

P-S FIELD LOG REV V1.31a

B-610011 **GEOVISION SUSPENSION LOGGING FIELD NOTES**

SITE*: Turkey Point NPP DATE*: 4/2/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE* 5 OF 6

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*.	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
41.5	136.15	19		
42.0	137.80	20		
42.5	139.44	21		
43.0	141.08	22		
43.5	142.72	23		
44.0	144.36	24		
44.5	146.00	25		
45.0	147.64	26		
45.5	149.28	27		
46.0	150.92	28		
46.5	152.56	29		
47.0	154.20	30		
47.5	155.84	31		
48.0	157.48	32		
48.5	159.12	33		
49.0	160.76	34		
49.5	162.40	35		
50.0	164.04	36		
50.5	165.68	37		
51.0	167.32	38		
51.5	168.96	39		
52.0	170.60	40		
52.5	172.24	41		
53.0	173.88	42		
53.5	175.52	43		
54.0	177.17	44		
54.5	178.81	45		
55.0	180.45	46		
55.5	182.09	47		
56.0	183.73	48		
56.5	185.37	49		
57.0	187.01	50		
57.5	188.65	51		
58.0	190.29	52		
58.5	191.93	53		
59.0	193.57	54		
59.5	195.21	55		
60.0	196.85	56		
60.5	198.49	56 c.c. 4/2/08 57		
61.0	200.13	58		
61.5	201.77	59		

P-S FIELD LOG REV V1.31a

B-610066

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 9/2/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE* 6 OF 6

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
62.0	203.41	60		
62.5	205.05	61		
63.0	206.69	62		
63.5	208.33	63		
64.0	209.97	64		
64.5	211.61	65		
65.0	213.25	66		
65.5	214.90	67		
66.0	216.54	68		
66.5	218.18	69		
67.0	219.82	70		
67.5	221.46	71		
68.0	223.10	72		
68.5	224.74	73		
69.0	226.38	74		
69.5	228.02	75		
70.0	229.66	76		
70.5	231.30	77		
71.0	232.94	78		
71.5	234.58	79		
72.0	236.22	80		
72.5	237.86	81		
73.0	239.50	82		
73.5	241.14	83		
74.0	242.78	84		
74.5	244.42	85		
75.0	246.06	86		
75.5	247.70	87		
76.0	249.34	88		
76.5	250.98	89		1:27 pm
77.0	252.62			
77.5	254.27			
78.0	255.91			
78.5	257.55			
79.0	259.19			
79.5	260.83			
80.0	262.47			
80.5	264.11			
81.0	265.75			
81.5	267.39			
82.0	269.03			

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-610DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 4/2/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DRILLER PHONE: Off Cell
COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION: CASED UNCASD X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 105 ft; 3 7/8" 105 TO 269 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 269 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 105'; NO
DEPTH TO BEDROCK: 3 ft DEPTH TO WATER TABLE: 2.1 ft
BOREHOLE FLUID: WATER; FRESH WATER MUD X; SALT WATER MUD
OTHER:
DEPTH TO BOREHOLE FLUID: 6 TIME SINCE LAST CIRCULATION: 11 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City DEPARTURE TIME: 6:43 am
ARRIVED ON SITE: 7 am
STANDBY TIME: CAUSE:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-610btl ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 4/2/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO OTHER
MICROLOGGER* 5310 5772 ☒
TELEVIEWER* ACOUSTIC #5174 ☒ OTHER
SHEAVE* COMPROBE OYO 101 102 ☒ 103 RG

1 PROBE TILT TEST* 37.65 BRUNTON TILT* 38
2 PROBE TILT TEST* 90.66 BRUNTON TILT* 90
3 PROBE TILT TEST* 8.1 BRUNTON TILT* 8 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 246.2 BRUNTON AZIMUTH* 242
2 PROBE AZIMUTH TEST* 184.9 BRUNTON AZIMUTH* 183
3 PROBE AZIMUTH TEST* 262.5 BRUNTON AZIMUTH* 260 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	} REF TO GROUND SURFACE
MINUS CASING STICK-UP*	1.08	
DEPTH REF. OFFSET AT START*	3.64	
DEPTH REF. OFFSET AT END*	3.63	
AFTER SURVEY DEPTH ERROR*	.01	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B610btl 4A00P01	252.2 ft	2:21 pm	102.3 ft	2:30 pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Fx (951) 549-1236

CALIPER FIELD LOG REV 1.1a PDF



B-66001

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 4/2/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DRILLER: PHONE: Off Cell
COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION: CASED UNCASD ☒
DIAMETERS AND DEPTH RANGES: 4" 0 TO 105 ft; 3 7/8" 105 TO 269 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 269 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 105' / 20' NO ☐
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER; FRESH WATER MUD ☒; SALT WATER MUD;
OTHER:
DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 11 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45 am
ARRIVED ON SITE: 1 am
STANDBY TIME: CAUSE:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

CALIPER FIELD LOG REV 1.1a PDF



B-6LDDH

Borehole*

CALIPER FIELD LOG

SITE*: Turkey Point NPP DATE*: 4/2/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 5772 ☒ OTHER
CALIPER PROBE* 5368 ☒ OTHER
SHEAVE* COMPROBE OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	1.08 1.5	
DEPTH REF. OFFSET AT START*	5.74 5.32	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	5.75 5.30	
AFTER SURVEY DEPTH ERROR*	.01 .02	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B610DHCACTEST01		2:49		2:50 pm
B610DHCACTEST01	256.15'	3:06	98.7 ft	3:21 pm
B610DHCACTEST02		3:36		3:37
B610DHCACTEST02	111.45	4:12	14.7 ft	4:22 pm
B610DHCACTEST03		4:31		4:32 pm

CALIBRATION PLATE S/N 201

	FILE NAME	AS BUILT			PVC FITTING
		1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN (203.2 MM)	4.507 IN (114.3 MM)
AS MEAS.*	B610DHCACTEST01	1.99	3.908	8.03	4.502
AS MEAS.*	B610DHCACTEST02	1.97	3.940	7.99	4.502
AS MEAS.	B610DHCACTEST03	1.961	3.908	8.01	4.502
AS MEAS.					
AS MEAS.					
AS MEAS.					

4.510 cc 4/2/08

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

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ACOUSTIC TELEVIEWER LOG COVER 1.0a pdf



B-61004 ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 4/2/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DRILLER PHONE: Off Cell
COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION: CASED UNCASD X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 105' ; 3 3/8" 105 TO 269 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 269 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 20 ft ; NO
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER ; FRESH WATER MUD X ; SALT WATER MUD
OTHER:
DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 11am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City DEPARTURE TIME: 6:45am
ARRIVED ON SITE: 7am
STANDBY TIME: CAUSE:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-610 D11 ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 4/2/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO OTHER
MICROLOGGER* 5310 5772 ☒
TELEVIEWER* ACOUSTIC #5174 ☒ OTHER
SHEAVE* COMPROBE OYO 101 102 ☒ 103 RG

1 PROBE TILT TEST* 36.5 BRUNTON TILT* 36
2 PROBE TILT TEST* 89.27 BRUNTON TILT* 89
3 PROBE TILT TEST* 3.80 BRUNTON TILT* 4 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 253.4 BRUNTON AZIMUTH* 252
2 PROBE AZIMUTH TEST* 176.7 BRUNTON AZIMUTH* 180
3 PROBE AZIMUTH TEST* 250.5 BRUNTON AZIMUTH* 250 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	} REF TO GROUND SURFACE
MINUS CASING STICK-UP*	1.5	
DEPTH REF. OFFSET AT START*	3.22	
DEPTH REF. OFFSET AT END*	3.17	
AFTER SURVEY DEPTH ERROR*	.05	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B610D11A0002	120.9 ft	6:55 pm	19 ft	7:21 pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

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



B-620DH BORING GEOPHYSICS FIELD LOG SUMMARY

Borehole*
SITE*: Turkey Point NPP
CLIENT*: MACTEC
AUTHOR*: C. Carter
DATE*: 3/21/08, 3/23/08
JOB*: 8083
PAGE*: 1 OF 1
CONTACT: _____ PHONE: _____

BOREHOLE CONSTRUCTION: CASED _____ UNCASD ☒
DIAMETERS AND DEPTH RANGES: 3.5" 0 TO 125 ft; 3" 125 TO 130 / 4" 10-105; 2 1/8" 105-215
BOREHOLE TOTAL DEPTH AS DRILLED*: 130 ft / 215 ft
CONDUCTOR CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 25.5'; NO _____
DEPTH TO BEDROCK: ~ 3 ft
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD _____

LOGGING CREW: C. Carter

LOG TYPE*	FILE NAME*	DEPTH RANGE*	DATE*	TIMES*
ELOG	B620DH ELOG TEST01		3/21/08	8:59 - 9:00 am
ELOG	B620DH ELOG UP01	122.05 - 39.3 ft	3/21/08	9:29 - 9:37 am
P-S velocity	B620DH SUSPD DOWN01	26.25 - 109.9 ft	3/21/08	10:20 am - 10:55 am
ATV	B620DH AVUP01	119.1 - 24 ft	3/21/08	12:10 - 12:35 pm
Caliper	B620DH CAL TEST01		3/21/08	1:02 - 1:03 pm
Caliper	B620DH CAL UP01	120.15 - 13.55 ft	3/21/08	1:16 - 1:28 pm
Caliper	B620DH CAL TEST02	cc 3/23/08	3/21/08	1:37 - 1:38 pm
ELOG	B620DH ELOG TEST03	9:00 - 9:01 am	3/23/08	9:00 - 9:01 am
ELOG	B620DH ELOG UP02	214.7 - 101.55 ft	3/23/08	11:00 - 11:11 am
P-S velocity	B620DH SUSPD DOWN02	106.6 - 129.6 ft	3/23/08	11:44 - 12:00 pm
P-S velocity	B620DH SUSPD DOWN03	121.4 - 200.13 ft	3/23/08	1:23 - 1:46 pm
Deviation	B620DH AVUP02	201.5 - 102 ft	3/23/08	4:53 - 4:58 pm
Caliper	B620DH CAL TEST03		3/23/08	5:16 - 5:17 pm
Caliper	B620DH CAL UP02	205.95 - 97.5 ft	3/23/08	5:31 - 5:42 pm
Caliper	B620DH CAL TEST04		3/23/08	5:51 - 5:52 pm

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B-620DH

ELOG FIELD LOG

Borehole*

SITE*: Turkey Point NPP
CLIENT*: MACTEC
AUTHOR*: C. Carter
DATE*: 3/21/08
JOB*: 8083
PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD ☒
DIAMETERS AND DEPTH RANGES: _____ 0 TO _____; _____ TO _____

BOREHOLE TOTAL DEPTH AS DRILLED*: 135 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 25.5 ft NO _____
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD _____

OTHER: _____
DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 3/20 2:30pm

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 7:15 am
ARRIVED ON SITE: 7:30 am
STANDBY TIME: _____ CAUSE: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B-620604 ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/21/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
ELOG PROBE* 5490 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE LENGTH	2.50M(8.20 FT)	
PLUS YOKE 10.0M (32.8 FT)*	32.8	
MINUS CASING STICK-UP*	-1.33	
DEPTH REF. OFFSET AT START*	39.67	} REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	39.65	
AFTER SURVEY DEPTH ERROR*	.02	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B620604ELOGTEST01		8:59		9:00am
B620604ELOGUP01	122.05'	9:29	38.3 ft	9:37

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: Used Super gel-x + sure mud
no tiger salt

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Fx (951) 549-1236



P-S FIELD LOG REV V1.31a



B-620 BH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a
Borehole

SITE*: Turkey Point NPP DATE*: 3/21/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF * 4

CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION*: CASED _____ UNCASD X
DIAMETERS AND DEPTH RANGES*: 3.5" 0 TO 12.5' ; 3" 12.5' TO 13.5'
BOREHOLE TOTAL DEPTH AS DRILLED*: 13.5 ft
SURFACE CASING?: X DEPTH TO BOTTOM OF CASING 25.5 ft; NO
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER _____; FRESH WATER MUD X; SALT WATER MUD; _____
OTHER: _____
DEPTH TO BOREHOLE FLUID*: 6 TIME SINCE LAST CIRCULATION: 3/20 2:30pm

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL
GEOVision Geophysical Services — 11511 Pomona Road, Suite P, Corona, CA 92602 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a



B-62004 P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/21/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 4

LOGGING CREW*: C. Carter
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 7:15 am
ARRIVED ON SITE: 7:30 am
STANDBY TIME: CAUSE:
LOGGING STARTED: LOGGING COMPLETED:

BATTERIES CHANGED BEFORE LOGGING: YES ; NO ☒ ; STORED WITH NEW 6.6V

WINCH COMPROBE ☐ GREY ☒ OYO ☐ RG ☐ OTH ☐
INSTRUMENT* OYO 12004 ☐ 15014 ☐ 19029 ☐ RG 160023 ☒ 160024 ☐
RECEIVER S/N* 12008 ☐ 20042 ☐ 26066 ☐ 11001 ☐ 23053 ☐ 30086 ☒
ISOLATION TUBE S/N* 300083 ☐ 24053 ☐ 28068 ☐ 28072 ☒ 2M ☐
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐
MICROLOGGER* 5310 ☐ 5772 ☒ NOT APPLICABLE (OYO) ☐
PROBE OFFSET* OYO 2.0M ☐ RG 2.5M ☒
MINUS CASING STICK-UP* .40
DEPTH REF. OFFSET AT START* 2.1
DEPTH REF. OFFSET AT END* 2.09
AFTER SURVEY DEPTH ERROR* .01
REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
B62004 SUSP DOWN 101	26.25 ft	10:20 am	109.9 ft	10:55 am

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:
COMMENTS:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services 1151 Pomona Road, Suite P, Corona, CA 92602 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 3/21/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE*: 3 OF 4

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*.	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
0.5	1.64			
1.0	3.28			
1.5	4.92			
2.0	6.56			
2.5	8.20			
3.0	9.84			
3.5	11.48			
4.0	13.12			
4.5	14.76			
5.0	16.40			
5.5	18.04			
6.0	19.69			
6.5	21.33			
7.0	22.97			
7.5	24.61			
8.0	26.25	001		10:20 am
8.5	27.89	2		
9.0	29.53	3		
9.5	31.17	4		
10.0	32.81	5		
10.5	34.45	6		
11.0	36.09	7		
11.5	37.73	8		
12.0	39.37	9		
12.5	41.01	10		
13.0	42.65	11		
13.5	44.29	12		
14.0	45.93	13		
14.5	47.57	14		
15.0	49.21	15		
15.5	50.85	16		
16.0	52.49	17		
16.5	54.13	18		
17.0	55.77	19		
17.5	57.41	20		
18.0	59.06	21		
18.5	60.70	22		
19.0	62.34	23		
19.5	63.98	24		
20.0	65.62	25		
20.5	67.26	26		

P-S FIELD LOG REV V1.31B

B-6200H

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 3/21/08 3/23/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE*: 4-22 OF 4

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL cc 7/16/08

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (If any)	COMMENTS CASING, WATER, ROCK, ETC
21.0	68.90	27		
21.5	70.54	28		
22.0	72.18	29		
22.5	73.82	30		
23.0	75.46	31		
23.5	77.10	32		
24.0	78.74	33		
24.5	80.38	34		
25.0	82.02	35		
25.5	83.66	36		
26.0	85.30	37		
26.5	86.94	38		
27.0	88.58	39		
27.5	90.22	40		
28.0	91.86	41		
28.5	93.50	42		
29.0	95.14	43		
29.5	96.78	44		
30.0	98.43	45		
30.5	100.07	46		
31.0	101.71	47		
31.5	103.35	48		
32.0	104.99	49		
32.5	106.63	50	53	11:44 am 3/23
33.0	108.27	51	54	
33.5	109.91	52	55	10:55 (3/23)
34.0	111.55		56	
34.5	113.19		57	
35.0	114.83		58	
35.5	116.47		59	
36.0	118.11		60	
36.5	119.75		61	
37.0	121.39	62	62	1:23 (3/23)
37.5	123.03	63	63	
38.0	124.67	64	64	
38.5	126.31	65	65	
39.0	127.95	66	66	
39.5	129.59	67	67	cc 3/23/08 12:00 (3/23)
40.0	131.23	68		
40.5	132.87	69		
41.0	134.51	70		

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-620DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/21/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DRILLER PHONE: Off Cell
COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION: CASED UNCASD ☒
DIAMETERS AND DEPTH RANGES: 3.5" 0 TO 12.5 ft; 3" 12.5 TO 13.5 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 13.5 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 25.5'; NO
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER; FRESH WATER MUD ☒; SALT WATER MUD
OTHER:
DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 7/20 2:30pm

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City DEPARTURE TIME: 7:15 am
ARRIVED ON SITE: 7:30 am
STANDBY TIME: CAUSE:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-6200H ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/21/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO OTHER
MICROLOGGER* 5310 5772 ☒
TELEVIEWER* ACOUSTIC #5174 ☒ OTHER
SHEAVE* COMPROBE OYO 101 102 ☒ 103 RG

1 PROBE TILT TEST* 91.05 BRUNTON TILT* 91
2 PROBE TILT TEST* 29.65 BRUNTON TILT* 30
3 PROBE TILT TEST* 44.50 BRUNTON TILT* 44 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 311.1 BRUNTON AZIMUTH* 310
2 PROBE AZIMUTH TEST* 132.6 BRUNTON AZIMUTH* 125
3 PROBE AZIMUTH TEST* 77.2 BRUNTON AZIMUTH* 79 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	} REF TO GROUND SURFACE
MINUS CASING STICK-UP*	1.33	
DEPTH REF. OFFSET AT START*	3.39	
DEPTH REF. OFFSET AT END*	3.31	
AFTER SURVEY DEPTH ERROR*	.08	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B6200H AVUP01	119.1 ft	12:02 pm	24 ft	12:35 pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Ex (951) 549-1236

CALIPER FIELD LOG REV 1.1a.PDF



8-620DH

CALIPER FIELD LOG

Borehole*
SITE*: Turkey Point NPP
CLIENT*: MACTEC
AUTHOR*: C. Carter
DATE*: 3/21/08
JOB*: 8083
PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

DRILLER _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: _____ RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD ☒
DIAMETERS AND DEPTH RANGES: 3.5 0 TO 125 ft; 3" 125 TO 135 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 135 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 25.5'; NO _____
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: ϕ TIME SINCE LAST CIRCULATION: 3/20 2:30 pm

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 7:45 am
ARRIVED ON SITE: 7:30 am
STANDBY TIME: _____ CAUSE: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

CALIPER FIELD LOG REV 1.1a.PDF



B-620DH

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 3/21/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
CALIPER PROBE* 5368 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 10 ☐ 102 ☒ 101 ☐ RG ☐

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	1.33	
DEPTH REF. OFFSET AT START*	5.49	} REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	5.45	
AFTER SURVEY DEPTH ERROR*	.04	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B620DHCACTEST01		1:02		1:03pm
B620DHCACTEST01	120.15 ft	1:16pm	13.55 ft	1:28pm
B620DHCACTEST02		1:37		1:38pm

CALIBRATION PLATE S/N 201

	FILE NAME	AS BUILT			PVC FITTING
		1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN (203.2 MM)	4.507 IN (114.3 MM)
AS MEAS.*	B620DHCACTEST01	1.978	3.977	8.03	4.519
AS MEAS.*	B620DHCACTEST02	1.970	3.971	8.03	4.513
AS MEAS.					
AS MEAS.					
AS MEAS.					
AS MEAS.					

4.510 ca. 3/21/08

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Fx (951) 549-1236

ELOG FIELD LOG REV 1.1a



B-620DH ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/23/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: 1 OF 2

CONTACT: PHONE: Off Cell
CONTACT: PHONE: Off Cell
CONTACT: PHONE: Off Cell
CONTACT: PHONE: Off Cell
COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION: CASED UNCASD ☒
DIAMETERS AND DEPTH RANGES: 4" 0 TO 105' ; 3 7/8" 105 TO 215 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 215 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 105 ft ; NO
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER ; FRESH WATER MUD ☒ ; SALT WATER MUD
OTHER:
DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 10 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 7:10 am
ARRIVED ON SITE: 7:30 am
STANDBY TIME: 7:30 - 10:30 CAUSE: Drillers still drilling

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B-620DH ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/23/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE*: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
ELOG PROBE* 5490 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE LENGTH	2.50M(8.20 FT)
PLUS YOKE 10.0M (32.8 FT)*	<u>32.8</u>
MINUS CASING STICK-UP*	<u>- 1.5</u>
DEPTH REF. OFFSET AT START*	<u>39.5</u>
DEPTH REF. OFFSET AT END*	<u>39.45</u>
AFTER SURVEY DEPTH ERROR*	<u>.05</u>

REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
<u>B620DH6LOGT3T03</u>		<u>9:00 am</u>		<u>9:01 am</u>
<u>B620DH6LOGUP02</u>	<u>214.7 ft</u>	<u>11:00 am</u>	<u>101.55 ft</u>	<u>11:11 am</u>

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: very conductive above 200 ft. Drillers used super gel + tiger salt

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

P-S FIELD LOG REV V1.31a



B-620Dtt P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole

SITE*: Turkey Point NPP DATE*: 3/23/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF * 4

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____

BOREHOLE CONSTRUCTION*: CASED _____ UNCASD X

DIAMETERS AND DEPTH RANGES*: 4" 0 TO 105 ft; 3 1/2" 105 TO 215 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 215 ft

SURFACE CASING?: X DEPTH TO BOTTOM OF CASING 105 ft; NO

DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft

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

OTHER: _____

DEPTH TO BOREHOLE FLUID*: Ø TIME SINCE LAST CIRCULATION: 10 am / 12:30 pm

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL
GEOVision Geophysical Services—11511 Pomona Road, Suite P, Corona, CA 92602 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a



B-620dtl P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/23/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 4

LOGGING CREW*: C. Carter
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 7:00am
ARRIVED ON SITE: 7:30am
STANDBY TIME: CAUSE:
LOGGING STARTED: LOGGING COMPLETED:

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 ☒

ISOLATION TUBE S/N* 300083 ☒ 24053 ☐ 28068 ☐ 28072 ☒ 2M

SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

MICROLOGGER* 5310 ☐ 5772 ☒ NOT APPLICABLE (OYO) ☐

PROBE OFFSET* OYO 2.0M ☐ RG 2.5M ☒

MINUS CASING STICK-UP* .46 | .66
DEPTH REF. OFFSET AT START* 2.04 | 1.84
DEPTH REF. OFFSET AT END* 2.04 | 1.82
AFTER SURVEY DEPTH ERROR* 2.0 | .02
REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B620DH SUSPOMNO2	106.6 ft	11:44am	129.6	12:00pm
B620DH SUSPOMNO3	121.4	1:23pm	200.13 ft	1:46pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: Receiver broke during (N/A if none)

B620DH SUSPOMNO2 when it got caught by hole cave in.

SUGGESTIONS, ADDITIONS, CHANGES:

COMMENTS:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

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

P-S FIELD LOG REV V1.31a

B-620DH

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 3/21/08 3/23/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE*: 4-3 cc 3/23/08 OF 9

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
21.0	68.90	27		
21.5	70.54	28		
22.0	72.18	29		
22.5	73.82	30		
23.0	75.46	31		
23.5	77.10	32		
24.0	78.74	33		
24.5	80.38	34		
25.0	82.02	35		
25.5	83.66	36		
26.0	85.30	37		
26.5	86.94	38		
27.0	88.58	39		
27.5	90.22	40		
28.0	91.86	41		
28.5	93.50	42		
29.0	95.14	43		
29.5	96.78	44		
30.0	98.43	45		
30.5	100.07	46		
31.0	101.71	47		
31.5	103.35	48		
32.0	104.99	49		
32.5	106.63	50 53		11:44 am 3/23
33.0	108.27	51 54		
33.5	109.91	52 55		10:55 (3/21)
34.0	111.55	56		
34.5	113.19	57		
35.0	114.83	58		
35.5	116.47	59		
36.0	118.11	60		
36.5	119.75	61		
37.0	121.39	62 67		1:23 (3/23)
37.5	123.03	68 63		
38.0	124.67	69 64		
38.5	126.31	70 65		
39.0	127.95	71 66		
39.5	129.59	72 67	cc 3/23/08	12:00 (3/23)
40.0	131.23	73		
40.5	132.87	74		
41.0	134.51	75		

P-S FIELD LOG REV V1.31a

B-620BH

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 3/23/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE*: 4

OF 4

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
41.5	136.15	76		
42.0	137.80	77		
42.5	139.44	78		
43.0	141.08	79		
43.5	142.72	80		
44.0	144.36	81		
44.5	146.00	82		
45.0	147.64	83		
45.5	149.28	84		
46.0	150.92	85		
46.5	152.56	86		
47.0	154.20	87		
47.5	155.84	88		
48.0	157.48	89		
48.5	159.12	90		
49.0	160.76	91		
49.5	162.40	92		
50.0	164.04	93		
50.5	165.68	94		
51.0	167.32	95		
51.5	168.96	96		
52.0	170.60	97		
52.5	172.24	98		
53.0	173.88	99		
53.5	175.52	100		
54.0	177.17	101		
54.5	178.81	102		
55.0	180.45	103		
55.5	182.09	104		
56.0	183.73	105		
56.5	185.37	106		
57.0	187.01	107		
57.5	188.65	108		
58.0	190.29	109		
58.5	191.93	110		
59.0	193.57	111		
59.5	195.21	112		
60.0	196.85	113		
60.5	198.49	114		
61.0	200.13	115		1:46pm
61.5	201.77			

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-620BH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/23/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DRILLER PHONE: Off Cell
COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION: CASED UNCASD X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 105 ; 3 7/8 105 TO 215'

BOREHOLE TOTAL DEPTH AS DRILLED*: 215'

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 215'; NO
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER; FRESH WATER MUD X; SALT WATER MUD
OTHER:
DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 12:30pm

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City DEPARTURE TIME: 7:10 am
ARRIVED ON SITE: 7:30 am
STANDBY TIME: 2-4:30pm CAUSE: weather

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-620DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/23/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO ☐ OTHER ☐
MICROLOGGER* 5310 5772 ☒
TELEVIEWER* ACOUSTIC #5174 ☒ OTHER ☐
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

(PROBE TILT TEST* 90.07 BRUNTON TILT* 90
2. PROBE TILT TEST* 34.79 BRUNTON TILT* 35
3. PROBE TILT TEST* 8.4 BRUNTON TILT* 8 AFTER LOG* yes
1. PROBE AZIMUTH TEST* 268.3 BRUNTON AZIMUTH* 270
2. PROBE AZIMUTH TEST* 333.0 BRUNTON AZIMUTH* 331
3. PROBE AZIMUTH TEST* 239 BRUNTON AZIMUTH* 240 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	} REF TO GROUND SURFACE
MINUS CASING STICK-UP*	<u>1.5</u>	
DEPTH REF. OFFSET AT START*	<u>3.22</u>	
DEPTH REF. OFFSET AT END*	<u>3.12</u>	
AFTER SURVEY DEPTH ERROR*	<u>.10</u>	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B620DH A00P02	201.5 ft	4:53 pm	102 ft	4:58 pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

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

CALIPER FIELD LOG REV 1.1a.PDF



B-620DH

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP
CLIENT*: MACTEC
AUTHOR*: C. Carter
DATE*: 3/23/08
JOB*: 8083
PAGE: 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DRILLER: PHONE: Off Cell
COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION: CASED UNCASD X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 105 ft; 3 7/8" 105 TO 215 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 215 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 105 ft; NO
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER; FRESH WATER MUD; SALT WATER MUD
OTHER:
DEPTH TO BOREHOLE FLUID: ϕ TIME SINCE LAST CIRCULATION: 12:30 pm

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 7:10 am on 3/23/08
ARRIVED ON SITE: 7:30 am
STANDBY TIME: 2-4:30 CAUSE: Thunder/Lightning

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

CALIPER FIELD LOG REV 1.1a PDF



B-620DH

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 3/23/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
CALIPER PROBE* 5368 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 10' ☐ 10' ☒ 10' RG ☐

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	1.5	
DEPTH REF. OFFSET AT START*	5.32	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	5.35	
AFTER SURVEY DEPTH ERROR*	.03	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B620DH CAL TEST 03		5:16 pm		5:17 pm
B620DH CAL UP 02	205.95 ft	5:31 pm	97.5 ft	5:42 pm
B620DH CAL TEST 04		5:51		5:52

CALIBRATION PLATE S/N 201

	FILE NAME	AS BUILT			PVC FITTING
		1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN (203.2 MM)	4.607 IN (114.3 MM)
AS MEAS.*	B620DH CAL TEST 03	1.995	3.977	8.03	4.529
AS MEAS.*	B620DH CAL TEST 04	1.970	3.971	8.047	4.519
AS MEAS.					
AS MEAS.					
AS MEAS.					
AS MEAS.					

4.510 cc 3/23/11

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

* ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Fx (951) 549-1236

DH FIELD LOG REV 1.1a.pdf



B646 DH **DOWNHOLE VELOCITY FIELD LOG REV 1.1a**

Borehole*
SITE*: Turkey Point DATE*: 6/5/08, 6/6/08
CLIENT*: Mactec JOB*: 8083
AUTHOR*: A. Marten PAGE 1 OF 3

CONTACT: Matt Cochran PHONE: Off Cell 803-261-5792

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

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

BOREHOLE CONSTRUCTION: CASED TIME SINCE GROUT 5/21 & 22/08
DIAMETERS AND DEPTH RANGES: 2" 0 TO 150' TO _____

BOREHOLE TOTAL DEPTH AS DRILLED*: 150'

DEPTH TO BEDROCK: ~3' DEPTH TO WATER TABLE: ~2'

WATER PUMPED FROM BOREHOLE*? YES ☒ NO - then what
DEPTH TO WATER _____
to ~ 120' 6/5/08
to ~ 127' 6/6/08

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DHFIELD LOG REV 1.1a.pdf



B640 DHT DOWNHOLE VELOCITY FIELD LOG
Borehole*

SITE*: Turkey Point DATE*: 6/5/08 & 6/6/08
CLIENT*: Mactec JOB*: 2 8083
AUTHOR*: A. Martin PAGE 1 OF 3

LOGGING CREW*: A. Martin / N. Beldrum
MOBILIZED FROM: Florida City DEPARTURE TIME: 0645 (6/5/08), 0930 (6/6/08) Holds for fed. env
ARRIVED ON SITE: 0705 (6/5/08), 1015 (6/6/08) - here at first get
STANDBY TIME: 1015 - 1145 hrs (6/6/08) CAUSE: pumps well
LOGGING STARTED: 1155 (6/6/08) LOGGING COMPLETED: 1700 (6/6/08)

WINCH HAND ☒ OTHER
INSTRUMENT* Geode 3458 ☒ 3459 ☐ Other
GEOPHONES* BHG3 9501 ☒ Other BH43 B3079

Plank Orientation*: N 15° E (MN) Sh Source Offset* 8' 4" P Source Offset* 6' 8"
Surface geophones - if any - Offset Sh 10' 7" P Offset 8' 10"

P SOURCE Triph weight Drop Source
Sh SOURCE " " " "

CHANNEL ASSIGNMENTS 1 - borehole vertical, 2 - borehole horiz. long., 3 - borehole horiz. trans.
4 - surface vertical, 5 - surface H1, 6 - surface H2

SAMPLE RATES: sample rate / record length
Depth range 5 - 124.7' Sh-wave 20.833ms / 0.128s P-wave same
Depth range Sh-wave P-wave
Depth range Sh-wave P-wave

MAINTENANCE PERFORMED ON SITE*: repair geophone clamp 1425-1600 hrs, clamp
breaks again @ 1700 hrs, new clamps to be fed ex to site

EQUIPMENT PROBLEMS OR FAILURES*: 6/6/08 - 1200 hrs geophone not attached
correctly to cable and drops into casing.

SUGGESTIONS, ADDITIONS, CHANGES:

COMMENTS: channel 3 - horizontal transverse comp. aligned // to plank

1645 hrs - could not get past bend in casing @ 125'
6/5/08
ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

SITE*: Turkey Point

DATE*: 6/5/08 & 6/6/08

CLIENT*: Mofer

JOB*: 8083

AUTHOR*: A. Marten

PAGE* 3 OF 7

DEPTH* (Feet)	Sh CHANNEL NUMBERS*	# OF STACKS	SH FILE NUMBER*	P CHANNEL NUMBER*	# OF STACKS	P FILE NUMBER*
5	2	3	5	2	3	1
10			5	6		4
15			8	9		7
20			11	12		10
25			14	15		13
30			5	17	2	16
35			6	20	3	19
40			23	24		22
45			26	27		25
50			29	30		28
55			32	33		31
60			35	38 36	3	34
65			38	39	4	37
70			41	42		40
75			44	45		43
80			47	48		46
85			6	50		49
90			7	53		52
95			10	56		55
100			59	60	4	58
105			62	63	5	61
110			65	66		64
115			68	69		67
120			71	72		70
124.7			10	74	5	73
90	2	3	7	77	4	76
			end of clay approx	6/5/08		end of clay approx 6/6/08

→ adj Pplch
wider @ $\approx 70'$

~~Wick@62'~~

end of day	6/5/23
afternoon	

end of day 6/6/00
C. M. ...

DH FIELD LOG REV 1.1a.pdf



B642(DH) DOWNHOLE VELOCITY FIELD LOG REV 1.1a

Borehole*

SITE*: Turkey Point NP DATE*: 6/26/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: A. Martin PAGE 1 OF 3

CONTACT: Matt Cooke PHONE: Off Cell 803-261-5792

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

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

BOREHOLE CONSTRUCTION: CASED 2" TIME SINCE GROUT 1 month

DIAMETERS AND DEPTH RANGES: 6" 0 TO 150' ; _____ TO _____

BOREHOLE TOTAL DEPTH AS DRILLED*: 150'

DEPTH TO BEDROCK: 23' DEPTH TO WATER TABLE: 21'

WATER PUMPED FROM BOREHOLE*? YES ☒ NO - then what DEPTH TO WATER water pumped to 11'

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DHFIELD LOG REV 1.1a.pdf



B640(DAT) **DOWNHOLE VELOCITY FIELD LOG**
Borehole*

SITE*: Turkey Point NP DATE*: 6/26/08
CLIENT*: Mactec JOB*: 2 8083
AUTHOR*: A. Martin PAGE 1 OF 3

LOGGING CREW*: A. Martin / N. Bolden
MOBILIZED FROM: Florida City DEPARTURE TIME: 0630hr
ARRIVED ON SITE: 0700hr
STANDBY TIME: _____ CAUSE: _____
LOGGING STARTED: 1210hr LOGGING COMPLETED: 1535hr

WINCH _____ HAND ☒ OTHER _____
INSTRUMENT* Geode 3458 ☒ 3459 ☐ Other _____
GEOPHONES* BHG3 9501 ☐ Other BH493 51~ B3079

Plank Orientation*: NOTE (NW) Sh Source Offset* 9.5' P Source Offset* 7'10"
Surface geophones - If any-Offset Sh 13'5" P Offset 11'8"

P SOURCE Tryphm accelerated weight drop
" " " "
Sh SOURCE _____

CHANNEL ASSIGNMENTS 1 = borehole V, 2 = borehole HL, 3 = borehole HT
4 = surface V, 5 = surface HT, 6 = surface HL

SAMPLE RATES:
Depth range 0 - 122 ft Sh-wave 20.333ms SR / 1.152 RLP-wave 59ms
Depth range _____ Sh-wave _____ P-wave _____
Depth range _____ Sh-wave _____ P-wave _____

MAINTENANCE PERFORMED ON SITE*: work on weight drops -

EQUIPMENT PROBLEMS OR FAILURES*: _____

SUGGESTIONS, ADDITIONS, CHANGES: _____

COMMENTS: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

Borehole*

SITE*: Turkey Point NP

DATE*: 6/26/08

CLIENT*: Mooten

JOB*: 8083

AUTHOR*: A. Martin.

PAGE* 3 OF 3

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services 1151 Pomona Rd. #P Corona, CA 92882 ph (951) 549-1234 fx (951) 549-1236

* Let more air out of van tires @ 75' to better decouple vehicle. Red weight (N side) is also beginning to slide more freely. Repeat lower portion of borehole.



B-701DH BORING GEOPHYSICS FIELD LOG SUMMARY

Borehole*

SITE*: Turkey Point NPP

CLIENT*: MACTEC

AUTHOR*: C. Carter

DATE*: 4/17/08, 4/18/08, 4/20/08, 4/21/08

JOB*: 8083

PAGE*: 1 OF

CONTACT:

PHONE:

BOREHOLE CONSTRUCTION: CASSED

UNCASSED ☒

DIAMETERS AND DEPTH RANGES: 4" 0 TO 116 ft; 3 1/8" 116 TO 420 ft / 457.5 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 420 ft / 457.5

CONDUCTOR CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 116 ft; NO

DEPTH TO BEDROCK: ~3 ft

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

LOGGING CREW: C. Carter

LOG TYPE*	FILE NAME*	DEPTH RANGE*	DATE*	TIMES*
ELOG	B701DHELOGTEST01		4/17/08	1:02 - 1:04 pm
ELOG	B701DHELOGUP01	419.45 - 114.7 ft	4/17/08	4:24 - 4:55 pm
P-S velocity	B701DHSUSPD001	118.11 - 403.5 ft	4/17/08	5:27 - 6:47 pm
Caliper	B701DHCALTEST01		4/18/08	8:28 - 8:29 am
Caliper	B701DHCALUP01	407.1 - 110.75 ft	4/18/08	10:11 - 10:41 am
Caliper	B701DHCALTEST02		4/18/08	10:53 - 10:55 am
Deviation	B701DHALUP01	411.7 - 110.7 ft	4/18/08	11:29 - 11:46 am
ELOG	B701DHELOGTEST02		4/20/08	8:22 - 8:23 am
ELOG	B701DHELOGUP02	456.9 - 369.15 ft	4/20/08	11:39 - 11:48 am
Caliper	B701DHCALTEST03		4/21/08	11:21 - 11:22 am
Caliper	B701DHCALUP02	455.85 - 389.65 ft	4/21/08	11:43 - 11:50 am
Caliper	B701DHCALTEST04		4/21/08	12:08 - 12:10 pm
P-S velocity	B701DHSUSPD002	397 - 434.7 ft	4/21/08	12:45 - 1:08 pm

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Ex (951) 549-1236

ELOG FIELD LOG REV 1.1a



B-701DA ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 4/17/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 116'; 3 1/8" 116 TO 420'

BOREHOLE TOTAL DEPTH AS DRILLED*: 420 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 116'; NO _____
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER _____; FRESH WATER MUD X; SALT WATER MUD _____

OTHER: _____
DEPTH TO BOREHOLE FLUID: Ø TIME SINCE LAST CIRCULATION: 1:30pm / 4pm

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 7:00am
ARRIVED ON SITE: 7:30am
STANDBY TIME: 8-12 CAUSE: Drillers drilling to 420'

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

ELOG FIELD LOG REV 1.1a



B-7013H ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 4/17/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
ELOG PROBE* 5490 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE LENGTH	2.50M(8.20 FT)	
PLUS YOKE 10.0M (32.8 FT)*	32.8	
MINUS CASING STICK-UP*	2.25	
DEPTH REF. OFFSET AT START*	38.75	} REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	78.8	
AFTER SURVEY DEPTH ERROR*	.05	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B701DH ELOG TEST 01		1:02		1:04pm
B701DH ELOG UP 01	419.45 ft	4:24	114.7 ft	4:55

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: tiger salt, tiger mud ~~super~~ super gel & sure mud used in drilling mud

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

P-S FIELD LOG REV 1.31a



B-701DH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a
Borehole

SITE*: Turkey Point NPP DATE*: 4/17/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF 7

CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION*: CASED _____ UNCASD X cc 7/24/08
DIAMETERS AND DEPTH RANGES*: 4" 0 TO 116 ft ; 3 1/8" 116 TO 420
BOREHOLE TOTAL DEPTH AS DRILLED*: 420 ft
SURFACE CASING?: yes DEPTH TO BOTTOM OF CASING 116 ft ; NO _____
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER _____ FRESH WATER MUD X ; SALT WATER MUD: _____
OTHER: _____
DEPTH TO BOREHOLE FLUID*: ϕ TIME SINCE LAST CIRCULATION: 4pm

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.
GEOVision Geophysical Services - 11511 Pomona Road, Suite P, Coral Gables, FL 33134 (305) 549-1234 Fax (305) 549-1236

P-S FIELD LOG REV V1.31a



B-7010H

P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole*

SITE*: Turkey Point NPP DATE*: 4/17/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 7

LOGGING CREW*: C. Carter
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 7 am
ARRIVED ON SITE: 7:30 am
STANDBY TIME: CAUSE:
LOGGING STARTED: LOGGING COMPLETED:

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 ☒
ISOLATION TUBE S/N* 300083 ☐ 24053 ☐ 28068 ☐ 28072 ☐ 2M ☒ 1m 10 S/N
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐
MICROLOGGER* 5310 ☐ 5772 ☒ NOT APPLICABLE (OYO) ☐
PROBE OFFSET* OYO 2.0M ☐ RG 2.5M ☒
MINUS CASING STICK-UP* -.69
DEPTH REF. OFFSET AT START* 1.81
DEPTH REF. OFFSET AT END* 1.81
AFTER SURVEY DEPTH ERROR* .0
REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
B7010H SUSPENSION	118.11 ft	5:27 pm	403.5 ft	6:47 pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:
COMMENTS:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services 1151 Pomona Road, Suite P, Corona, CA 92602 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a

R-70104

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 9/11/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE* 3

OF 7

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
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			
25.0	82.02			
25.5	83.66			
26.0	85.30			
26.5	86.94			
27.0	88.58			
27.5	90.22			
28.0	91.86			
28.5	93.50			
29.0	95.14			
29.5	96.78			
30.0	98.43			
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	001		S:27
36.5	119.75	2		
37.0	121.39	3		
37.5	123.03	4		
38.0	124.67	5		
38.5	126.31	6		
39.0	127.95	7		
39.5	129.59	8		
40.0	131.23	9		
40.5	132.87	10		
41.0	134.51	11		

P-S FIELD LOG REV V1.31a

B-76104

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 4/17/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE* 4 OF 7

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*.	FILTERED FILE NO*. (if any)	COMMENTS CASING, WATER, ROCK, ETC
41.5	136.15	12		
42.0	137.80	13		
42.5	139.44	14		
43.0	141.08	15		
43.5	142.72	16		
44.0	144.36	17		
44.5	146.00	18		
45.0	147.64	19		
45.5	149.28	20		
46.0	150.92	21		
46.5	152.56	22		
47.0	154.20	23		
47.5	155.84	24		
48.0	157.48	25		
48.5	159.12	26		
49.0	160.76	27		
49.5	162.40	28		
50.0	164.04	29		
50.5	165.68	30		
51.0	167.32	31		
51.5	168.96	32		
52.0	170.60	33		
52.5	172.24	34		
53.0	173.88	35		
53.5	175.52	36		
54.0	177.17	37		
54.5	178.81	38		
55.0	180.45	39		
55.5	182.09	40		
56.0	183.73	41		
56.5	185.37	42		
57.0	187.01	43		
57.5	188.65	44		
58.0	190.29	45		
58.5	191.93	46		
59.0	193.57	47		
59.5	195.21	48		
60.0	196.85	49		
60.5	198.49	50		
61.0	200.13	51		
61.5	201.77	52		

P-S FIELD LOG REV V1.31a

3-701011

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 7/2/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE* 5 OF 7

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
62.0	203.41	53		
62.5	205.05	54		
63.0	206.69	55		
63.5	208.33	56		
64.0	209.97	57		
64.5	211.61	58		
65.0	213.25	59		
65.5	214.90	60		
66.0	216.54	61		
66.5	218.18	62		
67.0	219.82	63		
67.5	221.46	64		
68.0	223.10	65		
68.5	224.74	66		
69.0	226.38	67		
69.5	228.02	68		
70.0	229.66	69		
70.5	231.30	70		
71.0	232.94	71		
71.5	234.58	72		
72.0	236.22	73		
72.5	237.86	74		
73.0	239.50	75		
73.5	241.14	76		
74.0	242.78	77		
74.5	244.42	78		
75.0	246.06	79		
75.5	247.70	80		
76.0	249.34	81		
76.5	250.98	82		
77.0	252.62	83		
77.5	254.27	84		
78.0	255.91	85		
78.5	257.55	86		
79.0	259.19	87		
79.5	260.83	88		
80.0	262.47	89		
80.5	264.11	90		
81.0	265.75	91		
81.5	267.39	92		
82.0	269.03	93		

P-S FIELD LOG REV V1.31a

B-7010H

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 7/17/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE*: 6

OF 7

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
82.5	270.67	94		
83.0	272.31	95		
83.5	273.95	96		
84.0	275.59	97		
84.5	277.23	98		
85.0	278.87	99		
85.5	280.51	100		
86.0	282.15	101		
86.5	283.79	102		
87.0	285.43	103		
87.5	287.07	104		
88.0	288.71	105		
88.5	290.35	106		
89.0	291.99	107		
89.5	293.64	108		
90.0	295.28	109		
90.5	296.92	110		
91.0	298.56	111		
91.5	300.20	112		
92.0	301.84	113		
92.5	303.48	114		
93.0	305.12	115		
93.5	306.76	116		
94.0	308.40	117		
94.5	310.04	118		
95.0	311.68	119		
95.5	313.32	120		
96.0	314.96	121		
96.5	316.60	122		
97.0	318.24	123		
97.5	319.88	124		
98.0	321.52	125		
98.5	323.16	126		
99.0	324.80	127		
99.5	326.44	128		
100.0	328.08	129		
100.5	329.72	130		
101.0	331.36	131		
101.5	333.01	132		
102.0	334.65	133		
102.5	336.29	134		

P-S FIELD LOG REV V1 31a

B-20104

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 4/17/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE* 7 OF 7

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
103.0	337.93	135		
103.5	339.57	136		
104.0	341.21	137		
104.5	342.85	138		
105.0	344.49	139		
105.5	346.13	140		
106.0	347.77	141		
106.5	349.41	142		
107.0	351.05	143		
107.5	352.69	144		
108.0	354.33	145		
108.5	355.97	146		
109.0	357.61	147		
109.5	359.25	148		
110.0	360.89	149		
110.5	362.53	150		
111.0	364.17	151		
111.5	365.81	152		
112.0	367.45	153		
112.5	369.09	154		
113.0	370.73	155		
113.5	372.38	156		
114.0	374.02	157		
114.5	375.66	158		
115.0	377.30	159		
115.5	378.94	160		
116.0	380.58	161		
116.5	382.22	162		
117.0	383.86	163		
117.5	385.50	164		
118.0	387.14	165		
118.5	388.78	166		
119.0	390.42	167		
119.5	392.06	168		
120.0	393.70	169		
120.5	395.34	170		
121.0	396.98	171		
121.5	398.62	172		
122.0	400.26	173		
122.5	401.90	174		
123.0	403.54	175		6:47pm

CALIPER FIELD LOG REV 1.1a PDF



B-7010H CALIPER FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 4/18/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

DRILLER: _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: _____ RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 116 ft; 3 7/8" 116' TO 420 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 420 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 116 ft; NO _____
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER _____; FRESH WATER MUD X; SALT WATER MUD _____;
OTHER: _____
DEPTH TO BOREHOLE FLUID: Ø TIME SINCE LAST CIRCULATION: 9:30 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 7 am
ARRIVED ON SITE: 7:30 am
STANDBY TIME: _____ CAUSE: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Fx (951) 549-1236

CALIPER FIELD LOG REV 1.1a.PDF



B-7016H

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 4/8/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 5772 ☒ OTHER
CALIPER PROBE* 5368 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	2.25	
DEPTH REF. OFFSET AT START*	4.57	} REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	4.30	
AFTER SURVEY DEPTH ERROR*	.27	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B701DHICALTEST01		8:28am		8:29am
B701DHICALUP01	467.1 ft	10:11am	110.75 ft	10:41
B701DHICALTEST02		10:53		10:55am

CALIBRATION PLATE S/N 201

	FILE NAME	AS BUILT			PVC FITTING
		1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN (203.2 MM)	4.607 IN (114.3 MM)
AS MEAS.*	B701DHICALTEST01	2.0	3.965	8.01	4.53
AS MEAS.*	B701DHICALTEST02	2.01	3.95	8.01	4.55
AS MEAS.					
AS MEAS.					
AS MEAS.					
AS MEAS.					

4.510" cc 4/8/08

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Ex (951) 549-1236

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-701 DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 4/8/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF 2

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

DRILLER: _____ PHONE: Off Cell

COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED UNCASED X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 116 ft; 3 1/8, 116 TO 420 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 420 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 116 ft; NO _____
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER _____; FRESH WATER MUD X; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 9:30 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City DEPARTURE TIME: 9 am
ARRIVED ON SITE: 1:30 am
STANDBY TIME: _____ CAUSE: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-761DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 4/18/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO OTHER
MICROLOGGER* 5310 5772 ☒
TELEVIEWER* ACOUSTIC #5174 ☒ OTHER
SHEAVE* COMPROBE OYO 101 102 ☒ 103 RG

1 PROBE TILT TEST* 16.2 BRUNTON TILT* 16
2 PROBE TILT TEST* 90.1 BRUNTON TILT* 90
3 PROBE TILT TEST* 19.68 BRUNTON TILT* 19 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 197.6 BRUNTON AZIMUTH* 193
2 PROBE AZIMUTH TEST* 199.1 BRUNTON AZIMUTH* 199
3 PROBE AZIMUTH TEST* 247.5 BRUNTON AZIMUTH* 255 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	} REF TO GROUND SURFACE
MINUS CASING STICK-UP*	2.25	
DEPTH REF. OFFSET AT START*	2.47	
DEPTH REF. OFFSET AT END*	2.49	
AFTER SURVEY DEPTH ERROR*	.03	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B-761DH AUVPO1	411.7 ft	11:29	110.7 ft	11:46 am

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

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ELOG FIELD LOG REV 1.1a



B-701D^H

Borehole*

ELOG FIELD LOG

SITE*: Turkey Point NPP DATE*: 4/20/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION: CASED UNCASD ☒
DIAMETERS AND DEPTH RANGES: 4" 0 TO 116' ; 3 7/8" 116' TO 457.5'

BOREHOLE TOTAL DEPTH AS DRILLED*: 457.5'

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 116' ; NO
DEPTH TO BEDROCK: ~34ft DEPTH TO WATER TABLE: ~1ft
BOREHOLE FLUID: WATER ; FRESH WATER MUD ☒ ; SALT WATER MUD
OTHER:

DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 10:45am

LOGGING CREW: C. Carter

VEHICLE(S) USED AND MILEAGE:

MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 7:00am

ARRIVED ON SITE: 7:15am

STANDBY TIME: CAUSE:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



Borehole

ELOG FIELD LOG

SITE*: Turkey Point NPP DATE*: 4/20/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
ELOG PROBE* 5490 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE LENGTH	2.50M(8.20 FT)	
PLUS YOKE 10.0M (32.8 FT)*	32.8	
MINUS CASING STICK-UP*	2.25	
DEPTH REF. OFFSET AT START*	38.75	} REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	38.55	
AFTER SURVEY DEPTH ERROR*	.2	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B7010HELOGTEST02		8:22		8:23
B7010HELOGUP02	456.9	11:39	369.15	11:48

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:
Quick gel, super gel x sure mud, tiger
salt + tiger mud used for drilling mud

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

P-S FIELD LOG REV 1.31a



B-70104 P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole

SITE*: Turkey Point COL DATE*: 4/21/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C-Contar PAGE 1 OF 4

CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: _____ RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION*: CASED _____ UNCASD X
DIAMETERS AND DEPTH RANGES*: 4" 0 TO 160 ft; 3 7/8" 160 TO 457.5 ft
BOREHOLE TOTAL DEPTH AS DRILLED*: 457.5 ft
SURFACE CASING?: yes DEPTH TO BOTTOM OF CASING 160 ft; NO
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER _____; FRESH WATER MUD X; SALT WATER MUD: _____
OTHER: _____
DEPTH TO BOREHOLE FLUID*: 0 TIME SINCE LAST CIRCULATION: 10:30 am

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.
GEOVision Geophysical Services - 11511 Pomona Road, Suite P, Corona, CA 92602 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a



B-701DH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole*

SITE*: Turkey Point WPP DATE*: 4/21/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF * 4

LOGGING CREW*: C. Carter
MOBILIZED FROM: Florida City DEPARTURE TIME: 7:00 am
ARRIVED ON SITE: 7:15 am
STANDBY TIME: _____ CAUSE: _____
LOGGING STARTED: _____ LOGGING COMPLETED: _____

BATTERIES CHANGED BEFORE LOGGING: YES _____; NO X; 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 ☒
ISOLATION TUBE S/N* 300083 ☐ 24053 ☐ 28068 ☐ 28072 ☐ 2M in no s/n
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐
MICROLOGGER* 5310 ☐ 5772 ☒ NOT APPLICABLE (OYO) ☐
PROBE OFFSET* OYO 2.0M ☐ RG 2.5M ☒
MINUS CASING STICK-UP* .76
DEPTH REF. OFFSET AT START* 1.79
DEPTH REF. OFFSET AT END* 1.70
AFTER SURVEY DEPTH ERROR* .09 } REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
<u>B701DH SUSP DOWN 02</u>	<u>39.7</u>	<u>12:45</u>	<u>434.7</u>	<u>1:08</u>

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: _____
COMMENTS: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

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P-S FIELD LOG REV V1.31a

B-701044

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 4/17/08 4/21/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE* 23 OF 784 4/21/08

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (If any)	COMMENTS CASING, WATER, ROCK, ETC
103.0	337.93	135		
103.5	339.57	136		
104.0	341.21	137		
104.5	342.85	138		
105.0	344.49	139		
105.5	346.13	140		
106.0	347.77	141		
106.5	349.41	142		
107.0	351.05	143		
107.5	352.69	144		
108.0	354.33	145		
108.5	355.97	146		
109.0	357.61	147		
109.5	359.25	148		
110.0	360.89	149		
110.5	362.53	150		
111.0	364.17	151		
111.5	365.81	152		
112.0	367.45	153		
112.5	369.09	154		
113.0	370.73	155		
113.5	372.38	156		
114.0	374.02	157		
114.5	375.66	158		
115.0	377.30	159		
115.5	378.94	160		
116.0	380.58	161		
116.5	382.22	162		
117.0	383.86	163		
117.5	385.50	164		
118.0	387.14	165		
118.5	388.78	166		
119.0	390.42	167		
119.5	392.06	168		
120.0	393.70	169		
120.5	395.34	170		
121.0	396.98	171	176	12:45 4/21
121.5	398.62	172	177	
122.0	400.26	173	178	
122.5	401.90	174	179	
123.0	403.54	175	180	

P-S FIELD LOG REV V1.31a

B-70104 GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 4/21/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE*: 4 OF 4 cur/10/08
ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
123.5	405.18	181		
124.0	406.82	182		
124.5	408.46	183		
125.0	410.10	184		
125.5	411.75	185		
126.0	413.39	186		
126.5	415.03	187		
127.0	416.67	188		
127.5	418.31	189		
128.0	419.95	190		
128.5	421.59	191		
129.0	423.23	192		
129.5	424.87	193		
130.0	426.51	194		
130.5	428.15	195		
131.0	429.79	196		
131.5	431.43	197		
132.0	433.07	198		
132.5	434.71	197		108
133.0	436.35			
133.5	437.99			
134.0	439.63			
134.5	441.27			
135.0	442.91			
135.5	444.55			
136.0	446.19			
136.5	447.83			
137.0	449.48			
137.5	451.12			
138.0	452.76			
138.5	454.40			
139.0	456.04			
139.5	457.68			
140.0	459.32			
140.5	460.96			
141.0	462.60			
141.5	464.24			
142.0	465.88			
142.5	467.52			
143.0	469.16			
143.5	470.80			

CALIPER FIELD LOG REV 1.1a.PDF



B-701 DA

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 4/21/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DRILLER: PHONE: Off Cell

COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: RANGE: TOWNSHIP: SECTION: cc 4/21/08
BOREHOLE CONSTRUCTION: CASED UNCASED ☒
DIAMETERS AND DEPTH RANGES: ~~4 1/4~~ 4" 0 TO 160 ft; 3 7/8", 160 ft TO ~~457.5~~ 457.5' cc 4/21/08

BOREHOLE TOTAL DEPTH AS DRILLED*: 457.5

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 160'; NO
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER; FRESH WATER MUD ☒; SALT WATER MUD
OTHER:

DEPTH TO BOREHOLE FLUID: ϕ TIME SINCE LAST CIRCULATION: 10:30 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 7:00 am
ARRIVED ON SITE: 7:15 am
STANDBY TIME: CAUSE:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

CALIPER FIELD LOG REV 1.1a PDF



B-701DH CALIPER FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 4/24/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
CALIPER PROBE* 5368 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 10' ☐ 102' ☒ 10' ☐ RG ☐

PROBE OFFSET 2.08M(6.82 FT)
MINUS CASING STICK-UP* cc 4/24/08 2.5 cc 4/24/08 12 IN MAX
DEPTH REF. OFFSET AT START* 4.57 4.82 REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END* 4.10
AFTER SURVEY DEPTH ERROR* 22

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B701DH CAL TEST 03		11:21		11:22 am
B701DH CAL UP 02	455.85 ft	11:43	389.65 ft	11:50 am
B701DH CAL TEST 04		12:08		12:10 pm

CALIBRATION PLATE S/N 201

	FILE NAME	AS BUILT			PVC FITTING
		1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN (203.2 MM)	4.607 IN (114.3 MM)
AS MEAS.*	B701DH CAL TEST 03	1.976	3.97	8.04	4.55
AS MEAS.*	B701DH CAL TEST 04	2.02	3.92	8.01	4.55
AS MEAS.					
AS MEAS.					
AS MEAS.					
AS MEAS.					

4.510" cc 4/24/08

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

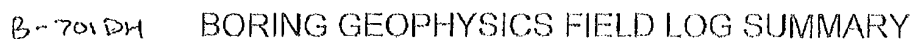
SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Fx (951) 549-1236

Borehole[®]

DATE: 5/3/08

JOB*:8083

AUTHOR: ~~C. Carter~~ P. STELLER 5/3/08

PAGE*: 1 OF 1

PHONE:

UNCASED ✓

DIAMETERS AND DEPTH RANGES: 6" 0 TO 457 FT 3.88" 457 TO 555.5 FT

BOREHOLE TOTAL DEPTH AS DRILLED*: 558.5 FT

CONDUCTOR CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 457 FT, NO (403.200)

DEPTH TO BEDROCK: 23 ft

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

LOGGING CREW: 2. STEWEL

[illegible]

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B-701DH

ELOG FIELD LOG

Borehole*

SITE*: Turkey Point NPP
CLIENT*: MACTEC
AUTHOR*: G. Carter R. STEWART
DATE*: 5/3/08
JOB*: 8083
PAGE: 1 OF 2
5/3/08

CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASED ☒
DIAMETERS AND DEPTH RANGES: 6" 0 TO 457' ; 3.08, 457' TO 555.5' ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 555.5 ft (HQ8 ROD)

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 457' ; NO _____
DEPTH TO BEDROCK: 12 ft DEPTH TO WATER TABLE: 20
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD _____;
OTHER: _____

DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 2 1/2 HR

LOGGING CREW: G. Carter R. STEWART 5/3/08
VEHICLE(S) USED AND MILEAGE: Rental
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 07:00
ARRIVED ON SITE: 07:30
STANDBY TIME: NA CAUSE: NA

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B710DH ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 6/3/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: G. Carter P. STELLER PAGE: PAGE 2 OF 2
5/3/08

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
ELOG PROBE* 5490 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE LENGTH	2.50M(8.20 FT)
PLUS YOKE 10.0M (32.8 FT)*	+ 32.8
MINUS CASING STICK-UP*	- 3.3'
DEPTH REF. OFFSET AT START*	37.7' REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	37.6'
AFTER SURVEY DEPTH ERROR*	- 0.1'

B710 LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B710DHELOGTEST03	0	08:50	0	09:56
SHOT PWS 5/3/08				
B710DHELOGUP03	555.0	09:14	457.0'	09:26

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: N/A

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

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

CALIPER FIELD LOG REV 1.1a PDF



B-701DH CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 5/3/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: G. Carter R. STEUER 5/3/08 PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

DRILLER _____ PHONE: Off Cell _____
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: MIAMI-DADE RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASED ☒
DIAMETERS AND DEPTH RANGES: 6" 0 TO 457' ; 3.88" 457 TO 555.5 FT

BOREHOLE TOTAL DEPTH AS DRILLED*: 555.5 FT

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 457 FT NO _____
DEPTH TO BEDROCK: 13 FT DEPTH TO WATER TABLE: 20
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD _____;
OTHER: _____
DEPTH TO BOREHOLE FLUID: Ø TIME SINCE LAST CIRCULATION: 01 HR

LOGGING CREW: G. Carter R. STEUER 5/3/08
VEHICLE(S) USED AND MILEAGE: RENTAL
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 07:00
ARRIVED ON SITE: 07:30
STANDBY TIME: NA CAUSE: NA

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

CALIPER FIELD LOG REV 1.1a.PDF



B-701DH

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 8/2/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: G. Carter R. Stewen 1/24/08 PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 5772 ☒ OTHER
CALIPER PROBE* 5368 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 10' ☐ 10' ☒ 10' RG ☐

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	3.3'	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	3.52'	
DEPTH REF. OFFSET AT END*	3.55'	
AFTER SURVEY DEPTH ERROR*	+0.03'	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B701DHCAUTEST05	0	9:52	0	9:56
B701DHCAUTEST03	353.0'	10:10	451.0'	10:23
B701DHCAUTEST06	0	10:36	0	10:39

CALIBRATION PLATE S/N 201		AS BUILT			PVC FITTING
	FILE NAME	1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN (203.2 MM)	4.507 IN (114.3 MM)
AS MEAS.*	B701DHCAUTEST05	1.96	3.92	7.99	4.56
AS MEAS.*	B701DHCAUTEST06	1.98	3.94	8.00	4.56
AS MEAS.					
AS MEAS.					
AS MEAS.					
AS MEAS.					

MAINTENANCE PERFORMED ON SITE*: NA (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: NA (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: NA

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV 1.31a



B-701 DH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole

SITE*: Turkey Point NPP DATE*: 5/3/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: G. Carter Q. STELLER 5/3/08 PAGE 1 OF * 5

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DIRECTIONS TO SITE:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:

BOREHOLE CONSTRUCTION*: CASED UNCASD ☒

DIAMETERS AND DEPTH RANGES*: 6" 0 TO 457 FT ; 3.88" 457 TO 555.5 FT

BOREHOLE TOTAL DEPTH AS DRILLED*: 555.5 FT

SURFACE CASING?: YES DEPTH TO BOTTOM OF CASING 457 FT ; NO (HQ3 ROD)

DEPTH TO BEDROCK: 3 FT DEPTH TO WATER TABLE: 0

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

OTHER:

DEPTH TO BOREHOLE FLUID*: 0 TIME SINCE LAST CIRCULATION: 2 HR

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.
GEOVision Geophysical Services - 1154 Pomona Road, Suite P, Corona, CA 92622 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a



B-701DH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole*

SITE*: Turkey Point NPP DATE*: 5/3/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: G. Garter R. STEVEN 5/3/08 PAGE 2 OF * 5

LOGGING CREW*: G. Garter R. STEVEN 5/3/08
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 07:00
ARRIVED ON SITE: 07:30
STANDBY TIME: CAUSE:
LOGGING STARTED: 11:17 LOGGING COMPLETED: 12:20

BATTERIES CHANGED BEFORE LOGGING: YES ☒; NO ☐; STORED WITH NEW ☐
WINCH COMPROBE ☐ GREY ☐ OYO ☐ RG ☐ OTH Slower
INSTRUMENT* OYO 12004 ☐ 15014 ☐ 19029 ☐ RG 160023 ☒ 160024 ☐
RECEIVER S/N* 12008 ☐ 20042 ☐ 26066 ☐ 11001 ☐ 23053 ☐ 30086 ☒
ISOLATION TUBE S/N* 300083 ☒ 24053 ☐ 28068 ☐ 28072 ☐ 2M ☐
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐
MICROLOGGER* 5310 ☐ 5772 ☒ NOT APPLICABLE (OYO) ☐
PROBE OFFSET* OYO 2.0M ☐ RG 2.5M ☒
MINUS CASING STICK-UP* 1.0m
DEPTH REF. OFFSET AT START* 1.5m
DEPTH REF. OFFSET AT END* 1.5m
AFTER SURVEY DEPTH ERROR* 0
REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B701DH SUSP DOWN 03	140m	11:17	151.0m	11:31
B701DH SUSP DOWN 04	150.5m	11:33	159.5m	12:20

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)
EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)
SUGGESTIONS, ADDITIONS, CHANGES: N/A
COMMENTS:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.
GEOVision Geophysical Services 1151 Pomona Road, Suite P, Corona, CA 92882 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a

B-701 DH **GEOVISION SUSPENSION LOGGING FIELD NOTES**

SITE*: TURKEY POINT COL DATE*: 5/2/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: P. STELLER PAGE* 3 OF 5

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO*. (if any)	COMMENTS CASING, WATER, ROCK, ETC
123.5	405.18			
124.0	406.82			
124.5	408.46			
125.0	410.10			
125.5	411.75			
126.0	413.39			
126.5	415.03			
127.0	416.67			
127.5	418.31			
128.0	419.95			
128.5	421.59			
129.0	423.23			
129.5	424.87			
130.0	426.51			
130.5	428.15			
131.0	429.79			
131.5	431.43			
132.0	433.07			
132.5	434.71			
133.0	436.35			
133.5	437.99			
134.0	439.63			
134.5	441.27			
135.0	442.91			
135.5	444.55			
136.0	446.19			
136.5	447.83			
137.0	449.48			
137.5	451.12			
138.0	452.76			
138.5	454.40			
139.0	456.04			
139.5	457.68	373		H&B ROD TO 457 FT
140.0	459.32	300 372		
140.5	460.96	301 371		
141.0	462.60	302 370		
141.5	464.24	303 369		
142.0	465.88	304 368		
142.5	467.52	305 367		
143.0	469.16	306 366		
143.5	470.80	307 365		

P-S FIELD LOG REV V1.31a

B-701DH **GEOVISION SUSPENSION LOGGING FIELD NOTES**

SITE*: TURKEY POINT COL DATE*: 5/3/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: R. STELLER PAGE*: 4 OF 5

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

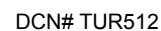
DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
144.0	472.44	308 364		
144.5	474.08	309 363		
145.0	475.72	310 362		
145.5	477.36	311 361		
146.0	479.00	312 360		
146.5	480.64	313 359		
147.0	482.28	314 358		
147.5	483.92	315 357		
148.0	485.56	316 356		
148.5	487.20	317 355		
149.0	488.85	318 354		
149.5	490.49	319 353		
150.0	492.13	320 352		
150.5	493.77	321 351		
151.0	495.41	322		
151.5	497.05	323		
152.0	498.69	324		
152.5	500.33	325		
153.0	501.97	326		
153.5	503.61	327		
154.0	505.25	328		
154.5	506.89	329		
155.0	508.53	330		
155.5	510.17	331		
156.0	511.81	332		
156.5	513.45	333		
157.0	515.09	334		
157.5	516.73	335		
158.0	518.37	336		
158.5	520.01	337		
159.0	521.65	338		
159.5	523.29	339		
160.0	524.93	340		
160.5	526.57	341		
161.0	528.22	342		
161.5	529.86	343		
162.0	531.50	344		
162.5	533.14	345		
163.0	534.78	346		
163.5	536.42	347		
164.0	538.06	348		

P-S FIELD LOG REV V1.31a

B-701 DA **GEOVISION SUSPENSION LOGGING FIELD NOTES**
 SITE*: TURKEY POINT COL DATE*: 5/3/08
 CLIENT*: MACTEC JOB*: 8083
 AUTHOR*: P. STEUER PAGE* 5 OF 5

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
164.5	539.70	349		
165.0	541.34	350		
165.5	542.98			BOTTOM MEASUREMENT?
166.0	544.62			Ht @ 165.3 m.
166.5	546.26			
167.0	547.90			
167.5	549.54			
168.0	551.18			
168.5	552.82			
169.0	554.46			T.O. @ 555.5'
169.5	556.10			
170.0	557.74			
170.5	559.38			
171.0	561.02			
171.5	562.66			
172.0	564.30			
172.5	565.94			
173.0	567.59			
173.5	569.23			
174.0	570.87			
174.5	572.51			
175.0	574.15			
175.5	575.79			
176.0	577.43			
176.5	579.07			
177.0	580.71			
177.5	582.35			
178.0	583.99			
178.5	585.63			
179.0	587.27			
179.5	588.91			
180.0	590.55			
180.5	592.19			
181.0	593.83			
181.5	595.47			
182.0	597.11			
182.5	598.75			
183.0	600.39			
183.5	602.03			
184.0	603.67			
184.5	605.31			



ELOG FIELD LOG REV 1.1a



B-701 DH ELOG FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 5/5/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter R. STEWEN 5/5/08 PAGE: 1 OF 2
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: GLEN BAKER PHONE: Off Cell 931-242-6501
COMPANY: MILLER

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED UNCASED ☒
DIAMETERS AND DEPTH RANGES: 4" 0 TO 457 FT; 3.00" 457 FT TO 615.5 FT

BOREHOLE TOTAL DEPTH AS DRILLED*: 615.5 FT

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 457 FT (H23 200) NO _____
DEPTH TO BEDROCK: 23 DEPTH TO WATER TABLE: 20
BOREHOLE FLUID: WATER; FRESH WATER MUD ☒; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 1 HR

LOGGING CREW: C. Carter R. STEWEN 5/5/08
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 09:30
ARRIVED ON SITE: 10:00
STANDBY TIME: N/A CAUSE: N/A

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

ELOG FIELD LOG REV 1.1a



B-701 DH ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 5/5/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter R. STELLER 5/5/08 PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
ELOG PROBE* 5490 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE LENGTH	2.50M(8.20 FT)	
PLUS YOKE 10.0M (32.8 FT)*	+62.2 FT	
MINUS CASING STICK-UP*	-3.3 FT	
DEPTH REF. OFFSET AT START*	37.7 FT	} REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	37.6 FT	
AFTER SURVEY DEPTH ERROR*	-0.1 FT	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B701DHLMTEST04	Ø	11:20	Ø	11:24
B701DHLELOGUP04	615.3 FT	11:48	450.0 FT	12:04

MAINTENANCE PERFORMED ON SITE*: N/A RAS 7/20/08 (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A RAS 7/20/08 (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

CALIPER FIELD LOG REV 1.1a.PDF



D-701 DH CALIPER FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 5/5/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: G. Carter & STEWEL 5/5/08 PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

DRILLER _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: MIAMI-DADE RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASED ✓
DIAMETERS AND DEPTH RANGES: 4" 0 TO 457' FT; 3.88, 457' FT TO 615.5 FT

BOREHOLE TOTAL DEPTH AS DRILLED*: 615.5 FT

SURFACE CASING?: YES ✓ DEPTH TO BOTTOM OF CASING 457' FT NO (N Q3 Q09)

DEPTH TO BEDROCK: 15 FT DEPTH TO WATER TABLE: 0
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ✓; SALT WATER MUD _____;

OTHER: _____
DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 2 HR

LOGGING CREW: G. Carter & STEWEL 5/5/08
VEHICLE(S) USED AND MILEAGE: 2 ENTAL
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 09:30
ARRIVED ON SITE: 10:00
STANDBY TIME: N/A CAUSE: N/A

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

CALIPER FIELD LOG REV 1.1a.PDF



B-701 DH CALIPER FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 5/5/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: G. Carter D. STEWART 5/5/08 PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 5772 ☒ OTHER
CALIPER PROBE* 5368 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 10 ☐ 102 ☒ 101 ☐ RG ☐

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	3.3 FT	
DEPTH REF. OFFSET AT START*	3.52 FT	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	3.45	
AFTER SURVEY DEPTH ERROR*	-0.07 FT	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B701DH CALTEST07	0	12:33	0	12:35
B701DH CALUP 04	612.0 FT	12:46	450.0 FT	13:04
B701DH CALTEST08	0	13:14	0	13:16

CALIBRATION PLATE S/N 201

FILE NAME	AS BUILT			PVC FITTING
	1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN (203.2 MM)	4.507 IN (114.3 MM)
AS MEAS.* B701DH CALTEST07	1.97	3.93	8.02	4.57
AS MEAS.* B701DH CALTEST08	1.98	3.94	8.03	4.51
AS MEAS.				
AS MEAS.				
AS MEAS.				
AS MEAS.				

MAINTENANCE PERFORMED ON SITE*: N/A CAL 7/24/08 (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A CAL 7/24/08 (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Ex (951) 549-1236

P-S FIELD LOG REV V1.31a



B-701 DH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a
Borehole

SITE*: Turkey Point NPP DATE*: 5/5/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Garter R. STELLER 5/5/08 PAGE 1 OF * 6

CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION*: CASED _____ UNCASD ☒
DIAMETERS AND DEPTH RANGES*: 4" 0 TO 457 FT; 5.8" 457 TO 615.5 FT
BOREHOLE TOTAL DEPTH AS DRILLED*: 615.5 FT
SURFACE CASING?: ☒ DEPTH TO BOTTOM OF CASING 457 FT NO (1003 ROD)
DEPTH TO BEDROCK: 23 FT DEPTH TO WATER TABLE: 8
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD: _____
OTHER: _____
DEPTH TO BOREHOLE FLUID*: 0 TIME SINCE LAST CIRCULATION: 3 HR

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL
GEOVision Geophysical Services 1151 Peninsula Road, Suite P, Corona, CA 92622 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a



B-701 DH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a
Borehole*

SITE*: Turkey Point NPP DATE*: 5/5/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: G. Carter R. STEUER 5/5/08 PAGE 2 OF * 6

LOGGING CREW*: G. Carter R. STEUER 5/5/08
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 09:30
ARRIVED ON SITE: 10:00
STANDBY TIME: N/A CAUSE: N/A
LOGGING STARTED: 14:10 LOGGING COMPLETED: 14:50

BATTERIES CHANGED BEFORE LOGGING: YES ; NO ☒ ; STORED WITH NEW
WINCH COMPROBE ☐ GREY ☐ OYO ☐ RG ☐ OTH silver
INSTRUMENT* OYO 12004 ☐ 15014 ☐ 19029 ☐ RG 160023 ☒ 160024 ☐
RECEIVER S/N* 12008 ☐ 20042 ☐ 26066 ☐ 11001 ☐ 23053 ☐ 30086 ☒
ISOLATION TUBE S/N* 300083 ☐ 24053 ☐ 28068 ☐ 28072 ☐ 2M ☐
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐
MICROLOGGER* 5310 ☐ 5772 ☒ NOT APPLICABLE (OYO) ☐
PROBE OFFSET* OYO 2.0M ☐ RG 2.5M ☒
MINUS CASING STICK-UP* 1.0m
DEPTH REF. OFFSET AT START* 1.5m
DEPTH REF. OFFSET AT END* 1.5m
AFTER SURVEY DEPTH ERROR* ϕ } REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B-701 DH SUSPENSION 05	110m (459.3 FT.)	14:10	183.5m (602.0 FT.)	14:50

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: N/A
COMMENTS:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

GEOVision Geophysical Services 1151 Pomona Road, Suite P, Corona, CA 92602 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point COL DATE*: 5/5/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: P. STELLER PAGE* 3 OF 6

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*.	FILTERED FILE NO*. (if any)	COMMENTS CASING, WATER, ROCK, ETC
123.5	405.18			
124.0	406.82			
124.5	408.46			
125.0	410.10			
125.5	411.75			
126.0	413.39			
126.5	415.03			
127.0	416.67			
127.5	418.31			
128.0	419.95			
128.5	421.59			
129.0	423.23			
129.5	424.87			
130.0	426.51			
130.5	428.15			
131.0	429.79			
131.5	431.43			
132.0	433.07			
132.5	434.71			
133.0	436.35			
133.5	437.99			
134.0	439.63			
134.5	441.27			
135.0	442.91			
135.5	444.55			
136.0	446.19			
136.5	447.83			
137.0	449.48			
137.5	451.12			
138.0	452.76			
138.5	454.40			
139.0	456.04			
139.5	457.68			N03 200 TO 457 FT
140.0	459.32	A74		
140.5	460.96	A75		
141.0	462.60	A76		
141.5	464.24	A77		
142.0	465.88	A78		
142.5	467.52	A79		
143.0	469.16	A80		
143.5	470.80	A81		

P-S FIELD LOG REV V1.31a

B-701 Dr **GEOVISION SUSPENSION LOGGING FIELD NOTES**

SITE*: TURKEY POINT COL DATE*: 5/5/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: R. STEWART PAGE*: 4 OF 6

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
144.0	472.44	482		
144.5	474.08	483		
145.0	475.72	484		
145.5	477.36	485		
146.0	479.00	486		
146.5	480.64	487		
147.0	482.28	488		
147.5	483.92	489		
148.0	485.56	490		
148.5	487.20	491		
149.0	488.85	492		
149.5	490.49	493		
150.0	492.13	494		
150.5	493.77	495		
151.0	495.41	496		
151.5	497.05	497		
152.0	498.69	498		
152.5	500.33	499		
153.0	501.97	500		
153.5	503.61	501		
154.0	505.25	502		
154.5	506.89	503		
155.0	508.53	504		
155.5	510.17	505		
156.0	511.81	506		
156.5	513.45	507		
157.0	515.09	508		
157.5	516.73	509		
158.0	518.37	510		
158.5	520.01	511		
159.0	521.65	512		
159.5	523.29	513		
160.0	524.93	514		
160.5	526.57	515		
161.0	528.22	516		
161.5	529.86	517		
162.0	531.50	518		
162.5	533.14	519		
163.0	534.78	520		
163.5	536.42	521		
164.0	538.06	522		

P-S FIELD LOG REV V1.31a

B-701 DH **GEOVISION SUSPENSION LOGGING FIELD NOTES**
SITE*: Turkey Point COL DATE*: 5/5/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: R. STELLER PAGE* 5 OF 6
ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
164.5	539.70	523		
165.0	541.34	524		
165.5	542.98	525		
166.0	544.62	526		
166.5	546.26	527		
167.0	547.90	528		
167.5	549.54	529		
168.0	551.18	530		
168.5	552.82	531		
169.0	554.46	532		
169.5	556.10	533		
170.0	557.74	534		
170.5	559.38	535		
171.0	561.02	536		
171.5	562.66	537		
172.0	564.30	538		
172.5	565.94	539		
173.0	567.59	540		
173.5	569.23	541		
174.0	570.87	542		
174.5	572.51	543		
175.0	574.15	544		
175.5	575.79	545		
176.0	577.43	546		
176.5	579.07	547		
177.0	580.71	548		
177.5	582.35	549		
178.0	583.99	550		
178.5	585.63	551		
179.0	587.27	552		
179.5	588.91	553		
180.0	590.55	554		
180.5	592.19	555		
181.0	593.83	556		
181.5	595.47	557		
182.0	597.11	558		
182.5	598.75	559		
183.0	600.39	560		
183.5	602.03	561		Hit @ 183.75 @ 14:58
184.0	603.67			Bottom measurement?
184.5	605.31			

P-S FIELD LOG REVVI.31a

B. TOBY **GEOVISION SUSPENSION LOGGING FIELD NOTES**
SITE*: TURKEY POINT COL DATE*: 5/5/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: R. STEWART PAGE* 6 OF 6
ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
185.0	606.96			
185.5	608.60			
186.0	610.24			
186.5	611.88			
187.0	613.52			
187.5	615.16			
188.0	616.80			
188.5	618.44			
189.0	620.08			
189.5	621.72			
190.0	623.36			
190.5	625.00			
191.0	626.64			
191.5	628.28			
192.0	629.92			
192.5	631.56			
193.0	633.20			
193.5	634.84			
194.0	636.48			
194.5	638.12			
195.0	639.76			
195.5	641.40			
196.0	643.04			
196.5	644.69			
197.0	646.33			
197.5	647.97			
198.0	649.61			
198.5	651.25			
199.0	652.89			
199.5	654.53			
200.0	656.17			
200.5	657.81			
201.0	659.45			
201.5	661.09			
202.0	662.73			
202.5	664.37			
203.0	666.01			
203.5	667.65			
204.0	669.29			
204.5	670.93			
205.0	672.57			

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-701 DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 5/5/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: G. Carter R. STEWEN 5/5/08 PAGE 1 OF 2

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

DRILLER _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED UNCASED ☒
DIAMETERS AND DEPTH RANGES: 4" 0 TO 457'; 3.84" 457' TO 615.5 FT

BOREHOLE TOTAL DEPTH AS DRILLED*: _____

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 457'; NO 4" STEEL
DEPTH TO BEDROCK: 23 FT DEPTH TO WATER TABLE: 0
BOREHOLE FLUID: WATER ☒; FRESH WATER MUD _____; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 7 HR

LOGGING CREW: G. Carter R. STEWEN 5/5/08
VEHICLE(S) USED AND MILEAGE: RENTAL
MOBILIZED FROM: Florida City DEPARTURE TIME: 09:30
ARRIVED ON SITE: 10:00
STANDBY TIME: N/A CAUSE: N/A

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-701 DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 5/8/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: G. Carter R. Steiner 5/5/08 PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO OTHER
MICROLOGGER* 5310 5772 ☒
TELEVIEWER* ACOUSTIC #5174 ☒ OTHER
SHEAVE* COMPROBE OYO 101 102 ☒ 103 RG

PROBE TILT TEST* 89.8 BRUNTON TILT* 90°
PROBE TILT TEST* 14.3 BRUNTON TILT* 14°
PROBE TILT TEST* 0.2° BRUNTON TILT* 0° AFTER LOG* ☒
PROBE AZIMUTH TEST* 135.9° BRUNTON AZIMUTH* 126°
PROBE AZIMUTH TEST* 242.1° BRUNTON AZIMUTH* 240°
PROBE AZIMUTH TEST* 32.6° BRUNTON AZIMUTH* 35° AFTER LOG* ☒

PROBE OFFSET*	1.44M(4.72FT)	} REF TO GROUND SURFACE
MINUS CASING STICK-UP*	2.4	
DEPTH REF. OFFSET AT START*	2.32'	
DEPTH REF. OFFSET AT END*	2.20'	
AFTER SURVEY DEPTH ERROR*	-0.12'	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B701DTHu802	010.0 FT	16:47	110.0 FT	17:34

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: N/A

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Fx (951) 549-1236



B-701 DH BORING GEOPHYSICS FIELD LOG SUMMARY

Borehole*

SITE*: Turkey Point NPP DATE*: 5/6/08, 5/7/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: G. Carter R. STELLER 5/6/08 PAGE*: 1 OF 1

CONTACT: PHONE:

BOREHOLE CONSTRUCTION: CASSED UNCASSED ☒
DIAMETERS AND DEPTH RANGES: 1" 0 TO 45.7 FT; 3.88" 45.7 TO 615.5 FT
BOREHOLE TOTAL DEPTH AS DRILLED*: 105.5 FT
CONDUCTOR CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 127 FT, NO
DEPTH TO BEDROCK: 3 FT
BOREHOLE FLUID: WATER; FRESH WATER MUD ☒; SALT WATER MUD

LOGGING CREW: R. STELLER

LOG TYPE*	FILE NAME*	DEPTH RANGE*	DATE*	TIMES*
ELOG TEST	B701DH ELOG TEST 05	0	5/6/08	09:40 - 09:42
ELOG/GAMMA	B701DH ELOG/GAMMA 05	485.0 - 425.0 FT	5/6/08	13:13 - 13:20
SUSPENSION PS	NO DATA COLLECTED - HOLE		5/6/08	N/A
	OBSTRUCTED @ 424.2 FT			
ELOG TEST	B701DH ELOG TEST 06	0	5/7/08	10:14 - 10:16
ELOG/GAMMA	B701DH ELOG/GAMMA 06	155.0 - 20.0 FT	5/7/08	10:20 - 10:41
CALIPER TEST	B701DH CALIPER TEST 09	0	5/7/08	10:54 - 10:56
CALIPER/GAMMA	B701DH CALIPER/GAMMA 05	155.0 - 0	5/7/08	11:05 - 11:22
CALIPER TEST	B701DH CALIPER TEST 10	0	5/7/08	11:26 - 11:28
SUSPENSION PS	B701DH SUSPENSION PS 07	16.4 - 134.5 FT	5/7/08	12:15 - 12:47
ACOUSTIC TELE	B701DH ACOUSTIC TELE 03	125.0 - 15.0 FT	5/7/08	13:16 - 13:45
ACOUSTIC TELE	B701DH ACOUSTIC TELE 04	25.0 - 23.0 FT	5/7/08	14:58 - 15:11
SUSPENSION PS	B701DH SUSPENSION PS 08	1.6 - 23.0 FT	5/7/08	15:00 - 15:11
CALIPER TEST	B701DH CALIPER TEST 11	0	5/7/08	15:20 - 15:23
CALIPER/GAMMA	B701DH CALIPER/GAMMA 06	155.0 - 0	5/7/08	15:33 - 15:50
CALIPER TEST	B701DH CALIPER TEST 12	0	5/7/08	15:53 - 15:56

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B-70104 ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 5/6/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter P. STEWEE 5/6/08 PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____

BOREHOLE CONSTRUCTION: CASED _____ UNCASD ☒

DIAMETERS AND DEPTH RANGES: 4" 0 TO 457' ft; 3.88" 457 TO 615.5' ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 615.5' ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 427' ft; NO _____

DEPTH TO BEDROCK: 53' ft DEPTH TO WATER TABLE: ±0

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

OTHER: _____

DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 2 1/2 HRS

LOGGING CREW: C. Carter P. STEWEE 5/6/08

VEHICLE(S) USED AND MILEAGE: RENTAL

MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 07:00

ARRIVED ON SITE: 07:30

STANDBY TIME: N/A CAUSE: N/A

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B-701 D4 ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 5/6/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter R. Stuebel PAGE: PAGE 2 OF 2
5/6/08

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
ELOG PROBE* 5490 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE LENGTH	2.50M(8.20 FT)
PLUS YOKE 10.0M (32.8 FT)*	+ 32.8 FT
MINUS CASING STICK-UP*	- 3.3 FT
DEPTH REF. OFFSET AT START*	37.7 FT
DEPTH REF. OFFSET AT END*	37.8 FT
AFTER SURVEY DEPTH ERROR*	+0.1 FT

REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B701DHELOGTEST05	0	09:40	0	09:42
B701DHELOGUP 05	425.0 FT	13:13	425.0 FT	13:20

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: N/A

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

P-S FIELD LOG REV V1.31a



B-901D14 P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole

SITE*: Turkey Point NPP DATE*: 5/6/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: ~~G. Carter~~ P. STELLER 5/6/08 PAGE 1 OF * 3

CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION*: CASED _____ UNCASED ☒
DIAMETERS AND DEPTH RANGES*: 4' 0 TO 457' FT ; 3.88" 457 TO 615.5 FT
BOREHOLE TOTAL DEPTH AS DRILLED*: 615.5 FT
SURFACE CASING?: ☒ DEPTH TO BOTTOM OF CASING 42.7 FT NO
DEPTH TO BEDROCK: 23 FT DEPTH TO WATER TABLE: 20
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD; _____
OTHER: _____
DEPTH TO BOREHOLE FLUID*: 0 TIME SINCE LAST CIRCULATION: 1 1/2 HR

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.
GEOVision Geophysical Services 11511 Pomona Road, Suite P, Corona, CA 92602 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a



B-701 D4 P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a
Borehole*

SITE*: Turkey Point NPP DATE*: 5/6/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter P. STELLER 5/6/08 PAGE 2 OF * 3

LOGGING CREW*: G. Carter 5/6/08
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 07:00
ARRIVED ON SITE: 07:30
STANDBY TIME: CAUSE:
LOGGING STARTED: NA LOGGING COMPLETED: NA

BATTERIES CHANGED BEFORE LOGGING: YES; NO ☒; STORED WITH NEW
WINCH COMPROBE ☐ GREY ☐ OYO ☐ RG ☐ OTH SILVER
INSTRUMENT* OYO 12004 ☐ 15014 ☐ 19029 ☐ RG 160023 ☒ 160024 ☐
RECEIVER S/N* 12008 ☐ 20042 ☐ 26066 ☐ 11001 ☐ 23053 ☐ 30086 ☒
ISOLATION TUBE S/N* 300083 ☒ 24053 ☐ 28068 ☐ 28072 ☐ 2M
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐
MICROLOGGER* 5310 ☐ 5772 ☒ NOT APPLICABLE (OYO) ☐
PROBE OFFSET* OYO 2.0M ☐ RG 2.5M ☒
MINUS CASING STICK-UP* -1.0m
DEPTH REF. OFFSET AT START* 1.5m
DEPTH REF. OFFSET AT END* 1.5m
AFTER SURVEY DEPTH ERROR* 0
REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
<u>NO DATA COLLECTED, BORING</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
<u>OBSTRUCTED @ 424.2</u>				

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: N/A
COMMENTS:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.
GEOVision Geophysical Services 1151 Pomona Road, Suite P, Corona, CA 92602 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a

B-701 DH **GEOVISION SUSPENSION LOGGING FIELD NOTES**

SITE*: TURKEY POINT COI DATE*: 5/6/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: B. STEWART PAGE* 3 OF 5

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
123.5	405.18			
124.0	406.82			
124.5	408.46			
125.0	410.10			
125.5	411.75			
126.0	413.39			CONSTRUCTION @ 125.6m
126.5	415.03			TIP @ 424.2'
127.0	416.67			
127.5	418.31			
128.0	419.95			
128.5	421.59			
129.0	423.23			
129.5	424.87			
130.0	426.51			
130.5	428.15			4" STEEL CASING TO 428'
131.0	429.79			
131.5	431.43	--		
132.0	433.07			
132.5	434.71			
133.0	436.35			
133.5	437.99			
134.0	439.63			
134.5	441.27			
135.0	442.91			
135.5	444.55			
136.0	446.19			
136.5	447.83			
137.0	449.48			
137.5	451.12			
138.0	452.76			
138.5	454.40			
139.0	456.04			
139.5	457.68			
140.0	459.32			
140.5	460.96			
141.0	462.60			
141.5	464.24			
142.0	465.88			
142.5	467.52			
143.0	469.16			
143.5	470.80			BOTTOM MEASUREMENT?

ELOG FIELD LOG REV 1.1a



B-7010H ELOG FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 5/7/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: ~~G. Carter~~ R. Stewer 5/7/08 PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD ☒
DIAMETERS AND DEPTH RANGES: 4" 0 TO 457 FT; 5.08, 457 TO 615.5 FT

BOREHOLE TOTAL DEPTH AS DRILLED*: 615.5 FT 10 FT RAS 5/7/08

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING: 27 FT; NO _____
DEPTH TO BEDROCK: 23 FT DEPTH TO WATER TABLE: cφ
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: φ TIME SINCE LAST CIRCULATION: c/HR

LOGGING CREW: ~~G. Carter~~ R. Stewer 5/7/08
VEHICLE(S) USED AND MILEAGE: Rental
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 09:00
ARRIVED ON SITE: 09:30
STANDBY TIME: N/A CAUSE: N/A

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B-701 DH ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 5/7/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter, R. Stewer 5/7/08 PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
ELOG PROBE* 5490 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE LENGTH	2.50M(8.20 FT)	
PLUS YOKE 10.0M (32.8 FT)*	+32.8 10.0	REF TO GROUND SURFACE
MINUS CASING STICK-UP*	-1.0 9.2	
DEPTH REF. OFFSET AT START*	48.0 FT	
DEPTH REF. OFFSET AT END*	20.0 FT	
AFTER SURVEY DEPTH ERROR*	0	

2AS 5/7/08

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B7010HELOGTEST00	0	10:14	0	10:16
B7010HELOGW006	155.0 FT	10:26	20.0	10:41

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

CALIPER FIELD LOG REV 1.1a PDF



B-701 DH CALIPER FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 5/7/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: G. Carter R. STELLER 5/7/08 PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

DRILLER _____ PHONE: Off Cell

COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: MIAMI-DADE RANGE: _____ TOWNSHIP: _____ SECTION: _____

BOREHOLE CONSTRUCTION: CASED UNCASED Y

DIAMETERS AND DEPTH RANGES: 4" 0 TO 457 FT; 3.88" 457 TO 615.5 FT

BOREHOLE TOTAL DEPTH AS DRILLED*: 615.5 FT

SURFACE CASING?: YES ✓ DEPTH TO BOTTOM OF CASING 16 FT; NO ✓

DEPTH TO BEDROCK: 0.3 FT DEPTH TO WATER TABLE: 0

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

OTHER: _____

DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 0.1 HR.

LOGGING CREW: G. Carter R. STELLER 5/7/08

VEHICLE(S) USED AND MILEAGE: RENTAL

MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 09:00

ARRIVED ON SITE: 09:30

STANDBY TIME: N/A CAUSE: N/A

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

CALIPER FIELD LOG REV 1.1a.PDF



B-701 DH CALIPER FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 5/7/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: S. Carter, R. STEWART 5/7/08 PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO ☐ RG ☐ OTHER ☐
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER ☐
CALIPER PROBE* 5368 ☒ OTHER ☐
SHEAVE* COMPROBE ☐ OYO 10' ☐ 10' ☒ 10' ☐ RG ☐

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	1.0 FT	0.5 FT
DEPTH REF. OFFSET AT START*	5.82 FT	4.32 FT
DEPTH REF. OFFSET AT END*	5.8 FT	4.30 FT
AFTER SURVEY DEPTH ERROR*	-0.02 FT	-0.02 FT

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B701DH CALTEST 09	0	10:54	0	10:56
B701DH CALTEST 05	155.0 FT	11:05	0	11:22
B701DH CALTEST 10	0	11:26	0	11:28
B701DH CALTEST 11	0	15:20	0	15:23
B701DH CALTEST 06	155.0	15:33	0	15:50
B701DH CALTEST 12	0	15:53	0	15:56

CALIBRATION PLATE S/N 201		AS BUILT			PVC FITTING
FILE NAME		1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN (203.2 MM)	4.507 IN (114.3 MM)
AS MEAS.*	B701DH CALTEST 09	2.01	3.96	8.02	4.53
AS MEAS.*	B701DH CALTEST 10	1.96	3.92	8.00	4.49
AS MEAS.	B701DH CALTEST 11	1.92	3.88	7.96	4.46
AS MEAS.	B701DH CALTEST 12	1.93	3.89	7.97	4.46
AS MEAS.					
AS MEAS.					

MAINTENANCE PERFORMED ON SITE*: _____ (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: _____ (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a



B-701 DH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole

SITE*: Turkey Point NPP DATE*: 5/7/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: G. Garter R. SIELLER 5/7/08 PAGE 1 OF * 4

CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION*: CASED _____ UNCASD ☒
DIAMETERS AND DEPTH RANGES*: 4" 0 TO 45.7 FT; 3.88" 45.7 TO 615.5 FT
BOREHOLE TOTAL DEPTH AS DRILLED*: 615.5 FT
SURFACE CASING?: Run 1 DEPTH TO BOTTOM OF CASING 16 FT; NO Run 2
DEPTH TO BEDROCK: ± 3 FT DEPTH TO WATER TABLE: Ø
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD; _____
OTHER: _____
DEPTH TO BOREHOLE FLUID*: Ø TIME SINCE LAST CIRCULATION: ± 2 HR

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.
GEOVision Geophysical Services — 1151 Pomona Road, Suite P, Corona, CA 92622 (951) 549-1234 Fx (951) 549-1236

P S FIELD LOG REV V1.31a



B-701 DH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a
Borehole*

SITE*: Turkey Point NPP DATE*: 5/7/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: G. Carter R. STEWART 5/7/08 PAGE 2 OF 4

LOGGING CREW*: C. Carter R. STEWART 5/7/08
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 09:00
ARRIVED ON SITE: 09:30
STANDBY TIME: N/A CAUSE: N/A
LOGGING STARTED: 12:15 LOGGING COMPLETED: 15:11

BATTERIES CHANGED BEFORE LOGGING: YES ; NO ☒ ; STORED WITH NEW
WINCH COMPROBE ☐ GREY ☐ OYO ☐ RG ☐ OTH SIVEN
INSTRUMENT* OYO 12004 ☐ 15014 ☐ 19029 ☐ RG 160023 ☒ 160024 ☐
RECEIVER S/N* 12008 ☐ 20042 ☐ 26066 ☐ 11001 ☐ 23053 ☐ 30086 ☒
ISOLATION TUBE S/N* 300083 ☒ 24053 ☐ 28068 ☐ 28072 ☐ 2M
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐
MICROLOGGER* 5310 ☐ 5772 ☐ NOT APPLICABLE (OYO) ☐
PROBE OFFSET* OYO 2.0M ☐ RG 2.5M ☒
MINUS CASING STICK-UP* -0.3 m -0.1 m
DEPTH REF. OFFSET AT START* 2.2 m } REF TO GROUND SURFACE 2.4 m
DEPTH REF. OFFSET AT END* 2.2 m
AFTER SURVEY DEPTH ERROR* 0

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B701 DH Susp <u>07</u>	16.4 FT	12:15	134.5 FT	12:47
B701 DH Susp <u>08</u>	1.64 FT	15:00	23.0 FT	15:11
<u>DOWN</u> <u>cas</u> 5/7/08				

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: N/A
COMMENTS:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL
GEOVision Geophysical Services 1151 Pomona Road, Suite P, Corona, CA 92882 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a

B-761 DH GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: TURKEY POINT COL.

DATE*: 5/7/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: R. STELLER 5/7/08

PAGE* 3 OF 4

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*.	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
0.5	1.64	944		
1.0	3.28	945		
1.5	4.92	946		
2.0	6.56	947		
2.5	8.20	948		
3.0	9.84	949		
3.5	11.48	950		
4.0	13.12	951		
4.5	14.76	952		
5.0	16.40	762 953		6" STEEL CASE TO 16' ON RUN #7 (RUN FOR DATA)
5.5	18.04	763 954		
6.0	19.69	764 955		
6.5	21.33	765 956		
7.0	22.97	766 957		
7.5	24.61	767		
8.0	26.25	768		
8.5	27.89	769		
9.0	29.53	770		
9.5	31.17	771		
10.0	32.81	772		
10.5	34.45	773		
11.0	36.09	774		
11.5	37.73	775		
12.0	39.37	776		
12.5	41.01	777		
13.0	42.65	778		
13.5	44.29	779		
14.0	45.93	780		
14.5	47.57	781		
15.0	49.21	782		
15.5	50.85	783		
16.0	52.49	784		
16.5	54.13	785		
17.0	55.77	786		
17.5	57.41	787		
18.0	59.06	788		
18.5	60.70	789		
19.0	62.34	790		
19.5	63.98	791		
20.0	65.62	792		
20.5	67.26	793		

P-S FIELD LOG REV V1.31a

B-701 DH GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: TURNKEY POINT COL DATE*: 5/7/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: R. STELLER PAGE* 4 OF 4

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*.	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
21.0	68.90	794		
21.5	70.54	795		
22.0	72.18	796		
22.5	73.82	797		
23.0	75.46	798		
23.5	77.10	799		
24.0	78.74	800		
24.5	80.38	801		
25.0	82.02	802		
25.5	83.66	803		
26.0	85.30	804		
26.5	86.94	805		
27.0	88.58	806		
27.5	90.22	807		
28.0	91.86	808		
28.5	93.50	809		
29.0	95.14	810		
29.5	96.78	811		
30.0	98.43	812		
30.5	100.07	813		
31.0	101.71	814		
31.5	103.35	815	8A3	80ms 1 @ 12:47
32.0	104.99	816	812	
32.5	106.63	817	8A1	
33.0	108.27	818	8A0	
33.5	109.91	819	839	
34.0	111.55	820	838	
34.5	113.19	821	837	
35.0	114.83	822	836	
35.5	116.47	823	835	
36.0	118.11	824		20ms ↓
36.5	119.75	825		
37.0	121.39	826		
37.5	123.03	827		
38.0	124.67	828		
38.5	126.31	829		
39.0	127.95	830		
39.5	129.59	831		
40.0	131.23	832		
40.5	132.87	833		
41.0	134.51	834		@ 12:10

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-701 DA ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 5/7/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: G. Carter R. STELLER 5/7/08 PAGE 1 OF 2

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

DRILLER: _____ PHONE: Off Cell

COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED UNCASED ☒
DIAMETERS AND DEPTH RANGES: 4" 0 TO 457 FT; 3.88" 457 TO 615.5 FT

BOREHOLE TOTAL DEPTH AS DRILLED*: 615.5 FT

SURFACE CASING?: YES Run 1 DEPTH TO BOTTOM OF CASING 16 FT; NO Run 2
DEPTH TO BEDROCK: 23 FT DEPTH TO WATER TABLE: 26
BOREHOLE FLUID: WATER; FRESH WATER MUD ☒; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 22 HR

LOGGING CREW: G. Carter R. STELLER 5/7/08
VEHICLE(S) USED AND MILEAGE: RENTAL
MOBILIZED FROM: Florida City DEPARTURE TIME: 09:00
ARRIVED ON SITE: 09:30
STANDBY TIME: N/A CAUSE: N/A

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-701 DIT ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 5/7/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter R. Weller 5/7/08 PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO OTHER
MICROLOGGER* 5310 5772 ☒
TELEVIEWER* ACOUSTIC #5174 ☒ OTHER
SHEAVE* COMPROBE OYO 101 102 ☒ 103 RG

PROBE TILT TEST* 93.6° BRUNTON TILT* 93°
PROBE TILT TEST* 8.7° BRUNTON TILT* 9°
PROBE TILT TEST* 0.2° BRUNTON TILT* 0° AFTER LOG*
PROBE AZIMUTH TEST* 269.1° BRUNTON AZIMUTH* 263°
PROBE AZIMUTH TEST* 330.6° BRUNTON AZIMUTH* 344°
PROBE AZIMUTH TEST* 75.4° BRUNTON AZIMUTH* 75° AFTER LOG*

PROBE OFFSET*	1.44M(4.72FT)	Run 1	Run 2
MINUS CASING STICK-UP*	1.0 FT	0.5 FT	0.5 FT
DEPTH REF. OFFSET AT START*	3.72 FT	4.20 FT	4.20 FT
DEPTH REF. OFFSET AT END*	5.75	4.20 FT	4.20 FT
AFTER SURVEY DEPTH ERROR*	±0.03	±0.02 FT	±0.02 FT

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B701DITAWP03	125.0 FT	13:16	15.0	13:45
B701DITAWP04	25.0 FT	14:38	6	14:47

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: N/A

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL



B-704GDH BORING GEOPHYSICS FIELD LOG SUMMARY

Borehole*

SITE*: Turkey Point NPP

CLIENT*: MACTEC

AUTHOR*: C. Carter

DATE*: 3/8/08, 3/9/08

JOB*: 8083

PAGE*: 1 OF 1

CONTACT:

PHONE:

BOREHOLE CONSTRUCTION: CASSED

UNCASSED ☒

DIAMETERS AND DEPTH RANGES: 6" 0 TO 24 ft, 5" 24 TO 133 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 133 ft

CONDUCTOR CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 24'; NO

DEPTH TO BEDROCK: 4'

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

LOGGING CREW: C. Carter

LOG TYPE*	FILE NAME*	DEPTH RANGE*	DATE*	TIMES*
ELOG	B704GDHELOGTEST02		3/8/08	10:09 - 10:10 am
ELOG	B704GDHELOGUP01	129 - 39.5 ft	3/8/08	11:08 - 11:20 am
PS velocity	B704GDHSUSP000001	26.25 - 116.47 ft	3/8/08	12:14 - 1:04 pm
ATV	B704GDH40UP01	119.4 - 5.5 ft	3/8/08	2:11 - 2:47 pm
Caliper	B704GDHICALTEST01		3/8/08	3:05 - 3:06
Caliper	B704GDHICALUP01	121.0 - 8.6 ft	3/8/08	3:22 - 3:33
Caliper	B704GDHICALTEST02		3/8/08	3:41 - 3:42
ELOG	B704GDHELOGUP02	129.5 - 37.45	3/8/08	11:26 - 11:36 am
ELOG	B704GDHELOGTEST03		3/9/08	9:07 - 9:09
ELOG	B704GDHELOGUP03	163.05 - 103.15 ft	3/9/08	10:11 - 10:08
PS velocity	B704GDHSUSP000002	116.47 - 149.28'	3/9/08	10:44 - 11:00 am
Deviation	B704GDH40UP02	157.2 - 108.5 ft	3/9/08	11:46 - 11:48 am
Caliper	B704GDHICALTEST03		3/9/08	12:19 - 12:20 pm
Caliper	B704GDHICALUP02	155.4 - 105.05 ft	3/9/08	12:36 - 12:41 pm
Caliper	B704GDHICALTEST04		3/9/08	12:51 - 12:52 pm

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Ex (951) 549-1236

ELOG FIELD LOG REV 1.1a



R-704GDH ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/8/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____

BOREHOLE CONSTRUCTION: CASED _____ UNCASD X

DIAMETERS AND DEPTH RANGES: 6" 0 TO 24 ft; 5" 24 ft TO 133 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: cc 3/8/08
129 ft 133 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 24 ft; NO _____

DEPTH TO BEDROCK: 7' DEPTH TO WATER TABLE: φ

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

OTHER: _____

DEPTH TO BOREHOLE FLUID: φ TIME SINCE LAST CIRCULATION: 4pm 3/7

LOGGING CREW: C. Carter

VEHICLE(S) USED AND MILEAGE: _____

MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45 am

ARRIVED ON SITE: 7 am

STANDBY TIME: 7:30 - 10:30 cc 3/8/08 CAUSE: weather

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B-704G011 ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/8/68
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER OYO ☒ RG OTHER
MICROLOGGER* 5310 5772 ☒ OTHER
ELOG PROBE* 5490 ☒ OTHER
SHEAVE* COMPROBE OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE LENGTH	2.50M(8.20 FT)
PLUS YOKE 10.0M (32.8 FT)*	32.5 02
MINUS CASING STICK-UP*	-1.0
DEPTH REF. OFFSET AT START*	40 40 REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	39.95 39.95
AFTER SURVEY DEPTH ERROR*	.05 .05

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B704GDH ELOGTEST02		10:09 am		10:10 am
B704GDH ELOGUP01	12.9 ft	11:08 am	39.5 ft	11:20 am
B704GDH ELOGUP02	12.9.5 ft	11:26	37.45 ft	11:36

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

P-S FIELD LOG REV V1.31a



B-704GDI **P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a**

Borehole

SITE*: Turkey Point NPP DATE*: 3/8/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF * 4

CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION*: CASED UNCASED
DIAMETERS AND DEPTH RANGES*: 6" 0 TO 24 ft ; 5" 24 TO 133 ft
BOREHOLE TOTAL DEPTH AS DRILLED*: 133 ft
SURFACE CASING?: yes DEPTH TO BOTTOM OF CASING 24 ft ; NO
DEPTH TO BEDROCK: 4 ft DEPTH TO WATER TABLE: Ø
BOREHOLE FLUID: WATER _____; FRESH WATER MUD x; SALT WATER MUD; _____
OTHER: _____
DEPTH TO BOREHOLE FLUID*: Ø TIME SINCE LAST CIRCULATION: 4pm 3/7

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.
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P-S FIELD LOG REV V1.31a



B-204GDH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a
Borehole*

SITE*: Turkey Point NPP DATE*: 3/8/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 4

LOGGING CREW*: C. Carter
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45 am
ARRIVED ON SITE: 7 am
STANDBY TIME: 7:30 - 10 am CAUSE: weather
LOGGING STARTED: LOGGING COMPLETED:

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 ☒
ISOLATION TUBE S/N* 300083 ☐ 24053 ☐ 28068 ☐ 28072 ☒ 2M
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐
MICROLOGGER* 5310 ☐ 5772 ☒ NOT APPLICABLE (OYO) ☐
PROBE OFFSET* OYO 2.0M ☐ RG 2.5M ☒
MINUS CASING STICK-UP* .31 m
DEPTH REF. OFFSET AT START* 2.69 m
DEPTH REF. OFFSET AT END* 2.17 m
AFTER SURVEY DEPTH ERROR* .02 m
REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B70460H505P Down 01	26.25 ft	12:14 pm	116.47 ft	1:04 pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:
COMMENTS:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL
GEOVision Geophysical Services 1151 Pomona Road, Suite P, Corona, CA 92882 (951) 549-1234 Fx (951) 549-1236

B-264^{GDH}

P-S FIELD LOG REV V1.31a

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 3/8/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE* 3 OF 4

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
0.5	1.64			
1.0	3.28			
1.5	4.92			
2.0	6.56			
2.5	8.20			
3.0	9.84			
3.5	11.48			
4.0	13.12			
4.5	14.76			
5.0	16.40			
5.5	18.04			
6.0	19.69			
6.5	21.33			
7.0	22.97			
7.5	24.61			
8.0	26.25	001		12.34 mm
8.5	27.89	2		
9.0	29.53	3		
9.5	31.17	4		
10.0	32.81	5		
10.5	34.45	6		
11.0	36.09	7		
11.5	37.73	8		
12.0	39.37	9		
12.5	41.01	10		
13.0	42.65	11		
13.5	44.29	12		
14.0	45.93	13		
14.5	47.57	14		
15.0	49.21	15		
15.5	50.85	16		
16.0	52.49	17		
16.5	54.13	18		
17.0	55.77	19		
17.5	57.41	20		
18.0	59.06	21		
18.5	60.70	22		
19.0	62.34	23		
19.5	63.98	24		
20.0	65.62	25		
20.5	67.26	26		

P-S FIELD LOG REV VI.31a

B-70160H **GEOVISION SUSPENSION LOGGING FIELD NOTES**

SITE*: Turkey Point NPP

DATE*: 3/8/08 3/9/08

CLIENT*: MACTEC

JOB*: 8083 cc 3/9/08

AUTHOR*: C. Carter

PAGE*: 43 OF 44

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
21.0	68.90	27		
21.5	70.54	28		
22.0	72.18	29		
22.5	73.82	30		
23.0	75.46	31		
23.5	77.10	32		
24.0	78.74	33		
24.5	80.38	34		
25.0	82.02	35		
25.5	83.66	36		
26.0	85.30	37		
26.5	86.94	38		
27.0	88.58	39		
27.5	90.22	40		
28.0	91.86	41		
28.5	93.50	42		
29.0	95.14	43		
29.5	96.78	44		
30.0	98.43	45		
30.5	100.07	46		
31.0	101.71	47		
31.5	103.35	48		
32.0	104.99	49		
32.5	106.63	50		
33.0	108.27	51		
33.5	109.91	52		
34.0	111.55	53		
34.5	113.19	54		
35.0	114.83	55		
35.5	116.47	56 57		1:07 10:44am (3/9)
36.0	118.11	58		
36.5	119.75	59		
37.0	121.39	60		
37.5	123.03	61		
38.0	124.67	62		
38.5	126.31	63		
39.0	127.95	64		
39.5	129.59	65		
40.0	131.23	66		
40.5	132.87	67		
41.0	134.51	68		

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



8-2046DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/8/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DRILLER PHONE: Off Cell
COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION: CASED UNCASD ☒
DIAMETERS AND DEPTH RANGES: 6" 0 TO 24' ; 5' 24' TO 133 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 133 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 24 ft ; NO
DEPTH TO BEDROCK: 4 ft DEPTH TO WATER TABLE: 0
BOREHOLE FLUID: WATER ; FRESH WATER MUD ☒ ; SALT WATER MUD ;
OTHER:

DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 4pm 3/7

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City DEPARTURE TIME: 6:45am
ARRIVED ON SITE: 7am
STANDBY TIME: 7:30 - 10 CAUSE: weather

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-7046D II ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/8/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO OTHER
MICROLOGGER* 5310 5772 ☒
TELEVIEWER* ACOUSTIC #5174 ☒ OTHER
SHEAVE* COMPROBE OYO 101 102 ☒ 103 RG

1 PROBE TILT TEST* 26.65 BRUNTON TILT* 2.6
2 PROBE TILT TEST* 88.36 BRUNTON TILT* 87
3 PROBE TILT TEST* 52.10 BRUNTON TILT* 52 AFTER LOG* ☒
1 PROBE AZIMUTH TEST* 59.1 BRUNTON AZIMUTH* 61
2 PROBE AZIMUTH TEST* 348.9 BRUNTON AZIMUTH* 348
3 PROBE AZIMUTH TEST* 56.8 BRUNTON AZIMUTH* 55 AFTER LOG* ☒

PROBE OFFSET*	1.44M(4.72FT)	} REF TO GROUND SURFACE
MINUS CASING STICK-UP*	-1.0	
DEPTH REF. OFFSET AT START*	3.72	
DEPTH REF. OFFSET AT END*	3.67	
AFTER SURVEY DEPTH ERROR*	.05	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B7046DII0001	119.4 ft	2:11 pm	5.5 ft	2:47 pm

MAINTENANCE PERFORMED ON SITE*: ^{cc 3/8/08} ~~not~~ changed to (N/A if none)

6" centralizer due to borehole diameter

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Ex (951) 549-1236

CALIPER FIELD LOG REV 1.1a.PDF



8-70460H

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 3/8/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DRILLER PHONE: Off Cell

COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: RANGE: TOWNSHIP: SECTION:

BOREHOLE CONSTRUCTION: CASED UNCASD ☒

DIAMETERS AND DEPTH RANGES: 6" 0 TO 24 ft; 5" 24 ft TO 133 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 133 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 24 ft; NO

DEPTH TO BEDROCK: 4 ft DEPTH TO WATER TABLE: 0

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

OTHER:

DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 4pm 3/7

LOGGING CREW: C. Carter

VEHICLE(S) USED AND MILEAGE:

MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45am

ARRIVED ON SITE: 7am

STANDBY TIME: 7:30 - 10:00 on 3/8/08 CAUSE: weather

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

CALIPER FIELD LOG REV 1.1a PDF



B-204604

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 3/8/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO ☐ RG ☐ OTHER ☐
MICROLOGGER* 5310 5772 ☒ OTHER ☐
CALIPER PROBE* 5368 ☒ OTHER ☐
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	-1.0	
DEPTH REF. OFFSET AT START*	5.82	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	5.70	
AFTER SURVEY DEPTH ERROR*	.12	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B704GDHICALTEST01		3:05 pm		3:06 pm
B704GDHICALUP01	121.0 ft	3:22 pm	8.6 ft	3:33 pm
B704GDHICALTEST02		3:41 pm		3:42 pm

CALIBRATION PLATE S/N 201

	FILE NAME	AS BUILT			PVC FITTING
		1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN (203.2 MM)	4.507 IN (114.3 MM)
AS MEAS.*	B704GDHICALTEST01	1.99	3.98	8.04	4.53
AS MEAS.*	B704GDHICALTEST02	1.931	3.975	8.02	4.53
AS MEAS.					
AS MEAS.					
AS MEAS.					
AS MEAS.					

4.510" cc 3/8/08

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

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ELOG FIELD LOG REV 1.1a



B-7041 GDT ELOG FIELD LOG
Borehole* cc 3/9/08
SITE*: Turkey Point NPP DATE*: 3/8/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: 1 OF 2

CONTACT: PHONE: Off Cell
CONTACT: PHONE: Off Cell
CONTACT: PHONE: Off Cell
CONTACT: PHONE: Off Cell
COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION: CASED UNCASD
DIAMETERS AND DEPTH RANGES: 0 TO TO

BOREHOLE TOTAL DEPTH AS DRILLED*: 133 ft 163 ft
SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 24.2 ft cc 3/8/08 NO
DEPTH TO BEDROCK: 4' DEPTH TO WATER TABLE: 0
BOREHOLE FLUID: WATER; FRESH WATER MUD X; SALT WATER MUD
OTHER:

DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 4:37 9am cc 3/9/08

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45 am
ARRIVED ON SITE: 7 am
STANDBY TIME: 2:30 am cc 3/9/08 CAUSE:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.0a



B-7046DH ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/9/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
ELOG PROBE* 5490 ☒ OTHER
SHEAVE* COMPROBE OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE LENGTH	2.50M (8.20 FT)
PLUS YOKE 10.0M (32.8 FT)*	32.8
MINUS CASING STICK-UP*	-2.0
DEPTH REF. OFFSET AT START*	39.0
DEPTH REF. OFFSET AT END*	38.9
AFTER SURVEY DEPTH ERROR*	.1

REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B7046DH ELOG TEST 03		9:07		9:09 am
B7046DH ELOG UP 03	163.05 ft	10:01	103.75 ft	10:08

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

P-S FIELD LOG REV V1.31a



B-704GDH **P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a**

Borehole

SITE*: Turkey Point NPP DATE*: 3/9/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF * 4

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____

BOREHOLE CONSTRUCTION*: CASED ~~UNCASED~~ 3/8" ~~3/4"~~

DIAMETERS AND DEPTH RANGES*: 6" 0 TO 24 ft ; 3 7/8" 114 TO 163 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 163 ft

SURFACE CASING?: CL 3/4/08 ~~114 ft~~ X DEPTH TO BOTTOM OF CASING 114 ft; NO

DEPTH TO BEDROCK: 4 ft DEPTH TO WATER TABLE: Ø

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

OTHER: _____

DEPTH TO BOREHOLE FLUID*: 12 ft TIME SINCE LAST CIRCULATION: 9 am

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.
GEOVision Geophysical Services 11511 Pomona Road, Suite P, Corona, CA 92602 (951) 549-1234 FX (951) 549-1236

P-S FIELD LOG REV V1.31a



B-20460H P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/9/88
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 4

LOGGING CREW*: C. Carter
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45am
ARRIVED ON SITE: 7am
STANDBY TIME: CAUSE:
LOGGING STARTED: 10:45am LOGGING COMPLETED: 11:00am

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 ☒
ISOLATION TUBE S/N* 300083 ☐ 24053 ☐ 28068 ☐ 28072 ☒ 2M
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐
MICROLOGGER* 5310 ☐ 5772 ☒ NOT APPLICABLE (OYO) ☐
PROBE OFFSET* OYO 2.0M ☐ RG 2.5M ☒
MINUS CASING STICK-UP* -.61m
DEPTH REF. OFFSET AT START* 1.88m
DEPTH REF. OFFSET AT END* 1.88m
AFTER SURVEY DEPTH ERROR* .01m
REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B70460H SUSP DOWN 02	35.5m	10:44am	45.5m	11:00am

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:
COMMENTS:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

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P-S FIELD LOG REV V1.31a

B-70160H GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 3/8/08 3/9/08

CLIENT*: MACTEC

JOB*: 8083 cc 3/9/08

AUTHOR*: C. Carter

PAGE* 34 84 OF 4

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

cc 7/10/08

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
21.0	68.90	27		
21.5	70.54	28		
22.0	72.18	29		
22.5	73.82	30		
23.0	75.46	31		
23.5	77.10	32		
24.0	78.74	33		
24.5	80.38	34		
25.0	82.02	35		
25.5	83.66	36		
26.0	85.30	37		
26.5	86.94	38		
27.0	88.58	39		
27.5	90.22	40		
28.0	91.86	41		
28.5	93.50	42		
29.0	95.14	43		
29.5	96.78	44		
30.0	98.43	45		
30.5	100.07	46		
31.0	101.71	47		
31.5	103.35	48		
32.0	104.99	49		
32.5	106.63	50		
33.0	108.27	51		
33.5	109.91	52		
34.0	111.55	53		
34.5	113.19	54		
35.0	114.83	55		
35.5	116.47	56 57		1:24 10:44am (3/9)
36.0	118.11	58		
36.5	119.75	59		
37.0	121.39	60		
37.5	123.03	61		
38.0	124.67	62		
38.5	126.31	63		
39.0	127.95	64		
39.5	129.59	65		
40.0	131.23	66		
40.5	132.87	67		
41.0	134.51	68		

P-S FIELD LOG REV V1.31a

B-7046DH

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 3/9/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE*: 4 OF 4

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
41.5	136.15	69		
42.0	137.80	70		
42.5	139.44	71		
43.0	141.08	72		
43.5	142.72	73		
44.0	144.36	74		
44.5	146.00	75		
45.0	147.64	76		
45.5	149.28	77		hit bottom @ 45.6m 11:00am
46.0	150.92			
46.5	152.56			
47.0	154.20			
47.5	155.84			
48.0	157.48			
48.5	159.12			
49.0	160.76			
49.5	162.40			
50.0	164.04			
50.5	165.68			
51.0	167.32			
51.5	168.96			
52.0	170.60			
52.5	172.24			
53.0	173.88			
53.5	175.52			
54.0	177.17			
54.5	178.81			
55.0	180.45			
55.5	182.09			
56.0	183.73			
56.5	185.37			
57.0	187.01			
57.5	188.65			
58.0	190.29			
58.5	191.93			
59.0	193.57			
59.5	195.21			
60.0	196.85			
60.5	198.49			
61.0	200.13			
61.5	201.77			

CALIPER FIELD LOG REV 1.1a.PDF



B-70460H

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP
CLIENT*: MACTEC
AUTHOR*: C. Carter
DATE*: 3/9/08
JOB*: 8083
PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
DRILLER _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: _____ RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD ☒
DIAMETERS AND DEPTH RANGES: 6" 0 TO 24 ft; 3 7/8" 114 ft TO 163 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 163 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 114 ft; NO _____
DEPTH TO BEDROCK: 4' DEPTH TO WATER TABLE: $\emptyset$
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: 12 ft TIME SINCE LAST CIRCULATION: 9 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45 am
ARRIVED ON SITE: 7 am
STANDBY TIME: _____ CAUSE: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

CALIPER FIELD LOG REV 1.1a.PDF



B-7046DH

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 3/9/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO ☐ RG ☐ OTHER ☐
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER ☐
CALIPER PROBE* 5368 ☒ OTHER ☐
SHEAVE* COMPROBE ☐ OYO 10' ☐ 102' ☒ 103' ☐ RG ☐

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	-2.0	
DEPTH REF. OFFSET AT START*	4.82	} REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	4.72	
AFTER SURVEY DEPTH ERROR*	.10	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B7046DHCALTEST03		12:19		12:20
B7046DHCALUP02	155.4 ft	12:36	105.05 ft	12:41
B7046DHCALTEST04		12:51		12:52

CALIBRATION PLATE S/N 201

	FILE NAME	AS BUILT			PVC FITTING
		1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN (203.2 MM)	4.507 IN (114.3 MM)
AS MEAS.*	B7046DHCALTEST03	2.02	4.02	8.04	4.56
AS MEAS.*	B7046DHCALTEST04	2.00	3.99	8.03	4.55
AS MEAS.					
AS MEAS.					
AS MEAS.					
AS MEAS.					

4.510" as 3/9/08

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

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ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-7046D11 ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/9/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DRILLER PHONE: Off Cell

COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION: CASED UNCASD ☒
DIAMETERS AND DEPTH RANGES: 6" 0 TO 24 ft; 3 7/8" 114 TO 163 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 163 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 114 ft; NO
DEPTH TO BEDROCK: 4 ft DEPTH TO WATER TABLE: 0
BOREHOLE FLUID: WATER; FRESH WATER MUD ☒; SALT WATER MUD

OTHER:
DEPTH TO BOREHOLE FLUID: 12 ft TIME SINCE LAST CIRCULATION: 9 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City DEPARTURE TIME: 6:45 am
ARRIVED ON SITE: 7 am
STANDBY TIME: CAUSE:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-7046DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/9/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 2

WINCH: COMPROBE SILVER X OYO OTHER
MICROLOGGER* 5310 5772 X
TELEVIEWER* ACOUSTIC #5174 X OTHER
SHEAVE* COMPROBE OYO 101 102 X 103 RG

1 PROBE TILT TEST* 52.4 BRUNTON TILT* 52
2 PROBE TILT TEST* 92.18 BRUNTON TILT* 92
3 PROBE TILT TEST* 27.79 BRUNTON TILT* 2.8 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 58.0 BRUNTON AZIMUTH* 61
2 PROBE AZIMUTH TEST* 351.9 BRUNTON AZIMUTH* 351
3 PROBE AZIMUTH TEST* 63.4 BRUNTON AZIMUTH* 61 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	} REF TO GROUND SURFACE
MINUS CASING STICK-UP*	<u>-2.0</u>	
DEPTH REF. OFFSET AT START*	<u>2.72</u>	
DEPTH REF. OFFSET AT END*	<u>2.70</u>	
AFTER SURVEY DEPTH ERROR*	<u>.02</u>	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B7046DH AUUP02	157.2 ft	11:46 am	108.5 ft	11:48 am

MAINTENANCE PERFORMED ON SITE*: N/A cc 7/24/08 (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A cc 7/24/08 (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

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



B-708DH BORING GEOPHYSICS FIELD LOG SUMMARY

Borehole*

SITE*: Turkey Point NPP

DATE*: 3/9/08, 3/10/08, 3/13/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE*: 1 OF 1 cc 7/10/08

CONTACT: _____

PHONE: _____

BOREHOLE CONSTRUCTION: CASED _____

UNCASED ☒

DIAMETERS AND DEPTH RANGES: 4" 0 TO 25.5 ft ; _____ TO _____

BOREHOLE TOTAL DEPTH AS DRILLED*: _____

CONDUCTOR CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 25.5' ; NO _____

DEPTH TO BEDROCK: 3.5 ft

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

LOGGING CREW: C. Carter

LOG TYPE*	FILE NAME*	DEPTH RANGE*	DATE*	TIMES*
ELOG	B708DHELOGTEST01		3/9/08	2:57 - 2:58 pm
ELOG	B708DHELOGUP01	125.4 - 35.95 ft	3/9/08	4:11 - 4:21 pm
PS velocity	B708DHSUSPDOWN01	27.89 - 72.18 ft	3/9/08	4:53 - 5:13 pm
PS velocity	B708DHSUSPDOWN02	68.9 - 104.99 ft	3/10/08	9:47 - 10:08 am
ATV	B708DHAVUP01	100.9 - 19.9 ft	3/10/08	11:59 - 12:33 pm
Caliper	B708DHCALTEST01		3/10/08	1:27 - 1:28 pm
Caliper	B708DHCALUP01	116.65 - 15.35 ft	3/10/08	1:49 - 2:01 pm
Caliper	B708DHCALTEST02		3/10/08	2:09 - 2:11 pm
ELOG	B708DHELOGTEST02		3/13/08	8:25 - 8:26 am
ELOG	B708DHELOGUP02	260.7 - 102.3 ft	3/13/08	10:59 - 11:15 am
PS velocity	B708DHSUSPDOWN03	108.27 - 247.7 ft	3/13/08	11:52 - 12:44 pm
Caliper	B708DHCALTEST03		3/13/08	1:22 - 1:23 pm
Caliper	B708DHCALUP02	252.25 - 94.35'	3/13/08	1:42 - 1:57 pm
Caliper	B708DHCALTEST04		3/13/08	2:07 - 2:08
Deviation	B708DHAVUP02	251.3 - 94.9 ft	3/13/08	3:32 - 3:40 pm
ATV	B708DHAVUP03	118.4 - 97.4 ft	3/13/08	4:12 - 4:20 pm

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B-708DH ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/9/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 25.5 ft; 3 3/4" 25.5 TO 130 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 130 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 25.5 ft NO _____
DEPTH TO BEDROCK: 3.5 ft DEPTH TO WATER TABLE: 0
BOREHOLE FLUID: WATER _____; FRESH WATER MUD X; SALT WATER MUD _____;
OTHER: _____
DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 3 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45 am
ARRIVED ON SITE: 7 am
STANDBY TIME: _____ CAUSE: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B-708D46 ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/9/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
ELOG PROBE* 5490 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 10' ☐ 102' ☒ 103' RG ☐

PROBE LENGTH	2.50M(8.20 FT)	
PLUS YOKE 10.0M (32.8 FT)*	32.8	
MINUS CASING STICK-UP*	-1.33	
DEPTH REF. OFFSET AT START*	39.67	} REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	39.35	
AFTER SURVEY DEPTH ERROR*	.32	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B708D4ELOGTEST01		2:57		2:58
B708D4ELOGUP01	125.4'	4:11 pm	35.95 ft	4:21 pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

P-S FIELD LOG REV V1.31a



B-708BH

P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole

SITE*: Turkey Point NPP DATE*: 3/9/08, 3/10/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF * 4

CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION*: CASSED _____ UNCASSED ☒
DIAMETERS AND DEPTH RANGES*: 4" 0 TO 25.5 ft; 3 1/4" 25.5 TO 130 ft
BOREHOLE TOTAL DEPTH AS DRILLED*: 130 ft
SURFACE CASING?: ☒ DEPTH TO BOTTOM OF CASING 25.5'; NO
DEPTH TO BEDROCK: 3.5 ft DEPTH TO WATER TABLE: ϕ
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD: _____
OTHER: _____
DEPTH TO BOREHOLE FLUID*: ϕ TIME SINCE LAST CIRCULATION: 3 pm / 9 am 3:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.
GEOVision Geophysical Services — 11541 Peninsula Road, Suite P, Corona, CA 92602 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV 1.31a



B-708DH

P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/9/08, 3/10/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF * 4

LOGGING CREW*: C. Carter
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45am / 6:30 3/10/08
ARRIVED ON SITE: 7am
STANDBY TIME: CAUSE:
LOGGING STARTED: 4:53 pm / 9:47am LOGGING COMPLETED: 5:13 pm / 10:05am

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 ☒
ISOLATION TUBE S/N* 300083 ☐ 24053 ☐ 28068 ☐ 28072 ☒ 2M
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐
MICROLOGGER* 5310 ☐ 5772 ☒ NOT APPLICABLE (OYO) ☐
PROBE OFFSET* OYO 2.0M ☐ RG 2.5M ☒
MINUS CASING STICK-UP*
DEPTH REF. OFFSET AT START* 2.1 2.1
DEPTH REF. OFFSET AT END* 2.08 2.1
AFTER SURVEY DEPTH ERROR* .02 .0
REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B708DH5USPDOWN01	27.89 ft	4:53 pm	72.18 ft	5:13 pm
B708DH5USPDOWN02	68.9 ft	9:47am	104.99 ft	10:05am

3/9
3/10

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:
COMMENTS:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services 1151 Pomona Road, Suite P, Corona, CA 92802(951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a

B-708D11 GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 3/19/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE*: 3 OF 4

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO*. (if any)	COMMENTS CASING, WATER, ROCK, ETC
0.5	1.64			
1.0	3.28			
1.5	4.92			
2.0	6.56			
2.5	8.20			
3.0	9.84			
3.5	11.48			
4.0	13.12			
4.5	14.76			
5.0	16.40			
5.5	18.04			
6.0	19.69			
6.5	21.33			
7.0	22.97			
7.5	24.61			
8.0	26.25			
8.5	27.89	001		4.53
9.0	29.53	2		
9.5	31.17	3		
10.0	32.81	4		
10.5	34.45	5		
11.0	36.09	6		
11.5	37.73	7		
12.0	39.37	8		
12.5	41.01	9		
13.0	42.65	10		
13.5	44.29	11		
14.0	45.93	12		
14.5	47.57	13		
15.0	49.21	14		
15.5	50.85	15		
16.0	52.49	16		
16.5	54.13	17		
17.0	55.77	18		
17.5	57.41	19		
18.0	59.06	20		
18.5	60.70	21		
19.0	62.34	22		
19.5	63.98	23		
20.0	65.62	24		
20.5	67.26	25		

P-S FIELD LOG REV V1.31a

8-7080H

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 3/9/08, 3/10/08, 3/12/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE*: ~~34~~ 34 OF ~~84~~ 84 *cl 7/10/08*

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (If any)	COMMENTS CASING, WATER, ROCK, ETC
21.0	68.90	26 29		4:47 am (3/10)
21.5	70.54	27 30		
22.0	72.18	28 31		5:13 pm
22.5	73.82	32		
23.0	75.46	33		
23.5	77.10	34		
24.0	78.74	35		
24.5	80.38	36		
25.0	82.02	37		
25.5	83.66	38		
26.0	85.30	39		
26.5	86.94	40		
27.0	88.58	41		
27.5	90.22	42		
28.0	91.86	43		
28.5	93.50	44		
29.0	95.14	45		
29.5	96.78	46		
30.0	98.43	47		
30.5	100.07	48		
31.0	101.71	49		
31.5	103.35	50		
32.0	104.99	51		10:05 (3/10)
32.5	106.63			
33.0	108.27	52		11:52 3/12
33.5	109.91	53 152		
34.0	111.55	54 151		
34.5	113.19	55 150		
35.0	114.83	56 149		
35.5	116.47	57 148		
36.0	118.11	58 147		
36.5	119.75	59 146		
37.0	121.39	60 145		
37.5	123.03	61 144		
38.0	124.67	62 143		
38.5	126.31	63 142		
39.0	127.95	64 141		
39.5	129.59	65 140		
40.0	131.23	66 139		
40.5	132.87	67 138		
41.0	134.51	68		

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-708D 4 ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/6/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DRILLER PHONE: Off Cell

COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION: CASED UNCASD
DIAMETERS AND DEPTH RANGES: 4" 0 TO 25.5 ft; 3 3/4" 25.5 TO 130 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 130 ft

SURFACE CASING?: YES * DEPTH TO BOTTOM OF CASING 25.5'; NO
DEPTH TO BEDROCK: 3.5 ft DEPTH TO WATER TABLE: 0
BOREHOLE FLUID: WATER; FRESH WATER MUD *; SALT WATER MUD;

OTHER:
DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 9 am

LOGGING CREW: C. Carter

VEHICLE(S) USED AND MILEAGE:

MOBILIZED FROM: Florida City DEPARTURE TIME: 6:30 am

ARRIVED ON SITE: 7 am

STANDBY TIME: CAUSE:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-708DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a
Borehole*

SITE*: Turkey Point NPP DATE*: 3/10/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 2

WINCH: COMPROBE SILVER X OYO OTHER
MICROLOGGER* 5310 5772 X
TELEVIEWER* ACOUSTIC #5174 X OTHER
SHEAVE* COMPROBE OYO 101 102 X 103 RG

1 PROBE TILT TEST* 90.05 BRUNTON TILT* 90
2 PROBE TILT TEST* 52.59 BRUNTON TILT* 53
3 PROBE TILT TEST* 12.4 BRUNTON TILT* 12 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 351.2 BRUNTON AZIMUTH* 353
2 PROBE AZIMUTH TEST* 43.4 BRUNTON AZIMUTH* 49
3 PROBE AZIMUTH TEST* 14.1 BRUNTON AZIMUTH* 16 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	} REF TO GROUND SURFACE
MINUS CASING STICK-UP*	<u>-1.33</u>	
DEPTH REF. OFFSET AT START*	<u>7.39</u>	
DEPTH REF. OFFSET AT END*	<u>3.65</u>	
AFTER SURVEY DEPTH ERROR*	<u>.34</u>	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B708DH A00D01	100.9 ft	11:59	199.8 ft	12:33 pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: The cable went slack a number of times from 80' - 100'
ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

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CALIPER FIELD LOG REV 1.1a PDF



B-708011

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP
CLIENT*: MACTEC
AUTHOR*: C. Carter
DATE*: 3/10/08
JOB*: 8083
PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
DRILLER _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: _____ RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD ☒
DIAMETERS AND DEPTH RANGES: 4" 0 TO 25.5 ft ; 3 3/4" 25.5 TO 130.5 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 130.5 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 25.5' ; NO _____
DEPTH TO BEDROCK: 3.5 ft DEPTH TO WATER TABLE: 0
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: 0 TIME SINCE LAST CIRCULATION: 9 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:30 am
ARRIVED ON SITE: 7 am
STANDBY TIME: _____ CAUSE: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

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CALIPER FIELD LOG REV 1.1a PDF



3-70801 CALIPER FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/10/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO ☐ RG ☐ OTHER ☐
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER ☐
CALIPER PROBE* 5368 ☒ OTHER ☐
SHEAVE* COMPROBE ☐ OYO 10' ☐ 102' ☒ 103' ☐ RG ☐

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	<u>1.3</u>	} REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	<u>5.49</u>	
DEPTH REF. OFFSET AT END*	<u>5.30</u>	
AFTER SURVEY DEPTH ERROR*	<u>.19</u>	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B708DHICALTEST01		1:27		1:28 pm
B708DHICALUP01	116.65 ft	1:49	15.35 ft	2:01 pm
B708DHICALTEST02		2:09		2:11 pm

CALIBRATION PLATE S/N 201

	FILE NAME	AS BUILT			PVC FITTING
		1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN (203.2 MM)	4.507 IN (114.3 MM)
AS MEAS.*	B708DHICALTEST01	1.961	3.96	7.99	4.53
AS MEAS.*	B708DHICALTEST02	1.946	4.00	8.04	4.54
AS MEAS.					
AS MEAS.					
AS MEAS.					
AS MEAS.					

cc 3/10/08
4.510

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B-708DH

ELOG FIELD LOG

Borehole*

SITE*: Turkey Point NPP
CLIENT*: MACTEC
AUTHOR*: C. Carter
DATE*: 3/13/08
JOB*: 8083
PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD ☒
DIAMETERS AND DEPTH RANGES: 4" 0 TO 25.5 ft; 3 3/4" 25.5 TO 26.5

BOREHOLE TOTAL DEPTH AS DRILLED*: 26.5 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 105.8'; NO
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ϕ
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: ϕ TIME SINCE LAST CIRCULATION: 9 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45 am
ARRIVED ON SITE: 7 am
STANDBY TIME: _____ CAUSE: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

ELOG FIELD LOG REV 1.1a



R-708DH ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/13/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE*: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
ELOG PROBE* 5490 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE LENGTH	2.50M(8.20 FT)	
PLUS YOKE 10.0M (32.8 FT)*	32.8	
MINUS CASING STICK-UP*	1.25	
DEPTH REF. OFFSET AT START*	39.75	} REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	39.60	
AFTER SURVEY DEPTH ERROR*	.15	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
R-708DHELO6TEST02		8:25am		8:26am
R708DHELO6UP02	260.76'	10:59	102.3'	11:15

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

CALIPER FIELD LOG REV 1.1a.PDF



B-708011
Borehole*

CALIPER FIELD LOG

SITE*: Turkey Point NPP DATE*: 3/13/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

DRILLER _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: _____ RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD XS
DIAMETERS AND DEPTH RANGES: 4" 0 TO 25.5; 3 3/4" 25.5 TO 265 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 265

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 105.8' NO _____
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: Ø
BOREHOLE FLUID: WATER _____; FRESH WATER MUD X; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: Ø TIME SINCE LAST CIRCULATION: 9am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45am
ARRIVED ON SITE: 7am
STANDBY TIME: _____ CAUSE: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

CALIPER FIELD LOG REV 1.1a PDF



B-268D H

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 3/13/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
CALIPER PROBE* 5368 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 10 ☐ 102 ☒ 10 ☐ RG ☐

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	1.25	} REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	5.57	
DEPTH REF. OFFSET AT END*	5.56	
AFTER SURVEY DEPTH ERROR*	.01	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B708DHCALEST03		1:22		1:23 pm
B708DHCALEUP02	252.25'	1:42	94.35'	1:57
B708DHCALEST04	252.25'	2:07	94.35'	2:08
	cc 3/13/08		cc 3/13/08	

CALIBRATION PLATE S/N 201

	FILE NAME	AS BUILT			PVC FITTING
		1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN (203.2 MM)	4.507 IN (114.3 MM)
AS MEAS.*	B708DHCALEST03	1.983	3.986	8.06	4.53
AS MEAS.*	B708DHCALEST04	1.99	3.986	8.05	4.517
AS MEAS.					
AS MEAS.					
AS MEAS.					
AS MEAS.					

4.510" cc 3/13/08

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

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P-S FIELD LOG REV V1.31a



B-708D4 P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole

SITE*: Turkey Point NPP DATE*: 3/13/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF * 5

CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____
CONTACT: _____ PHONE: Off Cell _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION*: CASED _____ UNCASD ☒
DIAMETERS AND DEPTH RANGES*: 4" 0 TO 25.5' ; 3 3/4" 25.5' TO 265'
BOREHOLE TOTAL DEPTH AS DRILLED*: 265'
SURFACE CASING?: ☒ DEPTH TO BOTTOM OF CASING 105.8' ; NO
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: 0
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD; _____
OTHER: _____
DEPTH TO BOREHOLE FLUID*: 0 TIME SINCE LAST CIRCULATION: 9am

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL
GEOVision Geophysical Services — 1451 Pomona Road, Suite P, Corona, CA 92626 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a



B-708D P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/13/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 5 cc 7/10/08

LOGGING CREW*: C. Carter
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45am
ARRIVED ON SITE: 7am
STANDBY TIME: CAUSE:
LOGGING STARTED: 11:52 LOGGING COMPLETED: 12:44pm

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 ☒
ISOLATION TUBE S/N* 300083 ☐ 24053 ☐ 28068 ☐ 28072 ☒ 2M
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐
MICROLOGGER* 5310 ☐ 5772 ☒ NOT APPLICABLE (OYO) ☐
PROBE OFFSET* OYO 2.0M ☐ RG 2.5M ☒
MINUS CASING STICK-UP* -.38
DEPTH REF. OFFSET AT START* 2.12
DEPTH REF. OFFSET AT END* 2.11
AFTER SURVEY DEPTH ERROR* .01
REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B708D4 SUSP DRUM/03	108.27'	11:52	247.7	12:44pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:
COMMENTS:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services 1151 Pomona Road, Suite P, Corona, CA 92602 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a

B-7080H

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 3/9/08, 3/10/08, 3/13/08

CLIENT*: MACTEC

JOB*: 8083 ec 3/13/08

AUTHOR*: C. Carter

PAGE*: 3 OF 5

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*.	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
21.0	68.90	26 29		9:47 am (3/10)
21.5	70.54	27 30		
22.0	72.18	28 31		5:13 pm
22.5	73.82	32		
23.0	75.46	33		
23.5	77.10	34		
24.0	78.74	35		
24.5	80.38	36		
25.0	82.02	37		
25.5	83.66	38		
26.0	85.30	39		
26.5	86.94	40		
27.0	88.58	41		
27.5	90.22	42		
28.0	91.86	43		
28.5	93.50	44		
29.0	95.14	45		
29.5	96.78	46		
30.0	98.43	47		
30.5	100.07	48		
31.0	101.71	49		
31.5	103.35	50		
32.0	104.99	51		10:05 (3/10)
32.5	106.63			
33.0	108.27	52		11:52 3/13
33.5	109.91	53 152		
34.0	111.55	54 151		
34.5	113.19	55 150		
35.0	114.83	56 149		
35.5	116.47	57 148		
36.0	118.11	58 147		
36.5	119.75	59 146		
37.0	121.39	60 145		
37.5	123.03	61 144		
38.0	124.67	62 143		
38.5	126.31	63 142		
39.0	127.95	64 141		
39.5	129.59	65 140		
40.0	131.23	66 139		
40.5	132.87	67 138		
41.0	134.51	68		

P-S FIELD LOG REV V1.31a

B-70815H **GEOVISION SUSPENSION LOGGING FIELD NOTES**

SITE*: Turkey Point NPP DATE*: 3/13/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE*: 4 OF 5

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*.	FILTERED FILE NO*. (if any)	COMMENTS CASING, WATER, ROCK, ETC
41.5	136.15	69		
42.0	137.80	70		
42.5	139.44	71		
43.0	141.08	72		
43.5	142.72	73		
44.0	144.36	74		
44.5	146.00	75		
45.0	147.64	76		
45.5	149.28	77		
46.0	150.92	78		
46.5	152.56	79		
47.0	154.20	80		
47.5	155.84	81		
48.0	157.48	82		
48.5	159.12	83		
49.0	160.76	84		
49.5	162.40	85		
50.0	164.04	86		
50.5	165.68	87		
51.0	167.32	88		
51.5	168.96	89		
52.0	170.60	90		
52.5	172.24	91		
53.0	173.88	92		
53.5	175.52	93		
54.0	177.17	94		
54.5	178.81	95		
55.0	180.45	96		
55.5	182.09	97		
56.0	183.73	98		
56.5	185.37	99		
57.0	187.01	100		
57.5	188.65	101		
58.0	190.29	102		
58.5	191.93	103		
59.0	193.57	104		
59.5	195.21	105		
60.0	196.85	106		
60.5	198.49	107		
61.0	200.13	108		
61.5	201.77	109		

P-S FIELD LOG REV V1.31a

B-708Dfl

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 3/13/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE* 5 OF 5

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*.	FILTERED FILE NO*. (if any)	COMMENTS CASING, WATER, ROCK, ETC
62.0	203.41	110		
62.5	205.05	111		
63.0	206.69	112		
63.5	208.33	113		
64.0	209.97	114		
64.5	211.61	115		
65.0	213.25	116		
65.5	214.90	117		
66.0	216.54	118		
66.5	218.18	119		
67.0	219.82	120		
67.5	221.46	121		
68.0	223.10	122		
68.5	224.74	123		
69.0	226.38	124		
69.5	228.02	125		
70.0	229.66	126		
70.5	231.30	127		
71.0	232.94	128		
71.5	234.58	129		
72.0	236.22	130		
72.5	237.86	131		
73.0	239.50	132		
73.5	241.14	133		
74.0	242.78	134		
74.5	244.42	135		
75.0	246.06	136		
75.5	247.70	137		12:44 pm
76.0	249.34			
76.5	250.98			
77.0	252.62			
77.5	254.27			
78.0	255.91			
78.5	257.55			
79.0	259.19			
79.5	260.83			
80.0	262.47			
80.5	264.11			
81.0	265.75			
81.5	267.39			
82.0	269.03			

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-708-DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/13/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF 2

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

DRILLER _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED UNCASED X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 25.5 ; 3 3/4 25.5' TO 265'

BOREHOLE TOTAL DEPTH AS DRILLED*: 265 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 105.8/98.5; NO _____
DEPTH TO BEDROCK: ~3 DEPTH TO WATER TABLE: Ø
BOREHOLE FLUID: WATER _____; FRESH WATER MUD X; SALT WATER MUD _____;

OTHER: _____
DEPTH TO BOREHOLE FLUID: Ø TIME SINCE LAST CIRCULATION: 1am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City DEPARTURE TIME: 6:45
ARRIVED ON SITE: 7
STANDBY TIME: _____ CAUSE: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-708DN ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/13/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 2

WINCH: COMPROBE SILVER^X OYO OTHER
MICROLOGGER* 5310 5772^X
TELEVIEWER* ACOUSTIC #5174^X OTHER
SHEAVE* COMPROBE OYO 101 102^X 103 RG

1 PROBE TILT TEST* 43.0 BRUNTON TILT* 43
2 PROBE TILT TEST* 90.4 BRUNTON TILT* 91 cc 3/13/08
3 PROBE TILT TEST* 51.82 BRUNTON TILT* 32.5 52 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 329.4 BRUNTON AZIMUTH* 325
2 PROBE AZIMUTH TEST* 67.8 BRUNTON AZIMUTH* 68
3 PROBE AZIMUTH TEST* 5243.1 BRUNTON AZIMUTH* 49 AFTER LOG* yes
cc 3/13/08

PROBE OFFSET*	1.44M(4.72FT)
MINUS CASING STICK-UP*	1.25 1.35
DEPTH REF. OFFSET AT START*	3.47 1.25 REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	3.39 1.15
AFTER SURVEY DEPTH ERROR*	.08 .09

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B708DH400P02	251.3 ft	3:32	94.9 ft	3:40
B708DH400P03	118.4 ft	4:12	97.4 ft	4:20

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: Pulled casing to 98.5' for B708DH400P03

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Fx (951) 549-1236



B-710GDH BORING GEOPHYSICS FIELD LOG SUMMARY

Borehole*

SITE*: Turkey Point NPP

DATE*: 3/11/08, 3/18/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE*: 1 OF 1

CONTACT:

PHONE:

BOREHOLE CONSTRUCTION: CASSED

UNCASSED ☒

DIAMETERS AND DEPTH RANGES: 6" 0 TO 19.5'; 4" 17.5 TO 143ft / 273ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 143 / 273 ft

CONDUCTOR CASING?: YES ☒ DEPTH TO BOTTOM OF CASING: 12.5 / 11.5'; NO

DEPTH TO BEDROCK: ~ 3 ft

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

LOGGING CREW: C. Carter

* On 3/19/08 a "G" was added to all digit file names that did not originally have one

LOG TYPE*	FILE NAME*	DEPTH RANGE*	DATE*	TIMES*
* ELOG	B710GDHELOGTEST01		3/11/08	11:47 - 11:48 am
* ELOG	B710GDHELOGUP01	140.6 - 384.5 ft	3/11/08	12:34 pm - 12:45 pm
* P-S velocity	B710GDH5USPD01	21.33 - 127.95 ft	3/11/08	1:27 - 2:05 pm
* ATV	B710GDHAUUP01	120.5 - 17.1 ft	3/11/08	3:06 - 3:38 pm
* Caliper	B710GDHCALES01		3/11/08	4:12 - 4:13 pm
* Caliper	B710GDHCALES02	132.35 - 13.4 ft	3/11/08	4:26 - 4:39 pm
* Caliper	B710GDHCALES03		3/11/08	4:46 - 4:47 pm
* ELOG	B710GDHELOGTEST02		3/18/08	10:04 - 10:05 am
* ELOG	B710GDHELOGUP02	270.6 - 94.8 ft	3/18/08	10:29 - 10:49 am
* P-S velocity	B710GDH5USPD02	121.4 - 252.6'	3/18/08	12:19 - 1:02 pm
* Deviation	B710GDHAUUP02	253.7 - 102.2 ft	3/18/08	2:08 - 2:16 pm
* Caliper	B710GDHCALES03		3/18/08	2:40 - 2:42 pm
* Caliper	B710GDHCALES02	257.95 - 108.6 ft	3/18/08	2:59 - 3:15 pm
* Caliper	B710GDHCALES04		3/18/08	3:29 - 3:31 pm

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B-7106DH 3/18/08 CC 7/24/08
B-7106DH ELOG FIELD LOG

Borehole*
SITE*: Turkey Point NPP DATE*: *3/11/08*
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: 1 OF 2

CONTACT: PHONE: Off Cell
CONTACT: PHONE: Off Cell
CONTACT: PHONE: Off Cell
CONTACT: PHONE: Off Cell
COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION: CASED UNCASED ☒
DIAMETERS AND DEPTH RANGES: *6"* 0 TO *20'*; *4"* *20'* TO *143 ft*

BOREHOLE TOTAL DEPTH AS DRILLED*: *143 ft*

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING *19.5'*; NO
DEPTH TO BEDROCK: *13.5 ft* DEPTH TO WATER TABLE: *0*
BOREHOLE FLUID: WATER; FRESH WATER MUD ☒; SALT WATER MUD
OTHER:
DEPTH TO BOREHOLE FLUID: *0* TIME SINCE LAST CIRCULATION: *12 pm*

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: *9:45 am*
ARRIVED ON SITE: *10 am*
STANDBY TIME: CAUSE:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B-71060H CC 3/18/08
B-71060H ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/11/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
ELOG PROBE* 5490 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE LENGTH	2.50M(8.20 FT)	
PLUS YOKE 10.0M (32.8 FT)*	32.8	
MINUS CASING STICK-UP*	- .92	
DEPTH REF. OFFSET AT START*	40.08	} REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	40.00	
AFTER SURVEY DEPTH ERROR*	.08	

CC 3/19/08

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B71060HELOGTEST01		11:47		11:48am
B71060HELOGUP01	140.6 ft	12:34pm	38.45 ft	12:45pm
B71060HELOGTEST01		11:47am		11:48am
B71060HELOGUP01	140.6 ft	12:34pm	38.45 ft	12:45pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

P-S FIELD LOG REV V1.31a



B-7106DH cc 3/18/08
B-2106H

P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole

SITE*: Turkey Point NPP DATE*: 3/11/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF * 4

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DIRECTIONS TO SITE:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:

BOREHOLE CONSTRUCTION*: CASED UNCASD X

DIAMETERS AND DEPTH RANGES*: 6" 0 TO 20 ft ; 4" 20 TO 143

BOREHOLE TOTAL DEPTH AS DRILLED*: 143 ft

SURFACE CASING?: X DEPTH TO BOTTOM OF CASING 19.5 ft NO

DEPTH TO BEDROCK: ~3 DEPTH TO WATER TABLE: 0

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

OTHER:

DEPTH TO BOREHOLE FLUID*: 0 TIME SINCE LAST CIRCULATION: 12 pm

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.
GEOVision Geophysical Services 11511 Pomona Road, Suite P, Corona, CA 92602 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a



B-710GDH
B-710DH

P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/1/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 4

LOGGING CREW*: C. Carter cc 3/1/08
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 9:45am
ARRIVED ON SITE: 10am
STANDBY TIME: CAUSE:
LOGGING STARTED: LOGGING COMPLETED:

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 ☒
ISOLATION TUBE S/N* 300083 ☐ 24053 ☐ 28068 ☐ 28072 ☒ 2M
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐
MICROLOGGER* 5310 ☐ 5772 ☒ NOT APPLICABLE (OYO) ☐
PROBE OFFSET* OYO 2.0M ☐ RG 2.5M ☒
MINUS CASING STICK-UP* -.28
DEPTH REF. OFFSET AT START* 2.22
DEPTH REF. OFFSET AT END* 2.21
AFTER SURVEY DEPTH ERROR* .01
REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
119/08 B-710DH SUSP DOWN 01	21.33	1:27pm	127.95	2:05pm
B-710GDH SUSP DOWN 01	21.33 ft	1:27pm	127.95 ft	2:05pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:
COMMENTS:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services 1151 Pomona Road, Suite P, Corona, CA 92602 (951) 549-1234 Fx (951) 549-1236

B-71060H cc 3/18/08
~~B-71060H~~

P-S FIELD LOG REV V1.31a

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 3/11/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE* 3 OF 4

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*.	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
0.5	1.64			
1.0	3.28			
1.5	4.92			
2.0	6.56			
2.5	8.20			
3.0	9.84			
3.5	11.48			
4.0	13.12			
4.5	14.76			
5.0	16.40			
5.5	18.04			
6.0	19.69			
6.5	21.33	cc 1		1:27
7.0	22.97	2 cc 3/11/08		
7.5	24.61	3		
8.0	26.25	4		
8.5	27.89	5		
9.0	29.53	6		
9.5	31.17	7		
10.0	32.81	8		
10.5	34.45	9		
11.0	36.09	10		
11.5	37.73	11		
12.0	39.37	12		
12.5	41.01	13		
13.0	42.65	14		
13.5	44.29	15		
14.0	45.93	16		
14.5	47.57	17		
15.0	49.21	18		
15.5	50.85	19		
16.0	52.49	20		
16.5	54.13	21		
17.0	55.77	22		
17.5	57.41	23		
18.0	59.06	24		
18.5	60.70	25		
19.0	62.34	26		
19.5	63.98	27		
20.0	65.62	28		
20.5	67.26	29		

B-7106DH cc 3/18/08
B-7106DH

P-S FIELD LOG REV V1.31a

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 3/11/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE*: 4 OF 14

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
21.0	68.90	30		
21.5	70.54	31		
22.0	72.18	32		
22.5	73.82	33		
23.0	75.46	34		
23.5	77.10	35		
24.0	78.74	36		
24.5	80.38	37		
25.0	82.02	38		
25.5	83.66	39		
26.0	85.30	40		
26.5	86.94	41		
27.0	88.58	42		
27.5	90.22	43		
28.0	91.86	44		
28.5	93.50	45		
29.0	95.14	46		
29.5	96.78	47		
30.0	98.43	48		
30.5	100.07	49		
31.0	101.71	50		
31.5	103.35	51		
32.0	104.99	52		
32.5	106.63	53		
33.0	108.27	54		
33.5	109.91	55		
34.0	111.55	56		
34.5	113.19	57		
35.0	114.83	58		
35.5	116.47	59		
36.0	118.11	60		
36.5	119.75	61		
37.0	121.39	62		
37.5	123.03	63		
38.0	124.67	64		
38.5	126.31	65		
39.0	127.95	66		2.05
39.5	129.59			
40.0	131.23			
40.5	132.87			
41.0	134.51			

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-7106DH cc 3/16/08

~~B-7106DH~~

ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/16/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DRILLER PHONE: Off Cell
COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION: CASED UNCASD
DIAMETERS AND DEPTH RANGES: 6" 0 TO 19.5' ; 4" 19.5' TO 143'

BOREHOLE TOTAL DEPTH AS DRILLED*: 143'

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 19.5' ; NO ☐
DEPTH TO BEDROCK: ~3' DEPTH TO WATER TABLE: 0
BOREHOLE FLUID: WATER ; FRESH WATER MUD ☒ ; SALT WATER MUD ;

OTHER:
DEPTH TO BOREHOLE FLUID: 0' TIME SINCE LAST CIRCULATION: 12 pm

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City DEPARTURE TIME: 9:45 am
ARRIVED ON SITE: 10 am
STANDBY TIME: CAUSE:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



geophysical services

B-7106DH 3/18/08

~~B-7106DH~~ ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/11/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO OTHER
MICROLOGGER* 5310 5772 ☒
TELEVIEWER* ACOUSTIC #5174 ☒ OTHER
SHEAVE* COMPROBE OYO 101 102 ☒ 103 RG

1 PROBE TILT TEST* 41.88 BRUNTON TILT* 42
2 PROBE TILT TEST* 88.51 BRUNTON TILT* 88
3 PROBE TILT TEST* 28.80 BRUNTON TILT* 29 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 189.2 BRUNTON AZIMUTH* 186
2 PROBE AZIMUTH TEST* 284.9 BRUNTON AZIMUTH* 290
3 PROBE AZIMUTH TEST* 252.7 BRUNTON AZIMUTH* 245 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	} REF TO GROUND SURFACE
MINUS CASING STICK-UP*	.92	
DEPTH REF. OFFSET AT START*	3.8	
DEPTH REF. OFFSET AT END*	3.74	
AFTER SURVEY DEPTH ERROR*	.06	

cc 3/19/08

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B7106DH400P01	120.5 ft	3:06	17.1 ft	3:38 pm
B7106DH400P01	120.5 ft	3:06 pm	17.1 ft	3:38 pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Ex (951) 549-1236

CALIPER FIELD LOG REV 1.1a PDF



geophysical services

B-710 GDI cc 3/11/08
B-710 GDI

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 3/11/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DRILLER PHONE: Off Cell
COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: RANGE: TOWNSHIP: SECTION:

BOREHOLE CONSTRUCTION: CASED UNCASED ☒
DIAMETERS AND DEPTH RANGES: 6" 0 TO 19.5 ; 4" 19.5 TO 143

BOREHOLE TOTAL DEPTH AS DRILLED*: 143 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 19.5'; NO
DEPTH TO BEDROCK: ~3.6ft DEPTH TO WATER TABLE:
BOREHOLE FLUID: WATER; FRESH WATER MUD; SALT WATER MUD;
OTHER:
DEPTH TO BOREHOLE FLUID: 6 TIME SINCE LAST CIRCULATION: 12 pm

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 9:45 am
ARRIVED ON SITE: 10 am
STANDBY TIME: CAUSE:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Ex (951) 549-1236

CALIPER FIELD LOG REV 1.1a.MDF



B-710GDH cc 3/18/08
B-710DH CALIPER FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/11/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO ☐ RG ☐ OTHER ☐
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER ☐
CALIPER PROBE* 5368 ☒ OTHER ☐
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	.92	
DEPTH REF. OFFSET AT START*	5.9	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	5.85	
AFTER SURVEY DEPTH ERROR*	.05	

cc
3/19/08

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B710DHCA TEST 01	132.35 ft	4:12	13.4 ft	4:13
B710DHCA TEST 02	132.35 ft	4:26 pm	13.4 ft	4:39 pm
B710DHCA TEST 03	132.35 ft	4:46 pm	13.4 ft	4:47 pm
B710GDHCA TEST 01	132.35 ft	4:12	13.4 ft	4:13 pm
B710GDHCA TEST 02	132.35 ft	4:26 pm	13.4 ft	4:39 pm
B710GDHCA TEST 03	132.35 ft	4:46 pm	13.4 ft	4:47 pm

CALIBRATION PLATE S/N 201

FILE NAME	AS BUILT			PVC FITTING
	1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN (203.2 MM)	4.607 IN (114.3 MM)
AS MEAS. * B710DHCA TEST 01	1.968	3.912	8.000	4.517
AS MEAS. * B710DHCA TEST 02	1.983	3.953	8.003	4.517
AS MEAS.				
AS MEAS. B710GDHCA TEST 01	1.968	3.912	8.000	4.517
AS MEAS. B710GDHCA TEST 02	1.983	3.953	8.003	4.517
AS MEAS.				

cc
3/19/08

cc
3/19/08

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

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Ph (951) 549-1234 Fx (951) 549-1236

ELOG FIELD LOG REV 1.1a



B-710GDH cc 3/18/08
~~B-7102H~~

ELOG FIELD LOG

Borehole*

SITE*: Turkey Point NPP
CLIENT*: MACTEC
AUTHOR*: C. Carter
DATE*: 3/18/08
JOB*: 8083
PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD _____
DIAMETERS AND DEPTH RANGES: 6" 0 TO 19.5' ; 4" 19.5' TO 273'

BOREHOLE TOTAL DEPTH AS DRILLED*: 273

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 115 ft ; NO _____
DEPTH TO BEDROCK: ~ 3 ft DEPTH TO WATER TABLE: 6
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD _____
OTHER: _____

DEPTH TO BOREHOLE FLUID: ~ 10' TIME SINCE LAST CIRCULATION: 9 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 8:30 am
ARRIVED ON SITE: 8:45 am
STANDBY TIME: _____ CAUSE: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B-7106DH
~~B-7106DH~~ cc 3/18/08
Borehole* ELOG FIELD LOG

SITE*: Turkey Point NPP DATE*: 3/18/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
ELOG PROBE* 5490 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE LENGTH	2.50M(8.20 FT)
PLUS YOKE 10.0M (32.8 FT)*	55 +32.8 cc 3/18/08
MINUS CASING STICK-UP*	- 1.08
DEPTH REF. OFFSET AT START*	39.92
DEPTH REF. OFFSET AT END*	39.95
AFTER SURVEY DEPTH ERROR*	.03

REF TO GROUND SURFACE

cc 3/18/08
cc 3/19/08

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B7106DHTEST07		10:04		10:05am
B7106DHTEST07		10:04		10:05am
B7106DHLOGUP02	270.6 ft	10:29	94.8 ft	10:49
B7106DHLOGTEST02		10:04am		10:05am
B7106DHLOGTEST02	270.6 ft	10:29am	94.8 ft	10:49am

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: ^{cc 3/18/08} ~~low~~ resistivity above 200'.

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

P-S FIELD LOG REV V1.31a



B-710GDH cc 3/18/08

B-710GDH

P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole

SITE*: Turkey Point NPP DATE*: 3/18/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF * 5

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DIRECTIONS TO SITE:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:

BOREHOLE CONSTRUCTION*: CASED UNCASD X

DIAMETERS AND DEPTH RANGES*: 6" 0 TO 19.5' ; 4" 19.5' TO 273 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 273 ft

SURFACE CASING?: X DEPTH TO BOTTOM OF CASING 11.5 ft; NO

DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: 0

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

OTHER:

DEPTH TO BOREHOLE FLUID*: ~10 ft TIME SINCE LAST CIRCULATION: 9am

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL
GEOVision Geophysical Services—11511 Pomona Road, Suite P, Corona, CA 92602 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a



cc 3/18/08
B-710DH

P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/28/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 5

LOGGING CREW*: C. Carter
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 8:30 am
ARRIVED ON SITE: 8:45 am
STANDBY TIME: CAUSE:
LOGGING STARTED: 12:19 pm LOGGING COMPLETED: 1:02 pm

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 ☒
ISOLATION TUBE S/N* 300083 ☐ 24053 ☐ 28068 ☐ 28072 ☒ 2M
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐
MICROLOGGER* 5310 ☐ 5772 ☒ NOT APPLICABLE (OYO) ☐
PROBE OFFSET* OYO 2.0M ☐ RG 2.5M ☒
MINUS CASING STICK-UP* .33
DEPTH REF. OFFSET AT START* 2.17
DEPTH REF. OFFSET AT END* 2.14
AFTER SURVEY DEPTH ERROR* .03
REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B-710DH SUSP DOWN 02	121.4 ft	12:19 pm	252.6	1:02 pm
B-710DH				
B-710GDH SUSP DOWN 02	121.4 ft	12:19 pm	252.6 ft	1:02 pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:
COMMENTS:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services 1151 Pomona Road, Suite P, Corona, CA 92632 (951) 549-1234 Fx (951) 549-1236

B-710GDH cc 3/18/08
B-710GDH

P-S FIELD LOG REV V1.31a

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 3/11/08, 3/18/08
CLIENT*: MACTEC JOB*: 8083 cc 3/18/08
AUTHOR*: C. Carter PAGE*: 513 OF 515

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
21.0	68.90	30		
21.5	70.54	31		
22.0	72.18	32		
22.5	73.82	33		
23.0	75.46	34		
23.5	77.10	35		
24.0	78.74	36		
24.5	80.38	37		
25.0	82.02	38		
25.5	83.66	39		
26.0	85.30	40		
26.5	86.94	41		
27.0	88.58	42		
27.5	90.22	43		
28.0	91.86	44		
28.5	93.50	45		
29.0	95.14	46		
29.5	96.78	47		
30.0	98.43	48		
30.5	100.07	49		
31.0	101.71	50		
31.5	103.35	51		
32.0	104.99	52		
32.5	106.63	53		
33.0	108.27	54		
33.5	109.91	55		
34.0	111.55	56		
34.5	113.19	57		
35.0	114.83	58		
35.5	116.47	59		
36.0	118.11	60		
36.5	119.75	61		
37.0	121.39	62	67	12:18 pm (3/18)
37.5	123.03	63	68	
38.0	124.67	64	69	
38.5	126.31	65	70	
39.0	127.95	66	71	2:05 (3/11)
39.5	129.59		72	
40.0	131.23		73	
40.5	132.87		74	
41.0	134.51		75	

B-710GDH 3/18/08
B-710DH

P-S FIELD LOG REV V1.31a

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 3/18/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE*: 7 OF 5

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*.	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
41.5	136.15	76		
42.0	137.80	77		
42.5	139.44	78		
43.0	141.08	79		
43.5	142.72	80		
44.0	144.36	81		
44.5	146.00	82		
45.0	147.64	83		
45.5	149.28	84		
46.0	150.92	85		
46.5	152.56	86		
47.0	154.20	87		
47.5	155.84	88		
48.0	157.48	89		
48.5	159.12	90		
49.0	160.76	91		
49.5	162.40	92		
50.0	164.04	93		
50.5	165.68	94		
51.0	167.32	95		
51.5	168.96	96		
52.0	170.60	97		
52.5	172.24	98		
53.0	173.88	99		
53.5	175.52	100		
54.0	177.17	101		
54.5	178.81	102		
55.0	180.45	103		
55.5	182.09	104		
56.0	183.73	105		
56.5	185.37	106		
57.0	187.01	107		
57.5	188.65	108		
58.0	190.29	109		
58.5	191.93	110		
59.0	193.57	111		
59.5	195.21	112		
60.0	196.85	113		
60.5	198.49	114		
61.0	200.13	115		
61.5	201.77	116		

B-710 GDH cc 3/15/08
B-710-H

P-S FIELD LOG REV V1.31a

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 3/18/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE*: 5 OF 5

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*.	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
62.0	203.41	117		
62.5	205.05	118		
63.0	206.69	119		
63.5	208.33	120		
64.0	209.97	121		
64.5	211.61	122		
65.0	213.25	123		
65.5	214.90	124		
66.0	216.54	125		
66.5	218.18	126		
67.0	219.82	127		
67.5	221.46	128		
68.0	223.10	129		
68.5	224.74	130		
69.0	226.38	131		
69.5	228.02	132		
70.0	229.66	133		
70.5	*231.30	134		
71.0	232.94	135		
71.5	234.58	136		
72.0	236.22	137		
72.5	237.86	138		
73.0	239.50	139		
73.5	241.14	140		
74.0	242.78	141		
74.5	244.42	142		
75.0	246.06	143		
75.5	247.70	144		
76.0	249.34	145		
76.5	250.98	146		
77.0	252.62	147		1:02 pm
77.5	254.27			
78.0	255.91			
78.5	257.55			
79.0	259.19			
79.5	260.83			
80.0	262.47			
80.5	264.11			
81.0	265.75			
81.5	267.39			
82.0	269.03			

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



8-7106DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/18/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF 2

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

DRILLER _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED UNCASED
DIAMETERS AND DEPTH RANGES: 6" 0 TO 19.5'; 4" 17.5' TO 273'

BOREHOLE TOTAL DEPTH AS DRILLED*: 273-ft

SURFACE CASING?: YES DEPTH TO BOTTOM OF CASING 115'; NO _____
DEPTH TO BEDROCK: ~3-ft DEPTH TO WATER TABLE: ~0
BOREHOLE FLUID: WATER; FRESH WATER MUD +; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: ~10-ft TIME SINCE LAST CIRCULATION: 9am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City DEPARTURE TIME: 8:30am
ARRIVED ON SITE: 8:45am
STANDBY TIME: _____ CAUSE: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-7106 DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/18/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO OTHER
MICROLOGGER* 5310 5772 ☒
TELEVIEWER* ACOUSTIC #5174 ☒ OTHER
SHEAVE* COMPROBE OYO 101 102 ☒ 103 RG

1 PROBE TILT TEST* 34.04 BRUNTON TILT* 34
2 PROBE TILT TEST* 86.06 BRUNTON TILT* 86
3 PROBE TILT TEST* 19.8 BRUNTON TILT* 20 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 183.6 BRUNTON AZIMUTH* 187
2 PROBE AZIMUTH TEST* 295.5 BRUNTON AZIMUTH* 300
3 PROBE AZIMUTH TEST* 244.0 BRUNTON AZIMUTH* 247 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	} REF TO GROUND SURFACE
MINUS CASING STICK-UP*	-1.08	
DEPTH REF. OFFSET AT START*	3.64	
DEPTH REF. OFFSET AT END*	3.57	
AFTER SURVEY DEPTH ERROR*	.07	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B7106 DH ACOUSTIC	253.7 ft	2:08 pm	102.2 ft	2:16

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

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

CALIPER FIELD LOG REV 1.1a PDF



B-7106 DH

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 3/18/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DRILLER: PHONE: Off Cell
COMPANY:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION: CASED UNCASD ☒
DIAMETERS AND DEPTH RANGES: 6" 0 TO 19.5 ft; 4" 17.5' TO 273 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 273 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 115 ft; NO
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: 0
BOREHOLE FLUID: WATER; FRESH WATER MUD ☒; SALT WATER MUD
OTHER:
DEPTH TO BOREHOLE FLUID: ~10 ft TIME SINCE LAST CIRCULATION: 9 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 8:30 am
ARRIVED ON SITE: 8:45 am
STANDBY TIME: CAUSE:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

CALIPER FIELD LOG REV 1.1a.PDF



B-7106BH

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP DATE*: 3/18/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO ☐ RG ☐ OTHER ☐
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER ☐
CALIPER PROBE* 5368 ☒ OTHER ☐
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	1.08	
DEPTH REF. OFFSET AT START*	5.74	} REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	5.65	
AFTER SURVEY DEPTH ERROR*	.09	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B7106DH CAL TEST 03		2:40		2:42 pm
B7106DH CAL UP 02	257.95	2:59 pm	108.6	3:15 pm
B7106DH CAL TEST 04		3:29 pm		3:31 pm

CALIBRATION PLATE S/N 201

FILE NAME	AS BUILT			PVC FITTING
	1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN (203.2 MM)	4.507 IN (114.3 MM)
AS MEAS.* B7106DH CAL TEST 03	1.977	3.971	7.999	4.543
AS MEAS.* B7106DH CAL TEST 04	1.999	3.986	8.09	4.517
AS MEAS.				
AS MEAS.				
AS MEAS.				
AS MEAS.				

cc 3/18/08

4.510

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Ex (951) 549-1236



B-7206DH BORING GEOPHYSICS FIELD LOG SUMMARY

Borehole*

SITE*: Turkey Point NPP

DATE*: 3/20/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE*: 1 OF 1

CONTACT:

PHONE:

BOREHOLE CONSTRUCTION: CASSED

UNCASSED ☒

DIAMETERS AND DEPTH RANGES: 4" 0 TO 73 ft; 3 7/8" 73 TO 220 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 220 ft

CONDUCTOR CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 73/20'; NO

DEPTH TO BEDROCK: ~3 ft

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

LOGGING CREW: C. Carter

LOG TYPE*	FILE NAME*	DEPTH RANGE*	DATE*	TIMES*
ELOG	B7206PH ELOG TEST 01		3/20/08	11:07 - 11:08 am
ELOG	B7206DH ELOG UP01	219.4 - 69.7 ft	3/20/08	11:37 - 11:54 am
P-S velocity	B7206DH SUSP DOWN01	23.0m - 61.0m	3/20/08	12:44 - 1:29 pm
Deviation	B7206DH AVUP01	200.4 - 7 ft	3/20/08	2:37 - 2:47
Caliper	B7206DH CAL TEST 01		3/20/08	3:15 - 3:16
Caliper	B7206DH CAL UP01	202.5 - 59.55 ft	3/20/08	3:33 - 3:47
Caliper	B7206DH CAL TEST 02		3/20/08	4:00 - 4:01
ELOG	B7206PH ELOG UP02	131.15 - 30.95 ft	3/20/08	5:00 - 5:11 pm
P-S velocity	P7206DH SUSP DOWN02	8.0m - 37.0m	3/20/08	5:34 - 6:07 pm
ATV	B7206DH AVUP02	120.4 - 19.7 ft	3/20/08	6:53 - 7:22 pm
Caliper	B7206DH CAL TEST 03		3/20/08	7:41 - 7:42 pm
Caliper	B7206DH CAL UP02	82.1 - 16.3 ft	3/20/08	7:53 - 8:00 pm
Caliper	B7206DH CAL TEST 04		3/20/08	8:07 - 8:08 pm

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

1151 Pomona Road, Unit P, Corona, CA 92882

Ph (951) 549-1234 Ex (951) 549-1236

ELOG FIELD LOG REV 1.1a



B-7206DH

ELOG FIELD LOG

Borehole*

SITE*: Turkey Point NPP
CLIENT*: MACTEC
AUTHOR*: C. Carter
DATE*: 3/20/08
JOB*: 8083
PAGE: 1 OF 2

CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD ☒
DIAMETERS AND DEPTH RANGES: 4" 0 TO 73' ; 3 7/8" 73 TO 220'

BOREHOLE TOTAL DEPTH AS DRILLED*: 220 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 73 1/2'; NO _____
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: ☒
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: ~0 TIME SINCE LAST CIRCULATION: 10:30am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 7:15
ARRIVED ON SITE: 7:30
STANDBY TIME: 8-5 3/4 CAUSE: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ELOG FIELD LOG REV 1.1a



B-7206011 ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/20/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
ELOG PROBE* 5490 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE LENGTH	2.50M(8.20 FT)
PLUS YOKE 10.0M (32.8 FT)*	32.8 32.8
MINUS CASING STICK-UP*	8.08 10.08
DEPTH REF. OFFSET AT START*	32.92 30.92 REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	32.55 30.90
AFTER SURVEY DEPTH ERROR*	.37 .02

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B720604ELOGTEST01		11:07am		11:08am
B720604ELOGUP01	219.4 ft	11:37am	69.7 ft	11:54am
B720604ELOGUP02	131.15 ft	5:00pm	30.95 ft	5:11pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: "Tiger salt" was added to high yield bentonite drilling mud from 0-713 ft. Resistivity is very low above 200 ft.
cc 3/20/08

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

P-S FIELD LOG REV V1.31a



8-7206011 **P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a**

Borehole

SITE*: Turkey Point NPP DATE*: 3/20/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF * 5

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____

BOREHOLE CONSTRUCTION*: CASED _____ UNCASD X

DIAMETERS AND DEPTH RANGES*: 4" 0 TO 73'; 3 7/8" 73' TO 220 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 220 ft

SURFACE CASING?: X DEPTH TO BOTTOM OF CASING 73-ft; NO 125 ft

DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: 0

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

OTHER: _____

DEPTH TO BOREHOLE FLUID*: ~0 TIME SINCE LAST CIRCULATION: 10:30 am

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.
GEOVision Geophysical Services — 11511 Pomona Road, Suite P, Corona, CA 92622 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a



B-720604 P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/20/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 45 cc 3/20/08

LOGGING CREW*: C. Carter
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 8:15 am
ARRIVED ON SITE: 7:30 am
STANDBY TIME: 8-5 3/19 " CAUSE:
LOGGING STARTED: 12:44 LOGGING COMPLETED: 1:29 pm

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 ☒
ISOLATION TUBE S/N* 300083 ☐ 24053 ☐ 28068 ☐ 28072 ☒ 2M
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐
MICROLOGGER* 5310 ☐ 5772 ☒ NOT APPLICABLE (OYO) ☐
PROBE OFFSET* OYO 2.0M ☒ cc 3/20/08 RG 2.5M ☒
MINUS CASING STICK-UP* 2.46 m 3.08 m
DEPTH REF. OFFSET AT START* .09 m .58
DEPTH REF. OFFSET AT END* .28 .57
AFTER SURVEY DEPTH ERROR* .24 .01
REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B720604SVSPDOWN01	23.0m	12:44pm	61.0m	1:29pm
B720604SVSPDOWN02	8.0m	5:34pm	37.0m	6:07pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: Run 1: Wireline on drill rig pulled down (N/A if none)
2m when probe came out of borehole fluid. Depth read - 2.19m @ Ref pt.
SUGGESTIONS, ADDITIONS, CHANGES: After running the ATV I realized the
COMMENTS: casing was set @ 20.5 ft. I was told it was set at 25 ft

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

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P-S FIELD LOG REV V1.31a

8-720664 **GEOVISION SUSPENSION LOGGING FIELD NOTES**

SITE*: Turkey Point NPP DATE*: 3/20/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE* 3 OF 5

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
0.5	1.64			
1.0	3.28			
1.5	4.92			
2.0	6.56			
2.5	8.20			
3.0	9.84			
3.5	11.48			
4.0	13.12			
4.5	14.76			
5.0	16.40			
5.5	18.04			
6.0	19.69			
6.5	21.33			
7.0	22.97			
7.5	24.61			
8.0	26.25	78		5:34
8.5	27.89	79		
9.0	29.53	80		
9.5	31.17	81		
10.0	32.81	82		
10.5	34.45	83		
11.0	36.09	84		
11.5	37.73	85		
12.0	39.37	86		
12.5	41.01	87		
13.0	42.65	88		
13.5	44.29	89		
14.0	45.93	90		
14.5	47.57	91		
15.0	49.21	92		
15.5	50.85	93		
16.0	52.49	94		
16.5	54.13	95		
17.0	55.77	96		
17.5	57.41	97		
18.0	59.06	98		
18.5	60.70	99		
19.0	62.34	100		
19.5	63.98	101		
20.0	65.62	102		
20.5	67.26	103		

3-720 GPH

P-S FIELD LOG REV V1.31a

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP

DATE*: 3/20/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: C. Carter

PAGE*: 34 of 320 OF 45

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*.	FILTERED FILE NO* (if any)	COMMENTS CASING, WATER, ROCK, ETC
21.0	68.90	104		
21.5	70.54	105		
22.0	72.18	106		
22.5	73.82	107		
23.0	75.46	108		12:44
23.5	77.10	2	109	
24.0	78.74	3	110	
24.5	80.38	4	111	
25.0	82.02	5	112	
25.5	83.66	6	113	
26.0	85.30	7	114	
26.5	86.94	8	115	
27.0	88.58	9	116	
27.5	90.22	10	117	
28.0	91.86	11	118	
28.5	93.50	12	119	
29.0	95.14	13	120	
29.5	96.78	14	121	
30.0	98.43	15	122	
30.5	100.07	16	123	
31.0	101.71	17	124	
31.5	103.35	18	125	
32.0	104.99	19	126	
32.5	106.63	20	127	
33.0	108.27	21	128	
33.5	109.91	22	129	
34.0	111.55	23	130	
34.5	113.19	24	131	
35.0	114.83	25	132	
35.5	116.47	26	133	
36.0	118.11	27	134	
36.5	119.75	28	135	
37.0	121.39	29	136	6:07
37.5	123.03	30		
38.0	124.67	31		
38.5	126.31	32		
39.0	127.95	33		
39.5	129.59	34		
40.0	131.23	35		
40.5	132.87	36		
41.0	134.51	37		

P-S FIELD LOG REV V1.31a

8-72060H **GEOVISION SUSPENSION LOGGING FIELD NOTES**

SITE*: Turkey Point NPP _____ DATE*: 3/20/08
CLIENT*: MACTEC _____ JOB*: 8083
AUTHOR*: C. Carter _____ PAGE* 45 OF 45 u 3/24/08

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO*	FILTERED FILE NO*. (if any)	COMMENTS CASING, WATER, ROCK, ETC
41.5	136.15	38		
42.0	137.80	39		
42.5	139.44	40		
43.0	141.08	41		
43.5	142.72	42		
44.0	144.36	43		
44.5	146.00	44		
45.0	147.64	45		
45.5	149.28	46		
46.0	150.92	47		
46.5	152.56	48		
47.0	154.20	49		
47.5	155.84	50		
48.0	157.48	51		
48.5	159.12	52		
49.0	160.76	53		
49.5	162.40	54		
50.0	164.04	55		
50.5	165.68	56		
51.0	167.32	57		
51.5	168.96	58		
52.0	170.60	59		
52.5	172.24	60		
53.0	173.88	61		
53.5	175.52	62		
54.0	177.17	63		
54.5	178.81	64		
55.0	180.45	65		
55.5	182.09	66		
56.0	183.73	67		
56.5	185.37	68		
57.0	187.01	69		
57.5	188.65	70		
58.0	190.29	71		
58.5	191.93	72		
59.0	193.57	73		
59.5	195.21	74		
60.0	196.85	75		
60.5	198.49	76		
61.0	200.13	77		1:29
61.5	201.77			

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-720GDH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/20/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF 2
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
CONTACT: _____ PHONE: Off Cell
DRILLER Phillip PHONE: Off Cell
COMPANY: MACTEC

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD ☒
DIAMETERS AND DEPTH RANGES: 4" 0 TO 73 ft; 3 1/8" 73 TO 220 ft
BOREHOLE TOTAL DEPTH AS DRILLED*: 220 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 73 ft; NO _____
DEPTH TO BEDROCK: ~3 ft DEPTH TO WATER TABLE: Ø
BOREHOLE FLUID: WATER _____; FRESH WATER MUD ☒; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: ~ Ø TIME SINCE LAST CIRCULATION: 10:30 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City DEPARTURE TIME: 7:15 am
ARRIVED ON SITE: 7:30 am
STANDBY TIME: _____ CAUSE: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-7206DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/20/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 2

WINCH: COMPROBE SILVER X OYO OTHER
MICROLOGGER* 5310 5772 X
TELEVIEWER* ACOUSTIC #5174 X OTHER
SHEAVE* COMPROBE OYO 101 102 X 103 RG

1 PROBE TILT TEST* 96.22 BRUNTON TILT* 90
2 PROBE TILT TEST* 10.16 BRUNTON TILT* 10
3 PROBE TILT TEST* 19.24 BRUNTON TILT* 19 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 33.6 BRUNTON AZIMUTH* 36
2 PROBE AZIMUTH TEST* 72.10 BRUNTON AZIMUTH* 74
3 PROBE AZIMUTH TEST* 115.5 BRUNTON AZIMUTH* 119 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	} REF TO GROUND SURFACE
MINUS CASING STICK-UP*	<u>8.08</u>	
DEPTH REF. OFFSET AT START*	<u>-3.36</u>	
DEPTH REF. OFFSET AT END*	<u>-3.36</u>	
AFTER SURVEY DEPTH ERROR*	<u>0</u>	

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
B7206DH10001	200.4 ft	2:37 pm	~7 ft	2:47 pm

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

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ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-7206DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/20/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF 2

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

CONTACT: _____ PHONE: Off Cell

DRILLER _____ PHONE: Off Cell
COMPANY: _____

GENERAL SITE CONDITIONS/LOCATION: _____

COUNTY: Miami-Dade RANGE: _____ TOWNSHIP: _____ SECTION: _____
BOREHOLE CONSTRUCTION: CASED _____ UNCASD X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 73'; 3 7/8" 73' TO 220'

BOREHOLE TOTAL DEPTH AS DRILLED*: 220

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 21'; NO _____
DEPTH TO BEDROCK: ~3ft DEPTH TO WATER TABLE: ~0
BOREHOLE FLUID: WATER _____; FRESH WATER MUD X; SALT WATER MUD _____
OTHER: _____
DEPTH TO BOREHOLE FLUID: ~0 TIME SINCE LAST CIRCULATION: 10:30 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: Florida City DEPARTURE TIME: 7:15 am
ARRIVED ON SITE: 7:30 am
STANDBY TIME: _____ CAUSE: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf



B-720604 ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/20/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF 2

WINCH: COMPROBE SILVER X OYO OTHER
MICROLOGGER* 5310 5772 X
TELEVIEWER* ACOUSTIC #5174 X OTHER
SHEAVE* COMPROBE OYO 101 102 X 103 RG

1 PROBE TILT TEST* 19.01 BRUNTON TILT* 19
2 PROBE TILT TEST* 90.43 BRUNTON TILT* 90
3 PROBE TILT TEST* 10.88 BRUNTON TILT* 11 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 19.3 BRUNTON AZIMUTH* 21
2 PROBE AZIMUTH TEST* 70.3 BRUNTON AZIMUTH* 74
3 PROBE AZIMUTH TEST* 144.6 BRUNTON AZIMUTH* 146 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	} REF TO GROUND SURFACE
MINUS CASING STICK-UP*	<u>-10.08</u>	
DEPTH REF. OFFSET AT START*	<u>-5.36</u>	
DEPTH REF. OFFSET AT END*	<u>-5.34</u>	
AFTER SURVEY DEPTH ERROR*	<u>.02</u>	

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
<u>B-720604A VVP02</u>	<u>120.4 SL</u>	<u>6:53</u>	<u>19.7 ft</u>	<u>7:22 pm</u>

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

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CALIPER FIELD LOG REV 1.1a.PDF



8-720604

CALIPER FIELD LOG

Borehole*

SITE*: Turkey Point NPP
CLIENT*: MACTEC
AUTHOR*: C. Carter
DATE*: 3/20/08
JOB*: 8083
PAGE: 1 OF 2

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

CONTACT: PHONE: Off Cell

DRILLER
COMPANY: PHONE: Off Cell

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: RANGE: TOWNSHIP: SECTION:

BOREHOLE CONSTRUCTION: CASED UNCASED ☒

DIAMETERS AND DEPTH RANGES: 4" 0 TO 73 ft; 3 7/8" 73 TO 220 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 220 ft

SURFACE CASING?: YES ☒ DEPTH TO BOTTOM OF CASING 73 ft / 20.5'; NO

DEPTH TO BEDROCK: ~ 3 ft DEPTH TO WATER TABLE: ϕ

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

OTHER:

DEPTH TO BOREHOLE FLUID: ~ ϕ TIME SINCE LAST CIRCULATION: 10:30 am

LOGGING CREW: C. Carter

VEHICLE(S) USED AND MILEAGE:

MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 7:45 am

ARRIVED ON SITE: 7:30 am

STANDBY TIME: 8-5 3/19 CAUSE:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

CALIPER FIELD LOG REV 1.1a PDF



B-7206DH CALIPER FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/20/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE: PAGE 2 OF 2

WINCH: COMPROBE SILVER ☒ OYO ~~5~~ ^{cu 3/4" 10.68} RG OTHER
MICROLOGGER* 5310 ☐ 5772 ☒ OTHER
CALIPER PROBE* 5368 ☒ OTHER
SHEAVE* COMPROBE ☐ OYO 101 ☐ 102 ☒ 103 ☐ RG ☐

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	8.08	10.68
DEPTH REF. OFFSET AT START*	-1.23	-3.26
DEPTH REF. OFFSET AT END*	-1.25	-3.70
AFTER SURVEY DEPTH ERROR*	.02	.06

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B7206DH CAL TEST 01		3:15		3:16
B7206DH CAL UP 01	202.5 ft	3:33	59.55 ft	3:47
B7206DH CAL TEST 02		4:00		4:01
B7206DH CAL TEST 03		7:41		7:42
B7206DH CAL TEST 04		8:07		8:08
B7206DH CAL UP 02	82.1 ft	7:53	16.3 ft	8:00

CALIBRATION PLATE S/N 201

	FILE NAME	AS BUILT			PVC FITTING
		1.968 IN (50 MM)	3.937 IN (100 MM)	8.000 IN (203.2 MM)	4.507 IN (114.3 MM)
AS MEAS.*	B7206DH CAL TEST 01	1.968	3.978	8.02	4.530
AS MEAS.*	B7206DH CAL TEST 02	1.942	3.927	7.999	4.504
AS MEAS.	B7206DH CAL TEST 03	1.977	3.953	8.05	4.513
AS MEAS.	B7206DH CAL TEST 04	1.977	3.986	8.02	4.50
AS MEAS.					
AS MEAS.					

4.510 cu 3/4" 10.68

MAINTENANCE PERFORMED ON SITE*: N/A (N/A if none)

EQUIPMENT PROBLEMS OR FAILURES*: N/A (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

GEOVision Geophysical Services

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Ph (951) 549-1234 Fx (951) 549-1236

DIT FIELD LOG REV 1.1a.pdf



B740 (DIT) **DOWNHOLE VELOCITY FIELD LOG REV 1.1a**

Borehole*
SITE*: Turkey Pt N? DATE*: 6/24/08 & 6/25/08
CLIENT*: Mactec JOB*: 8083
AUTHOR*: A. Martin PAGE 1 OF 3

CONTACT: Matt Cook PHONE: Off Cell 803-261-5792

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

CONTACT: _____ PHONE: Off Cell _____

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

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

BOREHOLE CONSTRUCTION: CASED ☒ 2" TIME SINCE GROUT 3+ weeks

DIAMETERS AND DEPTH RANGES: 6" 0 TO 150'; _____ TO _____

BOREHOLE TOTAL DEPTH AS DRILLED*: 150'

DEPTH TO BEDROCK: ~ 3' DEPTH TO WATER TABLE: ~ 1'

WATER PUMPED FROM BOREHOLE*? YES ☒ NO - then what DEPTH TO WATER water pump to 116'

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DIFFIELD LOG REV 1.1a.pdf



B740(DH) **DOWNHOLE VELOCITY FIELD LOG**
Borehole*

SITE*: Turkey Point WP DATE*: 6/24/08 & 6/25/08
CLIENT*: Mectec JOB*: 8083
AUTHOR*: P. Martin PAGE: 2 OF 3

LOGGING CREW*: A. Martin / N. Bolew
MOBILIZED FROM: Florida City DEPARTURE TIME: 0715am
ARRIVED ON SITE: 0745hr
STANDBY TIME: _____ CAUSE: _____
LOGGING STARTED: 1145hr / 0800hr LOGGING COMPLETED: 1400 / 1100hr
6/24/08 6/25/08 6/24/08 6/25/08

WINCH _____ OTHER _____
INSTRUMENT* Geode 3458 ☒ 3459 ☐ Other _____
GEOPHONES* BHG3 9501 ☒ Other BHG3 9501 ☐

Plank Orientation*: N82W (MN) Sh Source Offset* 9'11" P Source Offset* 11'
Surface geophones - If any-Offset Sh 16'8" P Offset 17'8"

P SOURCE Trip hammer weight drop

Sh SOURCE _____

CHANNEL ASSIGNMENTS 1 = borehole V, 2 = borehole H-L, 3 = borehole H-S
4 = surface V, 5 = surface H-L, 6 = surface H-S

SAMPLE RATES:
Depth range 5'-148' Sh-wave 20.833m SL/0.175s P-wave 20.833m SL/0.075s RL
Depth range _____ Sh-wave _____ P-wave _____
Depth range _____ Sh-wave _____ P-wave _____

MAINTENANCE PERFORMED ON SITE*: NA

EQUIPMENT PROBLEMS OR FAILURES*: Difficulty with contact closure triggers on
highly conductive ground - no impact on data quality.

SUGGESTIONS, ADDITIONS, CHANGES: _____

COMMENTS: _____

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL.

OH FIELD LOG REV 1.1a.p3f

B740 (DHT) DOWNHOLE VELOCITY FIELD LOG

Borehole*

SITE*: Turkey Point NP

DATE*: 6/24/08 & 6/25/08

CLIENT*: MACTEC

JOB*: 8083

AUTHOR*: A. Martin

PAGE* 3 OF 3

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

DEPTH* (Feet)	SH CHANNEL NUMBERS*		# OF STACKS	SH FILE NUMBER*		P CHANNEL NUMBER*	# OF STACKS	P FILE NUMBER*
	HL*	HT		RED*	GRN*			
5	2	3	8	59	60	1	5	103
10			8	57	58		5	102
15			8	55	56		5	101
20			8	53	54		5	100
25			8	51	52		1/5	98/99
30			8	49/71	50/72		2	97
35			8	47	48		5	96
40			8	45	46		5	95
45			8	43	44		5	94
50			9	41	42		5	93
55			8	39	40		7	92
60			8	37	38		5	91
65			10	35	36		6	90
70			10	33	34		6	89
75			10	31	32		6	88
80			10	29	30		5	87
85			10	27	28		5	86
90			10	25/63	26/64		6	85
95			12	23	24		5	84
100			10	21	22		5	83
105			10	19	20		6	82
110			10	17	18		6	81
115			10	15	16		6	80
120			12	13	14		6	79
125			12	11	12		6	78
130			12	9	10		6	77
135			10	7	8		8	76
140	✓	✓	10	5	6	✓	8	75
145			10	3	4		8	74
148 *	2	3	10	1/61	2/62	1	5	73
90'	Noise		65 - 70					
			END OF LOG	CJA	6/25/08			
			Note: File 99 - 103	with	16lb sledge hammer			

GEOVision Geophysical Services

1151 Pomona Rd. #P Corona, CA 92882

ph (951) 549-1234 fx (951) 549-1236

* edit data

APPENDIX G

BORING GEOPHYSICAL LOGGING

FIELD MEASUREMENT PROCEDURES

PROCEDURE FOR OYO P-S SUSPENSION SEISMIC VELOCITY LOGGING

Background

This procedure describes a method for measuring shear and compressional wave velocities in soil and rock. The OYO P-S Suspension Method is applied by generating shear and compressional waves in a borehole using the OYO P-S Suspension Logger borehole tool and measuring the travel time between two receiver geophones or hydrophones located in the same tool.

Objective

The outcome of this procedure is a plot and table of P and S_H wave velocity versus depth for each borehole. Standard analysis is performed on receiver to receiver data. Data is presented in report format, with digital data files transmitted in Excel, Word or ASCII format.

Instrumentation

1. OYO Model 170 Digital Logging Recorder or equivalent
2. OYO P-S Suspension Logger probe or equivalent, including two sets horizontal and vertical geophones, seismic source, and power supply for the source and receivers
3. Winch and winch controller, with logging cable
4. Batteries to operate P-S Logger and winch

The Suspension P-S Logger system, manufactured by OYO Corporation, or the Robertson Digital P-S Suspension Probe with the Robertson Micrologger2 are currently the only commercially available suspension logging systems. As shown in Figure 1, these systems consists of a borehole probe suspended by a cable and a recording/control electronics package on the surface.

The suspension system probe consists of a combined reversible polarity solenoid horizontal shear-wave generator (S_H) and compressional-wave generator (P), joined to



two biaxial geophones by a flexible isolation cylinder. The separation of the two geophones is one meter, allowing average wave velocity in the region between the geophones to be determined by inversion of the wave travel time between the two geophones. The total length of the probe is approximately 7 meters; the center point of the geophones is approximately 4 meters above the bottom end of the probe.

The probe receives control signals from, and sends the amplified geophone signals to, the instrumentation package on the surface via an armored 4 or 7 conductor cable. The cable is wound onto the drum of a winch and is used to support the probe. Cable travel is measured by a rotary encoder to provide probe depth data.

The entire probe is suspended by the cable and may be centered in the borehole by nylon "whiskers." Therefore, source motion is not coupled directly to the borehole walls; rather, the source motion creates a horizontally propagating pressure wave in the fluid filling the borehole and surrounding the source. This pressure wave produces a horizontal displacement of the soil forming the wall of the borehole. This displacement propagates up and down the borehole wall, in turn causing a pressure wave to be generated in the fluid surrounding the geophones as the soil displacement wave passes their location.

Environmental Conditions

The OYO P-S Suspension Logging Method can be used in either cased or uncased boreholes. For best results, the uncased borehole must be between 10 and 20 cm in diameter, or 4 to 8 inches. A cased borehole may be as small as 3 inches, if properly grouted (see below) and the grout annulus does not exceed 1 inch.

Uncased boreholes are preferred because the effects of the casing and grouting are removed. It is recommended that the borehole be drilled using the rotary mud method. This method does little damage to the borehole wall, and the drilling fluid coats and seals the borehole wall reducing fluid loss and wall collapse. The borehole fluid is required for the logging, and must be well circulated prior to logging.

If the borehole must be cased, the casing must be PVC and properly installed and grouted. Any voids in the grout will cause problems with the data. Likewise, large grout bulbs used to fill cavities will also cause problems. The grout must be set before testing. This means the grouting must take place at least 48 hours before testing.

For borehole casing, applicable preparation procedures are presented in ASTM Standard D4428/D4428M-91 Section 4.1 (see ASTM website for copy).

Calibration

Calibration of the digital recorder is required. Calibration is limited to the timing accuracy of the recorder. GEOVision's Seismograph Calibration Procedure or equivalent should be used. Calibration must be performed on an annual basis.



Procedure for OYO P-S Suspension Seismic Velocity Logging
Rev 1.31 9/11/06 Page 2

Measurement Procedure

The entire probe is lowered into the borehole to a specific measurement depth by the winch. A measurement sequence is then initiated by the operator from the instrumentation package control panel. No further operator intervention is then needed to complete the measurement sequence described below.

The system electronics activates the SH-wave source in one direction and records the output of the two horizontally oriented geophone axes which are situated parallel to the axis of motion of the source. The source is then activated in the opposite direction, and the horizontal output signals are again recorded, producing a SH-wave record of polarity opposite to the previous record. The source is finally actuated in the first direction again, and the responses of the vertical geophone axes to the resultant P-wave are recorded during this sampling.

The data from each geophone during each source activation is recorded as a different channel on the recording system. The seismograph has at least six channels (two simultaneous recording channels), each with at least a 12 bit 1024 sample record. Newer seismographs may have longer record lengths. The recorded data is displayed on a CRT or LCD display and possibly on paper tape output as six channels with a common time scale. Data is stored on digital media for further processing. Up to 8 sampling sequences can be stacked (averaged) to improve the signal to noise ratio of the signals.

Review of the data on the display or paper tape allows the operator to set the gains, filters, delay time, pulse length (energy), sample rate, and stacking number in order to optimize the quality of the data before recording. In the case of the Model 170, printed data is verified by the operator prior to moving the probe. In the case of the Robertson Micrologger2, storage on the hard disk should be verified from time-to-time, certainly before exiting the borehole.

Typical depth spacing for measurements is 1.0 meters, or 3.3 feet. Alternative spacing is 0.5 meter, or 1.6 feet.

Required Field Records

- 1) Field log for each borehole showing
 - a) Borehole identification
 - b) Date of test
 - c) Tester or data recorder

- d) Description of measurement
 - e) Any deviations from test plan and action taken as a result
 - f) QA Review
- 2) Paper output records are no longer required, since the Micrologger2 cannot generate them. However, data must be stored in at least 2 places prior to leaving the site
 - 3) List of record ID numbers (for data on digital media) and corresponding depth
 - 4) Diskettes, CD Rom, or USB flash drives with backup copies of data on hard disk, labeled with borehole designation, record ID numbers, date, and tester name.

An example Field Log is attached to this procedure.

Analysis

Following completion of field work, the recorded digital records are processed by computer using the OYO Corporation software program PSLOG and interactively analyzed by an experienced geophysicist to produce plots and tables of P and S_H wave velocity versus depth.

The digital time series records from each depth are transferred to a personal computer for analysis. Figure 2 shows a sample of the data from a single depth. These digital records are analyzed to locate the first minima on the vertical axis records, indicating the arrival of P-wave energy. The difference in travel time between these arrivals is used to calculate the P-wave velocity for that 1-meter interval. When observable, P-wave arrivals on the horizontal axis records are used to verify the velocities determined from the vertical axis data. In addition, the soil velocity calculated from the travel time from source to first receiver is compared to the velocity derived from the travel time between receivers.

The digital records are studied to establish the presence of clear SH-wave pulses, as indicated by the presence of opposite polarity pulses on each pair of horizontal records. Ideally, the SH-wave signals from the 'normal' and 'reverse' source pulses are very nearly inverted images of each other. Digital FFT – IFFT lowpass filtering are used to remove the higher frequency P-wave signal from the SH-wave signal.

The first maxima are picked for the 'normal' signals and the first minima are picked for the 'reverse' signals. The absolute arrival time of the 'normal' and 'reverse' signals may vary by +/- 0.2 milliseconds, due to differences in actuation time of the solenoid source caused by constant mechanical bias in the source or by borehole inclination. This variation does not affect the velocity determinations, as the differential time is measured between arrivals of waves created by the same source actuation. The final velocity



value is the average of the values obtained from the 'normal' and 'reverse' source actuations.

In Figure 2, the time difference over the 1-meter interval of 1.70 millisecond is equivalent to a SH-wave velocity of 588 m/sec. Whenever possible, time differences are determined from several phase points on the S_H -wave pulse trains to verify the data obtained from the first arrival of the S_H -wave pulse. In addition, the soil velocity calculated from the travel time from source to first receiver is compared to the velocity derived from the travel time between receivers.

Figure 3 is a sample composite plot of the far normal horizontal geophone records for a range of depths. This plot shows the waveforms at each depth, clearly showing the S-wave arrivals. This display format is used during analysis to observe trends in velocity with changing depth.

Once the proper picks are entered in PSLOG, the picks are transferred to an Excel spreadsheet where Vs and Vp are calculated. The spreadsheet allows output for presentation in charts and tables.

Standard analysis is performed on receiver 1 to receiver 2 data, with separate analysis performed on source to receiver data as a quality assurance procedure.

Registered Geophysicist Anthony Martin Date 9/11/06

QA Review [Signature] Date 9/11/06

References:

1. "In Situ P and S Wave Velocity Measurement", Ohya, S. 1986. Proceedings of In-Situ '86, *Use of In-Situ Tests In Geotechnical Engineering*, an ASCE Specialty Conference sponsored by the Geotechnical Engineering Division of ASCE and co-sponsored by the Civil Engineering Dept of Virginia Tech.
2. Guidelines for Determining Design Basis Ground Motions, Report TR-102293, Electric Power Research Institute, Palo Alto, California, November 1993, Sections 7 and 8.
3. "Standard test Methods for Crosshole Seismic Testing", ASTM Standard D4428/D4428M-91, July 1991, Philadelphia, PA



Procedure for OYO P-S Suspension Seismic Velocity Logging
Rev 1.31 9/11/06 Page 5

OYO SUSPENSION P-S VELOCITY LOGGING SETUP

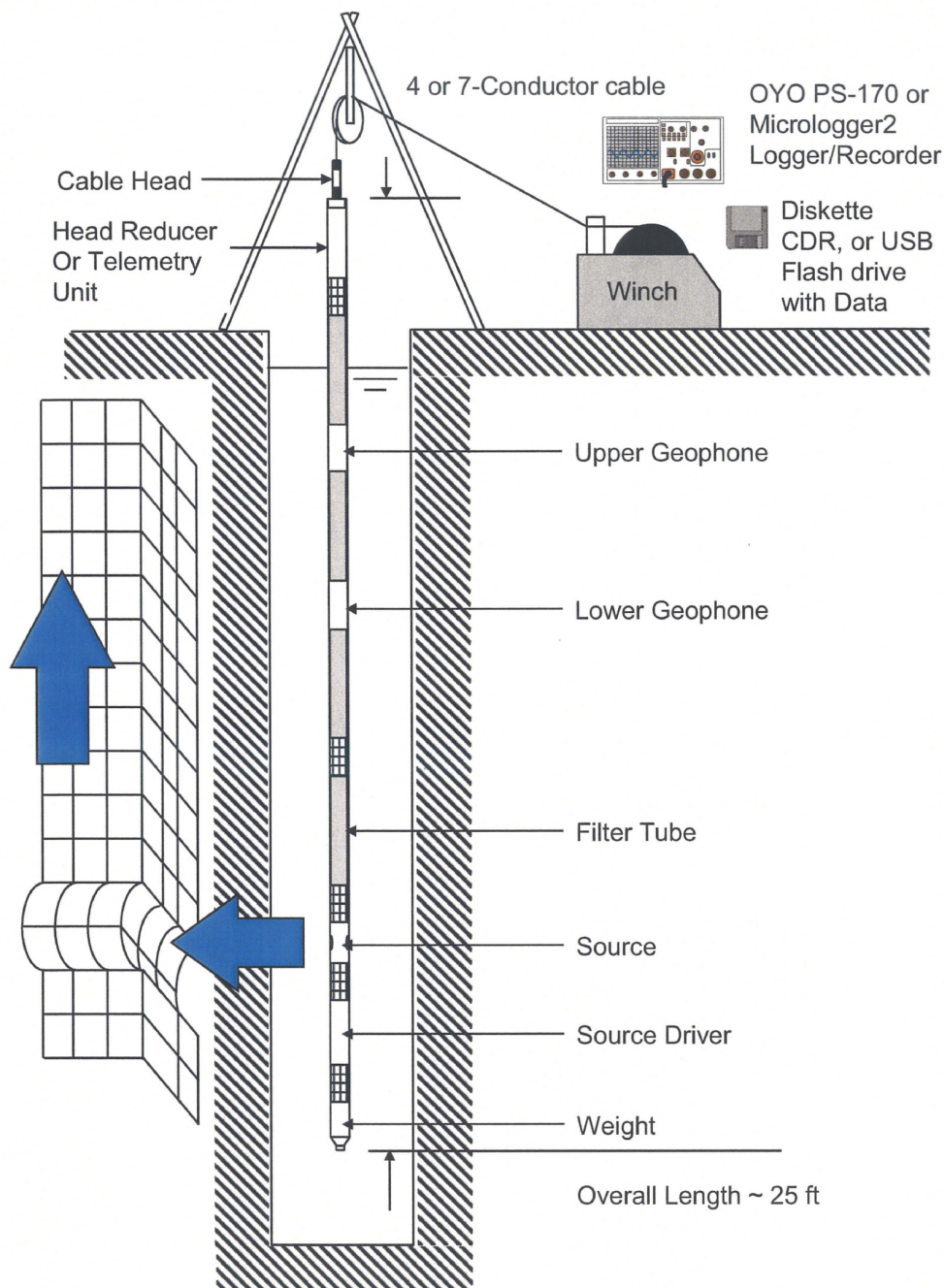


Figure 1. Suspension PS logging method setup

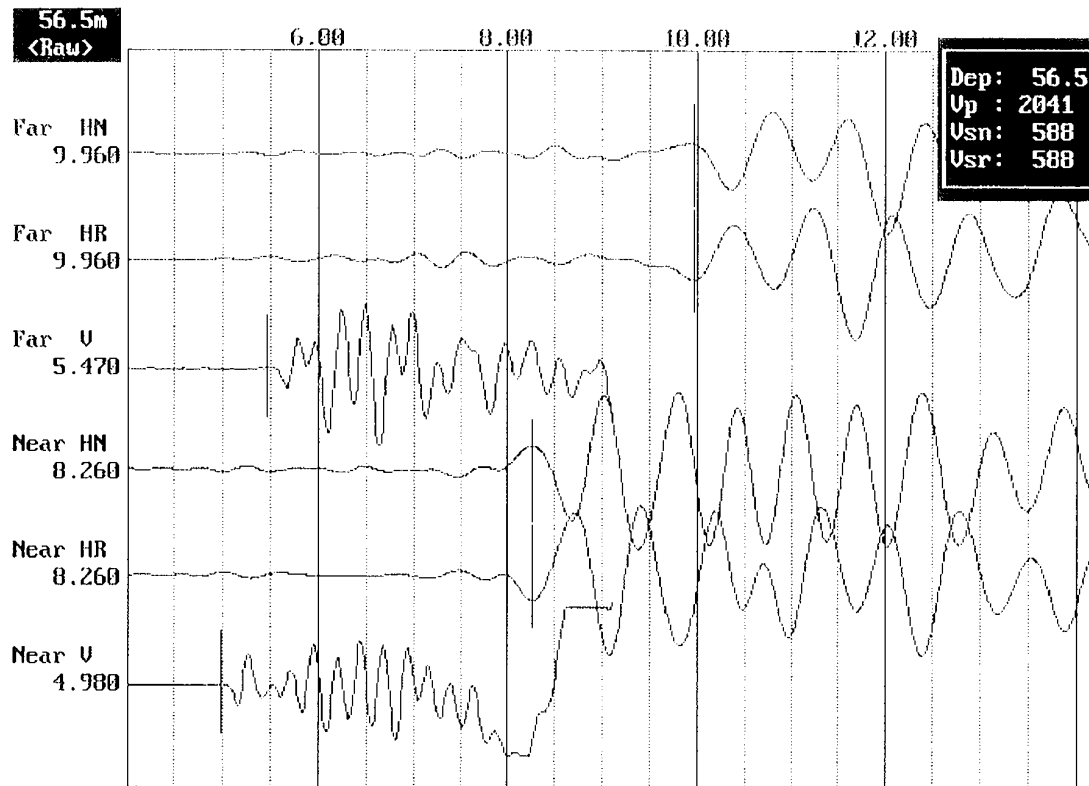


Figure 2. Sample suspension method waveform data showing horizontal normal and reversed (HR and HN), and vertical (V) waveforms received at the near (bottom 3 channels) and far (top 3 channels) geophones. The arrivals in milliseconds for each pick are shown on the left. The box in the upper right corner shows the depth in the borehole and the velocities calculated based on the picks.

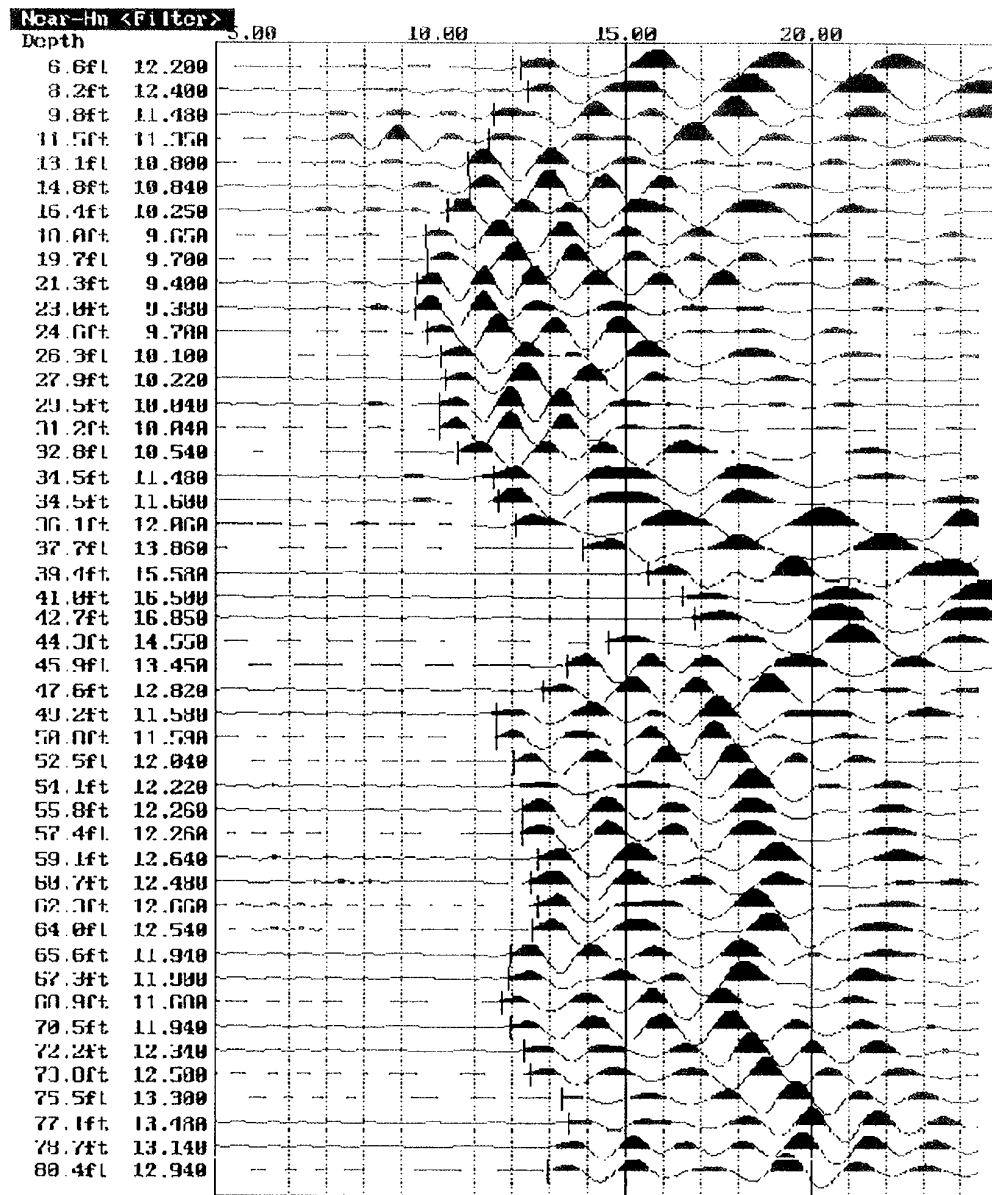


Figure 3. Sample composite waveform plot for normal shear waves received at the near geophone in a single borehole



P-S SUSPENSION VELOCITY FIELD LOG

SITE: _____ DATE: _____
CLIENT: _____ JOB: _____
AUTHOR: _____ PAGE 1 OF _____

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

DIRECTIONS TO SITE: _____

GENERAL SITE CONDITIONS/LOCATION: _____

EA#: _____
BOREHOLE DESIGNATION: _____ LOCATION: _____

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

BOREHOLE CONSTRUCTION: CASED _____ UNCASD _____

DIAMETERS AND DEPTH RANGES: _____ 0 TO _____; _____, _____ TO _____

BOREHOLE TOTAL DEPTH AS DRILLED: _____

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

DEPTH TO BEDROCK: _____ DEPTH TO WATER TABLE: _____

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

OTHER: _____

DEPTH TO BOREHOLE FLUID: _____ TIME SINCE LAST CIRCULATION: _____



SITE: _____ DATE: _____
CLIENT: _____ JOB: _____
AUTHOR: _____ PAGE 2 OF _____

LOGGING CREW: _____
VEHICLE(S) USED AND MILEAGE: _____
MOBILIZED FROM: _____ DEPARTURE TIME: _____
ARRIVED ON SITE: _____
STANDBY TIME: _____ CAUSE: _____
LOGGING STARTED: _____ LOGGING COMPLETED: _____
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 ☐

MAINTENANCE PERFORMED ON SITE: _____

EQUIPMENT PROBLEMS OR FAILURES: _____

SUGGESTIONS, ADDITIONS, CHANGES: _____

COMMENTS: _____

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE: _____ DATE: _____
CLIENT: _____ JOB: _____
AUTHOR: _____ PAGE _____ OF _____

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO.	FILTERED FILE NO.	COMMENTS CASING, WATER, ROCK, ETC
0.5	1.64			
1.0	3.28			
1.5	4.92			
2.0	6.56			
2.5	8.20			
3.0	9.84			
3.5	11.48			
4.0	13.12			
4.5	14.76			
5.0	16.40			
5.5	18.04			
6.0	19.69			
6.5	21.33			
7.0	22.97			
7.5	24.61			
8.0	26.25			
8.5	27.89			
9.0	29.53			
9.5	31.17			
10.0	32.81			
10.5	34.45			
11.0	36.09			
11.5	37.73			
12.0	39.37			
12.5	41.01			
13.0	42.65			
13.5	44.29			
14.0	45.93			
14.5	47.57			
15.0	49.21			
15.5	50.85			
16.0	52.49			
16.5	54.13			
17.0	55.77			
17.5	57.41			
18.0	59.06			

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE: _____ DATE: _____
CLIENT: _____ JOB: _____
AUTHOR: _____ PAGE _____ OF _____

DEPTH METERS	DEPTH FEET	UNFILTERED FILE NO.	FILTERED FILE NO.	COMMENTS CASING, WATER, ROCK, ETC
18.5	60.70			
19.0	62.34			
19.5	63.98			
20.0	65.62			
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			
25.0	82.02			
25.5	83.66			
26.0	85.30			
26.5	86.94			
27.0	88.58			
27.5	90.22			
28.0	91.86			
28.5	93.50			
29.0	95.14			
29.5	96.78			
30.0	98.43			
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			

PROCEDURE FOR DOWNHOLE SEISMIC VELOCITY LOGGING

Background

This procedure describes a method for measuring shear and compressional wave velocities in soil and rock. The Downhole Method is applied by generating shear and compressional waves at the surface and measuring the travel time between the surface and the borehole.

Objective

The outcome of this procedure is a plot and table of P and S_H wave velocity versus depth for each borehole. Alternatively or additionally, travel time plots may also be produced. Data is presented in report format, with ASCII data files and digital records transmitted on disk.

Instrumentation

1. OYO Model 170 Digital Seismograph, Geometrics Strataview or equivalent
2. Downhole probe, including horizontal and vertical geophones, fluxgate compass for orientation downhole, and system for locking probe against the side of the borehole
3. Sledge hammer with impulse switch to trigger recording
4. Winch and logging cable
5. Batteries to operate seismograph and controls for downhole probe
6. Various cables



GEOVision Downhole Seismic Velocity Logging Procedure
Rev 1.1 04/12/06 Page 1

Downhole soil velocities are measured using a variable azimuth downhole geophone and a seismograph. This system orients the downhole geophones parallel to the axis of excitation at the surface, insuring that signals received at the downhole geophones are of maximum amplitude, and are not subject to errors in travel time caused by incorrect phase of first arrival picks, as found with non-orientable downhole probes.

The downhole probe consists of a horizontal and vertical geophone mounted on a rotatable structure with a fluxgate magnetometer compass sensor. The compass/geophone assembly is mounted with preamplifiers and compass drive circuitry inside a 2.5 inch diameter case approximately 30 inches in length. The compass/geophone assembly can be rotated from the surface control module to match the azimuth of the horizontal geophone axis with the azimuth of the surface shear wave source. The probe receives control signals from, and sends the amplified geophone signals to, instrumentation on the surface via a 4- or 7-conductor cable. Cable travel is measured to provide probe depth data. The probe is locked into the borehole by inflation of an external rubber bladder or motor-driven spring clamp that runs the length of the probe.

Sledge hammer blows against the ends of a steel capped traction plank are used as an S_H -wave energy source. The traction plank is weighted by placing under the wheel or wheels of a truck. Sledge hammer blows against a striker plate on the surface are used as a P-wave energy source. System triggering is performed by a hammer switch mounted on the sledgehammer handle.

In operation, the S_H -wave produced by swinging the hammer in one direction produces an output at the downhole horizontal geophones which is digitized and recorded. The hammer is then swung in the opposite direction, and the horizontal output signals are again recorded, producing a shear-wave record of polarity opposite to the previous record. A vertical hammer blow is executed, and the response of the vertical geophone to the resultant P-wave is recorded.

The signal from each geophone generated by each hammer blow is recorded as a different channel on the recording system. The recorded data is displayed on the seismograph display. Data and all system parameters are stored on disk for further processing. Multiple hammer blows can be summed to improve the signal-to-noise ratio of the signals.

Review of the displayed data on the display allows the operator to set the gains, filters, sample rate, and summing number in order to optimize the quality of the data before recording to disk.



Environmental Conditions

For best results, the borehole should be between 7.5 and 17 cm in diameter, or 3 to 6 inches.

The locking method requires that soil boreholes be cased with PVC for best results. Casing is not required in hard rock boreholes. If installed, the casing must be properly installed and grouted. The best method is using a tremie tube to pump grout from the bottom. Any voids in the grout will cause problems with the data. Likewise, large grout bulbs used to fill cavities will also cause problems. The grout must be set before testing. This means the grouting must take place at least 48 hours before testing.

For borehole casing, applicable preparation procedures are presented in ASTM Standard D4428/D4428M-91 Section 4.1 (see ASTM website for copy).

The seismograph must be protected from rain. The downhole probe may or may not be submersible (depending on type). The procedure below provides for emptying the borehole of water.

Calibration

Calibration of the seismograph is required.

Downhole Measurement Procedure

Prior to performing downhole measurements each borehole casing may be emptied using a submersible pump or bailer. The downhole probe compass azimuth is checked at the surface, and compared to the azimuth of the traction plank S_H -wave source. The mechanical or electronic depth encoders are set to zero with the geophones located at ground level. The probe is then lowered to the bottom of the borehole at the desired intervals. At each desired depth, the probe is locked in place. The compass/geophone assembly is then rotated to match the azimuth of the surface S_H -source. At each sampling depth a minimum of two opposite horizontal records and one vertical record is acquired, and the gains adjusted as necessary to get good signal to noise ratio. The waveform data from each depth is checked on the display, and recorded before moving to the next depth. Upon removal of the probe from the borehole, depth indications are re-checked with the geophones located at ground level.

Typical depth spacing for measurements is 1.5 meters, or 5 feet. Alternative spacing is 1 meter, or 3 feet.



GEOVision Downhole Seismic Velocity Logging Procedure
Rev 1.1 04/12/06 Page 3

Deviations From Above Written Methods And Procedures

It is permissible for on-site personnel to deviate from this procedure with respect to the size and number of sledge hammers, the size of the traction plank, the weight of the truck, removing water from the borehole (not needed for submersible geophone packages), or the use of a winch (manual lowering is acceptable for shallow depths), and sequence of horizontal and vertical records, provided adequate waveforms are obtained.

Required Field Records

- 1) Field log for each borehole showing
 - a) Borehole identification
 - b) Date of test
 - c) Tester or data recorder
 - d) Description of measurement
 - e) Offset of centerpoint of plank and P-wave striker plate from the borehole collar
 - f) Any deviations from test plan and action taken as a result
 - g) Field check of data validity, performed by tester during data collection
 - h) List of record ID numbers (for data on disk) and corresponding depth
- 2) Data on hard disk with backup copies of data on removable media, labeled with borehole designation, record ID numbers, date, and tester name.

Downhole Analysis

Records are analyzed to locate the first arrival of energy on each downhole geophone record. The horizontal records are studied to verify the presence of clear S_H -wave pulses, as indicated by the presence of opposite polarity pulses on each pair of horizontal records. Ideally, the shear-wave signals from the 'normal' and 'reverse' hammer blows are very nearly inverted images of each other. Digital low-pass filtering may be used to remove the higher frequency converted P-wave signal and cultural noise from the S_H -wave signal.



GEOVision Downhole Seismic Velocity Logging Procedure
Rev 1.1 04/12/06 Page 4

Total travel time is corrected for changes in path length due to offset of the source from the borehole collar, and then plotted versus depth.

Results are further presented in the form of velocity profiles with depth for both P- and S_H-wave velocities.

QA Review

This procedure has been reviewed and approved by the undersigned.

Registered Geophysicist *Anthony Martin* Date 04/12/06

QA Review *[Signature]* Date 04/12/06

References:

1. "Standard test Methods for Crosshole Seismic Testing", ASTM Standard D4428/D4428M-91, July 1991, Philadelphia, PA



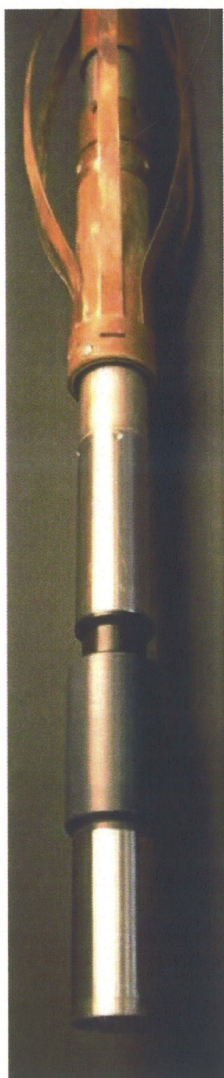
GEOVision Downhole Seismic Velocity Logging Procedure
Rev 1.1 04/12/06 Page 5

PROCEDURE FOR USING THE ROBERTSON GEOLOGGING HI-RESOLUTION ACOUSTIC TELEVIEWER (HiRAT)

Reviewed 2/13/06

Background

The acoustic televiewer is a device for producing a qualitative image of the wall of a borehole. Because it uses ultrasound rather than visible light it is able to work in dirty or opaque borehole fluids, although heavy drilling mud will cause excessive dispersion of the acoustic beam. The picture below shows the sonde's lower nylon section, and one of the bowspring attachments which are used to centralize the sonde in the borehole.



Pulses of ultrasound (0.5 - 1.5MHz) are generated by a piezo-electric resonator. The pulses are transmitted through the oil in which the resonator is immersed, through the wall of the acoustic housing, then propagate through the borehole fluid and are reflected from the wall of the borehole. The reflected energy is picked up by the same transducer, from which is recorded both the **amplitude** of the returned pulse and the **travel-time** which have elapsed. Blanking must be applied to prevent the transducer from registering reflections from the inside surface of the acoustic housing. The material of the housing is chosen so that its acoustic properties are similar to the oil which fills it. The housing is not designed to withstand borehole fluid pressures, but has a piston device to allow equalization between inside and outside pressure.

The **amplitude** of the returned pulse is a function of the acoustic reflectivity of the borehole wall. If the beam strikes a hard borehole wall normally to the surface the energy will be returned to the transducer and a strong return will be recorded. If the formation is softer, then less energy will be reflected. Also, if the surface of the borehole is rough, or effectively missing because of the presence of a fracture or other structure, then energy will be dispersed and a poor return will be recorded.

The **travel-time** is a simple function of the diameter of the borehole and the velocity of sound in the borehole fluid (typically 1.5Km/sec). An A/D converter monitors the output from the transducer once the blanking period has expired and a comparator is used to detect the peak amplitude during the sampling window.

The coaxially-mounted transducer has a planar radiating surface, but the vibration characteristics are such that the acoustic pulse is emitted as a 'pencil' beam. The emitted beam is deflected by a planar mirror so that it leaves the acoustic housing at right angles to the sonde axis. The mirror is rotated to scan the borehole wall. The ultrasound pulses are synchronized with rotation of the mirror so that up to 360 pulses are emitted in every revolution. Because of the time which must elapse for the two-way transit of the borehole fluid, there is an upper limit upon the number of radial samples that may be acquired from a borehole of a particular radius. In larger boreholes, therefore, it may be necessary to reduce the number of radial samples. The sonde is able to operate at 90, 180 or 360 samples per revolution.

An image of the borehole wall is produced by moving the sonde along the borehole axis while it is scanning radially. By the same logic as shown above, it can be seen that any horizontal point will be imaged by more than one sweep of the acoustic beam so long as the axial movement of the sonde during one complete sweep is no greater than the beam diameter. An upper limit is therefore imposed upon the logging speed which will be a function of the rotational speed of the transducer, the radial sampling interval and borehole diameter.

Objective

The objective of this procedure is to provide a pseudo "core" of the borehole, and map the orientation and angles of cracks and voids in rock boreholes.

Instrumentation

This procedure is written specifically for the Robertson Geologging High-Resolution Acoustic Televiwer (HiRAT). The required equipment includes:

1. The Robertson High-Resolution Acoustic Televiwer (HiRAT) sonde with centralizers
2. A 4-conductor wire-line winch with cable at least 30m (100ft) longer than the depth of the borehole (RG Smart Winch or equivalent. GEOVision has adapted all our 4-conductor winches)
3. A sheave with depth encoder with minimum 500 pulse/revolution
4. A Robertson Geologging Micrologger II
5. A laptop with Winlogger installed and the following minimum system requirements:
 - Windows 98SE or above
 - 64M System memory
 - 800x600x24 SVGA Display with DirectX 8.0
 - 500Mhz CPU
 - USB 2.0 connection
6. Battery power supply with cables

Environmental Conditions

This tool is designed for fluid-filled boreholes between 67 and 150mm (3-6in) in rock. Since fine cracks are usually not visible in the walls of soil borings, the televiwers add very little information from a soil boring than a simple video. Now if the boring has soil AND rock, televiwer visuals in the soil may still be useful.



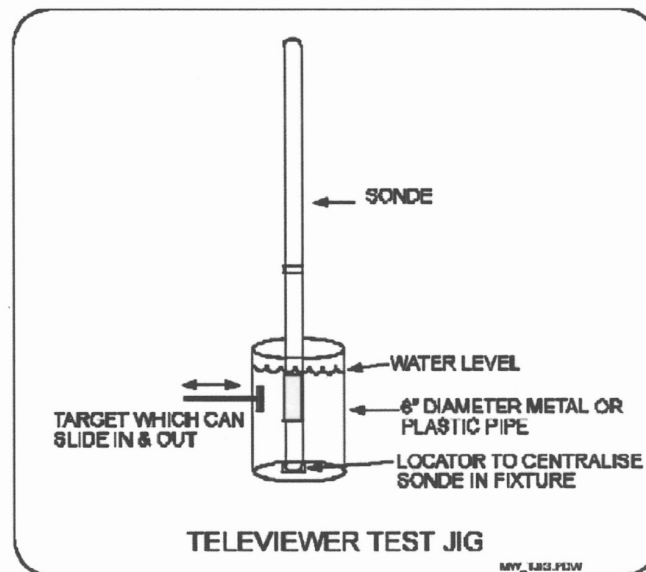
Hi-RAT Field Procedure
Rev 1.0 2-10-06 Page 2

Calibration

The acoustic televiewer uses the variability in reflectance and the travel time to make an image of the borehole wall, mostly resulting from relative differences of materials and the physical characteristics of the wall. Since these are relative measurements, no field calibration of the sonde is required. However, it is important that the same location in the borehole be checked at the start and finish of the logging to make sure that the response or functionality haven't changed during the measurement.

A test fixture may be used to check function of the acoustic televiewer prior to use. This test fixture should comprise a plastic pipe, with a known internal diameter between 3 and 6 inches. This should be filled with water and the sonde stood upright in the fixture. A target made of metal or metal foil is glued on the inside of the container, or optionally on a seal and shaft so that it can be moved in and out on a line radial to the center-line of the pipe. A representation of this is shown in the figure below.

The purpose of this test fixture is to check the ability of the sonde to differentiate between materials of different acoustic reflectances, and different travel times, and to check the calibration of the caliper function of the sensor using the measured diameter of the pipe. However, if calibrated caliper measurements are required, it is recommended that a mechanical 3-arm caliper tool be used for this purpose because it can be calibrated in the field prior to use. The HiRAT will give very accurate results but this procedure does not cover calibration.

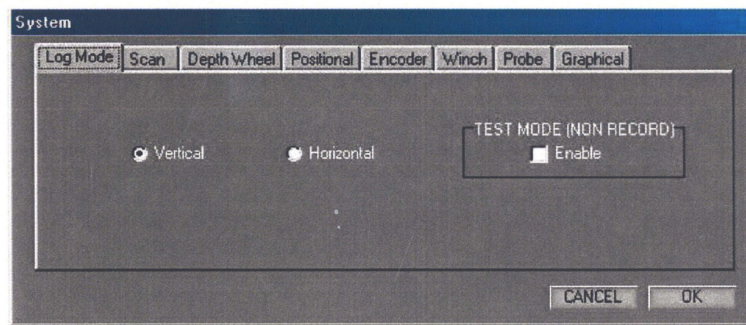


Hi-RAT Field Procedure

Because the logging software is a standalone module, there are a number of settings which must be initialized independently of the WinLogger software. These include the depth measurement subsystem and sonde operating modes. Click on 'System' on the menu bar to show the following dialog boxes:

1.0 Log Mode

The sonde can operate in three distinct modes:



- Vertical mode is used for boreholes which are drilled from the surface and are deviated at less than 70 degrees from the vertical. Most exploration boreholes will fall into this class. In this mode the image is orientated according to compass directions (magnetic co-ordinates).
- Horizontal mode is used for boreholes which are sub-horizontal so their inclination will probably exceed 70 degrees from the vertical. Boreholes in this class would normally be drilled as part of ground investigations for tunneling and mining, drilling ahead of a drive to determine the nature and extent of fracturing. In this mode the image is orientated according to gravitational coordinates (up/down) since there is no unique point of the image circle which can be orientated to North with any precision.
- Test mode is used to exercise all sonde functions without creating a log. The image will scroll on the screen in the normal fashion, and orientation readouts will be refreshed continuously.

2.0 Scan Parameters

The scan parameters control the radial sampling of the borehole. The values will be retained between logging sessions, so the sonde will be initialized correctly at power-on. There are three parameters in the dialog: