNT OF GRAVEL & COBBLES			
45	BCS 0000 1659 (4 MIN)	INCREASED AMOUNT OF SAND			
50	BCS 0000 1660 (6 MIN)	INCREASED AMOUNT OF GRAVEL			
55	BCS 0000 1661 (2 MIN)	INCREASED AMOUNT OF SILT			
60	BCS 0000 1662 (5 MIN)	INCREASED AMOUNT OF FINE GRAVEL			

NOTE: DRILL TIME FOR 5' RUN IN () IN 2ND COLUMN.

Prepared By KEN DONNELSON Date 1-22-99 Checked By ARTHUR J. MENDELL Date 3-23-99

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

NC-EWDP-55

Borehole ID _____ Drill Depth From 60 To 120 Page 2 of 21

Driller BRYAN MORRIS/BOYLES BROS Start Date/Time 1-22-99, 1526 End Date/Time 1-24-99, 1717

Drilling Equip./Method AP-1000/11" CROWDER OUT BIT Sampling Equip./Method CYCLONE/ CUTTINGS
 DRILLED WITH AIR

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
65	BCS 0006 1663 (3 MIN)	GRAVELLY SAND; fine-med sand, silty, predom fine subrnd volcanic gravel, Gry orange (10YR 7/4) sand			
70	BCS 0000 1664 (3 MIN)	Some cobbles			1-22-99, 1704
75	BCS 0000 1665 (2 MIN)	GRAVELLY SAND; Poorly sorted, angular sand Gry orange (10YR 7/4) - DK Yel org (10YR 6/6). Fine gravel trace silt, some cemented grains			1-23-99, 0653
80	BCS 0000 1666 (7 MIN)				
85	BCS 0000 1667 (4 MIN)	SANDY GRAVEL; silty, some cobbles, poorly sorted sand. Some color as as above. Cemented grains			
90	BCS 0000 1668 (9 MIN)	GRAVELLY SAND; tr - some silt, some cobbles, fine-med sand, subang - subrnd gravel, Gry orange pink (5YR 7/2)			
95	BCS 0000 1669 (3 MIN)				
100	BCS 0000 1670 (7 MIN)	Increased amount of gravel & silt			
105	BCS 0000 1671 (6 MIN)	Decrease in amount of gravel & silt			
110	BCS 0000 1672 (9 MIN)	SANDY GRAVEL & COBBLES; some silt, f-med sand, subrnd gravel & cobbles			
115	BCS 0000 1673 (5 MIN)	Decrease in amount of sand			
120	BCS 0000 1674 (8 MIN)	Increase in amount of sand & silt			

NOTE: DRILL TIME FOR 5' RUN IN () IN 2ND COLUMN

Prepared By KEN DONNELSON Date 1-23-99 Checked By ARTHUR J. MENDENHALL Date 3-23-99

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

Borehole ID NC-EWDP-55 Drill Depth From 120 To 180 Page 3 of 21
 Driller BRYAN MORRIS / BOYLES BROS Start Date/Time 1-22-99, 1526 End Date/Time 1-24-99, 1717
 Drilling Equip./Method AP-1000/11" CROWD OUT BIT Sampling Equip./Method CYCLONE/CUTTINGS
DRILLED WITH AIR

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
125	BCS 0000 1675 (5 MIN)	GRAVELLY SAND; fine subang - subrnd gravel, fine sand, silty. Gny orange (10YR 7/4) - Dk yel org (10YR 6/6)			
130	BCS 0000 1676 (7 MIN)	Color changes to dk yel orange (10YR 6/6) slightly moist. Increased amount of silt			
135	BCS 0000 1677 (3 MIN)	INCREASED AMOUNT OF GRAVEL			
140	BCS 0000 1678 (5 MIN)	INCREASED AMOUNT OF COARSE SAND & DECREASE IN AMOUNT OF SILT			
145	BCS 0000 1679 (3 MIN)	SANDY GRAVEL; coarse sand, fine subrnd gravel			
150	BCS 0000 1680 (6 MIN)	INCREASED AMOUNT OF COARSE gravel & silt			
155	BCS 0000 1681 (4 MIN)	GRAVELLY SAND; fine silty sand, fine subrnd gravel, Dk Yel Orange (10YR 6/6)			
160	BCS 0000 1682 (5 MIN)	SANDY GRAVEL; fine silty sand, some cobbles Dk yel orange (10YR 6/6)			
165	BCS 0000 1683 (5 MIN)	Coarse gravel, no silt, coarse sand			
170	BCS 0000 1684 (6 MIN)	Trace - some silt. Gny orange pink (5YR 7/2)			
175	BCS 0000 1685 (3 MIN)	Fine subangular gravel with coarse sand Dk yel orange (10YR 6/6) Sand.			POOR RECOVERY LOSING CIRCULATION
180	BCS 0000 1686 (13 MIN)	INCREASE IN AMOUNT OF COARSE GRAVEL			POOR RECOVERY LOSING CIRCULATION

NOTE: DRILL TIME FOR 5' RUN IN () IN 2ND COLUMN:

Prepared By KEN DONNELSON Date 1-23-99 Checked By ARTHUR J. MENDENHALL Date 3-23-99

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

Borehole ID NC-ENDP-55 Drill Depth From 180 To 240 Page 4 of 21

Driller BRYAN MORRIS / BOYLES BROS. Start Date/Time 1-22-99, 1526 End Date/Time 1-24-99, 1717

Drilling Equip./Method AP-1000 / 11" CROWD OUT BIT Sampling Equip./Method CYCLONE / CUTTINGS
DRILLED WITH AIR

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
185	BCS 0000 1687 (4 MIN)	SANDY GRAVEL; coarse ang sand, poorly sorted subrund gravel, no silt (clean sand & gravel)			POOR RECOVERY
190	BCS 0000 1688 (6 MIN)				POOR RECOVERY
195	BCS 0000 1689 (2 MIN)	INCREASED AMOUNT OF SILT DK yel orange (10YR 6/6)			
200	BCS 0000 1690 (3 MIN)	Decreased amount of silt (fairly clean gravels)			
205	BCS 000 1691 (5 MIN)	SAND; tr - some gravel, medium sand, no silt, clean ang sand, well sorted sand Gry orange pink (5YR 7/2)			
210	BCS 000 1692 (7 MIN)	SANDY GRAVEL; f-med sand, subrund coarse gravel, tr - some silt.			
215	BCS 0000 1693 (3 MIN)	Predom fine subrounded gravel & poorly sorted sand. No silt.			
220	BCS 0000 1694 (7 MIN)	poorly sorted sand & gravel. No silt.			
225	BCS 0000 1695 (17 MIN)	MULTICOLORED VOLCANIC GRAVEL & CORBBLES, very few fines.			
230	BCS 0000 1696 (14 MIN)				
235	BCS 0000 1697 (18 MIN)				
240	BCS 0000 1698 (16 MIN)				

NOTE: DRILL TIME FOR 5' RUN IN () IN 2ND COLUMN.

Prepared By KEN PONNELSON Date 1-23-98 Checked By ARTHUR J. MENDENHALL Date 3-23-99

CUTTINGS SAMPLE LOG

Drilling Equip./Method AP-1000/11" CROWD OUT BIT Sampling Equip./Method CYCLONE / CUTTINGS
PRILLED WITH AIR

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
248	BCS 0000 1699 (25 MIN)	GRAVEL & COBBLES; subrand, multicolored, volcanic			INJECTED WATER DUE TO TIGHT FORMATION
250	BCS 0000 1700 (7 MIN)	CLAYEY GRAVEL & COBBLES; some fine sand, subrand gravel & cobbles, muddy, Mod yel brn (10YR 5/4)			
255	BCS 0000 1701 (32 MIN)				
260	BCS 0000 1702 (14 MIN)	SANDY GRAVEL; Fine-med silty sand, coarse - - fine subrand gravel, some cobbles			
265	BCS 0000 1703 (17 MIN)	Increased amount of fine gravel			
270	BCS 0000 1704 (13 MIN)	SANDY CLAY; Mod yel brn (10YR 5/4) f-med sand, med plasticity, some fine gravel			
275	BCS 0000 1705 (9 MIN)	Increased amount of fine gravel & sand			
280	BCS 0000 1706 (9 MIN)	Decreased amount of gravel			
285	BCS 0000 1707 (9 MIN)				1-23-99, 1710
290	BCS 0000 1708 (18 MIN)				1-24-99, 0646
295	BCS 0000 1709 (23 MIN)	BEDDED TUFF?: Gray Orange (10YR 7/4) Mod hard fine sandstone with thin clayey layers & dk red brn (10R 3/4) welded tuff ang frags & blk vitric ang frags			
300	BCS 0000 1710 (12 MIN)				

Prepared By KEN DONNELSON Date 1-24-99 Checked By ARTHUR J. MENDENHALL Date 3-23-99

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

Borehole ID NGE-WDP-5s Drill Depth From 300 To 360 Page 6 of 21

Driller BRYAN MORRIS/BOYLES BEGS Start Date/Time 1-22-99, 1526 End Date/Time 1-24-99

Drilling Equip./Method AP-1000/11" CROWD-OUT BIT Sampling Equip./Method CYCLONE / CUTTINGS
DRILLED WITH AIR

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
30.5	BCS 0000 1711 (9 MIN)	SANDY CLAY: fine sand, trace - some fine gravel, high plasticity. Gyr orange brn (10YR 7/4). BEDDED TUFF? Gyr orange brn (10YR 7/4), fine sand-stone with thin clayey layers & dk rd brn (10R 3/4) welded tuff & blk vitric ang frag's.			
310	BCS 0000 1712 (18 MIN)	SAME AS 300-302.5			
315	BCS 0000 1713 (9 MIN)	CLAYEY GRAVEL? Gray orange brn (10YR 7/4) fine poorly sorted, angular to subrnd gravels. Predom bedded tuff. Hi plasticity - mod plasticity.			
320	BCS 0000 1714 (10 MIN)	Decreased amount of gravel & increased amount of sand & silt (mud)			
325	BCS 0000 1715 (6 MIN)	SANDY CLAY; Fine sand, some gravel			
330	BCS 0000 1716 (8 MIN)	Decreased amount of gravel			
335	BCS 0000 1717 (7 MIN)				
340	BCS 0000 1718 (8 MIN)	INCREASED AMOUNT OF GRAVEL			
345	BCS 0000 1719 (5 MIN)	DECREASE AMOUNT OF GRAVEL			
350	BCS 0000 1720 (8 MIN)	Increased AMOUNT OF GRAVEL			
355	BCS 0000 1721 (3 MIN)				
360	BCS 0000 1722 (6 MIN)	CLAYEY & SILTY SAND: COLOR CHANGES TO LT BRN (5YR 6/4) Med - low plasticity			

CUTTINGS BELOW 350'
 RETURNING AS CLAY
 "BALLS" INSTEAD OF
 MUD (STOPPED
 INJECTING WATER)
 MOISTURE INCREASING
 WITH DEPTH

NOTE: DRILL TIME FOR 5' RUN IN () IN 2ND COLUMN

Prepared By KEN DONNELSON Date 1-24-99 Checked By ARTHUR J. MENDENHALL Date 3-23-99

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

Borehole ID NC-EWDP-55 Drill Depth From 360 To 420 Page 7 of 21

Driller BRYAN MORRIS / BOYLES BROS Start Date/Time 1-22-99, 1526 End Date/Time 1-24-99, 1717

Drilling Equip./Method AP-1000/11" CROWD OUT BIT Sampling Equip./Method CYCLONE / CUTTINGS
DRIED WITH AIR

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
365	BCS 0000 1723 (4 MIN)	BEDDED TUFF? VERY PALE ORANGE (10YR 8/2) Alternating med hrd sandstone & sandy clay			
370	BCS 0000 1724 (10 MIN)	Pale yel brn (10YR 6/2) Increased amount of clay			
375	BCS 0000 1725 (4 MIN)	Lt brn (5YR 6/4)			
380	BCS 0000 1726 (8 MIN)				
385	BCS 0000 1727 (4 MIN)				
390	BCS 0000 1728 (8 MIN)				
395	BCS 0000 1729 (5 MIN)	Increased amount of angular gravel			
400	BCS 0000 1730 (8 MIN)				
405	BCS 0000 1731 (5 MIN)				
410	BCS 0000 1732 (10 MIN)	INCREASED AMOUNT OF SAND			
415	BCS 0000 1733 (5 MIN)	Trace coarse ang. gravel			
420	BCS 0000 1734 (10 MIN)				

NOTE: DRILL TIME FOR 5' RUN IN () IN 2ND COLUMN.

Prepared By KEN PONNELSON Date 1-24-99 Checked By ARTHUR J. MENDENHALL Date 3-23-99

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

Borehole ID NC-EWDP-55 Drill Depth From 420 To 480 Page 8 of 21

Driller BRYAN MORRIS / BOYLES BROS Start Date/Time 1-22-99, 1526 End Date/Time 1-24-99, 1717

Drilling Equip./Method AP-1000/11" CROWD-OUT BIT Sampling Equip./Method CYCLONE/CUTTINGS
 DRILLED WITH AIR

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
425	BCS 0000 1735 (6 MIN)	TUFF, BEDDED, AS ABOVE			
430	BCS 0000 1736 (9 MIN)	CLAYEY SAND, med-coarse ang sand, fine ang & tabular gravel. Pale vel brn (10YR 6/2). Low-medium plasticity.			
435	BCS 0000 1737 (4 MIN)				
440	BCS 0000 1738 (10 MIN)	Some coarse angular gravel & cobbles			
445	BCS 0000 1739 (6 MIN)	Increased amount of gravel some subrnd gravel			
450	BCS 0000 1740 (14 MIN)				
455	BCS 0000 1741 (7 MIN)	Decrease in amount of clay low plasticity			
460	BCS 0000 1742 (17 MIN)				
465	BCS 0000 1743 (8 MIN)	CLAYEY GRAVEL, Multicolored volcanic, fine subrnd gravel, some coarse sand, low plasticity Predom very pale orange (10YR 8/2) sandy bedded tuff.			START INJECTING WATER AT 460- HOLE TIGHT
470	BCS 0000 1744 (9 MIN)	Increased amount of coarse subrnd gravel.			
475	BCS 0000 1745 (4 MIN)	MUDDY Decrease in amount of gravel			
480	BCS 0000 1746 (8 MIN)				

NOTE: DRILL TIME FOR 5' RUN IN () IN 2ND COLUMN.

Prepared By KEN DONNELSON Date 1-24-99 Checked By ARTHUR J. MENDENHALL Date 3-23-99

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

Borehole ID NC-EWDP-55 Drill Depth From 480 To 500 Page 9 of 21
Driller BRYAN MORRIS/BOYLES BRAS. Start Date/Time 1-22-99, 1526 End Date/Time 1-24-99, 1717
Drilling Equip./Method AP-1000/11" CROWD-OUT BIT Sampling Equip./Method CYCLONE / CUTTINGS
DRILLED WITH AIR

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
485	BCS 0000 1747 (3 MIN)	GRAVELLY & SANDY CLAY; Mod yel brn (10YR 5/4) fine subrnd gravel, coarse sand, medium- high plasticity			STOPPED INJECTING WATER AT 480'
490	BCS 0000 1748 (11 MIN)				
495	BCS 0000 1749 (4 MIN)	CLAYEY SAND; Fine subrnd gravel, coarse sand low-medium plasticity			
500	BCS 0000 1750 (8 MIN)	SILTY SAND; Trace coarse gravel & clay. poorly sorted sand, pale brn (5YR 5/2)			1-24-99, 1717
		DEPTH ATTAINED 500'			

NOTE: DRILL TIME FOR 5' RUNNING () IN 2ND COLUMN.

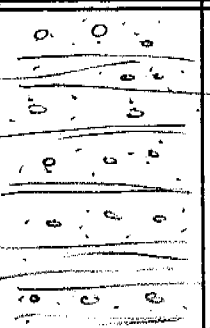
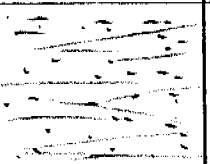
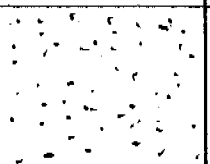
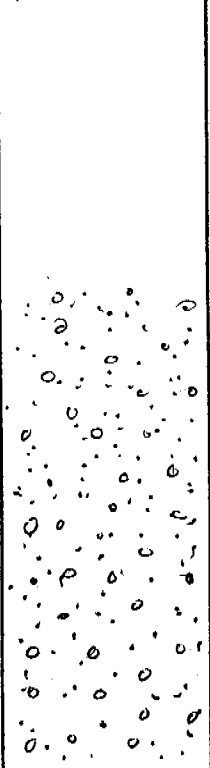
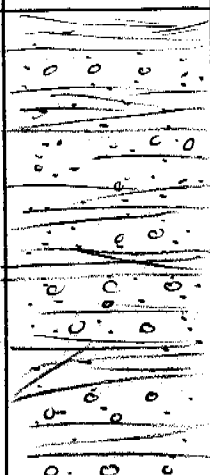
Prepared By KEN DONNELSON Date 1-24-99 Checked By ARTHUR J. MENDENHALL Date 3-23-99

CUTTINGS SAMPLE LOG

Borehole ID NC-EWDP-5S Drill Depth From 480 To 540 Page 10 of 21

Driller BRYAN MORRIS / HOLQUIN / LAYNE Start Date/Time 1-22-99 / 1526 End Date/Time 1-24-99 (0-500') 1717
2-8-99 / 0825 2-10-99 (500-1200') 0835

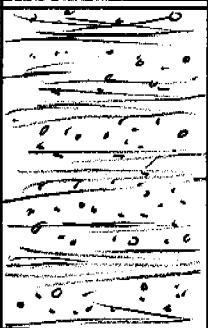
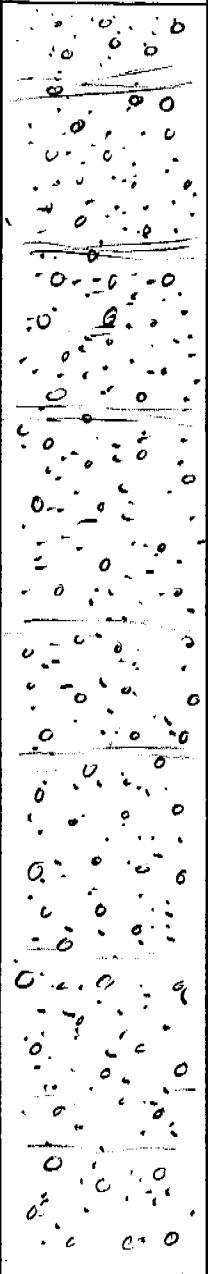

Drilling Equip./Method AP-1000/11" - 0-500'
1R TH75E - Hammer / Tricone 500-1200' Sampling Equip./Method Cyclone / Cuttings

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
485	BCS 0000 1747 (3min)	Gravelly, $\frac{1}{2}$ Sandy Clay; Mod. yellow-brown (10YR 5/4), fine subround gravel, coarse sand, medium-high plasticity			Stopped Injecting water at 480'
490	BCS 0000 1748 (11min)				
495	BCS 0000 1749 (4 min)	Clayey Sand; Fine subround gravel, coarse sand, low-med. plasticity.			
500	BCS 0000 1750 (8min)	Silty Sand; Trace coarse gravel and clay; poorly sorted sand, pale brown (5YR 5/2)			T.D. w/ AP-1000 1-24-99 1717 Start w/ 1R TH 75E 2-8-99 1st shift 0825
505	BCS 0000 2951 NC				
510	BCS 0000 2952 N/S	No sample 505-510 NO RETURN			DRILLING WITH VERY THICK MUD TO LIFT CUTTINGS AND SAND, AND TO PREVENT CROSS-OVER SUB FROM PLUGGING UP
515	BCS 0000 2953				
520	BCS 0000 2954				
525	BCS 0000 2955				
530	BCS 0000 2956	Clay, sand and gravel. CLAY IS ORANGE PINK 5YR 6/2 GRAVEL IS MOSTLY PALE YELLOWISH BROWN 10YR 6/2 SUBROUNDED, WITH MODERATE SPHERICITY CLASTS OF RHYOLITE CRYSTAL TUFFS			
535	BCS 0000 2957				
540	BCS 0000 2958				

Prepared By KENNETH DONNELSON Date 1-24-99 (480-500') Checked By ARTHUR J. MENDENHALL Date 3-23-99
JAMIE WALKER 2-10-99 (500-540')

CUTTINGS SAMPLE LOG

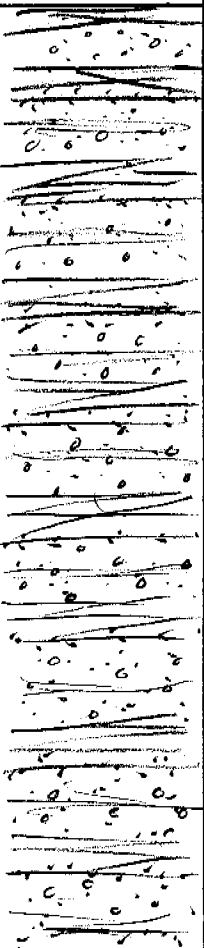


Borehole ID NC-EWDP-55 Drill Depth From 540 To 600 Page 11 of 21
Driller HOLQUIN/LAYNE Start Date/Time 2-8-99/0825 End Date/Time 2-10-99/0835
Drilling Equip./Method 1R TH 75E/Hammer RC Sampling Equip./Method Cyclone/Cuttings

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
540	BCS 0000 2959	Valley Fill; as above, clay/sand/gravel			
545	BCS 0000 2960				
550	BCS 0000 2961	Sand and gravel, minor clay SUBROUNDED WITH MODERATE SPHERICITY RHYOLITE CRYSTAL TUFS			
555	BCS 0000 2962				
560	BCS 0000 2963				
565	BCS 0000 2964				
570	BCS 0000 2965				
575	BCS 0000 2966				
580	BCS 0000 2967				
585	BCS 0000 2968				
590	BCS 0000 2969				
595	BCS 0000 2970				
600		increasing clay content			

Prepared By JAMIE WALKER Date 2-19-99 Checked By ARTHUR J. MENDENHALL Date 3-23-99
BENT AARQUIST 2-20-99

CUTTINGS SAMPLE LOG

Borehole ID NCENDP-55 Drill Depth From 600 To 660 Page 12 of 21
Driller HOLQUIN/LAYNE Start Date/Time 2-8-99 End Date/Time 2-10-99
Drilling Equip./Method 1R TH 75E/Hammer RC Sampling Equip./Method Cyclone/cuttings

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
600	BCS 0000 2971	VALLEY FILL, as above, sand, gravel and clay			
605	BCS 0000 2972				
610	BCS 0000 2973				
615	BCS 0000 2974				
620	BCS 0000 2975				
625	BCS 0000 2976	COARSE SAND AND GRAVEL SIMILAR CLAST TYPES AS ABOVE			
630	BCS 0000 2977				
635	BCS 0000 2978				
640	BCS 0000 2979	CLAY, SAND AND GRAVEL LOCALLY VERY SAND RICH ANGULAR CLASTS OF YELLOWISH BROWN 10YR 7/2 TO GRAYISH YELLOW 5Y 7/4 MAKE UP ABOUT 10% - CLASTS ARE FINE GRAINED TO VERY FINE GRAINED RHYOLITE TUFF			
645	BCS 0000 2980				
650	BCS 0000 2981				
655	BCS 0000 2982				
660					

Prepared By JAMIE WALKER Date 2-19-99 Checked By ARTHUR J. MENDENHALL Date 3-23-99
BENT AARIST 2-20-99

CUTTINGS SAMPLE LOG

Borehole ID NC-EWDP-55 Drill Depth From 660 To 720 Page 13 of 21
Driller HOLQUIN/CLEAVER/LAYNE Start Date/Time 2.8.99/0825 End Date/Time 2.10.99/0835
Drilling Equip./Method 1R TH75E/Hammer RC to 703' Sampling Equip./Method Cyclone/cuttings
Tricone RC beyond

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
660	BCS 0000 2983	VALLEY Fill, as above, clay/sand/gravel LOCALLY VERY SANDY			
665	BCS 0000 2984				
670	BCS 0000 2985				
675	BCS 0000 2986				
680	BCS 0000 2987				
685	BCS 0000 2988				
690	BCS 0000 2989	10% ANGULAR CLASTS MODERATE GREENISH YELLOW 10Y 7/4			2.8.99 first shift 2.8.99 second shift
695	BCS 0000 2990				
700	BCS 0000 2991	SAND PALE YELLOWISH BROWN 10YR 6/2			2.8.99 Plugged off
705	BCS 0000 2992				
710	BCS 0000 2993				
715	BCS 0000 2994				
720					
		SAND AND GRAVEL, REVERSE GRADING, FINING DOWN HOLE OVERALL UNIT IS GRAYISH RED 10R 4/2 WITH 5-10% MODERATE GREENISH YELLOW 10Y 7/4 CLASTS			2.9.99 1700

Prepared By JAMIE WALKER Date 2-19-99 Checked By ARTHUR J. MENDEHALL Date 3-23-99
BENT AAQUIST 2-20-99

CUTTINGS SAMPLE LOG


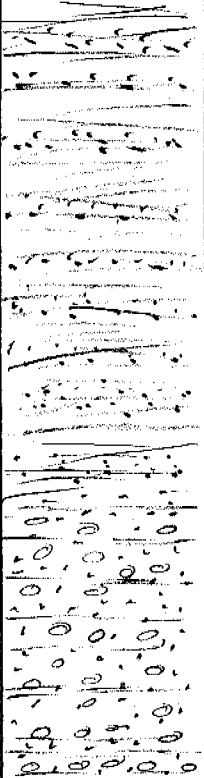
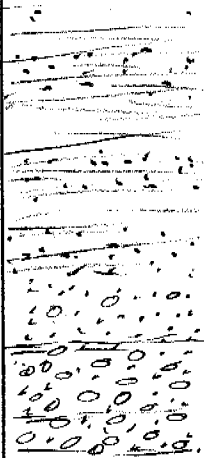
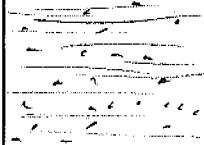
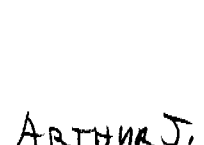
Borehole ID NC-EWDP-55 Drill Depth From 720 To 780 Page 14 of 21
Driller S. CLEAVER/LAYNE Start Date/Time 2.8.99/0825 End Date/Time 2.10.99/0835
Drilling Equip./Method IR TH 75E / Tricone RC Sampling Equip./Method Cyclone/cuttings

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
720 —<					

Prepared By JAMIE WALKER Date 2.11.99 Checked By ARTHUR J. MEMPHALL Date 3.23.99
BENT AAQUIST 2.20.99

CUTTINGS SAMPLE LOG

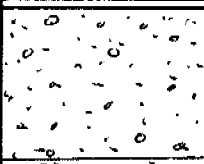

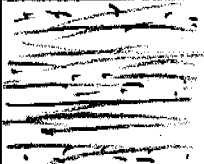

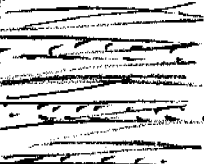


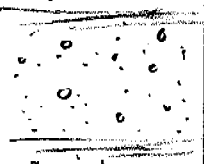
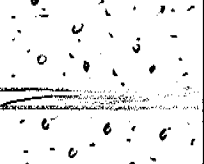

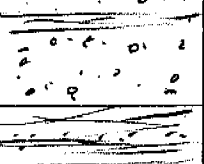

Borehole ID NC-EWDP-55 Drill Depth From 780 To 840 Page 15 of 21
Driller S. CLEAVEK/LAYNE Start Date/Time 2-8-99/0825 End Date/Time 2-10-99/0835
Drilling Equip./Method IR TH7SE/Tricone RC Sampling Equip./Method Cyclone/cuttings

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
780	BCS 0000 3007	VALLEY FILL, SAND AND GRAVEL, AS ABOVE			
785	BCS 0000 3008				
790	BCS 0000 3009				
795	BCS 0000 3010	CLAYEY SAND, CLAY; PALE ORANGE 10YR 7/2 GRAVEL RICH 810-820'; 10-20% clay			
800	BCS 0000 3011				
805	BCS 0000 3012				
810	BCS 0000 3013				
815	BCS 0000 3014	CLAY RICH SAND GRADING INTO GRAVEL AS ABOVE			
820	BCS 0000 3015				
825	BCS 0000 3016				
830	BCS 0000 3017	10-20% clay			
835	BCS 0000 3018	CLAY RICH SAND GRADING DOWN TO SANDY GRAVEL & CLAY MODERATE REDDISH ORANGE 10R 6/6 GRADING INTO PALER 10R 6/2 DOWN HOLE			
840					

Prepared By JAMIE WALKER Date 2-19-99 Checked By ARTHUR J. MENDEHALL Date 3-23-99
BENT ARQUIST 2-20-99

CUTTINGS SAMPLE LOG

Borehole ID NC-EWDP-55 Drill Depth From 840 To 900 Page 16 of 21
Driller S. CLEAVER/LAYNE Start Date/Time 2-8-99/0825 End Date/Time 2-10-99/0835
Drilling Equip./Method 1R TH75E/Tricone RC Sampling Equip./Method Cyclone/cuttings

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
840	BCS 0000 3019	VALLEY FILL, GRAVELLY SAND, AS ABOVE			2-09-99 SECOND SHIFT 2-10-99 FIRST SHIFT
845	BCS 0000 3020	SANDY CLAY AND CLAY PALE YELLOWISH ORANGE 10YR 7/2			
850	BCS 0000 3021				
855	BCS 0000 3022				
860	BCS 0000 3023				
865	BCS 0000 3024	GRAVELLY SAND WITH CLAY BEDS. PALE REDDISH BROWN (10R 5/4)			
870	BCS 0000 3025				
875	BCS 0000 3026				
880	BCS 0000 3027				
885	BCS 0000 3028				
890	BCS 0000 3029				
895	BCS 0000 3030	SANDY CLAY; PALE YELLOWISH ORANGE 10YR 7/2 TO GRAYISH ORANGE 10YR 7/4			
900					

Prepared By JAMIE WALKER Date 2-19-99 Checked By ARTHUR J. MENDENHALL Date 3-23-99
BENT AARQUIST 2-20-99

CUTTINGS SAMPLE LOG

Borehole ID NC-EWDP-55 Drill Depth From 900 To 960 Page 17 of 21
Driller S. CLEAVER / LAUNE Start Date/Time 2-8-99/0825 End Date/Time 2-10-99/0835
Drilling Equip./Method 1R TH75E / Tricone RC Sampling Equip./Method Cyclone / cuttings

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
900	BCS 0000 3031	GRAVELLY SAND AND CLAY YELLOWISH GRAY 5Y 8/1			
905	BCS 0000 3032				
910	BCS 0000 3033				
915	BCS 0000 3034				
920	BCS 0000 3035				
925	BCS 0000 3036	SANDY CLAY AND CLAY GRAYISH ORANGE 10YR 7/4			
930	BCS 0000 3037				
935	BCS 0000 3038	GRAVELLY SAND AND CLAY			
940	BCS 0000 3039				
945	BCS 0000 3040				
950	BCS 0000 3041				
955	BCS 0000 3042	SANDY CLAY AND CLAY MODERATE YELLOWISH BROWN 10YR 5/4			
960					

Prepared By JAMIE WALKER Date 2-11-99 Checked By ARTHUR J. MENDEHALL Date 3-23-99
BENT AAQUIST 2-20-99

CUTTINGS SAMPLE LOG

Borehole ID NC-EWDP-55
 Drill Depth From 960 To 1020
 Page 18 of 21

Driller HOLQUIN/LAYNE
 Start Date/Time 2-8-99/0825
 End Date/Time 2-10-99/0835

Drilling Equip./Method IR TH75E/Tricone RC
 Sampling Equip./Method Cyclone/cuttings

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
960	BCS 0000 3043	SANDY CLAY, CLAY, AS ABOVE, LESS SAND			2-9-99 Second shift 2-10-99 first shift
965	BCS 0000 3044	SANDY CLAY, homogeneous PALE ORANGE BROWN 10YR 7/2			
970	BCS 0000 3045				
975	BCS 0000 3046				
980	BCS 0000 3047				
985	BCS 0000 3048				
990	BCS 0000 3049				
995	BCS 0000 3050				
1000	BCS 0000 3051				
1005	BCS 0000 3052				
1010	BCS 0000 3053				
1015	BCS 0000 3054				
1020					

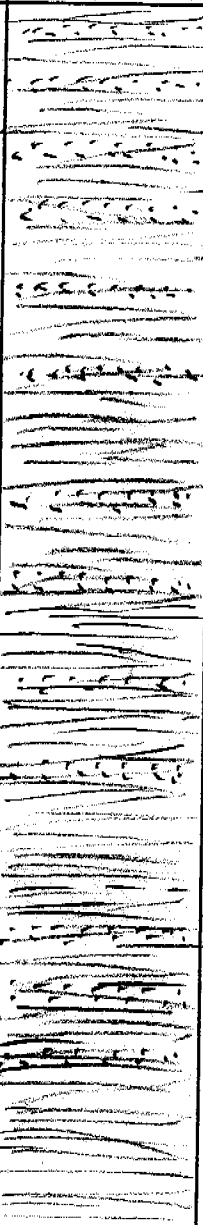
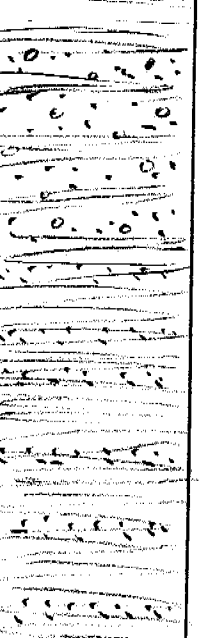
Prepared By JAMIE WALKER
 Date 2-19-99
 Checked By ARTHUR J. MENDENHALL
 Date 3-23-99

BENT AAQUIST
 2-20-99

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

Borehole ID NC-EWDP-55 Drill Depth From 1020 To 1080 Page 19 of 21
 Driller HOLQUIN/LAYNE Start Date/Time 2-8-99/0825 End Date/Time 2-10-99/0835
 Drilling Equip./Method 11R TH 75E/Tricone RC Sampling Equip./Method Cyclone/cuttings

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
1020	BCS 0000 3055	VALLEY FILL, SANDY CLAY, AS ABOVE GRAYISH ORANGE 104R 7/4			
1025	BCS 0000 3056				
1030	BCS 0000 3057				
1035	BCS 0000 3058				
1040	BCS 0000 3059				
1045	BCS 0000 3060				
1050	BCS 0000 3061				
1055	BCS 0000 3062				
1060	BCS 0000 3063				
1065	BCS 0000 3064				
1070	BCS 0000 3065	Gravelly interbed			
1075	BCS 0000 3066				
1080					

Prepared By JAMIE WALKER Date 2-19-99 Checked By ARTHUR J. MENDENHALL Date 3-23-99

CUTTINGS SAMPLE LOG

Borehole ID NC-EWDP-55 Drill Depth From 1080 To 1140 Page 20 of 21
 Driller HOLQUIN/LAYNE Start Date/Time 2-8-99/0825 End Date/Time 2-10-99/0835
 Drilling Equip./Method IR TH75E/Tricone RC Sampling Equip./Method Cyclone/cuttings

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
1080	BCS 0000	VALLEY FILL, SANDY CLAY/CLAY, AS ABOVE gravelly interbed			
	3067				
1085	BCS 0000				
	3068				
1090	BCS 0000				
	3069				
1095	BCS 0000	SAND (COARSE) AND GRAVEL WITH INTERBEDDED CLAYS LIGHT BROWN (5YR 5/6) TO PALE REDDISH BROWN (10R 5/4). Gravel clasts are subround.			
	3070				
1100	BCS 0000				
	3071				
1105	BCS 0000				
	3072				
1110	BCS 0000	Clayey zone			
	3073				
1115	BCS 0000				
	3074				
1120	BCS 0000				
	3075				
1125	BCS 0000				
	3076				
1130	BCS 0000				
	3077				
1135	BCS 0000				
	3078				
1140					

Prepared By JAMIE WALKER Date 2-19-99 Checked By ARTHUR J. MENDENHALL Date 3-23-99

CUTTINGS SAMPLE LOG

Borehole ID NC-EWDP-55 Drill Depth From 1140 To 1200 Page 21 of 21
 Driller HOLQUIN/LAYNE Start Date/Time 2-8-99/0825 End Date/Time 2-10-99/0835
 Drilling Equip./Method 1R TH 75E/Tricone RC Sampling Equip./Method Cyclone/cuttings

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	Lithologic Unit	Notes
1140	BCS 0000	VALLEY FILL, COARSE SAND AND GRAVEL, AS ABOVE			
	3079				
1145	BCS 0000				
	3080				
1150	BCS 0000				
	3081				
1155	BCS 0000	Clayey zone			
	3082				
1160	BCS 0000				
	3083				
1165	BCS 0000				
	3084				
1170	BCS 0000	COARSE SAND AND GRAVELS WITH MINOR CLAYS			
	3085				
1175	BCS 0000				
	3086				
1180	BCS 0000				
	3087				
1185	BCS 0000				
	3088				
1190	BCS 0000				
	3089				
1195	BCS 0000				
	3090				
1200					T.D. = 1200' AT 0835 2-10-99

Prepared By JAMIE WALKER Date 2-19-99 Checked By ARTHUR J. MENDENHALL Date 3-23-99