

# NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

## CUTTINGS SAMPLE LOG

NC-EWDP-55B  
Borehole ID \_\_\_\_\_ Drill Depth From 0 To 60 (T.D. = 500.0') Page 1 of 8  
Driller BRYAN MORRIS Start Date/Time 2-5-00 / 0752 End Date/Time 2-7-00 / 0806  
Drilling Equip./Method AP-1000 Sampling Equip. Method CYCLONE/AIR  
9.5" CROWD-OUT BIT, 8.5" DWP

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	LITHOLOGIC UNIT	Notes
5	BCS0000 5526 (3 MIN)	GRAVELLY SAND: Well graded subrounded gravel, some silt, coarse sand, very pale orange (10YR 8/2)			NO HCl REACTION
10	BCS0000 5527 (2 MIN)	SANDY GRAVEL & COBBLES: Trace silt, coarse sand, subround gravel, pale yellow brown (10YR 6/2) - v. pale orange, slight caliche wind			MOD HCl REACTION
15	BCS0000 5528 (3 MIN)	Clasts are predom Med blue gray (5B 5/1) - Med gray N5)			NO HCl REACTION
20	BCS0000 5529 (3 MIN)	Increased silt			STRONG HCl REACTION
25	BCS0000 5530 (2 MIN)	Decrease in cobbles			STRONG HCl REACTION
30	BCS0000 5531 (3 MIN)	Increase in cobbles Decrease in silt			MOD HCl REACTION
35	BCS0000 5532 (2 MIN)	Fairly clean			No HCl reaction
40	BCS0000 5533 (3 MIN)	Increase in cobbles			No HCl reaction
45	BCS0000 5534 (2 MIN)	Increase in silt			No HCl reaction
50	BCS0000 5535 (2 MIN)	Increase in silt & fine gravel			No HCl reaction
55	BCS0000 5536 (2 MIN)				No HCl reaction
60	BCS0000 5537 (3 MIN)	Decrease in gravel			No HCl reaction

QUALITY ASSURANCE

MAR 23 2000

THIS IS A RED STAMP

NOT TO BE USED

1823

Prepared By KEN DONNELSON Date 2-5-00 Checked By BENT AARQUIST Date 2-16-00

# NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

## CUTTINGS SAMPLE LOG

CONTINUATION

NC-EWDP-56B

Borehole ID \_\_\_\_\_ Drill Depth From 60 To 125 Page 2 of 8

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	LITHOLOGIC UNIT	Notes
	BCS0000 5538	Gravel, Sand and cobbles			No HCl reaction
65	(2 MIN) BCS0000 5539	Increase in coarse gravel			No HCl reaction
70	(3 MIN) BCS0000 5540	Increase in fine gravel			No HCl reaction
75	(3 MIN) BCS0000 5541				No HCl reaction
80	(3 MIN) BCS0000 5542	GRAVELLY SAND: Predom fine submed gravel coarse ang sand, trace - some silt			INJECTING H <sub>2</sub> O No HCl reaction
85	(1 MIN) BCS0000 5543	Lt brn (SYR 5/6) - Mod brn (SYR 4/4)			Mod HCl reaction
90	(2 MIN) BCS0000 5544	Some coarse gravel Increase in silt			Mod HCl reaction
95	(4 MIN) BCS0000 5545	GRAVELLY SAND: Predom fine gravel, med-coarse sand, trace silt			
100	(4 MIN) BCS0000 5546	Lt brn (SYR 6/4) - pale brn (SYR 4/4) Increased coarse sand & gravel			No HCl reaction No HCl reaction
105	(2 MIN) BCS0000 5547	Increased sand Lt brn (SYR 6/4) - Mod brn (SYR 4/4)			No HCl reaction v. moist
110	(3 MIN) BCS0000 5548	SANDY GRAVEL: Trace - some silt, coarse ang sand, predom fine subang gravel			WET No HCl reaction
115	(3 MIN) BCS0000 5549	Lt brn (SYR 5/6) - pale red brn (10R 5/4) Decreased gravel			No HCl reaction
120	(3 MIN) BCS0000 5550	GRAVELLY SAND: Trace - some silt, predom fine subang gravel, coarse sand			No HCl Reaction
125	(3 MIN)	Lt brn (SYR 5/6)			

Prepared By KEV DOWNELSON Date 2-5-00 Checked By BENT ARQUIST Date 2-16-00

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

CONTINUATION

Borehole ID NC-EWDP-55B Drill Depth From 125 To 190 Page 3 of 8

DEP. H (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	LITHOLOGIC UNIT	Notes
130	BCS0000 5551 (5 MIN)	CLAYEY SAND & GRAVEL: predom fine gravel & coarse sand, low plasticity, Lt brn (SYR 6/4-5/6)			MOD HCl reaction
	BCS0000 5552	SAND: Some fine gravel, Lt brn (SYR 6/4-5/6) coarse sand, submed gravel			No HCl reaction
135	(2 MIN) BCS0000 5553	Trace clay			Strong HCl reaction
140	(2 MIN) BCS0000 5554	Increased fine gravel			MOD HCl reaction
145	(1 MIN) BCS0000 5555				No HCl reaction
150	(2 MIN) BCS0000 5556	Increased silt			WEAK HCl reaction
155	(2 MIN) BCS0000 5557	Increased fine submed gravel			No HCl reaction
160	(2 MIN) BCS0000 5558	SANDY GRAVEL: Trace - some silt, fine submed gravel, med - coarse sand, Lt brn (SYR 6/4-5/6)			WEAK HCl reaction
165	(4 MIN) BCS0000 5559	Increased coarse gravel Increased silt			WEAK HCl reaction
170	(2 MIN) BCS0000 5560				No HCl reaction
175	(2 MIN) BCS0000 5561	Trace - some clay			Mod HCl reaction
180	(4 MIN) BCS0000 5562	No clay			No HCl reaction
185	(2 MIN) BCS0000 5563	Increased silt & coarse gravel			No HCl reaction
190	(5 MIN)				

Prepared By KEN DONNELSON Date 2-5-00 Checked By BENT AARIST Date 2-16-00

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

CONTINUATION

AC-EWDP-55B

Drill Depth From

190

To

255

Page

4

of

8

DEPTH (Feet)	Top/Bottom of Cuttings Interval	Description of Lithology - Petrology	GRAPHIC LOG	LITHOLOGIC UNIT	Notes
	BCS0000 5564	DECREASED GRAVEL			WEAK HCl REACTION
195	(2 MIN) BCS0000 5565	GRAVELLY SAND: Trace silt, predom fine gravel, medium sand, Lt brn (SYR 5/6)			NO HCl REACTION
200	(4 MIN) BCS0000 5566	Increased coarse subrd gravel Pale yel brn (10YR 6/2)			WEAK HCl REACTION
205	(2 MIN) BCS0000 5567	SANDY GRAVEL & COBBLES: Trace silt, coarse sand coarse subrd gravel, pale yel brn (10YR 6/2)			NO HCl REACTION
210	(5 MIN) BCS0000 5568	Lt brn (SYR 6/4 - 5/6) Increased fine sand & decreased coarse gravel			NO HCl REACTION
215	(4 MIN) BCS0000 5569				NO HCl REACTION
220	(5 MIN) BCS0000 5570	Increased cobbles, trace - some clay			Weak HCl REACTION
225	(11 MIN) BCS0000 5571	Decreased clay & gravel			NO HCl Reaction
230	(8 MIN) BCS0000 5572	INCREASED CLAY & COARSE GRAVEL			CONNECT UP IR900 COMPRESSOR No HCl Reaction
235	(10 MIN) BCS0000 5573	Basalt cobble at 236'			NO HCl Reaction
240	(7 MIN) BCS0000 5574	CLAYEY GRAVEL: Fine sand, predom coarse subrd gravel, some cobbles, low-med plasticity, Lt brn (SYR 6/4 - 5/6)			STRONG HCl REACTION
245	(10 MIN) BCS0000 5575	Increased silt, increased fine gravel			STRONG HCl REACTION
250	(5 MIN) BCS0000 5576	Increased clay & coarse gravel			MOD HCl REACTION
255	(4 MIN)				

Prepared By KEI DOWNERSON

Date 2-5-00

Checked By BENT AARQUIST Date 2-16-00

# NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

## CUTTINGS SAMPLE LOG

CONTINUATION

Borehole ID NC-EWDP-55B Drill Depth From 255 To 320 Page 5 of 8

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	LITHOLOGIC UNIT	Notes
255	BCS0000 5577	decrease in clay. Increase in fine gravel			Mod HCl reaction
260	(6 MIN) BCS0000 5578	Increased clay & v. fine gravel (pea)			Mod HCl reaction
265	(5 MIN) BCS0000 5579	CLAYEY SAND: Some fine gravel, fine sand, low plasticity, Lt brn (SYR 6/4)			Strong HCl reaction
270	(5 MIN) BCS0000 5580	CLAYEY SAND & GRAVEL: Fine sand, well graded sub rnd gravel, low plasticity, Lt brn (SYR 6/4)			2-5-00, 1658 2-6-00, 0726 YIELDING SMALL AMOUNT OF MUDDY H <sub>2</sub> O MOD. HCl REACTION
275	(10 MIN) BCS0000 5581	Decrease in clay & increase in silt			Strong HCl reaction
280	(9 MIN) BCS0000 5582	Increased clay			MOD. HCl REACTION
285	(7 MIN) BCS0000 5583	SANDY CLAY: Some gravel, fine sand, med plasticity, Lt brn (SYR 6/4)			Strong HCl reaction
290	(13 MIN) BCS0000 5584	Increased gravel			Strong HCl reaction
295	(10 MIN) BCS0000 5585	CLAYEY & SILTY SAND: Some fine gravel, well graded sand, low plasticity, Lt brn (SYR 6/4)			strong HCl reaction
300	(5 MIN) BCS0000 5586	Increased clay			Mod HCl reaction
305	(6 MIN) BCS0000 5587	Increased silt. MUDDY Pale yel brn (10YR 6/2)			strong HCl reaction
310	(6 MIN) BCS0000 5588	SANDY GRAVEL: trace clay, silty, coarse ang sand, pred fine gravel Pale yel brn (10YR 6/2)			Mod HCl reaction
315	(5 MIN) BCS0000 5589	SANDY CLAY: Some fine gravel, fine-med sand, med plasticity, pale yel brn (10YR 6/2)			Mod HCl reaction
320	(4 MIN)				

Prepared By KEN DONNELSON Date 2-6-00 Checked By BENT AARQUIST Date 2-16-00

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

CONTINUATION

Borehole ID NC-EWDP-SSB      Drill Depth From 320 To 385      Page 6 of 8

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	LITHOLOGIC UNIT	Notes
	BCS0000 5590	Some coarse sand			Strong HCl reaction
325	(6 MIN) BCS0000 5591				Strong HCl reaction
330	(5 MIN) BCS0000 5592				Mod HCl reaction
335	(4 MIN) BCS0000 5593	Decreased sand, high plasticity			Mod HCl reaction
340	(4 MIN) BCS0000 5594	Increased coarse sand & some gravel			Mod HCl reaction
345	(2 MIN) BCS0000 5595	Decreased sand & gravel			Strong HCl reaction
350	(4 MIN) BCS0000 5596	Increased gravel becoming indurated			Strong HCl reaction
355	(3 MIN) BCS0000 5597	Becoming indurated			Strong HCl reaction
360	(3 MIN) BCS0000 5598				Strong HCl reaction
365	(2 MIN) BCS0000 5599				Strong HCl reaction
370	(4 MIN) BCS0000 5600	Increased sand & induration			Strong HCl reaction
375	(4 MIN) BCS0000 5601				Strong HCl reaction
380	(3 MIN) BCS0000 5602	Decreased sand, some gravel			Strong HCl reaction
385	(2 MIN)				

Prepared By Kenneth Donnelson Date 2-6-00      Checked By BENT AAGUST Date 2-16-00

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

CONTINUATION

Borehole ID NC-EWDP-5SB      Drill Depth From 385 To 450      Page 7 of 8

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	LITHOLOGIC UNIT	Notes
	BCS0000 5603	Some cobbie-sized cemented pebbly sand			strong HCl reaction
390	(3 MIN)				
	BCS0000 5604	Decreased sand			Strong HCl reaction
		Mottled Lt brn (SYR 6/4) & Hb6 yel brn (10YR 6/2)			
395	(2 MIN)				
	BCS0000 5605	Increased sand & fine gravel			strong HCl reaction
400	(3 MIN)				
	BCS0000 5606	Decreased sand			strong HCl reaction
405	(2 MIN)				
	BCS0000 5607	Increased sand			strong HCl reaction
410	(3 MIN)				
	BCS0000 5608	Increased fine gravel			Mod HCl reaction
415	(2 MIN)				
	BCS0000 5609	Increased fine gravel & coarse sand			Mod HCl reaction
420	(3 MIN)				
	BCS0000 5610	Decreased gravel			Mod HCl reaction
425	(3 MIN)				
	BCS0000 5611				Mod HCl reaction
430	(3 MIN)				
	BCS0000 5612	Increased fine gravel			strong HCl reaction
435	(1 MIN)				
	BCS0000 5613	Increased gravel & indurated pebbly sand			Mod HCl reaction
440	(4 MIN)				
	BCS0000 5614	Decreased gravel			mod HCl reaction
445	(2 MIN)				
	BCS0000 5615	Increased indurated sand & gravel			Mod HCl reaction
450	(3 MIN)				

Prepared By KEN DONNELSON      Date 2-6-00      Checked By BENT AARQUIST      Date 2-16-00

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

CONTINUATION

NC-EW DP-55B  
 Borehole ID \_\_\_\_\_ Drill Depth From 450 To 500 Page 8 of 8

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	LITHOLOGIC UNIT	Notes
	BCS0000 5616				STRONG HCl reaction
455	(3 MIN) BCS0000 5617	Transitional with below			Mod HCl reaction
460	(2 MIN) BCS0000 5618	CLAYEY SAND: Some fine gravel & indurated sand, low-med plasticity, fine-med sand pale yel brn (10YR 6/2) - Lt brn (5YR 6/4)			STRONG HCl reaction
465	(2 MIN) BCS0000 5619	Increased clay			Strong HCl reaction
470	(3 MIN) BCS0000 5620	Decreased clay, trace fine gravel indurated			2-6-00, 1637
475	(3 MIN) BCS0000 5621	Increased clay & coarse sand			W.L. = 465.85 @ 0718 2-7-00, 0738 Weak HCl reaction
480	(3 MIN) BCS0000 5622	SANDY CLAY: Some fine gravel, fine-med sand, med plasticity, pale yel brn (10YR 6/2) - Lt brn (5YR 6/4)			Weak HCl reaction
485	(2 MIN) BCS0000 5623				Weak HCl reaction
490	(2 MIN) BCS0000 5624				Weak HCl reaction
495	(2 MIN) BCS0000 5625	CLAYEY SAND: Predom med sand, trace-some gravel, indurated, low-med plasticity, Pale yel brn (10YR 6/2) - Lt brn (5YR 6/4)			Mod HCl reaction
500	(6 MIN)				2-7-00, 0806

Prepared By KEN DONNELSON Date 2-7-00 Checked By BENT AAQUIST Date 2-16-00