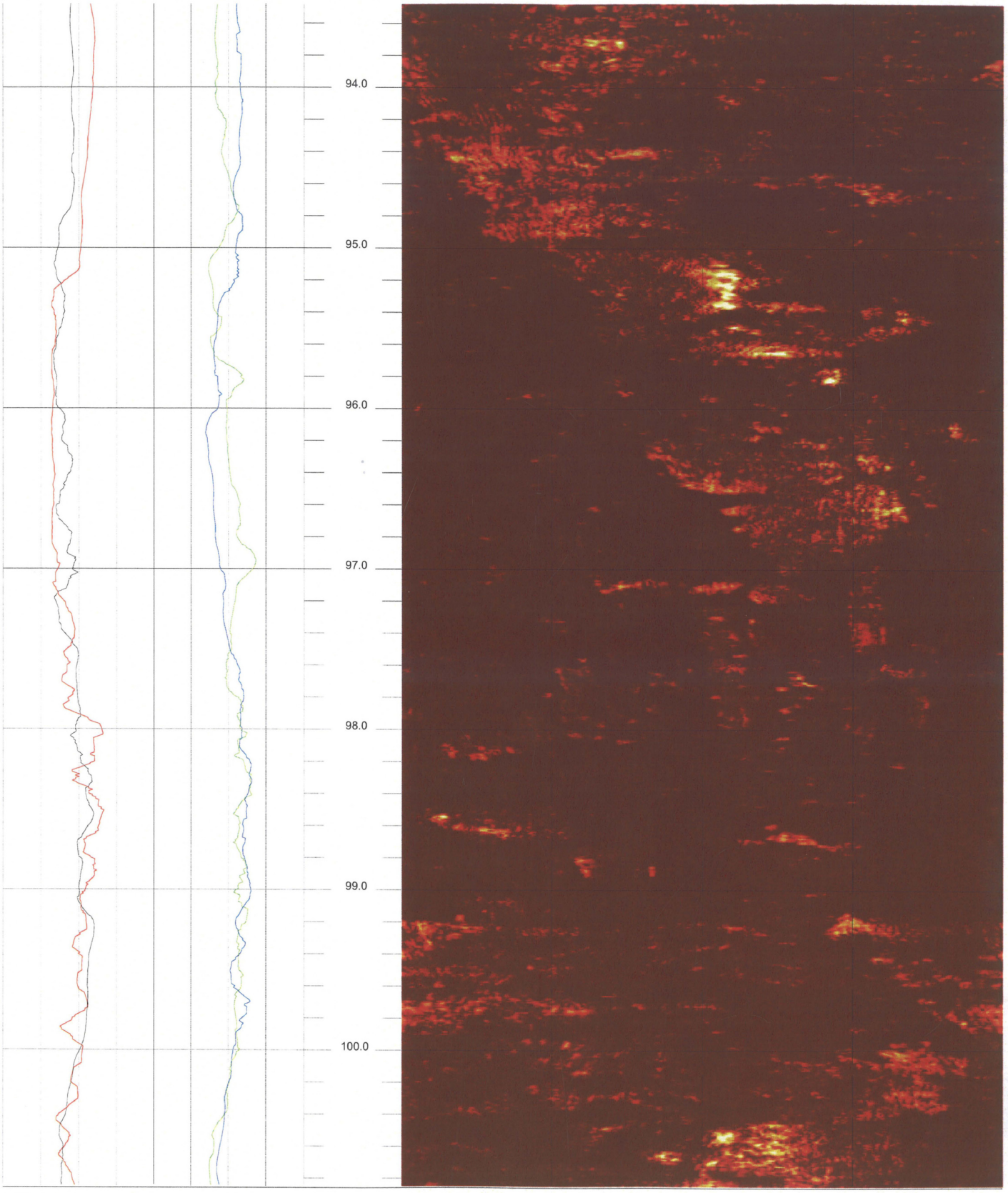
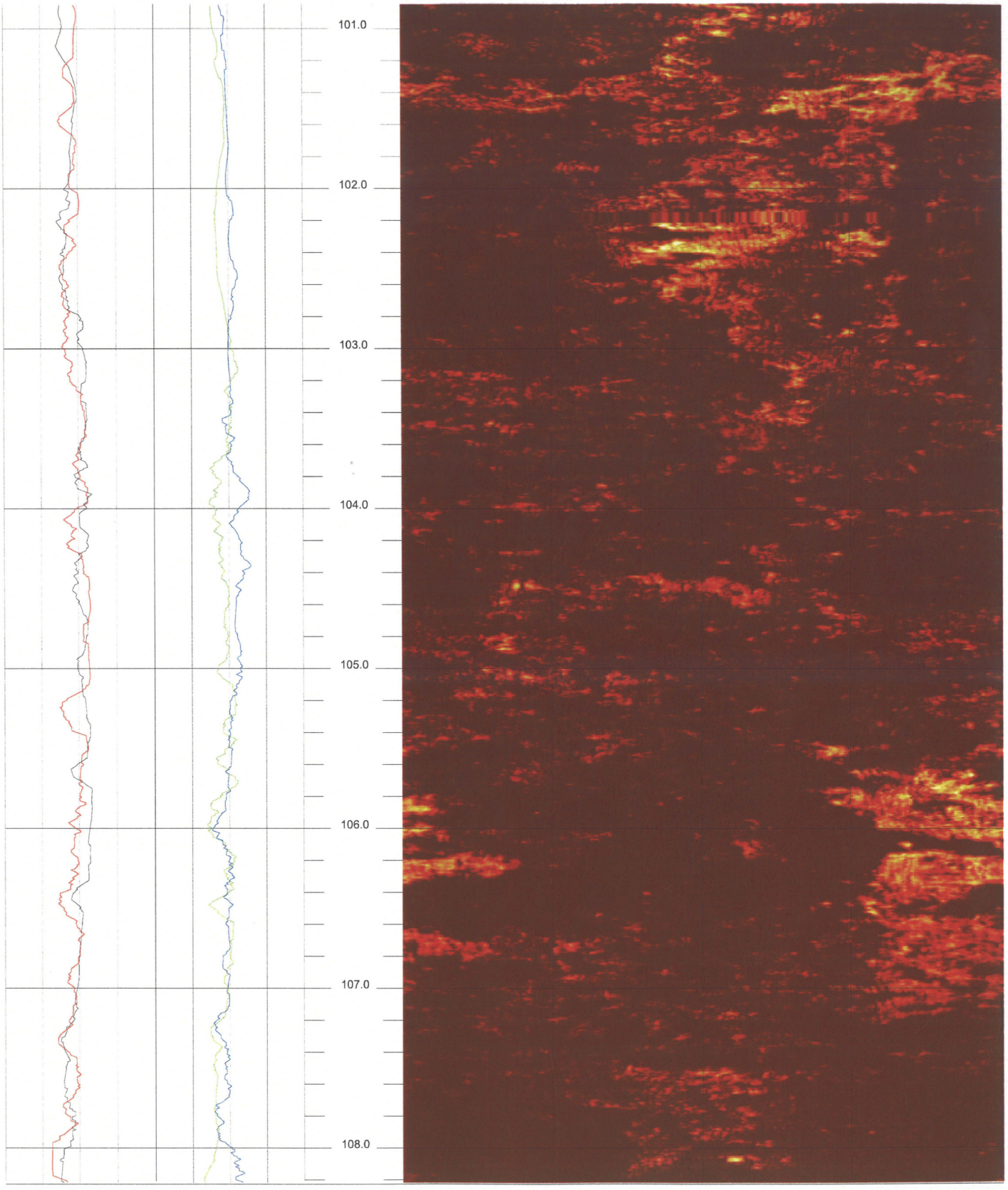


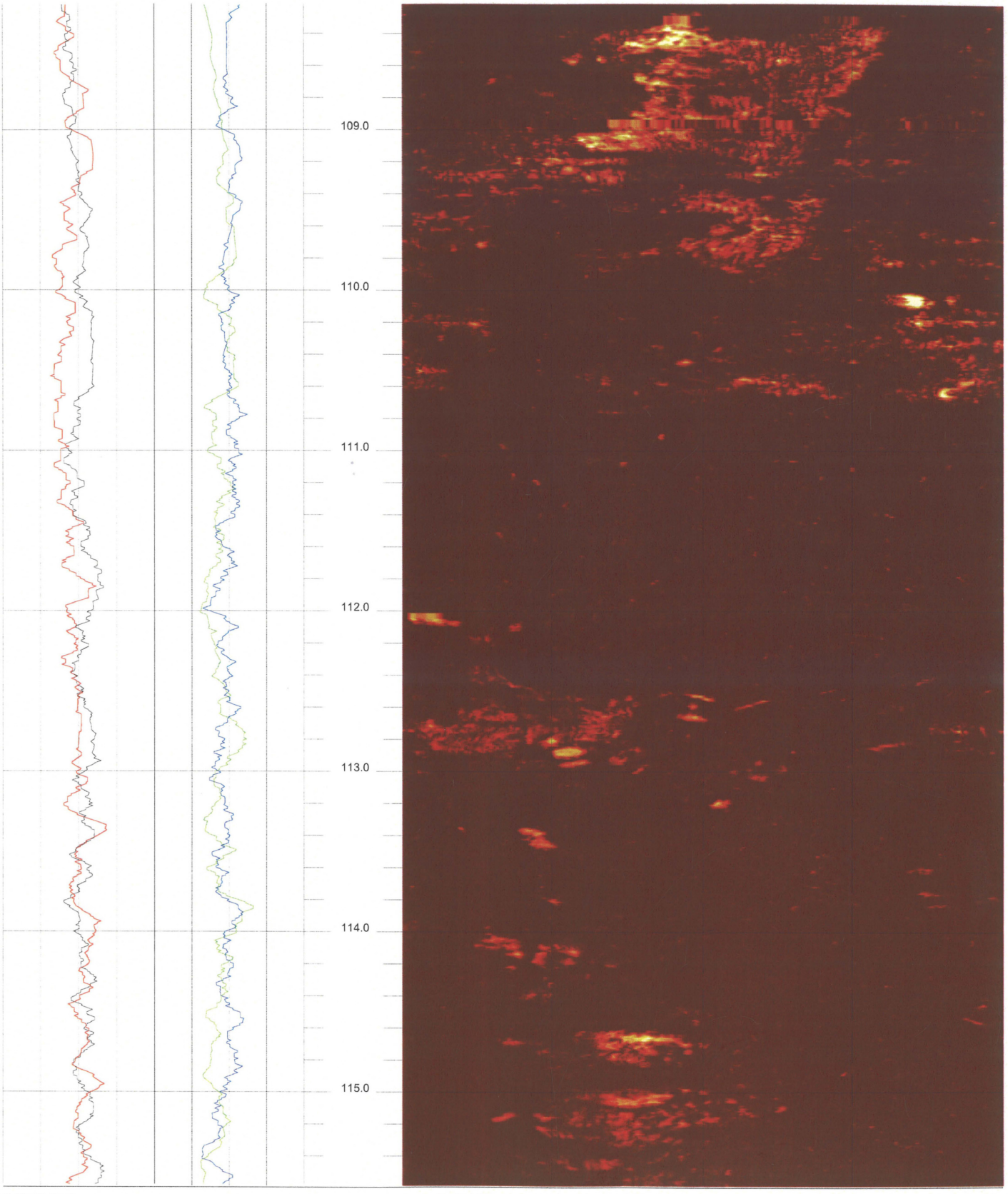
B-720 G (DH) 100.848 to 93.480ft 11

FPL Turkey Point COL Boring B-720 G (DH) Acoustic Televiewer based Caliper rev 1 Sheet 11 of 14



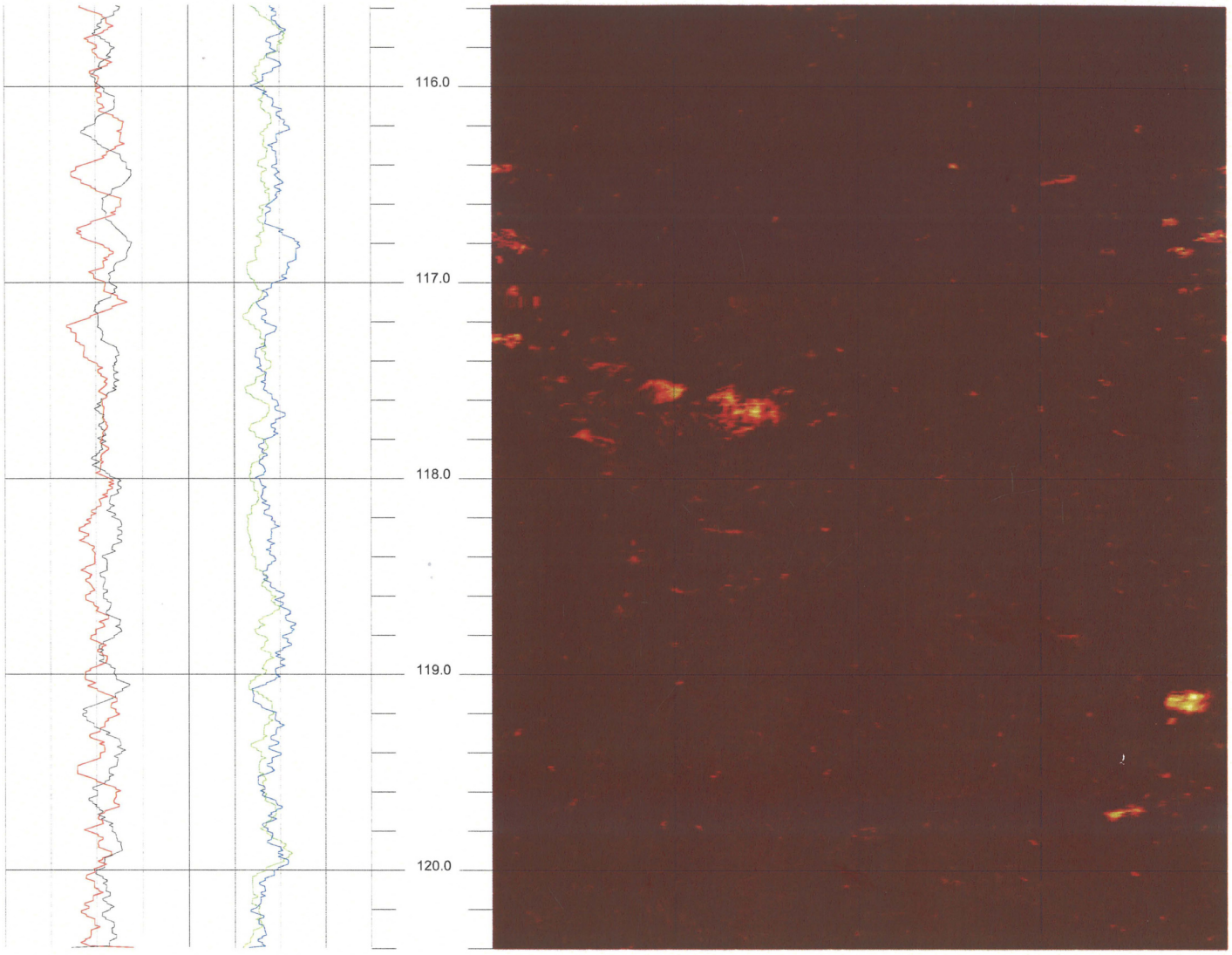
B-720 G (DH) 108.216 to 100.848fl 12

FPL Turkey Point COL Boring B-720 G (DH) Acoustic Televiewer based Caliper rev 1 Sheet 12 of 14



B-720 G (DH) 115.584 to 108.216ft 13

FPL Turkey Point COL Boring B-720 G (DH) Acoustic Televiewer based Caliper rev 1 Sheet 13 of 14


116.0
117.0
118.0
119.0
120.0

APPENDIX E

GEOPHYSICAL LOGGING SYSTEMS – NIST TRACEABLE CALIBRATION PROCEDURES AND CALIBRATION RECORDS

CALIBRATION PROCEDURE FOR

GEOVision SEISMIC RECORDER/LOGGER

Reviewed 4/6/06

Objective

The timing/sampling accuracy of seismic recorders or data loggers is required for several GEOVision field procedures including Seismic Refraction, Downhole Seismic Velocity Logging, and P-S Suspension Logging. This procedure describes the method for measuring the timing accuracy of a seismic data logger, such as the OYO Model 170, OYO/Robertson Model 3403, Geometrics Strataview or Geometrics Geode. The objective of this procedure is to verify that the timing accuracy of the recorder is accurate to within 1%.

Frequency of Calibration

The calibration of each GEOVision seismic data logger is twelve (12) months. In the case of rented seismic data loggers, calibration must be performed prior to use.

Test Equipment Required

The following equipment is required. Item #2 must have current NIST traceable calibration.

1. Function generator, Krohn Hite 5400B or equivalent
2. Frequency counter, HP 5315A or equivalent
3. Test cables, from item 1 to item 2, and from item 1 to subject data logger.

Procedure

This procedure is designed to be performed using the accompanying Seismograph Calibration Data Sheet with the same revision number. All data must be entered and the procedure signed by the technician performing the test.

1. Record all identification data on the form provided.
2. Connect function generator to data logger (such as OYO Model 170) using test cable
3. Connect the function generator to the frequency counter using test cable.

4. Set up generator to produce a 100.0 Hz, 0.25 volt (amplitude is approximate, modify as necessary to yield less than full scale waveforms on logger display) peak square wave or sine wave. Verify frequency using the counter and initial space on the data sheet.

5. Initialize data logger and record a data record of at least 0.1 second using a 100 microsecond or less sample period.

6. Measure the recorded square wave frequency by measuring the duration of 9 cycles of data. This measurement can be made using the data logger display device, or by printing out a paper tape. If a paper tape can be printed, the resulting printout must be attached to this procedure. Record the data in the space provided.

7. Repeat steps 5 and 6 three more times using separate files.

Criteria

The duration for 9 cycles in any file must be 90.0 milliseconds plus or minus 0.9 milliseconds, corresponding to an average frequency for the nine cycles of 100.0 Hz plus or minus 1 Hz (obtained by dividing 9 cycles by the duration in milliseconds).

If the results are outside this range, the data logger must be marked with a GEOVision REJECT tag until it can be repaired and retested.

If results are acceptable affix label indicating the initials of the person performing the calibration, the date of calibration, and the due date for the next calibration (12 months).

Procedure Approval

Approved by:

John G. Diehl	President
Name	Title
	April 6, 2006
Signature	Date

Client Approval (if required):

Name	Title
Signature	Date

EDISON ESI

A SOUTHERN CALIFORNIA EDISON Company

Metrology
7300 Fenwick Lane
Westminster, CA 92683
Phone: 866-723-2257

Calibration Report

NVLAP Accredited
Calibration

GEOVision Geophysical Services
1151 Pomona Road, Unit P
Corona, CA 92882

TEST NUMBER
550393

NVLAP
Lab Code:105014-0

Manufacturer:	Oyo	**Condition As Found:**	In Tolerance
Model Number:	3403	**Condition As Left:**	In Tolerance
Description:	Unit, Suspension Telemetry,	**Calibration Date:**	01/25/2008
Asset Number:	160023	**Calibration Due Date:**	01/25/2009
Serial Number:	160023	**Calibration Interval:**	12 Months
PO Number:	8200-080122-01		

Remarks:

The UUT (unit under test) was calibrated using the customer's procedure. The UUT was operated by the customer's personnel and data collection was observed by SCE personnel. The UUT was found to be in tolerance to customer supplied specifications. The reference standards used are in compliance with ISO/IEC 17025:1999 and laboratory accreditation criteria established by NIST/NVLAP under the specific scope of accreditation for lab code 105014-0. Frequency is accredited. Measurement uncertainity is 0.2 x E-12 Hz. Please see attached data.

Standards Utilized

I.D. No.	Mfg.	Model No.	Description	Cal. Date	Due Date
S1-01252	Hewlett Packard	5335A OPT 010,203040	Counter, Universal,	12/28/2007	06/28/2008
S1-01347	Hewlett Packard	3325A	Generator, Function, Synthesizer	10/09/2007	04/09/2008
S1-03686	Fluke	910	Standard, Frequency, Controlled, Gps	01/22/2008	01/22/2009

Procedure: Customer
Temperature: 23° C
Humidity: 37% RH
Test No.: 550393

Calibration Performed By:			Quality Reviewer:	
Branson, Craig A	Metrologist	714-895-0714		1/25/08
Name	Title	Phone	Name	Date

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GEOVision geophysical services

SEISMOGRAPH CALIBRATION DATA SHEET REV 4/6/06

INSTRUMENT DATA

SYSTEM MFR:	OYO	MODEL NO.:	3403
SERIAL NO.:	160023	CALIBRATION DATE:	01/25/2008
BY:	ROBERT STELLER	DUE DATE:	01/25/2009
COUNTER MFR:	HEWLETT PACKARD	MODEL NO.:	5335A
SERIAL NO.:	2626A09881	CALIBRATION DATE:	12/28/2007
BY:	SCE #S1-01252	DUE DATE:	6/28/2008
FCTN GEN MFR:	HEWLETT PACKARD	MODEL NO.:	3325A
SERIAL NO.:	2652A25647	CALIBRATION DATE:	10/9/2007
BY:	SCE #S1-01347	DUE DATE:	4/9/2008

SYSTEM SETTINGS:

GAIN:	10
FILTER:	20 KHZ
RANGE:	100 MILLISEC
DELAY:	0
STACK: 1 (STD)	1
PULSE:	1.6
DISPLAY:	NA
SYSTEM: DATE = CORRECT DATE & TIME	01/25/2008, 12:20PM

PROCEDURE:

SET FREQUENCY TO 100.0HZ SQUAREWAVE WITH AMPLITUDE APPROXIMATELY 0.25 VOLT PEAK. RECORD BOTH ON DISK AND PAPER TAPE, IF AVAILABLE. ANALYZE AND PRINT WAVEFORMS FROM ANALYSIS UTILITY. ATTACH PAPER COPIES OF PRINTOUT AND PAPER TAPES, IF AVAILABLE, TO THIS FORM. AVERAGE FREQUENCY MUST BE BETWEEN 99.0 AND 101.0 HZ.

AS FOUND 100.0 AS LEFT 100.0

WAVEFORM	FILE NO	FREQUENCY	TIME FOR 9 CYCLES Hn	TIME FOR 9 CYCLES Hr	TIME FOR 9 CYCLES V	AVERAGE FREQ.
SQUARE	301	100.0	90.0	90.0	90.0	100.0
SQUARE	302	100.0	90.0	90.0	90.0	100.0
SINE	303	100.0	90.0	90.0	90.0	100.0
SINE	304	100.0	90.0	90.0	90.0	100.0

CALIBRATED BY: ROBERT STELLER 1/25/2008 Robt Steller
NAME DATE SIGNATURE

Page 2 of 2

Seismic recorder/Logger Calibration Data Sheet Rev 1.30 4-6-06

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Metrology
7300 Fenwick Lane
Westminster, CA 92683
Phone: 866-723-2257

Calibration Report

NVLAP Accredited
Calibration

GEOVision Geophysical Services
1151 Pomona Road, Unit P
Corona, CA 92882

TEST NUMBER
550394

NVLAP
Lab Code:105014-0

Manufacturer:	Oyo	**Condition As Found:**	In Tolerance
Model Number:	3403	**Condition As Left:**	In Tolerance
Description:	Unit, Suspension Telemetry,	**Calibration Date:**	01/25/2008
Asset Number:	160024	**Calibration Due Date:**	01/25/2009
Serial Number:	160024	**Calibration Interval:**	12 Months
PO Number:	8200-080122-01		

Remarks:

The UUT (unit under test) was calibrated using the customer's procedure. The UUT was operated by the customer's personnel and data collection was observed by SCE personnel. The UUT was found to be in tolerance to customer supplied specifications. The reference standards used are in compliance with ISO/IEC 17025:1999 and laboratory accreditation criteria established by NIST/NVLAP under the specific scope of accreditation for lab code 105014-0. Frequency is accredited. Measurement uncertainity is 0.2 x E-12 Hz. Please see attached data.

Standards Utilized

I.D. No.	Mfg.	Model No.	Description	Cal. Date	Due Date
S1-01252	Hewlett Packard	5335A OPT 010,203040	Counter, Universal,	12/28/2007	06/28/2008
S1-01347	Hewlett Packard	3325A	Generator, Function, Synthesizer	10/09/2007	04/09/2008
S1-03686	Fluke	910	Standard, Frequency, Controlled, Gps	01/22/2008	01/22/2009

Procedure: Customer
Temperature: 23° C
Humidity: 37% RH
Test No.: 550394

Calibration Performed By:			Quality Reviewer:	
Branson, Craig A CAB	Metrologist	714-895-0714	[illegible]	1/25/08
Name	Title	Phone	Name	Date

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GEOVision geophysical services

SEISMOGRAPH CALIBRATION DATA SHEET REV 4/6/06

INSTRUMENT DATA

SYSTEM MFR:	OYO	MODEL NO.:	3403
SERIAL NO.:	160024	CALIBRATION DATE:	01/25/2008
BY:	ROBERT STELLER	DUE DATE:	01/25/2009
COUNTER MFR:	HEWLETT PACKARD	MODEL NO.:	5335A
SERIAL NO.:	2626A09881	CALIBRATION DATE:	12/28/2007
BY:	SCE #S1-01252	DUE DATE:	6/28/2008
FCTN GEN MFR:	HEWLETT PACKARD	MODEL NO.:	3325A
SERIAL NO.:	2652A25647	CALIBRATION DATE:	10/9/2007
BY:	SCE #S1-01347	DUE DATE:	4/9/2008

SYSTEM SETTINGS:

GAIN:	10
FILTER:	20 KHZ
RANGE:	100 MILLISEC
DELAY:	0
STACK: 1 (STD)	1
PULSE:	1.6
DISPLAY:	NA
SYSTEM: DATE = CORRECT DATE & TIME	01/25/2008, 12:20PM

PROCEDURE:

SET FREQUENCY TO 100.0HZ SQUAREWAVE WITH AMPLITUDE APPROXIMATELY 0.25 VOLT PEAK. RECORD BOTH ON DISK AND PAPER TAPE, IF AVAILABLE. ANALYZE AND PRINT WAVEFORMS FROM ANALYSIS UTILITY. ATTACH PAPER COPIES OF PRINTOUT AND PAPER TAPES, IF AVAILABLE, TO THIS FORM. AVERAGE FREQUENCY MUST BE BETWEEN 99.0 AND 101.0 HZ.

AS FOUND 100.0 AS LEFT 100.0

WAVEFORM	FILE NO	FREQUENCY	TIME FOR 9 CYCLES Hn	TIME FOR 9 CYCLES Hr	TIME FOR 9 CYCLES V	AVERAGE FREQ.
SQUARE	401	100.0	90.0	90.0	90.0	100.0
SQUARE	402	100.0	90.0	90.0	90.0	100.0
SINE	403	100.0	90.0	90.0	90.0	100.0
SINE	404	100.0	90.1	90.0	90.0	100.0

CALIBRATED BY: ROBERT STELLER 1/25/2008 Robt Steller

NAME DATE SIGNATURE

Page 2 of 2

Seismic recorder/Logger Calibration Data Sheet Rev 1.30 4-6-06

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Metrology
7300 Fenwick Lane
Westminster, CA 92683
Phone: 866-723-2257

Calibration Report

NVLAP Accredited
Calibration

GEOVision Geophysical Services
1151 Pomona Road, Unit P
Corona, CA 92882

TEST NUMBER
550389

NVLAP
Lab Code:105014-0

Manufacturer:	Geometrics	**Condition As Found:**	In Tolerance
Model Number:	GEODE	**Condition As Left:**	In Tolerance
Description:	Siesmograph,	**Calibration Date:**	01/25/2008
Asset Number:	3458	**Calibration Due Date:**	01/25/2009
Serial Number:	3458	**Calibration Interval:**	12 Months
PO Number:	8200-080122-01		

Remarks:

The UUT (unit under test) was calibrated using the customer's procedure. The UUT was operated by the customer's personnel and data collection was observed by SCE personnel. The UUT was found to be in tolerance to customer supplied specifications. The reference standards used are in compliance with ISO/IEC 17025:1999 and laboratory accreditation criteria established by NIST/NVLAP under the specific scope of accreditation for lab code 105014-0. Frequency is accredited. Measurement uncertainity is 0.2 x E-12 Hz. Please see attached data.

Standards Utilized

I.D. No.	Mfg.	Model No.	Description	Cal. Date	Due Date
S1-01252	Hewlett Packard	5335A OPT 010,203040	Counter, Universal,	12/28/2007	06/28/2008
S1-01347	Hewlett Packard	3325A	Generator, Function, Synthesizer	10/09/2007	04/09/2008
S1-03686	Fluke	910	Standard, Frequency, Controlled, Gps	01/22/2008	01/22/2009

Procedure: Customer
Temperature: 23° C
Humidity: 37% RH
Test No.: 550389

Calibration Performed By:			Quality Reviewer:	
Branson, Craig A CAB	Metrologist	714-895-0714		
Name	Title	Phone	Name	Date

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SEISMOGRAPH CALIBRATION DATA SHEET REV 4/6/06

INSTRUMENT DATA

SYSTEM MFR:	GEOMETRICS	MODEL NO.:	GEODE
SERIAL NO.:	3458	CALIBRATION DATE:	01/25/2008
BY:	ROBERT STELLER	DUE DATE:	01/25/2009
COUNTER MFR:	HEWLETT PACKARD	MODEL NO.:	5335A
SERIAL NO.:	2626A09881	CALIBRATION DATE:	12/28/2007
BY:	SCE #S1-01252	DUE DATE:	6/28/2008
FCTN GEN MFR:	HEWLETT PACKARD	MODEL NO.:	3325A
SERIAL NO.:	2652A25647	CALIBRATION DATE:	10/9/2007
BY:	SCE #S1-01347	DUE DATE:	4/9/2008

SYSTEM SETTINGS:

GAIN:	24 Db
FILTER:	NONE
RANGE:	SAMPLE = 62.5 MICROSEC, RECORD = 0.1 SEC
DELAY:	0
STACK: 1 (STD)	1
PULSE:	NA
DISPLAY:	NA
SYSTEM: DATE = CORRECT DATE & TIME	01/25/2008, 1:10PM

PROCEDURE:

SET FREQUENCY TO 100.0HZ SQUAREWAVE WITH AMPLITUDE APPROXIMATELY 0.25 VOLT PEAK. RECORD BOTH ON DISK AND PAPER TAPE, IF AVAILABLE. ANALYZE AND PRINT WAVEFORMS FROM ANALYSIS UTILITY. ATTACH PAPER COPIES OF PRINTOUT AND PAPER TAPES, IF AVAILABLE, TO THIS FORM. AVERAGE FREQUENCY MUST BE BETWEEN 99.0 AND 101.0 HZ.

AS FOUND 100 AS LEFT 100

WAVEFORM	FILE NO	FREQUENCY	TIME FOR 9 CYCLES Hn	TIME FOR 9 CYCLES Hr	TIME FOR 9 CYCLES V	AVERAGE FREQ.
SQUARE	601	100.0	90	90	90	100
SQUARE	602	100.0	90	90	90	100
SINE	603	100.0	90	90	90	100
SINE	604	100.0	90	90	90	100

CALIBRATED BY: ROBERT STELLER 1/25/2008 Rob Steller
NAME DATE SIGNATURE

Page 2 of 2

Seismic recorder/Logger Calibration Data Sheet Rev 1.30 4-6-06

NVLAP® National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Southern California Edison Company
7300 Fenwick Lane
Westminster, CA 92683
Ms. Jennifer E. Smith
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E-mail: Jennifer.Smith@sce.com
URL: http://www.edisonmetrology.com

CALIBRATION LABORATORIES

NVLAP LAB CODE 105014-0
Scope Revised : 2007-04-20

NVLAP Code: 20/A01 ANSI/NCSL Z540-1-1994; Part 1 Compliant

DIMENSIONAL

NVLAP Code: 20/D03
Gage Blocks

Nominal Length in in	*Best Uncertainty (±) in µin* [note 1]
0.01 to < 0.05	1.9
0.05 to < 0.1	1.7
0.1 to < 1.0	1.2
1.0	1.4
2.0	1.8
3.0	2.2
4.0	2.9
5.0	5.4
6.0	5.6
7.0	5.8
8.0	6.0
10.0	6.8
12.0	7.2
16.0	8.1
20.0	9.4

2007-04-01 through 2008-03-31

Effective dates

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NVLAP LAB CODE 105014-0
Scope Revised : 2007-04-20

Nominal Length in mm	*Best Uncertainty (±) in nm* [note 1]
0.5 to < 1.0	52
1.0 to < 2.5	44
2.5 to < 25.0	39
25.0	44
50.0	47
75.0	60
100.0	80

NVLAP Code: 20/D11
Spherical Diameter; Ring Gages

Range in inches	*Best Uncertainty (±) in µin* [note 1]	*Remarks*
0.040 to 0.825	10	Comparison to gage blocks
> 0.825 to 1.510	8	Comparison to gage blocks
> 1.510 to 2.510	9	Comparison to gage blocks
> 2.510 to 4.510	14	Comparison to gage blocks
> 4.510 to 6.510	21	Comparison to gage blocks
> 6.510 to 9.010	29	Comparison to gage blocks
> 9.010 to 12.010	40	Comparison to gage blocks
> 12.010 to 13.25	44	Comparison to gage blocks

ELECTROMAGNETICS - DC/LOW FREQUENCY

NVLAP Code: 20/E02
AC Current

	Best Uncertainty (±) in ppm [note 1] *Frequency in Hz*			
Range	*10*	*20*	*40*	*400 to 10 k*
10 mA	278	209	142	132
20 mA	278	209	142	132
30 mA	278	209	142	132
50 mA	300	202	124	109
100 mA	278	209	142	132

2007-04-01 through 2008-03-31
Effective dates

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NVLAP LAB CODE 105014-0
Scope Revised : 2007-04-20

200 mA		278		209	142		132
300 mA		278		209	142		132
500 mA		300		203	124		109
	10	***20***	***40***	***400 to 5 k***	***10 k***		
1A	300	203	125	110	112		
	10	***20***	***40***	***400 to 10 k***			
2A	305	200	127	113			
3A	305	200	127	113			
	10	***20***	***40***	***400 to 5 k***	***10 k***		
5A	309	210	134	120	123		
	10	***20***	***40***	***400***	***1 k***	***5 k***	***10 k***
10A	318	216	140	127	127	127	128
							400 to 10 k
20A							135

NVLAP Code: 20/E05
DC Current

Range	***Best Uncertainty (±) in ppm*** [note 1]
10 nA	4.0
100 nA	3.6
1 µA	3.0
10 µA	2.3
100 µA	1.9
1 mA	1.9
10 mA	1.9
100 mA	1.9
1 A	10.4
10 A	10.4
30 A	20.6

2007-04-01 through 2008-03-31

Effective dates

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CALIBRATION LABORATORIES

NVLAP LAB CODE 105014-0
Scope Revised : 2007-04-20

DC Resistance

Nominal Value in Ω	*Best Uncertainty (±) in ppm* [note 1]	*Remarks*
100 μ	6.1	Automated DC Resistance Calibration System
1 m	4.1	Automated DC Resistance Calibration System
10 m	3.1	Automated DC Resistance Calibration System
100 m	0.3	Automated DC Resistance Calibration System
1	0.2	Automated DC Resistance Calibration System
10	0.2	Automated DC Resistance Calibration System
25	0.3	Automated DC Resistance Calibration System
100	0.3	Automated DC Resistance Calibration System
1 k	0.3	Automated DC Resistance Calibration System
10 k	0.4	Automated DC Resistance Calibration System
100 k	1.2	Automated DC Resistance Calibration System
1 M	1.7	Automated DC Resistance Calibration System
10 M	2.1	Automated DC Resistance Calibration System
100 M	2.6	Automated DC Resistance Calibration System

NVLAP Code: 20/E06
DC Voltage

Range	*Best Uncertainty (±) in ppm* [notes 1,2]	*Remarks*
1.018 V	1.1	Automated DC Calibration System
10.00 V	0.4	Automated DC Calibration System
1.000 V	1.1	Automated DC Calibration System
1 mV to 100 mV	1.3 [note 6]	Ratiometric Measurement Techniques performed by voltage transfer utilizing a high precision voltage
100 mV	0.7	Ratiometric Measurement Techniques performed by voltage transfer utilizing a high precision voltage
1.0 V	0.4	Ratiometric Measurement Techniques performed by voltage transfer utilizing a high precision voltage

2007-04-01 through 2008-03-31

Effective dates

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National Voluntary Laboratory Accreditation Program

CALIBRATION LABORATORIES

NVLAP LAB CODE 105014-0
Scope Revised : 2007-04-20

10.0 V	0.4	Ratiometric Measurement Techniques performed by voltage transfer utilizing a high precision voltage
20.0 V	0.6	Ratiometric Measurement Techniques performed by voltage transfer utilizing a high precision voltage
100.0 V	0.4	Ratiometric Measurement Techniques performed by voltage transfer utilizing a high precision voltage
1000.0 V	0.8	Ratiometric Measurement Techniques performed by voltage transfer utilizing a high precision voltage

NVLAP Code: 20/E09
LF AC Voltage

Best Uncertainty (±) in ppm [notes 1,3,4]
Frequency in Hz

Range	***10***	***20***	***40***	***100***	***1 k***	***5 kHz***	***10 k***	***15 kHz***	***20 k***	***25 kHz***
2 mV	306	893	835	873	376	599	854	889	854	825
10 mV	109	166	96	176	188	180	166	169	166	175
20 mV	79	69	65	65	65	66	66	69	66	81
30 mV	131	123	84	105	65	72	86	75	70	78
100 mV	33	37	22	33	33	32	31	32	32	34
190 mV	35	27	29	21	24	23	23	20	19	22
300 mV	47	47	23	23	27	23	19	22	26	27
1 V	120	34	18	9	12	12	12	12	11	12
1.9 V	36	22	19	10	8	8	8	8	8	9
3 V	31	34	25	17	16	15	15	15	15	17
10 V	21	33	19	11	10	10	11	11	12	11
19 V	31	23	20	11	10	10	10	10	11	11
30 V	29	34	25	16	16	17	18	18	18	20
100 V	85	36	20	16	15	15	16	14	12	15
190 V	45	24	20	19	13	13	13	15	17	16
300 V			36	29	18	22	27	24	22	23
500 V			30	25	17	18	19	19	19	21

2007-04-01 through 2008-03-31

Effective dates

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For the National Institute of Standards and Technology

National Voluntary Laboratory Accreditation Program

CALIBRATION LABORATORIES

NVLAP LAB CODE 105014-0
Scope Revised : 2007-04-20

700 V			27	23	18	18	18	18	18	22
1000 V			26	25	22	21	21	21	22	25

Range	*30 kHz*	*50 k*	*60 kHz*	*100 k*	*300 k*	*500 K*	*700 kHz*	*800 k*	*1M*
2 mV	730	395	529	1020	1237	2090	2308	2419	2419
10 mV	182	205	233	299	234	631	459	373	403
20 mV	94	128	167	202	301	451	371	333	373
30 mV	87	127	144	216	342	515	560	590	643
100 mV	35	42	49	76	156	201	247	271	192
190 mV	26	41	49	81	137	119	208	252	191
300 mv	29	37	42	64	120	155	172	189	152
1 V	13	18	18	11	70	90	103	95	75
1.9 V	10	15	14	14	90	95	85	81	82
3 V	19	27	24	24	90	94	96	97	112
10 V	11	11	11	12	70	95	99	104	100
19 V	11	11	12	16	84	91	89	93	104
30 V	22	31	31	31	91				
100 V	18	31	28	17					
190 V	16	18	18	21					
300 V	24	28	31	43					
500 V	24	35	37	51					
700 V	25	40	42	58					
1 kV	29								

TIME AND FREQUENCY

NVLAP Code: 20/F01
Frequency Dissemination

Range	*Best Uncertainty (±)* [note 1]	*Remarks*
10 MHz	1.2×10^{-12}	GPS Receiver

2007-04-01 through 2008-03-31

Effective dates

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CALIBRATION LABORATORIES

NVLAP LAB CODE 105014-0
Scope Revised : 2007-04-20

MECHANICAL

NVLAP Code: 20/M05
Flow Rate

Nominal Flow Rate	*Best Uncertainty (±) in percent* [notes 1, 5]
(0.8 to 30) L/s	0.3
(0.1 to 800) mL/s	0.4

NVLAP Code: 20/M06
Force

Nominal Force in lb	*Best Uncertainty (±)* [note 1]	*Remarks*
2 to 200	0.025 %	Dead Weight
> 200 to 300	0.086 lb	Proving Ring
> 300 to 500	0.14 lb	Proving Ring
> 500 to 1000	0.28 lb	Proving Ring
> 1000 to 2000	0.55 lb	Proving Ring
> 2000 to 5000	0.84 lb	Proving Ring
> 5000 to 10 000	1.7 lb	Proving Ring
> 10 000 to 20 000	5.5 lb	Proving Ring
> 20 000 to 35 000	5.8 lb	Proving Ring
> 35 000 to 50 000	13 lb	Proving Ring
> 50 000 to 60 000	16 lb	Proving Ring
> 60 000 to 100 000	26 lb	Proving Ring
> 100 000 to 300 000	113 lb	Proving Ring

NVLAP Code: 20/M08
Mass

Range	*Best Uncertainty (±) in mg* [notes 1,2]	*Remarks*
10 kg	2.3	Echelon I
5 kg	0.93	Echelon I
3 kg	0.65	Echelon I
2 kg	0.43	Echelon I

2007-04-01 through 2008-03-31

Effective dates

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CALIBRATION LABORATORIES

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Scope Revised : 2007-04-20

1 kg	0.052	Echelon I
500 g	0.043	Echelon I
300 g	0.041	Echelon I
200 g	0.034	Echelon I
100 g	0.020	Echelon I
50 g	0.013	Echelon I
30 g	0.013	Echelon I
20 g	0.0095	Echelon I
10 g	0.0073	Echelon I
5 g	0.0048	Echelon I
3 g	0.0038	Echelon I
2 g	0.0029	Echelon I
1 g	0.0030	Echelon I
500 mg	0.0017	Echelon I
300 mg	0.0013	Echelon I
200 mg	0.0010	Echelon I
100 mg	0.0009	Echelon I
50 mg	0.0007	Echelon I
30 mg	0.0007	Echelon I
20 mg	0.0005	Echelon I
10 mg	0.0005	Echelon I
5 mg	0.0006	Echelon I
3 mg	0.0006	Echelon I
2 mg	0.0005	Echelon I
1 mg	0.0005	Echelon I
30 kg	56	Echelon II
20 kg	22	Echelon II

2007-04-01 through 2008-03-31

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology

National Voluntary Laboratory Accreditation Program

CALIBRATION LABORATORIES

NVLAP LAB CODE 105014-0
Scope Revised : 2007-04-20

THERMODYNAMIC

NVLAP Code: 20/T05
Pressure

Range in psi	*Best Uncertainty (±) in ppm* [note 1]	*Remarks*
0 to 50	25	Gas
> 50 to 1450	48	Gas
> 1450 to 16 000	90	Gas
> 1000 to 10 000	62	Oil
> 10 000 to 30 000	113	Oil
> 30 000 to 50 000	213	Oil

NVLAP Code: 20/T07
Resistance Thermometry

Range		*Best Uncertainty (±) in mK* [note 1]	*Remarks*
77.348 K	-195.80 °C	4.0	BP LN_2 by Comparison
234.3156 K	-38.83 °C	0.7	TPHg
273.16 K	0.01 °C	0.6	TPW
505.078 K	231.93 °C	1.6	FPSn
692.77 K	419.53 °C	2.3	FPZn

2007-04-01 through 2008-03-31

Effective dates

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National Voluntary Laboratory Accreditation Program

CALIBRATION LABORATORIES

NVLAP LAB CODE 105014-0
Scope Revised : 2007-04-20

1. Represents an expanded uncertainty using a coverage factor, k = 2, at an approximate level of confidence of 95 %.
2. Approximate value. Actual value determined by the test statistics.
3. All ACV measurements performed via AC/DC transfer system.
4. Uncertainties listed are representative of the laboratory's accredited capabilities within the stated ranges. Accreditation is not limited to only those fixed values shown.
5. Dependent upon principle of operation of device being calibrated and its performance relative to standards at the time of the test.
6. The equation: uncert. = $(A + B/mVDC^2)^{0.5}$ (where A = 0.16 and B = 0.013333) is provided in order for potential customers to calculate approximate uncertainties for values down to 1 mV. Example: uncertainty at 1 mVDC would calculate to approximately ±115.47 ppm.
7. The laboratory maintains Echelon II capability for ranges 20 kg to 1 mg and separate Echelon III for all ranges.
8. Avoirdupois mass calibration services are available by comparison to equivalent metric standards. Uncertainties may be appropriately larger.

2007-04-01 through 2008-03-31

Effective dates

Sally S. Bruce

For the National Institute of Standards and Technology

GEOVision Borehole Geophysics depth wheel verification

Performed by Robert Steller on September 23, 2006

	Depth reading in #1	Depth reading out	Depth reading in #2
Depth wheel S/N 101 500 pulse/revolution Circumference = 983mm (3225.07 millifeet)	100.1 feet (30.51 m)	99.95 feet (30.46 m)	100.05 feet (30.50 m)
Depth wheel S/N 102 500 pulse/revolution Circumference = 994mm (3261.15 millifeet)	100.00 feet (30.48) m	100.05 feet (30.50 m)	100.00 feet (30.48) m
Aries winch 200 pulse/revolution Circumference = 305.9mm (1003.51 millifeet)	100.05 feet (30.50) m	100.05 feet (30.50 m)	100.00 feet (30.48) m
Depth wheel S/N 103 500 pulse/revolution Circumference = 1000mm (3.281 feet)			
Comprobe winch 500 pulse/revolution Circumference = 1000mm (3.281 feet)			

All measurements taken with a Stanley 100ft flexible stainless steel tape model number 34-130, and a Keeson 300 foot fiberglass tape, both marked in feet, inches and 1/8ths of inches. Enough cable was spooled off of the winch to allow the cable and tape measures to be laid flat on the parking lot surface side-by-side. A permanent marker was used to mark a 100.0 foot interval on the cable, and the marks were also tagged with electrical tape for visibility. The cable was then spooled back onto the winch. When the first mark was at the top of the measuring wheel, a matching permanent mark was placed, and the recording system (Robertson Micrologger) was set to 0.0 feet depth. The cable was spooled in to the second mark, and the distance was recorded. The recording system was set to 0.0 feet again, and the cable spooled out to the first mark again, and the distance was recorded. The process was repeated one more time to spool the cable back onto the winch, and the distance was recorded.

Estimated accuracy is of these measurements is +/- 0.1 foot or +/- 0.03m.

GEOVision Suspension PS probe Receiver 1–Receiver 2 (R1-R2) spacing verification

Performed by Robert Steller on September 23, 2006

	R2 center to R1 center hanging dry	R2 center to R1 center hanging submerged	R1 bottom to source center hanging submerged with 1m isolation tube S/N 280068
Receiver S/N 30086	40.2in 1.02m	40.0in 1.02m	76.0in 1.93m
Receiver S/N 20042	39.8in 1.01m	39.6in 1.01m	75.7in 1.92m
Receiver S/N 12008	40.2in 1.02m	40.0in 1.02m	76.0in 1.93m

All measurements taken with a Lufkin 3.7m flexible steel tape model number HV1034DM, marked in mm and 100th of feet. Probe suspended in 3-inch diameter clear PVC pipe, using chain clamp placed between bottom and center of Receiver 2 hard section (See Figure). Probe "bounced" to establish unrestricted hanging length before measurement. Probe allowed to relax for 5 minutes prior to each measurement. Water level set to submerge bottom of Receiver 2 hard section.. Estimated accuracy due to hysterisis in rubber section approximately +/- 0.01' or +/- 0.003m.

APPENDIX F

BORING GEOPHYSICAL LOGGING FIELD DATA LOGS

GEOVision
geophysical services

B-601 DH
Borehole*

BORING GEOPHYSICS FIELD LOG SUMMARY

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

CONTACT:
PHONE:

BOREHOLE CONSTRUCTION: CASED
UNCASED X
DIAMETERS AND DEPTH RANGES: 6" 0 TO 25 ft ; 5" 25 ft TO 139 ft
BOREHOLE TOTAL DEPTH AS DRILLED*: 139 ft (3/10) / 420 ft (3/28/08)
CONDUCTOR CASING?: YES X DEPTH TO BOTTOM OF CASING 25 ft / 153 / 117 ; NO
DEPTH TO BEDROCK: ~3 ft
BOREHOLE FLUID: WATER ; FRESH WATER MUD X ; SALT WATER MUD ;

LOGGING CREW: C. Carter

LOG TYPE*	FILE NAME*	DEPTH RANGE*	DATE*	TIMES*
ELOG	B601DHELOGTEST01		3/10/08	3:14 - 3:15pm
ELOG	B601DHELOGUP01	137.65 - 37.9 ft	3/10/08	3:50 - 4:01pm
PS Velocity	B601DHSUSPDown01	27.89 - 123.03 ft	3/10/08	4:29 - 5:05pm
ATV	B601DHAUVP01	121.5 - 22.0 ft	3/10/08	5:42 - 6:13pm
Caliper	B601DHCALTEST01		3/10/08	6:38 - 6:40pm
Caliper	B601DHCALUP01	131.95 - 14.9 ft	3/10/08	6:55 - 7:06pm
Caliper	B601DHCALTEST02		3/10/08	7:25 - 7:26pm
ELOG	B601DHELOGTEST02		3/26/08	8:32 - 8:33am
ELOG	B601DHELOGUP02	416.25 - 140.4 ft	3/26/08	9:41 - 10:08am
ELOG	B601DHELOGUP03	169.4 - 110.75 ft	3/26/08	4:45 - 4:53pm
ELOG	B601DHELOGTEST03		3/26/08	5:09 - 5:10pm
PS velocity	B601DHSUSPDOWN02	150.92 - 40026 ft	3/26/08	11:07 - 12:18pm
PS velocity	B601DHSUSPDOWN03	118.1 - 157.5 ft	3/26/08	5:33 - 5:49pm
Deviation	B601DH AUVP02	401.4 - 117.4 ft	3/26/08	1:17 - 1:32pm
Caliper	B601DHCALTEST03		3/26/08	2:03 - 2:04pm
Caliper	B601DHCALUP02	411.2 - 146.95 ft	3/26/08	2:21 - 2:48pm

*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*

GEOVision
geophysical services

B-601DH BORING GEOPHYSICS FIELD LOG SUMMARY
Borehole*

SITE*:Turkey Point NPP DATE*: 3/26/08
CLIENT*:MACTEC JOB*:8083
AUTHOR*:C. Carter PAGE*: 2 OF 2

CONTACT: PHONE:

BOREHOLE CONSTRUCTION: CASED UNCASED X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 153 ; 3 7/8 , 153 TO 420 ft
BOREHOLE TOTAL DEPTH AS DRILLED*: 420 ft
CONDUCTOR CASING?: YES X DEPTH TO BOTTOM OF CASING 117 ft ; NO
DEPTH TO BEDROCK: ~3 ft
BOREHOLE FLUID: WATER ; FRESH WATER MUD X ; SALT WATER MUD ;

LOGGING CREW: C. Carter

LOG TYPE*	FILE NAME*	DEPTH RANGE*	DATE*	TIMES*
Caliper	B601DHCALTEST04		3/26/08	3:25 - 3:26 pm
Caliper	B601DHCALTEST05		3/26/08	3:53 - 3:54
Caliper	B601DHCALUP03	157.2 - 110.45 ft	3/26/08	4:08 - 4:15 pm
Caliper	B601DHCALTEST06		3/26/08	4:24 - 4:25 pm

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

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ELOG FIELD LOG REV 1.1a

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geophysical services

B-601 DH
Borehole*

ELOG FIELD LOG

SITE*: Turkey Point NPP
DATE*: 3/10/08
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 25 ft ; 3 7/8" 25' TO 138.3 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 138.3 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 25 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: 3pm

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

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

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ELOG FIELD LOG REV 1.1a

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B-601DH ELOG 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 K OYO ___ RG ___ OTHER ___

MICROLOGGER*	5310	[ ]	5772	[K]	OTHER
ELOG PROBE*	5490	[K]	OTHER		
SHEAVE*	COMPROBE	[ ]	OYO 101 [ ] 102 [x] 103 [ ]		RG [ ]

PROBE LENGTH	2.50M(8.20 FT)	
PLUS YOKE 10.0M (32.8 FT)*	32.8	
MINUS CASING STICK-UP*	1.58	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	39.42	
DEPTH REF. OFFSET AT END*	39.40	
AFTER SURVEY DEPTH ERROR*	.02	

CC 3/10/08

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
~~B601ELOGTEST01~~				
~~B601ELOGUP~~				
B601DHELOGTEST01		3:14		3:15pm
B601DHELOGUP01	137.65 ft	3:50	37.9 ft	4:01 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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P-S FIELD LOG REV V1.31a

GEOVision
geophysical services

B-601 DH
Borehole

P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

SITE*: Turkey Point NPP DATE*: 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*: CASED UNCASED X
DIAMETERS AND DEPTH RANGES*: 6" 0 TO 25 ft ; 5" 25 TO 139 ft cc 7/24/08
BOREHOLE TOTAL DEPTH AS DRILLED*: 139 ft
SURFACE CASING?: X DEPTH TO BOTTOM OF CASING 25 ft; 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: 3pm

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

GEOVision Geophysical Services 11511 Pomona Road, Suite P, Corona, CA 92882 (951) 549-1234 Fx (951) 549-1236

P-S FIELD LOG REV V1.31a

GEOVision geophysical services

B-601DH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a
Borehole*

SITE*: Turkey Point NPP DATE*: 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: 6:30 am
ARRIVED ON SITE: 7am
STANDBY TIME: CAUSE:
LOGGING STARTED: 4:29pm LOGGING COMPLETED: 5:05pm

BATTERIES CHANGED BEFORE LOGGING: YES ; NO X ; STORED WITH NEW
WINCH COMPROBE [ ] GREY [X] OYO [ ] RG [ ] OTH
INSTRUMENT* OYO 12004 [ ] 15014 [ ] 19029 [ ] RG 160023 [X] 160024 [ ]
RECEIVER S/N* 12008 [ ] 20042 [ ] 26066 [ ] 11001 [ ] 23053 [ ] 30086 [X]
ISOLATION TUBE S/N* 300083 [ ] 24053 [ ] 28068 [ ] 28072 [X] 2M
SHEAVE* COMPROBE [ ] OYO 101 [ ] 102 [X] 103 [ ] RG [ ]
MICROLOGGER* 5310 [ ] 5772 [X] NOT APPLICABLE (OYO) [ ]
PROBE OFFSET* OYO 2.0M [ ] RG 2.5M [X]
MINUS CASING STICK-UP* -.48
DEPTH REF. OFFSET AT START* 2.02
DEPTH REF. OFFSET AT END* 2.02
AFTER SURVEY DEPTH ERROR* Ø
} REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
B601DH5USPDOWN01	27.89 ft	4:29	123.03'	5:05pm

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*

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P-S FIELD LOG REV V1.31a

B-601DH GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 3/6/08
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		4:29
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

B-601 DH

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 3/10/08, 3/26/08

CLIENT*: MACTEC JOB*: 8083 ~~cc 3/26/08~~ cc 7/10/08

AUTHOR*: C. Carter PAGE* 4 of 4 OF 4 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	26		
21.5	70.54	27		
22.0	72.18	28		
22.5	73.82	29		
23.0	75.46	30		
23.5	77.10	31		
24.0	78.74	32		
24.5	80.38	33		
25.0	82.02	34		
25.5	83.66	35		
26.0	85.30	36		
26.5	86.94	37		
27.0	88.58	38		
27.5	90.22	39		
28.0	91.86	40		
28.5	93.50	41		
29.0	95.14	42		
29.5	96.78	43		
30.0	98.43	44		
30.5	100.07	45		
31.0	101.71	46		
31.5	103.35	47		
32.0	104.99	48		
32.5	106.63	49		
33.0	108.27	50		
33.5	109.91	51		
34.0	111.55	52		
34.5	113.19	53		
35.0	114.83	54		
35.5	116.47	55		
36.0	118.11	56 212		5:33 3/26/08
36.5	119.75	57 213		
37.0	121.39	58 214		
37.5	123.03	59 215		5:05 (3/10/08)
38.0	124.67	216		
38.5	126.31	217		
39.0	127.95	218		
39.5	129.59	219		
40.0	131.23	220		
40.5	132.87	221		
41.0	134.51	222		

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf

GEOVision
geophysical services

B-601 DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/10/08
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: ~~26"~~ 6" 0 TO 25' ; 5", 25 TO 139 ft
cc 3/10/08

BOREHOLE TOTAL DEPTH AS DRILLED*: 139 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 25' ; 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: 3pm

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

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf

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B-601DH 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* 86.93 BRUNTON TILT* 86
2 PROBE TILT TEST* 25.4 BRUNTON TILT* 25
3 PROBE TILT TEST* 68.15 BRUNTON TILT* 68 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 265.2 BRUNTON AZIMUTH* 269
2 PROBE AZIMUTH TEST* 172.5 BRUNTON AZIMUTH* 170
3 PROBE AZIMUTH TEST* 302.7 BRUNTON AZIMUTH* 299 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	
MINUS CASING STICK-UP*	-1.58	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	3.14	
DEPTH REF. OFFSET AT END*	3.10	
AFTER SURVEY DEPTH ERROR*	.04	

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
B601DHAVUMST	121.5 ft	5:42	22 ft	6:13 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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CALIPER FIELD LOG REV 1.1a.PDF

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B-601DH
Borehole*

CALIPER FIELD LOG

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 ____ UNCASED X
DIAMETERS AND DEPTH RANGES: 6" 0 TO 25 ft ; 5", 25 TO 137

BOREHOLE TOTAL DEPTH AS DRILLED*: 139 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 25 ft ; 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: 3pm

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

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

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CALIPER FIELD LOG REV 1.1a.PDF

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B-601DH
Borehole*

CALIPER FIELD LOG

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

WINCH: COMPROBE ____ SILVER X OYO ____ RG ____ OTHER ____
MICROLOGGER* 5310 [ ] 5772 [X] OTHER
CALIPER PROBE* 5368 [X] OTHER
SHEAVE* COMPROBE [ ] OYO 101 [ ] 102 [X] 103 [ ] RG [ ]

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	1.58	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	5.24	
DEPTH REF. OFFSET AT END*	5.15	
AFTER SURVEY DEPTH ERROR*	.09	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B601DHCALTEST01	~~131.95~~	6:38	~~14.95 ft~~	6:40 pm
B601DHCALUP01	131.95 ft	6:55	14.9 ft	7:06 pm
B601DHCALTEST02		7:25		7:26 pm

cc 3/10/08

CALIBRATION PLATE S/N 201

		AS BUILT			PVC FITTING
		1.968 IN	3.937 IN	8.000 IN	~~4.507 IN~~ 4.510
	FILE NAME	(50 MM)	(100 MM)	(203.2 MM)	(114.3 MM)
AS MEAS.*	B601DHCALTEST01	1.976	4.00	8.03	4.54
AS MEAS.*	B601DHCALTEST02	2.02	4.02	8.07	4.56
AS MEAS.					
AS MEAS.					
AS MEAS.					
AS MEAS.					

cc 3/10/10

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

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geophysical services

B-601DH ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/26/08
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 X
DIAMETERS AND DEPTH RANGES: 5" 0 TO 139'; 3 7/8, 139 TO 420 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 420 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 143'/117' 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: ∅ TIME SINCE LAST CIRCULATION: 9am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45 am
ARRIVED ON SITE: 7:50 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

ELOG FIELD LOG REV 1.1a

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B-601DH ELOG FIELD LOG
Borehole*

SITE*:	Turkey Point NPP	DATE*:	3/26/08
CLIENT*:	MACTEC	JOB*:	8083
AUTHOR*:	C. Carter	PAGE:	PAGE 2 OF 2

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

PROBE LENGTH	2.50M(8.20 FT)	
PLUS YOKE 10.0M (32.8 FT)*	32.8	32.8
MINUS CASING STICK-UP*	1.92	2.19
DEPTH REF. OFFSET AT START*	39.08	38.25 REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	39.10	38.25
AFTER SURVEY DEPTH ERROR*	.02	0

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B601DHELOGTEST02		8:32		8:33am
B601DHELOGUP02	416.25	9:41am	140.45 ft	10:08am
B601DHELOGUP03	169.4 ft	4:45pm	110.75	4:53pm
B601DHELOGTEST03		5:09pm		5:16pm

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

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

SUGGESTIONS, ADDITIONS, CHANGES: Bentonite, Polymer mud, tiger salt used in mud
Mostly Bentonite + tiger salt
Very conductive above 200 ft

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

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P-S FIELD LOG REV V1.31a

GEOVision
geophysical services

B-601DH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a
Borehole

SITE*: Turkey Point NPP DATE*: 3/26/08
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 UNCASED X
DIAMETERS AND DEPTH RANGES*: 4" 0 TO 150 ; 3 7/8" 150 TO 420 ft
BOREHOLE TOTAL DEPTH AS DRILLED*: 420 ft
SURFACE CASING?: X DEPTH TO BOTTOM OF CASING ~150 ft/117 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: Pam

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

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P-S FIELD LOG REV V1.31a

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B-601DH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a
Borehole*

SITE*: Turkey Point NPP DATE*: 3/26/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF * 7

LOGGING CREW*: C. Carter
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45
ARRIVED ON SITE: 7:50
STANDBY TIME: CAUSE:
LOGGING STARTED: LOGGING COMPLETED:

BATTERIES CHANGED BEFORE LOGGING: YES ____; NO X; STORED WITH NEW 6.10V

WINCH COMPROBE [ ] GREY [X] OYO [ ] RG [ ] OTH ____
INSTRUMENT* OYO 12004 [ ] 15014 [ ] 19029 [ ] RG 160023 [X] 160024 [ ]
RECEIVER S/N* 12008 [X] 20042 [ ] 26066 [ ] 11001 [ ] 23053 [ ] 30086 [ ]
ISOLATION TUBE S/N* 300083 [ ] 24053 [X] 28068 [ ] 28072 [ ] 2M ____
SHEAVE* COMPROBE [ ] OYO 101 [ ] 102 [X] 103 [ ] RG [ ]
MICROLOGGER* 5310 [ ] 5772 [X] NOT APPLICABLE (OYO) [ ]
PROBE OFFSET* OYO 2.0M [ ] RG 2.5M [X]

MINUS CASING STICK-UP*	.59 m	.84 m	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	1.91	1.66	
DEPTH REF. OFFSET AT END*	1.90	1.65	
AFTER SURVEY DEPTH ERROR*	.01	.01	

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
B601DHSUSPDOWN02 cc 3/26/08	150.92'	11:07 am	400.26 ft	12:18 pm
B601DHSUSPDOWN03	118.11 ft	5:32 pm	157.5	5:49 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*

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P-S FIELD LOG REV V1.31a

B-601 DH GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 3/10/08, 3/26/08
CLIENT*: MACTEC JOB*: 8083 cc 3/26/08
AUTHOR*: C. Carter PAGE* 4 3 OF 4 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	26		
21.5	70.54	27		
22.0	72.18	28		
22.5	73.82	29		
23.0	75.46	30		
23.5	77.10	31		
24.0	78.74	32		
24.5	80.38	33		
25.0	82.02	34		
25.5	83.66	35		
26.0	85.30	36		
26.5	86.94	37		
27.0	88.58	38		
27.5	90.22	39		
28.0	91.86	40		
28.5	93.50	41		
29.0	95.14	42		
29.5	96.78	43		
30.0	98.43	44		
30.5	100.07	45		
31.0	101.71	46		
31.5	103.35	47		
32.0	104.99	48		
32.5	106.63	49		
33.0	108.27	50		
33.5	109.91	51		
34.0	111.55	52		
34.5	113.19	53		
35.0	114.83	54		
35.5	116.47	55		
36.0	118.11	56 212		5:33 3/26/08
36.5	119.75	57 213		
37.0	121.39	58 214		
37.5	123.03	59 215		5:05 (3/10/08)
38.0	124.67	216		
38.5	126.31	217		
39.0	127.95	218		
39.5	129.59	219		
40.0	131.23	220		
40.5	132.87	221		
41.0	134.51	222		

P-S FIELD LOG REV V1.31a

B-601DH

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 3/26/08
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	223		
42.0	137.80	224		
42.5	139.44	225		
43.0	141.08	226		
43.5	142.72	227		
44.0	144.36	228		
44.5	146.00	229		
45.0	147.64	230		
45.5	149.28	231		
46.0	150.92	60 232		11:07am
46.5	152.56	61 233		
47.0	154.20	62 234		
47.5	155.84	63 235		
48.0	157.48	64 236		5:49 pm 3/26/08
48.5	159.12	65		
49.0	160.76	66		
49.5	162.40	67		
50.0	164.04	68		
50.5	165.68	69		
51.0	167.32	70		
51.5	168.96	71		
52.0	170.60	72		
52.5	172.24	73		
53.0	173.88	74		
53.5	175.52	75		
54.0	177.17	76		
54.5	178.81	77		
55.0	180.45	78		
55.5	182.09	79		
56.0	183.73	80		
56.5	185.37	81		
57.0	187.01	82		
57.5	188.65	83		
58.0	190.29	84		
58.5	191.93	85		
59.0	193.57	86		
59.5	195.21			
60.0	196.85	87		
60.5	198.49	88		
61.0	200.13	89		
61.5	201.77	90		

P-S FIELD LOG REV V1.31a

B-601DH **GEOVISION SUSPENSION LOGGING FIELD NOTES**

SITE*: Turkey Point NPP DATE*: 3/26/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE* 5 OF 7 cc 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
62.0	203.41	91		
62.5	205.05	92		
63.0	206.69	93		
63.5	208.33	94		
64.0	209.97	95		
64.5	211.61	96		
65.0	213.25	97		
65.5	214.90	98		
66.0	216.54	99		
66.5	218.18	100		
67.0	219.82	101		
67.5	221.46	102		
68.0	223.10	103		
68.5	224.74	104		
69.0	226.38	105		
69.5	228.02	106		
70.0	229.66	107		
70.5	231.30	108		
71.0	232.94	109		
71.5	234.58	110		
72.0	236.22	111		
72.5	237.86	112		
73.0	239.50	113		slower
73.5	241.14	114		
74.0	242.78	115		
74.5	244.42	116		
75.0	246.06	117		
75.5	247.70	118		
76.0	249.34	119		
76.5	250.98	120		
77.0	252.62	121		
77.5	254.27	122		
78.0	255.91	123		
78.5	257.55	124		
79.0	259.19	125		
79.5	260.83	126		
80.0	262.47	127		
80.5	264.11	128		
81.0	265.75	129		
81.5	267.39	130		
82.0	269.03	131		

P-S FIELD LOG REV V1.31a

B-601DH GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 3/26/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE* 6 OF 7 cc 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
82.5	270.67	132		
83.0	272.31	133		
83.5	273.95	134		
84.0	275.59	135		
84.5	277.23	136		
85.0	278.87	137		
85.5	280.51	138		
86.0	282.15	139		
86.5	283.79	140		
87.0	285.43	141		
87.5	287.07	142		
88.0	288.71	143		
88.5	290.35	144		
89.0	291.99	145		
89.5	293.64	146		
90.0	295.28	147		
90.5	296.92	148		
91.0	298.56	149		
91.5	300.20	150		
92.0	301.84	151		
92.5	303.48	152		
93.0	305.12	153		
93.5	306.76	154		
94.0	308.40	155		
94.5	310.04	156		
95.0	311.68	157		slower
95.5	313.32	158		
96.0	314.96	159		
96.5	316.60	160		
97.0	318.24	161		
97.5	319.88	162		
98.0	321.52	163		
98.5	323.16	164		
99.0	324.80	165		
99.5	326.44	166		
100.0	328.08	167		
100.5	329.72	168		
101.0	331.36	169		
101.5	333.01	170		
102.0	334.65	171		
102.5	336.29	172		

P-S FIELD LOG REV V1.31a

B-601 DH GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 3/26/08
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	173		
103.5	339.57	174		
104.0	341.21	175		
104.5	342.85	176		
105.0	344.49	177		
105.5	346.13	178		
106.0	347.77	179		
106.5	349.41	180		
107.0	351.05	181		
107.5	352.69	182		
108.0	354.33	183		
108.5	355.97	184		
109.0	357.61	185		
109.5	359.25	186		
110.0	360.89	187		
110.5	362.53	188		
111.0	364.17	189		
111.5	365.81	190		
112.0	367.45	191		
112.5	369.09	192		
113.0	370.73	193		
113.5	372.38	194		
114.0	374.02	195		
114.5	375.66	196		
115.0	377.30	197		
115.5	378.94	198		
116.0	380.58	199		
116.5	382.22	200		
117.0	383.86	201		
117.5	385.50	202		
118.0	387.14	203		
118.5	388.78	204		
119.0	390.42	205		
119.5	392.06	206		
120.0	393.70	207		
120.5	395.34	208		
121.0	396.98	209		
121.5	398.62	210		
122.0	400.26	211		12:18 pm
122.5	401.90			
123.0	403.54			

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf

GEOVision
geophysical services

B-601DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 3/26/08
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: 5" 0 TO 139" ; 3 1/8 143 TO 420 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 420 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 153' ; NO
DEPTH TO BEDROCK: ~3ft DEPTH TO WATER TABLE: ~1ft
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 DEPARTURE TIME: 6:45 am
ARRIVED ON SITE: 7:50 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

ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf

GEOVision
geophysical services

B-601DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a
Borehole*

SITE*: Turkey Point NPP DATE*: 3/26/08
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* 90.08 BRUNTON TILT* 90
2 PROBE TILT TEST* 23.46 BRUNTON TILT* 23
3 PROBE TILT TEST* 13.2 BRUNTON TILT* 13 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 323.3 BRUNTON AZIMUTH* 319
2 PROBE AZIMUTH TEST* 222.0 BRUNTON AZIMUTH* 225
3 PROBE AZIMUTH TEST* 297.6 BRUNTON AZIMUTH* 295 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	
MINUS CASING STICK-UP*	-1.92	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	2.8	
DEPTH REF. OFFSET AT END*	2.8	
AFTER SURVEY DEPTH ERROR*	.0	

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
B601DHAUUP02	~~1:17pm~~	1:17 pm	117.4 ft	1:32 pm
cc 3/26/08	401.4			

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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CALIPER FIELD LOG REV 1.1a.PDF

GEOVision
geophysical services

B-601DH CALIPER FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/26/08
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 Y UNCASED
DIAMETERS AND DEPTH RANGES: 0 TO ; 3 7/8, 143 ft TO 420

BOREHOLE TOTAL DEPTH AS DRILLED*: 420 ft

SURFACE CASING?: YES Y DEPTH TO BOTTOM OF CASING 153'/117' 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: 9am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45am
ARRIVED ON SITE: 7:50am
STANDBY TIME: CAUSE:

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

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CALIPER FIELD LOG REV1.1a.PDF

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B-601DH CALIPER FIELD LOG
Borehole*

SITE*: Turkey Point NPP
CLIENT*: MACTEC
AUTHOR*: C. Carter

DATE*: 3/26/08
JOB*: 8083
PAGE: PAGE 2 OF 2

WINCH: COMPROBE ___ SILVER X OYO ___ RG ___ OTHER ___
MICROLOGGER* 5310 [ ] 5772 [X] OTHER
CALIPER PROBE* 5368 [X] OTHER
SHEAVE* COMPROBE [ ] OYO 101 [ ] 102 [X] 101 [ ] RG [ ]

PROBE OFFSET	2.08M(6.82 FT)		12 IN MAX
MINUS CASING STICK-UP*	1.92	2.75	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	4.9	4.07	
DEPTH REF. OFFSET AT END*	4.9	4.00	
AFTER SURVEY DEPTH ERROR*	0	.07	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B601DHCALTEST03		2:03 pm		2:04 pm
B601DHCALUP02	411.2 ft	2:21 pm	146.95 ft	2:48
B601DHCALTEST04		3:25		3:26 pm
B601DHCALTEST05		3:53		3:54 pm
B601DHCALUP03	157.2'	4:08	110.45'	4:15 pm
B601DHCALTEST06		4:24		4:25 pm

CALIBRATION PLATE S/N 201

		AS BUILT			PVC FITTING
		1.968 IN	3.937 IN	8.000 IN	~~4.507~~ IN 4.510 w 3/26/08
	FILE NAME	(50 MM)	(100 MM)	(203.2 MM)	(114.3 MM)
AS MEAS.*	B601DHCALTEST03	1.951	3.939	7.966	4.527
AS MEAS.*	B601DHCALTEST04	1.99	3.94	8.03	4.54
AS MEAS.	B601DHCALTEST05	1.99	3.951	7.999	4.522
AS MEAS.	B601DHCALTEST06	1.99	3.94	7.98	4.516
AS MEAS.					
AS MEAS.					

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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GEOVision
geophysical services

B-604DH BORING GEOPHYSICS FIELD LOG SUMMARY
Borehole*

SITE*:Turkey Point NPP DATE*: 3/21/08, 3/22/08
CLIENT*:MACTEC JOB*:8083
AUTHOR*:C. Carter PAGE*: 1 OF 2

CONTACT: PHONE:

BOREHOLE CONSTRUCTION: CASED UNCASED X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 24 ft/30ft; 3 7/8, 24/30 TO TD (118/165)
BOREHOLE TOTAL DEPTH AS DRILLED*: 118 ft / 165 ft
CONDUCTOR CASING?: YES X DEPTH TO BOTTOM OF CASING 24'/30'; NO
DEPTH TO BEDROCK: 3.5 ft
BOREHOLE FLUID: WATER ; FRESH WATER MUD X ; SALT WATER MUD ;

LOGGING CREW: C. Carter

LOG TYPE*	FILE NAME*	DEPTH RANGE*	DATE*	TIMES*
ELOG	B604DHELOGTEST01		3/21/08	4:04 - 4:05 pm
ELOG	B604DHELOGUP01	112.65 - 66.45 ft	3/21/08	4:49 - 4:55 pm
ELOG	B604DHELOGUP02	112.1 - 39.25 ft	3/21/08	5:01 - 5:08 pm
P-S velocity	B604DHSUSPDOWN01	8.0m - 30.0m	3/21/08	5:33 - 5:38 pm
ATV	B604DHAUUP01	91.8 - 30 ft	3/22/08	8:50 - 9:12 am
ATV	B604DHAUUP02	35.2 - 22.9 ft	3/22/08	9:13 - 9:17 am
Caliper	B604DHCALTEST01		3/22/08	9:37 - 9:38 am
Caliper	B604DHCALUP01	103.65 - 19.75 ft	3/22/08	9:50 - 9:59 am
Caliper	B604DHCALTEST02		3/22/08	10:10 - 10:12 am
ELOG	B604DHELOGTEST02		3/24/08	8:22 - 8:23 am
ELOG	B604DHELOGUP03	163.25 - 39.1 ft	3/24/08	8:45 - 8:57 am
P-S velocity	B604DHSUSPDOWN02	91.86 - 150.9 ft	3/24/08	9:39 - 9:59 am
Caliper	B604DHCALTEST03		3/24/08	10:46 - 10:47 am
Caliper	B604DHCALUP02	160.6 - 36.9 ft	3/24/08	11:02 - 11:15 am
Caliper	B604CALTEST04		3/24/08	11:30 - 11:32 am
Deviation	~~B604CAL~~			

c 3/24/08

ITEMS WITH * MUST BE COMPLETED. OTHER INFORMATION IS OPTIONAL

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B-604DH BORING GEOPHYSICS FIELD LOG SUMMARY
Borehole*

SITE*:Turkey Point NPP DATE*: 3/24/08
CLIENT*:MACTEC JOB*:8083
AUTHOR*:C. Carter PAGE*: 2 OF 2

CONTACT: PHONE:

BOREHOLE CONSTRUCTION: CASED UNCASED X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 30 ft ; 3 7/8", 30 ft TO 165 ft
BOREHOLE TOTAL DEPTH AS DRILLED*: 165 ft
CONDUCTOR CASING?: YES X DEPTH TO BOTTOM OF CASING 30 ft ; NO
DEPTH TO BEDROCK: ~3.5 ft
BOREHOLE FLUID: WATER ; FRESH WATER MUD X ; SALT WATER MUD ;

LOGGING CREW: C. Carter

LOG TYPE*	FILE NAME*	DEPTH RANGE*	DATE*	TIMES*
Deviation	B604DHAUUP03	160.4 - 4.0 ft	3/24/08	11:58 - 12:06 pm
ATV	B604DHAUUP04	121.1 ft - 77.5 ft	3/24/08	12:49 - 1:05 pm

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

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ELOG FIELD LOG REV 1.1ø

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B-604DH ELOG FIELD LOG
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

CONTACT: 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 24 ft ; 3 7/8 24 TO 118

BOREHOLE TOTAL DEPTH AS DRILLED*: 118 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 24 ft ; NO ____
DEPTH TO BEDROCK: ~3.5 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER ____; FRESH WATER MUD Y ; SALT WATER MUD ____;
OTHER:
DEPTH TO BOREHOLE FLUID: ø TIME SINCE LAST CIRCULATION: 3 pm

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*

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ELOG FIELD LOG REV 1.1a

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B-604DH 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	K	OTHER			
ELOG PROBE*	5490	K	OTHER					
SHEAVE*	COMPROBE		OYO 101		102 K	103		RG

PROBE LENGTH	2.50M(8.20 FT)	
PLUS YOKE 10.0M (32.8 FT)*	32.8	
MINUS CASING STICK-UP*	-1.0	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	40.0	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	40.05	REF TO GROUND SURFACE
AFTER SURVEY DEPTH ERROR*	.05	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B604DHELOGTEST01		4:04pm		4:05pm
B604DHELOGUP01	112.65'	4:49pm	66.45'	4:55
B604DHELOGUP02	112.1 ft	5:01	39.25 ft	5:08

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

EQUIPMENT PROBLEMS OR FAILURES*: Yoke electrode got stuck on casing on 1st run. (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES: No tiger Salt

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

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CALIPER FIELD LOG REV 1.1a.PDF

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B-604DH
Borehole*

CALIPER FIELD LOG

SITE*: Turkey Point NPP
CLIENT*: MACTEC
AUTHOR*: C. Carter

DATE*: 3/22/08
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 ____ UNCASED X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 24 ft ; 3 7/8", 24 TO 118'

BOREHOLE TOTAL DEPTH AS DRILLED*: 118 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 24 ft ; NO ____
DEPTH TO BEDROCK: 3.5 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: 3pm 3/21

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

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

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CALIPER FIELD LOG REV 1.1a.PDF

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B-604DH CALIPER FIELD LOG
Borehole*

SITE*: Turkey Point NPP
DATE*: 3/22/08
CLIENT*: MACTEC
JOB*: 8083
AUTHOR*: C. Carter
PAGE: PAGE 2 OF 2

WINCH: COMPROBE ___ SILVER X OYO ___ RG ___ OTHER ___
MICROLOGGER* 5310 [ ] 5772 [X] OTHER
CALIPER PROBE* 5368 [X] OTHER
SHEAVE* COMPROBE [ ] OYO 101 [ ] 102 [X] 101 [ ] RG [ ]

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	-1.0	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	5.82	
DEPTH REF. OFFSET AT END*	5.85	
AFTER SURVEY DEPTH ERROR*	.03	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B604DHCALTEST01		9:37		9:38 am
B604DHCALUP01	103.65'	9:50	19.75 ft	9:59 am
B604DHCALTEST02		10:10		10:12 am

CALIBRATION PLATE S/N 201

		AS BUILT			PVC FITTING
		1.968 IN	3.937 IN	8.000 IN	~~4.507~~ IN
	FILE NAME	(50 MM)	(100 MM)	(203.2 MM)	(114.3 MM)
AS MEAS.*	B604DHCALTEST01	1.942	3.940	8.01	4.533
AS MEAS.*	B604DHCALTEST02	1.98	3.98	8.06	4.533
AS MEAS.					
AS MEAS.					
AS MEAS.					
AS MEAS.					

4.510 cc 3/22

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

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B-6040H ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a
Borehole*

SITE*: Turkey Point NPP DATE*: 3/22/08
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 24 ft ; 3 7/8", 24 TO 118 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 118 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 24' ; NO ____
DEPTH TO BEDROCK: 3.5 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: 3pm 3/21

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*

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ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf

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B-604DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a
Borehole*

SITE*: Turkey Point NPP DATE*: 3/22/08
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* 45.08 BRUNTON TILT* 45
2 PROBE TILT TEST* 90.08 BRUNTON TILT* 90
3 PROBE TILT TEST* 31.38 BRUNTON TILT* 31 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 356.9 BRUNTON AZIMUTH* 354
2 PROBE AZIMUTH TEST* 280.0 BRUNTON AZIMUTH* 275
3 PROBE AZIMUTH TEST* 356.7 BRUNTON AZIMUTH* 357 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	
MINUS CASING STICK-UP*	1	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	3.72	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	3.34	REF TO GROUND SURFACE
AFTER SURVEY DEPTH ERROR*	0.38	

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
B604DH000P01	91.8 ft	8:50 am	30 ft	9:12
cc 3/22/08 ~~B604D~~				
B604DH000P02	35.2 ft	9:13	22.9 ft	9:17am

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

EQUIPMENT PROBLEMS OR FAILURES*: Got stuck coming into casing (N/A if none)

SUGGESTIONS, ADDITIONS, CHANGES:

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

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P-S FIELD LOG REV V1.31a

GEOVision geophysical services

B-604DH 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 UNCASED X
DIAMETERS AND DEPTH RANGES*: 4" 0 TO 24 ft ; 3 2/8, 24 TO 118 ft
BOREHOLE TOTAL DEPTH AS DRILLED*: 118 ft
SURFACE CASING?: X DEPTH TO BOTTOM OF CASING 24 ft; NO
DEPTH TO BEDROCK: 3.5 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: 3 pm

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

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P-S FIELD LOG REV V1.31a

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B-6040H 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:
ARRIVED ON SITE:
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
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
DEPTH REF. OFFSET AT START* 2.19
DEPTH REF. OFFSET AT END* 2.18
AFTER SURVEY DEPTH ERROR* .01
REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
B6040HSUSPDOWN01	8.0m	5:33	30.0m	5:58pm

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-664DH 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		5:33
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 V1.31a

B-604 DH

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*:Turkey Point NPP DATE*: 3/21/08, 3/24/08
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
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 46		9:39 am 3/24
28.5	93.50	42 47		
29.0	95.14	43 48		
29.5	96.78	44 49		
30.0	98.43	45 50		5:58 3/21
30.5	100.07	51		
31.0	101.71	52		
31.5	103.35	53		
32.0	104.99	54		
32.5	106.63	55		
33.0	108.27	56		
33.5	109.91	57		
34.0	111.55	58		
34.5	113.19	59		
35.0	114.83	60		
35.5	116.47	61		
36.0	118.11	62		
36.5	119.75	63		
37.0	121.39	64		
37.5	123.03	65		
38.0	124.67	66		
38.5	126.31	67		
39.0	127.95	68		
39.5	129.59	69		
40.0	131.23	70		
40.5	132.87	71		
41.0	134.51	72		

ELOG FIELD LOG REV 1.1a

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B-604DH ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/24/08
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: 4" 0 TO 30 ; 3 7/8, 30 TO 165 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 165 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 30 ft ; NO ____
DEPTH TO BEDROCK: ~3.5 ft DEPTH TO WATER TABLE: ~1
BOREHOLE FLUID: WATER ____; FRESH WATER MUD X ; SALT WATER MUD ____;
OTHER:
DEPTH TO BOREHOLE FLUID: Ø TIME SINCE LAST CIRCULATION: 8 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 7:00 am
ARRIVED ON SITE: 7:30 am
STANDBY TIME: CAUSE:

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

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ELOG FIELD LOG REV 1.1a

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B-604DH ELOG FIELD LOG
Borehole*

SITE*:	Turkey Point NPP	DATE*:	3/24/08
CLIENT*:	MACTEC	JOB*:	8083
AUTHOR*:	C. Carter	PAGE:	PAGE 2 OF 2

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

PROBE LENGTH	2.50M(8.20 FT)	
PLUS YOKE 10.0M (32.8 FT)*	32.8	
MINUS CASING STICK-UP*	1.42	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	39.58	
DEPTH REF. OFFSET AT END*	39.55	
AFTER SURVEY DEPTH ERROR*	.03	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B604DHELOGTEST02		8:22		8:23am
B604DHELOGLP03	163.25 ft	8:45	39.1 ft	8:57am

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

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

SUGGESTIONS, ADDITIONS, CHANGES: No tight seal just "super gel x" Very low resistivity.

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

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P-S FIELD LOG REV V1.31a

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geophysical services

B-604DH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a
Borehole

SITE*: Turkey Point NPP DATE*: 3/24/08
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 X
DIAMETERS AND DEPTH RANGES*: 4" 0 TO 30 ft ; 3 7/8", 30 TO 165 ft
BOREHOLE TOTAL DEPTH AS DRILLED*: 165ft
SURFACE CASING?: X DEPTH TO BOTTOM OF CASING 30 ft ; NO _____
DEPTH TO BEDROCK: ~3.5 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: 8am

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

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P-S FIELD LOG REV V1.31a

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geophysical services

B-604DH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a
Borehole*

SITE*: Turkey Point NPP DATE*: 3/24/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF * 4

LOGGING CREW*: C. Carter
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 7:00 am
ARRIVED ON SITE: 9:30 am
STANDBY TIME: CAUSE:
LOGGING STARTED: LOGGING COMPLETED:

BATTERIES CHANGED BEFORE LOGGING: YES ____; NO X; STORED WITH NEW 6.14V

WINCH	COMPROBE [ ]		GREY [X]	OYO [ ]	RG [ ]	OTH ____
INSTRUMENT*	OYO 12004 [ ]	15014 [ ]	19029 [ ]		RG 160023 [X]	160024 [ ]
RECEIVER S/N*	12008 [X]	20042 [ ]	26066 [ ]	11001 [ ]	23053 [ ]	30086 [ ]
ISOLATION TUBE S/N*	300083 [ ]	24053 [X]	28068 [ ]	28072 [ ]	2M ____	
SHEAVE*	COMPROBE [ ]	OYO 101 [ ]	102 [X]	103 [ ]	RG [ ]	
MICROLOGGER*	5310 [ ]	5772 [X]	NOT APPLICABLE (OYO) [ ]			
PROBE OFFSET*	OYO 2.0M [ ]		RG 2.5M [X]			

MINUS CASING STICK-UP* .44
DEPTH REF. OFFSET AT START* 2.06
DEPTH REF. OFFSET AT END* 2.05
AFTER SURVEY DEPTH ERROR* .01
} REF TO GROUND SURFACE

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
B604DHSUSPDOWN02	91.86 ft	9:39 am	150.7	9:59 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.*

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P-S FIELD LOG REV V1.31a

B-604 PH

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*:Turkey Point NPP DATE*: 3/21/08, 3/24/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE* 4/3 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
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 46		9:39 am 3/24
28.5	93.50	42 47		
29.0	95.14	43 48		
29.5	96.78	44 49		
30.0	98.43	45 50		5:58 3/21
30.5	100.07	51		
31.0	101.71	52		
31.5	103.35	53		
32.0	104.99	54		
32.5	106.63	55		
33.0	108.27	56		
33.5	109.91	57		
34.0	111.55	58		
34.5	113.19	59		
35.0	114.83	60		
35.5	116.47	61		
36.0	118.11	62		
36.5	119.75	63		
37.0	121.39	64		
37.5	123.03	65		
38.0	124.67	66		
38.5	126.31	67		
39.0	127.95	68		
39.5	129.59	69		
40.0	131.23	70		
40.5	132.87	71		
41.0	134.51	72		

P-S FIELD LOG REV V1.31a

B-604DH

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 3/24/08
CLIENT*: MACTEC JOB*: 8083 cc 3/24/08
AUTHOR*: C. Carter PAGE* 3-4 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	73		
42.0	137.80	74		
42.5	139.44	75		
43.0	141.08	76		
43.5	142.72	77		
44.0	144.36	78		
44.5	146.00	79		
45.0	147.64	80		
45.5	149.28	81		
46.0	150.92	82		may be on bottom 9:59 am
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

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B-604DH CALIPER FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 3/24/08
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 X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 30 ft ; 3 7/8" 30 TO 165 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 165 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 30 ft; NO ____
DEPTH TO BEDROCK: 3.5 ft DEPTH TO WATER TABLE: ~1 ft
BOREHOLE FLUID: WATER ____; FRESH WATER MUD X; SALT WATER MUD ____;
OTHER:
DEPTH TO BOREHOLE FLUID: TIME SINCE LAST CIRCULATION: ~~8:30 am~~ 8:00 am cc 3/24/08

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 4:00 am
ARRIVED ON SITE: 7:30 am
STANDBY TIME: CAUSE:

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

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CALIPER FIELD LOG REV 1.1a.PDF

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B-604DH CALIPER FIELD LOG
Borehole*

SITE*:	Turkey Point NPP	DATE*:	3/24/08
CLIENT*:	MACTEC	JOB*:	8083
AUTHOR*:	C. Carter	PAGE:	PAGE 2 OF 2

WINCH: COMPROBE ___ SILVER X OYO ___ RG ___ OTHER ___
MICROLOGGER* 5310 [ ] 5772 [X] OTHER
CALIPER PROBE* 5368 [X] OTHER
SHEAVE* COMPROBE [ ] OYO 101 [ ] 102 [X] 103 [ ] RG [ ]

PROBE OFFSET	2.08M(6.82 FT)	12 IN MAX
MINUS CASING STICK-UP*	-1.42	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	5.4	
DEPTH REF. OFFSET AT END*	5.45	
AFTER SURVEY DEPTH ERROR*	.05	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B604DHCALTEST03		10:46		10:47
B604DHCALUP02	160.6	11:02 am	36.9	11:15 am
B604DHCALTEST04		11:30		11:32

CALIBRATION PLATE S/N 201

		AS BUILT			PVC FITTING
		1.968 IN	3.937 IN	8.000 IN	~~4.607 IN~~ 4.510 cc 8/24/08
	FILE NAME	(50 MM)	(100 MM)	(203.2 MM)	(114.3 MM)
AS MEAS.*	B604DHCALTEST03	1.999	3.986	8.04	4.56
AS MEAS.*	B604DHCALTEST04	1.99	3.98	8.03	4.56
AS MEAS.					
AS MEAS.					
AS MEAS.					
AS MEAS.					

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

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B-604011 ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a
Borehole*

SITE*: Turkey Point NPP DATE*: 3/24/08
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: 4" 0 TO 30ft ; 3 7/8", 30 TO 165 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 165 ft

SURFACE CASING?: YES ✓ DEPTH TO BOTTOM OF CASING 30 ft ; NO
DEPTH TO BEDROCK: ~3.5 ft DEPTH TO WATER TABLE: ~1.0 ft
BOREHOLE FLUID: WATER ; FRESH WATER MUD ✓ ; SALT WATER MUD ;
OTHER:
DEPTH TO BOREHOLE FLUID: Ø TIME SINCE LAST CIRCULATION: ~~8:30am~~ cc 3/24/08
8:00 am

LOGGING CREW: C. Carter
VEHICLE(S) USED AND MILEAGE:
MOBILIZED FROM: Florida City DEPARTURE TIME: 7:00am
ARRIVED ON SITE: 7:30 am
STANDBY TIME: CAUSE:

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

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ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf

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B-604DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a
Borehole*

SITE*: Turkey Point NPP DATE*: 3/24/08
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* 42.0 BRUNTON TILT* 42
2 PROBE TILT TEST* 89.67 BRUNTON TILT* 90
3 PROBE TILT TEST* 42.01 BRUNTON TILT* 42 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 355.0 BRUNTON AZIMUTH* 356
2 PROBE AZIMUTH TEST* 55.0 BRUNTON AZIMUTH* 57
3 PROBE AZIMUTH TEST* 358.5 BRUNTON AZIMUTH* 353 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)		
MINUS CASING STICK-UP*	-1.42	-1.42	
DEPTH REF. OFFSET AT START*	3.3	3.3	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	3.27	3.30	REF TO GROUND SURFACE
AFTER SURVEY DEPTH ERROR*	.03	0	

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
B604DHAUUP03	160.4 ft	11:58	4.0 ft	12:06
B604DHAUUP04	121.1 ft	12:49	77.5 ft	1:05

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

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B-608DH ELOG FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 4/3/08
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 X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 117 ; 3 7/8" 117 TO 265 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 265 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 117'/20'; 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 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*

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B-608DH BORING GEOPHYSICS FIELD LOG SUMMARY

Borehole*

SITE*:Turkey Point NPP — DATE*: 4/3/08
CLIENT*:MACTEC — JOB*:8083
AUTHOR*:C. Carter — PAGE*: 1 OF 1 cc 7/10/08

CONTACT: — PHONE:

BOREHOLE CONSTRUCTION: CASED ____ UNCASED X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 117 ft ; 3 7/8", 117 TO 263 ft
BOREHOLE TOTAL DEPTH AS DRILLED*: 263 ft
CONDUCTOR CASING?: YES X DEPTH TO BOTTOM OF CASING 117'/20'; NO ____
DEPTH TO BEDROCK: ~3 ft
BOREHOLE FLUID: WATER ____; FRESH WATER MUD X; SALT WATER MUD ____;

LOGGING CREW: C. Carter

LOG TYPE*	FILE NAME*	DEPTH RANGE*	DATE*	TIMES*
ELOG	B608DHELOGTEST01		4/3/08	8:18 - 8:19am
ELOG	B608DHELOGUP01	262.35 - 112.75 ft	4/3/08	9:25 - 9:41am
ELOG	B608DHELOGUP02	139.0 - 37.4 ft	4/3/08	3:26 - 3:36pm
P-S velocity	B608DHSUSPDOWN01	119.75 - 249.35 ft	4/3/08	10:20 - 10:57am
P-S velocity	B608DHSUSPDOWN02	22.97 - 127.95 ft	4/3/08	3:56 - 4:30pm
Deviation	B608DHAUUP01	253.3 - 105.7 ft	4/3/08	11:46 - 11:54am
Caliper	B608DHCALTEST01		4/3/08	12:16 - 12:17pm
Caliper	B608DHCALUP01	254.35 - 109.7 ft	4/3/08	12:30 - 12:45pm
Caliper	B608DHCALTEST02		4/3/08	1:00 - 1:01
Caliper	B608DHCALUP02	122.95 - 15.05 ft	4/3/08	2:49 - 3:00pm
Caliper	B608DHCALTEST03		4/3/08	3:10 - 3:11pm
ATV	B608DHAUUP02	120.3 - 19.8 ft	4/3/08	5:13 - 5:43pm

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

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ELOG FIELD LOG REV 1.1a

GEOVision
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B-608DH
Borehole*

ELOG FIELD LOG

SITE*: Turkey Point NPP
CLIENT*: MACTEC
AUTHOR*: C. Carter

DATE*: 4/3/08
JOB*: 8083
PAGE: PAGE 2 OF 2

WINCH: COMPROBE ___ SILVER X OYO ___ RG ___ OTHER ___
MICROLOGGER* 5310 [ ] 5772 [X] OTHER ___
ELOG PROBE* 5490 [X] OTHER ___
SHEAVE* COMPROBE [ ] OYO 101 [ ] 102 [X] 103 [ ] RG [ ]

PROBE LENGTH	2.50M(8.20 FT)		
PLUS YOKE 10.0M (32.8 FT)*	32.8	32.8	
MINUS CASING STICK-UP*	1.67	1.67	
DEPTH REF. OFFSET AT START*	39.33	39.33	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	39.30	39.30	
AFTER SURVEY DEPTH ERROR*	.03	.03	

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B608DHELOGTEST01		8:18am		8:19am
B608DHELOGUP01	262.35'	9:25	112.75'	9:41am
B608DHELOGUP02	139.0'	3:26pm	37.4'	3:36

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

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

SUGGESTIONS, ADDITIONS, CHANGES: Super gel x is drilling mud
Cannot see drilling mud in borehole after casing is pulled to 20', no mud on cable, just water.

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

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P-S FIELD LOG REV V1.31a

GEOVision geophysical services

B-608DR P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a
Borehole

SITE*: Turkey Point NPP DATE*: 4/3/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter 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 UNCASED X
DIAMETERS AND DEPTH RANGES*: 4" 0 TO 117'; 3 7/8", 117 TO 263 ft
BOREHOLE TOTAL DEPTH AS DRILLED*: 263 ft
SURFACE CASING?: yes DEPTH TO BOTTOM OF CASING 117'/20'; NO
DEPTH TO BEDROCK: ~3' DEPTH TO WATER TABLE: ~1'
BOREHOLE FLUID: WATER ; FRESH WATER MUD X ; SALT WATER MUD;
OTHER:
DEPTH TO BOREHOLE FLUID*: ∅ TIME SINCE LAST CIRCULATION: 9am

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

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P-S FIELD LOG REV V1.31a

GEOVision geophysical services

B-608DH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a
Borehole*

SITE*: Turkey Point NPP DATE*: 4/3/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 2 OF * 6

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

BATTERIES CHANGED BEFORE LOGGING: YES ; NO X ; STORED WITH NEW

WINCH COMPROBE [ ] GREY [X] OYO [ ] RG [ ] OTH
INSTRUMENT* OYO 12004 [ ] 15014 [ ] 19029 [ ] RG 160023 [X] 160024 [ ]
RECEIVER S/N* 12008 [ ] 20042 [ ] 26066 [ ] 11001 [ ] 23053 [ ] 30086 [X]
ISOLATION TUBE S/N* 300083 [ ] 24053 [ ] 28068 [X] 28072 [ ] 2M
SHEAVE* COMPROBE [ ] OYO 101 [ ] 102 [X] 103 [ ] RG [ ]
MICROLOGGER* 5310 [ ] 5772 [X] NOT APPLICABLE (OYO) [ ]
PROBE OFFSET* OYO 2.0M [ ] RG 2.5M [X]

MINUS CASING STICK-UP*	.51	.51	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	1.99	1.99	
DEPTH REF. OFFSET AT END*	1.98	2.01	
AFTER SURVEY DEPTH ERROR*	.01	.02	

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
B608DHSUSPDOWN01	119.75'	10:20 am	249.34'	10:57 am
B608DHSUSPDOWN02	22.97'	3:56 pm	122.95'	4:30 pm

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

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

SUGGESTIONS, ADDITIONS, CHANGES:
COMMENTS:

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

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P-S FIELD LOG REV V1.31a

B-608DH **GEOVISION SUSPENSION LOGGING FIELD NOTES**

SITE*: Turkey Point NPP DATE*: 4/3/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter 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
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	81		3:56 pm
7.5	24.61	82		
8.0	26.25	83		
8.5	27.89	84		
9.0	29.53	85		
9.5	31.17	86		
10.0	32.81	87		
10.5	34.45	88		
11.0	36.09	89		
11.5	37.73	90		
12.0	39.37	91		
12.5	41.01	92		
13.0	42.65	93		
13.5	44.29	94		
14.0	45.93	95		
14.5	47.57	96		
15.0	49.21	97		
15.5	50.85	98		
16.0	52.49	99		
16.5	54.13	100		
17.0	55.77	101		
17.5	57.41	102		
18.0	59.06	103		
18.5	60.70	104		
19.0	62.34	105		
19.5	63.98	106		
20.0	65.62	107		
20.5	67.26	108		

P-S FIELD LOG REV V1.31a

B-608bH

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*:Turkey Point NPP DATE*: 4/3/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter 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
21.0	68.90	109		
21.5	70.54	110		
22.0	72.18	111		
22.5	73.82	112		
23.0	75.46	113		
23.5	77.10	114		
24.0	78.74	115		
24.5	80.38	116		
25.0	82.02	117		
25.5	83.66	118		
26.0	85.30	119		
26.5	86.94	120		
27.0	88.58	121		
27.5	90.22	122		
28.0	91.86	123		
28.5	93.50	124		
29.0	95.14	125		
29.5	96.78	126		
30.0	98.43	127		
30.5	100.07	128		
31.0	101.71	129		
31.5	103.35	130		
32.0	104.99	131		
32.5	106.63	132		
33.0	108.27	133		
33.5	109.91	134		
34.0	111.55	135		
34.5	113.19	136		
35.0	114.83	137		
35.5	116.47	138		
36.0	118.11	139		
36.5	119.75	001 140		10:20 am
37.0	121.39	2 141		
37.5	123.03	3 142		
38.0	124.67	4 143		
38.5	126.31	5 144		
39.0	127.95	6 145		4:30 pm
39.5	129.59	7		
40.0	131.23	8		
40.5	132.87	9		
41.0	134.51	10		

P-S FIELD LOG REV V1.31a

B-608DH

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*:Turkey Point NPP DATE*: 4/3/08
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	11		
42.0	137.80	12		
42.5	139.44	13		
43.0	141.08	14		
43.5	142.72	15		
44.0	144.36	16		
44.5	146.00	17		
45.0	147.64	18		
45.5	149.28	19		
46.0	150.92	20		
46.5	152.56	21		
47.0	154.20	22		
47.5	155.84	23		
48.0	157.48	24		
48.5	159.12	25		
49.0	160.76	26		
49.5	162.40	27		
50.0	164.04	28		
50.5	165.68	29		
51.0	167.32	30		
51.5	168.96	31		
52.0	170.60	32		
52.5	172.24	33		
53.0	173.88	34		
53.5	175.52	35		
54.0	177.17	36		
54.5	178.81	37		
55.0	180.45	38		
55.5	182.09	39		
56.0	183.73	40		
56.5	185.37	41		
57.0	187.01	42		
57.5	188.65	43		
58.0	190.29	44		
58.5	191.93	45		
59.0	193.57	46		
59.5	195.21	47		
60.0	196.85	48		
60.5	198.49	49		
61.0	200.13	50		
61.5	201.77	51		

P-S FIELD LOG REV V1.31a

B-608DH **GEOVISION SUSPENSION LOGGING FIELD NOTES**

SITE*:Turkey Point NPP DATE*: 4/3/08
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	52		
62.5	205.05	53		
63.0	206.69	54		
63.5	208.33	55		
64.0	209.97	56		
64.5	211.61	57		
65.0	213.25	58		
65.5	214.90	59		
66.0	216.54	60		
66.5	218.18	61		
67.0	219.82	62		
67.5	221.46	63		
68.0	223.10	64		
68.5	224.74	65		
69.0	226.38	66		
69.5	228.02	67		
70.0	229.66	68		
70.5	231.30	69		
71.0	232.94	70		
71.5	234.58	71		
72.0	236.22	72		
72.5	237.86	73		
73.0	239.50	74		
73.5	241.14	75		
74.0	242.78	76		
74.5	244.42	77		
75.0	246.06	78		
75.5	247.70	79		
76.0	249.34	80		10:57 am hit @ 76.19m
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

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B-608D4 ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a
Borehole*

SITE*: Turkey Point NPP DATE*: 4/3/08
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 117 ; 3 7/8" 117 TO 263'

BOREHOLE TOTAL DEPTH AS DRILLED*: 263 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 117' ; 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: 9am

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*

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ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf

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B-608DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a
Borehole*

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

WINCH: COMPROBE____ SILVER ✓ OYO____ OTHER____
MICROLOGGER* 5310____ 5772 X
TELEVIEWER* ACOUSTIC #5174 X OTHER____
SHEAVE* COMPROBE____ OYO 101____ 102 X 103____ RG____

1 PROBE TILT TEST* 54.17 BRUNTON TILT* 54
2 PROBE TILT TEST* 89.47 BRUNTON TILT* 89
3 PROBE TILT TEST* 11.42 BRUNTON TILT* 11 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 186.0 BRUNTON AZIMUTH* 180
2 PROBE AZIMUTH TEST* 73.8 BRUNTON AZIMUTH* 75
3 PROBE AZIMUTH TEST* 145.0 BRUNTON AZIMUTH* 149 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	
MINUS CASING STICK-UP*	-1.67	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	3.05	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	3.02	REF TO GROUND SURFACE
AFTER SURVEY DEPTH ERROR*	.03	

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
B608DHAUUP01	253.3 ft	11:46am	105.7 ft	11:54am

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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CALIPER FIELD LOG REV 1.1a.PDF

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B-608D4 CALIPER FIELD LOG
Borehole*

SITE*: Turkey Point NPP DATE*: 4/3/08
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 X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 117 ; 3 7/8", 117 TO 263 ft

BOREHOLE TOTAL DEPTH AS DRILLED*: 263 ft

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 117'/20'; 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: 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*

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CALIPER FIELD LOG REV 1.1a.PDF

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B-608DH Borehole* CALIPER FIELD LOG

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

WINCH: COMPROBE ___ SILVER X OYO ___ RG ___ OTHER ___
MICROLOGGER* 5310 [ ] 5772 [X] OTHER ___
CALIPER PROBE* 5368 [✓] OTHER ___
SHEAVE* COMPROBE [ ] OYO 101 [ ] 102 [X] 104 [ ] RG [ ]

PROBE OFFSET	2.08M(6.82 FT)		12 IN MAX
MINUS CASING STICK-UP*	1.67	1.67	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	5.15	5.15	
DEPTH REF. OFFSET AT END*	5.05	5.20	
AFTER SURVEY DEPTH ERROR*	.10	.05	

LOG NAME*	START DEPTH*	START TIME*	END DEPTH*	END TIME*
B608DHCALTEST01		12:16		12:17
B608DHCALUP01	254.35'	12:30	109.7 ft	12:45 pm
B608DHCALTEST02		1:00		1:01 pm
B608DHCALUP02	122.95'	2:49	15.05'	3:00 pm
B608DHCALTEST03		3:10		3:11 pm

CALIBRATION PLATE S/N 201

		AS BUILT			PVC FITTING
		1.968 IN	3.937 IN	8.000 IN	~~4.607 IN~~ 4.510 cc 4/3/6
	FILE NAME	(50 MM)	(100 MM)	(203.2 MM)	(114.3 MM)
AS MEAS.*	B608DHCALTEST01	1.99	3.908	8.01	4.502
AS MEAS.*	B608DHCALTEST02	2.00	3.94	8.04	4.506
AS MEAS.	B608DHCALTEST03	1.99	3.95	7.98	4.53
AS MEAS.					
AS MEAS.					
AS MEAS.					

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

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B-6080B ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a

Borehole*

SITE*: Turkey Point NPP DATE*: 4/3/08
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 cc 7/24/08
DIAMETERS AND DEPTH RANGES: 4" 0 TO 117 ; 3 7/8 117 TO 263

BOREHOLE TOTAL DEPTH AS DRILLED*: 263

SURFACE CASING?: YES X DEPTH TO BOTTOM OF CASING 20' ; 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: 7am

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*

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ACOUSTIC TELEVIEWER LOG COVER 1.0a.pdf

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B-608DH ACOUSTIC TELEVIEWER FIELD LOG Rev 1.0a
Borehole*

SITE*: Turkey Point NPP DATE*: 4/3/08
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* 89.86 BRUNTON TILT* 90
2 PROBE TILT TEST* 33.13 BRUNTON TILT* 34
3 PROBE TILT TEST* 26.44 BRUNTON TILT* 26 AFTER LOG* yes
1 PROBE AZIMUTH TEST* 173.4 BRUNTON AZIMUTH* 174
2 PROBE AZIMUTH TEST* 93.8 BRUNTON AZIMUTH* 99
3 PROBE AZIMUTH TEST* 254.7 BRUNTON AZIMUTH* 260 AFTER LOG* yes

PROBE OFFSET*	1.44M(4.72FT)	
MINUS CASING STICK-UP*	1.67	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	3.05	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	3.00	REF TO GROUND SURFACE
AFTER SURVEY DEPTH ERROR*	.03	

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
B608DH4UVP02	120.3 ft	5:13 pm	19.8	5:43 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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B-610D H BORING GEOPHYSICS FIELD LOG SUMMARY
Borehole*

SITE*:Turkey Point NPP DATE*: 4/2/08
CLIENT*:MACTEC JOB*:8083
AUTHOR*:C. Carter PAGE*: 1 OF 1 cc 7/10/08

CONTACT: PHONE:

BOREHOLE CONSTRUCTION: CASED UNCASED X
DIAMETERS AND DEPTH RANGES: 4" 0 TO 105 ft ; 3 7/8", 105 TO 269 ft
BOREHOLE TOTAL DEPTH AS DRILLED*: 269 ft
CONDUCTOR CASING?: YES X DEPTH TO BOTTOM OF CASING 105/20 ft; NO
DEPTH TO BEDROCK: ~3 ft
BOREHOLE FLUID: WATER ; FRESH WATER MUD X ; SALT WATER MUD ;

LOGGING CREW: C. Carter

LOG TYPE*	FILE NAME*	DEPTH RANGE*	DATE*	TIMES*
ELOG	B610DHELOGTEST01		4/2/08	9:40 - 9:41 am
ELOG	B610DHELOGUP01	266.45 - 102.7 ft	4/2/08	11:32 - 11:50 am
ELOG	B610DHELOGUP02	124.2 - 39.35 ft	4/2/08	4:51 - 4:59 pm
P-S velocity	B610DHSVSPDOWN01	106.6 - 250.98	4/2/08	12:34 - 1:27 pm
P-S velocity	B610DHSVSPDOWN02	22.97 - 113.2 ft	4/2/08	5:21 - 5:52 pm
Deviation	B610DHAUUP01	252.2 - 102.3 ft	4/2/08	2:21 - 2:30 pm
Caliper	B610DHCALTEST01		4/2/08	2:49 - 2:50 pm
Caliper	B610DHCALUP01	256.15 - 98.7 ft	4/2/08	3:06 - 3:21 pm
Caliper	B610DHCALTEST02		4/2/08	3:36 - 3:37 pm
Caliper	B610DHCALUP02	111.45 - 14.7 ft	4/2/08	4:12 - 4:22 pm
Caliper	B610DHCALTEST03		4/2/08	4:31 - 4:32 pm
ATV	B610DHAUUP02	120.9 - 19 ft	4/2/08	6:55 - 7:21 pm

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

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ELOG FIELD LOG REV 1.1a

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B-610 DH
Borehole*

ELOG FIELD LOG

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 _____

CONTACT: _____ 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 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 105/20' ; 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: 11 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*

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

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geophysical services

B-610 DH ELOG FIELD LOG
Borehole*

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

WINCH:	COMPROBE ___	SILVER X	OYO ___	RG ___	OTHER ___		
MICROLOGGER*	5310 [ ]	5772 [X]	OTHER				
ELOG PROBE*	5490 [X]	OTHER					
SHEAVE*	COMPROBE [ ]	OYO 101 [ ]	102 [X]	103 [ ]	RG [ ]		

PROBE LENGTH	2.50M(8.20 FT)	
PLUS YOKE 10.0M (32.8 FT)*	32.8	32.8
MINUS CASING STICK-UP*	-1.08	-1.5
DEPTH REF. OFFSET AT START*	39.92	39.5 REF TO GROUND SURFACE
DEPTH REF. OFFSET AT END*	40.00	39.59
AFTER SURVEY DEPTH ERROR*	.08	.09

LOG NAME*	START DEPTH*	START TIME	END DEPTH*	END TIME
B610DHELOGTEST01		9:40am		9:41am
B610DHELOGUP01	266.45 ft	11:32am	102.7 ft	11:50am
B610DHELOGUP02	124.2 ft	4:51pm	39.35	4:59pm

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

N/A

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

SUGGESTIONS, ADDITIONS, CHANGES: Drillers used tiger salt, some mud super gel x, 1 bag high yield bentonite + 1 bag soda ash

*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

GEOVision
geophysical services

B-610DH
Borehole

P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a

SITE*: Turkey Point NPP DATE*: 4/2/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter PAGE 1 OF * 6

CONTACT: PHONE: Off Cell

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DIRECTIONS TO SITE:

GENERAL SITE CONDITIONS/LOCATION:

COUNTY: Miami-Dade RANGE: TOWNSHIP: SECTION:
BOREHOLE CONSTRUCTION*: CASED UNCASED 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 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 X ; SALT WATER MUD;
OTHER:
DEPTH TO BOREHOLE FLUID*: 0 TIME SINCE LAST CIRCULATION: 11am

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P-S FIELD LOG REV V1.31a

GEOVision geophysical services

B-610DH P-S SUSPENSION VELOCITY FIELD LOG REV 1.31a
Borehole*

SITE*: Turkey Point NPP DATE*: 4/2/08
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LOGGING CREW*: C. Carter
MOBILIZED FROM: Florida City, FL DEPARTURE TIME: 6:45am
ARRIVED ON SITE: 7:00 am
STANDBY TIME: CAUSE:
LOGGING STARTED: LOGGING COMPLETED:

BATTERIES CHANGED BEFORE LOGGING: YES ____; NO X ; STORED WITH NEW ____

WINCH COMPROBE [ ] GREY [X] OYO [ ] RG [ ] OTH ____
INSTRUMENT* OYO 12004 [ ] 15014 [ ] 19029 [ ] RG 160023 [X] 160024 [ ]
RECEIVER S/N* 12008 [X] 20042 [ ] 26066 [ ] 11001 [ ] 23053 [ ] 30086 [ ]
ISOLATION TUBE S/N* 300083 [ ] 24053 [X] 28068 [ ] 28072 [ ] 2M ____
SHEAVE* COMPROBE [ ] OYO 101 [ ] 102 [X] 103 [ ] RG [ ]
MICROLOGGER* 5310 [ ] 5772 [X] NOT APPLICABLE (OYO) [ ]
PROBE OFFSET* OYO 2.0M [ ] RG 2.5M [X]

MINUS CASING STICK-UP*	.33	.46	REF TO GROUND SURFACE
DEPTH REF. OFFSET AT START*	2.17	2.04	
DEPTH REF. OFFSET AT END*	2.16	2.05	
AFTER SURVEY DEPTH ERROR*	.01	.01	

LOG NAME*	START DEPTH*	START TIME	END DEPTH *	END TIME
B610DH SUSPDOWN01	106.6'	12:34	250.98'	1:27 pm
B610DH SUSPDOWN02	22.97'	5:21 pm	113.2'	5:52 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:

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P-S FIELD LOG REV V1.31a

B-610DH

GEOVISION SUSPENSION LOGGING FIELD NOTES

SITE*: Turkey Point NPP DATE*: 4/2/08
CLIENT*: MACTEC JOB*: 8083
AUTHOR*: C. Carter 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
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	90		5:21
7.5	24.61	91		
8.0	26.25	92		
8.5	27.89	93		
9.0	29.53	94		
9.5	31.17	95		
10.0	32.81	96		
10.5	34.45	97		
11.0	36.09	98		
11.5	37.73	99		
12.0	39.37	100		
12.5	41.01	101		
13.0	42.65	102		
13.5	44.29	103		
14.0	45.93	104		
14.5	47.57	105		
15.0	49.21	106		
15.5	50.85	107		
16.0	52.49	108		
16.5	54.13	109		
17.0	55.77	110		
17.5	57.41	111		
18.0	59.06	112		
18.5	60.70	113		
19.0	62.34	114		
19.5	63.98	115		
20.0	65.62	116		
20.5	67.26	117		

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* 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
21.0	68.90	118		
21.5	70.54	119		
22.0	72.18	120		
22.5	73.82	121		
23.0	75.46	122		
23.5	77.10	123		
24.0	78.74	124		
24.5	80.38	125		
25.0	82.02	126		
25.5	83.66	127		
26.0	85.30	128		
26.5	86.94	129		
27.0	88.58	130		
27.5	90.22	131		
28.0	91.86	132		
28.5	93.50	133		
29.0	95.14	134		
29.5	96.78	135		
30.0	98.43	136		
30.5	100.07	137		
31.0	101.71	138		
31.5	103.35	139		
32.0	104.99	140		
32.5	106.63	001 141		12:34
33.0	108.27	2 142		
33.5	109.91	3 143		
34.0	111.55	4 144		
34.5	113.19	5 145		5:52
35.0	114.83	6		
35.5	116.47	7		
36.0	118.11	8		
36.5	119.75	9		
37.0	121.39	10		
37.5	123.03	11		
38.0	124.67	12		
38.5	126.31	13		
39.0	127.95	14		
39.5	129.59	15		
40.0	131.23	16		
40.5	132.87	17		
41.0	134.51	18		