MACTEC

GEOTECHNICAL BORING LOG

Prepared By NAR Date 12/3/09

Checked By DSC Date 12-3-09

BECHTEL PROJECT NO.: 25161	MACTEC PROJECT NO.: 6468-09-2473	COUNTY: Louisa, VA	GEOLOGIST: K. Lloyd
SITE DESCRIPTION: North Anna Power Station, Unit 3		DRILLER: P. Pitts	FLUID LEVEL (ft)
BORING NO.: W-7	DRILL METHOD: Mud Rotary/Rock Core	DRILL MACHINE: CME-55 Track (RAL)	0 HR. NA
GROUND ELEV.: 303.1 ft (NAVD88)	NORTHING: 3,909,731 US ft (NAD83)	EASTING: 11,686,147 US ft (NAD83)	24 HR. 15.2
TOTAL DEPTH: 151.2 ft	SAMPLE METHODS: ASTM D 1586-08a; 2488-09a; 2113-08; 6032-08	ROD TYPE: AWJ	HAMMER (ID):140-lb. Auto (MEC-21)
DATE STARTED: 10/20/09	COMPLETED: 10/23/09	HOLE DIA.: 4"	CASING DEPTH: 63.1 ft
CORE SIZE: HQ3	BITS USED: 3-7/8" Tri-Cone		

ELEV. (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	SAMP. NO.	SOIL AND ROCK DESCRIPTION
303.1						Ground Surface
303.1	0.0					No sampling from 0.0 to 9.5 feet due to soft dig utility clearance by Dominion Personnel
293.6	9.5					
291.8	11.3	3	6	9	SS-1	RESIDUAL SOIL: Silty SAND (SM), brownish yellow (10YR 6/6), medium dense, moist, fine to coarse grained sand, trace to few mica, relict rock fabric
289.0	14.1	5	7	7	SS-2	11.3 ft: Light yellowish brown (10YR 6/4), few gravel sized quartz and rock fragments
286.1	17.0	2	6	10	SS-3	14.1 ft: No quartz rock fragments
283.6	19.5					RESIDUAL SOIL: SILT (ML), dark yellowish brown (10YR 4/6), medium stiff, moist, few fine sand, some mica, relict rock fabric
281.1	22.0	1	2	3	SS-4	
278.8	24.3					RESIDUAL SOIL: Sandy SILT (ML), light brownish gray (10YR 6/2), stiff, moist, fine sand, some mica, trace quartz fragments, relict rock fabric
276.1	27.0	1	3	6	SS-5	
273.8	29.3					RESIDUAL SOIL: SILT (ML), yellowish brown (10YR 5/8), medium stiff, moist, few fine sand, some mica, relict rock fabric
271.1	32.0	1	2	3	SS-6	
268.8	34.3					RESIDUAL SOIL: Silty SAND (SM), brownish yellow (10YR 6/6), medium dense, moist, fine to coarse grained sand, some mica, relict rock fabric
266.1	37.0	5	12	13	SS-7	
263.8	39.3					RESIDUAL SOIL: Sandy SILT (ML), brown (10YR 5/3), very stiff, moist, fine sand, some mica, few quartz fragments, relict rock fabric
258.8	44.3	4	9	11	SS-8	
256.1	47.0	2	4	6	SS-9	44.3 ft: Stiff
253.8	49.3					RESIDUAL SOIL: Silty SAND (SM), brown (10YR 5/3), very dense, moist, fine to coarse grained sand, some mica, relict rock fabric
248.8	54.3	18	35	50/0.1	SS-10	
247.1	56.0	25	20	50/0.2	SS-11	
243.8	59.3					WEATHERED ROCK: Severely weathered, BIOTITE GNEISS (Sampled as Silty SAND (SM), very dark grayish brown (10YR 3/2), very dense, moist, fine to coarse grained sand and rock fragments, some mica)
238.8	64.3	100/0.6			SS-12	
238.7	64.4	50/0.1			SS-13	
						HARD ROCK: Dark gray to black, moderately severe to moderately weathered, close to moderately close fracturing, medium to moderately hard, BIOTITE GNEISS
						68.7 ft: No recovery in severely weathered rock zone (BIOTITE GNEISS) to 76.2 ft

BLOWS PER FOOT: 0 20 40 60 80 100

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LOG

NORTH ANNA 3 BORE NORTH ANNA 3 PROJECT.GPJ NORTH ANNA 3.GDT 12/3/09

MACTEC

BECHTEL PROJECT NO.: 25161	MACTEC PROJECT NO.: 6468-09-2473	COUNTY: Louisa, VA	GEOLOGIST: K. Lloyd
SITE DESCRIPTION: North Anna Power Station, Unit 3		DRILLER: P. Pitts	FLUID LEVEL (ft)
BORING NO.: W-7	DRILL METHOD: Mud Rotary/Rock Core	DRILL MACHINE: CME-55 Track (RAL)	0 HR. NA
GROUND ELEV.: 303.1 ft (NAVD88)	NORTHING: 3,909,731 US ft (NAD83)	EASTING: 11,686,147 US ft (NAD83)	24 HR. 15.2
TOTAL DEPTH: 151.2 ft	SAMPLE METHODS: ASTM D 1586-08a; 2488-09a; 2113-08; 6032-08	ROD TYPE: AWJ	HAMMER (ID):140-lb. Auto (MEC-21)
DATE STARTED: 10/20/09	COMPLETED: 10/23/09 / HOLE DIA.: 4" / CASING DEPTH: 63.1 ft	CORE SIZE: HQ3	BITS USED: 3-7/8" Tri-Cone

ELEV. (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 20 40 60 80 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
228.3					Continued from previous page				
									HARD ROCK: Dark gray to black, moderately severe to moderately weathered, close to moderately close fracturing, medium to moderately hard, BIOTITE GNEISS *(continued)* 78.2 ft: No recovery in severely weathered, fractured rock zone (BIOTITE GNEISS) to 80.2 ft 81.0 ft: Lost drill fluid circulation 82.5 ft: Regained approximately 50% drill fluid circulation
211.9	91.2								HARD ROCK: Black, slightly weathered, close to moderately close fracturing, hard, BIOTITE GNEISS 98.3 ft: No recovery in severely weathered, fractured rock zone (BIOTITE GNEISS) to 99.3 ft
186.9	116.2								HARD ROCK: Black, fresh, wide fracturing, hard to very hard, BIOTITE GNEISS

NORTH ANNA 3 BORE NORTH ANNA 3 PROJECT.GPJ NORTH ANNA 3.GDT 12/3/09

MACTEC

BECHTEL PROJECT NO.: 25161	MACTEC PROJECT NO.: 6468-09-2473	COUNTY: Louisa, VA	GEOLOGIST: K. Lloyd
SITE DESCRIPTION: North Anna Power Station, Unit 3		DRILLER: P. Pitts	FLUID LEVEL (ft)
BORING NO.: W-7	DRILL METHOD: Mud Rotary/Rock Core	DRILL MACHINE: CME-55 Track (RAL)	0 HR. NA
GROUND ELEV.: 303.1 ft (NAVD88)	NORTHING: 3,909,731 US ft (NAD83)	EASTING: 11,686,147 US ft (NAD83)	24 HR. 15.2
TOTAL DEPTH: 151.2 ft	SAMPLE METHODS: ASTM D 1586-08a; 2488-09a; 2113-08; 6032-08	ROD TYPE: AWJ	HAMMER (ID):140-lb. Auto (MEC-21)
DATE STARTED: 10/20/09	COMPLETED: 10/23/09 / HOLE DIA.: 4" / CASING DEPTH: 63.1 ft	CORE SIZE: HQ3	BITS USED: 3-7/8" Tri-Cone

ELEV. (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 20 40 60 80 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
153.5					Continued from previous page				
	151.9								Boring and coring terminated at 151.2 feet. 151.2

Boring closed by tremie method with cement-bentonite grout.

24 hour water level measured on 10/21/2009 prior to drilling. Borehole was at a depth of 54.3 feet.

NORTH ANNA 3 BORE NORTH ANNA 3 PROJECT.GPJ NORTH ANNA 3.GDT 12/3/09

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BECHTEL PROJECT NO.: 25161	MACTEC PROJECT NO.: 6468-09-2473	COUNTY: Louisa, VA	GEOLOGIST: K. Lloyd
SITE DESCRIPTION: North Anna Power Station, Unit 3		DRILLER: P. Pitts	FLUID LEVEL (ft)
BORING NO.: W-7	DRILL METHOD: Mud Rotary/Rock Core	DRILL MACHINE: CME-55 Track (RAL)	0 HR. NA
GROUND ELEV.: 303.1 ft (NAVD88)	NORTHING: 3,909,731 US ft (NAD83)	EASTING: 11,686,147 US ft (NAD83)	24 HR. 15.2
TOTAL DEPTH: 151.2 ft	SAMPLE METHODS: ASTM D 1586-08a; 2488-09a; 2113-08; 6032-08		HAMMER (ID): 140-lb. Auto (MEC-21)
DATE STARTED: 10/20/09	COMPLETED: 10/23/09	CASING DEPTH: 63.1 ft	CORE BARREL TYPE: Wireline HQ3 Triple Tube, series 6 & 10 bits

ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
										Begin Coring @ 64.4 ft
238.7	64.4	1.8	4:03	(1.8)	(1.4)	RUN 1	(21.9)	(15.1)		238.7 HARD ROCK: Dark gray to black, moderately severe to moderately weathered, close to moderately close fracturing, medium to moderately hard, BIOTITE GNEISS 64.4
236.9	66.2		3:48/0.8	100%	78%		82%	56%		
		5.0	5:26	(2.5)	(1.2)	RUN 2				(2 joints at 0-10°, open)
			4:33	50%	24%					(2 joints at 0-10°, open)
			3:48							68.7 ft: No recovery in severely weathered rock zone (BIOTITE GNEISS) to 76.2 ft
			3:38							
231.9	71.2		2:39							
		5.0	5:46	(4.6)	(1.4)	RUN 3				(4 joints at 20-30°, tight to open with trace clay; 5 joints at 60-70°, tight with trace clay)
			3:37	92%	28%					
			5:05							
			5:37							
226.9	76.2		10:15							
		5.0	3:27	(3.0)	(3.0)	RUN 4				(2 joints at 10-20°, open with clay)
			4:06	60%	60%					
			3:04							78.2 ft: No recovery in severely weathered, fractured rock zone (BIOTITE GNEISS) to 80.2 ft
			4:16							
221.9	81.2		6:32							
		5.0	5:50	(5.0)	(3.7)	RUN 5				81.0 ft: Lost drill fluid circulation
			4:16	100%	74%					(8 joints at 0-10°, open)
			3:22							82.5 ft: Regained approximately 50% drill fluid circulation
			2:41							
216.9	86.2		3:10							
		5.0	5:08	(5.0)	(4.4)	RUN 6				(4 joints at 20-30°, tight with trace clay and orange staining; 3 joints at 60-70°, tight to open with clay and orange staining)
			3:34	100%	88%					
			4:15							
			6:08							
211.9	91.2		3:27							211.9 91.2
		5.0	5:08	(5.0)	(5.0)	RUN 7	(24.0)	(21.4)		HARD ROCK: Black, slightly weathered, close to moderately close fracturing, hard, BIOTITE GNEISS
			3:34	100%	100%		96%	86%		(3 joints at 0-10°, open with clay; 1 joint at 20°, tight; 2 joints at 70-80°, tight with trace clay)
			4:12							
			3:45							
206.9	96.2		4:20							
		5.0	4:02	(4.0)	(2.6)	RUN 8				(5 joints at 10-20, tight to open with clay and iron staining; 2 joints at 50-60°, open with clay and iron staining)
			2:50	80%	52%					98.3 ft: No recovery in severely weathered, fractured rock zone (BIOTITE GNEISS) to 99.3 ft
			3:03							
			3:02							
201.9	101.2		3:24							
		5.0	2:53	(5.0)	(5.0)	RUN 9				(1 joints at 10°, tight; 2 joints at 30-40°, tight)
			3:14	100%	100%					
			3:08							
			3:12							
196.9	106.2		3:27							
		5.0	3:31	(5.0)	(4.8)	RUN 10				(4 joints at 30-40°, tight to open with clay; quartz vein at 110.0 ft with trace pyrite)
			4:34	100%	96%					
			3:11							
			4:13							
191.9	111.2		4:07							
		5.0	4:28	(5.0)	(4.0)	RUN 11				(2 joints at 30-40°, tight; 2 joints at 70-80°, open with clay)
			4:22	100%	80%					
			3:46							
			4:07							
186.9	116.2		3:14							186.9 116.2
		5.0	3:48	(5.0)	(5.0)	RUN 12	(35.0)	(35.0)		HARD ROCK: Black, fresh, wide fracturing, hard to very hard, BIOTITE GNEISS
			4:20	100%	100%		100%	100%		(No joints)
			3:18							
			4:38							
181.9	121.2		4:20							
		5.0	4:21	(5.0)	(5.0)	RUN 13				(2 joints at 50°, tight with trace clay)
			4:30	100%	100%					
			3:02							
			4:06							
176.9	126.2		4:17							
		5.0	3:03	(5.0)	(5.0)	RUN 14				(No joints)
			3:47	100%	100%					
			3:04							
			3:46							
171.9	131.2		3:21							
		5.0	4:09	(5.0)	(5.0)	RUN 15				(No joints)
			3:01	100%	100%					
			3:20							
			4:01							
166.9	136.2		3:32							
		5.0	4:56	(5.0)	(5.0)	RUN 16				(1 joint at 70°, tight with trace clay)
			4:09	100%	100%					
			3:46							

NORTH ANNA 3 CORE NORTH ANNA 3 PROJECT.GPJ NORTH ANNA 3.GDT 12/3/09

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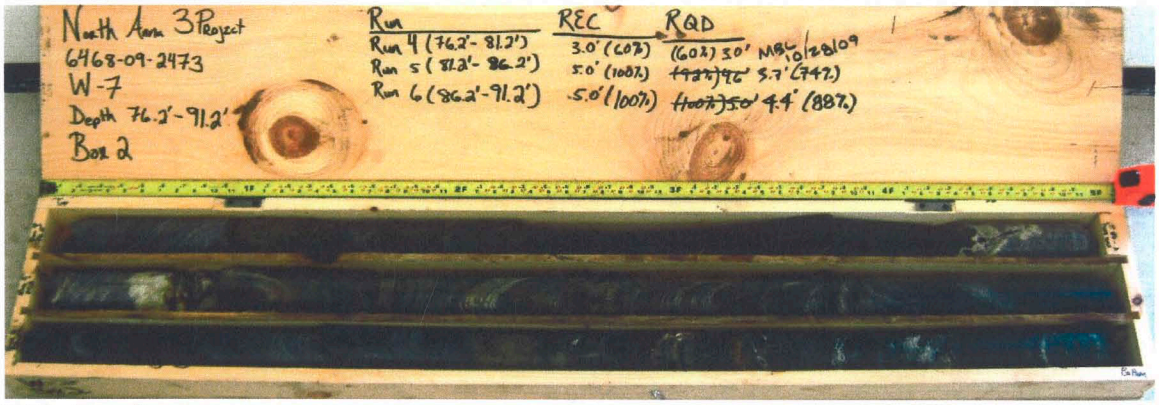
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SITE DESCRIPTION: North Anna Power Station, Unit 3		DRILLER: P. Pitts	FLUID LEVEL (ft)
BORING NO.: W-7	DRILL METHOD: Mud Rotary/Rock Core	DRILL MACHINE: CME-55 Track (RAL)	0 HR. NA
GROUND ELEV.: 303.1 ft (NAVD88)	NORTHING: 3,909,731 US ft (NAD83)	EASTING: 11,686,147 US ft (NAD83)	24 HR. 15.2
TOTAL DEPTH: 151.2 ft	SAMPLE METHODS: ASTM D 1586-08a; 2488-09a; 2113-08; 6032-08		HAMMER (ID): 140-lb. Auto (MEC-21)
DATE STARTED: 10/20/09	COMPLETED: 10/23/09	CASING DEPTH: 63.1 ft	CORE BARREL TYPE: Wireline HQ3 Triple Tube, series 6 & 10 bits

ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
										Continued from previous page
161.9	141.2		3:37 3:11							HARD ROCK: Black, fresh, wide fracturing, hard to very hard, BIOTITE GNEISS *(continued)*
		5.0	3:17 2:41 3:10 3:35	(5.0) 100%	(5.0) 100%	RUN 17				(1 joint at 70°, tight with trace clay)
156.9	146.2		4:17							
		5.0	3:17 3:33 3:09 3:01	(5.0) 100%	(5.0) 100%	RUN 18				(No joints)
151.9	151.2		3:28							151.9 151.2
										Boring and coring terminated at 151.2 feet.
										Boring closed by tremie method with cement-bentonite grout.
										24 hour water level measured on 10/21/2009 prior to drilling. Borehole was at a depth of 54.3 feet.

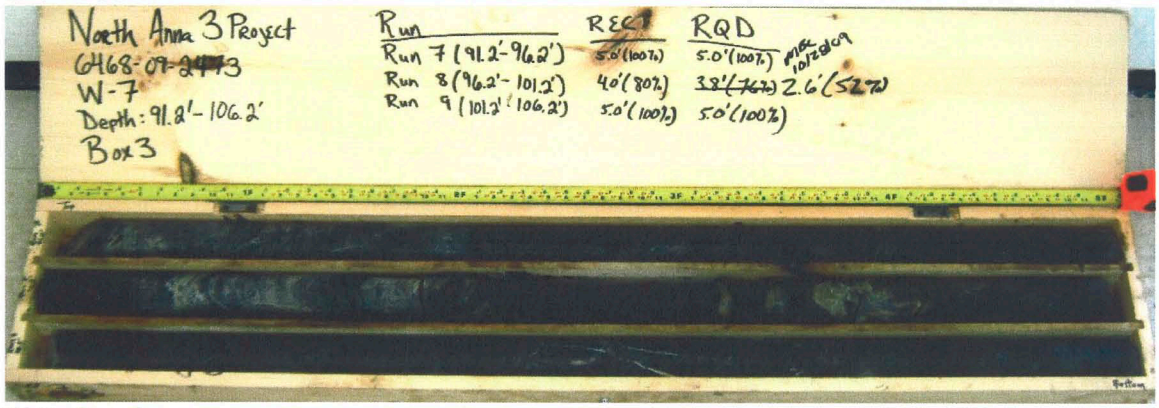
NORTH ANNA 3 CORE NORTH ANNA 3 PROJECT.GPJ NORTH ANNA 3.GDT 12/3/09



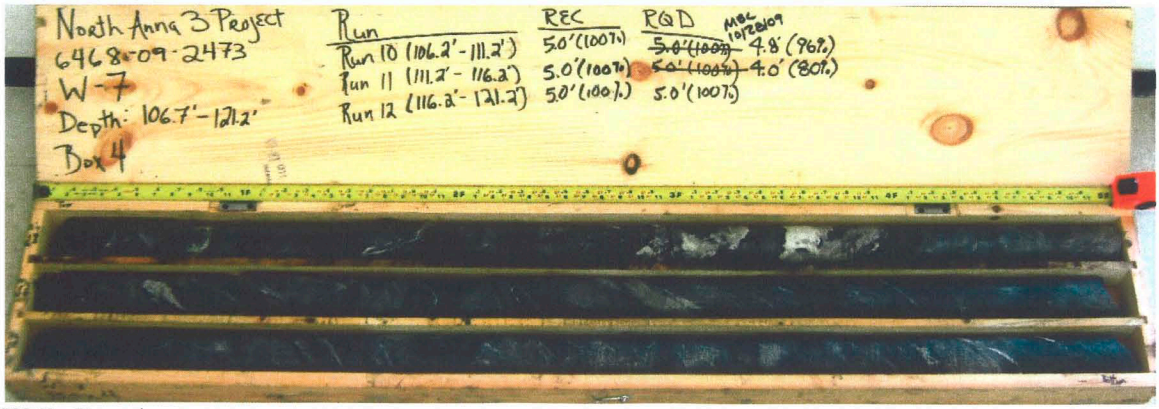
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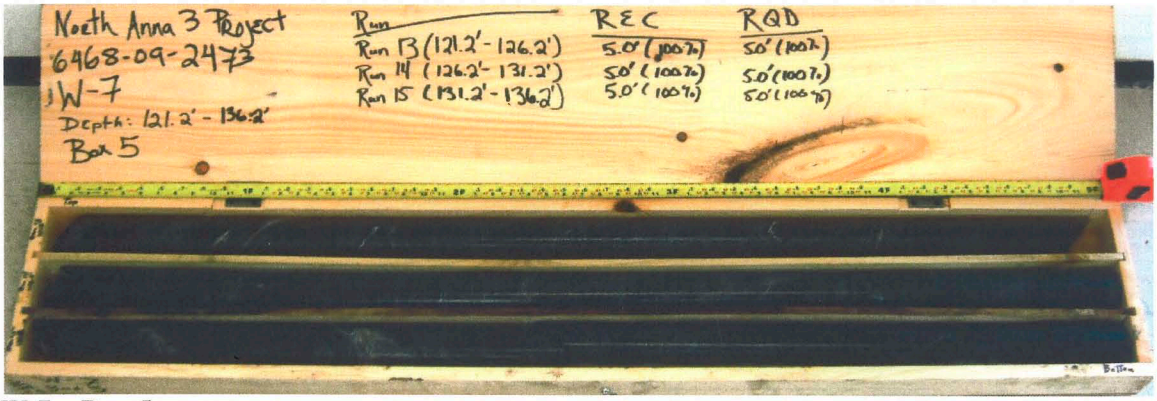
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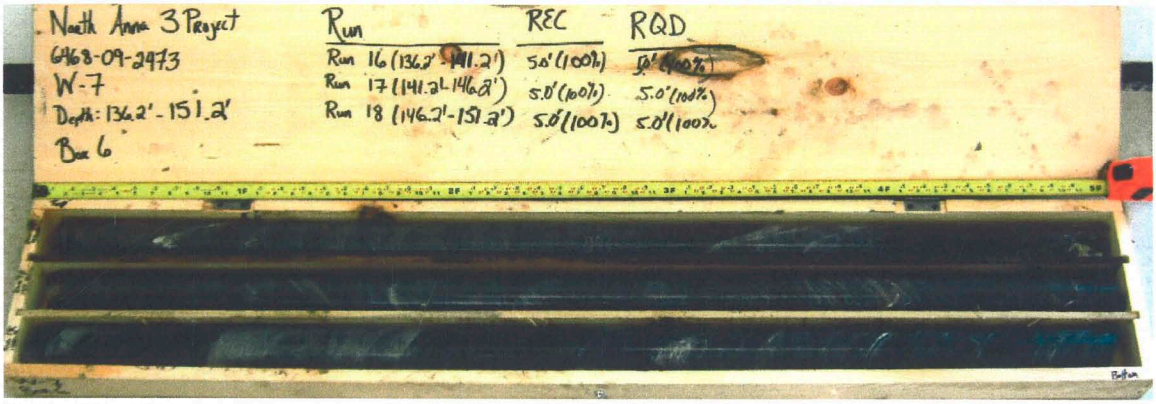
W-7– Box 3



W-7– Box 4



W-7 – Box 5



W-7 – Box 6

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GEOTECHNICAL BORING LOG

Prepared By NAC Date 12/3/09

Checked By DSC Date 12-3-09

BECHTEL PROJECT NO.: 25161	MACTEC PROJECT NO.: 6468-09-2473	COUNTY: Louisa, VA	GEOLOGIST: K. Lloyd
SITE DESCRIPTION: North Anna Power Station, Unit 3		DRILLER: P. Pitts	FLUID LEVEL (ft)
BORING NO.: W-8	DRILL METHOD: Mud Rotary/Rock Core	DRILL MACHINE: CME-55 Track (RAL)	0 HR. ND
GROUND ELEV.: 307.8 ft (NAVD88)	NORTHING: 3,909,768 US ft (NAD83)	EASTING: 11,686,273 US ft (NAD83)	24 HR. ND
TOTAL DEPTH: 150.6 ft	SAMPLE METHODS: ASTM D 1586-08a; 2488-09a; 2113-08; 6032-08	ROD TYPE: AWJ	HAMMER (ID):140-lb. Auto (MEC-21)
DATE STARTED: 10/26/09	COMPLETED: 10/29/09	HOLE DIA.: 4"	CASING DEPTH: 78.6 ft
CORE SIZE: HQ3	BITS USED: 3-7/8" Tri-Cone		

ELEV. (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	SAMP. NO.	SOIL AND ROCK DESCRIPTION
307.8						Ground Surface
307.8	0.0					No sampling from 0.0 to 9.3 feet due to soft dig utility clearance by Dominion Personnel
298.5	9.3					
295.9	11.9	2	2	3	SS-1	RESIDUAL SOIL: ELASTIC SILT with sand (MH), light greenish gray (5G 7/1), medium stiff, moist, fine sand, micaceous, relict rock fabric
293.4	14.4	1	2	3	SS-2	
288.5	19.3	2	4	4	SS-3	RESIDUAL SOIL: SILT with sand (ML), pale olive (5Y 6/4), medium stiff, moist, fine sand, micaceous, relict rock fabric
283.5	24.3	1	3	4	SS-4	19.3 ft: Wet
278.5	29.3	4	7	6	SS-5	24.3 ft: Pale olive (5Y 6/4) to olive gray (5Y 4/2), stiff
273.5	34.3	15	15	9	SS-6	RESIDUAL SOIL: Silty SAND with rock fragments (SM), dark olive gray (5Y 3/2) to dark greenish gray (5G 4/1), medium dense, moist, fine to coarse grained sand, little gravel sized rock fragments, some mica, relict rock fabric
268.5	39.3	12	21	21	SS-7	34.3 ft: Dense
263.5	44.3	7	8	8	SS-8	RESIDUAL SOIL: Silty SAND (SM), dark greenish gray (5G 4/1), medium dense, moist, fine to coarse grained sand, some mica, relict rock fabric
258.5	49.3	12	15	12	SS-9	44.3 ft: Dark greenish gray (5G 4/1) and light yellowish brown (10YR 6/4)
253.5	54.3	8	12	27	SS-10	49.3 ft: Dark greenish gray (5G 4/1), dense
248.5	59.3	22	38	31	SS-11	54.3 ft: Very dense
243.5	64.3	11	24	42	SS-12	59.3 ft: Dark greenish gray (5G 4/1) and brownish yellow (10YR 6/6)
238.5	69.3	17	15	23	SS-13	RESIDUAL SOIL: SILT (ML), dark yellowish brown (10YR 4/4), hard, moist, few fine sand, micaceous, trace gravel sized rock fragments, relict rock fabric
233.5	74.3	18	33	60	SS-14	RESIDUAL SOIL: SILT with sand (ML), dark greenish gray (5G 4/1), hard, moist, little fine sand, micaceous, relict rock fabric
296.8	11.0					
280.8	27.0					
270.8	37.0					
245.8	62.0					
240.8	67.0					
236.8	71.0					

BLOWS PER FOOT: 0 20 40 60 80 100

5 5 8 7 13 24 42 16 27 39 69 66 38 93 100/0.5

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LOG

NORTH ANNA 3 BORE NORTH ANNA 3 PROJECT.GPJ NORTH ANNA 3.GDT 12/3/09

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ELEV. (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 20 40 60 80 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
233.0					Continued from previous page				
		100/0.5				SS-15			WEATHERED ROCK: Severely weathered BIOTITE GNEISS (Sampled as Silty SAND (SM), dark greenish gray (5G 4/1) to greenish black (10Y 2.5/1), very dense, moist, fine to coarse sand, micaceous) *(continued)*
228.5	79.3								227.8 80.0
226.8	81.0	100/0.5			100/0.5	SS-16			HARD ROCK: Dark gray, black, and greenish black, slightly to moderately weathered, close fracturing, moderately to medium hard, BIOTITE GNEISS
		50/0.0			50/0.0	SS-17			
									216.4 91.4
									HARD ROCK: Dark gray to black, very slightly weathered to fresh, moderately close to wide fracturing, hard to very hard, BIOTITE GNEISS
									181.4 126.4
									HARD ROCK: Gray to dark gray, fresh, moderately close fracturing, very hard, BIOTITE QUARTZ GNEISS

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GROUND ELEV.: 307.8 ft (NAVD88)	NORTHING: 3,909,768 US ft (NAD83)	EASTING: 11,686,273 US ft (NAD83)	24 HR. ND
TOTAL DEPTH: 150.6 ft	SAMPLE METHODS: ASTM D 1586-08a; 2488-09a; 2113-08; 6032-08	ROD TYPE: AWJ	HAMMER (ID):140-lb. Auto (MEC-21)
DATE STARTED: 10/26/09	COMPLETED: 10/29/09 / HOLE DIA.: 4" / CASING DEPTH: 78.6 ft	CORE SIZE: HQ3	BITS USED: 3-7/8" Tri-Cone

ELEV. (ft)	DEPTH (ft)	BLOW COUNT 0.5ft	0.5ft	0.5ft	BLOWS PER FOOT 0 20 40 60 80 100	SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION
158.2					Continued from previous page				
									157.2 150.6 Boring and coring terminated at 150.6 feet. Boring closed by tremie method with cement-bentonite grout.

NORTH ANNA 3 BORE NORTH ANNA 3 PROJECT.GPJ NORTH ANNA 3.GDT 12/3/09

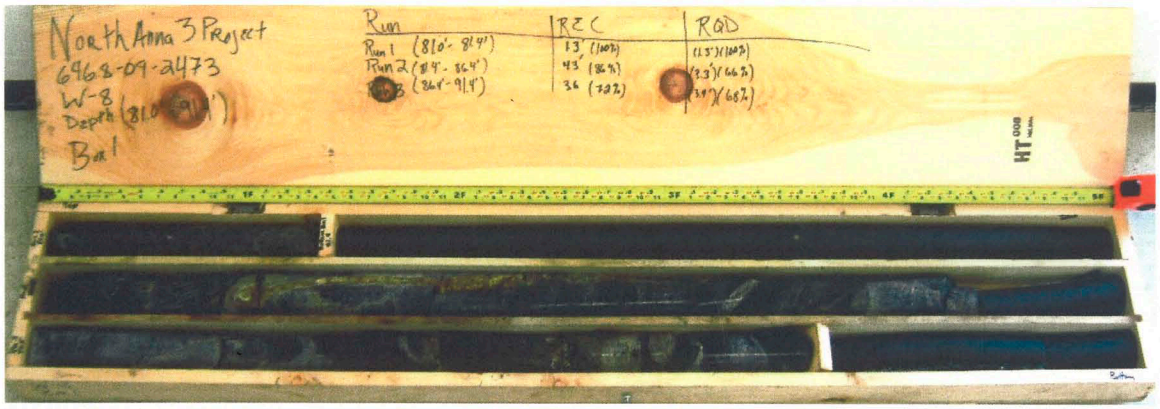
MACTEC

SHEET 1 OF 1

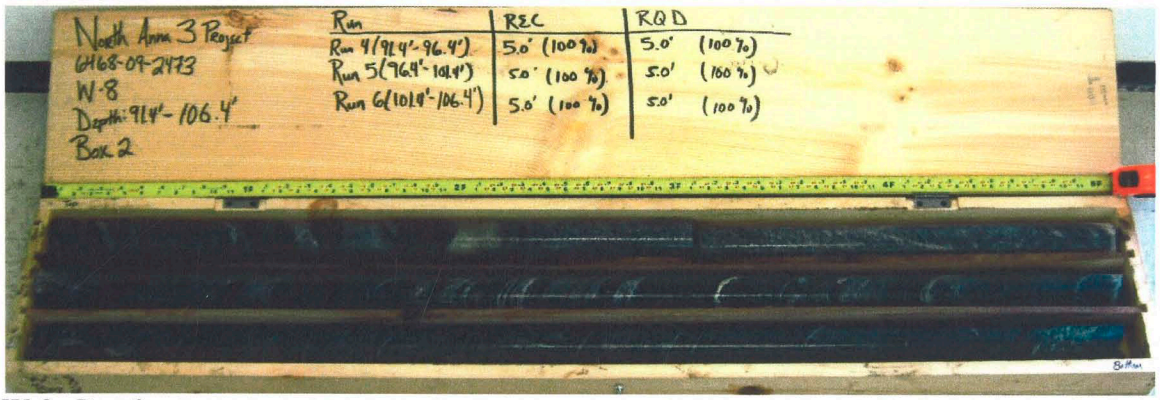
BECHTEL PROJECT NO.: 25161	MACTEC PROJECT NO.: 6468-09-2473	COUNTY: Louisa, VA	GEOLOGIST: K. Lloyd
SITE DESCRIPTION: North Anna Power Station, Unit 3		DRILLER: P. Pitts	FLUID LEVEL (ft)
BORING NO.: W-8	DRILL METHOD: Mud Rotary/Rock Core	DRILL MACHINE: CME-55 Track (RAL)	0 HR. ND
GROUND ELEV.: 307.8 ft (NAVD88)	NORTHING: 3,909,768 US ft (NAD83)	EASTING: 11,686,273 US ft (NAD83)	24 HR. ND
TOTAL DEPTH: 150.6 ft	SAMPLE METHODS: ASTM D 1586-08a; 2488-09a; 2113-08; 6032-08		HAMMER (ID): 140-lb. Auto (MEC-21)
DATE STARTED: 10/26/09	COMPLETED: 10/29/09	CASING DEPTH: 78.6 ft	CORE BARREL TYPE: Wireline HQ3 Triple Tube, series 6 & 10 bits

ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %	RUN RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %	STRATA RQD (ft) %	LOG	DESCRIPTION AND REMARKS
										Begin Coring @ 80.0 ft
227.8	80.0	1.4	ND	(1.3)	(1.3)	RUN 1	(9.2)	(8.0)		227.8 80.0 HARD ROCK: Dark gray, black, and greenish black, slightly to moderately weathered, close fracturing, moderately to medium hard, BIOTITE GNEISS
226.4	81.4	5.0	N=50/0.0 1:40/0.4	93%	93%	SS-17	81%	70%		(1 joint at 60°, tight)
			3:31 3:27 3:38 4:41 6:05	(4.3) 86%	(3.3) 66%	RUN 2				(2 joints at 10-20°, open with orange staining; 3 joints at 30-40°, open; 1 joint at 60°, open with clay and orange staining; 1 joint at 90°, tight with trace clay and orange staining)
221.4	86.4	5.0	5:23 3:40 3:41 2:30 6:08	(3.6) 72%	(3.4) 68%	RUN 3				(3 joints at 20-30°, open with orange staining and clay; 2 joints at 60°, tight to open with clay and orange staining)
216.4	91.4	5.0	3:24 3:02 3:43 4:38 6:38	(5.0) 100%	(5.0) 100%	RUN 4	(35.0) 100%	(35.0) 100%		216.4 91.4 HARD ROCK: Dark gray to black, very slightly weathered to fresh, moderately close to wide fracturing, hard to very hard, BIOTITE GNEISS
211.4	96.4									(4 joints at 20-30°, open with clay)
206.4	101.4	5.0	6:47 5:23 4:36 4:27 4:47	(5.0) 100%	(5.0) 100%	RUN 5				(No joints)
201.4	106.4	5.0	5:58 4:01 3:58 4:53 4:31	(5.0) 100%	(5.0) 100%	RUN 6				(2 joints at 50-60°, tight)
196.4	111.4	5.0	5:24 4:25 4:45 4:50 5:17	(5.0) 100%	(5.0) 100%	RUN 7				(3 joints at 50-60°, tight)
191.4	116.4	5.0	6:34 4:41 3:42 3:28 4:10	(5.0) 100%	(5.0) 100%	RUN 8				(2 joints at 30-40°, open with clay; 2 joints at 40-50°, open with clay; 1 joint at 60°, tight with trace clay)
186.4	121.4	5.0	4:27 4:13 4:18 4:11 3:50	(5.0) 100%	(5.0) 100%	RUN 9				(No joints)
181.4	126.4	5.0	3:54 4:01 4:55 4:06 4:49	(5.0) 100%	(5.0) 100%	RUN 10				(1 joint at 10°, tight with trace of clay; 1 joint at 40°, tight with trace clay)
176.4	131.4	5.0	4:45 4:56 7:41 11:31 12:50	(5.0) 100%	(5.0) 100%	RUN 11	(24.2) 100%	(24.2) 100%		181.4 126.4 HARD ROCK: Gray to dark gray, fresh, moderately close fracturing, very hard, BIOTITE QUARTZ GNEISS
										(4 joints at 50-60°, tight with trace clay; quartz vein at 130.8-131.0 feet)
171.4	136.4	5.0	33:40 21:03 5:53 7:44 10:03	(5.0) 100%	(5.0) 100%	RUN 12				(quartz vein from 135.4-136.4 feet)
166.4	141.4	5.0	9:16 13:26 20:08 11:21 7:14	(5.0) 100%	(5.0) 100%	RUN 13				(1 joint at 50°, tight)
161.4	146.4	5.0	7:22 7:09 7:38 8:29 10:25	(5.0) 100%	(5.0) 100%	RUN 14				(1 joint at 50°, open)
159.4	148.4	2.0	12:46 11:02	(2.0) 100%	(2.0) 100%	RUN 15				(No joints)
157.2	150.6	2.2	12:01 16:34/1.2	(2.2) 100%	(2.2) 100%	RUN 16				157.2 150.6 (No joints)
										Boring and coring terminated at 150.6 feet.
										Boring closed by tremie method with cement-bentonite grout.

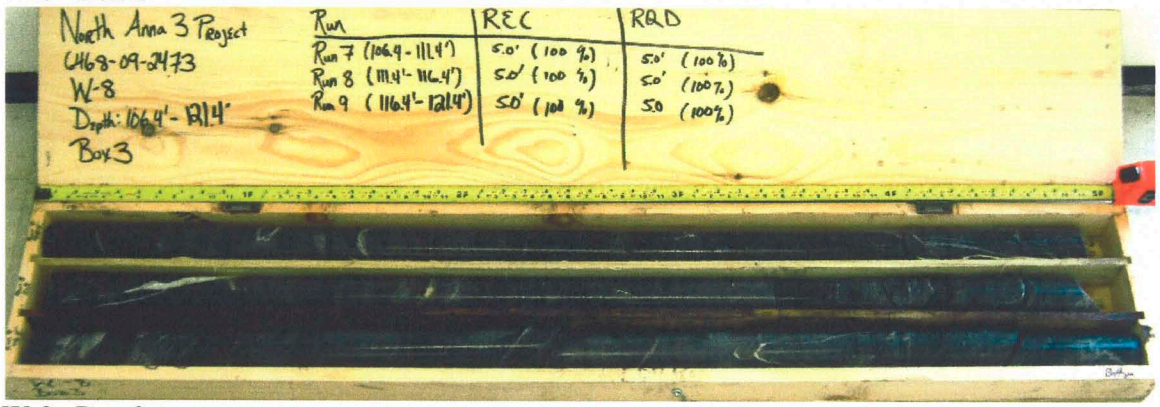
NORTH ANNA 3 CORE NORTH ANNA 3 PROJECT.GPJ NORTH ANNA 3.GDT 12/3/09



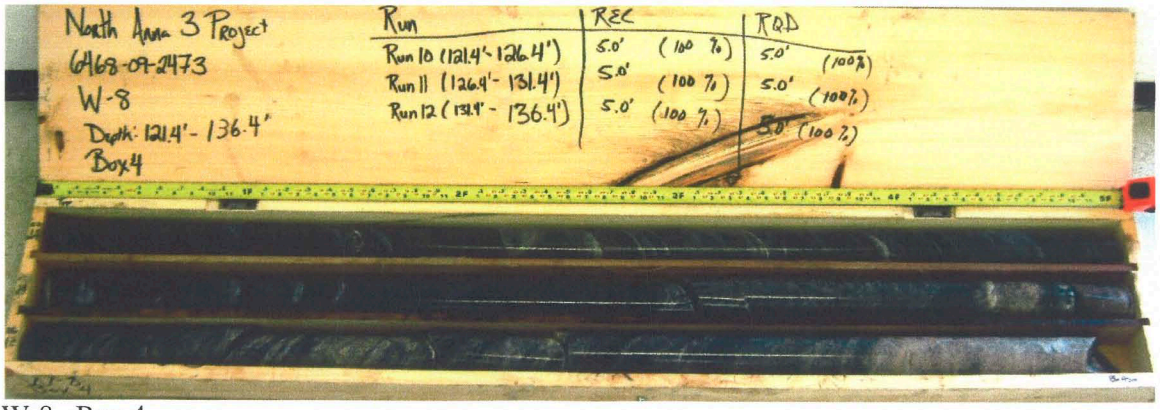
W-8– Box 1



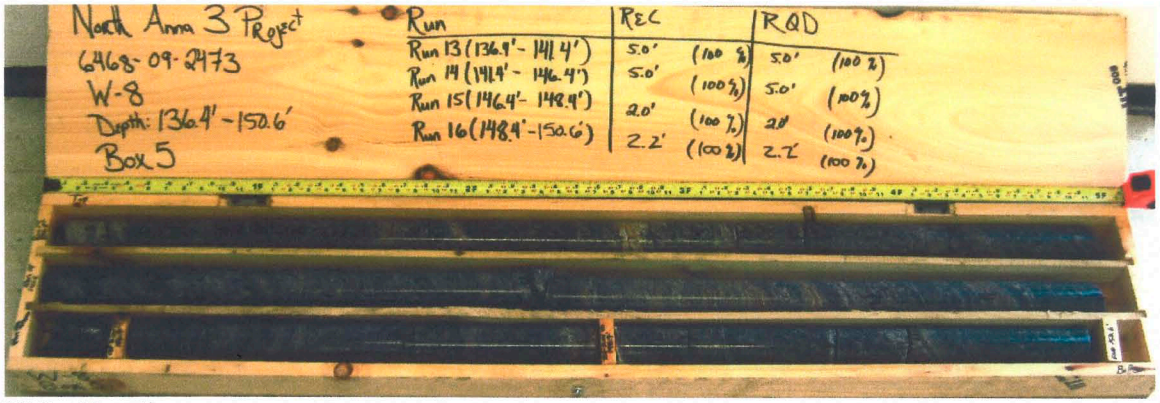
W-8– Box 2



W-8– Box 3



W-8– Box 4


North Anna 3 Project
6468-09-2473
W-8
Depth: 136.4' - 150.6'
Box 5
Run
Run 13 (136.9' - 141.4')
Run 14 (141.9' - 146.4')
Run 15 (146.4' - 148.9')
Run 16 (148.9' - 150.6')
REC
5.0' (100 %)
5.0' (100 %)
2.0' (100 %)
2.2' (100 %)
RQD
5.0' (100 %)
5.0' (100 %)
2.0' (100 %)
2.2' (100 %)
W-8 – Box 5