



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY/NEUTRON
PE LOG**

Company		GATEWAY RESOURCES, LLC	
Well		BOWLING #1-8	
Field		WILDCAT	
County		CLARK	
State		KANSAS	
Location:		API # : 15-025-21571-00-00	
SEC 8 TWP 30S RGE 23W		DIL	
Permanent Datum		GROUND LEVEL Elevation 2529	
Log Measured From		KELLY BUSHING 10' A.G.L.	
Drilling Measured From		KELLY BUSHING	
Date		2/25/14	
Run Number		ONE	
Depth Driller		6589	
Depth Logger		6592	
Bottom Logged Interval		6568	
Top Log Interval		4200	
Casing Driller		8 5/8" @ 534	
Casing Logger		526	
Bit Size		7 7/8"	
Type Fluid in Hole		CHEMICAL MUD	
Density / Viscosity		9.2/54	
pH / Fluid Loss		12.5/9.0	
Source of Sample		FLOWLINE	
Rm @ Meas. Temp		.80 @ 64F	
Rmt @ Meas. Temp		.60 @ 64F	
Rmc @ Meas. Temp		.89 @ 64F	
Source of Rmt / Rmc		MEASUREMENT	
Rm @ BHT		.36 @ 139F	
Time Circulation Stopped		2 HOURS	
Time Logger on Bottom		139F	
Maximum Recorded Temperature		4010	
Equipment Number		HAYS, KANSAS	
Location		IAN MABB	
Recorded By		GARY F. GENSCH	
Witnessed By			

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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.

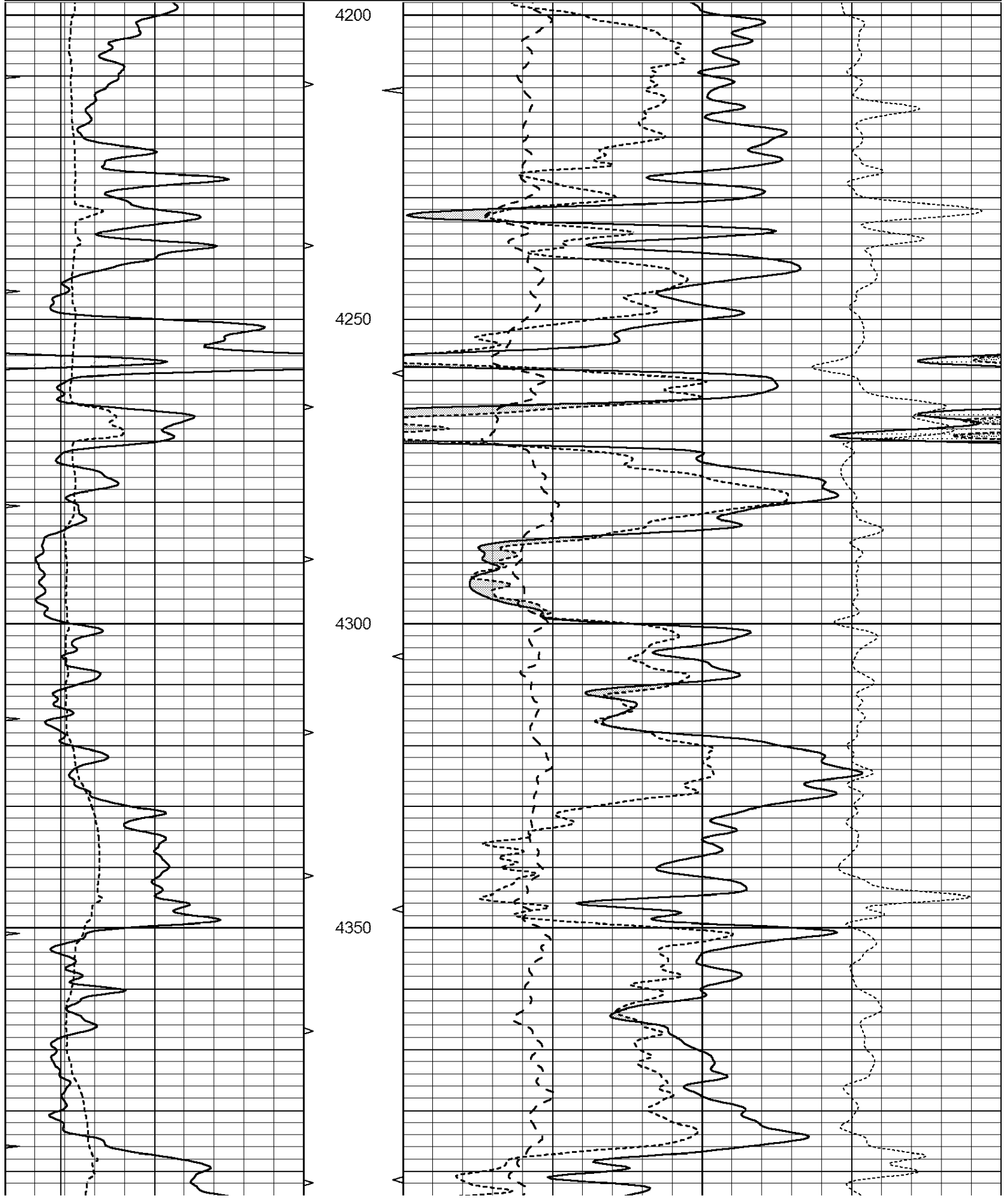
Comments

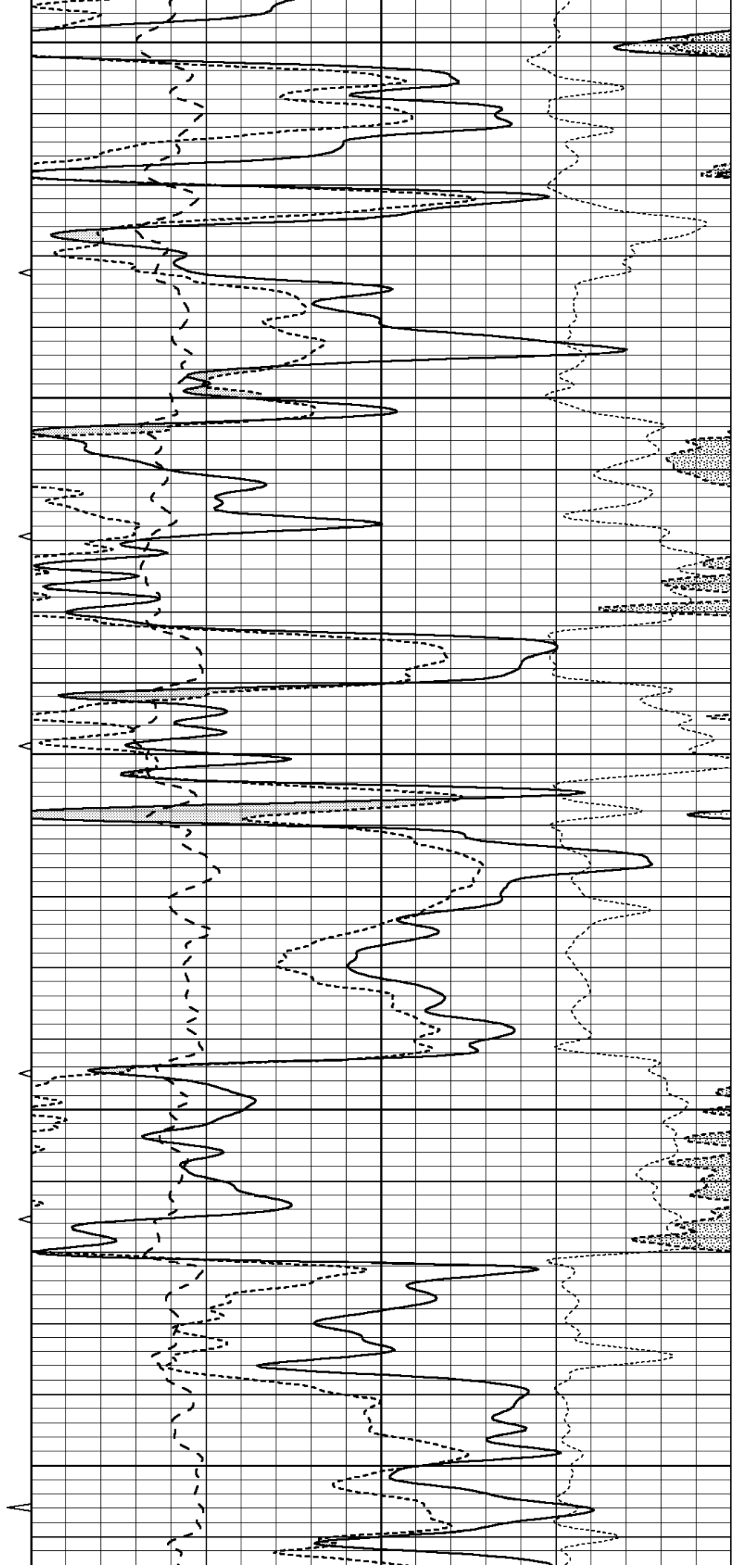
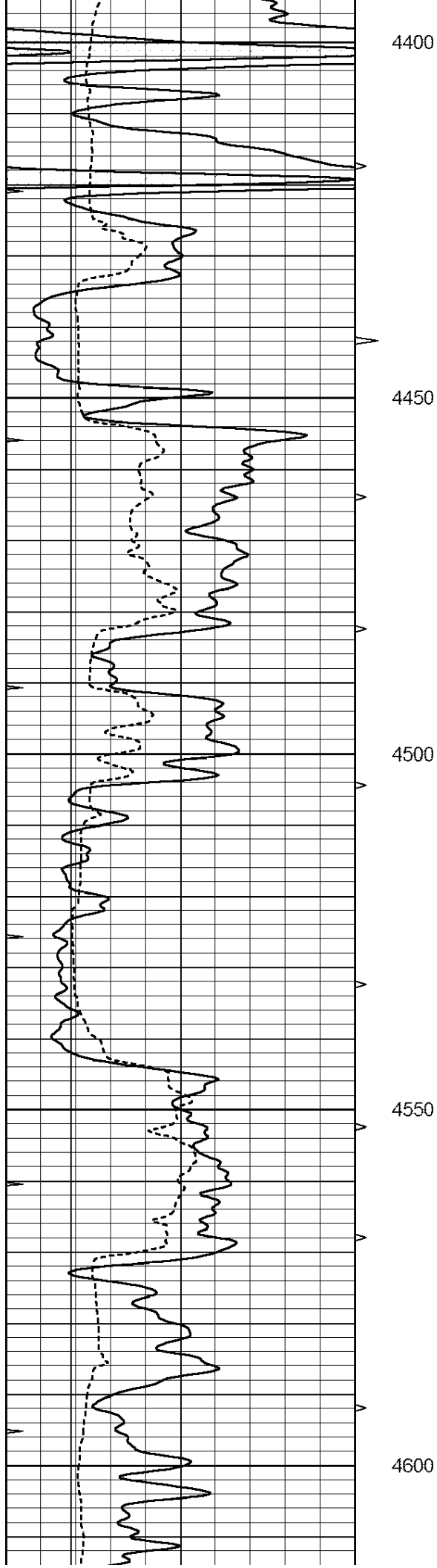
THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395
DIRECTIONS:

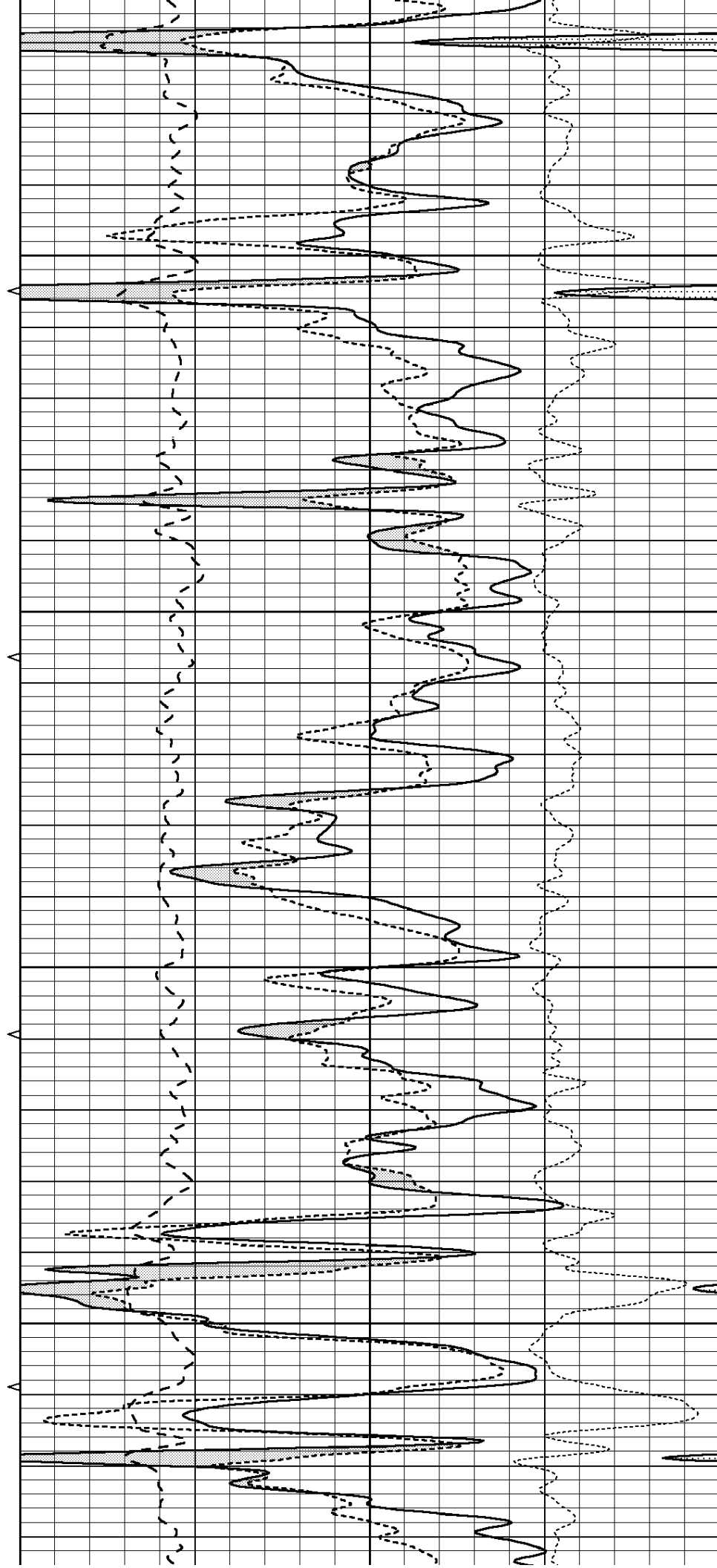
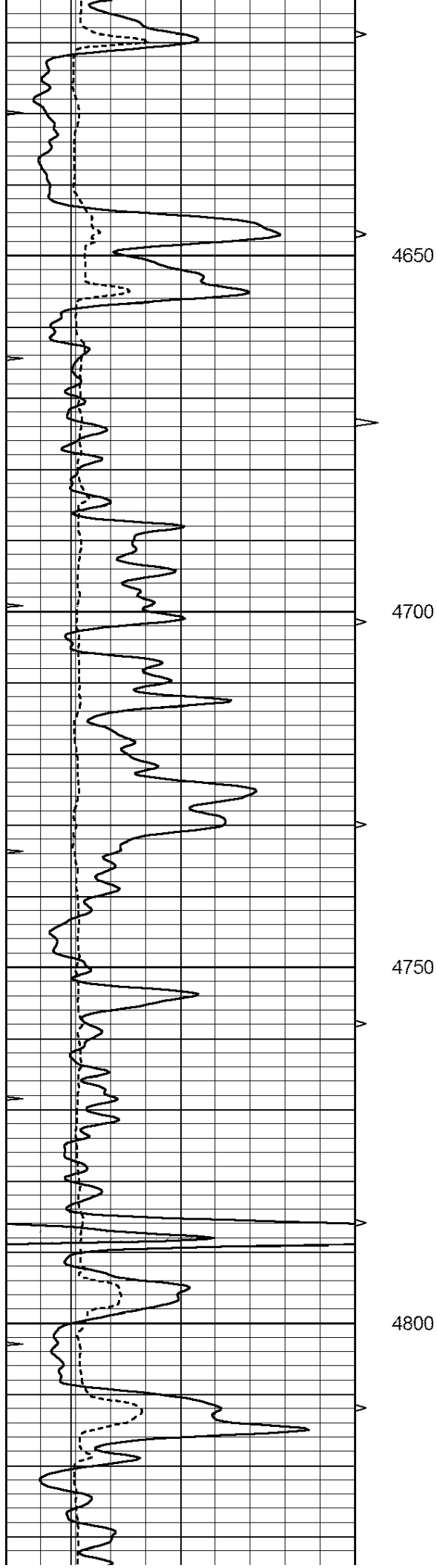
BLOOM, KS. - REST AREA AT RD 118 - 1 1/2 MILES SOUTH - 3/4 EAST - 1 SOUTH TO THE SHELTER
BELT - 1/4 EAST TO THE CURVE GOING SE - SOUTH INTO

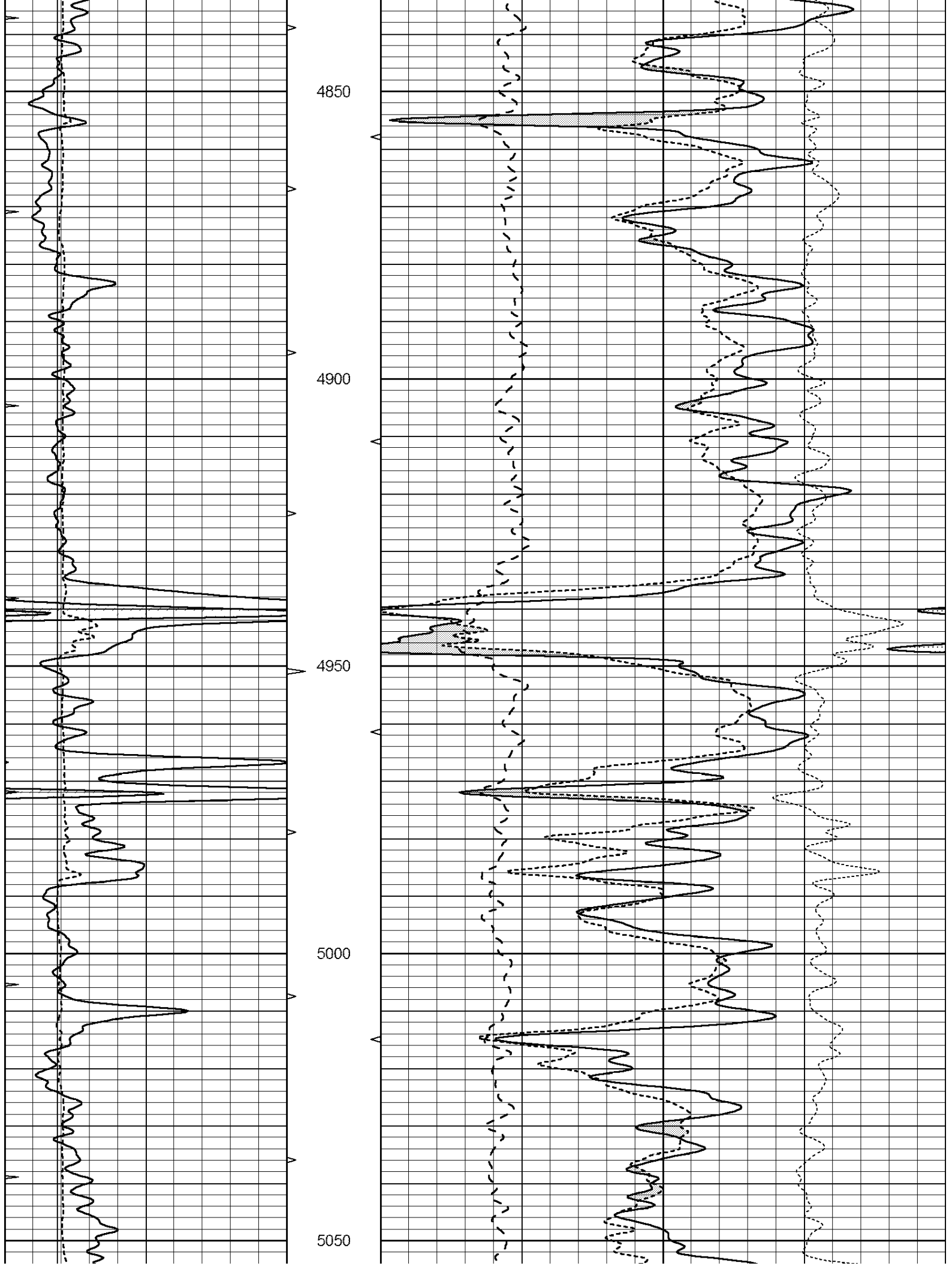
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Dataset Pathname: pass3.8
Presentation Format: _ldt_neu
Dataset Creation: Tue Feb 25 16:30:49 2014
Charted by: Depth in Feet scaled 1:240

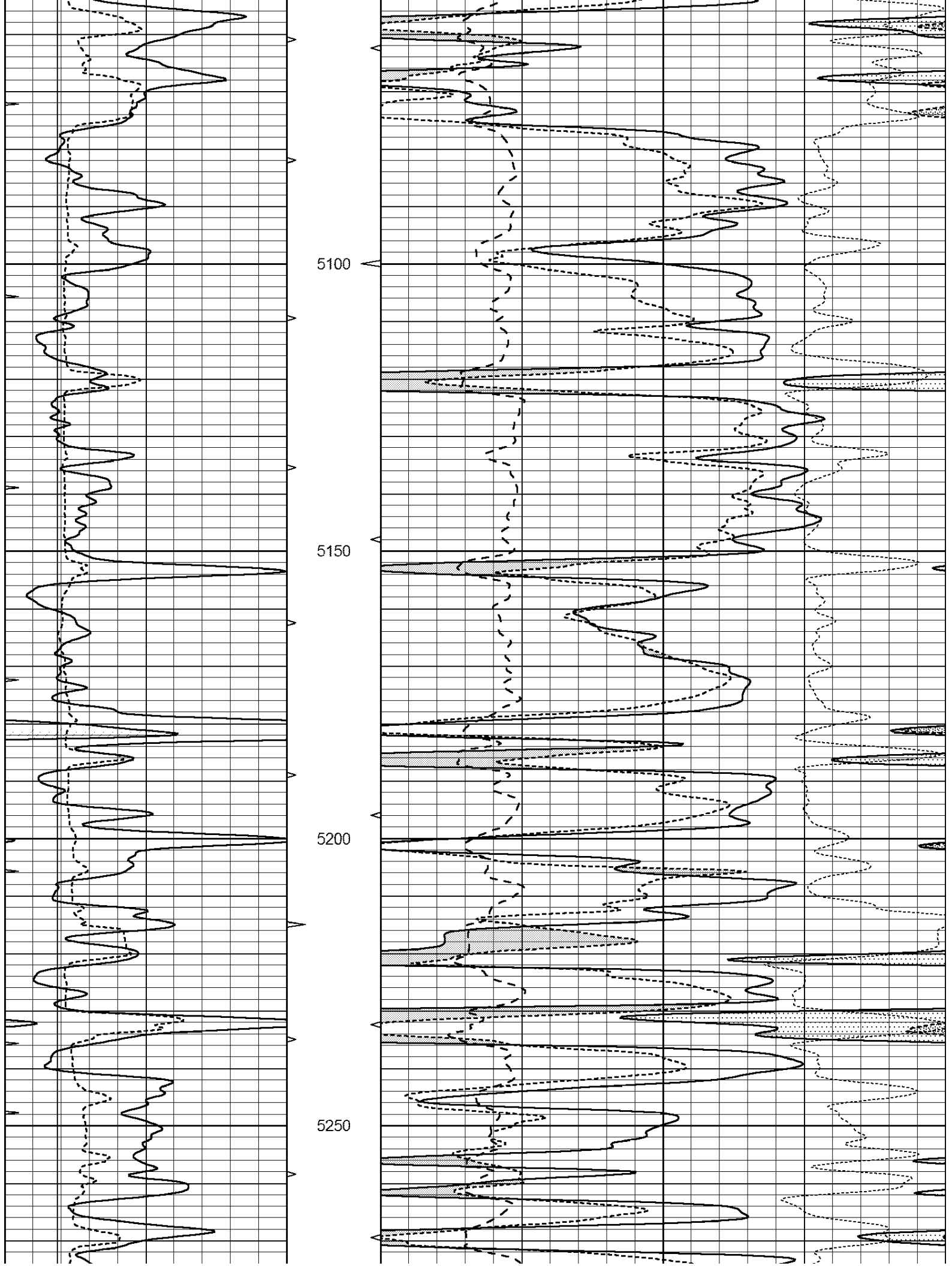
Charted by:		Depth in Feet scaled 1:2.10					
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)		-10
6	CALIPER (in)	16	10 (ft3) 0	30	COMPENSATED NEUTRON (pu)		-10
0	MINMK	20	TBHV	0	PE	10	-0.25 CORRECTION (g/cc) 0.25
			0 (ft3) 10				

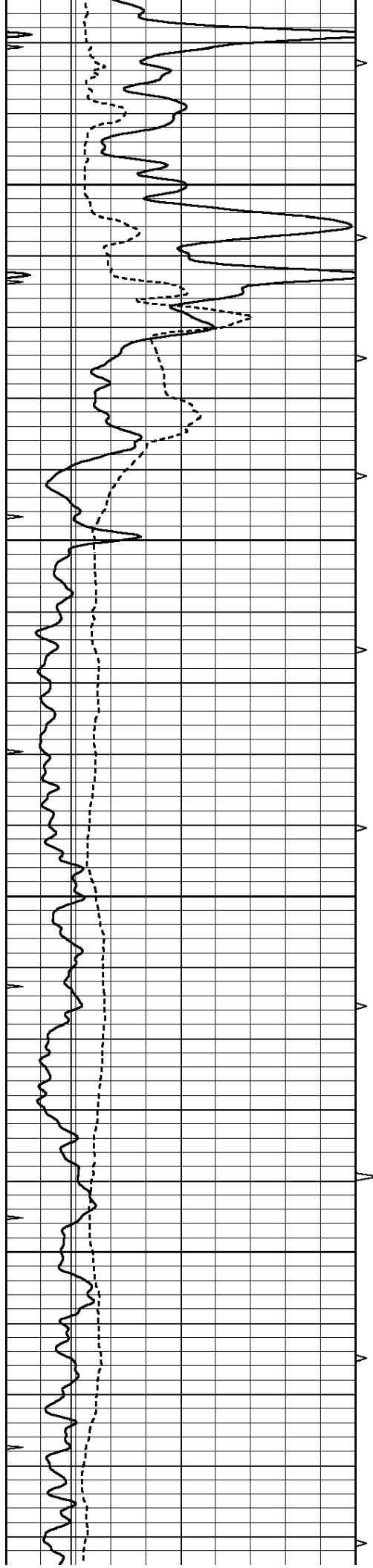










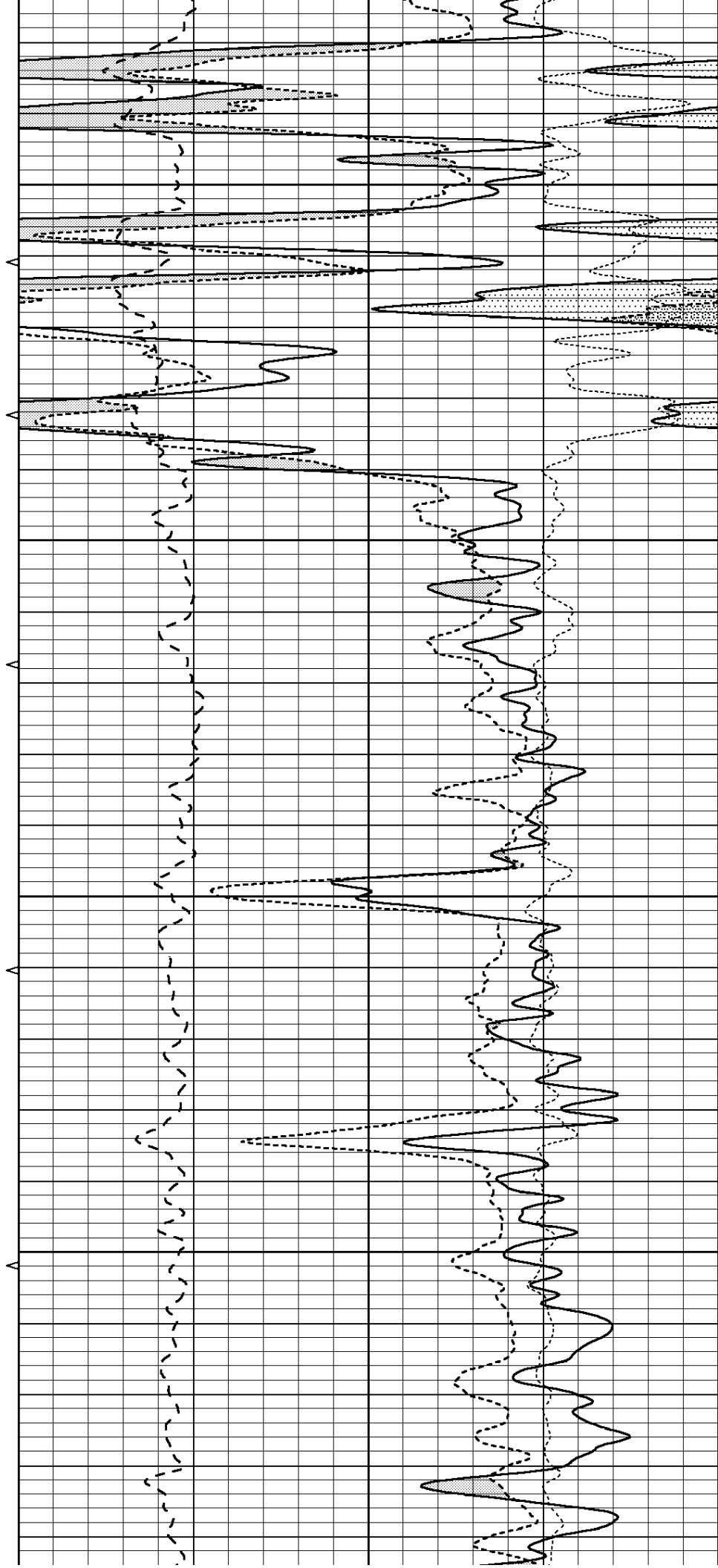


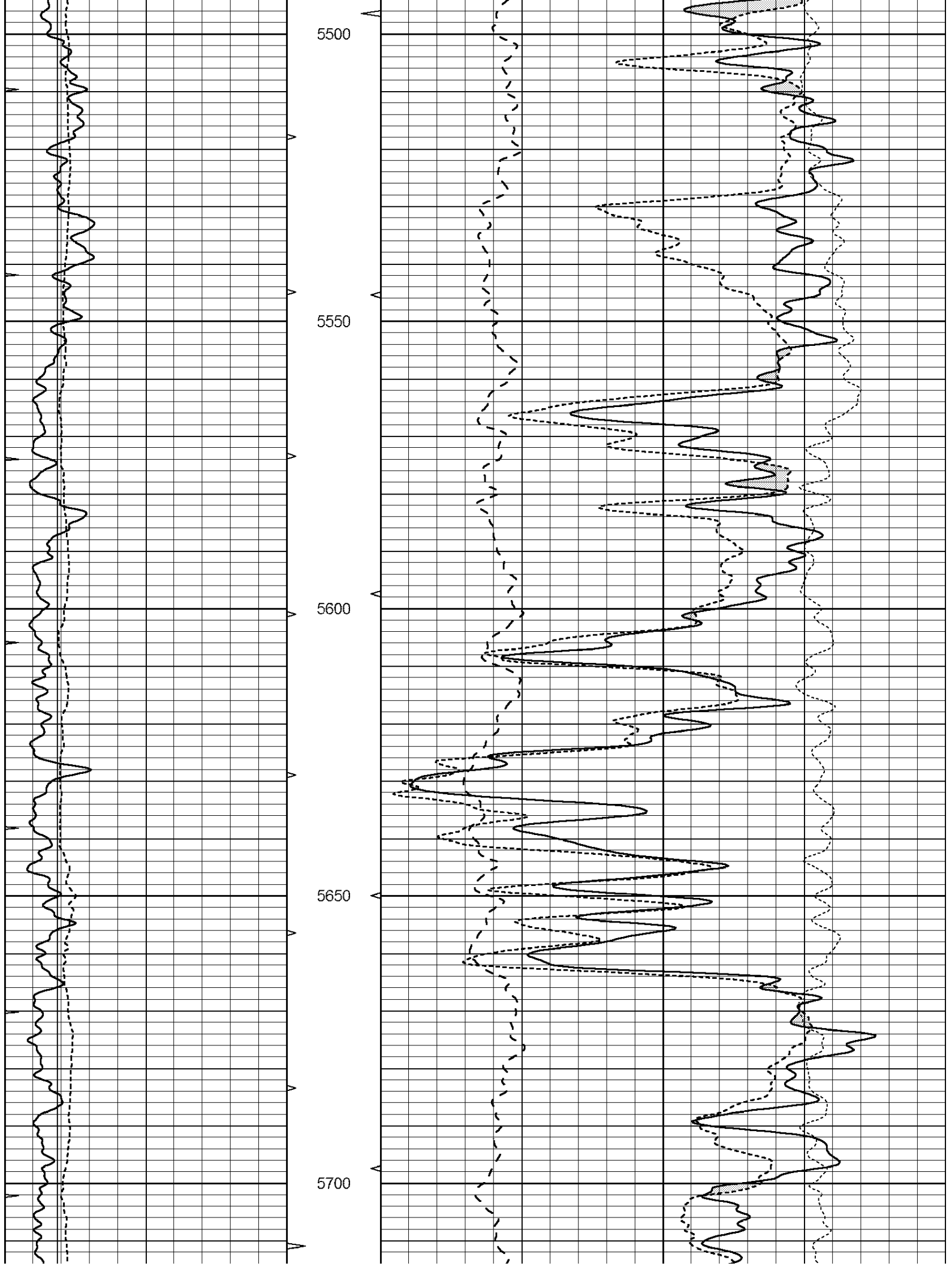
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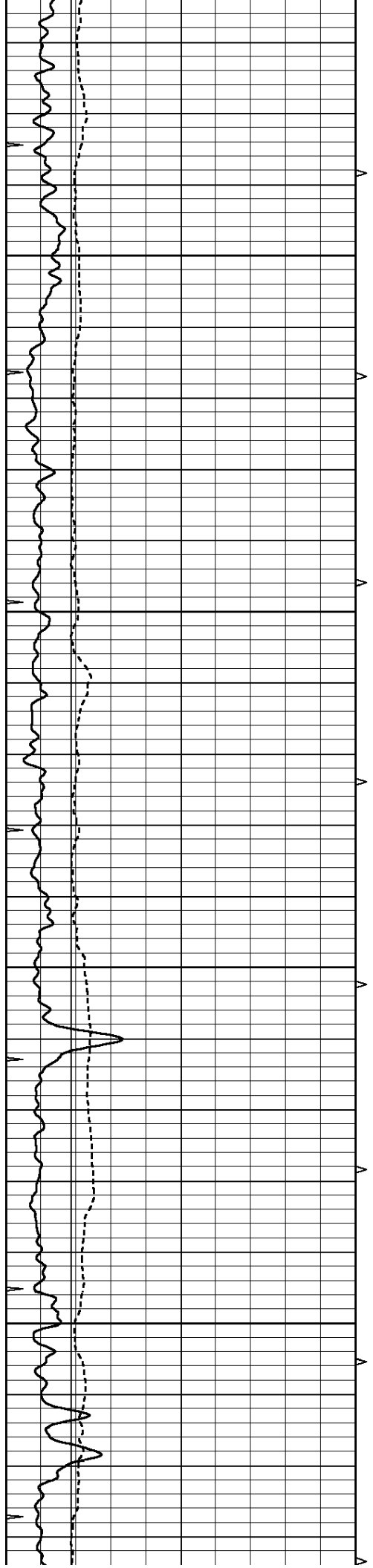
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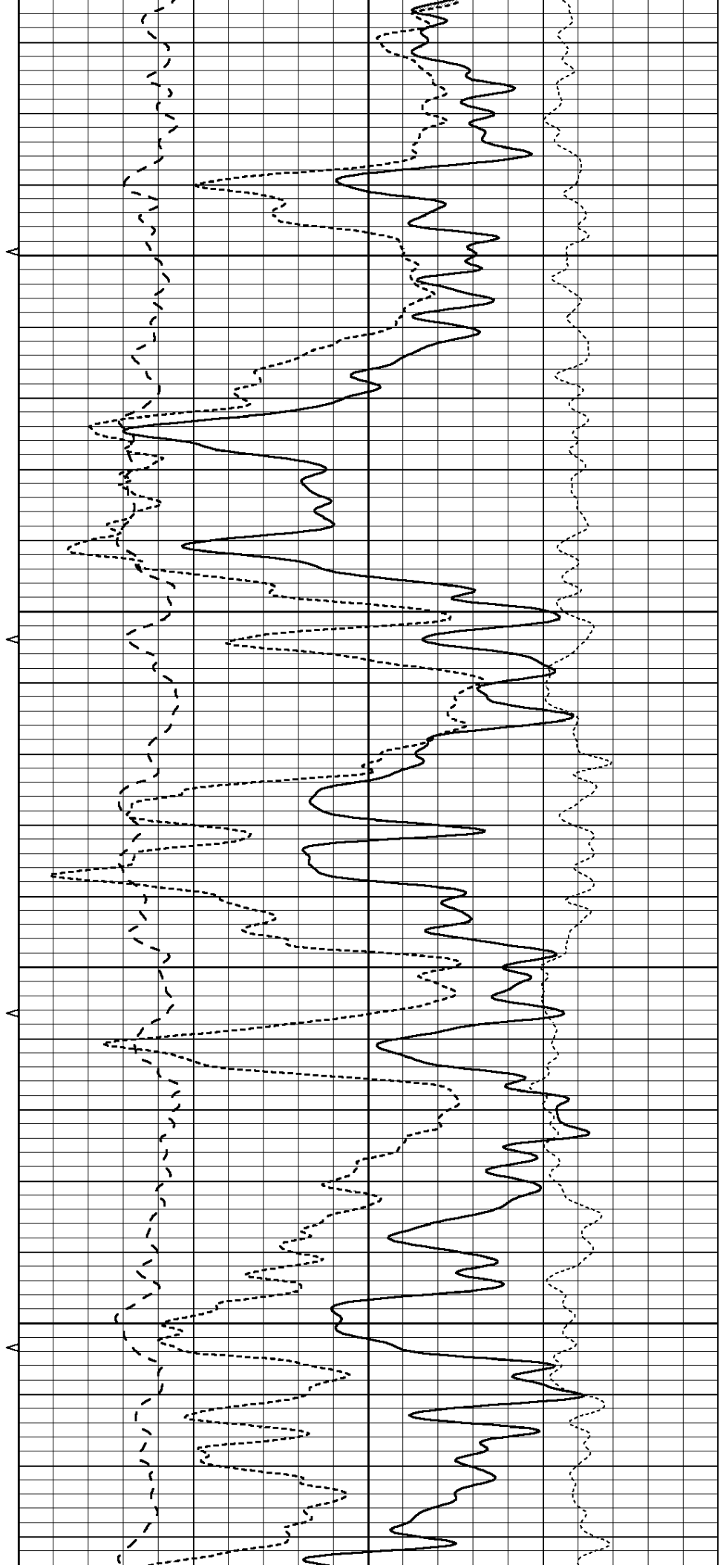


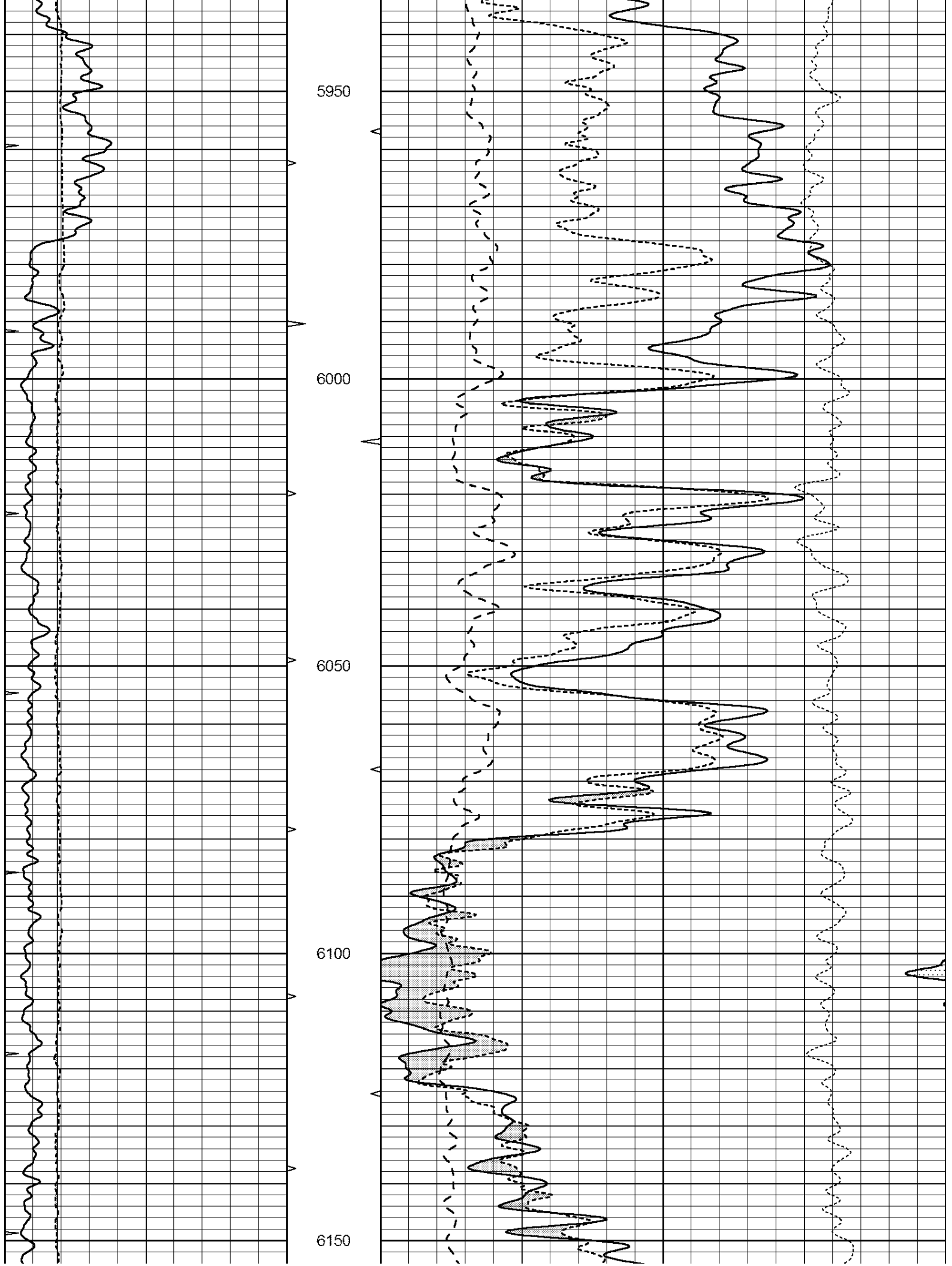
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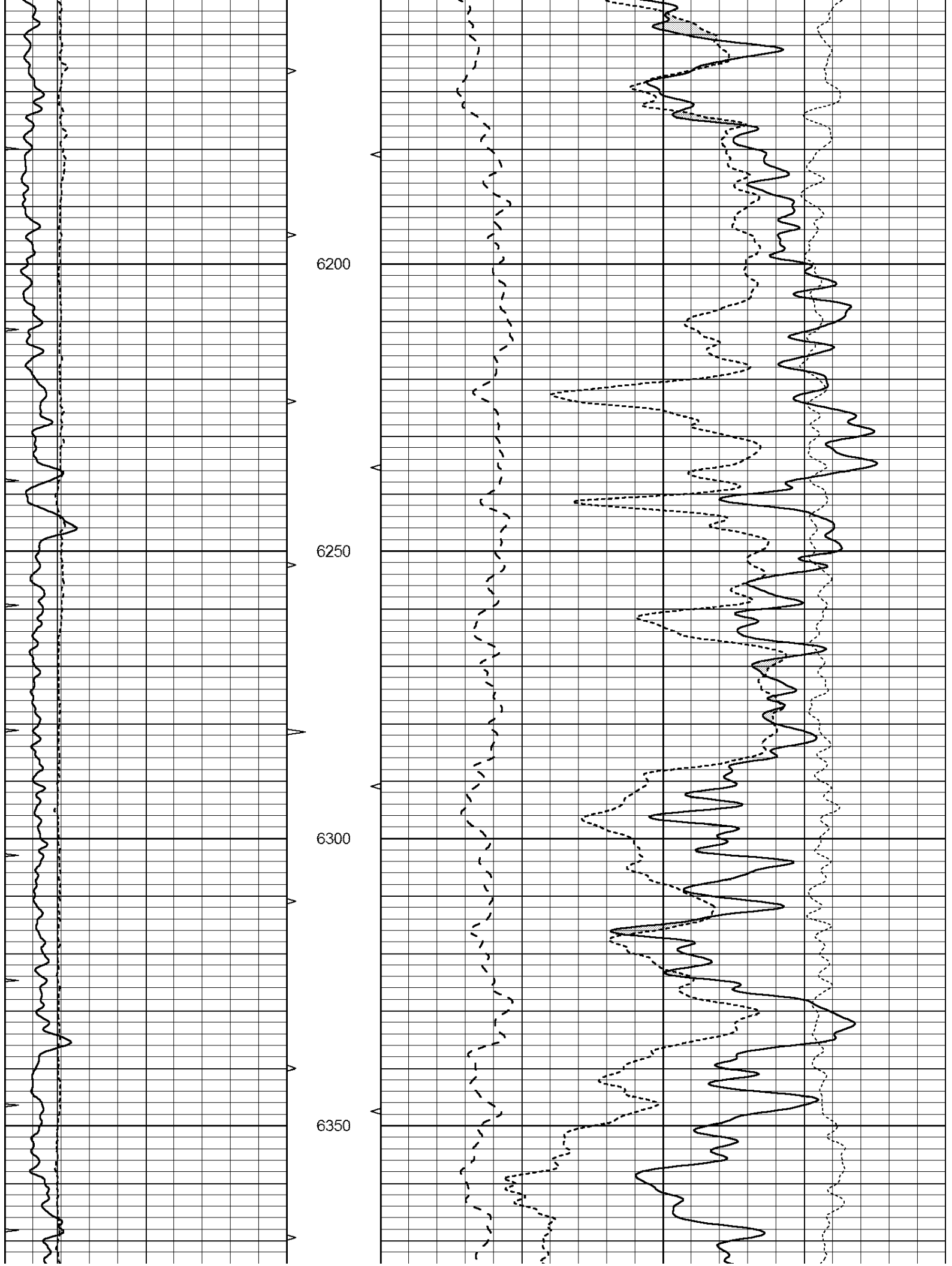
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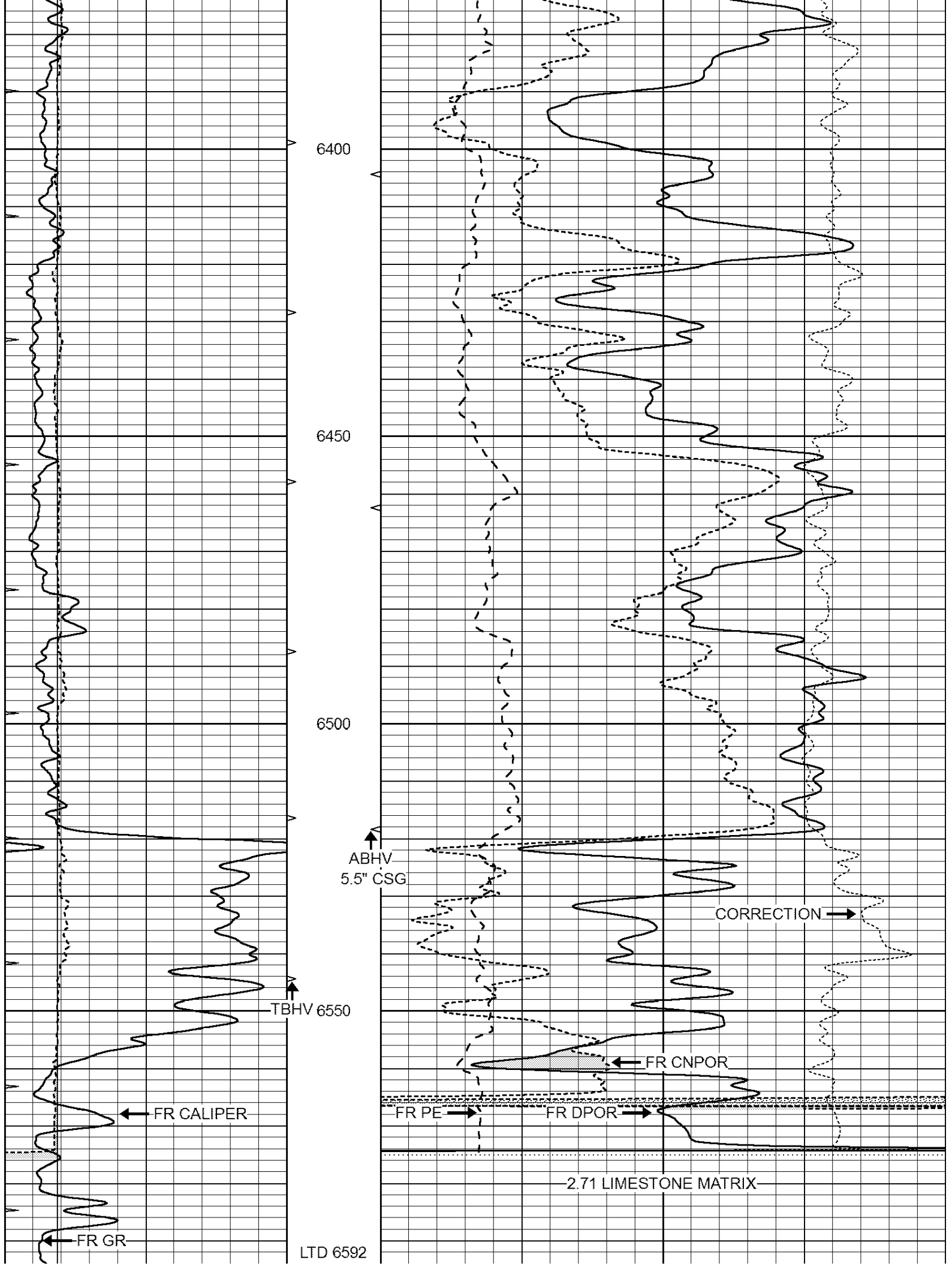
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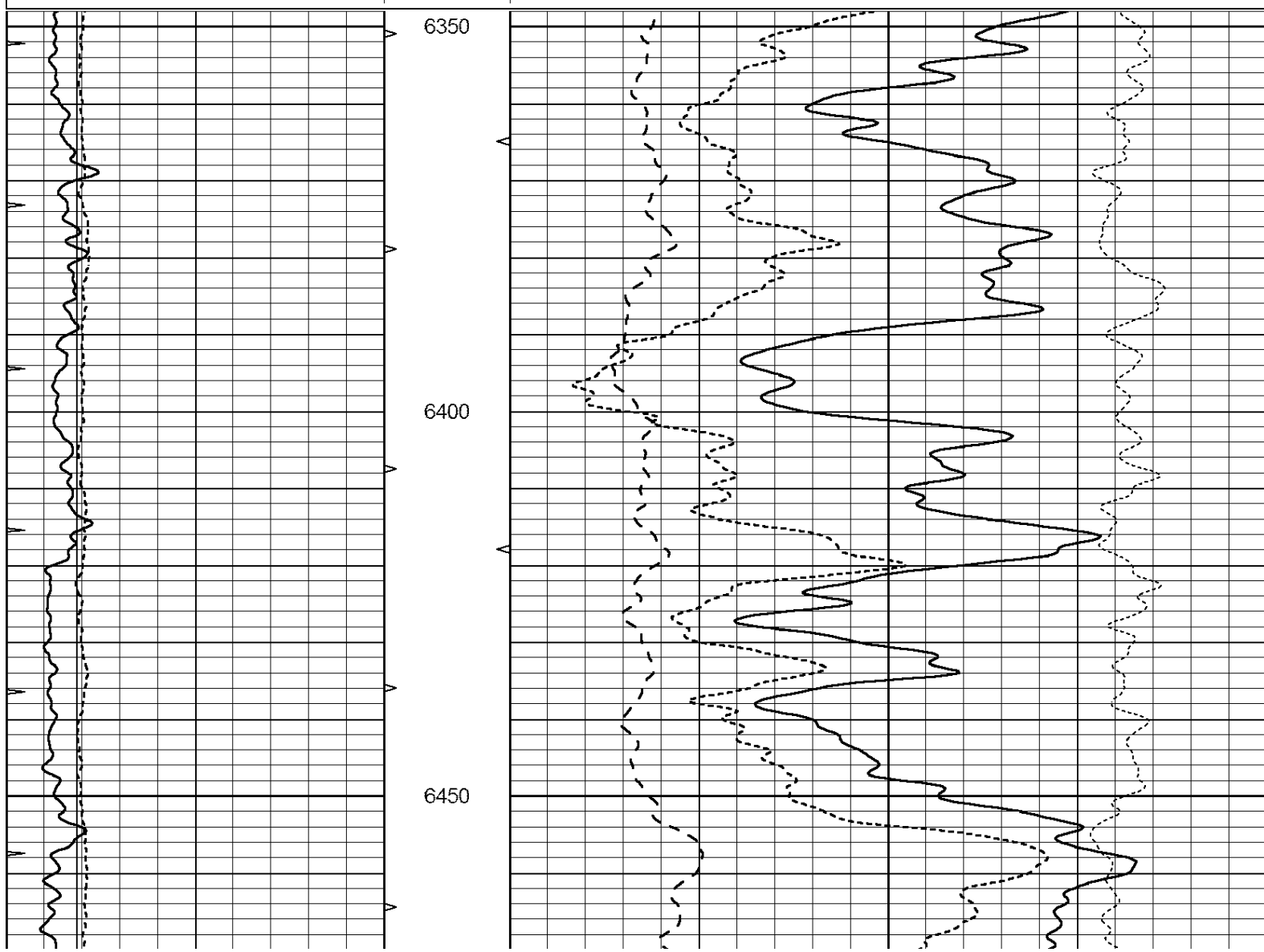
			6600											
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)								-10	
6	CALIPER (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)								-10
0	MINMK	20	TBHV	0	PE	10	-0.25	CORRECTION (g/cc)						0.25
			0 (ft3)	10										

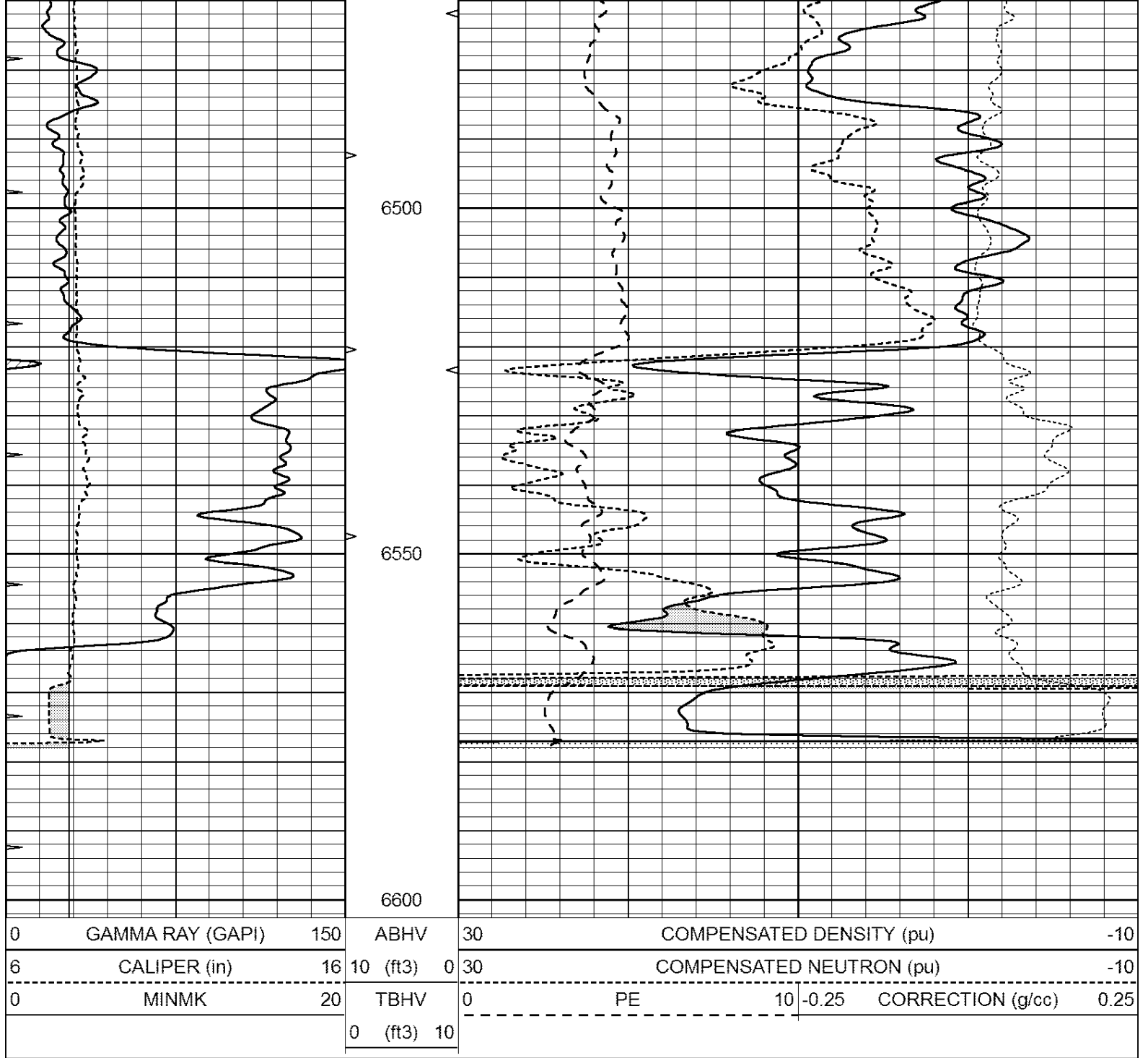


REPEAT SECTION

Database File: 24001pe.db
 Dataset Pathname: pass2.6
 Presentation Format: _ldt_neu
 Dataset Creation: Tue Feb 25 15:38:56 2014
 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: 24001pe.db
 Dataset Pathname: pass3.8
 Dataset Creation: Tue Feb 25 16:30:49 2014

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

Loop:	Readings			References			Results	
	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		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		
Litho Density Calibration Report								
Serial: 001 Model: PRB								
Master Calibration			Performed Thu Sep 17 09:57:21 2009					
	Background	Magnesium		Aluminum		Sandstone		
Window 1	2056.0	9796.8		3673.1		10821.3		cps
Window 2	1920.0	8541.1		3303.5		9307.2		cps
Window 3	1563.1	4735.7		2212.8		5017.5		cps
Window 4	466.0	466.1		465.6		471.5		cps
Long Space	0.0	6621.1		1383.5		7387.2		cps
Short Space	2.5	2361.7		1523.2		2534.0		cps
Rho		1.7100		2.5900		1.3800		g/cc
Pe		0.0000		2.5700		1.5500		
Rib Angle	: 44.4	Rib Slope	: 0.978	Density/Spine Ratio		: 0.541		
Spine Angle	: 74.4	Spine Slope	: 3.570	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 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
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Serial Number:	6l
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		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		
3)	Short Space		cps			
	Long Space		cps	pu		

POST-SURVEY VERIFICATION						
Detector		Readings		Measured		Target
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		pu
3)	Short Space		cps			
	Long Space		cps	pu		pu

Gamma Ray Calibration Report

Serial Number:	GR6	
Tool Model:	OPEN	
Performed:	Fri Nov 29 08:34:37 2013	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.6035	GAPI/cps