



L-2012-232  
10 CFR 52.3

May 24, 2012

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, D.C. 20555-0001

Re: Florida Power & Light Company  
Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
Submittal of Underground Injection Control Exploratory  
Well Weekly Construction Summaries – #52, #53, and #54

Reference:

1. FPL Letter to NRC, L-2009-265 dated November 24, 2009, Revised Hydrology Response to NRC Information Requests in COL Application Acceptance Review Letter

This letter provides the Underground Injection Control (UIC) weekly construction summaries #52 dated May 4, 2012, #53 dated May 11, 2012, and #54 dated May 18, 2012, submitted to the Florida Department of Environmental Protection (FDEP) as required by Permit #0293962-001-UC, and discussed in FPL's Revised Hydrology Response to NRC Information Requests in COL Application Acceptance Review Letter (Reference 1).

If you have any questions, or need additional information, please contact me at 561-691-7490.

Sincerely,

William Maher  
Senior Licensing Director – New Nuclear Projects

WDM/RFB

Enclosures:

1. Florida Power & Light Company Turkey Point Units 6 & 7 Exploratory Well Project; Permit #0293962-001-UC Weekly Construction Summary #52 dated May 4, 2012
2. Florida Power & Light Company Turkey Point Units 6 & 7 Exploratory Well Project; Permit #0293962-001-UC Weekly Construction Summary #53 dated May 11, 2012

Florida Power & Light Company

700 Universe Boulevard, Juno Beach, FL 33408

DO97  
NRC

Proposed Turkey Point Units 6 and 7  
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3. Florida Power & Light Company Turkey Point Units 6 & 7 Exploratory Well Project;  
Permit #0293962-001-UC Weekly Construction Summary #54 dated  
May 18, 2012

cc:  
PTN 6 & 7 Project Manager, AP1000 Projects Branch 1, USNRC DNRL/NRO  
Regional Administrator, Region II, USNRC  
Senior Resident Inspector, USNRC, Turkey Point Plant 3 & 4



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**Enclosure 1**

Florida Power & Light Company Turkey Point Units 6 & 7  
Exploratory Well Project; Permit #0293962-001-UC  
Weekly Construction Summary #52 dated May 4, 2012

## WEEKLY CONSTRUCTION SUMMARY



**McNabb Hydrogeologic Consulting, Inc.**

601 Heritage Drive, Suite 110  
Jupiter, Florida 33458  
Phone: 561-891-0763  
Fax: 561-623-5469

May 4, 2012

MHCDEP-12-0167

Mr. Joseph May, P.G.  
Florida Department of Environmental Protection  
400 N. Congress Ave, Suite 200  
West Palm Beach, FL 33401

**RE: Florida Power & Light Company Turkey Point Units 6 & 7 Exploratory Well  
Project; Permit #0293962-001-UC  
Weekly Construction Summary #52**

Dear Mr. May:

This is the fifty-second weekly construction summary for the above referenced project. The reporting period for this weekly construction summary began at 7:00 AM, Thursday, April 26, 2012 and ended at 7:00 AM, Thursday, May 3, 2012. Consultant and drilling contractor daily reports were prepared for this reporting period. Copies of the consultant and drilling contractor daily construction logs are attached.

During the previous reporting period the drilling contractor completed DZMW-1 reaming the pilot hole with a 32½-inch diameter bit to a depth of 1,105 feet blow pad level (bpl). They then began conditioning the borehole in preparation for performing deviation surveys over the interval from 630 feet bpl to 1,060 feet bpl and performing caliper and gamma ray logging in preparation for installation of the 24-inch diameter casing to a depth of approximately 1,100 feet bpl. There was no work on exploratory well EW-1 during the previous reporting period.

During this reporting period the drilling contractor conditioned the DZMW-1 reamed hole using a 32½-inch diameter bit, performed deviation surveys on the reamed hole over the interval from 630 feet bpl to 1,060 feet bpl, performed caliper and gamma ray logging and attempted to install of the 24-inch casing. While attempting to install the 24-inch diameter casing, an obstruction in the reamed hole was encountered at a depth of 325 feet bpl. The portion of the 24-inch diameter casing that had been installed was then removed from the hole and the drilling contractor began conditioning the reamed hole using a 32½-inch diameter bit. A copy of the DZMW-1 deviation survey summary sheet and the geophysical logs are attached.

The compression of the EW-1 Fiberglass Reinforced Pipe (FRP) injection tubing was reduced from 22-inches to 12-inches during this reporting period. The annulus of EW-1 was then pressurized and monitored, however, the results do not meet the specification.

There was no packer testing or cementing at EW-1 and DZMW-1 during this reporting period. There were no construction related issues during this reporting period with the exception of the unsuccessful 24-inch diameter casing installation at DZMW-1. This is being addressed by further conditioning of the reamed borehole prior to installing the 24-inch diameter casing.

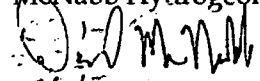
During the next reporting period, it is anticipated that the drilling contractor will complete conditioning the ream hole of DZMW-1. The drilling contractor will then perform caliper and gamma ray logging and install the 24-inch diameter casing to a depth of approximately 1,102 feet bpl. The casing will then be cemented in place. It is also anticipated that work to eliminate the source of the annular pressure loss will take place at EW-1.

In addition, sampling of the pad monitor wells around EW-1 and DZMW-1 began on April 21, 2011 and March 20, 2012, respectively, and has been taking place on a weekly basis since the initial samplings. The EW-1 pad monitor wells were most recently sampled on May 3, 2012. The DZMW-1 pad monitor wells were most recently sampled on May 4, 2012. The most recent set of EW-1 pad monitoring well sample results available are for samples collected on April 26, 2012. The most recent set of DZMW-1 pad monitoring well sample results available are for samples collected on April 27, 2012. Copies of the EW-1 and DZMW-1 pad monitor well water quality data summary sheets are attached.

Should you have any questions regarding the above weekly construction summary, please contact David McNabb at (561) 891-0763.

Sincerely,

McNabb Hydrogeologic Consulting, Inc.



5/4/12  
David McNabb, P.G.

Attachments: Consultant Daily Construction Log  
Layne Christensen Company-Drilling Shift Report  
EW-1 Pad Monitor Well Water Quality Data Summary Sheets  
DZMW-1 Pad Monitor Well Water Quality Data Summary Sheets  
DZMW-1 Deviation Survey Summary Sheet  
DZMW-1 Geophysical Logs

Cc: George Heuler/FDEP-Tallahassee  
Emily Richardson/SFWMD  
Matthew Raffenberg/FPL  
David Holtz/HCE

Joe Haberfeld/FDEP-Tallahassee  
Ron Reese/USGS  
David Paul/FGS



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## Daily Construction Log

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**Date:** April 26, 2012

**Project:** FPL Turkey Point EW

**Contractor:** Layne Christensen Company

**Starting Depth:** 1,105 feet bpl

**Weather Day:** Clear, Mild

**Weather Night:** NA

**Activity:** Borehole Conditioning

**FDEP UIC Permit #:** 0293962-001-UC

**Well No.:** DZMW-1

**Bit Diameter:** 32 1/2-inch

**Ending Depth:** 1,105 feet bpl

**Recorded By:** Sally Durall

### CONSTRUCTION ACTIVITIES

- 0700 Yesterday, the drilling contractor reamed the DZMW-1 pilot hole from the depth of 1,075 feet below pad level (bpl) to 1,105 feet bpl. The drilling contractor is currently conditioning the reamed borehole in preparation to install the 24-inch diameter steel casing.
- 0900 The drilling contractor continues conditioning the borehole by performing wiper trips. The drilling contractor is currently tripping out of the borehole with the bottom hole assembly (BHA) and drill pipe.
- 0930 Florida Spectrum Environmental Services, Inc. is on site to sample the pad monitor wells located around EW-1.
- 1100 The drilling contractor continues conditioning the borehole by performing wiper trips. The drilling contractor is currently tripping out of the borehole with the BHA and drill pipe.
- 1300 The drilling contractor continues conditioning the borehole by performing wiper trips. The drilling contractor is tripping back in the borehole with the BHA and drill pipe.
- 1500 The drilling contractor continues conditioning the borehole by performing wiper trips. The drilling contractor is currently tripping in the borehole with the BHA and drill pipe and is at approximately 660 feet bpl. The borehole has been slow to clean up and the bit is taking on weight.
- 1630 The drill bit is at the depth of 664 feet bpl and the drilling contractor disconnects the drill pipe to perform an official deviation survey at the depth of 630 feet bpl.
- 1650 The deviation survey is complete and the result is 0.2 degree.
- 1710 The drilling contractor makes a drill pipe connection and resumes conditioning the borehole from the depth of 664 feet bpl.
- 1730 The drilling contractor will continue to condition the borehole throughout the night shift and tomorrow due to the amount of drag and cuttings that continue to be produced from the borehole.



## Daily Construction Log

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**Date:** April 27, 2012  
**Project:** FPL Turkey Point EW  
**Contractor:** Layne Christensen Company  
**Starting Depth:** 1,105 feet bpl  
**Weather Day:** Cloudy, Mild  
**Weather Night:** NA  
**Activity:** Borehole Conditioning

**FDEP UIC Permit #:** 0293962-001-UC  
**Well No.:** DZMW-1  
**Bit Diameter:** 32 1/2-inch  
**Ending Depth:** 1,105 feet bpl  
**Recorded By:** Sally Durall

### CONSTRUCTION ACTIVITIES

- 1200 Yesterday, the drilling contractor conditioned the 32 1/2-inch diameter reamed borehole by performing wiper trips in preparation for installation of the 24-inch diameter steel casing. The hole has been reamed to a depth of 1,105 feet below pad level (bpl). The drilling contractor continues conditioning the reamed borehole.
- 1400 The drilling contractor continues conditioning the borehole by performing wiper trips. The drilling contractor is currently tripping in the borehole with the bottom hole assembly (BHA) and drill pipe.
- 1450 The drill bit is at the depth of 754 feet bpl and the drilling contractor disconnects the drill pipe to perform an official deviation survey at a depth of 720 feet bpl.
- 1510 The deviation survey is complete and the result is 0.3 degree. The drilling contractor makes a drill pipe connection and resumes conditioning the borehole from the depth of 754 feet bpl.
- 1520 The drill bit is at the depth of 844 feet bpl and the drilling contractor disconnects the drill pipe to perform an official deviation survey at a depth of 810 feet bpl.
- 1535 The deviation survey is complete and the result is 0.1 degree. The drilling contractor makes a drill pipe connection and resumes conditioning the borehole from the depth of 844 feet bpl.
- 1545 The drill bit is at the depth of 934 feet bpl and the drilling contractor disconnects the drill pipe to perform an official deviation survey at a depth of 900 feet bpl.
- 1600 The deviation survey is complete and the result is 0.3 degree. The drilling contractor makes a drill pipe connection and resumes conditioning the borehole from the depth of 934 feet bpl.
- 1610 The drill bit is at the depth of 1,024 feet bpl and the drilling contractor disconnects the drill pipe to perform an official deviation survey at a depth of 990 feet bpl.
- 1625 The deviation survey is complete and the result is 0.3 degree. The drilling contractor makes a drill pipe connection and resumes conditioning the borehole from the depth of 1,024 feet bpl.
- 1640 The drilling contractor tags the bottom of the reamed borehole at the depth of 1,105 feet bpl and is circulating the borehole clean.
- 1720 The drilling contractor trips up hole 45 feet and disconnects the drill pipe to perform an official deviation survey at a depth of 1,060 feet bpl.



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- 1740 The deviation survey is complete and the result is 0.3 degree. The drilling contractor makes the drill pipe connection and resumes the wiper trip out of the borehole.
- 1930 The drilling contractor continues to trip out of the borehole with the BHA and drill bit. After removing the BHA and drill bit from the well, they will wait for the geophysical logging truck to arrive on site and prepare for geophysical logging. The geophysical logging and the 24-inch diameter casing installation is currently planned to begin tomorrow morning.



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## Daily Construction Log

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<b>Date:</b> April 28, 2012	<b>FDEP UIC Permit #:</b> 0293962-001-UC
<b>Project:</b> FPL Turkey Point EW	<b>Well No.:</b> DZMW-1
<b>Contractor:</b> Layne Christensen Company	<b>Bit Diameter:</b> 32 1/2-inch
<b>Starting Depth:</b> 1,105 feet bpl	<b>Ending Depth:</b> 1,105 feet bpl
<b>Weather Day:</b> Cloudy, Mild	<b>Recorded By:</b> Marty Clasen
<b>Weather Night:</b> NA	
<b>Activity:</b> Borehole Conditioning/Preparation for Casing Installation	

### CONSTRUCTION ACTIVITIES

Yesterday, the drilling contractor conditioned the 32 1/2-inch diameter reamed borehole by performing wiper trips in preparation to install the 24-inch diameter steel casing and performed deviation surveys. They had planned to perform geophysical logging and installation of the 24-inch diameter casing today, however, drag on the drill bit while tripping out of the hole indicated that the hole was not yet properly conditioned. The drilling contractor continued conditioning the reamed borehole throughout today. They plan to perform geophysical logging and install the 24-inch diameter steel casing starting tomorrow morning.



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## Daily Construction Log

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**Date:** April 29, 2012

**Project:** FPL Turkey Point EW

**Contractor:** Layne Christensen Company

**Starting Depth:** 1,105 feet bpl

**Weather Day:** Rainy

**Weather Night:** NA

**Activity:** Geophysical Logging

**FDEP UIC Permit #:** 0293962-001-UC

**Well No.:** DZMW-1

**Bit Diameter:** 32 1/2-inch

**Ending Depth:** 1,105 feet bpl

**Recorded By:** David McNabb

### CONSTRUCTION ACTIVITIES

- 0600 Yesterday, the drilling contractor conditioned the reamed borehole by performing wiper trips in preparation for geophysical logging and installation of the 24-inch diameter steel casing. The Layne geophysical logging truck has arrived on site and is setting up to perform a caliper and gamma ray log on the DZMW-1 reamed borehole.
- 0630 Begin caliper and gamma ray logging.
- 0730 The caliper and gamma ray logs have been completed. The bottom of the borehole was detected at a depth of 1,110 feet below pad level (bpl).
- 0830 The drilling contractor will delay the casing installation until tomorrow morning due to the rainy weather. The drilling contractor will spend the day circulating the hole to maintain an open hole.





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## Daily Construction Log

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**Date:** April 30, 2012

**Project:** FPL Turkey Point EW

**Contractor:** Layne Christensen Company

**Starting Depth:** 1,105 feet bpl

**Weather Day:** Rainy, Mild

**Weather Night:** NA

**Activity:** Borehole Conditioning

**FDEP UIC Permit #:** 0293962-001-UC

**Well No.:** DZMW-1

**Bit Diameter:** 32 1/2-inch

**Ending Depth:** 1,105 feet bpl

**Recorded By:** Marty Clasen

### CONSTRUCTION ACTIVITIES

Yesterday, the drilling contractor performed geophysical logging of the reamed hole. The planned installation of the 24-inch diameter casing was delayed due to rainy conditions. Therefore, the drilling contractor spent the remainder of yesterday conditioning the reamed borehole by performing wiper trips with the 32 1/2-inch diameter bit in preparation for installation of the 24-inch diameter steel casing. The installation of the 24-inch diameter will not take place today due to rainy conditions. The drilling contractor spent today conditioning the reamed borehole by performing wiper trips with the 32 1/2-inch diameter bit. Installation of the 24-inch diameter casing is scheduled for tomorrow if the weather conditions are appropriate.



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## Daily Construction Log

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**Date:** May 1, 2012

**Project:** FPL Turkey Point EW

**Contractor:** Layne Christensen Company

**Starting Depth:** 1,105 feet bpl

**Weather Day:** Rainy, Mild

**Weather Night:** NA

**Activity:** Borehole Conditioning

**FDEP UIC Permit #:** 0293962-001-UC

**Well No.:** DZMW-1

**Bit Diameter:** 32 1/2-inch

**Ending Depth:** 1,105 feet bpl

**Recorded By:** Marty Clasen

### CONSTRUCTION ACTIVITIES

Yesterday, the drilling contractor conditioned the reamed borehole by performing wiper trips with the 32 1/2-inch diameter bit in preparation for installation of the 24-inch diameter steel casing. The planned installation of the 24-inch diameter casing was delayed due to rainy conditions. Therefore, the drilling contractor spent the day conditioning the reamed borehole by performing wiper trips with the 32 1/2-inch diameter bit. The installation of the 24-inch diameter will not take place today due to rainy conditions. The drilling contractor spent today conditioning the reamed borehole by performing wiper trips with the 32 1/2-inch diameter bit. Installation of the 24-inch diameter casing is scheduled for tomorrow if the weather conditions are appropriate.



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## Daily Construction Log

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**Date:** May 2, 2012  
**Project:** FPL Turkey Point EW  
**Contractor:** Layne Christensen Company  
**Starting Depth:** 1,105 feet bpl  
**Weather Day:** Clear, Windy  
**Weather Night:** Clear, Windy, Warm  
**Activity:** 24-Inch Diameter Casing Installation

**FDEP UIC Permit #:** 0293962-001-UC  
**Well No.:** DZMW-1  
**Bit Diameter:** 32 1/2-inch  
**Ending Depth:** 1,105 feet bpl  
**Recorded By:** Marty Clasen/Sally Durall

### CONSTRUCTION ACTIVITIES

- 0600 Yesterday, the drilling contractor conditioned the reamed DZMW-1 borehole by performing wiper trips in preparation for installation of the 24-inch diameter, 0.375-inch wall, steel casing. Additionally, the compression of the EW-1 Fiberglass Reinforced Pipe (FRP) injection tubing was reduced from 22-inches to 12-inches yesterday. Today the drilling contractor will begin installation of the 24-inch diameter steel casing at DZMW-1 and perform annular pressure monitoring on EW-1.
- 0700 The drilling contractor begins installation of the 24-inch diameter steel casing at DZMW-1. The casing will be installed to a depth of 1,102 feet below pad level (bpl). The welders are Eddie McCannon and Steve Stone. The welder certifications for the welders were previously submitted by the drilling contractor and accepted. A total of 28 casing joints will be installed. Centralizers were welded five feet from the bottom of the casing.
- 0735 The drilling contractor has begun welding the first casing joint to the second casing joint.
- 0800 Centralizers were welded 50 feet from the bottom of the casing.
- 0810 The drilling contractor has installed the second casing joint.
- 0845 The drilling contractor has installed the third casing joint. Centralizers were welded 100 feet from the bottom of the casing.
- 0920 The drilling contractor has installed the fourth casing joint.
- 1000 The drilling contractor has installed the fifth casing joint. Centralizers were welded 200 feet from the bottom of the casing.
- 1039 The drilling contractor has installed the sixth casing joint.
- 1128 The drilling contractor has installed the seventh casing joint.
- 1209 The drilling contractor begins annular pressure monitoring at EW-1 with an initial pressure of 156 pounds per square inch (psi).
- 1213 The drilling contractor has installed the eighth casing joint at DZMW-1.
- 1309 The EW-1 annular pressure is 141 psi, which is a loss of 15 psi in the one-hour monitoring period. The 5% allowable pressure loss is 7.8 psi. The drilling contractor plans to prepare the EW-1 wellhead for lifting the FRP injection tubing up with a 200-ton crane, rotating the tubing 90 degrees, and re-setting the tubing in the packer.
- 1315 The drilling contractor is unable to advance the 24-inch diameter casing at DZMW-1 past a depth of 325 feet bpl. The 24-inch casing will be removed from the well to allow



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- the borehole to be re-conditioned in preparation for installation of the 24-inch diameter casing.
- 1430 The drilling contractor continues to remove the eight 24-inch diameter casing joints from the well.
- 1615 The drilling contractor continues to remove the eight 24-inch diameter casing joints from the well.
- 1650 The drilling contractor completed removing the eight 24-inch diameter casing joints from the well and is preparing to trip in the borehole with the 32 ½-inch diameter bit to clean out the hole.
- 1745 The drilling contractor continues to trip in the borehole with the 32 ½-inch diameter bit to clean out the borehole at DZMW-1. On EW-1, the drilling contractor continues to prepare the wellhead for lifting the 18-inch diameter FRP injection tubing.
- 1900 The drilling contractor continues to trip in the borehole with the drilling bit.
- 2030 The drilling contractor continues to trip in the borehole with the drilling bit.
- 2130 The drilling bit is at the depth of 310 feet bpl and the drilling contractor is mixing drilling mud.
- 2215 The drilling bit is taking on weight between the depths of 328 to 329 feet bpl. The drilling contractor will continue to circulate within this zone until it is clean.
- 2345 The drilling contractor resumes tripping in the borehole and circulating with the drilling bit to continue the wiper trip.
- 0100 The drilling contractor continues the wiper trip down hole. The drilling bit continues to take on weight and the drilling contractor is conditioning the borehole at a depth of approximately 570 feet bpl.
- 0230 The drilling contractor continues the wiper trip down hole.
- 0315 The borehole appears to be open below the depth of 754 feet bpl. The drilling contractor continues the wiper trip down hole.
- 0450 The drilling contractor tags the bottom of the borehole at the depth of 1,105 feet bpl and is circulating the borehole clean.
- 0600 The drilling contractor continues to circulate at the bottom of the borehole.

## Layne Christensen Company - Drilling Shift Report

Proposed Turkey Point Units 6 and 7  
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DATE 4-26-12  
THUR DAY

JOB # 11771-1425-10000

AGENT *FPL*

JOB SITE NAME MW-1

RESEARCHER (ANTHONY D'OLIVA)

ROSEMAN DETECTED TODAY

DAILY ACCOUNTING OF ACTIVITIES BY ITEM 8

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
Driller	BOSIT GULOMOV	45	12		12
P.V	PAUL VAGHN	45	12		12
V.T	VLAD ISHIMOV	45	12		12
V.M	VICTOR MOISIEV	45	12		12
J.N	JUAN NIÑO	45	12		12

### MATERIALS USED TODAY

Quantity	Description
	SAFETY MTG!
	SIGNS AND SYMPTOMS OF SKIN INJURY!
	PPE: H.I.R.A: LOADED SAFETY!

COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

WIPPER T.I.H. - CIRCULATE DOWN TO - 845' BPL.  
SITE CLEAN UP + HOUSEKEEPING: Run sackey @ 630' -  
RESULT - 0.2

Description		Unit	Status
FDW 200		23605	w/k
1989 MACA		15000	
Dump Truck			w/k
Working	WE	Mobilization	MB
Standby	SB	Demobilization	DM
Down in Shop	DS	Awa lobe in Yard	AY
Down in Store	DN	Available on Job	AV

[illegible]

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Onsite Mobil/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	0006	Lunch - Overhead	
7	0007	Maintenance - Overhead	
8	11250	Training - Job Chargeable	
9	11300	Site Clean up	
10	11350	Install Sound Walls	
11	11400	Install Driven Pile	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Drift Pad	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Drillhole Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Drill Pilot Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Wellbore Abandonment/Cement Plugs	
24	13350	Grouting	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Washing	
31	14050	Well Development, Air Lift, and Swab	
32	14100	Disposal of Fluids & Cuttings	
33	14150	Grout and Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14350	Test Pumping	
36	14300	Disinfection and Chlorination	
37	19010	Onsite Activities Mobil/Demob	
38	19100	Lunch	
39	19150	Administration	
40	19550	Other Activities Standby	
41	19600	Waiting for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	28000	Equipment Repairs	
44	90170	Damages	
45	90200	Job Superintendent	
		Lunch	
		<b>TOTAL HOURS</b>	

10-11-1964

4-26-12

**Client's Signature**

## PAYROLL

**021**

### BAE SYSTEMS IN THE DOMESTIC MARKET

1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 26

## Layne Christensen Company - Drilling Shift Report

CLIENT - *FPL*

~~Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
L-2012-232 Enclosure 1 Page 14 of 53~~

DATE: 4/26/12  
 From: W541 St. St.

102 # 1177-1405-10000  
JOBSITE LOCATION Turkey point  
DAILY ACCOUNTING ACTIVITY BY MILE #

**JOB SITE NAME****PERSONNEL EMPLOYED TODAY**

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
Driller	George Naga	45	12		12
AP	Andrew Popov	45	12		12
JW	Juan Nieto	45	12		12
JM	James McDowell	45	12		12
JA	Josh Ashley	45	12		12

## MATERIALS USED TODAY

[illegible]

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Description		Unit #	Status
FDW 200		28605	W/K
1989 MAL		18000	7/B
Pump truck			
Working	WK	Mobile/Station	MB
Standby	SB	Demobilization	DM
Down in Shop	DS	Available in Yard	AY
Down on Site	ON	Available on Job	AV

#### TIME OF ACTIVITY BY ITEM

[illegible]

## COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

Wiper trip down to T.D. 1105 bpl. Circulate down for 1 hour bottom up. Circulate each stand back out, up into casing.

Serial	Cost Code	Labour Supply	Notes
1	11000	Plant Installation	
2	11100	General Maintenance	
3	11200	Installation	
4	11300	Relief Installation	
5	11400	Installation - Overhead	
6	11500	Relief Installation	
7	11600	Relief Installation - Overhead	
8	11700	Relief Installation - Overhead	
9	11800	Relief Installation	
10	11900	Relief Installation	
11	12000	Relief Installation	
12	12100	Relief Installation	
13	12200	Relief Installation	
14	12300	Relief Installation	
15	12400	Relief Installation	
16	12500	Relief Installation	
17	12600	Relief Installation	
18	12700	Relief Installation	
19	12800	Relief Installation	
20	12900	Relief Installation	
21	13000	Relief Installation	
22	13100	Relief Installation	
23	13200	Relief Installation	
24	13300	Relief Installation	
25	13400	Relief Installation	
26	13500	Relief Installation	
27	13600	Relief Installation	
28	13700	Relief Installation	
29	13800	Relief Installation	
30	13900	Relief Installation	
31	14000	Relief Installation	
32	14100	Relief Installation	
33	14200	Relief Installation	
34	14300	Relief Installation	
35	14400	Relief Installation	
36	14500	Relief Installation	
37	14600	Relief Installation	
38	14700	Relief Installation	
39	14800	Relief Installation	
40	14900	Relief Installation	
41	15000	Relief Installation	
42	15100	Relief Installation	
43	15200	Relief Installation	
44	15300	Relief Installation	
45	15400	Relief Installation	
46	15500	Relief Installation	
47	15600	Relief Installation	
48	15700	Relief Installation	
49	15800	Relief Installation	
50	15900	Relief Installation	
51	16000	Relief Installation	
52	16100	Relief Installation	
53	16200	Relief Installation	
54	16300	Relief Installation	
55	16400	Relief Installation	
56	16500	Relief Installation	
57	16600	Relief Installation	
58	16700	Relief Installation	
59	16800	Relief Installation	
60	16900	Relief Installation	
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62	17100	Relief Installation	
63	17200	Relief Installation	
64	17300	Relief Installation	
65	17400	Relief Installation	
66	17500	Relief Installation	
67	17600	Relief Installation	
68	17700	Relief Installation	
69	17800	Relief Installation	
70	17900	Relief Installation	
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73	18200	Relief Installation	
74	18300	Relief Installation	
75	18400	Relief Installation	
76	18500	Relief Installation	
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89	19800	Relief Installation	
90	19900	Relief Installation	
91	20000	Relief Installation	
92	20100	Relief Installation	
93	20200	Relief Installation	
94	20300	Relief Installation	
95	20400	Relief Installation	
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97	20600	Relief Installation	
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99	20800	Relief Installation	
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107	21600	Relief Installation	
108	21700	Relief Installation	
109	21800	Relief Installation	
110	21900	Relief Installation	
111	22000	Relief Installation	
112	22100	Relief Installation	
113	22200	Relief Installation	
114	22300	Relief Installation	
115	22400	Relief Installation	
116			

Dis

**LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT**

CLIENT **FPL**

Proposed Turkey Point Units 6 and 7  
~~Docket Nos. 52-040 and 52-041~~  
L-2012-232 Enclosure 1 Page 16 of 53

DATE \_\_\_\_\_

FRI. NIGHT

**JOB**

11771, 1405, 10000

**JOB SITE NAME**

MW-1

**JOB SITE LOCATION**

T.P

**PERSONNEL EMPLOYED TODAY**

Crew Assignment	Employee- Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
DRILLER	GEORGE HAGA	X	12		12
AP	ANDREY POPOV	X	12		12
JN	JUAN NIETO	X	12		12
JM	JAMES McDONNELL	X	12		12

**• VIDEO FROM THE 2011-2012 T-20 ASIA**

Description		Unit #	Status
FDW-200		28605	WN
1980 MACK		18000	SB
DUMP TRUCK			
Working	WK	Mobilization	AM
Standby	SB	Demobilization	DM
Down In Shop	DS	Available In Yard	AY
Down On Site	DN	Available On Job	AV

## DAILY ACCOUNTING OF ACTIVITIES BY ITEM IN

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Onsite Mob/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	0005	Shop - Overhead	
7	0007	Maintenance - Overhead	
8	11220	Training - Job Chargeable	
9	11300	Weld Clean up	
10	11350	Install Sound Walls	
11	11400	Install Ocean Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Drill Pad	
14	12050	Test Hole Drilling	
15	12200	Geophysical Logging & Other Testing	
16	12150	Acquisitor Zone Testing	
17	14200	Abandonment	
18	13350	Production Well Installation	
19	11100	Install Conductor Pipe	
20	13150	Drill Pilot Hole	
21	13200	Geophysical Logging & Other Testing	
22	13150	Acquisitor Zone Testing	
23	13300	Abandonment/Cement Plugs	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Install Pack The Well	
29	13600	Install Annular Seal	
30	13650	Valve Watching	
31	14050	Well Development Air Lift and Swab	
32	14100	Disposition of Fluids & Cuttings	
33	14150	Furnish & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Completion and Cementation	
37	19050	Offsite Activities Mob/Demob	
38	19100	Shop	
39	19150	Administration	
40	19550	Other Activities Standby	
41	19600	Fishing for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	90000	Equipment Repairs	
44	90170	Damages	
45	90200	Job Superintendent	
		Search	
		TOTAL HOURS	

### MATERIALS USED TODAY

Quantity	Description
	SAFETY MEETINGS :
	① TRIPPING DRILL PIPE
	② DRILL PIPE SLIPS SAFETY
	PPE, LOADER SAFETY, PINCH POINTS SLIPS, TRIPS & FALLS.

#### TIME OF ACTIVITY BY ITEM

[illegible]

## COMMENTS, EVENTS, CONDITIONS, CHANGES, OTHER INFORMATION

Continue to trip out of hole 50 ft before entering casing pull weight read over pull inside casing. Trip back to bottom 1105 bbl circulate hole clean. Trip out of hole 50 ft before casing pulling weight start to read over over casing.

4/27/12



**LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT**

CLIENT FPL

Proposed Turkey Point Units 6 and 7  
~~Docket Nos. 52-040 and 52-041~~  
L-2012-232 Enclosure 1 Page 17 of 53

DATE 4-28-12  
SAT DAYS

JOHN 11771-1405-10000

JOBSITE NAME **MLW - 1**

JOBSITE LOCATION 

**PERSONNEL EMPLOYED TODAY**

## EQUIPMENT DEPLOYED TODAY

#### SALT ADJUSTING OF ACTIVITY BY MEANS

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
<del>Diller</del>	BOSIT GULOMOV	45	12		12
M.R.	MICHAEL RAMIREZ	<del>45</del>	3		3
V.I	VLAD ISHIMOV	45	12		12
P.V	PAUL VAUGHN	45	12		12
J.N	JUAN NINO	45	12		12

Working	NAME	Mobile number	PHONE
Standby	SB	Demobilization	DB
Down in Shop	DS	Available in Yard	AY
Down on Site	DOM	Available on Job	AV

Item #	Cost Code	Latest Activity	Flags
1	110000	Shop Drawing Job	
2	111000	Design & Construction	
3	112000	Job Post-Construction	
4	113000	Safety/Security	
5	114000	Training - Classroom	
6	115000	Shop Drawing	
7	116000	Maintenance - Classroom	
8	117000	Training - Job Chargeable	
9	118000	Discharge	
10	119000	Shop Drawing	
11	120000	Shop Drawing	
12	121000	Shop Drawing	
13	122000	Shop Drawing	
14	123000	Shop Drawing	
15	124000	Shop Drawing	
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333	442000	Shop Drawing	
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335	444000	Shop Drawing	
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340	449000	Shop Drawing	
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342	451000	Shop Drawing	
343	452000	Shop Drawing	
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351	460000	Shop Drawing	
352	461000	Shop Drawing	
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354	463000	Shop Drawing	
355	464000	Shop Drawing	
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357	466000	Shop Drawing	
358	467000	Shop Drawing	
359	468000	Shop Drawing	
360	469000	Shop Drawing	
361	470000	Shop Drawing	
362	471000	Shop Drawing	
363	472000	Shop Drawing	
364	473000	Shop Drawing	
365	474000	Shop Drawing	
366	475000	Shop Drawing	

### MATERIALS USED TODAY

Quantity	Description
	SAFETY MTC!
	T.I.H. AND T.O.H.
	PINCH POINT! HAND SAFETY!
	LOADER SAFETY! DPE! H.I.R.A.

TIME OF ACTIVITY BY ITEM A

[illegible]

## COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

T.O.H. 32 1/2 BIT CLEAN UP WEIGHT: T.I.H. BACK TO  
BOTTOM 1105' BRL: T.O.H. IN CASING, CIRCULATE  
HOLE 185' BRL

K. D. [Signature]

Supervisor's Signature \_\_\_\_\_

## PAYROLL

494





### Proposed Turkey Point Units 6 and 7

~~Docket Nos. 52-040 and 52-041~~

L-2012-232 Enclosure 1 Page 19 of 53

DATE: 4/24/82

Sunday Days

**JOB #**

11771.1405 . 10000

JOB SITE NAME NW-1

JOBSITE LOCATION Turkey Pond

**PERSONNEL EMPLOYED TODAY**

## EQUIPMENT DEPLOYED TODAY

## DAILY ACCOUNTING OF ACTIVITIES BY ITEM R

Crew Assignment	Employee - Full Name	Per Diem? (K)	Onsite Hours	Offsite Hours	Total Hours
Miller	Boris Gulonov	—	4		4
Miller	Michael A. Ramirez	75	12		12
W.I	Vlad Ishimov	45	12		12
P.V	Paul Vaughn	45	12		12
P.N	Juan Nino	45	12		12
S.S	Stephen Stone	45	6		6

Description		Units	Status
FDW-200		28005	W/IC
89 Mack Dump		18000	S/FB

Working	MM	Mobilization	MB
Standby	SB	Demobilization	DMB
Down in Shop	DS	Available in Yard	AY
Down on Site	DN	Available on Job	AV

[illegible]

### MATERIALS USED TODAY

Quantity	Description
	1) Logging / Helping Logger
	2) KEEPING JUNK & TRASH out of pits
	PPE HIRA, SLIP-Trip-Fall, Loader Safety, hand signals, trackhoe safety, pinch points, Rain Safety

TIME OF ACTIVITY BY ITEM

[illegible]

## COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

Finnish logging. Trip IN Hole 32 1/2' hit on Collar NO weights and 3 std of Drill pipe Circulate at 250' bpl. Stop circulating, continue Trip IN Hole to bottom 1105' bpl circulate. Lightning break 2:00pm - 2:30pm. Build volume back. House Keeping / Trash run.

4-29-66

## PAYROLL

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 3. **Results**  
 4. **Discussion**  
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 6. **References**  
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## LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT

CLIENT FPLProposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041

DATE

4/29/12

JOB #

11771.1405.10000

JOBSITE NAME

MW-1

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SUN. NIGHT

JOBSITE LOCATION

T.P.

## PERSONNEL EMPLOYED TODAY

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
DRILLER	GEORGE HAGA	45	12		12
AP	ANDREY DOPOV	45	12		12
J/N	JUAN NIETO	45	12		12
J/M	JAMES McDONNELL	45	12		12
J/A	VICTOR MOISEYEV	45	12		12

## EQUIPMENT EMPLOYED TODAY

Description	Unit #	Status
FDW-200	28505	WK
1989 MACK	13000	SB
DUMP TRUCK		

Working	WK	Mobilization	MB
Standby	SB	Demobilization	DB
Down in Shop	DS	Availability Yard	AY
Down on Site	DN	Availability on Job	AV

## DAILY ACCOUNTING OF ACTIVITIES BY ITEM #

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Design Mob/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Trailing - Overhead	
6	0006	Shop - Overhead	
7	0007	Maintenance - Overhead	
8	11250	Trailing - Job Chargeable	
9	11300	Get to Qean up	
10	11350	Install Sound Walls	
11	11400	Install Ocean Pad	
12	11450	Install Surface Easing	
13	11500	Install Roadway & Dug Pad	
14	11550	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Bokeh Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Dug Pad Hide	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Bokeh Abandonment / Cement Plugs	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Easing	
27	13500	Install Screen	
28	13550	Gravel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development Air Lift and Swab	
32	14100	Disposal of Fluids & Cuttings	
33	14150	Install & Operate Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Installation and Churning on	
37	14350	Offsite Activities Mob/Demob	
38	19100	Shop	
39	19150	Building on	
40	19550	Other Activities Standby	
41	19600	Fishing for Lost/Broken Tooling	
42	19650	Change of the Activities	
43	88000	Equipment Malfunction	
44	90170	Damages	
45	90200	Job Superintendent	
		Lunch	
TOTAL HOURS			

## MATERIALS USED TODAY

Quantity	Description
	SAFETY MEETINGS:
	① KEEPING TRASH OUT OF PIT SYSTEM
	② INCLIMATE WEATHER
	LOADER SAFETY, PINCH POINTS, PPE
	HIRA.

## TIME OF ACTIVITY BY ITEM #

From	To	Grade One	Item #
		AM PM	
		AM PM	
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		AM PM	

## COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

Continue to circulate on bottom. Trip bit back up into casing trip bit back to bottom circulate and clean hole. Swap & mop mcs and engineer file. Clean and organize change house fill in pothole throughout location. Tighten up silt fence.

Supervisor's Signature

4/29/12

Client's Signature

PAYROLL

Name

Supervisor's Signature

Date



100



JOB # 11771.1409.10000

**Figure 1**

JOBSITE LOCATION Turkey Point

L-2012-232 Enclosure 1 Page 23 of 53

• DEPARTMENT EXPLOITS COAL

• DAILY ACCOUNTING OF AD INTEL BY ITEM #

**PERSONNEL EMPLOYED TODAY**

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
DRILLER	Bosir Gulonov	—	3		3
me	Michael A. Ramirez	75	12		12
V.T	Vlad Ishimo ✓	—	4		4
B. F	Bob Feehan	45	12		12
P. V	Paul Vaughn	45	12		12
J. N.	Juan Nino	45	12		12

### MATERIALS USED TODAY

Quantity	Description
	Safety Machines
①	Corrosives
②	Keeping Trash/Junk/Tools away from Electrical Systems.
	PPE, Arc welding, torch safety, ladder safety, hand signals,
	Power tool safety, electrical hazards/electronics

#### TIME OF ACTIVITY BY ITEM #

[illegible]

## COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

Continue to circulate 32 1/2" bit on bottom. Help welder on IW-1 well head.  
Help Election / Test Drawworks Reset. Prep well head for welder. Install wind  
(Coffin side) guard. Prep for casing Run.

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Onsite Mob/Demob	
3	11150	Job Preparation	
4	11200	Policy Meeting	
5	0005	Training - Overhead	
6	0006	Shop - Overhead	
7	0007	Maintenance - Overhead	
8	11250	Framing - Job Chargeable	
9	11300	Misc Clean up	
10	11350	Install Sound Walls	
11	11400	Install Decon Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Drill Pad	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Borehole Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Drill Pilot Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Borehole Abandonment/Cement Plugs	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development Air Lift and Swab	
32	14100	Disposal of Fluids & Cuttings	
33	14150	Furnish & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Disinfection and Chlorination	
37	19050	Offsite Activities Mob/Demob	
38	19100	Shop	
39	19150	Administration	
40	19550	Other Activities Standby	
41	19600	Fishing for Lost/Broken Tooling	
42	19650	Exchange Order Activities	
43	88000	Equipment Repairs	
44	90170	Damages	
45	90200	Job Superintendent	
		Branch	
		<b>TOTAL HOURS</b>	

*[Signature]*  
 SPECIAL AGENT IN CHARGE

5-1-12

**Abstract**

**PAYROLL**

547

### Nonresistant Microbes

**ΠΙΣ**



### Proposed Turkey Point Units 6 and 7

Docket Nos. 52-040 and 52-041

JOB: 11771, 1405, 10000

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**TUE NIGHT**

JOBSITE LOCATION: TURKEY POINT

西村公三郎、田村正太郎、田村正太郎

..COMMITMENT IS PLANTED TOO, ON

### **DAILY ACCOUNTING OF NORTHWESTERN**

Description		Unit #	Spjns
FDW-200 28605		WK	
1989 Mack 18000		SB	
DUMP TRUCK			
Working	WK	Mobile	MR
Spndby	SB	Demobilization	DM
Down in Shop	DS	Available in Yard	AY
Down on Site	DN	Available on Job	AV

### MATERIALS USED TODAY

#### TIME OF ACTIVITY BY ITEM

[illegible]

COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

Circulate bottom of hole. Trip out of hole w/ 3 1/2 bit. Lay down collar. Pick up 24" casing (1 1/2" v-don't hanging bit up for casing run. Empty trash throughout Co. Callow. Pull up Annulus w/ mg. watch level.

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Waste Mob/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	0006	Shop - Overhead	
7	0007	Maintenance - Overhead	
8	11250	Training - Job Chargeable	
9	11300	Site Clean up	
10	11350	Install Sound Walls	
11	11400	Install Decon Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Dr # Pad	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Borehole Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Drill Pilot Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Borehole Abandonment/Cement Plugs	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development (Air Lift) and Swab	
32	14100	Disposal of Pipes & Cullings	
33	14150	Furnish & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Disinfection and Chlorination	
37	19050	Offsite Activities Mob/Demob	
38	19100	Shop	
39	19150	Administration	
40	19550	Other Activities Standby	
41	19600	Waiting for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	88000	Equipment Repairs	
44	90170	Damages	
45	90200	Job Superintendent	
		Lunch	
		TOTAL HOURS	

1940-1941  
 1942-1943  
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5/1/12

**Client's Signature**

PAYROLL

**Box 2**

Supervisor's Signature \_\_\_\_\_

Date \_\_\_\_\_





**De**

Project: Florida Power & Light Company  
Miami-Dade County, Florida  
Exploratory Well EW-1



**EW-1 Pad Monitoring Well Water Quality Data  
Northeast Pad Monitoring Well  
(NE-EW PMW)**

Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks
4/21/2011	1108	10.49	-1.61	78,700	32,200	57,000	29.8	Background Sampling
4/29/2011	1157	10.68	-1.80	80,400	29,900	53,800	30.4	
5/5/2011	1157	11.40	-2.52	81,400	27,500	52,350	31.2	
5/11/2011	1309	11.00	-2.12	76,800	31,600	51,200	29.7	
5/19/2011	0958	10.48	-1.60	72,600	35,600	51,200	29.5	
5/26/2011	1050	10.76	-1.88	71,360	29,500	52,900	29.7	
6/2/2011	1134	10.78	-1.90	71,700	29,000	55,700	29.6	
6/9/2011	1128	10.61	-1.73	69,700	32,300	50,650	29.3	
6/16/2011	0958	10.35	-1.47	69,300	33,000	53,450	29.5	
6/23/2011	1028	10.41	-1.53	69,400	30,600	55,600	29.5	
6/30/2011	0928	10.15	-1.27	70,300	27,600	51,950	29.2	
7/8/2011	1210	9.00	-0.12	72,570	30,100	54,150	29.9	
7/14/2011	1338	9.75	-0.87	76,400	27,200	54,550	29.9	
7/21/2011	1039	9.35	-0.47	72,200	32,600	49,760	29.7	
7/28/2011	1119	9.51	-0.63	71,600	30,200	54,250	29.7	
8/4/2011	1249	9.70	-0.82	64,400	31,500	53,850	27.5	
8/11/2011	1059	9.25	-0.37	73,900	29,500	57,150	29.6	
8/18/2011	1039	9.45	-0.57	71,900	29,400	54,850	30.0	
8/25/2011	1039	9.45	-0.57	69,800	31,300	55,550	29.7	
9/1/2011	1109	9.15	-0.27	71,700	29,500	56,300	29.9	
9/8/2011	1049	9.15	-0.27	70,700	31,400	49,800	30.3	
9/16/2011	1233	9.30	-0.42	5320*	1260*	2668*	27.8	
9/23/2011	1129	9.10	-0.22	72,900	31,200	52,750	30.1	
9/29/2011	1330	9.16	-0.28	11,500*	3,200*	7,010*	27.8	
10/6/2011	1119	9.30	-0.42	72,600	30,000	56,200	30.1	
10/13/2011	1058	10.15	-1.27	75,200	32,500	51,600	30.1	
10/20/2011	1049	8.40	0.48	68,400	29,100	57,450	29.9	
10/27/2011	1109	8.95	-0.07	80,200	27,700	54,950	30.0	
11/3/2011	1049	8.91	-0.03	80,200	31,100	55,700	29.9	
11/10/2011	0958	9.67	-0.79	75,500	28,700	59,600	30.0	
11/17/2011	1058	10.81	-1.93	68,400	34,900	57,500	30.1	
11/25/2011	0939	9.51	-0.63	69,300	26,500	52,750	30.0	
12/1/2011	1138	9.67	-0.79	66,000	29,800	55,200	29.8	
12/8/2011	1058	10.31	-1.43	63,800	30,100	57,050	27.5	
12/15/2011	1109	9.61	-0.73	75,400	28,300	53,700	30.0	
12/22/2011	1038	9.67	-0.79	69,300	29,500	51,800	30.7	
12/29/2011	0918	9.87	-0.99	76,900	30,800	51,300	29.7	
1/5/2012	1118	10.41	-1.53	70,400	28,100	52,200	29.5	
1/12/2012	1058	10.21	-1.33	75,200	28,200	50,900	29.9	
1/19/2012	0958	10.30	-1.42	75,200	27,700	49,300	29.8	
1/26/2012	1048	10.22	-1.34	72,300	29,400	55,300	30.0	
2/2/2012	1048	10.21	-1.33	71,300	28,400	50,700	29.9	
2/10/2012	1029	9.15	-0.27	71,400	30,400	52,400	30.0	
2/16/2012	1219	9.47	-0.59	72,300	27,000	53,300	29.9	
2/23/2012	1049	9.57	-0.69	72,300	29,600	55,100	30.1	
3/1/2012	1038	9.74	-0.86	72,300	31,500	50,100	30.0	
3/8/2012	1058	9.76	-0.88	72,200	31,600	53,100	29.3	
3/16/2012	1038	9.65	-0.77	72,100	34,900	53,100	29.9	
3/22/2012	1108	9.90	-1.02	72,400	30,800	48,700	29.8	
3/29/2012	0911	9.87	-0.99	72,500	29,100	48,600	29.2	
4/5/2012	1208	10.25	-1.37	71,600	29,200	50,800	30.0	
4/12/2012	1118	10.15	-1.27	71,500	32,000	52,700	30.1	
4/19/2012	1143	9.85	-0.97	72,000	34,000	54,500	30.3	
4/26/2012	1009	9.50	-0.62	72,100	36,000	54,200	29.7	

ft. btoc: feet below top of casing  
TOC: Top of Casing  
ft. NAVD 88: North American Vertical Datum of 1988  
umhos/cm: micromhos per centimeter  
mg/L: milligrams per liter  
C: Celsius

\*Results appear to be anomalous and are suspected to be related to a sampling error. Countermeasures to prevent reoccurrence have been implemented.  
Note: TOC elevation is: 8.88 feet NAVD 88

Project: Florida Power & Light Company  
Miami-Dade County, Florida  
Exploratory Well EW-1



**EW-1 Pad Monitoring Well Water Quality Data  
Southeast Pad Monitoring Well  
(SE-EW PMW)**

Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks
4/21/2011	1311	10.10	-1.51	81,600	30,200	57,800	29.9	Background Sampling
4/29/2011	1349	10.40	-1.81	86,700	33,100	55,000	30.4	
5/5/2011	1008	11.10	-2.51	83,000	29,500	54,700	29.9	
5/11/2011	1228	10.65	-2.06	78,200	30,100	52,600	30.1	
5/19/2011	1039	10.12	-1.53	75,200	30,000	51,100	29.8	
5/26/2011	1235	10.47	-1.88	73,890	31,200	53,800	29.9	
6/2/2011	1056	10.50	-1.91	74,200	29,400	57,400	29.6	
6/9/2011	1210	10.32	-1.73	72,200	32,100	51,000	29.6	
6/16/2011	1035	10.00	-1.41	71,300	32,200	54,000	29.8	
6/23/2011	1109	10.10	-1.51	71,900	31,600	55,650	29.8	
6/30/2011	1009	9.85	-1.26	72,800	27,600	53,050	29.5	
7/8/2011	1138	9.12	-0.53	73,150	29,800	54,450	29.9	
7/14/2011	1414	9.48	-0.89	79,700	29,000	55,350	29.8	
7/21/2011	1119	9.36	-0.77	74,100	34,000	54,100	30.0	
7/28/2011	1229	9.55	-0.96	74,300	30,200	56,300	29.8	
8/4/2011	1224	9.50	-0.91	72,700	31,500	53,000	27.7	
8/11/2011	1209	9.37	-0.78	77,400	30,000	56,800	29.7	
8/18/2011	1149	9.45	-0.86	74,100	30,100	55,500	30.0	
8/25/2011	1149	9.38	-0.79	73,300	31,200	57,450	29.6	
9/1/2011	1224	9.10	-0.51	72,700	30,700	57,300	29.8	
9/8/2011	1159	9.21	-0.62	73,200	32,200	51,800	30.1	
9/16/2011	1303	9.40	-0.81	70,280	29,600	50,550	27.7	
9/23/2011	1239	9.20	-0.61	75,200	29,000	55,550	29.8	
9/29/2011	1300	9.10	-0.51	68,500	30,700	53,600	27.4	
10/6/2011	1229	9.25	-0.66	79,100	31,300	54,050	30.0	
10/13/2011	1209	9.95	-1.36	76,900	30,200	52,250	30.1	
10/20/2011	1200	8.60	-0.01	69,900	28,000	57,150	29.8	
10/27/2011	1218	8.81	-0.22	82,400	28,000	56,500	30.0	
11/3/2011	1159	9.56	-0.97	82,900	31,000	56,400	30.1	
11/10/2011	1109	9.96	-1.37	78,300	27,900	60,500	30.1	
11/17/2011	1208	10.90	-2.31	69,700	34,000	57,800	30.2	
11/25/2011	1049	9.36	-0.77	69,900	26,900	53,600	30.0	
12/1/2011	1248	10.85	-2.26	71,800	33,900	57,000	30.2	
12/8/2011	1209	9.87	-1.28	68,900	29,500	61,500	27.0	
12/15/2011	1219	9.53	-0.94	76,600	28,000	55,100	30.1	
12/22/2011	1149	9.65	-1.06	72,300	29,000	52,400	30.0	
12/29/2011	1029	9.96	-1.37	77,600	29,800	52,200	30.1	
1/5/2012	1229	10.31	-1.72	72,800	27,700	53,400	30.1	
1/12/2012	1204	10.10	-1.51	76,000	30,800	52,900	30.1	
1/19/2012	1139	10.38	-1.79	76,500	28,100	50,800	30.0	
1/26/2012	1229	10.18	-1.59	73,200	29,900	56,300	30.1	
2/2/2012	1229	10.23	-1.64	72,400	27,900	52,000	30.1	
2/10/2012	1209	9.21	-0.62	72,000	29,800	55,400	30.2	
2/16/2012	1359	9.45	-0.86	72,700	27,700	57,200	30.2	
2/23/2012	1229	9.48	-0.89	72,800	32,100	57,000	30.2	
3/1/2012	1219	9.61	-1.02	72,800	31,000	51,700	30.2	
3/8/2012	1244	9.81	-1.22	72,500	32,500	52,500	29.9	
3/16/2012	1219	9.61	-1.02	72,900	34,300	53,100	30.3	
3/22/2012	1249	9.87	-1.28	72,600	31,000	51,100	30.2	
3/29/2012	1054	9.97	-1.38	72,900	29,500	51,200	29.9	
4/5/2012	1341	10.05	-1.46	72,300	29,500	52,200	30.2	
4/12/2012	1259	9.98	-1.39	72,200	31,200	53,800	30.5	
4/19/2012	1244	9.90	-1.31	71,800	33,500	54,500	30.4	
4/26/2012	1144	9.61	-1.02	72,200	35,500	54,500	30.0	

ft. btoc: feet below top of casing  
TOC: Top of Casing  
ft. NAVD 88: North American Vertical Datum of 1988  
umhos/cm: micromhos per centimeter  
mg/L: milligrams per liter  
C: Celsius  
Note: TOC elevation is: 8.59 feet NAVD 88

Project: Florida Power & Light Company  
Miami-Dade County, Florida  
Exploratory Well EW-1



**EW-1 Pad Monitoring Well Water Quality Data  
Northwest Pad Monitoring Well  
(NW-EW PMW)**

Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks
4/21/2011	1221	10.50	-1.66	84,300	33,500	59,900	30.8	Background Sampling
4/29/2011	1120	10.65	-1.81	86,300	33,700	56,400	30.0	
5/5/2011	1051	11.40	-2.56	87,400	31,300	57,650	31.1	
5/11/2011	1034	12.40	-3.56	79,100	33,500	55,650	30.4	
5/19/2011	1113	13.90	-5.06	80,000	36,000	53,700	30.4	
5/26/2011	1125	10.73	-1.89	75,130	32,300	55,450	30.4	
6/2/2011	1215	10.75	-1.91	75,900	30,700	59,500	30.3	
6/9/2011	1248	10.60	-1.76	72,500	32,200	51,950	29.9	
6/16/2011	1118	10.25	-1.41	72,500	31,500	54,550	30.0	
6/23/2011	1143	10.37	-1.53	73,300	31,600	57,750	30.3	
6/30/2011	1049	10.10	-1.26	75,700	27,400	54,300	30.0	
7/8/2011	1112	9.38	-0.54	74,100	30,700	53,950	30.3	
7/14/2011	1524	9.75	-0.91	79,900	27,600	56,350	30.3	
7/21/2011	1226	9.60	-0.76	76,200	32,600	54,500	29.7	
7/28/2011	1154	9.80	-0.96	74,900	32,200	57,050	30.5	
8/4/2011	1317	9.85	-1.01	78,000	30,500	59,300	28.7	
8/11/2011	1134	9.61	-0.77	77,600	31,100	58,150	30.4	
8/18/2011	1114	9.68	-0.84	73,100	30,000	55,350	30.6	
8/25/2011	1114	9.61	-0.77	72,300	31,800	56,950	30.0	
9/1/2011	1149	9.33	-0.49	71,900	29,300	56,000	30.4	
9/8/2011	1124	9.45	-0.61	73,800	30,100	52,300	30.5	
9/16/2011	1203	9.60	-0.76	67,200	23,400	51,650	28.2	
9/23/2011	1204	9.43	-0.59	73,800	30,800	54,450	30.4	
9/29/2011	1205	9.35	-0.51	68,700	27,500	50,800	27.6	
10/6/2011	1154	9.50	-0.66	78,400	30,000	56,550	30.2	
10/13/2011	1133	10.21	-1.37	75,800	29,300	50,500	30.2	
10/20/2011	1124	8.81	0.03	70,200	27,500	56,850	30.1	
10/27/2011	1143	10.39	-1.55	81,500	28,800	54,600	30.2	
11/3/2011	1123	10.50	-1.66	80,500	30,400	55,900	30.1	
11/10/2011	1033	10.37	-1.53	77,800	27,800	58,700	30.1	
11/17/2011	1133	10.71	-1.87	67,900	30,500	57,000	30.3	
11/25/2011	1014	9.58	-0.74	71,700	27,400	53,300	30.2	
12/1/2011	1214	9.80	-0.96	68,500	33,500	53,650	30.1	
12/8/2011	1133	10.37	-1.53	68,700	27,600	57,850	27.7	
12/15/2011	1144	9.75	-0.91	75,500	28,200	52,000	30.0	
12/22/2011	1114	9.87	-1.03	70,600	27,700	52,100	29.9	
12/29/2011	0954	9.97	-1.13	77,700	29,500	51,600	29.9	
1/5/2012	1153	10.52	-1.68	71,800	28,000	52,800	29.6	
1/12/2012	1133	10.35	-1.51	75,400	30,400	51,900	30.0	
1/19/2012	1033	10.42	-1.58	75,600	29,800	50,200	29.9	
1/26/2012	1123	10.35	-1.51	73,200	29,500	56,000	29.9	
2/2/2012	1123	10.35	-1.51	71,100	27,400	51,200	29.9	
2/10/2012	1104	9.38	-0.54	70,300	28,800	54,900	29.8	
2/16/2012	1254	9.67	-0.83	71,100	27,800	55,200	29.8	
2/23/2012	1124	9.67	-0.83	72,100	30,700	56,200	29.8	
3/1/2012	1114	9.91	-1.07	71,500	31,000	51,200	29.7	
3/8/2012	1139	9.62	-0.78	71,600	30,500	52,800	29.4	
3/16/2012	1114	9.85	-1.01	71,500	34,100	52,400	29.7	
3/22/2012	1144	10.10	-1.26	71,400	30,200	48,700	29.6	
3/29/2012	0949	9.93	-1.09	71,500	28,400	51,200	29.6	
4/5/2012	1241	10.09	-1.25	71,300	28,900	51,100	29.7	
4/12/2012	1154	10.00	-1.16	71,300	29,300	52,600	29.9	
4/19/2012	1109	9.97	-1.13	71,400	31,500	53,300	30.2	
4/26/2012	1042	9.68	-0.84	71,700	31,300	53,000	29.6	

ft. btoc: feet below top of casing  
TOC: Top of Casing  
ft. NAVD 88: North American Vertical Datum of 1988  
umhos/cm: micromhos per centimeter  
mg/L: milligrams per liter  
C: Celsius

Note: TOC elevation is: 8.84 feet NAVD 88


Project: Florida Power & Light Company  
Miami-Dade County, Florida  
Exploratory Well EW-1



**EW-1 Pad Monitoring Well Water Quality Data  
Southwest Pad Monitoring Well  
(SW-EW PMW)**

Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks
4/21/2011	1414	10.50	-1.62	72,500	26,400	51,500	30.6	Background Sampling
4/29/2011	1025	10.60	-1.72	77,400	28,300	51,600	29.8	
5/5/2011	0930	11.85	-2.97	75,200	29,000	49,400	28.7	
5/11/2011	1124	16.40	-7.52	78,100	28,300	51,050	31.6	
5/19/2011	1202	15.95	-7.07	73,100	29,700	48,450	32.6	
5/26/2011	1155	11.20	-2.32	66,630	27,800	48,350	29.4	
6/2/2011	1035	11.25	-2.37	68,500	26,000	52,600	29.4	
6/9/2011	1319	11.05	-2.17	65,400	26,300	44,150	29.5	
6/16/2011	1154	10.75	-1.87	64,900	27,000	48,450	29.5	
6/23/2011	1214	10.85	-1.97	65,500	30,400	50,800	29.6	
6/30/2011	1119	10.60	-1.72	68,500	24,300	46,650	29.4	
7/8/2011	1045	9.85	-0.97	64,950	25,600	47,650	29.6	
7/14/2011	1445	10.22	-1.34	69,900	24,800	48,300	29.6	
7/21/2011	1154	10.10	-1.22	67,800	27,400	47,900	29.6	
7/28/2011	1259	10.26	-1.38	67,000	26,600	48,650	27.7	
8/4/2011	1157	10.30	-1.42	68,420	25,600	51,350	27.5	
8/11/2011	1243	9.21	-0.33	67,800	26,400	51,150	29.7	
8/18/2011	1219	10.15	-1.27	66,300	25,400	47,500	29.8	
8/25/2011	1219	10.31	-1.43	66,000	26,900	50,150	29.4	
9/1/2011	1254	9.87	-0.99	65,400	25,700	49,450	29.8	
9/8/2011	1229	9.97	-1.09	66,800	26,300	46,500	29.9	
9/16/2011	1329	10.10	-1.22	64,000	25,700	46,800	28.0	
9/23/2011	1309	9.95	-1.07	66,200	25,800	47,500	29.6	
9/29/2011	1230	9.80	-0.92	64,100	25,400	46,150	27.7	
10/6/2011	1259	9.97	-1.09	76,200	25,800	45,800	29.7	
10/13/2011	1239	10.67	-1.79	69,100	26,100	46,700	29.8	
10/20/2011	1229	9.31	-0.43	64,700	23,800	51,100	29.6	
10/27/2011	1249	10.87	-1.99	75,600	26,500	50,000	29.7	
11/3/2011	1229	10.93	-2.05	75,600	27,700	49,750	29.7	
11/10/2011	1139	10.91	-2.03	73,500	25,500	53,300	29.7	
11/17/2011	1238	11.41	-2.53	63,800	26,900	50,400	29.7	
11/25/2011	1119	10.05	-1.17	65,800	24,900	48,950	29.7	
12/1/2011	1323	11.42	-2.54	65,900	29,600	51,100	29.6	
12/8/2011	1239	10.98	-2.10	64,900	24,800	52,450	27.3	
12/15/2011	1247	10.27	-1.39	70,100	24,800	49,700	29.4	
12/22/2011	1219	10.27	-1.39	66,800	24,900	45,600	29.7	
12/29/2011	1059	10.67	-1.79	71,100	26,400	46,300	29.5	
1/5/2012	1259	11.03	-2.15	64,800	24,900	47,600	29.3	
1/12/2012	1234	10.87	-1.99	69,000	25,700	47,000	29.6	
1/19/2012	1104	11.00	-2.12	69,100	24,900	44,200	29.4	
1/26/2012	1154	10.85	-1.97	67,500	25,900	50,100	29.4	
2/2/2012	1154	10.97	-2.09	65,300	25,200	46,200	29.5	
2/10/2012	1134	9.91	-1.03	65,300	25,400	48,900	29.6	
2/16/2012	1324	10.15	-1.27	64,600	24,100	50,500	29.4	
2/23/2012	1154	10.24	-1.36	65,300	24,100	50,500	29.5	
3/1/2012	1144	10.27	-1.39	65,300	26,900	45,900	29.4	
3/8/2012	1209	10.31	-1.43	65,300	27,400	47,700	30.0	
3/16/2012	1144	10.35	-1.47	65,300	29,800	47,200	29.3	
3/22/2012	1214	10.61	-1.73	65,500	27,100	44,600	29.3	
3/29/2012	1019	10.18	-1.30	65,500	26,100	45,900	29.5	
4/5/2012	1309	10.72	-1.84	65,300	25,600	48,200	29.4	
4/12/2012	1224	10.60	-1.72	65,000	27,000	49,700	30.5	
4/19/2012	1211	10.65	-1.77	65,400	28,200	50,800	30.6	
4/26/2012	1109	10.32	-1.44	66,000	30,900	49,800	29.2	

ft. btoc: feet below top of casing  
TOC: Top of Casing  
ft. NAVD 88: North American Vertical Datum of 1988  
umhos/cm: micromhos per centimeter  
mg/L: milligrams per liter  
C: Celsius  
Note: TOC elevation is: 8.88 feet NAVD 88

<b>Project:</b>		Florida Power & Light Company Miami-Dade County, Florida Dual-Zone Monitor Well DZMW-1						<div><div>MHC</div><div></div></div>	
<div>DZMW-1 Pad Monitoring Well Water Quality Data</div> <div>Northeast Pad Monitoring Well</div> <div>(NE-DZMW PMW)</div>									
Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks	
3/20/2012	0958	8.15	-1.08	73,100	33,300	52,200	30.1	Background Sampling	
3/29/2012	1128	8.23	-1.16	73,000	29,600	51,400	30.1		
4/6/2012	0858	8.30	-1.23	72,200	28,800	51,200	30.1		
4/13/2012	1128	8.25	-1.18	72,300	33,900	53,100	30.2		
4/20/2012	1038	8.20	-1.13	72,000	34,700	54,500	30.1		
4/27/2012	0958	7.95	-0.88	72,100	37,300	55,100	29.8		
<div>ft. btoc: feet below top of casing</div> <div>TOC: Top of Casing</div> <div>ft. NAVD 88: North American Vertical Datum of 1988</div> <div>umhos/cm: micromhos per centimeter</div> <div>mg/L: milligrams per liter</div> <div>C: Celsius</div> <div>Top of Casing Elevation: 7.07 feet NAVD 88</div>									

Project:		Florida Power & Light Company Miami-Dade County, Florida Dual-Zone Monitor Well DZMW-1						<div>MHC</div> <div>AS&amp;S LLC</div>	
DZMW-1 Pad Monitoring Well Water Quality Data Southeast Pad Monitoring Well (SE-DZMW PMW)									
Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks	
3/20/2012	1033	8.25	-1.08	72,700	33,900	50,500	30.1	Background Sampling	
3/29/2012	1303	8.33	-1.16	72,800	29,200	50,400	30.2		
4/6/2012	1028	8.30	-1.13	72,300	29,300	53,300	30.2		
4/13/2012	1303	8.32	-1.15	72,400	33,800	54,600	30.2		
4/20/2012	1213	8.28	-1.11	72,300	31,700	55,400	30.2		
4/27/2012	1133	8.10	-0.93	72,600	34,600	53,900	29.5		
ft. btoc: feet below top of casing TOC: Top of Casing ft. NAVD 88: North American Vertical Datum of 1988 umhos/cm: micromhos per centimeter mg/L: milligrams per liter C: Celsius Top of Casing Elevation: 7.17 feet NAVD 88									



[illegible]

[illegible]

[illegible]



**GEOPHYSICAL LOGGING  
SERVICES**

# X-Y CALIPER GAMMA RAY LOG

Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
L-2012-232 Enclosure 1 Page 36 of 53

Company FP&L Well TURKEY POINT DZMW-1 Field FLORIDA CITY County MIAMI-DADE State FLORIDA	Country USA	Company	FP&L	Location:		API # :	Other Services  DIL
		Well	TURKEY POINT DZMW-1	FPL TURKEY POINT POWER PLANT MCNABB HYDROGEOLOGIC CONSULTING, INC.			
		Field	FLORIDA CITY	LAT: 25 25' 19" N LONG: 80 20' 08" W			Elevation  K.B. D.F. G.L.
		County	MIAMI-DADE	SEC TWP RGE			
	State	FLORIDA	Country USA	Permanent Datum	PAD LEVEL	Elevation	
				Log Measured From	PAD LEVEL		
				Drilling Measured From	PAD LEVEL		

Date	29-APRIL-2012		
Run Number	FOUR		
Depth Driller	1105'		
Depth Logger	1110'		
Bottom Logged Interval	1110'		
Top Log Interval	CASING		
Open Hole Size	32.5"		
Type Fluid	MUD		
Density / Viscosity	NA		
Max. Recorded Temp.	NA		
Estimated Cement Top	NA		
Time Well Ready	0600		
Time Logger on Bottom	0645		
Equipment Number	GEO1		
Location	FT. MYERS		
Recorded By	J. CATHEY		
Witnessed By	D. MCNABB		

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	12.25"	CASING	250'				
TWO	42"	CASING	258'				
THREE	12.25"	CASING	1110'				

Casing Record		Size	Wgt/Ft	Top	Bottom
Surface String		44"	.375" W.T.	SURFACE	36'
Prot. String		34"	.375" W.T.	SURFACE	255'
Production String					
Liner					

>>> Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

### Comments

Proposed Turkey Point Units 6 and 7  
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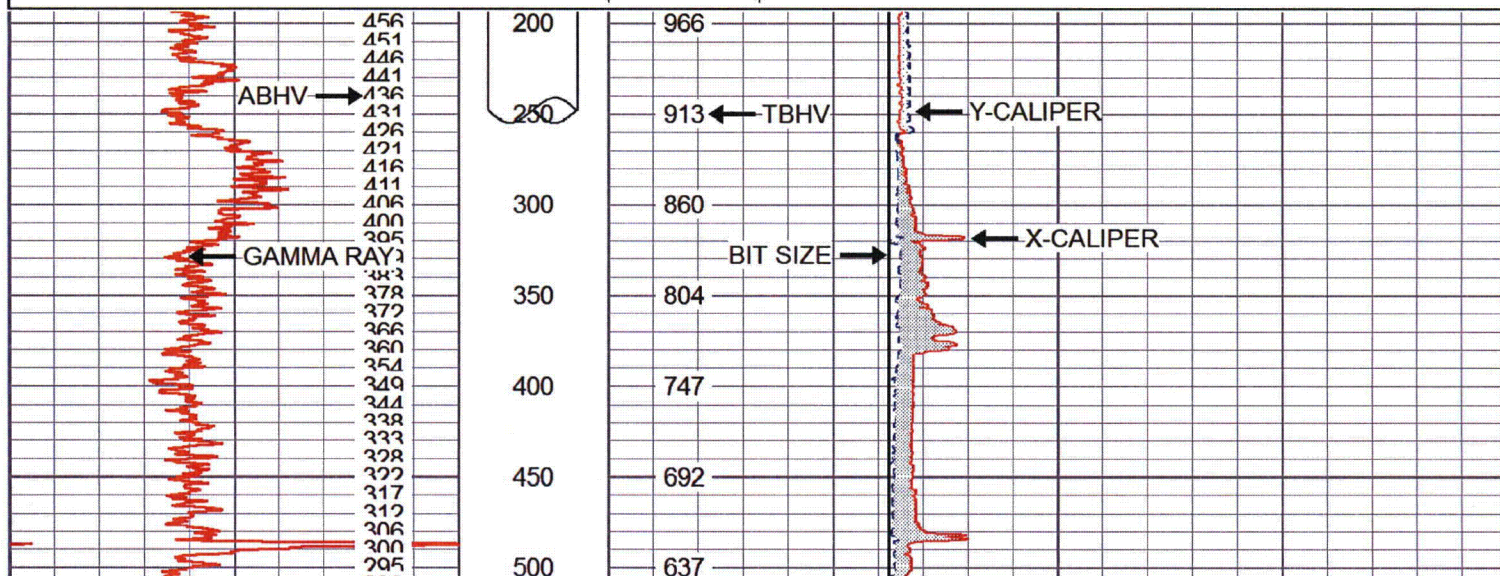
## ANNULAR BOREHOLE VOLUME IN BARRELS CALCULATED FOR 24" CASING



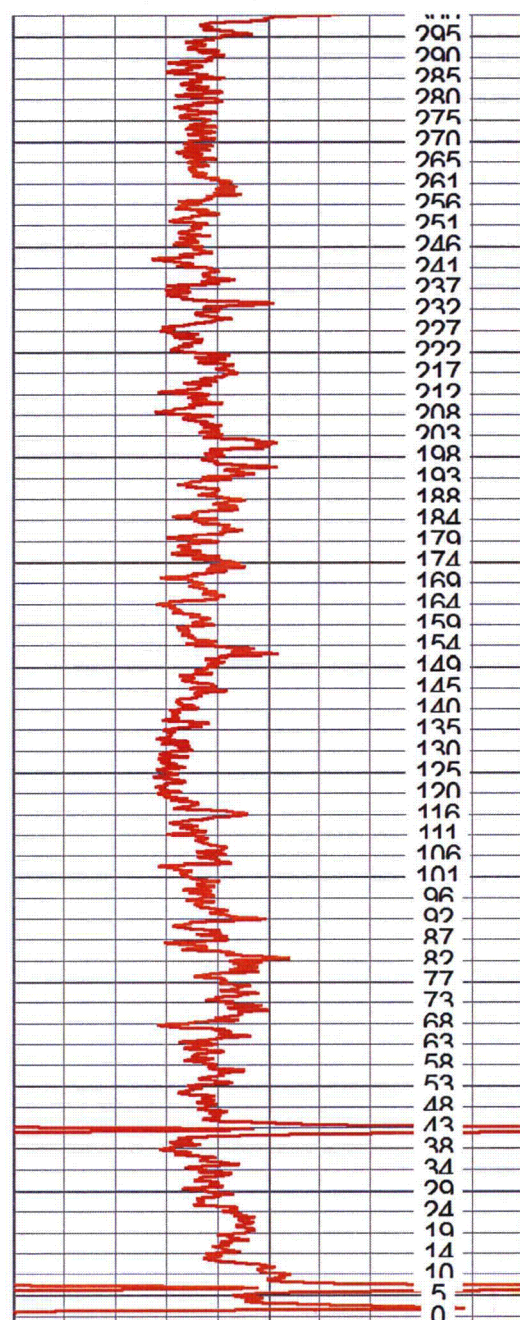
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Dataset Pathname: turkeypoi/well/run4/pass1  
Presentation Format: xycream  
Dataset Creation: Sun Apr 29 06:43:45 2012 by Log SOC 111108  
Charted by: Depth in Feet scaled 1:1200

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	ABHV (bbl)		20	Y-CALIPER (in)	60
			20	BIT SIZE (in)	60
			TBHV (bbl)		

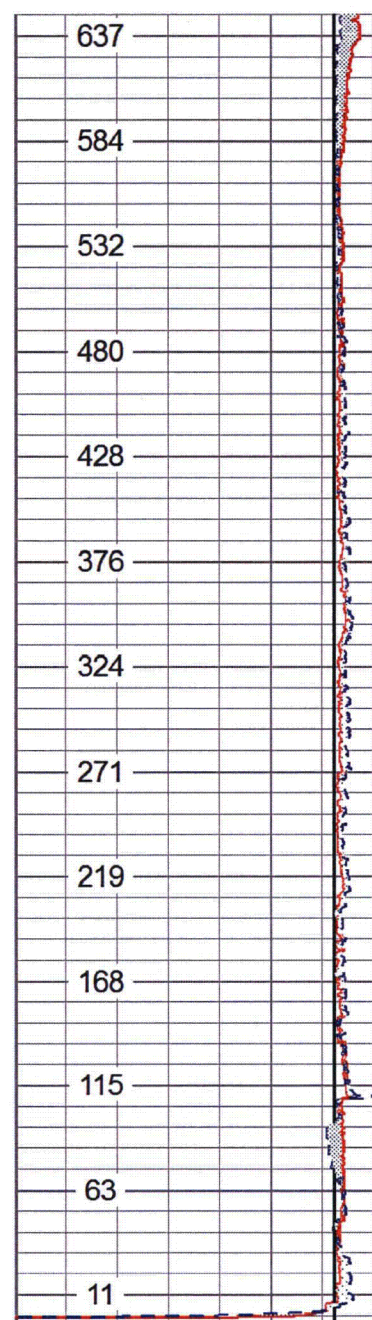






0 GAMMA RAY (GAPI) 100  
ABHV (bbl)

500  
550  
600  
650  
700  
750  
800  
850  
900  
950  
1000  
1050  
1100



20 X-CALIPER (in) 60  
20 Y-CALIPER (in) 60  
20 BIT SIZE (in) 60  
TBHV (bbl)



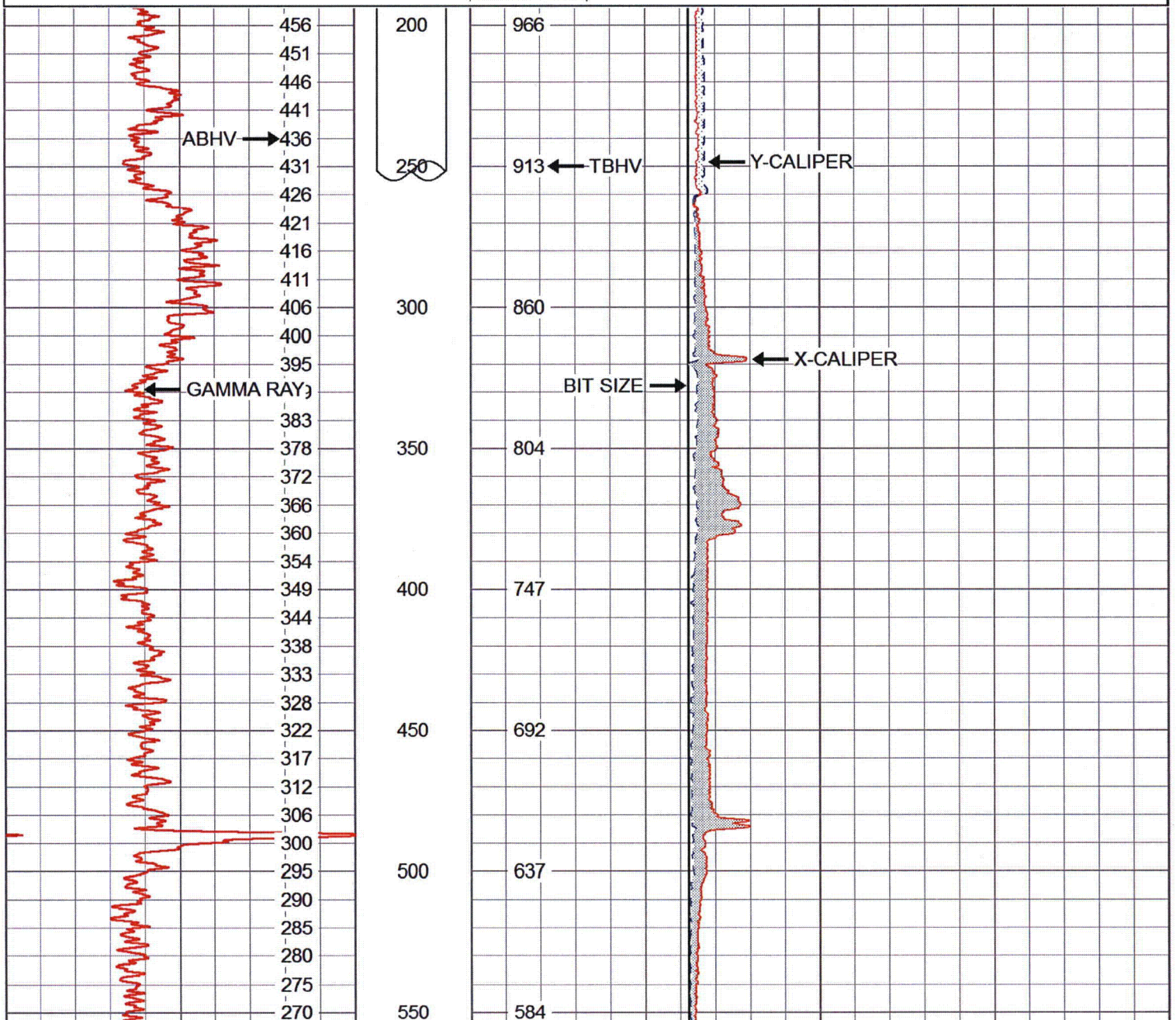


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 Charted by: Depth in Feet scaled 1:600

Proposed Turkey Point Units 6 and 7  
 Docket Nos. 52-040 and 52-041  
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0	GAMMA RAY (GAPI)	100	20	X-CALIPER (in)	60
	ABHV (bbl)		20	Y-CALIPER (in)	60
			20	BIT SIZE (in)	60
			TBHV (bbl)		







550

600

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700

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800

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900

950

1000

1050

584

532

480

428

376

324

271

219

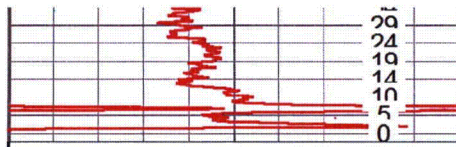
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115

63

Proposed Turkey Point Units 6 and 7  
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L-2012-232 Enclosure 1 Page 40 of 53

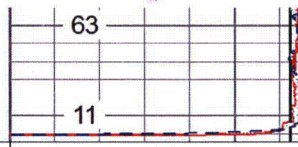




0 GAMMA RAY (GAPI) 100  
ABHV (bbl)

1050

1100



20 X-CALIPER (in) 60  
20 Y-CALIPER (in) 60  
20 BIT SIZE (in) 60

TBHV (bbl)

Proposed Turkey Point Units 6 and 7  
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GEOPHYSICAL LOGGING  
SERVICES

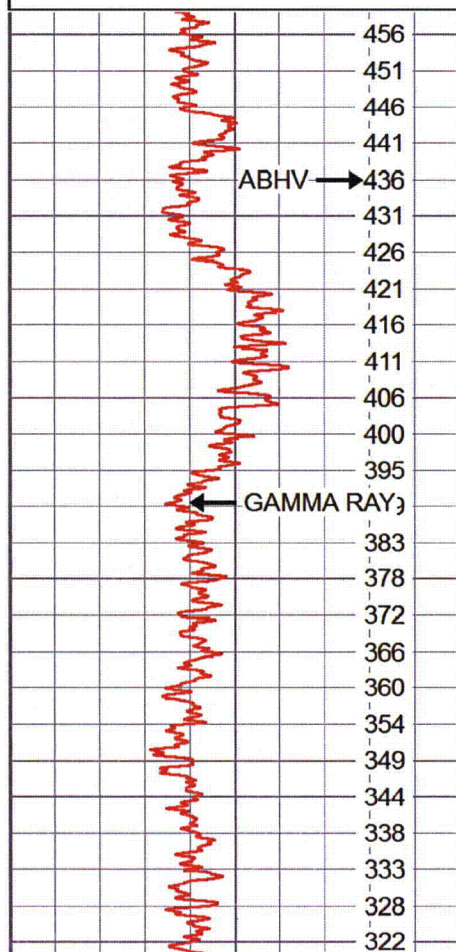
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Charted by: Depth in Feet scaled 1:600

0 GAMMA RAY (GAPI) 100  
ABHV (bbl)

20 X-CALIPER (in) 60  
20 Y-CALIPER (in) 60  
20 BIT SIZE (in) 60

TBHV (bbl)



200

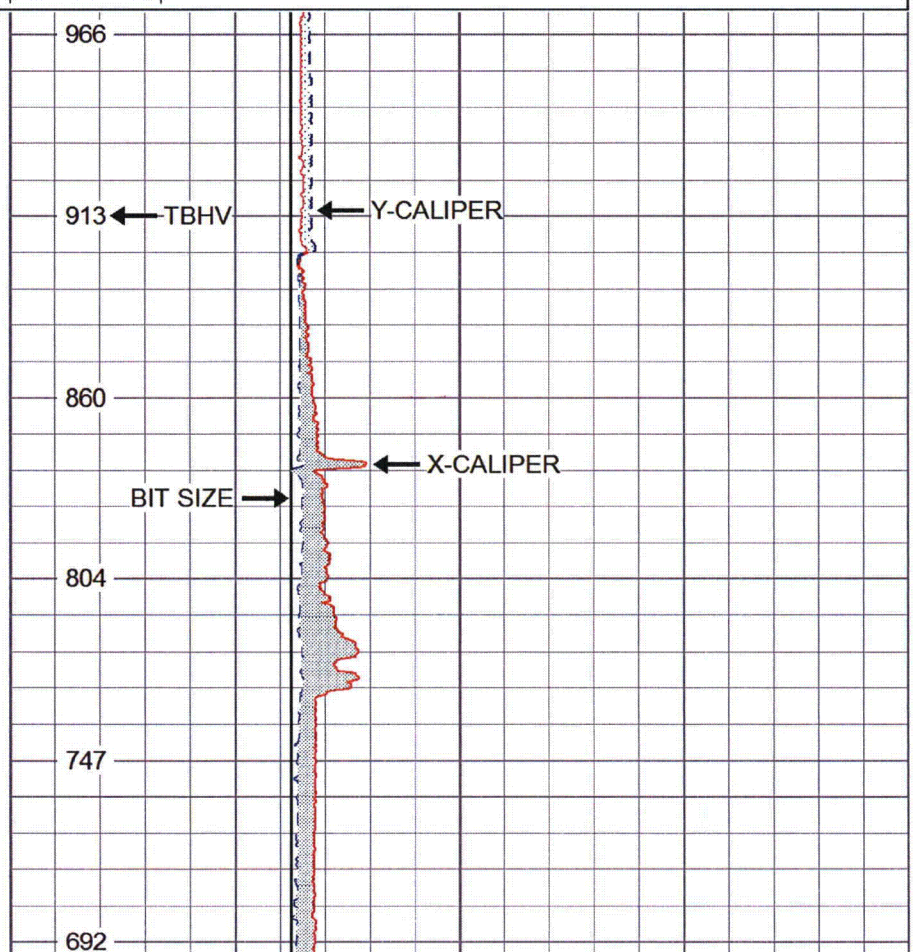
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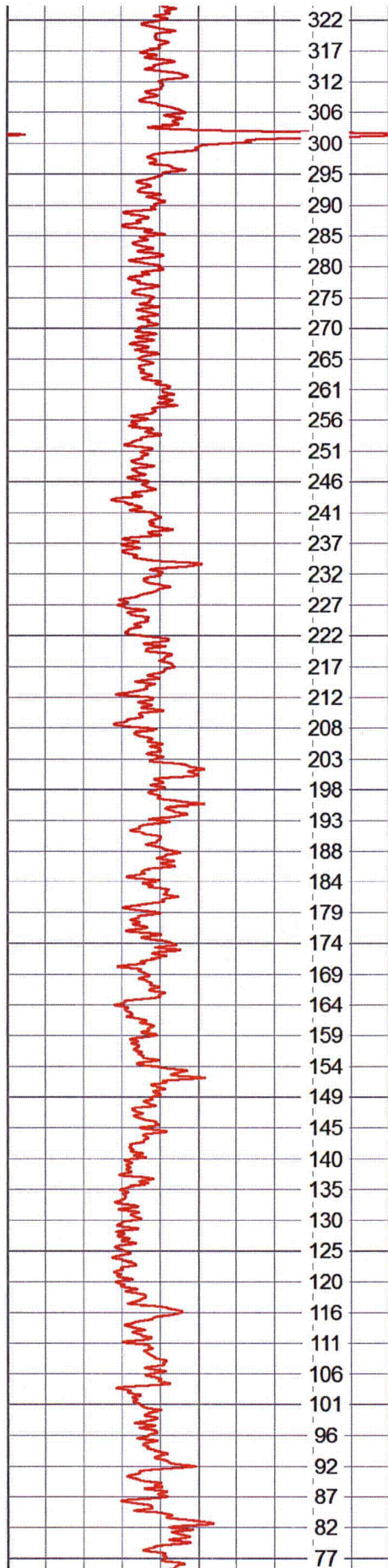
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400

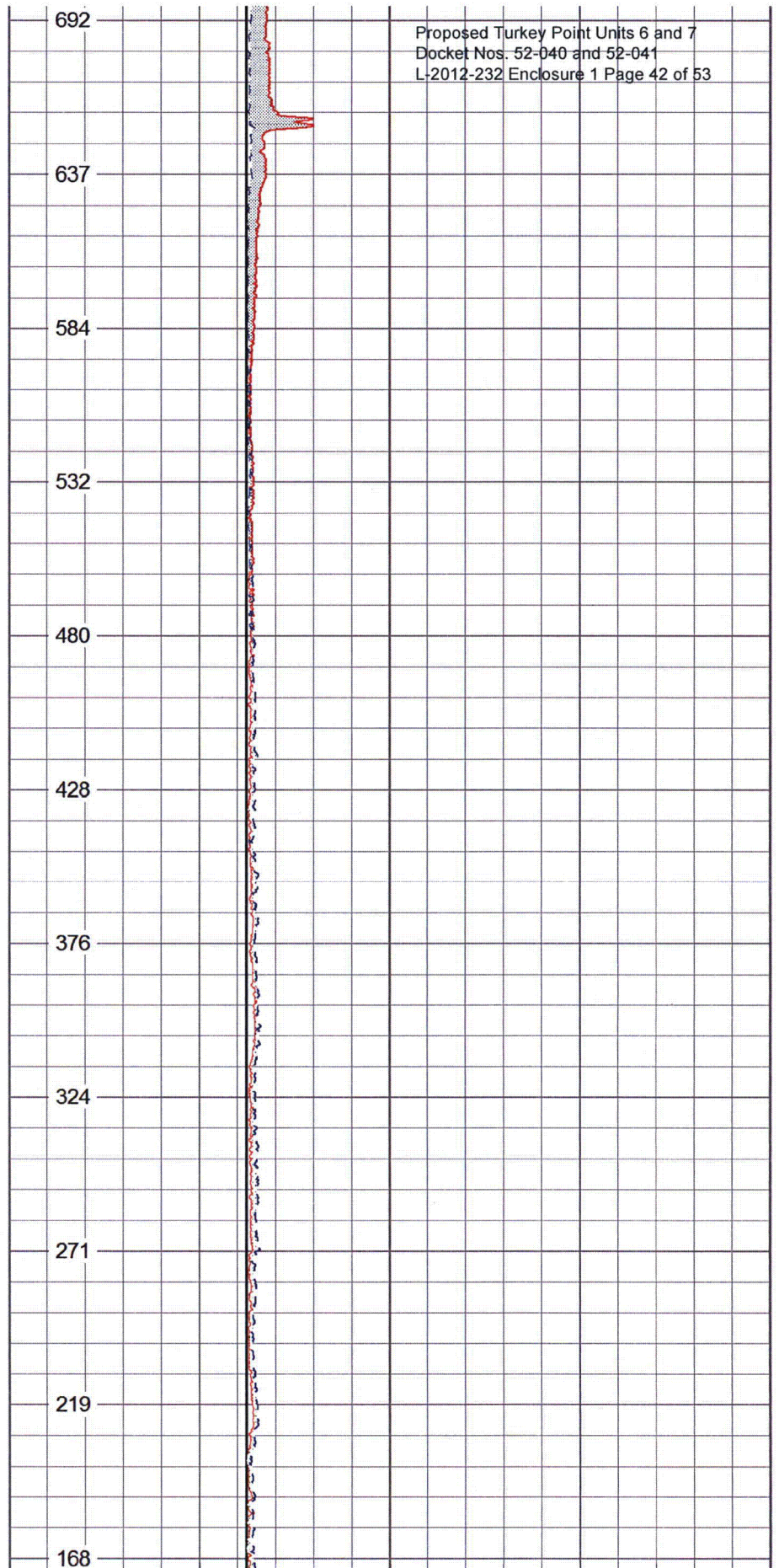
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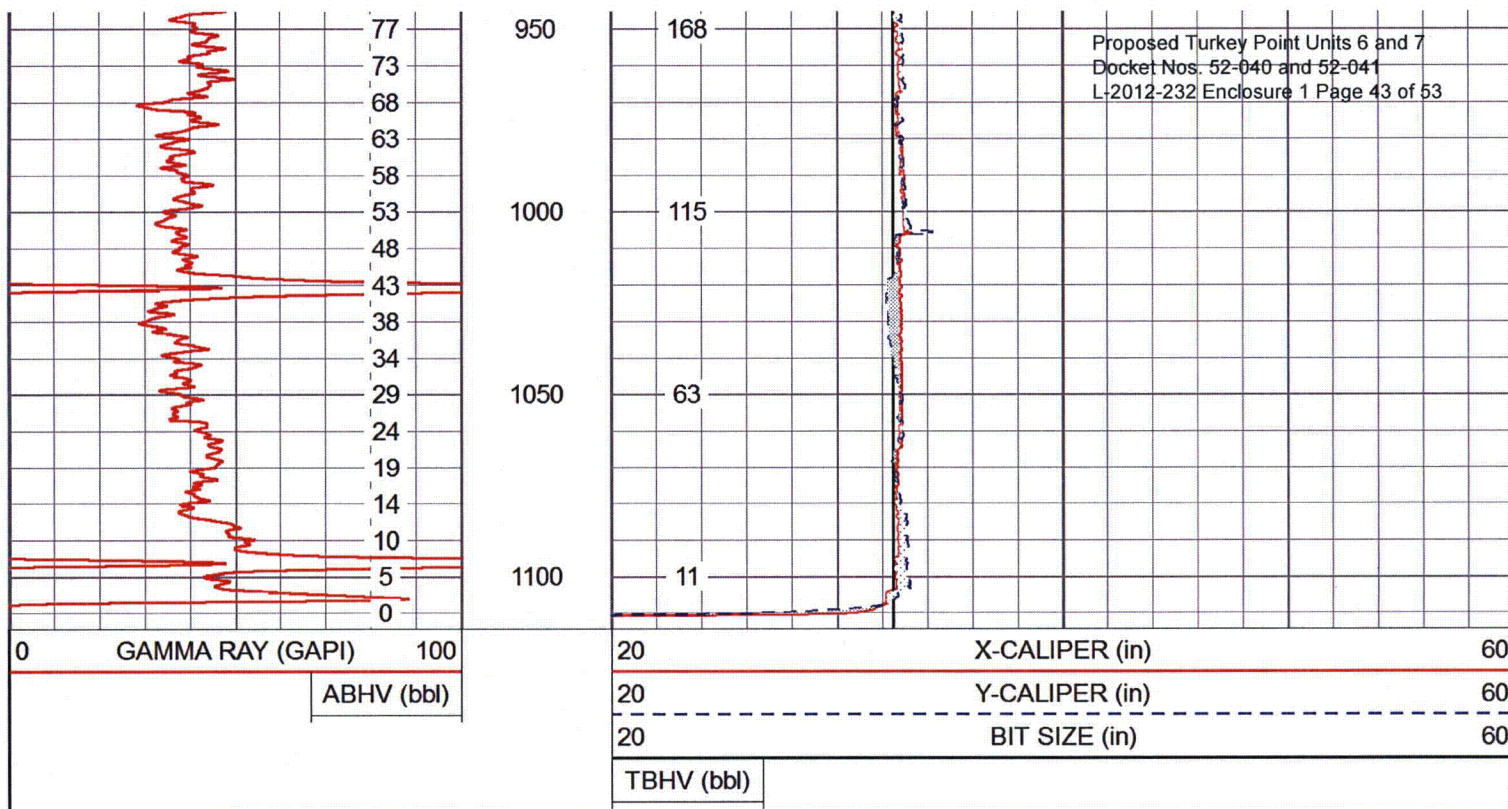


450  
500  
550  
600  
650  
700  
750  
800  
850  
900  
950



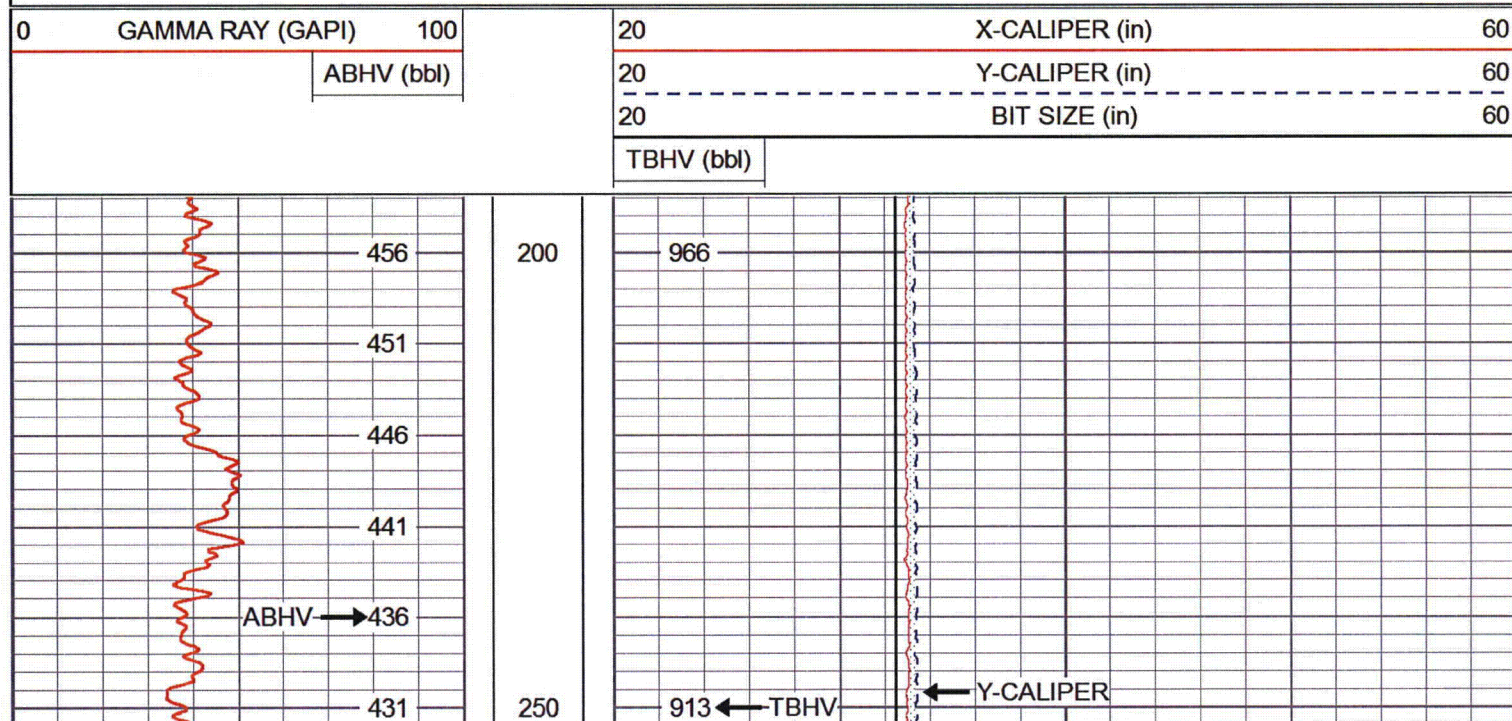
Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
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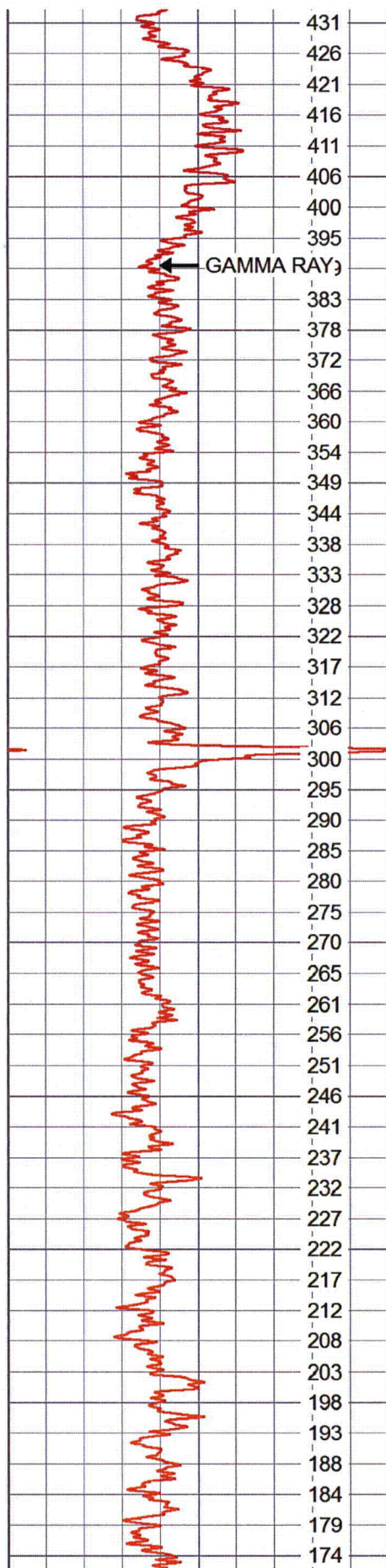


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Charted by: Depth in Feet scaled 1:240







250

300

350

400

450

500

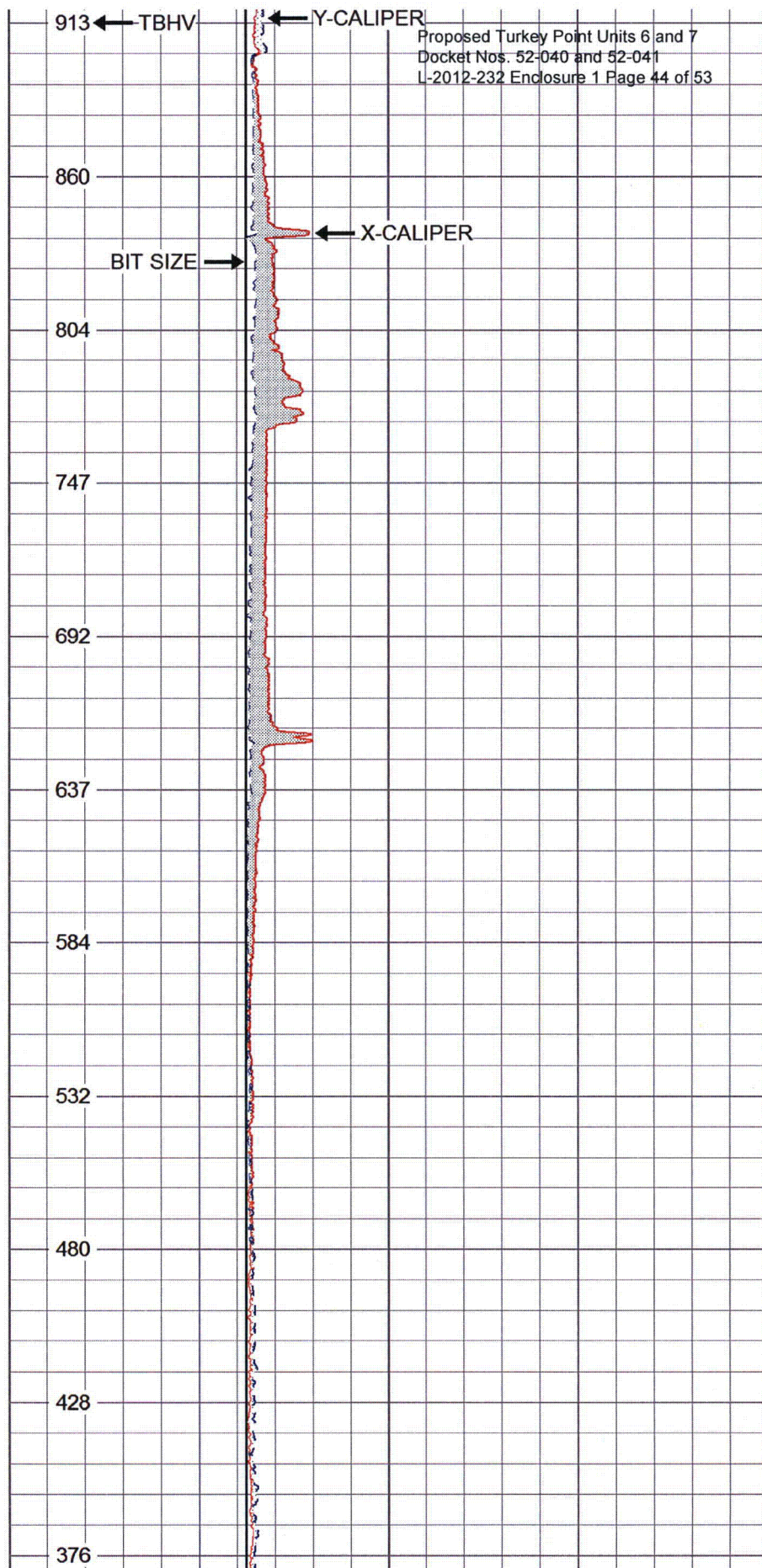
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600

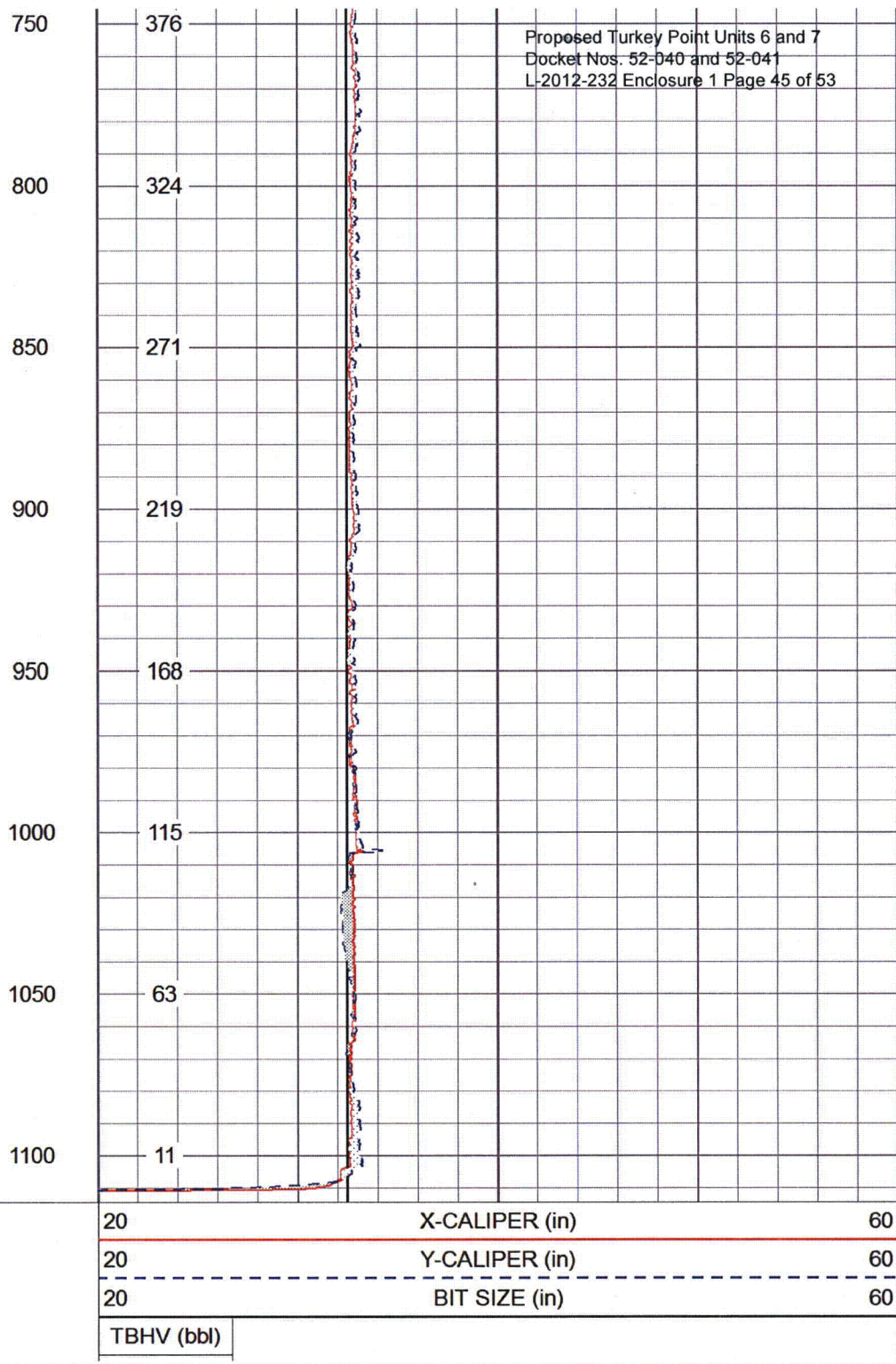
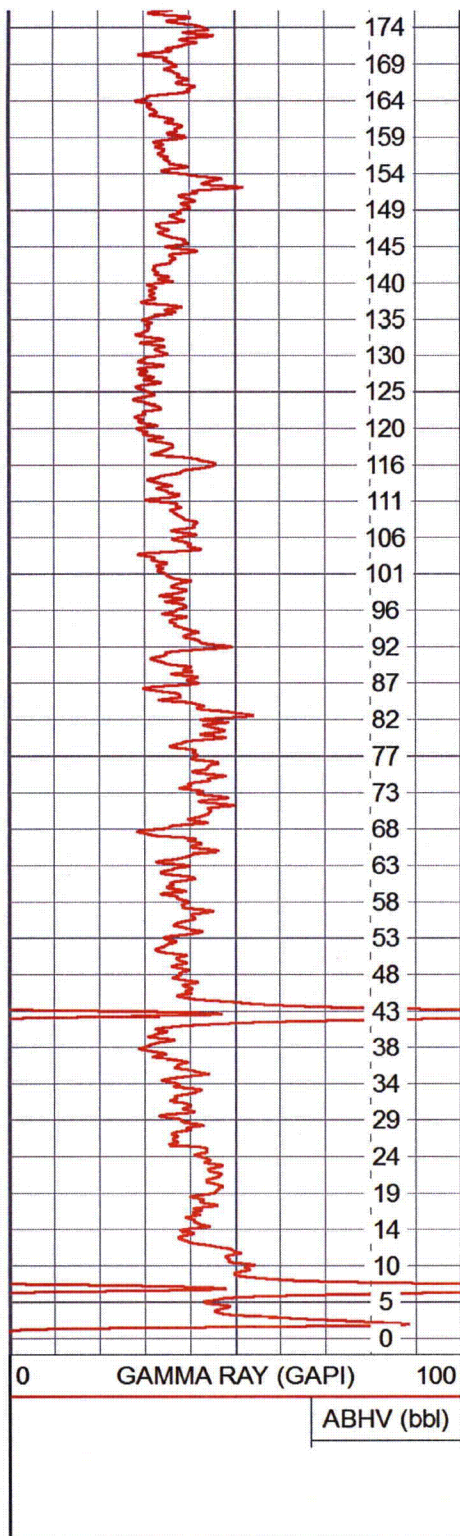
650

700

750









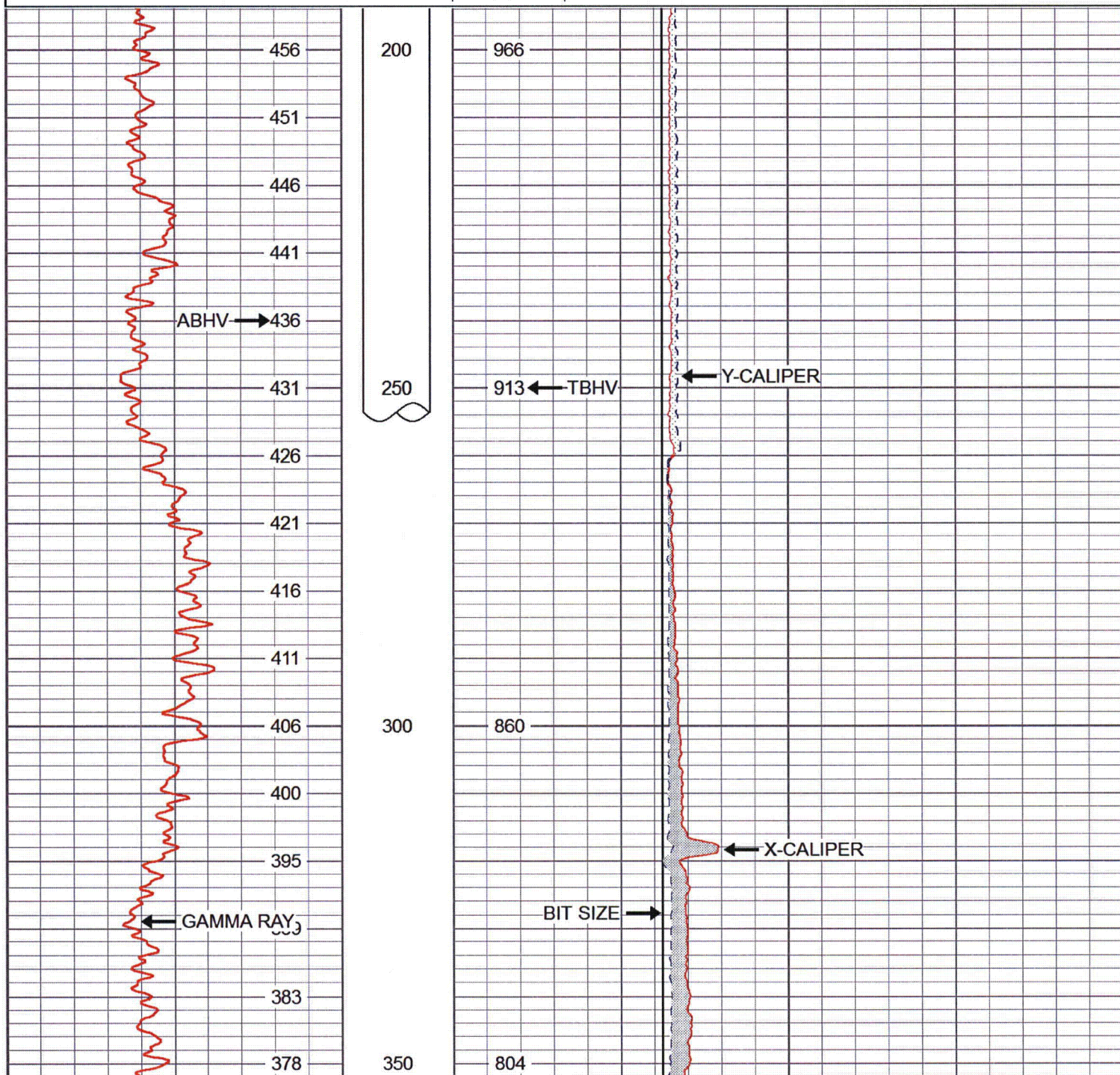


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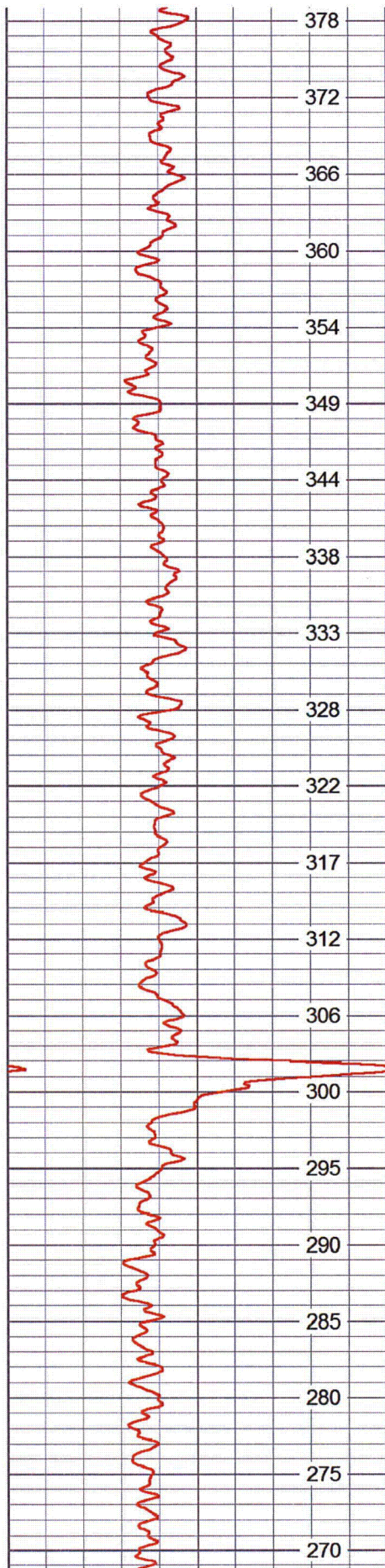
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 Charted by: Depth in Feet scaled 1:240

Proposed Turkey Point Units 6 and 7  
 Docket Nos. 52-040 and 52-041  
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0	GAMMA RAY (GAPI)	100	20	X-CALIPER (in)	60
	ABHV (bbl)		20	Y-CALIPER (in)	60
			20	BIT SIZE (in)	60
			TBHV (bbl)		







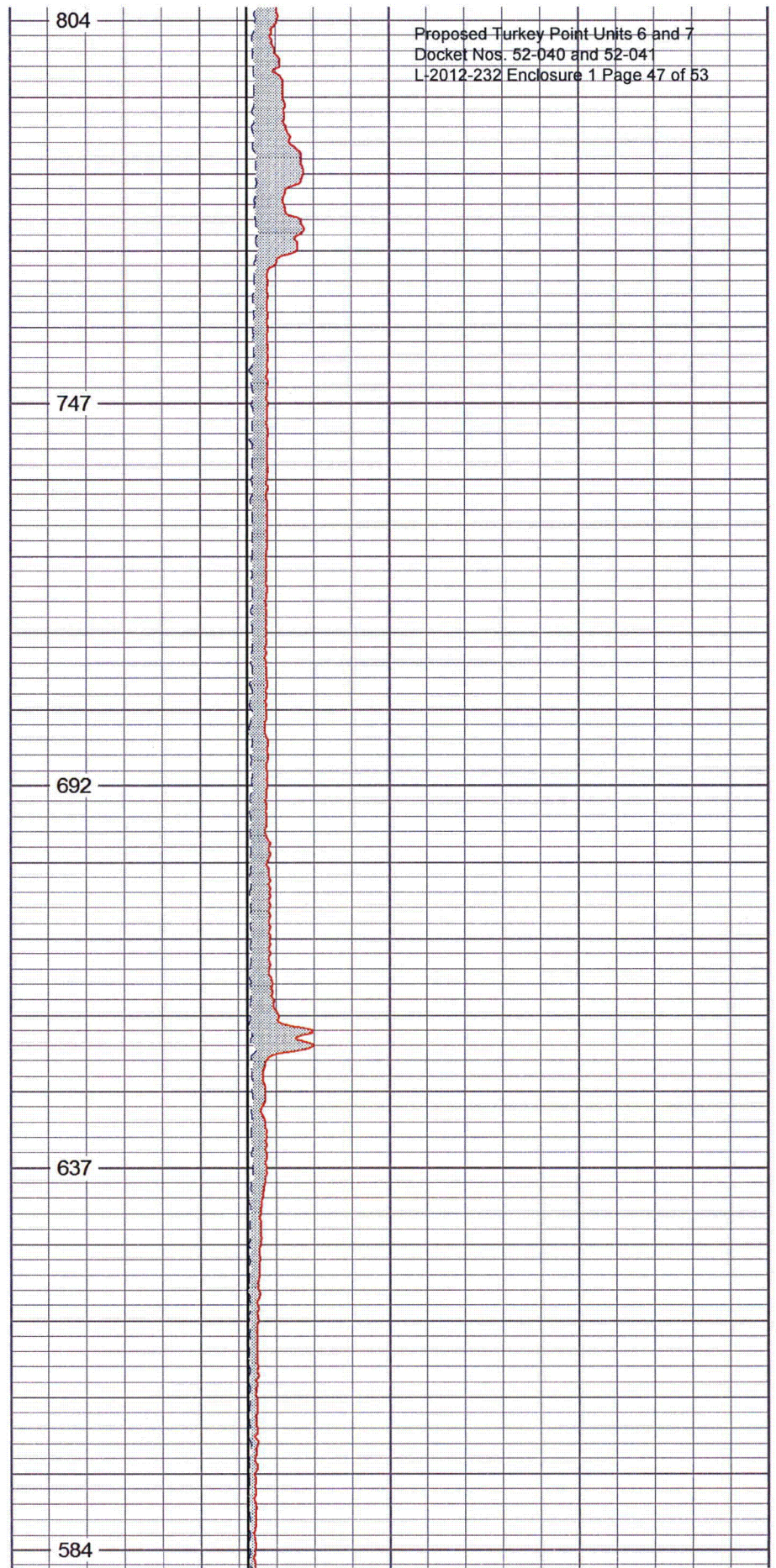
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400

450

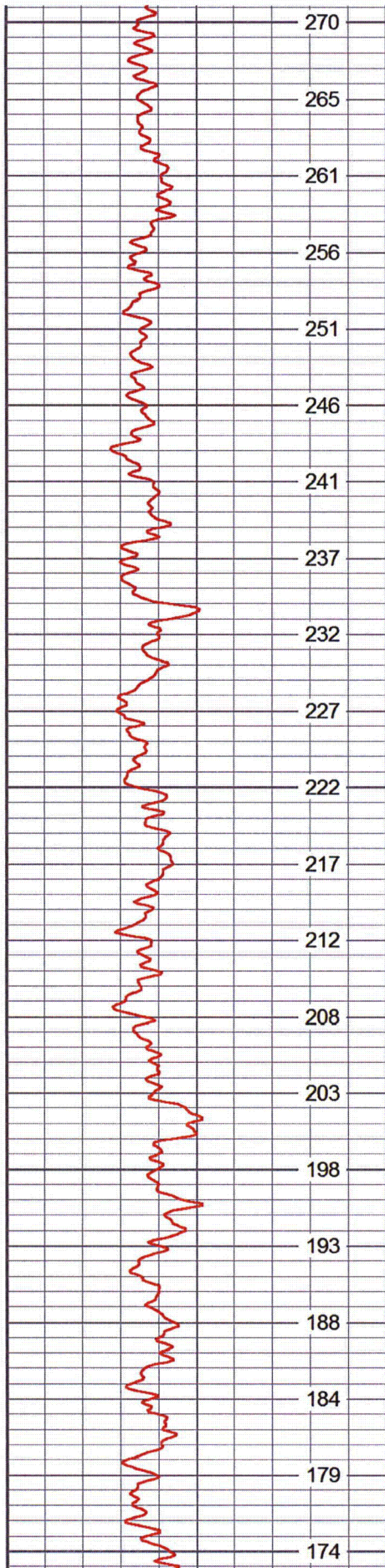
500

550



Proposed Turkey Point Units 6 and 7  
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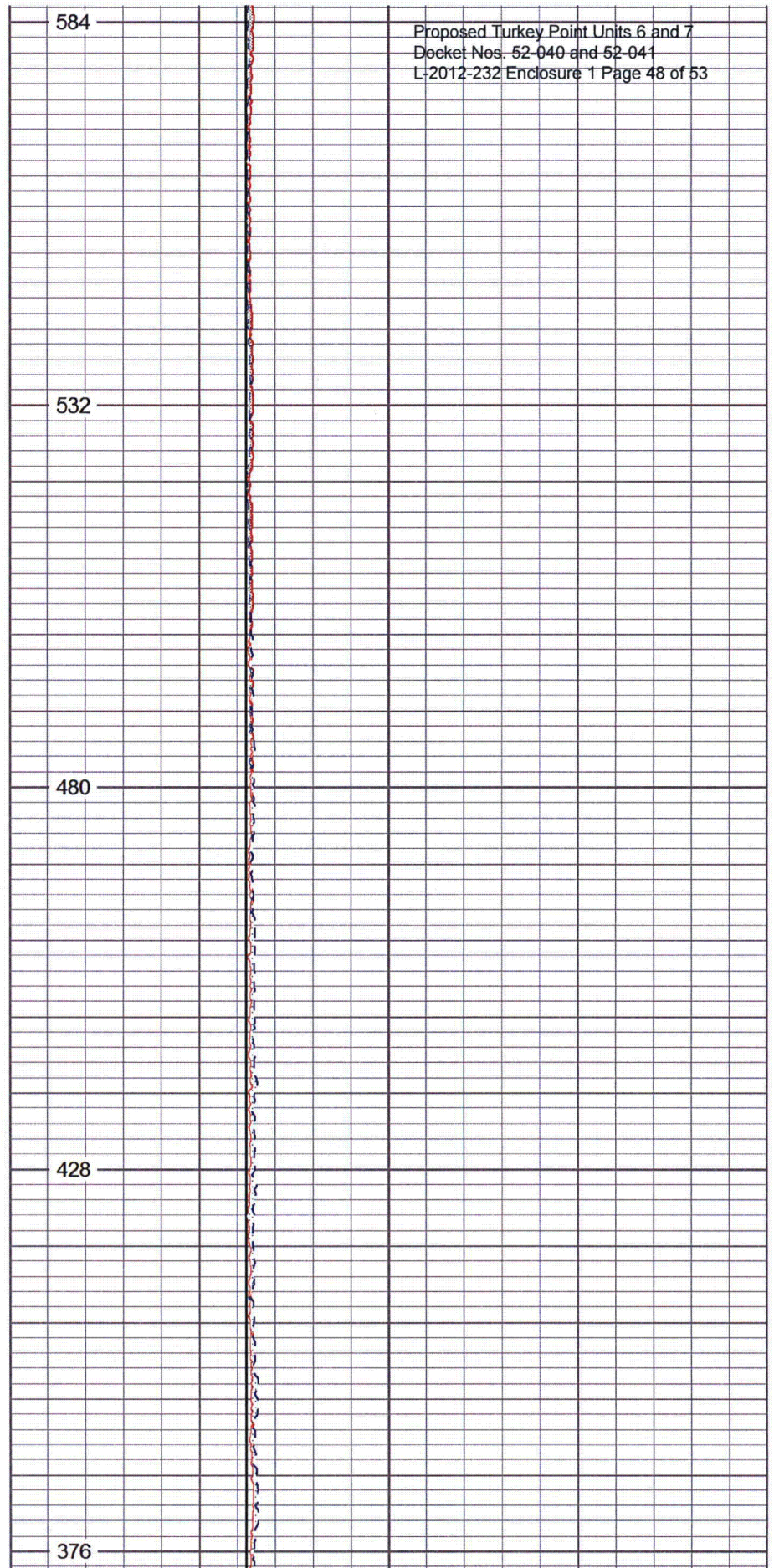
550

600

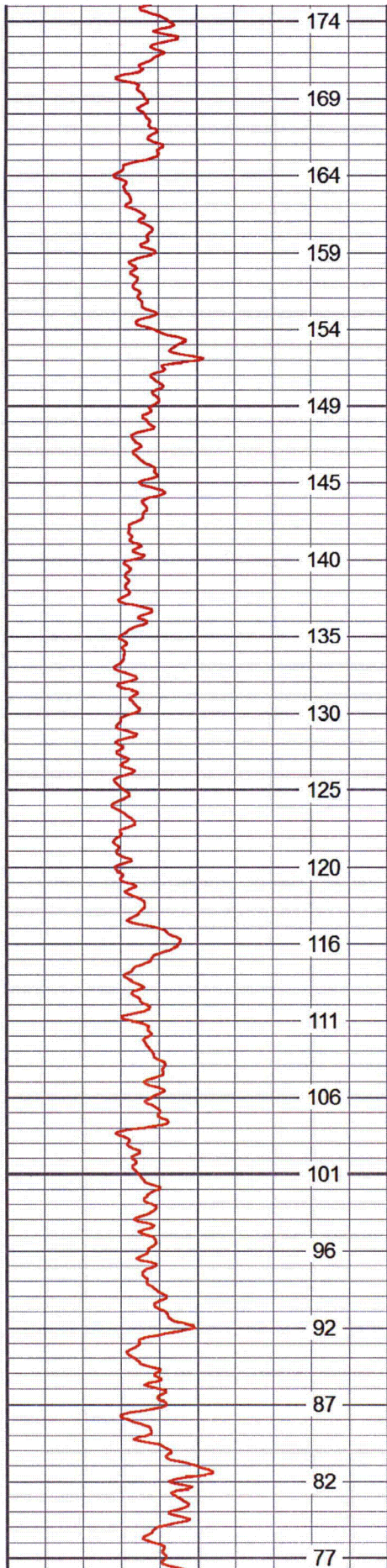
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700

750







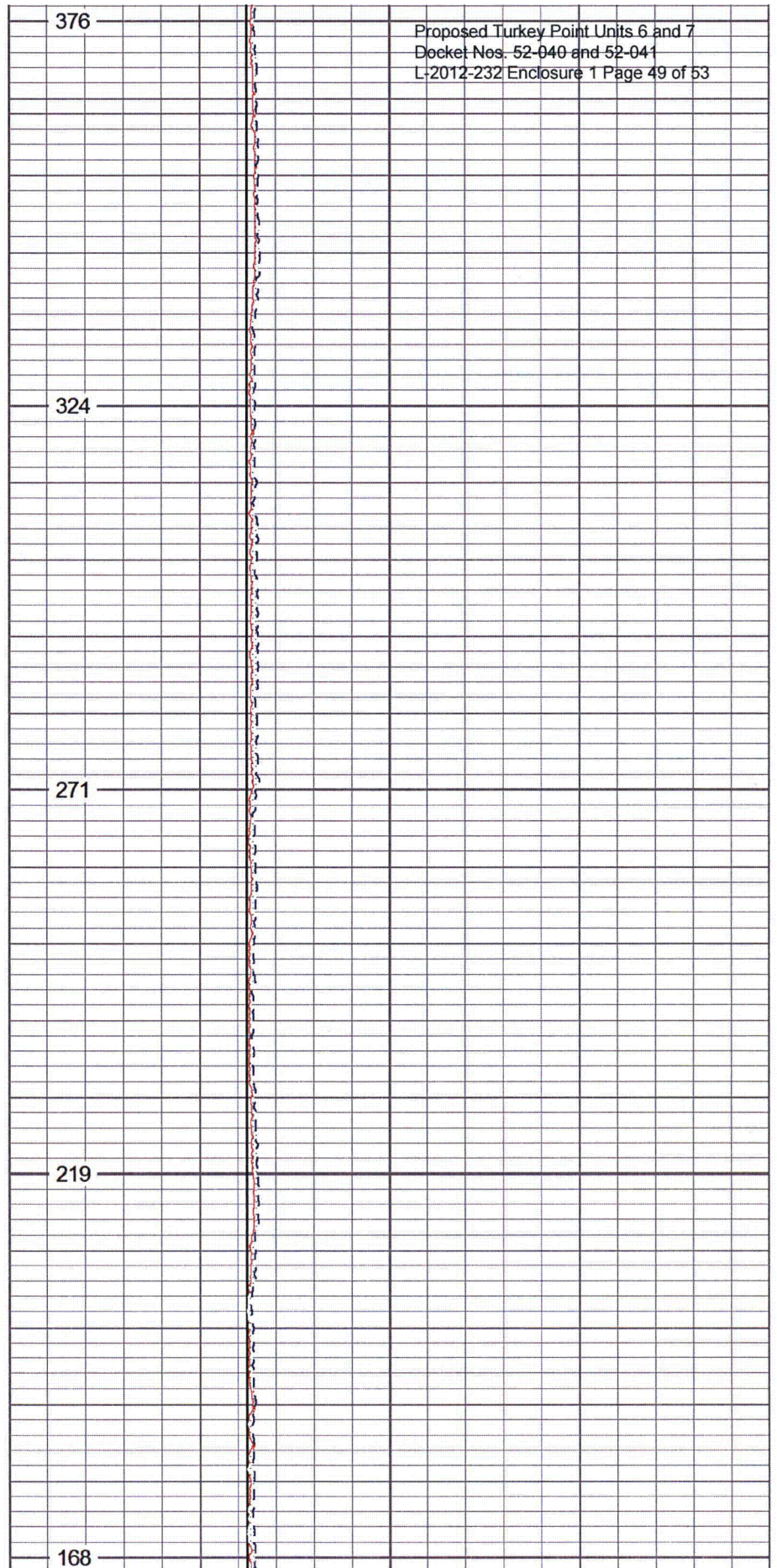
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800

850

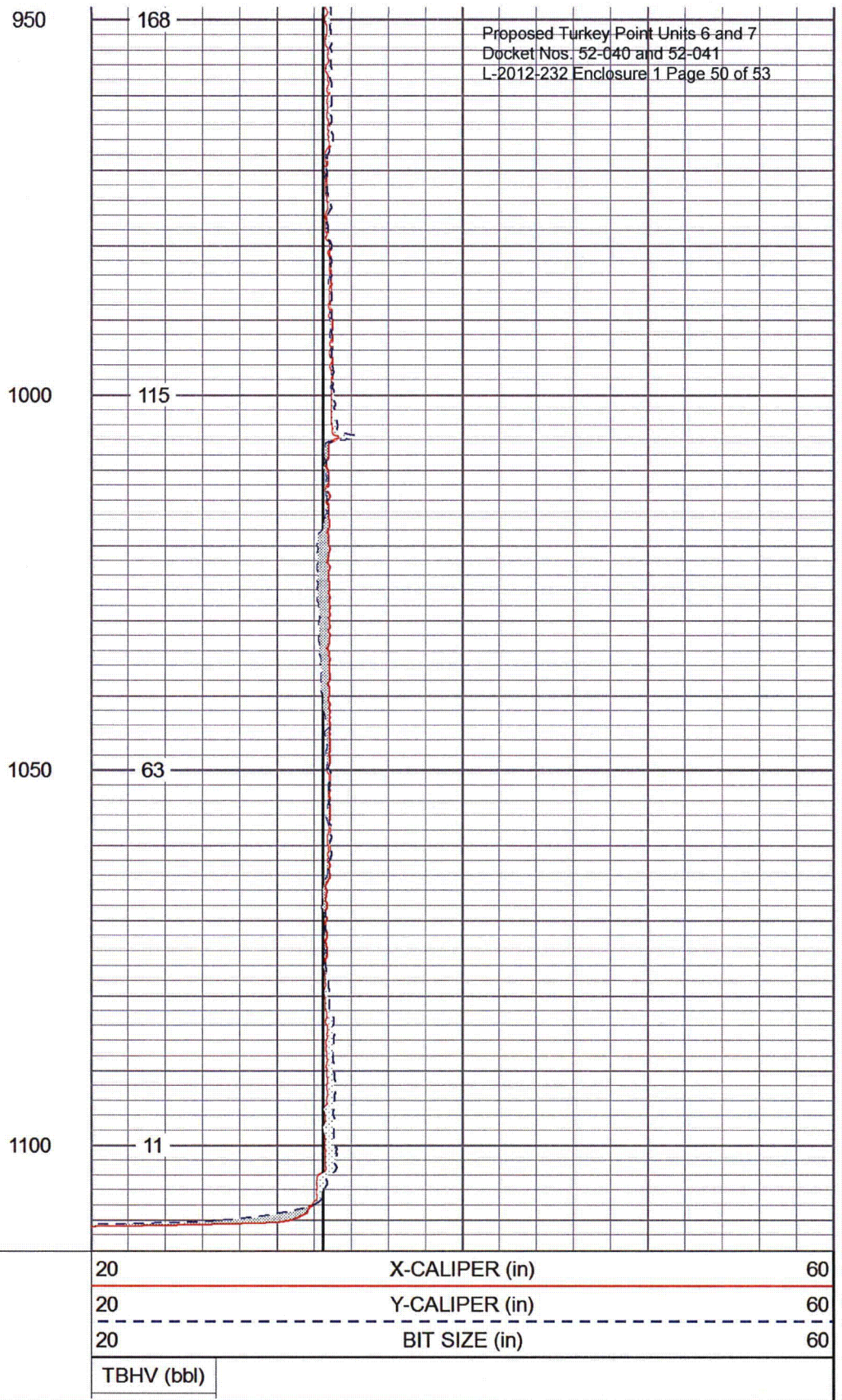
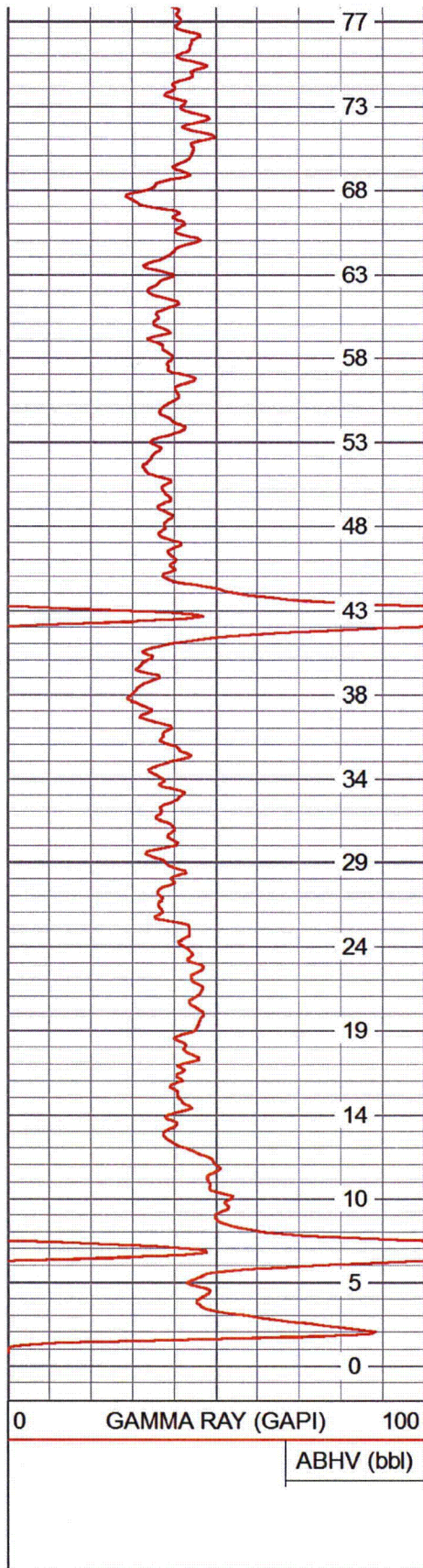
900

950



Proposed Turkey Point Units 6 and 7  
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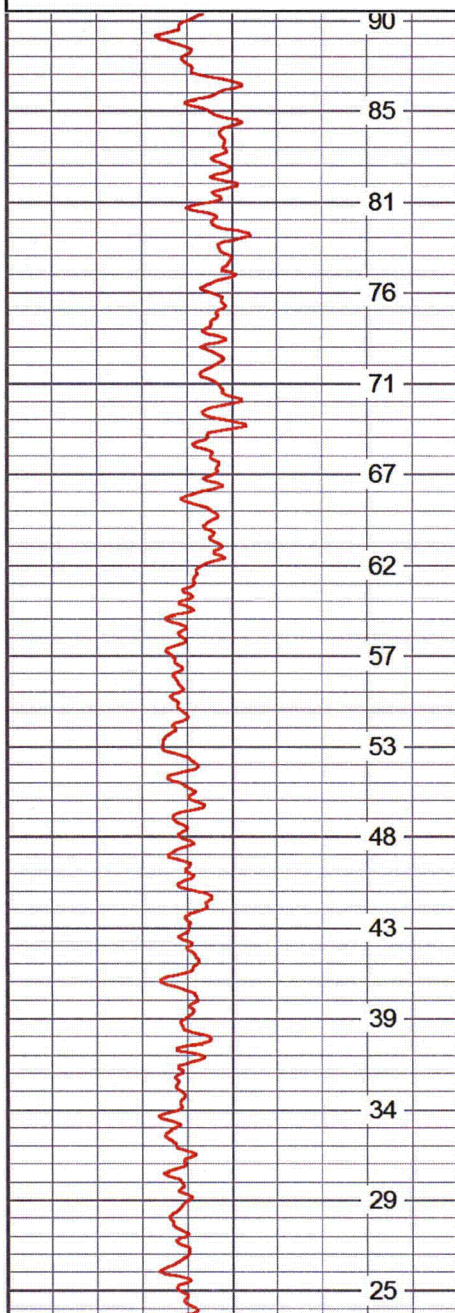
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 Charted by: Depth in Feet scaled 1:240

Proposed Turkey Point Units 6 and 7  
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0 GAMMA RAY (GAPI) 100  
 ABHV (bbl)

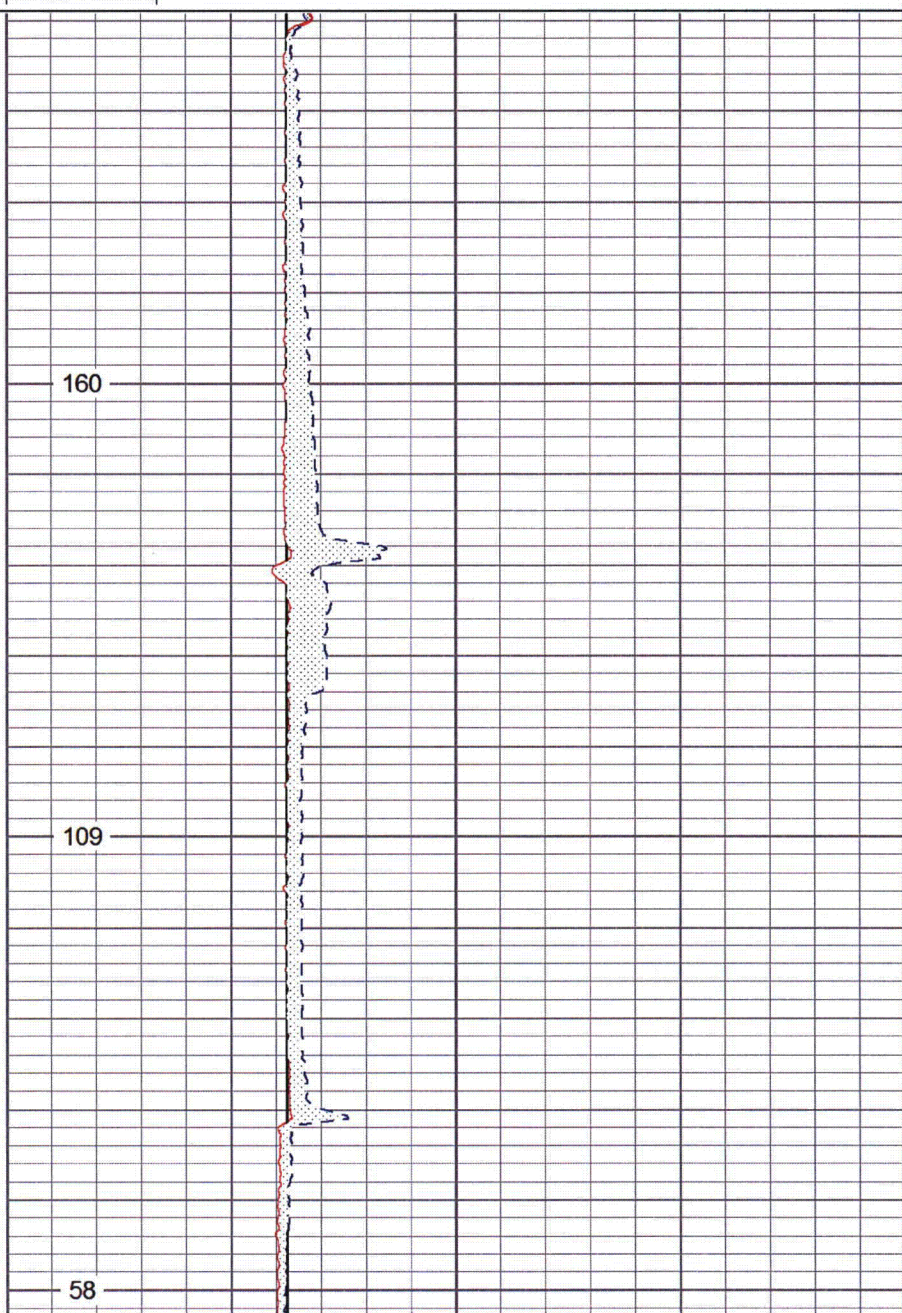
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 20 Y-CALIPER (in) 60  
 20 BIT SIZE (in) 60  
 TBHV (bbl)



300

350

400

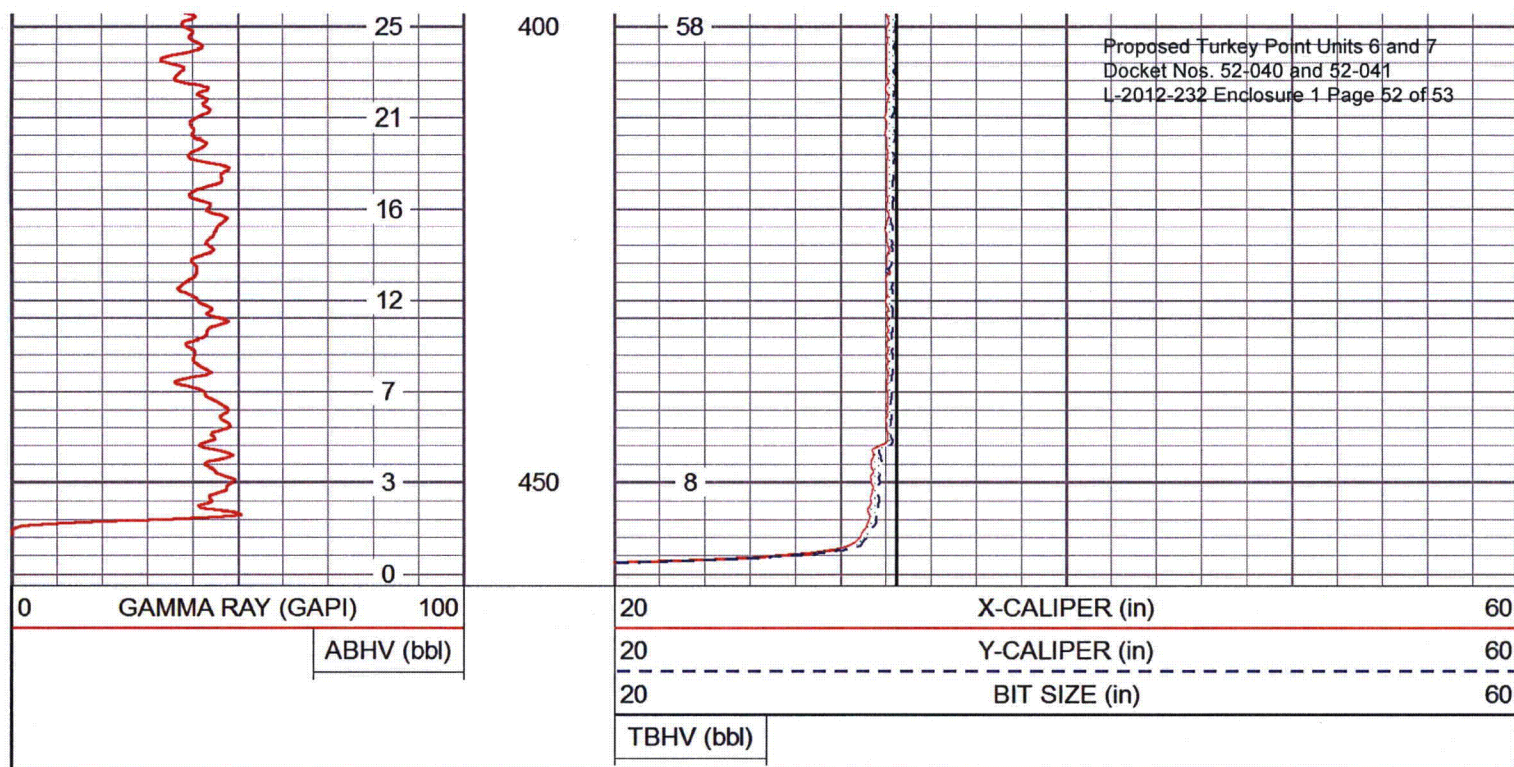


160

109

58





#### Calibration Report


Database File: fpldzmw1.db  
Dataset Pathname: turkeypoi/well/run4/pass1  
Dataset Creation: Sun Apr 29 06:43:45 2012 by Log SOC 111108

#### XY Caliper Calibration Report

Serial Number/Model: Performed:			120117-GOI Sun Apr 29 06:29:06 2012			
	Ring		X Caliper		Y Caliper	
1:	16	in	414.21	cps	379.51	cps
2:	20	in	453.11	cps	421.11	cps
3:	28	in	537.71	cps	511.41	cps
4:	36	in	630.1	cps	608.91	cps
5:	44	in	728.4	cps	714.21	cps
6:	52	in	836.1	cps	826.1	cps

#### Gamma Ray Calibration Report

Serial Number: Tool Model: Performed:			120115 PTS_OH Sun Apr 29 06:31:49 2012		
Calibrator Value:	400.0	GAPI			
Background Reading:	284.0	cps			
Calibrator Reading:	2172.6	cps			
Sensitivity:	0.3300	GAPI/cps			

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	7.08		Proposed Turkey Point Units 6 and 7 Docket Nos. 52-040 and 52-041 L-2012-232 Enclosure 1 Page 53 of 53  GR-PTS_OH (120115) Open Hole Gamma Ray	3.50	3.38	47.00
			XYZ-GOI (120117) 4 Arm X-Y Caliper	6.25	3.25	45.00
YCAL XCAL	1.08 1.00					
Dataset: Total Length: Total Weight: O.D.			fpldzmw1.db: turkeypoi/well/run4/pass1 9.75 ft 92.00 lb 3.38 in			

Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
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**Enclosure 2**

Florida Power & Light Company Turkey Point Units 6 & 7  
Exploratory Well Project; Permit #0293962-001-UC  
Weekly Construction Summary #53 dated May 11, 2012

## WEEKLY CONSTRUCTION SUMMARY



**McNabb Hydrogeologic Consulting, Inc.**

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May 11, 2012

MHCDEP-12-0185

Mr. Joseph May, P.G.  
Florida Department of Environmental Protection  
400 N. Congress Ave, Suite 200  
West Palm Beach, FL 33401

**RE: Florida Power & Light Company Turkey Point Units 6 & 7 Exploratory Well  
Project; Permit #0293962-001-UC  
Weekly Construction Summary #53**

Dear Mr. May:

This is the fifty-third weekly construction summary for the above referenced project. The reporting period for this weekly construction summary began at 7:00 AM, Thursday, May 3, 2012 and ended at 7:00 AM, Thursday, May 10, 2012. Consultant and drilling contractor daily reports were prepared for this reporting period. Copies of the consultant and drilling contractor daily construction logs are attached. In addition to construction activities for dual-zone monitoring well DZMW-1, this report also includes construction activities for exploratory well EW-1.

During the previous reporting period the drilling contractor conditioned the DZMW-1 reamed hole using a 32½-inch diameter bit, performed deviation surveys on the reamed hole over the interval from 630 feet bpl to 1,060 feet bpl, performed caliper and gamma ray logging and attempted to install the 24-inch casing. While attempting to install the 24-inch diameter casing, an obstruction in the reamed hole was encountered at a depth of 325 feet bpl. The portion of the 24-inch diameter casing that had been installed was then removed from the hole and the drilling contractor began conditioning the reamed hole using a 32½-inch diameter bit. Additionally, the compression of the EW-1 Fiberglass Reinforced Pipe (FRP) injection tubing was reduced from 22-inches to 12-inches during this reporting period. The annulus of EW-1 was then pressurized and monitored, however, the results did not meet the specification.

During this reporting period the drilling contractor re-conditioned the DZMW-1 reamed hole using a 32½-inch diameter bit, performed caliper and gamma ray logging and installed the 24-inch casing to a depth of 1,102 feet bpl. The 24-inch diameter casing was cemented to land surface in two cementing stages. A temperature log was performed following the first cement stage. A copy of the geophysical logs, the 24-inch diameter casing installation

summary sheet, and the 24-inch diameter casing cementing summary sheet are attached. After completing cementing of the casing, the drilling contractor switched from the mud rotary drilling method to the reverse-air drilling method, displaced the drilling mud in the 24-inch diameter casing, drilled through the cement plug at the base of the 24-inch diameter casing and began pilot hole drilling using a 12¼-inch diameter bit. Pilot hole drilling had reached a depth of 1,176 feet bpl by the end of the reporting period. A description of drill cuttings for the interval drilled during this reporting period is attached. DZMW-1 was killed with barite during the reporting period. A daily kill material log sheet is attached.

A crane was used to unseat the EW-1 Fiberglass Reinforced Pipe (FRP) injection tubing from the packer, rotate the injection tubing and then re-seat the injection tubing back into the packer. This was done several times, with annular pressure monitoring after each time the injection tubing was re-seated. Annular pressure monitoring showed that the results do not meet the specification.

There was no packer testing, well development or construction related issues at EW-1 and DZMW-1 during this reporting period.

During the next reporting period, it is anticipated that the drilling contractor will complete the pilot hole of DZMW-1 to a depth of 1,900 feet bpl. The drilling contractor will then perform geophysical logging of the pilot hole and begin straddle packer testing. It is also anticipated that work to eliminate the source of the annular pressure loss may take place at EW-1 during this reporting period.

In addition, sampling of the pad monitor wells around EW-1 and DZMW-1 began on April 21, 2011 and March 20, 2012, respectively, and has been taking place on a weekly basis since the initial samplings. The EW-1 pad monitor wells were most recently sampled on May 10, 2012. The DZMW-1 pad monitor wells were most recently sampled on May 11, 2012. The most recent set of EW-1 pad monitoring well sample results available are for samples collected on May 3, 2012. The most recent set of DZMW-1 pad monitoring well sample results available are for samples collected on May 4, 2012. Copies of the EW-1 and DZMW-1 pad monitor well water quality data summary sheets are attached.

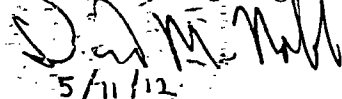


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Should you have any questions regarding the above weekly construction summary, please contact David McNabb at (561) 891-0763.

Sincerely,

McNabb Hydrogeologic Consulting, Inc.



David McNabb, P.G.

Attachments: Consultant Daily Construction Log  
Layne Christensen Company-Drilling Shift Report  
EW-1 Pad Monitor Well Water Quality Data Summary Sheets  
DZMW-1 Pad Monitor Well Water Quality Data Summary Sheets  
DZMW-1 Lithologic Log  
DZMW-1 24-Inch Diameter Casing Installation Summary Sheet  
DZMW-1 24-Inch Diameter Casing Cement Summary  
DZMW-1 Daily Kill Material Log  
DZMW-1 Geophysical Logs

Cc: George Heuler/FDEP-Tallahassee  
Emily Richardson/SFWMD  
Matthew Raffenberg/FPL  
David Holtz/HCE

Joe Haberfeld/FDEP-Tallahassee  
Ron Reese/USGS  
David Paul/FGS



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## Daily Construction Log

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**Date:** May 3, 2012  
**Project:** FPL Turkey Point EW  
**Contractor:** Layne Christensen Company  
**Starting Depth:** 1,105 feet bpl  
**Weather Day:** Cloudy, Windy, Warm  
**Weather Night:** Partly Cloudy, Warm  
**Activity:** DZMW-1 Borehole Conditioning and EW-1 Injection Tubing Re-Seat

**FDEP UIC Permit #:** 0293962-001-UC  
**Well No.:** DZMW-1 and EW-1  
**Bit Diameter:** 32 ½-inch  
**Ending Depth:** 1,105 feet bpl  
**Recorded By:** Marty Clasen/Sally Durall

### CONSTRUCTION ACTIVITIES

- 0600 Yesterday, the drilling contractor began installing the 24-inch diameter steel casing in DZMW-1. After installing 8 joints of the casing, the casing could not be advanced any further, indicating that an obstruction in the borehole was encountered and the installation of the 24-inch diameter casing could not continue. This occurred with the base of the casing at a depth of 325 feet below pad level (bpl). The casing was then removed from the hole. The borehole was cleaned out with the 32 ½-inch diameter reaming bit to a depth of 1,105 feet bpl. The drilling contractor performed annular pressure monitoring on EW-1 and modified the well header at EW-1 in preparation for additional annular pressure monitoring yesterday. The drilling contractor is currently conducting a wiper pass with the 32 ½-inch diameter bit at DZMW-1.
- 0700 The drilling contractor is circulating drilling mud at the bottom of the DZMW-1 hole at a depth of 1,105 feet bpl.
- 0800 The drilling contractor is making a wiper trip up the bore hole with the 32 ½-inch diameter bit. Welders are preparing to re-bevel the joints of 24-inch casing that were cut during removal from the hole yesterday. On well EW-1, the crane operator is on site and setting up over EW-1.
- 0930 The drilling contractor has tripped the 32 ½-inch diameter bit inside the 34-inch diameter casing of DZMW-1 and is circulating drilling fluids. Welders continue to re-bevel the 24-inch diameter casing. At well EW-1, the drilling contractor is preparing the stainless steel flange for additional annular pressure monitoring.
- 1045 Florida Spectrum Environmental Services, Inc. is on site to sample the four pad monitoring wells for EW-1.
- 1100 The drilling contractor continues to circulate drilling fluids in DZMW-1. Welders continue to re-bevel the 24-inch diameter casing. At well EW-1, the drilling contractor is welding the section of 18-inch diameter duplex steel pipe onto the wellhead tubing.
- 1215 The drilling contractor continues to circulate the drilling fluids in DZMW-1 while slowly moving the 32 ½-inch diameter bit up and down the borehole from approximately 300 to 390 feet bpl. Welders continue to re-bevel the 24-inch diameter casing. At well EW-1, the drilling contractor completed welding the root pass on the section of 18-inch diameter duplex steel pipe being connected to the wellhead tubing.



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- 1410 The drilling contractor continues to circulate the drilling fluids in DZMW-1 while slowly moving the 32 ¼-inch diameter bit up and down the borehole from approximately 300 to 390 feet bpl. Welders continue to re-bevel the 24-inch diameter casing. At well EW-1, the drilling contractor completed welding the section of 18-inch diameter duplex steel pipe being connected to the wellhead tubing.
- 1551 The drilling contractor completed the adjusting of the 18-inch diameter Fiberglass Reinforced Pipe (FRP) injection tubing in EW-1. The 18-inch FRP injection tubing was lifted approximately 2 to 3 feet with the crane; the 18-inch tubing broke free and popped up about 3 inches. The 18-inch FRP injection tubing was turned approximately 90 degrees with the backhoe. The crane then lowered the tubing back down to seat it into the packer. The 18-inch FRP injection tubing came to a rest approximately ½ inch higher than the original height before the FRP injection tubing was lifted.
- 1600 The drilling contractor has completed re-beveling the DZMW-1 24-inch diameter casing.
- 1640 The drilling contractor is performing a wiper trip with the 32 ½-inch diameter reaming bit at DZMW-1. The bit will be run to the total depth of the bore hole at 1,105 feet bpl. At well EW-1, the drilling contractor is preparing the well head for annular pressure monitoring.
- 1730 The drilling contractor continues to trip into the DZMW-1 bore hole with the 32 ½-inch diameter reaming bit. At well EW-1, the drilling contractor continues to prepare the well head for annular pressure monitoring.
- 1810 The injection tubing at EW-1 has been compressed 11 inches out of the planned 22 inches so far. The reaming bit is at the depth of 1,105 feet bpl at DZMW-1 and the drilling contractor is circulating the borehole clean.
- 1940 The drilling contractor has completed compressing the injection tubing at EW-1 a total of 22 inches. The welding will be completed tomorrow morning. The drilling contractor plans to perform an additional wiper trip at DZMW-1 before conducting a caliper log which is scheduled for 0600 tomorrow morning.
- 2015 The drilling contractor resumes conditioning the DZMW-1 borehole by performing wiper trips.
- 2200 The drilling contractor continues performing a wiper trip. The drilling contractor did not experience any drag on the wiper trip up the hole and is currently tripping back in the borehole.
- 2310 The reaming bit is back at the depth of 1,105 feet bpl and the drilling contractor is circulating the borehole clean.
- 0015 The drilling contractor begins to trip out of the borehole with the reaming bit.
- 0200 The drilling contractor continues to trip out of the borehole with the reaming bit. The drilling contractor is currently disassembling the bottom hole assembly (BHA).
- 0300 The drilling contractor continues to disassemble the BHA.
- 0410 The reamer bit is on the rig floor. The drilling contractor will break off the bit, prepare for geophysical logging and installation of the 24-inch diameter casing.
- 0600 The drilling contractor is waiting for the geophysical logger to arrive.



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## Daily Construction Log

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**Date:** May 4, 2012  
**Project:** FPL Turkey Point EW  
**Contractor:** Layne Christensen Company  
**Starting Depth:** 1,105 feet bpl  
**Weather Day:** Clear, Windy, Warm  
**Weather Night:** Partly Cloudy, Warm  
**Activity:** DZMW-1 Casing Installation and EW-1 Injection Tubing Re-Seat

**FDEP UIC Permit #:** 0293962-001-UC  
**Well No.:** DZMW-1 and EW-1  
**Bit Diameter:** NA  
**Ending Depth:** 1,105 feet bpl  
**Recorded By:** Marty Clasen/Sally Durall

### CONSTRUCTION ACTIVITIES

- 0600 Yesterday, the drilling contractor conditioned the DZMW-1 borehole with the 32 1/2-inch diameter reaming bit to a depth of 1,105 feet below pad level (bpl) and made several wiper passes with the 32 1/2-inch diameter bit. The 24-inch diameter steel casing joints that had been previously installed and then removed from the well were re-beveled. Also, the drilling contractor re-set the 18-inch diameter Fiberglass Reinforced Pipe (FRP) injection tubing on EW-1. A crane was used to pull up the 18-inch FRP injection tubing approximately 3 feet, rotate the tubing 90 degrees, and then re-set the tubing into the packer. The FRP injection tubing was then compressed 22 inches. The drilling contractor is setting up to conduct a caliper log on DZMW-1 and install the 24-inch diameter steel casing.
- 0610 The geophysical logging truck is on site to perform a caliper and gamma-ray log on DZMW-1.
- 0618 The drilling contractor begins running the caliper and gamma-ray tool down the hole.
- 0715 The drilling contractor has completed running the caliper and gamma-ray geophysical logs. The borehole is 32-inches in diameter or greater to the base of the borehole at a depth of 1,107 feet bpl.
- 0734 The drilling contractor begins installation of the 24-inch diameter steel casing in DZMW-1. The casing will be installed to a depth of 1,102 feet bpl. The welders are Eddie McCannon and Steve Stone. The welder certifications for the welders were previously submitted by the drilling contractor and accepted. A total of 28 casing joints will be installed. Centralizers were welded five feet from the bottom of the casing.
- 0755 The drilling contractor installed the first 24-inch diameter casing joint. Centralizers were welded fifty feet from the bottom of the casing.
- 0830 The drilling contractor has installed the second casing joint.
- 0907 The drilling contractor has installed the third casing joint. Centralizers were welded 100 feet from the bottom of the casing.
- 0942 The drilling contractor has installed the fourth casing joint.
- 1000 Florida Spectrum Environmental Services, Inc. is on site to sample the four pad monitoring wells for DZMW-1.
- 1010 The drilling contractor has installed the fifth casing joint. Centralizers were welded 200 feet from the bottom of the casing.



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- 1055 The drilling contractor has installed the sixth casing joint.
- 1135 The drilling contractor has installed the seventh casing joint.
- 1208 The drilling contractor has installed the eighth casing joint.
- 1215 The drilling contractor has the crane in place to lift up the 18-inch FRP injection tubing at well EW-1.
- 1248 The drilling contractor has installed the ninth casing joint in DZMW-1.
- 1320 The drilling contractor has installed the tenth casing joint. Centralizers were welded 400 feet from the bottom of the casing.
- 1355 The drilling contractor has installed the eleventh casing joint.
- 1425 The drilling contractor has installed the twelfth casing joint.
- 1455 The drilling contractor has installed the thirteenth casing joint.
- 1530 The drilling contractor has installed the fourteenth casing joint.
- 1605 The drilling contractor has installed the fifteenth casing joint.
- 1630 The drilling contractor re-set the 18-inch diameter FRP injection tubing in well EW-1 three times with a crane. The 18-inch FRP injection tubing was pulled up and unseated from the packer, re-seated in the packer, and then rotated three times in an attempt to get a complete seal at the packer.
- 1640 The drilling contractor has installed the sixteenth casing joint at DZMW-1. Centralizers were welded 600 feet from the bottom of the casing.
- 1720 The drilling contractor has installed the seventeenth casing joint.
- 1800 The drilling contractor has installed the eighteenth casing joint.
- 1840 The drilling contractor has installed the nineteenth casing joint. The welders for the night shift casing run are Todd King and Dave Langford. The welder certifications for the welders were previously submitted by the drilling contractor and accepted.
- 1930 The drilling contractor has installed the twentieth casing joint.
- 2010 The drilling contractor has installed the twenty-first casing joint.
- 2100 The drilling contractor has installed the twenty-second casing joint. Centralizers were welded 800 feet from the bottom of casing.
- 2135 The drilling contractor has installed the twenty-third casing joint.
- 2215 The drilling contractor has installed the twenty-fourth casing joint.
- 2300 The drilling contractor has installed the twenty-fifth casing joint.
- 2345 The drilling contractor has installed the twenty-sixth casing joint. Centralizers were welded 1,000 feet from the bottom of casing.
- 0035 The drilling contractor has installed the twenty-seventh casing joint.
- 0250 The twenty-eighth (header) casing joint has been installed.
- 0330 The welders begin to weld on the gussets in preparation for the pressure grout.
- 0520 The drilling contractor is preparing to trip inside the 24-inch diameter casing with the cement tubing.
- 0600 The drilling contractor continues to prepare to trip inside the 24-inch diameter casing with the cement tubing.



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## Daily Construction Log

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**Date:** May 5, 2012  
**Project:** FPL Turkey Point EW  
**Contractor:** Layne Christensen Company  
**Starting Depth:** 1,105 feet bpl  
**Weather Day:** Clear, Windy, Warm  
**Weather Night:** Partly Cloudy, Warm  
**Activity:** DZMW-1 Cementing and EW-1 Injection Tubing Compression

**FDEP UIC Permit #:** 0293962-001-UC  
**Well No.:** DZMW-1 and EW-1  
**Bit Diameter:** NA  
**Ending Depth:** 1,105 feet bpl  
**Recorded By:** Marty Clasen

### CONSTRUCTION ACTIVITIES

- 0600 Yesterday, the drilling contractor installed the DZMW-1 24-inch diameter steel casing to a depth of 1,102 feet below pad level (bpl). Additionally, a crane was used to pull up the EW-1 Fiberglass Reinforced Pipe (FRP) injection tubing approximately 3 feet to release it from the packer, re-seat the tubing in the packer, and then rotate the FRP injection tubing. This was performed three times. The drilling contractor is preparing to cement the DZMW-1 24-inch diameter steel casing in place.
- 0725 The drilling contractor begins installing the cement tubing inside the DZMW-1 24-inch diameter steel casing in preparation for pressure grouting.
- 0830 The drilling contractor has completed installing 1,099 feet of tubing inside the 24-inch diameter steel casing in preparation for pressure grouting.
- 0930 The drilling contractor has begun pumping cement grout with 12% bentonite using the pressure tremie method.
- 1034 A total of 320 barrels of 12% bentonite blend cement have been pumped. The drilling contractor has switched from 12% to neat cement.
- 1055 A total of 102 barrels of neat cement grout have been pumped. The drilling contractor pulled 60 feet of tubing and shut in the well at 230 pounds per square inch (psi).
- 1230 The drilling contractor is breaking down the cementing equipment and beginning the process of converting the drilling system from mud rotary drilling to reverse-air drilling. The drilling contractor is also preparing the well head of well EW-1 for annular pressure monitoring.
- 1400 The drilling contractor continues making changes to the DZMW-1 drilling system and has completed preparing the EW-1 wellhead for additional annular pressure monitoring.
- 1450 Begin monitoring EW-1 annular pressure. The annular pressure is 155 psi.
- 1500 The annular pressure is 150.5 psi, a loss of 4.5 psi.
- 1700 The drilling contractor is preparing to tag the cement plug inside the DZMW-1 24-inch diameter steel casing.
- 1720 The drilling contractor tagged the cement plug inside the 24-inch diameter casing at a depth of approximately 1,090 feet bpl.
- 1740 The drilling contractor lowered a tremie line to 50 feet bpl to see if the top of cement was within 50 feet of surface. The top of cement was not encountered. The drilling



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- contractor will arrange for the geophysical logger to mobilize to the site to run a temperature log inside the 24-inch casing to confirm the cement depth in the annulus.
- 2049 The drilling contractor tagged the cement in the annulus of the 24-inch diameter casing at a depth of 75 feet bpl.
- 2125 The geophysical logger arrives on site.
- 2140 The geophysical logger begins running the temperature log.
- 2154 The temperature log was run to a depth of 1,090 feet bpl.
- 2215 The geophysical logger has completed the temperature logging.
- 2257 The drilling contractor begins pumping water as a pre-flush before cementing the DZMW-1 24-inch casing from 75 feet to land surface.
- 2310 The drilling contractor has completed cementing the 24-inch casing to land surface. A total of 29 barrels of 12% bentonite blend cement was pumped. They will wait on cement to cure and continue setting up for reverse-air drilling.



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## Daily Construction Log

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**Date:** May 6, 2012  
**Project:** FPL Turkey Point EW  
**Contractor:** Layne Christensen Company  
**Starting Depth:** 1,105 feet bpl  
**Weather Day:** Clear, Windy, Warm  
**Weather Night:** NA  
**Activity:** Rigging up for Reverse-Air Drilling and Displacing Mud at DZMW-1

**FDEP UIC Permit #:** 0293962-001-UC  
**Well No.:** DZMW-1  
**Bit Diameter:** 12 1/4-inch  
**Ending Depth:** 1,105 feet bpl  
**Recorded By:** Marty Clasen

### CONSTRUCTION ACTIVITIES

- 0900 Yesterday, the drilling contractor cemented the DZMW-1 24-inch diameter steel casing to land surface in two stages. The drilling contractor also compressed the EW-1 Fiberglass Reinforced Pipe (FRP) injection tubing 22 inches and conducted annular pressure monitoring. The drilling contractor is currently removing the drilling mud from the mud pit and continuing to convert the drilling system from mud rotary to reverse-air drilling.
- 1030 The drilling contractor continue to removes the drilling mud from the mud pit and convert the drilling system from mud rotary to reverse-air drilling.
- 1200 The drilling contractor continue to removes the drilling mud from the mud pit and convert the drilling system from mud rotary to reverse-air drilling.
- 1330 The drilling contractor continue to removes the drilling mud from the mud pit and convert the drilling system from mud rotary to reverse-air drilling.
- 1500 The drilling contractor continue to removes the drilling mud from the mud pit and convert the drilling system from mud rotary to reverse-air drilling.
- 1700 The drilling contractor is running the 12 1/4-inch diameter pilot bit into the well to displace the drilling mud inside the 24-inch diameter casing. They will spend the night displacing the mud inside the casing in preparation for beginning reverse-air drilling.





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## Daily Construction Log

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**Date:** May 7, 2012  
**Project:** FPL Turkey Point EW  
**Contractor:** Layne Christensen Company  
**Starting Depth:** 1,105 feet bpl  
**Weather Day:** Partly Cloudy, Warm  
**Weather Night:** NA  
**Activity:** Displacing Drilling Mud and Drilling Out Cement Plug

**FDEP UIC Permit #:** 0293962-001-UC  
**Well No.:** DZMW-1  
**Bit Diameter:** 12 1/4-inch and 22-inch  
**Ending Depth:** 1,105 feet bpl  
**Recorded By:** Marty Clasen

### CONSTRUCTION ACTIVITIES

- 0600 Yesterday, the drilling contractor cleaned out the mud pit, converted the DZMW-1 drilling system from mud rotary to reverse-air drilling, and began displacing the drilling mud from the 24-inch diameter casing.
- 0730 The drilling contractor is displacing the drilling mud in the 24-inch diameter casing using reverse-air circulation drilling with the 12 1/4-inch diameter pilot bit.
- 0900 The drilling contractor is cleaning out the drilling mud in the 24-inch diameter casing at a depth of 500 feet below pad level (bpl).
- 1100 The drilling contractor is cleaning out the drilling mud in the 24-inch diameter casing at a depth of 650 feet bpl.
- 1315 The drilling contractor is tripping out the 12 1/4-inch diameter bit.
- 1450 The drilling contractor has completed tripping out the 12 1/4-inch diameter bit.
- 1615 The drilling contractor is tripping in DZMW-1 with the 22-inch diameter bit to drill out the cement plug at the base of the 24-inch diameter casing.
- 1730 The drilling contractor continues to trip in the 22-inch diameter bit. They will spend the night drilling out the cement plug at the base of the 24-inch diameter casing.



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## Daily Construction Log

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**Date:** May 8, 2012  
**Project:** FPL Turkey Point EW  
**Contractor:** Layne Christensen Company  
**Starting Depth:** 1,105 feet bpl  
**Weather Day:** Partly Cloudy, Warm  
**Weather Night:** N/A  
**Activity:** Drilling Out Cement Plug

**FDEP UIC Permit #:** 0293962-001-UC  
**Well No.:** DZMW-1  
**Bit Diameter:** 22-inch and 12 1/4-inch  
**Ending Depth:** 1,105 feet bpl  
**Recorded By:** Marty Clasen

### CONSTRUCTION ACTIVITIES

- 0600 Yesterday, the drilling contractor completed converting to a reverse-air drilling system, displaced the drilling mud from the 24-inch casing, and began drilling out the cement plug at the base of casing. The drilling contractor is currently drilling out the cement plug with a 22-inch diameter bit at a depth of 1,093 feet below pad level (bpl).
- 0700 The drilling contractor is drilling out the cement plug with a 22-inch diameter bit at a depth of 1,096 feet bpl.
- 0800 The drilling contractor is drilling out the cement plug with a 22-inch diameter bit at a depth of 1,097 feet bpl.
- 0900 The drilling contractor is drilling out the cement plug with a 22-inch diameter bit at a depth of 1,100 feet bpl.
- 1000 The drilling contractor is tripping out the 22-inch diameter bit.
- 1100 The drilling contractor continues to trip out the 22-inch diameter bit.
- 1200 The drilling contractor continues to trip out the 22-inch diameter bit.
- 1315 The drilling contractor begins to trip in with the 12 1/4-inch diameter bit and stabilizer to center the hole.
- 1430 The drilling contractor continues to trip in with the 12 1/4-inch diameter bit and stabilizer to center the hole.
- 1600 The drilling contractor continues to trip in with the 12 1/4-inch diameter bit and stabilizer to center the hole.
- 1700 The drilling contractor continues to trip in with the 12 1/4-inch diameter bit and stabilizer to center the hole.
- 1745 The power has been lost to the site. The drilling contractor has tripped in the hole with the 12 1/4-inch diameter bit to the depth of 1,096 feet bpl. They will spend the night drilling out the cement plug at the 24-inch diameter casing.



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## Daily Construction Log

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**Date:** May 9, 2012  
**Project:** FPL Turkey Point EW  
**Contractor:** Layne Christensen Company  
**Starting Depth:** 1,105 feet bpl  
**Weather Day:** Partly Cloudy, Warm  
**Weather Night:** N/A  
**Activity:** Pilot Hole Drilling

**FDEP UIC Permit #:** 0293962-001-UC  
**Well No.:** DZMW-1  
**Bit Diameter:** 12 1/4-inch  
**Ending Depth:** 1,176 feet bpl  
**Recorded By:** Sally Durall

### CONSTRUCTION ACTIVITIES

- 0830 Yesterday, the drilling contractor drilled out the cement plug at the base of the DZMW-1 24-inch diameter casing with a 22-inch diameter bit to the depth of 1,100 feet below pad level (bpl), and then tripped inside the casing with a stabilizer and 12 1/4-inch diameter bit to start a hole in the center of the cement plug in preparation for pilot hole drilling. The drilling contractor then drilled through the cement to a depth of 1,104 feet bpl and then tripped out of the hole with the drilling bit. They began to trip into the hole with the 12 1/4-inch diameter bit without the stabilizer to drill through the last foot of cement and then begin drilling below the last reamed depth of 1,105 feet bpl. The well was killed using approximately 379 gallons of barite. Currently, the drilling contractor has tripped back in the borehole to a depth of approximately 265 feet bpl and is switching out the wash pipe packing.
- 1000 The drilling contractor continues to switch out the wash pipe packing.
- 1200 The drilling contractor continues to switch out the wash pipe packing.
- 1400 The drilling contractor continues to switch out the wash pipe packing.
- 1600 The drilling contractor continues to switch out the wash pipe packing.
- 1645 The drilling contractor has completed making the repairs to the wash pipe and resumes tripping in the borehole with the 12 1/4-inch diameter bit. They have also mixed two sacks of barite to have ready if needed to kill the well when they begin drilling.
- 1745 The drilling contractor continues to trip in the borehole with the drilling bit.
- 0600 The drilling contractor began drilling the pilot hole from the base of the 24-inch diameter casing during the night shift. The drilling contractor is currently drilling the pilot hole at a depth of 1,170 feet bpl. The kill material that was noted in the 1645 entry was not needed to kill the well and was not used.
- 0700 The drilling contractor is drilling the pilot hole at a depth of 1,176 feet bpl.

**LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT**

Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
L-2012-232 Enclosure 2 Page 15 of 63

DATE 5-3-2012  
THUR DAY

1000 11771-1405-10000

CLIENT F.P.L.

**JOB SITE NAME** ms-1

PERSONNEL EMPLOYED TODAY

[illegible]

DAILY ACCOUNTING OF ACTIVITIES BY ITEM AND

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
<del>D.I.</del>	BOSIT GULOMOV	45	12		12
M.R.	MICHAEL RAMIREZ	75	12		12
V.I	VLAD ISHIMOV	45	12		12
P.V	PAUL VAUGHN	45	12		12
J.N	JUAN NINO	45	8		8
B.F	BOB FEETHAM.	45	12		12

### MATERIALS USED TODAY

Quantity	Description
	SAFETY MTC:
	GLOVE CARE:
	PINCH POINT: PPE: H.I.P.A.
	HAND SAFETY: LOADER SAFETY:

COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

WIPPER TRIP: T.D.H. + T.I.H: CIRCULATE HOLE.  
BOTTOM 405' BPL + CLEAN UP 285' BPL - TO - 483' BPL.

Equipment	Line #	Station
FDW-200	28605	W1
1989 MACK	18000	S/B
SAWING TRUCK		
CEMENTING	28145	
UNIT		S/B

140555 *Asinonitellus* n. sp.

[illegible]

Sl. No.	Cost Code	Labour Activity	Hours
1	10000	Water Intake and Test	
2	10000	Cylinder & Flywheel	
3	10000	Sub Assembly	
4	10000	Drum & Housing	
5	0000	Trunking & Overhead	
6	10000	Trunking - Job Chargeable	
7	10000	Water Chargeable	
8	10000	Water Chargeable	
9	10000	Water Chargeable	
10	10000	Water Chargeable	
11	10000	Water Chargeable	
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		TOTAL HOURS	

TELEPHONE

5-3-12

**PAYROLL**

Supervisors in Maryland  
1100-1110-1120-1130-1140-1150-1160-1170-1180-1190-1200-1210-1220-1230-1240-1250-1260-1270-1280-1290-1300-1310-1320-1330-1340-1350-1360-1370-1380-1390-1400-1410-1420-1430-1440-1450-1460-1470-1480-1490-1500-1510-1520-1530-1540-1550-1560-1570-1580-1590-1600-1610-1620-1630-1640-1650-1660-1670-1680-1690-1700-1710-1720-1730-1740-1750-1760-1770-1780-1790-1800-1810-1820-1830-1840-1850-1860-1870-1880-1890-1900-1910-1920-1930-1940-1950-1960-1970-1980-1990-2000-2010-2020-2030-2040-2050-2060-2070-2080-2090-2100-2110-2120-2130-2140-2150-2160-2170-2180-2190-2200-2210-2220-2230-2240-2250-2260-2270-2280-2290-2300-2310-2320-2330-2340-2350-2360-2370-2380-2390-2400-2410-2420-2430-2440-2450-2460-2470-2480-2490-2500-2510-2520-2530-2540-2550-2560-2570-2580-2590-2600-2610-2620-2630-2640-2650-2660-2670-2680-2690-2700-2710-2720-2730-2740-2750-2760-2770-2780-2790-2800-2810-2820-2830-2840-2850-2860-2870-2880-2890-2900-2910-2920-2930-2940-2950-2960-2970-2980-2990-3000-3010-3020-3030-3040-3050-3060-3070-3080-3090-3100-3110-3120-3130-3140-3150-3160-3170-3180-3190-3200-3210-3220-3230-3240-3250-3260-3270-3280-3290-3300-3310-3320-3330-3340-3350-3360-3370-3380-3390-3400-3410-3420-3430-3440-3450-3460-3470-3480-3490-3500-3510-3520-3530-3540-3550-3560-3570-3580-3590-3600-3610-3620-3630-3640-3650-3660-3670-3680-3690-3700-3710-3720-3730-3740-3750-3760-3770-3780-3790-3800-3810-3820-3830-3840-3850-3860-3870-3880-3890-3900-3910-3920-3930-3940-3950-3960-3970-3980-3990-4000-4010-4020-4030-4040-4050-4060-4070-4080-4090-4100-4110-4120-4130-4140-4150-4160-4170-4180-4190-4200-4210-4220-4230-4240-4250-4260-4270-4280-4290-4300-4310-4320-4330-4340-4350-4360-4370-4380-4390-4400-4410-4420-4430-4440-4450-4460-4470-4480-4490-4500-4510-4520-4530-4540-4550-4560-4570-4580-4590-4600-4610-4620-4630-4640-4650-4660-4670-4680-4690-4700-4710-4720-4730-4740-4750-4760-4770-4780-4790-4800-4810-4820-4830-4840-4850-4860-4870-4880-4890-4900-4910-4920-4930-4940-4950-4960-4970-4980-4990-5000-5010-5020-5030-5040-5050-5060-5070-5080-5090-5100-5110-5120-5130-5140-5150-5160-5170-5180-5190-5200-5210-5220-5230-5240-5250-5260-5270-5280-5290-5300-5310-5320-5330-5340-5350-5360-5370-5380-5390-5400-5410-5420-5430-5440-5450-5460-5470-5480-5490-5500-5510-5520-5530-5540-5550-5560-5570-5580-5590-5600-5610-5620-5630-5640-5650-5660-5670-5680-5690-5700-5710-5720-5730-5740-5750-5760-5770-5780-5790-5800-5810-5820-5830-5840-5850-5860-5870-5880-5890-5900-5910-5920-5930-5940-5950-5960-5970-5980-5990-6000-6010-6020-6030-6040-6050-6060-6070-6080-6090-6100-6110-6120-6130-6140-6150-6160-6170-6180-6190-6200-6210-6220-6230-6240-6250-6260-6270-6280-6290-6300-6310-6320-6330-6340-6350-6360-6370-6380-6390-6400-6410-6420-6430-6440-6450-6460-6470-6480-6490-6500-6510-6520-6530-6540-6550-6560-6570-6580-6590-6600-6610-6620-6630-6640-6650-6660-6670-6680-6690-6700-6710-6720-6730-6740-6750-6760-6770-6780-6790-6800-6810-6820-6830-6840-6850-6860-6870-6880-6890-6900-6910-6920-6930-6940-6950-6960-6970-6980-6990-7000-7010-7020-7030-7040-7050-7060-7070-7080-7090-7100-7110-7120-7130-7140-7150-7160-7170-7180-7190-7200-7210-7220-7230-7240-7250-7260-7270-7280-7290-7300-7310-7320-7330-7340-7350-7360-7370-7380-7390-7400-7410-7420-7430-7440-7450-7460-7470-7480-7490-7500-7510-7520-7530-7540-7550-7560-7570-7580-7590-7600-7610-7620-7630-7640-7650-7660-7670-7680-7690-7700-7710-7720-7730-7740-7750-7760-7770-7780-7790-7800-7810-7820-7830-7840-7850-7860-7870-7880-7890-7900-7910-7920-7930-7940-7950-7960-7970-7980-7990-8000-8010-8020-8030-8040-8050-8060-8070-8080-8090-8100-8110-8120-8130-8140-8150-8160-8170-8180-8190-8200-8210-8220-8230-8240-8250-8260-8270-8280-8290-8300-8310-8320-8330-8340-8350-8360-8370-8380-8390-8400-8410-8420-8430-8440-8450-8460-8470-8480-8490-8500-8510-8520-8530-8540-8550-8560-8570-8580-8590-8600-8610-8620-8630-8640-8650-8660-8670-8680-8690-8700-8710-8720-8730-8740-8750-8760-8770-8780-8790-8800-8810-8820-8830-8840-8850-8860-8870-8880-8890-8900-8910-8920-8930-8940-8950-8960-8970-8980-8990-9000-9010-9020-9030-9040-9050-9060-9070-9080-9090-9100-9110-9120-9130-9140-9150-9160-9170-9180-9190-9200-9210-9220-9230-9240-9250-9260-92

1445  
Y. 22.1. 57



## LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT

CLIENT FPLProposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
L-2012-232 Enclosure 2 Page 16 of 63

DATE

5/3/12  
THUR. NIGHT

JOB #

11771.1405.10000

JOBSITE NAME

MW-1

JOBSITE LOCATION

T.P.

## PERSONNEL EMPLOYED TODAY

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
DRILLER	GEORGE HAGA	45	12		12
AP	ANDREY POPOV	45	12		12
JN	JUAN NIETO	45	12		12
JM	JAMES McDONNELL	45	12		12
VM	VICTOR MOISEYEV	45	12		12
JA	JOSH ASHLEY	45	12		12

## EQUIPMENT DEPLOYED TODAY

Description	Unit #	Status
FDW-200	28605	WK
1989 MACK 18000		SB
DUMP TRUCK		
CEMENTING	28143	SB
UNIT		
Working	WK	Mobilization
Standby	SB	Demobilization
Down in Shop	DS	Available in Yard
Down on Site	DN	Available on Job

## DAILY ACCOUNTING OF ACTIVITIES BY ITEM #

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Onsite Mobilization	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	0006	Shop - Overhead	
7	0007	Maintenance - Overhead	
8	11250	Training - Job Chargeable	
9	11300	Site Clean up	
10	11350	Install Sound Walls	
11	11400	Install Decon Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Drill Pad	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Hydrofracturing Zone Testing	
17	12200	Borehole Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Install Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Hydrofracturing Zone Testing	
23	13300	Borehole Abandonment / Cement Plugs	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack the Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development Air Lift and Swab	
32	14100	Disposal of Fluids & Cuttings	
33	14150	Furnish & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Gravel Placement and Churnation	
37	19050	Offsite Activities Mobilization	
38	19100	Shop	
39	19150	Administration	
40	19550	Other Activities Standby	
41	19600	Pushing for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	88000	Equipment Repairs	
44	90170	Damages	
45	90180	Job Superintendent	
		Lunch	
		TOTAL HOURS	

## MATERIALS USED TODAY

Item #	Description
	<u>SAFETY MEETINGS:</u>
	<u>① TEAM WORK</u>
	<u>② PULLING WEIGHTS</u>
	<u>LOADER SAFETY, HAND SIGNALS, PRE</u>
	<u>HIRA, PINCH POINTS, LADDER SAFETY</u>

## TIME OF ACTIVITY BY ITEM #

From	To	Order One	Item #
		AM PM	
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## COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

Circled the bottom air hole - for one hour tighten plates on EW-1. Trip into casing 20' & Trip back to bottom in Low Gear. Circulate for one hour hole is clear. T.O. it <sup>up</sup> in Low Gear. Low down 50' weights, (1) 3 1/2 bit & (1) collar. Rig up for casing. Setup Caliber logs

Client's Signature

PAYROLL

Date

Supervisor's Signature

Date

**Dur:**



DATE 5/4/14  
Fr. Wright SWS

JOB # 11771.1405  
LOCATION T.P.

CLIENT FPL  
JOBSITE NAME MEU-1

**PERSONNEL EMPLOYED TODAY**

## EQUIPMENT DEPLOYED TODAY

## DAILY ACCOUNTING OF ACTIVITIES BY ITEM #

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
Driller	George Nage	45	12		72
AP	Andrew Popol	45	8		8
JW	Joan Nieto	45	14		14
UM	Victor Moiseyev	45	14		14
JA	Joshua Ashley	45	14		14

### MATERIALS USED TODAY

Quantity	Description
	1st Satey meeting
	fall arrest
	staging clear of speeded
	loads

#### TIME OF ACTIVITY BY ITEM #

[illegible]

## COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

Casing Run 20-28. Land casing pump "circulating" through hole. For 2 hours. Rig up concrete to pump.

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Grout Mob/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	0006	Shop - Overhead	
7	0007	Maintenance - Overhead	
8	11250	Training - Job Changeable	
9	11300	Site Clean up	
10	11350	Install Sound Walls	
11	11400	Install Decon Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Drill Pad	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Borehole Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Drill Pilot Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Borehole Abandonment/Cement Plugs	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well development Air Lift and Swab	
32	14100	Disposal of Fluids & Cuttings	
33	14150	Furnish & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Disinfection and Chlorination	
37	19050	Other Activities Mob/Demob	
38	19100	Shop	
39	19150	Administration	
40	19550	Other Activities Standby	
41	19600	Fishing for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	90000	Equipment Repairs	
44	90170	Damages	
45	90200	Job Superintendent	
		Lunch	
		TOTAL HOURS	

**Installer's Signature**

Date \_\_\_\_\_

\_\_\_\_\_  
Client's Signature

PAYROLL

**SATURNAL DUTIES**

4



**LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT**

AGENT: FPL Proposed Turkey Point Units 6 and 7  
 Docket Nos. 52-040 and 52-041  
 ATTORNEY NAME: maur L-2012-232 Enclosure 2 Page 19 of 63

DATE: 5-5-2012  
SAT DAYS

JOB# 11771-1405-10000

NOTATION LOCATION 7-2

### PERSONNEL EMPLOYMENT

#### EQUIPMENT DEPLOYED TODAY

DAILY ACCOUNTING OF ACTIVITIES BY ITEM AND

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
D. I. R.	BOSIT GULEMOV	45	13		13
V. I.	VLAD ISHIMOV	45	10		10
P. V.	PAUL VAUGHN	45	13		13
B. F.	BOB. FEETHAM	45	13		13
J. N.	JUAN NINO	45	12		12

Description	Unit #	Status
FDW-200	23605	w/k
1989 MACIL	18000	
DUMP TANK		s/B.
CEMENT	23145	
UNIT		w/k

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Onsite Mob/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Trailing - Overhead	
6	0005	Shop Overhead	
7	0007	Maintenance - Overhead	
8	11250	Trailing - Job Chargeable	
9	11300	Wile Clean up	
10	11350	Install Sound Walls	
11	11400	Install Decon Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Drill Pad	
14	12060	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Borehole Abandonment	
18	12630	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Drill Pilot Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Borehole Abandonment/Cement Plugs	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development Air Lift and Swab	
32	14100	Disposal of Fluids & Cuttings	
33	14150	Furnish & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Hydrofracture and Completion	
37	19050	Offsite Activities Mob/Demob	
38	19100	Shop	
39	19150	Administration	
40	19350	Other Activities Standby	
41	19600	Waiting for Lost/Broken Tooling	
42	19630	Change Order Activities	
43	88000	Equipment Repairs	
44	90170	Damages	
45	90200	Job Superintendent	
		Lunch	
		TOTAL HOURS	

### MATERIALS USED TODAY

Quantity	Description
	SAFETY MTG!
	PRESS CEMENT!
	PPE: H.T.R.A: PINCH POINT:
	HAND SAFETY: LOADER SAFETY:

### TIME OF ACTIVITY BY ITEM

[illegible]

COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

T.I.H. CEMENT TUBING- 1100' B.P.L. START PRESS CEMENT  
9:40 - 12 1/2, 320 bbls. Pumped Next 102 bbls.  
SITE CLEAN UP: + HOMEKEEPING:

## PAYROLL

**1000000**

**LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT**

**CLIENT**

FPL

Proposed Turkey Point Units 6 and 7  
~~Docket Nos. 52-040 and 52-041 -~~  
L-2012-232 Enclosure 2 Page 21 of 63

DATE \_\_\_\_\_

5-6-12  
SUN DAYS

**JOB #**

11771-1405-10000

12500544

PERSONNEL EMPLOYED TODAY

EQUIPMENT DEPLOYED TODAY

### CRIME LOCATION

T.O.

DAILY ACCOUNTING OF ACTIVITIES BY ITEM NO.

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
<del>DRILL</del>	BOST + GULEMON	45	12		12
V.I	VLAD ISHIMOV	45	12		12
P.V	PAUL VAUGHN	45	12		12
B.F	BOB FEETHAM	45	12		12
J.N	JAWN WIND.	45	12		12

Description	Unit #	Status
FDW-200	28605	W
1989 MACIL	18000	5/13
Dump TRUCK	28145	
CEMET		5/13
UNIT		

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Onsite Mob/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	0006	Shop - Overhead	
7	0007	Maintenance - Overhead	
8	11250	Training - Job Chargeable	
9	11300	Site Clean up	
10	11350	Install Sound Walls	
11	11400	Install Decon Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & DIRT Pad	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Borehole Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Drill Pilot Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Borehole Abandonment/Cement Plugs	
24	13350	Grouting	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development Air Lift and Swab	
32	14100	Disposal of Holes & Cuttings	
33	14150	Purchase & Install Test Pump and Discharge	
34	14200	Redevelopment Pumping	
35	14250	Test Pumping	
36	14300	Decontamination and Chelation	
37	19050	Office Activities Mob/Demob	
38	19100	Shop	
39	19150	Administration	
40	19550	Other Activities Standby	
41	19600	Fishing for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	88000	Equipment Repairs	
44	90170	Damages	
45	90200	Job Superintendent	
		Lunch	
		<b>TOTAL HOURS</b>	

### MATERIALS USED TODAY

Quantity	Description
	SAFETY MTG!
	HOUSEKEEPING!
	LOCK OUT - TAG OUT!
	PINCH POINT: HAND SAFETY!
	PPE: H.I.R.A. LOADER SAFETY!

#### TIME OF ACTIVITY BY ITEM

<b>From</b>	<b>To</b>	<b>Clock One</b>	<b>Item #</b>
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		<b>AM PM.</b>	
		AM PM	

COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

Clean Up & Rig down Mud System - Cut 24" casing  
Cleared Sump pit & cleaned floor - RAN 29 dump trucks to  
Empty Slurry Pit - cleaned Working Pit - Picked up 20"  
stabilizer - Housekeep - General Cleanup of Site

*[Signature]*

6-6-12

## REFERENCES

## PAYROLL

**Blanket of Cash**

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Under



## LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT

CLIENT FPL Proposed Turkey Point Units 6 and 7  
Docket Nos. 62-040 and 62-041  
JOB SITE NAME mwl L-2012-232 Enclosure 2 Page 22 of 63

DATE 5/6/12  
Sunday Night Shift

JOB # 11771.1405, 10000  
JOB SITE LOCATION Turkey Point

## PERSONNEL EMPLOYED TODAY

Crew Assignment	Employee - Full Name	Per Diem? (Y)	Onsite Hours	Offsite Hours	Total Hours
Driller	George Haga	45	12		12
J N	Juan Nieto	45	12		12
VM	Victor Moiseyev	45	12		12
HA	Josh Ashley	45	12		12

## EQUIPMENT EMPLOYED TODAY

Description	Unit #	Hours
FDW 200	28405	WK
1989 MAC	18000	SB
Dump truck		
Cement truck	2214	SB
Working	WK	Mobile Unit
Standby	SB	Demobilization
Down in Shop	DS	Available in Yard
Down on Site	DN	Available on Job

## LABOR ACCOUNTING OF ACTIVITIES BY ITEM #

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Onsite Mobilization	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	0006	Shop - Overhead	
7	0007	Maintenance - Overhead	
8	11250	Training - Job Chargeable	
9	11300	Site Clean up	
10	11350	Install Sound Walls	
11	11400	Install Decon Pod	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Driveway	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Borehole Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Drill Pilot Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Borehole Abandonment/Cement Plugs	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development/Annular Seal and Swab	
32	14100	Disposal of Cuttings & Cuttings	
33	14150	Turn-in & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Identification and Information	
37	19050	Onsite Activities Mobilization/Demobilization	
38	19100	Shop	
39	19150	Transportation	
40	19550	Other Activities Standby	
41	19600	Fishing for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	88000	Equipment Repairs	
44	90170	Damages	
45	90200	Job Superintendent	
		Travel	
		TOTAL HOURS	

## MATERIALS USED TODAY

Quantity	Description
	Safety meeting
①	HIGH Pressure Lines
②	Tripping Air Line
	Safety topics
	PPE, Hand Safety, Stop work
	Authority, Slip/Trip & Falls

## TIME OF ACTIVITY BY ITEM #

From	To	Click One	Item #
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
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		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	

## COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

Made up 20 stabilizer to 12 1/4 bit used DD tools to makeup trip in (5) STD drill pipe change rubber on Rotating Head Scrap header door & bottom of crew. Trip in (5) stands of air line, begin to circulate hole clean. Made up sensor for airline pressure.



## LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT

CLIENT: FPLProposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
L-2012-232 Enclosure 2 Page 23 of 63DATE: 5/7/12  
Mon. DaysJOB #: 11771.1405.10000JOBSITE NAME: MW-1JOBSITE LOCATION: Turkey Point

## PERSONNEL EMPLOYED TODAY

Crew Assignment	Employee (Full Name)	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
MDR	Michael A. Ramirez	45	12		12
VI	Vlad Ishimov	45	12		12
JM	Jim McDonnell	45	12		12
BF	Bob Feetham	45	12		12

## EQUIPMENT DEPLOYED TODAY

Description	UHR #	Status
FDW-200	28605	OK
89 Mack Dump Truck	18000	OK
Working	WK	Mobile Station
Standby	SB	Demobilization
Down in Shop	DS	Available in Yard
Down on Site	ON	Available on Job

## DAILY ACCOUNTING OF ACTIVITIES BY ITEM #

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Onsite Mob/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	0006	Shop - Overhead	
7	0007	Maintenance - Overhead	
8	11250	Training - Job Chargeable	
9	11300	Site Clean up	
10	11350	Install Sound Walls	
11	11400	Install Decon Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Drill Pad	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Borehole Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Drill Pilot Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Borehole Abandonment/Cement Plugs	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack the Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development Air Lift and Swab	
32	14100	Disposal of Slides & Cuttings	
33	14150	Furnish & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Disinfection and Chlorination	
37	19050	Offsite Activities Mob/Demob	
38	19100	Shop	
39	19150	Administration	
40	19550	Other Activities Standby	
41	19600	Waiting for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	88000	Equipment Repairs	
44	90170	Damages	
45	90200	Job Superintendent	
		Labels	
		TOTAL HOURS	

## MATERIALS USED TODAY

Item #	Description
	Safety Meetings
	① Hand Tool Safety
	② Using Tongs
	PPE, HIRA, Slip trip-fall, Hand signals, Ladder Safety, Air working torch safety,

## TIME OF ACTIVITY BY ITEM #

From	To	Circ One	Item #
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
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		AM PM	
		AM PM	
		AM PM	

## COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

Continue to circulate hole/clean hole to bottom. Help Welder. TRIP IN HOLE one STAND D.P. circulate to bottom of Stand (7 std DP in hole). Clean up Pit area. Trip out of Hole to change bit, 7 std DP & 6 std Air line. Remove X-0 3 1/2" bit + joints (3 1/2" bit is BROKE from X-0). Put on 2 1/2" bit & X-0. Push on joints. Trip IN Hole 8 stands Drillpipe & 3 std. Air line.

M. Ramirez

5/9/12

Client's Signature

PAYROLL

Supervisor's Signature



DATE 5-7-12  
MON NIGHT

JOB # 11771-1405-10000.

**JOB SITE NAME**

PERSONNEL EMPLOYED TODAY

EQUIPMENT DEPLOYED TO DATE:

DAILY ACCOUNTING OF ACTIVITIES BY ITEM #

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
DR/PM	BOSIT GILAMOV	45	12		12
A.P	ANDREY POPOV	45	12		12
V.M	VICTOR MOISEY	45	12		12
J.N	JUAN NINO	45	12		12

Description		Unit #	Status
EDW-200		78605	W/H
1989 MACIC		18000	
Dump Truck			S/B
CEMET		28145	
UNIT			S/B
Working	WK	Mobilization	MB
Standby	SB	Demobilization	DM
Down in Shop	DS	Available in Yard	AY
Down on Site	DN	Available on job	AV

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Install Mob/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	0006	Shop - Overhead	
7	0007	Maintenance - Overhead	
8	11250	Training - Job Chargeable	
9	11300	Site Clean up	
10	11350	Install Sound Walls	
11	11400	Install Decon Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Drill Pad	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Borehole Abandonment	
18	13000	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Drill Pilot Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Borehole Abandonment/Conent Plugs	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development Air Lift and Swab	
32	14100	Disposal of Fluids & Cuttings	
33	14150	Furnish & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Disinfection and Chlorination	
37	19050	Mobile Activities Mob/Demob	
38	19100	Shop	
39	19150	Administration	
40	19550	Other Activities Standby	
41	19600	Fishing for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	88000	Equipment Repairs	
44	90100	Damages	
45	90200	Job Superintendent	
		Lunch	
		TOTAL HOURS	

Quantity	Description
	SAFETY MTG!
	HAND TOOL SAFETY!
	PPE! H.I.R.A! LOADER SAFETY!
	PINCH POINT! HAND SAFETY!

[illegible]

COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

T.I.H. ~~NO~~ CIRCULATE BOTTOM 1090' BPL. CLEAN UP  
HOLE; START DRILL 22" BIT FROM - 1090' BPL - TO -  
1095' BPL!

100-443887-1000

## George S. Yule

**PAYROLL**

[illegible]

**Ex**

## Layne Christensen Company - Drilling Shift Report

**CLIENT**

FPL

### Proposed Turkey Point Units 6 and 7

Docket Nos. 52-040 and 52-041

~~L-2012-232 Enclosure 2 Page 25 of 63~~

0.50

5-8-12

TWO DAYS

100

1271.450.10000

**JOB SITE LOCATION**

Turkey Point

**PERSONNEL EMPLOYED TODAY**

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
<del>DR</del> WR	Michael A. Ramirez	45	12		12
VI	Vlad Ishinov	45	12		12
JM	James McDonnell	45	12		12
BF	Bob Feetham	45	12		12

## EQUIPMENT DEPLOYED TODAY

Description		Unit #	Status
FDW - 2000		25605	MY
184 Mack Dump		18000	SB
Cement Unit		28145	SB
Working	WK	Mobilization	MB
Standby	SD	Demobilization	DM
Down in Shop	DS	Available in Yard	AY
Down on Site	DSI	Available on Job	AV

## DAILY ACCOUNTING OF ACTIVITIES BY ITEM #

Item #	Cost Code	Labour Activity	Unit
1	11000	Water Well Abandon	
2	11100	Drill Bit Washdown	
3	11150	Hydr. Preparation	
4	11200	Hydr. Pumping	
5	11204	Testing - Overhaul	
6	11206	Plugs - Overhaul	
7	11209	Manifolds - Overhaul	
8	11250	Testing - Job Completion	
9	11300	Site Clean up	
10	11300	Drill Bit Washdown	
11	11400	Drill Bit Washdown	
12	11400	Drill Bit Washdown	
13	11400	Drill Bit Washdown	
14	11400	Drill Bit Washdown	
15	11400	Drill Bit Washdown	
16	11400	Drill Bit Washdown	
17	11400	Drill Bit Washdown	
18	11400	Drill Bit Washdown	
19	11400	Drill Bit Washdown	
20	11400	Drill Bit Washdown	
21	11400	Drill Bit Washdown	
22	11400	Drill Bit Washdown	
23	11400	Drill Bit Washdown	
24	11400	Drill Bit Washdown	
25	11400	Drill Bit Washdown	
26	11400	Drill Bit Washdown	
27	11400	Drill Bit Washdown	
28	11400	Drill Bit Washdown	
29	11400	Drill Bit Washdown	
30	11400	Drill Bit Washdown	
31	11400	Drill Bit Washdown	
32	11400	Drill Bit Washdown	
33	11400	Drill Bit Washdown	
34	11400	Drill Bit Washdown	
35	11400	Drill Bit Washdown	
36	11400	Drill Bit Washdown	
37	11400	Drill Bit Washdown	
38	11400	Drill Bit Washdown	
39	11400	Drill Bit Washdown	
40	11400	Drill Bit Washdown	
41	11400	Drill Bit Washdown	
42	11400	Drill Bit Washdown	
43	11400	Drill Bit Washdown	
44	11400	Drill Bit Washdown	
45	11400	Drill Bit Washdown	
46	11400	Drill Bit Washdown	
47	11400	Drill Bit Washdown	
48	11400	Drill Bit Washdown	
49	11400	Drill Bit Washdown	
50	11400	Drill Bit Washdown	
51	11400	Drill Bit Washdown	
52	11400	Drill Bit Washdown	
53	11400	Drill Bit Washdown	
54	11400	Drill Bit Washdown	
55	11400	Drill Bit Washdown	
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57	11400	Drill Bit Washdown	
58	11400	Drill Bit Washdown	
59	11400	Drill Bit Washdown	
60	11400	Drill Bit Washdown	
61	11400	Drill Bit Washdown	
62	11400	Drill Bit Washdown	
63	11400	Drill Bit Washdown	
64	11400	Drill Bit Washdown	
65	11400	Drill Bit Washdown	
66	11400	Drill Bit Washdown	
67	11400	Drill Bit Washdown	
68	11400	Drill Bit Washdown	
69	11400	Drill Bit Washdown	
70	11400	Drill Bit Washdown	
71	11400	Drill Bit Washdown	
72	11400	Drill Bit Washdown	
73	11400	Drill Bit Washdown	
74	11400	Drill Bit Washdown	
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76	11400	Drill Bit Washdown	
77	11400	Drill Bit Washdown	
78	11400	Drill Bit Washdown	
79	11400	Drill Bit Washdown	
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81	11400	Drill Bit Washdown	
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89	11400	Drill Bit Washdown	
90	11400	Drill Bit Washdown	
91	11400	Drill Bit Washdown	
92	11400	Drill Bit Washdown	
93	11400	Drill Bit Washdown	
94	11400	Drill Bit Washdown	
95	11400	Drill Bit Washdown	
96	11400	Drill Bit Washdown	
97	11400	Drill Bit Washdown	
98	11400	Drill Bit Washdown	
99	11400	Drill Bit Washdown	
100	11400	Drill Bit Washdown	

### NATURAL HISTORY

Category	Description
	Safety Meetings.
	① Safety Safety / Inspection / usage
	② Logbook May Safety Report by 1 Safe Driving,
	PPE, HIRA, pinch points, slip trip fall, ladder safety, Bed weather safety,

11 廣東省科學院

[illegible]

COMMUNITY-PLANNING-CONDUCTING-CHANGES-OTHER INFORMATION

Continue to Drill 22" bit from 1095' bpl to 1100' bpl. TRIP out of Hole  
Down load Fuel truck. Remove 22" bit from Stabilizer and X-O. Put on  
12 1/4" bit 3 X-O tighten w/ torque TRIP IN Hole to 1100' bpl to Center  
Punch guide. Power Out, wait on lightning. lightning 5:25-



**LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT**

COURT FBI Proposed Turkey Point Units 6 and 7  
 Docket Nos. 52-040 and 52-041  
 JOBSITE NAME MW-1 I-2012-232 Enclosure 2 Page 26 of 63  
 PERSONNEL EMPLOYED TODAY

DATE 5-8-12  
THE NIGHT  
THIS FILM RELEASED TODAY:

JOBS 11771-1425-10000  
 SECTION -T. P.  
 DAILY ACCOUNTING OF ACTIVITIES BY ITEM #

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
Driller	BOSIT GULAMOV	45	12		12
A.P	ANDREY POPOV	45	12		12
V.M	VICTOR MOISEYEV	45	12		12
J.N	JUAN NINO.	45	12		12

### MATERIALS USED TODAY

Quantity	Description
	SAFETY MTC:
	LAYNE MAY SAFETY REPORT:
	PINCH POINT: PPE: H.I.R.A:
	HAND SAFETY: LOADER SAFETY:

## COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

POWER OUT: LIGHTNING: 10:30 PM START DRILL 12 1/4  
BIT: FROM /- 1100' BPL - TO - 1104' BPL. T.O.H - MAX Kill  
Kill BACKSIDE; 4" Killed; T.H. 2 Colores one stand; Start Changing  
Wash Pipe;

Description		Unit #	Status
EDW - 200		28605	W/K
1989 Mack		11800	
Dump Truck			S/B
CEMENT		28445	
UNIT			S/B
Working	WK	Mobilization	MB
Standby	SB	Demobilization	DM
Down in Shop	DS	Available in Yard	AY
Down on Site	DN	Available on Job	AV

[illegible]

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Onsite Mob/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	10005	Shop - Overhead	
7	10007	Maintenance - Overhead	
8	11250	Training - Job Chargeable	
9	11300	Site Clean up	
10	11350	Install Sound Walls	
11	11400	Install Decom Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Dr# Pad	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Worthole Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Drill Prod Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Borehole Abandonment/Cement Plug	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development/ Air Lift and Swab	
32	14100	Disposal of Piles & Cuttings	
33	14150	Furnish & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Disinfection and Chlorination	
37	19050	Offsite Activities Mob/Demob	
38	19100	Shop	
39	19150	Administration	
40	19550	Other Activities Standby	
41	19600	Planning for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	88000	Equipment Repairs	
44	90170	Damages	
45	90200	Job Superintendent	
		Lunch	
		TOTAL HOURS	

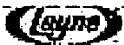
*[Signature]* 5-8-12  
Date

## Global Summary

## PAYROLL

Supervisor's Signature \_\_\_\_\_

Date \_\_\_\_\_



## LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT

CLIENT

EPL

Proposed Turkey Point Units 6 and 7

DATE

5/9/12

JOB #

11771.1405.10000

JOBSITE NAME

GW1

Docket Nos. 52-040 and 52-041

L 2012-232 Enclosure 2 Page 27 of 63

EQUIPMENT EMPLOYED TODAY

Wednesday Day Shift

JOBSITE LOCATION

Turkey Point

## PERSONNEL EMPLOYED TODAY

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
RTM	George Haza	45	12		12
SW	Juan Nieto	45	12		12
PV	Paul Vaughn	45	12		12
JA	Joshua Ashley	45	12		12

## MATERIALS USED TODAY

Quantity	Description
	Safety Meeting
	① Aerial Lifts
	② Good driving Mats.
	Safety tape
	100% TIE OFF, SLIPS, TRIPS & FALLS. PPE Hand hat, Safety boots

## COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

Repair and replace wash pipe packing: mix 27 bags of M-100 to mix kill. Since Rig is equipped.
Trip in 12 1/2 run 3 Stands of action

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Onsite Mob/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	0006	Shop Overhead	
7	0007	Maintenance - Overhead	
8	11250	Training - Job Chargeable	
9	11300	W/o Clean up	
10	11350	Install Sound Walls	
11	11400	Install Decon Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Drill Pad	
14	12050	Test Well Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Borehole Abandonment	
18	12050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Drill Pilot Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Borehole Abandonment/Cement Plug	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development Air Lift and Swab	
32	14100	Dispose of Ruds & Cuttings	
33	14150	Finish & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Disinfection and Chlorination	
37	19050	Offsite Activities Mob/Demob	
38	19100	Shop	
39	19150	Administration	
40	19550	Offsite Activities Standby	
41	19600	Fishing for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	89000	Equipment Repairs	
44	90070	Damages	
45	90200	Job Superintendent	
		Lunch	
		TOTAL HOURS	

**LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT**

CLASS FPL Proposed Turkey Point Units 6 and 7  
 DOCKET NOS. 52-040 and 52-041  
 JOBS/ITEM NAME MIL-1 I-2012-232 Enclosure 2 Page 28 of 63  
 PLANT/UNIT EMPLOYED TODAY:

DATE 5-9-13  
WED NIGHT

JOB # 11271-1425-12000

IDENTIFICATION 7-4

DAILY ACCOUNTING OF ACTIVITIES BY ITEM #

Crew Assignment	Employee Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
DILLER	BOSIT GULOMOV	45	12		12
A.D	ANDREY POPOV	45	12		12
V.M	VICTOR MOISEYV	45	12		12

### MATERIALS USED TODAY

Quinnip	Health & Safety
	SAFETY INTG!
	Color CODING COMPLIANCE!
	HAND SAFETY! PPE! H.I.P.H.
	PINCH POINT! LOADED SAFETY!

1160 FT BAL

CLAIMANTS' RIGHTS - CONDITIONS - DAMAGES - SUBSTITUTION

Description		Unit #	Status
FDW - 200		25606	w/k
1989 MACK		18000	
DUMP TRUCK			S/B
CEMENT		28145	
UNIT			S/B
Working	SW	Mobilization	MB
Standby	SB	Demobilization	DB
Down on Site	DS	Available in Yard	AY
Down on Job	DN	Available on Job	AV

#### TIME OF ACTIVITY BY ITEM

[illegible]

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Unsize Mob/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	0006	Shop - Overhead	
7	0007	Maintenance Overhead	
8	11250	Training, Job Chargeable	
9	11300	Site Clean up	
10	11350	Install Sound Walk	
11	11400	Install Decon Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Drift Pad	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Borehole Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Drill Pilot Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Neufler Zone Testing	
23	13300	Borehole Abandonment/Cement Plugs	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development/ Air Lift and Swab	
32	14100	Disposal of Pails & Cuttings	
33	14150	Furnish & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Disinfection and Chlorination	
37	19050	Mobile Activities Mob/Demob	
38	19100	Shop	
39	19150	Administration	
40	19550	Other Activities Standby	
41	19600	Waiting for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	88000	Equipment Repairs	
44	90170	Damages	
45	90200	Job Superintendent	
		Lunch	
		TOTAL HOURS	

DRILL 12 1/4 BIT / FROM 1104' BPL - TO - 1164' BPL.  
RUN SURVE @ 5.2 MILES CONNET BACK DRILL - FROM -  
1164' BPL - TO - 1176 BPL.

*[Signature]*  
 \_\_\_\_\_  
 Special Agent in Charge

5-9-12

### Client's Signature

## PAYROLL

**July**

Don't miss the 1987-88 season's new line of clothing.

7-4-1965



**EW-1 Pad Monitoring Well Water Quality Data**  
**Northeast Pad Monitoring Well**  
**(NE-EW PMW)**

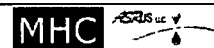
Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks
4/21/2011	1108	10.49	-1.61	78,700	32,200	57,000	29.8	Background Sampling
4/29/2011	1157	10.68	-1.80	80,400	29,900	53,800	30.4	
5/5/2011	1157	11.40	-2.52	81,400	27,500	52,350	31.2	
5/11/2011	1309	11.00	-2.12	76,800	31,600	51,200	29.7	
5/19/2011	0958	10.48	-1.60	72,600	35,600	51,200	29.5	
5/26/2011	1050	10.76	-1.88	71,360	29,500	52,900	29.7	
6/2/2011	1134	10.78	-1.90	71,700	29,000	55,700	29.6	
6/9/2011	1128	10.61	-1.73	69,700	32,300	50,650	29.3	
6/16/2011	0958	10.35	-1.47	69,300	33,000	53,450	29.5	
6/23/2011	1028	10.41	-1.53	69,400	30,600	55,600	29.5	
6/30/2011	0928	10.15	-1.27	70,300	27,600	51,950	29.2	
7/8/2011	1210	9.00	-0.12	72,570	30,100	54,150	29.9	
7/14/2011	1338	9.75	-0.87	76,400	27,200	54,550	29.9	
7/21/2011	1039	9.35	-0.47	72,200	32,600	49,760	29.7	
7/28/2011	1119	9.51	-0.63	71,600	30,200	54,250	29.7	
8/4/2011	1249	9.70	-0.82	64,400	31,500	53,850	27.5	
8/11/2011	1059	9.25	-0.37	73,900	29,500	57,150	29.6	
8/18/2011	1039	9.45	-0.57	71,900	29,400	54,850	30.0	
8/25/2011	1039	9.45	-0.57	69,800	31,300	55,550	29.7	
9/1/2011	1109	9.15	-0.27	71,700	29,500	56,300	29.9	
9/8/2011	1049	9.15	-0.27	70,700	31,400	49,800	30.3	
9/16/2011	1233	9.30	-0.42	5320*	1260*	2668*	27.8	
9/23/2011	1129	9.10	-0.22	72,900	31,200	52,750	30.1	
9/29/2011	1330	9.16	-0.28	11,500*	3,200*	7,010*	27.8	
10/6/2011	1119	9.30	-0.42	72,600	30,000	56,200	30.1	
10/13/2011	1058	10.15	-1.27	75,200	32,500	51,600	30.1	
10/20/2011	1049	8.40	0.48	68,400	29,100	57,450	29.9	
10/27/2011	1109	8.95	-0.07	80,200	27,700	54,950	30.0	
11/3/2011	1049	8.91	-0.03	80,200	31,100	55,700	29.9	
11/10/2011	0958	9.67	-0.79	75,500	28,700	59,600	30.0	
11/17/2011	1058	10.81	-1.93	68,400	34,900	57,500	30.1	
11/25/2011	0939	9.51	-0.63	69,300	26,500	52,750	30.0	
12/1/2011	1138	9.67	-0.79	66,000	29,800	55,200	29.8	
12/8/2011	1058	10.31	-1.43	63,800	30,100	57,050	27.5	
12/15/2011	1109	9.61	-0.73	75,400	28,300	53,700	30.0	
12/22/2011	1038	9.67	-0.79	69,300	29,500	51,800	30.7	
12/29/2011	0918	9.87	-0.99	76,900	30,800	51,300	29.7	
1/5/2012	1118	10.41	-1.53	70,400	28,100	52,200	29.5	
1/12/2012	1058	10.21	-1.33	75,200	28,200	50,900	29.9	
1/19/2012	0958	10.30	-1.42	75,200	27,700	49,300	29.8	
1/26/2012	1048	10.22	-1.34	72,300	29,400	55,300	30.0	
2/2/2012	1048	10.21	-1.33	71,300	28,400	50,700	29.9	
2/10/2012	1029	9.15	-0.27	71,400	30,400	52,400	30.0	
2/16/2012	1219	9.47	-0.59	72,300	27,000	53,300	29.9	
2/23/2012	1049	9.57	-0.69	72,300	29,600	55,100	30.1	
3/1/2012	1038	9.74	-0.86	72,300	31,500	50,100	30.0	
3/8/2012	1058	9.76	-0.88	72,200	31,600	53,100	29.3	
3/16/2012	1038	9.65	-0.77	72,100	34,900	53,100	29.9	
3/22/2012	1108	9.90	-1.02	72,400	30,800	48,700	29.8	
3/29/2012	0911	9.87	-0.99	72,500	29,100	48,600	29.2	
4/5/2012	1208	10.25	-1.37	71,600	29,200	50,800	30.0	
4/12/2012	1118	10.15	-1.27	71,500	32,000	52,700	30.1	
4/19/2012	1143	9.85	-0.97	72,000	34,000	54,500	30.3	
4/26/2012	1009	9.50	-0.62	72,100	36,000	54,200	29.7	
5/3/2012	1144	8.85	0.03	72,400	36,500	50,900	29.6	

ft. btoc:	feet below top of casing
TOC:	Top of Casing
ft. NAVD 88:	North American Vertical Datum of 1988
umhos/cm:	micromhos per centimeter
mg/L:	milligrams per liter
C:	Celsius

\*Results appear to be anomalous and are suspected to be related to a sampling error. Countermeasures to prevent reoccurrence have been implemented.

Note: TOC elevation is: 8.88 feet NAVD 88

Project: Florida Power & Light Company  
Miami-Dade County, Florida  
Exploratory Well EW-1



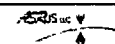
**EW-1 Pad Monitoring Well Water Quality Data  
Southeast Pad Monitoring Well  
(SE-EW PMW)**

Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks
4/21/2011	1311	10.10	-1.51	81,600	30,200	57,800	29.9	Background Sampling
4/29/2011	1349	10.40	-1.81	86,700	33,100	55,000	30.4	
5/5/2011	1008	11.10	-2.51	83,000	29,500	54,700	29.9	
5/11/2011	1228	10.65	-2.06	78,200	30,100	52,600	30.1	
5/19/2011	1039	10.12	-1.53	75,200	30,000	51,100	29.8	
5/26/2011	1235	10.47	-1.88	73,890	31,200	53,800	29.9	
6/2/2011	1056	10.50	-1.91	74,200	29,400	57,400	29.6	
6/9/2011	1210	10.32	-1.73	72,200	32,100	51,000	29.6	
6/16/2011	1035	10.00	-1.41	71,300	32,200	54,000	29.8	
6/23/2011	1109	10.10	-1.51	71,900	31,600	55,650	29.8	
6/30/2011	1009	9.85	-1.26	72,800	27,600	53,050	29.5	
7/8/2011	1138	9.12	-0.53	73,150	29,800	54,450	29.9	
7/14/2011	1414	9.48	-0.89	79,700	29,000	55,350	29.8	
7/21/2011	1119	9.36	-0.77	74,100	34,000	54,100	30.0	
7/28/2011	1229	9.55	-0.96	74,300	30,200	56,300	29.8	
8/4/2011	1224	9.50	-0.91	72,700	31,500	53,000	27.7	
8/11/2011	1209	9.37	-0.78	77,400	30,000	56,800	29.7	
8/18/2011	1149	9.45	-0.86	74,100	30,100	55,500	30.0	
8/25/2011	1149	9.38	-0.79	73,300	31,200	57,450	29.6	
9/1/2011	1224	9.10	-0.51	72,700	30,700	57,300	29.8	
9/8/2011	1159	9.21	-0.62	73,200	32,200	51,800	30.1	
9/16/2011	1303	9.40	-0.81	70,280	29,600	50,550	27.7	
9/23/2011	1239	9.20	-0.61	75,200	29,000	55,550	29.8	
9/29/2011	1300	9.10	-0.51	68,500	30,700	53,600	27.4	
10/6/2011	1229	9.25	-0.66	79,100	31,300	54,050	30.0	
10/13/2011	1209	9.95	-1.36	76,900	30,200	52,250	30.1	
10/20/2011	1200	8.60	-0.01	69,900	28,000	57,150	29.8	
10/27/2011	1218	8.81	-0.22	82,400	28,000	56,500	30.0	
11/3/2011	1159	9.56	-0.97	82,900	31,000	56,400	30.1	
11/10/2011	1109	9.96	-1.37	78,300	27,900	60,500	30.1	
11/17/2011	1208	10.90	-2.31	69,700	34,000	57,800	30.2	
11/25/2011	1049	9.36	-0.77	69,900	26,900	53,600	30.0	
12/1/2011	1248	10.85	-2.26	71,800	33,900	57,000	30.2	
12/8/2011	1209	9.87	-1.28	68,900	29,500	61,500	27.0	
12/15/2011	1219	9.53	-0.94	76,600	28,000	55,100	30.1	
12/22/2011	1149	9.65	-1.06	72,300	29,000	52,400	30.0	
12/29/2011	1029	9.96	-1.37	77,600	29,800	52,200	30.1	
1/5/2012	1229	10.31	-1.72	72,800	27,700	53,400	30.1	
1/12/2012	1204	10.10	-1.51	76,000	30,800	52,900	30.1	
1/19/2012	1139	10.38	-1.79	76,500	28,100	50,800	30.0	
1/26/2012	1229	10.18	-1.59	73,200	29,900	56,300	30.1	
2/2/2012	1229	10.23	-1.64	72,400	27,900	52,000	30.1	
2/10/2012	1209	9.21	-0.62	72,000	29,800	55,400	30.2	
2/16/2012	1359	9.45	-0.86	72,700	27,700	57,200	30.2	
2/23/2012	1229	9.48	-0.89	72,800	32,100	57,000	30.2	
3/1/2012	1219	9.61	-1.02	72,800	31,000	51,700	30.2	
3/8/2012	1244	9.81	-1.22	72,500	32,500	52,500	29.9	
3/16/2012	1219	9.61	-1.02	72,900	34,300	53,100	30.3	
3/22/2012	1249	9.87	-1.28	72,600	31,000	51,100	30.2	
3/29/2012	1054	9.97	-1.38	72,900	29,500	51,200	29.9	
4/5/2012	1341	10.05	-1.46	72,300	29,500	52,200	30.2	
4/12/2012	1259	9.98	-1.39	72,200	31,200	53,800	30.5	
4/19/2012	1244	9.90	-1.31	71,800	33,500	54,500	30.4	
4/26/2012	1144	9.61	-1.02	72,200	35,500	54,500	30.0	
5/3/2012	1249	8.97	-0.38	73,100	37,400	51,700	30.2	

ft. btoc: feet below top of casing  
TOC: Top of Casing  
ft. NAVD 88: North American Vertical Datum of 1988  
umhos/cm: micromhos per centimeter  
mg/L: milligrams per liter  
C: Celsius  
Note: TOC elevation is: 8.59 feet NAVD 88

Project: Florida Power & Light Company  
Miami-Dade County, Florida  
Exploratory Well EW-1

MHC



**EW-1 Pad Monitoring Well Water Quality Data  
Northwest Pad Monitoring Well  
(NW-EW PMW)**

Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks
4/21/2011	1221	10.50	-1.66	84,300	33,500	59,900	30.8	Background Sampling
4/29/2011	1120	10.65	-1.81	86,300	33,700	56,400	30.0	
5/5/2011	1051	11.40	-2.56	87,400	31,300	57,650	31.1	
5/11/2011	1034	12.40	-3.56	79,100	33,500	55,650	30.4	
5/19/2011	1113	13.90	-5.06	80,000	36,000	53,700	30.4	
5/26/2011	1125	10.73	-1.89	75,130	32,300	55,450	30.4	
6/2/2011	1215	10.75	-1.91	75,900	30,700	59,500	30.3	
6/9/2011	1248	10.60	-1.76	72,500	32,200	51,950	29.9	
6/16/2011	1118	10.25	-1.41	72,500	31,500	54,550	30.0	
6/23/2011	1143	10.37	-1.53	73,300	31,600	57,750	30.3	
6/30/2011	1049	10.10	-1.26	75,700	27,400	54,300	30.0	
7/8/2011	1112	9.38	-0.54	74,100	30,700	53,950	30.3	
7/14/2011	1524	9.75	-0.91	79,900	27,600	56,350	30.3	
7/21/2011	1226	9.60	-0.76	76,200	32,600	54,500	29.7	
7/28/2011	1154	9.80	-0.96	74,900	32,200	57,050	30.5	
8/4/2011	1317	9.85	-1.01	78,000	30,500	59,300	28.7	
8/11/2011	1134	9.61	-0.77	77,600	31,100	58,150	30.4	
8/18/2011	1114	9.68	-0.84	73,100	30,000	55,350	30.6	
8/25/2011	1114	9.61	-0.77	72,300	31,800	56,950	30.0	
9/1/2011	1149	9.33	-0.49	71,900	29,300	56,000	30.4	
9/8/2011	1124	9.45	-0.61	73,800	30,100	52,300	30.5	
9/16/2011	1203	9.60	-0.76	67,200	23,400	51,650	28.2	
9/23/2011	1204	9.43	-0.59	73,800	30,800	54,450	30.4	
9/29/2011	1205	9.35	-0.51	68,700	27,500	50,800	27.6	
10/6/2011	1154	9.50	-0.66	78,400	30,000	56,550	30.2	
10/13/2011	1133	10.21	-1.37	75,800	29,300	50,500	30.2	
10/20/2011	1124	8.81	0.03	70,200	27,500	56,850	30.1	
10/27/2011	1143	10.39	-1.55	81,500	28,800	54,600	30.2	
11/3/2011	1123	10.50	-1.66	80,500	30,400	55,900	30.1	
11/10/2011	1033	10.37	-1.53	77,800	27,800	58,700	30.1	
11/17/2011	1133	10.71	-1.87	67,900	30,500	57,000	30.3	
11/25/2011	1014	9.58	-0.74	71,700	27,400	53,300	30.2	
12/1/2011	1214	9.80	-0.96	68,500	33,500	53,650	30.1	
12/8/2011	1133	10.37	-1.53	68,700	27,600	57,850	27.7	
12/15/2011	1144	9.75	-0.91	75,500	28,200	52,000	30.0	
12/22/2011	1114	9.87	-1.03	70,600	27,700	52,100	29.9	
12/29/2011	0954	9.97	-1.13	77,700	29,500	51,600	29.9	
1/5/2012	1153	10.52	-1.68	71,800	28,000	52,800	29.6	
1/12/2012	1133	10.35	-1.51	75,400	30,400	51,900	30.0	
1/19/2012	1033	10.42	-1.58	75,600	29,800	50,200	29.9	
1/26/2012	1123	10.35	-1.51	73,200	29,500	56,000	29.9	
2/2/2012	1123	10.35	-1.51	71,100	27,400	51,200	29.9	
2/10/2012	1104	9.38	-0.54	70,300	28,800	54,900	29.8	
2/16/2012	1254	9.67	-0.83	71,100	27,800	55,200	29.8	
2/23/2012	1124	9.67	-0.83	72,100	30,700	56,200	29.8	
3/1/2012	1114	9.91	-1.07	71,500	31,000	51,200	29.7	
3/8/2012	1139	9.62	-0.78	71,600	30,500	52,800	29.4	
3/16/2012	1114	9.85	-1.01	71,500	34,100	52,400	29.7	
3/22/2012	1144	10.10	-1.26	71,400	30,200	48,700	29.6	
3/29/2012	0949	9.93	-1.09	71,500	28,400	51,200	29.6	
4/5/2012	1241	10.09	-1.25	71,300	28,900	51,100	29.7	
4/12/2012	1154	10.00	-1.16	71,300	29,300	52,600	29.9	
4/19/2012	1109	9.97	-1.13	71,400	31,500	53,300	30.2	
4/26/2012	1042	9.68	-0.84	71,700	31,300	53,000	29.6	
5/3/2012	1109	9.00	-0.16	72,200	34,200	49,500	29.5	

ft. btoc: feet below top of casing  
TOC: Top of Casing  
ft. NAVD 88: North American Vertical Datum of 1988  
umhos/cm: micromhos per centimeter  
mg/L: milligrams per liter  
C: Celsius

Note: TOC elevation is: 8.84 feet NAVD 88

Project: Florida Power & Light Company  
Miami-Dade County, Florida  
Exploratory Well EW-1





**EW-1 Pad Monitoring Well Water Quality Data  
Southwest Pad Monitoring Well  
(SW-EW PMW)**

Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks
4/21/2011	1414	10.50	-1.62	72,500	26,400	51,500	30.6	Background Sampling
4/29/2011	1025	10.60	-1.72	77,400	28,300	51,600	29.8	
5/5/2011	0930	11.85	-2.97	75,200	29,000	49,400	28.7	
5/11/2011	1124	16.40	-7.52	78,100	28,300	51,050	31.6	
5/19/2011	1202	15.95	-7.07	73,100	29,700	48,450	32.6	
5/26/2011	1155	11.20	-2.32	66,630	27,800	48,350	29.4	
6/2/2011	1035	11.25	-2.37	68,500	26,000	52,600	29.4	
6/9/2011	1319	11.05	-2.17	65,400	26,300	44,150	29.5	
6/16/2011	1154	10.75	-1.87	64,900	27,000	48,450	29.5	
6/23/2011	1214	10.85	-1.97	65,500	30,400	50,800	29.6	
6/30/2011	1119	10.60	-1.72	68,500	24,300	46,650	29.4	
7/8/2011	1045	9.85	-0.97	64,950	25,600	47,650	29.6	
7/14/2011	1445	10.22	-1.34	69,900	24,800	48,300	29.6	
7/21/2011	1154	10.10	-1.22	67,800	27,400	47,900	29.6	
7/28/2011	1259	10.26	-1.38	67,000	26,600	48,650	27.7	
8/4/2011	1157	10.30	-1.42	68,420	25,600	51,350	27.5	
8/11/2011	1243	9.21	-0.33	67,800	26,400	51,150	29.7	
8/18/2011	1219	10.15	-1.27	66,300	25,400	47,500	29.8	
8/25/2011	1219	10.31	-1.43	66,000	26,900	50,150	29.4	
9/1/2011	1254	9.87	-0.99	65,400	25,700	49,450	29.8	
9/8/2011	1229	9.97	-1.09	66,800	26,300	46,500	29.9	
9/16/2011	1329	10.10	-1.22	64,000	25,700	46,800	28.0	
9/23/2011	1309	9.95	-1.07	66,200	25,800	47,500	29.6	
9/29/2011	1230	9.80	-0.92	64,100	25,400	46,150	27.7	
10/6/2011	1259	9.97	-1.09	76,200	25,800	45,800	29.7	
10/13/2011	1239	10.67	-1.79	69,100	26,100	46,700	29.8	
10/20/2011	1229	9.31	-0.43	64,700	23,800	51,100	29.6	
10/27/2011	1249	10.87	-1.99	75,600	26,500	50,000	29.7	
11/3/2011	1229	10.93	-2.05	75,600	27,700	49,750	29.7	
11/10/2011	1139	10.91	-2.03	73,500	25,500	53,300	29.7	
11/17/2011	1238	11.41	-2.53	63,800	26,900	50,400	29.7	
11/25/2011	1119	10.05	-1.17	65,800	24,900	48,950	29.7	
12/1/2011	1323	11.42	-2.54	65,900	29,600	51,100	29.6	
12/8/2011	1239	10.98	-2.10	64,900	24,800	52,450	27.3	
12/15/2011	1247	10.27	-1.39	70,100	24,800	49,700	29.4	
12/22/2011	1219	10.27	-1.39	66,800	24,900	45,600	29.7	
12/29/2011	1059	10.67	-1.79	71,100	26,400	46,300	29.5	
1/5/2012	1259	11.03	-2.15	64,800	24,900	47,600	29.3	
1/12/2012	1234	10.87	-1.99	69,000	25,700	47,000	29.6	
1/19/2012	1104	11.00	-2.12	69,100	24,900	44,200	29.4	
1/26/2012	1154	10.85	-1.97	67,500	25,900	50,100	29.4	
2/2/2012	1154	10.97	-2.09	65,300	25,200	46,200	29.5	
2/10/2012	1134	9.91	-1.03	65,300	25,400	48,900	29.6	
2/16/2012	1324	10.15	-1.27	64,600	24,100	50,500	29.4	
2/23/2012	1154	10.24	-1.36	65,300	24,100	50,500	29.5	
3/1/2012	1144	10.27	-1.39	65,300	26,900	45,900	29.4	
3/8/2012	1209	10.31	-1.43	65,300	27,400	47,700	30.0	
3/16/2012	1144	10.35	-1.47	65,300	29,800	47,200	29.3	
3/22/2012	1214	10.61	-1.73	65,500	27,100	44,600	29.3	
3/29/2012	1019	10.18	-1.30	65,500	26,100	45,900	29.5	
4/5/2012	1309	10.72	-1.84	65,300	25,600	48,200	29.4	
4/12/2012	1224	10.60	-1.72	65,000	27,000	49,700	30.5	
4/19/2012	1211	10.65	-1.77	65,400	28,200	50,800	30.6	
4/26/2012	1109	10.32	-1.44	66,000	30,900	49,800	29.2	
5/3/2012	1214	9.70	-0.82	67,200	30,800	47,700	29.2	

ft. btoc: feet below top of casing  
TOC: Top of Casing  
ft. NAVD 88: North American Vertical Datum of 1988  
umhos/cm: micromhos per centimeter  
mg/L: milligrams per liter  
C: Celsius



Note: TOC elevation is: 8.88 feet NAVD 88





Project:	Florida Power & Light Company Miami-Dade County, Florida Dual-Zone Monitor Well DZMW-1	 MHC	
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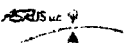
DZMW-1 Pad Monitoring Well Water Quality Data Northeast Pad Monitoring Well (NE-DZMW PMW)								
Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks
3/20/2012	0958	8.15	-1.08	73,100	33,300	52,200	30.1	Background Sampling
3/29/2012	1128	8.23	-1.16	73,000	29,600	51,400	30.1	
4/6/2012	0858	8.30	-1.23	72,200	28,800	51,200	30.1	
4/13/2012	1128	8.25	-1.18	72,300	33,900	53,100	30.2	
4/20/2012	1038	8.20	-1.13	72,000	34,700	54,500	30.1	
4/27/2012	0958	7.95	-0.88	72,100	37,300	55,100	29.8	
5/4/2012	1009	7.22	-0.15	72,400	29,900	51,100	29.8	

ft. btoc: feet below top of casing  
TOC: Top of Casing  
ft. NAVD 88: North American Vertical Datum of 1988  
umhos/cm: micromhos per centimeter  
mg/L: milligrams per liter  
C: Celsius  
Top of Casing Elevation: 7.07 feet NAVD 88

Project:		Florida Power & Light Company Miami-Dade County, Florida Dual-Zone Monitor Well DZMW-1						 	
<b>DZMW-1 Pad Monitoring Well Water Quality Data</b> <b>Southeast Pad Monitoring Well</b> <b>(SE-DZMW PMW)</b>									
Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks	
3/20/2012	1033	8.25	-1.08	72,700	33,900	50,500	30.1	Background Sampling	
3/29/2012	1303	8.33	-1.16	72,800	29,200	50,400	30.2		
4/6/2012	1028	8.30	-1.13	72,300	29,300	53,300	30.2		
4/13/2012	1303	8.32	-1.15	72,400	33,800	54,600	30.2		
4/20/2012	1213	8.28	-1.11	72,300	31,700	55,400	30.2		
4/27/2012	1133	8.10	-0.93	72,600	34,600	53,900	29.5		
5/4/2012	1141	7.40	-0.23	73,300	29,700	52,700	30.0		
ft. btoc: feet below top of casing TOC: Top of Casing ft. NAVD 88: North American Vertical Datum of 1988 umhos/cm: micromhos per centimeter mg/L: milligrams per liter C: Celsius Top of Casing Elevation: 7.17 feet NAVD 88									

[illegible]

Project:		Florida Power & Light Company Miami-Dade County, Florida Dual-Zone Monitor Well DZMW-1						 	
<b>DZMW-1 Pad Monitoring Well Water Quality Data</b> <b>Northwest Pad Monitoring Well</b> <b>(NW-DZMW PMW)</b>									
Date	Time (hours)	Depth to Water (ft. bloc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks	
3/20/2012	1103	8.27	-1.08	73,600	29,500	53,100	29.9	Background Sampling	
3/29/2012	1158	8.31	-1.12	73,400	30,100	48,400	30.0		
4/6/2012	0926	8.35	-1.16	72,100	29,200	51,400	29.8		
4/13/2012	1157	8.41	-1.22	72,200	34,600	55,000	30.4		
4/20/2012	1108	8.35	-1.16	72,000	31,400	55,500	29.9		
4/27/2012	1027	8.05	-0.86	72,200	32,200	53,900	29.8		
5/4/2012	1037	7.12	0.07	72,800	30,800	52,400	29.6		
ft. bloc: feet below top of casing TOC: Top of Casing ft. NAVD 88: North American Vertical Datum of 1988 umhos/cm: micromhos per centimeter mg/L: milligrams per liter C: Celsius Top of Casing Elevation: 7.19 feet NAVD 88									

<div> <div>MHC</div> <div> <b>Florida Power &amp; Light Company</b>  <b>Turkey Point</b>  <b>Dual Zone Monitoring Well DZMW-1</b>  <b>Lithologic Description</b> </div> <div>  </div> </div>			
Date	Depth (ft. bpl)		Observer's Description
	From	To	
5/9/2012	1,110	1,120	Dolomitic Limestone: Dolomitic Limestone, 90%, pale yellowish brown (10YR 6/2), well indurated with minor amount of pelecypod shell fragments; Limestone, 10%, yellowish gray (5Y 7/2), arenaceous, fine grained, soft.
5/9/2012	1,120	1,130	Limestone: yellowish gray (5Y 7/2), very fine grained, well indurated, fossiliferous, vuggy; Dolomite trace.
5/9/2012	1,130	1,140	Dolomite and Dolomitic Limestone: Dolomite, 70%, pale yellowish brown (10YR 6/2), fine crystalline, well indurated, slightly vuggy; Dolomitic Limestone, 30%, pale yellowish brown (10YR 6/2) to moderate yellowish brown (10YR 5/4), fine grained, well indurated with minor amount of pelecypod shell fragments, very fossiliferous, low porosity, low permeability.
5/9/2012	1,140	1,150	Dolomitic Limestone: 100%, pale yellowish brown (10YR 6/2) to grayish orange (10YR 7/4), fine grained, well indurated, slightly brittle, vuggy, low porosity, low permeability.
5/9/2012	1,150	1,160	Dolomitic Limestone: same as above.
5/9/2012	1,160	1,170	Dolomitic Limestone: same as above.
5/9/2012	1,170	1,180	Dolomite: 100%, pale yellowish brown (10YR 6/2), fine crystalline, well indurated slightly vuggy.
ft. bpl = feet below pad level			



**Florida Power & Light Company**  
**Turkey Point**  
**Dual-Zone Monitor Well DZMW-1**  
**24-inch Diameter Casing Run Summary**



Date Installed	Time Installed	Joint #	Mill #	Length of Joint	Cumulative Length
5/4/2012	7:55	1	82035-48	42.15	42.15
5/4/2012	8:30	2	81037-71	42.15	84.30
5/4/2012	9:07	3	81037-72	42.15	126.45
5/4/2012	9:42	4	81037-69	42.15	168.60
5/4/2012	10:10	5	11P02636	39.05	207.65
5/4/2012	10:55	6	11P02636	39.05	246.70
5/4/2012	11:35	7	11P02636	39.05	285.75
5/4/2012	12:08	8	11P02636	39.08	324.83
5/4/2012	12:48	9	11P02636	39.08	363.91
5/4/2012	13:20	10	11P02636	39.05	402.96
5/4/2012	13:55	11	11P02636	39.05	442.01
5/4/2012	14:25	12	11P02636	39.05	481.06
5/4/2012	14:55	13	11P02636	39.05	520.11
5/4/2012	15:30	14	11P02636	39.05	559.16
5/4/2012	16:05	15	11P02636	39.05	598.21
5/4/2012	16:40	16	11P02636	39.05	637.26
5/4/2012	17:20	17	11P02636	39.05	676.31
5/4/2012	18:00	18	11P02636	39.08	715.39
5/4/2012	18:40	19	11P02636	39.05	754.44
5/4/2012	19:30	20	11P02636	39.05	793.49
5/4/2012	21:10	21	11P02636	39.05	832.54
5/4/2012	21:00	22	11P02636	39.08	871.62
5/4/2012	21:35	23	11P02636	39.08	910.70
5/4/2012	22:15	24	11P02636	39.05	949.75
5/4/2012	23:00	25	11P02636	39.05	988.80
5/4/2012	23:45	26	11P02636	39.05	1027.85
5/5/2012	0:35	27	11P02636	39.05	1066.90
5/5/2012	2:50	28 (Header)	82035-43	41.95	1108.85

Length of header joint from the base of the lugs is 41.95 feet and 6.5 feet is above pad level. This will put 1,102.4 feet of casing below pad level.

**Casing set to 1,102.4 feet bpl**

All lengths measured in feet.

**Florida Power & Light Company**  
**Turkey Point**  
**Dual-Zone Monitor Well DZMW-1**  
**24-inch Diameter Cement Summary**



Cementing Stage	Date	Depth of Hole (feet bpl)	Volume of Cement			Theoretical		Actual Interval Cemented (feet)	Actual / Theoretical Filled Interval (percent)	Type of cement (including additives)
			Planned (barrels)	Actual Pumped (barrels)	(cubic feet)	Depth (feet bpl)	Fill (feet )			
1	5/4/2012	1,105.0	418	422	2,470.9	1,105	1105	1030	0.93	102 bbl Neat/320 bbl 12%
2	5/5/2012	75.0	39	29	162.8	75	75	75	1.00	12%
	Final tag:	0								
<b>Total:</b>			<b>457</b>	<b>451</b>	<b>2,633.7</b>					

"Tagged Bottom" refers to the top of cement that was tagged by the Contractor prior to the cementing stage.

"Theoretical Interval Cemented" is the theoretical linear feet of cement fill based on the volume of cement pumped for that stage (calculated using XY caliper log).

"Actual Interval Cemented" refers to the difference between "Tagged Bottom" depths.

"Actual/Theoretical Filled Interval" refers to the "Actual Interval Cemented" divided by the "Theoretical Interval Cemented" as a percentage.

"bpl" denotes below pad level.

**Florida Power & Light Company  
Turkey Point  
Dual-Zone Monitor Well DZMW-1  
Daily Kill Material Log**

[illegible]

feet bpl = feet below pad level



# X-Y CALIPER GAMMA RAY LOG

Proposed Turkey Point Units 6 and 7  
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Company Well Field County State	FP&L TURKEY POINT DZMW-1 FLORIDA CITY MIAMI-DADE FLORIDA	Country USA	Company FP&L Well TURKEY POINT DZMW-1 Field FLORIDA CITY County MIAMI-DADE State FLORIDA	Country USA
			Location: FPL TURKEY POINT POWER PLANT MCNABB HYDROGEOLOGIC CONSULTING, INC. LAT: 25 25' 19" N LONG: 80 20' 08" W SEC TWP RGE	API # : Other Services DIL
			Permanent Datum PAD LEVEL Log Measured From PAD LEVEL Drilling Measured From PAD LEVEL	Elevation K.B. D.F. G.L.

Date	4-MAY-2012	
Run Number	FOUR	
Depth Driller	1105'	
Depth Logger	1110'	
Bottom Logged Interval	1110'	
Top Log Interval	CASING	
Open Hole Size	32.5"	
Type Fluid	MUD	
Density / Viscosity	NA	
Max. Recorded Temp.	NA	
Estimated Cement Top	NA	
Time Well Ready	0600	
Time Logger on Bottom	0630	
Equipment Number	GEO1	
Location	FT. MYERS	
Recorded By	J. CATHEY	
Witnessed By	M. CLASEN	

Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	12.25"	CASING	250'				
TWO	42"	CASING	258'				
THREE	12.25"	CASING	1110'				
Casing Record				Size	Wgt/Ft	Top	Bottom
Surface String				44"	.375" W.T.	SURFACE	36'
Prot. String				34"	.375" W.T.	SURFACE	255'
Production String							
Liner							

>>> Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

### Comments

Proposed Turkey Point Units 6 and 7  
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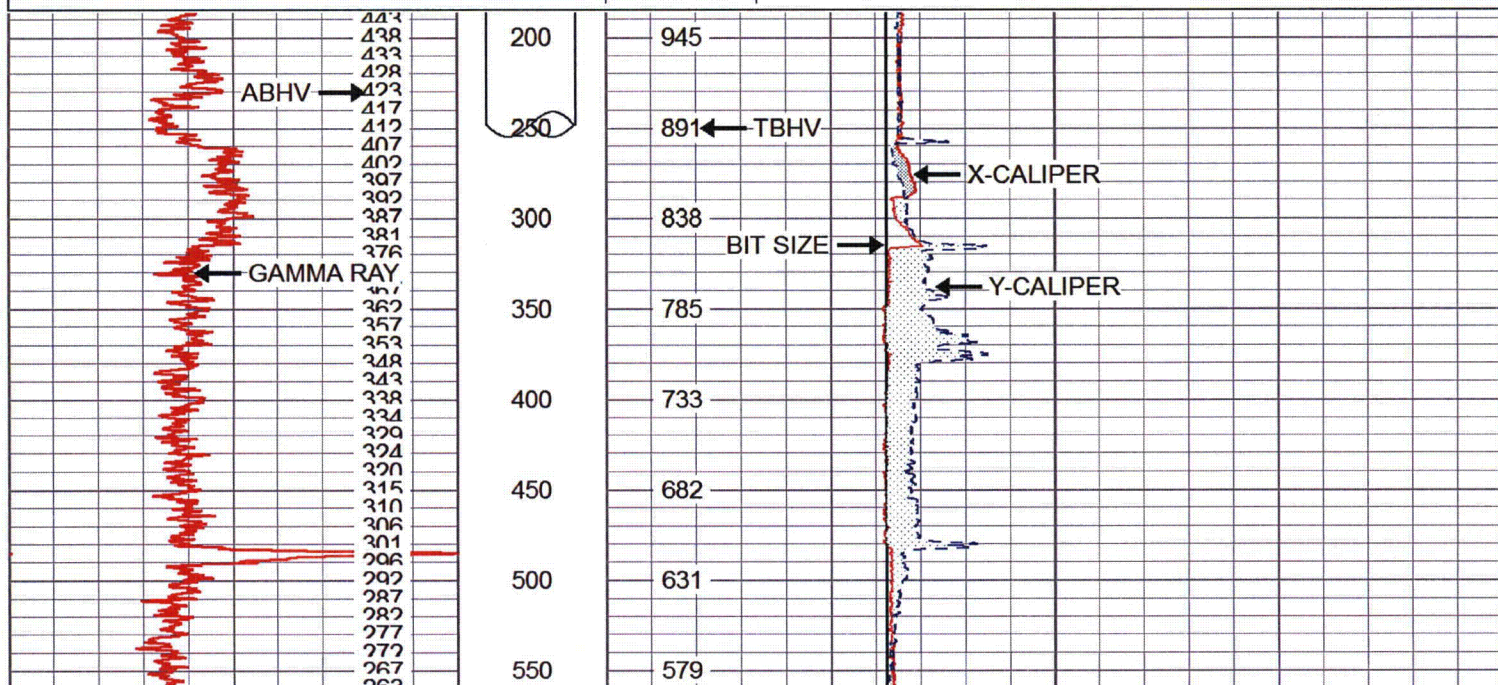
## ANNULAR BOREHOLE VOLUME IN BARRELS CALCULATED FOR 24" CASING



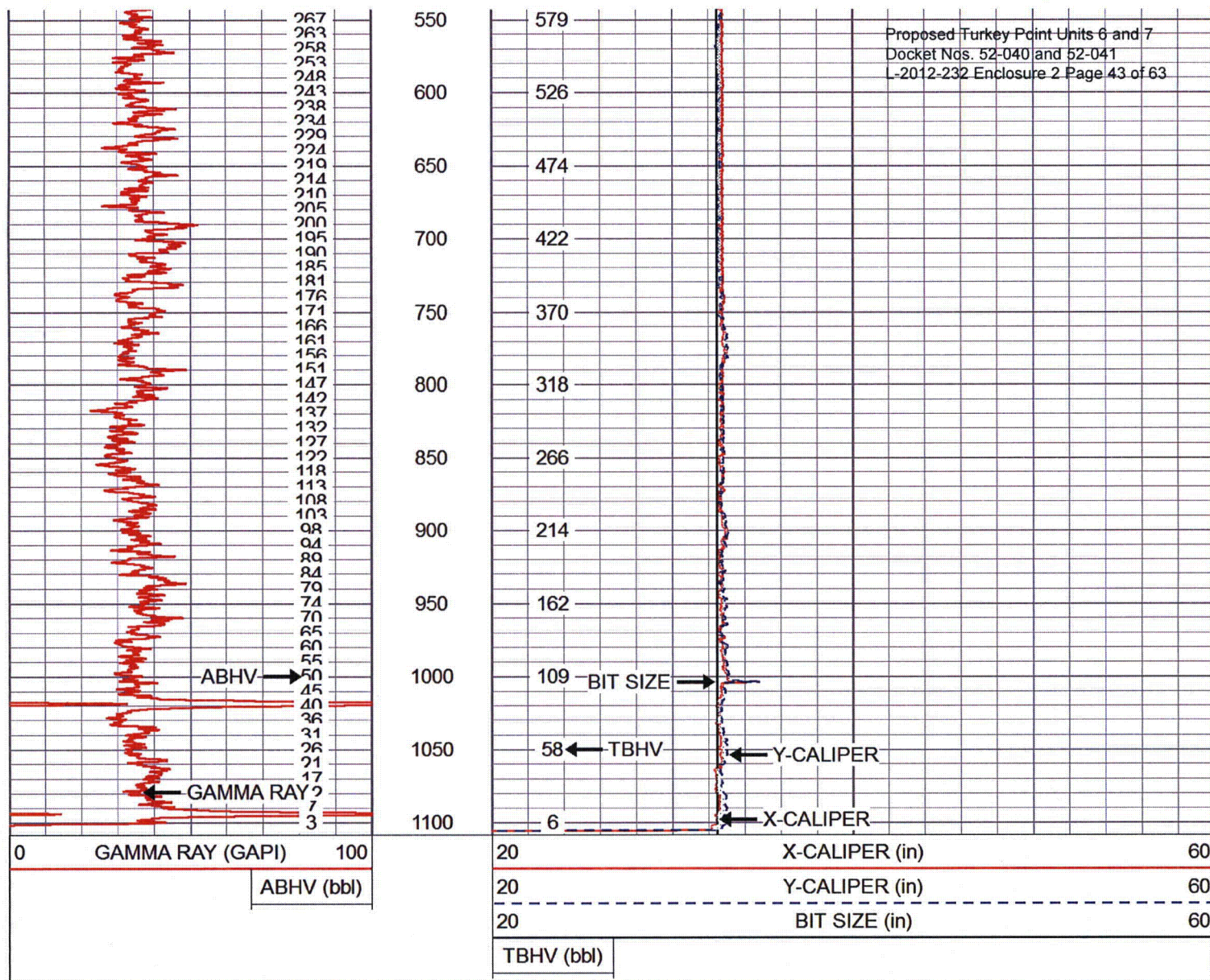
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Presentation Format: xycream  
Dataset Creation: Fri May 04 06:27:57 2012 by Log SOC 111108  
Charted by: Depth in Feet scaled 1:1200

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	ABHV (bbl)		20	Y-CALIPER (in)	60
			20	BIT SIZE (in)	60
				TBHV (bbl)	







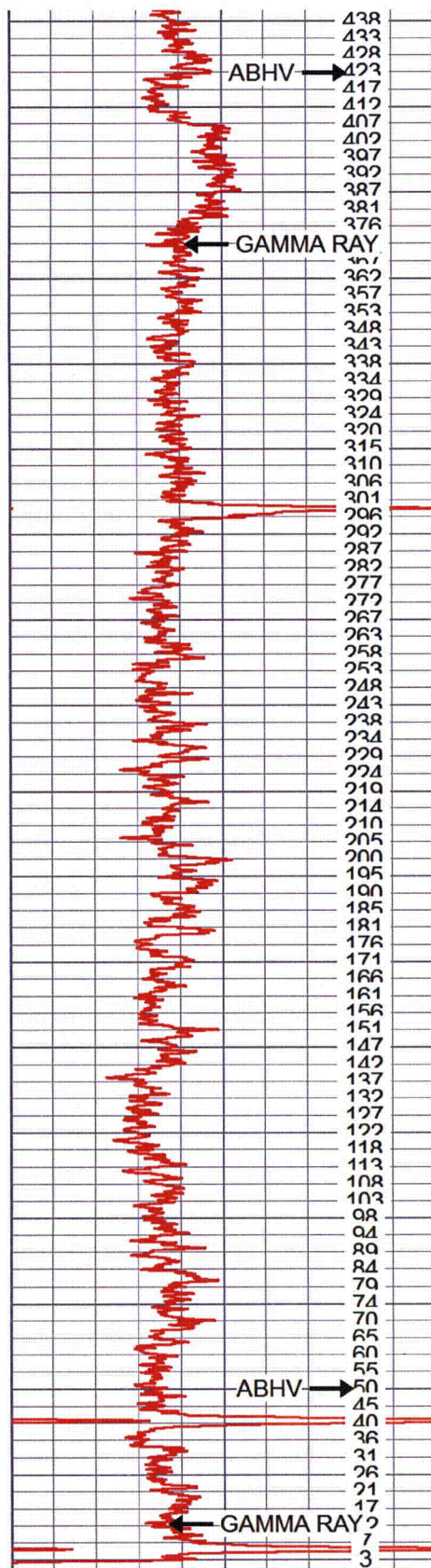
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	ABHV (bbl)		20	Y-CALIPER (in)	60
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			TBHV (bbl)		

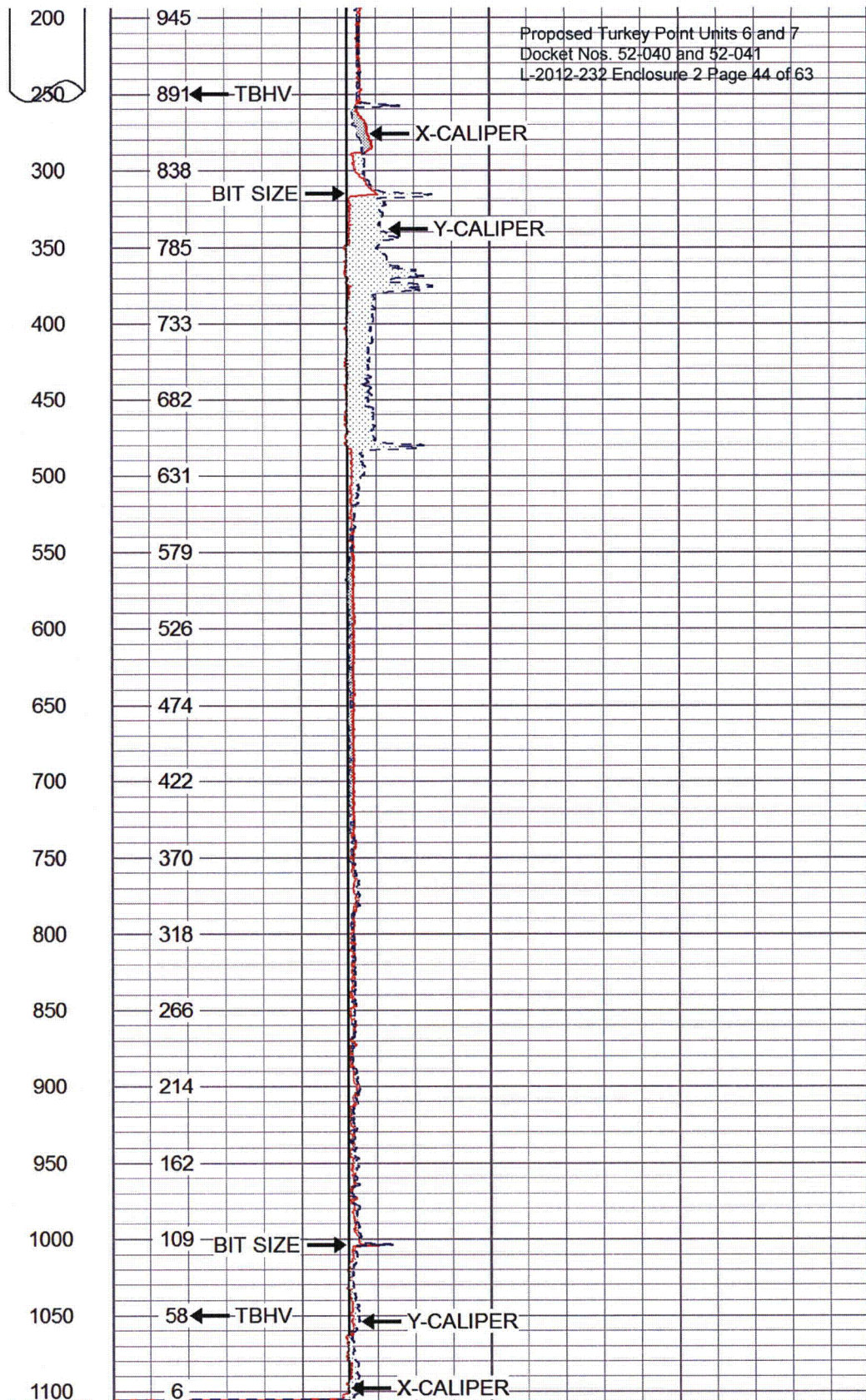
443	200	945
438		





0 GAMMA RAY (GAPI) 100

ABHV (bbl)



Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
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20 X-CALIPER (in) 60

20 Y-CALIPER (in) 60

20 BIT SIZE (in) 60

TBHV (bbl)



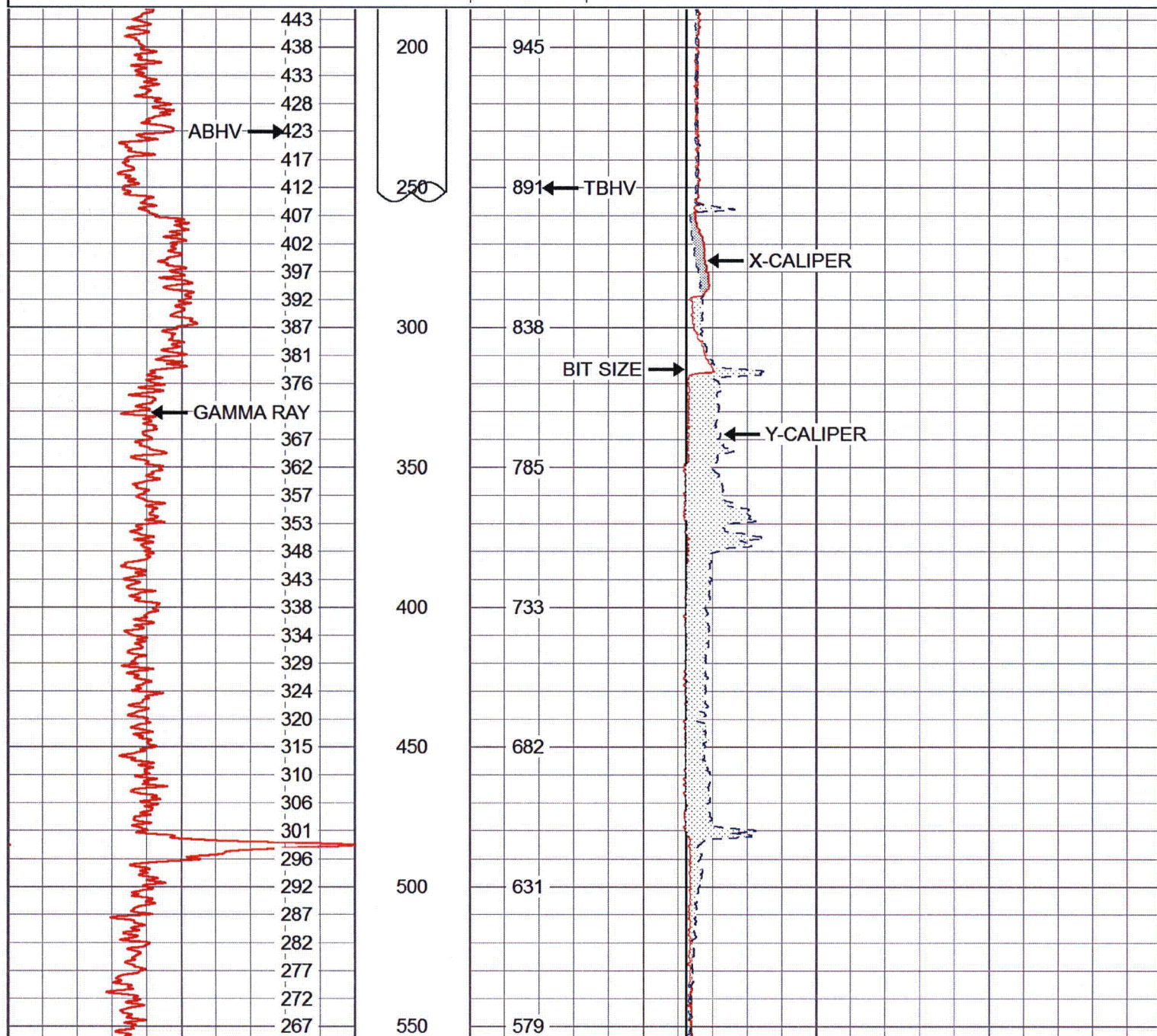


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 Docket Nos. 52-040 and 52-041  
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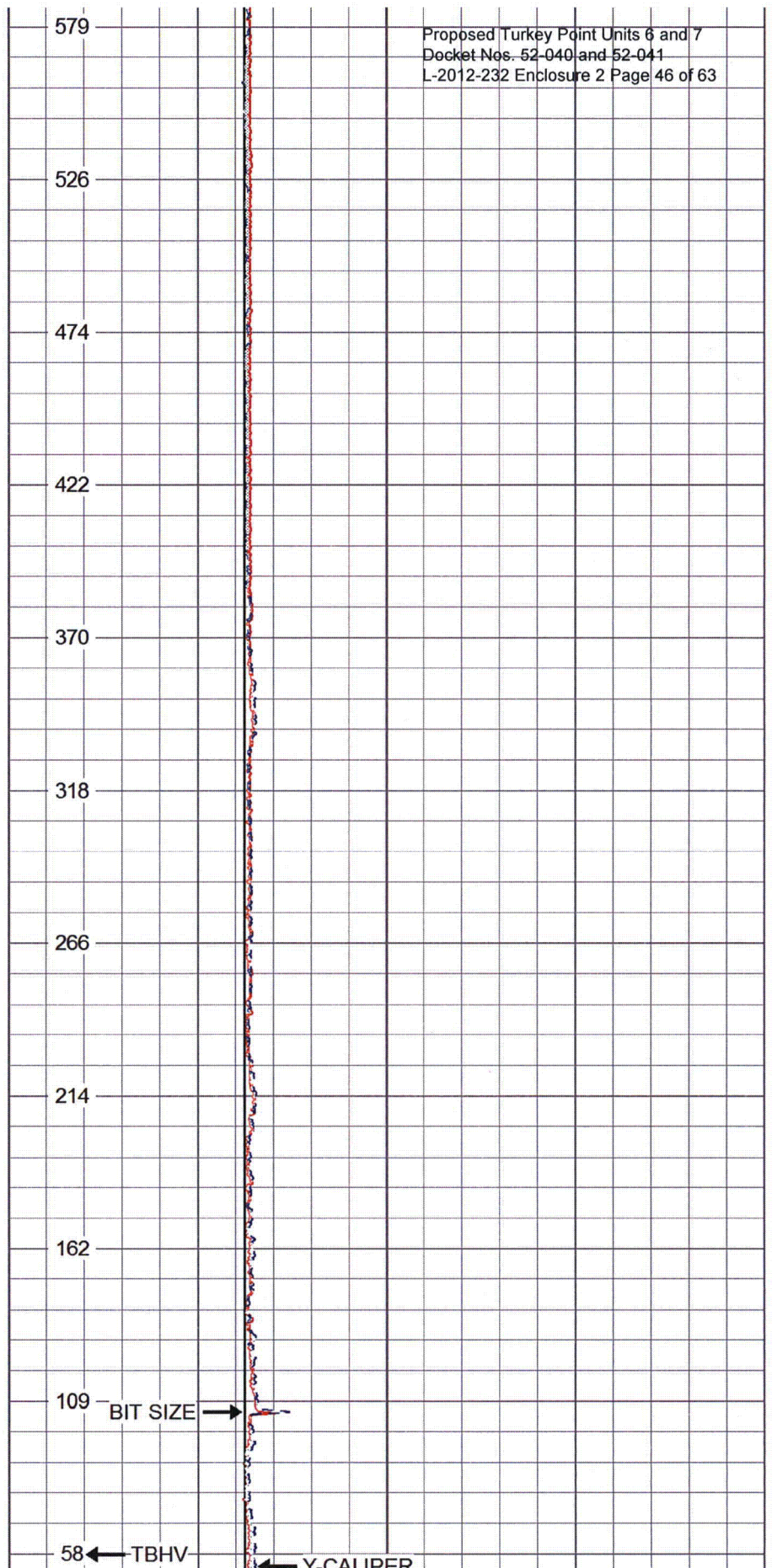
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			20	BIT SIZE (in)	60
			TBHV (bbl)		





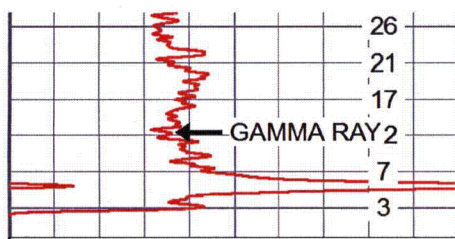


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1000  
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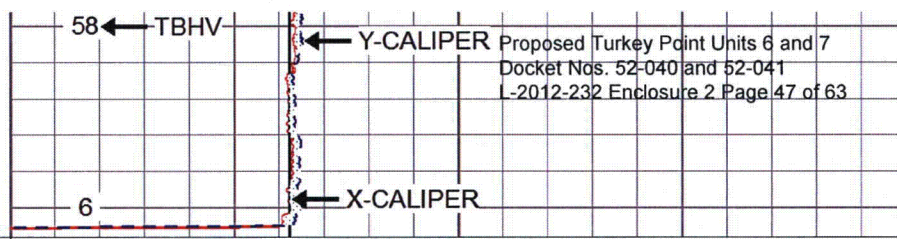




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	ABHV (bbl)	

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1100



20	X-CALIPER (in)	60
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	TBHV (bbl)	

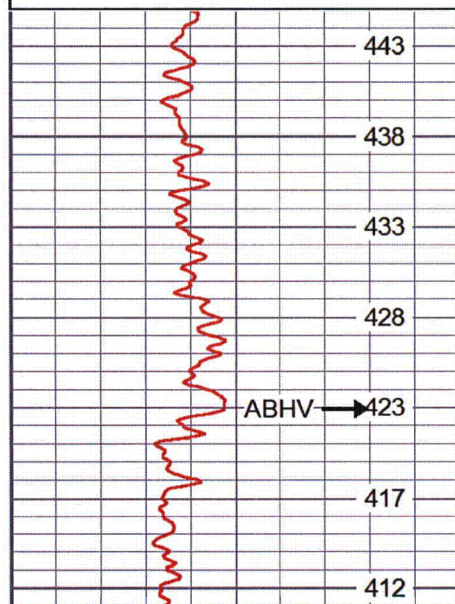


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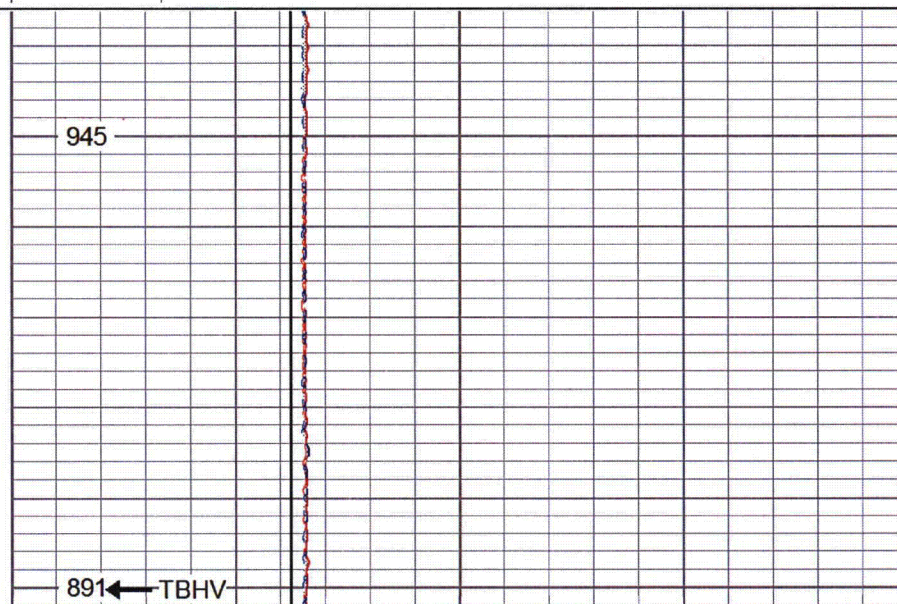
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	ABHV (bbl)	

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20	Y-CALIPER (in)	60
20	BIT SIZE (in)	60
	TBHV (bbl)	

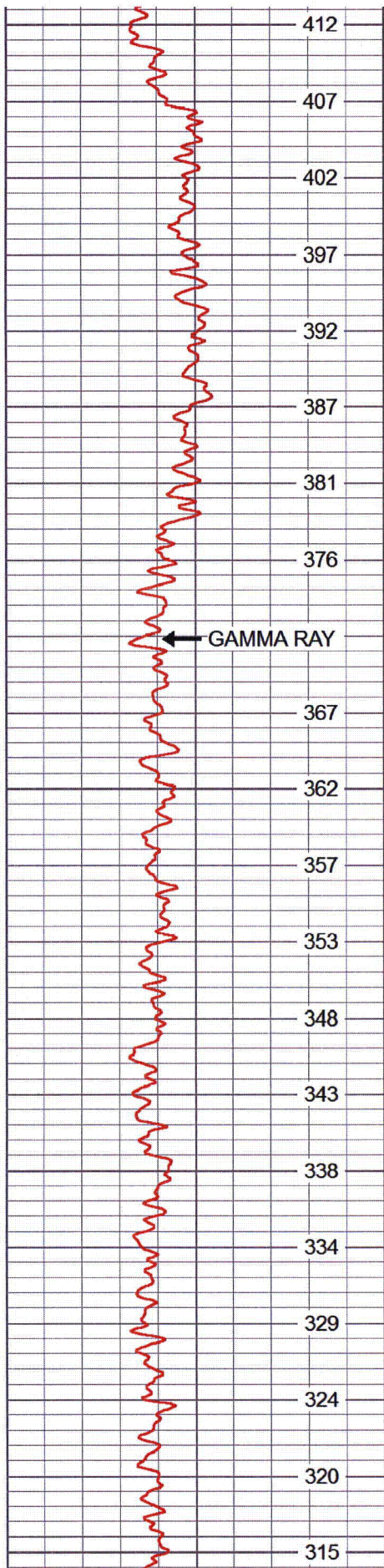


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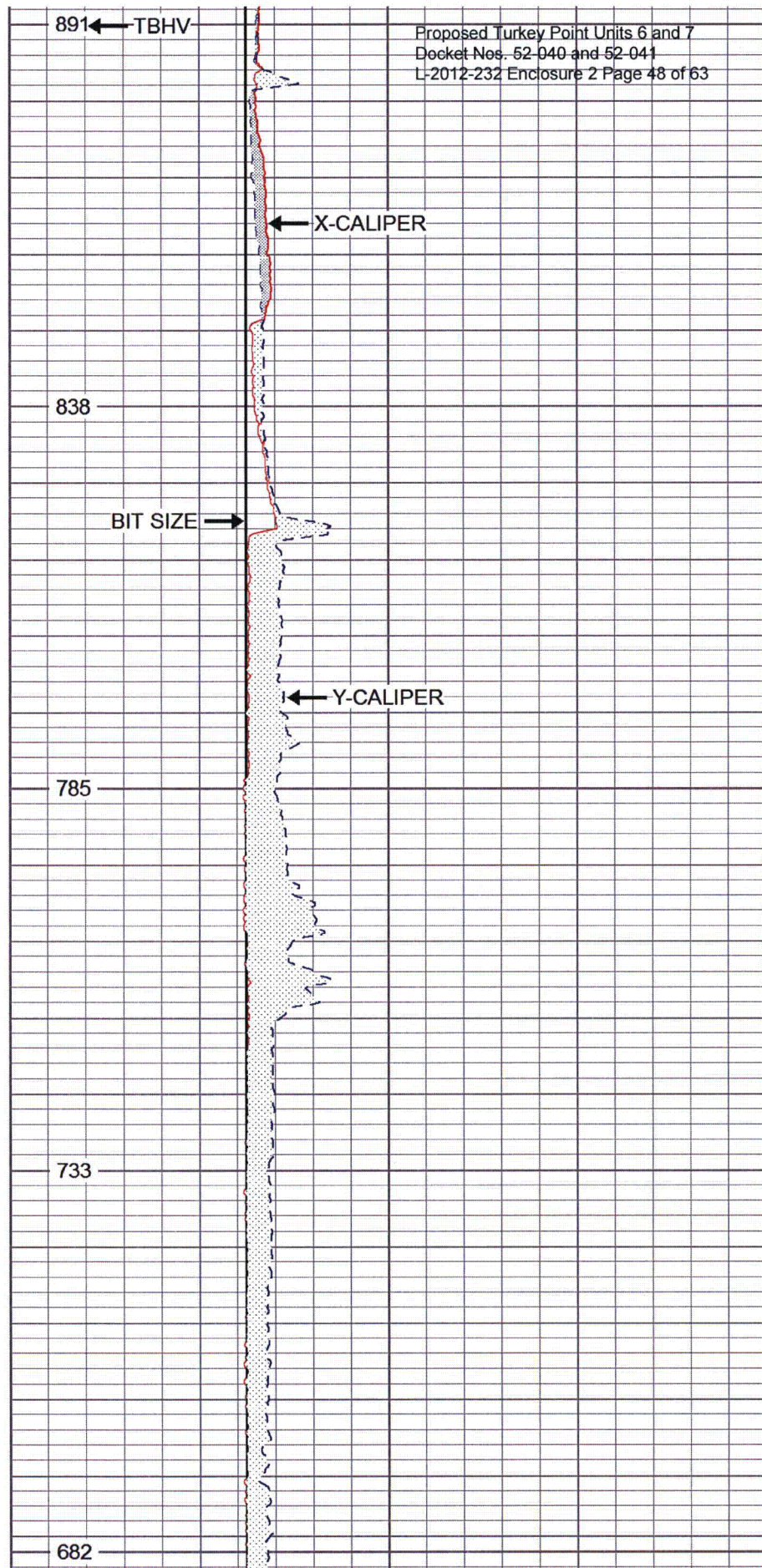
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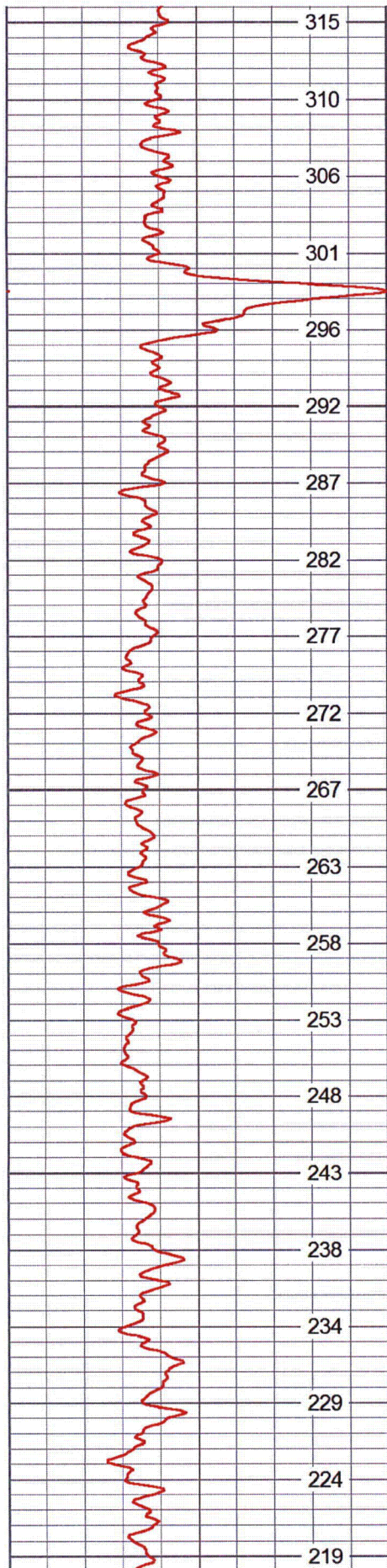
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Proposed Turkey Point Units 6 and 7  
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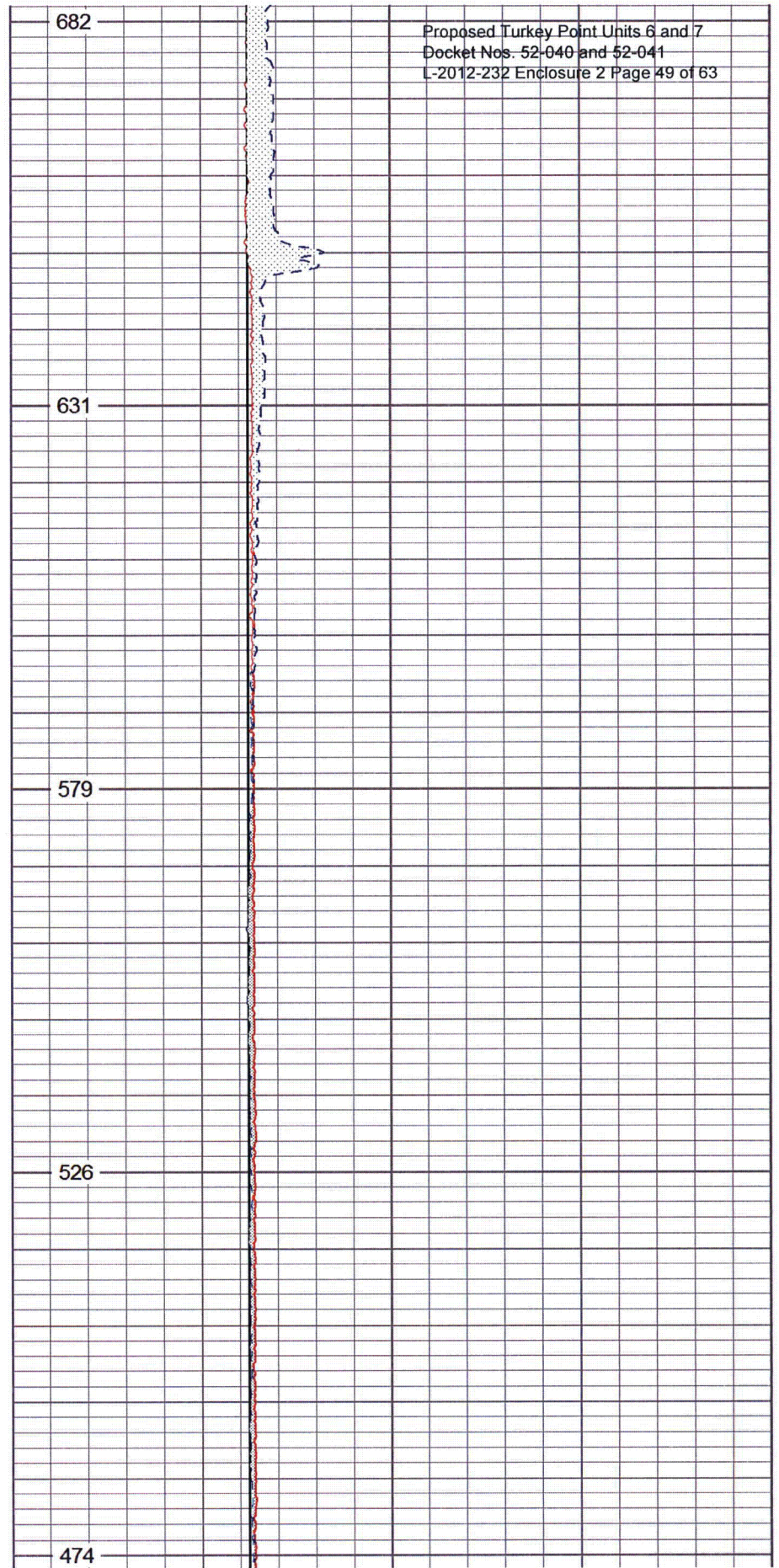
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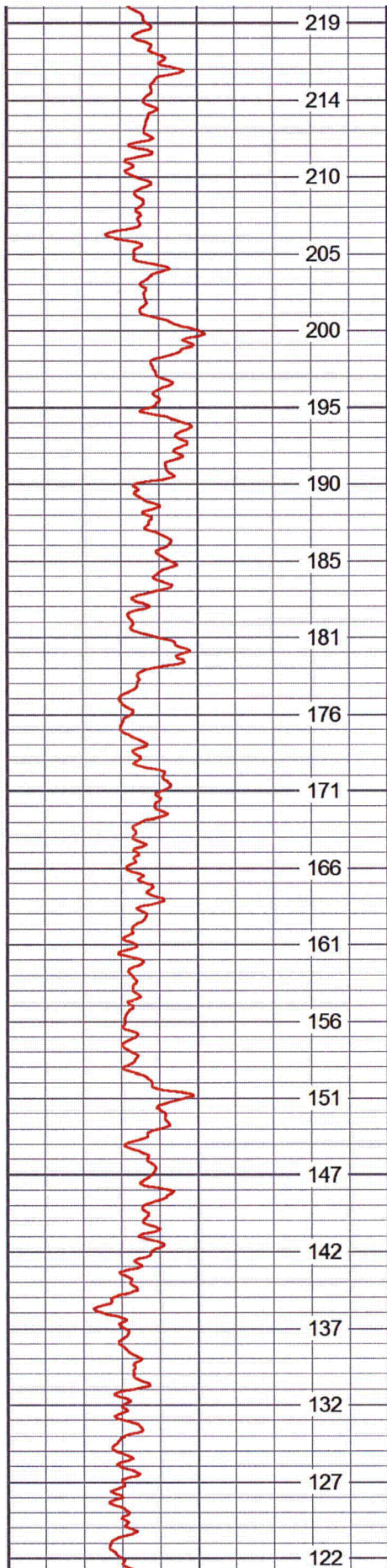
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Proposed Turkey Point Units 6 and 7  
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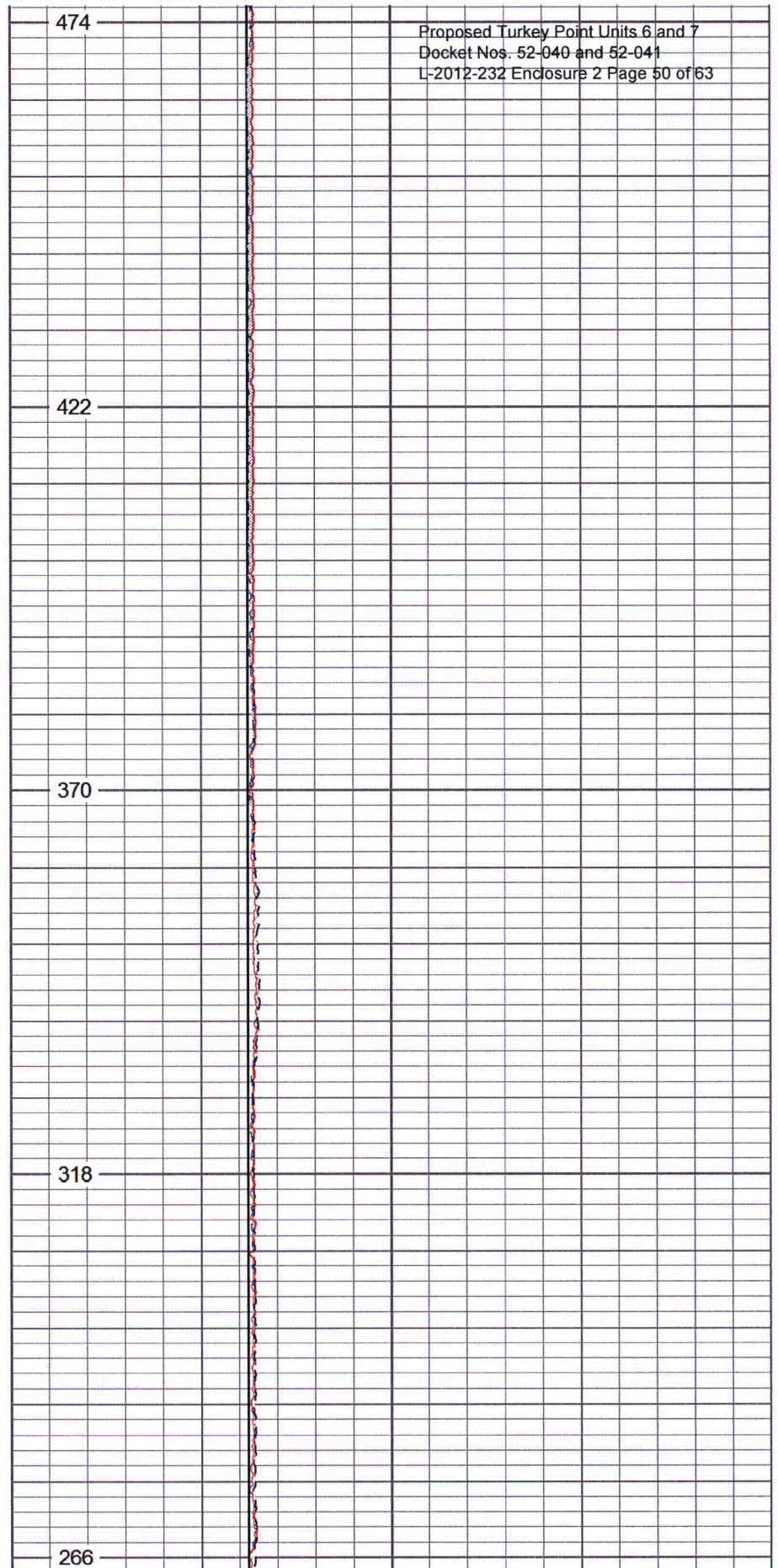
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700

750

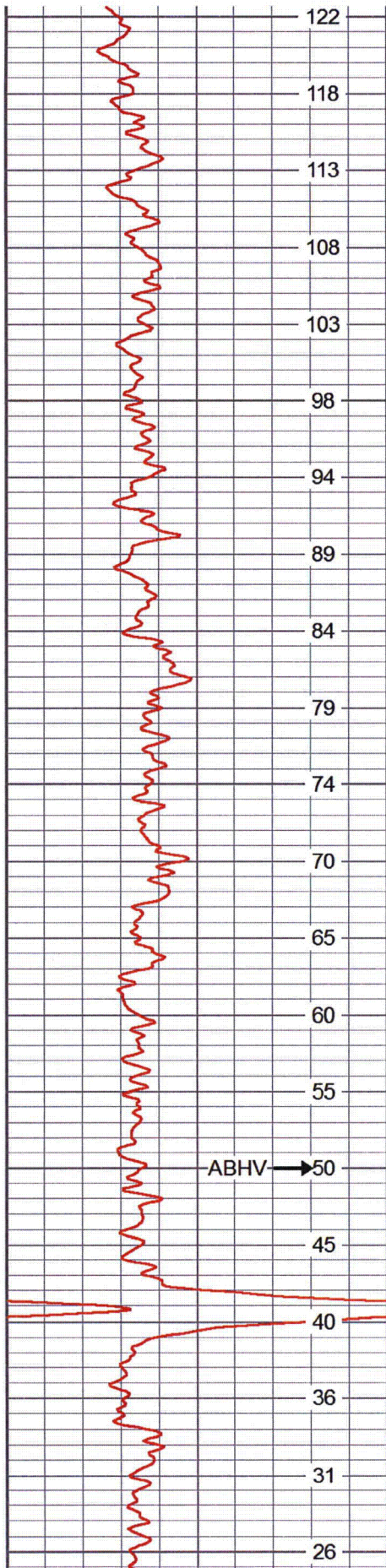
800

850



Proposed Turkey Point Units 6 and 7  
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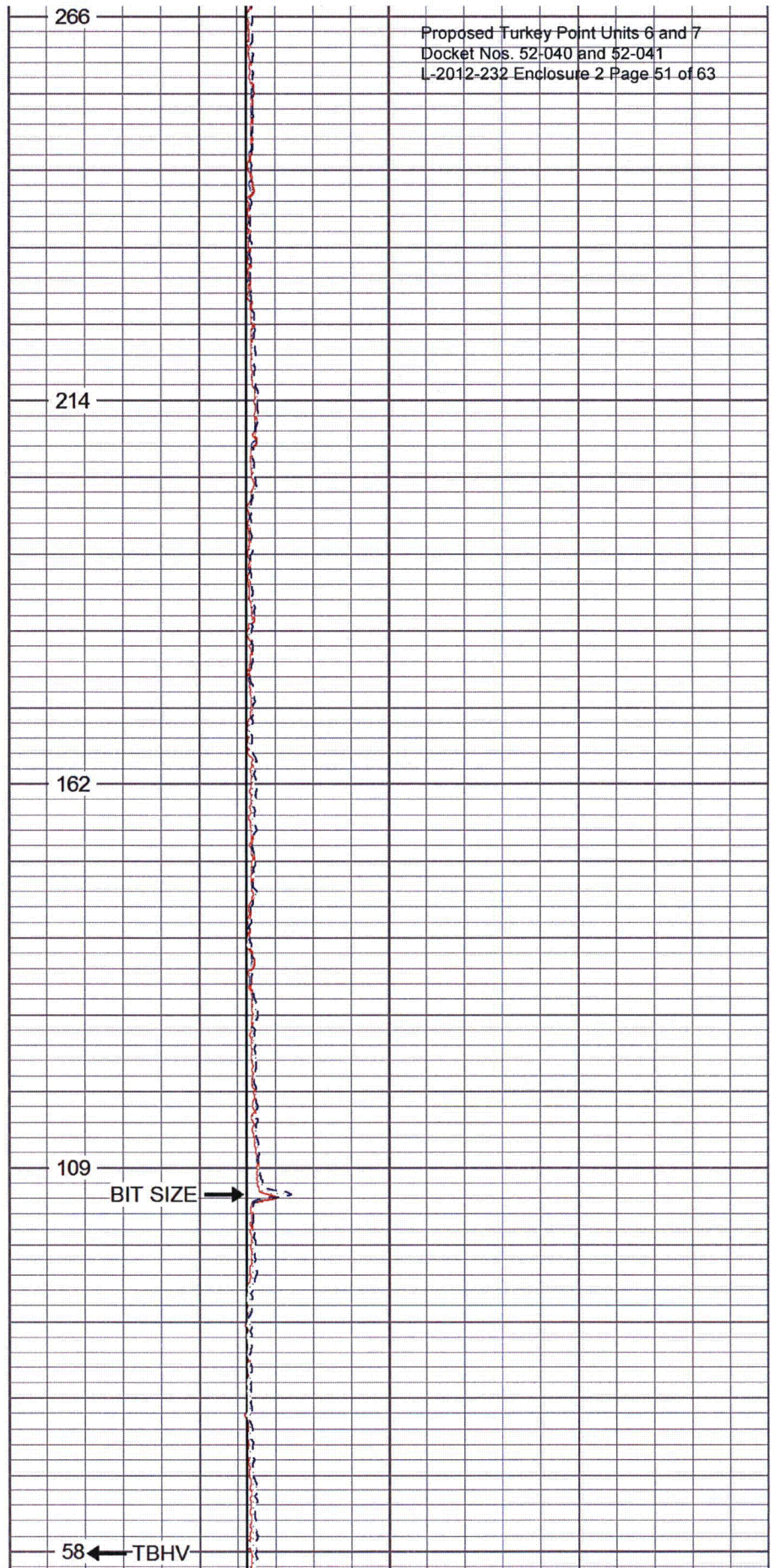
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900

950

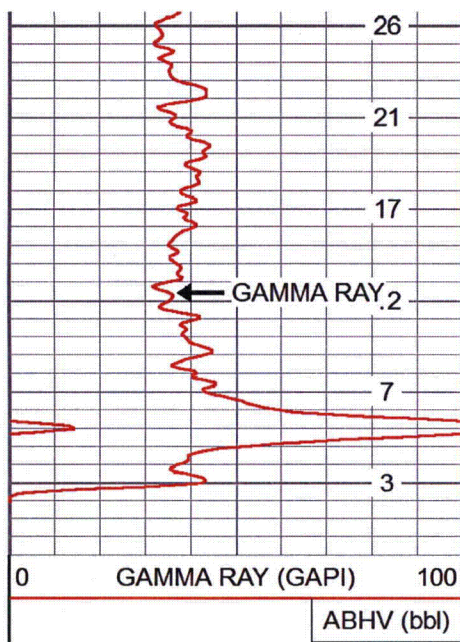
1000

1050



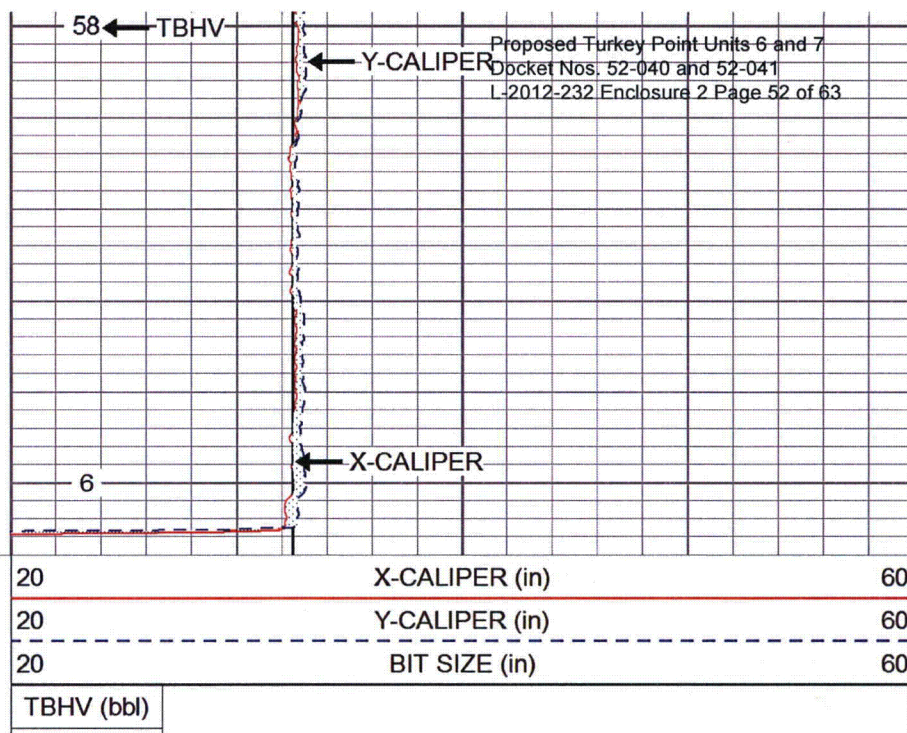
Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
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1050

1100

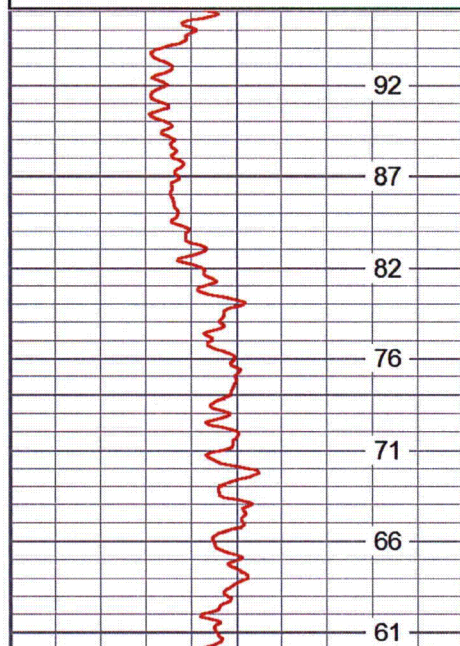
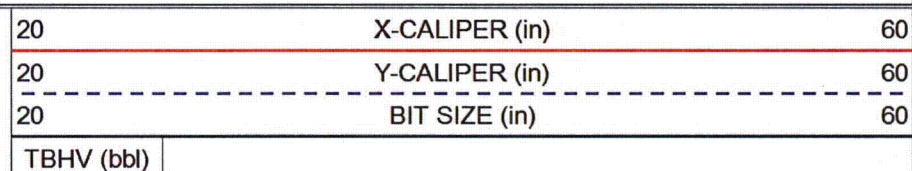
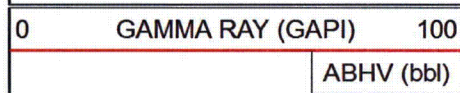


Proposed Turkey Point Units 6 and 7  
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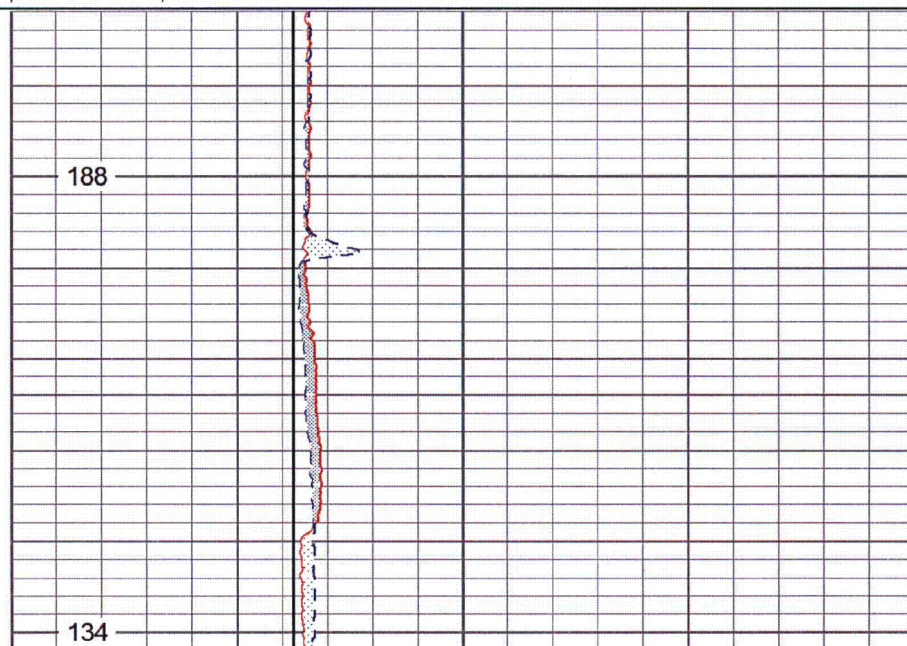
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Dataset Creation: Fri May 04 06:56:06 2012 by Log SOC 111108  
Charted by: Depth in Feet scaled 1:240

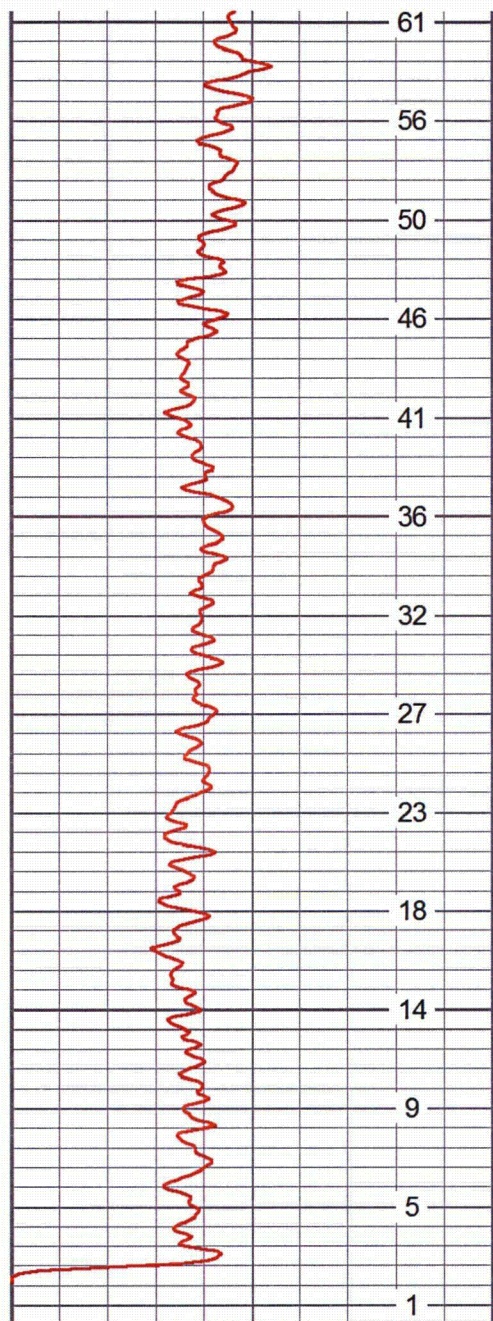


250

300







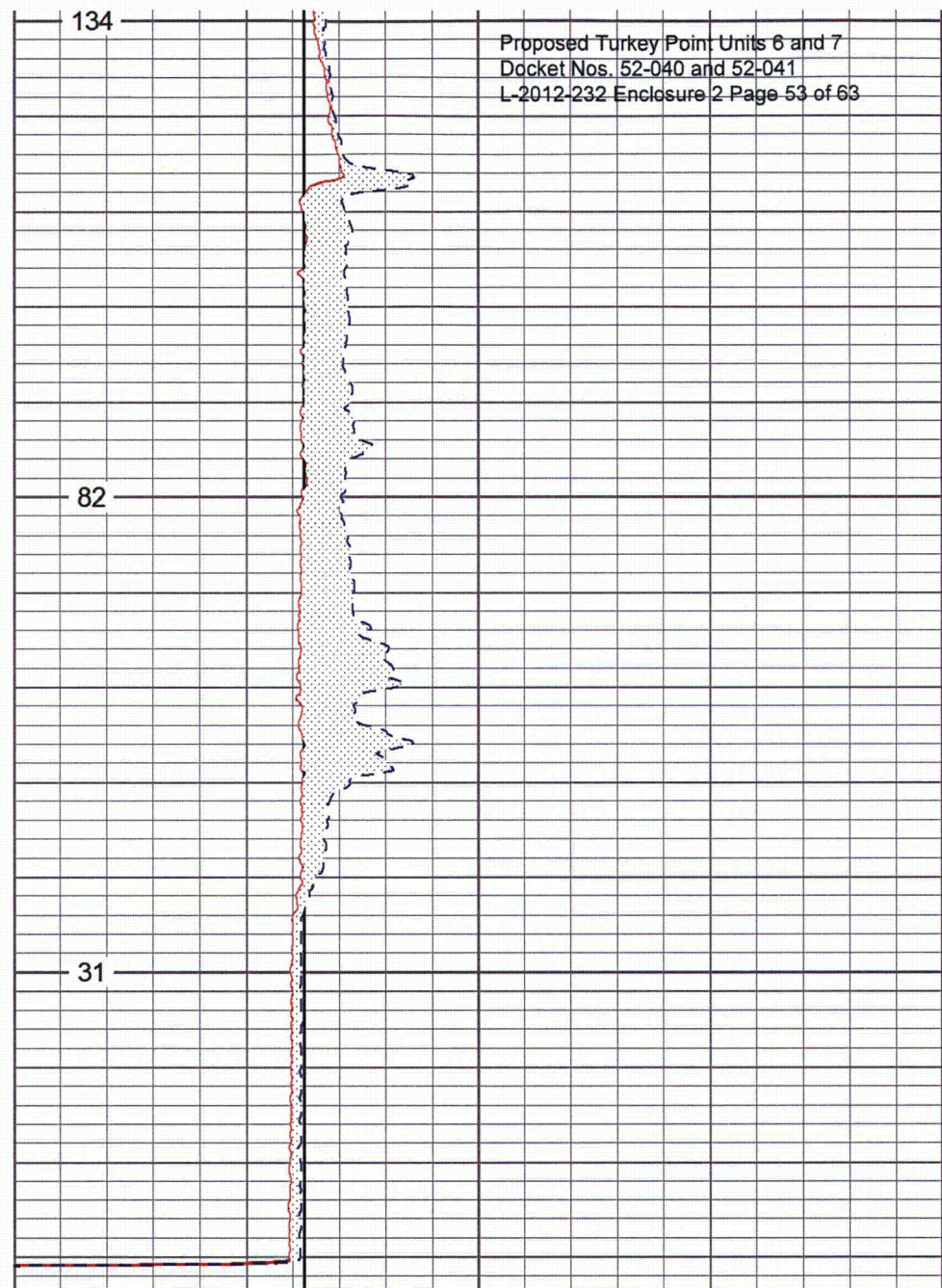
0 GAMMA RAY (GAPI) 100

ABHV (bbl)

300

350

400



Proposed Turkey Point Units 6 and 7  
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20 X-CALIPER (in) 60

20 Y-CALIPER (in) 60

20 BIT SIZE (in) 60

TBHV (bbl)

# Calibration Report

Database File: fpldzmw1.db  
 Dataset Pathname: turkeypoi/well/run4/pass3  
 Dataset Creation: Fri May 04 06:27:57 2012 by Log SOC 111108

Proposed Turkey Point Units 6 and 7  
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## XY Caliper Calibration Report

Serial Number/Model: 120117-GOI  
 Performed: Fri May 04 06:13:56 2012

Ring			X Caliper		Y Caliper	
1:	16	in	414.2	cps	379.5	cps
2:	20	in	453.1	cps	421.1	cps
3:	28	in	537.7	cps	511.4	cps
4:	36	in	630.11	cps	608.9	cps
5:	44	in	728.41	cps	714.2	cps
6:	52	in	836.11	cps	826.11	cps



## Gamma Ray Calibration Report

Serial Number: 120115  
 Tool Model: PTS\_OH  
 Performed: Sun Apr 29 06:31:49 2012

Calibrator Value: 400.0 GAPI

Background Reading: 284.0 cps  
 Calibrator Reading: 2172.6 cps

Sensitivity: 0.3300 GAPI/cps

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
GR	7.08		GR-PTS_OH (120115) Open Hole Gamma Ray	3.50	3.38	47.00
YC XC	1.08 1.00		XYC-GOI (120117) 4 Arm X-Y Caliper	6.25	3.25	45.00
YC XC	1.08 1.00					



**GEOPHYSICAL LOGGING  
SERVICES**

# (24" CASING) CEMENT TOP TEMPERATURE LOG

Company FP&L Well TURKEY POINT DZMW-1 Field FLORIDA CITY County MIAMI-DADE State FLORIDA	Country USA	Company	FP&L	Proposed Turkey Point Units 6 and 7 Docket Nos. 52-040 and 52-041 L-2012-232 Enclosure 2 Page 56 of 63			
		Well	TURKEY POINT DZMW-1				
		Field	FLORIDA CITY				
		County	MIAMI-DADE				
		State	FLORIDA	Country	USA		
		Location:	API # : FPL TURKEY POINT POWER PLANT MCNABB HYDROGEOLOGIC CONSULTING, INC. LAT: 25 25' 19" N LONG: 80 20' 08" W SEC TWP RGE			Other Services	NONE
		Permanent Datum	PAD LEVEL	Elevation		K.B. D.F. G.L.	
		Log Measured From	PAD LEVEL				
		Drilling Measured From	PAD LEVEL				
Date	5-MAY-2012						
Run Number	FIVE						
Depth Driller	1105'						
Depth Logger	1090'						
Bottom Logged Interval	1090'						
Top Log Interval	SURFACE						
Open Hole Size	32.5"						
Type Fluid	MUD						
Density / Viscosity	9.2						
Max. Recorded Temp.	NA						
Estimated Cement Top	NA						
Time Well Ready	2100						
Time Logger on Bottom	2145						
Equipment Number	GEO1						
Location	FT. MYERS						
Recorded By	J. CATHEY						
Witnessed By	M. CLASEN						
Borehole Record				Tubing Record			
Run Number	Bit	From	To	Size	Weight	From	To
ONE	12.25"	CASING	250'				
TWO	42"	CASING	258'				
THREE	12.25"	CASING	1110'				
FOUR	32.5"	CASING	1105'				
Casing Record	Size	Wgt/Ft		Top		Bottom	
Surface String	44"	.375" W.T.		SURFACE		36'	
Prot. String	34"	.375" W.T.		SURFACE		255'	
Production String							
Liner							



All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

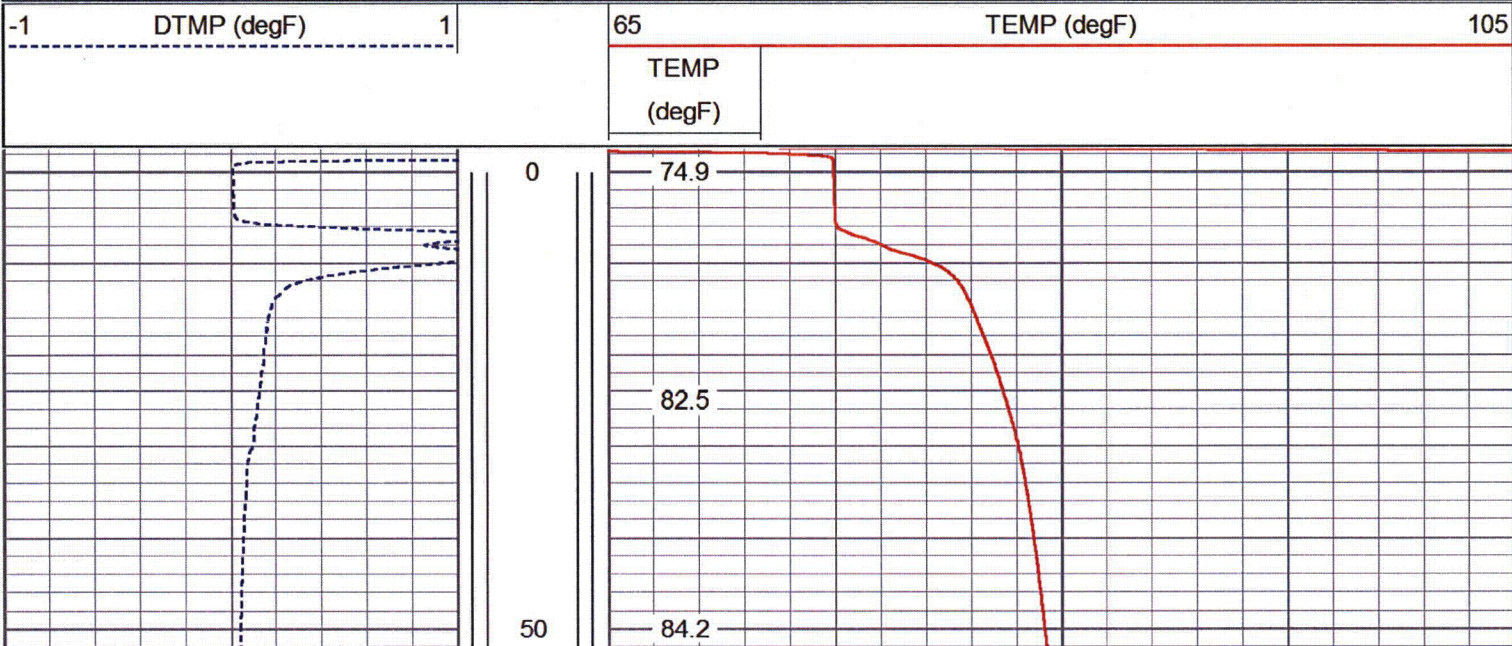
Proposed Turkey Point Units 6 and 7  
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TEMPERATURE LOG IN MUDDIED HOLE



TEMPERATURE

Database File: fpldzmw1.db  
Dataset Pathname: turkeypoi/well/run5/CTL  
Presentation Format: temp  
Dataset Creation: Sat May 05 21:40:10 2012 by Log SOC 111108  
Charted by: Depth in Feet scaled 1:240





50

84.2

85.1 ESTIMATED CEMENT TOP

100

85.9

86.6

150

87.5

88.6

200

89.7

90.7

250

91.8



34" CASING BOTTOM →

250

300

350

400

450

91.8

92.8

93.7

94.5

95.2

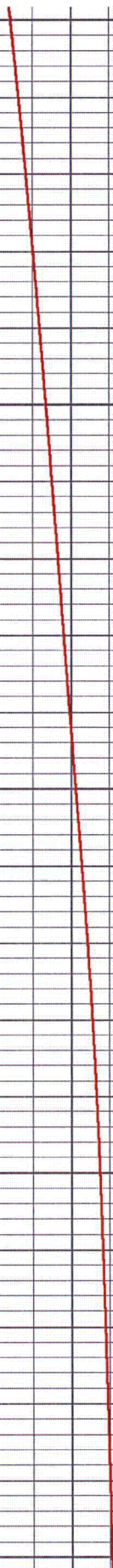
96.0

96.5

96.8

97.1

Proposed Turkey Point Units 6 and 7  
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450

97.1

Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
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97.2

500

97.3

97.4

550

97.4

97.4

600

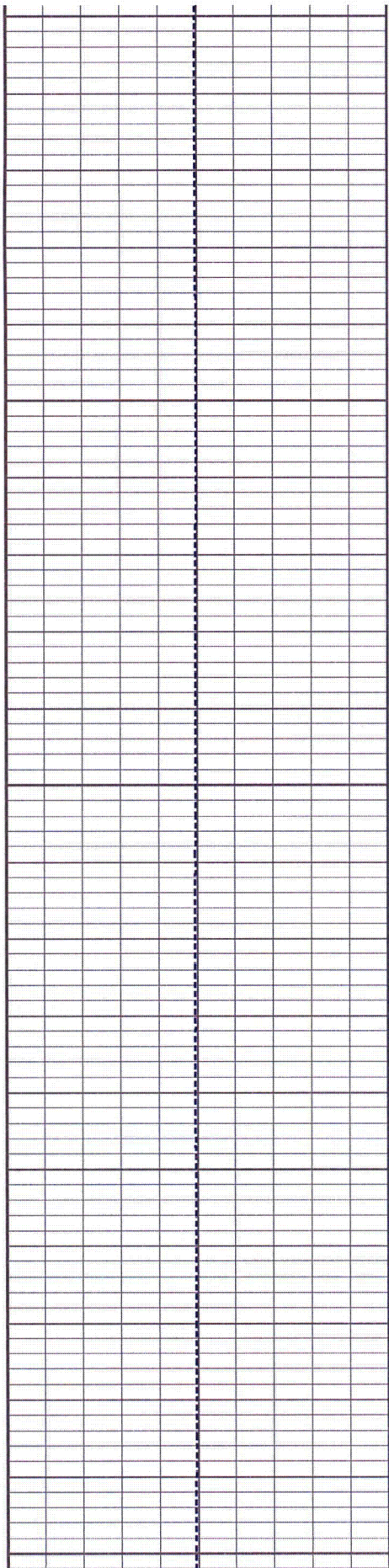
97.3

97.1

650

96.9





650

700

750

800

850

96.9

96.8

96.7

96.6

96.4

96.2

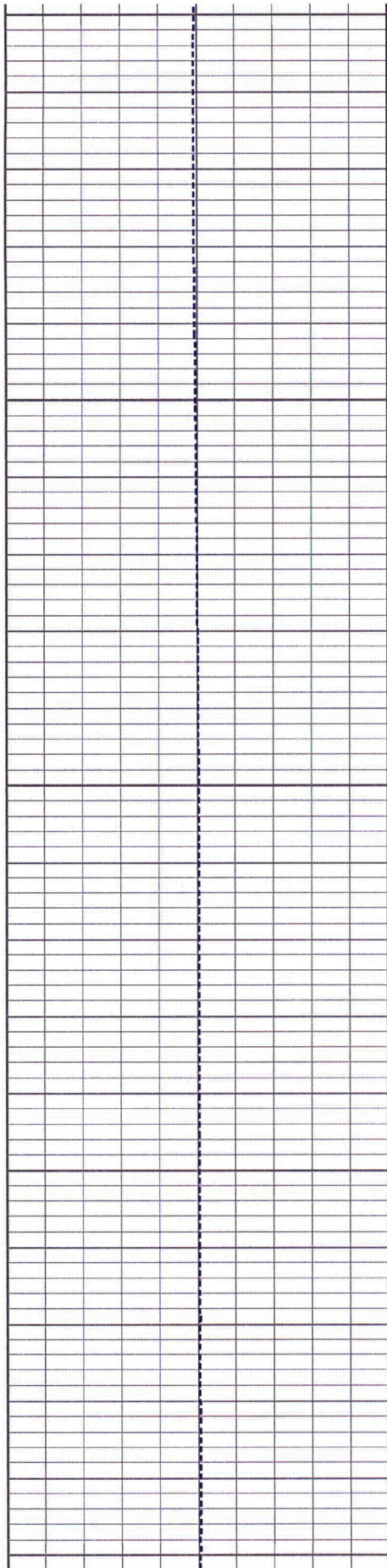
96.0

95.8

95.6

Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
L-2012-232 Enclosure 2 Page 61 of 63





850

900

950

1000

1050

95.6

95.3

95.0

95.0

95.2

95.4

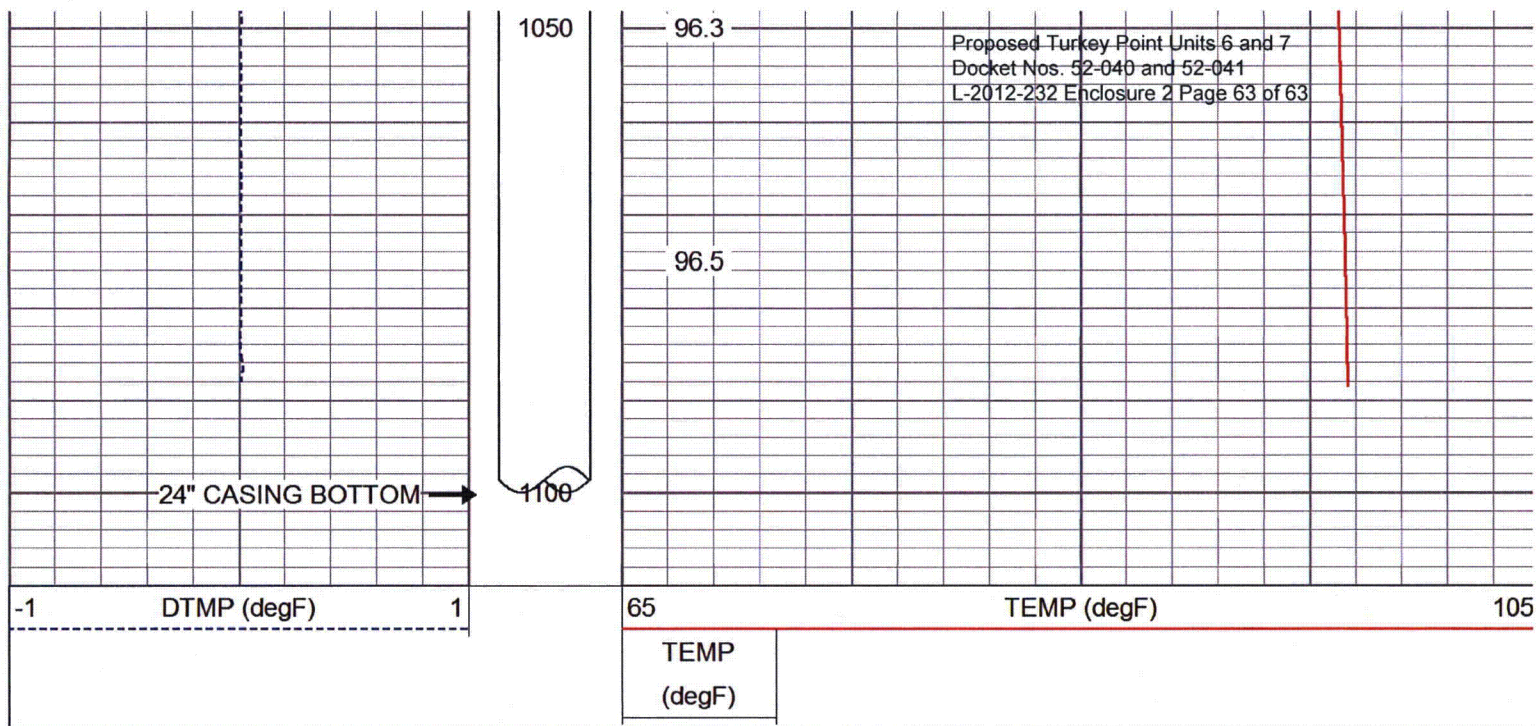
95.7

96.0

96.3

Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
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### Calibration Report


Database File: fpldzmw1.db  
Dataset Pathname: turkeypoi/well/run5/CTL  
Dataset Creation: Sat May 05 21:40:10 2012 by Log SOC 111108

### Temperature Calibration Report

Serial Number: 111143  
Tool Model: 1.375TEMP  
Performed: Wed Jan 25 10:30:05 2012

	Reference	Reading
Low Reference:	0.00 degF	0.00 cps
High Reference:	100.00 degF	1000.00cps

Gain: 0.10  
Offset: 0.00  
Delta Spacing: 1

Sensor	Offset (ft)	Schematic	Description	Len (ft)	OD (in)	Wt (lb)
TEMP	0.13		TEMP-1.375TEMP (111143) Temperature Tool	1.33	1.38	5.00

Dataset: fpldzmw1.db: turkeypoi/well/run5/CTL  
Total Length: 1.33 ft  
Total Weight: 5.00 lb  
O.D.: 1.38 in

Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
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**Enclosure 3**

Florida Power & Light Company Turkey Point Units 6 & 7  
Exploratory Well Project; Permit #0293962-001-UC  
Weekly Construction Summary #54 dated May 18, 2012



## WEEKLY CONSTRUCTION SUMMARY



**McNabb Hydrogeologic Consulting, Inc.**

601 Heritage Drive, Suite 110  
Jupiter, Florida 33458  
Phone: 561-891-0763  
Fax: 561-623-5469

May 18, 2012

MHCDEP-12-0192

Mr. Joseph May, P.G.  
Florida Department of Environmental Protection  
400 N. Congress Ave, Suite 200  
West Palm Beach, FL 33401

**RE: Florida Power & Light Company Turkey Point Units 6 & 7 Exploratory Well  
Project; Permit #0293962-001-UC  
Weekly Construction Summary #54**

Dear Mr. May:

This is the fifty-fourth weekly construction summary for the above referenced project. The reporting period for this weekly construction summary began at 7:00 AM, Thursday, May 10, 2012 and ended at 7:00 AM, Thursday, May 17, 2012. Consultant and drilling contractor daily reports were prepared for this reporting period. Copies of the consultant and drilling contractor daily construction logs are attached.

During the previous reporting period the drilling contractor re-conditioned the DZMW-1 reamed hole using a 32½-inch diameter bit, performed caliper and gamma ray logging and installed and cemented the 24-inch casing to a depth of 1,102 feet bpl. The drilling contractor then set up for reverse-air drilling and began drilling pilot hole below the base of the 24-inch diameter casing. Pilot hole drilling had reached a depth of 1,176 feet bpl by the end of the reporting period.

Work performed on EW-1 during the previous reporting period included re-seating the Fiberglass Reinforced Pipe (FRP) injection tubing into the packer in an effort to improve the seal at the packer. Annular pressure monitoring showed that the results do not meet the specification.

During this reporting period the drilling contractor completed pilot hole drilling to a depth of 1,905 feet bpl and conditioned the pilot hole in preparation for geophysical logging. Drill cutting samples were collected at 10-foot intervals during pilot hole drilling. Deviation surveys were performed at 90-foot intervals above a depth of 1,700 feet bpl and at 60-foot intervals below a depth of 1,900 feet bpl. Pilot hole water samples were collected at a 90-foot intervals or less during pilot hole drilling. A description of drill cuttings for the interval drilled during this reporting period is attached. A copy of the deviation survey summary sheet is attached. DZMW-1 was killed with barite during the reporting period. A daily kill

material log sheet is attached. Laboratory results for the pilot hole water samples are not available yet and will be included in the next weekly construction summary. There were no activities at EW-1 during this reporting period.

There was no packer testing, casing installation, cementing, well development or construction related issues at EW-1 and DZMW-1 during this reporting period.

During the next reporting period, it is anticipated that the drilling contractor will perform geophysical logging of the DZMW-1 pilot hole and perform straddle packer testing on selected intervals. It is anticipated that the drilling contractor will remove the Fiberglass Reinforced Pipe (FRP) injection liner from EW-1 during the next reporting period.

In addition, sampling of the pad monitor wells around EW-1 and DZMW-1 began on April 21, 2011 and March 20, 2012, respectively, and has been taking place on a weekly basis since the initial samplings. The EW-1 pad monitor wells were most recently sampled on May 17, 2012. The DZMW-1 pad monitor wells were most recently sampled on May 18, 2012. The most recent set of EW-1 pad monitoring well sample results available are for samples collected on May 10, 2012. The most recent set of DZMW-1 pad monitoring well sample results available are for samples collected on May 11, 2012. Copies of the EW-1 and DZMW-1 pad monitor well water quality data summary sheets are attached.

Should you have any questions regarding the above weekly construction summary, please contact David McNabb at (561) 891-0763.

Sincerely,

McNabb Hydrogeologic Consulting, Inc.

David McNabb, P.G.

Attachments: Consultant Daily Construction Log  
Layne Christensen Company-Drilling Shift Report  
EW-1 Pad Monitor Well Water Quality Data Summary Sheets  
DZMW-1 Pad Monitor Well Water Quality Data Summary Sheets  
DZMW-1 Lithologic Log  
DZMW-1 Deviation Survey Summary Sheet  
DZMW-1 Daily Kill Material Log

Cc: George Heuler/FDEP-Tallahassee  
Emily Richardson/SFWMD  
Matthew Raffenberg/FPL  
David Holtz/HCE

Joe Haberfeld/FDEP-Tallahassee  
Ron Reese/USGS  
David Paul/FGS



McNabb Hydrogeologic Consulting, Inc.



## Daily Construction Log

---

**Date:** May 10, 2012  
**Project:** FPL Turkey Point EW  
**Contractor:** Layne Christensen Company  
**Starting Depth:** 1,176 feet bpl  
**Weather Day:** Mostly Cloudy, Warm  
**Weather Night:** N/A  
**Activity:** Pilot Hole Drilling

**FDEP UIC Permit #:** 0293962-001-UC  
**Well No.:** DZMW-1  
**Bit Diameter:** 12 1/4-inch  
**Ending Depth:** 1,344 feet bpl  
**Recorded By:** Sally Durall

### CONSTRUCTION ACTIVITIES

- 0700 Yesterday, the drilling contractor drilled the DZMW-1 pilot hole from the depths of 1,104 feet below pad level (bpl) to 1,176 feet bpl. Pilot hole drilling is currently at a depth of 1,176 feet bpl.
- 0730 The drilling contractor has drilled the pilot hole to a depth of 1,181 feet bpl and currently appears to have plugged off the drill bit.
- 0930 The drill bit has been unplugged and the drilling contractor resumes drilling the pilot hole from the depth of 1,181 feet bpl.
- 1055 The drilling contractor is drilling the pilot hole at the depth of 1,190 feet bpl. Florida Spectrum Environmental Services, Inc. is on site to sample the pad monitor wells located around EW-1.
- 1215 The drilling contractor is drilling the pilot hole at the depth of 1,201 feet bpl.
- 1300 The kelly is down at the depth of 1,209 feet bpl and the drilling contractor is circulating the borehole clean.
- 1345 The drilling contractor makes a drill pipe connection and resumes drilling the pilot hole from the depth of 1,209 feet bpl.
- 1430 The drilling contractor is drilling the pilot hole at the depth of 1,215 feet bpl.
- 1630 The drilling contractor is drilling the pilot hole at the depth of 1,226 feet bpl.
- 1740 The drilling contractor is drilling the pilot hole at the depth of 1,236 feet bpl.
- 1830 The drilling contractor is drilling the pilot hole at the depth of 1,244 feet bpl. It is anticipated that they will continue pilot hole drilling through the night.
- 0600 The kelly is down at the depth of 1,344 feet bpl and the drilling contractor is circulating the borehole clean.
- 0615 The drilling contractor collects a pilot hole water quality sample for the depth of 1,344 feet bpl.
- 0645 The drilling contractor is preparing to kill the well.



McNabb Hydrogeologic Consulting, Inc.



## Daily Construction Log

---

**Date:** May 11, 2012  
**Project:** FPL Turkey Point EW  
**Contractor:** Layne Christensen Company  
**Starting Depth:** 1,344 feet bpl  
**Weather Day:** Partly Cloudy, Warm  
**Weather Night:** N/A  
**Activity:** Pilot Hole Drilling

**FDEP UIC Permit #:** 0293962-001-UC  
**Well No.:** DZMW-1  
**Bit Diameter:** 12 1/4-inch  
**Ending Depth:** 1,434 feet bpl  
**Recorded By:** Sally Durall

### CONSTRUCTION ACTIVITIES

- 0700 Yesterday, the drilling contractor drilled the DZMW-1 pilot hole from the depths of 1,176 feet below pad level (bpl) to 1,344 feet bpl. The drilling contractor is currently in the process of killing the well and preparing to perform deviation surveys at the depths of 1,160, 1,250, and 1,340 feet bpl.
- 0735 The drilling contractor trips inside the drill pipe with the deviation survey tool to the depth of 1,160 feet bpl.
- 0800 The deviation survey is complete and the result is 0.2 degree.
- 0805 The drilling contractor trips the deviation survey tool to the depth of 1,250 feet bpl.
- 0825 The deviation survey is complete and the result is 0.3 degree.
- 0830 The drilling contractor trips the deviation survey tool to the depth of 1,340 feet bpl.
- 0850 The deviation survey is complete and the result is 0.2 degree.
- 0905 The drilling contractor makes a drill pipe connection and resumes drilling the pilot hole from the depth of 1,344 feet bpl.
- 0930 The drilling contractor stopped drilling the pilot hole at a depth of 1,346 feet bpl to perform rig maintenance.
- 1200 Florida Spectrum Environmental Services, Inc. is on site to sample the pad monitor wells located around the DZMW-1 drilling site.
- 1245 The drilling contractor resumes drilling the pilot hole from the depth of 1,346 feet bpl.
- 1345 The drilling contractor is drilling the pilot hole at the depth of 1,352 feet bpl.
- 1550 The drilling contractor is drilling the pilot hole at the depth of 1,365 feet bpl.
- 1730 The drilling contractor is drilling the pilot hole at the depth of 1,376 feet bpl.
- 1900 The drilling contractor is drilling the pilot hole at the depth of 1,382 feet bpl. It is anticipated that they will continue pilot hole drilling through the night.
- 0600 The drilling contractor has drilled the pilot hole to the depth of 1,434 feet bpl and is currently collecting a pilot hole water quality sample at this depth.
- 0615 The drilling contractor has killed the drill pipe and begins tripping inside the drill pipe with the deviation survey tool to the depth of 1,430 feet bpl.
- 0640 The deviation survey is complete the result is 0.3 degree.
- 0700 The drilling contractor makes a drill pipe connection and resumes drilling the pilot hole from the depth of 1,434 feet bpl.





McNabb Hydrogeologic Consulting, Inc.



## Daily Construction Log

---

**Date:** May 12, 2012  
**Project:** FPL Turkey Point EW  
**Contractor:** Layne Christensen Company  
**Starting Depth:** 1,434 feet bpl  
**Weather Day:** Partly Cloudy, Warm  
**Weather Night:** N/A  
**Activity:** Pilot Hole Drilling

**FDEP UIC Permit #:** 0293962-001-UC  
**Well No.:** DZMW-1  
**Bit Diameter:** 12 1/4-inch  
**Ending Depth:** 1,608 feet bpl  
**Recorded By:** Sally Durall

### CONSTRUCTION ACTIVITIES

- 0700 Yesterday, the drilling contractor drilled the DZMW-1 pilot hole from the depths of 1,344 feet below pad level (bpl) to 1,434 feet bpl. The drilling contractor has just completed performing a deviation survey at the depths of 1,430 feet bpl and has resumed drilling the pilot hole from the depth of 1,434 feet bpl.
- 0800 The drilling contractor is drilling the pilot hole at the depth of 1,448 feet bpl.
- 0915 The drilling contractor is drilling the pilot hole at the depth of 1,466 feet bpl.
- 1030 The kelly is down at the depth of 1,479 feet bpl and the drilling contractor is circulating the borehole clean.
- 1045 The drilling contractor is in the process of killing the drill pipe.
- 1100 The drilling contractor makes a drill pipe connection and resumes drilling from the depth of 1,479 feet bpl.
- 1300 The drilling contractor is drilling the pilot hole at the depth of 1,505 feet bpl.
- 1425 The kelly is down at the depth of 1,524 feet bpl and the drilling contractor is circulating the borehole clean in preparation of performing a deviation survey at the depth of 1,520 feet bpl.
- 1435 The drilling contractor is in the process of killing the drill pipe.
- 1445 The drilling contractor trips inside the drill pipe with the deviation survey tool to a depth of 1,520 feet bpl.
- 1505 The deviation survey is complete and the result is 0.3 degree.
- 1515 The drilling contractor makes a drill pipe connection and resumes drilling from the depth of 1,524 feet bpl.
- 1640 The drilling contractor is drilling the pilot hole at the depth of 1,537 feet bpl.
- 1800 The drilling contractor is drilling the pilot hole at the depth of 1,547 feet bpl.
- 1900 The drilling contractor is drilling the pilot hole at the depth of 1,553 feet bpl. It is anticipated that they will continue pilot hole drilling through the night.



McNabb Hydrogeologic Consulting, Inc.



## Daily Construction Log

---

**Date:** May 13, 2012  
**Project:** FPL Turkey Point EW  
**Contractor:** Layne Christensen Company  
**Starting Depth:** 1,608 feet bpl  
**Weather Day:** Partly Cloudy, Warm  
**Weather Night:** N/A  
**Activity:** Pilot Hole Drilling

**FDEP UIC Permit #:** 0293962-001-UC  
**Well No.:** DZMW-1  
**Bit Diameter:** 12 1/4-inch  
**Ending Depth:** 1,733 feet bpl  
**Recorded By:** Sally Durall

### CONSTRUCTION ACTIVITIES

- 0700 Yesterday, the drilling contractor drilled the DZMW-1 pilot hole from the depths of 1,434 feet below pad level (bpl) to 1,608 feet bpl.
- 0715 The kelly is down at a depth of 1,614 feet bpl and the drilling contractor is preparing to perform a deviation survey at the depth of 1,610 feet bpl.
- 0730 The drilling contractor collects a pilot hole water quality sample for the depth of 1,614 feet bpl, and begins to kill the drill pipe.
- 0750 The drilling contractor trips inside the drill pipe with the deviation survey tool to a depth of 1,610 feet bpl.
- 0815 The deviation survey is complete and the result is 0.3 degree.
- 0830 The drilling contractor makes a drill pipe connection and resumes drilling from the depth of 1,614 feet bpl.
- 0940 The drilling contractor is drilling the pilot hole at the depth of 1,621 feet bpl.
- 1100 The drilling contractor is drilling the pilot hole at the depth of 1,631 feet bpl.
- 1210 The drilling contractor is drilling the pilot hole at the depth of 1,639 feet bpl.
- 1340 The drilling contractor is drilling the pilot hole at the depth of 1,649 feet bpl.
- 1450 The kelly is down at the depth of 1,659 feet bpl and the drilling contractor is circulating the borehole clean.
- 1530 The drilling contractor is in the process of killing the drill pipe.
- 1555 The drilling contractor makes a drill pipe connection and resumes drilling the pilot hole from a depth of 1,659 feet bpl.
- 1705 The drilling contractor is drilling the pilot hole at the depth of 1,666 feet bpl.
- 1820 The drilling contractor is drilling the pilot hole at the depth of 1,678 feet bpl.
- 1900 The drilling contractor is drilling the pilot hole at the depth of 1,679 feet bpl. It is anticipated that they will continue pilot hole drilling through the night.
- 0630 The drilling contractor is drilling the pilot hole at a depth of 1,730 feet bpl.



McNabb Hydrogeologic Consulting, Inc.



## Daily Construction Log

---

**Date:** May 14, 2012  
**Project:** FPL Turkey Point EW  
**Contractor:** Layne Christensen Company  
**Starting Depth:** 1,733 feet bpl  
**Weather Day:** Partly Cloudy, Warm  
**Weather Night:** N/A  
**Activity:** Pilot Hole Drilling

**FDEP UIC Permit #:** 0293962-001-UC  
**Well No.:** DZMW-1  
**Bit Diameter:** 12 1/4-inch  
**Ending Depth:** 1,840 feet bpl  
**Recorded By:** Sally Durall

### CONSTRUCTION ACTIVITIES

0700 Yesterday, the drilling contractor drilled the DZMW-1 pilot hole from the depths of 1,608 feet below pad level (bpl) to 1,733 feet bpl.

0810 The drilling contractor is drilling the pilot hole at the depth of 1,746 feet bpl.

0830 The kelly is down at the depth of 1,749 feet bpl and the drilling contractor is circulating the borehole clean.

0900 The drilling contractor makes a drill pipe connection and resumes drilling from the depth of 1,749 feet bpl.

1030 The drilling contractor is drilling the pilot hole at the depth of 1,759 feet bpl.

1155 The drilling contractor is drilling the pilot hole at the depth of 1,769 feet bpl.

1300 The drilling contractor is drilling the pilot hole at the depth of 1,776 feet bpl.

1445 The drilling contractor is drilling the pilot hole at the depth of 1,785 feet bpl.

1545 The kelly is down at the depth of 1,794 feet bpl and the drilling contractor is circulating the borehole clean.

1615 The drilling contractor collects a pilot hole water quality sample for the depth of 1,794 feet bpl.

1620 The drilling contractor trips inside the drill pipe with the deviation survey tool to the depth of 1,760 feet bpl.

1635 The deviation survey is complete and the result is 0.4 degree.

1645 The drilling contractor makes a drill pipe connection and resumes drilling from the depth of 1,794 feet bpl.

1800 The drilling contractor is drilling the pilot hole at the depth of 1,807 feet bpl. It is anticipated that they will continue pilot hole drilling through the night.

0630 The drilling contractor is drilling the pilot hole at the depth of 1,839 feet bpl.

0700 The drilling contractor is drilling the pilot hole at the depth of 1,840 feet bpl.



McNabb Hydrogeologic Consulting, Inc.



## Daily Construction Log

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**Date:** May 15, 2012  
**Project:** FPL Turkey Point EW  
**Contractor:** Layne Christensen Company  
**Starting Depth:** 1,840 feet bpl  
**Weather Day:** Cloudy, Warm  
**Weather Night:** N/A  
**Activity:** Pilot Hole Drilling

**FDEP UIC Permit #:** 0293962-001-UC  
**Well No.:** DZMW-1  
**Bit Diameter:** 12 1/4-inch  
**Ending Depth:** 1,905 feet bpl  
**Recorded By:** Sally Durall

### CONSTRUCTION ACTIVITIES

- 0700 Yesterday, the drilling contractor drilled the DZMW-1 pilot hole from the depths of 1,733 feet below pad level (bpl) to 1,840 feet bpl.
- 0815 The drilling contractor is drilling the pilot hole at the depth of 1,844 feet bpl.
- 0945 The drilling contractor is drilling the pilot hole at the depth of 1,848 feet bpl.
- 1145 The drilling contractor is drilling the pilot hole at the depth of 1,853 feet bpl.
- 1300 The drilling contractor is drilling the pilot hole at the depth of 1,857 feet bpl.
- 1415 The drilling contractor is drilling the pilot hole at the depth of 1,859 feet bpl.
- 1550 The drilling contractor is drilling the pilot hole at the depth of 1,862 feet bpl.
- 1710 The drilling contractor is drilling the pilot hole at the depth of 1,864 feet bpl.
- 1810 The drilling contractor is drilling the pilot hole at the depth of 1,874 feet bpl.
- 1845 The kelly is down at the depth of 1,884 feet bpl and the drilling contractor is circulating the borehole clean in preparation for collecting a pilot hole water quality sample and performing a deviation survey at the depth of 1,880 feet bpl. The drilling contractor will also perform deviation surveys for the depths of 1,700 and 1,820 feet bpl.
- 1915 The drilling contractor collects a pilot hole water quality sample for the depth of 1,844 feet bpl.
- 1935 The drilling contractor trips inside the drill pipe with the deviation survey tool to the depth of 1,700 feet bpl.
- 1950 The deviation survey is complete and the result is 0.3 degree.
- 1955 The drilling contractor trips the inside the drill pipe with the deviation survey tool to the depth of 1,820 feet bpl.
- 2010 The deviation survey is complete and the result is 0.4 degree.
- 2015 The drilling contractor trips the inside the drill pipe with the deviation survey tool to the depth of 1,880 feet bpl.
- 2030 The deviation survey is complete and the result is 0.5 degree.
- 2100 The drilling contractor makes a drill pipe connection and resumes drilling the pilot hole from the depth of 1,884 feet bpl. It is anticipated that they will continue pilot hole drilling and begin conditioning the pilot hole for geophysical logging through the night.





McNabb Hydrogeologic Consulting, Inc.



## Daily Construction Log

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<b>Date:</b> May 16, 2012	<b>FDEP UIC Permit #:</b> 0293962-001-UC
<b>Project:</b> FPL Turkey Point EW	<b>Well No.:</b> DZMW-1
<b>Contractor:</b> Layne Christensen Company	<b>Bit Diameter:</b> 12 1/4-inch
<b>Starting Depth:</b> 1,905 feet bpl	<b>Ending Depth:</b> 1,905 feet bpl
<b>Weather Day:</b> Cloudy, Rain, Warm	<b>Recorded By:</b> Sally Durall
<b>Weather Night:</b> N/A	
<b>Activity:</b> Pilot Hole Conditioning	

### CONSTRUCTION ACTIVITIES

- 0800 Yesterday, the drilling contractor drilled the DZMW-1 pilot hole from the depths of 1,840 feet below pad level (bpl) to 1,905 feet bpl. The pilot hole was completed to a depth of 1,905 feet bpl during the night shift. The drilling contractor is currently preparing to begin conditioning the pilot hole for performing geophysical logging.
- 0900 The drilling contractor begins to trip out of the pilot hole with the drilling bit to perform a wiper trip.
- 1030 The drilling contractor stops tripping out of the pilot hole with the drilling bit to perform rig maintenance.
- 1200 The drilling contractor continues to perform rig maintenance.
- 1400 The drilling contractor is cleaning out the mud pit in preparation for the flow logging and performing general site maintenance.
- 1600 The drilling contractor continues to clean out the mud pit in preparation for the flow logging and performing general site maintenance.
- 1700 The drilling contractor continues to clean out the mud pit in preparation for the flow logging, performing general site maintenance, and plans to resume performing wiper trips of the pilot hole shortly. They will continue preparing for geophysical logging through the night.
- 0500 The drilling contractor has completed conditioning the pilot hole for geophysical logging.
- 0550 The geophysical logging truck is on site and is preparing to set up at the DZMW-1 for geophysical logging.

\_\_\_\_\_

**LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT**

**CLIENT**

FPL

Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
L-2012-232 Enclosure 3 Page 12 of 3

**DAT**

5-10-12

JOB# 11771-1405-10000

**JORSITE NAME****JOB SITE LOCATION**

— 10 —

**PERSONNEL EMPLOYED TODAY**

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
Driller	BOSIT GULOMOV	45	12		12
H.P	ANDREY POPOV	45	10		10
V.M	VICTOR MOISEYEV	45	12		12

## EQUIPMENT DEPLOYED TODAY

Description		Unit #	Status
EDW-200		28605	W
1989 MACK		18000	S/B
Dump TRUCK		28145	
CEMENT			S/B
UNIT			
Working	MB	Mobile station	MB
Standby	SB	Demobilization	DM
Down in shop	DS	Available in Yard	AY
Down on Site	DB	Available on Job	AV

பொதுச் சட்டம்: அரசாங்கம் சார்ந்த அமைப்புகள் மற்றும் நிறுவனங்கள்

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Grate Mob/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	0006	Shop - Overhead	
7	0007	Assistance - Overhead	
8	11250	Training - Job Chargeable	
9	11300	Site Clean up	
10	11350	Ins & Sound Walls	
11	11400	Install Decon Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Driv Pad	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12250	Aquifer Zone Testing	
17	12300	Borehole Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Install Well Head	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Borehole Abandonment/Cement Rings	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Washing	
31	14050	Well Development Air Lift and Swab	
32	14100	Disposal of Sludges & Cuttings	
33	14150	Flowback & Initial Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Identification and Classification	
37	15050	Off Site Activities Mob/Demob	
38	15100	Shop	
39	15150	Administration	
40	15550	Other Activities Standby	
41	10600	Waiting for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	88000	Equipment Repairs	
44	90170	Damages	
45	90200	Job Superintendent	
		Lunch	
		<b>TOTAL HOURS</b>	

### MATERIALS USED TODAY

Quantity	Description
	SAFETY MTC!
	HOUSEKEEPING!
	LOADER SAFETY!
	HOLE SAFETY!
	PINCH POINT; PPE; H.I.R.A.
	HAND SAFETY!

## TIME OF ACTIVITY BY ITEM #

[illegible]

1,250 FT BPL  
COMMENTS - EVENTS - CONDITIONS

COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

DRILL 12 1/4 BIT: FROM - 1243' BPL - TO - 1254' BPL.  
RUN SURVEY @ .1" MAKE CORRECT BASIC DRILL FROM -  
1254' BPL - TO - 1344' BPL.

5-10-12

**Client's Signature**

## PAYROLL

**Ques**

5/10/10  
GIR



## LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT

DATE FRLProposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
L-2012-232 Enclosure 3 Page 13 of 39DATE 5/11/12JOB # 11771.1405.1000JOBSITE NAME MW-1Friday Day ShiftJOBSITE LOCATION Turkey Point

## PERSONNEL EMPLOYED TODAY

Crew Assignment	Employee Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
Driller	George Hagg	45	12		12
JW	Joan Nieto	45	12		12
PV	Paul Vaughn	45	12		12
JA	Joshua Ashley	45	12		12

## EQUIPMENT DEPLOYED TODAY

Description	Unit #	Status
FRLW 200	46005	W/A
1989 mac	18000	S/B
Dump truck		
Cement Unit 2045		S/P
Working	WK	Mobilization
Standby	SB	Demobilization
Down in Shop	DS	Available in Yard
Down on Site	DN	Available on Job

## MATERIALS USED TODAY

Date/Time	Description
	(1) Safety Meeting
	(1) Heat Hazards
	(2) Overhead Safety
	Safety topics
	Staying hydrated, PPE, high
	pressure like Overhead Safety

## TIME OF ACTIVITY BY ITEM #

From	To	Circle One	Item #
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
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		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	
		AM PM	

## COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

Hook up one pump inline with kill line. Pump 4" Trucon 2000 down drill pipe. Kill drill pipe. Run deviator Survey @ 1160 bbl. 1250 bbl. 3 E. 1340 bbl. 12. Make connection. Start drilling with 12 1/4 bit from 1344 bbl to 1388 bbl. Hauled (5) tubers.

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Onsite Mob/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	0008	Shop - Overhead	
7	0007	Maintenance - Overhead	
8	11250	Training - Job Chargeable	
9	11300	Site Clean up	
10	01350	Install Sound Walls	
11	21400	Install Decon Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Drill Pad	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Borehole Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Drill Pilot Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Borehole Abandonment/Cement Plugs	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack the Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development Air Lift and Swab	
32	14100	Disposal of Fluids & Cuttings	
33	14150	Pulley & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Disinfection and Chlorination	
37	19050	Offsite Activities Mob/Demob	
38	19100	Shop	
39	19150	Administration	
40	19550	Other Activities Standby	
41	19600	Fishing for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	08000	Equipment Repairs	
44	90170	Damages	
45	90200	Job Superintendent	
		Lunch	
TOTAL HOURS			

5/11/12



**LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT**

**CUENT**

FOL

### Proposed Turkey Point Units 6 and 7

~~Docket Nos. 52-040 and 52-041~~

DATE \_\_\_\_\_

S/W/RZ

## Fri Nights

**JOB SITE NAME**

Mw-1

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**JOB SITE LOCATION**

1971 HOS, 12000

Turkey Point

ONLY ACCUMINATE SPINULES OR SPINES

**PERSONNEL EMPLOYED TODAY**

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
DRILL MR	Michael A. Ramirez	45	12		12
VI	Vlad Ishimov	45	12		12
JM	Jim McDonnell	45	12		12
BF	Bob Feetham	45	12		12

### MATERIALS USED TODAY

Quantity	Description
	Safety Meetings
	① Pinch Points / crush Points
	② Back Injury Prevention
	Electrical Safety, ladder Safety, wildlife precautions, Bad weather safety, slip-trip-fall,

## FOUNDAIRE DÉPÔT À TITRE

Description		Unit #	Quantity
Flow-200		78605	w/10
189 Mack Dump		18000	S/13
Cement Unit		28145	S/13
Waiting	WK	Mobilization	MSB
Standby	SB	Demobilization	DM
Down in Shop	DS	Available in Yard	AY
Down on Site	DN	Available on Job	AV

#### TIME OF ACTIVITY BY ITEM

[illegible]

## COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

Continue to Drill 12 1/4" bit from 1382' bpl to 1389' bpl. Kill Drill pipe. Make Connection, 45' single Drill pipe. Continue to Drill from 1389' bpl to 1434' bpl. Sweep/MOP Mcc's 3 Trailer, Hosekeeping, Trash Run, Clean up around Core pump, Pump water off kill, lightning 12AM - 1:30AM. Run survey at 1430' get .3°. Make Connection 45' single DP.

M. Denz

9/11/12

**Client's Signature**

## PAYROLL

Date \_\_\_\_\_

**Manufacturing Summary**

5/16/12 Date

Date \_\_\_\_\_

~~SECRET~~

5/12/12





3014

**LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT**

**EVENT**

FD

Proposed Turkey Point Units 6 and 7  
~~Docket Nos. 52-040 and 52-041~~  
 L-2012-232 Enclosure 3 Page 19 of 39

DATE \_\_\_\_\_

5-14-12

**JOB #**

11251-1405-12000

JOB SITE NAME

MS - 7

L-2012-232 Enclosure 3 Page 19 of 39

NEW DAYS

**WORKSITE LOCATION**

25

PERSONNEL EMPLOYED TO DATE:

今日のイベント

DAILY ACCOUNTING OF RESTRICTIONS IN MILITARY

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
Driller	BOSIT GULOMOV	45	12		12
A.P	ANDREY POPOV	45	12		12
V.M	VICTOR MOISYEV	45	12		12

### MATERIALS USED TODAY

Quant #	Description
	SAFETY MTG!
	HEAT STRESS:
	PINCH POINT HAND SAFETY!
	PPE: H.I.R.A: LOADER SAFETY!

#### TIME OF ACTIVITY BY ITEM

[illegible]

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Onsite Mob/Demob	
3	11150	Job Preparation	
4	12000	Safety Meeting	
5	0000	Training - Overhead	
6	0006	Shop - Overhead	
7	0007	Maintenance - Overhead	
8	11250	Training - Job Chargeable	
9	11300	Site Clean up	
10	11350	Install Sound Walls	
11	11400	Install Decon Pad	
12	12450	Install Surface Casing	
13	11500	Install Roadway & Drift Pad	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Borehole Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Drift Pilot Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Borehole Abandonment/Cement Plugs	
24	13350	Grouting	
25	13400	Under Roaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development Air Lift and Swab	
32	14100	Disposal of Sluts & Cuttings	
33	14150	Turnin & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Lost Pumping	
36	14300	Contamination and Chlorination	
37	19050	Offsite Activities Mob/Demob	
38	19100	Shop	
39	19150	Administration	
40	19550	Other Activities Standby	
41	19600	Fishing for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	08000	Equipment Repairs	
44	50170	Damages	
45	90200	Job Superintendent	
		Lunch	
		<b>TOTAL HOURS</b>	

0.1.760 FT BPL

COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

DRILL 12 1/4 BIT; FROM - 1733' BPL - TO - 1794' BPL  
RUN SURVEY @ .4' MAKE CONNECT BACK DRILL FROM -  
1794' BPL - TO - 1812 BPL; SITE CLEAN UP; HELPING  
ELLIS.

D51C

[illegible]

## PAYROLL

### ЗАДАЧА 1

**Final**

**LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT**

Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
L-2012-232 Enclosure 3 Page 20 of 39

DATE 5/14/12  
Mon. Night

JOB # 11771.1405.10000

CLIENT FPL  
JOB SITE NAME MW-1

JOBSITE LOCATION Turkey Point

## PERSONNEL EMPLOYED TODAY

Crew Assignment	Employee Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
<del>DELL</del> <del>NR</del>	Michael A. Ramirez	45	12		12
VI	Vlad Ishimov	45	12		12
JM	James McDonnell	45	12		12
BF	Bob Feetham	45	12		12

800.776.4411 • 2000 E. 12th Ave. • Denver, CO 80202

Description	Unit #	Status
FDW-200	28605	OK
89 Mack Dump	18000	5/3
Cement Unit	28145	5/3

Working	WK	Mobilization	AM
Standby	SA	Demobilization	DM
Down on Site	OS	Available in Yard	AY
Down on Job	DJ	Available on Job	AV

## DAILY ACCOUNTING OF ACTIVITIES BY ITEM #

Item #	Cost Code	Location/Activity	Hours
1	20000	Open Gas Storage Tank	
2	21100	Install 1/2" x 1/2" x 1/2"	
3	21150	Install 1/2" x 1/2" x 1/2"	
4	21200	Install 1/2" x 1/2" x 1/2"	
5	21250	Install 1/2" x 1/2" x 1/2"	
6	21300	Install 1/2" x 1/2" x 1/2"	
7	21350	Install 1/2" x 1/2" x 1/2"	
8	21400	Install 1/2" x 1/2" x 1/2"	
9	21450	Install 1/2" x 1/2" x 1/2"	
10	21500	Install 1/2" x 1/2" x 1/2"	
11	21550	Install 1/2" x 1/2" x 1/2"	
12	21600	Install 1/2" x 1/2" x 1/2"	
13	21650	Install 1/2" x 1/2" x 1/2"	
14	21700	Install 1/2" x 1/2" x 1/2"	
15	21750	Install 1/2" x 1/2" x 1/2"	
16	21800	Install 1/2" x 1/2" x 1/2"	
17	21850	Install 1/2" x 1/2" x 1/2"	
18	21900	Install 1/2" x 1/2" x 1/2"	
19	21950	Install 1/2" x 1/2" x 1/2"	
20	22000	Install 1/2" x 1/2" x 1/2"	
21	22050	Install 1/2" x 1/2" x 1/2"	
22	22100	Install 1/2" x 1/2" x 1/2"	
23	22150	Install 1/2" x 1/2" x 1/2"	
24	22200	Install 1/2" x 1/2" x 1/2"	
25	22250	Install 1/2" x 1/2" x 1/2"	
26	22300	Install 1/2" x 1/2" x 1/2"	
27	22350	Install 1/2" x 1/2" x 1/2"	
28	22400	Install 1/2" x 1/2" x 1/2"	
29	22450	Install 1/2" x 1/2" x 1/2"	
30	22500	Install 1/2" x 1/2" x 1/2"	
31	22550	Install 1/2" x 1/2" x 1/2"	
32	22600	Install 1/2" x 1/2" x 1/2"	
33	22650	Install 1/2" x 1/2" x 1/2"	
34	22700	Install 1/2" x 1/2" x 1/2"	
35	22750	Install 1/2" x 1/2" x 1/2"	
36	22800	Install 1/2" x 1/2" x 1/2"	
37	22850	Install 1/2" x 1/2" x 1/2"	
38	22900	Install 1/2" x 1/2" x 1/2"	
39	22950	Install 1/2" x 1/2" x 1/2"	
40	23000	Install 1/2" x 1/2" x 1/2"	
41	23050	Install 1/2" x 1/2" x 1/2"	
42	23100	Install 1/2" x 1/2" x 1/2"	
43	23150	Install 1/2" x 1/2" x 1/2"	
44	23200	Install 1/2" x 1/2" x 1/2"	
45	23250	Install 1/2" x 1/2" x 1/2"	
46	23300	Install 1/2" x 1/2" x 1/2"	
47	23350	Install 1/2" x 1/2" x 1/2"	
48	23400	Install 1/2" x 1/2" x 1/2"	
49	23450	Install 1/2" x 1/2" x 1/2"	
50	23500	Install 1/2" x 1/2" x 1/2"	
51	23550	Install 1/2" x 1/2" x 1/2"	
52	23600	Install 1/2" x 1/2" x 1/2"	
53	23650	Install 1/2" x 1/2" x 1/2"	
54	23700	Install 1/2" x 1/2" x 1/2"	
55	23750	Install 1/2" x 1/2" x 1/2"	
56	23800	Install 1/2" x 1/2" x 1/2"	
57	23850	Install 1/2" x 1/2" x 1/2"	
58	23900	Install 1/2" x 1/2" x 1/2"	
59	23950	Install 1/2" x 1/2" x 1/2"	
60	24000	Install 1/2" x 1/2" x 1/2"	
61	24050	Install 1/2" x 1/2" x 1/2"	
62	24100	Install 1/2" x 1/2" x 1/2"	
63	24150	Install 1/2" x 1/2" x 1/2"	
64	24200	Install 1/2" x 1/2" x 1/2"	
65	24250	Install 1/2" x 1/2" x 1/2"	
66	24300	Install 1/2" x 1/2" x 1/2"	
67	24350	Install 1/2" x 1/2" x 1/2"	
68	24400	Install 1/2" x 1/2" x 1/2"	
69	24450	Install 1/2" x 1/2" x 1/2"	
70	24500	Install 1/2" x 1/2" x 1/2"	
71	24550	Install 1/2" x 1/2" x 1/2"	
72	24600	Install 1/2" x 1/2" x 1/2"	
73	24650	Install 1/2" x 1/2" x 1/2"	
74	24700	Install 1/2" x 1/2" x 1/2"	
75	24750	Install 1/2" x 1/2" x 1/2"	
76	24800	Install 1/2" x 1/2" x 1/2"	
77	24850	Install 1/2" x 1/2" x 1/2"	
78	24900	Install 1/2" x 1/2" x 1/2"	
79	24950	Install 1/2" x 1/2" x 1/2"	
80	25000	Install 1/2" x 1/2" x 1/2"	
81	25050	Install 1/2" x 1/2" x 1/2"	
82	25100	Install 1/2" x 1/2" x 1/2"	
83	25150	Install 1/2" x 1/2" x 1/2"	
84	25200	Install 1/2" x 1/2" x 1/2"	
85	25250	Install 1/2" x 1/2" x 1/2"	
86	25300	Install 1/2" x 1/2" x 1/2"	
87	25350	Install 1/2" x 1/2" x 1/2"	
88	25400	Install 1/2" x 1/2" x 1/2"	
89	25450	Install 1/2" x 1/2" x 1/2"	
90	25500	Install 1/2" x 1/2" x 1/2"	
91	25550	Install 1/2" x 1/2" x 1/2"	
92	25600	Install 1/2" x 1/2" x 1/2"	
93	25650	Install 1/2" x 1/2" x 1/2"	
94	25700	Install 1/2" x 1/2" x 1/2"	
95	25750	Install 1/2" x 1/2" x 1/2"	
96	25800	Install 1/2" x 1/2" x 1/2"	
97	25850	Install 1/2" x 1/2" x 1/2"	
98	25900	Install 1/2" x 1/2" x 1/2"	
99	25950	Install 1/2" x 1/2" x 1/2"	
100	26000	Install 1/2" x 1/2" x 1/2"	
SPECIAL ORDER			

WEST #145-4307-029.Y

Quantity	Description
	Safety Meetings
	① Handling/usage of GAS CYLINDERS
	② Ladder Safety
	PPE, HIRA, tool usage safety, ladder safety
	Eyes on Path, Fire Prevention,

## TIME OF ACTIVITY: 11:50 A.M.

[illegible]

CO-ANALYSE-CYCLES-CO-ORDINATION-CLARK-CLARK-HOUSEHOLD

Continue Drilling 12 1/4" bit from 1812' bpl to 1839' bpl. Housekeeping/  
Cleanup / Trash. Wash / scrub Drill house, Rig PAD. Fix pressure washer drill  
Start, scrub Floor, run Rig, Draw works, Mcc's 2 Trailer. Replace valve  
on LS-20 Air compressor. Run Survey at 1820' get .4°. Make Connections  
of 45' DP single. Continue drilling from 1839' bpl to 1840' bpl.

Michael R.

5/14/72

Client's Signature \_\_\_\_\_

## PAYROLL

**Ergebniswert: A. Platzwert**

0.11

Signature: \_\_\_\_\_ Date: \_\_\_\_\_



*[Handwritten signature]*

**LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT**

### Proposed Turkey Point Units 6 and 7

Docket Nos. 52-040 and 52-041

DATE 5-16-72

L-2012-232 Enclosure 3 Page 23 of 39

WED DAYS

JOB # 11271-1405-10000

**CLIENT**

FDL

JOB SITE NAME

mw - 1.

**JOB SITE LOCATION**

T-0

**DAILY AGED SYSTEM OF AGRICULTURE**

### PERSONNEL EMPLOYED TODAY

**FOUO - NOT FOR RELEASE TO THE PUBLIC**

Crew Assignment	Employee - Full Name	Per Diem? (X)	Onsite Hours	Offsite Hours	Total Hours
Driller	BOSIT GULONOV	45	12		12
A.D	ANDREY POPOV	45	12		12
V.M	VICTOR MOISYEV	45	12		12

Description	Unit #	Status
PDW-200.	28608	w/A
1989 MACC	182000	
Dump TRUCK		w/k
CEMENT	28145	
UNIT		5/13
Working	WK	Mobilization
Standby	SB	Demobilization
Down in Shop	DS	Available in Yard
Down on Site	DN	Available on Job
		AY
		AV

MATERIALS USED TODAY	
Quantity	Description
	SAFETY MTC!
	LIGHTING:
	PPE: H.I.R.A. PINCH POINT:
	HAND SAFETY: LOADER SAFETY!

[illegible]

COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

T.O.H. IN CASING: Kill D.P. 2" Kill - FIX CANNING!  
HELDING Ellis; RUN Dump TRUCK (18) T.I.W  
@ 190.5' BPL

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	On-site Mob/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	0006	Shop - Overhead	
7	0007	Maintenance - Overhead	
8	11250	Training - Job Chargeable	
9	11300	Site Clean up	
10	11350	Install Sound Walls	
11	11400	Install Decon Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Oil Pad	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Borehole Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	13150	Drill Pilot Hole	
21	13200	Geophysical Logging & Other Testing	
22	13250	Aquifer Zone Testing	
23	13300	Borehole Abandonment/Cement Plugs	
24	13350	Roaming	
25	13400	Under Roaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	13550	Gravel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development Air Lift and Swab	
32	14100	Disposal of Fluids & Cuttings	
33	14150	Furnish & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Disinfection and Chlorination	
37	19050	Off-site Activities Mob/Demob	
38	19100	Shop	
39	19150	Administration	
40	19550	Other Activities Standby	
41	19600	Fishing for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	88000	Equipment Repairs	
44	90170	Damages	
45	90200	Job Superintendent	
		<b>TOTAL HOURS</b>	

52-16-12

Date \_\_\_\_\_

**Client's Signature**

## PAYROLL

D31

2000-01-01 to 2000-01-01

• • •

**LAYNE CHRISTENSEN COMPANY - DRILLING SHIFT REPORT**

Proposed Turkey Point Units 6 and 7  
Docket Nos. 52-040 and 52-041  
L-2012-232 Enclosure 3 Page 24 of 39

## RATE

5/14/12  
Wed Night Shift

DATE 11/7/71 1405, 1000  
LOCATION Turkey Point

**JOB SITE NAME**

mw-1

**JOB SITE LOCATION**

Tyler Kent

**PERSONNEL EMPLOYED TODAY**

1990 Allegations	Life Support Unit Name	Per Diem (\$)	Food Items	Medical Items	Bed Items
Dr. Hov	George Hagg	45	12		12
Ray	Paul Vagghaw	45	12		12
B.F.	Bob Fethaw	45	12		12
JA	Josh Ashley	45	12		12

• **USING USED TODAY**

Quantity	Description
	Safety meeting
	① Laying out/tailing pipe w/ loader
	② Tripping out lightning break 3200
	Safety topic
	Hard Safety, PPE, hard hat, pinch points, High pressure line

## COMMENTS - EVENTS - CONDITIONS - CHANGES - OTHER INFORMATION

## EQUIPMENT DEPLOYED TODAY

Description		Unit #	Status
FDW 200		28605	W/L
1989 Mac		18000	S/B
Dump truck			
Cement		28145	S/B
Working	WK	Mobilization	MM
Standby	SB	Demobilization	DM
Down in Shop	DS	Available in Yard	AY
Down on Site	DN	Available on Job	AV

### TIME OF ACTIVITY BY ITEM

[illegible]

### ONLY ACCOUNTING OF ACTIVITIES OF ITEM 1

Item #	Cost Code	Labor Activity	Hours
1	10000	Short Duration Job	
2	11100	Onsite Mob/Demob	
3	11150	Job Preparation	
4	11200	Safety Meeting	
5	0005	Training - Overhead	
6	0006	Shop - Overhead	
7	0007	Maintenance - Overhead	
8	11230	Training - Job Chargeable	
9	11300	Site Clean up	
10	11350	Install Sound Walls	
11	11400	Install Decon Pad	
12	11450	Install Surface Casing	
13	11500	Install Roadway & Ditch Pad	
14	12050	Test Hole Drilling	
15	12100	Geophysical Logging & Other Testing	
16	12150	Aquifer Zone Testing	
17	12200	Borehole Abandonment	
18	13050	Production Well Installation	
19	13100	Install Conductor Pipe	
20	11150	Drill Test Hole	
21	11200	Geophysical Logging & Other Testing	
22	11250	Aquifer Zone Testing	
23	11300	Borehole Abandonment/Cement Plugs	
24	13350	Reaming	
25	13400	Under Reaming	
26	13450	Install Casing	
27	13500	Install Screen	
28	11150	Travel Pack The Well	
29	13600	Install Annular Seal	
30	13650	Water Watching	
31	14050	Well Development Air Lift and Swab	
32	14100	Disposal of Fluids & Cuttings	
33	14150	Furnish & Install Test Pump and Discharge	
34	14200	Development Pumping	
35	14250	Test Pumping	
36	14300	Disinfection and Chlorination	
37	19050	Offsite Activities Mob/Demob	
38	19100	Shop	
39	19150	Administration	
40	19550	Other Activities Standby	
41	19600	Fishing for Lost/Broken Tooling	
42	19650	Change Order Activities	
43	89000	Equipment Repairs	
44	90170	Damages	
45	90200	Job Superintendent	
		Sumit	
		TOTAL HOURS	

8/17/42

Project: Florida Power & Light Company  
Miami-Dade County, Florida  
Exploratory Well EW-1



**EW-1 Pad Monitoring Well Water Quality Data  
Northeast Pad Monitoring Well  
(NE-EW PMW)**

Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks
4/21/2011	1108	10.49	-1.61	78,700	32,200	57,000	29.8	Background Sampling
4/29/2011	1157	10.68	-1.80	80,400	29,900	53,800	30.4	
5/5/2011	1157	11.40	-2.52	81,400	27,500	52,350	31.2	
5/11/2011	1309	11.00	-2.12	76,800	31,600	51,200	29.7	
5/19/2011	0958	10.48	-1.60	72,600	35,600	51,200	29.5	
5/26/2011	1050	10.76	-1.88	71,360	29,500	52,900	29.7	
6/2/2011	1134	10.78	-1.90	71,700	29,000	55,700	29.6	
6/9/2011	1128	10.61	-1.73	69,700	32,300	50,650	29.3	
6/16/2011	0958	10.35	-1.47	69,300	33,000	53,450	29.5	
6/23/2011	1028	10.41	-1.53	69,400	30,600	55,600	29.5	
6/30/2011	0928	10.15	-1.27	70,300	27,600	51,950	29.2	
7/8/2011	1210	9.00	-0.12	72,570	30,100	54,150	29.9	
7/14/2011	1338	9.75	-0.87	76,400	27,200	54,550	29.9	
7/21/2011	1039	9.35	-0.47	72,200	32,600	49,760	29.7	
7/28/2011	1119	9.51	-0.63	71,600	30,200	54,250	29.7	
8/4/2011	1249	9.70	-0.82	64,400	31,500	53,850	27.5	
8/11/2011	1059	9.25	-0.37	73,900	29,500	57,150	29.6	
8/18/2011	1039	9.45	-0.57	71,900	29,400	54,850	30.0	
8/25/2011	1039	9.45	-0.57	69,800	31,300	55,550	29.7	
9/1/2011	1109	9.15	-0.27	71,700	29,500	56,300	29.9	
9/8/2011	1049	9.15	-0.27	70,700	31,400	49,800	30.3	
9/16/2011	1233	9.30	-0.42	5320*	1260*	2668*	27.8	
9/23/2011	1129	9.10	-0.22	72,900	31,200	52,750	30.1	
9/29/2011	1330	9.16	-0.28	11,500*	3,200*	7,010*	27.8	
10/6/2011	1119	9.30	-0.42	72,600	30,000	56,200	30.1	
10/13/2011	1058	10.15	-1.27	75,200	32,500	51,600	30.1	
10/20/2011	1049	8.40	0.48	68,400	29,100	57,450	29.9	
10/27/2011	1109	8.95	-0.07	80,200	27,700	54,950	30.0	
11/3/2011	1049	8.91	-0.03	80,200	31,100	55,700	29.9	
11/10/2011	0958	9.67	-0.79	75,500	28,700	59,600	30.0	
11/17/2011	1058	10.81	-1.93	68,400	34,900	57,500	30.1	
11/25/2011	0939	9.51	-0.63	69,300	26,500	52,750	30.0	
12/1/2011	1138	9.67	-0.79	66,000	29,800	55,200	29.8	
12/8/2011	1058	10.31	-1.43	63,800	30,100	57,050	27.5	
12/15/2011	1109	9.61	-0.73	75,400	28,300	53,700	30.0	
12/22/2011	1038	9.67	-0.79	69,300	29,500	51,800	30.7	
12/29/2011	0918	9.87	-0.99	76,900	30,800	51,300	29.7	
1/5/2012	1118	10.41	-1.53	70,400	28,100	52,200	29.5	
1/12/2012	1058	10.21	-1.33	75,200	28,200	50,900	29.9	
1/19/2012	0958	10.30	-1.42	75,200	27,700	49,300	29.8	
1/26/2012	1048	10.22	-1.34	72,300	29,400	55,300	30.0	
2/2/2012	1048	10.21	-1.33	71,300	28,400	50,700	29.9	
2/10/2012	1029	9.15	-0.27	71,400	30,400	52,400	30.0	
2/16/2012	1219	9.47	-0.59	72,300	27,000	53,300	29.9	
2/23/2012	1049	9.57	-0.69	72,300	29,600	55,100	30.1	
3/1/2012	1038	9.74	-0.86	72,300	31,500	50,100	30.0	
3/8/2012	1058	9.76	-0.88	72,200	31,600	53,100	29.3	
3/16/2012	1038	9.65	-0.77	72,100	34,900	53,100	29.9	
3/22/2012	1108	9.90	-1.02	72,400	30,800	48,700	29.8	
3/29/2012	0911	9.87	-0.99	72,500	29,100	48,600	29.2	
4/5/2012	1208	10.25	-1.37	71,600	29,200	50,800	30.0	
4/12/2012	1118	10.15	-1.27	71,500	32,000	52,700	30.1	
4/19/2012	1143	9.85	-0.97	72,000	34,000	54,500	30.3	
4/26/2012	1009	9.50	-0.62	72,100	36,000	54,200	29.7	
5/3/2012	1144	8.85	0.03	72,400	36,500	50,900	29.6	
5/10/2012	1109	9.42	-0.54	72,800	32,000	51,700	29.7	

ft. btoc: feet below top of casing  
TOC: Top of Casing  
ft. NAVD 88: North American Vertical Datum of 1988  
umhos/cm: micromhos per centimeter  
mg/L: milligrams per liter  
C: Celsius

\*Results appear to be anomalous and are suspected to be related to a sampling error. Countermeasures to prevent reoccurrence have been implemented.

Note: TOC elevation is: 8.88 feet NAVD 88



Project: Florida Power & Light Company  
Miami-Dade County, Florida  
Exploratory Well EW-1



**EW-1 Pad Monitoring Well Water Quality Data  
Southeast Pad Monitoring Well  
(SE-EW PMW)**

Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks
4/21/2011	1311	10.10	-1.51	81,600	30,200	57,800	29.9	Background Sampling
4/29/2011	1349	10.40	-1.81	86,700	33,100	55,000	30.4	
5/5/2011	1008	11.10	-2.51	83,000	29,500	54,700	29.9	
5/11/2011	1228	10.65	-2.06	78,200	30,100	52,600	30.1	
5/19/2011	1039	10.12	-1.53	75,200	30,000	51,100	29.8	
5/26/2011	1235	10.47	-1.88	73,890	31,200	53,800	29.9	
6/2/2011	1056	10.50	-1.91	74,200	29,400	57,400	29.6	
6/9/2011	1210	10.32	-1.73	72,200	32,100	51,000	29.6	
6/16/2011	1035	10.00	-1.41	71,300	32,200	54,000	29.8	
6/23/2011	1109	10.10	-1.51	71,900	31,600	55,650	29.8	
6/30/2011	1009	9.85	-1.26	72,800	27,600	53,050	29.5	
7/8/2011	1138	9.12	-0.53	73,150	29,800	54,450	29.9	
7/14/2011	1414	9.48	-0.89	79,700	29,000	55,350	29.8	
7/21/2011	1119	9.36	-0.77	74,100	34,000	54,100	30.0	
7/28/2011	1229	9.55	-0.96	74,300	30,200	56,300	29.8	
8/4/2011	1224	9.50	-0.91	72,700	31,500	53,000	27.7	
8/11/2011	1209	9.37	-0.78	77,400	30,000	56,800	29.7	
8/18/2011	1149	9.45	-0.86	74,100	30,100	55,500	30.0	
8/25/2011	1149	9.38	-0.79	73,300	31,200	57,450	29.6	
9/1/2011	1224	9.10	-0.51	72,700	30,700	57,300	29.8	
9/8/2011	1159	9.21	-0.62	73,200	32,200	51,800	30.1	
9/16/2011	1303	9.40	-0.81	70,280	29,600	50,550	27.7	
9/23/2011	1239	9.20	-0.61	75,200	29,000	55,550	29.8	
9/29/2011	1300	9.10	-0.51	68,500	30,700	53,600	27.4	
10/6/2011	1229	9.25	-0.66	79,100	31,300	54,050	30.0	
10/13/2011	1209	9.95	-1.36	76,900	30,200	52,250	30.1	
10/20/2011	1200	8.60	-0.01	69,900	28,000	57,150	29.8	
10/27/2011	1218	8.81	-0.22	82,400	28,000	56,500	30.0	
11/3/2011	1159	9.56	-0.97	82,900	31,000	56,400	30.1	
11/10/2011	1109	9.96	-1.37	78,300	27,900	60,500	30.1	
11/17/2011	1208	10.90	-2.31	69,700	34,000	57,800	30.2	
11/25/2011	1049	9.36	-0.77	69,900	26,900	53,600	30.0	
12/1/2011	1248	10.85	-2.26	71,800	33,900	57,000	30.2	
12/8/2011	1209	9.87	-1.28	68,900	29,500	61,500	27.0	
12/15/2011	1219	9.53	-0.94	76,600	28,000	55,100	30.1	
12/22/2011	1149	9.65	-1.06	72,300	29,000	52,400	30.0	
12/29/2011	1029	9.96	-1.37	77,600	29,800	52,200	30.1	
1/5/2012	1229	10.31	-1.72	72,800	27,700	53,400	30.1	
1/12/2012	1204	10.10	-1.51	76,000	30,800	52,900	30.1	
1/19/2012	1139	10.38	-1.79	76,500	28,100	50,800	30.0	
1/26/2012	1229	10.18	-1.59	73,200	29,900	56,300	30.1	
2/2/2012	1229	10.23	-1.64	72,400	27,900	52,000	30.1	
2/10/2012	1209	9.21	-0.62	72,000	29,800	55,400	30.2	
2/16/2012	1359	9.45	-0.86	72,700	27,700	57,200	30.2	
2/23/2012	1229	9.48	-0.89	72,800	32,100	57,000	30.2	
3/1/2012	1219	9.61	-1.02	72,800	31,000	51,700	30.2	
3/8/2012	1244	9.81	-1.22	72,500	32,500	52,500	29.9	
3/16/2012	1219	9.61	-1.02	72,900	34,300	53,100	30.3	
3/22/2012	1249	9.87	-1.28	72,600	31,000	51,100	30.2	
3/29/2012	1054	9.97	-1.38	72,900	29,500	51,200	29.9	
4/5/2012	1341	10.05	-1.46	72,300	29,500	52,200	30.2	
4/12/2012	1259	9.98	-1.39	72,200	31,200	53,800	30.5	
4/19/2012	1244	9.90	-1.31	71,800	33,500	54,500	30.4	
4/26/2012	1144	9.61	-1.02	72,200	35,500	54,500	30.0	
5/3/2012	1249	8.97	-0.38	73,100	37,400	51,700	30.2	
5/10/2012	1242	9.32	-0.73	73,300	32,100	53,100	30.2	

ft. btoc: feet below top of casing  
TOC: Top of Casing  
ft. NAVD 88: North American Vertical Datum of 1988  
umhos/cm: micromhos per centimeter  
mg/L: milligrams per liter  
C: Celsius  
Note: TOC elevation is: 8.59 feet NAVD 88

Project: Florida Power & Light Company  
Miami-Dade County, Florida  
Exploratory Well EW-1



**EW-1 Pad Monitoring Well Water Quality Data  
Northwest Pad Monitoring Well  
(NW-EW PMW)**

Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks
4/21/2011	1221	10.50	-1.66	84,300	33,500	59,900	30.8	Background Sampling
4/29/2011	1120	10.65	-1.81	86,300	33,700	56,400	30.0	
5/5/2011	1051	11.40	-2.56	87,400	31,300	57,650	31.1	
5/11/2011	1034	12.40	-3.56	79,100	33,500	55,650	30.4	
5/19/2011	1113	13.90	-5.06	80,000	36,000	53,700	30.4	
5/26/2011	1125	10.73	-1.89	75,130	32,300	55,450	30.4	
6/2/2011	1215	10.75	-1.91	75,900	30,700	59,500	30.3	
6/9/2011	1248	10.60	-1.76	72,500	32,200	51,950	29.9	
6/16/2011	1118	10.25	-1.41	72,500	31,500	54,550	30.0	
6/23/2011	1143	10.37	-1.53	73,300	31,600	57,750	30.3	
6/30/2011	1049	10.10	-1.26	75,700	27,400	54,300	30.0	
7/8/2011	1112	9.38	-0.54	74,100	30,700	53,950	30.3	
7/14/2011	1524	9.75	-0.91	79,900	27,600	56,350	30.3	
7/21/2011	1226	9.60	-0.76	76,200	32,600	54,500	29.7	
7/28/2011	1154	9.80	-0.96	74,900	32,200	57,050	30.5	
8/4/2011	1317	9.85	-1.01	78,000	30,500	59,300	28.7	
8/11/2011	1134	9.61	-0.77	77,600	31,100	58,150	30.4	
8/18/2011	1114	9.68	-0.84	73,100	30,000	55,350	30.6	
8/25/2011	1114	9.61	-0.77	72,300	31,800	56,950	30.0	
9/1/2011	1149	9.33	-0.49	71,900	29,300	56,000	30.4	
9/8/2011	1124	9.45	-0.61	73,800	30,100	52,300	30.5	
9/16/2011	1203	9.60	-0.76	67,200	23,400	51,650	28.2	
9/23/2011	1204	9.43	-0.59	73,800	30,800	54,450	30.4	
9/29/2011	1205	9.35	-0.51	68,700	27,500	50,800	27.6	
10/6/2011	1154	9.50	-0.66	78,400	30,000	56,550	30.2	
10/13/2011	1133	10.21	-1.37	75,800	29,300	50,500	30.2	
10/20/2011	1124	8.81	0.03	70,200	27,500	56,850	30.1	
10/27/2011	1143	10.39	-1.55	81,500	28,800	54,600	30.2	
11/3/2011	1123	10.50	-1.66	80,500	30,400	55,900	30.1	
11/10/2011	1033	10.37	-1.53	77,800	27,800	58,700	30.1	
11/17/2011	1133	10.71	-1.87	67,900	30,500	57,000	30.3	
11/25/2011	1014	9.58	-0.74	71,700	27,400	53,300	30.2	
12/1/2011	1214	9.80	-0.96	68,500	33,500	53,650	30.1	
12/8/2011	1133	10.37	-1.53	68,700	27,600	57,850	27.7	
12/15/2011	1144	9.75	-0.91	75,500	28,200	52,000	30.0	
12/22/2011	1114	9.87	-1.03	70,600	27,700	52,100	29.9	
12/29/2011	0954	9.97	-1.13	77,700	29,500	51,600	29.9	
1/5/2012	1153	10.52	-1.68	71,800	28,000	52,800	29.6	
1/12/2012	1133	10.35	-1.51	75,400	30,400	51,900	30.0	
1/19/2012	1033	10.42	-1.58	75,600	29,800	50,200	29.9	
1/26/2012	1123	10.35	-1.51	73,200	29,500	56,000	29.9	
2/2/2012	1123	10.35	-1.51	71,100	27,400	51,200	29.9	
2/10/2012	1104	9.38	-0.54	70,300	28,800	54,900	29.8	
2/16/2012	1254	9.67	-0.83	71,100	27,800	55,200	29.8	
2/23/2012	1124	9.67	-0.83	72,100	30,700	56,200	29.8	
3/1/2012	1114	9.91	-1.07	71,500	31,000	51,200	29.7	
3/8/2012	1139	9.62	-0.78	71,600	30,500	52,800	29.4	
3/16/2012	1114	9.85	-1.01	71,500	34,100	52,400	29.7	
3/22/2012	1144	10.10	-1.26	71,400	30,200	48,700	29.6	
3/29/2012	0949	9.93	-1.09	71,500	28,400	51,200	29.6	
4/5/2012	1241	10.09	-1.25	71,300	28,900	51,100	29.7	
4/12/2012	1154	10.00	-1.16	71,300	29,300	52,600	29.9	
4/19/2012	1109	9.97	-1.13	71,400	31,500	53,300	30.2	
4/26/2012	1042	9.68	-0.84	71,700	31,300	53,000	29.6	
5/3/2012	1109	9.00	-0.16	72,200	34,200	49,500	29.5	
5/10/2012	1142	9.35	-0.51	72,500	31,400	52,000	29.5	

ft. btoc: feet below top of casing  
TOC: Top of Casing  
ft. NAVD 88: North American Vertical Datum of 1988  
umhos/cm: micromhos per centimeter  
mg/L: milligrams per liter  
C: Celsius  
Note: TOC elevation is: 8.84 feet NAVD 88


Project: Florida Power & Light Company  
Miami-Dade County, Florida  
Exploratory Well EW-1





**EW-1 Pad Monitoring Well Water Quality Data  
Southwest Pad Monitoring Well  
(SW-EW PMW)**


Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks
4/21/2011	1414	10.50	-1.62	72,500	26,400	51,500	30.6	Background Sampling
4/29/2011	1025	10.60	-1.72	77,400	28,300	51,600	29.8	
5/5/2011	0930	11.85	-2.97	75,200	29,000	49,400	28.7	
5/11/2011	1124	16.40	-7.52	78,100	28,300	51,050	31.6	
5/19/2011	1202	15.95	-7.07	73,100	29,700	48,450	32.6	
5/26/2011	1155	11.20	-2.32	66,630	27,800	48,350	29.4	
6/2/2011	1035	11.25	-2.37	68,500	26,000	52,600	29.4	
6/9/2011	1319	11.05	-2.17	65,400	26,300	44,150	29.5	
6/16/2011	1154	10.75	-1.87	64,900	27,000	48,450	29.5	
6/23/2011	1214	10.85	-1.97	65,500	30,400	50,800	29.6	
6/30/2011	1119	10.60	-1.72	68,500	24,300	46,650	29.4	
7/8/2011	1045	9.85	-0.97	64,950	25,600	47,650	29.6	
7/14/2011	1445	10.22	-1.34	69,900	24,800	48,300	29.6	
7/21/2011	1154	10.10	-1.22	67,800	27,400	47,900	29.6	
7/28/2011	1259	10.26	-1.38	67,000	26,600	48,650	27.7	
8/4/2011	1157	10.30	-1.42	68,420	25,600	51,350	27.5	
8/11/2011	1243	9.21	-0.33	67,800	26,400	51,150	29.7	
8/18/2011	1219	10.15	-1.27	66,300	25,400	47,500	29.8	
8/25/2011	1219	10.31	-1.43	66,000	26,900	50,150	29.4	
9/1/2011	1254	9.87	-0.99	65,400	25,700	49,450	29.8	
9/8/2011	1229	9.97	-1.09	66,800	26,300	46,500	29.9	
9/16/2011	1329	10.10	-1.22	64,000	25,700	46,800	28.0	
9/23/2011	1309	9.95	-1.07	66,200	25,800	47,500	29.6	
9/29/2011	1230	9.80	-0.92	64,100	25,400	46,150	27.7	
10/6/2011	1259	9.97	-1.09	76,200	25,800	45,800	29.7	
10/13/2011	1239	10.67	-1.79	69,100	26,100	46,700	29.8	
10/20/2011	1229	9.31	-0.43	64,700	23,800	51,100	29.6	
10/27/2011	1249	10.87	-1.99	75,600	26,500	50,000	29.7	
11/3/2011	1229	10.93	-2.05	75,600	27,700	49,750	29.7	
11/10/2011	1139	10.91	-2.03	73,500	25,500	53,300	29.7	
11/17/2011	1238	11.41	-2.53	63,800	26,900	50,400	29.7	
11/25/2011	1119	10.05	-1.17	65,800	24,900	48,950	29.7	
12/1/2011	1323	11.42	-2.54	65,900	29,600	51,100	29.6	
12/8/2011	1239	10.98	-2.10	64,900	24,800	52,450	27.3	
12/15/2011	1247	10.27	-1.39	70,100	24,800	49,700	29.4	
12/22/2011	1219	10.27	-1.39	66,800	24,900	45,600	29.7	
12/29/2011	1059	10.67	-1.79	71,100	26,400	46,300	29.5	
1/5/2012	1259	11.03	-2.15	64,800	24,900	47,600	29.3	
1/12/2012	1234	10.87	-1.99	69,000	25,700	47,000	29.6	
1/19/2012	1104	11.00	-2.12	69,100	24,900	44,200	29.4	
1/26/2012	1154	10.85	-1.97	67,500	25,900	50,100	29.4	
2/2/2012	1154	10.97	-2.09	65,300	25,200	46,200	29.5	
2/10/2012	1134	9.91	-1.03	65,300	25,400	48,900	29.6	
2/16/2012	1324	10.15	-1.27	64,600	24,100	50,500	29.4	
2/23/2012	1154	10.24	-1.36	65,300	24,100	50,500	29.5	
3/1/2012	1144	10.27	-1.39	65,300	26,900	45,900	29.4	
3/8/2012	1209	10.31	-1.43	65,300	27,400	47,700	30.0	
3/16/2012	1144	10.35	-1.47	65,300	29,800	47,200	29.3	
3/22/2012	1214	10.61	-1.73	65,500	27,100	44,600	29.3	
3/29/2012	1019	10.18	-1.30	65,500	26,100	45,900	29.5	
4/5/2012	1309	10.72	-1.84	65,300	25,600	48,200	29.4	
4/12/2012	1224	10.60	-1.72	65,000	27,000	49,700	30.5	
4/19/2012	1211	10.65	-1.77	65,400	28,200	50,800	30.6	
4/26/2012	1109	10.32	-1.44	66,000	30,900	49,800	29.2	
5/3/2012	1214	9.70	-0.82	67,200	30,800	47,700	29.2	
5/10/2012	1209	10.02	-1.14	68,700	30,200	49,600	29.2	



ft. btoc: feet below top of casing  
TOC: Top of Casing  
ft. NAVD 88: North American Vertical Datum of 1988  
umhos/cm: micromhos per centimeter  
mg/L: milligrams per liter  
C: Celsius  
Note: TOC elevation is: 8.88 feet NAVD 88


Project:		Florida Power & Light Company Miami-Dade County, Florida Dual-Zone Monitor Well DZMW-1						<div>MHC</div> <div></div>	
DZMW-1 Pad Monitoring Well Water Quality Data Northeast Pad Monitoring Well (NE-DZMW PMW)									
Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks	
3/20/2012	0958	8.15	-1.08	73,100	33,300	52,200	30.1	Background Sampling	
3/29/2012	1128	8.23	-1.16	73,000	29,600	51,400	30.1		
4/6/2012	0858	8.30	-1.23	72,200	28,800	51,200	30.1		
4/13/2012	1128	8.25	-1.18	72,300	33,900	53,100	30.2		
4/20/2012	1038	8.20	-1.13	72,000	34,700	54,500	30.1		
4/27/2012	0958	7.95	-0.88	72,100	37,300	55,100	29.8		
5/4/2012	1009	7.22	-0.15	72,400	29,900	51,100	29.8		
5/11/2012	1229	7.65	-0.58	72,300	34,700	53,000	30.0		
ft. btoc: feet below top of casing TOC: Top of Casing ft. NAVD 88: North American Vertical Datum of 1988 umhos/cm: micromhos per centimeter mg/L: milligrams per liter C: Celsius Top of Casing Elevation: 7.07 feet NAVD 88									




Project:		Florida Power & Light Company Miami-Dade County, Florida Dual-Zone Monitor Well DZMW-1						 	
<b>DZMW-1 Pad Monitoring Well Water Quality Data</b> <b>Southeast Pad Monitoring Well</b> <b>(SE-DZMW PMW)</b>									
Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks	
3/20/2012	1033	8.25	-1.08	72,700	33,900	50,500	30.1	Background Sampling	
3/29/2012	1303	8.33	-1.16	72,800	29,200	50,400	30.2		
4/6/2012	1028	8.30	-1.13	72,300	29,300	53,300	30.2		
4/13/2012	1303	8.32	-1.15	72,400	33,800	54,600	30.2		
4/20/2012	1213	8.28	-1.11	72,300	31,700	55,400	30.2		
4/27/2012	1133	8.10	-0.93	72,600	34,600	53,900	29.5		
5/4/2012	1141	7.40	-0.23	73,300	29,700	52,700	30.0		
5/11/2012	1403	7.67	-0.50	72,700	34,100	52,000	30.1		
ft. btoc: feet below top of casing TOC: Top of Casing ft. NAVD 88: North American Vertical Datum of 1988 umhos/cm: micromhos per centimeter mg/L: milligrams per liter C: Celsius Top of Casing Elevation: 7.17 feet NAVD 88									


Project:		Florida Power & Light Company Miami-Dade County, Florida Dual-Zone Monitor Well DZMW-1						<div>MHC</div> <div></div>	
DZMW-1 Pad Monitoring Well Water Quality Data Southwest Pad Monitoring Well (SW-DZMW PMW)									
Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks	
3/20/2012	1137	8.34	-0.97	73,300	32,900	50,300	30.1	Background Sampling	
3/29/2012	1229	8.38	-1.01	73,100	29,900	50,700	30.2		
4/6/2012	0954	8.50	-1.13	72,000	28,800	52,500	29.9		
4/13/2012	1227	8.52	-1.15	72,000	32,300	54,400	29.9		
4/20/2012	1139	8.45	-1.08	72,100	31,800	53,700	29.9		
4/27/2012	1101	8.25	-0.88	72,600	31,800	55,300	29.9		
5/4/2012	1108	7.60	-0.23	73,200	30,500	52,600	29.6		
5/11/2012	1331	7.95	-0.58	71,500	35,400	53,800	29.5		
ft. btoc: feet below top of casing TOC: Top of Casing ft. NAVD 88: North American Vertical Datum of 1988 umhos/cm: micromhos per centimeter mg/L: milligrams per liter C: Celsius Top of Casing Elevation: 7.37 feet NAVD 88									


<b>Project:</b>		Florida Power & Light Company Miami-Dade County, Florida Dual-Zone Monitor Well DZMW-1						 	
<b>DZMW-1 Pad Monitoring Well Water Quality Data</b> <b>Northwest Pad Monitoring Well</b> <b>(NW-DZMW PMW)</b>									
Date	Time (hours)	Depth to Water (ft. btoc)	Water Elevation (ft. NAVD 88)	Specific Conductance (umhos/cm)	Chloride (mg/L)	TDS (mg/L)	Temperature (degrees C)	Remarks	
3/20/2012	1103	8.27	-1.08	73,600	29,500	53,100	29.9	Background Sampling	
3/29/2012	1158	8.31	-1.12	73,400	30,100	48,400	30.0		
4/6/2012	0926	8.35	-1.16	72,100	29,200	51,400	29.8		
4/13/2012	1157	8.41	-1.22	72,200	34,600	55,000	30.4		
4/20/2012	1108	8.35	-1.16	72,000	31,400	55,500	29.9		
4/27/2012	1027	8.05	-0.86	72,200	32,200	53,900	29.8		
5/4/2012	1037	7.12	0.07	72,800	30,800	52,400	29.6		
5/11/2012	1258	8.45	-1.26	72,300	33,700	53,000	29.8		
ft. btoc: feet below top of casing TOC: Top of Casing ft. NAVD 88: North American Vertical Datum of 1988 umhos/cm: micromhos per centimeter mg/L: milligrams per liter C: Celsius Top of Casing Elevation: 7.19 feet NAVD 88									


<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="background-color: black; color: white; padding: 5px; font-weight: bold;">MHC</div> <div style="text-align: center;"> <b>Florida Power &amp; Light Company</b>  <b>Turkey Point</b>  <b>Dual Zone Monitoring Well DZMW-1</b>  <b>Lithologic Description</b> </div> <div style="text-align: right;">  </div> </div>			
Date	Depth (ft. bpl)		Observer's Description
	From	To	
5/10/2012	1,180	1,190	Dolomite: 100%, pale yellowish brown (10YR 6/2), fine crystalline, well indurated slightly vuggy, slightly phosphatic.
5/10/2012	1,190	1,200	Limestone and Dolomite: Limestone, 50%, yellowish gray (5Y 7/2), very fine grained, well indurated, slightly fossiliferous; Dolomite, 50%, pale yellowish brown (10YR 6/2), fine crystalline, well indurated, moderately vuggy.
5/10/2012	1,200	1,210	Dolomite: 100%, pale yellowish brown (10YR 6/2) and medium light gray (N6), fine crystalline, well indurated, vuggy.
5/10/2012	1,210	1,220	Limestone and Dolomite: Limestone, 60%, yellowish gray (5Y 7/2), very fine grained, moderately well indurated, slightly fossiliferous; Dolomite, 40%, pale yellowish brown (10YR 6/2), fine crystalline, well indurated, vuggy.
5/10/2012	1,220	1,230	Dolomite and Limestone: Dolomite, 80%, pale yellowish brown (10YR 6/2) to grayish orange (10YR 7/4), fine crystalline, moderately well indurated, vuggy; Limestone, 20%, yellowish gray (5Y 7/2), very fine grained, moderately well indurated, slightly fossiliferous, low porosity, low permeability.
5/10/2012	1,230	1,240	Limestone, 100%, yellowish gray (5Y 7/2), very fine grained, moderately well indurated, slightly fossiliferous (pelecypods, gastropods), low porosity, low permeability.
5/10/2012	1,240	1,250	Limestone: same as above.
5/10/2012	1,250	1,260	Limestone and Dolomite: 80%, yellowish gray (5Y 7/2), very fine grained, well indurated, well sorted, low porosity, low permeability; Dolomite, 20%, pale yellowish brown (10YR 6/2) to grayish orange (10YR 7/4), fine crystalline, moderately well indurated, vuggy.
5/10/2012	1,260	1,270	Limestone: 100%, yellowish gray (5Y 7/2), very fine grained, well indurated, slightly fossiliferous (pelecypods, gastropods), very well sorted, low porosity, low permeability; Dolomite trace.
5/10/2012	1,270	1,280	Limestone and Dolomite: 90%, yellowish gray (5Y 7/2), very fine grained, moderately well indurated, moderately well sorted, fossiliferous (pelecypods, gastropods) low porosity, low permeability; Dolomite, 10%, pale yellowish brown (10YR 6/2) to grayish orange (10YR 7/4), fine crystalline, moderately well indurated.
5/10/2012	1,280	1,290	Limestone: 100%, yellowish gray (5Y 7/2), very fine grained, moderately well to poorly indurated, well sorted, fossiliferous (pelecypods, gastropods) low porosity, low permeability.
5/10/2012	1,290	1,300	Limestone: 100%, yellowish gray (5Y 7/2), very fine grained, moderately to poorly indurated, well sorted, fossiliferous (pelecypods, Dictyoconus americanus), low porosity, low permeability; Dolomite trace.
5/10/2012	1,300	1,310	Limestone: 100%, yellowish gray (5Y 7/2), very fine grained, well indurated, poorly sorted, fossiliferous (pelecypods), low porosity, low permeability; Dolomite trace.
5/10/2012	1,310	1,320	Limestone: 100%, yellowish gray (5Y 7/2), very fine grained, poorly indurated, well sorted, fossiliferous, low porosity, low permeability.
5/10/2012	1,320	1,330	Limestone: Same as above.
5/10/2012	1,330	1,340	Limestone: 100%, yellowish gray (5Y 7/2) and very pale orange (10YR 8/2), very fine grained, moderately to poorly indurated, fossiliferous (pelecypods), well sorted, low porosity, low permeability; Dolomite trace.
5/11/2012	1,340	1,350	Limestone: 100%, yellowish gray (5Y 7/2), very fine grained, moderately indurated, fossiliferous (pelecypods, echinoids), well sorted, vuggy, low to moderate porosity, low permeability; Dolomite trace.





<div> <div>MHC</div> <div> <b>Florida Power &amp; Light Company</b>  <b>Turkey Point</b>  <b>Dual Zone Monitoring Well DZMW-1</b>  <b>Lithologic Description</b> </div> <div>  </div> </div>			
Date	Depth (ft. bpl)		Observer's Description
	From	To	
5/11/2012	1,350	1,360	Limestone and Dolomite: Limestone, 80%, yellowish gray (5Y 7/2), very fine grained, moderately well indurated, slightly fossiliferous (pelecypods), well sorted, low porosity, low permeability, slightly vuggy; Dolomite, 20%, pale yellowish brown (10YR 6/2), fine crystalline, well indurated, vuggy.
5/11/2012	1,360	1,370	Limestone and Dolomite: same as above.
5/11/2012	1,370	1,380	Limestone: 100%, yellowish gray (5Y 7/2), very fine grained, moderately well indurated, slightly fossiliferous (pelecypods), well sorted, low porosity, low permeability, slightly vuggy
5/11/2012	1,380	1,390	Limestone: 100%, yellowish gray (5Y 7/2), very fine grained, well indurated, slightly fossiliferous (pelecypods), well sorted, low porosity, low permeability, slightly vuggy.
5/11/2012	1,390	1,400	Limestone: 100%, yellowish gray (5Y 7/2) and light gray (N7), very fine grained, well indurated, highly fossiliferous (pelecypod and gastropod casts and molds, echinoid spines), moderately well sorted, low porosity, low permeability, slightly vuggy.
5/11/2012	1,400	1,410	Limestone: same as above.
5/11/2012	1,410	1,420	Limestone: 100%, yellowish gray (5Y 7/2), very fine grained, moderately to well indurated, highly fossiliferous (pelecypods, abundant whole echinoids 5-10 mm in diameter), well sorted, low porosity, low permeability.
5/11/2012	1,420	1,430	Limestone: 100%, very pale orange (5YR 8/2), fine grained, well indurated, highly fossiliferous (Dictyoconus, Lituonella, Fabiana, Echinoid spines), well sorted, low to moderate intergranular porosity, moderate permeability.
5/12/2012	1,430	1,440	Limestone: 100%, very pale orange (5YR 8/2) to light olive gray (5Y 6/1), fine grained, poorly indurated, highly fossiliferous (pelecypods, Dictyoconus), well sorted, moderate intergranular porosity, moderate permeability.
5/12/2012	1,440	1,450	Limestone: same as above.
5/12/2012	1,450	1,460	Limestone: 100%, pale yellowish brown (10YR 6/2), fine grained, well indurated, fossiliferous (Dictyoconus, Lituonella, gastropod molds, echinoids), well sorted, low to moderate intergranular porosity, low permeability.
5/12/2012	1,460	1,470	Limestone: 100%, pale yellowish brown (10YR 6/2), fine grained, moderately well to poorly indurated, fossiliferous (Dictyoconus americanus), well sorted, low intergranular porosity, low permeability.
5/12/2012	1,470	1,480	Limestone: 100%, pale yellowish brown (10YR 6/2), fine grained, poorly indurated, fossiliferous (Dictyoconus americanus), well sorted, moderate intergranular porosity, moderate permeability.
5/12/2012	1,480	1,490	Limestone: same as above.
5/12/2012	1,490	1,500	Limestone: 100%, pale yellowish brown (10YR 6/2), very fine grained, well indurated, well sorted, low intergranular porosity, low permeability.
5/12/2012	1,500	1,510	Limestone: 100%, pale yellowish brown (10YR 6/2), very fine grained, well indurated, slightly fossiliferous (Dictyoconus, echinoid, shell fragments), well sorted, low to moderate intergranular porosity, low permeability.
5/12/2012	1,510	1,520	Limestone: 100%, pale yellowish brown (10YR 6/2), very fine grained, moderate to poorly indurated, fossiliferous (Dictyoconus, echinoids, shell fragments), well sorted, low to moderate intergranular porosity, low permeability.
5/12/2012	1,520	1,530	Limestone: 100%, pale yellowish brown (10YR 6/2), very fine grained, moderately to poorly indurated, fossiliferous (Dictyoconus, echinoids), well sorted, low to moderate intergranular porosity, low permeability.
5/12/2012	1,530	1,540	Limestone: same as above.

<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="background-color: black; color: white; padding: 5px; font-weight: bold;">MHC</div> <div style="text-align: center;"> <b>Florida Power &amp; Light Company</b>  <b>Turkey Point</b>  <b>Dual Zone Monitoring Well DZMW-1</b>  <b>Lithologic Description</b> </div> <div style="text-align: right;">  </div> </div>			
Date	Depth (ft. bpl)		Observer's Description
	From	To	
5/12/2012	1,540	1,550	Limestone: 60%, pale yellowish brown (10YR 6/2), very fine grained, moderately poor indurated, fossiliferous (Dictyoconus and other foraminifera abundant), well sorted, moderate to high intergranular porosity, moderate permeability; Limestone: 40%, yellowish gray (5Y 8/1), very fine grained, well indurated, well sorted, slightly vuggy, low porosity, low permeability.
5/12/2012	1,550	1,560	Limestone: 100%, yellowish gray (5Y 8/1), very fine grained, well indurated, well sorted, slightly vuggy, low porosity, low permeability.
5/12/2012	1,560	1,570	Limestone: 100%, pale yellowish brown (10YR 6/2) and yellowish gray (5Y 8/1), very fine grained, poorly indurated, moderately well sorted, fossiliferous (Dictyoconus and other foraminifera abundant) low intergranular porosity, low permeability.
5/12/2012	1,570	1,580	Limestone: Same as above.
5/12/2012	1,580	1,590	Limestone: 100%, pale yellowish brown (10YR 6/2), very fine grained, moderately well indurated, highly fossiliferous (Dictyoconus, echinoids), moderately well sorted, low intergranular porosity, low permeability.
5/12/2012	1,590	1,600	Limestone: 100%, pale yellowish brown (10YR 6/2), very fine grained, poorly indurated, fossiliferous (Dictyoconus), well sorted, low intergranular porosity, low permeability.
5/12/2012	1,600	1,610	Limestone: 100%, pale yellowish brown (10YR 6/2), very fine grained, moderately well indurated, highly fossiliferous (Dictyoconus, echinoids), moderately well sorted, low intergranular porosity, low permeability.
5/13/2012	1,610	1,620	Limestone: Same as above.
5/13/2012	1,620	1,630	Limestone: Same as above.
5/13/2012	1,630	1,640	Limestone: Same as above.
5/13/2012	1,640	1,650	Limestone: Same as above.
5/13/2012	1,650	1,660	Limestone: 100%, yellowish gray (5Y 7/2) to light olive gray (5Y 5/2), fine grained, poorly indurated, moderately well sorted, fossiliferous (benthic foraminifera, Dictyoconus, and others), moderate intergranular porosity, moderate permeability.
5/13/2012	1,660	1,670	Limestone: 100%, yellowish gray (5Y 7/2) to pale yellowish brown (10YR 6/2), fine grained, poorly indurated, moderately well sorted, fossiliferous (benthic foraminifera, Dictyoconus, Fabiana cubensis, and others), moderate intergranular porosity, moderate permeability.
5/13/2012	1,670	1,680	Limestone: Same as above.
5/13/2012	1,680	1,690	Dolomitic Limestone and Dolomite: Dolomitic Limestone, 70%, pale yellowish brown (10YR 6/2), fine grained to very fine grained, poorly indurated, highly fossiliferous (benthic foraminifera primarily Dictyoconus), moderately well sorted, moderate intergranular porosity, moderate permeability; Dolomite, 30%, pale yellowish brown (10YR 6/2) and dark yellowish brown (10YR 4/2), fine crystalline, well indurated, vuggy, low permeability.
5/13/2012	1,690	1,700	Dolomitic Limestone and Dolomite: Dolomitic Limestone, 80%, pale yellowish brown (10YR 6/2), fine grained to very fine grained, poorly indurated, highly fossiliferous (benthic foraminifera primarily Dictyoconus), moderately well sorted, moderate intergranular porosity, moderate permeability; Dolomite, 20%, pale yellowish brown (10YR 6/2), fine crystalline, well indurated, vuggy, low permeability.

<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="border: 1px solid black; padding: 2px; background-color: black; color: white; font-weight: bold;">MHC</div> <div style="text-align: center;"> <b>Florida Power &amp; Light Company</b>  <b>Turkey Point</b>  <b>Dual Zone Monitoring Well DZMW-1</b>  <b>Lithologic Description</b> </div> <div style="text-align: right;">  </div> </div>			
Date	Depth (ft. bpl)		Observer's Description
	From	To	
5/13/2012	1,700	1,710	Dolomitic Limestone: 90%, pale yellowish brown (10YR 6/2) to very pale orange (10 YR /2), fine grained, moderate induration, fossiliferous, moderately well sorted, low intergranular porosity, low permeability; Dolomitic Limestone, 10%, light olive gray (5Y 6/1), very fine grained, well indurated, non-fossiliferous, well sorted, low intergranular porosity, low permeability.
5/13/2012	1,710	1,720	Dolomitic Limestone and Dolomite: Dolomitic Limestone, 70%, pale yellowish brown (10YR 6/2), very fine grained, low to moderate induration, fossiliferous with high degree decalcification, well sorted, low intergranular porosity, low permeability; Dolomite: 30%, yellowish gray (5YR 8/1) to very pale orange (10 YR /2), very fine grained, high induration, well sorted, slightly vuggy, low intergranular porosity, low permeability.
5/13/2012	1,720	1,730	Dolomitic Limestone: 100%, pale yellowish brown (10YR 6/2) to grayish orange (10YR 7/4), very fine grained, poor to moderate induration, fossiliferous, low to moderate intergranular porosity, low permeability.
5/14/2012	1,730	1,740	Dolomitic Limestone: 100%, pale yellowish brown (10YR 6/2), very fine grained to crystalline, poor to moderate induration, fossiliferous ( <i>Dictyoconus americanus</i> , <i>Spirolina coryensis</i> ), low permeability.
5/14/2012	1,740	1,750	Dolomitic Limestone: same as above.
5/14/2012	1,750	1,760	Dolomitic Limestone and Dolomite: Dolomitic Limestone, 90%, pale yellowish brown (10YR 6/2) to grayish orange (10YR 7/4), fine grained, moderate induration, slightly fossiliferous ( <i>Dictyoconus americanus</i> ), moderate intergranular porosity, low permeability; Dolomite, 10%, pale yellowish brown (10YR 6/2), fine crystalline, well indurated, vuggy, low permeability.
5/14/2012	1,760	1,770	Dolomitic Limestone and Dolomite: Dolomitic Limestone, 80%, pale yellowish brown (10YR 6/2) to grayish orange (10YR 7/4), fine grained, moderate induration, slightly fossiliferous ( <i>Dictyoconus americanus</i> ), moderate intergranular porosity, low permeability; Dolomite, 20%, pale yellowish brown (10YR 6/2), fine crystalline, well indurated, vuggy, low permeability.
5/14/2012	1,770	1,780	Dolomite, Dolomitic Limestone, and Mudstone: Dolomite, 80%, pale yellowish brown (10YR 6/2), fine crystalline, well indurated, vuggy, low permeability; Dolomitic Limestone, 10 %, pale yellowish orange (10 YR8/2) and pale yellowish brown (10YR 6/2), fine grained, well indurated, slightly fossiliferous, low permeability; Mudstone, 10%, dusky yellowish brown (10YR 2/2), silty, cohesive.
5/14/2012	1,780	1,790	Dolomitic Limestone, Dolomite and Mudstone: Dolomitic Limestone, 70 %, pale yellowish orange (10 YR8/2) and pale yellowish brown (10YR 6/2), fine grained, well indurated, low permeability; Dolomite, 20%, light olive gray (5Y 6/1) and dark yellowish brown (10YR 4/2), fine crystalline, well indurated, vuggy, low permeability; Mudstone, 10%, dusky yellowish brown (10YR 2/2), silty, cohesive.
5/14/2012	1,790	1,800	Dolomitic Limestone: 100%, pale yellowish brown (10YR 6/2), fine grained to very fine grained, poorly indurated, fossiliferous (benthic foraminifera primarily <i>Dictyoconus americanus</i> , echinoids spines), well sorted, moderate to high intergranular porosity, moderate to high permeability.
5/14/2012	1,800	1,810	Dolomitic Limestone: 100%, pale yellowish brown (10YR 6/2), fine grained to very fine grained, moderately poor induration, highly fossiliferous (benthic foraminifera primarily <i>Dictyoconus</i> , echinoids spines), moderately well sorted, moderate to high intergranular porosity, moderate to high permeability.
5/14/2012	1,810	1,820	Dolomite: 100%, pale yellowish brown (10YR 6/2), fine crystalline, well indurated, few vugs, low permeability.

<div> <div>MHC</div> <div> <b>Florida Power &amp; Light Company</b>  <b>Turkey Point</b>  <b>Dual Zone Monitoring Well DZMW-1</b>  <b>Lithologic Description</b> </div> <div>  </div> </div>			
Date	Depth (ft. bpl)		Observer's Description
	From	To	
5/14/2012	1,820	1,830	Dolomite: 100%, pale yellowish brown (10YR 6/2) and dark yellowish brown (10YR 4/2), fine crystalline, well indurated, few vugs, few phosphate grains, low permeability.
5/14/2012	1,830	1,840	Dolomite: 90%, yellowish gray (5Y 8/1), and light olive gray (5YR 5/2), fine crystalline, well indurated, slightly vuggy, low permeability.
5/15/2012	1,840	1,850	Dolomite: 100%, pale yellowish brown (10YR 6/2), grayish orange (10YR 7/4) and dark yellowish brown (10YR 4/2), fine crystalline, well indurated, few vugs, some dark banding, low permeability.
5/15/2012	1,850	1,860	Dolomite: 100%, pale yellowish brown (10YR 6/2) and medium gray (N5), fine crystalline, well indurated, some slightly brittle, low permeability; limestone, trace.
5/15/2012	1,860	1,870	Dolomite: 100%, moderate yellowish brown (10YR 5/4) and dark yellowish brown (10YR 4/2), fine crystalline, well indurated, phosphatic, low permeability; Mudstone, trace.
5/15/2012	1,870	1,880	Dolomite: 100%, moderate yellowish brown (10YR 5/4), fine crystalline, sucrosic, well indurated, few vugs, low permeability; Mudstone, trace; Limestone, trace.
5/15/2012	1,880	1,890	Limestone and Dolomitic Limestone: 70%, very pale orange (10YR 8/2), very fine grain, moderate to moderately well indurated, fossiliferous, low porosity, low permeability, some bedding planes noticeable by darker banding; Dolomitic Limestone: 30%, pale yellowish brown (10YR 6/2), fine grain, moderate to poorly indurated, slightly fossiliferous, moderate porosity, moderate permeability; Mudstone, trace, dusky yellowish brown (10YR 2/2), silty, cohesive.
5/15/2012	1,890	1,905	Limestone, Dolomitic Limestone, and Mudstone: 60%, very pale orange (10YR 8/2), very fine grain, moderate to poorly indurated, fossiliferous, low porosity, low permeability; Dolomitic Limestone: 20%, pale yellowish brown (10YR 6/2), fine grain, moderate to poorly indurated, fossiliferous (benthic foraminifera primarily Dictyoconus americanus), low permeability; Mudstone, 20%, dusky yellowish brown (10YR 2/2), silty, cohesive.
5/15/2012	1,900	1,905	Limestone, Dolomitic Limestone, and Mudstone: same as above.
ft. bpl = feet below pad level			



<div>  <div> <b>Florida Power &amp; Light Company</b>  <b>Turkey Point</b>  <b>Dual Zone Monitor Well DZMW-1</b>  <b>Deviation Survey Summary</b> </div>  </div>					
Pilot Hole			Reamed Holes		
Date	Depth (feet bpl)	Inclination (degrees)	Date	Depth (feet bpl)	Inclination (degrees)
3/28/2012	90	0.6	4/1/2012	90	0.2
3/29/2012	180	0.2	4/2/2012	180	0.5
4/6/2012	270	0.1	4/18/2012	270	0.1
4/6/2012	360	0.3	4/18/2012	360	0.2
4/7/2012	450	0.3	4/18/2012	450	0.5
4/7/2012	540	0.5	4/18/2012	540	0.3
4/11/2012	630	0.4	4/26/2012	630	0.2
4/11/2012	720	0.3	4/27/2012	720	0.3
4/12/2012	810	0.4	4/27/2012	810	0.1
4/12/2012	900	0.1	4/27/2012	900	0.3
4/12/2012	990	0.3	4/27/2012	990	0.3
4/13/2012	1,070	0.1	4/27/2012	1,060	0.3
5/11/2012	1,160	0.2			
5/11/2012	1,250	0.3			
5/11/2012	1,340	0.2			
5/11/2012	1,430	0.3			
5/12/2012	1,520	0.3			
5/13/2012	1,610	0.5			
5/15/2012	1,700	0.3			
5/14/2012	1,760	0.4			
5/15/2012	1,820	0.4			
5/15/2012	1,880	0.5			
bpl = below pad level					

**Florida Power & Light Company  
Turkey Point  
Dual-Zone Monitor Well DZMW-1  
Daily Kill Material Log**

[illegible]

feet bpl = feet below pad level