



B-909 BORING GEOPHYSICS FIELD LOG SUMMARY

SITE: NORTH ANNA COL DATE: 8/30/06
 CLIENT: MACTEC JOB: 6410
 AUTHOR: R. STELLER PAGE 1 OF 2 PAGES 8/30/06
 CONTACT: STEVE CRISCENZO PHONE: 919-949-1707

BOREHOLE CONSTRUCTION: CASED _____ UNCASSED
 DIAMETERS AND DEPTH RANGES: 3.7 0 TO 200.215; _____ TO _____
 BOREHOLE TOTAL DEPTH AS DRILLED: 201.5 DATE 8/30/06
 CONDUCTOR CASING?: YES DEPTH TO BOTTOM OF CASING 80'; NO _____
 DEPTH TO BEDROCK: ~80'
 BOREHOLE FLUID: WATER ; FRESH WATER MUD _____; SALT WATER MUD _____

LOGGING CREW: R. STELLER

LOG TYPE	FILE NAME	DEPTH RANGE	DATE	TIMES
ELOG TEST	B909ELOGTEST01	Ø	8/30/06	9:00 - 9:04
ELOG/GAMMA	B909ELOGUP01	200.0' - 35.25'	8/30/06	9:15 - 9:33
CALIPER TEST	B909CALTEST01	Ø	"	9:51 - 9:55
CALIPER/GAMMA	B909CALUP01	200.0' - 1.0'	"	10:05 - 10:28
CALIPER TEST	B909CALTEST02	Ø	"	10:31 - 10:36
ACOUSTIC TV	B909ALUP01	200.0' - 20'	"	11:00 - 12:05
SUSPENSION PS.	B909_001 - 066.50'	82.0' - 188.7'	"	12:30 - 13:05

GEOVision Geophysical Services 1151 Pomona Road, Unit P, Corona, CA 92882 Ph (951) 549-1234 Fx (951) 549-1236



B-909 ELOG FIELD LOG

SITE: NORTH ANNA COL DATE: 8/30/06
CLIENT: MACTEC JOB: 6410
AUTHOR: R. STELLER PAGE 1 OF 2

CONTACT: _____ OFFICE PHONE: _____
CELL PHONE: _____
CONTACT: _____ OFFICE PHONE: _____
PHONE: _____
CONTACT: _____ PHONE: _____
PHONE: _____
CONTACT: _____ PHONE: _____
PHONE: _____
DRILLER: _____ PHONE: _____
COMPANY: _____ PHONE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

BOREHOLE DESIGNATION: B-909 LOCATION: _____

COUNTY: _____ RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD
DIAMETERS AND DEPTH RANGES: 3.7 0 TO 200'; _____ TO _____
BOREHOLE TOTAL DEPTH AS DRILLED: 200'
CONDUCTOR CASING?: YES DEPTH TO BOTTOM OF CASING 78'; NO _____
DEPTH TO BEDROCK: NA DEPTH TO WATER TABLE: NA
BOREHOLE FLUID: WATER ; FRESH WATER MUD _____; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: NA TIME SINCE LAST CIRCULATION: NA

LOGGING CREW: R. STELLER
VEHICLE(S) USED AND MILEAGE: RENTAL
MOBILIZED FROM: FREDERICKSBURG, VA DEPARTURE TIME: 6:15
ARRIVED ON SITE: 7:45
STANDBY TIME: _____ CAUSE: _____
LOGGING STARTED: 9:15 LOGGING COMPLETED: 9:33

SITE: NORTH ANNA COL B-909 DATE: 8/30/06
 CLIENT: MACTEC JOB: 6410
 AUTHOR: R. STELLER PAGE 2 OF 2

WINCH: COMPROBE SILVER OYO OTHER
 MICROLOGGER 5301 OTHER _____
 ELOG PROBE 5490 OTHER _____

PROBE OFFSET	2.50M(8.20 FT)
CASING STICK-UP	- .75 + 32.8 FT
DEPTH REF. OFFSET	40.25'

LOG NAME	START DEPTH	START TIME	END DEPTH	END TIME
B 909 ELOG TEST 01	Ø	9:00	Ø	9:04
B 909 ELOG WP 01	200.0'	9:15	35.25'	9:33

MAINTENANCE PERFORMED ON SITE: _____

EQUIPMENT PROBLEMS OR FAILURES: _____

SUGGESTIONS, ADDITIONS, CHANGES: _____



B-909 CALIPER FIELD LOG

SITE: NORTH ANNA COL DATE: 8/30/06
CLIENT: MACTEC JOB: 6410
AUTHOR: R. STELLER PAGE 1 OF 2

CONTACT: _____ OFFICE PHONE: _____
CELL PHONE: _____
CONTACT: _____ OFFICE PHONE: _____
PHONE: _____
CONTACT: _____ PHONE: _____
PHONE: _____
CONTACT: _____ PHONE: _____
PHONE: _____
DRILLER: _____ PHONE: _____
COMPANY: _____ PHONE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

BOREHOLE DESIGNATION: B-909 LOCATION: _____
COUNTY: _____ RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD
DIAMETERS AND DEPTH RANGES: 3.7" 0 TO 200'; _____ TO _____
BOREHOLE TOTAL DEPTH AS DRILLED: 200'
CONDUCTOR CASING?: YES DEPTH TO BOTTOM OF CASING 78'; NO _____
DEPTH TO BEDROCK: NA DEPTH TO WATER TABLE: NA
BOREHOLE FLUID: WATER ; FRESH WATER MUD _____; SALT WATER MUD _____;
OTHER: _____
DEPTH TO BOREHOLE FLUID: NA TIME SINCE LAST CIRCULATION: NA

LOGGING CREW: R. STELLER
VEHICLE(S) USED AND MILEAGE: RENTAL
MOBILIZED FROM: Fredericksburg, VA DEPARTURE TIME: 6:15
ARRIVED ON SITE: 7:45
STANDBY TIME: _____ CAUSE: _____
LOGGING STARTED: 9:51 LOGGING COMPLETED: 10:30

SITE: NORTH ANNA COL B-909 DATE: 8/30/06
 CLIENT: MACTEC JOB: 6410
 AUTHOR: R. STELLER PAGE 2 OF 2

WINCH: COMPROBE SILVER OYO OTHER
 MICROLOGGER 5301 OTHER
 CALIPER PROBE 5368 OTHER

PROBE OFFSET	12 IN MAX 2.08M(6.82 FT)	24 IN MAX
CASING STICK-UP ARMS	- .75	-
DEPTH REF. OFFSET	6.07	

DEPTH ZERO ON EXIT = 6.10'

LOG NAME	START DEPTH	START TIME	END DEPTH	END TIME
B909CALTEST01	0	9:51	0	9:55
B909CALUP01	200.0	10:05	1.0'	10:28
B909CALTEST02	0	10:31	0	10:36

CALIBRATION PLATE S/N 201		AS BUILT		
FILE NAME		1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN 203.2 MM
AS MEAS. B909CALTEST01		1.98	3.93	7.99
AS MEAS. B909CALTEST02		2.82	3.97	8.04
AS MEAS.				
AS MEAS.				
AS MEAS.				
AS MEAS.				

RVC COMPARISON
 4.507 IN
 4.52
 4.55

MAINTENANCE PERFORMED ON SITE: _____

EQUIPMENT PROBLEMS OR FAILURES: _____

SUGGESTIONS, ADDITIONS, CHANGES: _____



B-909 TELEVIEWER FIELD LOG

SITE: NORTH ANNA COL DATE: 8/30/06
CLIENT: MACTEC JOB: 6410
AUTHOR: R. STELLER PAGE 1 OF 2

CONTACT: _____ OFFICE PHONE: _____
CELL PHONE: _____
CONTACT: _____ OFFICE PHONE: _____
PHONE: _____
CONTACT: _____ PHONE: _____
PHONE: _____
CONTACT: _____ PHONE: _____
PHONE: _____
DRILLER: _____ PHONE: _____
COMPANY: _____ PHONE: _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

BOREHOLE DESIGNATION: B-909 LOCATION: _____

COUNTY: _____ RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD
DIAMETERS AND DEPTH RANGES: 3.7" 0 TO 200'; _____ TO _____
BOREHOLE TOTAL DEPTH AS DRILLED: 200'
CONDUCTOR CASING?: YES DEPTH TO BOTTOM OF CASING 78'; NO _____
DEPTH TO BEDROCK: NA DEPTH TO WATER TABLE: 140'
BOREHOLE FLUID: WATER ; FRESH WATER MUD _____; SALT WATER MUD _____;
OTHER: _____
DEPTH TO BOREHOLE FLUID: NA 140' TIME SINCE LAST CIRCULATION: NA



SITE: NORTH ANNA COL B-909 DATE: 8/30/06
 CLIENT: MACTEC JOB: 0410
 AUTHOR: R. STELLER PAGE 2 OF 2

LOGGING CREW: R. STELLER
 VEHICLE(S) USED AND MILEAGE: RENTAL
 MOBILIZED FROM: FREEDERICKSBURG, VA DEPARTURE TIME: 6:15
 ARRIVED ON SITE: 7:45
 STANDBY TIME: _____ CAUSE: _____
 LOGGING STARTED: 11:00 LOGGING COMPLETED: 12:05

WINCH: COMPROBE SILVER OYO _____ OTHER _____
 MICROLOGGER 5301 OTHER _____
 TELEVIEWER OPTICAL #5117 _____ ACOUSTIC #5174 OTHER _____

PROBE TILT TEST 88.9° BRUNTON TILT 89°
 PROBE AZIMUTH TEST 337.3° BRUNTON AZIMUTH 330°

PROBE OFFSET	OPTICAL 1.88M(6.17FT)	ACOUSTIC 1.44M(4.72FT)
CASING STICK-UP	-	- .75
DEPTH REF. OFFSET		<u>3.97'</u>
<u>DEPTH ZERO ON EXIT = 4.05'</u>		

LOG NAME	START DEPTH	START TIME	END DEPTH	END TIME
<u>B909 Ann up 01</u>	<u>200.0'</u>	<u>11:00</u>	<u>2.0'</u>	<u>12:05</u>

MAINTENANCE PERFORMED ON SITE: _____

EQUIPMENT PROBLEMS OR FAILURES: _____

SUGGESTIONS, ADDITIONS, CHANGES: _____



P-S SUSPENSION VELOCITY FIELD LOG

SITE: NORTH ANNA COL B-909 DATE: 8/30/08
CLIENT: MACTEC JOB: 6410
AUTHOR: R. STELLER PAGE 1 OF 4

CONTACT: STEVE CRISCENZO OFFICE PHONE: 919-831-8047
CELL PHONE: 919-949-1707
CONTACT: OFFICE PHONE:
PHONE:
CONTACT: PHONE:
PHONE:
CONTACT: PHONE:
PHONE:
DRILLER: PHONE:
COMPANY: PHONE:

DIRECTIONS TO SITE:

GENERAL SITE CONDITIONS/LOCATION: _____

EA#: _____
BOREHOLE DESIGNATION: B-909 LOCATION: _____

COUNTY: _____ RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD
DIAMETERS AND DEPTH RANGES: 3.7" 0 TO 200'; _____ TO _____
BOREHOLE TOTAL DEPTH AS DRILLED: 200'
CONDUCTOR CASING?: YES DEPTH TO BOTTOM OF CASING 80'; NO _____
DEPTH TO BEDROCK: N/A DEPTH TO WATER TABLE: 16'
BOREHOLE FLUID: WATER ; FRESH WATER MUD _____; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: 16' TIME SINCE LAST CIRCULATION: N/A



SITE: NORTH ANNA COL B-909 DATE: 8/30/06
CLIENT: MACTEC JOB: 6410
AUTHOR: R. STELLER PAGE 2 OF 4

LOGGING CREW: R. STELLER
VEHICLE(S) USED AND MILEAGE: RENTAL
MOBILIZED FROM: FREDERICKS BURG, VA DEPARTURE TIME: 6:15
ARRIVED ON SITE: 7:45
STANDBY TIME: _____ CAUSE: _____
LOGGING STARTED: 12:30 LOGGING COMPLETED: 13:05
STANDBY TIME: _____ CAUSE: _____
LOGGING STARTED: 12:30 RAS LOGGING COMPLETED: _____
DEMobilized TO: _____ ARRIVAL TIME: _____
ADDITIONAL DEMOB TIME: _____ REASON: _____

BATTERIES CHANGED BEFORE LOGGING: YES _____; NO ; STORED WITH NEW _____
WINCH _____ COMPROBE GREY OYO RG OTH
INSTRUMENT OYO 12004 15014 19029 RG 160023 160024
RECEIVER S/N 12008 20042 26066 11001 23053 30086

MAINTENANCE PERFORMED ON SITE: _____

EQUIPMENT PROBLEMS OR FAILURES: _____

SUGGESTIONS, ADDITIONS, CHANGES: _____
_____ RAC 8/30/06

COMMENTS: DEPTH ZERO = 2.5m 2.27m
2.0m 2.3m = 1.77m.

GEOVISION SUSPENSION LOGGING FILED NOTES

SITE: NORTH ANNA COL B-909 DATE: 8/30/06
 CLIENT: MACTEC JOB: 6410
 AUTHOR: R. STELLER PAGE 3 OF 4

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO.	FILTERED FILE NO.	COMMENTS CASING, WATER, ROCK, ETC
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20.5	67.26			
21.0	68.90			
21.5	70.54			
22.0	72.18			
22.5	73.82			
23.0	75.46			
23.5	77.10			
24.0	78.74			
24.5	80.38			3" PVC CASE TO 80'
25.0	82.02	1		WITH STEEL CASING SHOE
25.5	83.66	2		
26.0	85.30	3		
26.5	86.94	4		
27.0	88.58	5		
27.5	90.22	6		
28.0	91.86	7		
28.5	93.50	8		
29.0	95.14	9		
29.5	96.78	10		
30.0	98.43	11		
30.5	100.07	12		
31.0	101.71	13		
31.5	103.35	14		
32.0	104.99	15		
32.5	106.63	16		
33.0	108.27	17		
33.5	109.91	18		
34.0	111.55	19		
34.5	113.19	20		
35.0	114.83	21		
35.5	116.47	22		
36.0	118.11	23		
36.5	119.75	24		
37.0	121.39	25		
37.5	123.03	26		
38.0	124.67	27		
38.5	126.31	28		
39.0	127.95	29		
39.5	129.59	30		
40.0	131.23	31		

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE: NORTH ANNA COL B-909 DATE: 8/30/06
 CLIENT: MACTEC JOB: 6410
 AUTHOR: R. STELLER PAGE 4 OF 4

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO.	FILTERED FILE NO.	COMMENTS CASING, WATER, ROCK, ETC
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40.5	132.87	32		
41.0	134.51	33		
41.5	136.15	34		
42.0	137.80	35		
42.5	139.44	36		
43.0	141.08	37		
43.5	142.72	38		
44.0	144.36	39		
44.5	146.00	40		
45.0	147.64	41		
45.5	149.28	42		
46.0	150.92	43		
46.5	152.56	44		
47.0	154.20	45		
47.5	155.84	46		
48.0	157.48	47		
48.5	159.12	48		
49.0	160.76	49		
49.5	162.40	50		
50.0	164.04	51		
50.5	165.68	52		
51.0	167.32	53		
51.5	168.96	54		
52.0	170.60	55		
52.5	172.24	56		
53.0	173.88	57		
53.5	175.52	58		
54.0	177.17	59		
54.5	178.81	60		
55.0	180.45	61		
55.5	182.09	62		
56.0	183.73	63		
56.5	185.37	64		
57.0	187.01	65		
57.5	188.65	66		
58.0	190.29			Bottom measurement?
58.5	191.93			Hit bottom @ 57.75m. →
59.0	193.57			PROBE TIP @ 201.6'
59.5	195.21			
60.0	196.85			



B-909 BORING GEOPHYSICS FIELD LOG SUMMARY

SITE: NORTH ANNA COL DATE: 9/12/06
 CLIENT: MACTEC JOB: _____
 AUTHOR: R. STELLER PAGE 1 OF 2
 CONTACT: STEVE CRISCENZO PHONE: 919-949-1707

BOREHOLE CONSTRUCTION: CASED _____ UNCASD
 DIAMETERS AND DEPTH RANGES: 5" 0 TO ± 20'; 3.7", ± 40' TO 200'
 BOREHOLE TOTAL DEPTH AS DRILLED: 200'
 CONDUCTOR CASING?: YES _____ DEPTH TO BOTTOM OF CASING _____; NO
 DEPTH TO BEDROCK: ± 40'
 BOREHOLE FLUID: WATER _____; FRESH WATER MUD ; SALT WATER MUD _____
 LOGGING CREW: R. STELLER

LOG TYPE	FILE NAME	DEPTH RANGE	DATE	TIMES
COMPER TEST	B909CALTEST03	Ø	9/12/06	9:35 - 9:40
CALIBRATION	B909CALUP02	110.0' - Ø	"	9:54 - 10:08
CALIB TEST	B909CALTEST04	Ø	"	10:15 - 10:20
SUSPENSION	B909_B01 → S60.004	1.6' - 98.4'	"	10:35 - 11:31
ACOUSTIC TV	B909AMUP	100.0' - 3.14'	"	12:00 - 12:28
ELOG TEST	B909ELOGTEST02	Ø	"	9:07 - 9:10
ELOG/CALIBRATION	B909ELOGUP02	120.0' - 25.2'	"	12:41 - 12:54



B-909 CALIPER FIELD LOG

SITE: NORTH ANNA COL DATE: 9/12/06
CLIENT: MACTEC JOB: 6410
AUTHOR: R. STELLER PAGE 1 OF 2

CONTACT: _____ OFFICE PHONE: _____
CELL PHONE: _____
CONTACT: _____ OFFICE PHONE: _____
PHONE: _____
CONTACT: _____ PHONE: _____
PHONE: _____
CONTACT: _____ PHONE: _____
PHONE: _____
DRILLER: _____ PHONE: _____
COMPANY: _____ PHONE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

BOREHOLE DESIGNATION: B-909 LOCATION: _____

COUNTY: _____ RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASED
DIAMETERS AND DEPTH RANGES: 5" 0 TO 240' ; 3.7" 240 TO 200'
BOREHOLE TOTAL DEPTH AS DRILLED: 200'
CONDUCTOR CASING?: YES _____ DEPTH TO BOTTOM OF CASING _____ ; NO
DEPTH TO BEDROCK: 240' DEPTH TO WATER TABLE: NA
BOREHOLE FLUID: WATER _____ ; FRESH WATER MUD ; SALT WATER MUD _____ ;
OTHER: _____
DEPTH TO BOREHOLE FLUID: ∅ TIME SINCE LAST CIRCULATION: 1/2 HR

LOGGING CREW: R. STELLER
VEHICLE(S) USED AND MILEAGE: RENTAL
MOBILIZED FROM: Flomenville, NY DEPARTURE TIME: 6:30
ARRIVED ON SITE: 7:45
STANDBY TIME: - CAUSE: _____
LOGGING STARTED: 9:35 LOGGING COMPLETED: 10:20

SITE: NORTH ANNA COL B-909 DATE: 9/12/06
 CLIENT: MACTEC JOB: 6410
 AUTHOR: R. STELLER PAGE 2 OF 2

WINCH: COMPROBE SILVER OYO OTHER _____
 MICROLOGGER 5301 OTHER _____
 CALIPER PROBE 5368 OTHER _____

PROBE OFFSET	12 IN MAX	2.08M(6.82 FT)	24 IN MAX
CASING STICK-UP ARMS	-	1.58	ARMS -
DEPTH REF. OFFSET		5.24'	

ZERO ON GHT = 5.20'

LOG NAME	START DEPTH	START TIME	END DEPTH	END TIME
B909CALTEST03	Ø	9:35	Ø	9:40
B909 CALUP02	1100.0	9:54	Ø	10:08
B909 CALTEST04	Ø	10:15	Ø	10:20

CALIBRATION PLATE S/N 201

FILE NAME	AS BUILT		
	1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN 203.2 MM
AS MEAS. B909CALTEST03	2.01	3.97	7.99
AS MEAS. B909 CALTEST04	2.05	3.94	8.00
AS MEAS.			
AS MEAS.			
AS MEAS.			
AS MEAS.			

PVC CORPUSING
 4.57 IN.
 4.55
 4.55

MAINTENANCE PERFORMED ON SITE: _____

EQUIPMENT PROBLEMS OR FAILURES: _____

SUGGESTIONS, ADDITIONS, CHANGES: _____



P-S SUSPENSION VELOCITY FIELD LOG

SITE: NORTH ANNA COL B-909 DATE: 9/12/06
CLIENT: MACTEC JOB: 6410
AUTHOR: R. STELLER PAGE 1 OF 4

CONTACT: STEVE CRISCENZO OFFICE PHONE: 919-831-8047
CELL PHONE: 919-949-1707
CONTACT: OFFICE PHONE:
PHONE:
CONTACT: PHONE:
PHONE:
CONTACT: PHONE:
PHONE:
DRILLER: PHONE:
COMPANY: PHONE:

DIRECTIONS TO SITE:

GENERAL SITE CONDITIONS/LOCATION:

EA#: _____
BOREHOLE DESIGNATION: B-909 LOCATION: _____

COUNTY: _____ RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD
DIAMETERS AND DEPTH RANGES: 5" 0 TO 40'; 3.7" 40' TO 200'
BOREHOLE TOTAL DEPTH AS DRILLED: 200'
CONDUCTOR CASING?: YES _____ DEPTH TO BOTTOM OF CASING _____; NO
DEPTH TO BEDROCK: 40' DEPTH TO WATER TABLE: _____
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ; SALT WATER MUD _____;
OTHER: _____
DEPTH TO BOREHOLE FLUID: Ø TIME SINCE LAST CIRCULATION: 1 HR



SITE: NORTH ANNA COL B-909 DATE: 9/12/06
CLIENT: MACTEC JOB: 6410
AUTHOR: R. STELLER PAGE 2 OF 4

LOGGING CREW: R. STELLER
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Fredericksburg, VA DEPARTURE TIME: 6:30
ARRIVED ON SITE: 7:45
STANDBY TIME: _____ CAUSE: _____
LOGGING STARTED: 10:35 LOGGING COMPLETED: 11:31
STANDBY TIME: _____ CAUSE: _____
LOGGING STARTED: _____ LOGGING COMPLETED: _____
DEMobilized TO: _____ ARRIVAL TIME: _____
ADDITIONAL DEMOB TIME: _____ REASON: _____

BATTERIES CHANGED BEFORE LOGGING: YES ; NO _____ ; STORED WITH NEW _____
WINCH _____ COMPROBE GREY OYO RG OTH
INSTRUMENT OYO 12004 15014 19029 RG 160023 160024
RECEIVER S/N 12008 20042 26066 11001 23053 30086

MAINTENANCE PERFORMED ON SITE: _____

EQUIPMENT PROBLEMS OR FAILURES: _____

SUGGESTIONS, ADDITIONS, CHANGES: _____

COMMENTS: DEPTH 2600 = 2.5m - .48m = 2.02m
EXT DEPTH 2600 = 2.03m

SITE: NORTH ANNA COL B-909 DATE: 1/12/06
 CLIENT: MACTEC JOB: 6410
 AUTHOR: R. STELLER PAGE 3 OF 4

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO.	FILTERED FILE NO.	COMMENTS CASING, WATER, ROCK, ETC
0.5	1.64	301		
1.0	3.28	302		
1.5	4.92	303		
2.0	6.56	304		
2.5	8.20	305		
3.0	9.84	306		
3.5	11.48	307		
4.0	13.12	308		
4.5	14.76	309		
5.0	16.40	310		
5.5	18.04	311		
6.0	19.69	312		
6.5	21.33	313		
7.0	22.97	314		
7.5	24.61	315		
8.0	26.25	316		
8.5	27.89	317		
9.0	29.53	318		
9.5	31.17	319		
10.0	32.81	320		
10.5	34.45	321		
11.0	36.09	322		
11.5	37.73	323		
12.0	39.37	324		
12.5	41.01	325		
13.0	42.65	326		
13.5	44.29	327		
14.0	45.93	328		
14.5	47.57	329		$V_s \approx 2200 \text{ m/s}$
15.0	49.21	330		
15.5	50.85	331		
16.0	52.49	332		
16.5	54.13	333		
17.0	55.77	334		
17.5	57.41	335		
18.0	59.06	336		
18.5	60.70	337		
19.0	62.34	338		
19.5	63.98	339		
20.0	65.62	340		

SITE: NORTH ANNA COL B-909 DATE: 9/12/06
 CLIENT: MACTEC JOB: 6410
 AUTHOR: R. STELLER PAGE 4 OF 4

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO.	FILTERED FILE NO.	COMMENTS CASING, WATER, ROCK, ETC
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20.5	67.26	341		
21.0	68.90	342		
21.5	70.54	343		
22.0	72.18	344		
22.5	73.82	345		
23.0	75.46	346		
23.5	77.10	347		
24.0	78.74	348		
24.5	80.38	349		
25.0	82.02	350		
25.5	83.66	351		
26.0	85.30	352		
26.5	86.94	353		
27.0	88.58	354		
27.5	90.22	355		
28.0	91.86	356		
28.5	93.50	357		
29.0	95.14	358		
29.5	96.78	359		
30.0	98.43	360		
30.5	100.07			
31.0	101.71			
31.5	103.35			
32.0	104.99			
32.5	106.63			
33.0	108.27			
33.5	109.91			
34.0	111.55			
34.5	113.19			
35.0	114.83			
35.5	116.47			
36.0	118.11			
36.5	119.75			
37.0	121.39			
37.5	123.03			
38.0	124.67			
38.5	126.31			
39.0	127.95			
39.5	129.59			
40.0	131.23			



B-909 TELEVIEWER FIELD LOG

SITE: NORTH ANNA COL DATE: 9/12/06
CLIENT: MACTEC JOB: 6410
AUTHOR: R. STELLER PAGE 1 OF 2

CONTACT: _____ OFFICE PHONE: _____
CELL PHONE: _____
CONTACT: _____ OFFICE PHONE: _____
PHONE: _____
CONTACT: _____ PHONE: _____
PHONE: _____
CONTACT: _____ PHONE: _____
PHONE: _____
DRILLER: _____ PHONE: _____
COMPANY: _____ PHONE: _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

BOREHOLE DESIGNATION: B-909 LOCATION: _____

COUNTY: _____ RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD
DIAMETERS AND DEPTH RANGES: 5" 0 TO 240'; 3.7', 240 TO 200'
BOREHOLE TOTAL DEPTH AS DRILLED: 200'
CONDUCTOR CASING?: YES _____ DEPTH TO BOTTOM OF CASING _____; NO
DEPTH TO BEDROCK: 240 DEPTH TO WATER TABLE: _____
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ; SALT WATER MUD _____;
OTHER: _____
DEPTH TO BOREHOLE FLUID: Ø TIME SINCE LAST CIRCULATION: 1.5 HR.



SITE: NORTH ANNA COL B-909 DATE: 9/12/06
 CLIENT: MACTEC JOB: 6410
 AUTHOR: R. STELLER PAGE 2 OF 2

LOGGING CREW: R. STELLER
 VEHICLE(S) USED AND MILEAGE: RENTAL
 MOBILIZED FROM: FREDERICKSBURG, VA DEPARTURE TIME: 6:30
 ARRIVED ON SITE: 7:45
 STANDBY TIME: CAUSE:
 LOGGING STARTED: 12:00 LOGGING COMPLETED: 12:28

WINCH: COMPROBE SILVER OYO OTHER
 MICROLOGGER 5301 OTHER
 TELEVIEWER OPTICAL #5117 ACOUSTIC #5174 OTHER

PROBE TILT TEST 88.1° BRUNTON TILT 88.5° FREE HANGING @ 0.5°
 PROBE AZIMUTH TEST 56.0° BRUNTON AZIMUTH 59.0°

PROBE OFFSET	OPTICAL 1.88M(6.17FT)	ACOUSTIC 1.44M(4.72FT)
CASING STICK-UP		<u>1.58'</u>
DEPTH REF. OFFSET		<u>3.14'</u>

EXIT DEPTH REFERENCE = 3.14'

LOG NAME	START DEPTH	START TIME	END DEPTH	END TIME
<u>B909 Ann Col 02</u>	<u>100.0</u>	<u>12:00</u>	<u>3.14'</u>	<u>12:28</u>

MAINTENANCE PERFORMED ON SITE: HARD ROCK @ 91.3'

EQUIPMENT PROBLEMS OR FAILURES:

SUGGESTIONS, ADDITIONS, CHANGES: ROCK GAINS @ 7 DB., SOIL GAIN @ 22 DB.



B-909 ELOG FIELD LOG

SITE: NORTH ANNA COL DATE: 9/12/06
CLIENT: MACTEC JOB: 6410
AUTHOR: R. STELLER PAGE 1 OF 2

CONTACT: _____ OFFICE PHONE: _____
CELL PHONE: _____
CONTACT: _____ OFFICE PHONE: _____
PHONE: _____
CONTACT: _____ PHONE: _____
PHONE: _____
CONTACT: _____ PHONE: _____
PHONE: _____
DRILLER: _____ PHONE: _____
COMPANY: _____ PHONE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

BOREHOLE DESIGNATION: B-909 LOCATION: _____

COUNTY: _____ RANGE: _____ TOWNSHIP: _____ SECTION: _____

BOREHOLE CONSTRUCTION: CASED _____ UNCASD

DIAMETERS AND DEPTH RANGES: 5" 0 TO 40'; 3.7" 40' TO 200'

BOREHOLE TOTAL DEPTH AS DRILLED: 200'

CONDUCTOR CASING?: YES _____ DEPTH TO BOTTOM OF CASING _____; NO

DEPTH TO BEDROCK: 40' DEPTH TO WATER TABLE: _____

BOREHOLE FLUID: WATER _____; FRESH WATER MUD ; SALT WATER MUD _____;

OTHER: _____

DEPTH TO BOREHOLE FLUID: ∅ TIME SINCE LAST CIRCULATION: 1HR

LOGGING CREW: R. STELLER

VEHICLE(S) USED AND MILEAGE: RENTAL

MOBILIZED FROM: Fleetsville Blvd, VA DEPARTURE TIME: 6:30

ARRIVED ON SITE: 7:15

STANDBY TIME: _____ CAUSE: _____

LOGGING STARTED: 9:07 LOGGING COMPLETED: 12:54

SITE: NORTH ANNA COL B-909 DATE: 9/12/06
 CLIENT: MACTEC JOB: 6410
 AUTHOR: R. STELLER PAGE 2 OF 2

WINCH: _____ COMPROBE _____ SILVER OYO _____ OTHER _____
 MICROLOGGER 5301 OTHER _____
 ELOG PROBE 5490 OTHER _____

PROBE OFFSET	2.50M(8.20 FT)
CASING STICK-UP	-1.50' + 32.80
DEPTH REF. OFFSET	39.42'
EXIT 2610 = 39.40'	

LOG NAME	START DEPTH	START TIME	END DEPTH	END TIME
B909ELOG TEST 02	0	9:07	0	9:10
B909ELOG UP 02	120.0'	12:41	25.2'	12:54

MAINTENANCE PERFORMED ON SITE: _____

EQUIPMENT PROBLEMS OR FAILURES: LONG PERSISTIVITY TEST @ 10 OHM-METER
SCALE NOT READING CORRECTLY, FAILURE OF TEST BOX.

SUGGESTIONS, ADDITIONS, CHANGES: _____