



**COMPLETION  
& PRODUCTION  
SERVICES CO.**

**COMPENSATED  
DENSITY / NEUTRON  
LOG**

Company MAI OIL OPERATIONS, INC.  
Well MICHEL "B" #5  
Field HALL - GURNEY  
County RUSSELL  
State KANSAS

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Well MICHEL "B" #5  
Field HALL - GURNEY  
County RUSSELL State KANSAS

Location: API # : 15-167-23859-0000  
330' FNL & 1820' FWL  
E/2 - NW - NE - NW  
SEC 36 TWP 14S RGE 14W  
Permanent Datum GROUND LEVEL Elevation 1744  
Log Measured From KELLY BUSHING 8' A.G.L.  
Drilling Measured From KELLY BUSHING  
Other Services DIL/MEL  
Elevation  
K.B. 1752  
D.F. 1750  
G.L. 1744

Date	3/5/13
Run Number	ONE
Depth Driller	3210
Depth Logger	3211
Bottom Logged Interval	3187
Top Log Interval	2200
Casing Driller	8 5/8" @ 473'
Casing Logger	473
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.3/58
pH / Fluid Loss	11.5/9.6
Source of Sample	FLOWLINE
Rim @ Meas. Temp	.400 @ 80F
Rmf @ Meas. Temp	.300 @ 80F
Rmc @ Meas. Temp	.480 @ 80F
Source of Rmf / Rmc	MEASUREMENT
Rim @ BHT	.294 @ 109F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	11:00 A.M.
Maximum Recorded Temperature	109F
Equipment Number	4854
Location	HAYS, KANSAS
Recorded By	JEFF LUEBBERS
Witnessed By	VYATT URBAN

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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**

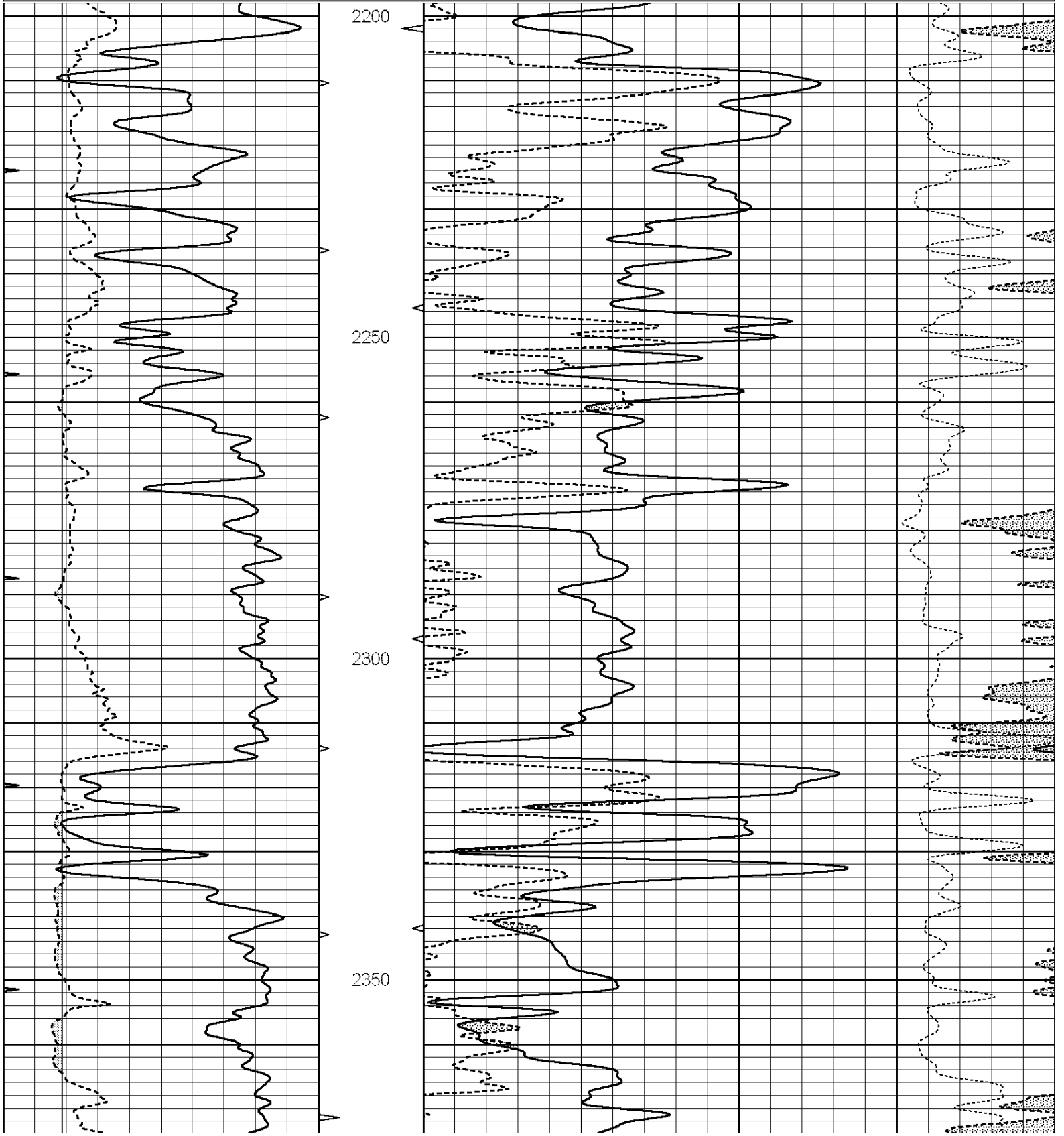
THANK YOU FOR USING "NABORS" HAYS, KANSAS (785) 628-6395  
DIRECTIONS  
RUSSELL, KS. & I-70, 5S. ON HWY 281 TO "FAIRFIELD RD.", 1 1/4E., S. INTO

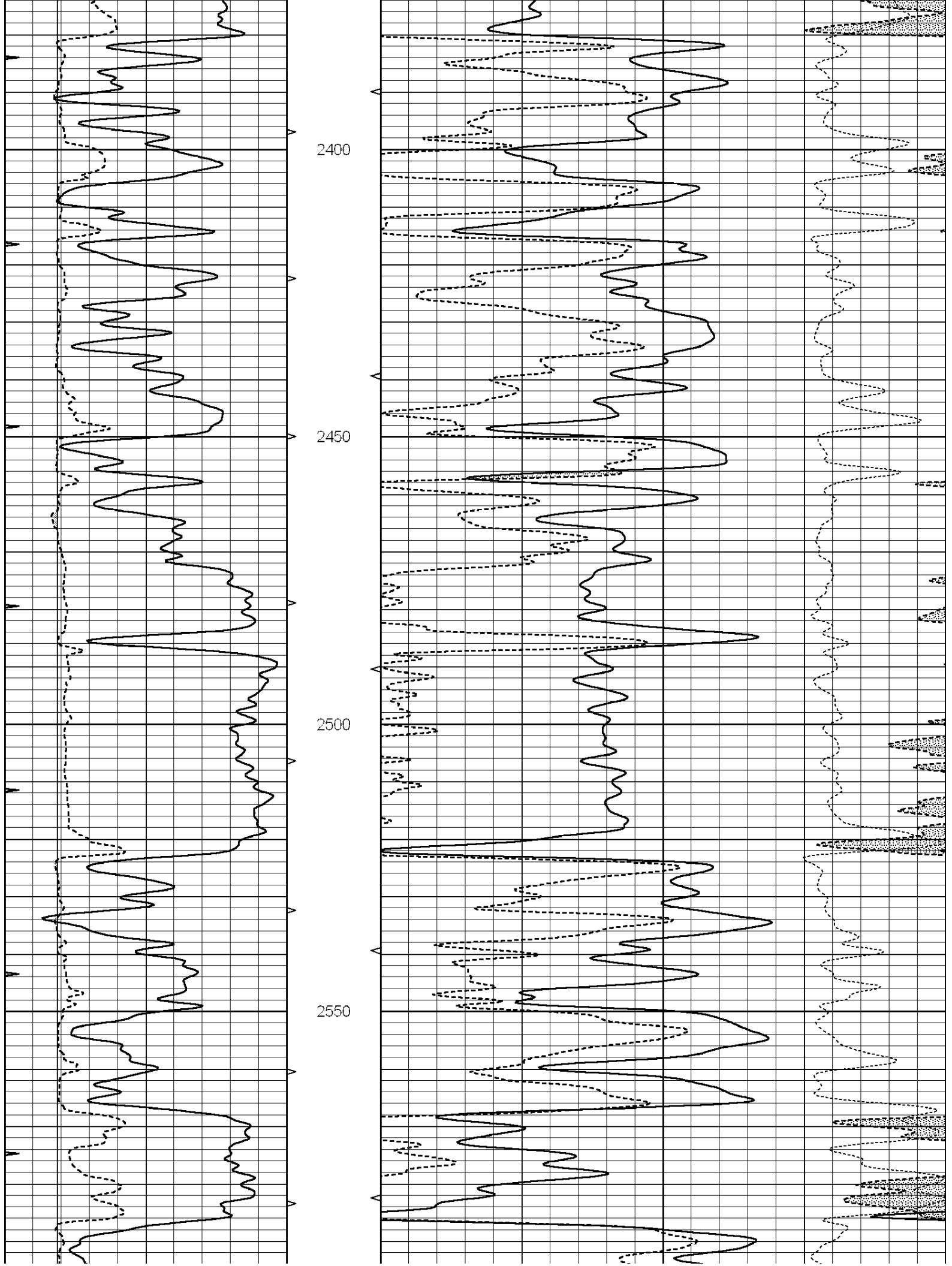


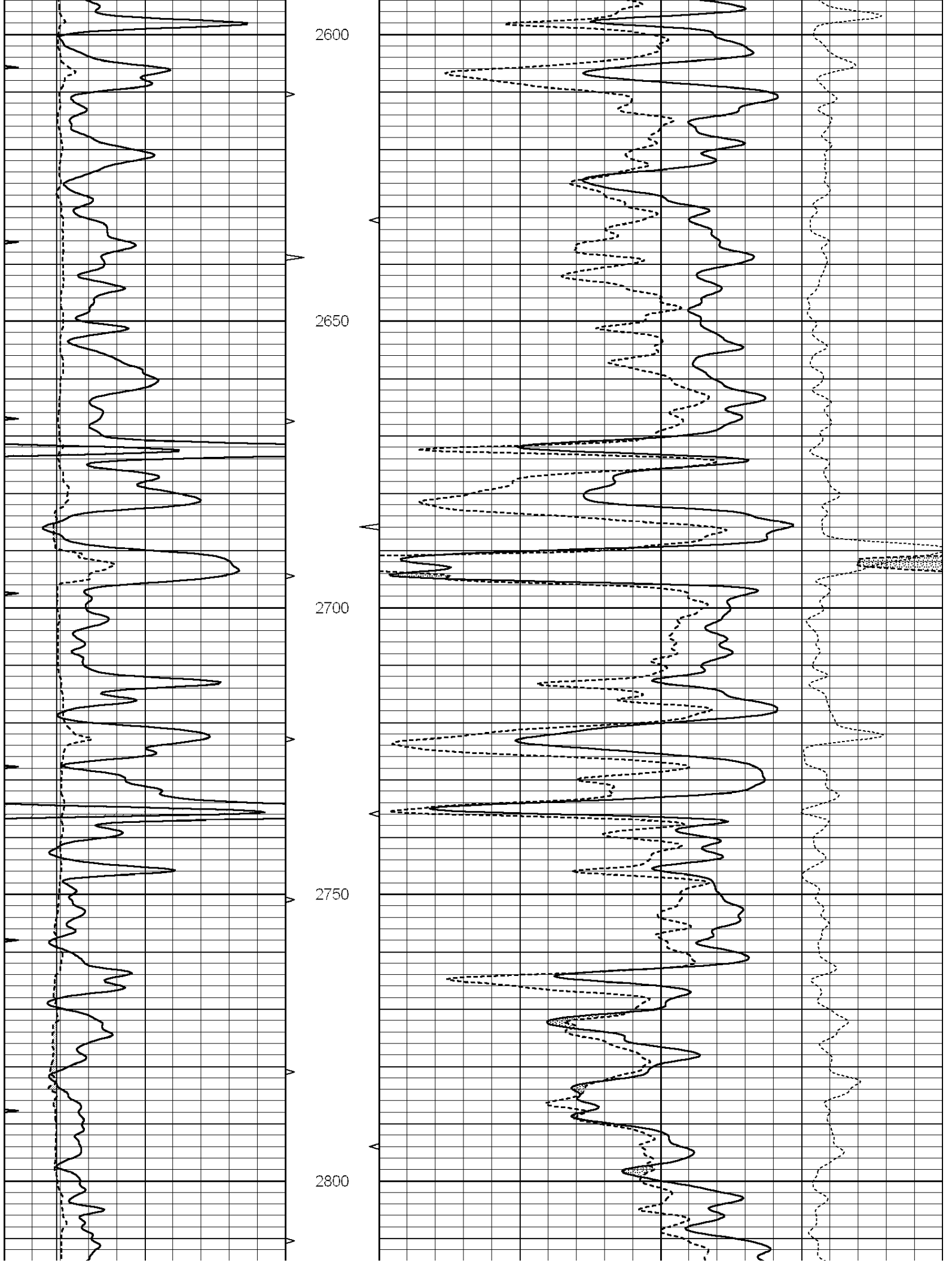
**MAIN SECTION**

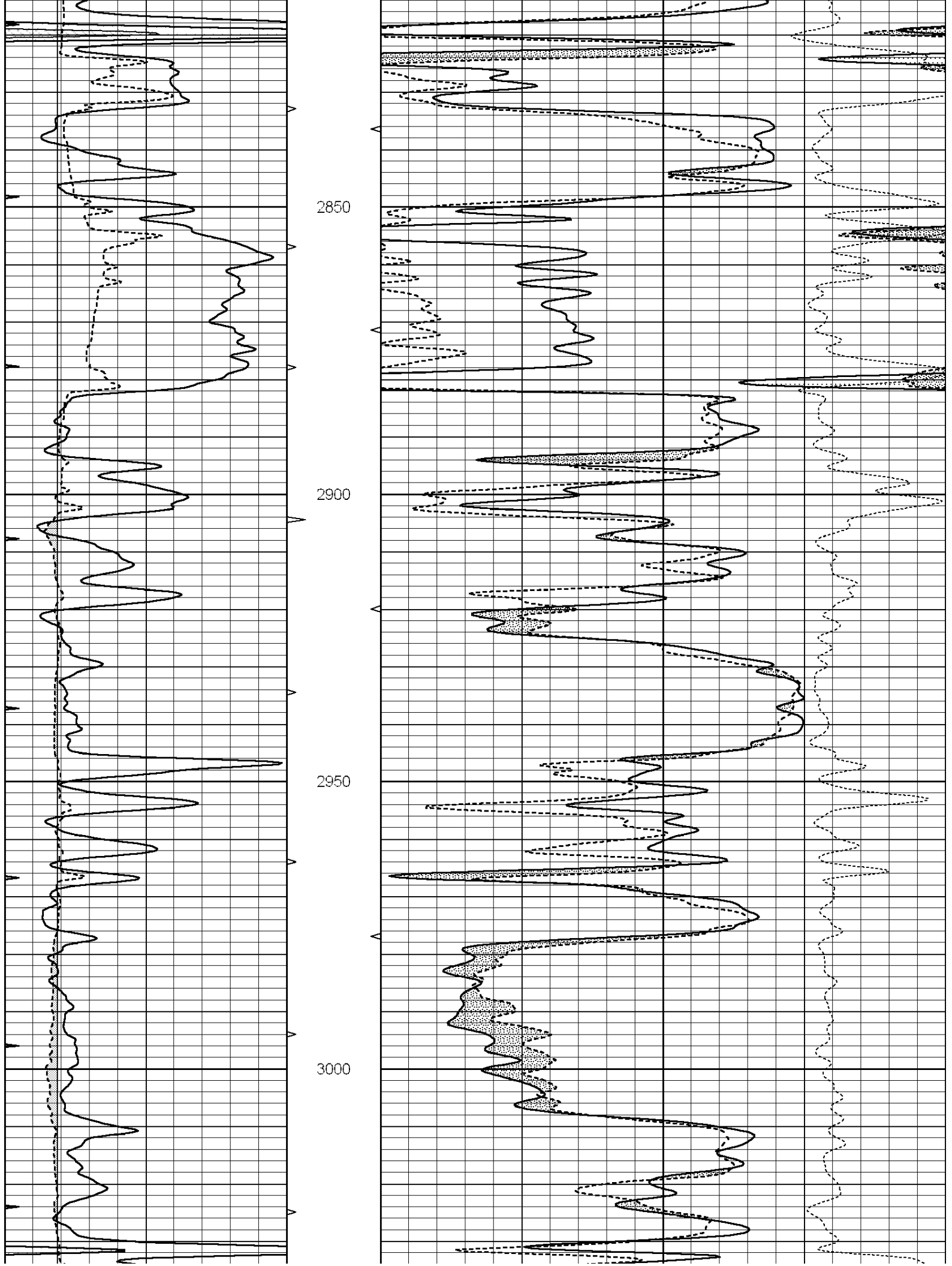
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 Dataset Pathname: pass3.3  
 Presentation Format: den\_neu  
 Dataset Creation: Fri Mar 15 12:18:58 2013  
 Charted by: Depth in Feet scaled 1:240

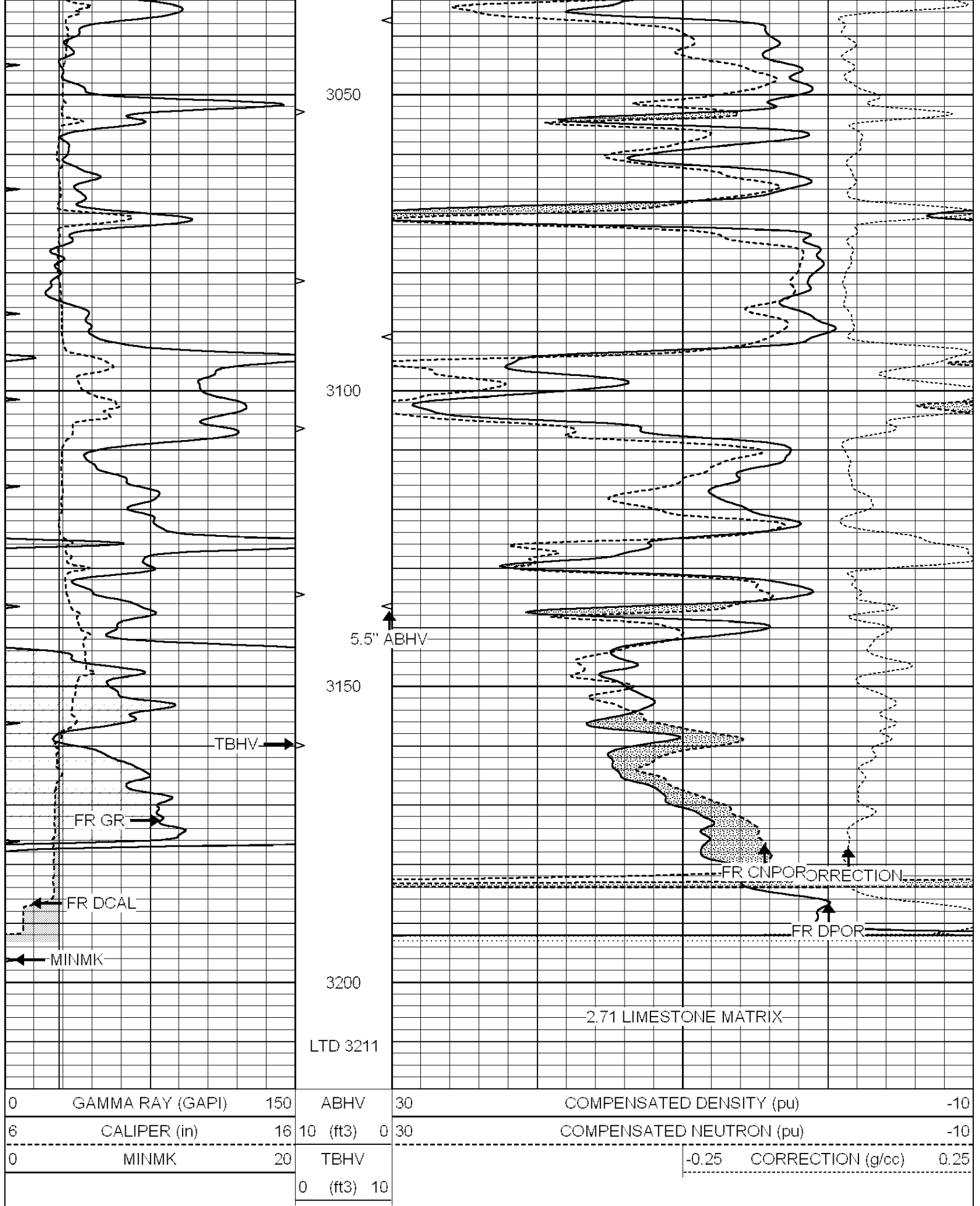
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		







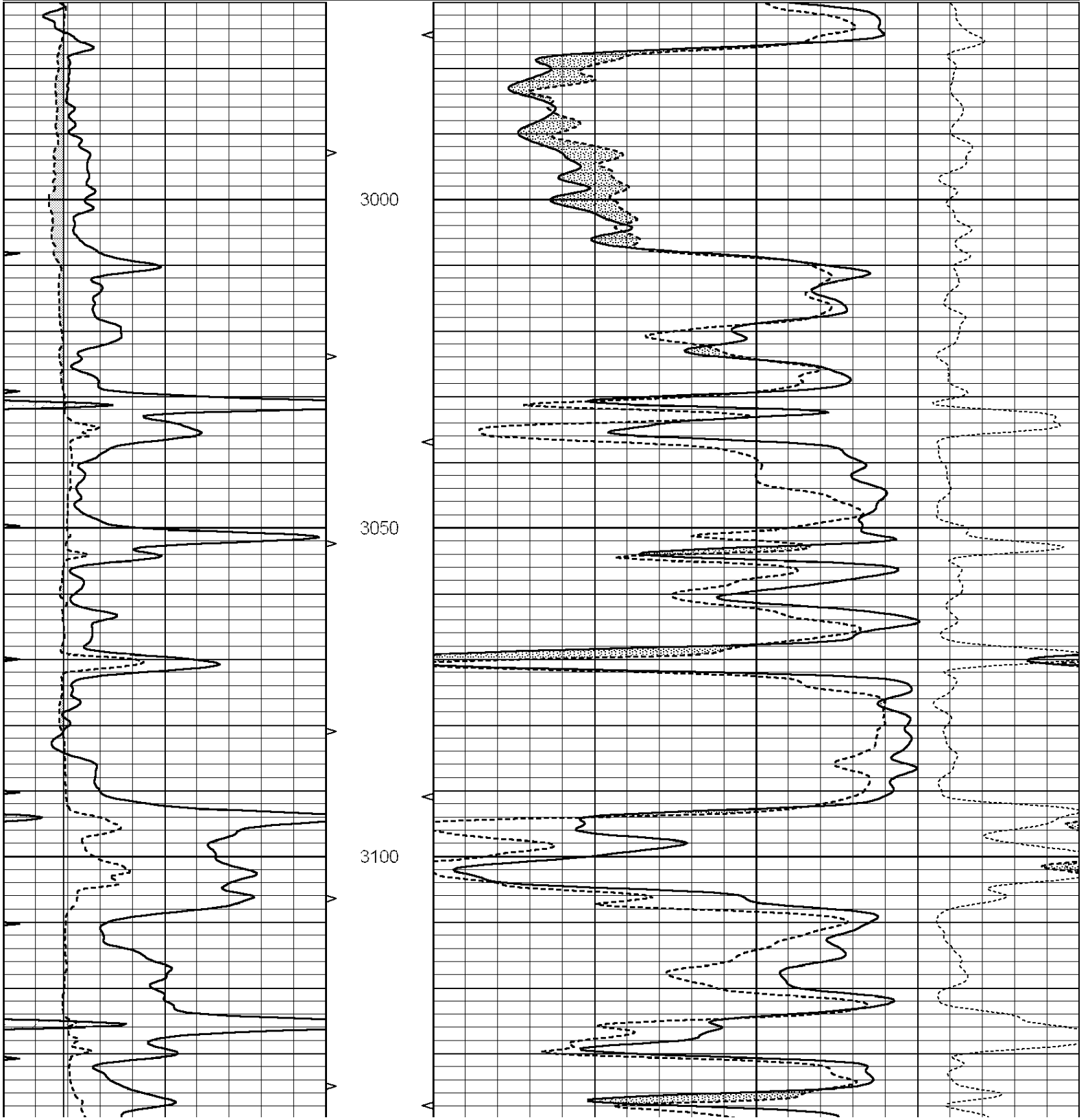


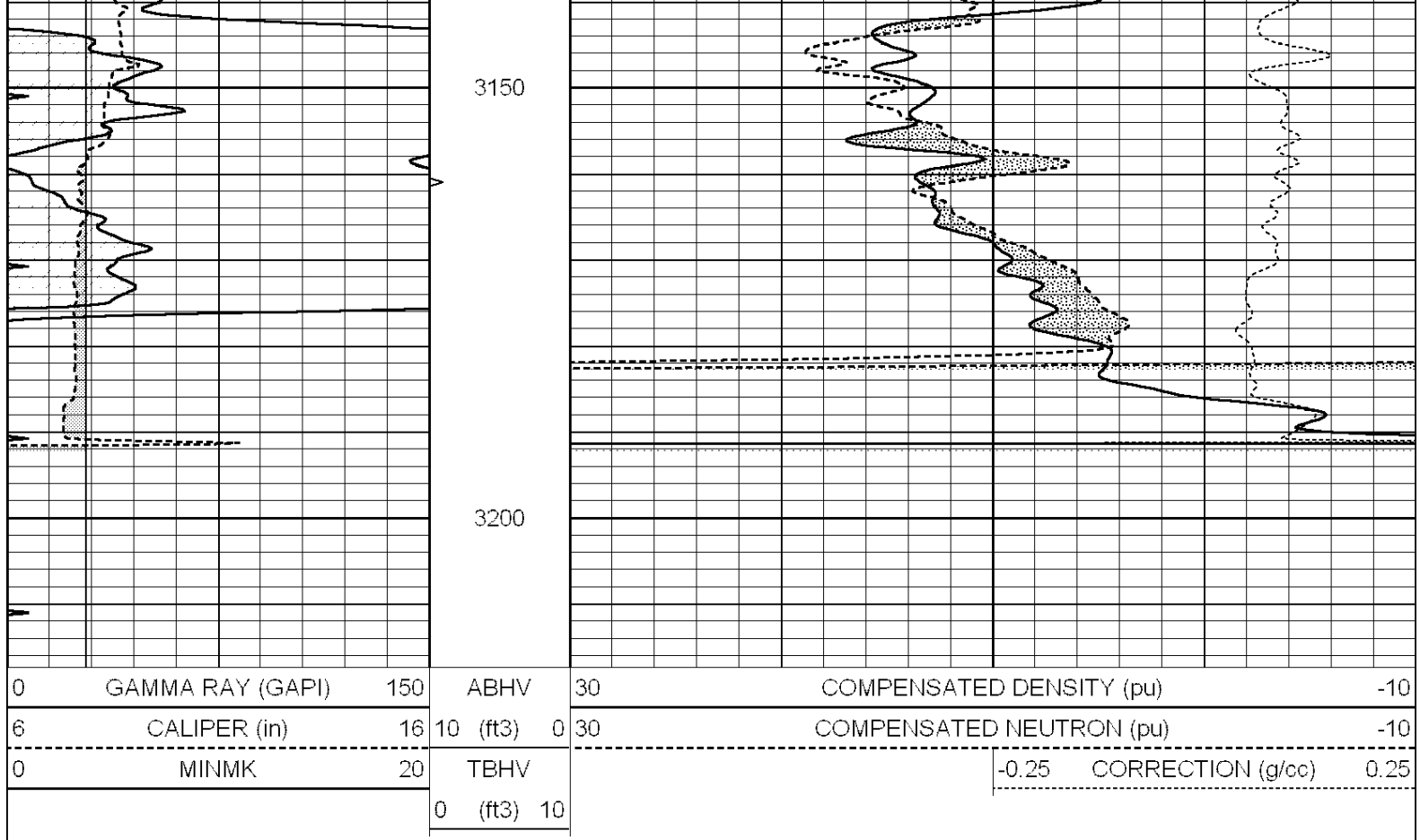


0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		

Database File: 010425ddn.db  
 Dataset Pathname: pass2.5  
 Presentation Format: den\_neu  
 Dataset Creation: Fri Mar 15 12:31:18 2013  
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		





### Calibration Report

Database File: 010425ddn.db  
 Dataset Pathname: pass3.3  
 Dataset Creation: Fri Mar 15 12:18:58 2013

### Dual Induction Calibration Report

Serial-Model: PROBE9-DILG  
 Surface Cal Performed: Sun Mar 10 00:44:14 2013  
 Downhole Cal Performed: Mon Jul 28 12:02:56 2008  
 After Survey Verification Performed: Mon Jul 28 12:02:56 2008

#### Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	621.923	-12.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	640.000	-20.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102

#### Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000
LL3		7.500	V		1400.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		4000.000	mmho-m		

After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
LL3		1.000	Ohm-m		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		

Litho Density Calibration Report  
Serial: 006 Model: PRB

Master Calibration

Performed Sun Aug 15 09:48:41 2010

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1686.6	11612.8	3932.0	12718.8	cps
Window 2	1531.4	9204.7	3267.8	9851.9	cps
Window 3	1198.3	4733.6	1952.5	4920.6	cps
Window 4	317.3	321.2	325.9	303.6	cps
Long Space	0.0	7673.3	1736.4	8320.4	cps
Short Space	1.7	2548.5	1657.2	2628.8	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	
Rib Angle	: 43.8	Rib Slope	: 0.961	Density/Spine Ratio	: 0.569
Spine Angle	: 73.8	Spine Slope	: 3.453	Spine Intercept	: -18.1

Before Survey Verification

Performed Wed Dec 31 18:00:00 1969

Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

After Survey Verification

Performed Wed Dec 31 18:00:00 1969

Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

Compensated Neutron Calibration Report

Serial Number: 070808  
Tool Model: Probe

PRE-SURVEY VERIFICATION

Detector Readings Measured Target

Short Space  
Long Space

cps  
cps

pu

pu

POST-SURVEY VERIFICATION

Detector

Readings

Measured

Target

Short Space  
Long Space

cps  
cps

pu

pu

Gamma Ray Calibration Report

Serial Number: 070559  
Tool Model: OPEN\_GR  
Performed: Sun Mar 10 00:43:54 2013

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 1.0 cps

Sensitivity: 0.3500 GAPI/cps