



MACTEC PROJECT NO.: 6468-06-1472					COUNTY Louisa, VA					GEOLOGIST J. Howard				
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)				
BORING NO. B-906			DRILL METHOD: Mud Rotary/Core			SAMPLE METHODS: SPT/CORE					0 HR. 6.0			
COLLAR ELEV. 311.7 ft (NAVD88)			NORTHING 3,909,670		US ft (NAD83)		EASTING 11,685,795		US ft (NAD83)		24 HR. 28.8			
TOTAL DEPTH 150.5 ft			DRILL MACHINE CME 550 ATV			DRILLER: G. Akins					HAMMER TYPE 140 lbs Auto			
DATE STARTED 9/13/06			COMPLETED 9/19/06			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.	
311.7					Ground Surface							311.7	0.0	
310.2	1.5									906-1		308.7	3.0	
308.2	3.5	4	6	10						906-2				
305.7	6.0	7	11	13						906-3				
303.2	8.5	8	9	10						906-4				
300.7	11.0	6	8	10						906-5				
298.2	13.5	6	8	16						906-6				
		3	6	8										
292.8	18.9									906-7				
		5	7	8										
287.8	23.9	5	6	6						906-8				
282.8	28.9	16	20	37						906-9				
277.8	33.9	13	37	50/0.3						906-10		276.8	34.9	
272.8	38.9	50/0.1								906-11		272.7	39.0	

NORTH ANNA COL. JURE 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. 6.0 24 HR. 28.8					
BORING NO. B-906		DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE									
COLLAR ELEV. 311.7 ft (NAVD88)		NORTHING 3,909,670		US ft (NAD83)		EASTING 11,685,795		US ft (NAD83)							
TOTAL DEPTH 150.5 ft		DRILL MACHINE CME 550 ATV				DRILLER: G. Akins				HAMMER TYPE 140 lbs Auto					
DATE STARTED 9/13/06				COMPLETED 9/19/06				CORE BARREL TYPE: HQ 3 triple tube-wireline							
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					
162.1					Continued from previous page										
													161.2	150.5	Boring and coring terminated at 150.5 ft in Hard Rock: Very hard, BIOTITE GNEISS

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



SHEET 1 OF 2

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BORING NO. B-906		DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE				0 HR. 6.0	
COLLAR ELEV. 311.7 ft (NAVD88)		NORTHING 3,909,670		US ft (NAD83)		EASTING 11,685,795		US ft (NAD83)		24 HR. 28.8	
TOTAL DEPTH 150.5 ft		DRILL MACHINE CME 550 ATV				DRILLER: G. Akins				HAMMER TYPE 140 lbs Auto	
DATE STARTED 9/13/06				COMPLETED 9/19/06		CORE BARREL TYPE: HQ 3 triple tube-wireline					
CORE SIZE HQ3				TOTAL RUN 111.5 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	
										Begin Coring @ 39.0 ft	
272.7	39.0	1.5	4:30/1.5	(1.0)	(0.0)	1				272.7	Hard Rock: Tan gray, gray brown, and gray orange, moderately to slightly weathered, very close to moderately close fracturing, moderately hard to hard, BIOTITE GNEISS
271.2	40.5	5.0	1:30	(3.0)	(2.2)	2					-Weathered zones
			1:30	60%	44%						(2 joints at 70° with weathering)
266.2	45.5		2:15								
		5.0	2:00								(2 joints at 60°, 4 joints at 80-85° with weathering)
			1:45	(4.3)	(2.6)	3					
			2:00	86%	52%						
261.2	50.5		2:15								
		5.0	2:00	(4.7)	(3.6)	4					(4 joints at 50-60°, 4 joints at 70-80°)
			2:00	94%	72%						
256.2	55.5		2:00								
		5.0	1:45	(4.5)	(2.5)	5					(2 joints at 60-70°, 3 joints at 50°)
			2:00	90%	50%						
251.2	60.5		2:15								
		5.0	2:00	(5.0)	(4.8)	6					(8 joints at 30-40°)
			2:00	100%	96%						
246.2	65.5		3:15								
		3.3	2:45	(3.3)	(2.0)	7					
242.9	68.8		3:15	100%	61%						
		6.1	2:15/0.3	(4.6)	(2.0)	8				242.9	Hard Rock: Tan gray, moderately to slightly weathered, very close to close fracturing, moderately hard, QUARTZ GNEISS
			4:15/0.8	75%	33%						
			5:00							238.7	
236.8	74.9		4:45							236.8	Weathered Rock: Tan gray, severely weathered Quartz GNEISS (partial recovery)
		5.8	8:45/1.3	(3.2)	(1.5)	9					
			3:45	55%	26%					234.4	Hard Rock: Gray, moderately weathered, close fracturing, moderately hard, QUARTZ GNEISS
			3:00								(6 joints at 40°, 1 joint at 80°)
231.0	80.7		2:00								Weathered Rock: Brown gray, severely weathered, QUARTZ GNEISS (partial recovery)
		5.0	4:15/1.8	(2.0)	(0.0)	10					
			2:45	40%	0%						
226.0	85.7		3:00							227.0	
		5.0	2:45	(2.3)	(1.2)	11				225.7	Hard Rock: Brown gray, moderately severe to moderately weathered, very close to close fracturing, medium hard, QUARTZ GNEISS
			3:15	46%	24%						(4 joints at 30°)
221.0	90.7		3:00							222.9	Weathered Rock: Brown gray, severely weathered, QUARTZ GNEISS (partial recovery)
		4.9	4:15	(4.3)	(3.8)	12					
			8:00	88%	78%						Hard Rock: Gray, gray brown, blue gray, and pink, moderately to very slightly weathered, close to moderately close fracturing, medium hard to hard, BIOTITE GNEISS
216.1	95.6		3:30								(5 joints at 30-40°)
		4.4	3:15	(4.4)	(3.9)	13					(2 joints at 80°, 1 joint at 20°)
211.7	100.0		4:11/0.9	100%	89%						
		5.5	2:15								
			2:00								(4 joints at 30-40°, 2 joints at 50°)
206.2	105.5		1:30/0.4	(5.5)	(4.7)	14					
		5.0	2:30	100%	85%						
			3:30								
201.2	110.5		3:15	(5.0)	(4.2)	15					(3 joints at 30-40°, 1 joint at 85°; trace epidote)
		5.0	4:00/1.5	100%	84%						
			2:30								
			3:00	(4.9)	(4.1)	16					
			2:45	98%	82%						

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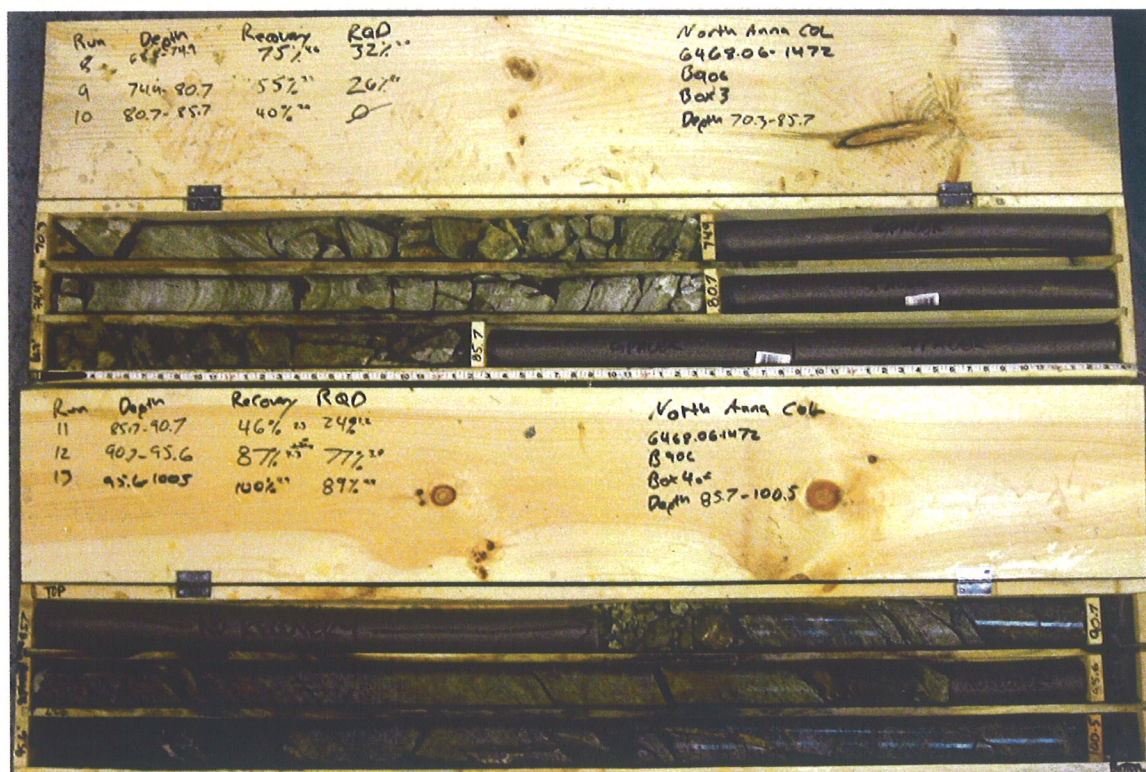
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COLLAR ELEV. 311.7 ft (NAVD88)			NORTHING 3,909,670		US ft (NAD83)		EASTING 11,685,795		US ft (NAD83)		24 HR. 28.8		
TOTAL DEPTH 150.5 ft			DRILL MACHINE CME 550 ATV				DRILLER: G. Akins				HAMMER TYPE 140 lbs Auto		
DATE STARTED 9/13/06				COMPLETED 9/19/06				CORE BARREL TYPE: HQ 3 triple tube-wireline					
CORE SIZE HQ3				TOTAL RUN 111.5 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	
196.2	115.5		3:00 4:00										Hard Rock: Gray, gray brown, blue gray, and pink, moderately to very slightly weathered, close to moderately close fracturing, medium hard to hard, BIOTITE GNEISS (continued) (7 joints at 40°; trace epidote, quartz veins)
		5.0	2:30 3:15 3:15 3:30 5:00	(5.0) 100%	(4.5) 90%	17					(7 joints at 30-40°)		
191.2	120.5		3:00 3:45 4:30 4:00 6:30	(5.0) 100%	(4.1) 82%	18					(4 joints at 50°)		
		5.0	3:30 2:30 3:30 3:30 3:30	(4.5) 90%	(3.6) 72%	19							
186.2	125.5												181.7 130.0
		5.0	3:00 3:45 6:45 5:00 6:30	(4.6) 92%	(2.9) 58%	20							Weathered Rock: Severely weathered, BIOTITE GNEISS (partial recovery) (1 joint at 60°)
176.2	135.5												178.5 133.2
		5.0	10:15 9:30 8:45 7:00 10:30	(5.0) 100%	(5.0) 100%	21							Hard Rock: Blue gray, slightly weathered to fresh, close to moderately close fracturing, hard to very hard, BIOTITE GNEISS (4 joints at 60°)
		4.9	2:45 3:15 4:30 5:30 7:15	(4.9) 100%	(4.5) 92%	22							(5 joints at 60°, 1 joint at 40°; quartz+feldspar veins)
166.3	145.4												(4 joints at 40°, 1 joint at 20°)
		5.1	4:45 5:30 5:45 5:15 7:45/1.1	(5.1) 100%	(5.1) 100%	23						161.2 150.5	
161.2	150.5											Coring terminated at 150.5 ft in Hard Rock: Very hard, BIOTITE GNEISS	

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



B-906 – Box 1

B-906 – Box 2



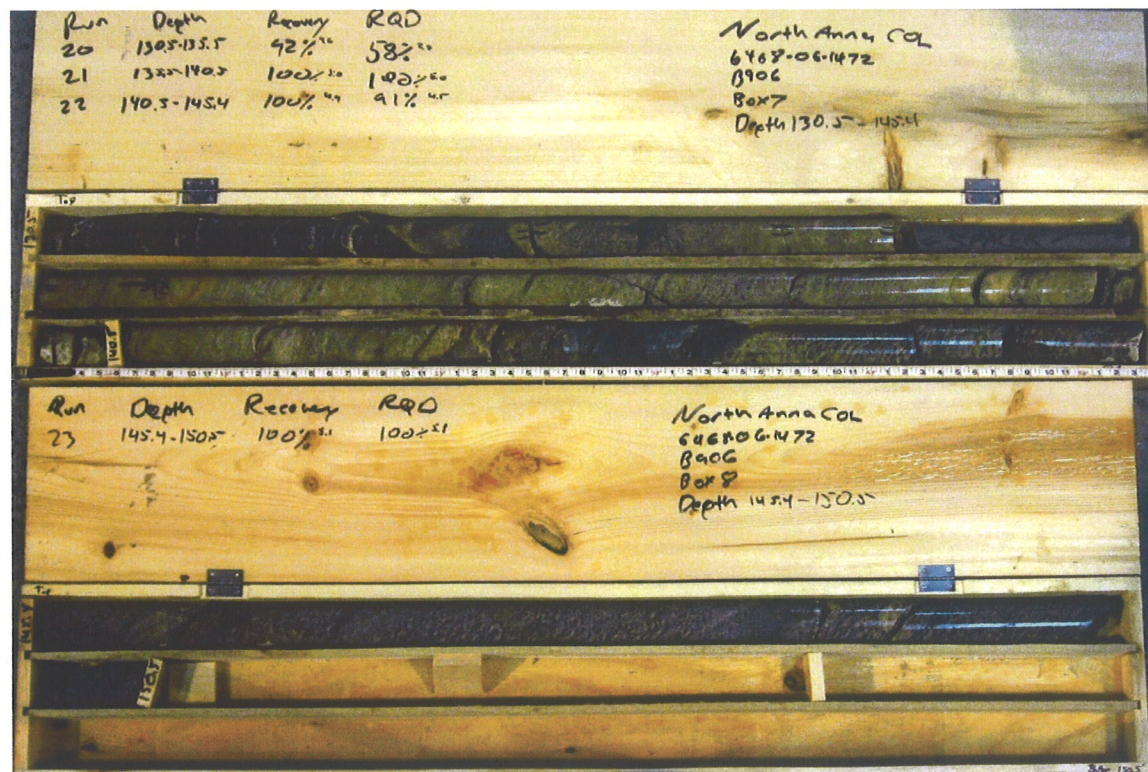
B-906 – Box 3

B-906 – Box 4



B-906 - Box 5

B-906 - Box 6



B-906 - Box 7

B-906 - Box 8