



SHEET 1 OF 3

MACTEC PROJECT NO.: 6468-06-1472					COUNTY Louisa, VA					GEOLOGIST S. Lehman				
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)				
BORING NO. B-912			DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE				0 HR. 10.1			
COLLAR ELEV. 275.1 ft (NAVD88)			NORTHING 3,910,022		US ft (NAD83)		EASTING 11,686,051		US ft (NAD83)		24 HR. 10.6			
TOTAL DEPTH 151.8 ft			DRILL MACHINE CME 55LC Track				DRILLER: D. White				HAMMER TYPE 140 lbs Auto			
DATE STARTED 10/23/06			COMPLETED 10/25/06			CORE BARREL TYPE: HQ 3 triple tube-wireline								
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	▼ MOI	L O G	SOIL AND ROCK DESCRIPTION	
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100				
275.1					Ground Surface								275.1 0.0	
													No samples due to utility clearance operations -soft dig/vac. truck excavation to 8.7 ft	
266.0	9.1									912-1	▼		266.4 8.7	
263.5	11.6	5	7	5						912-2			Silty SAND (SM), light olive brown (2.5Y 5/4) to yellowish brown (10YR 5/6), moist, medium dense to very dense, micaceous, rock fragments (Residual Soil)	
261.0	14.1	5	6	8						912-3				
		14	29	48										
256.0	19.1									912-4			255.5 19.6	
		46	50/0.3										Weathered Rock: Olive brown, severely weathered, soft, QUARTZ GNEISS	
251.0	24.1									912-5				
		50/0.4												
246.0	29.1									912-6			245.7 29.4	
		50/0.3											244.8 30.3	
													243.3 31.8	
													Hard Rock: White with orange Fe staining, slightly weathered, close fracturing, moderately hard, QUARTZ GNEISS with biotite	
													Hard Rock: Dark gray with orange Fe staining, moderately severely weathered, close fracturing, medium hard, BIOTITE GNEISS	
													Hard Rock: Light to dark gray, slightly weathered to fresh, close to wide fracturing, medium hard to hard, QUARTZ-BIOTITE GNEISS	
													218.3 56.8	
													Hard Rock: Light gray, fresh, moderately close to very wide fracturing, hard, QUARTZ GNEISS with biotite and trace magnetite	

NORTH ANNA COL BORE NORTH ANNA COL DATA REPORT REV0.GPJ NORTH ANNA COL.GDT 1/19/07

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MACTEC PROJECT NO.: 6468-06-1472					COUNTY Louisa, VA					GEOLOGIST S. Lehman					
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft) 0 HR. 10.1 24 HR. 10.6					
BORING NO. B-912		DRILL METHOD: Mud Rotary/Core			SAMPLE METHODS: SPT/CORE										
COLLAR ELEV. 275.1 ft (NAVD88)		NORTHING 3,910,022		US ft (NAD83)		EASTING 11,686,051		US ft (NAD83)							
TOTAL DEPTH 151.8 ft		DRILL MACHINE CME 55LC Track			DRILLER: D. White			HAMMER TYPE 140 lbs Auto							
DATE STARTED 10/23/06		COMPLETED 10/25/06			CORE BARREL TYPE: HQ 3 triple tube-wireline										
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT						SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100					
125.5					Continued from previous page										
														123.3	151.8
														Boring and coring terminated at 151.8 ft in Hard Rock: Hard, QUARTZ GNEISS	

NORTH ANNA COL. BORE NORTH ANNA COL DATA REPORT REV0.GPJ NORTH ANNA COL.GDT 1/19/07



SHEET 1 OF 2

MACTEC PROJECT NO.: 6468-06-1472						COUNTY Louisa, VA				GEOLOGIST S. Lehman			
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)			
BORING NO. B-912			DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE				0 HR. 10.1		
COLLAR ELEV. 275.1 ft (NAVD88)			NORTHING 3,910,022		US ft (NAD83)		EASTING 11,686,051		US ft (NAD83)		24 HR. 10.6		
TOTAL DEPTH 151.8 ft			DRILL MACHINE CME 55LC Track				DRILLER: D. White				HAMMER TYPE 140 lbs Auto		
DATE STARTED 10/23/06				COMPLETED 10/25/06				CORE BARREL TYPE: HQ 3 triple tube-wireline					
CORE SIZE HQ3				TOTAL RUN 122.4 ft									
ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	REC. (ft) %	ROD (ft) %	SAMP. NO.	REC. (ft) %	ROD (ft) %	L O G	DESCRIPTION AND REMARKS			
										Begin Coring @ 29.4 ft			
245.7	29.4	2.4	2:04	(2.0)	(0.0)	1				245.7	Hard Rock: White with orange Fe staining, slightly weathered, close fracturing, moderately hard, QUARTZ GNEISS with biotite		
243.3	31.8		3:32	83%	0%					243.3	(3 joints at 70° Fe stain)		
		5.0	2:32/0.4	(4.2)	(1.7)	2					Hard Rock: Dark gray with orange Fe staining, moderately severely weathered, close fracturing, medium hard, BIOTITE GNEISS		
			1:37	84%	34%						Hard Rock: Light to dark gray, slightly weathered to fresh, close to wide fracturing, medium hard to hard, QUARTZ-BIOTITE GNEISS		
238.3	36.8		2:42								(5 joints at 45° slightly to severely weathered, Fe stain)		
		5.0	2:26	(5.0)	(4.4)	UCS-37.1'					(1 joint at 60°, 1 joint at 45°, 1 joint at 20°-all moderately weathered, Fe stain)		
			2:29	100%	88%								
233.3	41.8		2:34										
		5.0	3:42	(5.0)	(4.7)	4					(3 joints at 30° with Fe stain; 1 joint at 55° moderately weathered)		
			3:36	100%	94%								
228.3	46.8		3:20										
		5.0	3:38	(5.0)	(4.7)	UC-48.9'					(1 joint at 45° moderately weathered with clay, 2 joints at 20° slightly weathered)		
			3:14	100%	94%								
223.3	51.8		3:20										
		5.0	2:25	(5.0)	(4.9)	6					-No Joints		
			2:06	100%	98%								
218.3	56.8		2:07							218.3	Hard Rock: Light gray, fresh, moderately close to very wide fracturing, hard, QUARTZ GNEISS with biotite and trace magnetite		
		5.0	1:43	(5.0)	(4.9)	7					(1 joint at 60° moderately weathered, Fe stain)		
			2:06	100%	98%								
213.3	61.8		2:23										
		5.0	2:13	(4.9)	(4.9)	UC-62.2'					-No Joints		
			2:31	98%	98%								
208.3	66.8		3:38										
		5.0	8:26	(5.0)	(5.0)	9					-No Joints		
			10:29	100%	100%								
203.3	71.8		6:42										
		5.0	4:37	(5.0)	(5.0)	10					-No Joints		
			5:52	100%	100%								
198.3	76.8		4:26										
		5.0	4:43	(5.0)	(4.9)	11					(1 joint at 90° with clay; 3 joints at 20° with Fe stain)		
			7:42	100%	98%								
193.3	81.8		16:20										
		5.0	12:14	(5.0)	(4.2)	UC-82.4'					(3 joints at 60° with trace clay, Fe stain)		
			2:16	100%	84%								
188.3	86.8		2:51										
		5.0	3:07	(5.0)	(4.4)	13					(3 joints at 60° slightly weathered, Fe stain; 1 joint at 30° slightly weathered)		
			3:44	100%	88%								
183.3	91.8		4:46										
		5.0	5:02	(5.0)	(5.0)	14					(1 joint at 30° with Fe stain)		
			4:45	100%	100%								
178.3	96.8		5:20										
		5.0	4:52	(5.0)	(5.0)	15					-No Joints; Quartz+feldspar vein at 99.7-99.9 ft		
			3:26	100%	100%								
173.3	101.8		3:41							173.3	Hard Rock: Light gray, fresh, very wide fracturing, hard, QUARTZ-BIOTITE GNEISS		
		5.0	2:59	(5.0)	(5.0)	16							
			3:07	100%	100%								
			2:43										
			3:02										
			3:04										

NORTH ANNA COL CORE NORTH ANNA COL DATA REPORT REV0.GPJ NORTH ANNA COL.GDT 1/19/07



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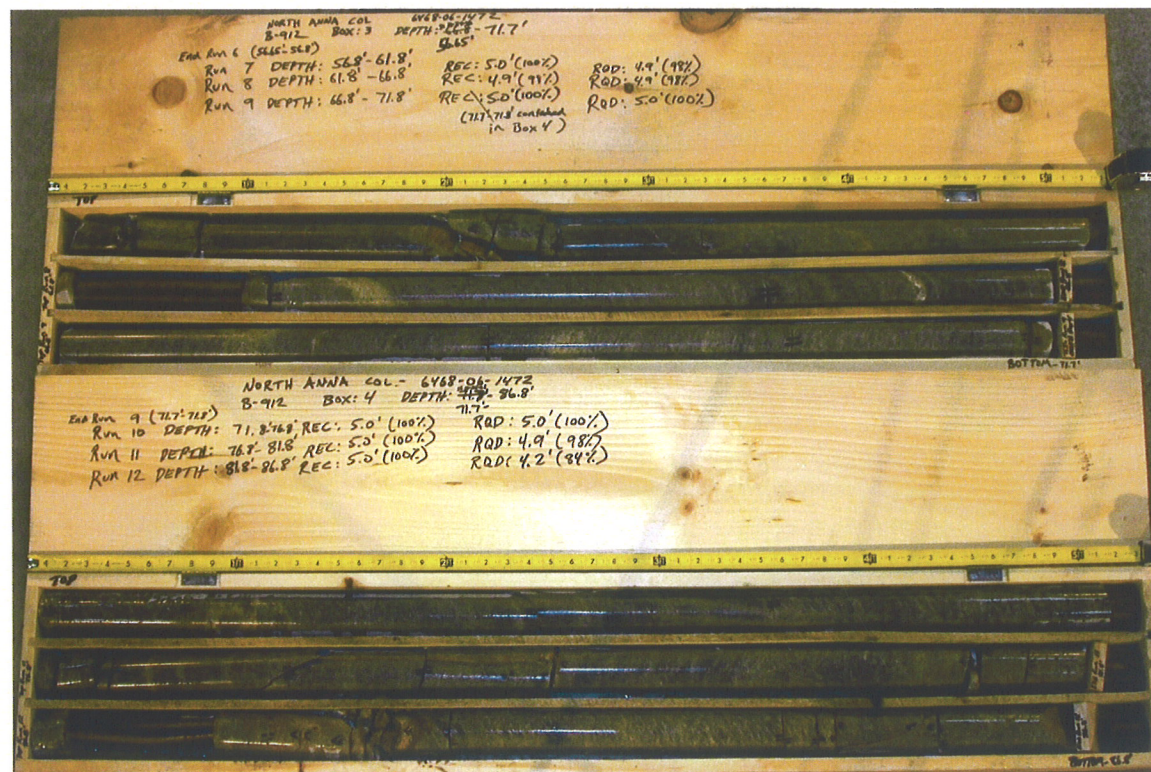
MACTEC PROJECT NO.: 6468-06-1472						COUNTY Louisa, VA				GEOLOGIST S. Lehman			
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)			
BORING NO. B-912			DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE				0 HR. 10.1		
COLLAR ELEV. 275.1 ft (NAVD88)			NORTHING 3,910,022		US ft (NAD83)		EASTING 11,686,051		US ft (NAD83)		24 HR. 10.6		
TOTAL DEPTH 151.8 ft			DRILL MACHINE CME 55LC Track				DRILLER: D. White				HAMMER TYPE 140 lbs Auto		
DATE STARTED 10/23/06				COMPLETED 10/25/06				CORE BARREL TYPE: HQ 3 triple tube-wireline					
CORE SIZE HQ3				TOTAL RUN 122.4 ft									
ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	REC. (ft) %	RQD (ft) %	SAMP. NO.	REC. (ft) %	RQD (ft) %	L O G	DESCRIPTION AND REMARKS			
										Continued from previous page			
168.3	106.8		3:33 3:56 4:30										
		5.0	4:17 4:31 4:37 5:40 4:44	(5.0) 100%	(5.0) 100%	UCS-111.4'				-No Joints Hard Rock: Light gray, fresh, very wide fracturing, hard, QUARTZ-BIOTITE GNEISS (continued) -No Joints; Quartz+feldspar vein at 45° from 108.8-109.1 ft			
163.3	111.8		4:36 4:25 4:44 4:48 4:20	(5.0) 100%	(5.0) 100%	18				-No Joints			
158.3	116.8	5.0	4:16 4:13 3:39 2:21 2:06	(5.0) 100%	(5.0) 100%	19			158.3	116.8 Hard Rock: Light gray, slightly weathered to fresh, moderately close to wide fracturing, moderately hard to hard, QUARTZ GNEISS with biotite (4 joints at 20-30° slightly weathered, trace clay, and Fe stain)			
153.3	121.8	5.0	2:16 4:57 2:27 2:13 2:18	(5.0) 100%	(4.8) 96%	20				(1 joint at 60° with trace clay and Fe stain; 2 joints at 30° moderately weathered)			
148.3	126.8	5.0	2:47 2:12 2:57 2:47 3:37	(5.0) 100%	(5.0) 100%	21				(4 joints at 50-60° with trace clay; 1 joint at 20° with Fe stain)			
143.3	131.8	5.0	3:24 3:24 3:47 3:08 4:09	(5.0) 100%	(4.9) 98%	22				(2 joints at 45° and 2 joints at 30° slightly weathered, Fe stain)			
138.3	136.8	5.0	4:07 4:04 4:40 4:36 3:52	(5.0) 100%	(5.0) 100%	23				(2 joints at 30° slightly weathered, Fe stain; 1 joint at 80-90° with clay and Fe stain; Quartz+feldspar veins at 136.7-137.1 ft and 137.9-138.8 ft)			
133.3	141.8	5.0	2:57 3:02 3:03 2:41 2:51	(5.0) 100%	(4.8) 96%	UC-143.9'				(3 joints at 50° slightly weathered, Fe stain)			
128.3	146.8	5.0	2:29 3:03 4:04 4:48 5:26	(5.0) 100%	(5.0) 100%	25				-No Joints			
123.3	151.8								123.3	151.8 Coring terminated at 151.8 ft in Hard Rock: Hard, QUARTZ GNEISS			

NORTH ANNA COL. CORE NORTH ANNA COL DATA REPORT REV06PJ NORTH ANNA COL GDT 1/19/07



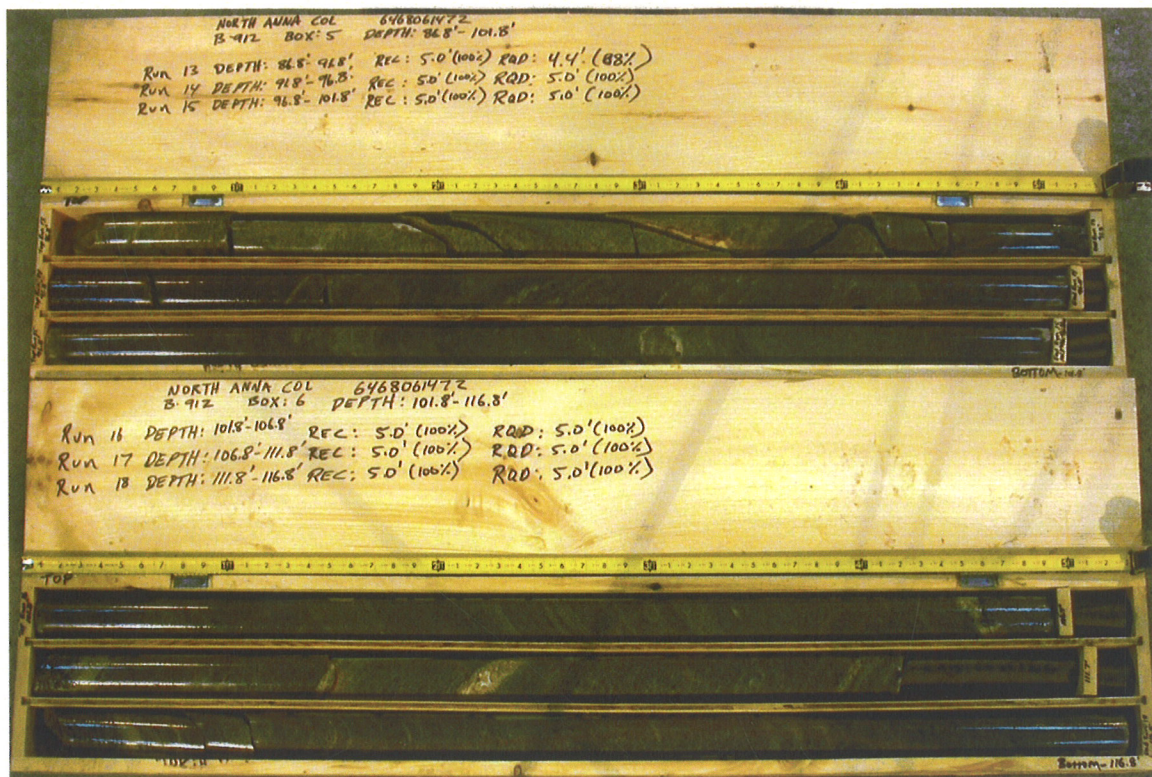
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B-912 - Box 3

B-912 - Box 4



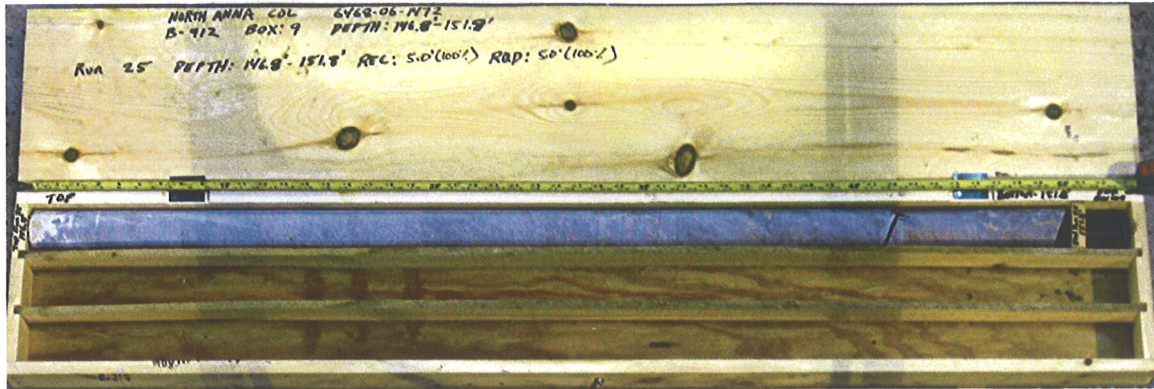
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B-912 - Box 8

B-912 - Box 7



B-912 – Box 9