



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**COMPENSATED
DENSITY / NEUTRON
PE LOG**

Company		RESOURCE DEVELOPMENT	
Well		NININGER #11-1-1645	
Field		CHEYENNE	
County		COLORADO	
State		COLORADO	
Company		RESOURCE DEVELOPMENT TECHNOLOGY, LLC.	
Well		NININGER #11-1-1645	
Field		CHEYENNE	
County		STATE	
State		COLORADO	
Location:		API # : 05-017-07763-00	
SEC 1 TWP 16S RGE 45W		DIL/SON	
Permanent Datum		GROUND LEVEL	
Log Measured From		KELLY BUSHING 11' A.G.L.	
Drilling Measured From		KELLY BUSHING	
Elevation		4345	
K.B. 4356		D.F. 4354	
G.L. 4345			
Date	10/19/13		
Run Number	ONE		
Depth Driller	5590		
Depth Logger	5591		
Bottom Logged Interval	5567		
Top Log Interval	3800		
Casing Driller	8 5/8" @ 681		
Casing Logger	678		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.2/67		
pH / Fluid Loss	10.5/7.2		
Source of Sample	FLOWLINE		
Rin @ Meas. Temp	.70 @ 80F		
Rinf @ Meas. Temp	.52 @ 80F		
Rinc @ Meas. Temp	.84 @ 80F		
Source of Rinf / Rinc	MEASUREMENT		
Rin @ BHT	.43 @ 130F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	130F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	PHIL ASKEY		
	TOM BOWMAN		

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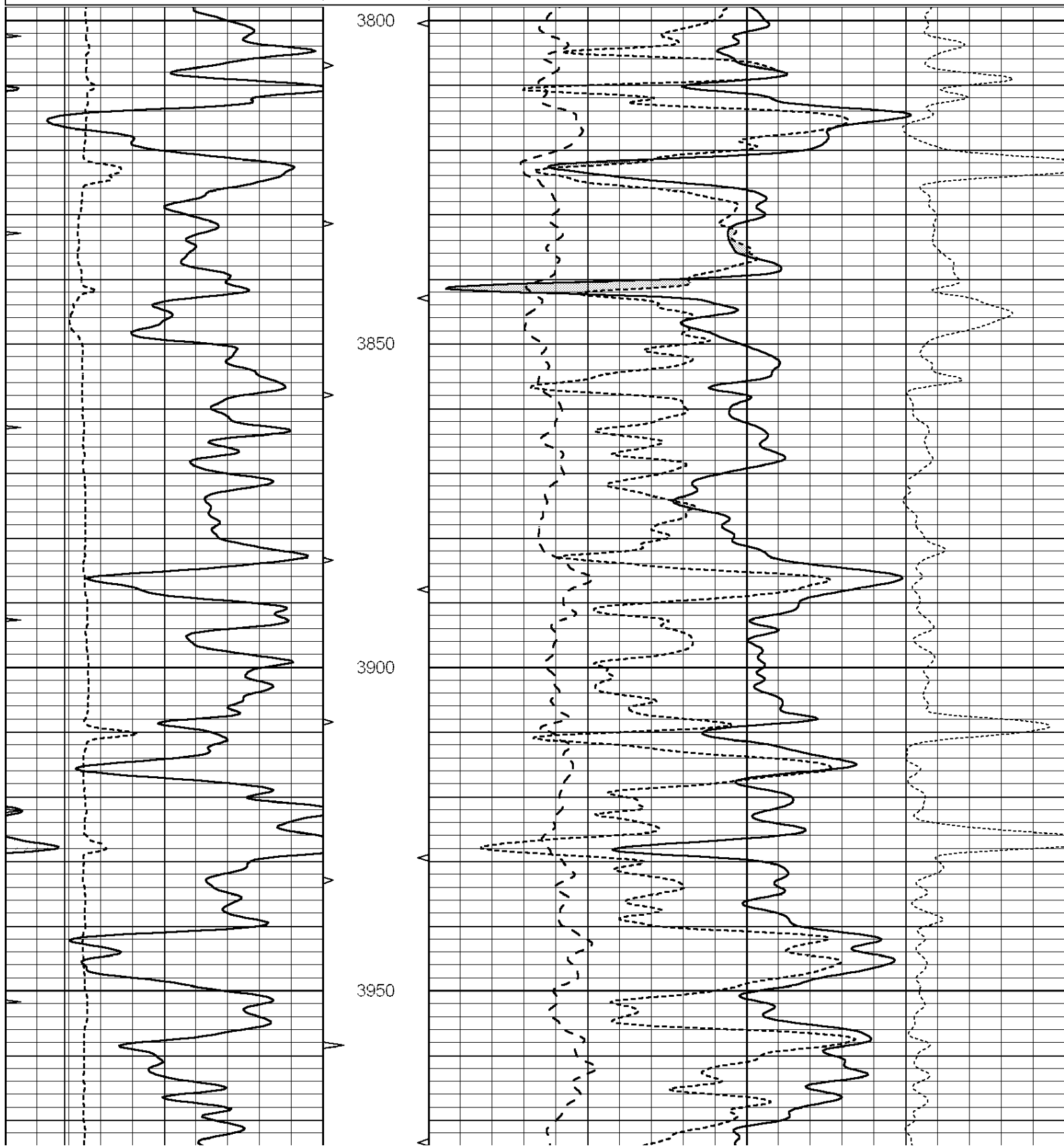
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs,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

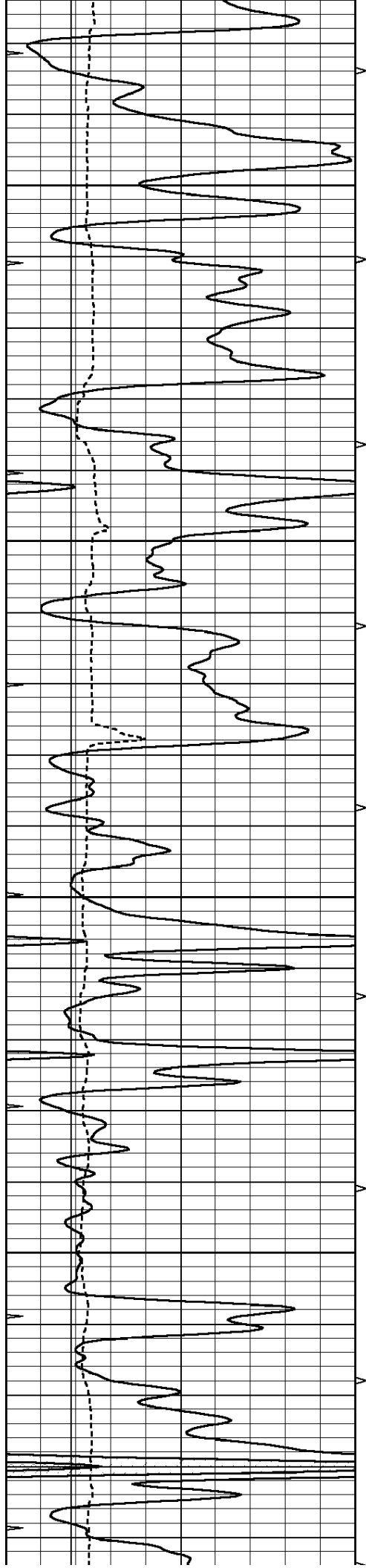
Comments

THANK YOU FOR USING "NABORS" HAYS, KANSAS (785) 628-6395
DIRECTIONS
CHEYENNE WELLS, CO. - EAST EDGE GO 8 3/4 S. TO RD. G - 4 3/4 W. - S. & E. INTO

Database File: 011691pe.db
 Dataset Pathname: pass4.1
 Presentation Format: _ldt_neu
 Dataset Creation: Sat Oct 19 18:08:48 2013 by Calc SOC 120430
 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	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV	0	PE	10 -0.25 CORRECTION (g/cc) 0.25
			0 (ft3)	10		



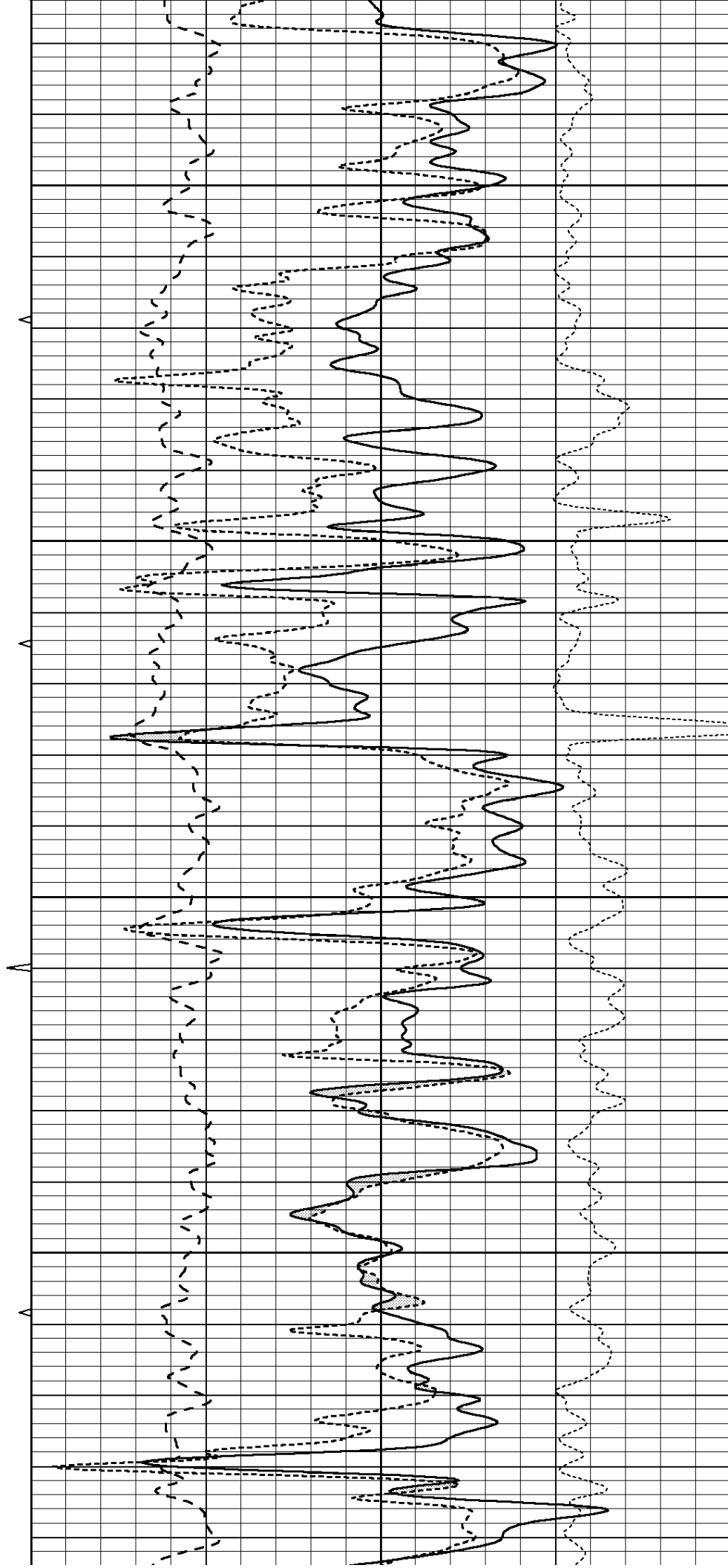


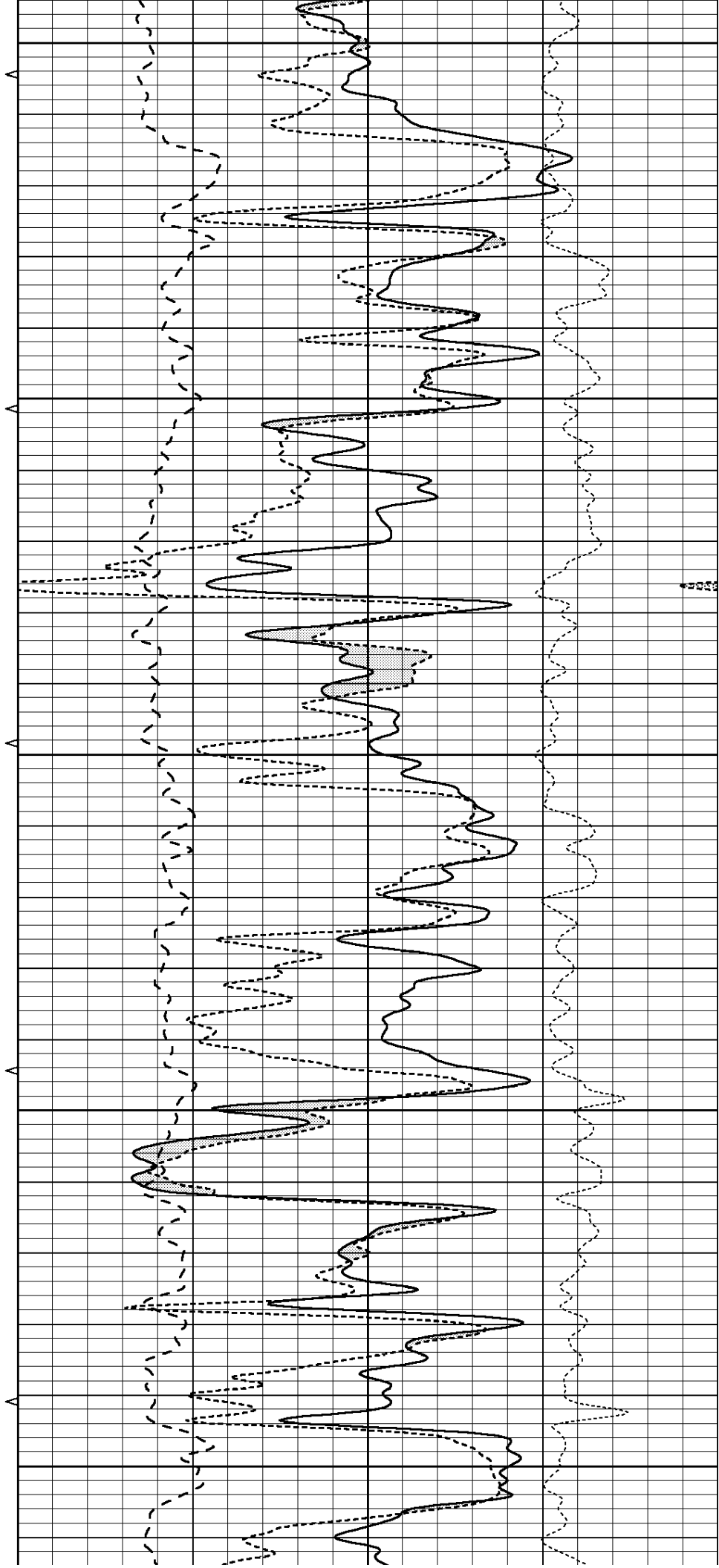
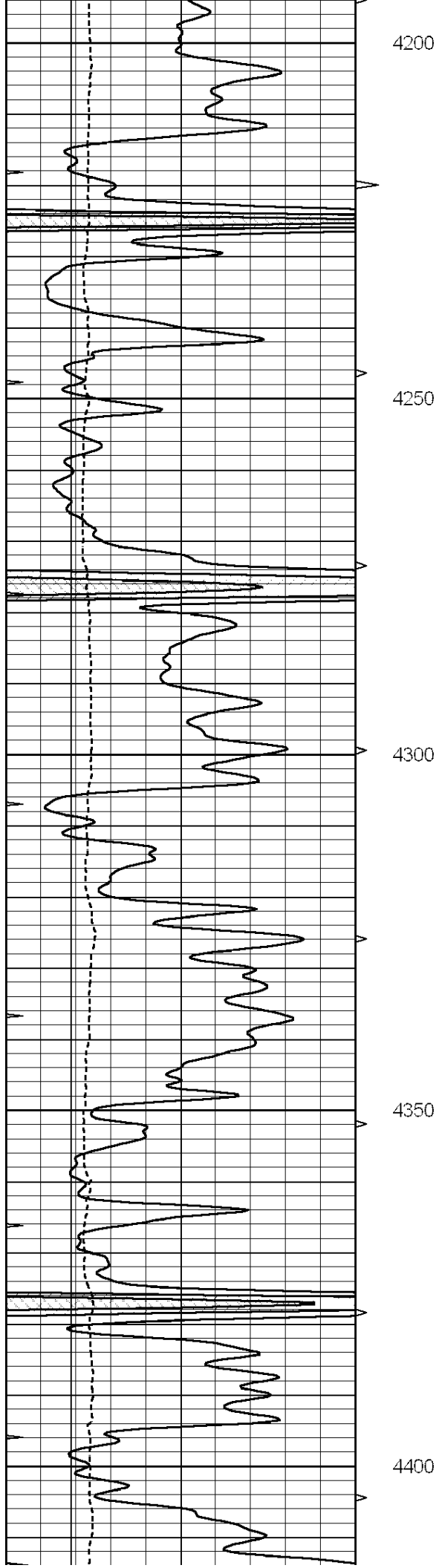
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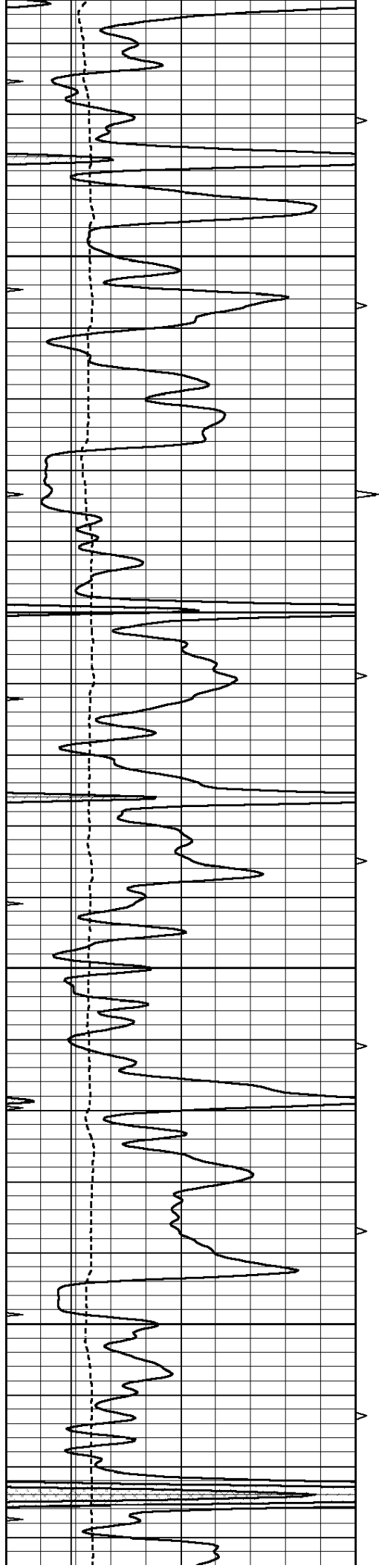
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4100

4150





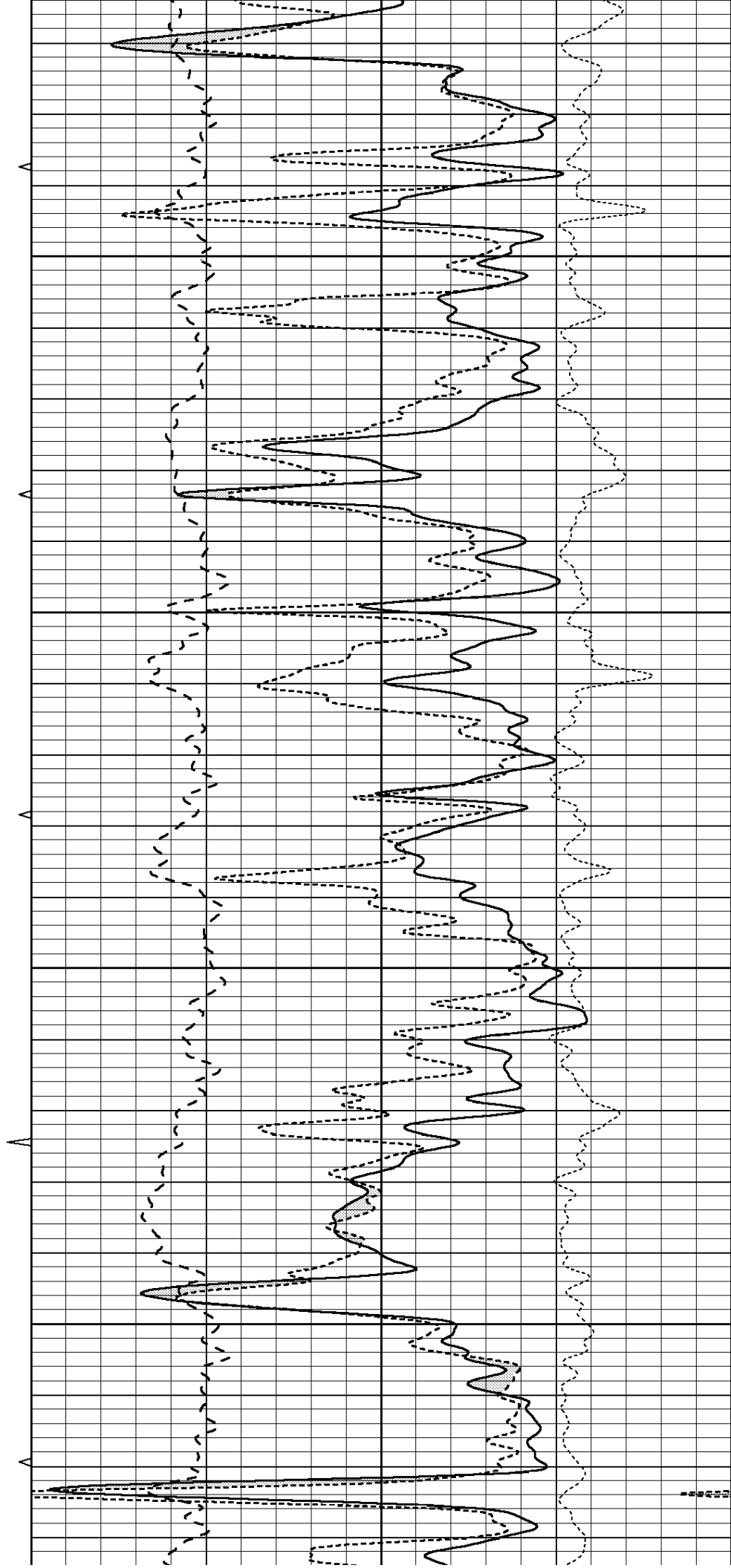


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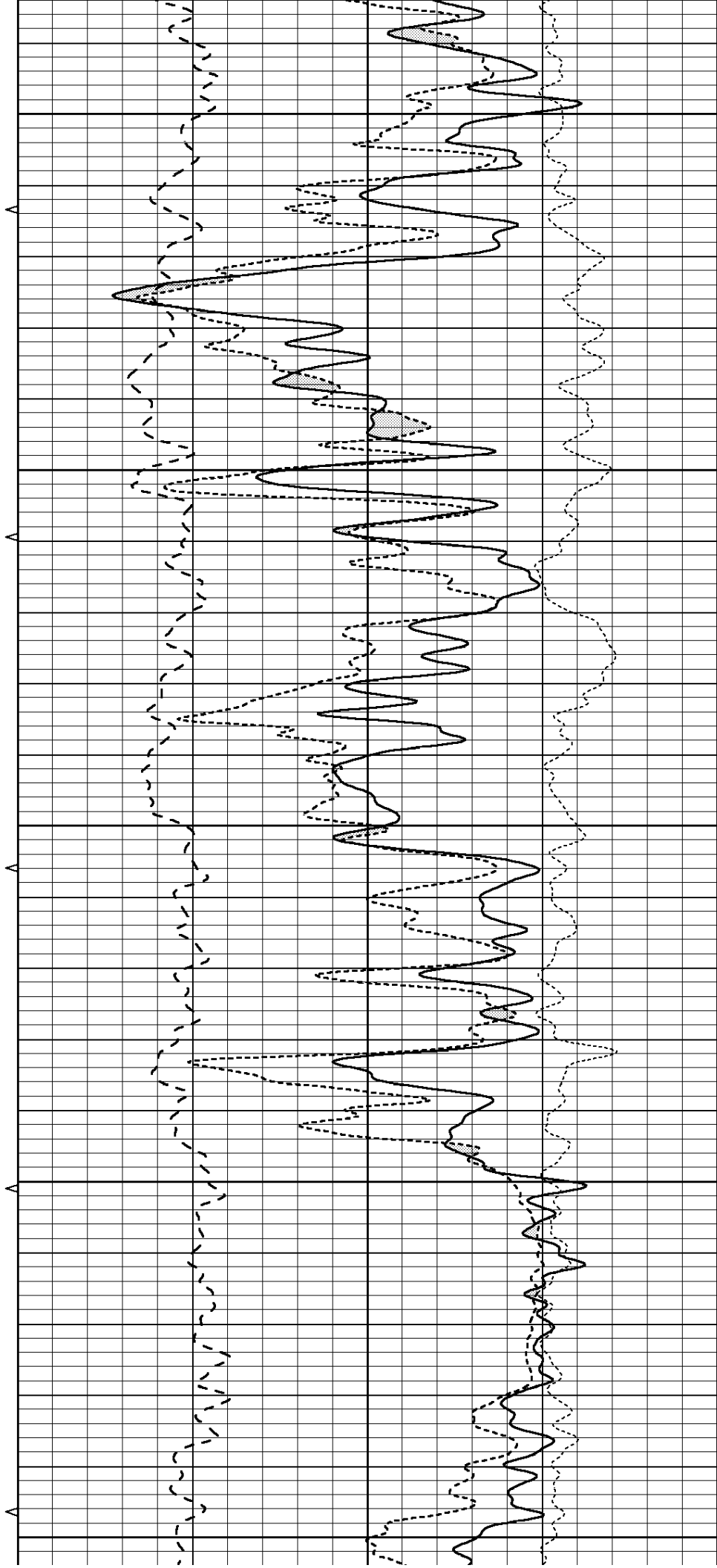
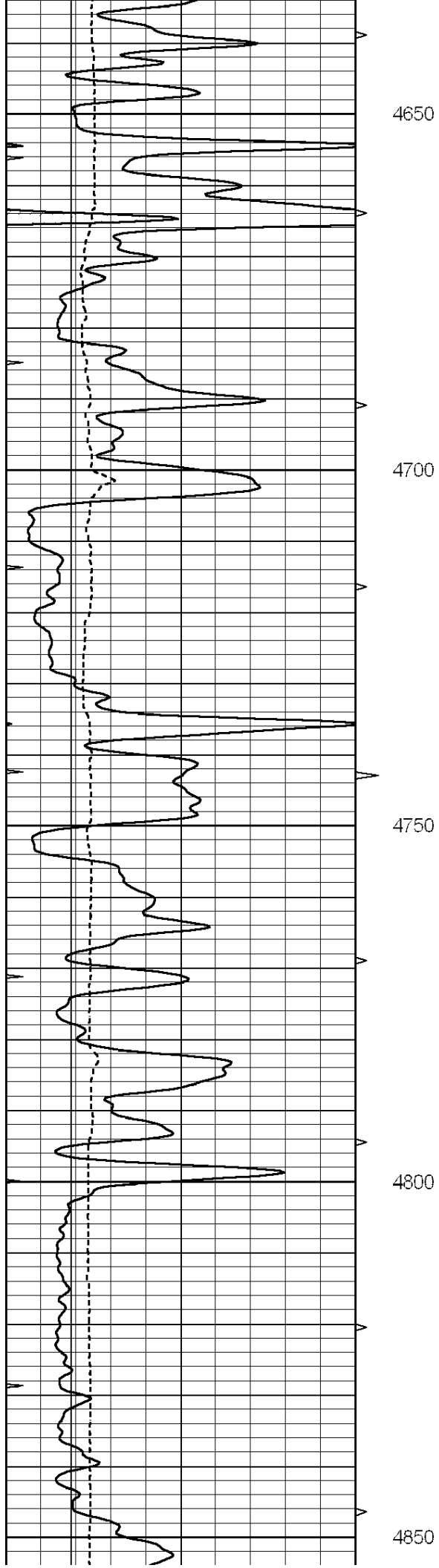
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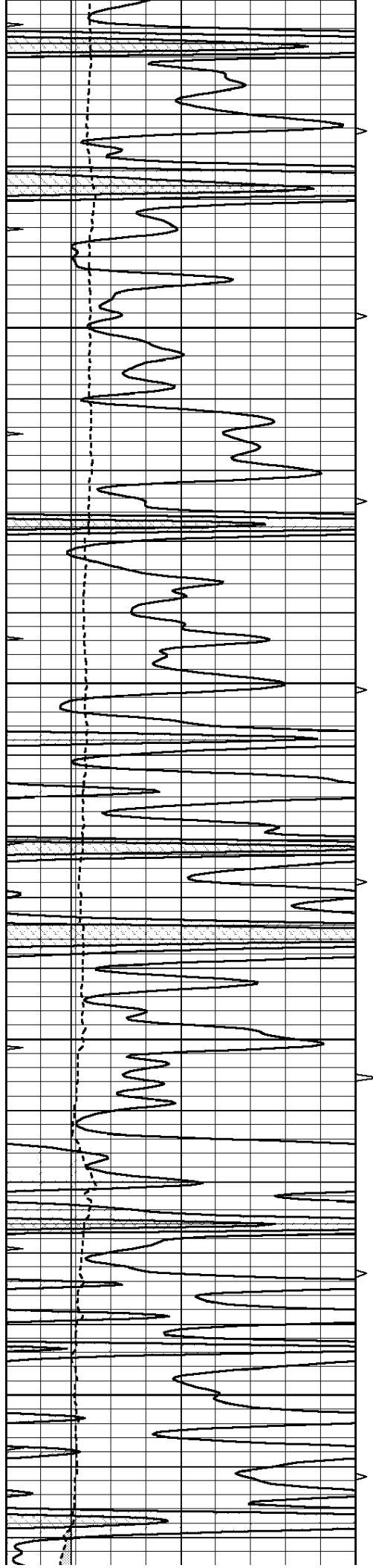
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4600



Observed
Model
Residual



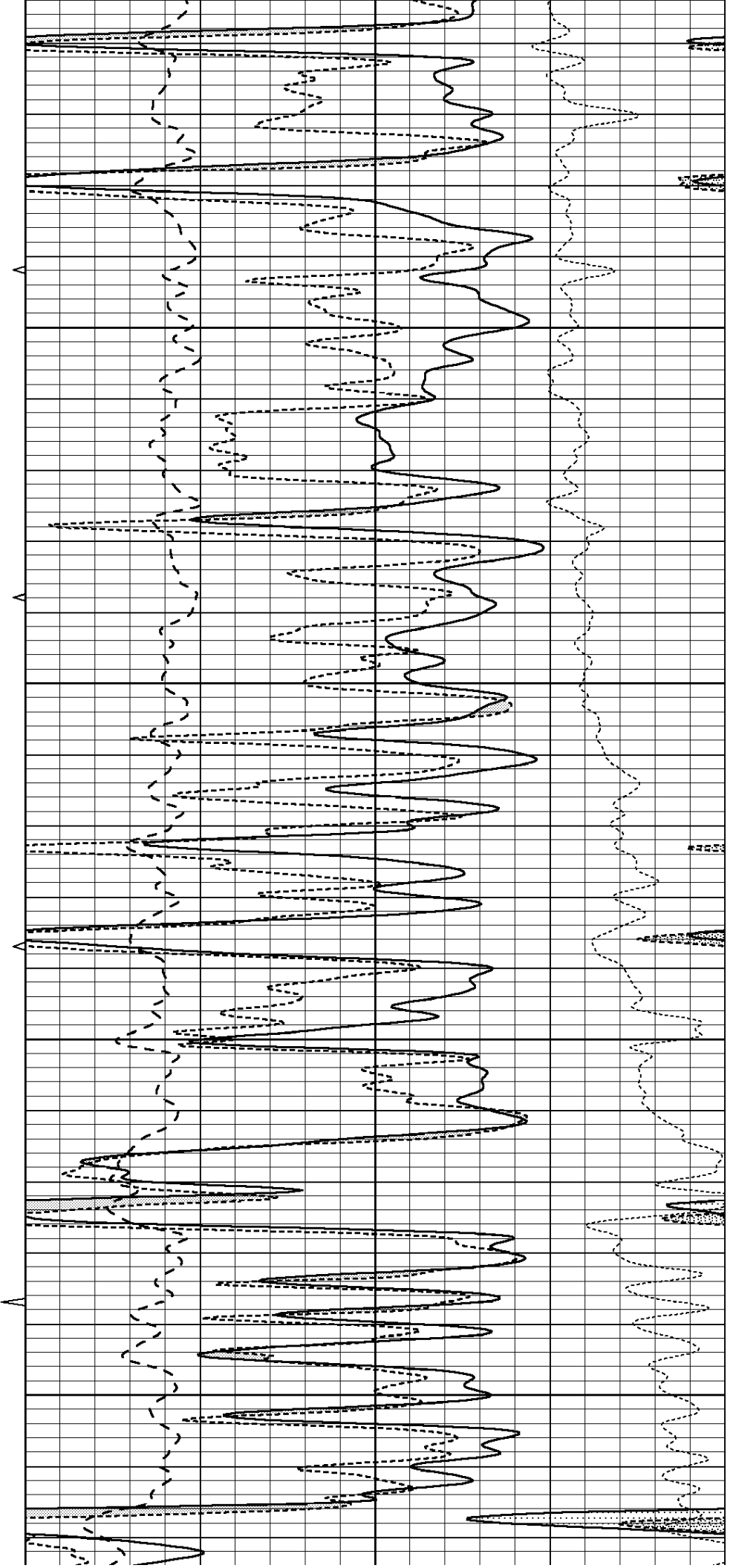


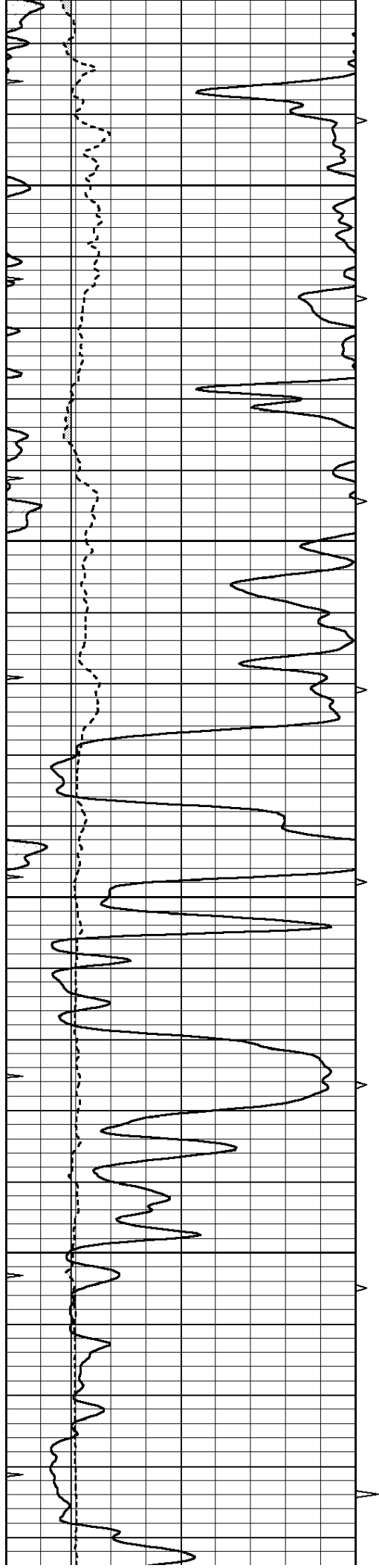
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4950

5000

5050



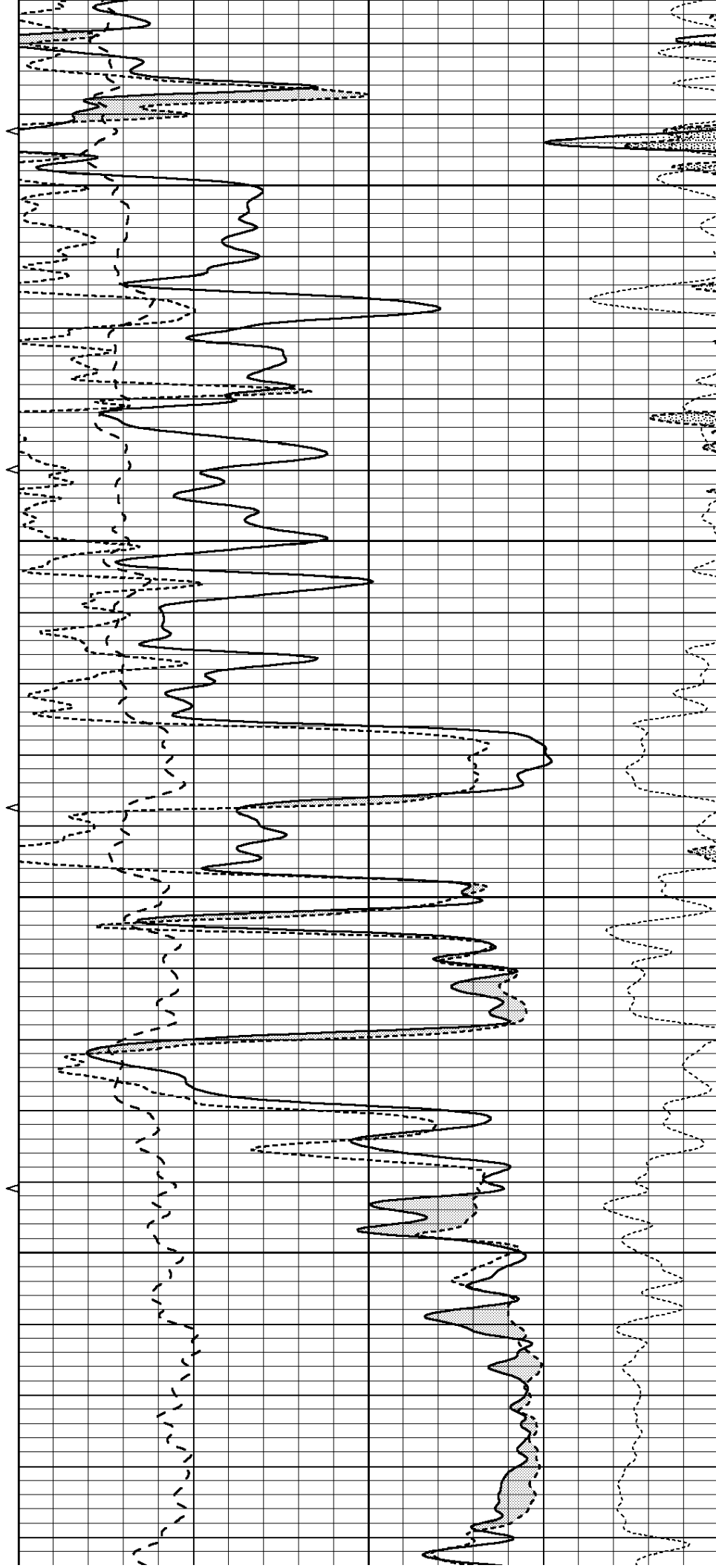


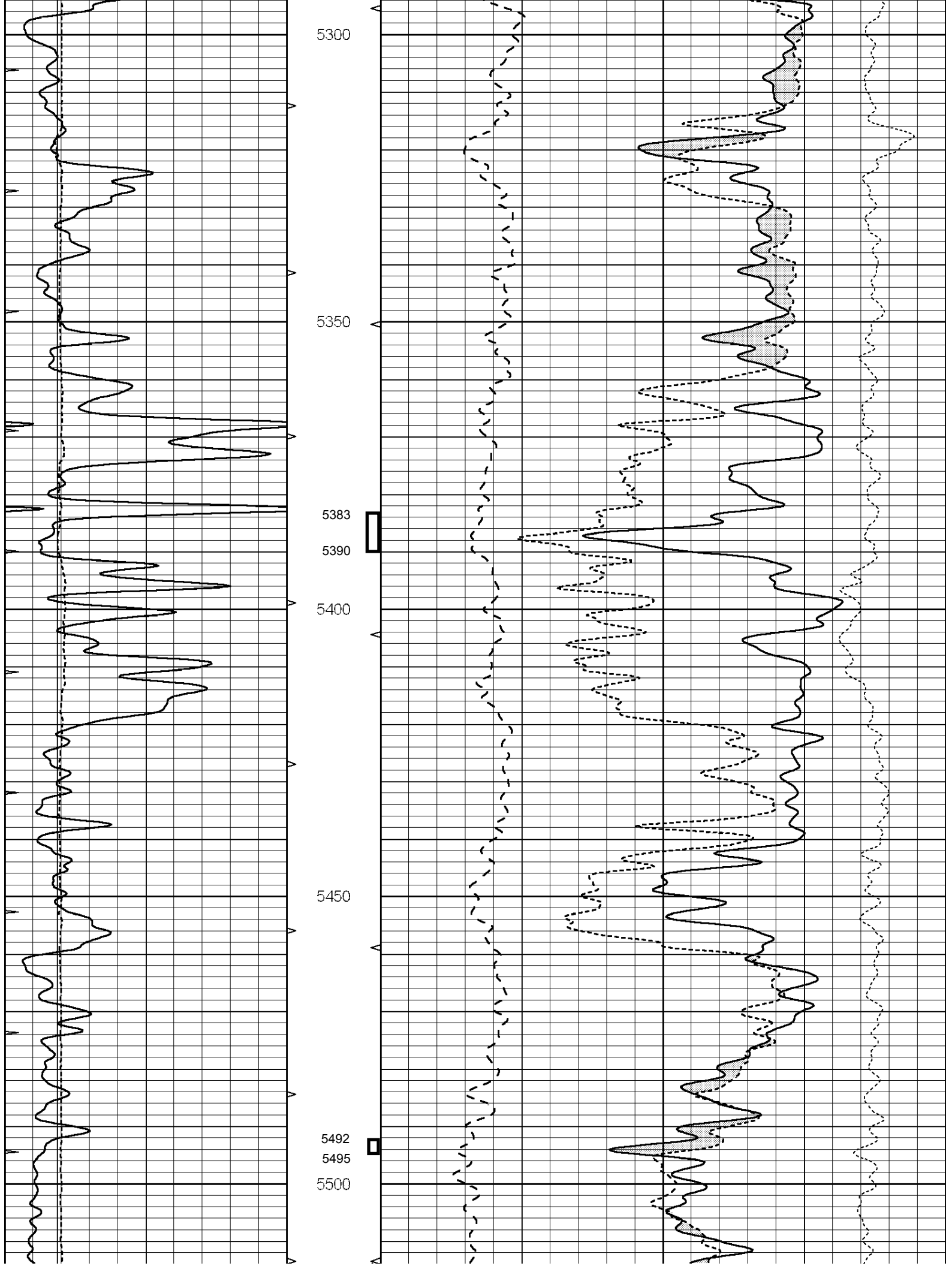
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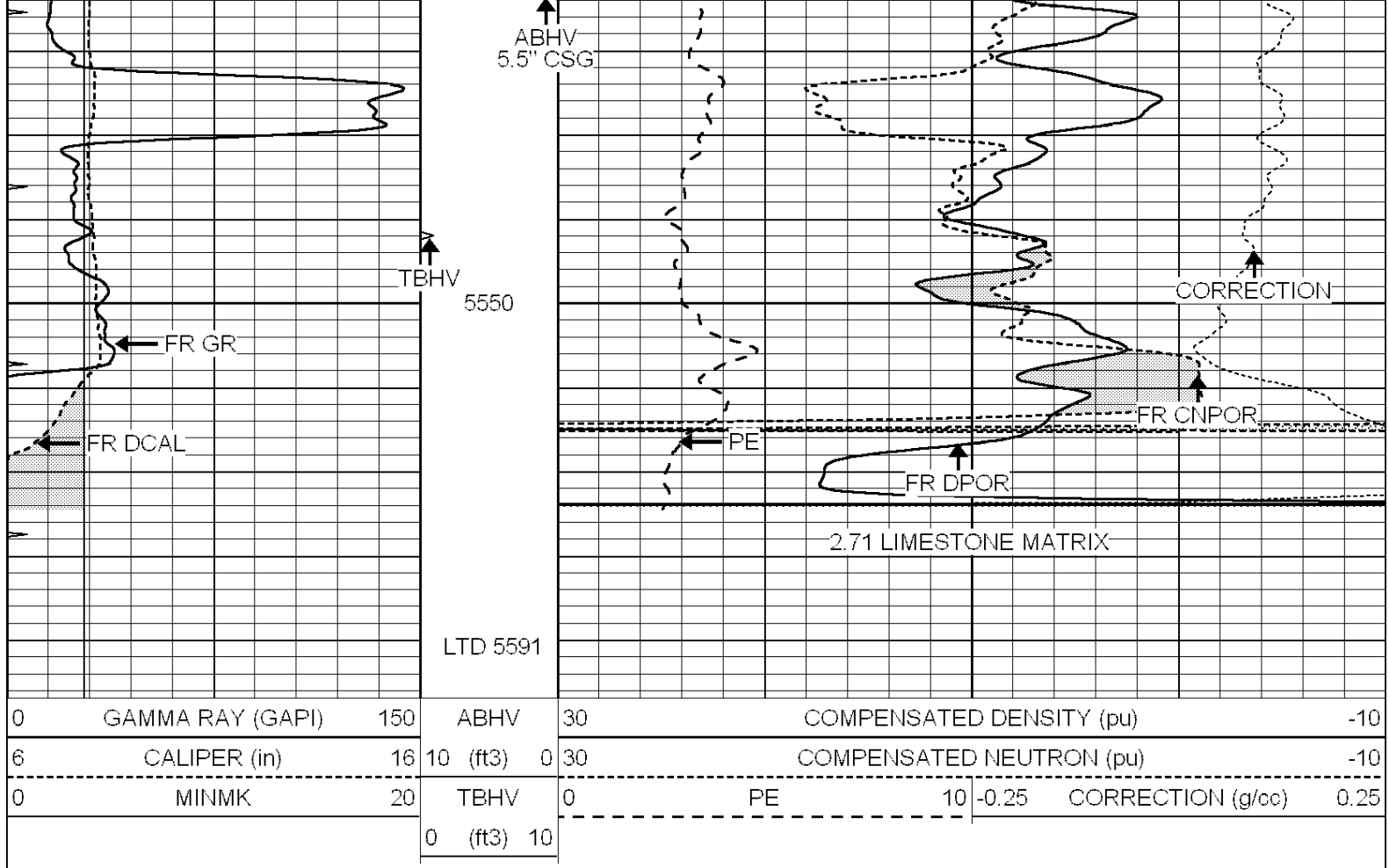
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5200

5250





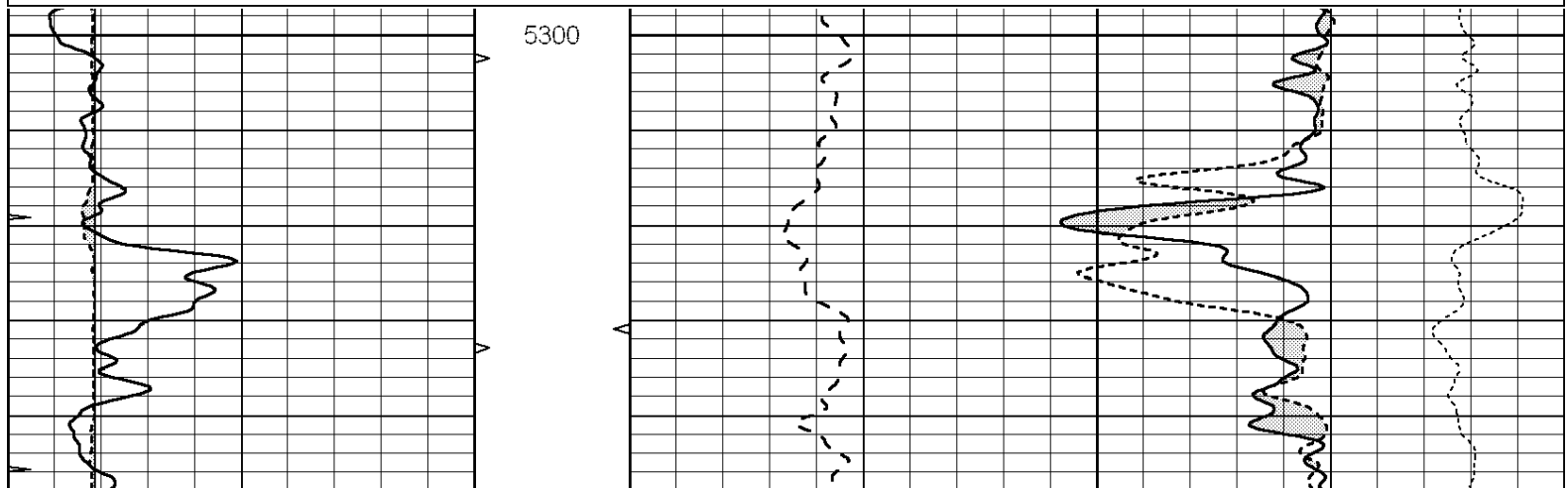


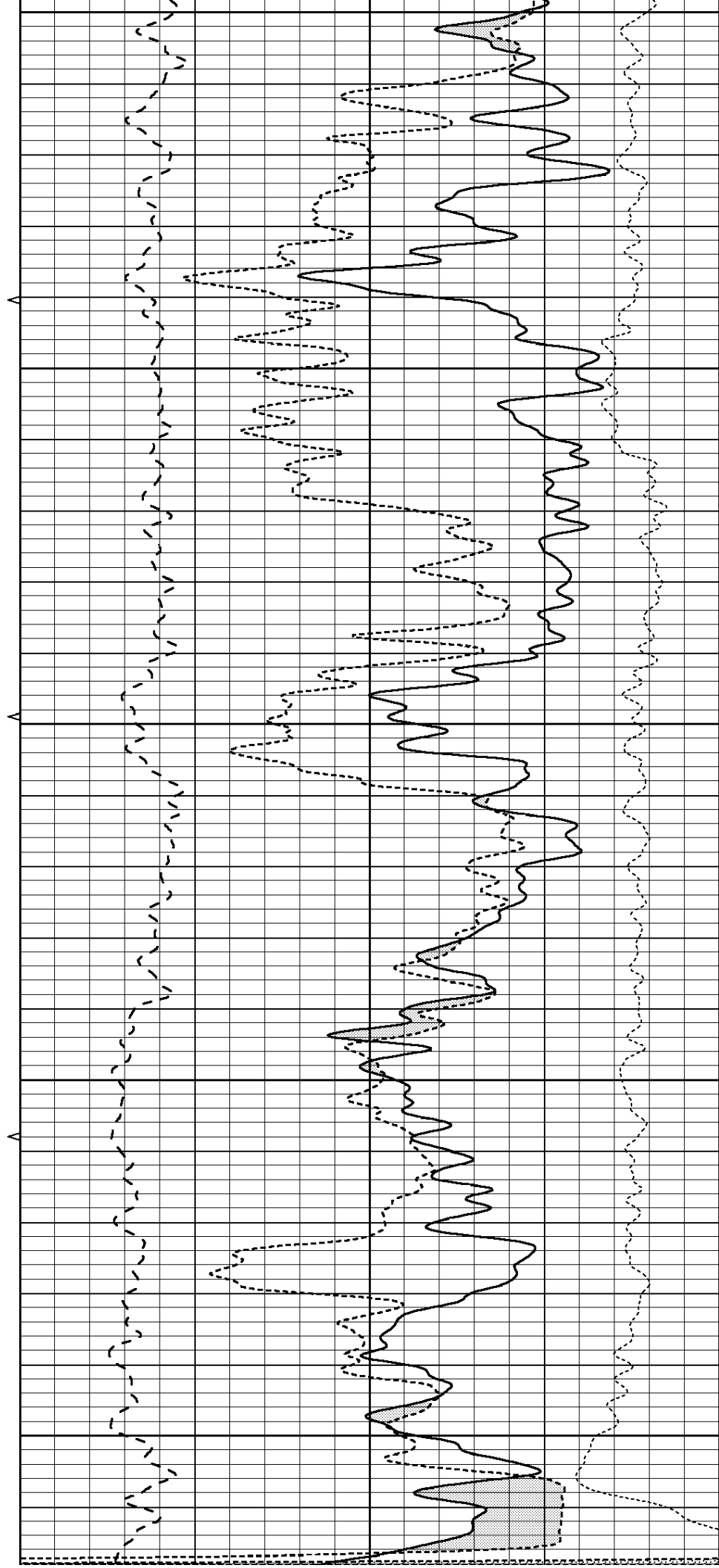
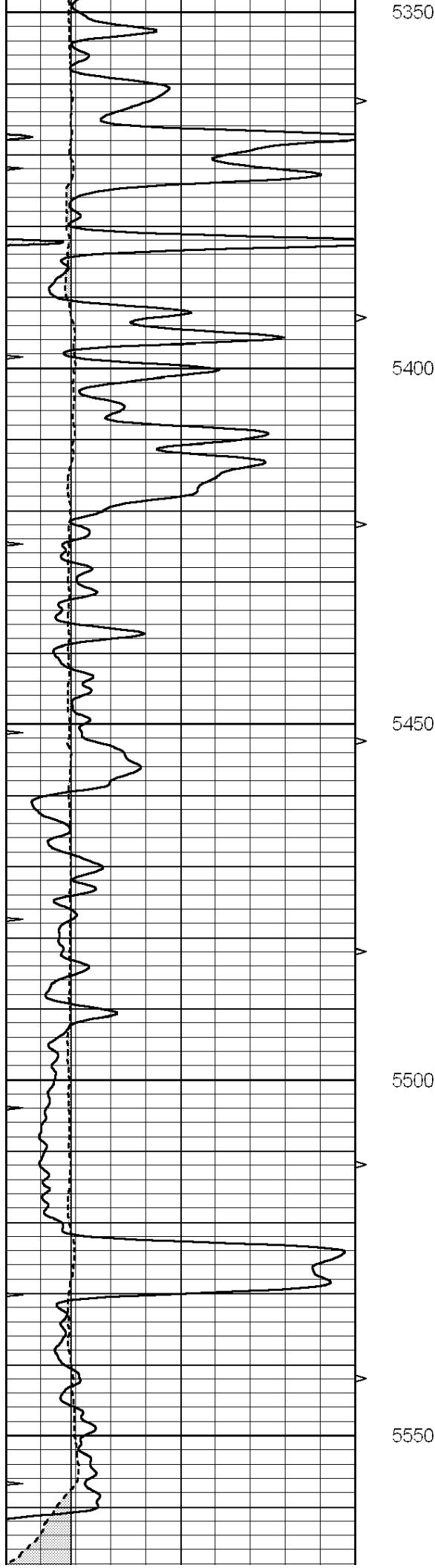
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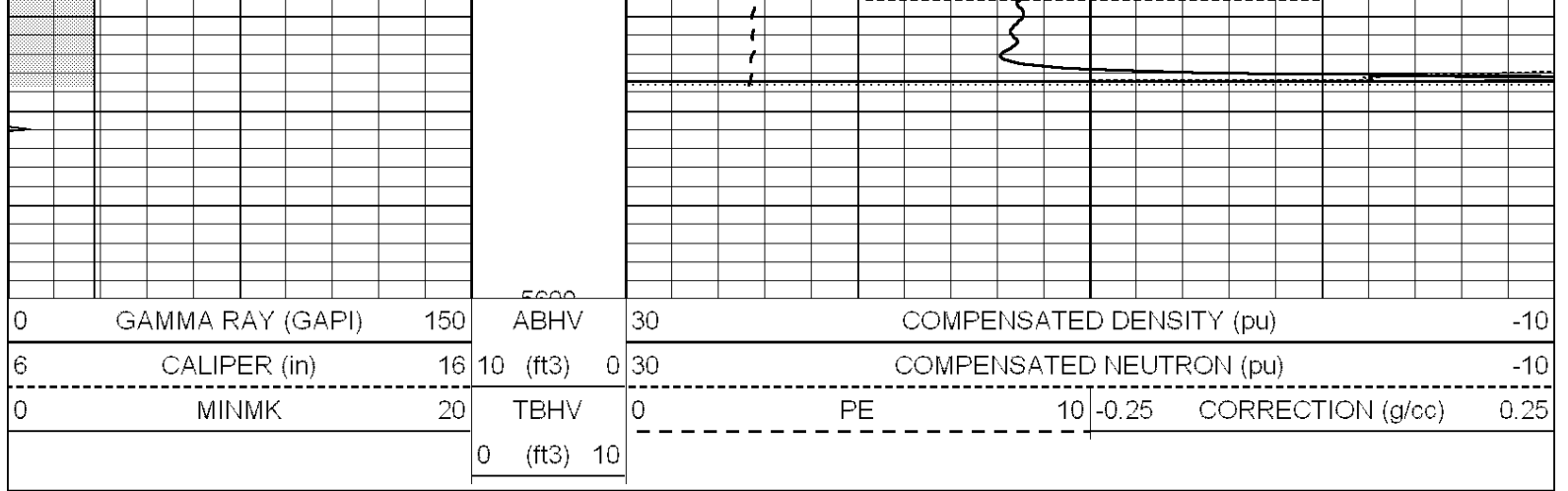
REPEAT SECTION

Database File: 011691pe.db
Dataset Pathname: pass3.1
Presentation Format: _ldt_neu
Dataset Creation: Sat Oct 19 17:58:38 2013 by Calc SOC 120430
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	COMPENSATED NEUTRON (pu)	-10
0	MINMK	20	TBHV	0	PE	10
			0 (ft3)	10	-0.25	CORRECTION (g/cc) 0.25







Calibration Report									
Database File:		011691pe.db							
Dataset Pathname:		pass3.1							
Dataset Creation:		Sat Oct 19 17:58:38 2013 by Calc SOC 120430							
Dual Induction Calibration Report									
Serial-Model:					PROBE9-DILG				
Surface Cal Performed:					Wed Oct 16 00:28:49 2013				
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	650.000	-4.000	
Medium	0.039	0.728	V	0.000	464.000	mmho/m	640.000	-9.000	
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: 004N					Model: PRB				
Master Calibration					Performed Mon Jun 03 09:36:56 2013				

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1417.6	10391.4	3464.6	11537.5	cps
Window 2	1295.0	8959.7	3050.1	9816.4	cps
Window 3	1105.1	5464.2	2051.0	5838.8	cps
Window 4	315.0	317.7	312.9	319.8	cps
Long Space	0.0	7664.6	1755.0	8521.3	cps
Short Space	1.8	1582.4	1040.8	1699.4	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	
Rib Angle	: 44.1	Rib Slope	: 0.970	Density/Spine Ratio	: 0.574
Spine Angle	: 74.1	Spine Slope	: 3.519	Spine Intercept	: -17.0

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 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	

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Compensated Neutron Calibration Report
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Serial Number:	070808
Tool Model:	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 CP

Room Model: OPEN_SIX
Performed: Wed Oct 16 03:19:01 2013

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps

Calibrator Reading: 1.0 cps

Sensitivity: 0.3000 GAPI/cps