



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY/NEUTRON
PE LOG**

Company		MULL DRILLING COMPANY	
Well	HADDON #2-35		
Field	SHAEFFER-ROTHGARN		
County	BARTON	State	KANSAS
Location:		API # : 15-009-25886-0000 1145' FSL & 1380' FEL SW/4 - SE/4	
SEC 35 TWP 20S RGE 13W		Other Services DIL/MEL	
Permanent Datum	GROUND LEVEL	Elevation	1868
Log Measured From	KELLY BUSHING 8' A.G.L.	K.B.	1876
Drilling Measured From	KELLY BUSHING	D.F.	1874
		G.L.	1868
Date	9/30/13		
Run Number	ONE		
Depth Driller	3600		
Depth Logger	3601		
Bottom Logged Interval	3577		
Top Log Interval	3000		
Casing Driller	8 5/8" @ 280'		
Casing Logger	280'		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES	8400 PPM
Density / Viscosity	9.2 / 46		
pH / Fluid Loss	8.5 / 10.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.45 @ 93F		
Rmt @ Meas. Temp	0.34 @ 93F		
Rmc @ Meas. Temp	0.54 @ 93F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	0.37 @ 112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	112F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF GRONEWEG		
Witnessed By	CHUCK SCHMALTZ		

<<< Fold Here >>>

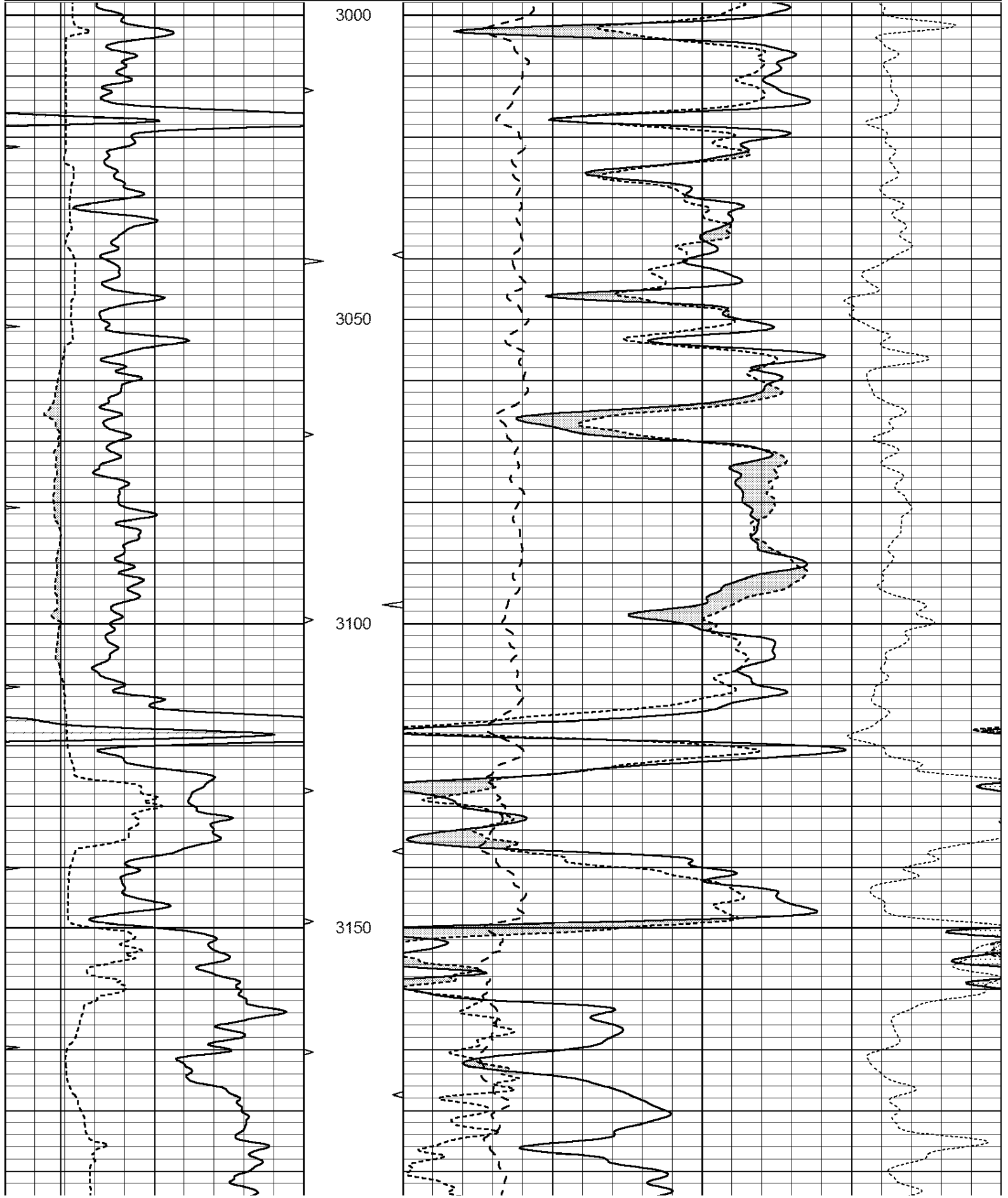
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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.

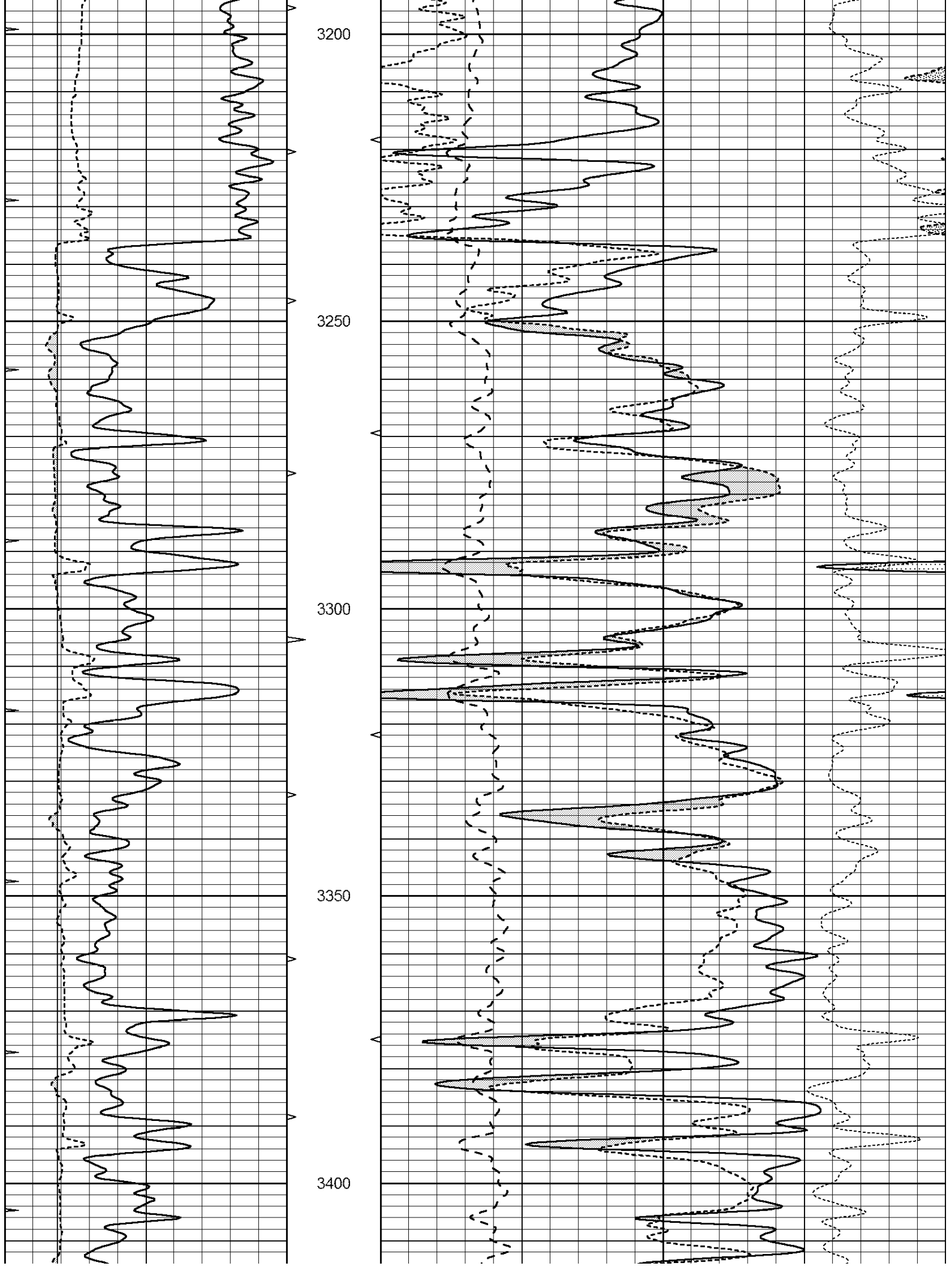
Comments

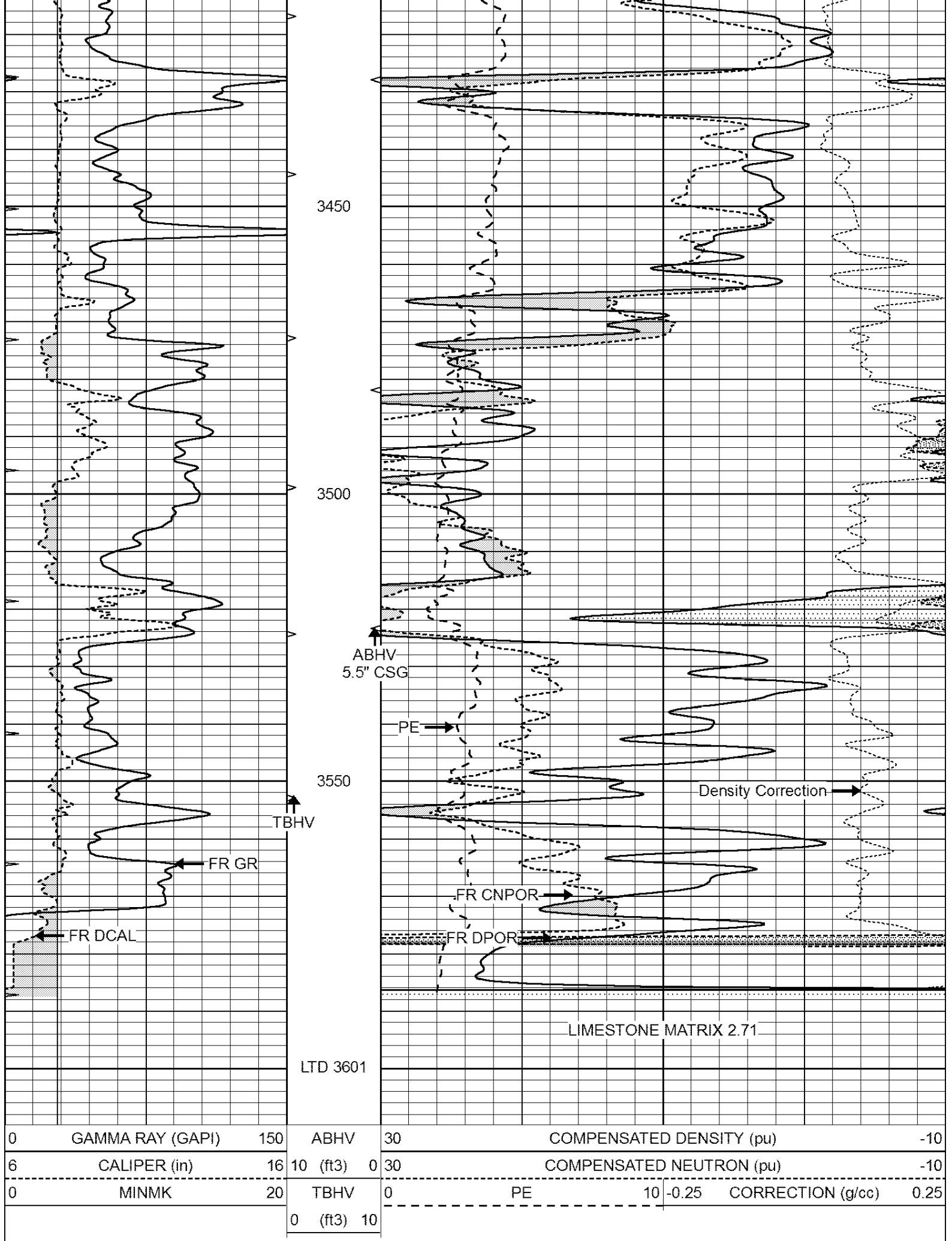
THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395
 DIRECTIONS:
 GREAT BEND, KS - 6 MILES SOUTH TO RD SE 60
 2 MILES EAST TO RD SE 30 - 3/4 MILE SOUTH - WEST INTO

Database File: 011789pe.db
 Dataset Pathname: pass3.2
 Presentation Format: _ldt_neu
 Dataset Creation: Mon Sep 30 10:52:48 2013 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

Charted by:		Depth in Feet scaled 1:2.10					
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	PE	10	-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	PE	10	-0.25	CORRECTION (g/cc)	0.25	
			0 (ft3)	10						

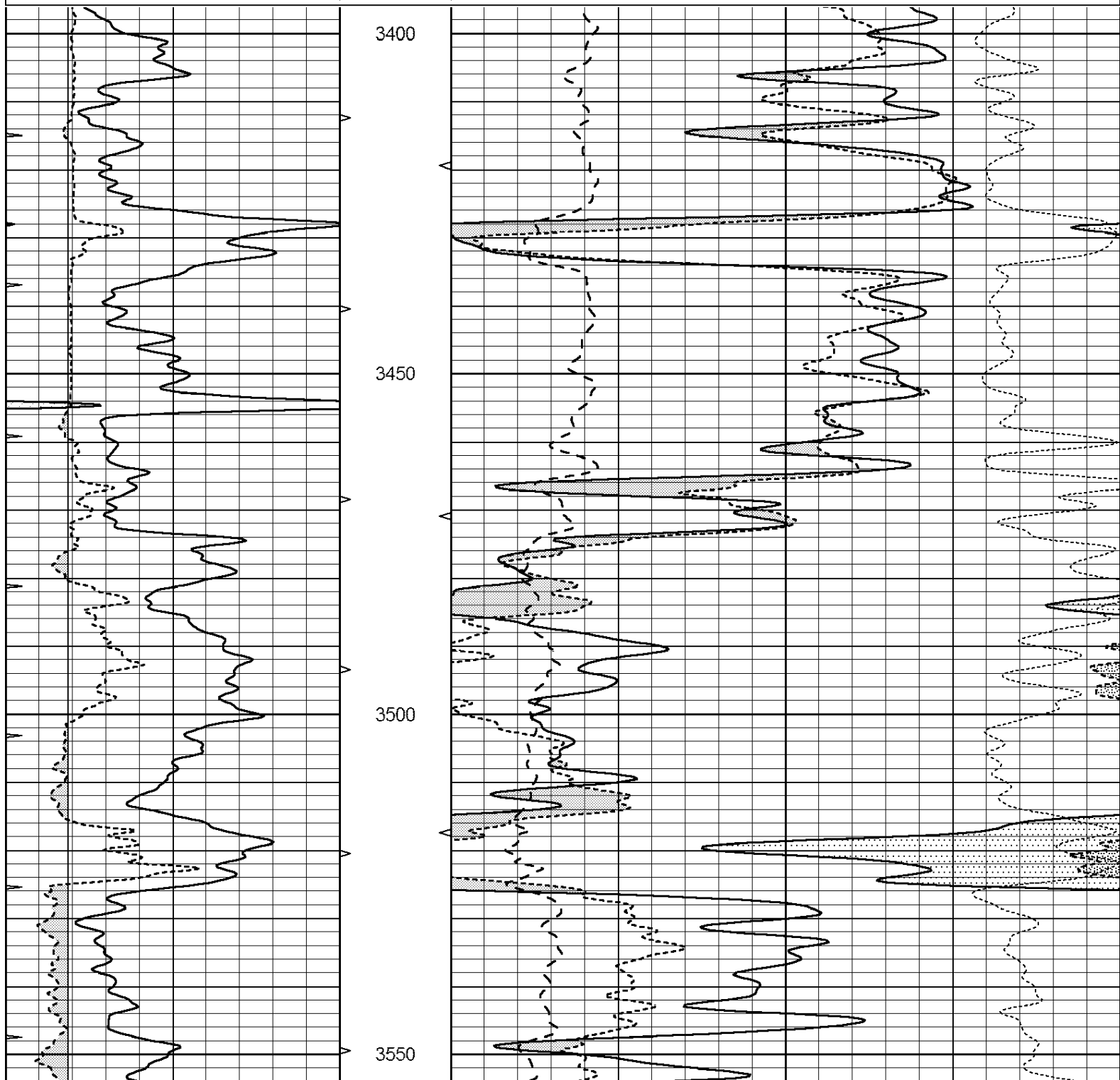


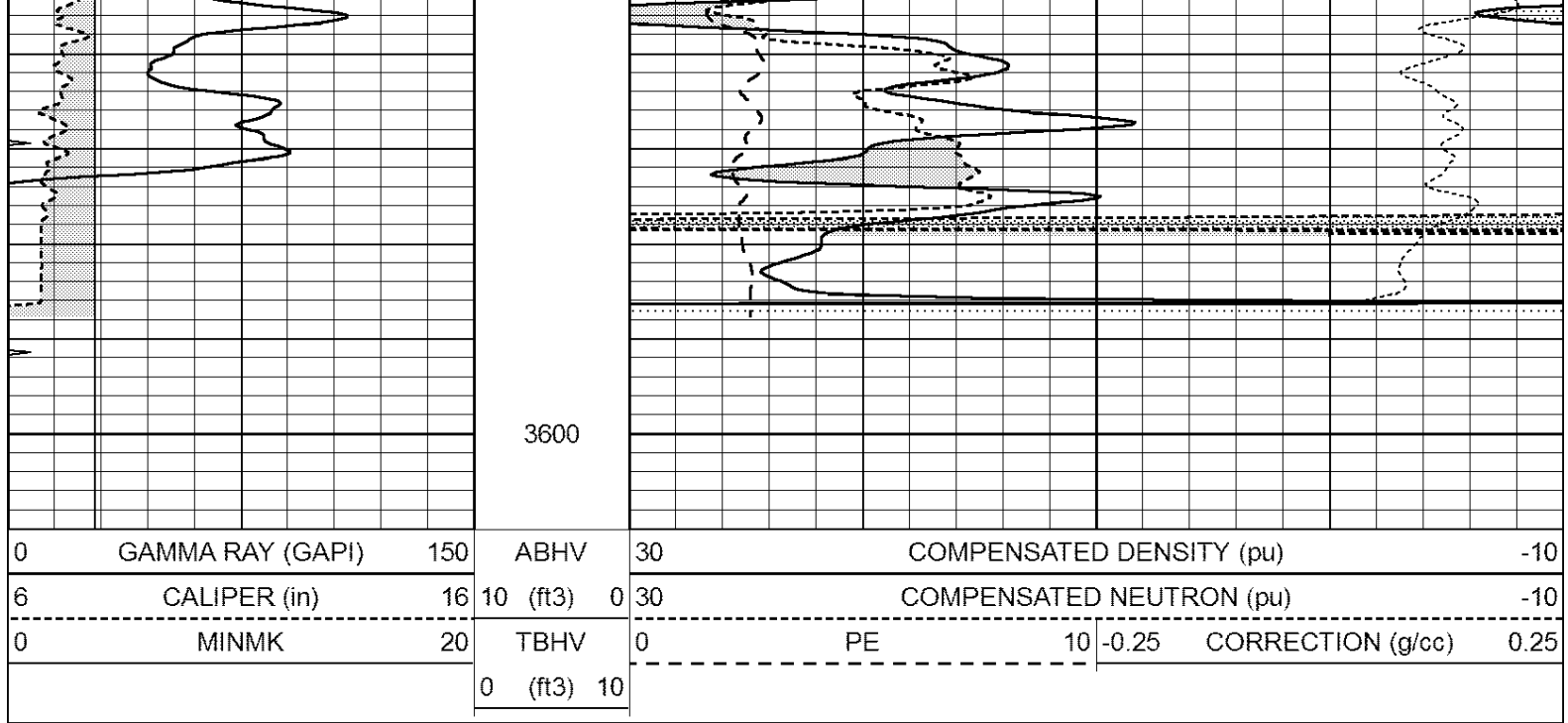
**COMPLETION
& PRODUCTION
SERVICES CO.**

REPEAT SECTION

Database File: 011789pe.db
Dataset Pathname: pass2.2
Presentation Format: _ldt_neu
Dataset Creation: Mon Sep 30 10:26:51 2013 by Calc Open-Cased 090629
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	PE	10	-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10					





Calibration Report

Database File: 011789pe.db
 Dataset Pathname: pass3.2
 Dataset Creation: Mon Sep 30 10:52:48 2013 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
 Surface Cal Performed: Fri Aug 01 06:33:19 2008
 Downhole Cal Performed: Mon Jul 28 11:08:27 2008
 After Survey Verification Performed: Mon Jul 28 11:08:27 2008

Surface Calibration

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	632.616	-9.730
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-17.680
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739

Downhole Calibration

Readings				References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	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		

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: 003 Model: PRB

Master Calibration		Performed Thu Jul 26 15:13:22 2007			
	Background	Magnesium	Aluminum	Sandstone	
Window 1	2128.0	9601.6	3737.0	10737.0	cps
Window 2	1913.5	7519.1	3114.0	8210.1	cps
Window 3	1668.2	5026.8	2370.0	5373.3	cps
Window 4	492.7	497.5	492.3	491.1	cps
Long Space	0.0	5605.6	1200.5	6296.6	cps
Short Space	2.2	2279.3	1489.7	2489.1	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	
Rib Angle	: 44.6	Rib Slope	: 0.985	Density/Spine Ratio	: 0.550
Spine Angle	: 74.6	Spine Slope	: 3.623	Spine Intercept	: -19.4

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:	6I
Tool Model:	G

CALIBRATION					
Detector	Readings		Target		Normalization
Short Space	1.00	cps	1.00	cps	1.0000
Long Space	1.00	cps	1.00	cps	1.0000

PRE-SURVEY VERIFICATION					
Detector	Readings		Measured		Target

1)	Short Space Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	
3)	Short Space Long Space	cps cps	pu	
POST-SURVEY VERIFICATION				
	Detector	Readings	Measured	Target
1)	Short Space Long Space	cps cps	pu	pu
2)	Short Space Long Space	cps cps	pu	pu
3)	Short Space Long Space	cps cps	pu	pu
Gamma Ray Calibration Report				
Serial Number:		#8		
Tool Model:		OPEN		
Performed:		Tue Jun 18 19:34:11 2013		
Calibrator Value:		150.0	GAPI	
Background Reading:		0.0	cps	
Calibrator Reading:		175.0	cps	
Sensitivity:		0.8371	GAPI/cps	