



SHEET 1 OF 2

MACTEC PROJECT NO.: 6468-06-1472					COUNTY Louisa, VA					GEOLOGIST S. Nicely					
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)					
BORING NO. B-946			DRILL METHOD: Mud Rotary/Core			SAMPLE METHODS: SPT/CORE			0 HR. 25.0						
COLLAR ELEV. 333.4 ft (NAVD88)			NORTHING 3,908,787		US ft (NAD83)		EASTING 11,683,811		US ft (NAD83)		24 HR. ND				
TOTAL DEPTH 100.7 ft			DRILL MACHINE CME 550 ATV			DRILLER: G. Akins			HAMMER TYPE 140 lbs Auto						
DATE STARTED 10/23/06			COMPLETED 10/25/06			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					
333.4					Ground Surface								333.4 0.0		
331.8	1.6												Sandy SILT (ML) yellowish red (5YR 5/8), moist, very stiff to stiff, trace gravel (Fill)		
330.1	3.3	12	11	9							946-1				
		4	5	7							946-2		Sandy SILT (ML) strong brown (7.5YR 5/8), moist, stiff, trace gravel and mica (Residual Soil)		5.0
327.3	6.1	3	4	5							946-3				
324.9	8.5	4	5	7							946-4				
322.3	11.1	4	5	8							946-5				
319.2	14.2	3	4	4							946-6		Silty, fine to medium SAND (SM) strong brown (7.5YR 5/8), dark yellowish brown (10YR 4/6), and olive brown (2.5Y 4/3), moist to wet, loose to medium dense, micaceous (Residual Soil)		13.0
314.2	19.2	2	4	6							946-7				
309.2	24.2	3	5	8							946-8		Silty, fine to coarse SAND (SM) brownish yellow (10YR 6/6) and dark yellowish brown (10YR 4/4), moist, medium dense and very dense, micaceous (Residual Soil)		31.0
304.2	29.2	3	5	7							946-9				
299.2	34.2	19	41	38							946-10				
294.2	39.2	6	10	14							946-11				
291.6	41.8	50/0.1									946-12		Weathered Rock: BIOTITE-QUARTZ GNEISS Hard Rock: Light gray, gray, brown, and reddish brown, moderately severe to slightly weathered, very close to moderately close fracturing, soft to very hard, BIOTITE-QUARTZ GNEISS with severely weathered zones		41.0 41.9

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. Nicely							
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft) 0 HR. 25.0 24 HR. ND							
BORING NO. B-946		DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE											
COLLAR ELEV. 333.4 ft (NAVD88)		NORTHING 3,908,787		US ft (NAD83)		EASTING 11,683,811		US ft (NAD83)									
TOTAL DEPTH 100.7 ft		DRILL MACHINE CME 550 ATV				DRILLER: G. Akins				HAMMER TYPE 140 lbs Auto							
DATE STARTED 10/23/06			COMPLETED 10/25/06			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							
258.6					Continued from previous page												
														257.6	75.8	Hard Rock: Gray to light gray and reddish brown, moderately weathered to fresh, very close to moderately close fracturing, hard to very hard, BIOTITE-QUARTZ GNEISS	
																	Boring and coring terminated at 100.7 ft in Hard Rock: Very hard, BIOTITE-QUARTZ GNEISS



SHEET 1 OF 1

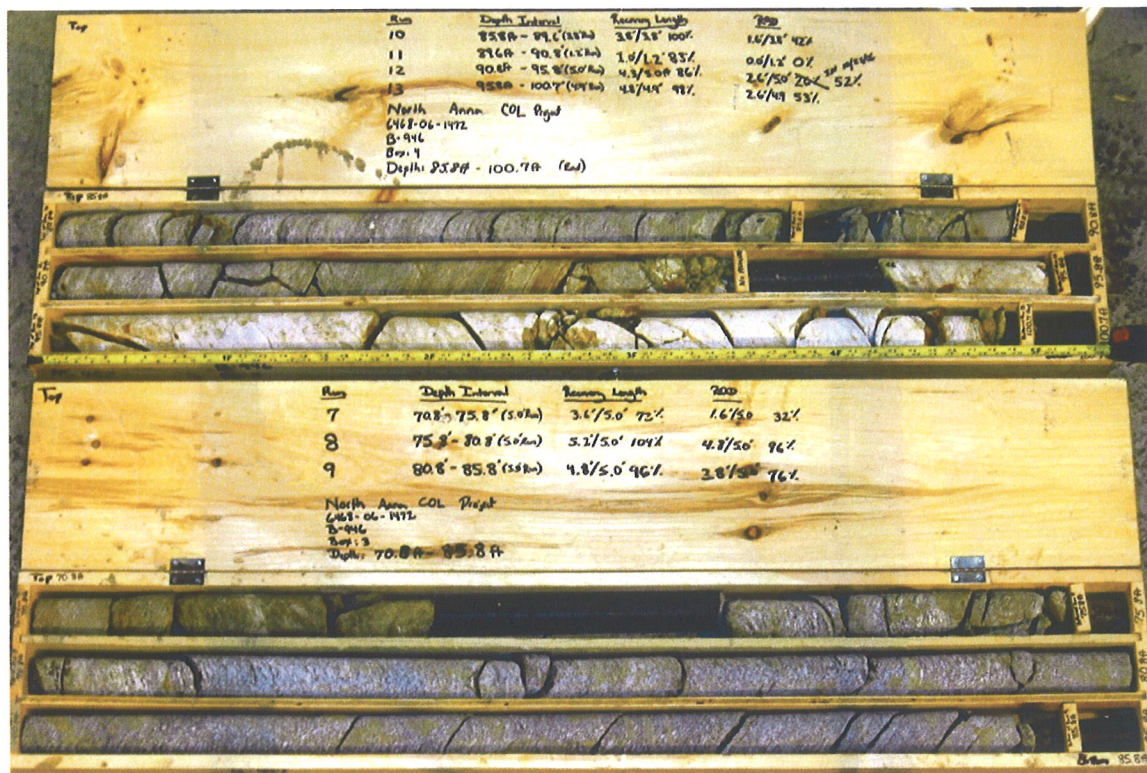
MACTEC PROJECT NO.: 6468-06-1472							COUNTY Louisa, VA			GEOLOGIST S. Nicely		
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)		
BORING NO. B-946			DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE			0 HR. 25.0		
COLLAR ELEV. 333.4 ft (NAVD88)			NORTHING 3,908,787		US ft (NAD83)		EASTING 11,683,811		US ft (NAD83)		24 HR. ND	
TOTAL DEPTH 100.7 ft			DRILL MACHINE CME 550 ATV				DRILLER: G. Akins			HAMMER TYPE 140 lbs Auto		
DATE STARTED 10/23/06			COMPLETED 10/25/06				CORE BARREL TYPE: HQ 3 triple tube-wireline					
CORE SIZE HQ3			TOTAL RUN 58.8 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 @ 41.9 ft		
291.5	41.9	3.9	3:46 1:54 2:16 1:12/0.9	(3.1) 79%	(2.6) 67%	1				291.5	41.9	
287.6	45.8	4.9	1:29 1:32 2:16 2:20 1:31/0.9	(1.6) 33%	(1.3) 27%	2				(1 joints at 30° with Fe stain; severely weathered fracture zone with no recovery from 42.3-43.1 ft) (2 joints at 50° with Fe and Mn staining; 2 joints at 10° with Fe stain; no recovery from 45.3-49.1 ft)		
282.7	50.7	5.0	2:48 1:25 1:41 1:25 1:12	(4.2) 84%	(2.1) 42%	3				-Highly fractured zones from 50.7-51.5 ft and 54.8-55.7 ft		
277.7	55.7	5.0	1:05 1:26 1:31 1:49 1:42	(4.3) 86%	(3.5) 70%	4				(6 joints at 15-25° with Fe staining; 5 joints at 30-40° with Fe staining)		
272.7	60.7	5.0	1:31 1:22 1:36 3:06 1:31	(4.9) 98%	(2.9) 58%	5				(10 joints at 20-30°, some with Fe staining)		
267.7	65.7	5.1	2:05 2:09 1:10 1:15 1:09/1.1	(2.3) 45%	(1.9) 37%	6				(2 joints at 10° with Fe staining; no recovery from 67.7-70.5 ft)		
262.6	70.8	5.0	2:16 1:25 1:19 1:06 1:23	(3.6) 72%	(1.6) 32%	7				-Highly fractured, no recovery from 72.7-73.9 ft		
257.6	75.8	5.0	1:16 1:26 1:20 1:20 1:10	(5.2) 104%	(4.8) 96%	8				257.6	75.8	
252.6	80.8	5.0	2:11 1:31 1:20 1:18 1:31	(4.8) 96%	(3.8) 76%	9				Hard Rock: Gray to light gray and reddish brown, moderately weathered to fresh, very close to moderately close fracturing, hard to very hard, BIOTITE-QUARTZ GNEISS (5 joints at 35-45° with trace Fe stain; 2 joints at 30°) (7 joints at 35-45°; 1 joint at 70° with clay)		
247.6	85.8	3.8	1:31 1:47 2:08 3:16/0.8	(3.8) 100%	(1.6) 42%	10				(12 joints at 30-40° with clay; 2 joints at 75° with Fe and Mn stain)		
243.8	89.6	1.2	5:15/1.2	(1.0) 83%	(0.0) 0%	11				-Water loss during coring at 90.1 ft		
242.6	90.8	5.0	2:18 2:24 4:15 2:23 3:17	(4.3) 86%	(2.6) 52%	12				(2 joints at 80° with Fe and Mn staining; 7 joints at 20-30° with Fe staining and clay; severely weathered zone from 93.8-95.0 ft with no recovery)		
237.6	95.8	4.9	2:17 2:22 2:21 2:23 2:48/0.9	(4.8) 98%	(2.6) 53%	13				(2 joints at 65-75°, 8 joints at 35-45°, 2 joints at 20-30° -all with Fe and Mn staining)		
232.7	100.7									232.7	100.7	
										Coring terminated at 100.7 ft in Hard Rock: Very hard, BIOTITE-QUARTZ GNEISS		

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



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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) 0 HR. ND 24 HR. 19.5									
BORING NO. B-947		DRILL METHOD: Mud Rotary			SAMPLE METHODS: SPT														
COLLAR ELEV. 312.5 ft (NAVD88)		NORTHING 3,909,575		US ft (NAD83)		EASTING 11,686,367		US ft (NAD83)											
TOTAL DEPTH 88.8 ft		DRILL MACHINE CME 55LC Track			DRILLER: D. White				HAMMER TYPE 140 lbs Auto										
DATE STARTED 9/27/06			COMPLETED 9/28/06			CORE BARREL TYPE: NA													
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									
237.7					Continued from previous page														
233.8	78.7										947-19			Weathered Rock: Light yellowish brown (2.5Y 6/4) and light brownish gray (2.5Y 6/2), moist, very dense, severely weathered, soft, QUARTZ GNEISS (continued)					
228.8	83.7										50/0.2							947-20	
223.8	88.7										50/0.1							947-21	
															88.8	Boring terminated at 88.8 ft in Weathered Rock: Very dense, severely weathered, soft, QUARTZ GNEISS			



SHEET 1 OF 2

MACTEC PROJECT NO.: 6468-06-1472				COUNTY Louisa, VA		GEOLOGIST J. Howard							
SITE DESCRIPTION NORTH ANNA COL							GROUND WATER (ft)						
BORING NO. B-948		DRILL METHOD: Mud Rotary/Core		SAMPLE METHODS: SPT/CORE		0 HR. 21.7							
COLLAR ELEV. 310.4 ft (NAVD88)		NORTHING 3,909,619		EASTING 11,685,566		24 HR. 21.7							
TOTAL DEPTH 100.6 ft		DRILL MACHINE CME 550 ATV		DRILLER: G. Akins		HAMMER TYPE 140 lbs Auto							
DATE STARTED 9/26/06		COMPLETED 9/28/06		CORE BARREL TYPE: HQ 3 triple tube-wireline									
ELEV. (ft)	DEPTH (ft)	BLOW COUNT			BLOWS PER FOOT					SAMP. NO.	LOG	SOIL AND ROCK DESCRIPTION	
		0.5ft	0.5ft	0.5ft	0	20	40	60	80	100			
310.4					Ground Surface								310.4 0.0
308.9	1.5									948-1		Silty SAND (SM) strong brown (7.5YR 5/8), reddish yellow (7.5YR 6/8), and white (7.5YR 8/1), moist to dry, medium dense, relict rock fabric (Residual Soil)	
306.9	3.5	4	7	8						948-2			
304.4	6.0	5	9	10						948-3			
301.9	8.5	8	9	10						948-4			
299.4	11.0	9	9	9						948-5		Sandy SILT (ML) pinkish white (7.5YR 8/2), strong brown (7.5YR 5/8), and gray (7.5YR 6/1), moist, very stiff (Residual Soil)	
296.7	13.7	6	8	11						948-6			
291.9	18.5	9	15	15						948-7		Weathered Rock: Tan gray and brown tan, severely weathered, BIOTITE-QUARTZ GNEISS	
286.9	23.5	7	8	10						948-8			
281.9	28.5	45	50/0.4							948-9			
276.9	33.5	43	50/0.3							948-10			
		50/0.1										Hard Rock: Tan brown, moderately severe to moderately weathered, close fracturing, medium hard, BIOTITE-QUARTZ GNEISS with severely weathered zones	
												Hard Rock: Orange tan and tan gray, moderately weathered to fresh, close to moderately close fracturing, medium hard to hard, BIOTITE-QUARTZ GNEISS	
												Hard Rock: Blue gray, slightly weathered to fresh, close to moderately close fracturing, hard, BIOTITE-QUARTZ GNEISS	

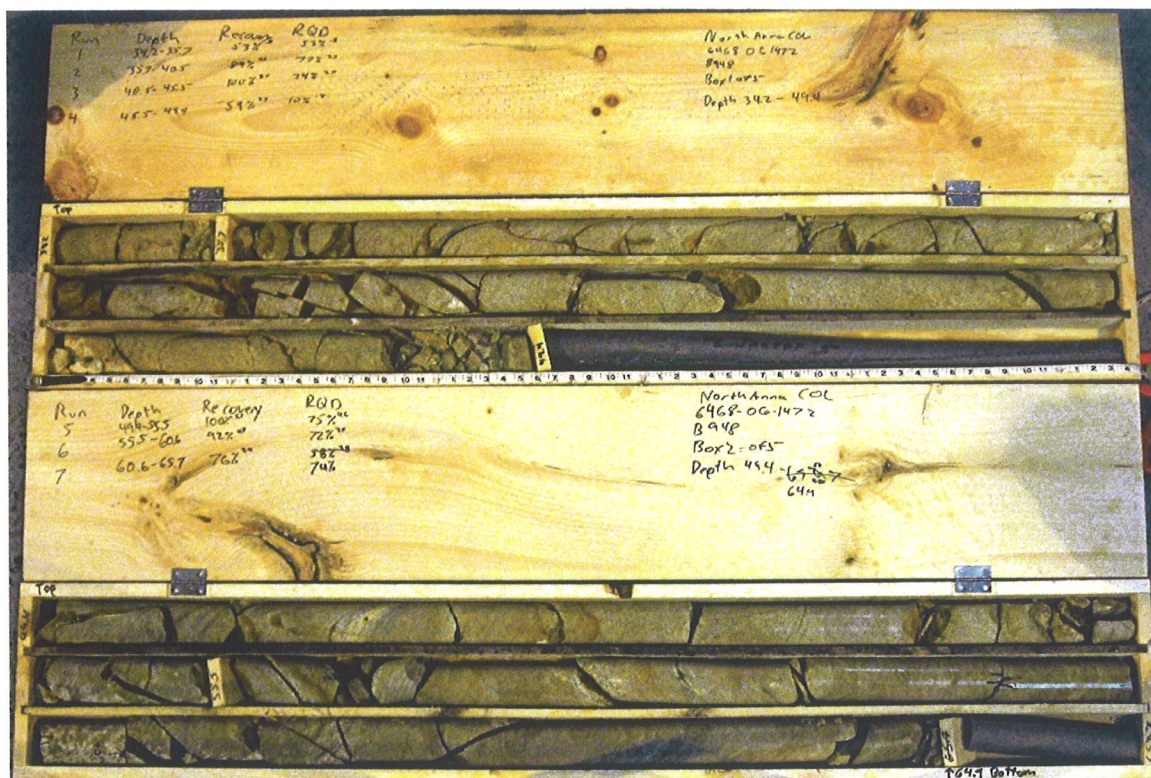
NORTH ANNA COL DATA REPORT REV0.GPJ NORTH ANNA COL GDT 1/19/07



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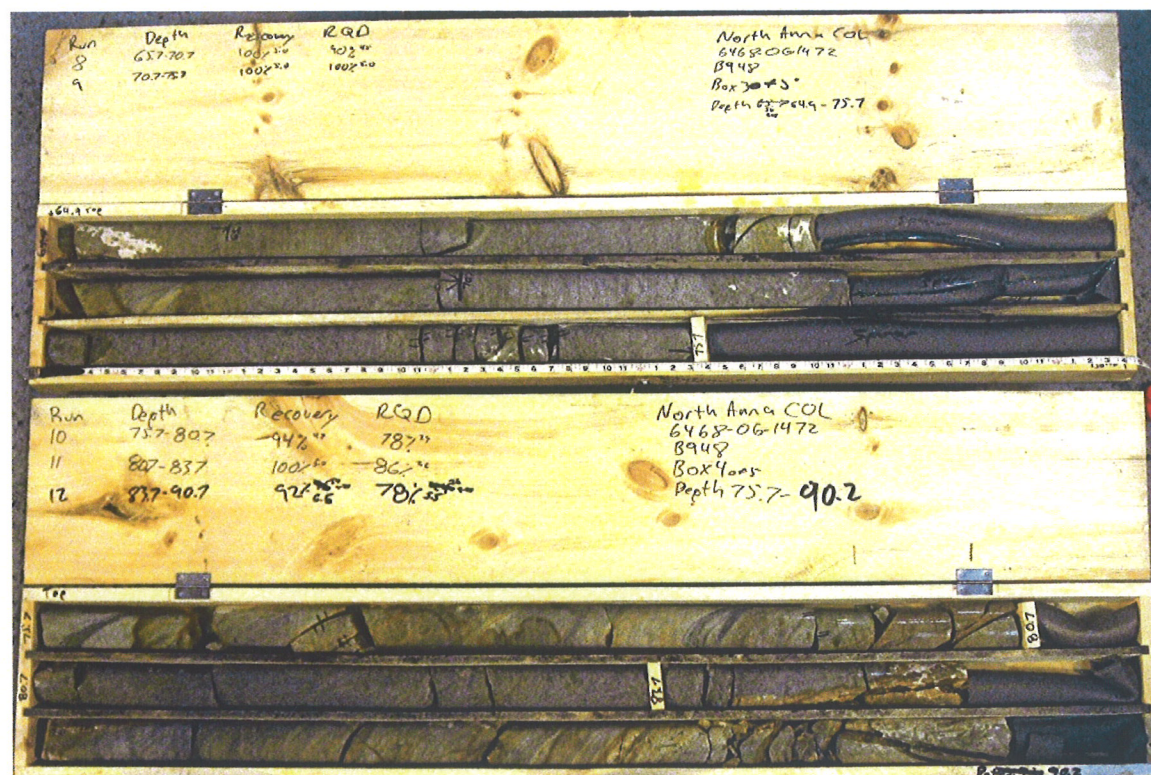
MACTEC PROJECT NO.: 6468-06-1472										COUNTY Louisa, VA			GEOLOGIST J. Howard		
SITE DESCRIPTION NORTH ANNA COL													GROUND WATER (ft)		
BORING NO. B-948			DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE						0 HR. 21.7		
COLLAR ELEV. 310.4 ft (NAVD88)			NORTHING 3,909,619		US ft (NAD83)		EASTING 11,685,566			US ft (NAD83)			24 HR. 21.7		
TOTAL DEPTH 100.6 ft			DRILL MACHINE CME 550 ATV				DRILLER: G. Akins						HAMMER TYPE 140 lbs Auto		
DATE STARTED 9/26/06			COMPLETED 9/28/06				CORE BARREL TYPE: HQ 3 triple tube-wireline								
CORE SIZE HQ3			TOTAL RUN 66.4 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 @ 34.2 ft			
276.2 274.7	34.2 35.7	1.5 4.8	1:30/1.5 1:15 1:30 1:30 1:15 1:30/0.8	(0.8) 53% (4.3) 90%	(0.8) 53% (3.7) 77%	1 2						274.2	Weathered Rock: Tan gray and brown tan, severely weathered, BIOTITE-QUARTZ GNEISS (continued) 36.2		
													Hard Rock: Tan brown, moderately severe to moderately weathered, close fracturing, medium hard, BIOTITE-QUARTZ GNEISS with severely weathered zones		
269.9	40.5												(4 joints at 50°, 1 joint at 8°, 1 joint at 20°)		
		5.0	2:15 1:00 1:15 1:15 1:30	(5.0) 100%	(3.7) 74%	3									
264.9	45.5														
		3.9	1:00 1:00 0:45 2:30/0.9	(2.3) 59%	(0.4) 10%	4									
261.0	49.4											261.0			
		6.1	1:30 1:45 1:45 1:00 1:30 1:30/1.1	(6.1) 100%	(4.6) 75%	5							Hard Rock: Orange tan and tan gray, moderately weathered to fresh, close to moderately close fracturing, medium hard to hard, BIOTITE-QUARTZ GNEISS (5 joints at 30°, 3 joints at 60-70°)		
254.9	55.5												(3 joints at 40°, 1 joint at 10°)		
		5.1	1:00 1:15 1:00 2:00 1:30/1.1	(4.7) 92%	(3.7) 73%	UC-56.8'									
249.8	60.6														
		5.1	1:30 1:30 1:30 1:15 2:15/1.1	(3.9) 76%	(3.8) 75%	7									
244.7	65.7											244.7			
		5.0	2:00 2:15 3:00 3:30 4:15	(5.0) 100%	(4.5) 90%	8							Hard Rock: Blue gray, slightly weathered to fresh, close to moderately close fracturing, hard, BIOTITE-QUARTZ GNEISS 65.7		
239.7	70.7												(1 joint at 80°, 5 joints at 10°)		
		5.0	3:15 1:45 1:45 2:30 3:15	(5.0) 100%	(5.0) 100%	9									
234.7	75.7												(2 joints at 30°, 3 joints at 50°)		
		5.0	2:30 2:15 3:15 2:15 3:30	(4.7) 94%	(3.9) 78%	UC-76.1'									
229.7	80.7												(4 joints at 20-30°)		
		3.0	5:30 8:45 10:45	(3.0) 100%	(2.6) 87%	11									
226.7	83.7														
		7.0	9:30 3:30 2:00 1:30 2:15 ND ND	(6.5) 93%	(5.5) 79%	12									
219.7	90.7												(2 joints at 70°, 3 joints at 10-20°, 2 joints at 40-50°)		
		4.7	2:45 2:30 3:30 3:15 4:00/0.7	(4.7) 100%	(3.8) 81%	13									
215.0	95.4												(2 joints at 10°, 4 joints at 30-40°, 2 joints at 70°)		
		5.2	4:15 4:00 4:00 3:30 3:33/1.2	(5.0) 96%	(4.6) 88%	14									
209.8	100.6											209.8	Coring terminated at 100.6 ft in Hard Rock: Hard, BIOTITE-QUARTZ GNEISS 100.6		

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



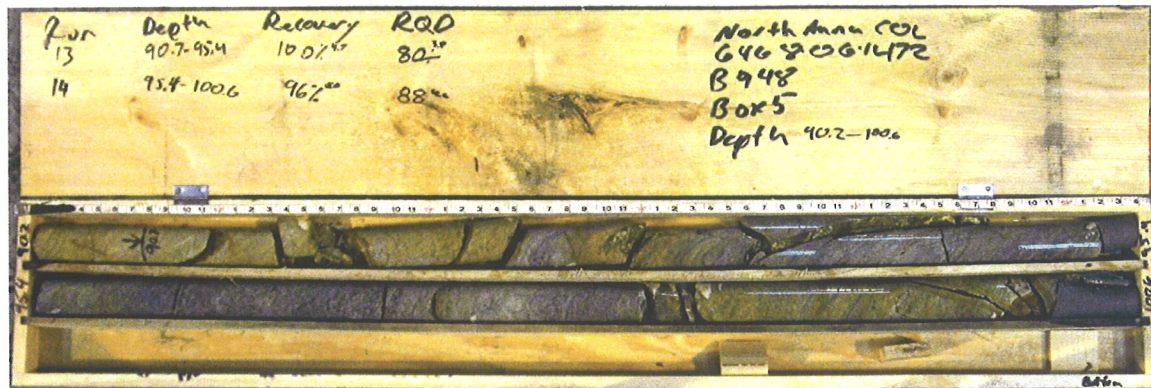
B-948 - Box 1

B-948 - Box 2



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B-948 – Box 5



SHEET 2 OF 2

MACTEC PROJECT NO.: 6468-06-1472				COUNTY Louisa, VA				GEOLOGIST J. Lachewitz										
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft) 0 HR. 20.2 24 HR. ND								
BORING NO. B-949		DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE												
COLLAR ELEV. 334.8 ft (NAVD88)		NORTHING 3,909,018		US ft (NAD83)		EASTING 11,685,157		US ft (NAD83)										
TOTAL DEPTH 106.4 ft		DRILL MACHINE CME 550 ATV				DRILLER: G. Akins				HAMMER TYPE 140 lbs Auto								
DATE STARTED 8/11/06				COMPLETED 8/15/06				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								
260.0					Continued from previous page													
														258.4 76.4 Hard Rock: Gray to white, moderately to slightly weathered, close to moderately close fracturing, medium hard to hard, QUARTZ-BIOTITE GNEISS with trace magnetite				
														228.4 106.4 Boring and coring terminated at 106.4 ft in Hard Rock: Moderately hard, QUARTZ-BIOTITE GNEISS				

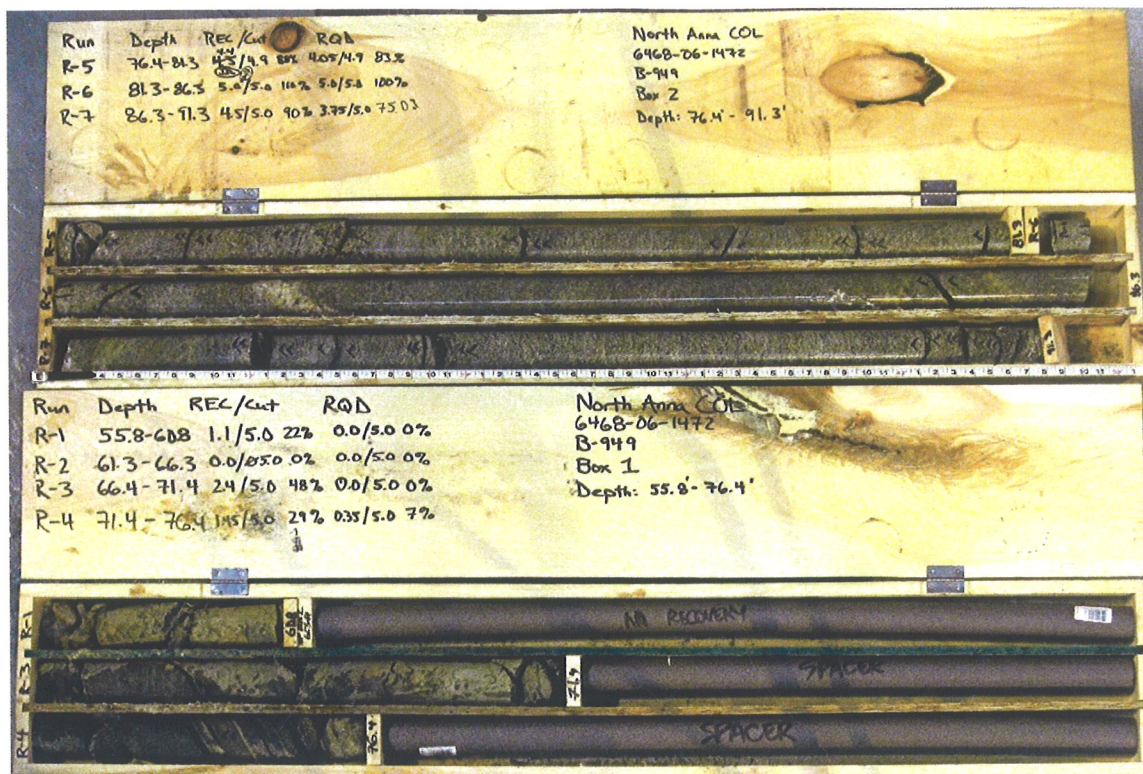
NORTH ANNA COL CORE NORTH ANNA COL DATA REPORT REV0.GPJ NORTH ANNA COL GDT 1/19/07



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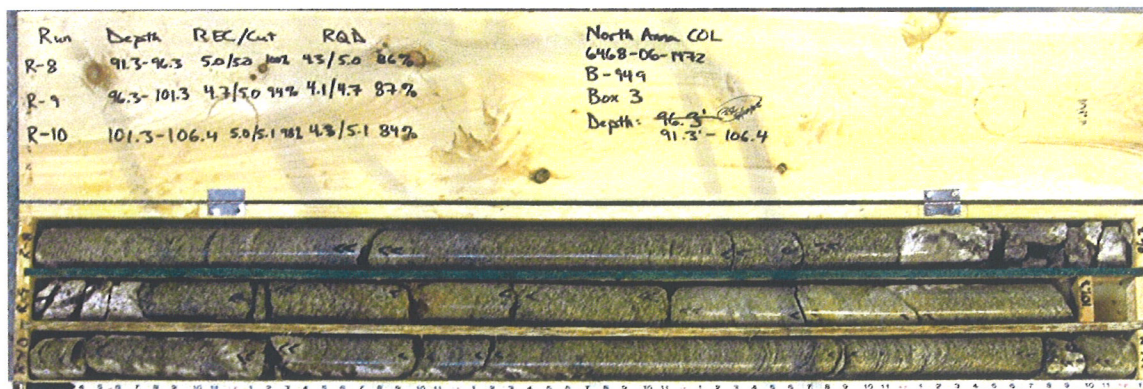
MACTEC PROJECT NO.: 6468-06-1472						COUNTY Louisa, VA				GEOLOGIST J. Lachewitz			
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)			
BORING NO. B-949			DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE				0 HR. 20.2		
COLLAR ELEV. 334.8 ft (NAVD88)			NORTHING 3,909,018		US ft (NAD83)		EASTING 11,685,157		US ft (NAD83)		24 HR. ND		
TOTAL DEPTH 106.4 ft			DRILL MACHINE CME 550 ATV				DRILLER: G. Akins				HAMMER TYPE 140 lbs Auto		
DATE STARTED 8/11/06			COMPLETED 8/15/06				CORE BARREL TYPE: HQ 3 triple tube-wireline						
CORE SIZE HQ3			TOTAL RUN 50.0 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 @ 56.1 ft			
278.7	56.1	4.7	0:57 2:22 1:17 1:50 1:02/0.7	(1.1) 23%	(0.0) 0%	1					Weathered Rock: Brown, black, and very dark gray, severely weathered, very close to close fracturing, very soft to soft, BIOTITE GNEISS (continued) -Poor Recovery		
274.0	60.8												
273.5	61.3	5.0	N=50/0.5 1:41 1:32 1:27 1:38 1:43	(0.0) 0%	(0.0) 0%	949-15 2					-No Recovery		
268.5	66.3												
268.3	66.5	4.9	N=50/0.2 4:49 2:58 5:50 3:01 2:43/0.9	(2.4) 49%	(0.0) 0%	949-16 3					-Poor Recovery		
263.4	71.4												
		5.0	3:33 3:34 2:46 1:27 2:20	(1.5) 30%	(0.0) 0%	4					-Poor Recovery		
258.4	76.4												
		4.9	1:35 1:39 1:46 1:33 2:09/0.9	(4.3) 88%	(4.1) 84%	5					Hard Rock: Gray to white, moderately to slightly weathered, close to moderately close fracturing, medium hard to hard, QUARTZ-BIOTITE GNEISS with trace magnetite (5 joints at 0-30° with Fe stain)		
253.5	81.3										(2 joints at 45-55° with Fe stain)		
		5.0	1:35 2:22 2:24 2:31 4:10	(5.0) 100%	(5.0) 100%	6							
248.5	86.3												
		5.0	2:00 1:00 1:47 1:28 1:41	(4.5) 90%	(3.8) 76%	7					(4 joints at 10-40°)		
243.5	91.3												
		5.0	1:28 2:00 1:59 1:15 2:53	(5.0) 100%	(4.3) 86%	8					(5 joints at 5-45°)		
238.5	96.3												
		5.0	1:07 1:19 1:09 0:55 1:30	(4.7) 94%	(4.4) 88%	9					(Multiple joints at 0-75°)		
233.5	101.3												
		5.1	1:02 1:22 1:22 1:07 1:32/1.1	(5.0) 98%	(4.3) 84%	10					(Multiple joints at 0-75°)		
228.4	106.4										Coring terminated at 106.4 ft in Hard Rock: Moderately hard, QUARTZ-BIOTITE GNEISS		

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



B-949 - Box 2

B-949 - Box 1



B-949 - Box 3



SHEET 1 OF 2

MACTEC PROJECT NO.: 6468-06-1472				COUNTY Louisa, VA				GEOLOGIST S. Nicely						
SITE DESCRIPTION NORTH ANNA COL								GROUND WATER (ft)						
BORING NO. B-950		DRILL METHOD: Mud Rotary/Core			SAMPLE METHODS: SPT/CORE			0 HR. 10.4						
COLLAR ELEV. 282.5 ft (NAVD88)		NORTHING 3,910,836		US ft (NAD83)		EASTING 11,686,282		US ft (NAD83)		24 HR. 41.1				
TOTAL DEPTH 100.8 ft		DRILL MACHINE CME 55 Truck			DRILLER: H. Meyerson			HAMMER TYPE 140 lbs Auto						
DATE STARTED 8/11/06		COMPLETED 8/15/06			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	
282.5					Ground Surface							282.5	0.0	
281.0	1.5									950-1		Silty, fine to coarse SAND (SM) yellowish brown (10YR 5/4), moist, loose to very loose, trace gravel (Fill)		
279.0	3.5	3	5	5						950-2				
276.5	6.0	2	3	1						950-3				
274.0	8.5	WOH	WOH	2						950-4		275.2	7.3	Sandy SILT (ML) yellowish brown (10YR 5/6), moist, medium stiff, trace clay (Residual Soil)
271.4	11.1	4	4	4						950-5		272.0	10.5	
269.0	13.5	4	5	8						950-6		Silty, fine to coarse SAND (SM) yellowish brown (10YR 5/6) to dark yellowish brown (10YR 4/4&4/6), moist, medium dense to dense, trace gravel (Residual Soil)		
263.8	18.7	5	7	14										
258.8	23.7	11	17	19						950-7		Weathered Rock: Dark yellowish brown (10YR 4/6) and very dark greenish gray (GLE Y1 3/1), moist to dry, very dense, severely weathered, BIOTITE GNEISS		
253.8	28.7	28	50/0.5							950-8			261.5	21.0
248.8	33.7	50/0.3								950-9				
243.8	38.7	50/0.2								950-10				
238.8	43.7	50/0.3								950-11				
233.8	48.7	50/0.3								950-12				
232.2	50.3	50/0.3								950-13		232.2	50.3	Hard Rock: Dark gray, slightly to very slightly weathered, very close to moderately close fracturing, hard, QUARTZ-BIOTITE GNEISS
		50/0.0								950-14				
												218.7	63.8	Hard Rock: Dark gray, very slightly weathered to fresh, very close to wide fracturing, hard to very hard, QUARTZ-BIOTITE GNEISS

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



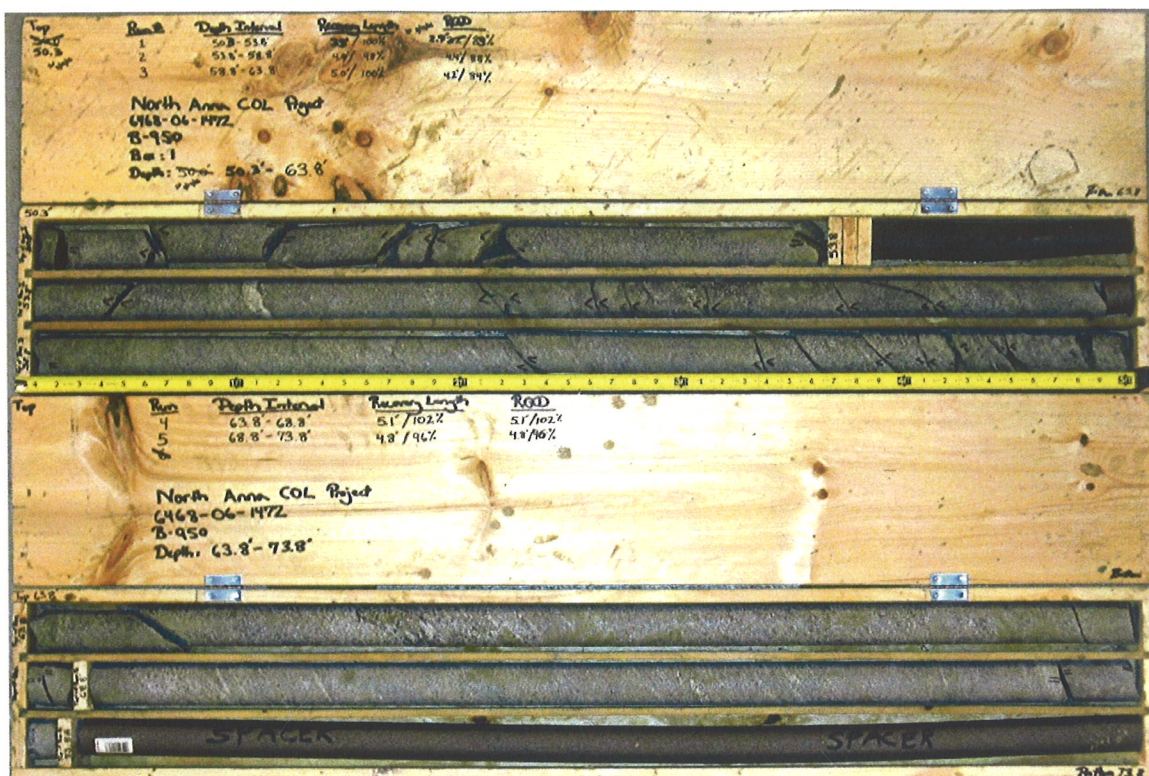
MACTEC PROJECT NO.: 6468-06-1472					COUNTY Louisa, VA					GEOLOGIST S. Nicely							
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)							
BORING NO. B-950			DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE				0 HR. 10.4						
COLLAR ELEV. 282.5 ft (NAVD88)			NORTHING 3,910,836		US ft (NAD83)		EASTING 11,686,282		US ft (NAD83)		24 HR. 41.1						
TOTAL DEPTH 100.8 ft			DRILL MACHINE CME 55 Truck				DRILLER: H. Meyerson				HAMMER TYPE 140 lbs Auto						
DATE STARTED 8/11/06			COMPLETED 8/15/06				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							
207.7					Continued from previous page												
													Hard Rock: Dark gray, very slightly weathered to fresh, very close to wide fracturing, hard to very hard, QUARTZ-BIOTITE GNEISS (continued)				
													181.7	100.8	Boring and coring terminated at 100.8 ft in Hard Rock: Very hard, QUARTZ-BIOTITE GNEISS		



SHEET 1 OF 1

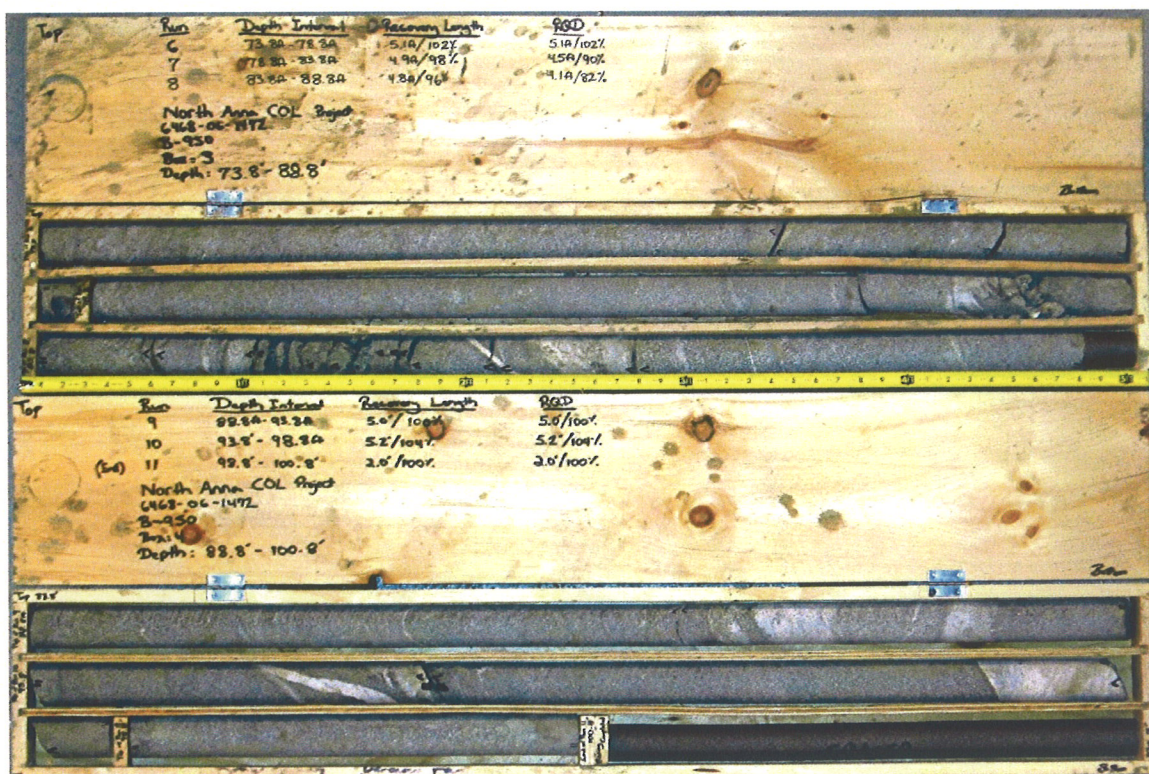
MACTEC PROJECT NO.: 6468-06-1472							COUNTY Louisa, VA			GEOLOGIST S. Nicely		
SITE DESCRIPTION NORTH ANNA COL										GROUND WATER (ft)		
BORING NO. B-950			DRILL METHOD: Mud Rotary/Core				SAMPLE METHODS: SPT/CORE			0 HR. 10.4		
COLLAR ELEV. 282.5 ft (NAVD88)			NORTHING 3,910,836		US ft (NAD83)		EASTING 11,686,282		US ft (NAD83)		24 HR. 41.1	
TOTAL DEPTH 100.8 ft			DRILL MACHINE CME 55 Truck				DRILLER: H. Meyerson			HAMMER TYPE 140 lbs Auto		
DATE STARTED 8/11/06			COMPLETED 8/15/06				CORE BARREL TYPE: HQ 3 triple tube-wireline					
CORE SIZE HQ3			TOTAL RUN 50.5 ft									
ELEV. (ft)	DEPTH (ft)	RUN (ft)	DRILL RATE (Min/ft)	RUN REC. (ft) % ROD (ft) %		SAMP. NO.	STRATA REC. (ft) % ROD (ft) %		L O G	DESCRIPTION AND REMARKS		
										Begin Coring @ 50.3 ft		
232.2	50.3	3.5	N=50/0.0 2:57/0.5	(3.5) 100%	(2.9) 83%	1				232.2	Hard Rock: Dark gray, slightly to very slightly weathered, very close to moderately close fracturing, hard, QUARTZ-BIOTITE GNEISS	
228.7	53.8		1:50								(2 joints at 40-50° with clay; 2 joints at 10-20°; 1 joint at 50-60°; severely weathered zone from 52.3-52.5 ft)	
		5.0	1:58	(4.9) 98%	(4.4) 88%	2					(1 joint at 70-80° with chlorite; 3 joints at 20-30° with clay; 3 joints at 30-40° with clay)	
			1:39									
			2:03									
			2:14									
223.7	58.8		2:08									
		5.0	2:35	(5.0) 100%	(4.2) 84%	3					(6 joints at 40-50° and 3 joints at 20-30° with moderate weathering)	
			2:34									
			2:16									
			2:10									
			2:18									
218.7	63.8		2:10							218.7	Hard Rock: Dark gray, very slightly weathered to fresh, very close to wide fracturing, hard to very hard, QUARTZ-BIOTITE GNEISS	
		5.0	2:46	(5.1) 102%	(5.1) 102%	4					(1 joint at 40-50°)	
			3:55									
			1:44									
			1:34									
213.7	68.8		2:25									
		5.0	1:44	(4.8) 96%	(4.8) 96%	5					-No Joints	
			1:51									
			1:24									
			1:37									
			1:46									
208.7	73.8		2:36									
		5.0	2:31	(5.1) 102%	(5.1) 102%	6					(1 joint at 20-30° with clay)	
			1:30									
			1:42									
			1:23									
203.7	78.8		1:47									
		5.0	1:34	(4.9) 98%	(4.5) 90%	7					(1 joint at 20-30°; Quartz vein from 83.0-83.4 ft)	
			1:47									
			1:52									
198.7	83.8		2:05									
		5.0	1:48	(4.8) 96%	(4.1) 82%	8					(2 joints at 10-20° with Fe stain; Quartz vein from 86.2-86.5 ft with small vugs and epidote mineralization; highly fractured, severely weathered zone from 84.8-85.5 ft)	
			2:01									
			1:46									
			2:02									
			2:23									
193.7	88.8		2:20									
		5.0	2:10	(5.0) 100%	(5.0) 100%	9					(1 joint at 10-20° with trace clay)	
			2:11									
			2:18									
			3:17									
			2:00									
		5.0	2:43	(5.2) 104%	(5.2) 104%	10					(2 joints at 20-30°)	
			1:53									
			1:58									
			1:54									
			3:34									
183.7	98.8		2:09	(2.0) 100%	(2.0) 100%	11					-No Joints	
		2.0	2:03									
181.7	100.8									181.7	Coring terminated at 100.8 ft in Hard Rock: Very hard, QUARTZ-BIOTITE GNEISS	

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B-950 - Box 1

B-950 - Box 2



B-950 - Box 3

B-950 - Box 4