SUPERIOR WELL SERVICES

SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company	MULL DRILLING COMPANY, INC.
Well	REINERT #1-11
Field	WILDCAT
County	NESS
State	KANSAS

Company MULL DRILLING COMPANY, INC.

Well REINERT #1-11

Field WILDCAT

County NESS State KANSAS

Location: API # : 15-135-25185-0000
1617' FSL & 1996' FWL
NE/4 - SW/4
SEC 11 TWP 20S RGE 23W

Other Services: CDL/CNL/PE, MEL/SON

Permanent Datum: GROUND LEVEL Elevation 2259
Log Measured From: KELLY BUSHING 8' A.G.L.
Drilling Measured From: KELLY BUSHING

Elevation: K.B. 2268, D.F. 2266, G.L. 2259

Date	12-22-10		
Run Number	ONE		
Depth Driller	4451		
Depth Logger	4451		
Bottom Logged Interval	4449		
Top Log Interval	0		
Casing Driller	8 7/8" @ 229		
Casing Logger	226		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6900 PPM	
Density / Viscosity	9.2/52		
pH / Fluid Loss	9.5/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.95 @ 69F		
Rmf @ Meas. Temp	0.71 @ 69F		
Rmc @ Meas. Temp	1.14 @ 69F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	0.55 @ 120F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	120F		
Equipment Number	680		
Location	HAYS, KS.		
Recorded By	JEFF GRONEWEG		
Witnessed By	KEVIN KESSLER		

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Comments

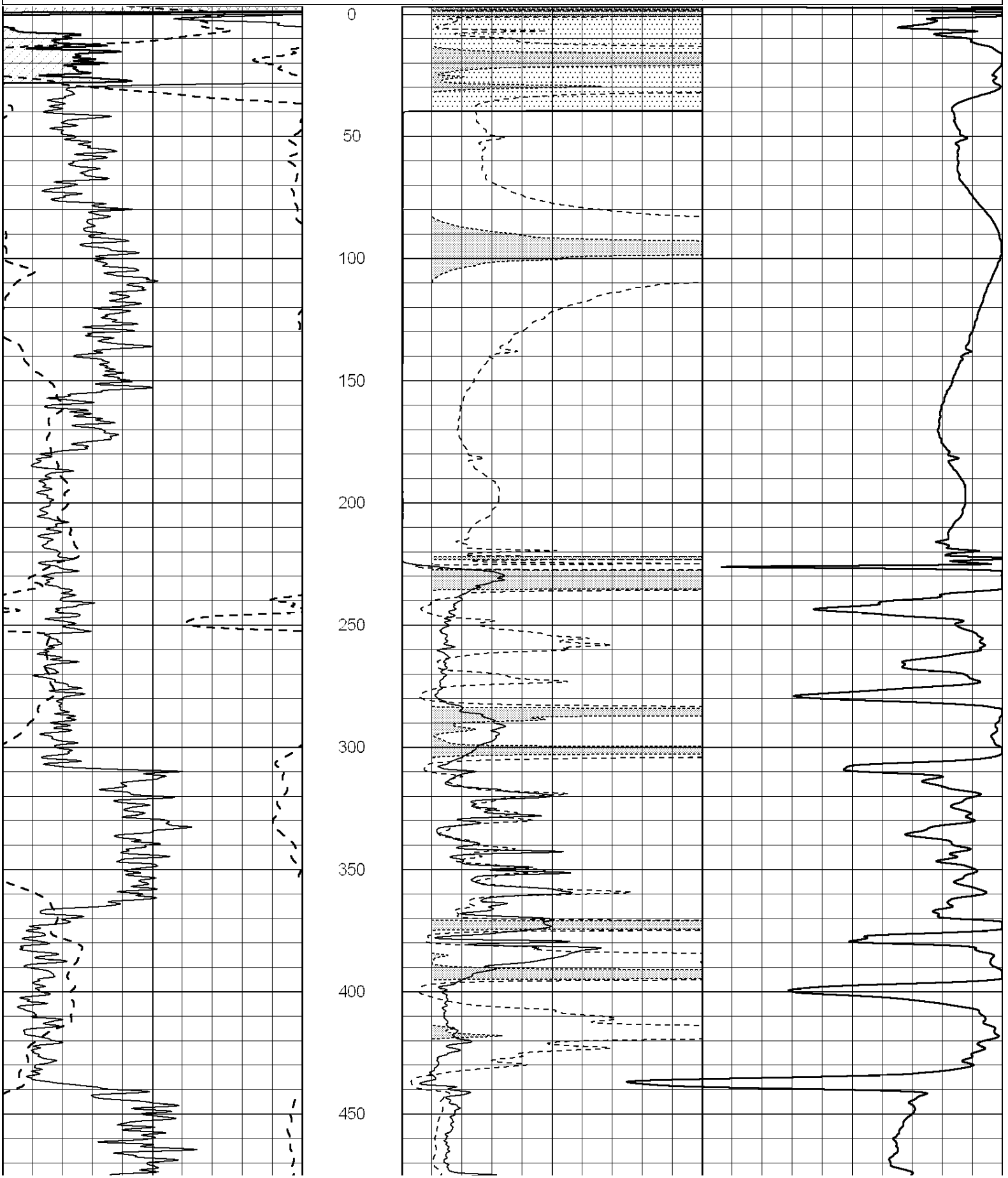
THANK YOU FOR USING SUPERIOR WELL SERVICE (785) 628-6395
DIRECTIONS
NESS CITY, KS - 9 MILES SOUTH TO COUNTY RD 40 - 3 MILES EAST
NORTH INTO

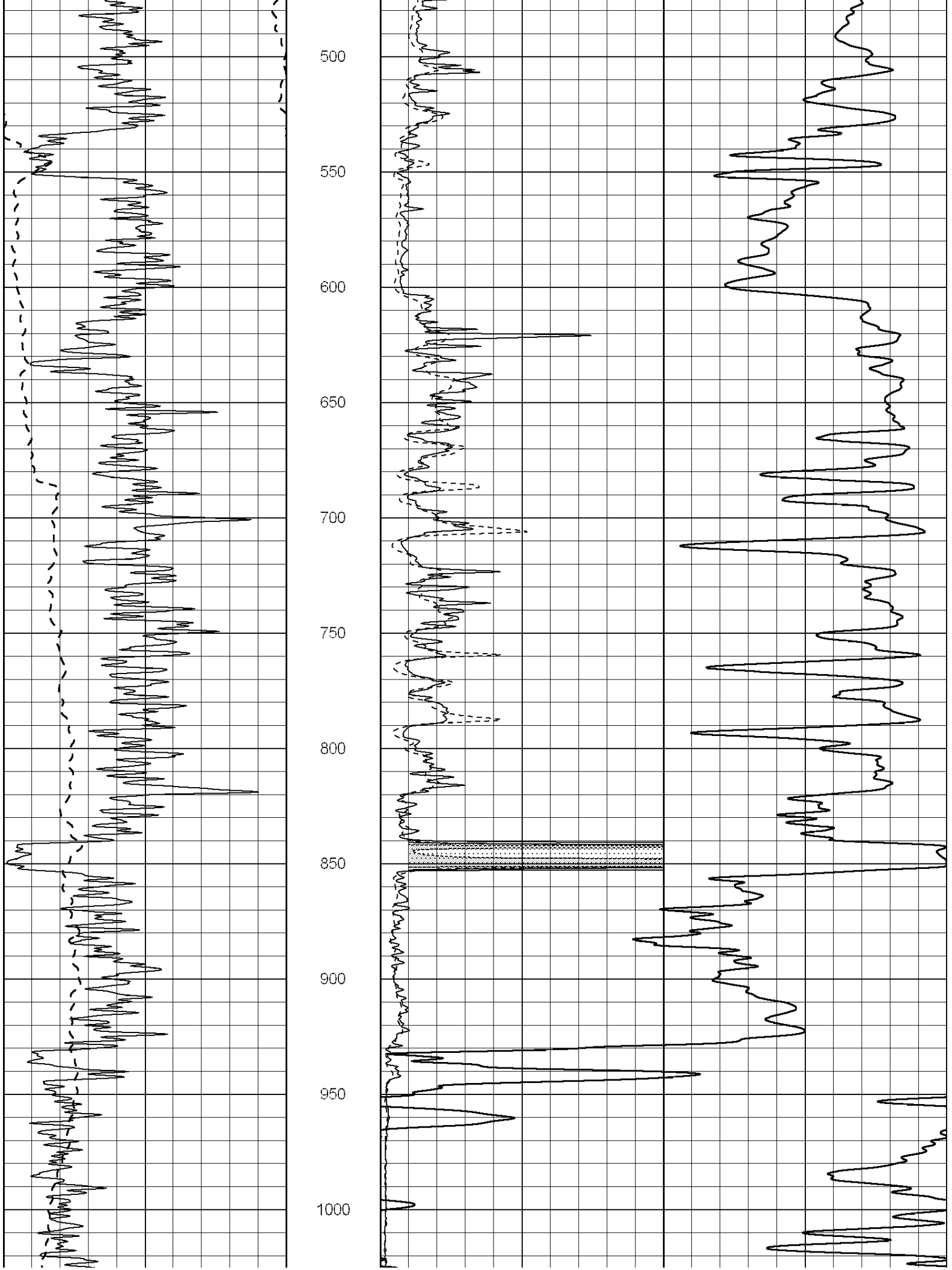
Database File:	006436pe.db
Dataset Pathname:	pass3.2
Presentation Format:	_dil2
Dataset Creation:	Wed Dec 22 05:50:30 2010 by Calc Open-Cased 090629
Charted by:	Depth in Feet scaled 1:600

Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
-100	SP (mV)	100

0	RLL3 (Ohm-m)	50
0	Deep Induction (Ohm-m)	50
1000	CILD (mmho/m)	0
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

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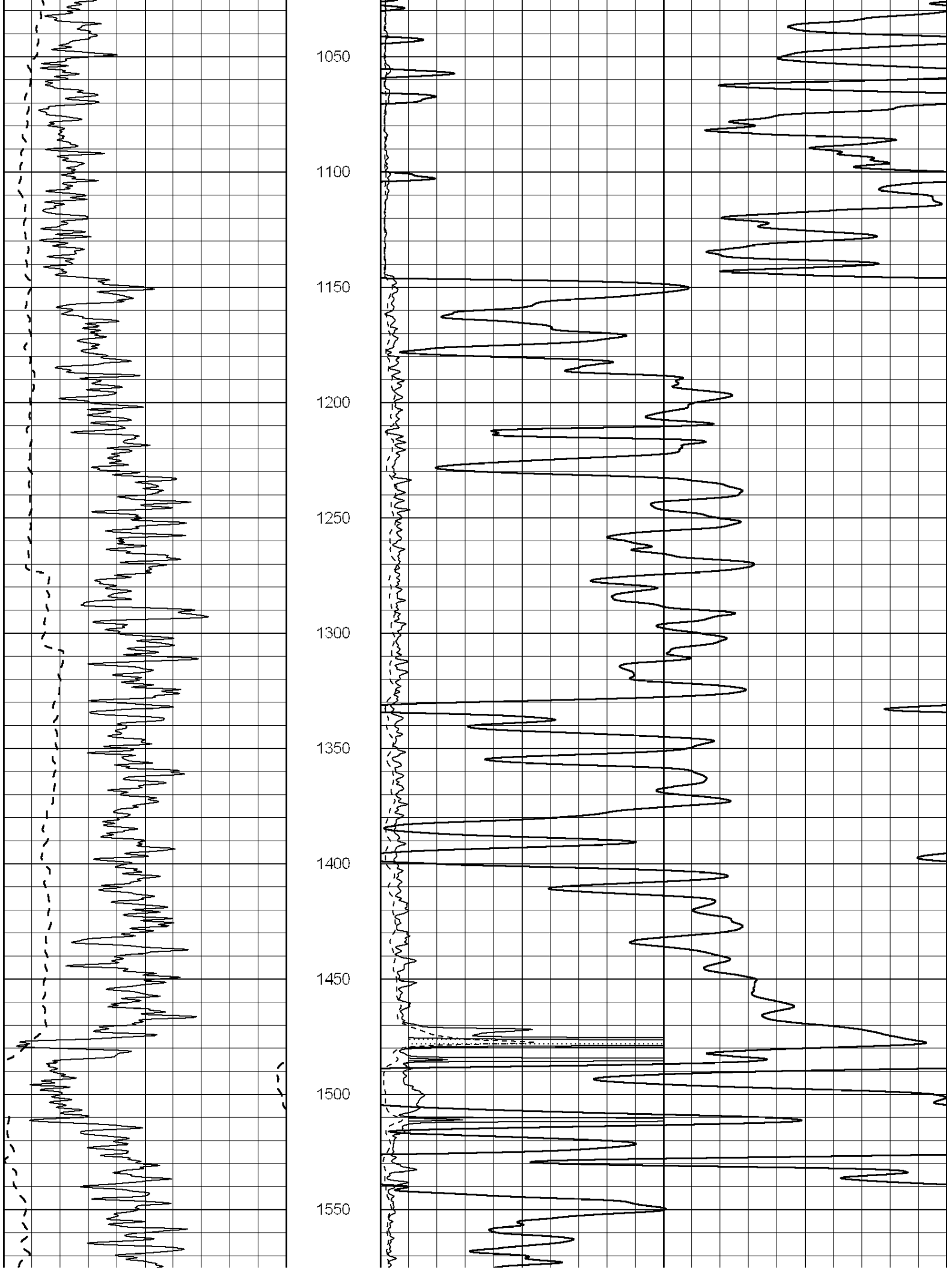
1000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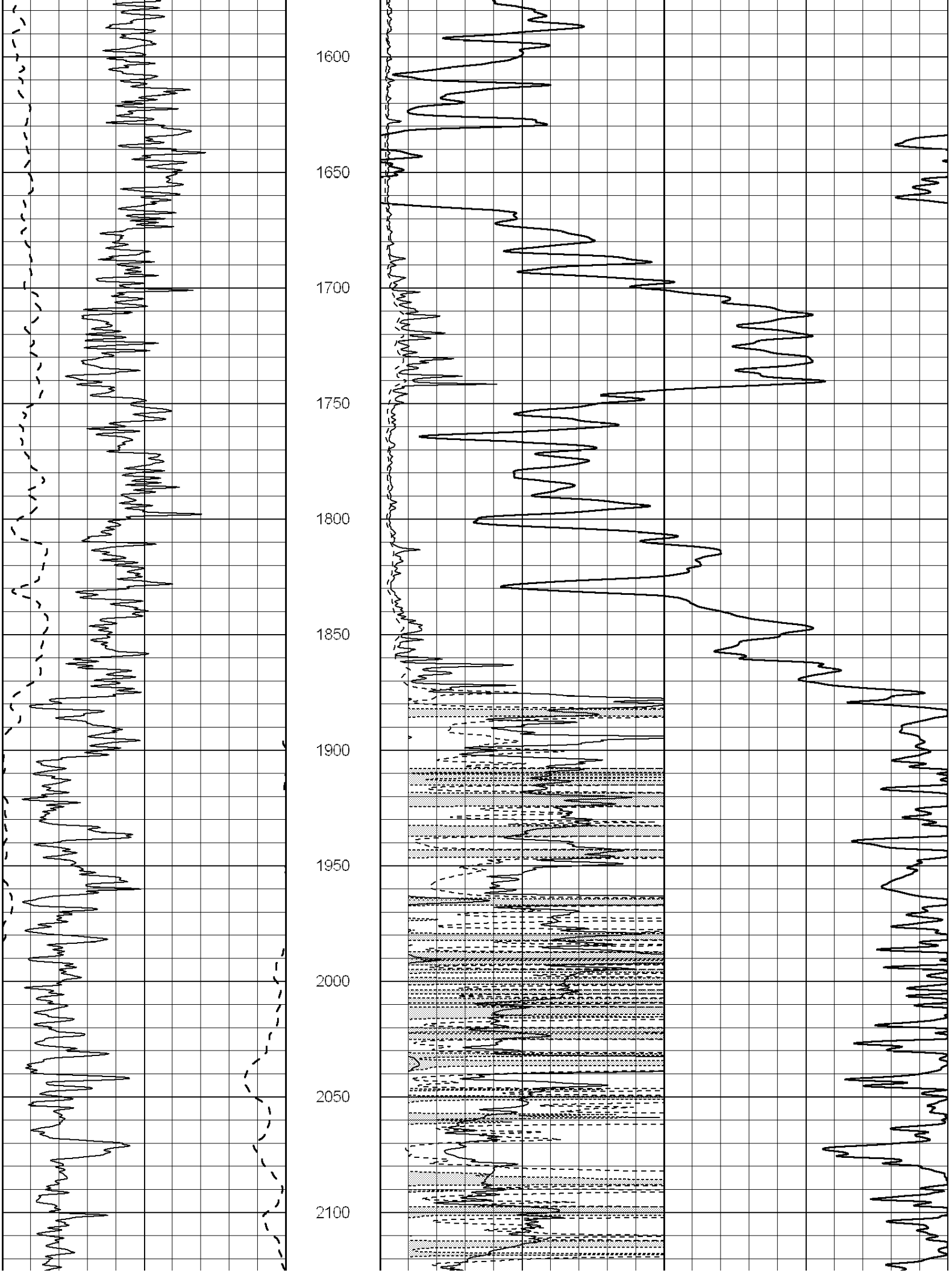
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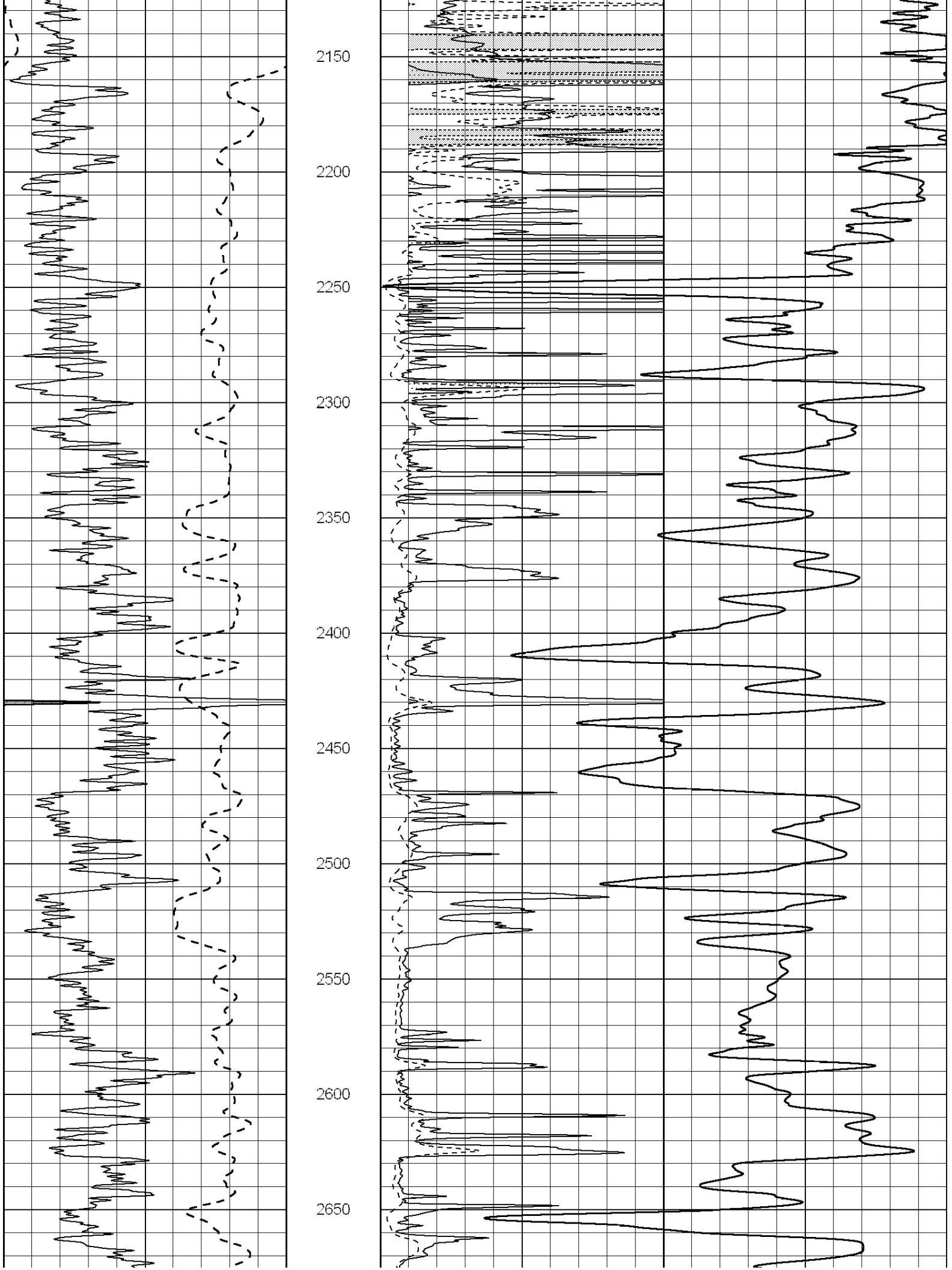
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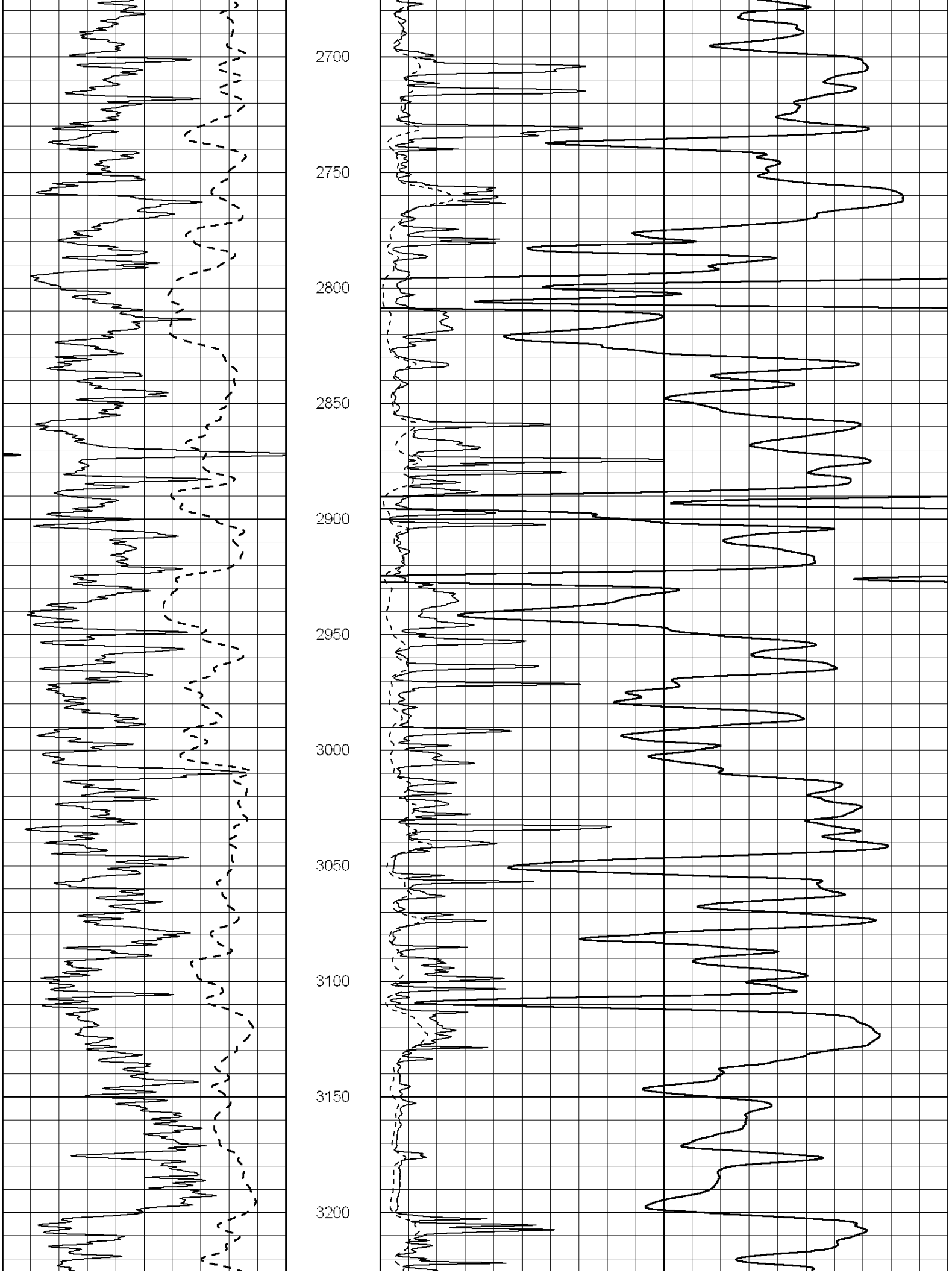
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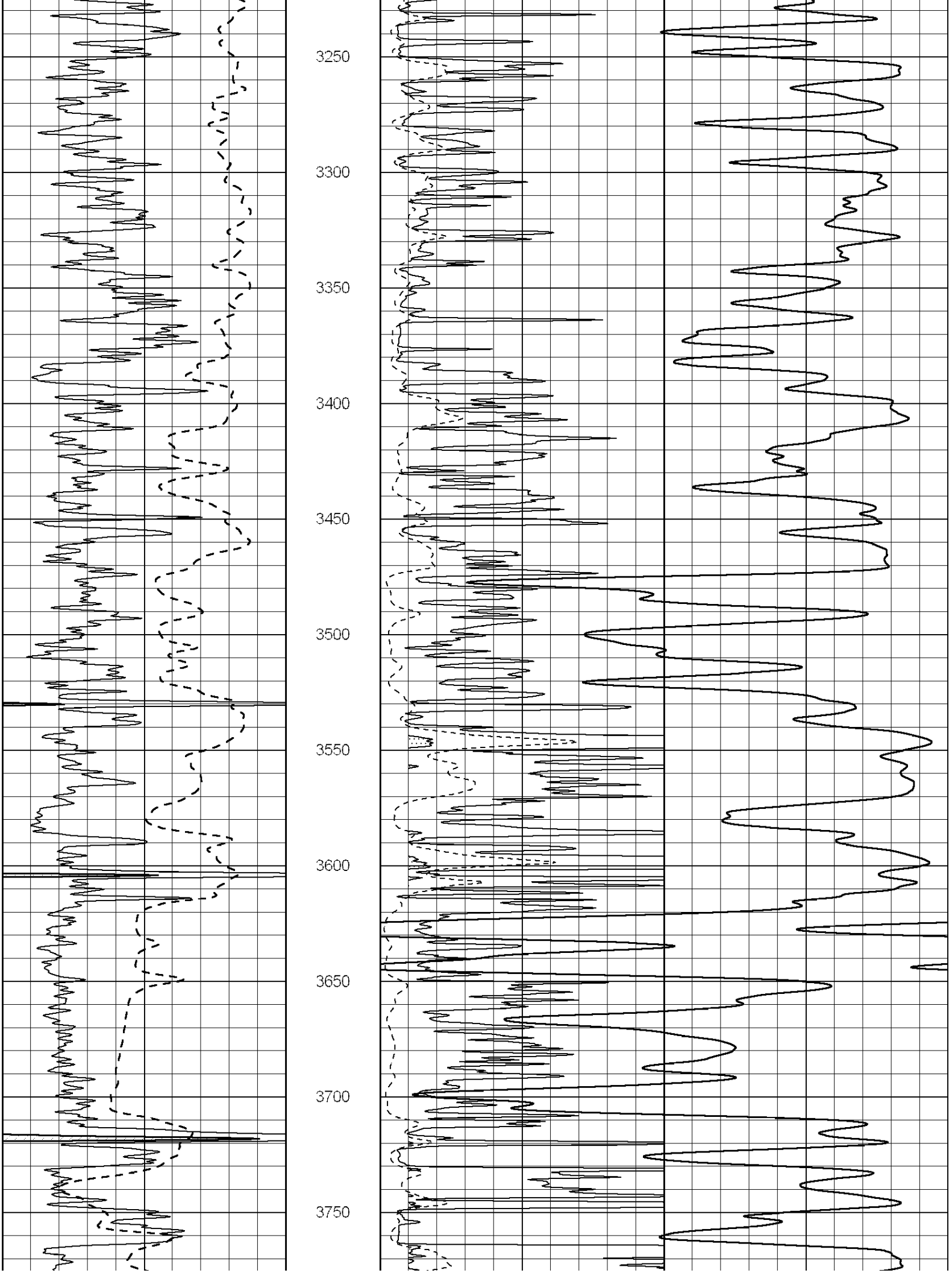
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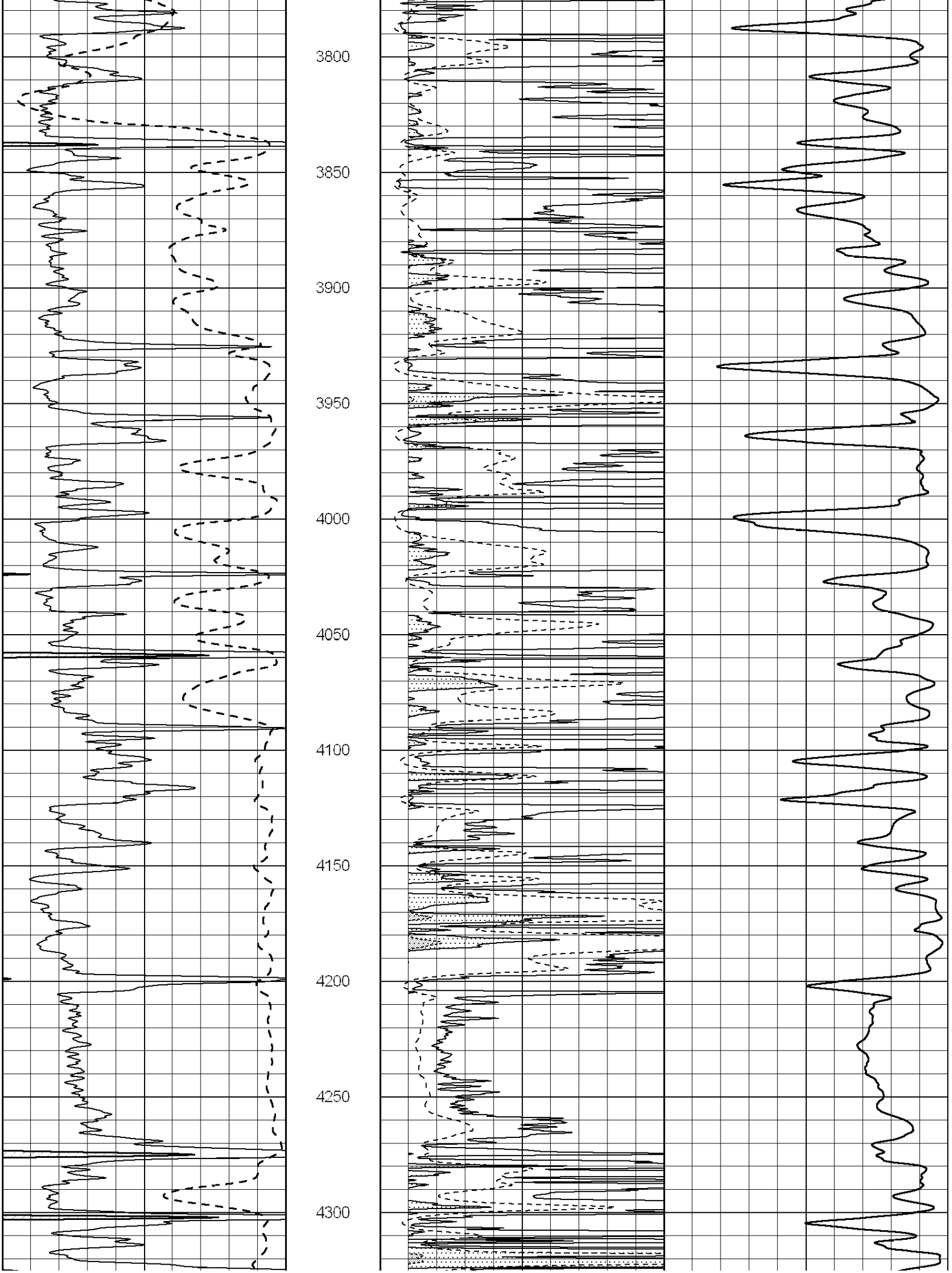
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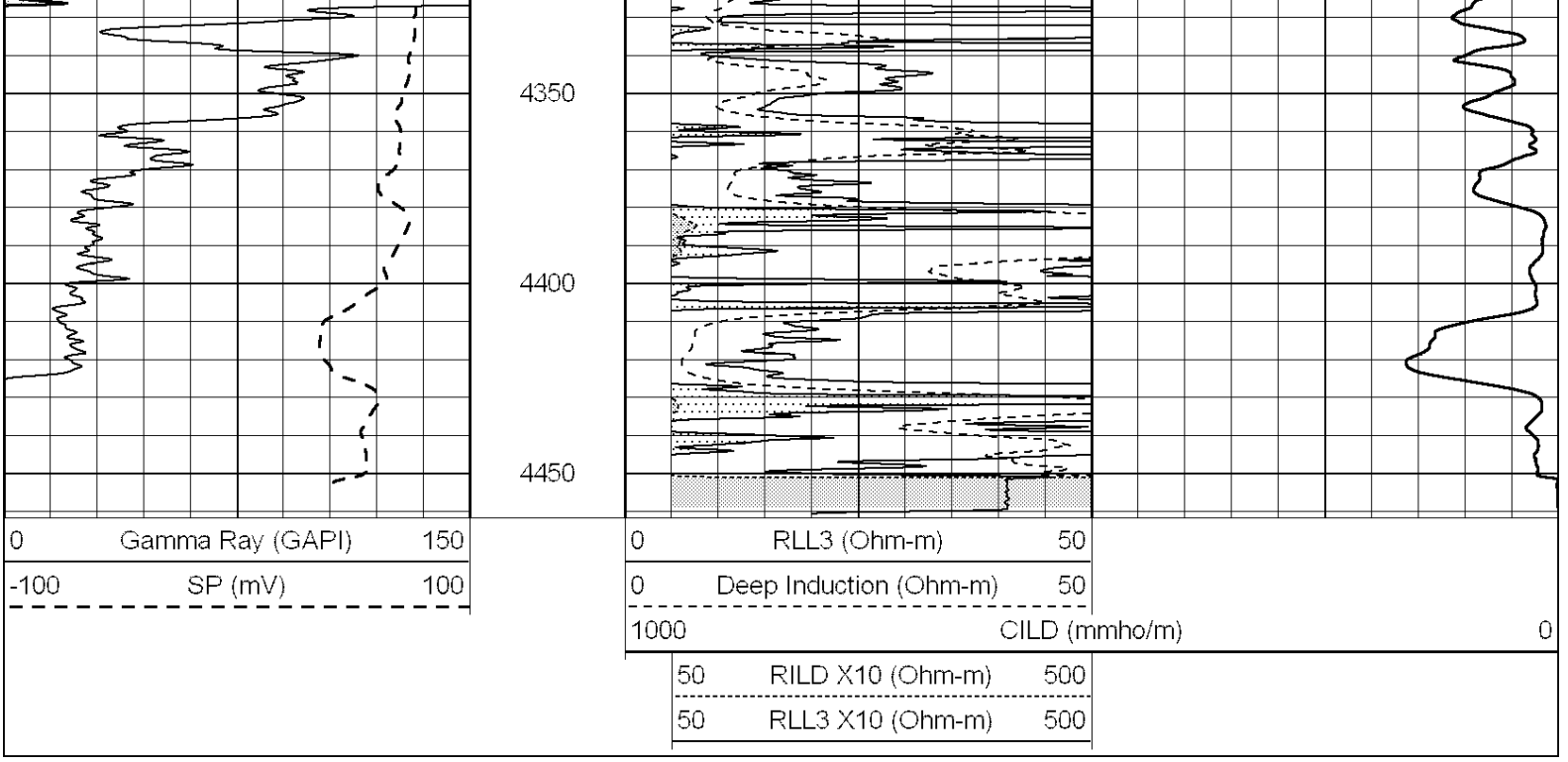
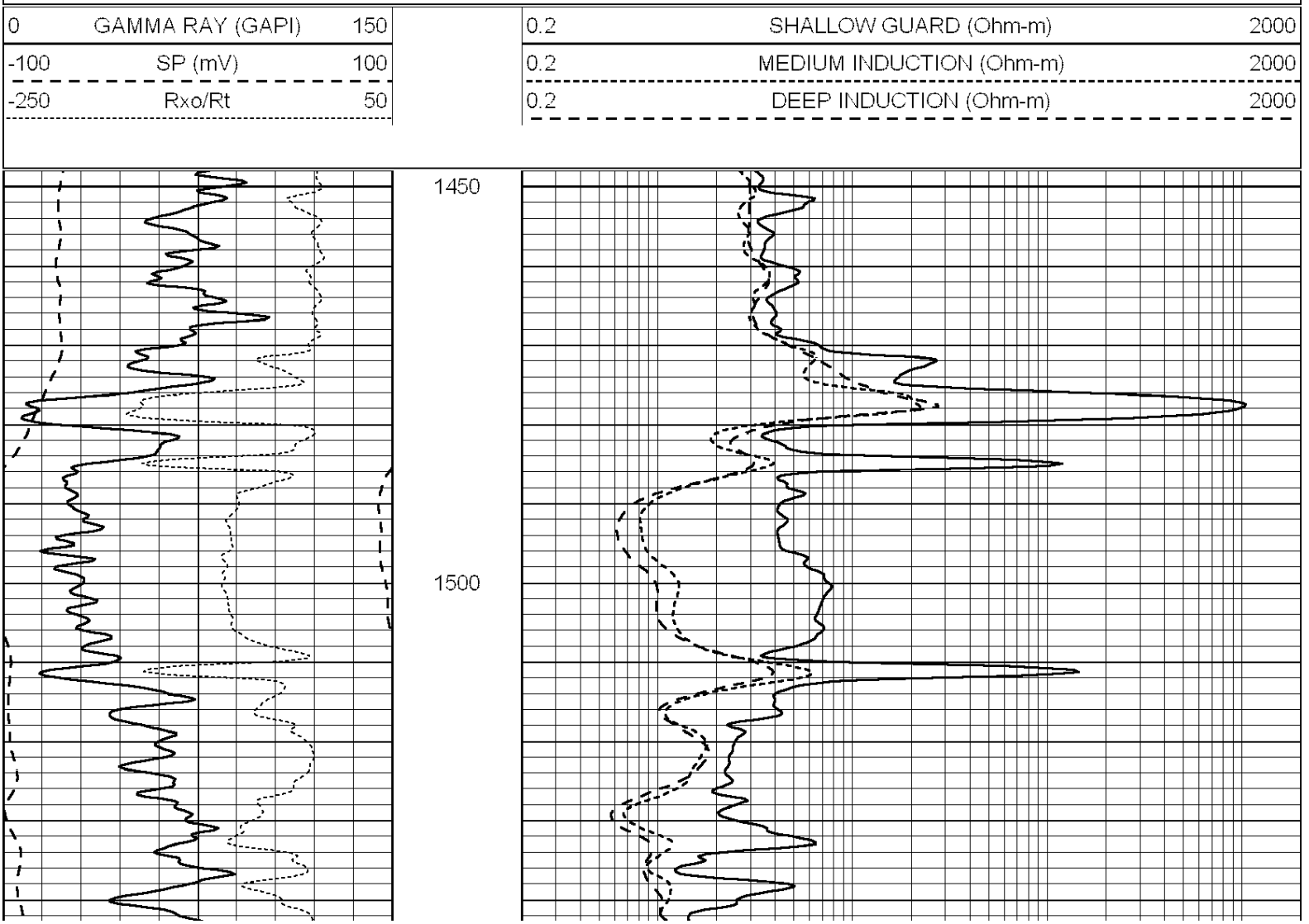
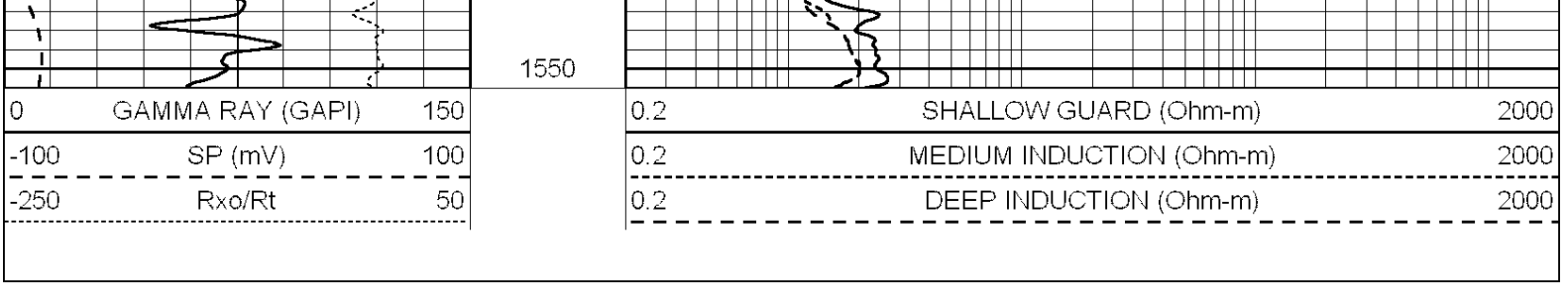


Database File:	006436pe.db
Dataset Pathname:	pass3.2
Presentation Format:	_dil
Dataset Creation:	Wed Dec 22 05:50:30 2010 by Calc Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240





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Presentation Format: _dil
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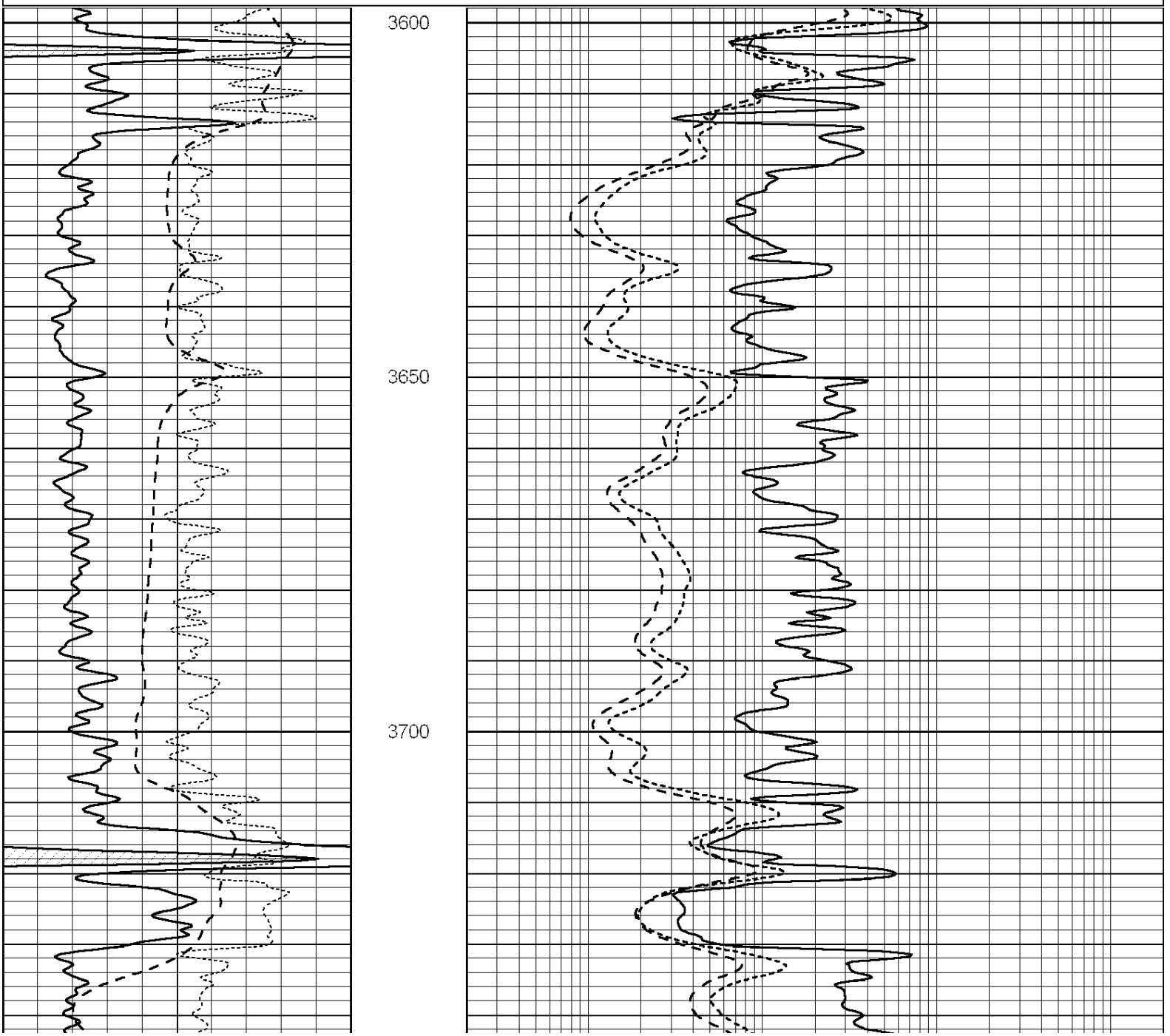
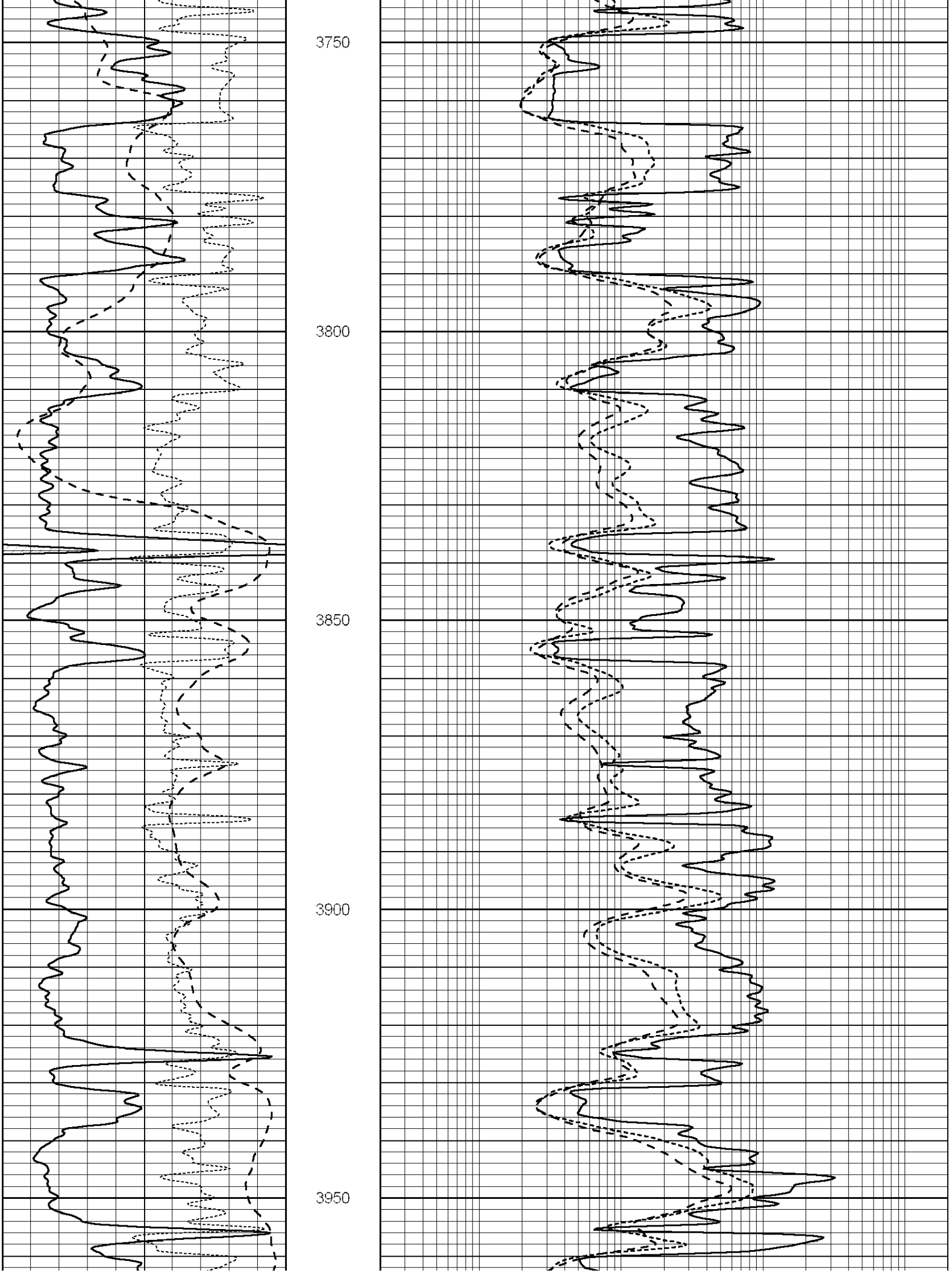
Charted by: Depth in Feet scaled 1:240

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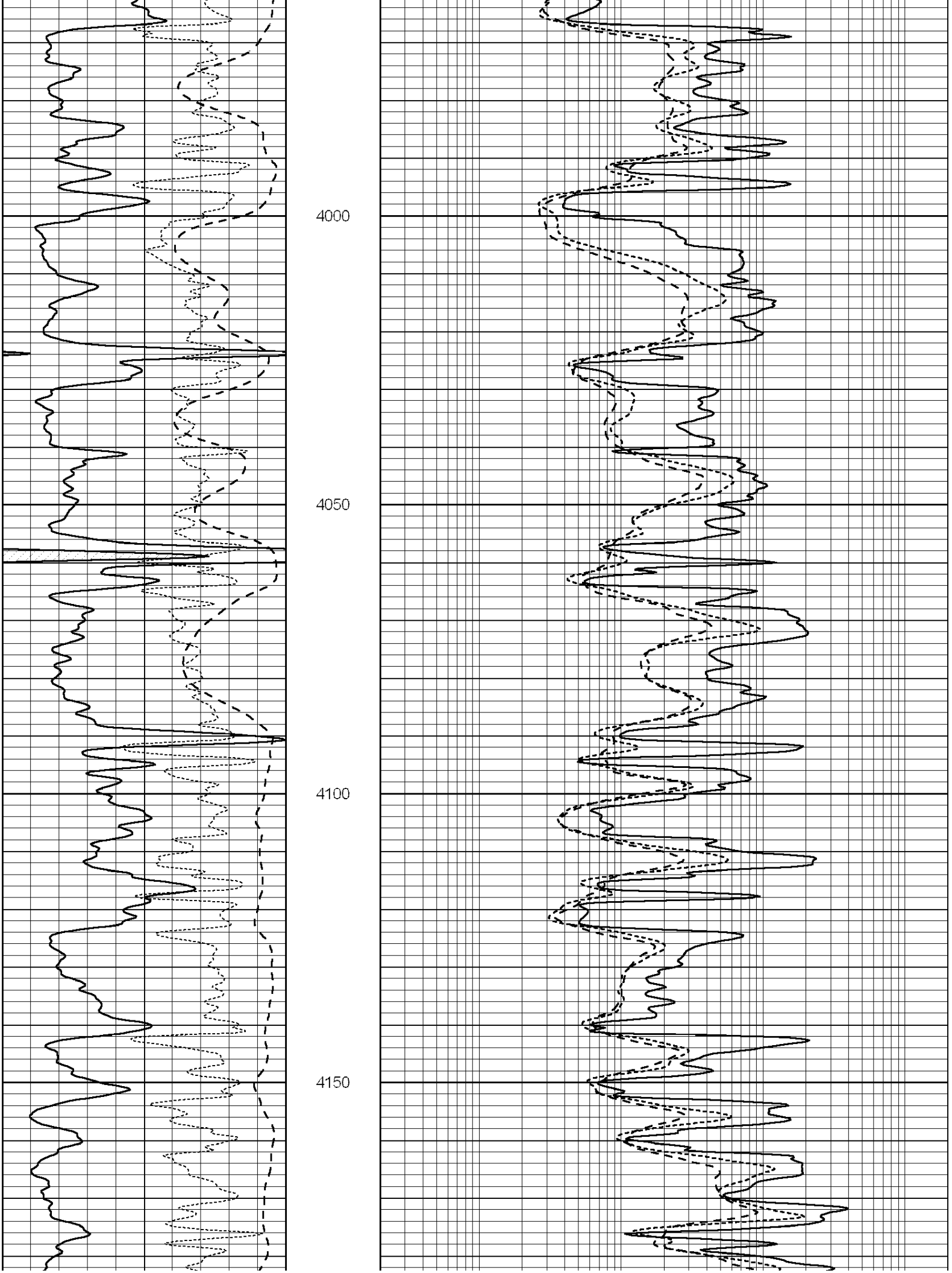
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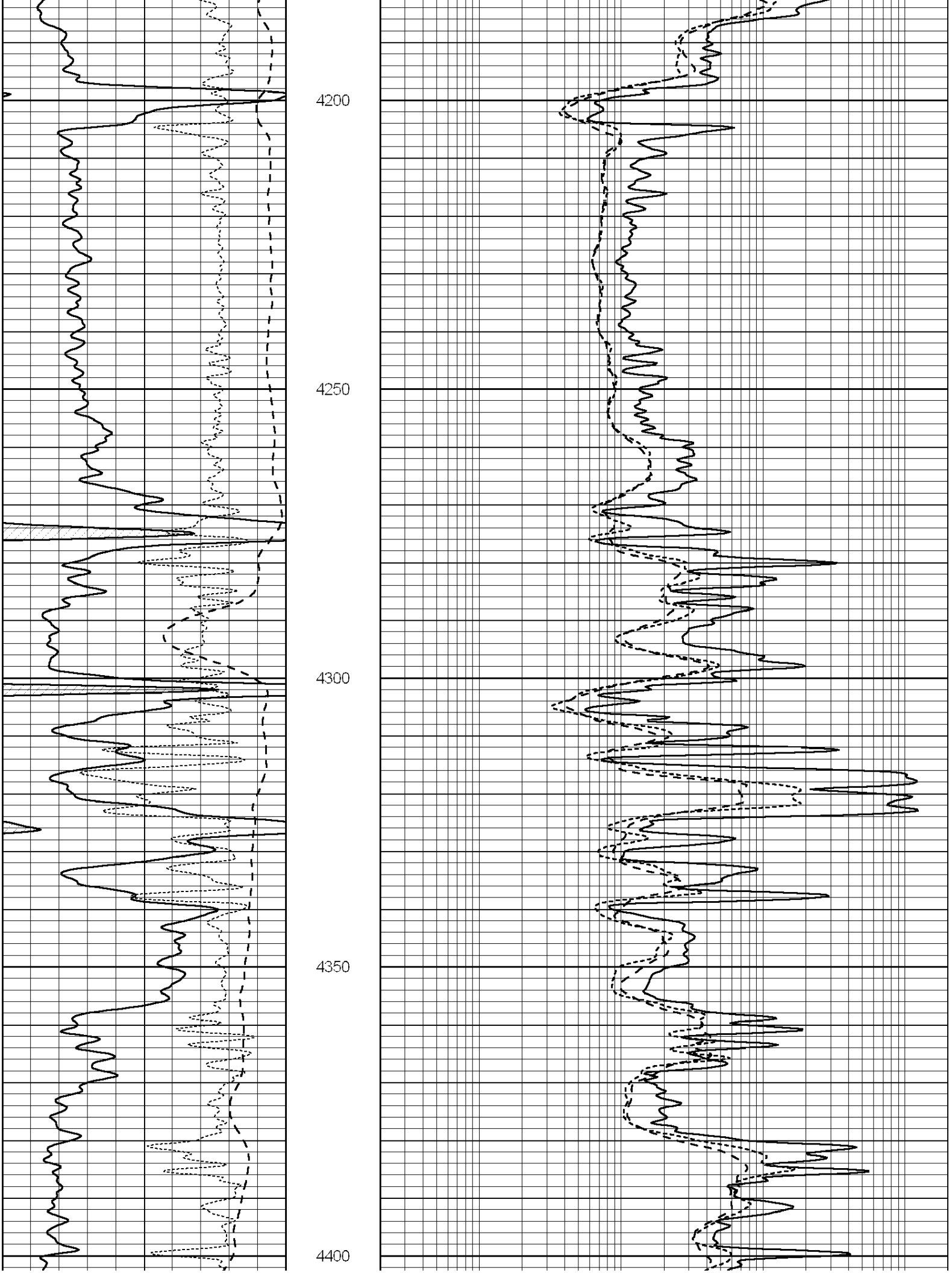
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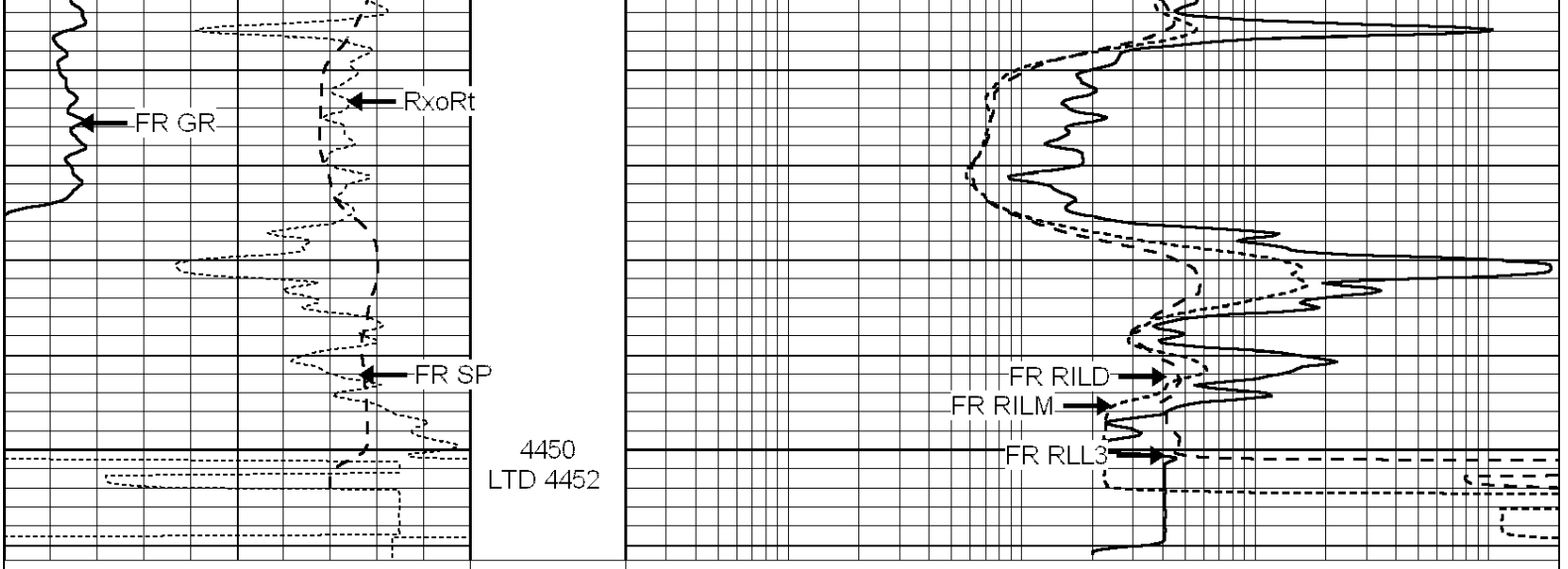

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

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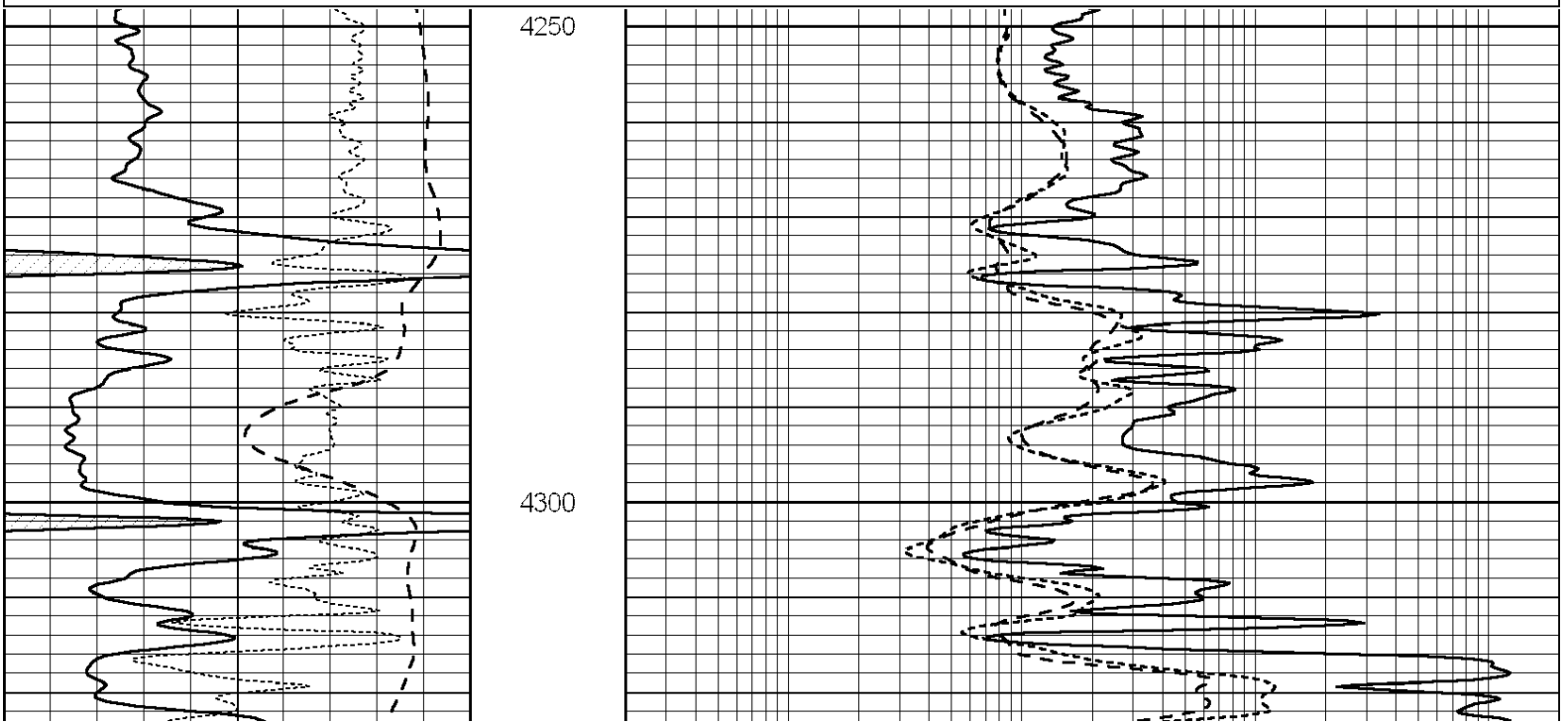
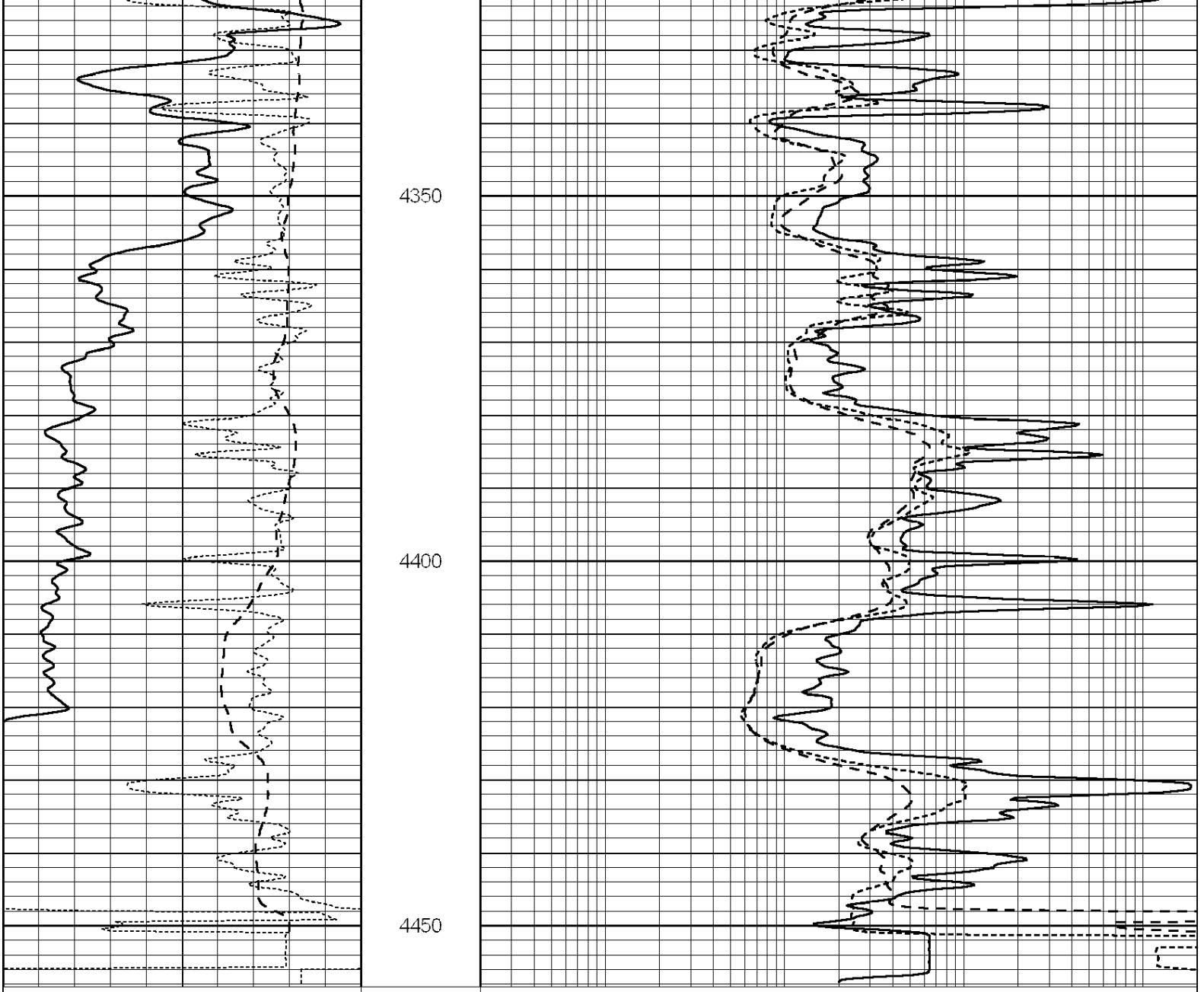
REPEAT SECTION

Database File:	006436pe.db
Dataset Pathname:	pass2.2
Presentation Format:	_dil
Dataset Creation:	Wed Dec 22 04:40:58 2010 by Calc Open-Cased 090629
Charted by:	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000





Calibration Report

Database File: 006436pe.db
Dataset Pathname: pass3.2
Dataset Creation: Wed Dec 22 05:50:30 2010 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

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1056.3	9118.0	2809.7	10378.4	cps
Window 2	969.9	7671.9	2431.6	8565.8	cps
Window 3	683.8	2939.8	1161.0	3161.8	cps
Window 4	231.4	231.6	226.7	230.8	cps
Long Space	0.0	6702.0	1461.7	7595.9	cps
Short Space	1.2	1433.6	959.4	1568.6	cps
Rho		1.7100	2.5900	1.3800	g/cc
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	2.7	8.0
High Ref	4.9	14.0
	Gain: 2.8	Offset: -0.1

Compensated Neutron Calibration Report

Serial Number: 5I
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:	GR6	
Tool Model:	OPEN	
Performed:	Wed Jul 14 14:14:30 2010	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.6535	GAPI/cps