



COMPENSATED DENSITY/NEUTRON LOG

Company	GRUNDER OIL, LLC.
Well	GRUNDER #2
Field	LEISS
County	STAFFORD
State	KANSAS
Location:	API # : 15-185-23994-0000
Permanent Datum	SEC 14 TWP 25W RGE 13S
Log Measured From	GROUND LEVEL Elevation 1927
Drilling Measured From	KELLY BUSHING 6" A.G.L KELLY BUSHING
Elevation	K.B. 1933 D.F. 1931 G.L. 1927
Date	9/1/17
Run Number	ONE
Depth Driller	4299
Depth Logger	4297
Bottom Logged Interval	4295
Top Log Interval	3000
Casing Driller	8 5/8" @ 601'
Casing Logger	601'
Bit Size	7 7/8
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.5/56
pH / Fluid Loss	8.5/10.0
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.34 @ 81F
Rmf @ Meas. Temp	.25 @ 81F
Rmc @ Meas. Temp	.40 @ 81F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	.23 @ 118F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	118F
Equipment Number	3802
Location	HAYS, KANSAS
Recorded By	JASON CAPPELLUCCI
Witnessed By	KEATON JONES

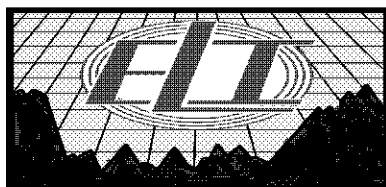
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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on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

ST. JOHN, KS. - SOUTH TO HWY INTERSECTION - 6 SOUTH TO RD. 60 - 1 1/2 EAST - NORTH INTO

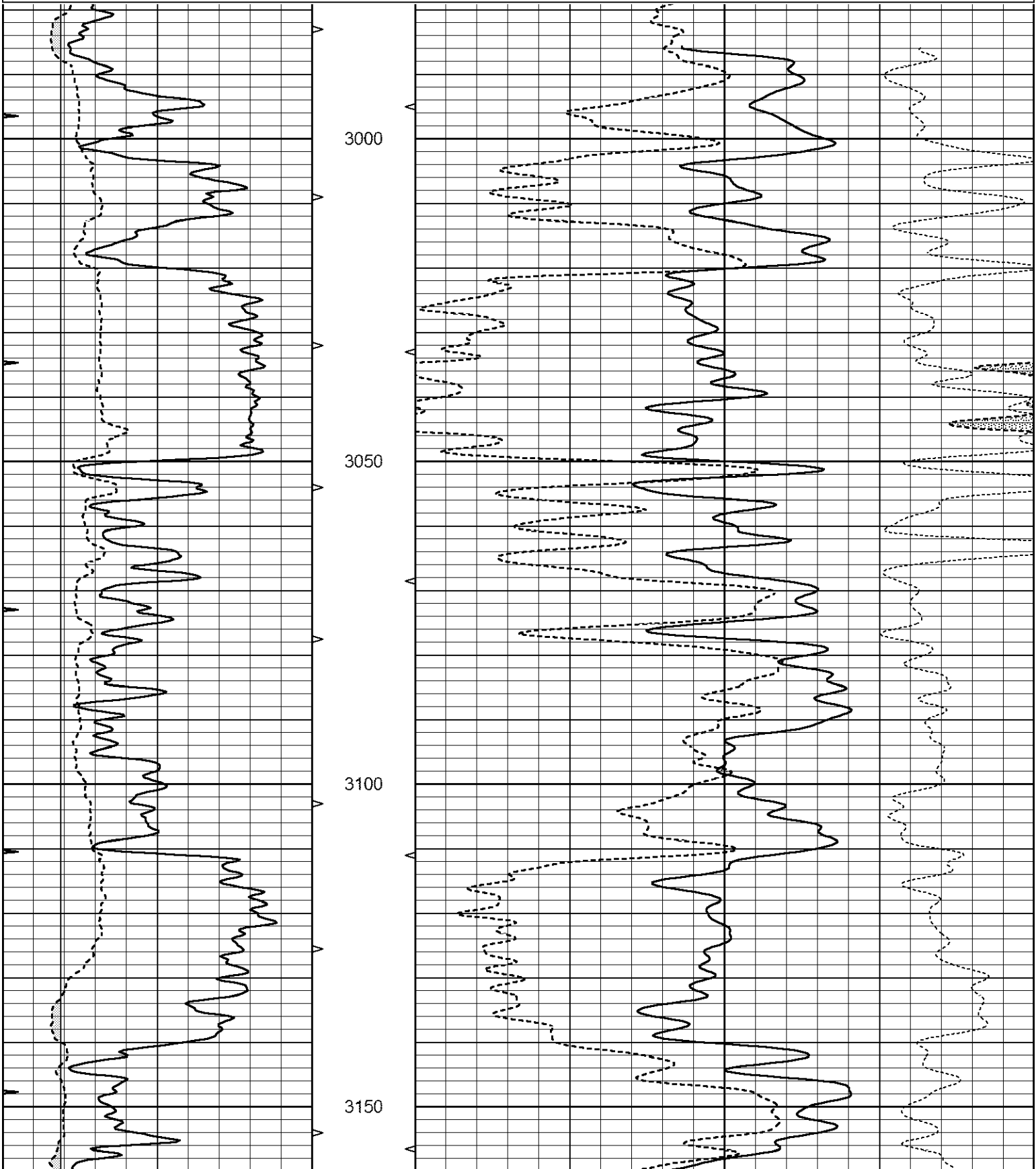


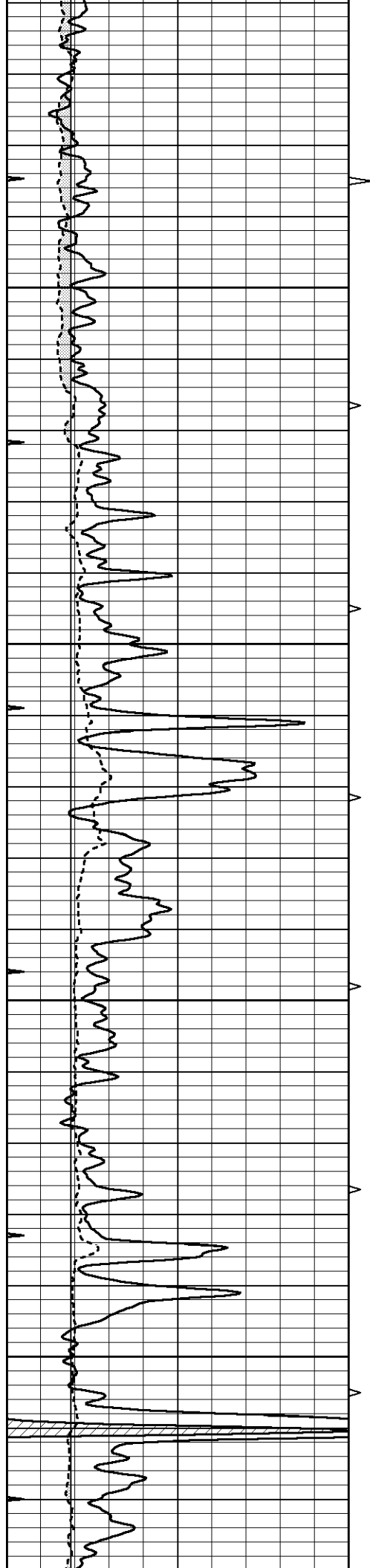
MAIN SECTION

Database File	1780ddn.db
Dataset Pathname	pass3.1
Presentation Format	_den_neu
Dataset Creation	Fri Sep 01 10:18:00 2017
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	AVTX	30	COMPENSATED DENSITY (pu)			-10	
6	CALIPER (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)			-10

0	MINMK	20	BVTX			-0.25	CORRECTION (g/cc)	0.25	
			0 (ft3)	10					



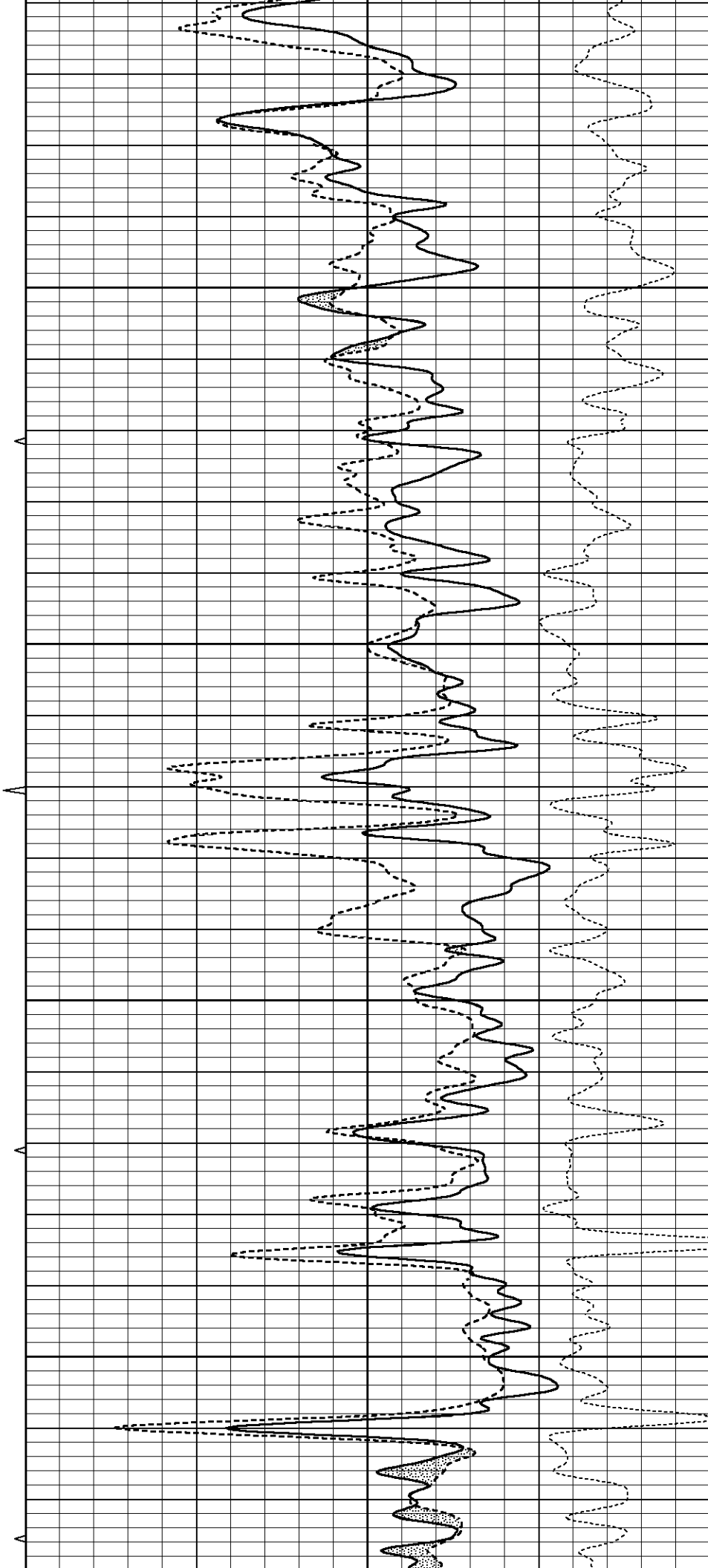


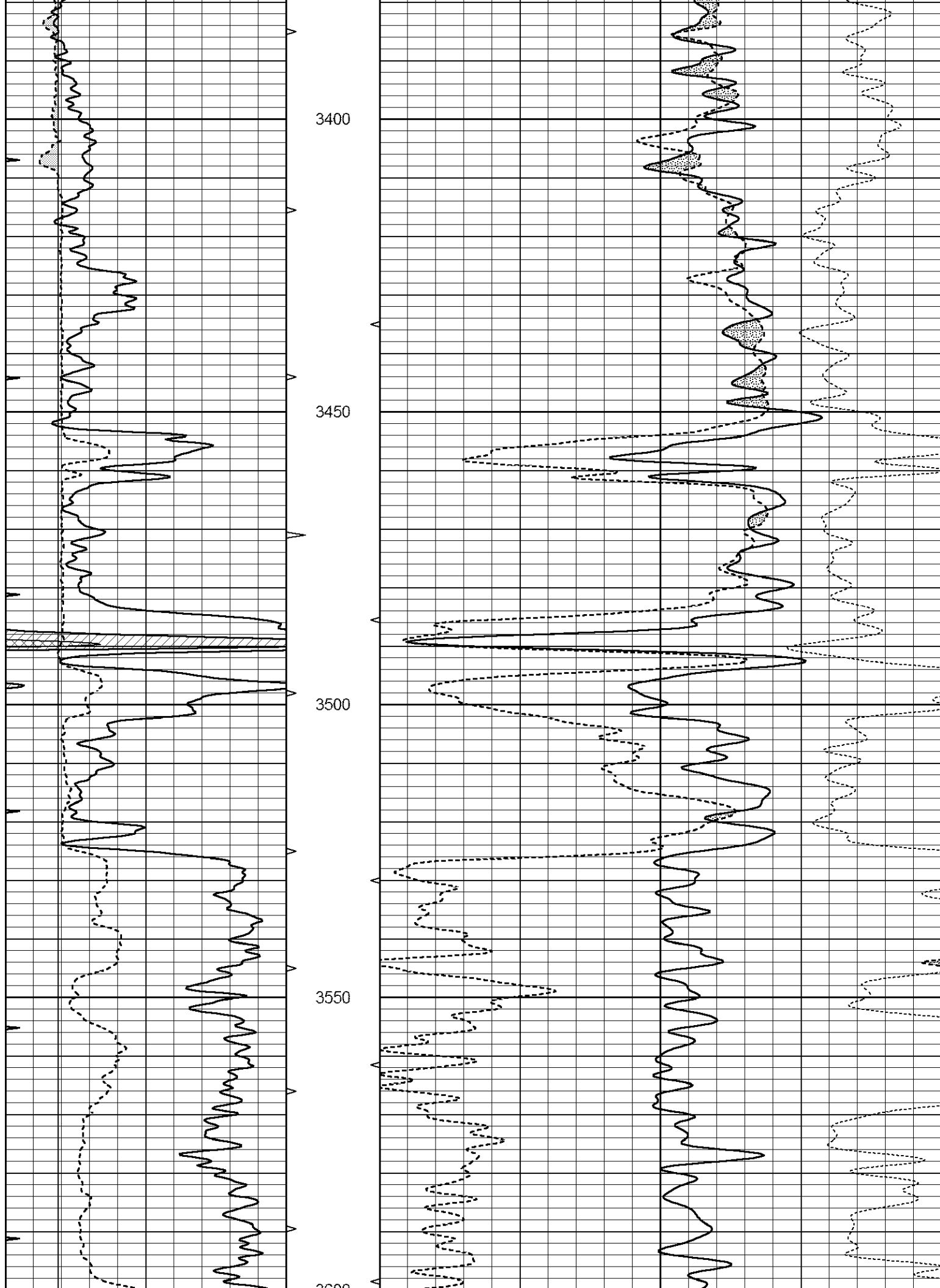
3200

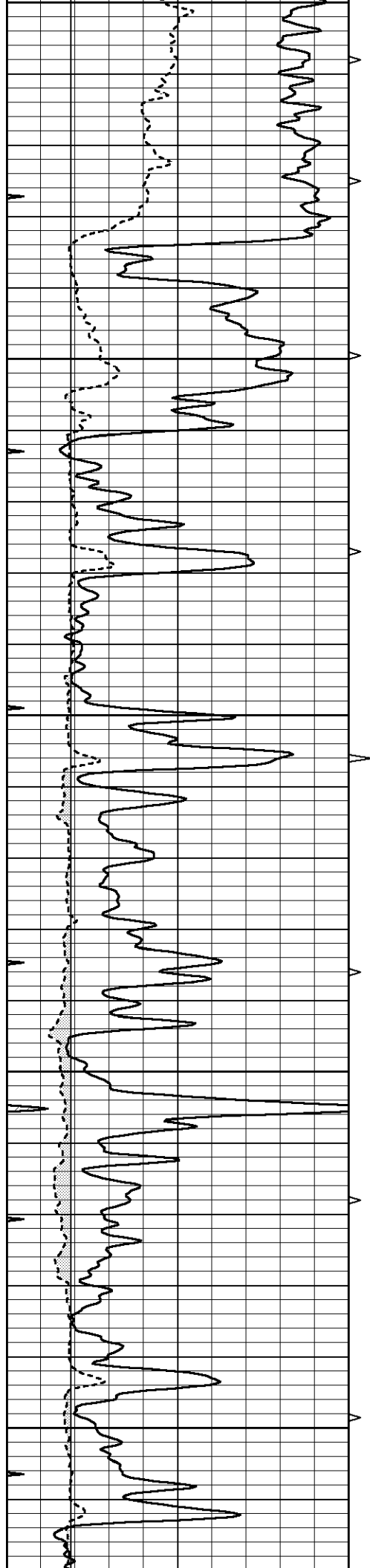
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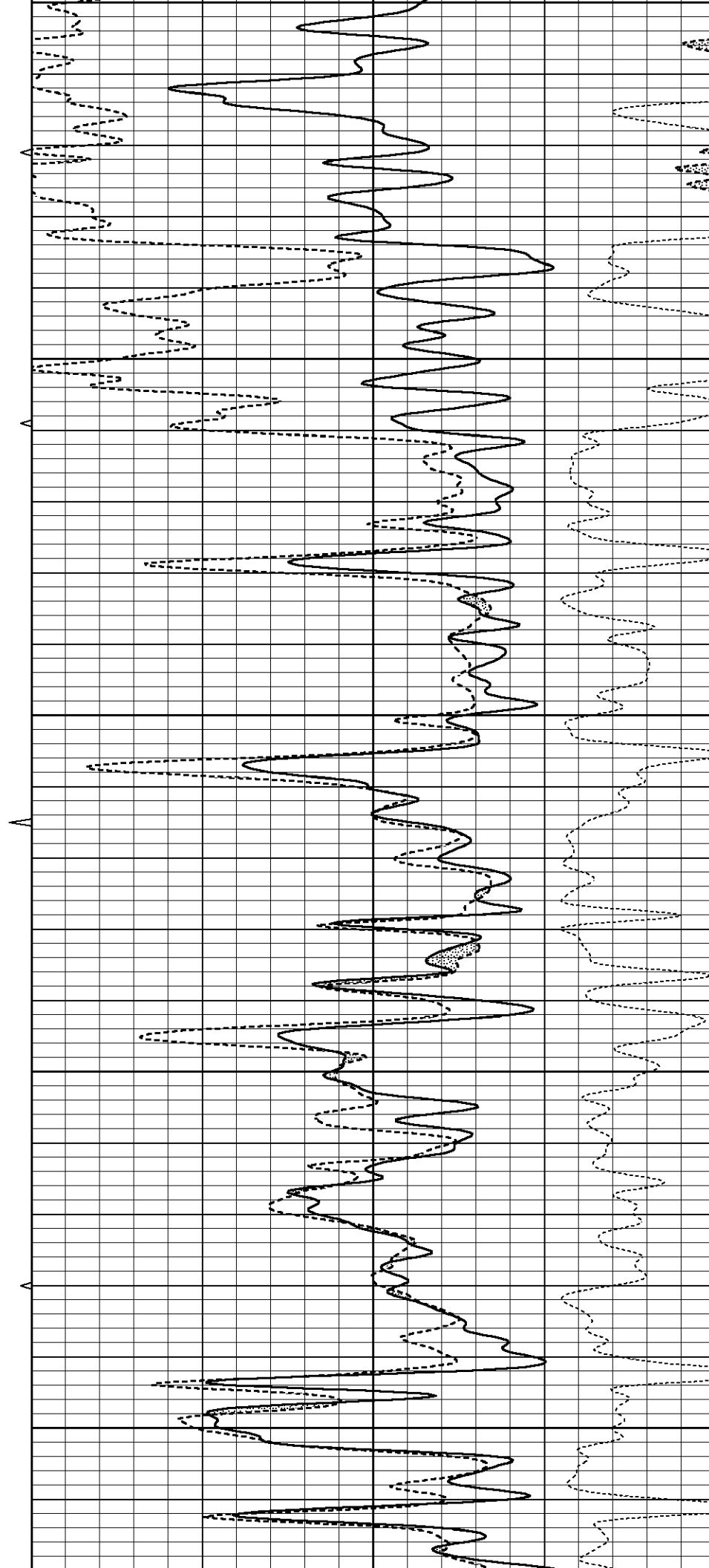
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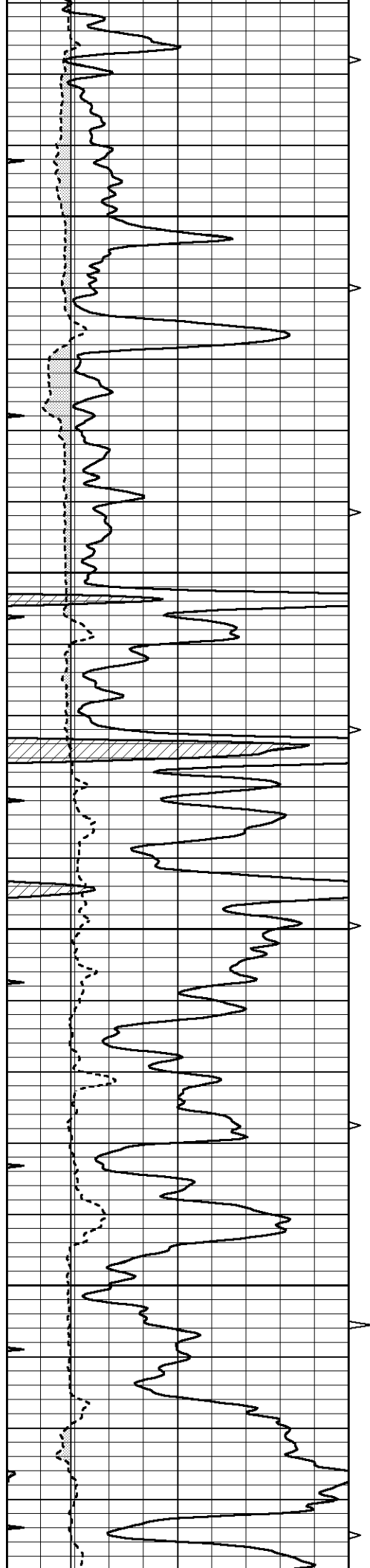






3600
3650
3700
3750
3800



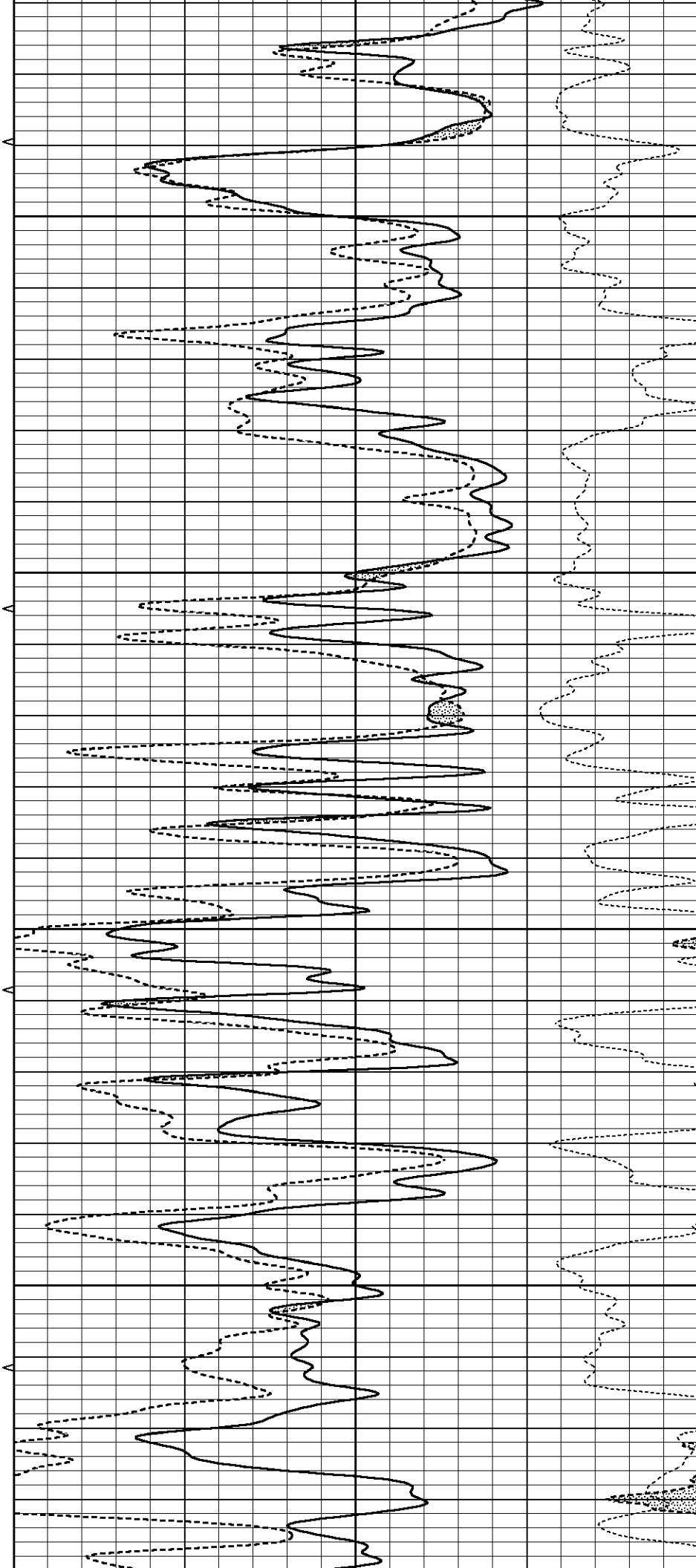


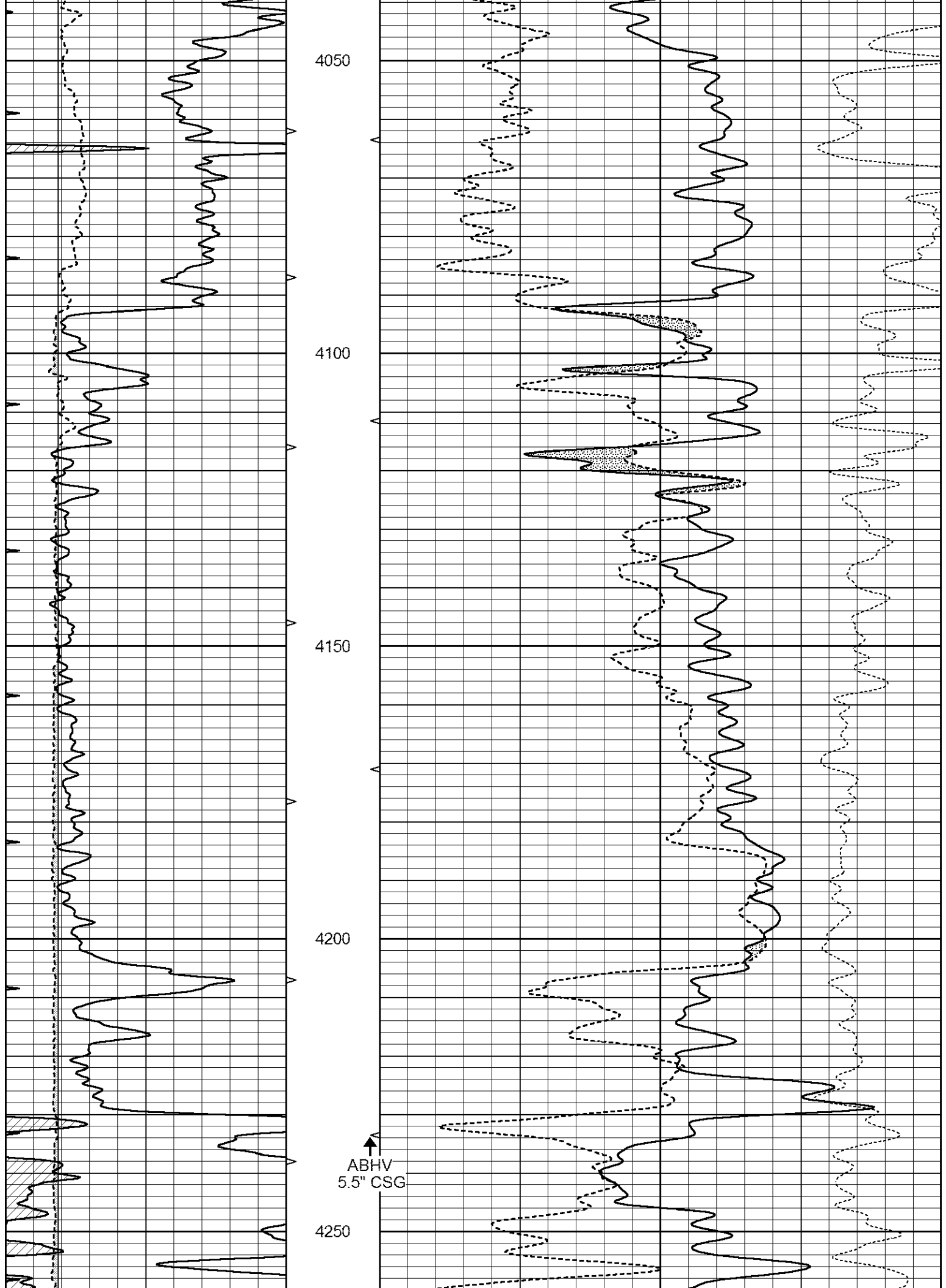
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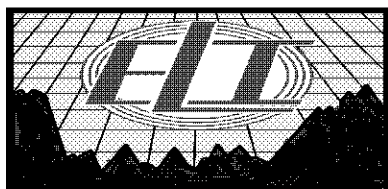
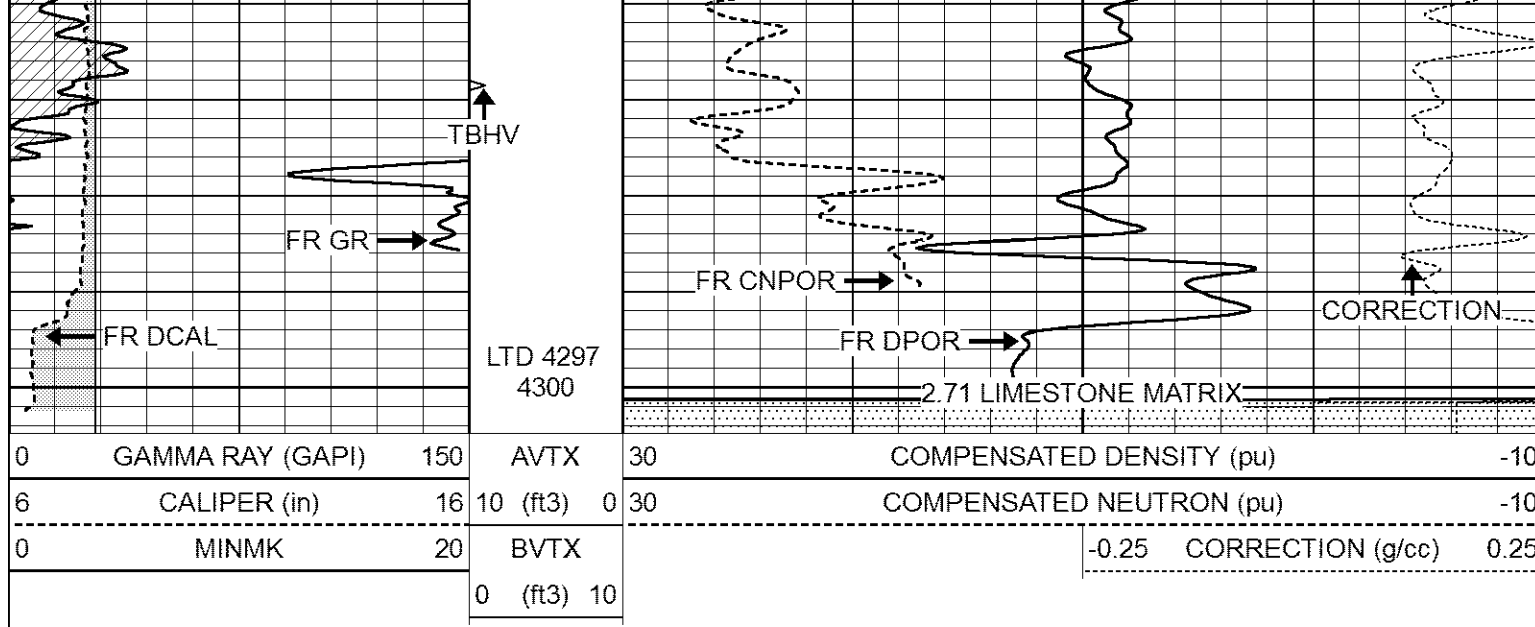
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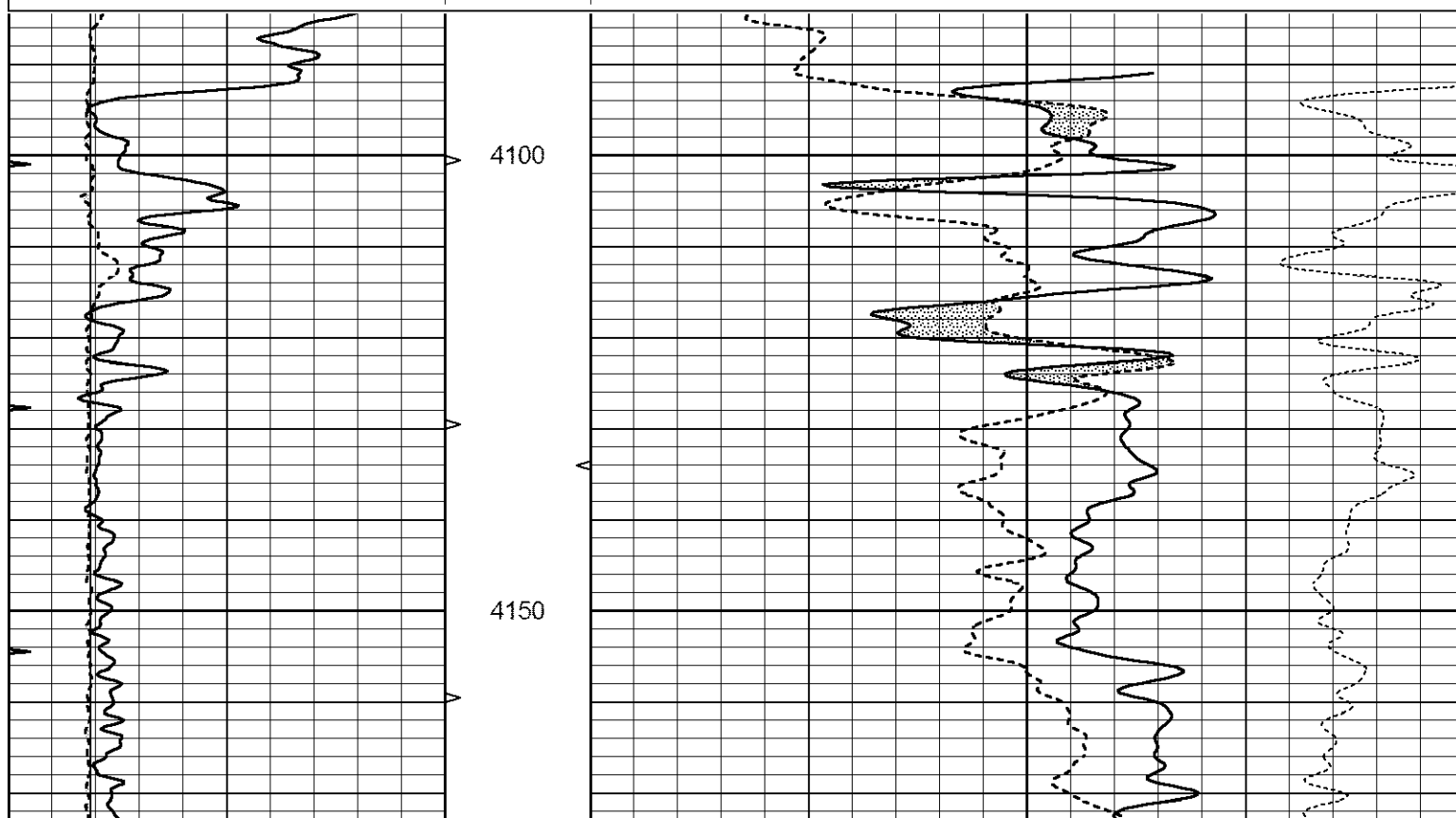
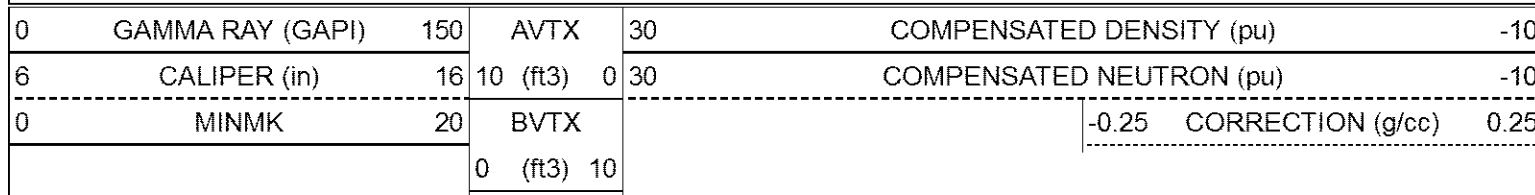


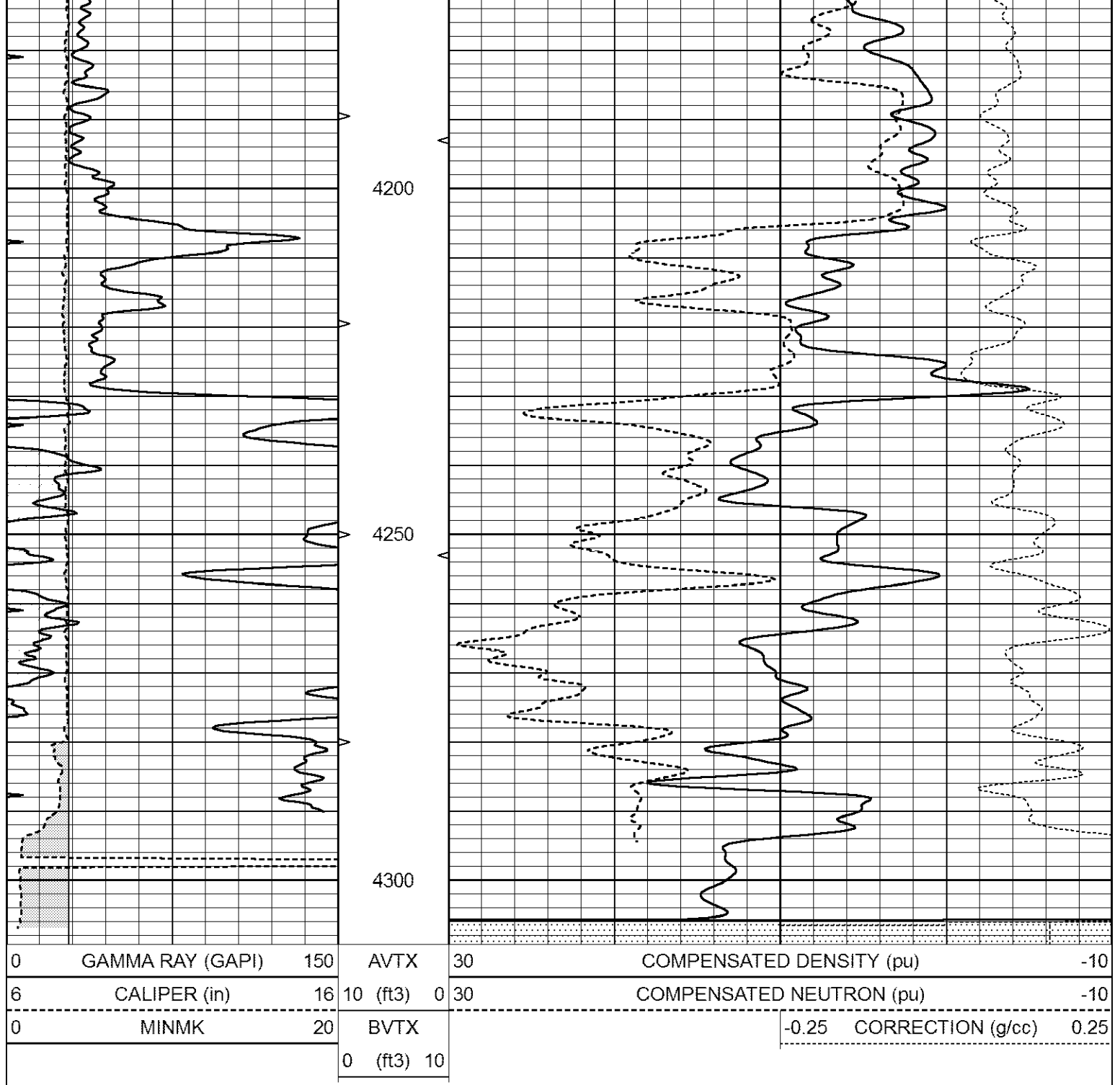




REPEAT SECTION

Database File 1780ddn.db
 Dataset Pathname pass2.1
 Presentation Format _den_neu
 Dataset Creation Fri Sep 01 09:54:52 2017
 Charted by Depth in Feet scaled 1:240





Calibration Report

Database File 1780ddn.db
 Dataset Pathname pass2.1
 Dataset Creation Fri Sep 01 09:54:52 2017

Litho Density Calibration Report

Serial: 140704
 Model: V4_10P
 Source Number: 74GBq-19

Master Calibration

Performed: Wed Feb 11 18:53:41 2015

	Background	Aluminum	Magnesium	
Window 1	613.01	6027.40	27508.60	cps
Window 2	48.21	1424.77	7132.66	cps
Window 4	266.48	1373.19	5767.15	cps

Window 5	622.07	10090.30	18937.90	cps	
Window 6	49.07	1682.84	3271.18	cps	
Window 8	298.04	3248.38	5980.58	cps	
Bulk Density	-	2.6020	1.6830	g/cc	
Pe	-	3.0000	2.5070	b/e	
LS Alpha:	: -1.8451	SS Alpha:	: -0.7542	LS CPE:	: 1.0882
LS Beta:	: 138648.8473	SS Beta:	: 21960.9250	SS CPE:	: 1.5181

Before Survey Background Counts Verification			Performed: Wed Dec 31 18:00:00 1969		
Window 1	0.00	cps			
Window 2	0.00	cps			
Window 4	0.00	cps			
Window 5	0.00	cps			
Window 6	0.00	cps			
Window 8	0.00	cps			

After Survey Background Counts Verification			Performed: Wed Dec 31 18:00:00 1969		
Window 1	0.00	cps			
Window 2	0.00	cps			
Window 4	0.00	cps			
Window 5	0.00	cps			
Window 6	0.00	cps			
Window 8	0.00	cps			

Lithodensity Caliper Calibration			Performed: Wed Feb 11 18:53:41 2015		
Results	Readings	References (in)			
Low	High	Low	High	Gain	Offset
1107.5	7124.1	8.0	15.0	0.0	6.3

Before Survey Caliper Verification			Performed:		
	Reference	Reading			
	_____	_____			
Caliper (in)					

After Survey Caliper Verification			Performed:		
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Compensated Neutron Calibration Report					
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Serial Number:		080621PMC			
Tool Model:		NABORS			

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				

Gamma Ray Calibration Report

Serial Number:	070558	
Tool Model:	Probe1	
Performed:	Tue Jul 25 12:16:33 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.4000	GAPI/cps