



SUPERIOR
Hays,
Kansas

COMPENSATED
DENSITY / NEUTRON
PE LOG

Company HERMAN L. LOEB, LLC.
Well PANNING # 19
Field PRITCHARD NORTH
County BARTON
State KANSAS

Company HERMAN L. LOEB, LLC
Well PANNING # -19
Field PRITCHARD NORTH
County BARTON State KANSAS

Location: API # : 15-009-25655-0000
2306' FSL & 990' FEL
S/2 - NE - NW - SW
SEC 19 TWP 20S RGE 13W
Permanent Datum GROUND LEVEL Elevation 1885
Log Measured From KELLY BUSHING 9' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services DIL/MEL
Elevation
K.B. 1894
D.F. 1892
G.L. 1885

Date	2/18/12		
Run Number	ONE		
Depth Driller	3600		
Depth Logger	3600		
Bottom Logged Interval	3576		
Top Log Interval	1700		
Casing Driller	8 5/8" @ 792'		
Casing Logger	792'		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5500 PPM	
Density / Viscosity	9.2/56		
pH / Fluid Loss	11.5/7.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.00 @ 50F		
Rmt @ Meas. Temp	0.75 @ 50F		
Rmc @ Meas. Temp	1.20 @ 50F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	0.45 @ 112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	112F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF GRONIEWEG		
Witnessed By	JON CHRISTENSEN		

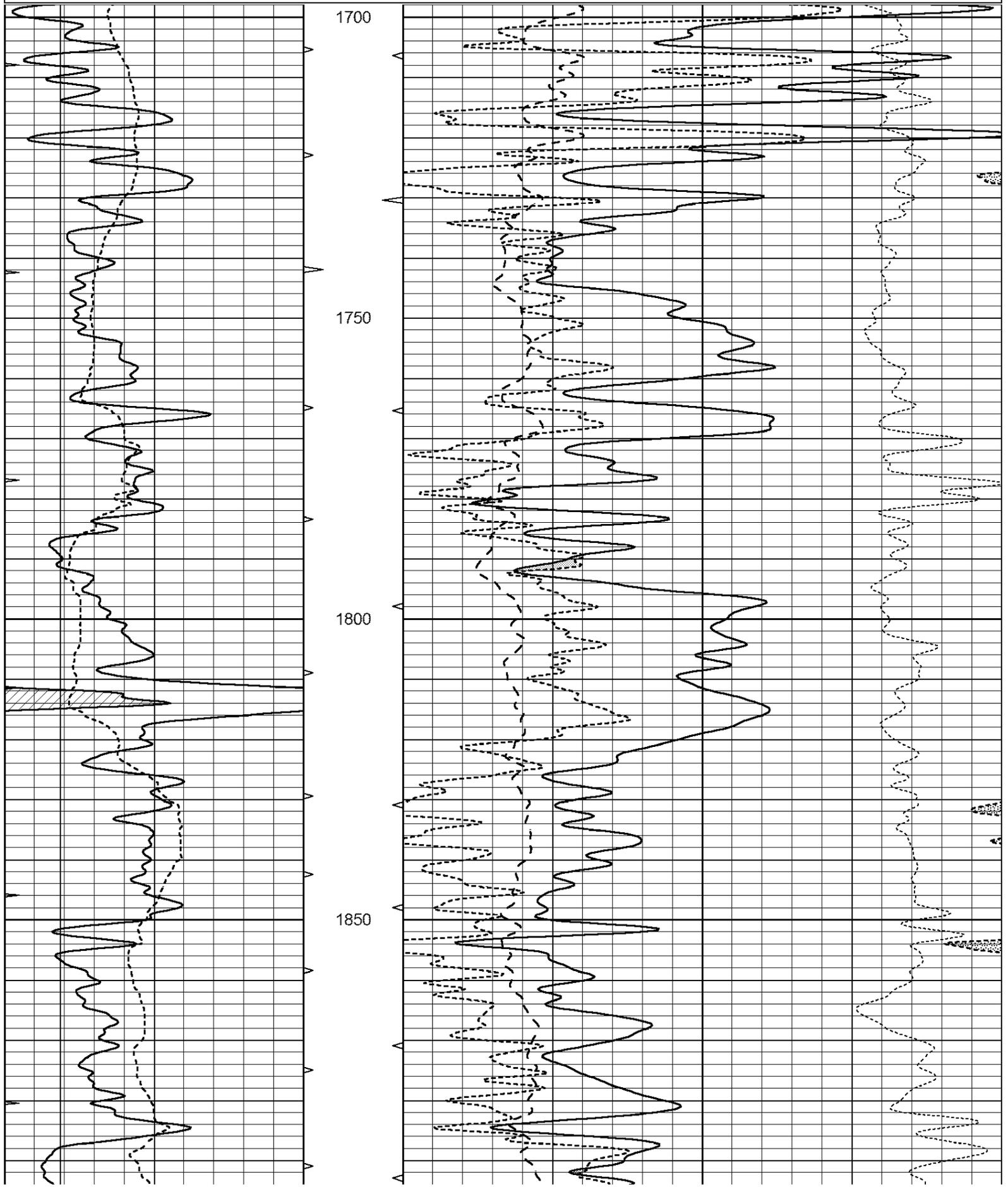
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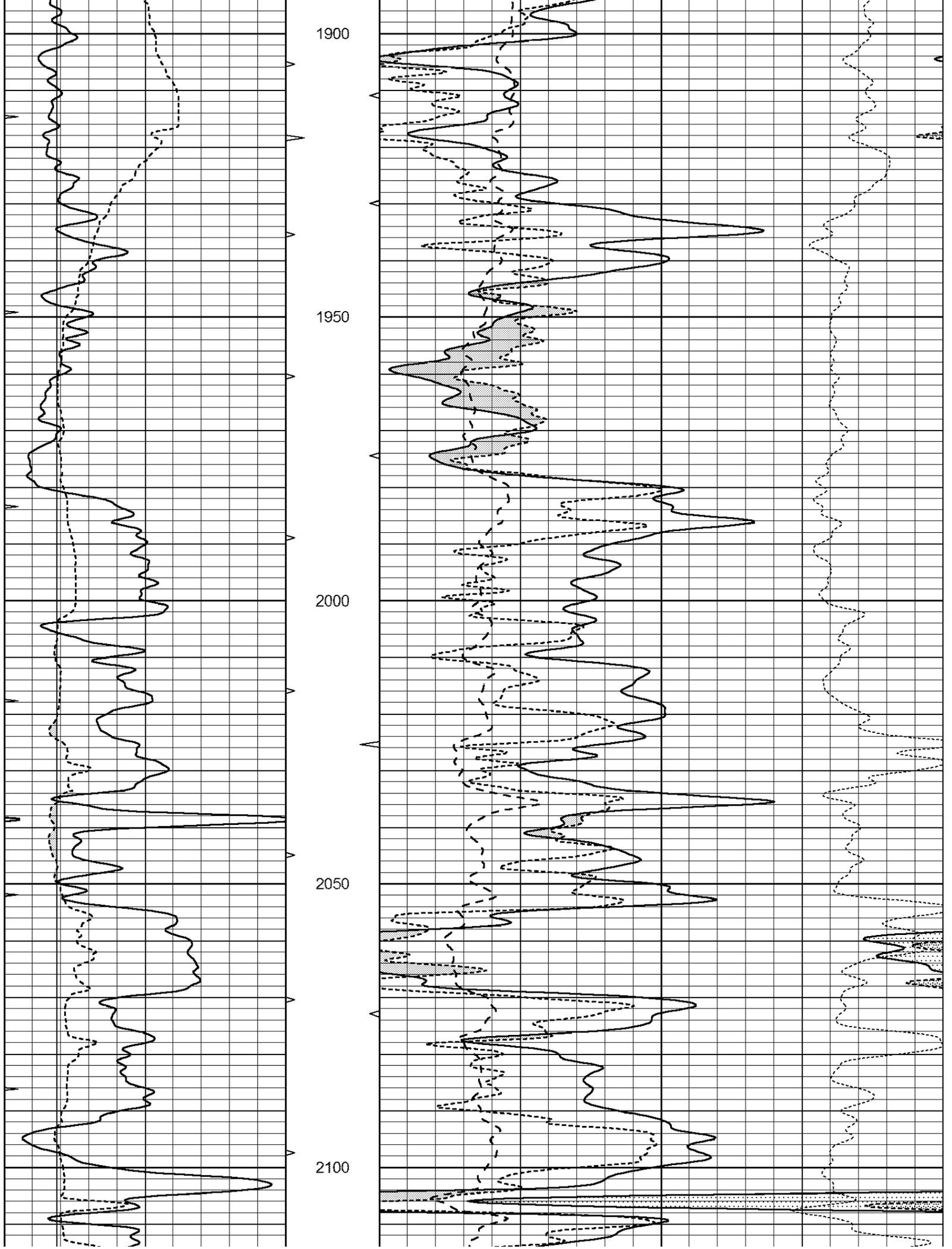
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

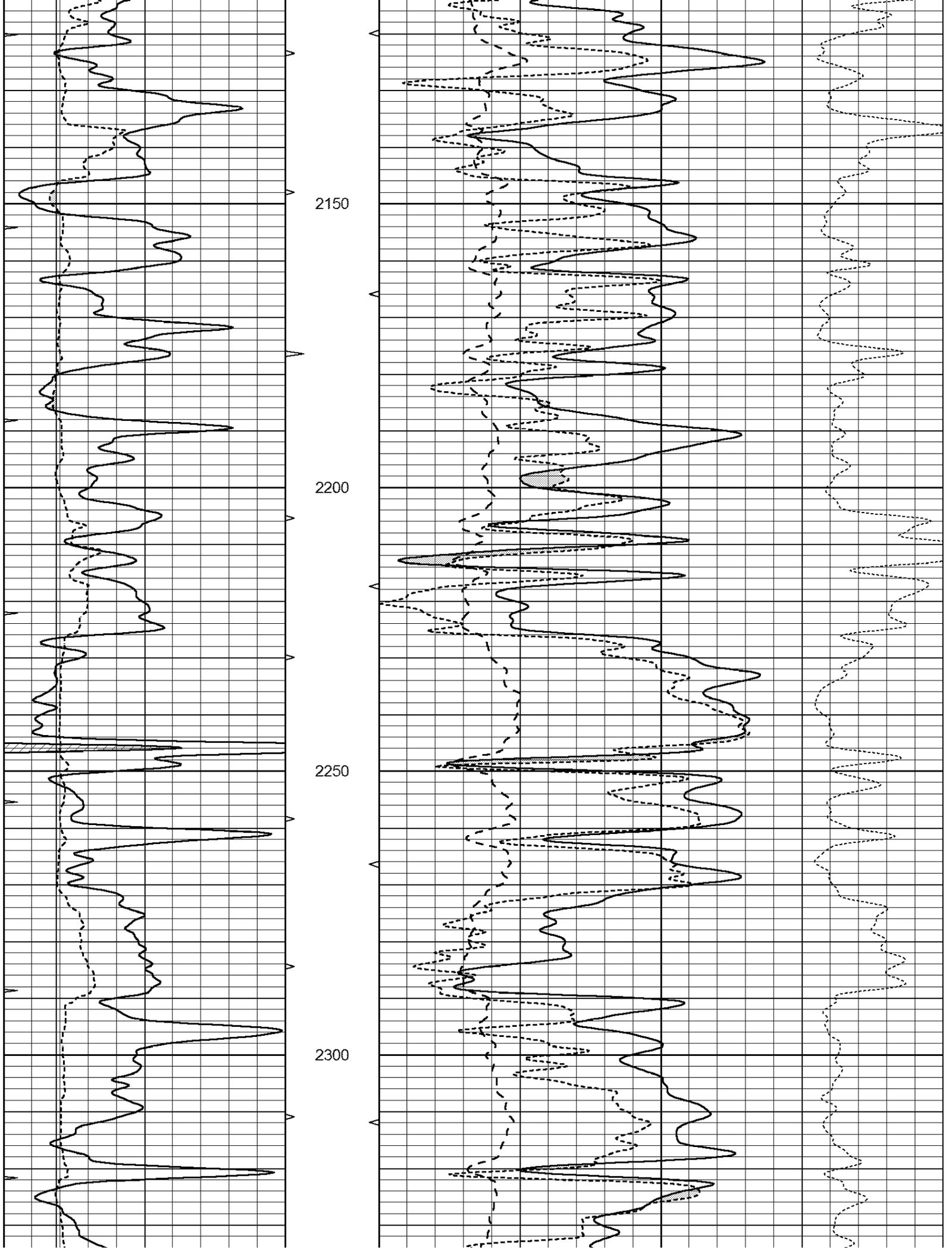
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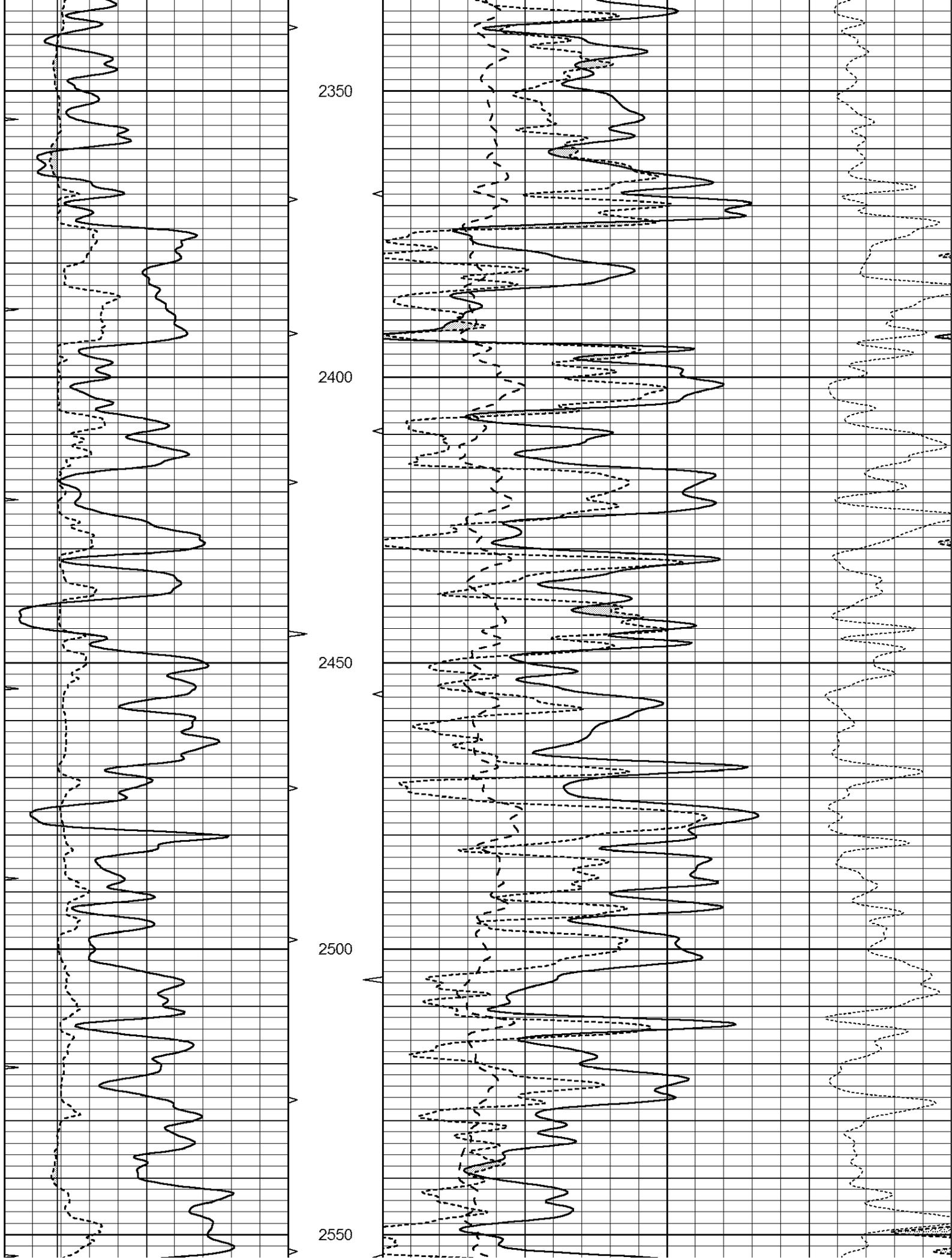
THANK YOU FOR USING SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395
DIRECTIONS
GREAT BEND, KS - 5 MILES SOUTH ON HWY 281 TO RD 50
3 MILES WEST TO RD 20 - 1/2 MILE NORTH - EAST INTO

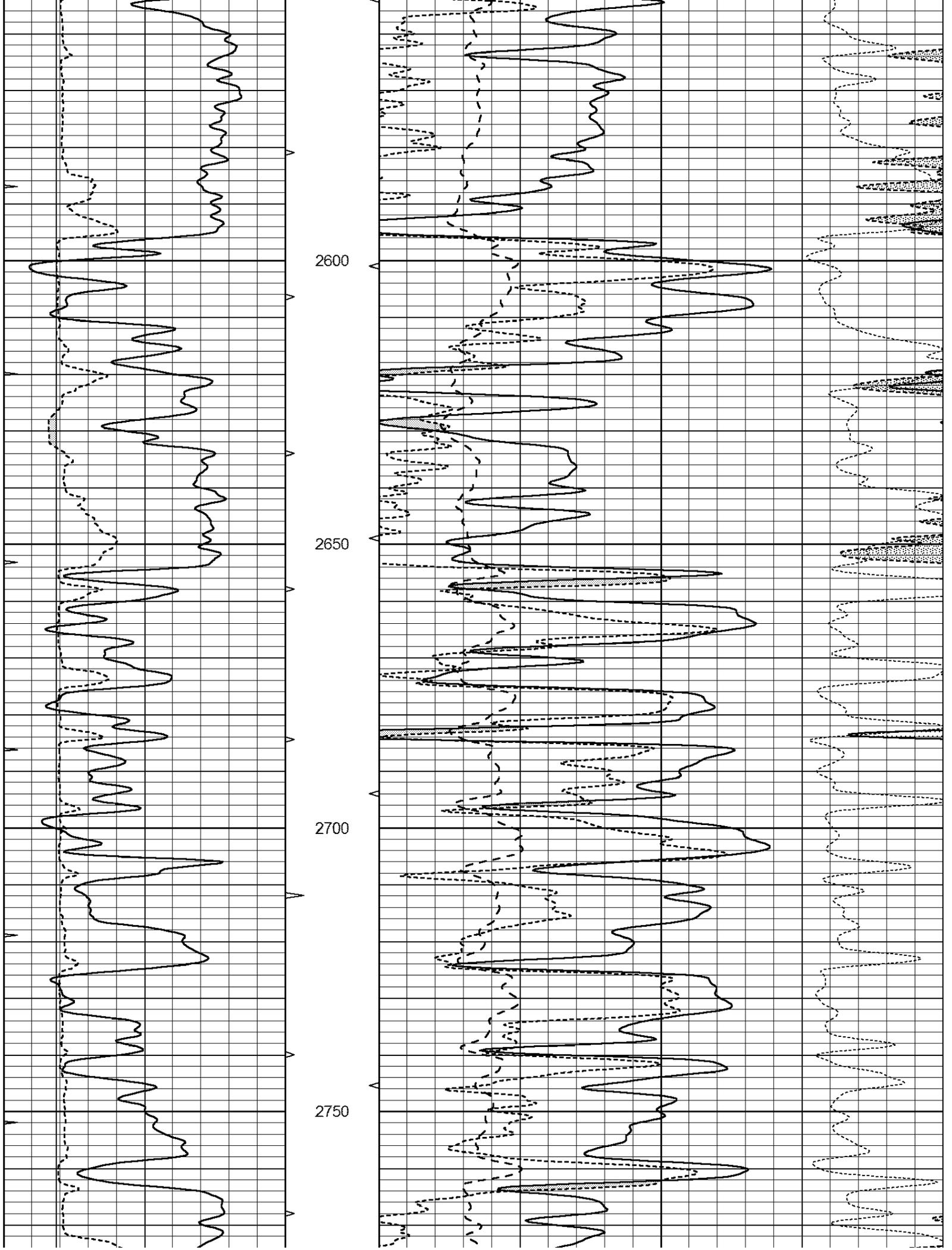
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)			-10	
6	CALIPER (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)			-10
0	MINMK	20	TBHV	0	PE	10	-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10					

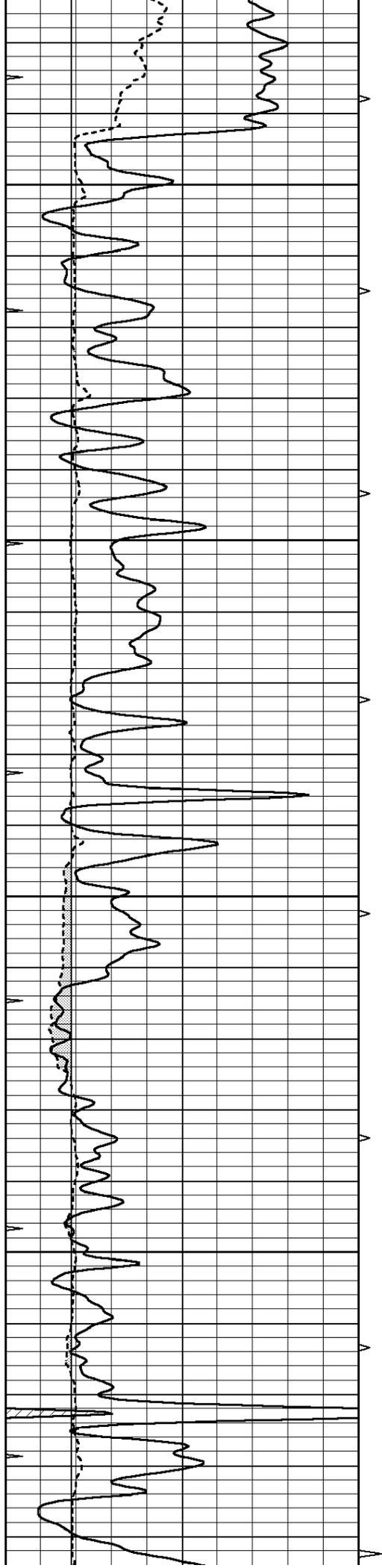










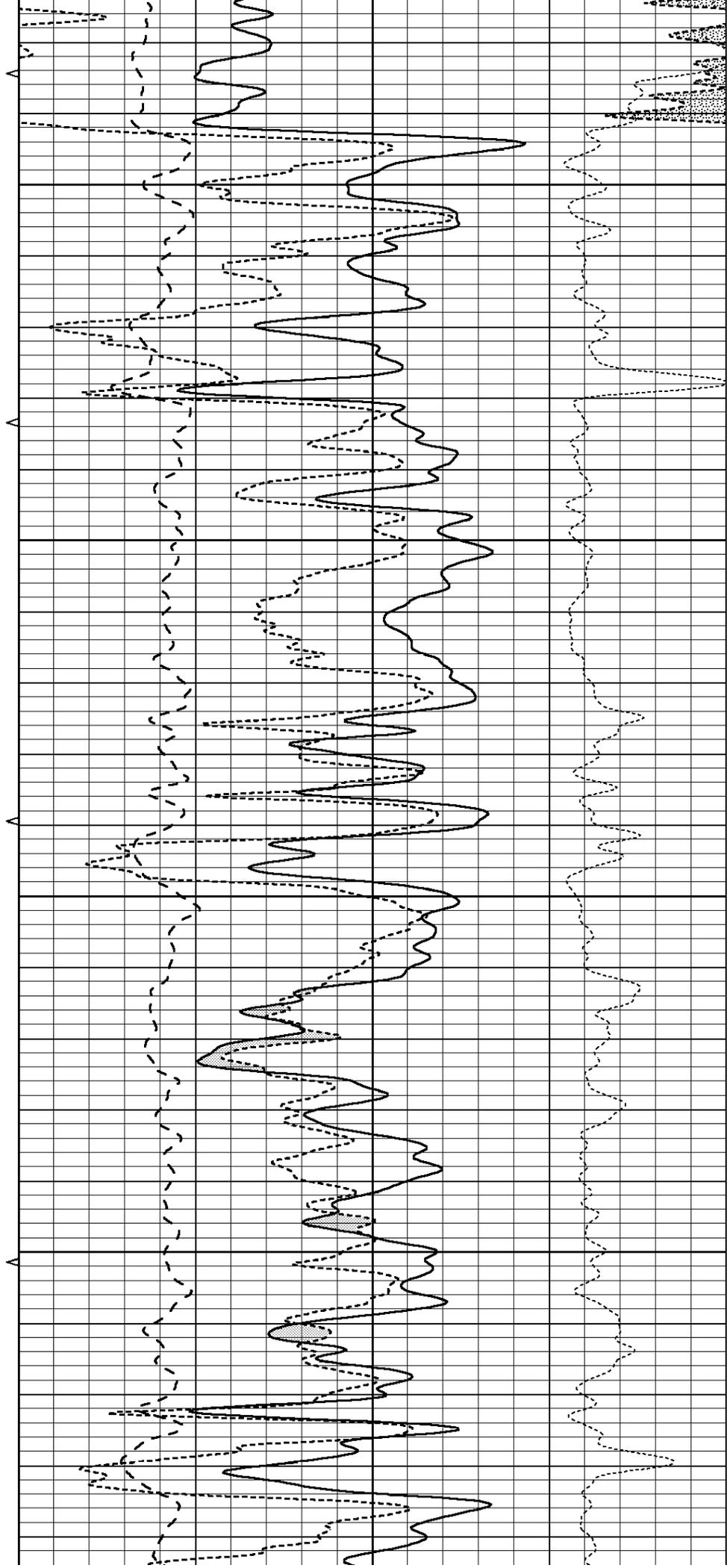


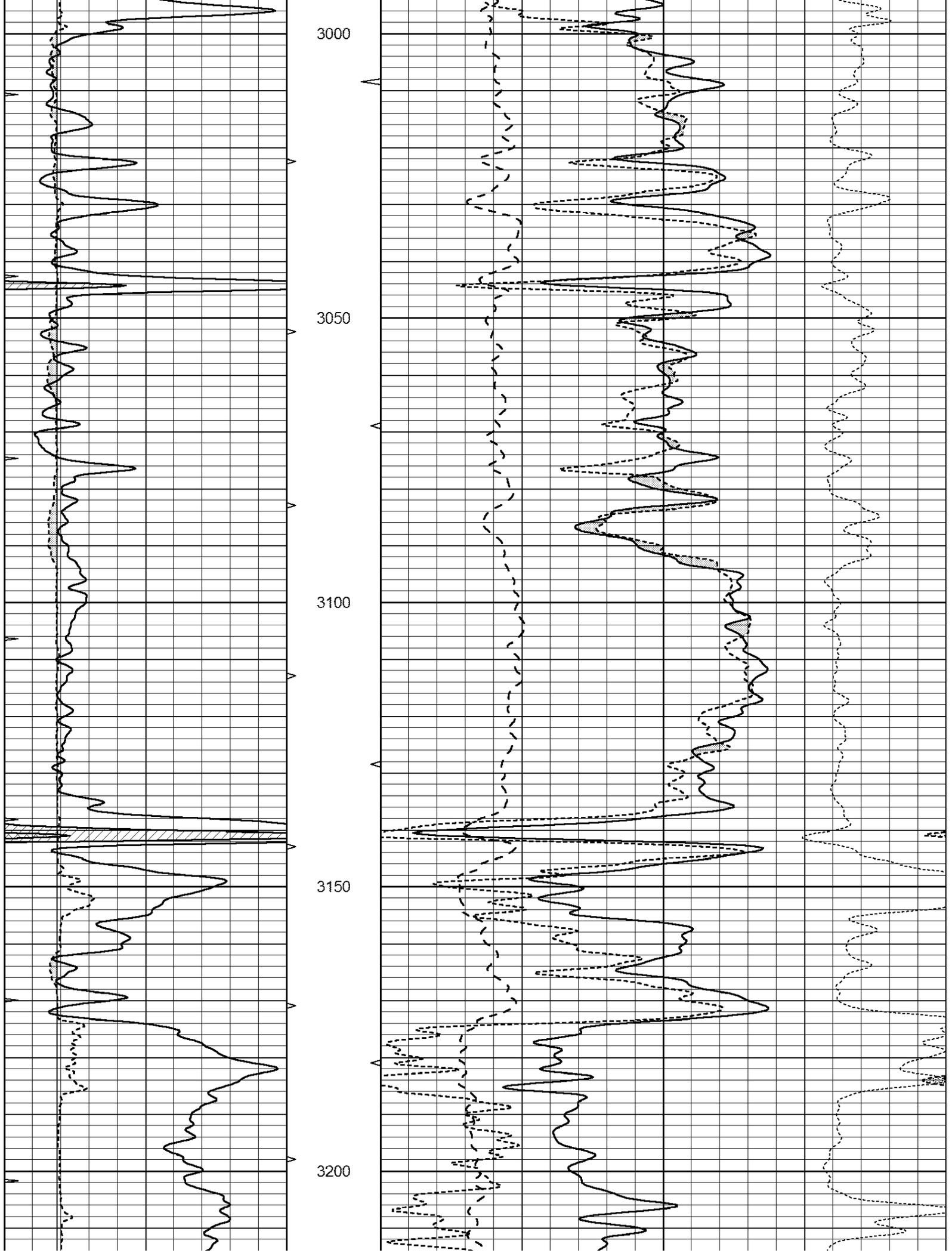
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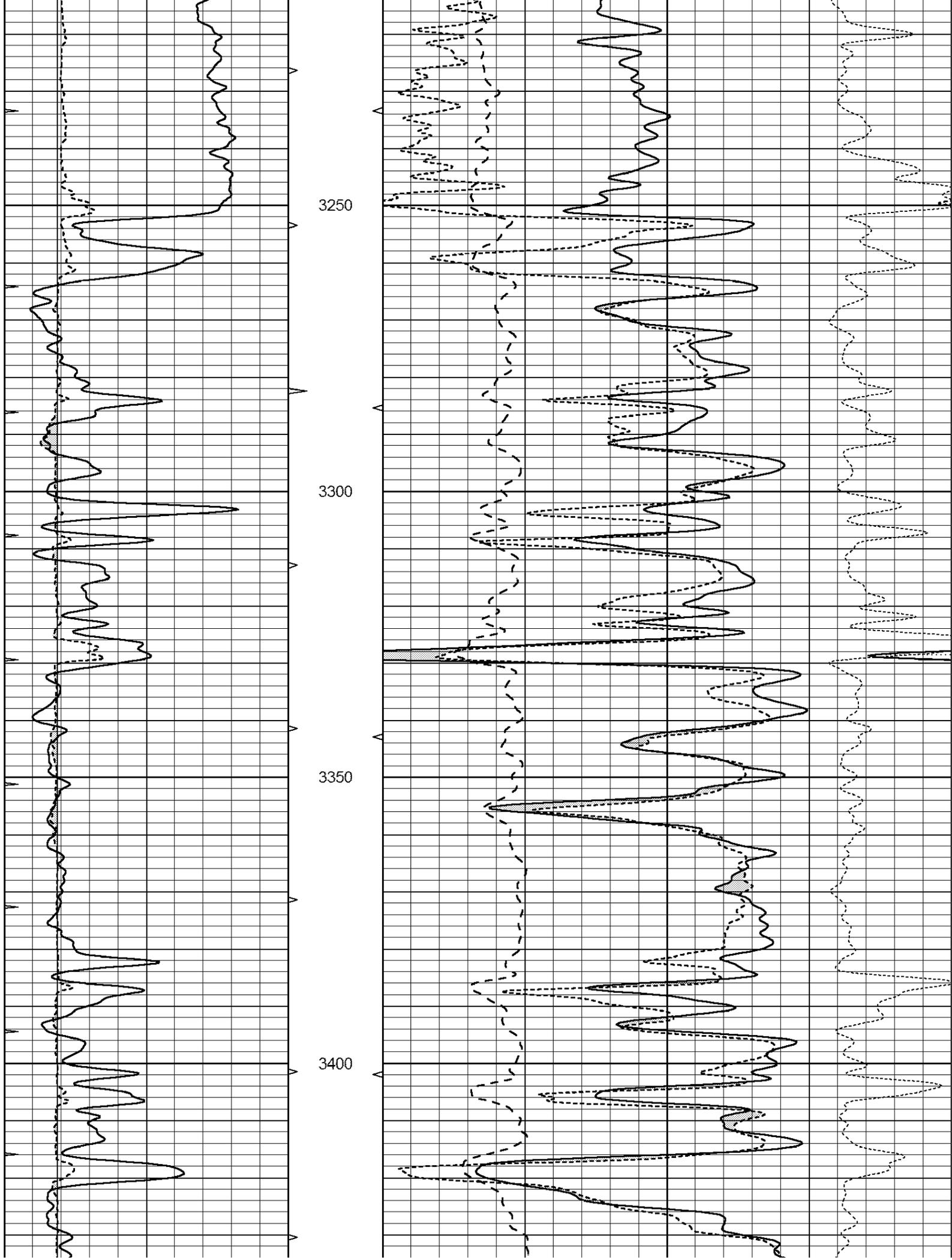
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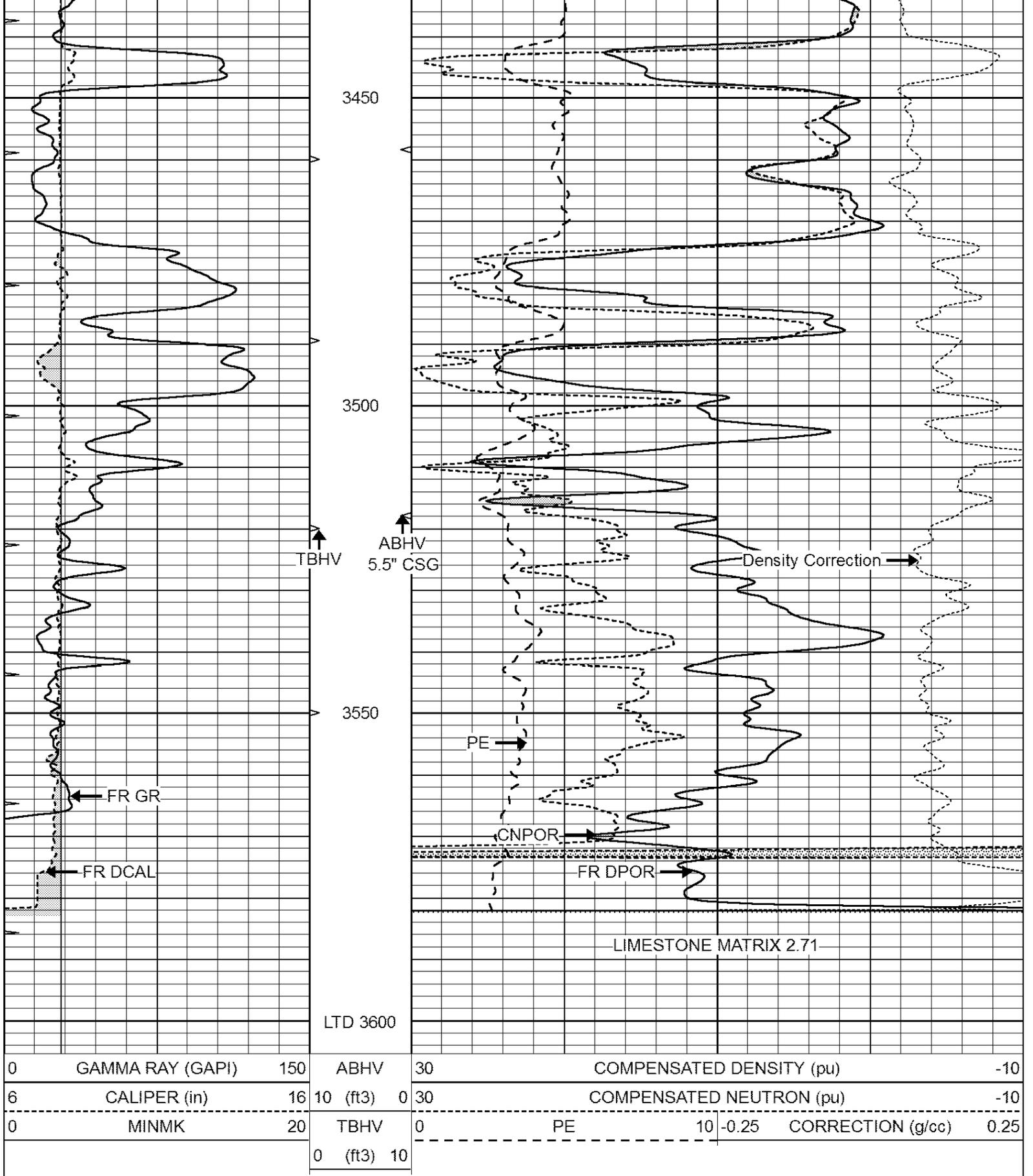
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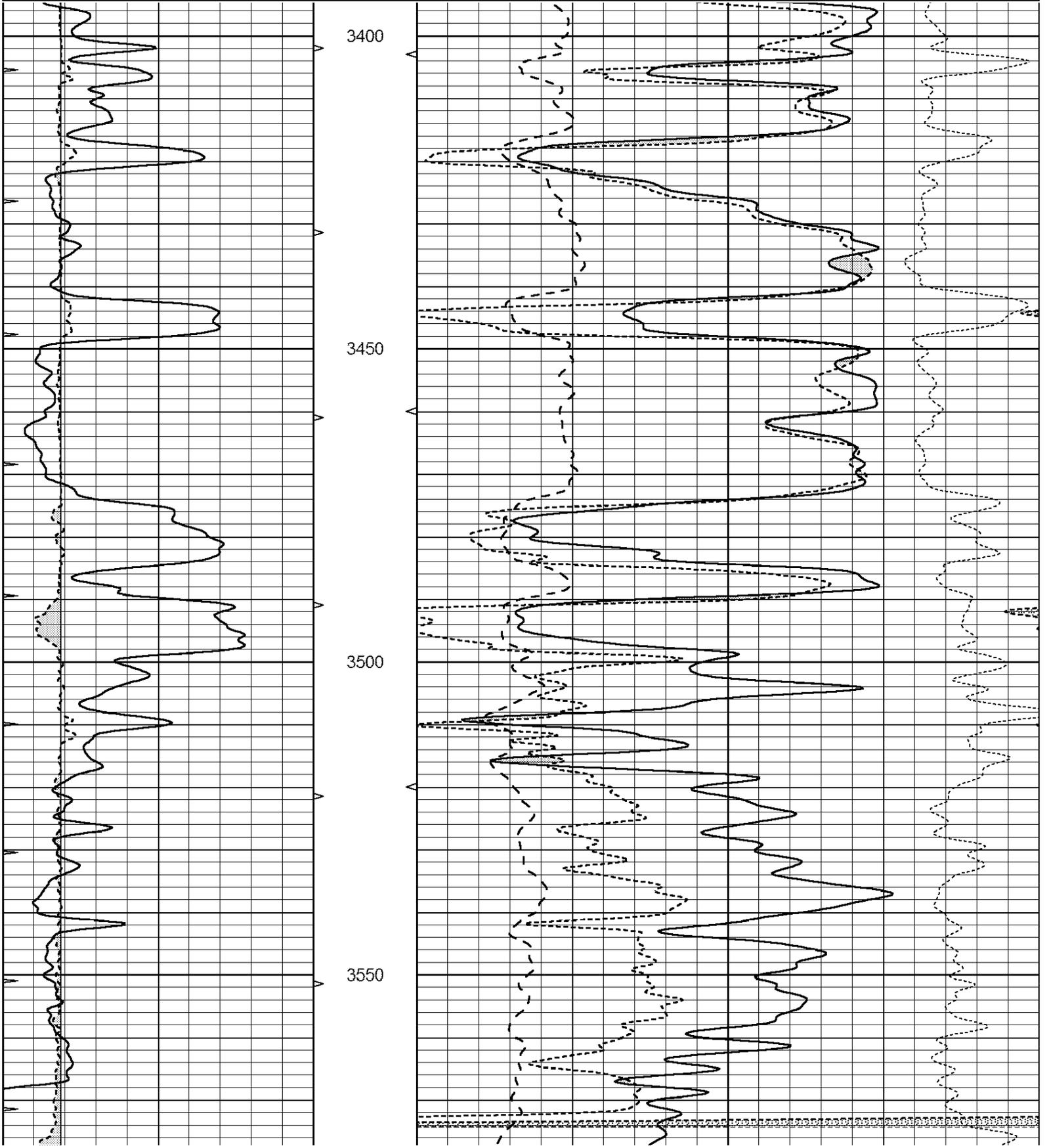


SUPERIOR
Hays,
Kansas

REPEAT SECTION

Database File: 00800zpe.db
 Dataset Pathname: pass2.4
 Presentation Format: _ldt_neu
 Dataset Creation: Sat Feb 18 10:31:30 2012 by Calc Open-Cased 110302
 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		



			3600						
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: 008602pe.db
 Dataset Pathname: pass3.1
 Dataset Creation: Sat Feb 18 11:33:21 2012 by Calc Open-Cased 110302

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
 Performed: Fri Feb 10 19:56:08 2012

Loop:	Readings				References		Results	
	Air	Loop			Air	Loop	m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	640.000	10.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	700.000	-3.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.002	0.645	V	0.000	400.000	mmho/m	622.059	-1.071
Medium	0.007	0.740	V	0.000	462.500	mmho/m	631.393	-4.555

Litho Density Calibration Report

Serial: 006 Model: PRB
 Performed Sun Aug 15 09:48:41 2010

Litho Density Calibration

	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			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

Caliper

	Readings	Reference	
Low Ref	4.0	8.3	
High Ref	5.9	15.0	
	Gain: 3.5		Offset: -5.5

Compensated Neutron Calibration Report

Serial Number: 070808

Serial Number:
Tool Model:

070559
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:	070559	
Tool Model:	OPEN_GR	
Performed:	Tue Feb 14 15:29:38 2012	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.3000	GAPI/cps