



GEOTECHNICAL BORING LOG

Prepared By JJS Date 12/16/09

Checked By MPN Date 12/16/09

SHEET 1 OF 3

BECHTEL PROJECT NO.: 25161		MACTEC PROJECT NO.: 6468-09-2473		COUNTY: Louisa, VA		GEOLOGIST: A. Mwembeshi										
SITE DESCRIPTION: North Anna 3 Project Supplement 2				DRILLER: R. Landeros/D. Reneau		FLUID LEVEL (ft)										
BORING NO.: M-4		DRILL METHOD: Mud Rotary/Rock Core		DRILL MACHINE: CME-550X (ATL)		0 HR. NA										
GROUND ELEV.: 321.8 ft (NAVD88)		NORTHING: 3,909,456 US ft (NAD83)		EASTING: 11,685,695 US ft (NAD83)		24 HR. 25.0										
TOTAL DEPTH: 154.0 ft		SAMPLE METHODS: ASTM D 1586-08a; 2488-09a; 2113-08; 6032-08		ROD TYPE: AWJ		HAMMER (ID):140-lb. Auto (MEC-05)										
DATE STARTED: 9/11/09		COMPLETED: 9/15/09		HOLE DIA.: 3"		CASING DEPTH: 44.0 ft										
CORE SIZE: NQ3		BITS USED: 2-7/8" Tri-Cone														
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION				
		0.5ft	0.5ft	0.5ft	0	20	40	60	80				100			
321.8					Ground Surface							321.8	0.0			
														No sampling from 0.0 to 9.3 feet due to soft dig utility clearance by Dominion Personnel.		
312.5	9.3	6	6	6									SS-1	312.5	9.3	
310.1	11.7	5	4	6									SS-2			
307.9	13.9	5	5	5									SS-3			
302.9	18.9	5	4	5									SS-4			
297.9	23.9	6	7	10									SS-5	23.9		
292.9	28.9	44	50/0.4							50/0.4			SS-6	292.9	28.0	
287.9	33.9	50/0.4								50/0.4			SS-7			
282.9	38.9	50/0.2								50/0.2			SS-8			
277.9	43.9	50/0.2								50/0.2			SS-9			
272.8	49.0	50/0.0								50/0.0			SS-10			
267.8	54.0	50/0.0								50/0.0			SS-11	267.8	54.0	
																WEATHERED ROCK: Severely weathered BIOTITE QUARTZ GNEISS (Sampled as Silty SAND (SM), very pale brown (10YR 7/3), very dense, moist, fine to coarse grained sand, few mica, some rock fragments)
																WEATHERED ROCK and HARD ROCK: Gray brown, severely to moderately severely weathered, very close to close fracturing, medium hard, BIOTITE QUARTZ GNEISS (Poor Recovery)
																HARD ROCK: Gray brown, moderately severely weathered, very close to close fracturing, medium hard, BIOTITE QUARTZ GNEISS
														252.8	69.0	

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



BECHTEL PROJECT NO.: 25161		MACTEC PROJECT NO.: 6468-09-2473			COUNTY: Louisa, VA		GEOLOGIST: A. Mwembeshi							
SITE DESCRIPTION: North Anna 3 Project Supplement 2					DRILLER: R. Landeros/D. Reneau		FLUID LEVEL (ft)							
BORING NO.: M-4		DRILL METHOD: Mud Rotary/Rock Core			DRILL MACHINE: CME-550X (ATL)		0 HR. NA							
GROUND ELEV.: 321.8 ft (NAVD88)		NORTHING: 3,909,456 US ft (NAD83)		EASTING: 11,685,695 US ft (NAD83)		24 HR. 25.0								
TOTAL DEPTH: 154.0 ft		SAMPLE METHODS: ASTM D 1586-08a; 2488-09a; 2113-08; 6032-08			ROD TYPE: AWJ	HAMMER (ID):140-lb. Auto (MEC-05)								
DATE STARTED: 9/11/09		COMPLETED: 9/15/09	HOLE DIA.: 3"	CASING DEPTH: 44.0 ft	CORE SIZE: NQ3	BITS USED: 2-7/8" Tri-Cone								
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION		
		0.5ft	0.5ft	0.5ft	0	20	40	60	80				100	
247.0					Continued from previous page									
												HARD ROCK: Gray brown, moderately severely weathered, very close to close fracturing, medium hard, BIOTITE QUARTZ GNEISS (continued)		
												237.8	WEATHERED ROCK: Gray to dark gray, severely weathered, very close fracturing, soft, BIOTITE QUARTZ GNEISS (Poor Recovery)	84.0
												232.8	HARD ROCK: Light to dark gray, moderately to very slightly weathered, very close to wide fracturing, medium hard to hard, BIOTITE GNEISS	89.0

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



BECHTEL PROJECT NO.: 25161		MACTEC PROJECT NO.: 6468-09-2473		COUNTY: Louisa, VA		GEOLOGIST: A. Mwembeshi								
SITE DESCRIPTION: North Anna 3 Project Supplement 2				DRILLER: R. Landeros/D. Reneau		FLUID LEVEL (ft)								
BORING NO.: M-4		DRILL METHOD: Mud Rotary/Rock Core		DRILL MACHINE: CME-550X (ATL)		0 HR. NA								
GROUND ELEV.: 321.8 ft (NAVD88)		NORTHING: 3,909,456 US ft (NAD83)		EASTING: 11,685,695 US ft (NAD83)		24 HR. 25.0								
TOTAL DEPTH: 154.0 ft		SAMPLE METHODS: ASTM D 1586-08a; 2488-09a; 2113-08; 6032-08		ROD TYPE: AWJ		HAMMER (ID):140-lb. Auto (MEC-05)								
DATE STARTED: 9/11/09		COMPLETED: 9/15/09		HOLE DIA.: 3"		CASING DEPTH: 44.0 ft								
CORE SIZE: NQ3		BITS USED: 2-7/8" Tri-Cone												
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT						SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100				
172.2					Continued from previous page									
													167.8	
													154.0	Boring and coring terminated at 154.0 feet. Boring closed by tremie method with cement-bentonite grout. 24 hour water level measured on 9/15/2009 prior to drilling. Borehole was at a depth of 119.0 feet.

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



BECHTEL PROJECT NO.: 25161		MACTEC PROJECT NO.: 6468-09-2473		COUNTY: Louisa, VA		GEOLOGIST: A. Mwembeshi	
SITE DESCRIPTION: North Anna 3 Project Supplement 2				DRILLER: R. Landeros/D. Reneau		FLUID LEVEL (ft)	
BORING NO.: M-4		DRILL METHOD: Mud Rotary/Rock Core		DRILL MACHINE: CME-550X (ATL)		0 HR. NA	
GROUND ELEV.: 321.8 ft (NAVD88)		NORTHING: 3,909,456 US ft (NAD83)		EASTING: 11,685,695 US ft (NAD83)		24 HR. 25.0	
TOTAL DEPTH: 154.0 ft		SAMPLE METHODS: ASTM D 1586-08a; 2488-09a; 2113-08; 6032-08				HAMMER (ID): 140-lb. Auto (MEC-05)	
DATE STARTED: 9/11/09		COMPLETED: 9/15/09		CASING DEPTH: 44.0 ft		CORE BARREL TYPE: Wireline NQ3 Triple Tube, series 6 bit	

ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN		SAMP. NO.	STRATA		LOG	DESCRIPTION AND REMARKS
				REC. (ft) %	RQD (ft) %		REC. (ft) %	RQD (ft) %		
										Begin Coring @ 44.1 ft
277.7	44.1	4.9	1:59 1:25 1:55 2:11	(0.0) 0%	(0.0) 0%	RUN 1	(0.0) 0%	(0.0) 0%		WEATHERED ROCK: Severely weathered BIOTITE QUARTZ GNEISS (Sampled as Silty SAND (SM), very pale brown (10YR 7/3), very dense, moist, fine to coarse grained sand, few mica, some rock fragments) (continued) (No Recovery)
272.8	49.0	5.0	1:41/0.9 N=50/0.0 1:45 1:18 0:57 1:05 2:00	(0.0) 0%	(0.0) 0%	RUN 2				(No Recovery)
267.8	54.0	5.0	N=50/0.0 2:45 2:00 2:03 1:29 1:58	(0.9) 18%	(0.5) 10%	RUN 3	(2.4) 16%	(1.0) 7%	267.8	WEATHERED ROCK and HARD ROCK: Gray brown, severely to moderately severely weathered, very close to close fracturing, medium hard, BIOTITE QUARTZ GNEISS (Poor Recovery) (2 joints at 45°, open)
262.8	59.0	5.0	0:50 1:02 1:03 1:54 1:08	(1.1) 22%	(0.5) 10%	RUN 4				(2 joints at 45°, open)
257.8	64.0	5.0	0:49 1:25 0:36 0:54 0:47	(0.4) 8%	(0.0) 0%	RUN 5				
252.8	69.0	5.0	0:51 0:59 0:39 0:40 0:52	(3.5) 70%	(2.6) 52%	RUN 6	(11.5) 77%	(10.0) 67%	252.8	HARD ROCK: Gray brown, moderately severely weathered, very close to close fracturing, medium hard, BIOTITE QUARTZ GNEISS (2 joints at 45°, open)
247.8	74.0	5.0	1:34 0:45 1:34 1:38 1:09	(3.5) 70%	(3.4) 68%	RUN 7				(3 joints at 45°, open; 1 joint at 75°, open)
242.8	79.0	5.0	0:30 0:58 0:51 0:50 0:54	(4.5) 90%	(4.0) 80%	RUN 8				(3 joints at 45°, open)
237.8	84.0	5.0	0:30 1:02 1:10 0:58 1:19	(1.0) 20%	(0.0) 0%	RUN 9	(1.0) 20%	(0.0) 0%	237.8	WEATHERED ROCK: Gray to dark gray, severely weathered, very close fracturing, soft, BIOTITE QUARTZ GNEISS (Poor Recovery)
232.8	89.0	5.0	1:48 2:57 2:27 1:13 1:32	(4.9) 98%	(4.6) 92%	RUN 10	(58.6) 90%	(48.0) 74%	232.8	HARD ROCK: Light to dark gray, moderately to very slightly weathered, very close to wide fracturing, medium hard to hard, BIOTITE GNEISS (6 joints at 30°, open with trace clay and epidote)
227.8	94.0	5.0	1:31 1:35 1:34 2:03 1:34	(4.5) 90%	(2.7) 54%	RUN 11				(4 joints at 30°, open with trace orange staining and epidote)
222.8	99.0	5.0	1:13 1:32 1:19 1:56 2:18	(2.1) 42%	(1.0) 20%	RUN 12				(0.4 ft thick quartz + feldspar vein)
217.8	104.0	5.0	1:46 1:44 1:47 1:57 1:56	(4.6) 92%	(4.3) 86%	RUN 13				(3 joints at 45°, open with orange staining)
212.8	109.0	5.0	1:25 1:31 1:04 1:43 2:10	(4.2) 84%	(2.3) 46%	RUN 14				(1 joint at 75°, open with brown staining; few severely weathered zones)
207.8	114.0	5.0	2:51 2:04 1:21 1:31 3:31	(5.0) 100%	(4.3) 86%	RUN 15				(4 joints at 45°, open with trace brown staining; 1 joint at 75°, open with trace brown staining)
202.8	119.0									

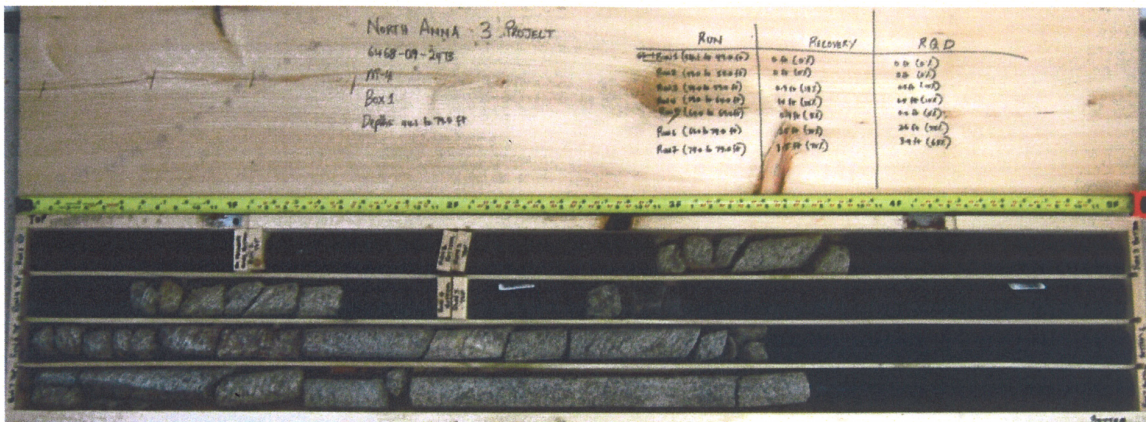
NORTH ANNA 3 CORE NORTH ANNA 3 PROJECT.GPJ NORTH ANNA 3.GDT 12/3/09



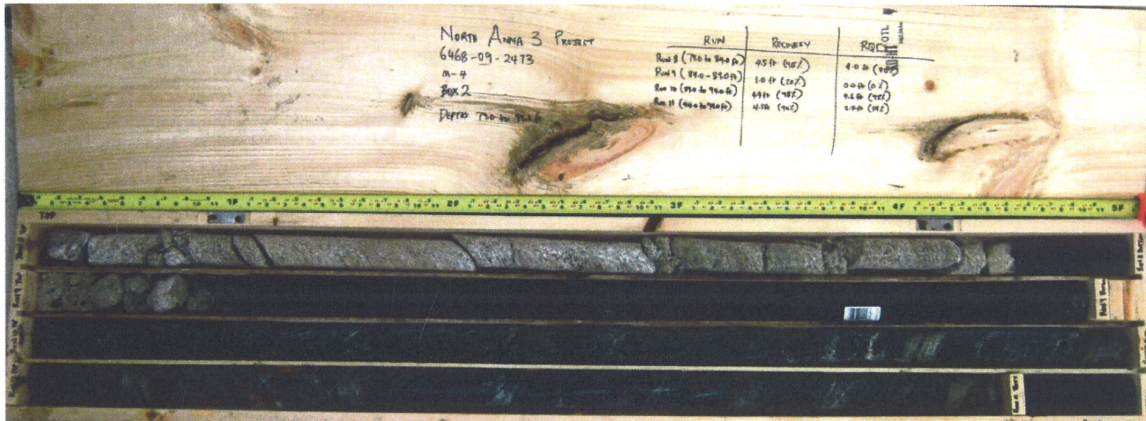
BECHTEL PROJECT NO.: 25161		MACTEC PROJECT NO.: 6468-09-2473		COUNTY: Louisa, VA		GEOLOGIST: A. Mwembeshi	
SITE DESCRIPTION: North Anna 3 Project Supplement 2				DRILLER: R. Landeros/D. Reneau		FLUID LEVEL (ft)	
BORING NO.: M-4		DRILL METHOD: Mud Rotary/Rock Core		DRILL MACHINE: CME-550X (ATL)		0 HR. NA	
GROUND ELEV.: 321.8 ft (NAVD88)		NORTHING: 3,909,456 US ft (NAD83)		EASTING: 11,685,695 US ft (NAD83)		24 HR. 25.0	
TOTAL DEPTH: 154.0 ft		SAMPLE METHODS: ASTM D 1586-08a; 2488-09a; 2113-08; 6032-08				HAMMER (ID): 140-lb. Auto (MEC-05)	
DATE STARTED: 9/11/09		COMPLETED: 9/15/09		CASING DEPTH: 44.0 ft		CORE BARREL TYPE: Wireline NQ3 Triple Tube, series 6 bit	

ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN		SAMP. NO.	STRATA		LOG	DESCRIPTION AND REMARKS	
				REC. (ft) %	RQD (ft) %		REC. (ft) %	RQD (ft) %			
										Continued from previous page	
197.8	124.0	5.0	2:22 1:32 1:23 1:34 1:22	(5.0) 100%	(4.6) 92%	RUN 16				HARD ROCK: Light to dark gray, moderately to very slightly weathered, very close to wide fracturing, medium hard to hard, BIOTITE GNEISS (<i>continued</i>) (2 joints at 45°, open with trace staining; 2 joints at 60°, open with trace orange staining)	
192.8	129.0	5.0	1:30 1:54 1:35 1:42 3:22	(4.8) 96%	(4.8) 96%	RUN 17				(1 joint at 45°, open; 2 joints at 60°, open; 0.4 ft thick quartz vein between 128.0 and 129.0 feet)	
187.8	134.0	5.0	2:17 2:23 0:00 1:57 2:36	(3.9) 78%	(2.6) 52%	RUN 18				(3 joints at 45°, open; severely weathered, very soft zone from 130.0-131.0 ft)	
182.8	139.0	5.0	2:31 2:09 3:05 1:33 1:33	(5.0) 100%	(4.8) 96%	RUN 19				(2 joints at 45°, open with trace weathered rock; 1 joint at 75°, open with trace orange staining)	
177.8	144.0	5.0	1:28 1:43 1:57 1:47 1:37	(5.0) 100%	(5.0) 100%	RUN 20				(2 joints at 45°, tight; several mechanical fractures)	
172.8	149.0	5.0	2:35 2:04 2:12 2:20 1:35	(5.0) 100%	(5.0) 100%	RUN 21				(fractures are mechanical)	
167.8	154.0	5.0	1:57 2:03 2:15 2:04 2:30	(4.6) 92%	(2.0) 40%	RUN 22				(8 joints at 45°, open with trace weathered rock; 0.8 ft thick severely weathered, very soft zone from 151.0 to 152.0 feet)	
									167.8	154.0	Boring and coring terminated at 154.0 feet. Boring closed by tremie method with cement-bentonite grout. 24 hour water level measured on 9/15/2009 prior to drilling. Borehole was at a depth of 119.0 feet.

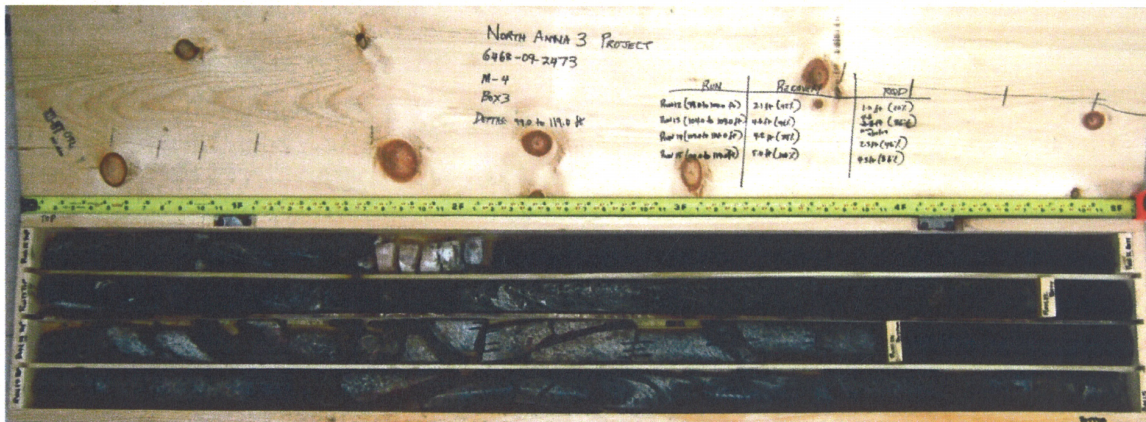
NORTH ANNA 3 CORE NORTH ANNA 3 PROJECT.GPJ NORTH ANNA 3.GDT 12/3/09



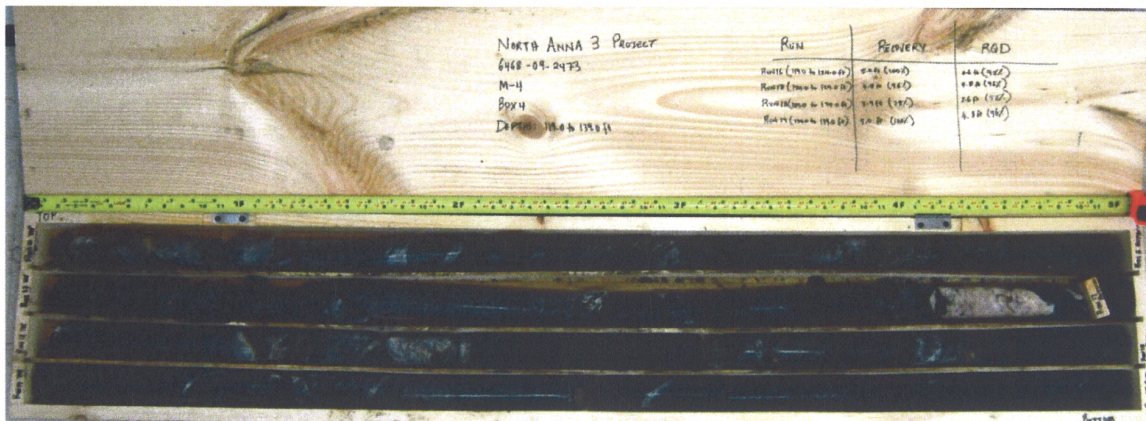
M-4 - Box 1



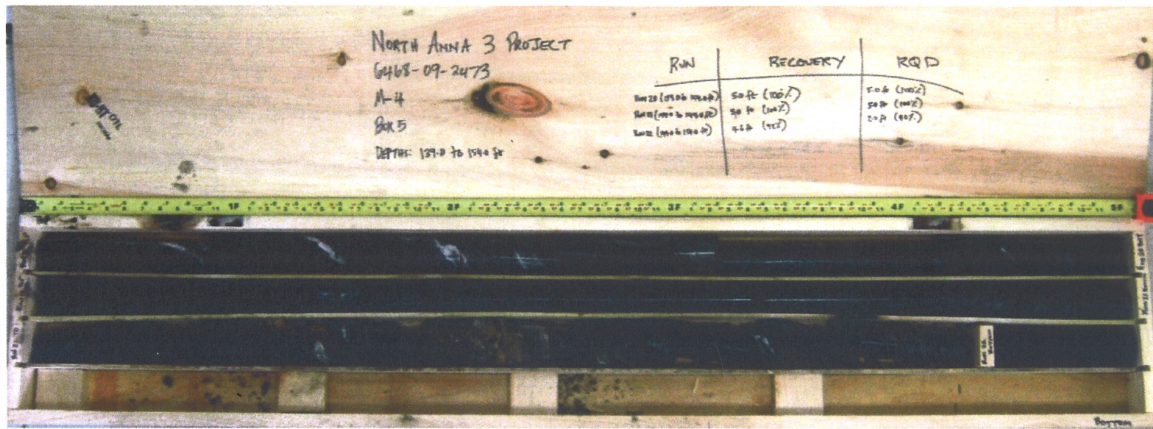
M-4 - Box 2



M-4 - Box 3



M-4 - Box 4



M-4 - Box 5



BECHTEL PROJECT NO.: 25161		MACTEC PROJECT NO.: 6468-09-2473		COUNTY: Louisa, VA		GEOLOGIST: R. Clark	
SITE DESCRIPTION: North Anna 3 Project Supplement 2				DRILLER: T. Hahn/R. Hall		FLUID LEVEL (ft)	
BORING NO.: M-6		DRILL METHOD: Mud Rotary/Rock Core		DRILL MACHINE: CME-55 Track (RAL)		0 HR. 22.5	
GROUND ELEV.: 327.8 ft (NAVD88)		NORTHING: 3,909,401 US ft (NAD83)		EASTING: 11,685,760 US ft (NAD83)		24 HR. 26.5	
TOTAL DEPTH: 150.4 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: 9/16/09		COMPLETED: 9/21/09		HOLE DIA.: 4"		CASING DEPTH: 79.2 ft	
				CORE SIZE: HQ3		BITS USED: 3-7/8" Tri-Cone	

ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION
		0.5ft	0.5ft	0.5ft	0	20	40	60	80			
327.8					Ground Surface							327.8 0.0
318.7	9.1											318.7 9.1
317.2	10.6	8	8	11						SS-1	<p>No sampling from 0.0 to 9.1 feet due to soft dig utility clearance by Dominion Personnel.</p> <p>RESIDUAL SOIL: Sandy SILT (ML), very pale brown (10YR 7/4), very stiff, moist, trace angular rock fragments, relict rock fabric</p> <p>12.9 ft: Brown (10YR 5/3), stiff, fine grained sand, some mica, trace organics</p> <p>RESIDUAL SOIL: Silty SAND (SM), yellowish brown (10YR 5/4), medium dense, moist, fine grained sand, some mica, relict rock fabric</p> <p>19.1 ft: Light olive brown (2.5Y 5/3)</p> <p>29.1 ft: Strong brown (7.5YR 5/6), dense</p> <p>34.1 ft: Light olive brown (2.5Y 7/3)</p> <p>39.1 ft: Yellowish brown (10YR 5/4), medium dense</p> <p>44.1 ft: Light olive brown (2.5Y 7/3), dense,</p> <p>RESIDUAL SOIL: Sandy SILT (ML), Reddish yellow (7.5YR 6/6), hard, moist, fine grained sand, trace mica, relict rock fabric</p> <p>RESIDUAL SOIL: Silty SAND (SM), Light olive brown (2.5Y 7/3), very dense, moist, fine grained sand, some mica, relict rock fabric</p> <p>59.1 ft: Dense, wet</p> <p>64.1 ft: Yellowish brown (10YR 5/4), very dense, fine to medium grained sand</p> <p>WEATHERED ROCK: Severely weathered BIOTITE QUARTZ GNEISS (Sampled as Silty SAND (SM), light yellowish brown (10YR 6/4), very dense, wet, fine to medium grained sand and angular rock fragments, some mica)</p>	
314.9	12.9	8	9	9						SS-2		
311.7	16.1	6	5	10						SS-3		
308.7	19.1	6	5	10						SS-4		
303.7	24.1	6	6	8						SS-5		
298.7	29.1	4	5	7						SS-6		
293.7	34.1	12	18	22						SS-7		
288.7	39.1	14	18	19						SS-8		
283.7	44.1	7	10	15						SS-9		
278.7	49.1	16	17	26						SS-10		
273.7	54.1	6	12	23						SS-11		
268.7	59.1	19	26	45						SS-12		
263.7	64.1	13	15	19						SS-13		
258.7	69.1	15	34	50/0.3						SS-14		
253.7	74.1	28	50/0.2							SS-15		

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



BECHTEL PROJECT NO.: 25161		MACTEC PROJECT NO.: 6468-09-2473		COUNTY: Louisa, VA		GEOLOGIST: R. Clark						
SITE DESCRIPTION: North Anna 3 Project Supplement 2				DRILLER: T. Hahn/R. Hall		FLUID LEVEL (ft)						
BORING NO.: M-6		DRILL METHOD: Mud Rotary/Rock Core		DRILL MACHINE: CME-55 Track (RAL)		0 HR. 22.5						
GROUND ELEV.: 327.8 ft (NAVD88)		NORTHING: 3,909,401 US ft (NAD83)		EASTING: 11,685,760 US ft (NAD83)		24 HR. 26.5						
TOTAL DEPTH: 150.4 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: 9/16/09		COMPLETED: 9/21/09		HOLE DIA.: 4"		CASING DEPTH: 79.2 ft						
				CORE SIZE: HQ3		BITS USED: 3-7/8" Tri-Cone						
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION
		0.5ft	0.5ft	0.5ft	0	20	40	60	80			
253.0					Continued from previous page							
248.7	79.1	50/0.1									SS-16	
		50/0.1								50/0.1	SS-17	248.6
												79.2
												216.4
												111.4
												201.4
												126.4

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



BECHTEL PROJECT NO.: 25161		MACTEC PROJECT NO.: 6468-09-2473			COUNTY: Louisa, VA		GEOLOGIST: R. Clark							
SITE DESCRIPTION: North Anna 3 Project Supplement 2					DRILLER: T. Hahn/R. Hall			FLUID LEVEL (ft)						
BORING NO.: M-6		DRILL METHOD: Mud Rotary/Rock Core			DRILL MACHINE: CME-55 Track (RAL)			0 HR.	22.5					
GROUND ELEV.: 327.8 ft (NAVD88)		NORTHING: 3,909,401 US ft (NAD83)		EASTING: 11,685,760 US ft (NAD83)			24 HR.	26.5						
TOTAL DEPTH: 150.4 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: 9/16/09		COMPLETED: 9/21/09		HOLE DIA.: 4"	CASING DEPTH: 79.2 ft		CORE SIZE: HQ3	BITS USED: 3-7/8" Tri-Cone						
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION		
		0.5ft	0.5ft	0.5ft	0	20	40	60	80				100	
178.2					Continued from previous page									
												177.4	150.4	Boring and coring terminated at 150.4 feet. Boring closed by tremie method with cement-bentonite grout.

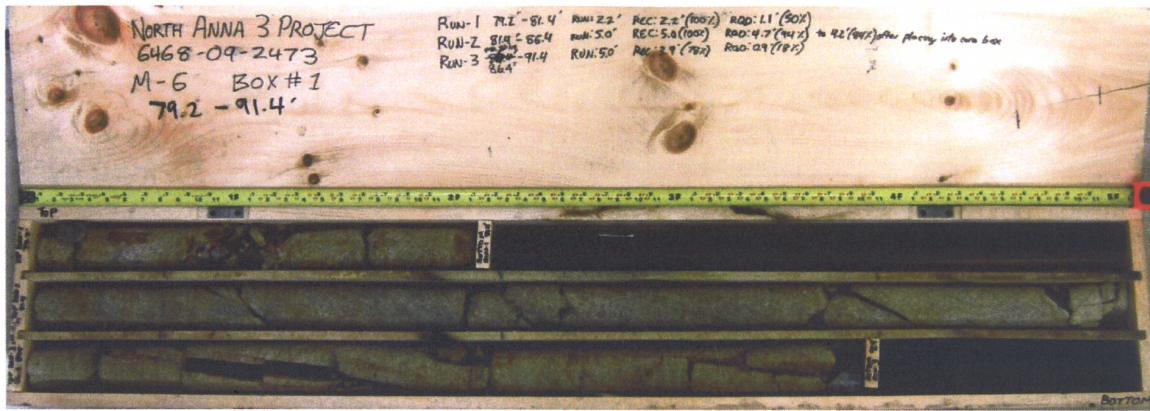
NORTH ANNA 3 BORE NORTH ANNA 3 PROJECT.GPJ NORTH ANNA 3.GDT 12/3/09



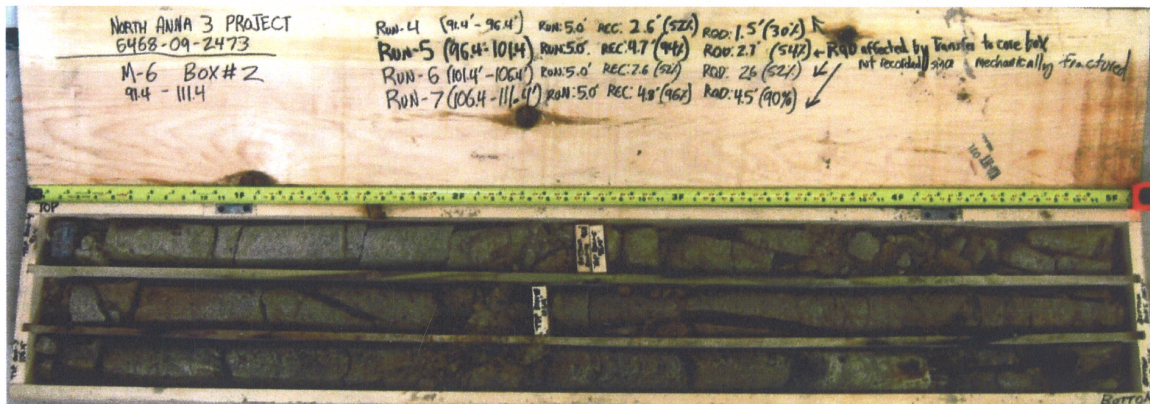
BECHTEL PROJECT NO.: 25161		MACTEC PROJECT NO.: 6468-09-2473		COUNTY: Louisa, VA		GEOLOGIST: R. Clark	
SITE DESCRIPTION: North Anna 3 Project Supplement 2				DRILLER: T. Hahn/R. Hall		FLUID LEVEL (ft)	
BORING NO.: M-6		DRILL METHOD: Mud Rotary/Rock Core		DRILL MACHINE: CME-55 Track (RAL)		0 HR. 22.5	
GROUND ELEV.: 327.8 ft (NAVD88)		NORTHING: 3,909,401 US ft (NAD83)		EASTING: 11,685,760 US ft (NAD83)		24 HR. 26.5	
TOTAL DEPTH: 150.4 ft		SAMPLE METHODS: ASTM D 1586-08a; 2488-09a; 2113-08; 6032-08				HAMMER (ID): 140-lb. Auto (MEC-21)	
DATE STARTED: 9/16/09		COMPLETED: 9/21/09		CASING DEPTH: 79.2 ft		CORE BARREL TYPE: Wireline HQ3 Triple Tube, series 6 & 10 bits	

ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN		SAMP. NO.	STRATA		LOG	DESCRIPTION AND REMARKS	
				REC. (%)	RQD (%)		REC. (%)	RQD (%)			
										Begin Coring @ 79.2 ft	
248.6	79.2	2.2	1:15 1:17	(2.2) 100%	(1.1) 50%	RUN 1	(25.8) 80%	(18.0) 56%		248.6 HARD ROCK: Light gray with orange and reddish brown staining, moderately severely to moderately weathered, close to moderately close fracturing, soft to medium hard, BIOTITE QUARTZ GNEISS with trace magnetite (3 joints at 0-10°, open; quartz vein at 60° from 80.1-80.3 ft) (2 joints at 45°, tight)	
246.4	81.4	5.0	0:18/0:2	(5.0) 100%	(4.7) 94%	RUN 2					
241.4	86.4	5.0	1:11 1:03 0:45 0:55 0:58	(3.9) 78%	(0.9) 18%	RUN 3					(4 joints at 0-10°, tight; 2 joints at 85-90°, tight with trace iron staining)
236.4	91.4	5.0	1:08 0:59 0:58 1:02 1:04	(2.6) 52%	(1.5) 30%	RUN 4					(3 joints at 0-10°, tight with trace iron staining)
231.4	96.4	5.0	1:28 1:31 1:28 1:26 1:35	(4.7) 94%	(2.7) 54%	RUN 5					(2 joints at 0-10°, tight with trace clay; 2 joints at 75°, tight with trace iron staining)
226.4	101.4	5.0	1:25 1:33 1:24 1:21 1:12	(4.7) 94%	(2.7) 54%	RUN 5					(2 joints at 0-10°, tight with trace clay; 2 joints at 75°, tight with trace iron staining)
221.4	106.4	5.0	1:21 1:02 1:03 1:05 1:08	(2.6) 52%	(2.6) 52%	RUN 6					(1 joint at 45°, tight with trace iron staining; 1 joint at 75°, with trace clay and iron staining)
216.4	111.4	5.0	1:21 1:07 1:14 1:05 1:01	(4.8) 96%	(4.5) 90%	RUN 7					(1 joint at 0°, open; 2 joints at 60°, tight; 1 joint at 90°, tight)
211.4	116.4	5.0	1:11 1:14 1:26 1:28 1:31	(4.1) 82%	(3.3) 66%	RUN 8	(14.1) 94%	(11.7) 78%		216.4	111.4 HARD ROCK: Light gray and black, with reddish brown staining, moderately weathered, close to moderately close fracturing, medium hard to moderately hard, QUARTZ BIOTITE GNEISS with trace hornblende (2 joints at 45°, tight with trace iron staining; 1 joint at 60°, tight with trace iron staining) (2 joints at 45°, tight with iron staining)
206.4	121.4	5.0	1:11 1:45 1:45 1:52 1:37	(5.0) 100%	(4.2) 84%	RUN 9					(2 joints at 45°, tight with iron staining)
204.4	123.4	2.0	5:02 5:06	(2.0) 100%	(1.6) 80%	RUN 10					(2 joints at 0-10°, tight; 2 joints at 60°, tight; foliation at 60° to core axis)
201.4	126.4	3.0	4:49 3:17 3:43	(3.0) 100%	(2.6) 87%	RUN 11					(6 joints at 60°, tight with trace iron staining)
196.4	131.4	5.0	3:42 4:12 7:18 8:45 8:04	(5.0) 100%	(5.0) 100%	RUN 12	(23.8) 99%	(23.1) 96%		201.4	126.4 HARD ROCK: Gray to light gray, trace pink, fresh, close to wide fracturing, very hard, BIOTITE QUARTZ GNEISS with trace magnetite (foliation at 60° to core axis)
191.4	136.4	5.0	5:26 5:16 5:22 5:15 5:28	(5.0) 100%	(5.0) 100%	RUN 13					(1 joint at 50°, tight)
186.4	141.4	5.0	5:15 6:19 7:20 6:28 7:17	(5.0) 100%	(4.5) 90%	RUN 14					(2 joints at 0°, tight; 2 joints at 20°, tight; 2 joints at 45°, tight)
181.4	146.4	5.0	7:29 7:12 6:25 6:48 6:33	(4.9) 98%	(4.7) 94%	RUN 15					(4 joints at 0-10°, tight with iron staining; 1 joint at 15°, tight; 1 joint at 30°, tight)
177.4	150.4	4.0	9:34 11:25 8:11 12:08	(3.9) 98%	(3.9) 98%	RUN 16				(No joints)	
									177.4	150.4 Boring and coring terminated at 150.4 feet.	
										Boring closed by tremie method with cement-bentonite grout.	

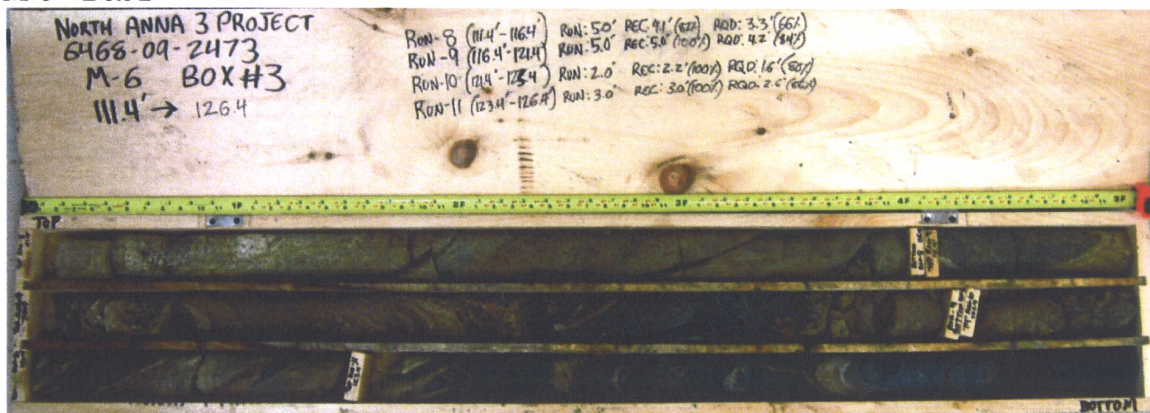
NORTH ANNA 3 CORE NORTH ANNA 3 PROJECT.GPJ NORTH ANNA 3.GDT 12/3/09



M-6 - Box 1



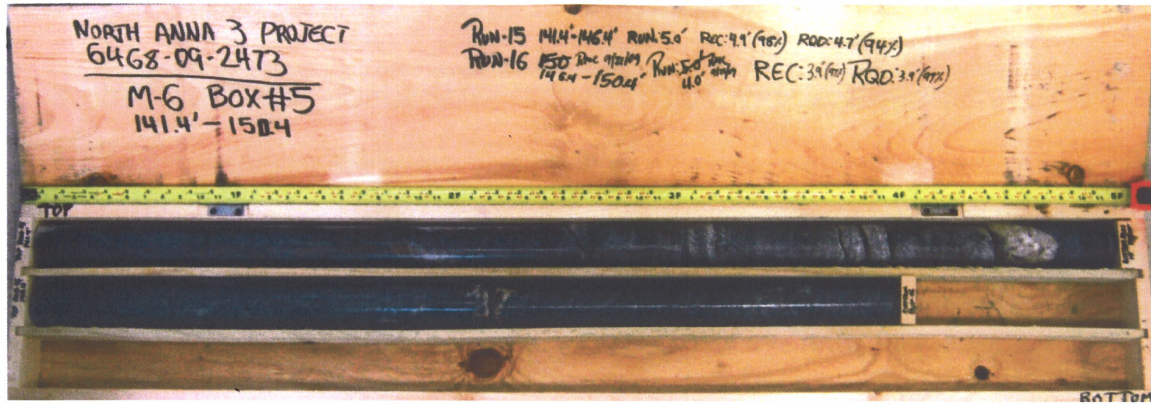
M-6 - Box 2



M-6 - Box 3



M-6 - Box 4



M-6 – Box 5