

# NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

## CUTTINGS SAMPLE LOG

Borehole ID NC-EWDP-4PA Drill Depth From 0 To 499.71 FT. Page 1 of 8

Driller BRYAN MORRIS Start Date/Time 1/7/00/0949 End Date/Time 1-10-00 0748

Drilling Equip./Method AP-1000 Sampling Equip. Method CYCLONE

8.5" O.D. DWP, 9.5" O.D. CROWD-OUT BIT

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	LITHOLOGIC UNIT	Notes
5	BCS0000 4151 (2 MIN)	SILTY SAND; Fine grained, some fine subang gravel, Pale yel brn (10YR 6/2)			STRONG REAC. TO HCl
10	BCS0000 4152 (8 MIN)	GRAVELLY SAND; trace silt, f-m sand, coarse subrud gravel & cobbles. Gry orange pink (5YR 7/2)			MOD REAC TO HCL
15	BCS0000 4153 (17 MIN)	SANDY GRAVEL, COBBLES & BOULDERS; coarse subrud gravel, Pale red (5R 6/2). Clasts predom welded tuft			NO REAC. TO HCL
20	BCS0000 4154 (15 MIN)	GRAVELLY SAND; f-c subang-subrud gravel with caliche rind, coarse angular sand, very pale orange (10YR 7/4)			WEAK-MOD REAC TO HCl
25	BCS0000 4155 (2 MIN)	SILTY SAND; fine sand, fine sub ang gravel, v. Pale orange (10YR 7/4)			STRONG REAC TO Hcl
30	BCS0000 4156 (2 MIN)	GRAVELLY SAND; med-c ang sand, f ang gravel v. Pale orange (10YR 8/2)			STRONG REAC to HCL
35	BCS0000 4157 (1 MIN)	INCREASED FINE ANGULAR GRAVEL			STRONG React. to Hcl
40	BCS0000 4158 (3 MIN)				NO REAC TO HCL
45	BCS0000 4159 (2 MIN)	Increased fine sand			MOD REAC. TO HCL
50	BCS0000 4160 (7 MIN)	Some vesicular basalt at 48'. Med gry (NS) dry. Black, wet			WEAK REAC TO HCL
55	BCS0000 4161 (2 MIN)	Increased f subrud gravel			STRONG REAC TO HCL
60	BCS0000 4162 (3 MIN)	Increased fine sand			NO REAC TO HCL

Prepared By K. DONNELSON Date 1/7/00 Checked By Arthur M. [Signature] QUALITY ASSURANCE RECORD

FEB 12 2000

THIS IS A RED STAMP  
DO NOT REMOVE FROM FILE

# NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

## CUTTINGS SAMPLE LOG

CONTINUATION

Borehole ID NC-EWDP-4PA 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
60	BCS0000 4163 (2 MIN)	GRAVELLY SAND: fine subang gravel, f-med sand, tr - some silt, pale yel brn (10YR 6/2)			NO HCl REAC
65	BCS0000 4164 (4 MIN)	SILTY SAND, tr - some fine gravel, fine sand Gry orange (10YR 7/4)			MOD - WK HCl REAC
70	BCS0000 4165 (4 MIN)	SANDY GRAVEL: fine-med sand, coarse gravel & cobbles. Gry orange pink (5YR 7/2)			Weak HCl REAC
75	BCS0000 4166 (5 MIN)	GRAVELLY SAND, fine subang gravel, coarse sand Gry orange pink (5YR 7/2)			NO HCl REAC
80	BCS0000 4167 (3 MIN)	"10"			NO HCl REAC
85	BCS0000 4168 (3 MIN)	GRAVELLY SAND: fine-med angular tuff gravel, zeolitic, soft, fine sand some silt, Lt brn (5YR 5/6) WET			NOTED H <sub>2</sub> O below 85' NO HCl REAC
90	BCS0000 4169 (3 MIN)				NO HCl REAC
95	BCS0000 4170 (3 MIN)	GRAVELLY SAND: coarse subang gravel, fine med sand. Lt brn (5YR 5/6) WET			NO HCl REAC
100	BCS0000 4171 (3 MIN)	"NO"			NO HCl REAC
105	BCS0000 4172 (4 MIN)	some ang gravel, trace clay. Increased gravel			WK HCl REAC
110	BCS0000 4173 (4 MIN)				WEAK HCl REAC
115	BCS0000 4174 (3 MIN)	Some ang non-welded tuff gravels			WEAK - MOD HCl REAC
120	BCS0000 4175 (4 MIN)	SAND: trace - some fine subang gravel, f-m ang sand. Lt brn (5YR 5/6)			NO HCl REAC
125					

Prepared By KEN DONNELSON

Date 1-7-00

Checked By Arthur J. Mandel 1-11-00

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

CONTINUATION

Borehole ID NC-EWDP-4PA      Drill Depth From 125 To 190      Page 3 of 8

DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	LITHOLOGIC UNIT	Notes
125	BCS0000 4176	GRAVELLY SAND: fine subang-subrnd gravel med-coarse sand, Lt brn (SYR 5/6)			STOPPED TO REPLACE 1-7-00, 1544. CABLE. 127.86.
130	(3 MIN)				START 1-8-00, 0735 NO HCl REAC.
	BCS0000 4177				
	(4 MIN)				NO HCl REAC
135	(4 MIN)				
	BCS0000 4178	Trace coarse gravel			NO HCl REAC
140	(4 MIN)				
	BCS0000 4179	Trace silt			NO HCl REAC
	(3 MIN)				
145	BCS0000 4180	Increased amount of coarse gravel			NO HCl REAC
	(4 MIN)				
150	BCS0000 4181				NO HCl REAC.
	(2 MIN)				
155	BCS0000 4182	Increased amount of coarse gravel Trace silt			NO HCl reac.
	(5 MIN)				
160	BCS0000 4183	Increased amount of coarse gravel			NO HCl reac.
	(7 MIN)				
165	BCS0000 4184				NO HCl reac.
	(5 MIN)				
170	BCS0000 4185	GRAVELLY SAND: Predom fine subang-subrnd gravel, f-m sand, some silt			NO HCl reac
	(4 MIN)	Dark yell orange (10YR 6/6) - Lt brn (5YR 5/6)			
175	BCS0000 4186	Gravelly SAND: fine subang-subrnd gravel med-c sand, Lt brn (SYR 5/6)			NO HCl reac
	(3 MIN)				
180	BCS0000 4187	Increased silt, trace clay, trace c gravel			NO HCl reac-
	(3 MIN)				
185	BCS0000 4188	Decrease in amount of gravel			NO HCl reac.
	(5 MIN)				
190					

Prepared By K. DONNELSON      Date 1-8-2000      Checked By Anthony M. [Signature]      Date 1-11-00

# NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

## CUTTINGS SAMPLE LOG

CONTINUATION


Borehole ID NC-EWDP-4PA

Drill Depth From 190

To

255

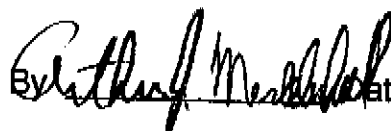
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DEPTH (Feet)	Top/Bottom of Cuttings Sample Interval	Description of Lithology - Petrology	GRAPHIC LOG	LITHOLOGIC UNIT	Notes
190	BCS0000 4189	GRAVELLY SAND: Pred f subang - subbrnd gravel, m-c ang sand, Lt brn (54R 5/6)		QAL	No HCl reac.
195	(6 MIN)				
	BCS0000 4190	Decrease in amount of gravel			No HCl reac.
200	(4 MIN)				
	BCS0000 4191	Increase in amount of gravel			No HCl reac.
205	(4 MIN)				
	BCS0000 4192	Increased amount of silt			No HCl reac.
210	(7 MIN)				
	BCS0000 4193				No HCl reac.
215	(4 MIN)				
	BCS0000 4194	Considerable coarse subbrnd gravel Increased silt			No HCl reac.
220	(5 MIN)				
	BCS0000 4195	Decreased amount of gravel			No HCl reac.
225	(6 MIN)				
	BCS0000 4196	Increased amount of gravel			No HCl reac.
	(3 MIN)				
230	BCS0000 4197	Decreased amount of gravel			No HCl reac.
235	(3 MIN)				
	BCS0000 4198				No HCl reac.
240	(5 MIN)				
	BCS0000 4199				No HCl reac.
245	(5 MIN)				
	BCS0000 4200				No HCl reac.
250	(6 MIN)				
	BCS0000 4201	INCREASED AMOUNT OF GRAVEL			No HCl reac.
255	(5 MIN)				

Prepared By K. DONNELSON

Date 1-8-2000

Checked By



Date 1-11-00

REV. 1

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

CONTINUATION

Borehole ID NC-EWDP-4PA 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 4202	GRAVELLY SAND; coarse subang-subrnd gravel, med-coarse sand, some silt, trace- some clay. Grayish orange (10YR 7/4)			No HCl reac.
260	(6 MIN) BCS0000 4203	Increased fine gravel			No HCl reac
265	(7 MIN) BCS0000 4204	SAMPLE MUDDY			No HCl reac.
270	(7 MIN) BCS0000 4205	SAMPLE MUDDY Increased coarse gravel			Use IR COMPRESSOR No HCl reac
275	(4 MIN) BCS0000 4206	GRAVELLY SAND: Predom of subang-subrnd gravel, med-co. sand, some silt Lt brn (5YR 5/6)			No HCl reac.
280	(5 MIN) BCS0000 4207	Increased amount of coarse gravel			No HCl reac.
285	(5 MIN) BCS0000 4208	Some clay			No HCl reac
290	(8 MIN) BCS0000 4209	Increased clay & fine gravel			No HCl reac.
295	(8 MIN) BCS0000 4210	Decrease in amount of gravel Increase in amount of coarse sand			No HCl reac.
300	(4 MIN) BCS0000 4211	Increase in amount of fine gravel			No HCl reac.
305	(7 MIN) BCS0000 4212	Increase in amount of coarse gravel MUDDY			No HCl reac.
310	(9 MIN) BCS0000 4213	1-10-99, 0761 MUDDY Increase in coarse sand			No HCl reac
315	(3 MIN) BCS0000 4214	MUDDY			No HCl reac
320	(4 MIN)				

Prepared By K. DONNELSON Date 1-8-00 Checked Arthur J. Marshall Date 1-11-00

NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

CUTTINGS SAMPLE LOG

CONTINUATION

Borehole ID NC-EWDP-4PA 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
320	BCS0000 4215 (2 MIN)	CLAYEY GRAVELLY SAND, Predom fine subang - subrnd gravel, med - coarse sand Lt brn (SYR 5/6), low plasticity MUDDY			No HCl reac.
325	BCS0000 4216 (8 MIN)	Decrease in amount of clay			No HCl reac.
330	BCS0000 4217 (7 MIN)	Increase in amount of clay MUDDY			No HCl reac.
335	BCS0000 4218 (8 MIN)	1-11-00, 0715 WITH DWP ON BOTTOM Some coarse gravel MUDDY			No HCl reac.
340	BCS0000 4219 (5 MIN)	Decrease in amount of clay			No HCl reac.
345	BCS0000 4220 (7 MIN)				No HCl reac.
350	BCS0000 4221 (4 MIN)	SANDY GRAVELLY CLAY: fine-med sand, fine gravel, low-med plasticity, Lt brn (SYR 5/6)			STOPPED 1-8-00, 1635 START 1-9-00, 0728 No HCl reac.
355	BCS0000 4222 (4 MIN)	GRAVELLY SAND, fine subang gravel, coarse sand Lt brn (SYR 5/6)			No HCl reac.
360	BCS0000 4223 (3 MIN)	Increased silt & coarse gravel			No HCl reac.
365	BCS0000 4224 (5 MIN)	Some clay layers			No HCl reac.
370	BCS0000 4225 (6 MIN)	Decrease in gravel size			No HCl reac.
375	BCS0000 4226 (3 MIN)				No HCl reac.
380	BCS0000 4227 (7 MIN)	Increased amount of clay			No HCl reac.
385					

Prepared By K. DONNELSON Date 1-9-00 Checked By Arthur J. McShane Date 1-11-00

# NYE COUNTY NUCLEAR WASTE REPOSITORY PROJECT OFFICE

## CUTTINGS SAMPLE LOG

CONTINUATION

NC-EWDP-4PA

Borehole ID \_\_\_\_\_ 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
385	BCS0000 4228	GRAVELLY SAND WITH CLAY: Predom fine subang gravel, coarse ang sand, some coarse gravel. Lt brn (5YR 5/6)			No HCl reac
390	(6 MIN)				
	BCS0000 4229	SANDY CLAY: Predom coarse sand, fine gravel, some coarse gravel, mod plasticity Lt brn (5YR 5/6)			No HCl reac
	(4 MIN)				
395	BCS0000 4230	1-9-00, 1538 SANDY CLAY: Predom fine sand, some coarse gravel, high plasticity, Pale yel brn (10YR 6/2)			Strong HCl reac.
	(3 MIN)				
400	BCS0000 4231	CLAY WITH CALCAREOUS NODULES? Yel gry (5Y 7/2) - Pale yel brn (10YR 6/2)			Strong HCl reac
	(3 MIN)				
405	BCS0000 4232				Strong HCl reac
	(3 MIN)				
410	BCS0000 4233	SANDY CLAY: High-med plasticity, fine sand + gravel. Mod yel brn (10YR 5/4)			WEAK HCl reac
	(2 MIN)				
415	BCS0000 4234	CLAY: High plasticity, mod yel brn (10YR 5/4) - Pale yel brn (10YR 6/2)			No HCl reac MUDDY
	(2 MIN)				
420	BCS0000 4235	SANDY CLAY: fine sand, medium plasticity Pale yel brn (10YR 6/2)			STRONG HCl reac MUDDY WATER ~ 420-425'
	(2 MIN)				
425	BCS0000 4236	Decrease amount of sand, high plasticity Some decomposed white zeolite (?)			WEAK HCl reac.
	(4 MIN)				
430	BCS0000 4237	Increased amount of sand, trace - some gravel			WEAK HCl reac
	(3 MIN)				
435	BCS0000 4238				WEAK HCl reac
	(6 MIN)				
440	BCS0000 4239	Increased sand Muddy			No HCl reac
	(2 MIN)				
445	BCS0000 4240	Decreased sand			No HCl reac
	(2 MIN)				
450					

Prepared By K. DONNELSON Date 1-9-00 Checked By Anthony J. Medsker Date 1-11-00

## CONTINUATION

NC - EWDP - 4PA

Borehole ID \_\_\_\_\_ Drill Depth From 450 To 499.71 FT. Page 8 of 8

REV.