



MACTEC PROJECT NO.: 6468-06-1472					COUNTY Louisa, VA					GEOLOGIST S. Lehman					
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)					
BORING NO. B-904			DRILL METHOD: Rotary Wash/Core			SAMPLE METHODS: SPT/CORE			0 HR. 22.3						
COLLAR ELEV. 316.8 ft (NAVD88)			NORTHING 3,909,692			US ft (NAD83)			EASTING 11,685,970			US ft (NAD83)		24 HR. 22.7	
TOTAL DEPTH 151.7 ft			DRILL MACHINE CME 55LC Track			DRILLER: D. White			HAMMER TYPE 140 lbs Auto						
DATE STARTED 9/19/06			COMPLETED 9/22/06			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					
316.8					Ground Surface								316.8	0.0	
315.3	1.5										904-1				Clayey SILT (ML), strong brown (7.5YR 4/6), moist, stiff, trace sand
313.3	3.5	3	5	7							904-2				Silty, fine SAND (SM), yellowish brown (10YR 5/8), light olive brown (2.5Y 5/6), olive brown (2.5Y 4/3), and dark olive brown (2.5Y 3/3), dry to moist, medium dense, clayey, micaceous, relict rock fabric (Residual Soil)
310.8	6.0	4	7	7							904-3				
308.3	8.5	4	7	6							904-4				
305.8	11.0	4	5	6							904-5				
303.3	13.5	4	6	7							904-6				
298.8	18.0	4	6	6							904-7				
293.8	23.0	4	5	8							904-8				Sandy SILT (ML), dark olive brown (2.5Y 3/3), moist, very stiff, micaceous, relict rock fabric (Residual Soil)
288.8	28.0	5	7	22							904-9				Weathered Rock: Strong brown (7.5YR 4/6), olive brown (2.5Y 4/6), dark greenish gray (GLE1 4/5G), yellowish brown (10YR 5/6), and dark grayish brown (2.5Y 4/2), sampled as moist to wet, very dense, silty fine to medium SAND (SM) and hard, sandy SILT (ML)-severely weathered, QUARTZ GNEISS
283.8	33.0	31	50/0.2								904-10				
278.8	38.0	40	46	49							904-11				
273.8	43.0	16	50/0.5								904-12				
268.8	48.0	29	50/0.4								904-13				
265.1	51.7		50/0.2								904-14				
260.1	56.7		50/0.2								904-15				
255.1	61.7		50/0.1								904-16				
250.1	66.7		50/0.3								904-17				
245.1	71.7		50/0.2								904-18				
			50/0.1												

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





MACTEC PROJECT NO.: 6468-06-1472					COUNTY Louisa, VA					GEOLOGIST S.Lehman						
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft) 0 HR. 22.3 24 HR. 22.7						
BORING NO. B-904		DRILL METHOD: Rotary Wash/Core			SAMPLE METHODS: SPT/CORE											
COLLAR ELEV. 316.8 ft (NAVD88)		NORTHING 3,909,692		US ft (NAD83)		EASTING 11,685,970		US ft (NAD83)								
TOTAL DEPTH 151.7 ft		DRILL MACHINE CME 55LC Track			DRILLER: D. White			HAMMER TYPE 140 lbs Auto								
DATE STARTED 9/19/06		COMPLETED 9/22/06			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						
167.1					Continued from previous page											
														165.1	151.7	Boring and coring terminated at 151.7 ft in Hard Rock: Hard QUARTZ-BIOTITE GNEISS

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



MACTEC PROJECT NO.: 6468-06-1472							COUNTY Louisa, VA			GEOLOGIST S.Lehman					
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)					
BORING NO. B-904			DRILL METHOD: Rotary Wash/Core				SAMPLE METHODS: SPT/CORE			0 HR. 22.3					
COLLAR ELEV. 316.8 ft (NAVD88)			NORTHING 3,909,692		US ft (NAD83)		EASTING 11,685,970		US ft (NAD83)		24 HR. 22.7				
TOTAL DEPTH 151.7 ft			DRILL MACHINE CME 55LC Track				DRILLER: D. White			HAMMER TYPE 140 lbs Auto					
DATE STARTED 9/19/06				COMPLETED 9/22/06			CORE BARREL TYPE: HQ 3 triple tube-wireline								
CORE SIZE HQ3				TOTAL RUN 102.6 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 @ 48.2 ft					
268.6	48.2	3.5	2:02	(0.0)	(0.0)	1				Weathered Rock: Strong brown (7.5YR 4/6), olive brown (2.5Y 4/6), dark greenish gray (GLE Y1 4/5G), yellowish brown (10YR 5/6), and dark grayish brown (2.5Y 4/2), sampled as moist to wet, very dense, silty fine to medium SAND (SM) and hard, sandy SILT (ML)-severely weathered, QUARTZ GNEISS (continued) -No Recovery -No Recovery					
265.1	51.7		2:02	0%	0%										
			2:05												
264.9	51.9	4.8	0:46/0.5	(0.0)	(0.0)	904-14									
			N=50/0.2	0%	0%	2									
			1:43/0.8												
			2:00												
			2:11												
260.1	56.7		2:01												
260.0	56.8	4.9	1:46	(0.0)	(0.0)	904-15									
			N=50/0.1	0%	0%	3				-No Recovery					
			2:05												
			1:41												
			1:18												
255.1	61.7		1:35												
254.8	62.0	4.7	2:04/0.9	(0.2)	(0.0)	904-16				-Recovered 0.2 ft of Hard Rock: Light Brownish gray, moderately severe weathering, moderately hard, QUARTZ GNEISS with biotite					
			N=50/0.3	4%	0%	4									
			1:25												
			1:20												
250.1	66.7		1:40												
			2:09												
249.9	66.9	4.8	2:24/0.7	(0.0)	(0.0)	904-17									
			N=50/0.2	0%	0%	5									
			2:21												
			2:13												
245.1	71.7		2:07							245.0 71.8					
245.0	71.8	4.9	2:01	(3.5)	(2.1)	904-18				Hard Rock: Light to dark gray with orange Fe staining, moderately severe to moderately weathered, closely fractured, medium to moderately hard, QUARTZ-BIOTITE GNEISS (1 joint at 60°, 2 joints at 45°, and 2 joints at 20°-all weathered with Fe staining)					
			N=50/0.1	71%	43%	6									
			1:55												
			2:40												
240.1	76.7		2:46										240.1 76.7		
			2:42												
237.6	79.2	2.5	1:53/0.9	(0.0)	(0.0)	7							240.1 76.7		
			1:37	0%	0%										
235.1	81.7	2.5	4:08	(2.5)	(1.3)	8							237.6 79.2		
			N=50/0.5	100%	52%										
			1:18/0.5	(5.0)	(4.2)	9				Hard Rock: Light to dark gray with orange Fe staining, moderately to slightly weathered, close to moderately close fracturing, moderately hard to hard, QUARTZ GNEISS with biotite (1 joint at 60° with clay; 2 joints at 45° and 2 joints at 20° with weathering and Fe staining) (1 joint at 60° weathered with Fe staining; 2 joints at 30° weathered with Fe stain; 1 joint at 20° with slight weathering) (1 joint at 45° and 5 joints at 20° all slightly weathered and Fe stained)					
			2:12	100%	84%										
			2:21												
230.1	86.7	5.0	3:02	(5.0)	(3.9)	10									
			3:29	100%	78%										
			3:03												
			3:27												
			3:33												
			3:01												
			3:35												
225.1	91.7	5.0	3:20	(4.8)	(4.8)	11				(1 joint at 60°, 1 joint at 45°, and 1 joint at 30° -all with weathering and Fe staining)					
			3:29	96%	96%										
			3:17												
			2:29												
220.1	96.7	5.0	2:37	(4.8)	(4.0)	12									
			2:41	96%	80%										
			2:38												
			2:26												
			2:40												
215.1	101.7	5.0	2:22	(4.6)	(4.3)	13							(1 joint at 75°, 2 joints at 60°, and 2 joints at 30° -all with weathering and Fe staining)		
			2:39	92%	86%										
			2:36												
			2:26												
			2:29												
210.1	106.7	5.0	3:18	(5.0)	(5.0)	14									
			3:03	100%	100%										
			3:11												
			3:09												
			2:32												
205.1	111.7	5.0	2:33	(4.0)	(3.8)	15				Hard Rock: Light to dark gray, moderately weathered to fresh, close to wide fracturing, moderately hard to hard, QUARTZ-BIOTITE GNEISS with trace pyrite (2 joints at 45° weathered and Fe stained) (1 joint at 45° and 1 joint at 30° with weathering and Fe staining)					
			2:34	80%	76%										
			2:31												
			2:37												
			2:10												
200.1	116.7	5.0	2:01	(4.3)	(3.9)	16									
			3:13	86%	78%										
			2:44												
			2:11												
			2:13												
195.1	121.7	5.0	2:15	(5.0)	(4.7)	17				(2 joints at 45° with weathering and Fe staining)					
			2:30												
			2:13												
			2:14												

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

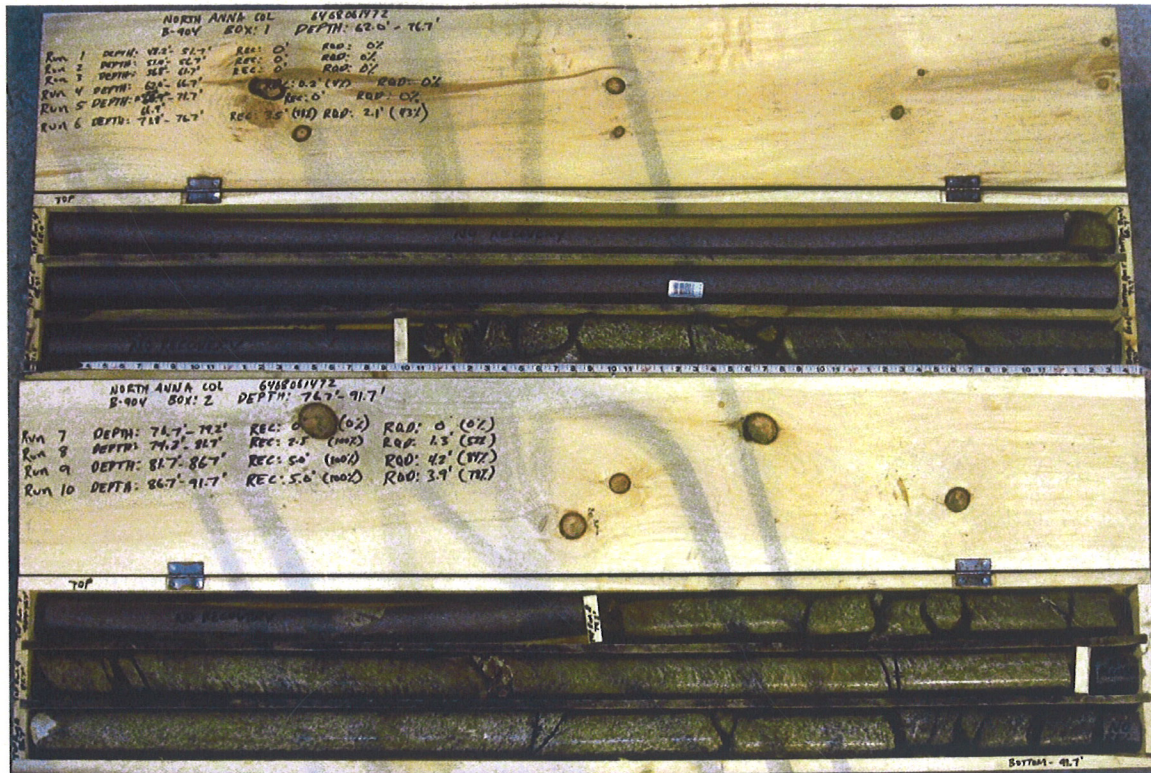




SHEET 2 OF 2

MACTEC PROJECT NO.: 6468-06-1472						COUNTY Louisa, VA				GEOLOGIST S.Lehman				
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)				
BORING NO. B-904			DRILL METHOD: Rotary Wash/Core				SAMPLE METHODS: SPT/CORE				0 HR. 22.3			
COLLAR ELEV. 316.8 ft (NAVD88)			NORTHING 3,909,692		US ft (NAD83)		EASTING 11,685,970		US ft (NAD83)		24 HR. 22.7			
TOTAL DEPTH 151.7 ft			DRILL MACHINE CME 55LC Track				DRILLER: D. White				HAMMER TYPE 140 lbs Auto			
DATE STARTED 9/19/06				COMPLETED 9/22/06				CORE BARREL TYPE: HQ 3 triple tube-wireline						
CORE SIZE HQ3				TOTAL RUN 102.6 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				
										Continued from previous page				
190.1	126.7		2:22 2:30 2:44 2:34	100%	94%						Hard Rock: Light to dark gray, moderately weathered to fresh, close to wide fracturing, moderately hard to hard, QUARTZ-BIOTITE GNEISS with trace pyrite (continued)			
		5.0	2:22 2:42 2:17 2:48 2:34	(5.0) 100%	(4.5) 90%	18					(1 joint at 70° with weathering; 2 joints at 45° and 4 joints at 20-30° with weathering and Fe staining)			
185.1	131.7													
		5.0	2:39 2:49 3:05 3:05 2:35	(5.0) 100%	(4.2) 84%	19					(1 joint at 80°; 1 joint at 45°; 2 joints at 30°)			
180.1	136.7													
		5.0	3:44 2:43 2:43 3:22 2:37	(4.9) 98%	(4.8) 96%	20					-No Joints			
175.1	141.7													
		5.0	2:57 3:53 3:34 3:52 2:59	(4.8) 96%	(4.6) 92%	21					(3 joints at 45° with weathering; 2 joints at 30° with weathering and clay)			
170.1	146.7													
		5.0	2:35 3:11 3:25 3:09 3:16	(5.0) 100%	(4.8) 96%	22					-No Joints			
165.1	151.7													
										165.1	Coring terminated at 151.7 ft in Hard Rock: Hard QUARTZ-BIOTITE GNEISS			

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



B-904 – Box 1

B-904 – Box 2



B-904 – Box 3

B-904 – Box 4





B-904 – Box 5

B-904 – Box 6