



SUPERIOR
Hays,
Kansas

COMPENSATED
DENSITY/NEUTRON
PE LOG

Company	MULL DRILLING COMPANY, INC.	Company	MULL DRILLING COMPANY, INC.
Well	APC SCHERLER #1-15	Well	APC SCHERLER #1-15
Field		Field	
County	KIOWA	County	KIOWA
State	COLORADO	State	COLORADO
Location:	API # : 05-061-06855-0000	Other Services	DIL MEL/SON
	1885' FNL & 1424' FEL SW/4 - NE/4		
	SEC 15 TWP 17S RGE 45W		
Permanent Datum	GROUND LEVEL	Elevation	4117
Log Measured From	KELLY BUSHING 11' A.G.L.		
Drilling Measured From	KELLY BUSHING		
Date	4/5/11		
Run Number	ONE		
Depth Driller	5380		
Depth Logger	5382		
Bottom Logged Interval	5358		
Top Log Interval	3600		
Casing Driller	8 5/8" @ 319		
Casing Logger	312		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 2300 PPM	
Density / Viscosity	9.0/49		
pH / Fluid Loss	10.5/8.0		
Source of Sample	FLOWLINE		
Rin @ Meas. Temp	1.20 @ 83F		
Rmf @ Meas. Temp	0.90 @ 83F		
Rmc @ Meas. Temp	1.44 @ 83F		
Source of Rmf / Rmc	MEASURED		
Rin @ BHT	0.78 @ 128F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	128F		
Equipment Number	680		
Location	HAYS, KS.		
Recorded By	JEFF GRONEMEG		
Witnessed By	PHIL ASKEY		

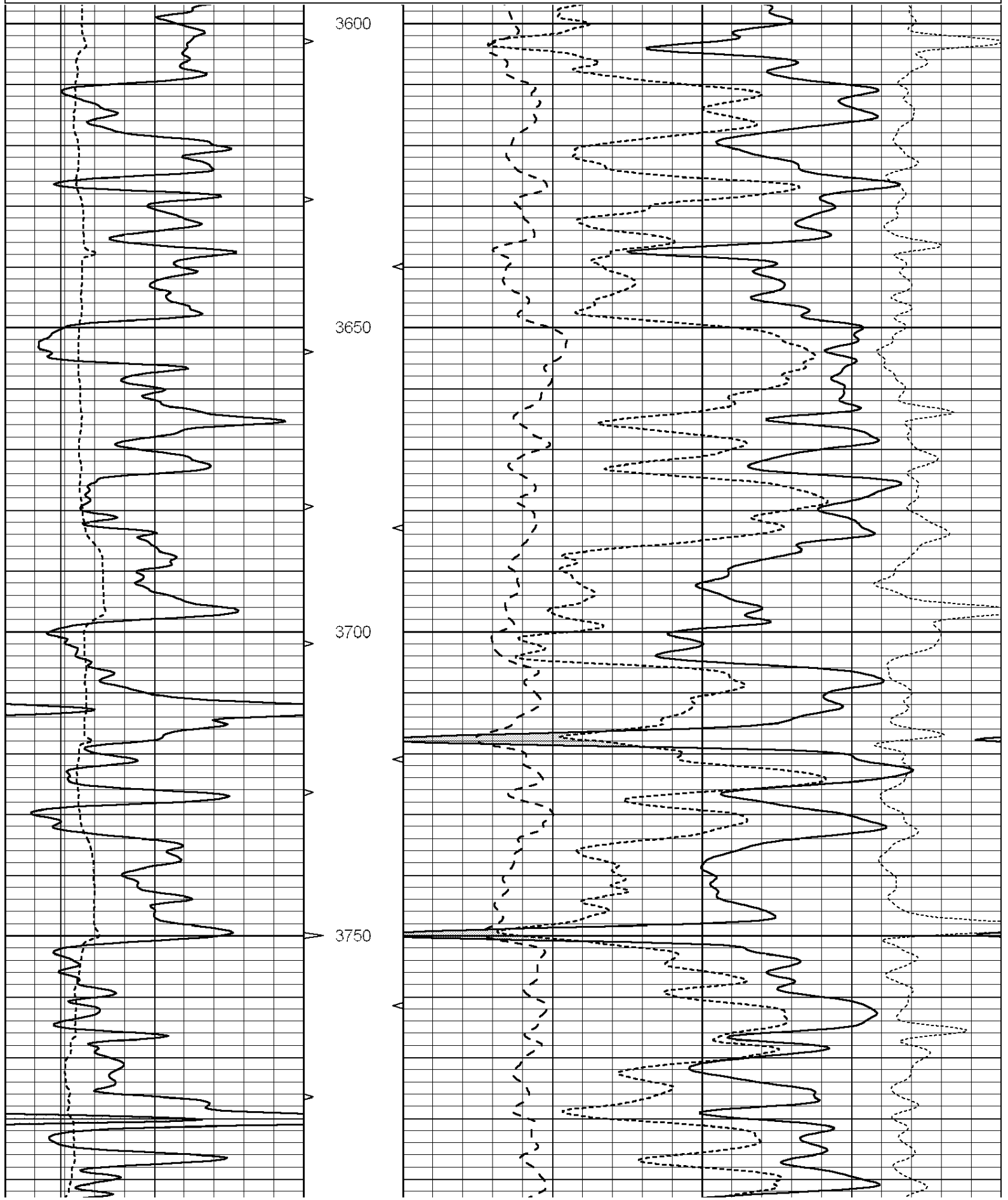
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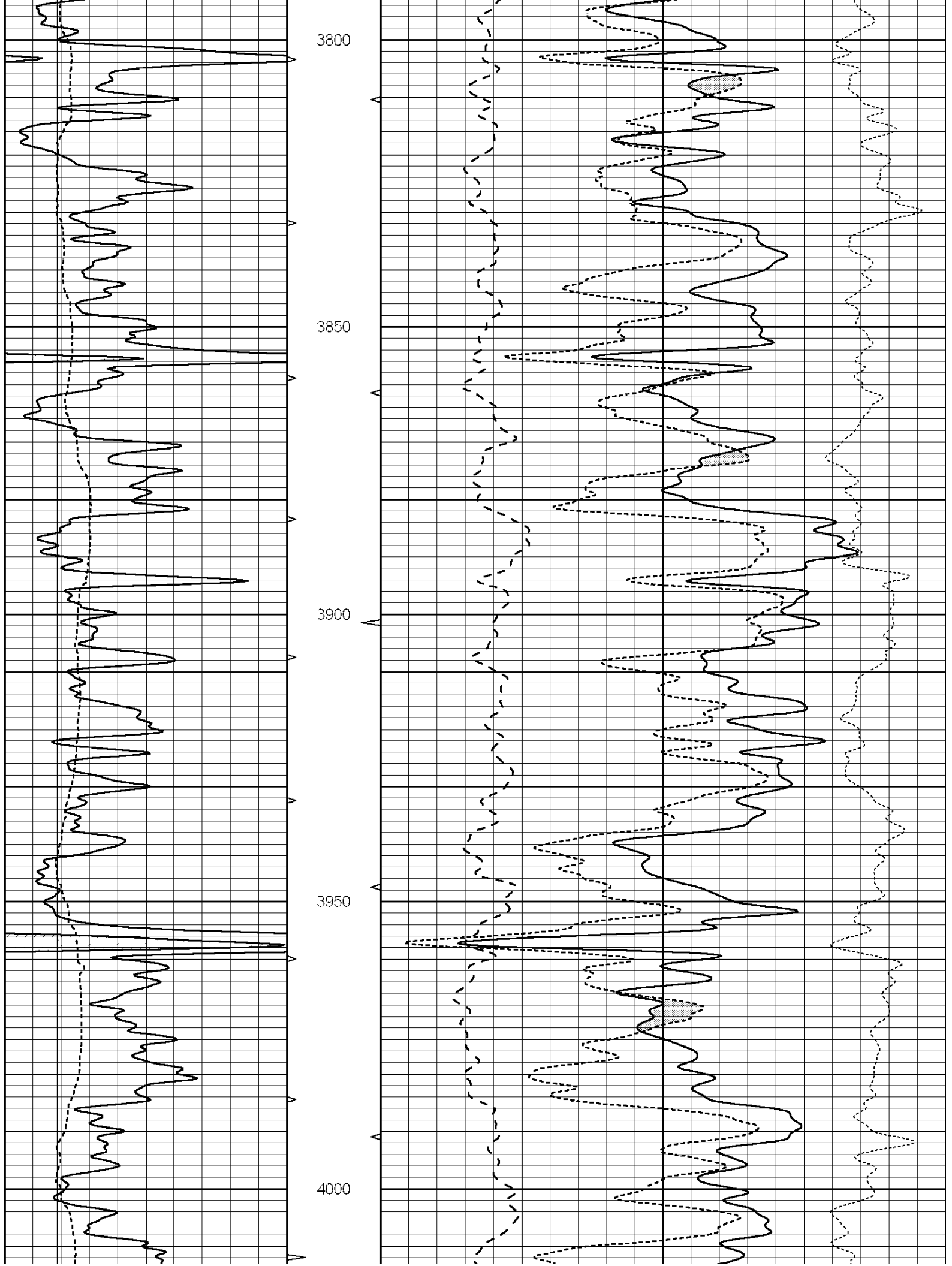
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

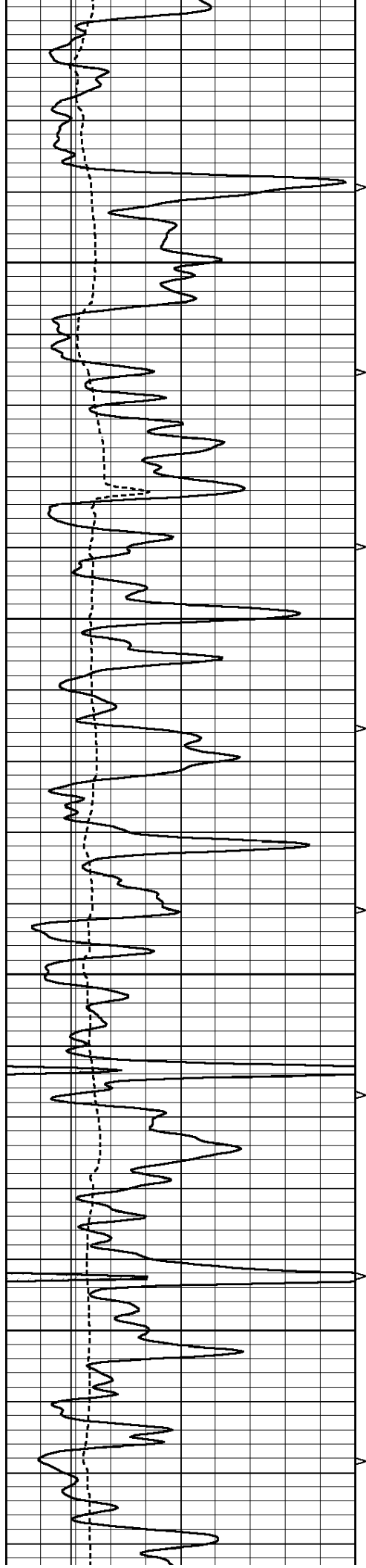
Comments

THANK YOU FOR USING SUPERIOR WELL SERVICE (785) 628-6395
DIRECTIONS
BRANDON, CO - 9.3 MILES NORTH - .3 MILES WEST - SOUTH INTO

Charted by:		Depth in Feet scaled 1:2.15							
0	GAMMA RAY (GAPI)	150	ABHV	30	COMPENSATED DENSITY (pu)	-10			
6	CALIPER (in)	16	10 (ft3)	0	30	COMPENSATED NEUTRON (pu)	-10		
			TBHV	0	PE	10	-0.25	CORRECTION (g/cc)	0.25
			0 (ft3)	10					





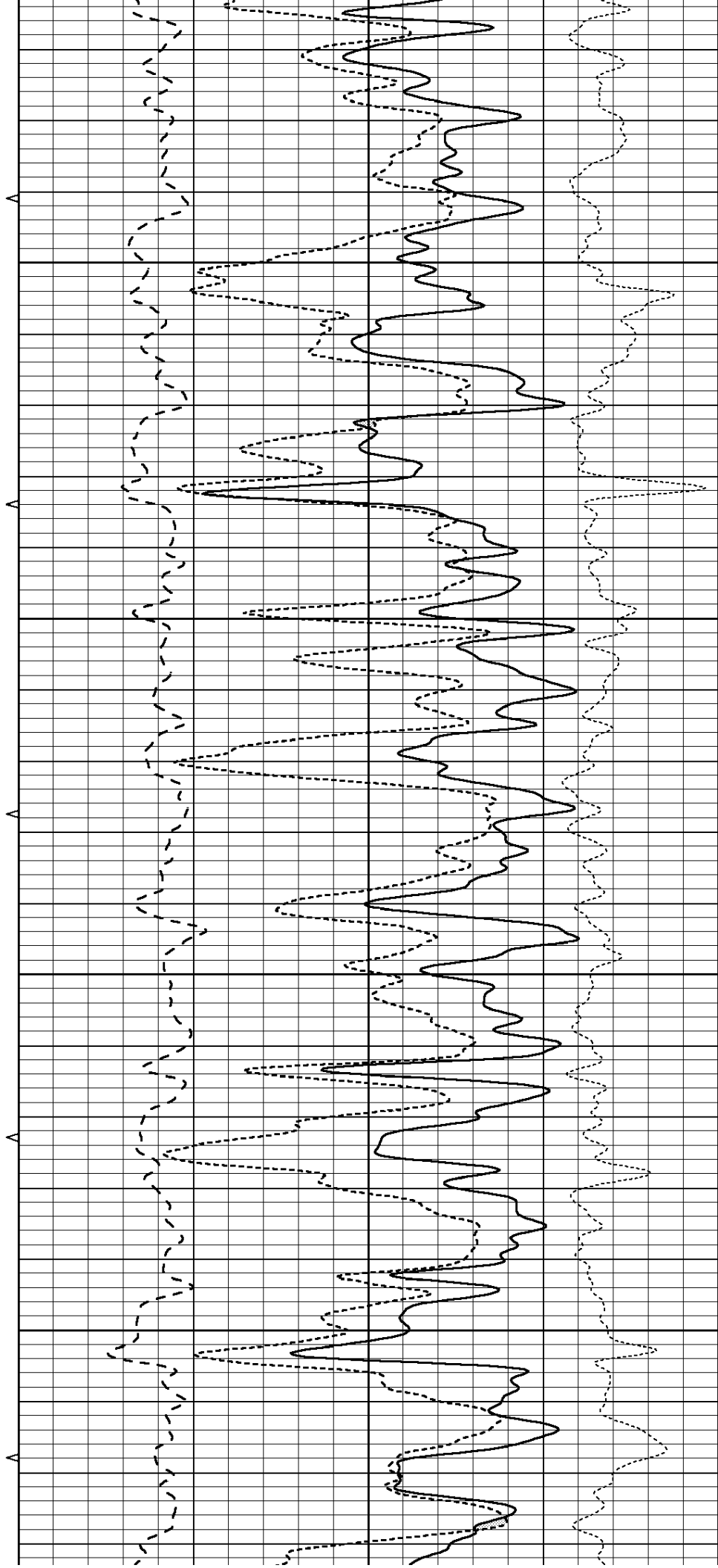


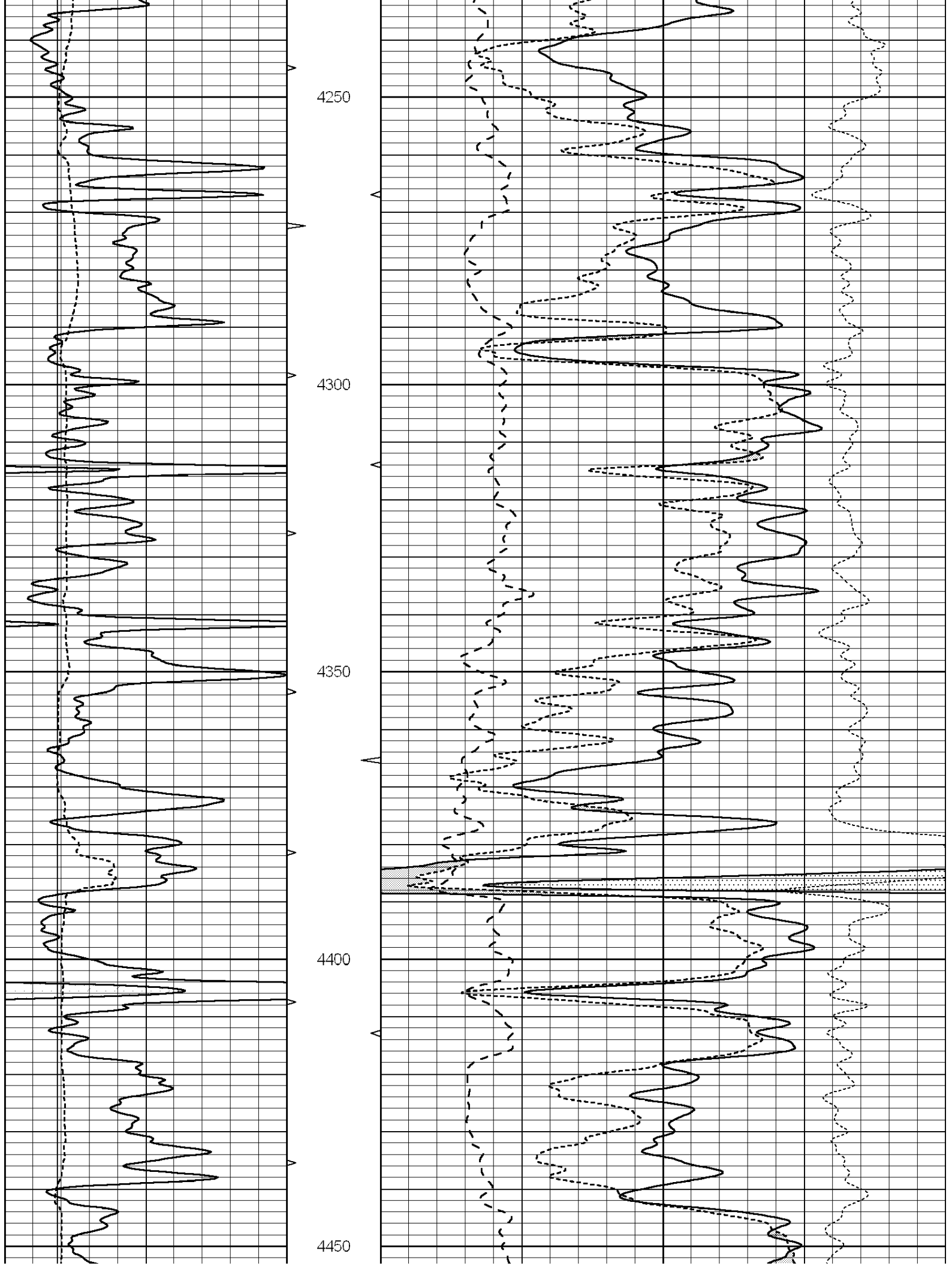
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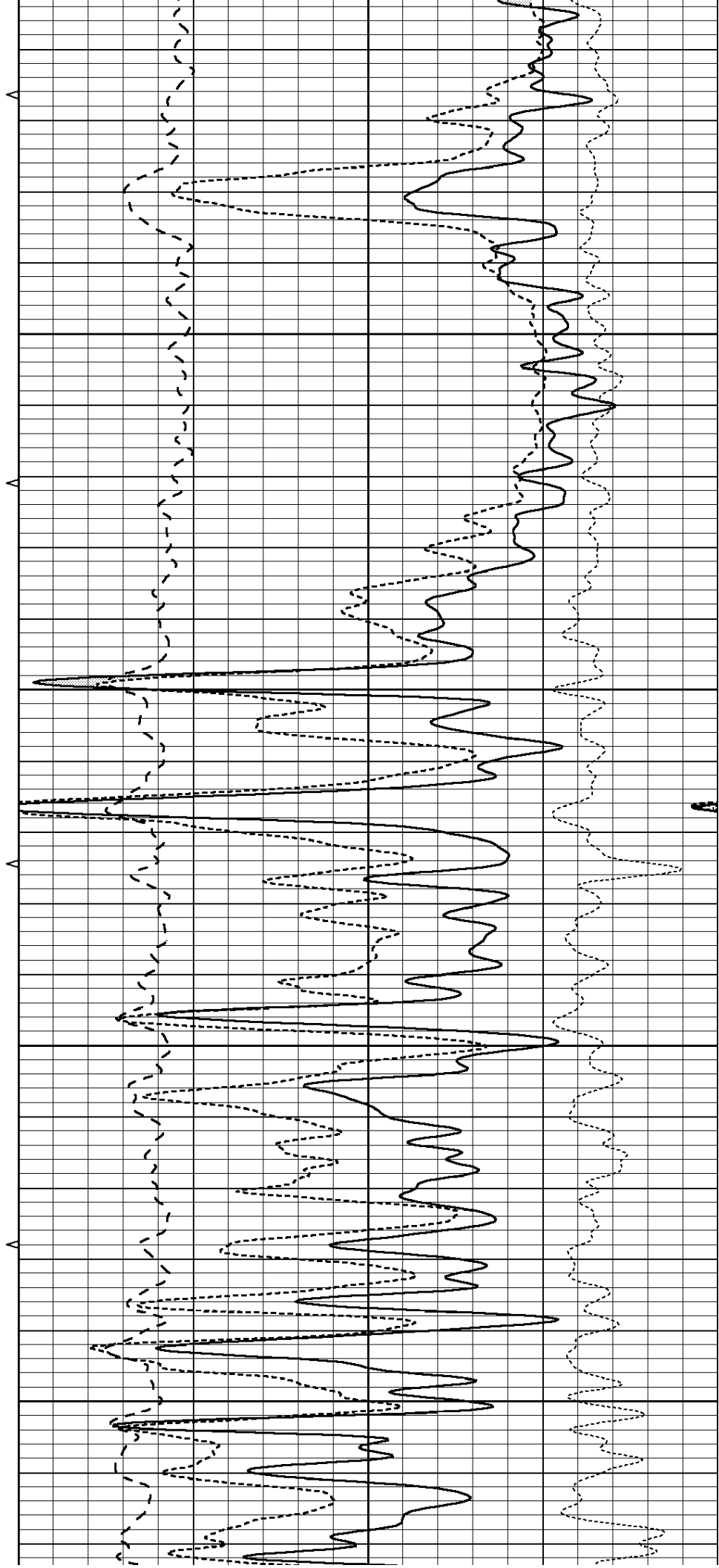
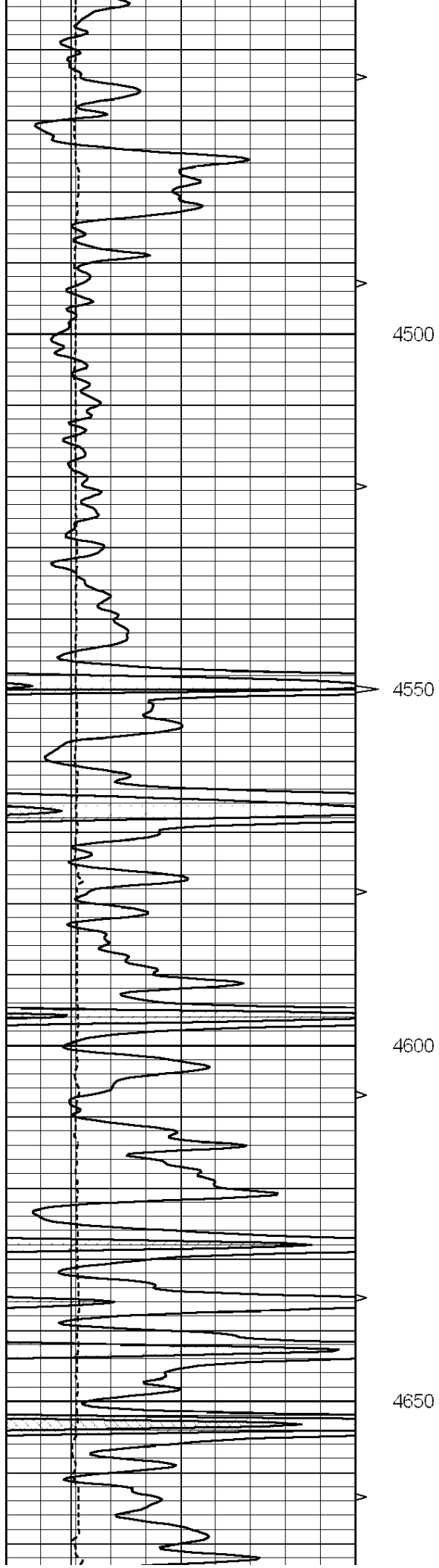
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4150

4200







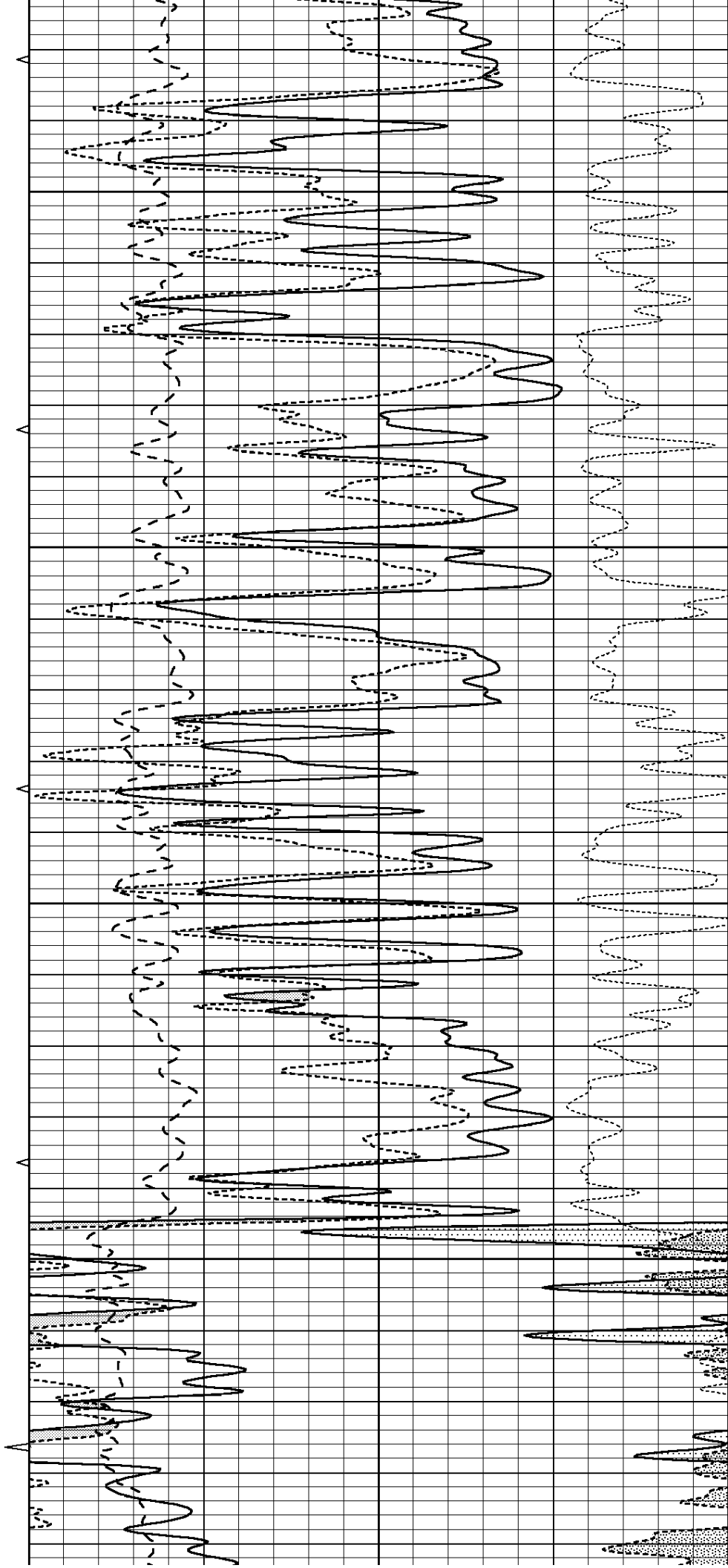


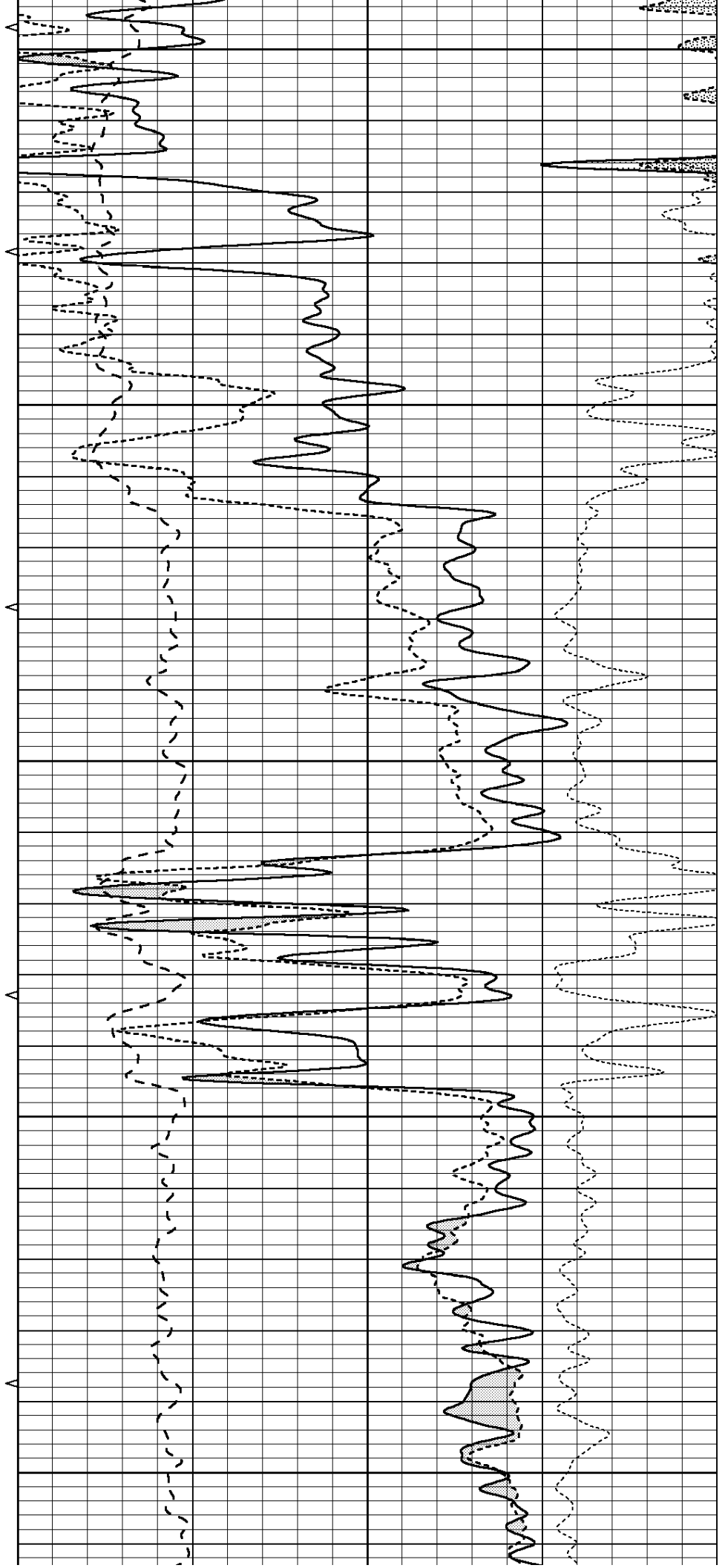
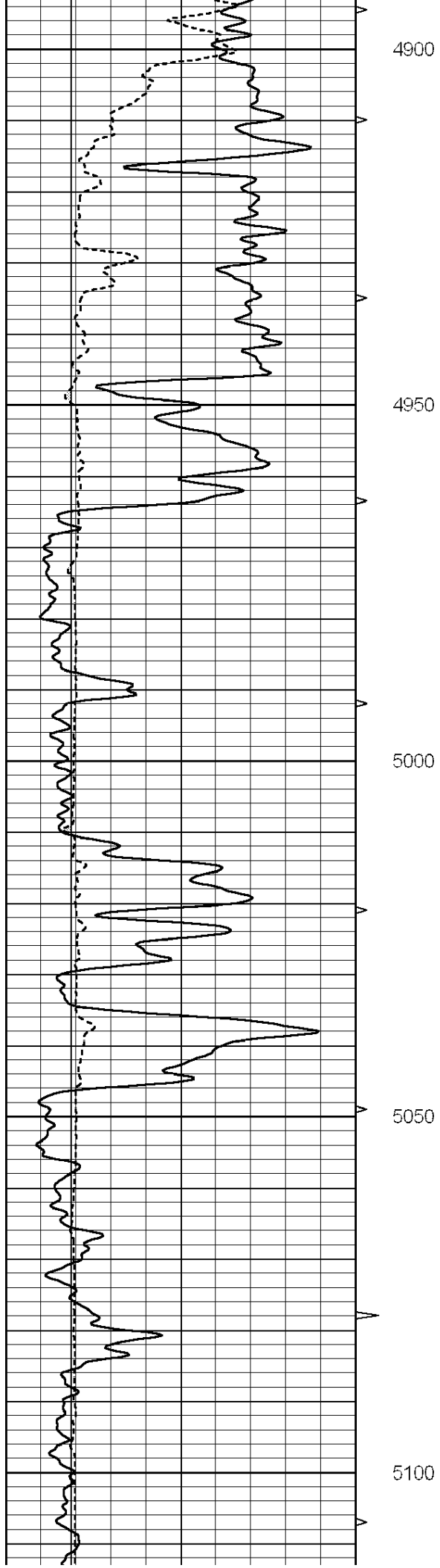
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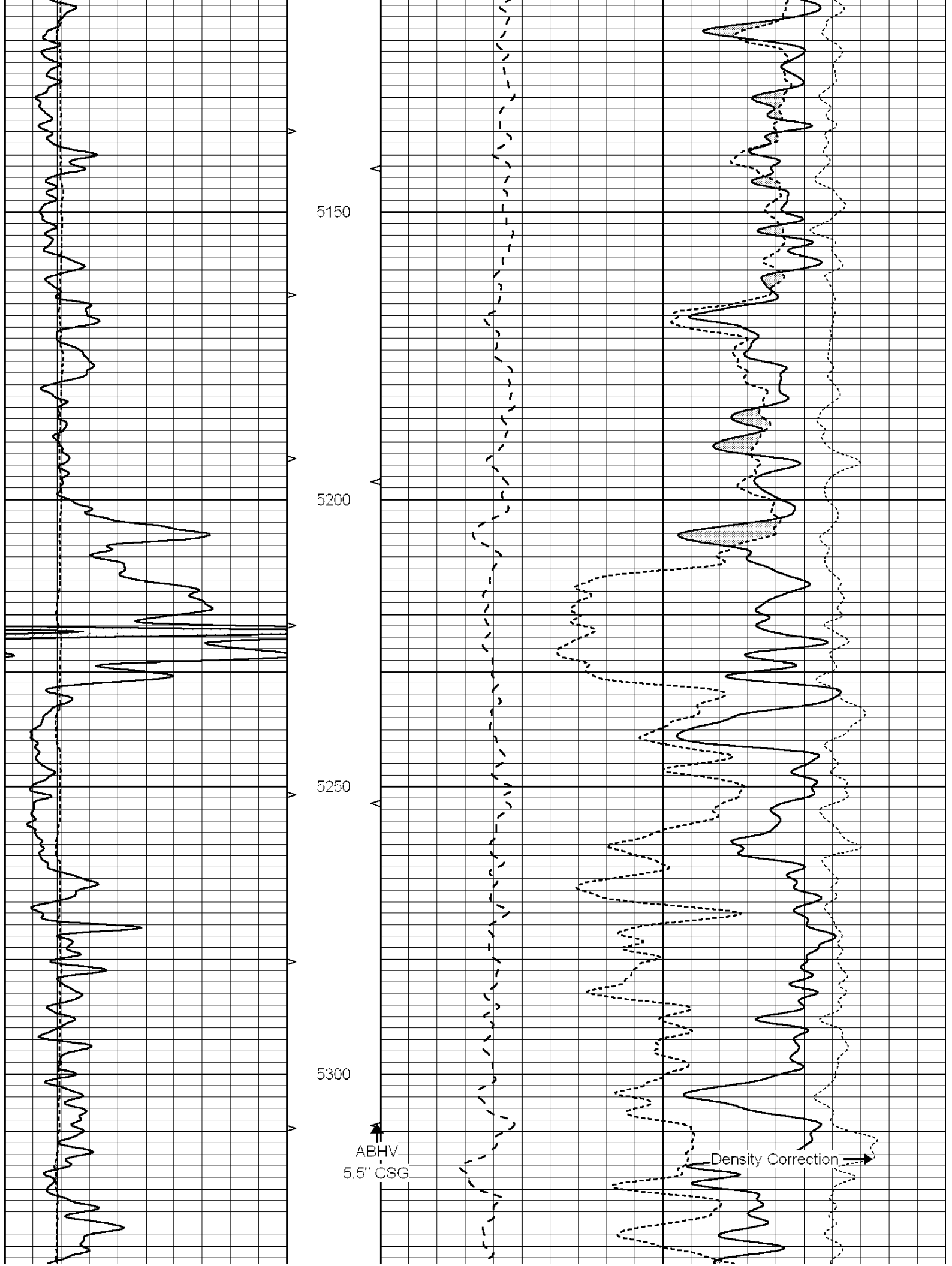
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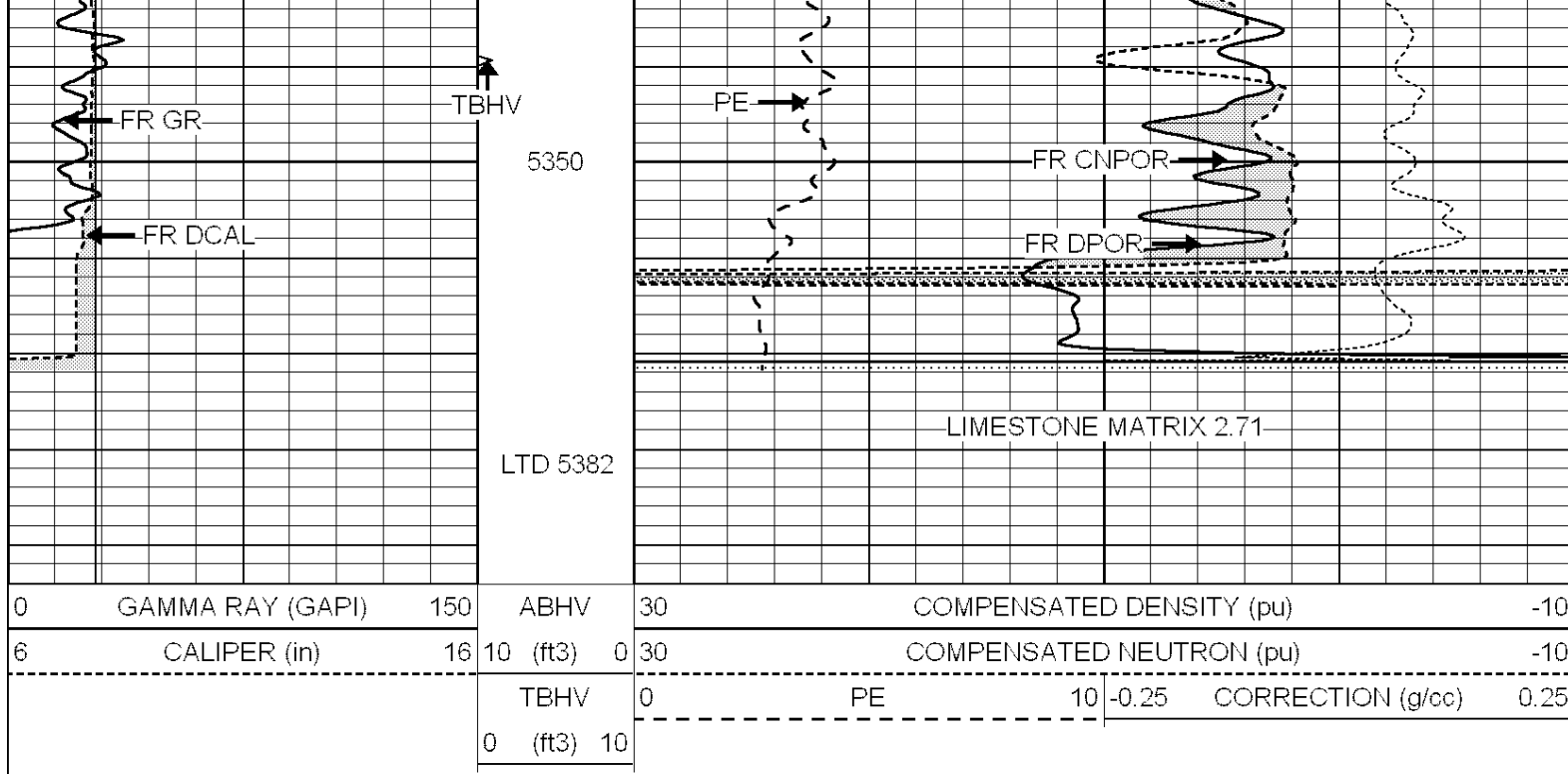
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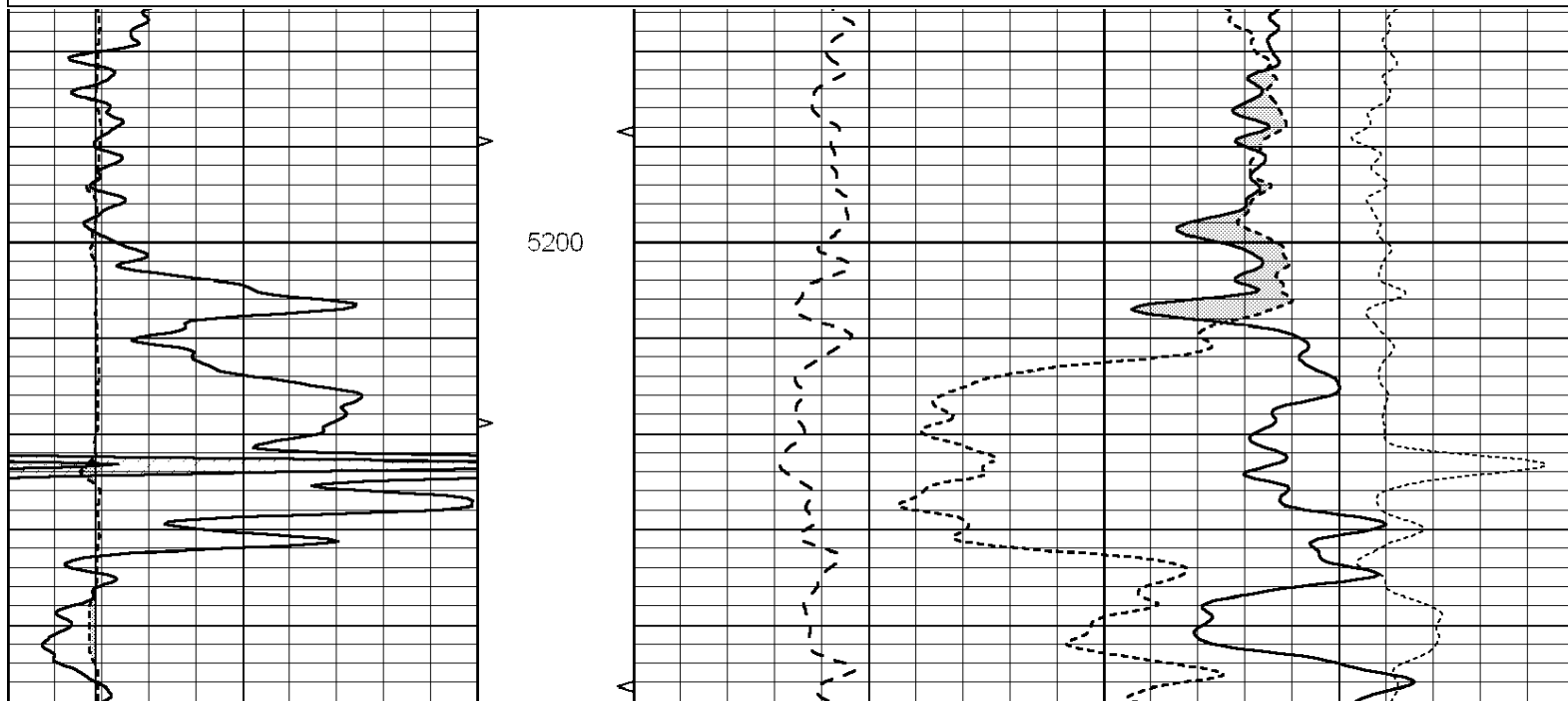
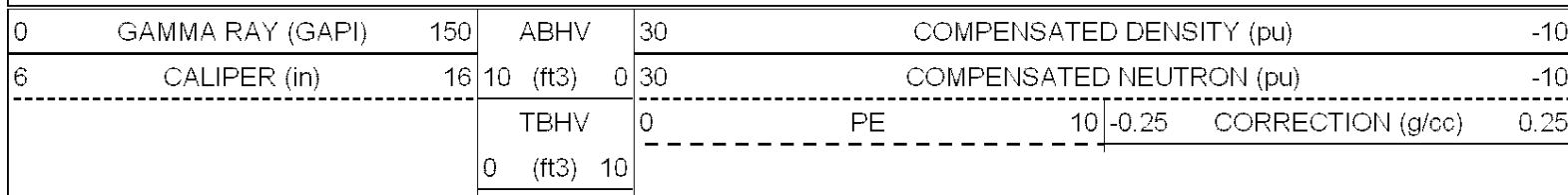


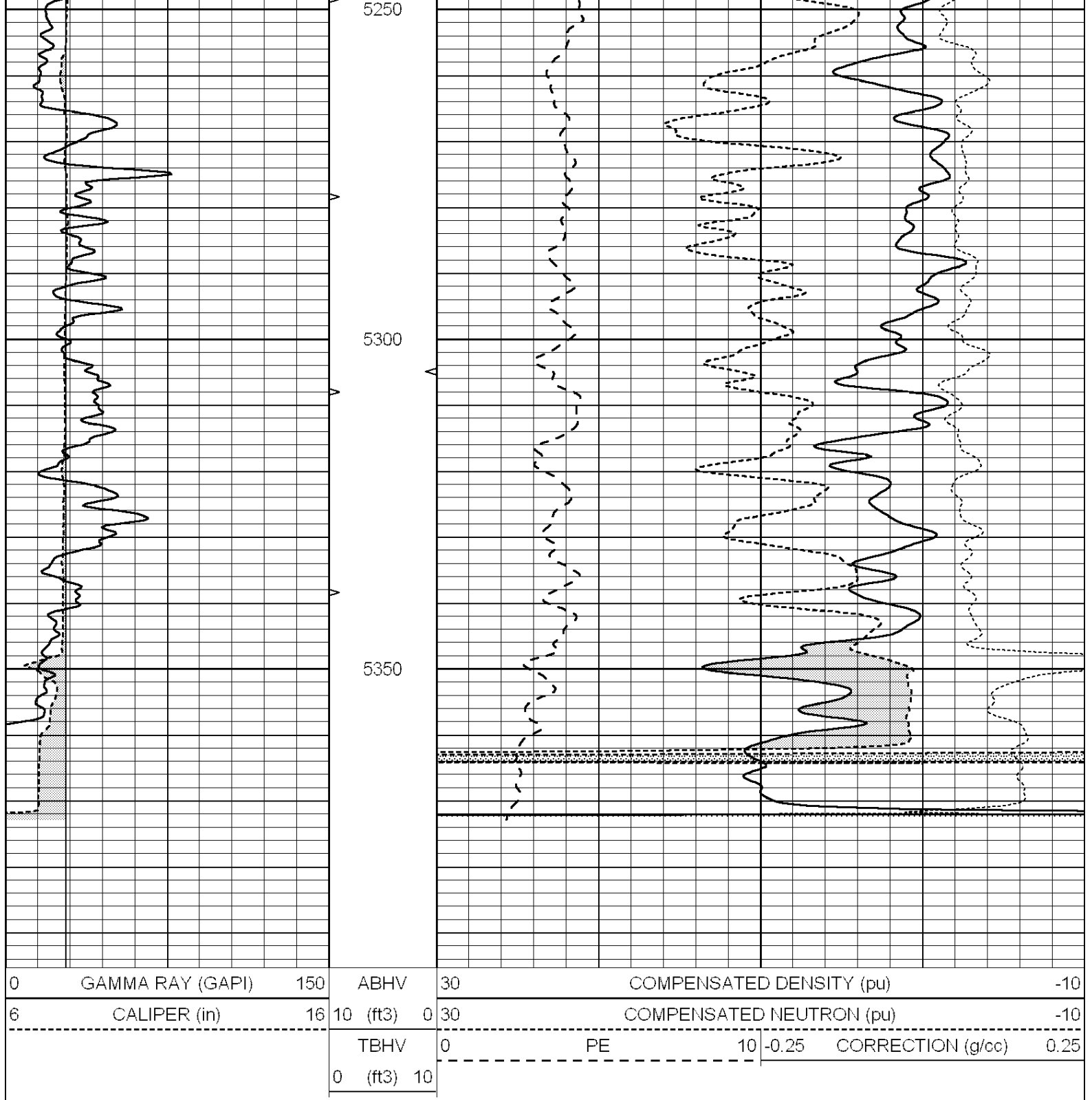


SUPERIOR
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Kansas

REPEAT SECTION

Database File: 006801pe.db
 Dataset Pathname: pass2.2
 Presentation Format: _ldt_neu
 Dataset Creation: Tue Apr 05 06:24:36 2011 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240





Calibration Report

Database File: 006801pe.db
Dataset Pathname: pass3.1
Dataset Creation: Tue Apr 05 07:28:24 2011 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model:	PROBE7-DILG
Surface Cal Performed:	Wed Jul 30 06:14:24 2008
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	621.923	8.759
Medium	0.039	0.728	V	0.000	464.000	mmho/m	673.322	-26.058
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: 002 Model: PRB Performed Mon Oct 29 15:40:49 2007								
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Litho Density Calibration								
	Background		Magnesium		Aluminum		Sandstone	
Window 1	1056.3		9118.0		2809.7		10378.4	
Window 2	969.9		7671.9		2431.6		8565.8	
Window 3	683.8		2939.8		1161.0		3161.8	
Window 4	231.4		231.6		226.7		230.8	
Long Space	0.0		6702.0		1461.7		7595.9	
Short Space	1.2		1433.6		959.4		1568.6	
Rho			1.7100		2.5900		1.3800	
Pe					2.5700		1.5500	
Rib Angle	: 45.2		Rib Slope	: 1.008		Density/Spine Ratio	: 0.559	
Spine Angle	: 75.2		Spine Slope	: 3.791		Spine Intercept	: -18.7	

Caliper	Readings		Reference	
Low Ref	2.8		8.0	
High Ref	5.0		14.0	
	Gain: 2.7		Offset: -1.6	

Compensated Neutron Calibration Report								
Serial Number:				6I				
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
Gamma Ray Calibration Report						
Serial Number:	#8					
Tool Model:	OPEN					
Performed:	Fri Feb 18 03:07:29 2011					
Calibrator Value:	150.0	GAPI				
Background Reading:	0.0	cps				
Calibrator Reading:	175.0	cps				
Sensitivity:	0.8971	GAPI/cps				