



**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
LOG**

Company	RITCHIE EXPLORATION, INC.		
Well	KOLLMAN 24D #1		
Field	BEAVER CLIFF SOUTHWEST		
County	WICHITA	State	KANSAS
Location:	API # : 15-203-20210-00-00		Other Services
	1845' FSL & 985' FEL W2 - NE - SE		DIL
	SEC 24 TWP 17S RGE 35W		
Permanent Datum	GROUND LEVEL	Elevation	3159
Log Measured From	KELLY BUSHING 5' A.G.L.		K.B. 3164
Drilling Measured From	KELLY BUSHING		D.F. 3162
			G.L. 3159
Date	3/28/13		
Run Number	ONE		
Depth Driller	5035		
Depth Logger	5036		
Bottom Logged Interval	5012		
Top Log Interval	3600		
Casing Driller	226		
Casing Logger	226		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 8.000	
Density / Viscosity	9.3 / 53		
pH / Fluid Loss	10.0 / 9.6		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	0.44 @ 58F		
Rmf @ Meas. Temp	0.33 @ 58F		
Rmc @ Meas. Temp	0.53 @ 58F		
Source of Rmf / Rmc	MEASURED		
Rim @ BHT	0.20 @ 125F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	125F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	IAN MABB		
Witnessed By	TERRY MCLEOD		

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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

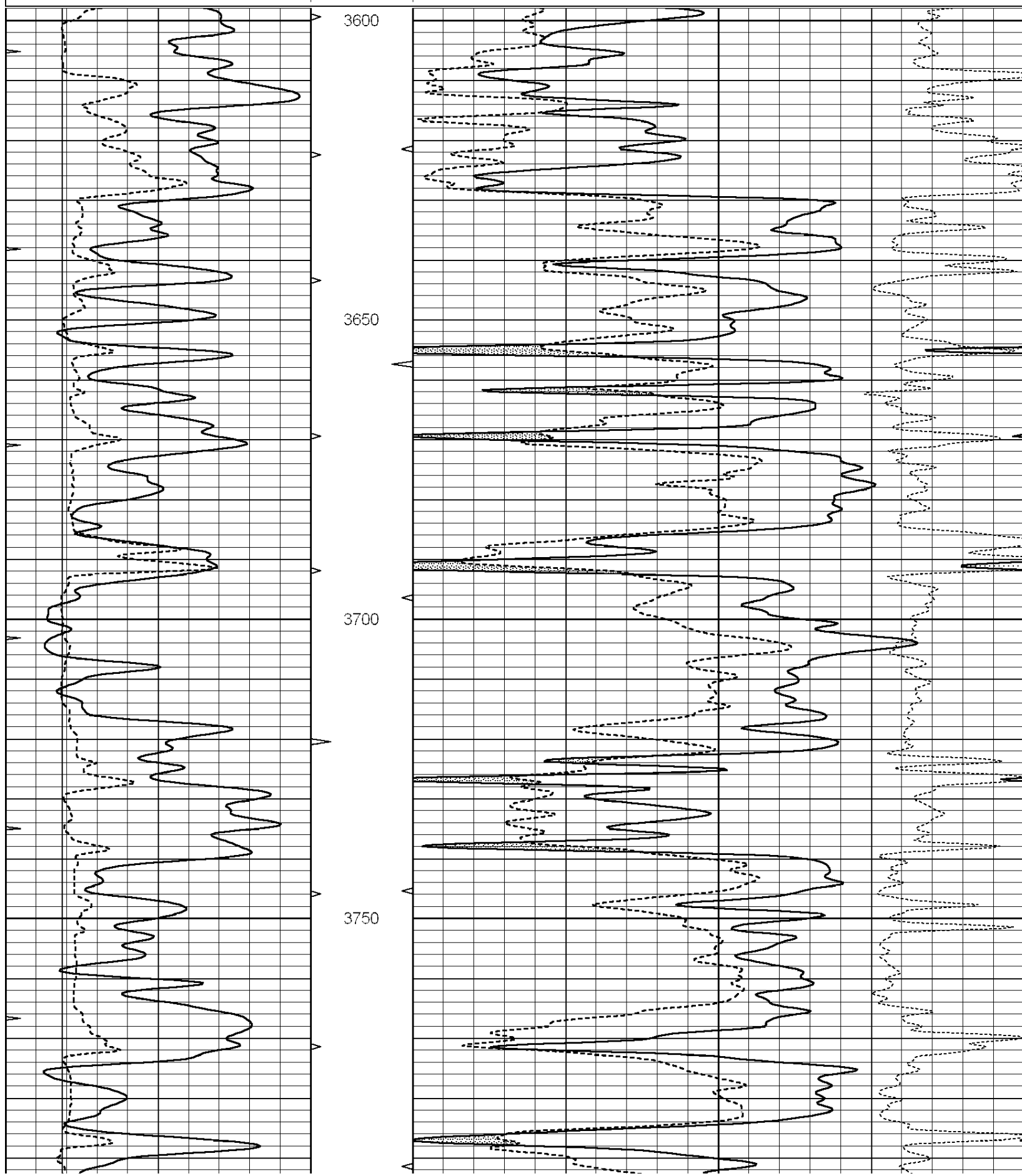
NABORS COMPLETION & PRODUCTION SERVICES

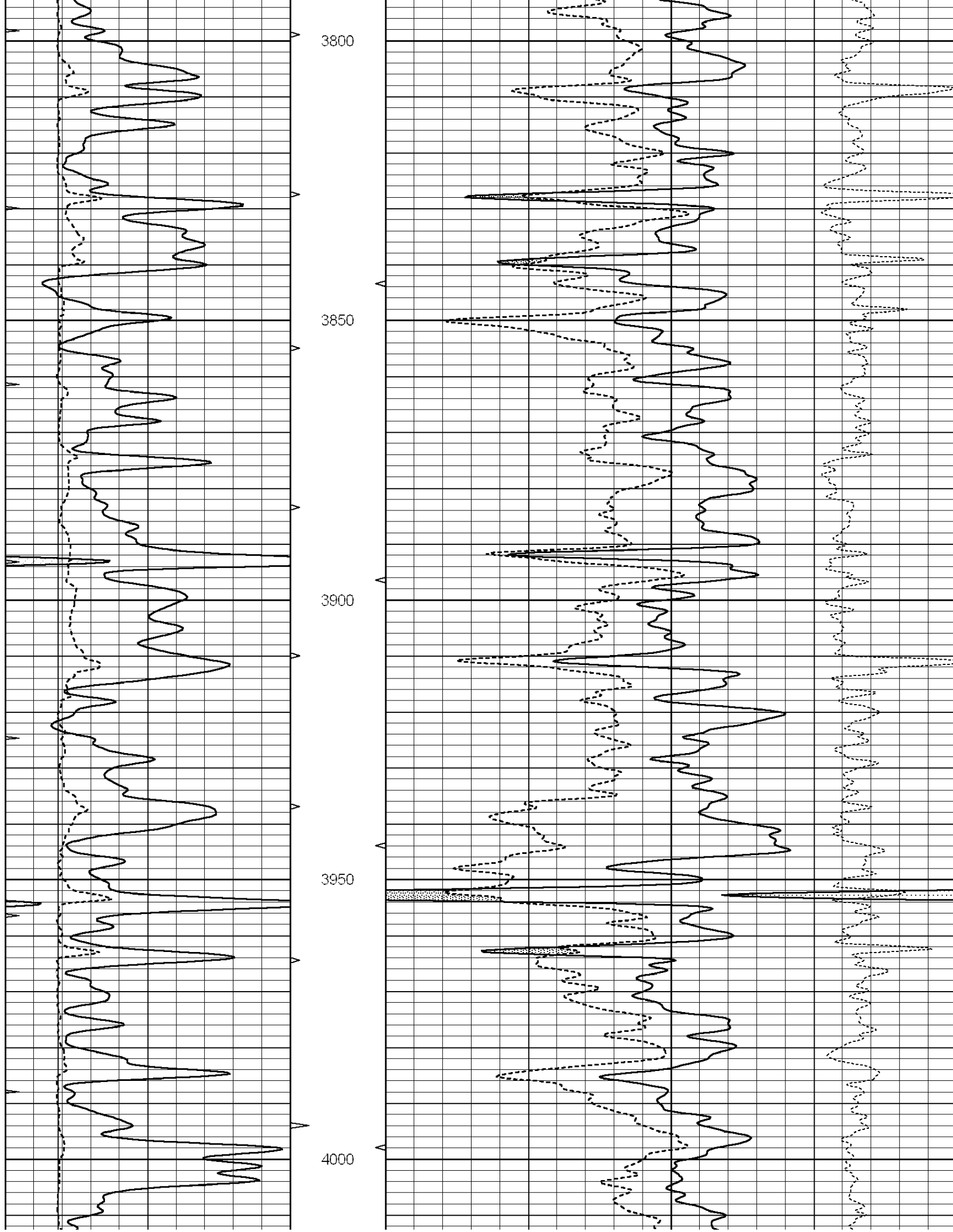
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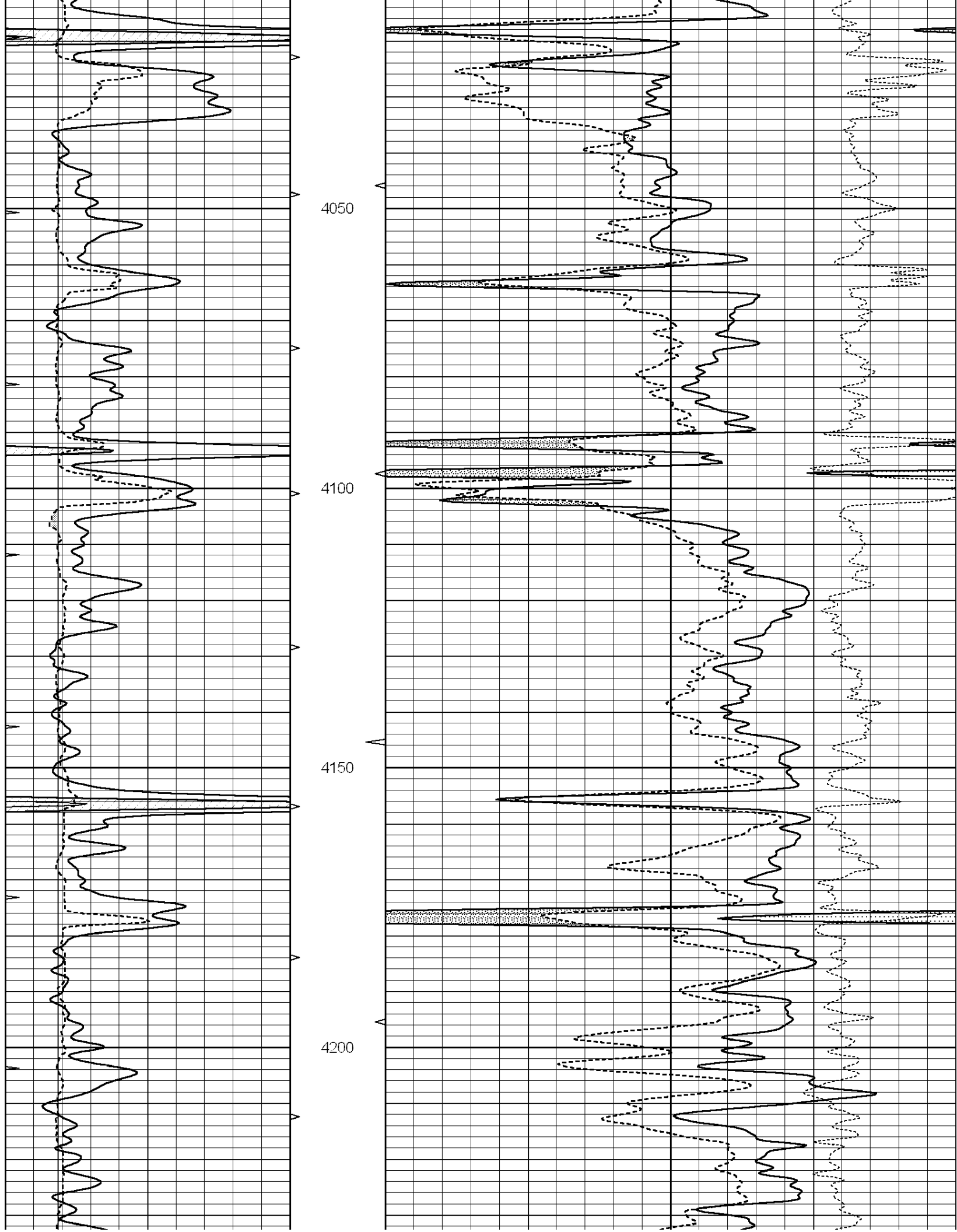
THANK YOU FOR YOUR BUSINESS

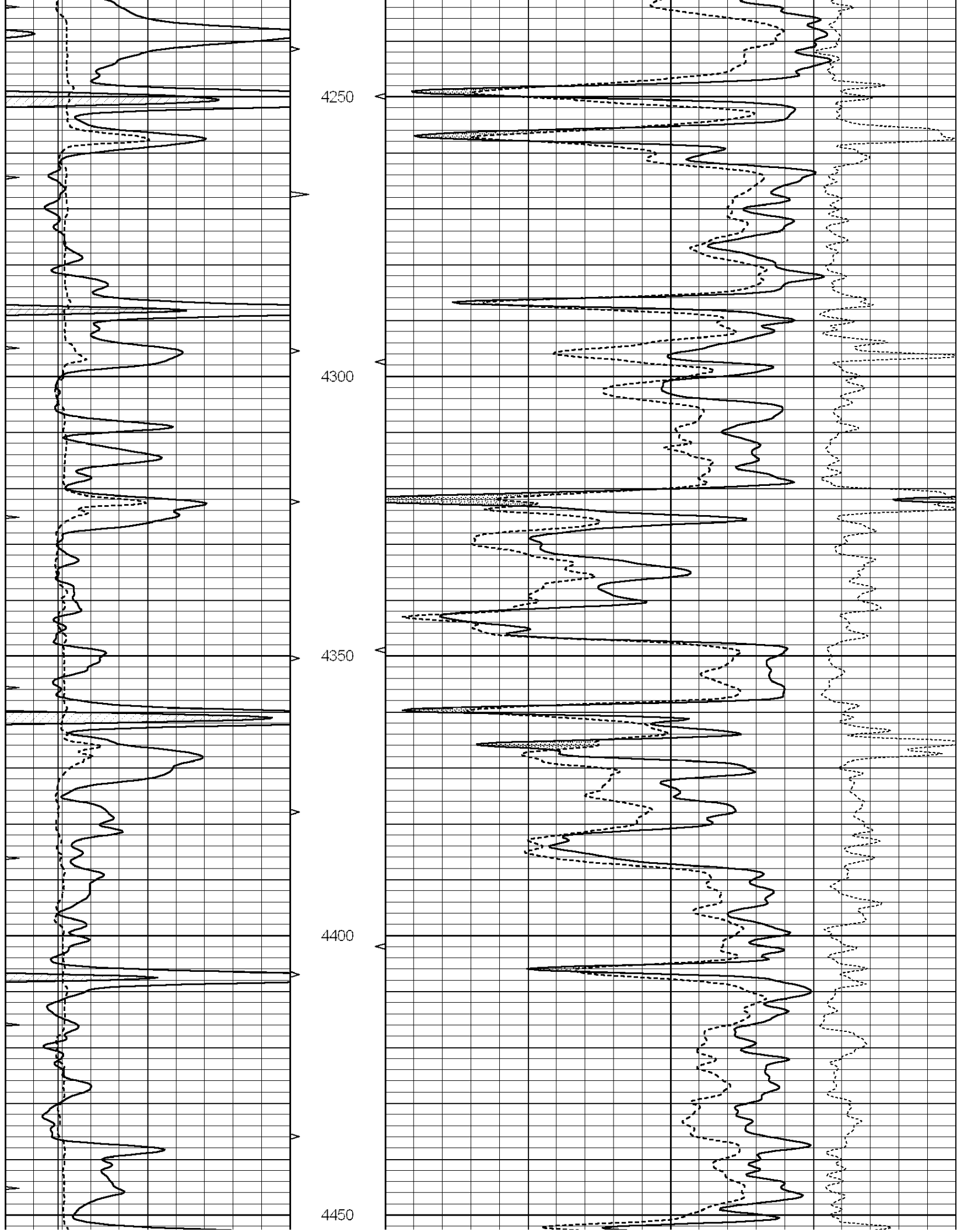
DIRECTIONS: SCOTT CITY, KS. - WEST TO CO. LINE - NORTH 6 MILES WEST INTO AT THE TANK BATTERY

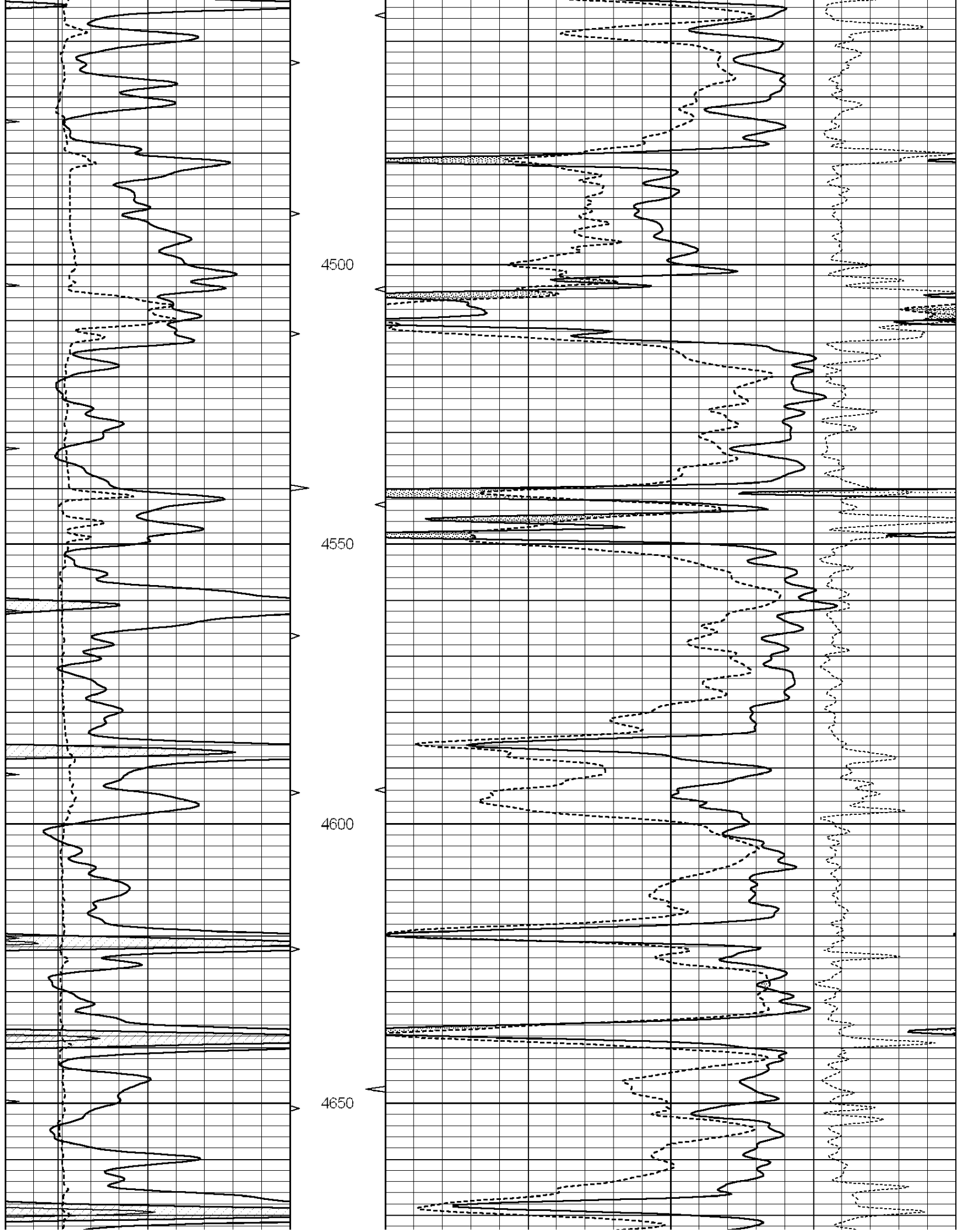
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3) 10			

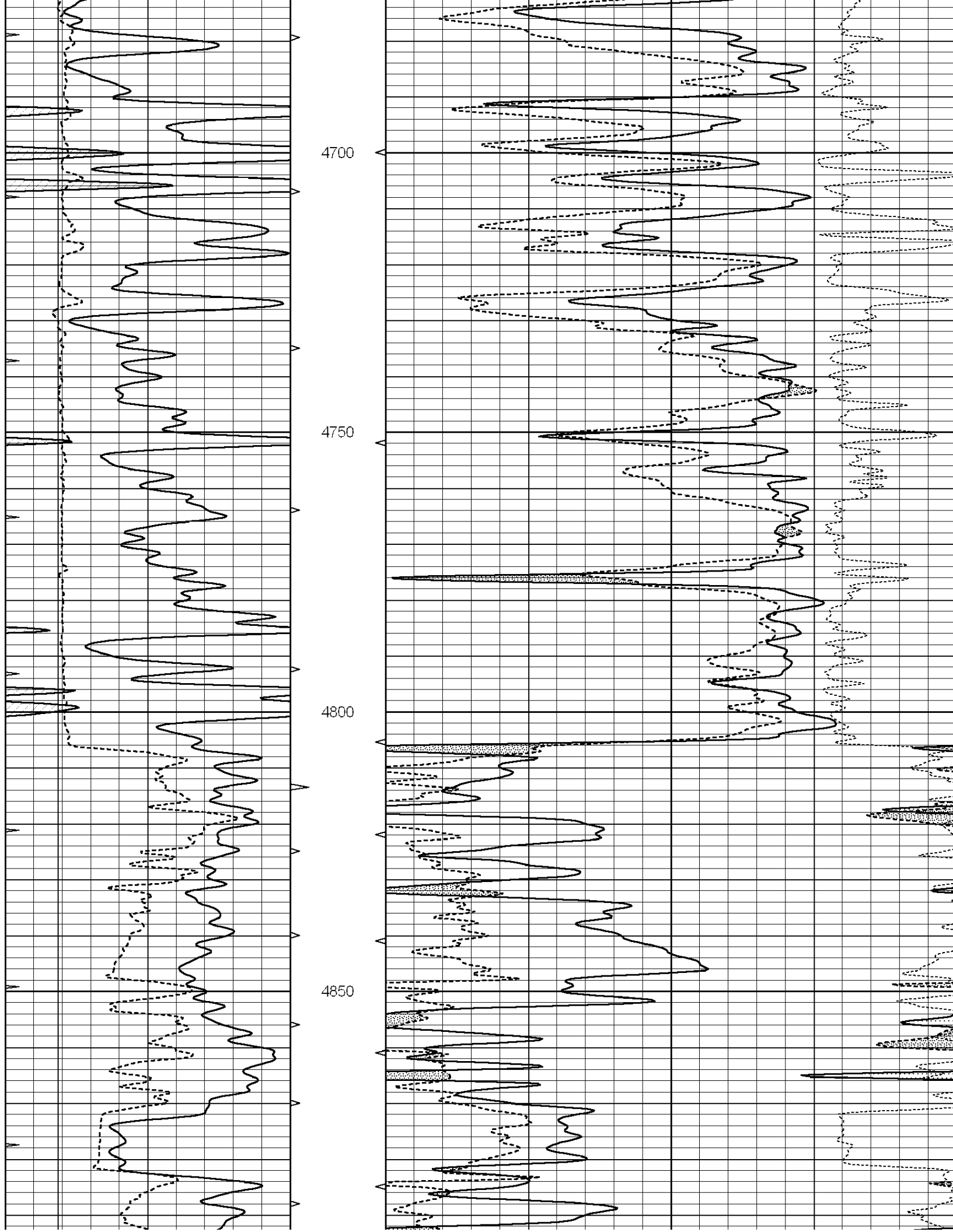


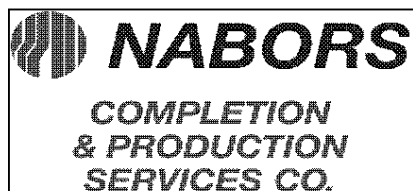
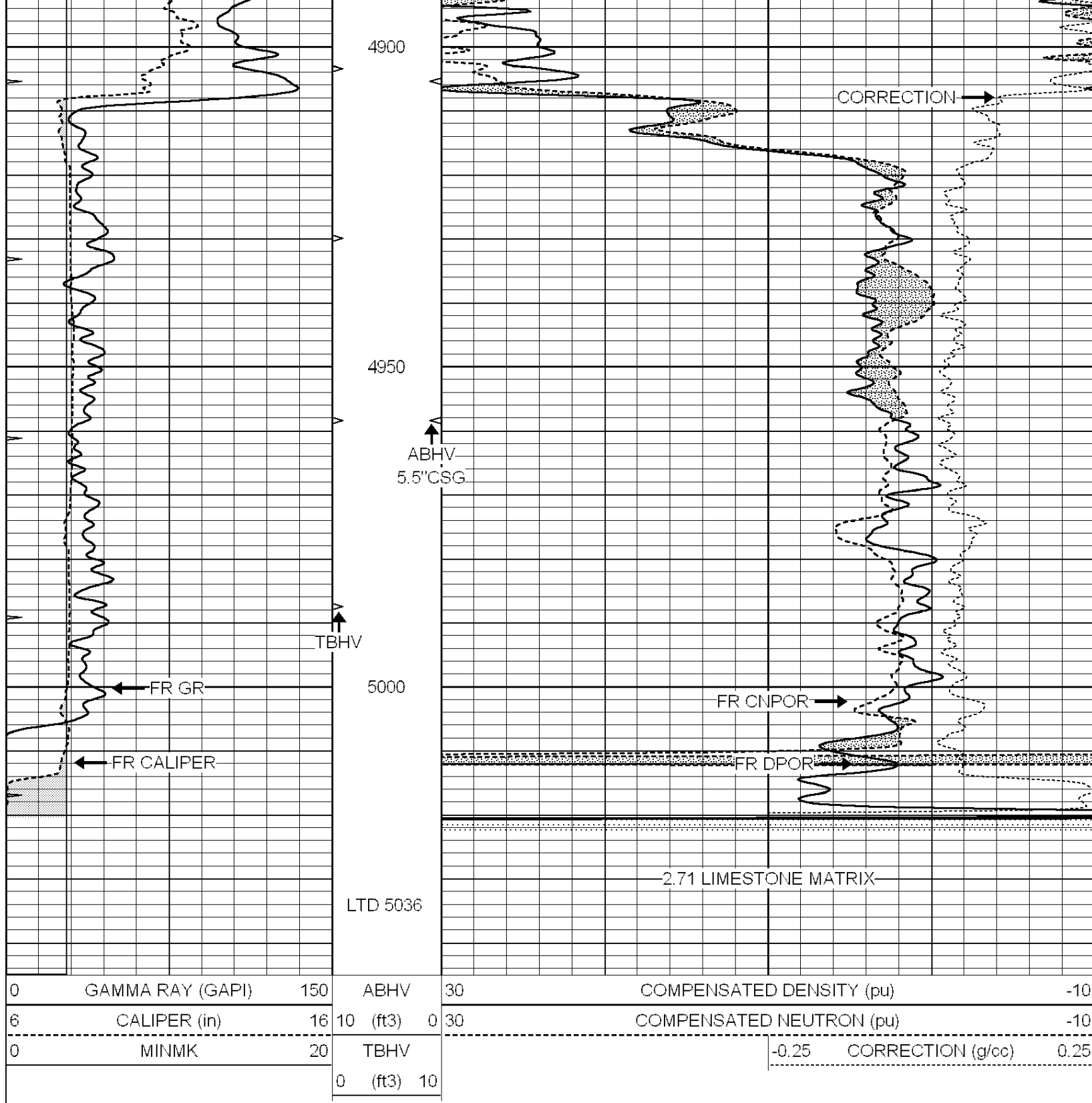








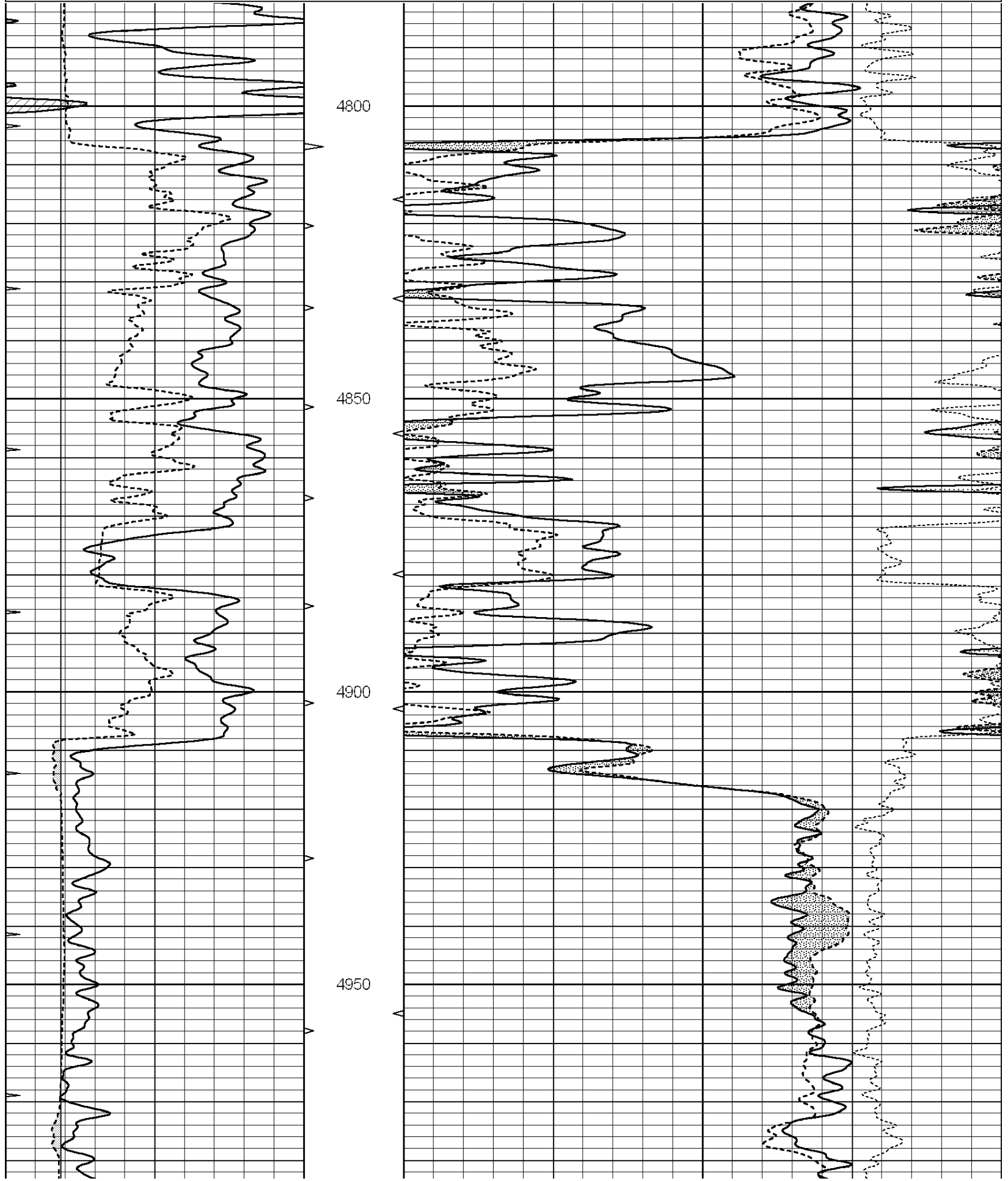


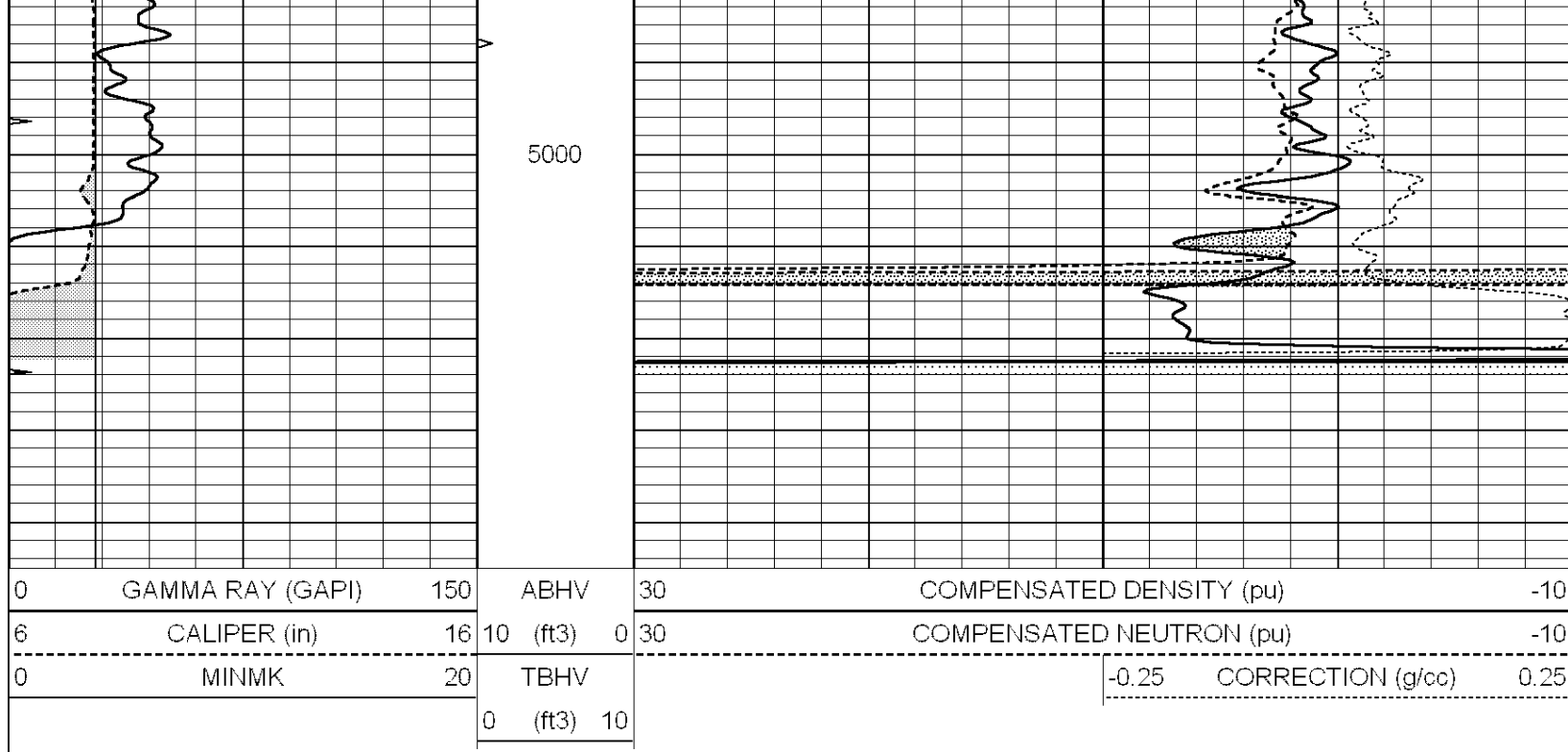


REPEAT SECTION

Database File: 010846ddn.db
 Dataset Pathname: pass2.3
 Presentation Format: den_neu
 Dataset Creation: Thu Mar 28 11:45:06 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				-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10					





Calibration Report

Database File: 010846ddn.db
 Dataset Pathname: pass3.2
 Dataset Creation: Thu Mar 28 12:17:08 2013

Dual Induction Calibration Report

Serial-Model: PROBE7-DILG
 Surface Cal Performed: Tue Mar 26 01:01:54 2013
 Downhole Cal Performed: Sat Jan 19 19:51:38 2013
 After Survey Verification Performed: Sat Jan 19 19:51:38 2013

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.793	0.790	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.992	1.002	V	0.000	464.000	mmho/m	680.000	-48.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.041	0.642	V	0.000	400.000	mmho/m	664.874	-27.011
Medium	0.035	0.802	V	0.000	464.000	mmho/m	604.936	-21.367

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	135384.000	27094.500	mmho/m	135400.000	27082.400	mmho/m	1.000	-19.259
Medium	-47330.100	-9381.740	mmho/m	-47327.100	-9389.280	mmho/m	1.000	-10.154
LL3		7.322	V		1400.000	Ohm-m		
		0.038	V		20.000	Ohm-m		
		-7.273	V		4000.000	mmho-m		

After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	135384.000	27094.500	mmho/m	1.000	0.000

Deep	0.000	0.000	mmho/m	133384.000	27094.500	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	-47330.100	-9381.740	mmho/m	1.000	0.000
LL3		0.000	Ohm-m		1400.000	Ohm-m		
		0.000	Ohm-m		20.000	Ohm-m		
		0.000	mmho-m		4000.000	mmho-m		

Compensated Density Calibration Report

Serial-Model:	GEAR1-GEARHART
Source / Verifier:	147 / 147
Master Calibration Performed:	Mon Mar 25 23:10:31 2013

Master Calibration

	Density			Far Detector		Near Detector	
Magnesium	1.710	g/cc		1205.77		610.74	cps
Aluminum	2.590	g/cc		271.21		419.72	cps
Spine Angle = 75.89				Density/Spine Ratio = 0.572			
	Size			Reading			
Small Ring	7.10	in		4.69		V	
Large Ring	14.00	in		6.52		V	

Compensated Neutron Calibration Report

Serial Number:	NEU_4I
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

Gamma Ray Calibration Report

Serial Number:	GR5
Tool Model:	OPEN
Performed:	Tue Mar 26 03:22:48 2013
Calibrator Value:	1.0 GAPI
Background Reading:	0.0 cps
Calibrator Reading:	1.0 cps
Sensitivity:	2.4000 GAPI/cps