



MACTEC PROJECT NO.: 6468-06-1472					COUNTY Louisa, VA					GEOLOGIST S. Nicely				
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)				
BORING NO. B-917			DRILL METHOD: Mud Rotary/Core			SAMPLE METHODS: SPT/CORE			0 HR. 8.3					
COLLAR ELEV. 274.9 ft (NAVD88)			NORTHING 3,910,161		US ft (NAD83)		EASTING 11,686,029		US ft (NAD83)		24 HR. 8.7			
TOTAL DEPTH 150.8 ft			DRILL MACHINE CME 55 Truck			DRILLER: H. Meyerson			HAMMER TYPE 140 lbs Auto					
DATE STARTED 9/25/06			COMPLETED 9/29/06			CORE BARREL TYPE: HQ 3 triple tube-wireline								
ELEV.	DEPTH	BLOW COUNT			BLOWS PER FOOT					SAMP.	MOI	LOG	SOIL AND ROCK DESCRIPTION	
(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	20	40	60	80	100				NO.
274.9					Ground Surface								274.9	0.0
273.5	1.4										917-1		Sandy SILT (ML), yellowish brown (10YR 4/6), moist, very soft, to Silty, medium to coarse SAND (SM), dark gray (10YR 4/1) and yellowish brown (10YR 4/6), moist, medium dense (FILL)	4.4
271.1	3.8	3	1	1							917-2			
268.6	6.3	25	8	7							917-3			
266.2	8.7	2	3	2							917-4			
266.2	8.7	2	2	3									Silty, fine to coarse SAND (SM), brownish yellow (10YR 6/8) to yellowish brown (10YR 5/8 and 5/4), moist to wet, medium dense to loose, trace clay (Residual Soil)	
263.3	11.6	2	3	4							917-5			
261.4	13.5	2	4	4							917-6			
256.6	18.3	4	4	3							917-7			
251.3	23.6	3	4	4							917-8			
246.3	28.6	6	8	9							917-9			
241.4	33.5	8	9	9							917-10		Silty, fine to coarse SAND (SM), Brownish yellow (10YR 6/6), olive yellow (2.5Y 6/6), and light olive brown (2.5Y 5/4), moist, medium dense to very dense (Residual Soil)	26.0
236.4	38.5	9	13	14							917-11			
231.4	43.5	10	12	12							917-12			
226.4	48.5	9	16	23							917-13			
221.4	53.5	18	28	31							917-14		Weathered Rock: Light olive brown (2.5Y 5/4), brown (10YR 4/3), olive yellow (2.5Y 6/6), light yellowish brown (2.5Y 6/4), and brownish yellow (10YR 6/8), moist, very dense, weathered, BIOTITE QUARTZ GNEISS	57.0
216.4	58.5	43	50/0.3								917-15			
211.4	63.5	39	50/0.2								917-16			
206.4	68.5	50/0.4									917-17			
201.4	73.5	50/0.2									917-18			

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

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TOTAL DEPTH 150.8 ft		DRILL MACHINE CME 55 Truck			DRILLER: H. Meyerson			HAMMER TYPE 140 lbs Auto						
DATE STARTED 9/25/06		COMPLETED 9/29/06			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				
200.0					Continued from previous page									
196.4	78.5									917-19			Weathered Rock: Light olive brown (2.5Y 5/4), brown (10YR 4/3), olive yellow (2.5Y 6/6), light yellowish brown (2.5Y 6/4), and brownish yellow (10YR 6/8), moist, very dense, weathered, BIOTITE QUARTZ GNEISS (continued)	
191.4	83.5									917-20				
187.4	87.5									917-21				
													187.1 87.8	Hard Rock: Brownish gray, moderately weathered, very close to close fracturing, hard to very hard, BIOTITE-QUARTZ GNEISS
													178.8 96.1	Hard Rock: Light gray, fresh, very close to very wide fracturing, very hard, BIOTITE-QUARTZ GNEISS



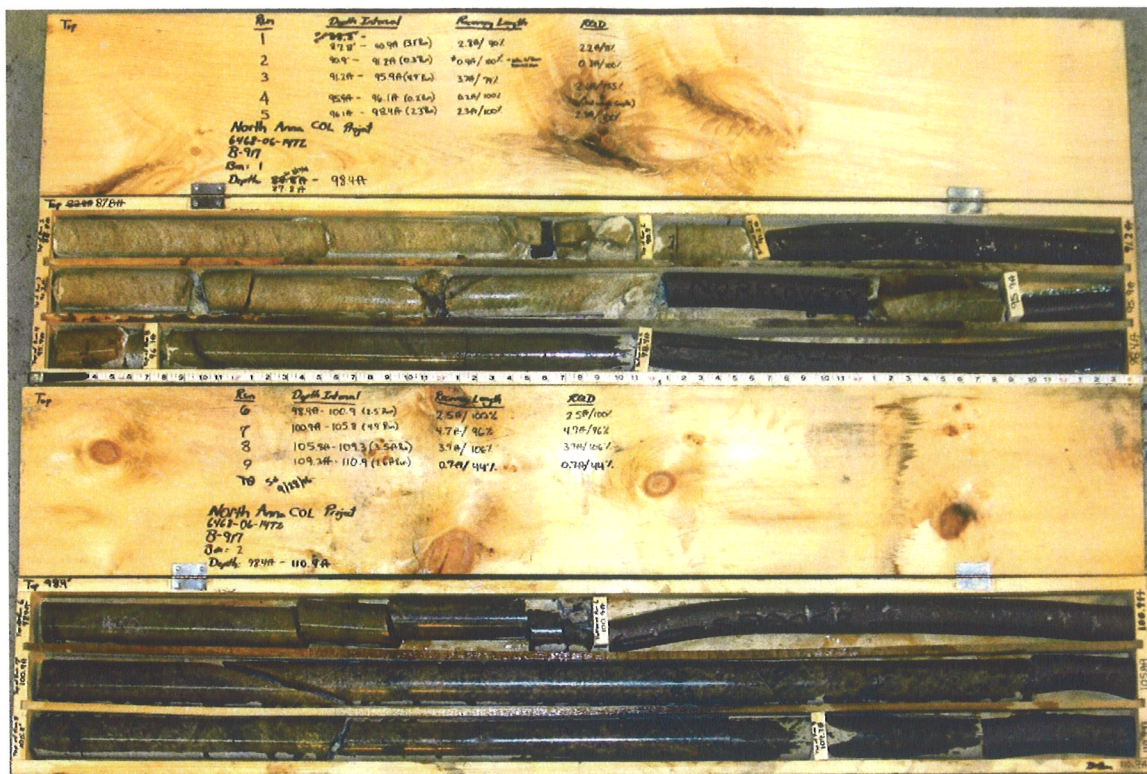
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DATE STARTED 9/25/06			COMPLETED 9/29/06				CORE BARREL TYPE: HQ 3 triple tube-wireline									
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT						SAMP. NO.	MOI	LOG	SOIL AND ROCK DESCRIPTION		
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100						
125.2					Continued from previous page											
														124.1	150.8	Boring and coring terminated at 150.8 ft in Hard Rock: Very hard, BIOTITE-QUARTZ GNEISS



SHEET 1 OF 1

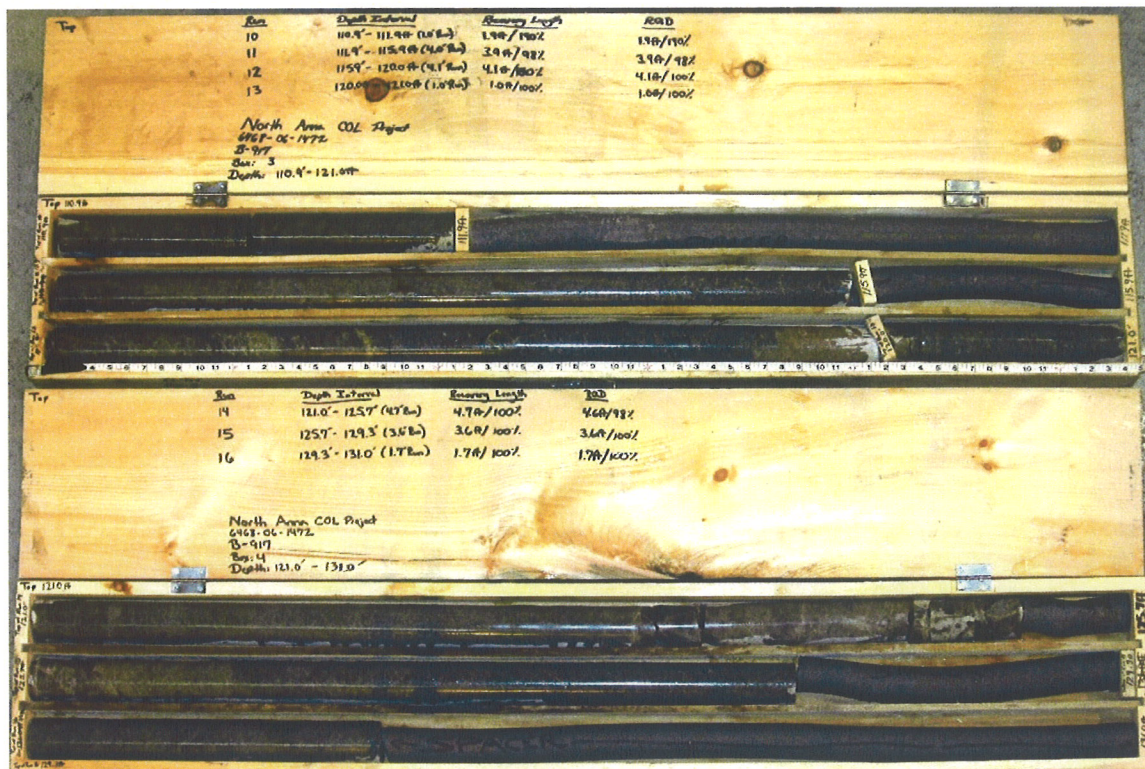
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TOTAL DEPTH 150.8 ft			DRILL MACHINE CME 55 Truck			DRILLER: H. Meyerson			HAMMER TYPE 140 lbs Auto		
DATE STARTED 9/25/06			COMPLETED 9/29/06			CORE BARREL TYPE: HQ 3 triple tube-wireline					
CORE SIZE HQ3			TOTAL RUN 63.0 ft								
ELEV. (ft)	DEPTH (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 @ 87.8 ft	
187.1	87.8	3.1	2:53	(2.8)	(2.2)	1				Hard Rock: Brownish gray, moderately weathered, very close to close fracturing, hard to very hard, BIOTITE-QUARTZ GNEISS (1 joint at 20° with Fe and Mn stain; 1 joint at 45° with Fe stain) (1 joint at 90°) -Highly fractured zones from 91.3-91.9 ft, 93.0-93.2 ft, and 94.3-95.3 ft	
184.0	90.9		2:46	90%	71%						
183.7	91.2	0.3	2:50/0.1	(0.4)	(0.3)	2					
		4.7	0:12/0.3	133%	100%	3					
			2:15	(3.7)	(2.6)						
			1:43	79%	55%						
			0:57								
179.0	95.9		2:46/1.7								
178.8	96.1	0.2	0:29/0.2	(0.2)	(NA)	4				Hard Rock: Light gray, fresh, very close to very wide fracturing, very hard, BIOTITE-QUARTZ GNEISS -No Joints -No Joints (1 joint at 65°)	
176.5	98.4	2.3	4:55	100%	(2.3)	5					
		2.5	11:05	(2.3)	100%	6					
			15:23/0.3	100%	(2.5)						
174.0	100.9		0:37/0.5	(2.5)	100%						
		4.9	8:03	100%	(4.7)	7					
			10:48	(4.7)	96%						
			5:15								
			5:43								
			5:22								
169.1	105.8		6:49								
		3.5	8:53/0.9	(3.7)	(3.7)	8				-No Joints	
			7:03	106%	106%						
			7:46								
165.6	109.3		13:35								
		1.6	16:31/0.5	(0.7)	(0.7)	9				-No Joints	
164.0	110.9		13:13/0.6	44%	44%					-No Joints	
163.0	111.9	1.0	17:48	(1.9)	(1.9)	10				-No Joints	
		4.0	3:49	190%	190%	11				-No Joints	
			3:21								
			4:34	(3.9)	(3.9)						
			4:57	98%	98%						
159.0	115.9		5:24	(4.1)	(4.1)	12				(1 joint at 25° with Fe stain)	
		4.1	5:14	100%	100%						
			6:04								
			7:44								
154.9	120.0		11:23/1.1								
153.9	121.0	1.0	4:26	(1.0)	(1.0)	13				-No Joints	
		4.7	4:47	100%	100%	14				(2 joints at 10-15°; Quartz vein from 123.9-125.7 ft)	
			4:25	(4.7)	(4.6)						
			4:43	100%	98%						
			8:23								
149.2	125.7		14:51/0.7	(3.6)	(3.6)	15				-No Joints; Quartz vein cont. from 125.7-126.0 ft	
		3.6	7:37	100%	100%						
			8:44								
			11:05								
145.6	129.3		11:39/0.6	(1.7)	(1.7)	16				-No Joints	
143.9	131.0	1.7	1:53/0.4	100%	100%					(2 joints at 70-75° with Fe staining; 5 joints at 20-30° with Fe stain, slightly weathered)	
		5.0	4:37	(5.0)	(4.5)	17					
			1:05/0.3	100%	90%						
			5:54								
			5:19								
			4:31								
			4:47								
138.9	136.0		6:06	(2.7)	(2.7)	18				-No Joints	
		2.8	6:17	96%	96%						
			8:41								
136.1	138.8		12:58/0.8	(2.1)	(2.1)	19				-No Joints	
		2.0	0:25/0.2	105%	105%						
			8:56	(5.1)	(5.1)	20				-No Joints	
		5.1	11:37/0.8	100%	100%						
			4:19								
			4:22								
			4:36								
			5:23								
			8:46	(4.9)	(4.9)	21				-No Joints	
		4.9	1:29/0.1	100%	100%						
			5:07								
			4:48								
			7:06								
			6:21								
124.1	150.8		9:07/0.9							Coring terminated at 150.8 ft in Hard Rock: Very hard, BIOTITE-QUARTZ GNEISS	

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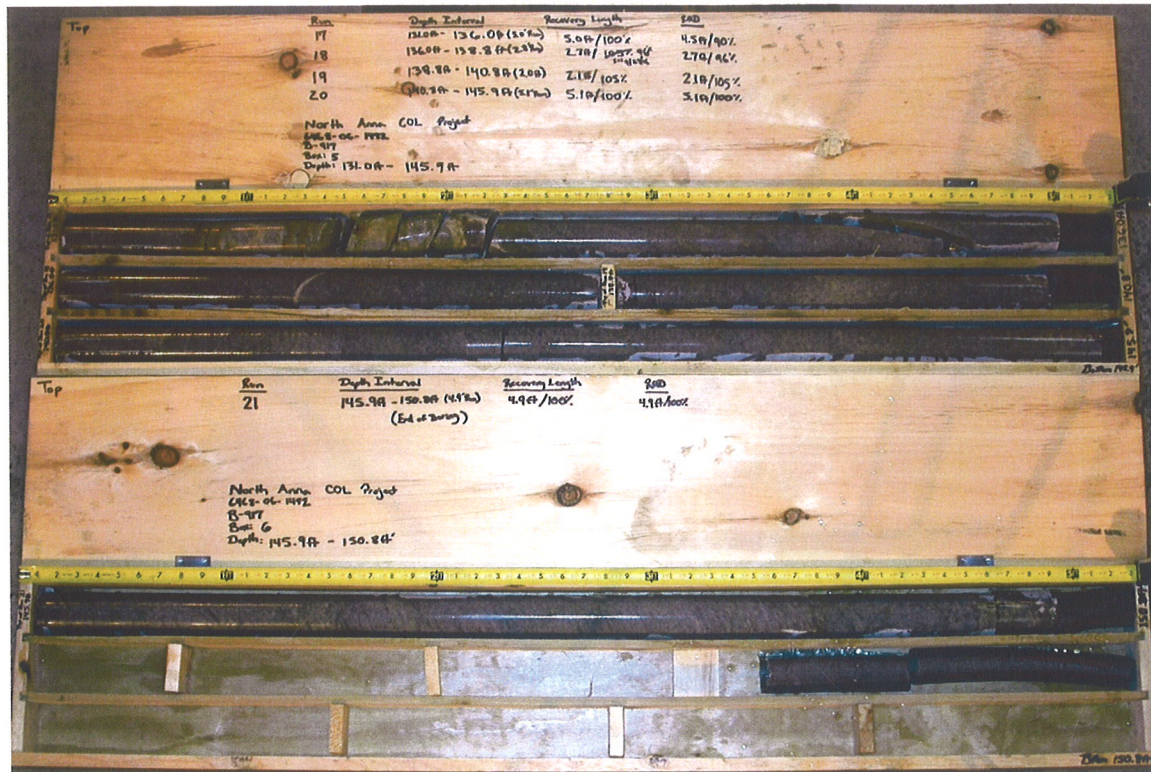
B-917 - Box 1

B-917 - Box 2



B-917 - Box 3

B-917 - Box 4



B-917 - Box 5
B-917 - Box 6