

**COMPENSATED
DENSITY/NEUTRON
LOG**

Company BLACK STONE PETROLEUM, LLC
 Well MOORE #1
 Field OTIS-ALBERT
 County RUSH
 State KANSAS

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 Well MOORE #1
 Field OTIS-ALBERT
 County RUSH State KANSAS

Location: API # : 15-165-22154-00-00
 1270' FNL & 1310' FWL
 SEC 25 TWP 18S RGE 16W
 Permanent Datum GROUND LEVEL Elevation 1928'
 Log Measured From KELLY BUSHING 10' A.G.L.
 Drilling Measured From KELLY BUSHING
 Other Services
 DIL/MEL
 SONIC
 Elevation
 K.B. 1938
 D.F. 1936
 G.L. 1928

Date	12/11/17		
Run Number	ONE		
Depth Driller	3571		
Depth Logger	3570		
Bottom Logged Interval	3568		
Top Log Interval	1400		
Casing Driller	8 5/8" @ 1362		
Casing Logger	1362		
Bit Size	8 3/4"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 50000 PPM	
Density / Viscosity	9.2/50		
pH / Fluid Loss	10.8/6.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.80@57		
Rmt @ Meas. Temp	.60@57		
Rmc @ Meas. Temp	.96@57		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	.40@112		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	////		
Maximum Recorded Temperature	112F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	GUS PFANENSTIEL		
Witnessed By	KEATON JONES		

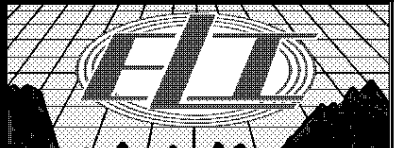
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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on 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 ELI WIRELINE, HAYS, KS. (785) 628-6395

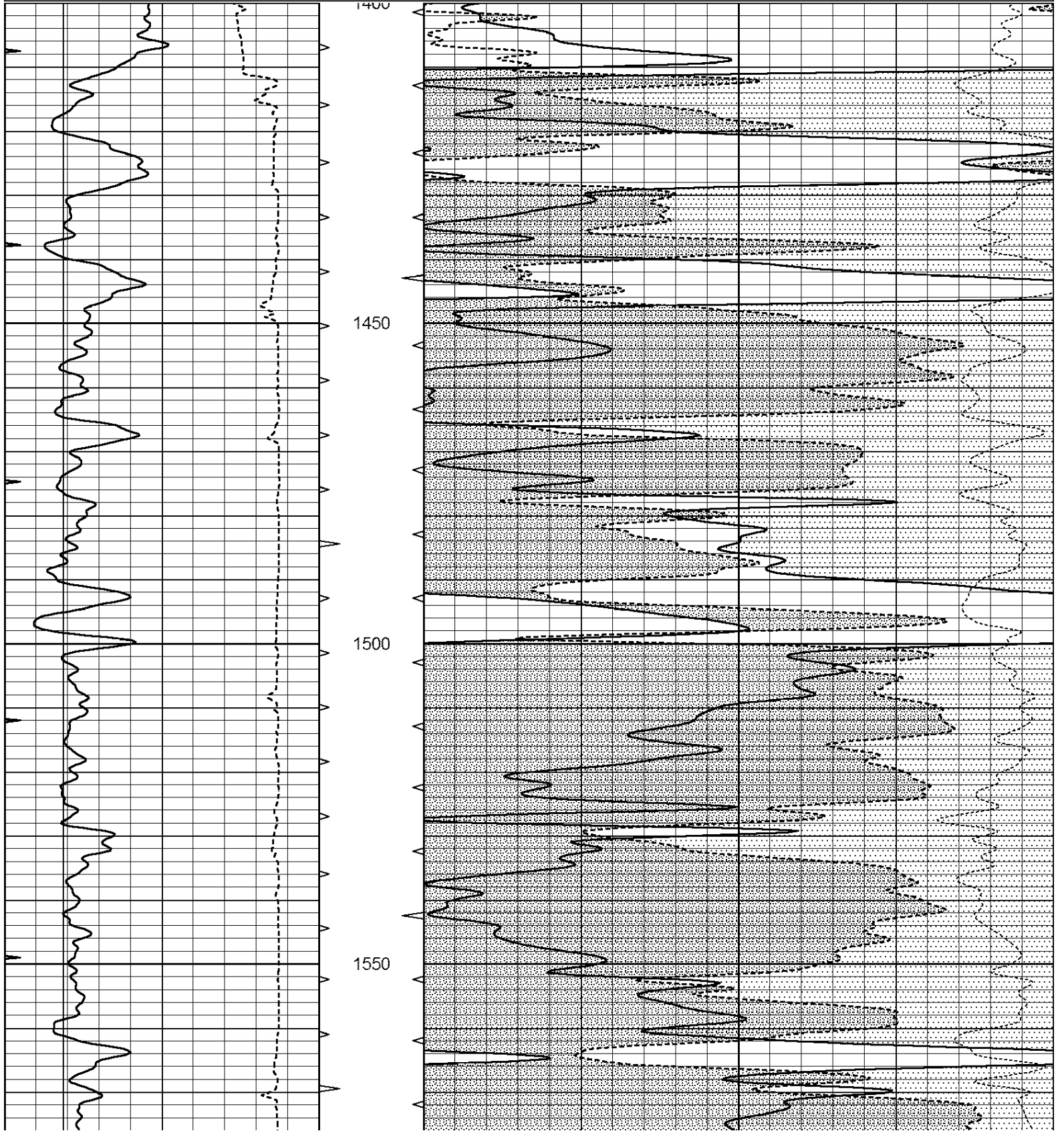
DIRECTIONS
 96 HIGHWAY OUT OF RUSH CENTER EAST TO 390
 GO PAST 200 YRDS NORTH INTO.

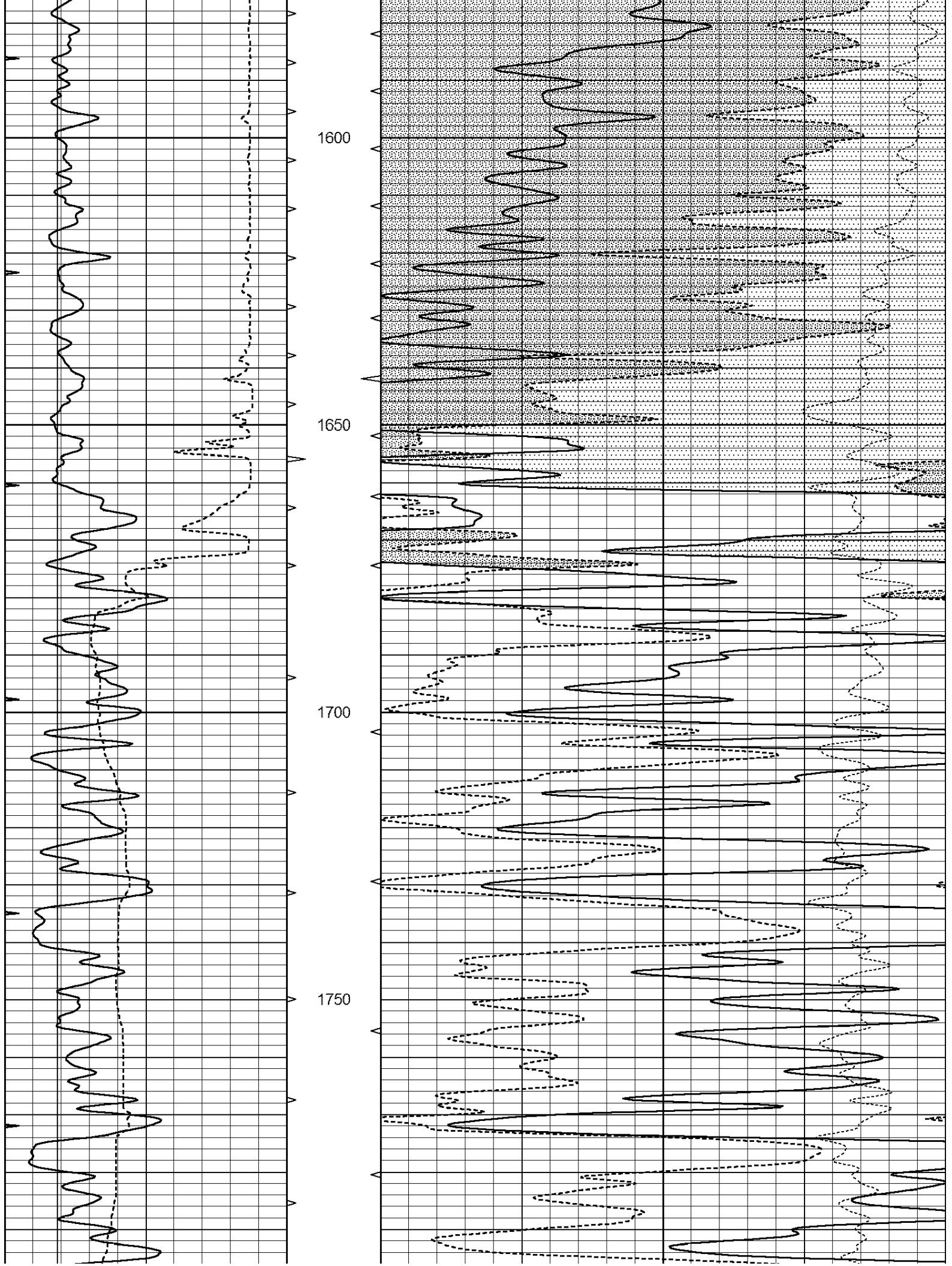


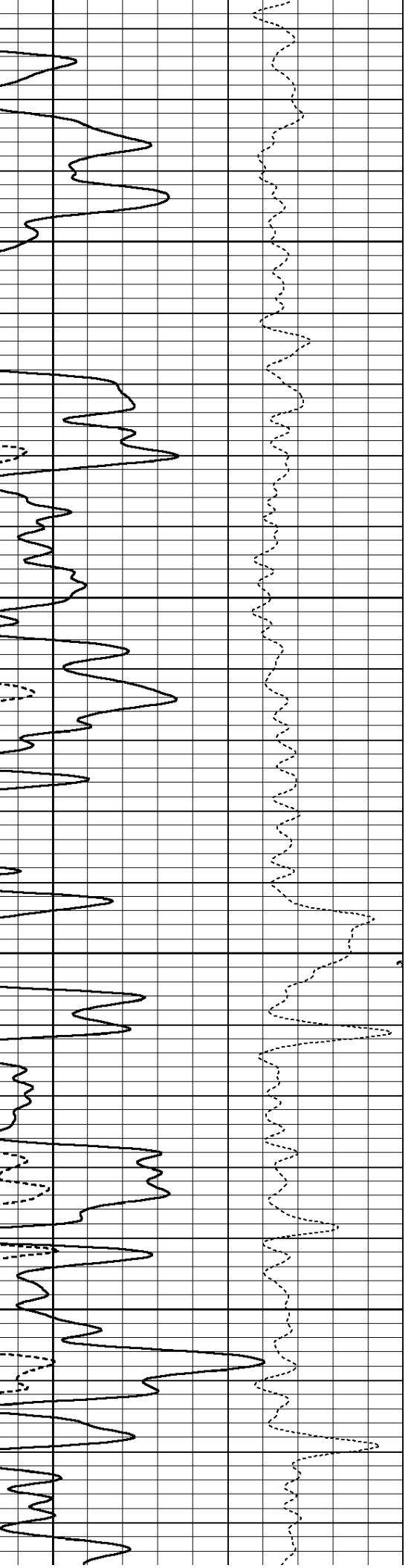
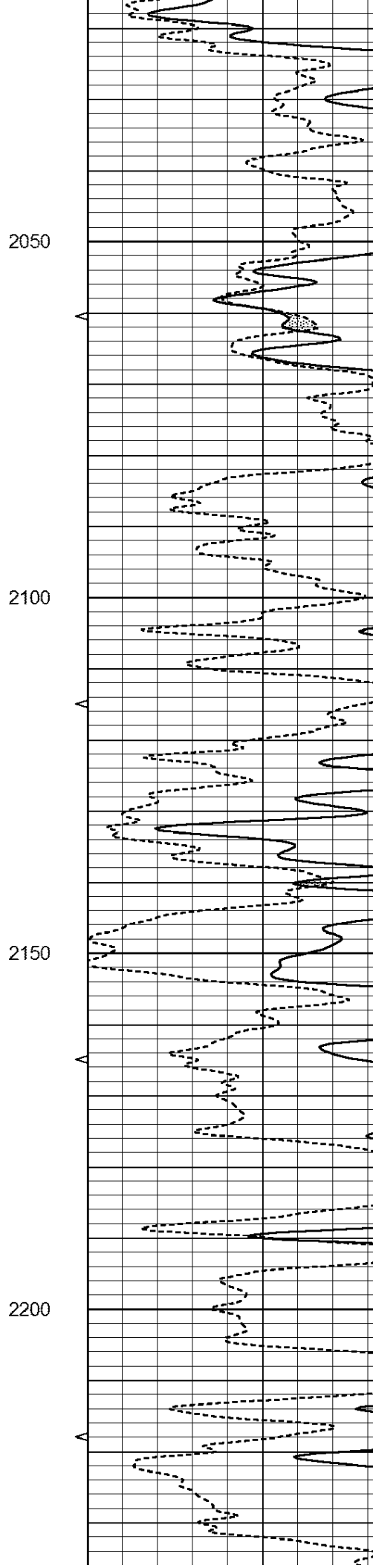
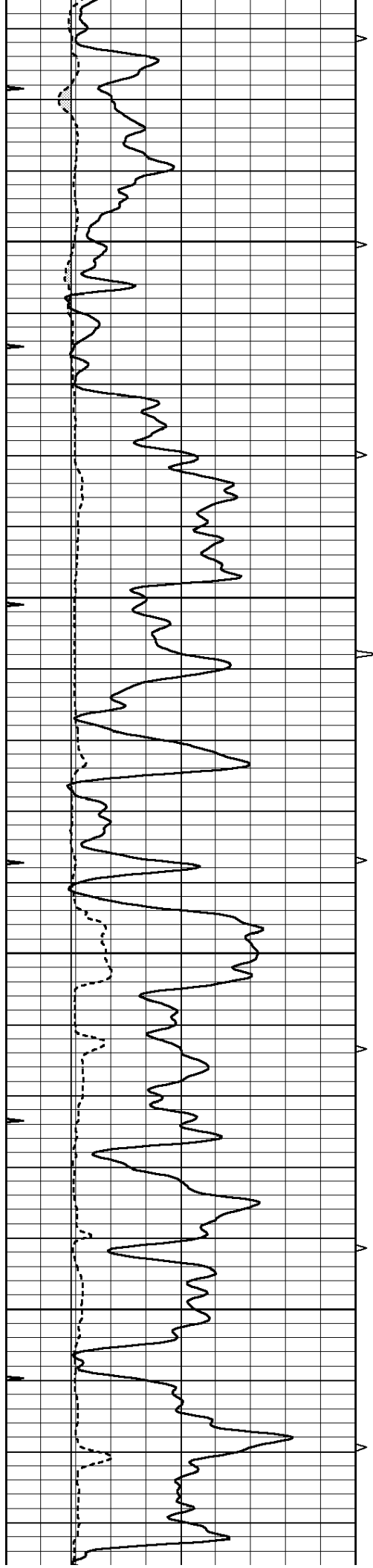
MAIN PASS

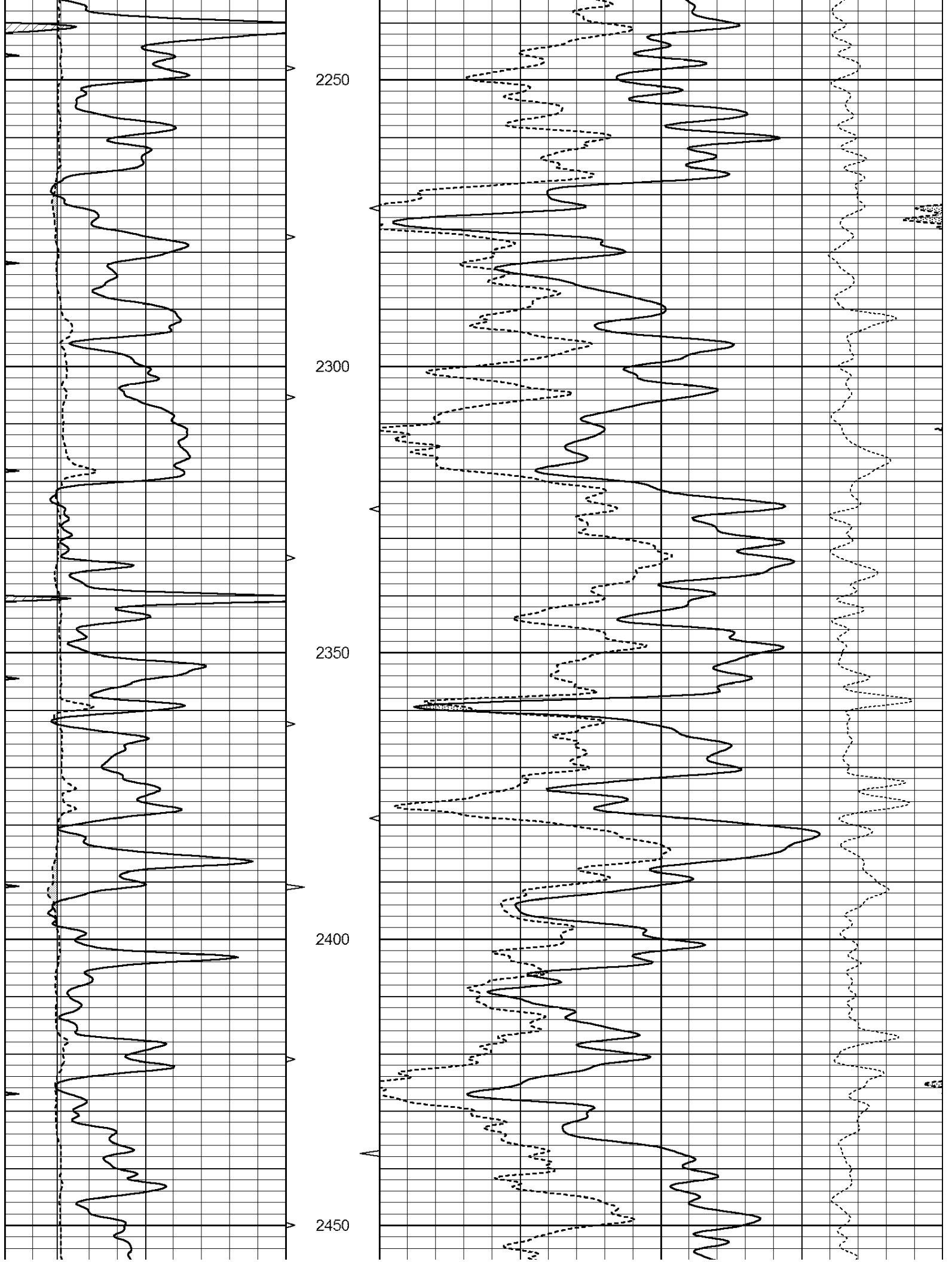
Database File: 2117ddn.db
 Dataset Pathname: pass4.1
 Presentation Format: den_neu
 Dataset Creation: Mon Dec 11 05:47:35 2017
 Charted by: Depth in Feet scaled 1:240

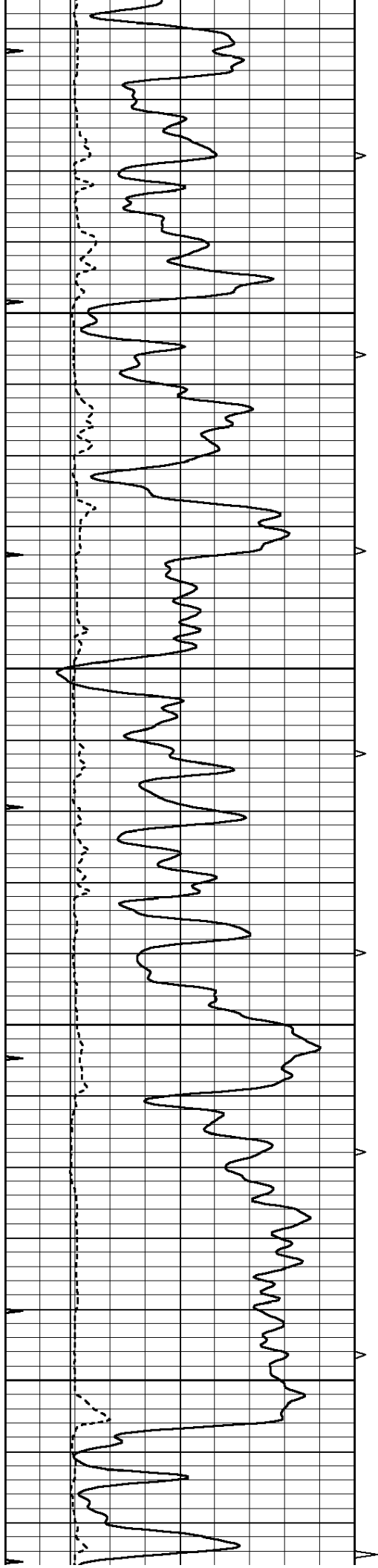
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	10 (ft3)	0 30	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV		-0.25 CORRECTION (g/cc)	0.25
			0 (ft3)	10		









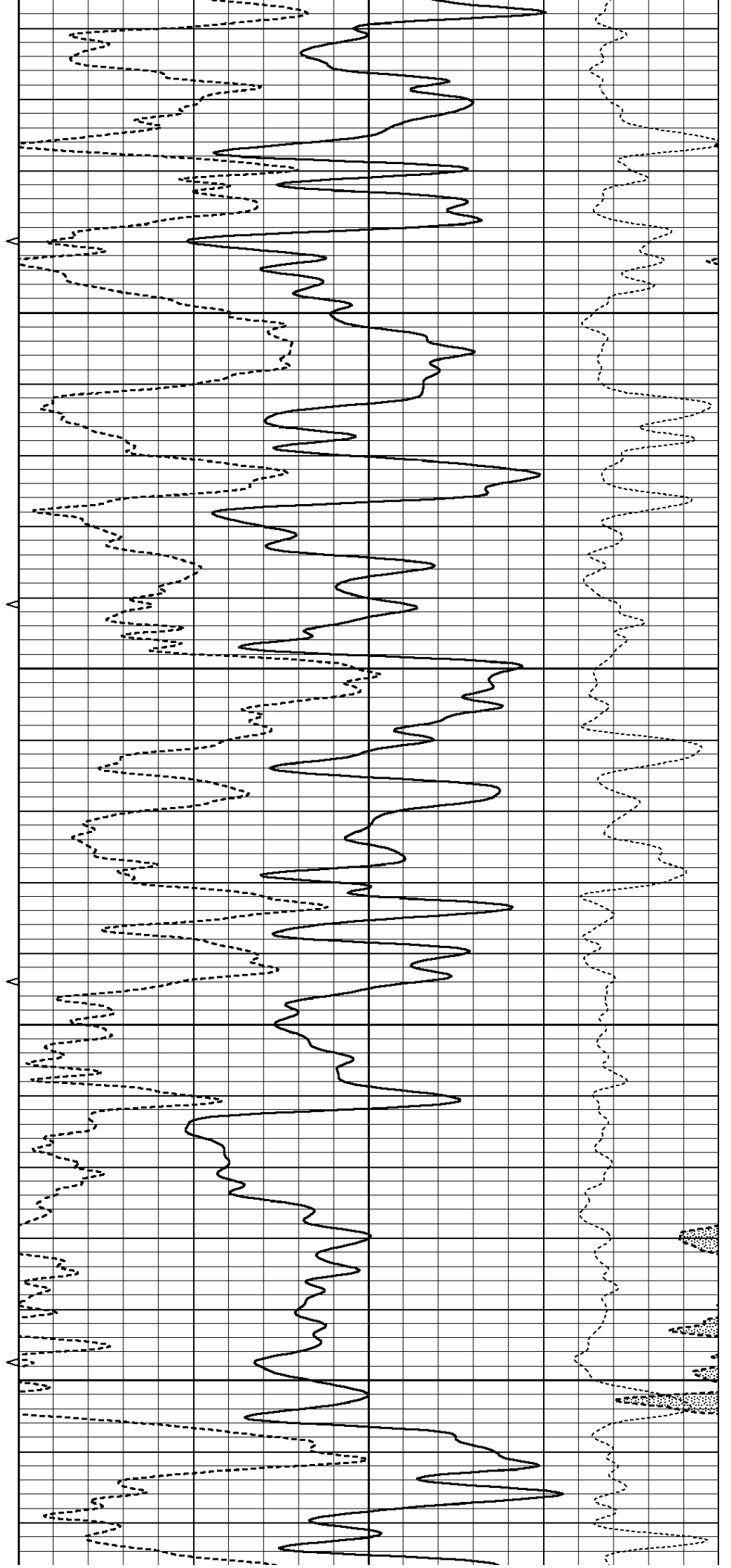


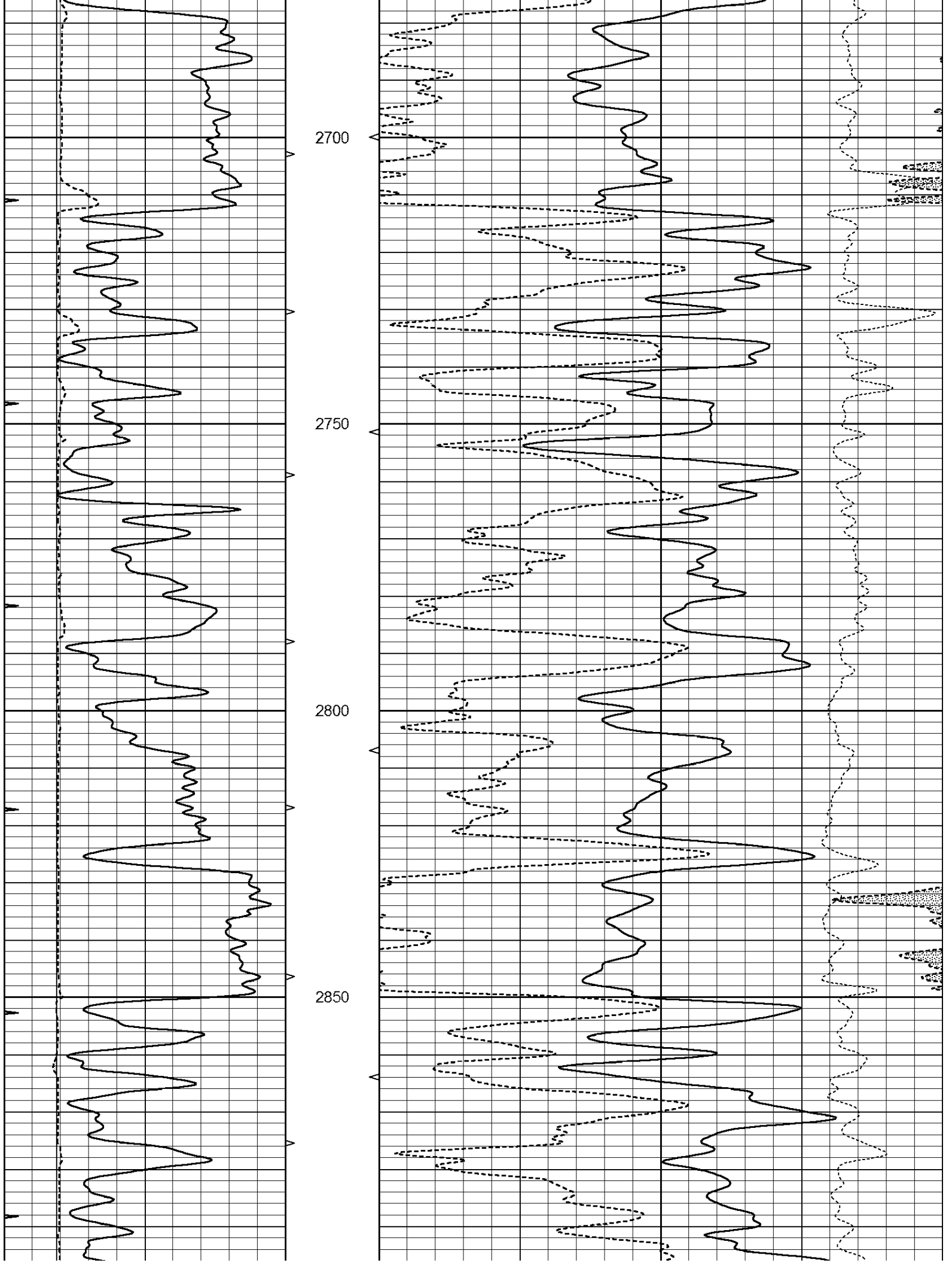
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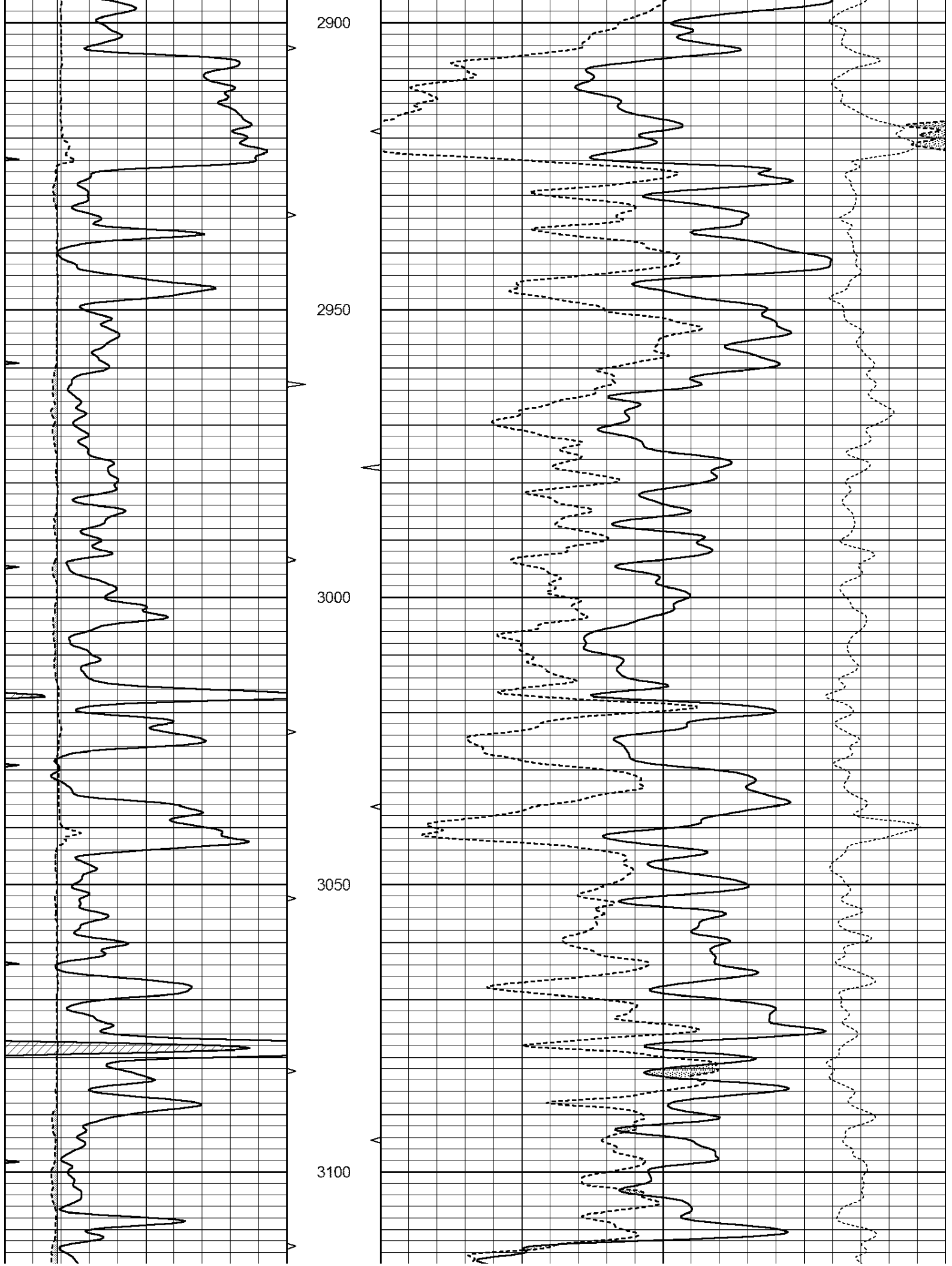
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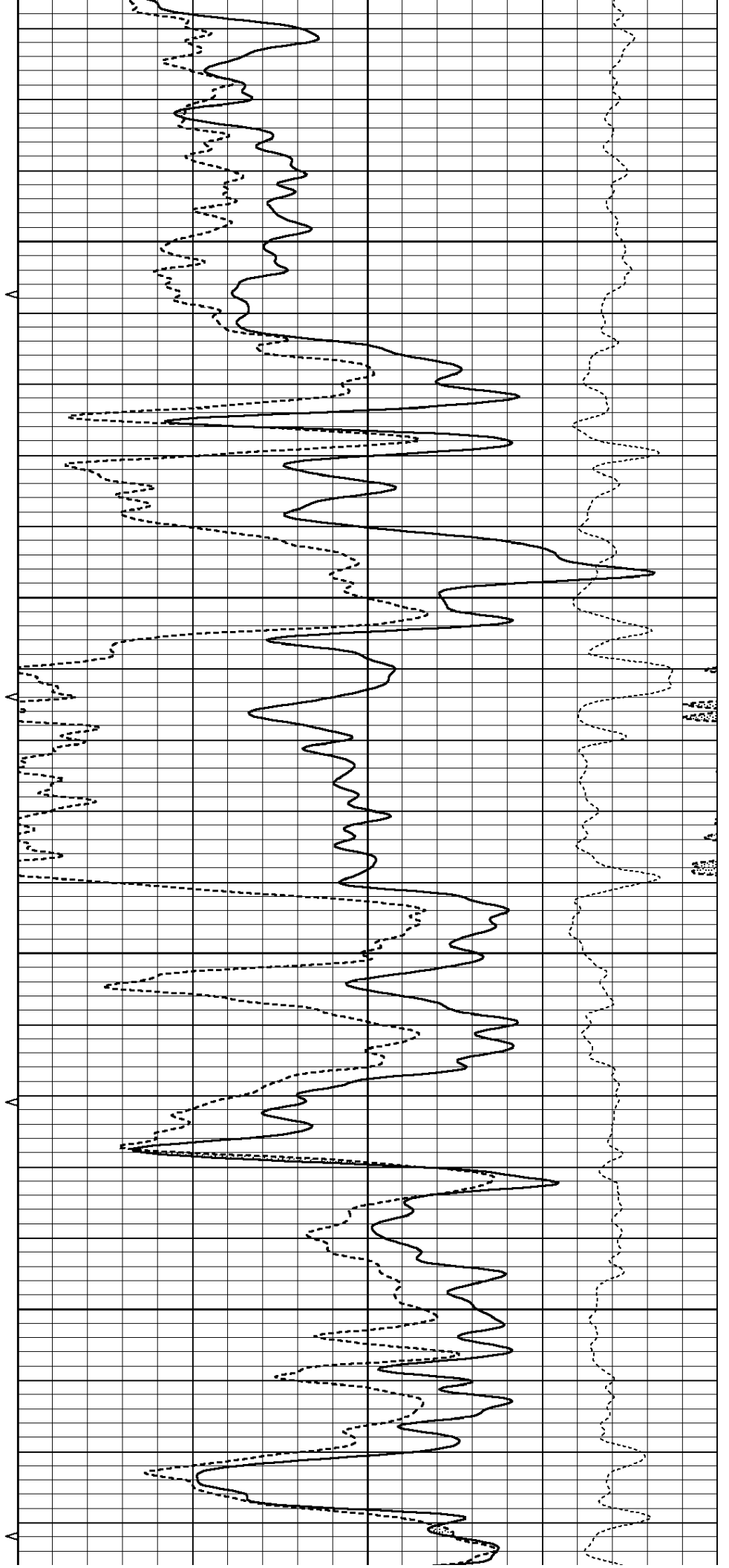
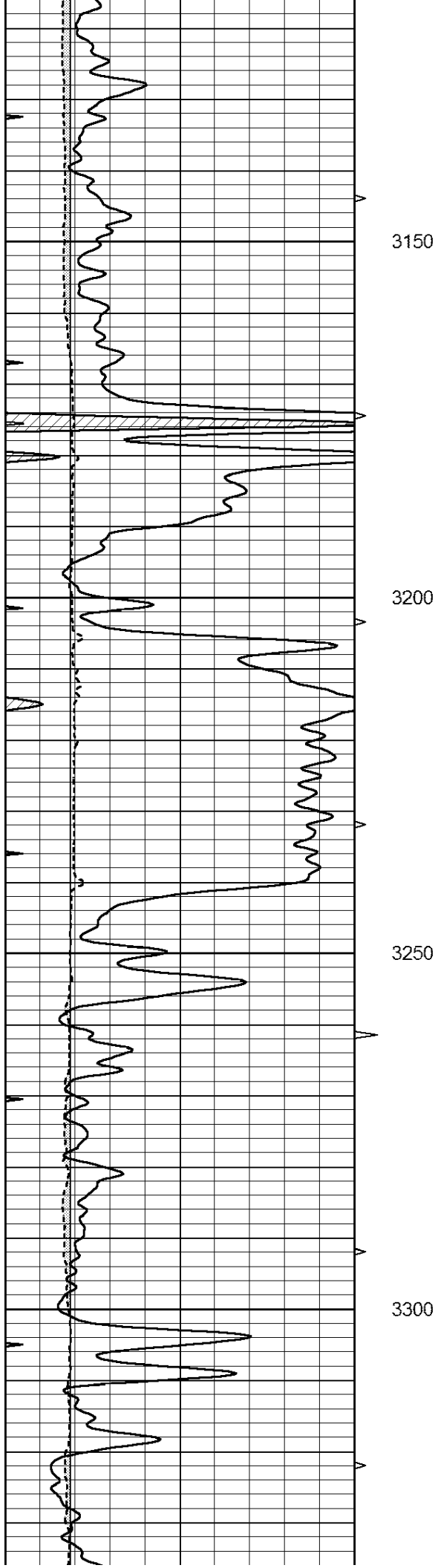
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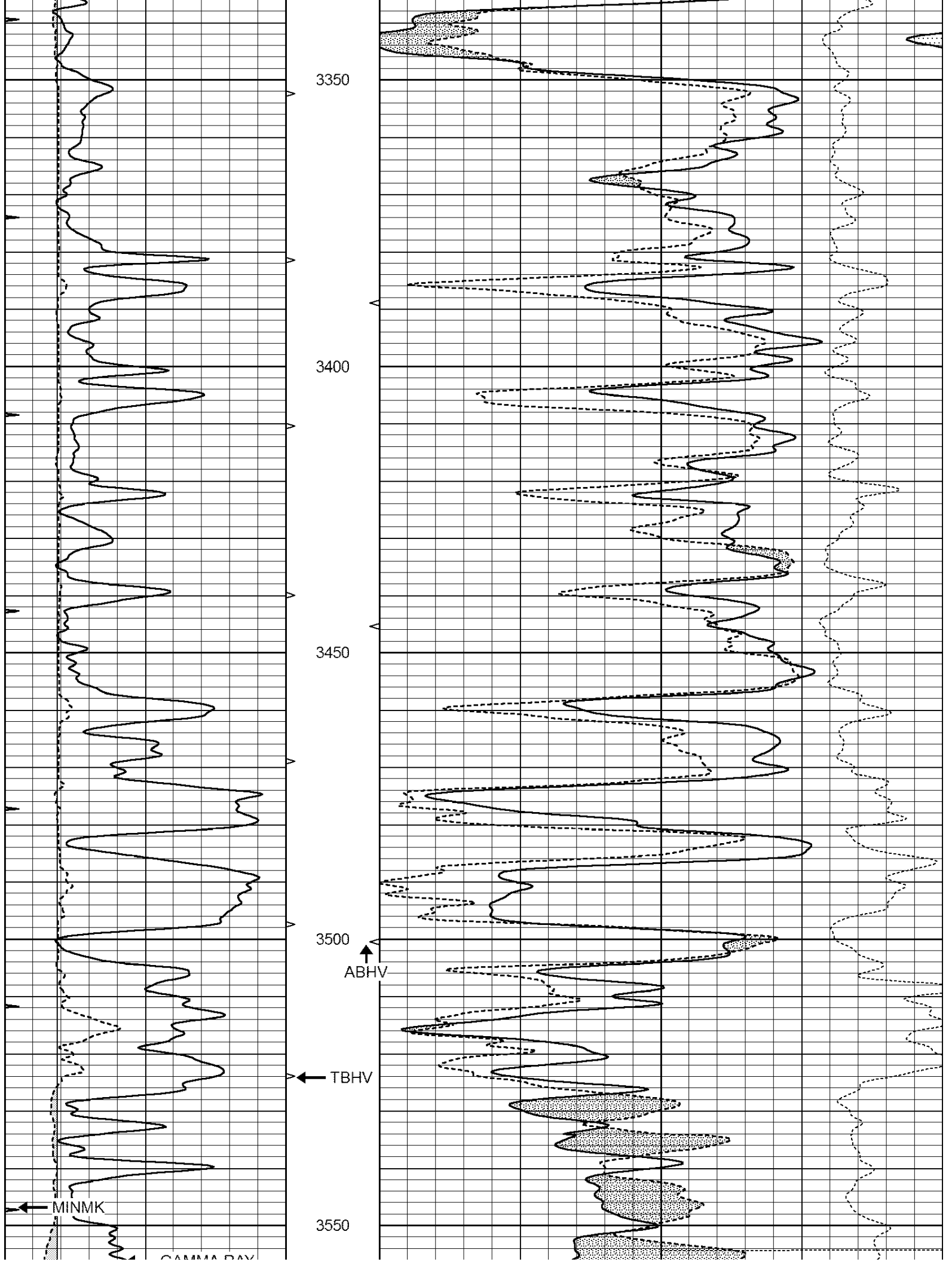
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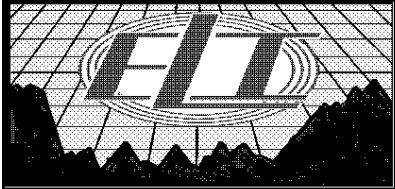
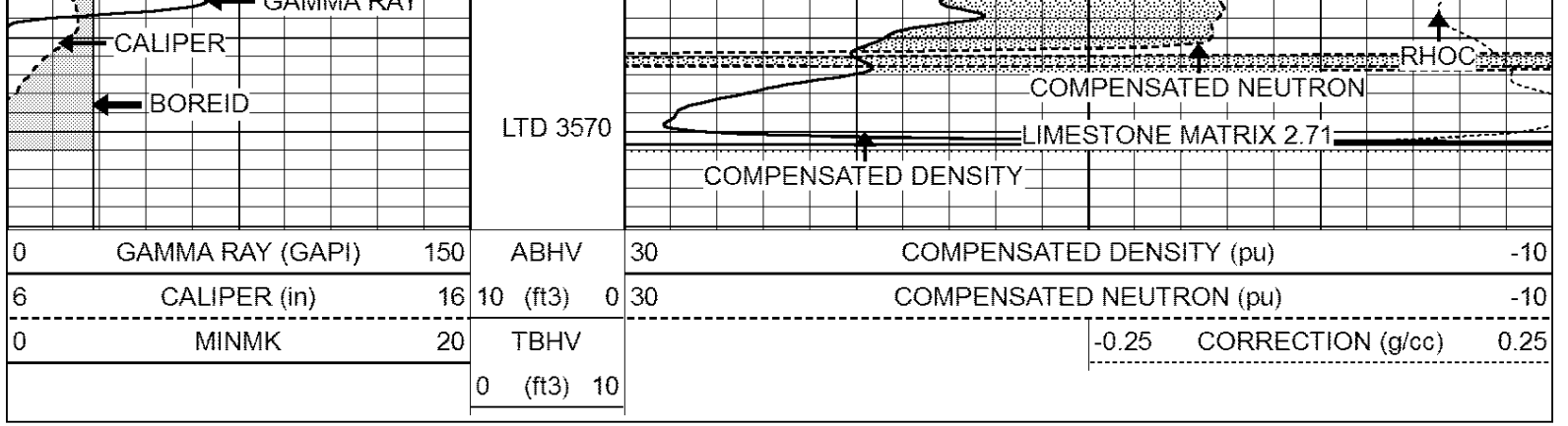








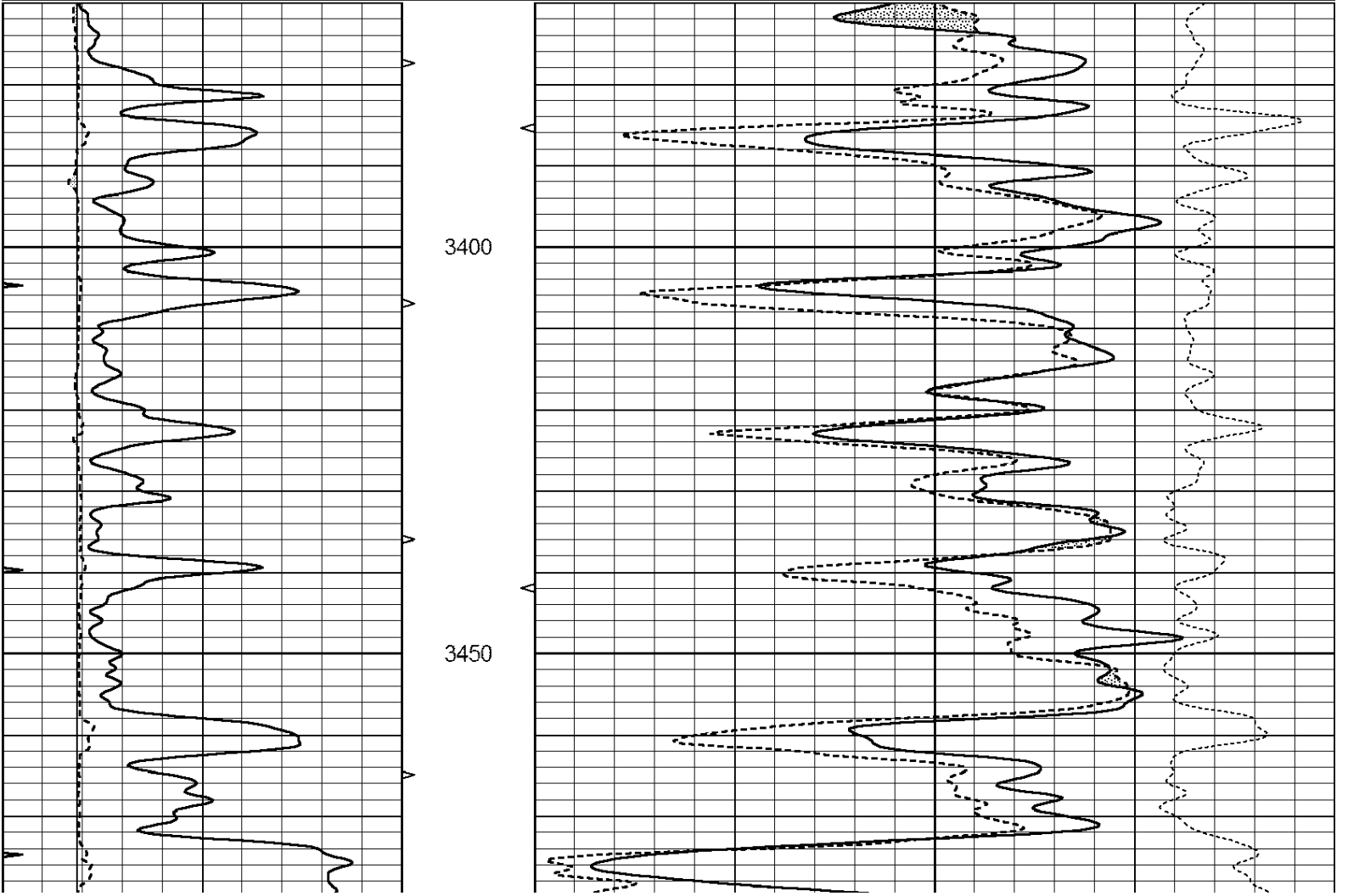


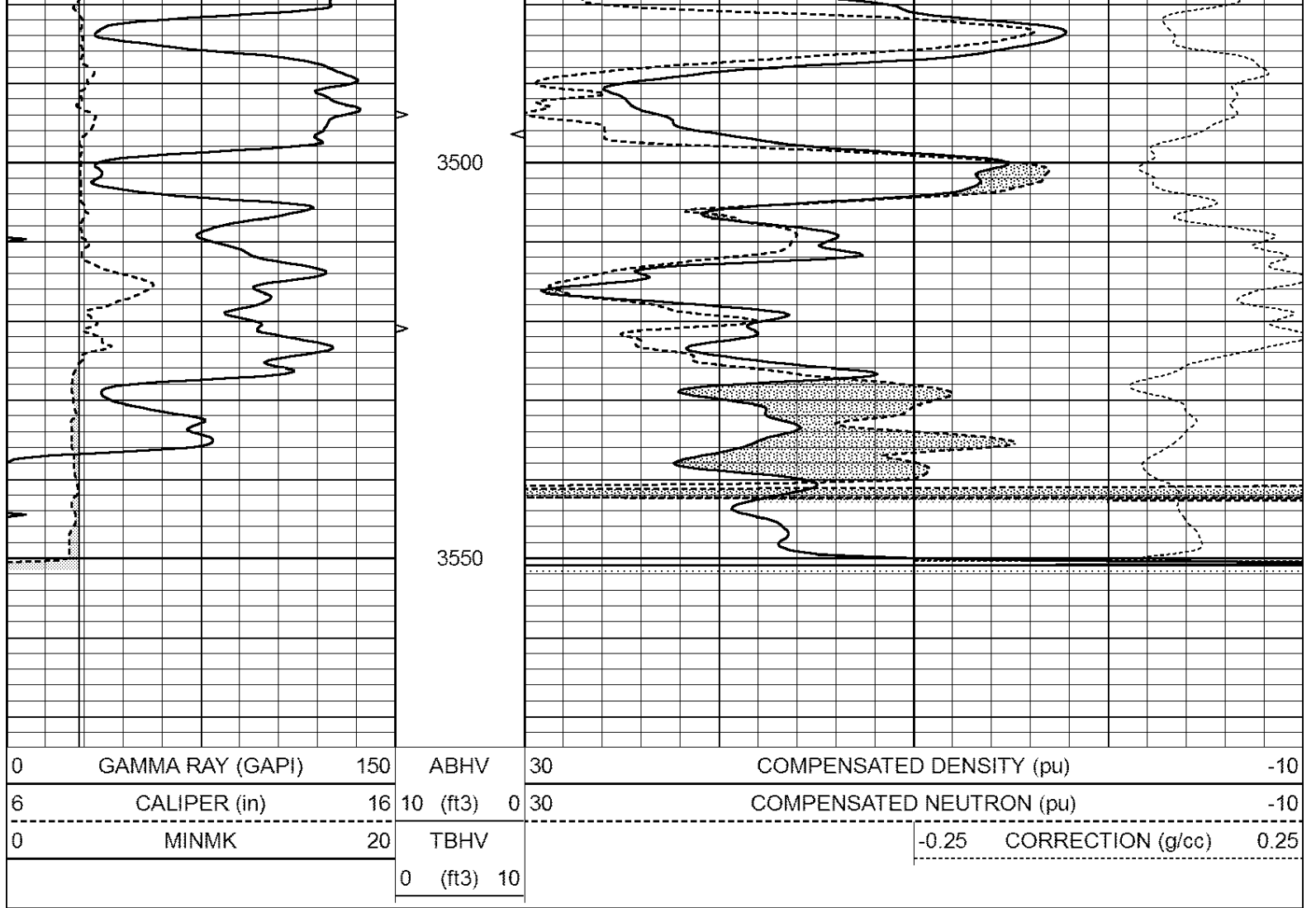


REPEAT SECTION

Database File: 2117ddn.db
 Dataset Pathname: pass3.1
 Presentation Format: den_neu
 Dataset Creation: Mon Dec 11 06:26:31 2017 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: pe2.db
 Dataset Pathname: pass2
 Dataset Creation: Mon Aug 21 11:58:02 2017 by Log Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
 Surface Cal Performed: Mon Aug 21 11:58:18 2017
 Downhole Cal Performed: Mon Aug 21 11:58:21 2017
 After Survey Verification Performed: Mon Aug 21 11:58:23 2017

Surface Calibration

Loop:	Readings				References		Results	
	Air	Loop			Air	Loop	m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-12.000
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: 002 Model: PRB

Master Calibration		Performed Mon Aug 21 11:56:41 2017						
	Background	Magnesium	Aluminum	Sandstone				
Window 1	833.6	7394.2	2287.3	8111.8				cps
Window 2	768.9	6322.3	1995.6	6800.0				cps
Window 3	621.5	3261.9	1186.4	3380.9				cps
Window 4	184.2	185.7	184.9	184.8				cps
Long Space	0.0	5553.4	1226.6	6031.1				cps
Short Space	1.2	1307.5	903.9	1387.7				cps
Rho		1.7100	2.5900	1.3800				g/cc
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 46.3	Rib Slope	: 1.045	Density/Spine Ratio				: 0.566
Spine Angle	: 76.3	Spine Slope	: 4.090	Spine Intercept				: -20.7

Before Survey Verification		Performed Wed Dec 31 18:00:00 1969						
Window 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	0.0000	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	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	0.0000	0.0000	0.0000	

Compensated Neutron Calibration Report

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:	Mon Aug 21 11:59:01 2017	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.5500	GAPI/cps