NABORS
COMPLETION & PRODUCTION SERVICES CO.

COMPENSATED DENSITY / NEUTRON PE LOG

Company	LOTUS OPERATING COMPANY, LLC.
Well	#5 ACHENBACH
Field	STRANATHAN
County	BARBER
State	KANSAS

Company LOTUS OPERATING COMPANY, LLC.
Well #5 ACHENBACH
Field STRANATHAN
County BARBER State KANSAS
Location: API # : 15-007-24258-0000
1485' FNL & 660' FWL
SEC 1 TWP 35S RGE 13W

Other Services: DIL/MEL, SON/FF

Permanent Datum: GROUND LEVEL Elevation 1455
Log Measured From: KELLY BUSHING 13' A.G.L.
Drilling Measured From: KELLY BUSHING

Elevation: K.B. 1468, D.F. 1466, G.L. 1455

Date	12/11/14		
Run Number	ONE		
Depth Driller	5670		
Depth Logger	5666		
Bottom Logged Interval	5642		
Top Log Interval	3800		
Casing Driller	10 3/4"@300'		
Casing Logger	299		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5,000 PPM	
Density / Viscosity	9.6/48		
pH / Fluid Loss	11.0/8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.600@85F		
Rmf @ Meas. Temp	.450@85F		
Rmc @ Meas. Temp	.720@85F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.389@131F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	7:00 A.M.		
Maximum Recorded Temperature	131F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	TIM HELLMAN		

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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
HARDTNER, KS., 2 1/2W. ON BLKTOP TO "GYP HILL RD.", 1N., E. INTO

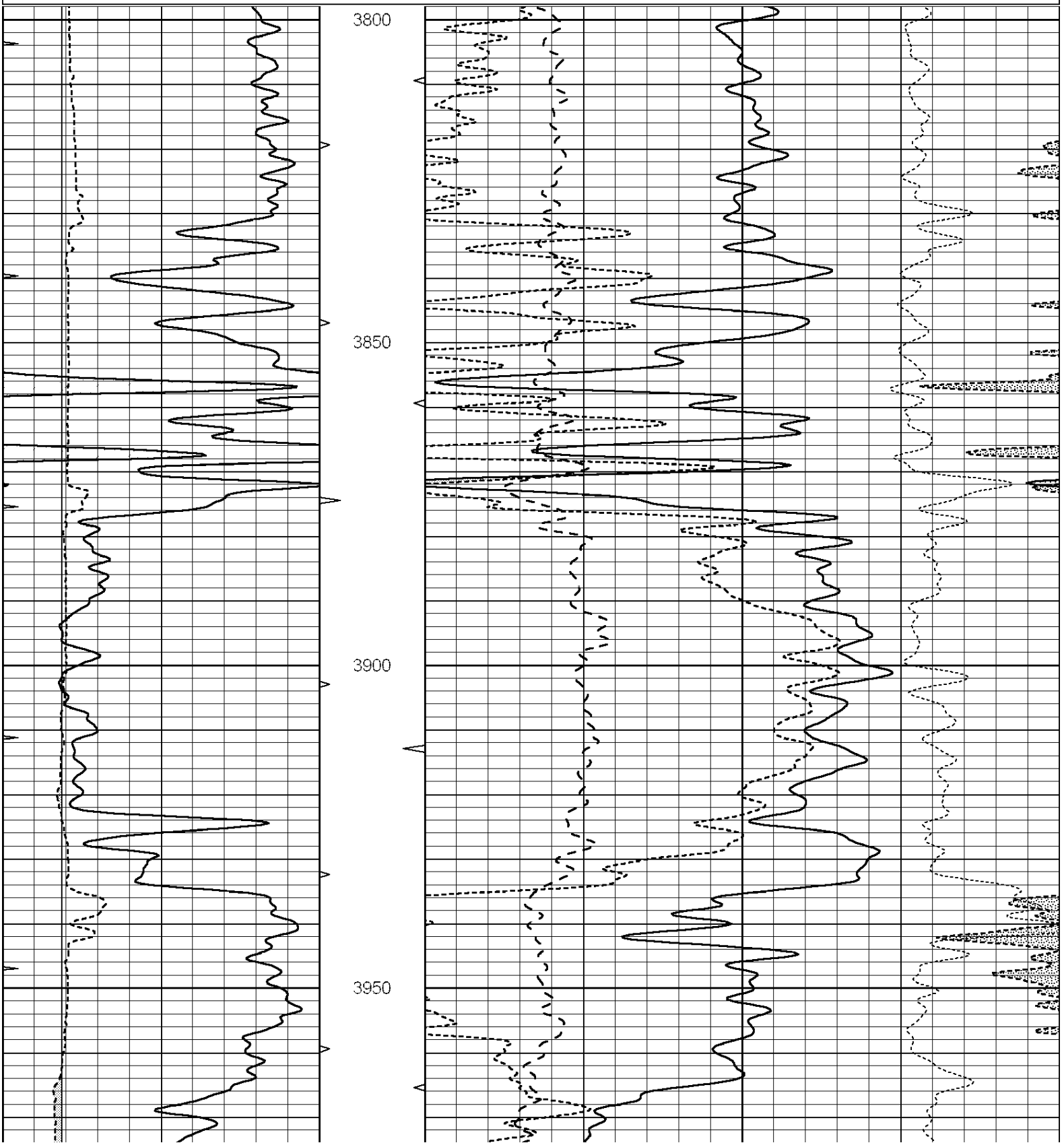
NABORS
COMPLETION & PRODUCTION

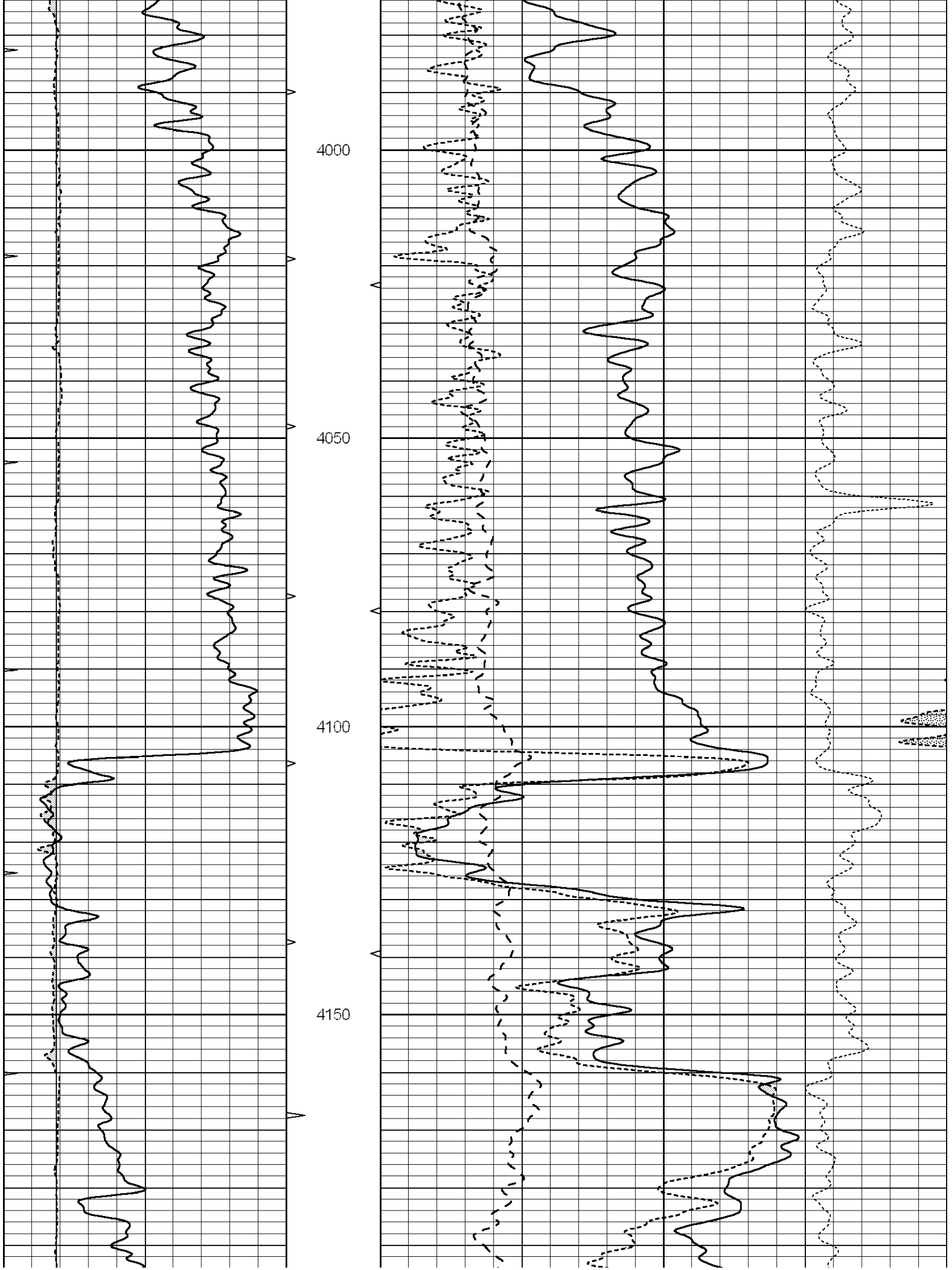
MAIN SECTION

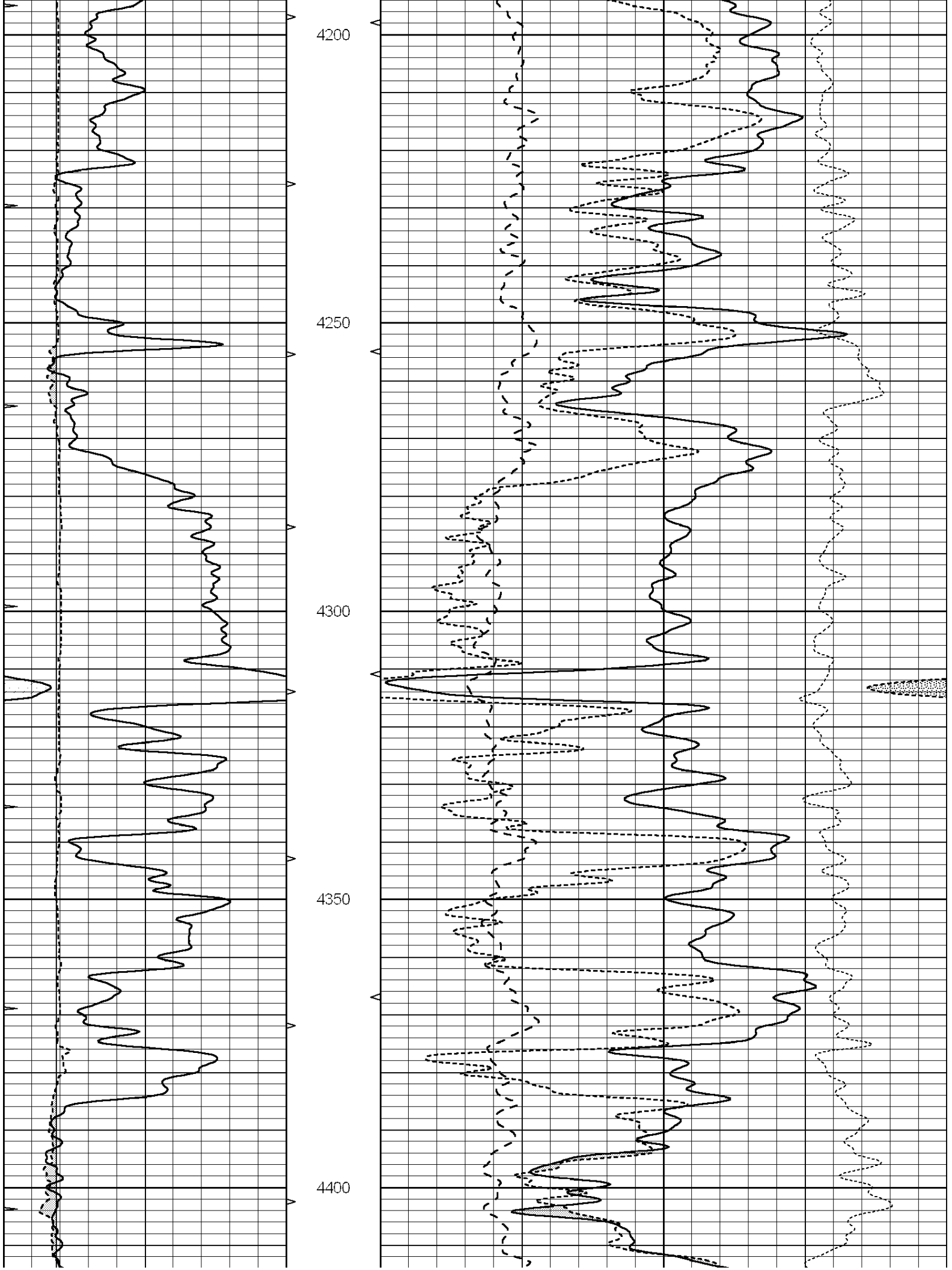
SERVICES CO.

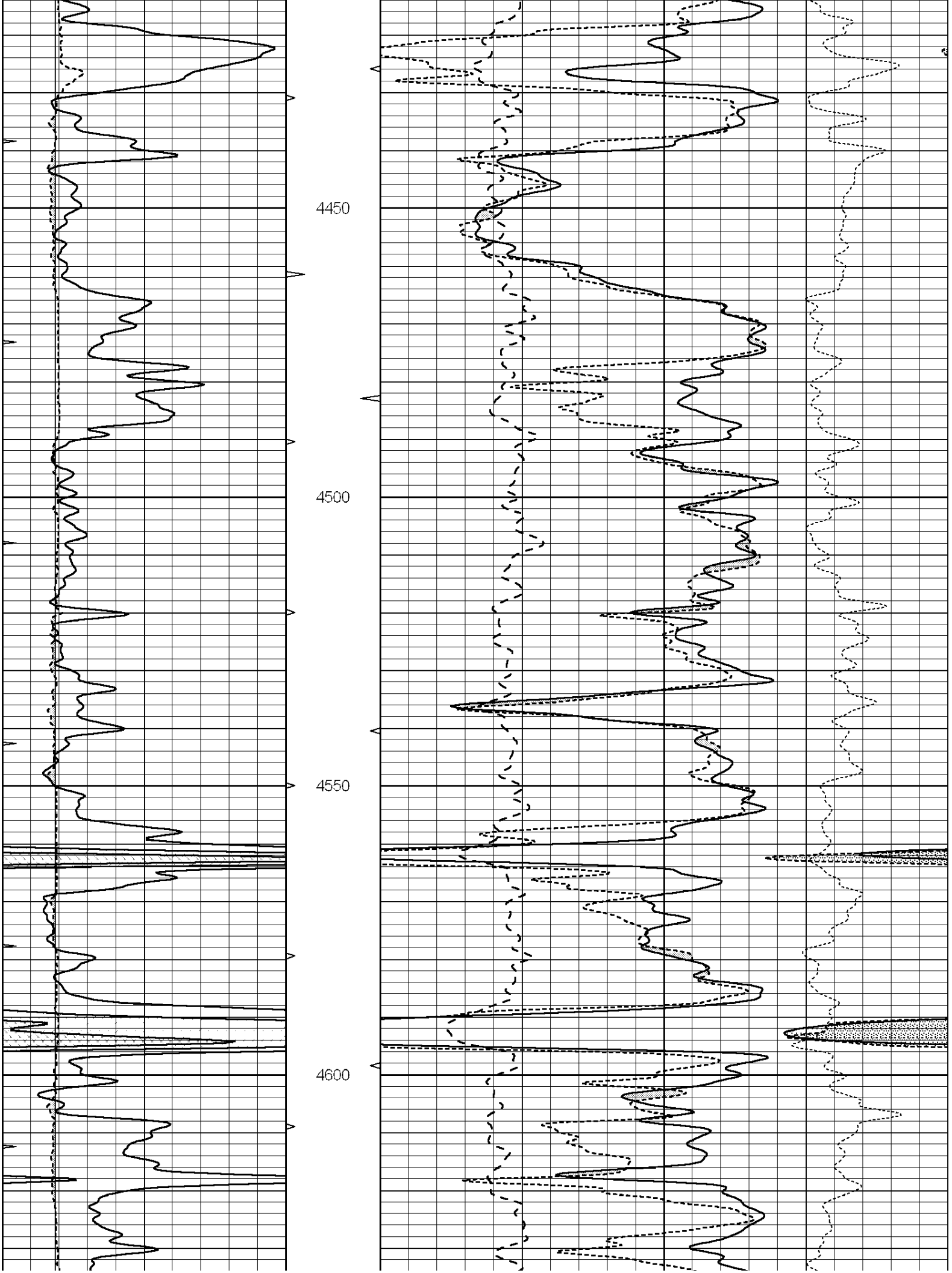
Database File: 26327pe.db
Dataset Pathname: pass3.3
Presentation Format: ldt_neu
Dataset Creation: Thu Dec 11 08:58:30 2014 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:240

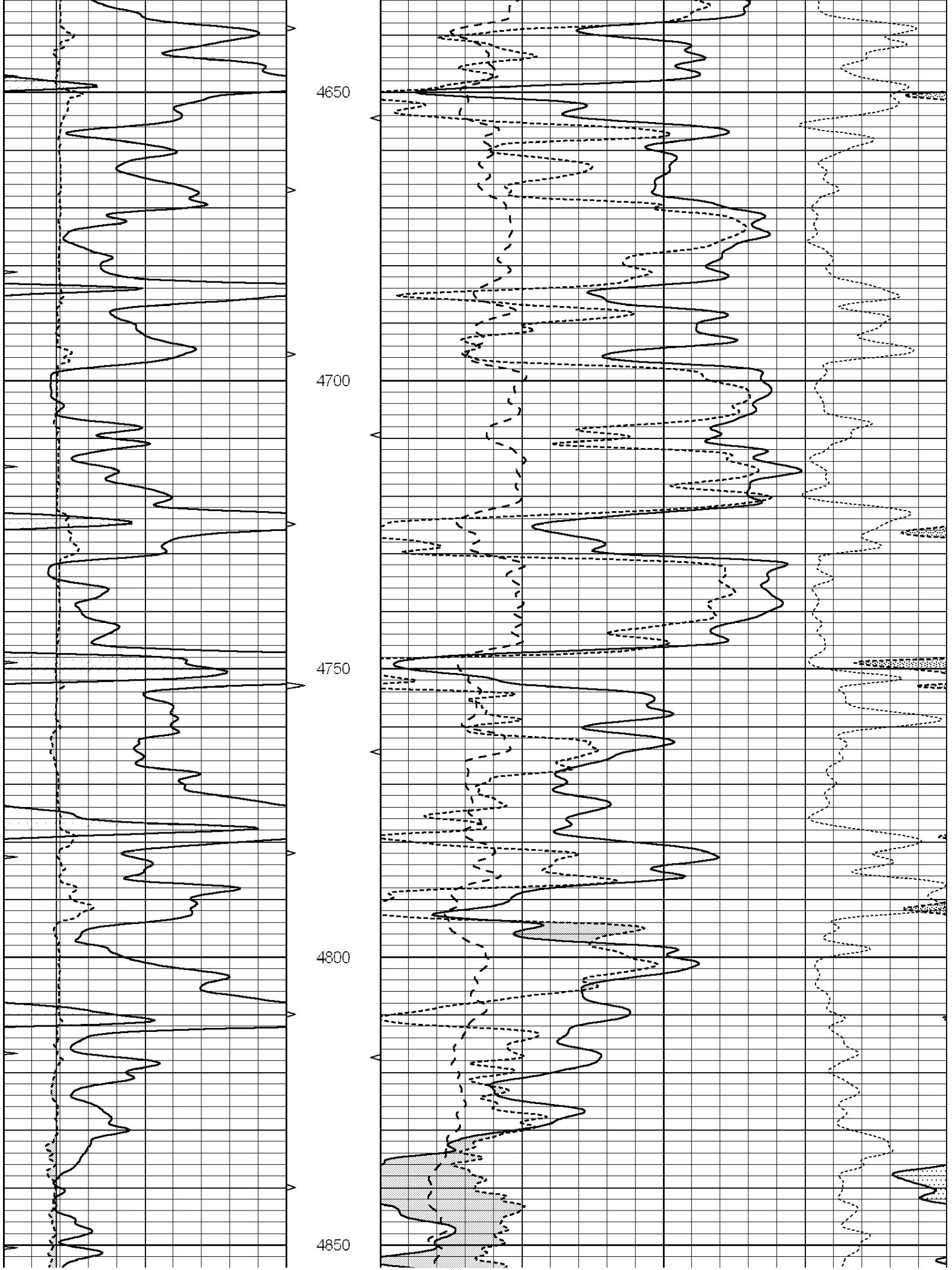
0 GAMMA RAY (GAPI) 150	ABHV	30 COMPENSATED DENSITY (pu) -10			
6 CALIPER (in) 16	10 (ft3) 0	30 COMPENSATED NEUTRON (pu) -10			
0 MINMK 20	TBHV	0 PE 10	-0.25 CORRECTION (g/cc) 0.25		
	0 (ft3) 10				

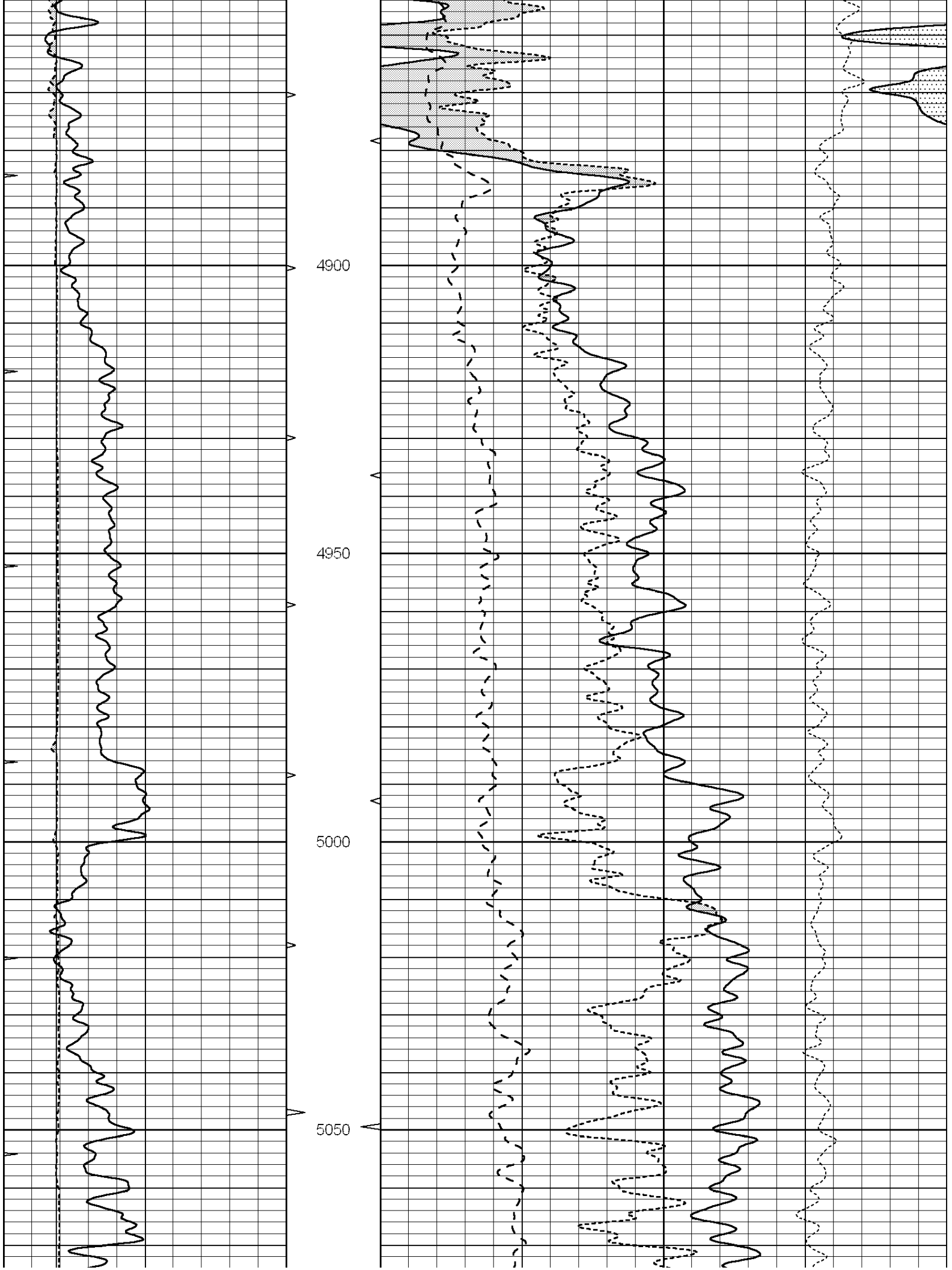


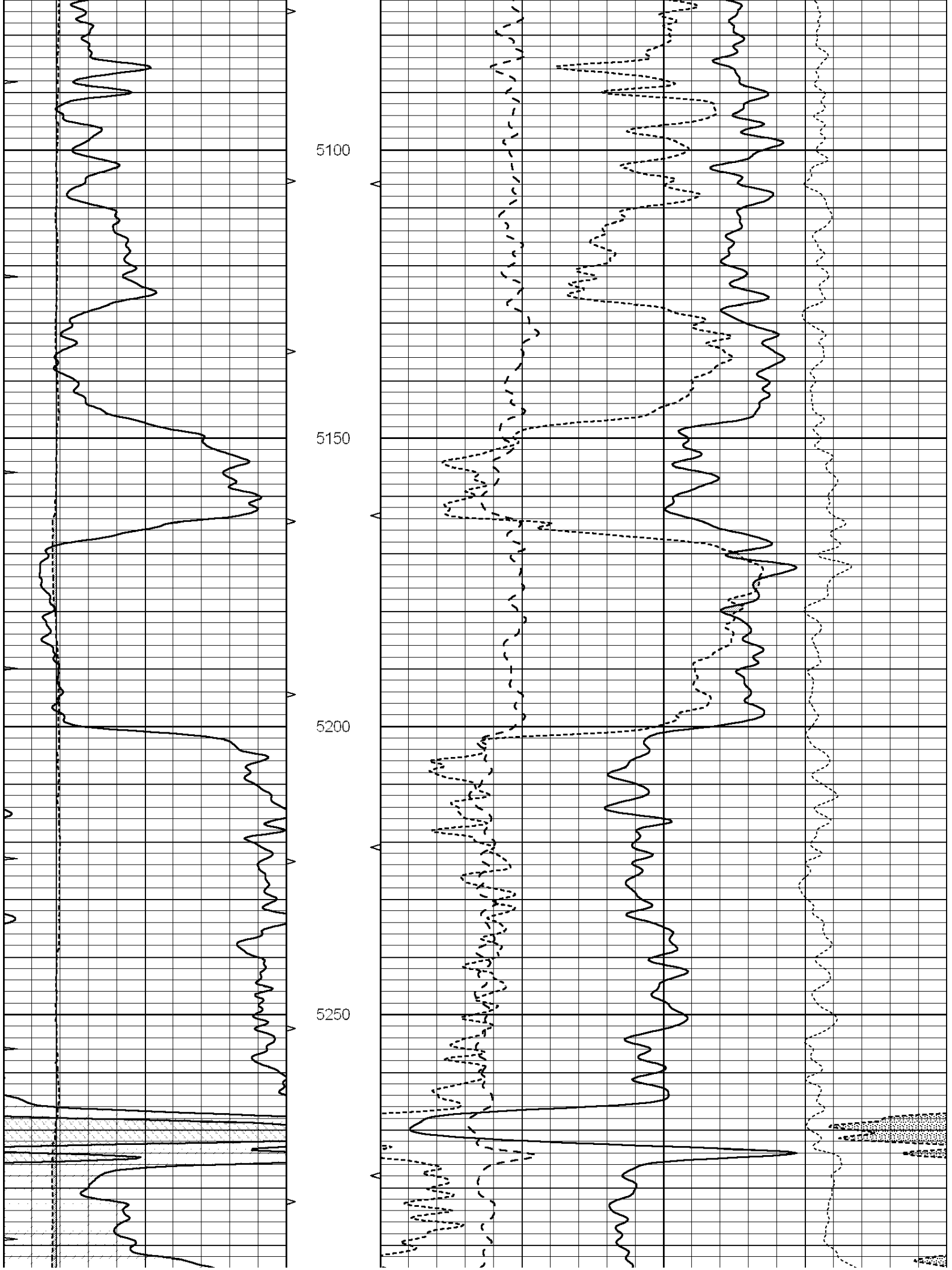

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4100
4150

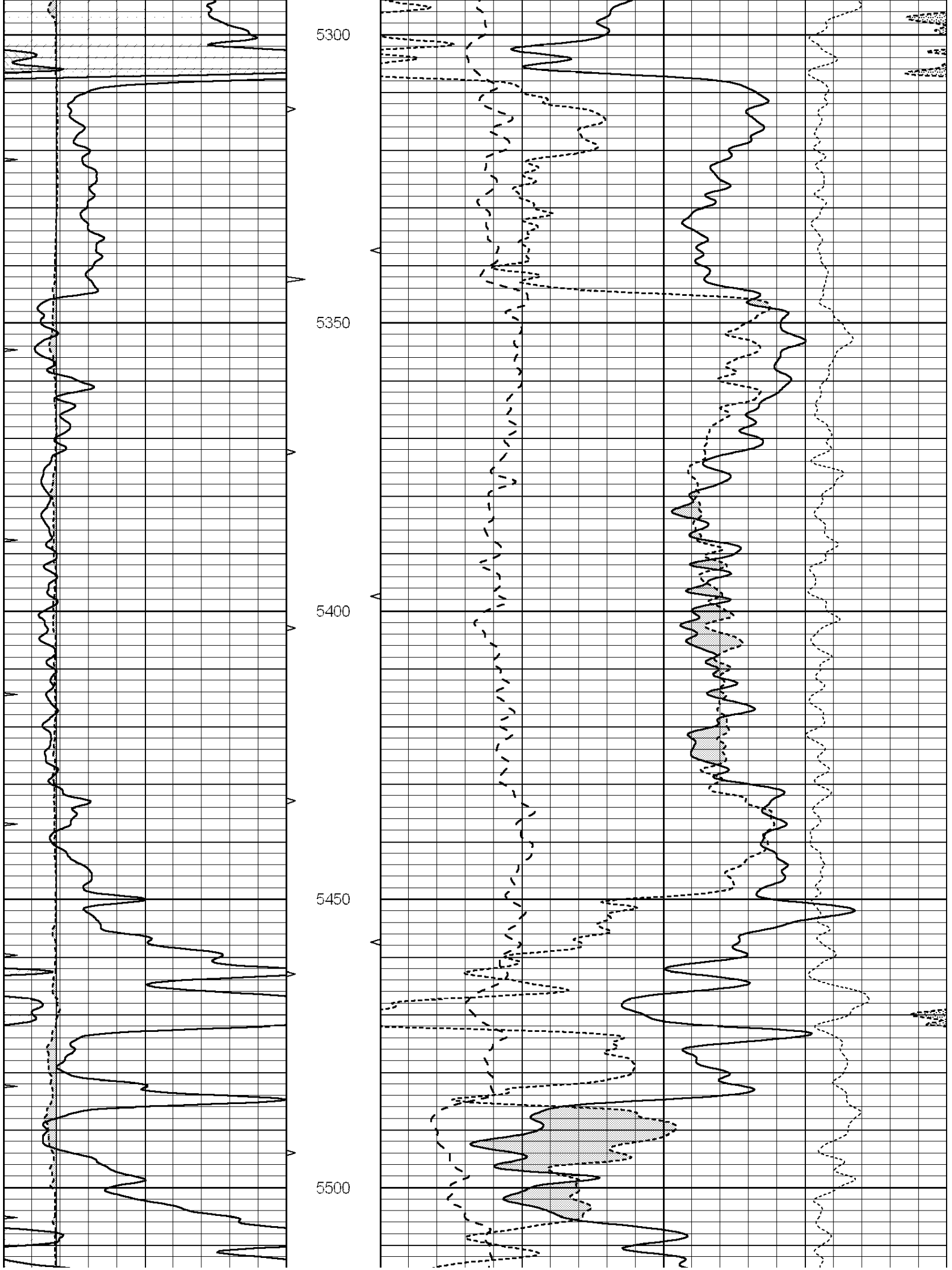

4200
4250
4300
4350
4400

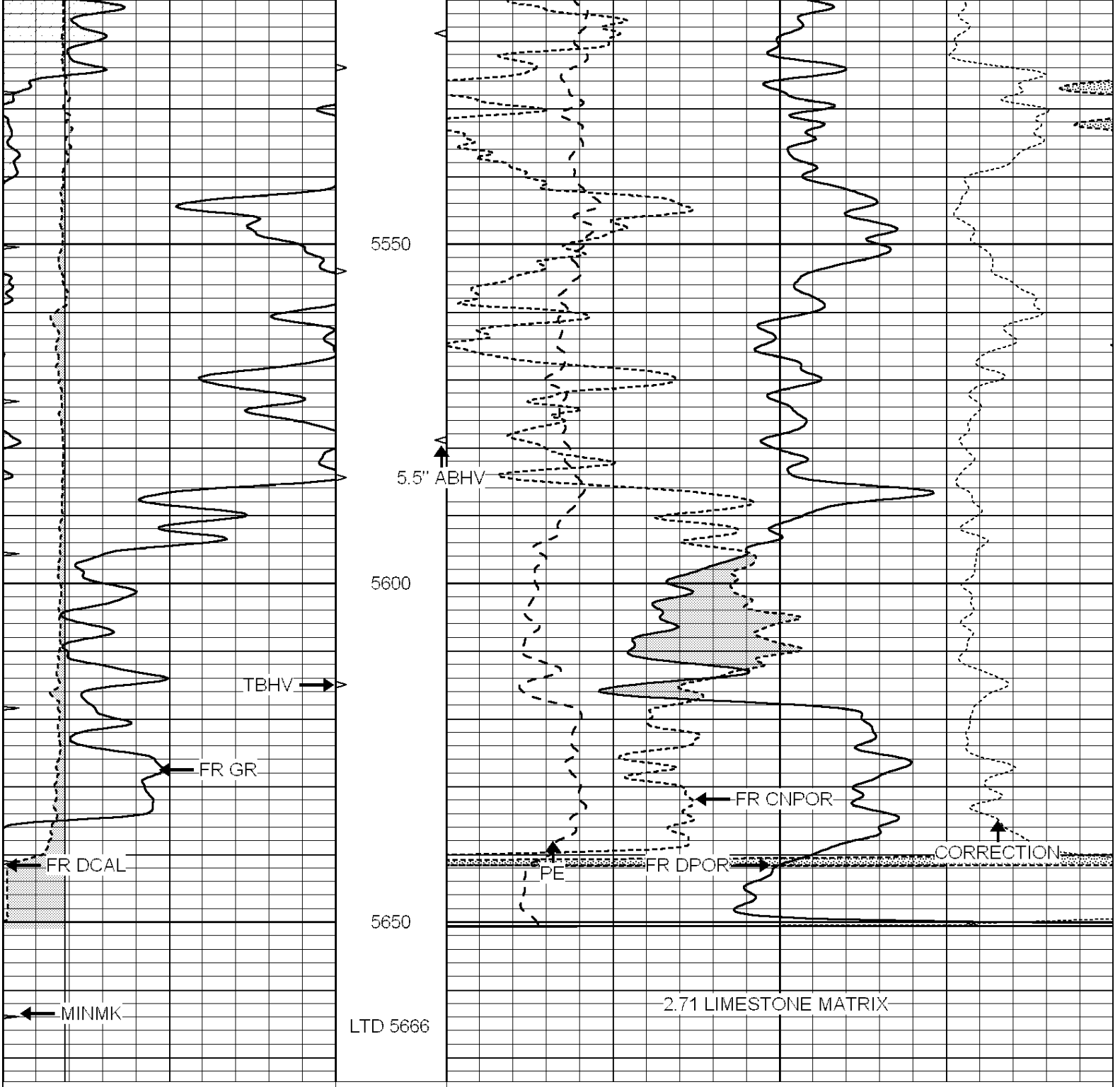

4450
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4600


4650
4700
4750
4800
4850


4900
4950
5000
5050


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5150
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5350
5400
5450
5500



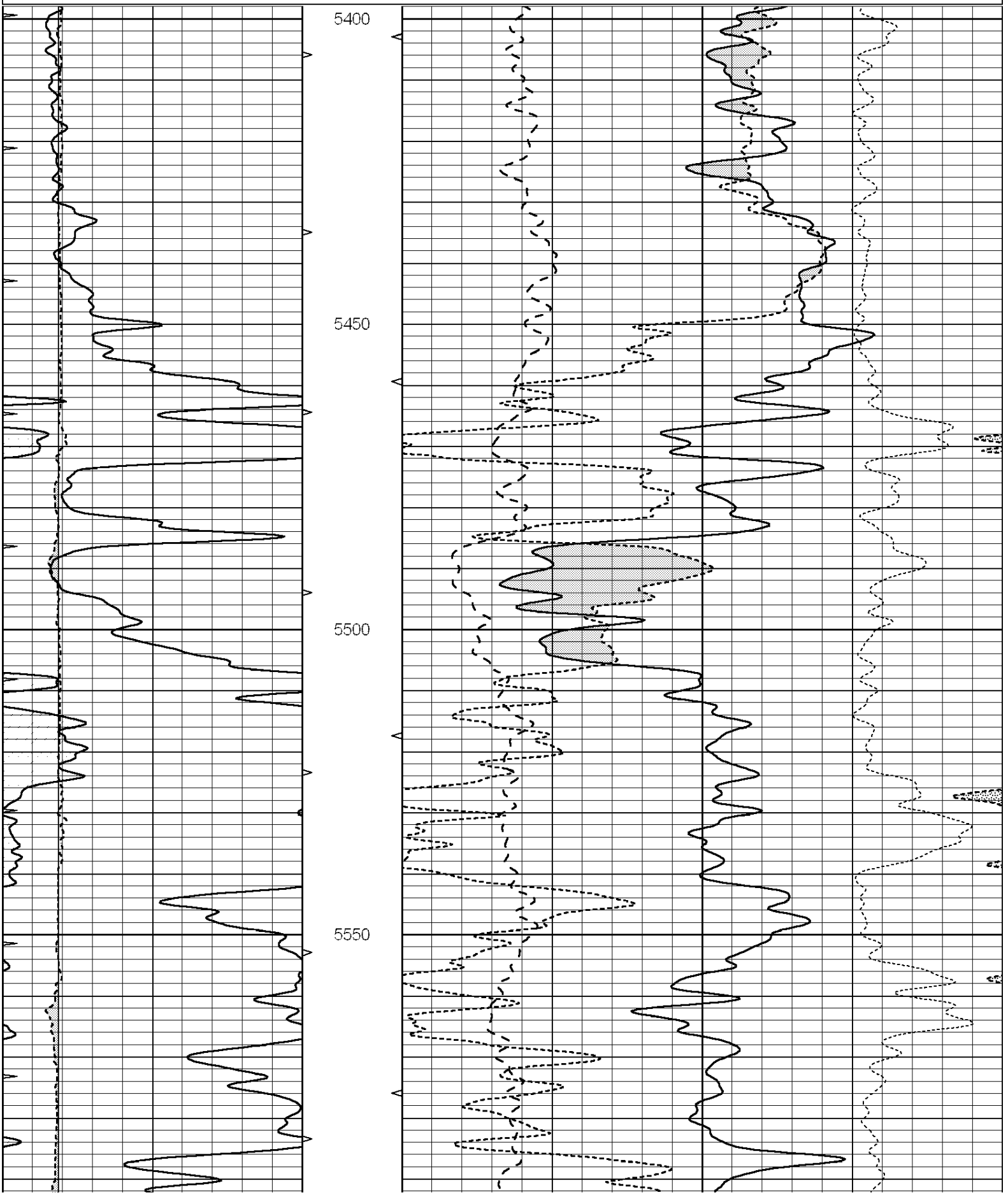
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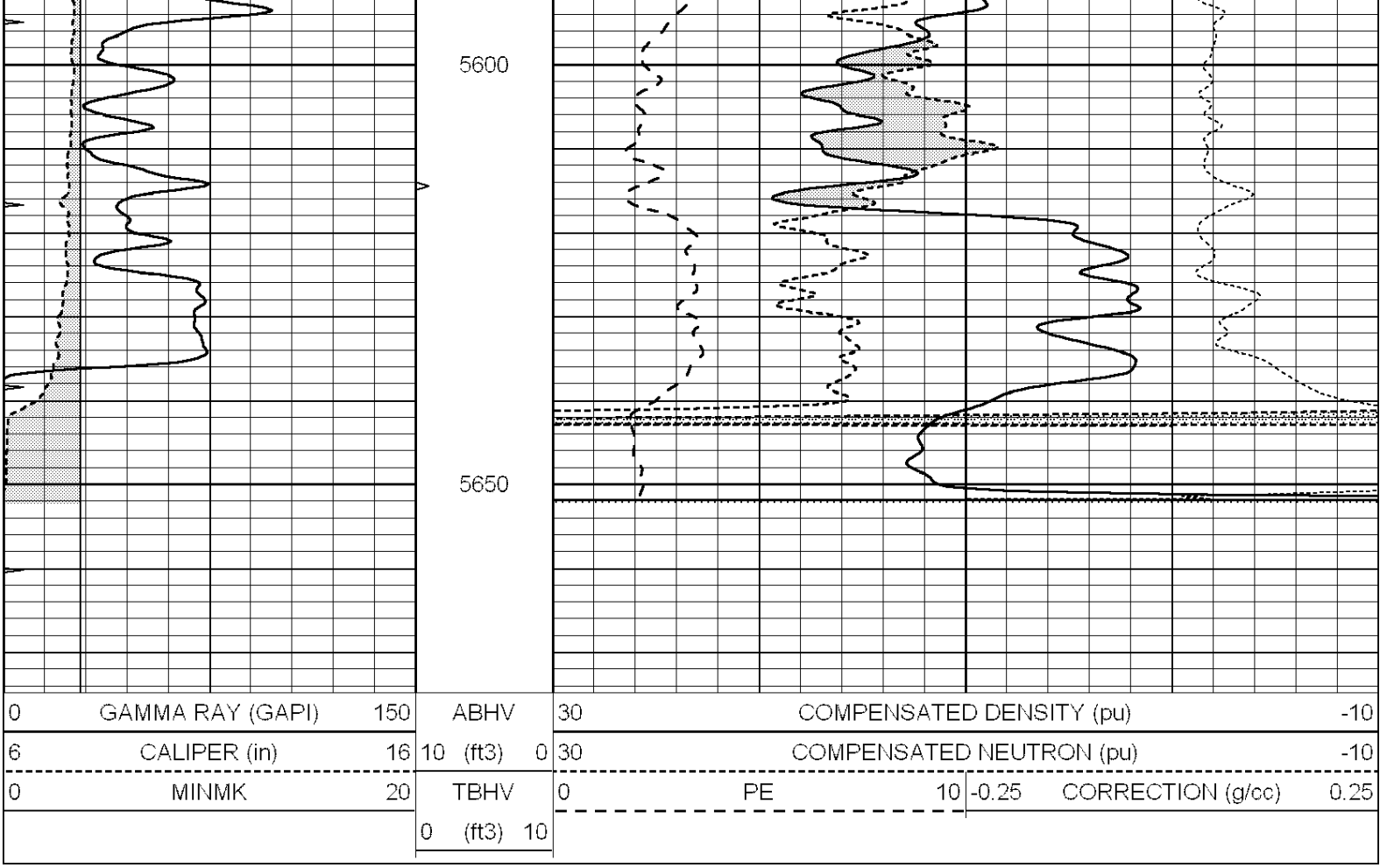
REPEAT SECTION

Database File:	26327pe.db
Dataset Pathname:	pass2.6
Presentation Format:	ldt_neu
Dataset Creation:	Thu Dec 11 07:44:51 2014 by Calc SOC 120430

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: 26327pe.db
Dataset Pathname: pass3.3
Dataset Creation: Thu Dec 11 08:58:30 2014 by Calc SOC 120430

Dual Induction Calibration Report

Serial-Model:	PROBE9-DILG
Surface Cal Performed:	Sat Dec 06 09:31:12 2014
Downhole Cal Performed:	Mon Jul 28 12:02:56 2008
After Survey Verification Performed:	Mon Jul 28 12:02:56 2008

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	670.000	-16.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	670.000	-18.000
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: 004N Model: PRB

Master Calibration — Performed Fri May 30 11:01:00 2014

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1378.8	10804.6	3492.0	12453.4	cps
Window 2	1262.4	9313.5	3076.7	10594.7	cps
Window 3	1077.6	5668.7	2076.0	6314.8	cps
Window 4	306.4	313.0	306.4	315.6	cps
Long Space	0.0	8051.0	1814.3	9332.3	cps
Short Space	1.9	1706.1	1146.0	1707.6	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	

Rib Angle	: 45.0	Rib Slope	: 1.002	Density/Spine Ratio	: 0.571
Spine Angle	: 75.0	Spine Slope	: 3.745	Spine Intercept	: -18.9

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	cps		
Long Space	cps	pu	pu

POST-SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	070558	
Tool Model:	OPEN_GR	
Performed:	Mon Nov 17 10:01:40 2014	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.2800	GAPI/cps