



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-908			DRILL METHOD: Rotary Wash/Core			SAMPLE METHODS: SPT/CORE			0 HR. 16.0						
COLLAR ELEV. 307.7 ft (NAVD88)			NORTHING 3,909,717			US ft (NAD83)			EASTING 11,686,061			US ft (NAD83)		24 HR. 17.1	
TOTAL DEPTH 151.4 ft			DRILL MACHINE CME 55LC Track			DRILLER: F. Cox			HAMMER TYPE 140 lbs Auto						
DATE STARTED 9/13/06					COMPLETED 9/18/06					CORE BARREL TYPE: HQ 3 triple tube-wireline					
ELEV.	DEPTH	BLOW COUNT			BLOWS PER FOOT					SAMP.	LOG	SOIL AND ROCK DESCRIPTION			
(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	20	40	60	80	100					NO.
307.7					Ground Surface							307.7	0.0		
306.2	1.5													Silty, fine to medium SAND (SM) olive yellow (2.5Y 6/6) dry, medium dense (Residual Soil)	
304.2	3.5	11	11	12							908-1		304.2	3.5	
301.7	6.0	28	13	9							908-2		302.7	5.0	
299.2	8.5	6	6	5							908-3			GRAVEL (GM) boulder of Weathered Rock: Light brown, very severely weathered, very soft to hard, GNEISS	
296.7	11.0	4	6	7							908-4			Silty, fine to medium SAND (SM) strong brown to light yellowish brown (2.5Y 6/4) dry to moist, medium dense, saprolitic (Residual Soil)	
294.2	13.5	3	4	8							908-5				
		7	6	5							908-6				
289.0	18.7	2	5	5							908-7		291.7	16.0	
284.0	23.7	5	6	9							908-8		286.7	21.0	
279.0	28.7	49	50/0.5								908-9		280.7	27.0	
274.1	33.6	50/0.3									908-10			Weathered Rock: sampled as SAND (SW), brownish yellow (10YR 6/6) to strong brown (7.5YR 5/6), moist, very dense, fine to coarse grained, Fe stained (GNEISS)	
269.1	38.6	48	50/0.3								908-11				
264.1	43.6	50/0.3									908-12		261.2	46.5	
259.1	48.6	15	28	32							908-13		256.2	51.5	
254.1	53.6	28	50/0.2								908-14			Weathered Rock: sampled as silty SAND (SM) dark yellowish brown (10YR 4/6), light reddish brown to light gray, moist, very dense, severely weathered, soft to moderately hard, GNEISS	
249.1	58.6	50/0.2									908-15		245.0	62.7	
														Hard Rock: Light gray with orange Fe staining, moderately severe to slightly weathered, close to moderately close fracturing, soft to moderately hard, QUARTZ GNEISS with biotite	

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



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SITE DESCRIPTION NORTH ANNA COL															GROUND WATER (ft) 0 HR. 16.0 24 HR. 17.1				
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COLLAR ELEV. 307.7 ft (NAVD88)					NORTHING 3,909,717 US ft (NAD83)					EASTING 11,686,061 US ft (NAD83)									
TOTAL DEPTH 151.4 ft					DRILL MACHINE CME 55LC Track					DRILLER: F. Cox					HAMMER TYPE 140 lbs Auto				
DATE STARTED 9/13/06					COMPLETED 9/18/06					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									
232.9					Continued from previous page														
															231.3	76.4 Hard Rock: Light gray, moderately weathered to fresh, close to wide fracturing, medium hard to hard, QUARTZ GNEISS with biotite			
															206.3	101.4 Weathered Rock: Severely weathered, BIOTITE GNEISS (No recovery)			
															204.0	103.7 Hard Rock: Dark gray, moderately severe to slightly weathered, close fracturing, soft to moderately hard, BIOTITE GNEISS			
															201.3	106.4 Hard Rock: Light to dark gray, fresh, wide fracturing, hard, QUARTZ-BIOTITE GNEISS			
															193.0 192.4	114.7 115.3 Weathered Rock: Severely weathered, BIOTITE GNEISS (No recovery) Hard Rock: Light to dark gray with pink, slightly weathered to fresh, close to wide fracturing, moderately hard to hard, QUARTZ-BIOTITE GNEISS with trace pyrite and magnetite			

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



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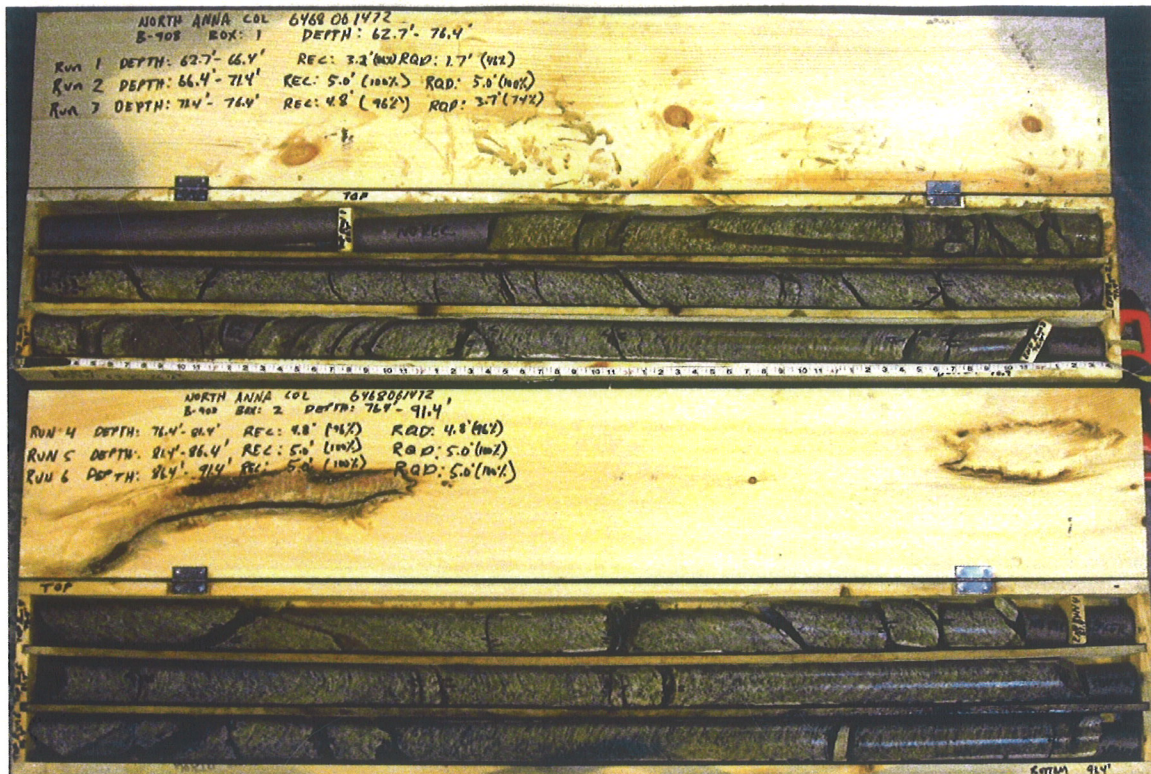
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TOTAL DEPTH 151.4 ft					DRILL MACHINE CME 55LC Track					DRILLER: F. Cox					HAMMER TYPE 140 lbs Auto														
DATE STARTED 9/13/06					COMPLETED 9/18/06					CORE BARREL TYPE: HQ 3 triple tube-wireline																			
ELEV.	DEPTH	BLOW COUNT			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.																		
158.1					Continued from previous page																								
													156.3	151.4															
Boring and coring terminated at 151.4 ft in Hard Rock: Hard, QUARTZ-BIOTITE GNEISS																													



SHEET 1 OF 2

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BORING NO. B-908					DRILL METHOD: Rotary Wash/Core					SAMPLE METHODS: SPT/CORE					0 HR. 16.0							
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TOTAL DEPTH 151.4 ft					DRILL MACHINE CME 55LC Track					DRILLER: F. Cox					HAMMER TYPE 140 lbs Auto							
DATE STARTED 9/13/06					COMPLETED 9/18/06					CORE BARREL TYPE: HQ 3 triple tube-wireline												
CORE SIZE HQ3					TOTAL RUN 88.7 ft																	
ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) %		RQD (ft) %	SAMP. NO.	STRATA REC. (ft) %		RQD (ft) %	L O G	DESCRIPTION AND REMARKS										
												Begin Coring @ 62.7 ft										
245.0	62.7	3.7	2:12 3:10 3:22	(3.2) 86%	(1.7) 46%	1						245.0	Hard Rock: Light gray with orange Fe staining, moderately severe to slightly weathered, close to moderately close fracturing, soft to moderately hard, QUARTZ GNEISS with biotite									
241.3	66.4		2:47/0.7										(2 joints at 20° with trace clay and Fe stain; 1 joint at 85° with Fe stain; 1 joint at 45° with trace clay and Fe stain)									
		5.0	3:05 2:46 2:39 2:31 2:34	(5.0) 100%	(5.0) 100%	UC-67.5'							(1 joint at 40° and 2 joints at 20° with trace clay and Fe stain)									
236.3	71.4												(5 joints at 45° weathered with Fe stain; 1 joint at 30° weathered)									
		5.0	2:15 1:40 3:38 4:38 5:03	(4.8) 96%	(3.7) 74%	3																
231.3	76.4											231.3										
		5.0	3:50 2:50 2:20 2:50 2:21	(4.8) 96%	(4.8) 96%	UCS-79.4'							Hard Rock: Light gray, moderately weathered to fresh, close to wide fracturing, medium hard to hard, QUARTZ GNEISS with biotite									
226.3	81.4												(1 joint at 80° with Fe stain; 2 joints at 40° with trace clay and Fe stain)									
		5.0	2:28 2:13 2:15 2:38 3:08	(5.0) 100%	(5.0) 100%	5							(1 joint at 45° weathered)									
221.3	86.4												(1 joint at 60°)									
		5.0	2:04 1:52 2:16 2:04 1:50	(5.0) 100%	(5.0) 100%	6																
216.3	91.4																					
		5.0	2:22 1:52 2:02 2:25 2:36	(4.9) 98%	(4.9) 98%	UC-96.0'							-No Joints, slightly weathered in biotite rich zones at 91.6 ft and 93.1 ft									
211.3	96.4												(2 joints at 20° with Fe stain; 3 joints at 40° weathered)									
		5.0	2:07 2:18 3:00 2:30 2:40	(4.8) 96%	(3.9) 78%	8																
206.3	101.4											206.3	Weathered Rock: Severely weathered, BIOTITE GNEISS (No recovery)									
		5.0	1:42 1:35 2:04 2:04 2:12	(2.5) 50%	(0.8) 16%	9						204.0	Hard Rock: Dark gray, moderately severe to slightly weathered, close fracturing, soft to moderately hard, BIOTITE GNEISS									
201.3	106.4											201.3	Hard Rock: Light to dark gray, fresh, wide fracturing, hard, QUARTZ-BIOTITE GNEISS									
		5.0	1:48 2:20 2:36 3:04 3:40	(5.0) 100%	(5.0) 100%	10							-No Joints									
196.3	111.4												(1 joint at 30° slightly weathered)									
		3.3	3:40 3:03 3:04	(3.2) 97%	(3.2) 97%	UC-112.7'																
193.0	114.7											193.0	Weathered Rock: Severely weathered, BIOTITE GNEISS (No recovery)									
192.4	115.3	0.6	1:21/0.3 4:54/0.7	(0.0) 0%	(0.0) 0%	12						192.4	-No recovery									
191.3	116.4	1.1	3:45/1.1			13							Hard Rock: Light to dark gray with pink, slightly weathered to fresh, close to wide fracturing, moderately hard to hard, QUARTZ-BIOTITE GNEISS with trace pyrite and magnetite									
		5.0	3:51 3:52 4:00 3:24 2:50	(1.1) 100%	(1.1) 100%	14							(1 joint at 30° slightly weathered and Fe stained)									
186.3	121.4												-No Joints									
		5.0	3:01 2:34 2:49 3:25 2:25	(5.0) 100%	(5.0) 100%	15							(1 joint at 45° slightly weathered)									
181.3	126.4												-No Joints									
		5.0	2:45 3:11 3:08 3:15 3:48	(5.0) 100%	(5.0) 100%	16																
176.3	131.4												(1 joint at 45° and 1 joint at 80° both slightly weathered; quartz vein with pyrite and chlorite at 131.8 ft)									
		5.0	5:13 3:17 2:28 2:42 2:35	(5.0) 100%	(5.0) 100%	UCS-135.7'																
171.3	136.4												-No Joints									
		5.0	2:56	(5.0)	(5.0)	18																

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



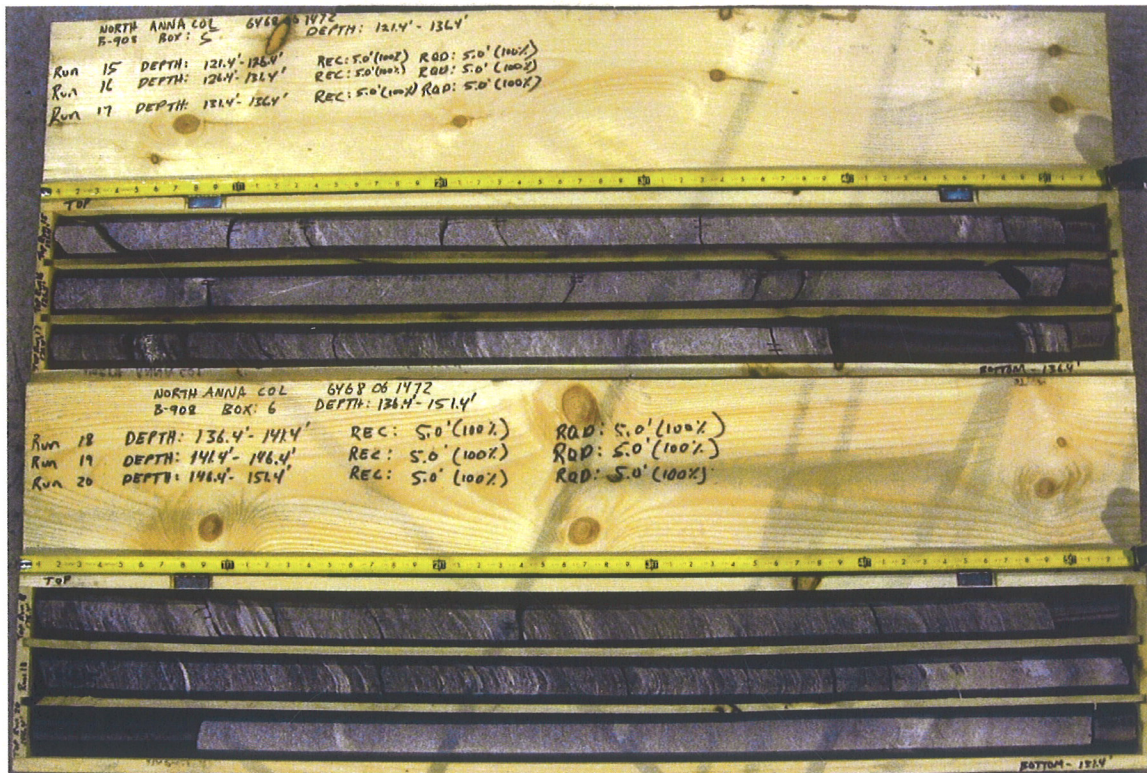
B-908 – Box 1

B-908 – Box 2



B-908 – Box 3

B-908 – Box 4



B-908 – Box 5

B-908 – Box 6