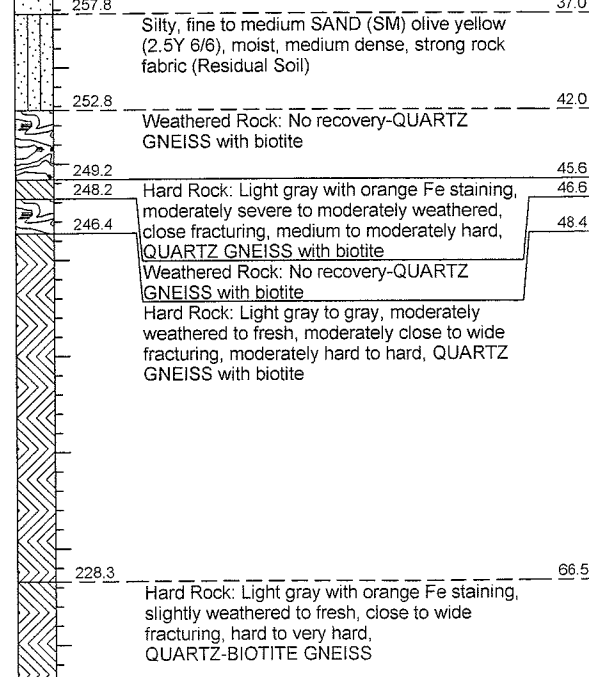




MACTEC PROJECT NO.: 6468-06-1472							COUNTY Louisa, VA				GEOLOGIST S. Lehman/B. Deobald			
SITE DESCRIPTION NORTH ANNA COL											GROUND WATER (ft)			
BORING NO.		DRILL METHOD: Mud Rotary/Core					SAMPLE METHODS: SPT/CORE				0 HR.		ND	
COLLAR ELEV.		NORTHING		US ft (NAD83)		EASTING		US ft (NAD83)		24 HR.		19.3		
TOTAL DEPTH		DRILL MACHINE				DRILLER:				HAMMER TYPE				
DATE STARTED		COMPLETED				CORE BARREL TYPE:								
ELEV.	DEPTH	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG MOI	SOIL AND ROCK DESCRIPTION		
(ft)	(ft)	0.5ft	0.5ft	0.5ft	0	20	40	60	80	100				
294.8					Ground Surface							294.8		0.0
													No samples due to utility clearance operations-soft dig/vac. truck excavation	
285.8	9.0	8	6	6							934-1		286.2	8.6
283.5	11.3	6	7	8							934-2		283.8	11.0
280.9	13.9	4	7	9							934-3			
275.9	18.9	35	40	15							934-4			
270.9	23.9	13	18	17							934-5			
265.9	28.9	12	14	13							934-6			
260.9	33.9	27	49	50/0.4							934-7			
255.6	39.2	13	12	12							934-8		257.8	37.0
250.9	43.9	50/0.2									934-9		252.8	42.0
													249.2	45.6
													248.2	46.6
													246.4	48.4
													228.3	66.5

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/B. Deobald					
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)			
BORING NO. B-934		DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE				0 HR. ND			
COLLAR ELEV. 294.8 ft (NAVD88)		NORTHING 3,909,860		US ft (NAD83)		EASTING 11,685,686		US ft (NAD83)		24 HR. 19.3			
TOTAL DEPTH 101.6 ft		DRILL MACHINE CME 55LC Track				DRILLER: D. White				HAMMER TYPE 140 lbs Auto			
DATE STARTED 10/26/06				COMPLETED 10/30/06				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				
220.0					Continued from previous page								
													Hard Rock: Light gray with orange Fe staining, slightly weathered to fresh, close to wide fracturing, hard to very hard, QUARTZ-BIOTITE GNEISS (continued)
													Boring and coring terminated at 101.6 ft in Hard Rock: Very hard, QUARTZ-BIOTITE GNEISS

NORTH ANNA COL BORE 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/B. Deobald	
SITE DESCRIPTION NORTH ANNA COL							GROUND WATER (ft)
BORING NO. B-934		DRILL METHOD: Mud Rotary/Core		SAMPLE METHODS: SPT/CORE			0 HR. ND
COLLAR ELEV. 294.8 ft (NAVD88)		NORTHING 3,909,860		US ft (NAD83) EASTING 11,685,686		US ft (NAD83)	24 HR. 19.3
TOTAL DEPTH 101.6 ft		DRILL MACHINE CME 55LC Track		DRILLER: D. White		HAMMER TYPE 140 lbs Auto	
DATE STARTED 10/26/06		COMPLETED 10/30/06		CORE BARREL TYPE: HQ 3 triple tube-wireline			
CORE SIZE HQ3		TOTAL RUN 57.5 ft					

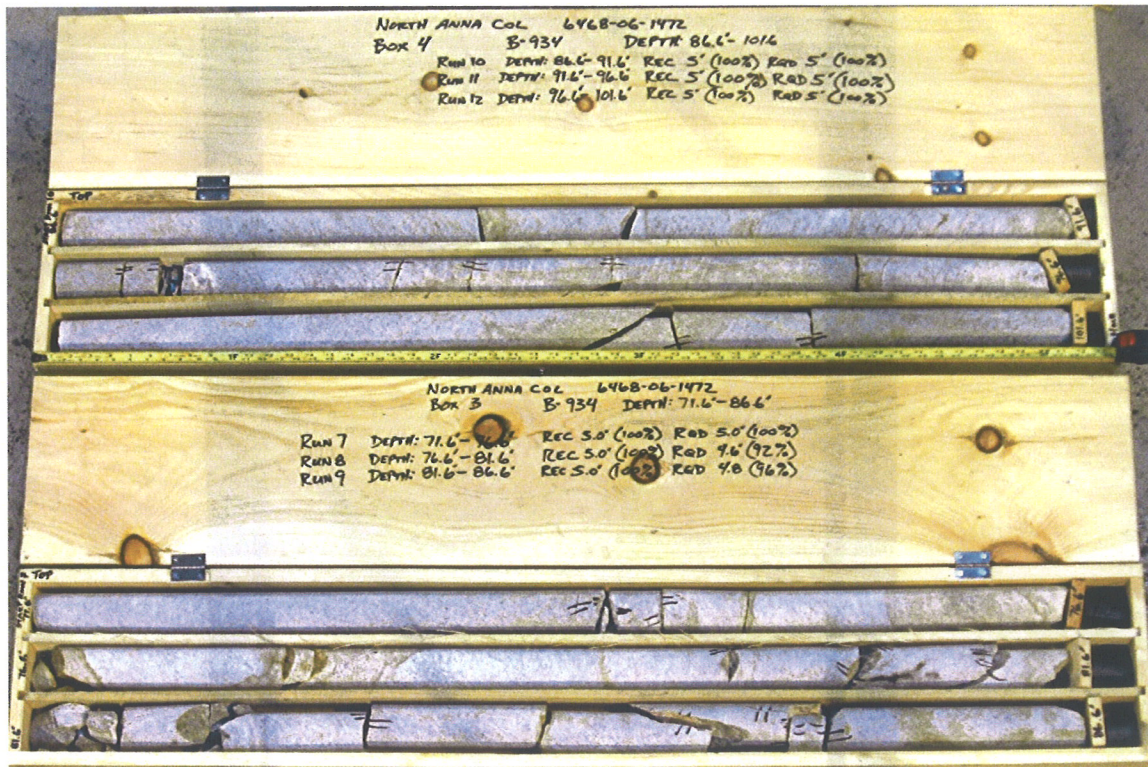
ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN		SAMP. NO.	STRATA		LOG	DESCRIPTION AND REMARKS
				REC. (ft) %	RQD (ft) %		REC. (ft) %	RQD (ft) %		
										Begin Coring @ 44.1 ft
250.7	44.1	2.5	0:37	(1.0)	(0.9)	1				249.2 Weathered Rock: No recovery-QUARTZ GNEISS with biotite (continued) 45.6
248.2	46.6		1:02	40%	36%					248.2 -No Joints 46.6
		5.0	1:02/0.5	(3.2)	(2.7)	2				246.4 Hard Rock: Light gray with orange Fe staining, moderately severe to moderately weathered, close fracturing, medium to moderately hard, QUARTZ GNEISS with biotite 48.4
243.2	51.6		1:24	64%	54%					
		5.0	0:46							
			2:30							
			5:09							
238.2	56.6	5.0	4:33			3				Weathered Rock: No recovery-QUARTZ GNEISS with biotite (1 joint at 20° slightly weathered; Quartz vein at 60° at 49.1 ft)
			4:15	(5.0)	(4.6)					
			4:30	100%	92%					
			3:55							
			3:22							
			2:48							
233.2	61.6	5.0	3:15	(5.0)	(4.8)	4				Hard Rock: Light gray to gray, moderately weathered to fresh, moderately close to wide fracturing, moderately hard to hard, QUARTZ GNEISS with biotite (1 joint at 45° with Fe stain; multiple fracture zone with Fe staining at 55.3-55.9 ft)
			4:12	100%	96%					
			4:35							
			5:54							
			6:06							
228.3	66.5	4.9	7:09	(4.9)	(4.5)	5				(3 joints at 20-30° moderately to slightly weathered with Fe staining)
			10:00	100%	92%					
			10:54							
			10:03							
			4:34/0.9							
223.2	71.6	5.1	3:05	(5.1)	(4.8)	6				228.3 Hard Rock: Light gray with orange Fe staining, slightly weathered to fresh, close to wide fracturing, hard to very hard, QUARTZ-BIOTITE GNEISS (3 joints at 10°, 1 joint at 30°, 1 joint at 80°-all with Fe stain) 66.5
			3:45	100%	94%					
			3:40							
			3:30							
			4:50/1.1							
218.2	76.6	5.0	5:20	(5.0)	(5.0)	7				(1 joint at 5°, 1 joint at 20° both with Fe stain)
			8:55	100%	100%					
			14:34							
			2:30							
			1:55							
213.2	81.6	5.0	1:55	(5.0)	(4.6)	8				(1 joint at 40° and 3 joints at 60° with orange Fe stain)
			2:20	100%	92%					
			2:55							
			3:45							
			5:30							
208.2	86.6	5.0	2:50	(5.0)	(4.8)	9				(1 joint at 10° with Fe stain)
			3:51	100%	96%					
			3:25							
			4:20							
			5:25							
203.2	91.6	5.0	7:50	(5.0)	(5.0)	10				(1 joint at 10°)
			10:10	100%	100%					
			2:30							
			3:00							
			3:35							
198.2	96.6	5.0	3:50	(5.0)	(5.0)	11				(1 joint at 0° slightly weathered and Fe stain)
			5:25	100%	100%					
			6:10							
			8:10							
			10:40							
193.2	101.6	5.0	1:15	(5.0)	(5.0)	12				(1 joint at 45° slightly weathered and Fe stain)
			3:00	100%	100%					
			2:45							
			3:35							
			5:00							
										193.2 Coring terminated at 101.6 ft in Hard Rock: Very hard, QUARTZ-BIOTITE GNEISS 101.6

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



B-934 – Box 1

B-934 – Box 2



B-934 – Box 4

B-934 – Box 3



MACTEC PROJECT NO.: 6468-06-1472				COUNTY Louisa, VA				GEOLOGIST J. Wallen							
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)					
BORING NO. B-936		DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE				0 HR. 28.0					
COLLAR ELEV. 286.6 ft (NAVD88)		NORTHING 3,910,746		US ft (NAD83)		EASTING 11,685,929		US ft (NAD83)		24 HR. 24.0					
TOTAL DEPTH 100.7 ft		DRILL MACHINE CME 550 ATV				DRILLER: G. Akins				HAMMER TYPE 140 lbs Auto					
DATE STARTED 11/6/06		COMPLETED 11/7/06				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		
286.6					Ground Surface							286.6	0.0		
282.0	4.6												282.0	4.6	No samples due to utility clearance operations-soft dig/vac. truck excavation
277.4	9.2	9	8	11						936-1			280.1	6.5	Silty GRAVEL (GM) brownish yellow (10YR 6/8), moist, medium dense, fine to coarse sandy (Residual Soil)
275.6	11.0	5	10	12						936-2					Silty, fine to coarse SAND (SM) yellowish brown (10YR 5/6&5/4), moist, medium dense to very dense, relict rock fabric (Residual Soil)
272.3	14.3	7	10	12						936-3					
267.3	19.3	13	19	28						936-4					
262.3	24.3	19	38	50/0.4						936-5			266.3	20.3	Weathered Rock: Dark yellowish brown (10YR 4/6) and light brownish gray (2.5Y 6/2), moist, very dense, severely weathered, BIOTITE-QUARTZ GNEISS
257.3	29.3			50/0.3						936-6					
253.4	33.2			50/0.3						936-7					
230.5	56.1			50/0.2						936-8			253.1	33.5	Hard Rock: Gray, moderately severe to slightly weathered, very close to close fracturing, hard, BIOTITE-QUARTZ GNEISS
													237.6	49.0	Weathered Rock: No recovery-Very dark yellowish brown (10YR 3/4), moist, very dense, severely weathered, BIOTITE-QUARTZ GNEISS
													226.2	60.4	Hard Rock: Dark gray to gray, moderately severe to slightly weathered, very close to close fracturing, soft to hard, BIOTITE-QUARTZ GNEISS with severely weathered zones

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



MACTEC PROJECT NO.: 6468-06-1472				COUNTY Louisa, VA				GEOLOGIST J. Wallen				
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)		
BORING NO. B-936		DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE				0 HR. 28.0		
COLLAR ELEV. 286.6 ft (NAVD88)		NORTHING 3,910,746		US ft (NAD83)		EASTING 11,685,929		US ft (NAD83)		24 HR. 24.0		
TOTAL DEPTH 100.7 ft		DRILL MACHINE CME 550 ATV				DRILLER: G. Akins				HAMMER TYPE 140 lbs Auto		
DATE STARTED 11/6/06				COMPLETED 11/7/06				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			
211.8					Continued from previous page							
												Hard Rock: Dark gray to gray, moderately severe to slightly weathered, very close to close fracturing, soft to hard, BIOTITE-QUARTZ GNEISS with severely weathered zones (continued)
												196.2 Hard Rock: Gray, moderately to slightly weathered, very close to close fracturing, hard to very hard, BIOTITE-QUARTZ GNEISS 90.4
												185.9 Boring and coring terminated at 100.7 ft in Hard Rock: Hard to very hard, BIOTITE-QUARTZ GNEISS 100.7

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



MACTEC PROJECT NO.: 6468-06-1472				COUNTY Louisa, VA				GEOLOGIST J. Wallen			
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)	
BORING NO. B-936		DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE				0 HR. 28.0	
COLLAR ELEV. 286.6 ft (NAVD88)		NORTHING 3,910,746		US ft (NAD83)		EASTING 11,685,929		US ft (NAD83)		24 HR. 24.0	
TOTAL DEPTH 100.7 ft		DRILL MACHINE CME 550 ATV				DRILLER: G. Akins				HAMMER TYPE 140 lbs Auto	
DATE STARTED 11/6/06				COMPLETED 11/7/06				CORE BARREL TYPE: HQ 3 triple tube-wireline			
CORE SIZE HQ3				TOTAL RUN 66.9 ft							
ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN		SAMP. NO.	STRATA		LOG	DESCRIPTION AND REMARKS	
				REC. (%)	RQD (%)		REC. (%)	RQD (%)			
										Begin Coring @ 33.5 ft	
253.1	33.5	2.6	1:25/0.6	(2.1)	(0.0)	1				253.1 Hard Rock: Gray, moderately severe to slightly weathered, very close to close fracturing, hard, BIOTITE-QUARTZ GNEISS 33.5	
250.5	36.1		3:10	81%	0%						
		4.2	2:48			2				-Highly fractured	
			3:14	(4.0)	(0.5)						
246.3	40.3		2:56	95%	12%					-Highly fractured	
			2:38								
		5.7	2:59			3				-Highly fractured	
			2:40/0.2	(4.7)	(0.5)						
240.6	46.0		2:14	82%	9%						
			1:45								
		5.0	1:51			4				-Highly fractured	
			0:59	(3.0)	(0.7)						
			1:38	60%	14%						
235.6	51.0		1:05/0.7							237.6 Weathered Rock: No recovery-Very dark yellowish brown (10YR 3/4), moist, very dense, severely weathered, BIOTITE-QUARTZ GNEISS 49.0	
		5.1	3:44	(0.0)	(0.0)	5				-No Recovery	
			2:23	0%	0%						
230.5	56.1		3:12/1.1								
		4.7	N=50/0.3	(0.7)	(0.0)	936-9				(1 joint at 80°)	
230.2	56.4		3:45/0.7	15%	0%	6					
			3:08								
225.5	61.1		1:41							226.2 Hard Rock: Dark gray to gray, moderately severe to slightly weathered, very close to close fracturing, soft to hard, BIOTITE-QUARTZ GNEISS with severely weathered zones 60.4	
		5.0	1:52	(1.8)	(0.3)	7				-Highly fractured	
			1:19	36%	6%						
220.5	66.1		2:19								
		5.1	2:42	(2.5)	(1.0)	8				(5 joints at 60°)	
			2:16/2.0	49%	20%						
215.4	71.2		0:42								
		4.9	0:52	(1.8)	(0.4)	9				-Highly fractured	
			1:08/1.1	37%	8%						
210.5	76.1		1:23								
		5.0	1:52	(3.3)	(0.7)	10				(3 joints at 60°, 2 joints at 30°)	
			1:38/0.9	66%	14%						
205.5	81.1		2:01								
		5.0	2:09	(5.0)	(1.5)	11				(8 joints at 70°, 7 joints at 30°)	
			0:45	100%	30%						
200.5	86.1		0:58								
		4.3	1:06	(1.7)	(0.0)	12				-Highly fractured	
			1:29	40%	0%						
196.2	90.4		2:26							196.2	
		5.6	2:10/0.3	(5.6)	(2.1)	13				Hard Rock: Gray, moderately to slightly weathered, very close to close fracturing, hard to very hard, BIOTITE-QUARTZ GNEISS	
			1:23/0.7	100%	38%					-Highly fractured	
			2:38								
190.6	96.0		1:53								
		4.7	2:02	(4.7)	(2.7)	14				(1 joint at 15°, 2 joints at 30°, 3 joints at 45°, 3 joints at 60°)	
			2:18	100%	57%						
			4:32/0.9								
185.9	100.7		3:19							185.9 Coring terminated at 100.7 ft in Hard Rock: Hard to very hard, BIOTITE-QUARTZ GNEISS 100.7	
			3:33								
			3:01								
			3:06								
			2:20/0.7								

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



B-936 - Box 1

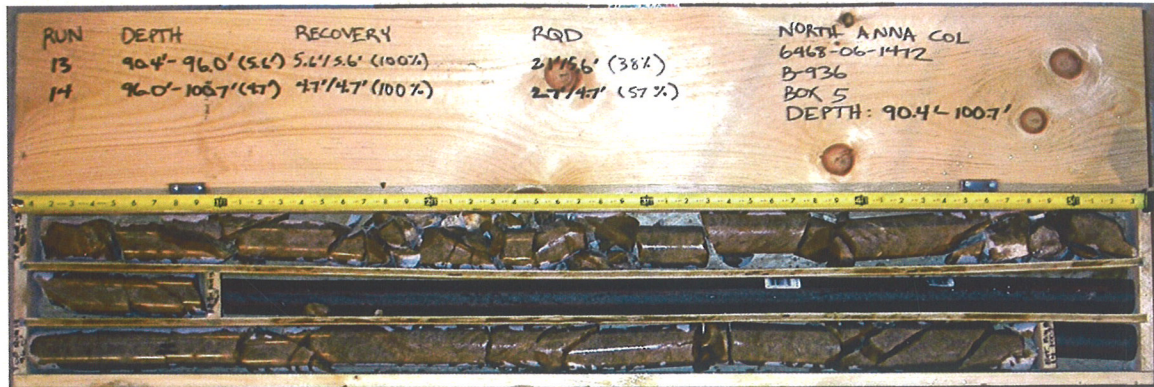
B-936 - Box 2



B-936 - Box 4

B-936 - Box 3





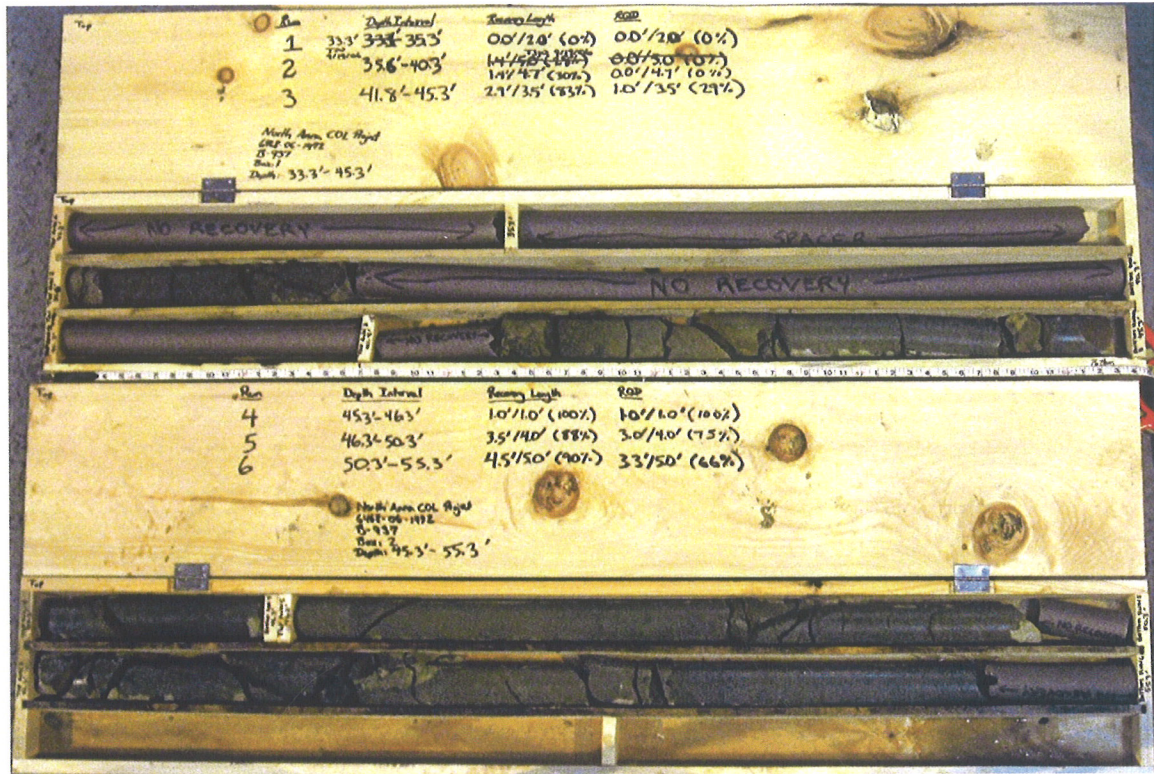
B-936 - Box 5





MACTEC PROJECT NO.: 6468-06-1472							COUNTY Louisa, VA		GEOLOGIST J. Lachewitz/Nicely/Wallen			
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)		
BORING NO. B-937			DRILL METHOD: Mud Rotary/Core			SAMPLE METHODS: SPT/CORE				0 HR. 15.2		
COLLAR ELEV. 270.3 ft (NAVD88)			NORTHING 3,910,689		US ft (NAD83)		EASTING 11,686,672		US ft (NAD83)		24 HR. 16.7	
TOTAL DEPTH 55.3 ft			DRILL MACHINE CME 45 Trailer			DRILLER: D. Rhodes			HAMMER TYPE 140 lbs Auto			
DATE STARTED 9/18/06			COMPLETED 9/19/06			CORE BARREL TYPE: HQ 3 triple tube-wireline						
CORE SIZE HQ3			TOTAL RUN 20.2 ft									
ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN		SAMP. NO.	STRATA		LOG	DESCRIPTION AND REMARKS		
				REC. (ft) %	RQD (ft) %		REC. (ft) %	RQD (ft) %				
										Begin Coring @ 33.3 ft		
237.0	33.3	2.0	7:43	(0.0)	(0.0)	1				Weathered Rock: Black (10YR 2/1), light yellowish brown (2.5YR 6/4), yellowish brown (10YR 5/6), and dark brown (10YR 2/2), moist to dry, very dense, severely weathered, BIOTITE GNEISS (continued) -No Recovery		
235.0	35.3		4:59	0%	0%							
234.7	35.6	4.7	N=50/0.3 14:06/0.7 0:54 11:58 3:34 N=46	(1.4) 30%	(0.0) 0%	937-12 2						
230.0	40.3					937-13				Fine sandy SILT (ML) brown (7.5YR 4/4), moist, hard (Residual Soil)		
228.5	41.8	3.5	3:02/0.5 5:24 2:28 2:39	(2.9) 83%	(1.0) 29%	3				(1 joint at 45°, 1 joint at 60°)		
225.0	45.3									Weathered Rock: Brown (7.5YR 4/4), very dense, severely weathered, BIOTITE GNEISS		
224.0	46.3	1.0	3:29	(1.0)	(1.0)	4				Hard Rock: Gray to dark gray, moderately to slightly weathered, close to moderately close fracturing, moderately hard to hard, BIOTITE GNEISS (1 joint at 40°) (2 joints at 70°, 1 joint at 80°)		
		4.0	10:45 2:28 2:46 1:59	100% (3.5) 88%	100% (3.0) 75%	5						
220.0	50.3	5.0	2:09 2:30 2:34 2:32 2:07	(4.5) 90%	(3.3) 66%	6				(6 joints at 30°, 2 joints at 45°)		
215.0	55.3									Coring terminated at 55.3 ft in Hard Rock: Moderately hard to hard, BIOTITE GNEISS		

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



B-937 - Box 1

B-937 - Box 2