SUPERIOR WELL SERVICES

SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company RITCHIE EXPLORATION, INC.
Well #2 JOSEPH
Field
County GOVE State KANSAS
Location: API # : 15-063-21966-0000
335' FSL & 920' FEL
SEC 30 TWP 13S RGE 31W
Permanent Datum GROUND LEVEL Elevation 2893'
Log Measured From KELLY BUSHING 10' A.G.L.
Drilling Measured From KELLY BUSHING

Other Services: CDL/CNL

Elevation: K.B. 2903, D.F. 2901, G.L. 2893

Company RITCHIE EXPLORATION, INC.
Well #2 JOSEPH
Field
County GOVE State KANSAS
Location:

Date	2/6/12			
Run Number	ONE			
Depth Driller	4660			
Depth Logger	4664			
Bottom Logged Interval	4662			
Top Log Interval	00			
Casing Driller	8 5/8" @ 234			
Casing Logger	234			
Bit Size	7 7/8			
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 3600 PPM		
Density / Viscosity	9.1/66			
pH / Fluid Loss	10.0/9.6			
Source of Sample	FLOWLINE			
Rm @ Meas. Temp	.60 @ 65F			
Rmf @ Meas. Temp	.45 @ 65F			
Rmc @ Meas. Temp	.72 @ 65F			
Source of Rmf / Rmc	MEASURED			
Rm @ BHT	.31 @ 122F			
Time Circulation Stopped	2 HOURS			
Time Logger on Bottom				
Maximum Recorded Temperature	122F			
Equipment Number	680			
Location	HAYS, KS.			
Recorded By	JASON CAPPELLUCCI			
Witnessed By	TERRY McCLEOD			

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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

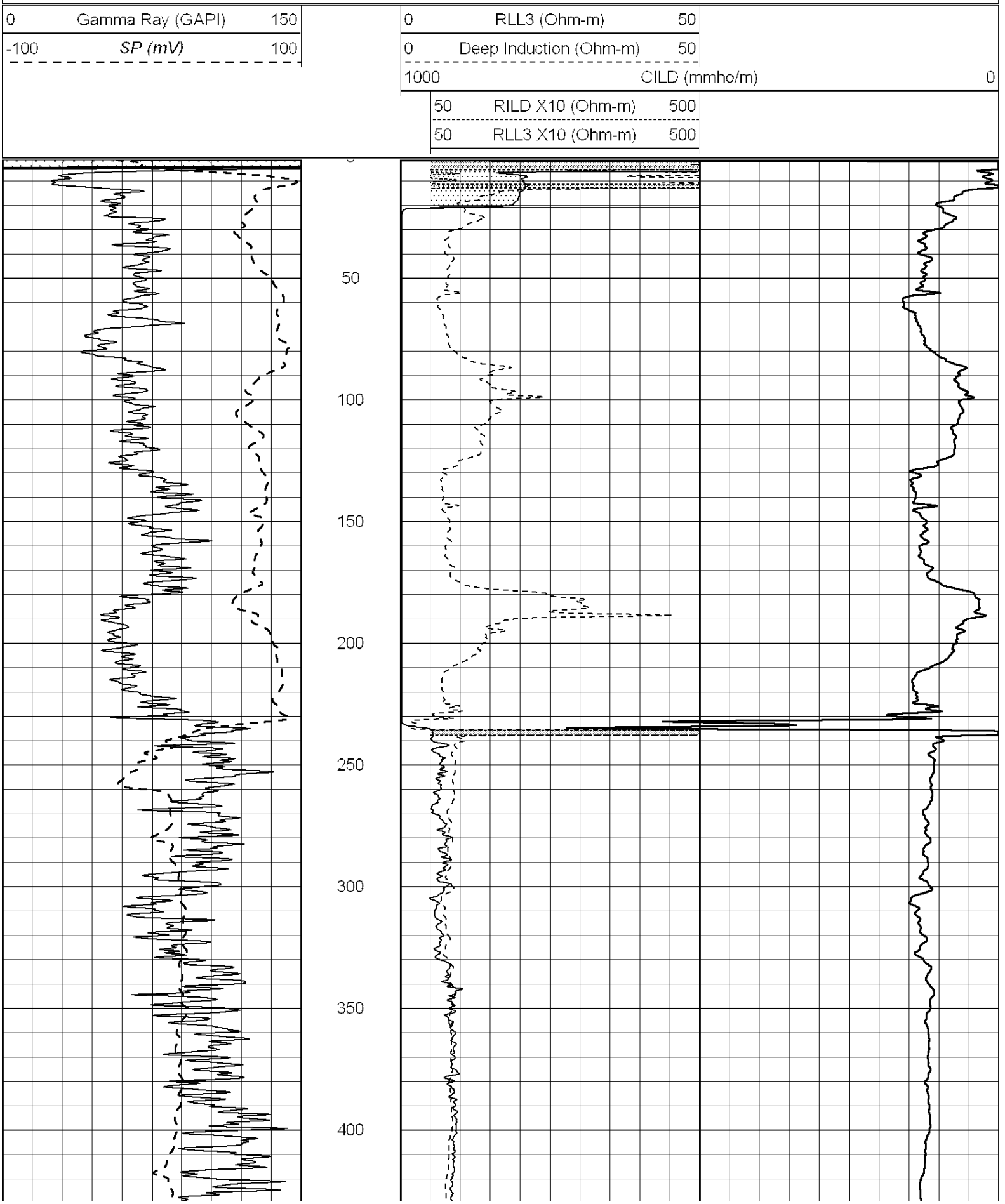
THANK YOU FOR USING SUPERIOR WELL SERVICE (785) 628-6395
DIRECTIONS
OAKLEY, KS. - 16 S. TO NAVAJO RD. - 3 E. - N. INTO

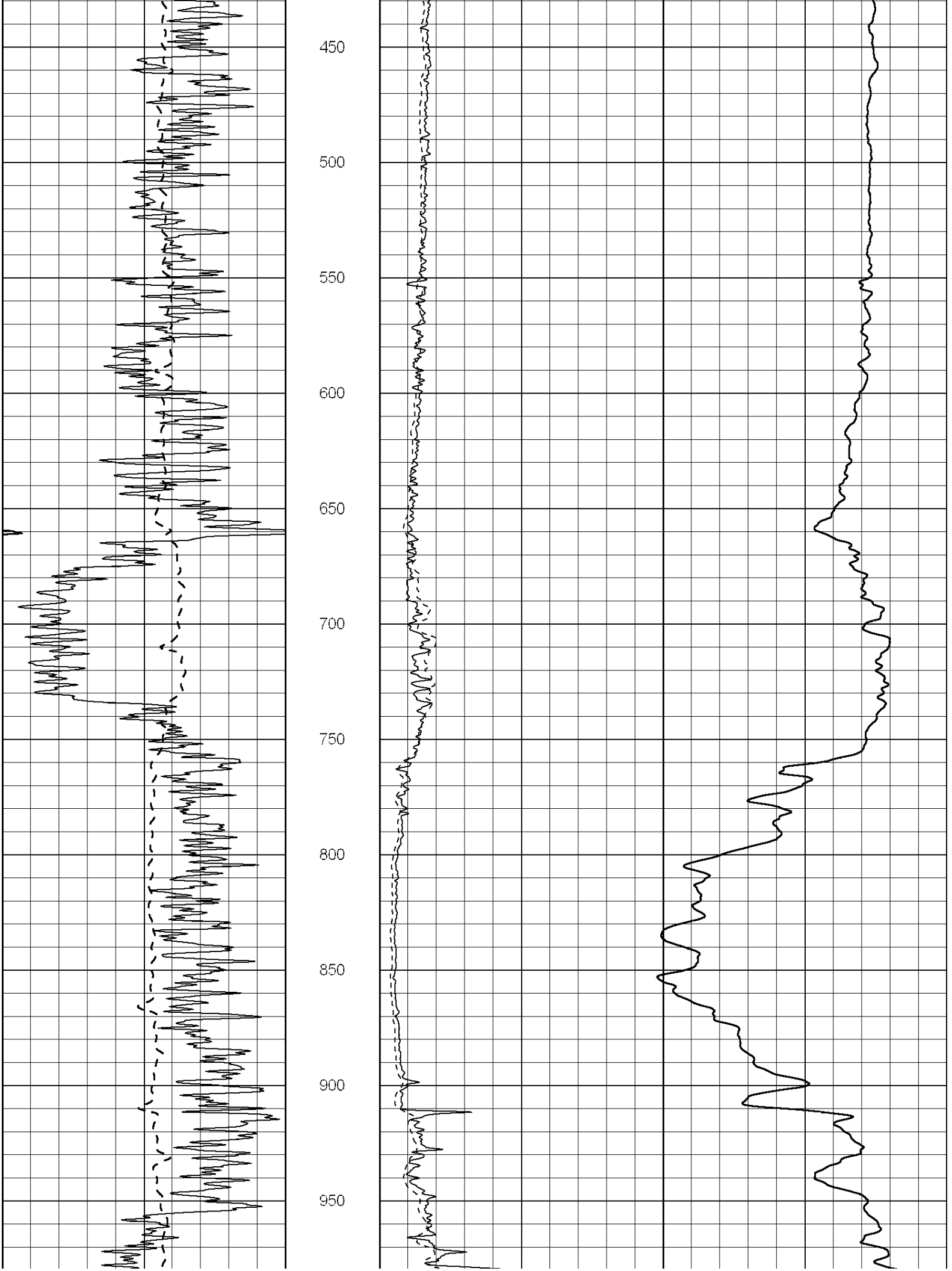
SUPERIOR WELL SERVICES

SUPERIOR
Hays,
Kansas

MAIN SECTION

Database File:	008536ddn.db
Dataset Pathname:	pass3.2
Presentation Format:	_dil2
Dataset Creation:	Mon Feb 06 04:01:16 2012 by Calc Open-Cased 090629
Charted by:	Depth in Feet scaled 1:600

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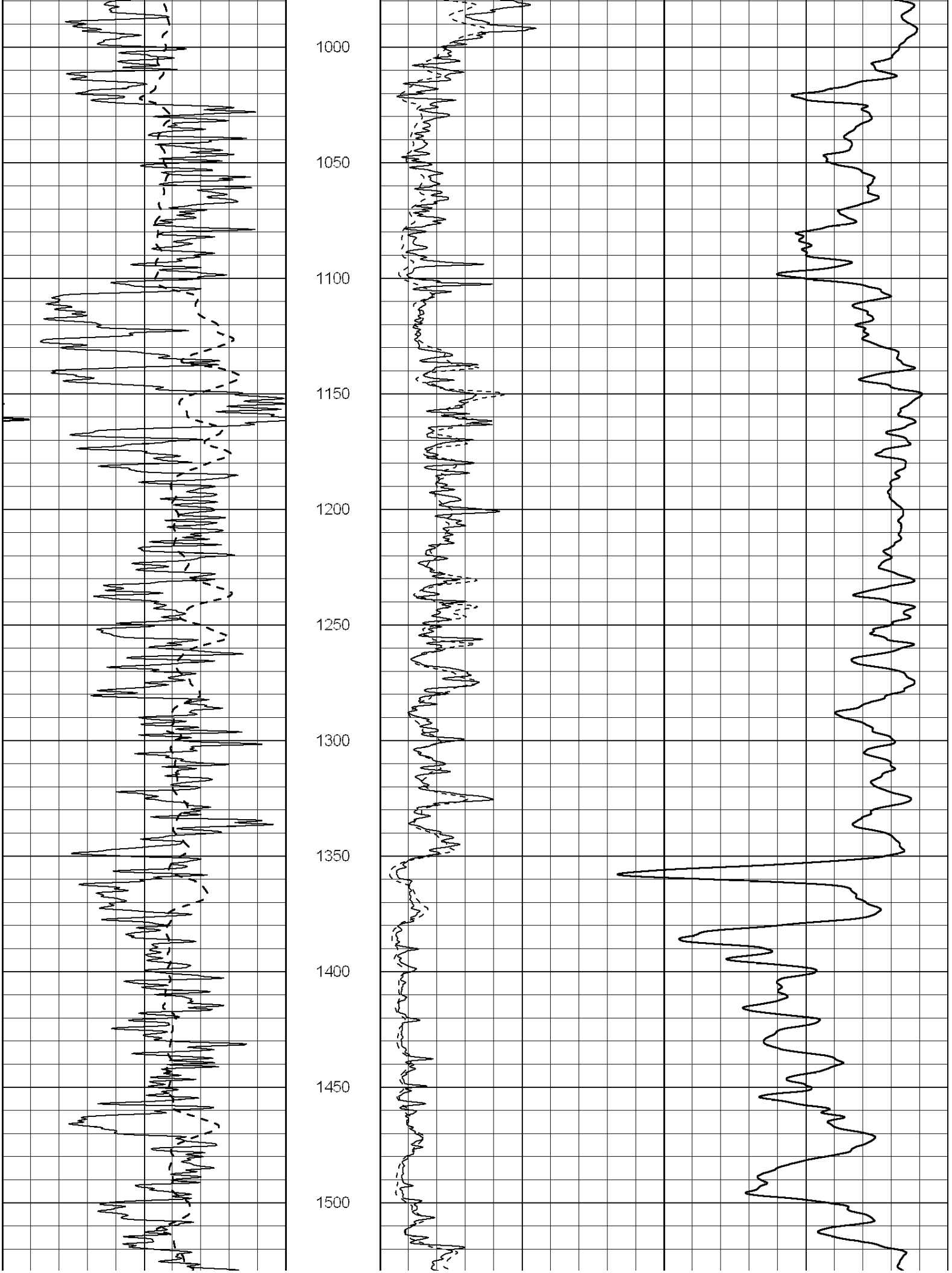
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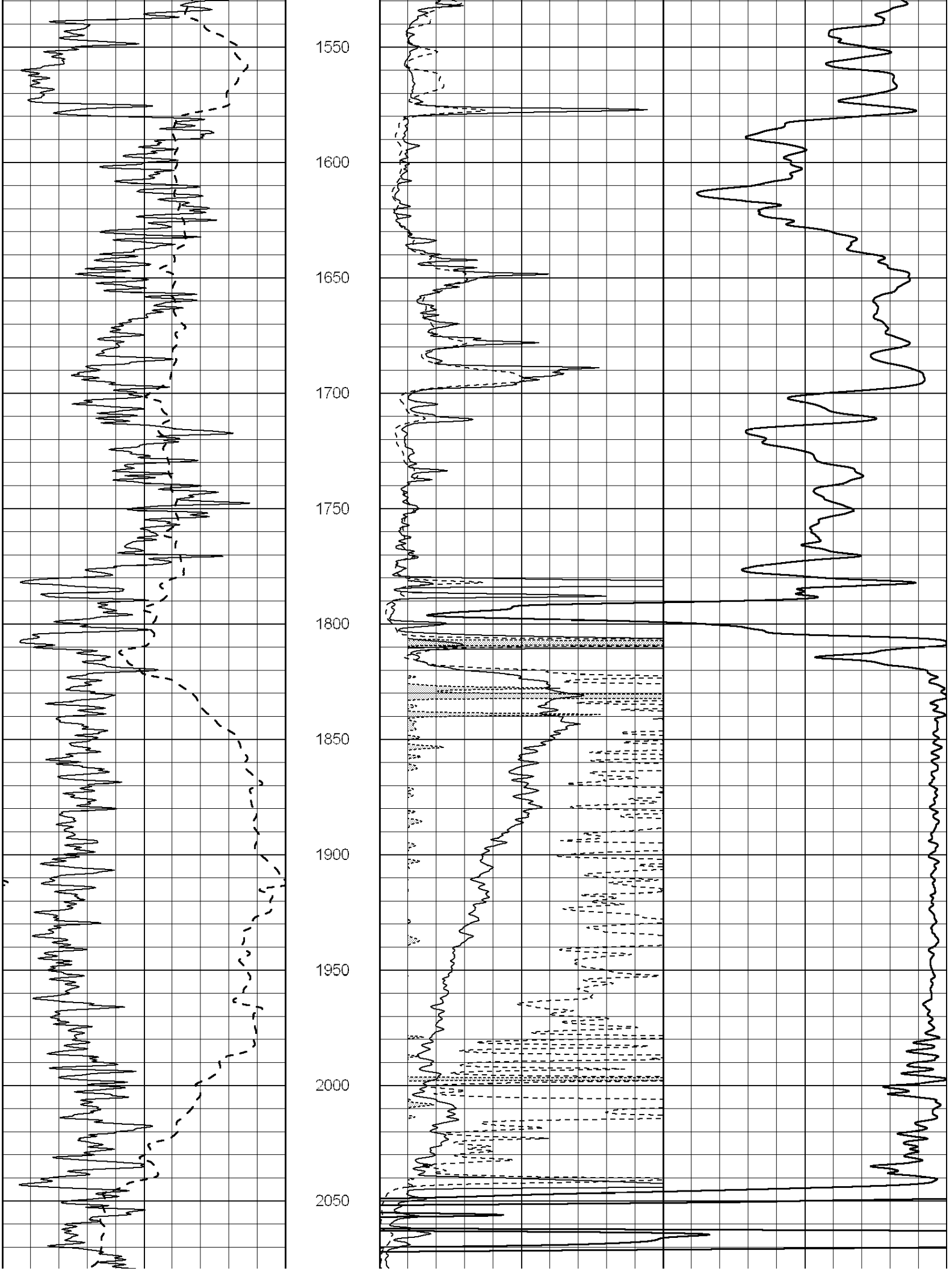
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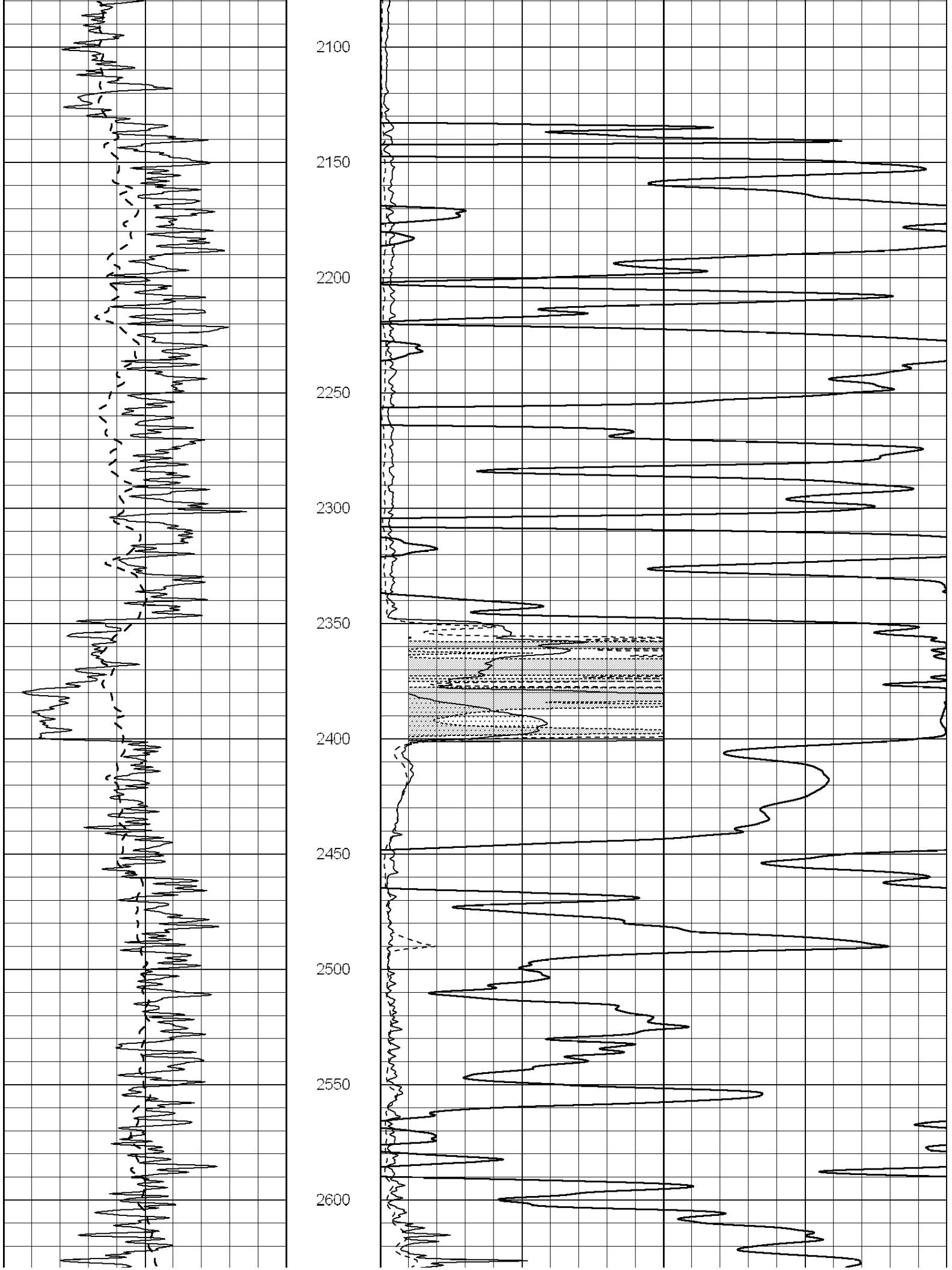
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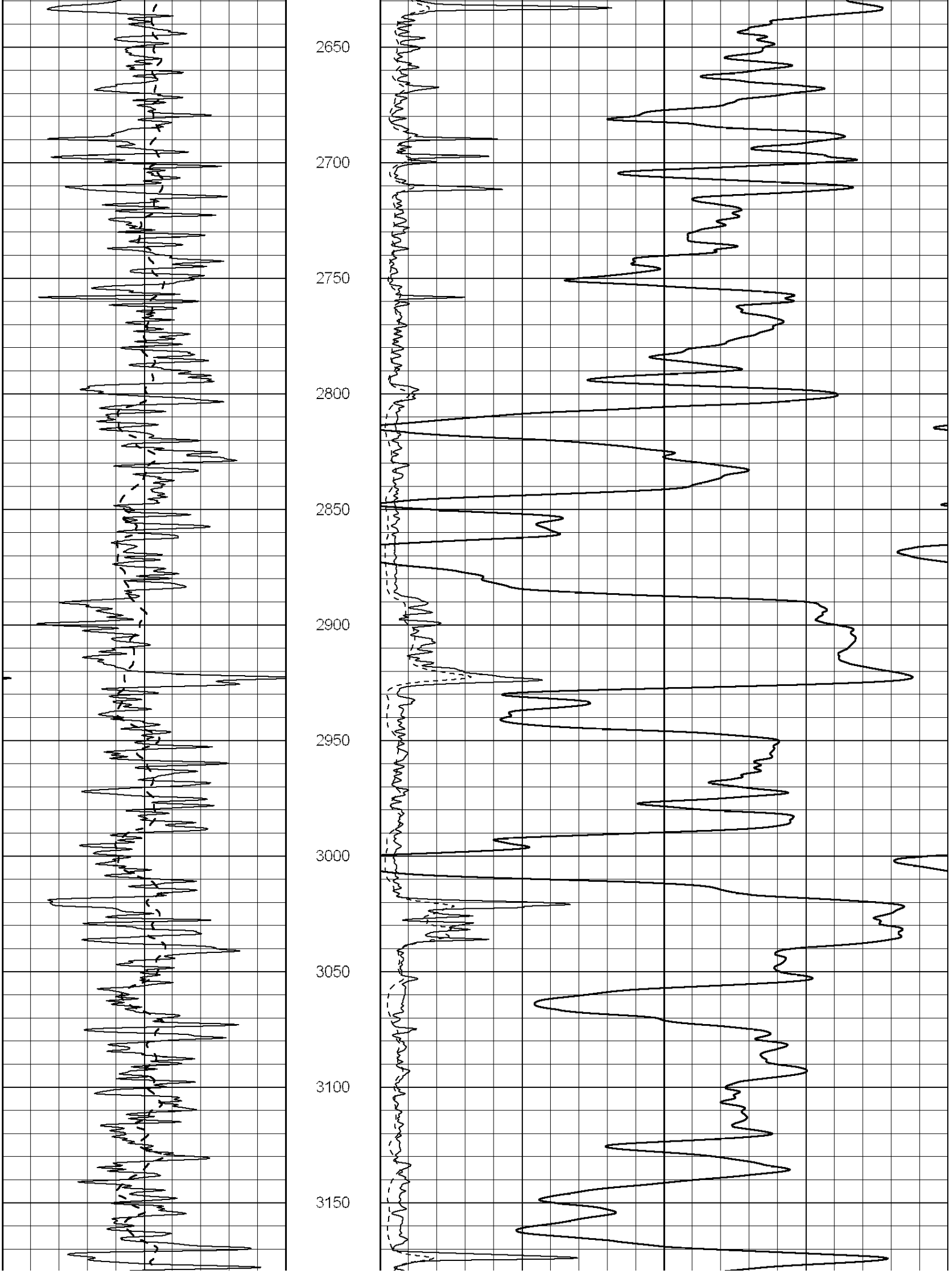
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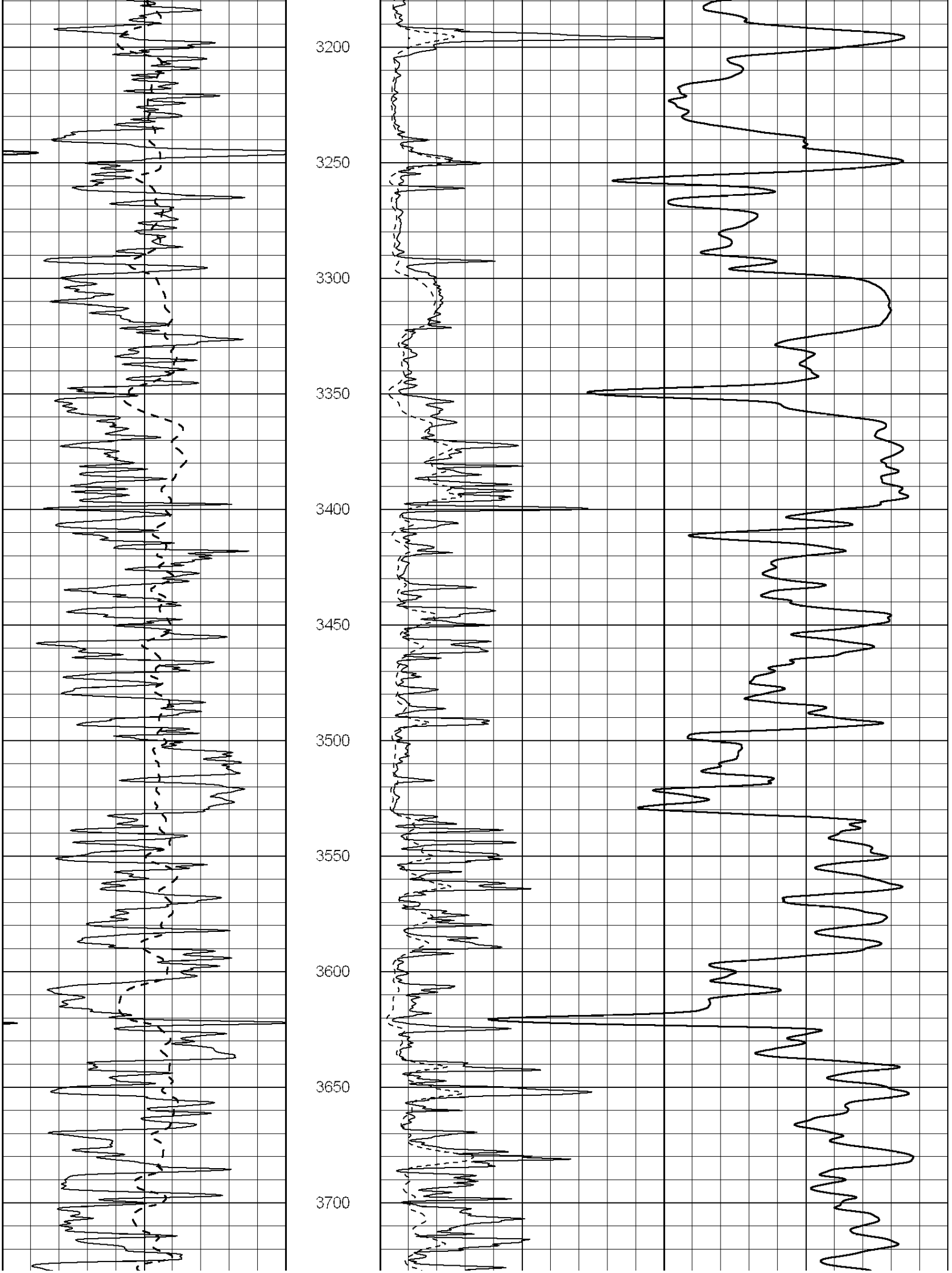
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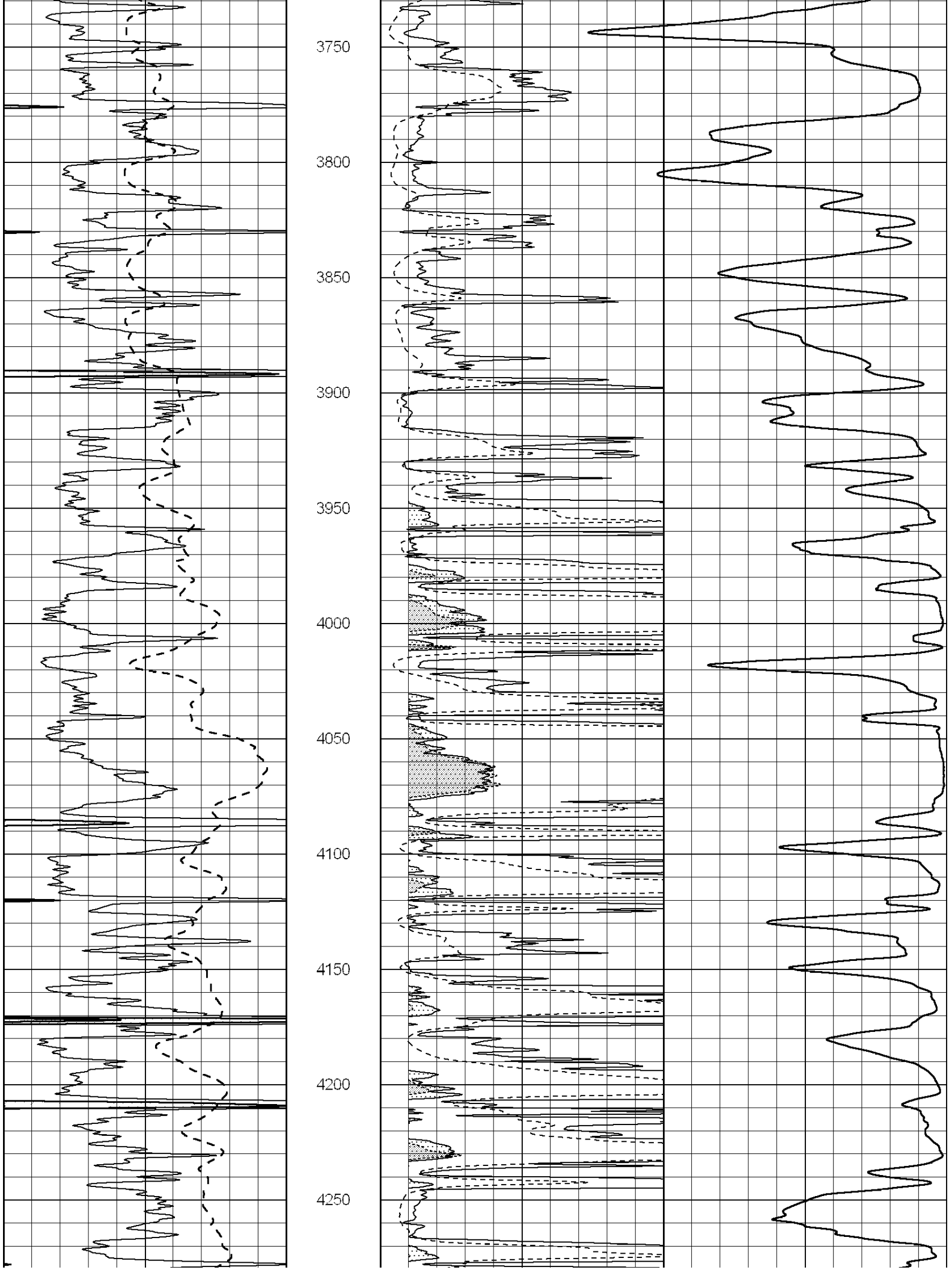
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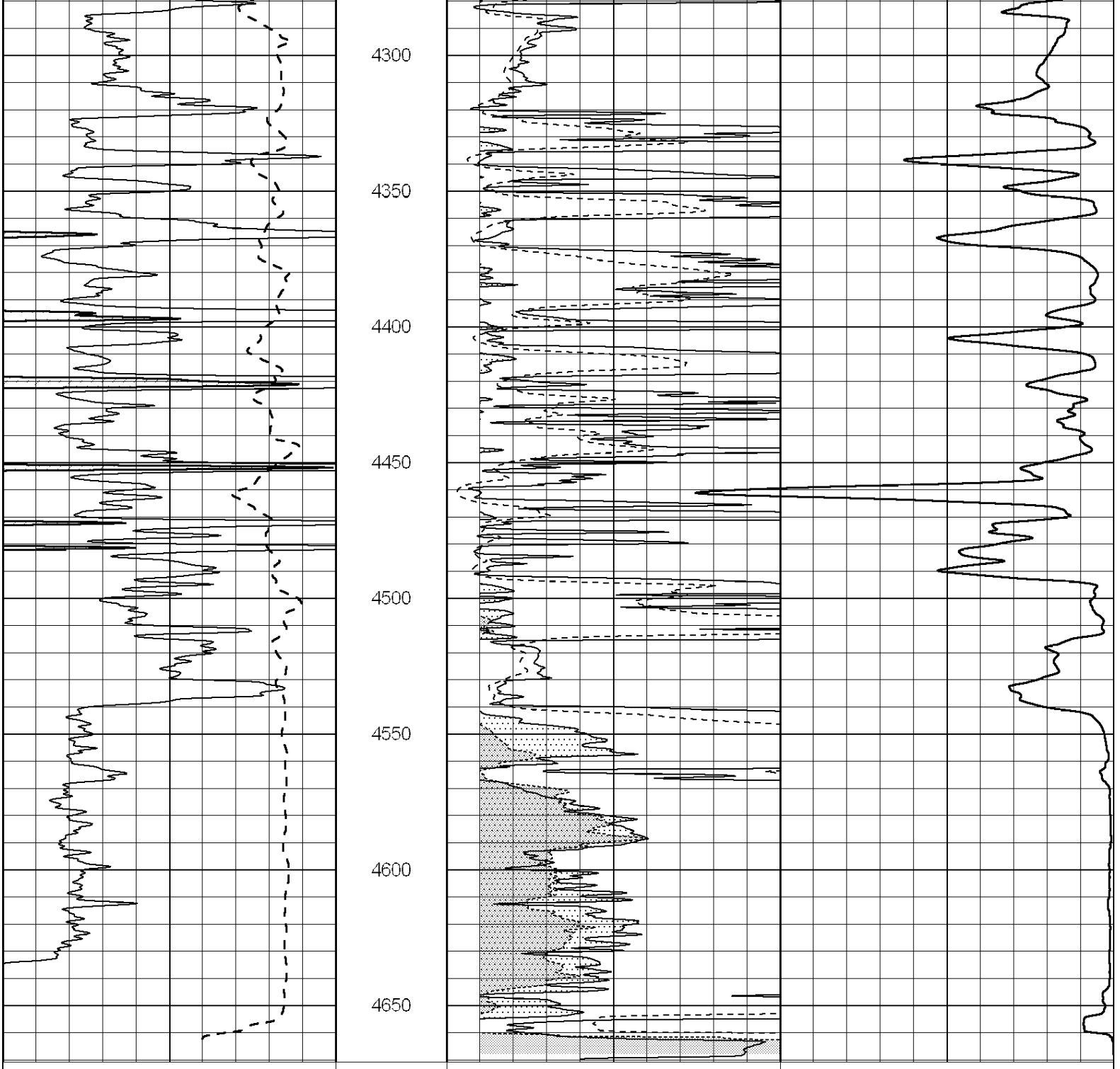


SUPERIOR WELL SERVICES

SUPERIOR
Hays,
Kansas

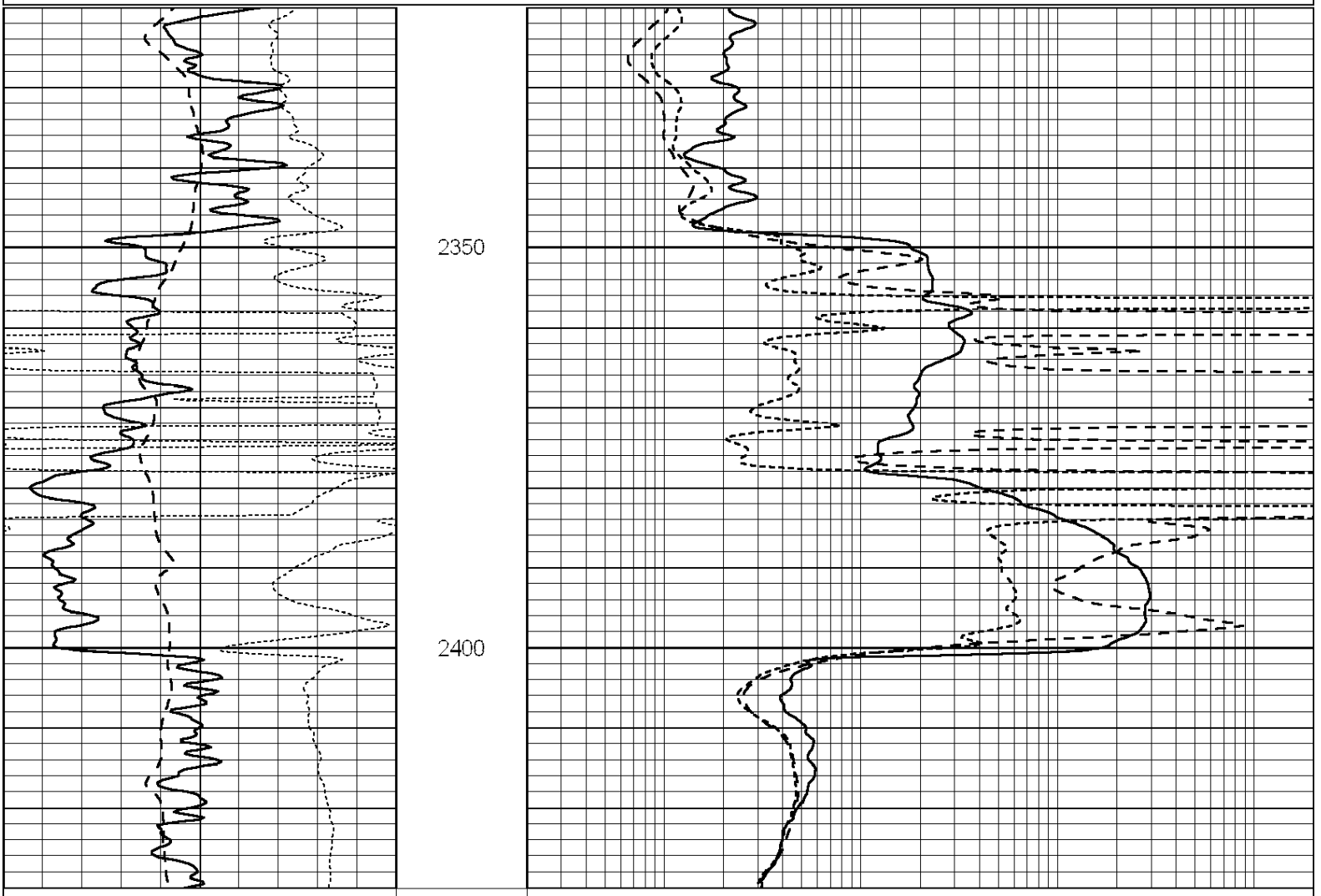
ANHYDRITE

Database File: 008536ddn.db
Dataset Pathname: pass3.3
Presentation Format: _dil
Dataset Creation: Mon Feb 06 03:31:35 2012 by Calc Open Cased 090629

Dataset Creation: Mon Feb 06 03:31:33 2012 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



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

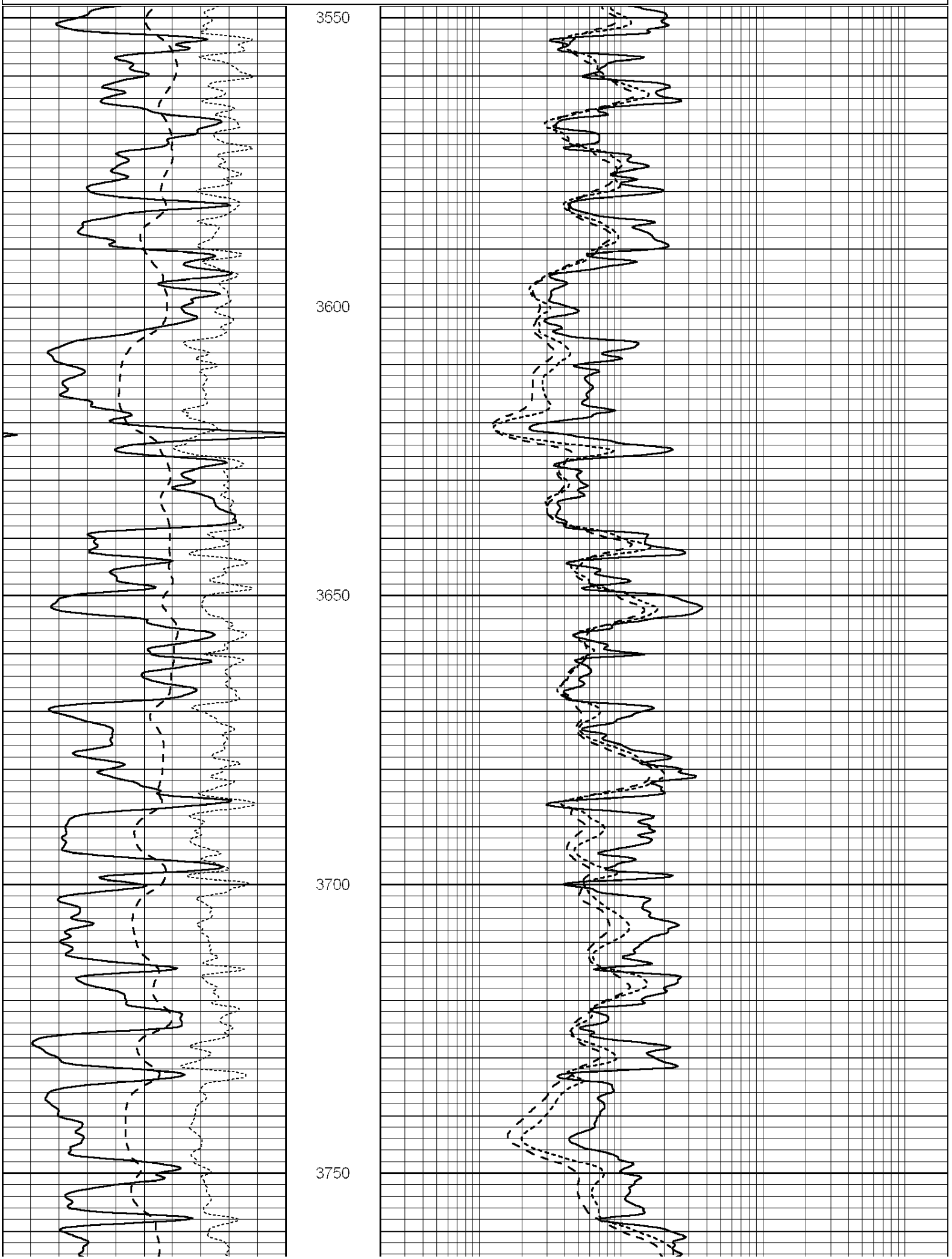
SUPERIOR WELL SERVICES
SUPERIOR
Hays, Kansas

MAIN SECTION

Database File: 008536ddn.db
Dataset Pathname: pass3.1
Presentation Format: _dil
Dataset Creation: Mon Feb 06 03:22:23 2012 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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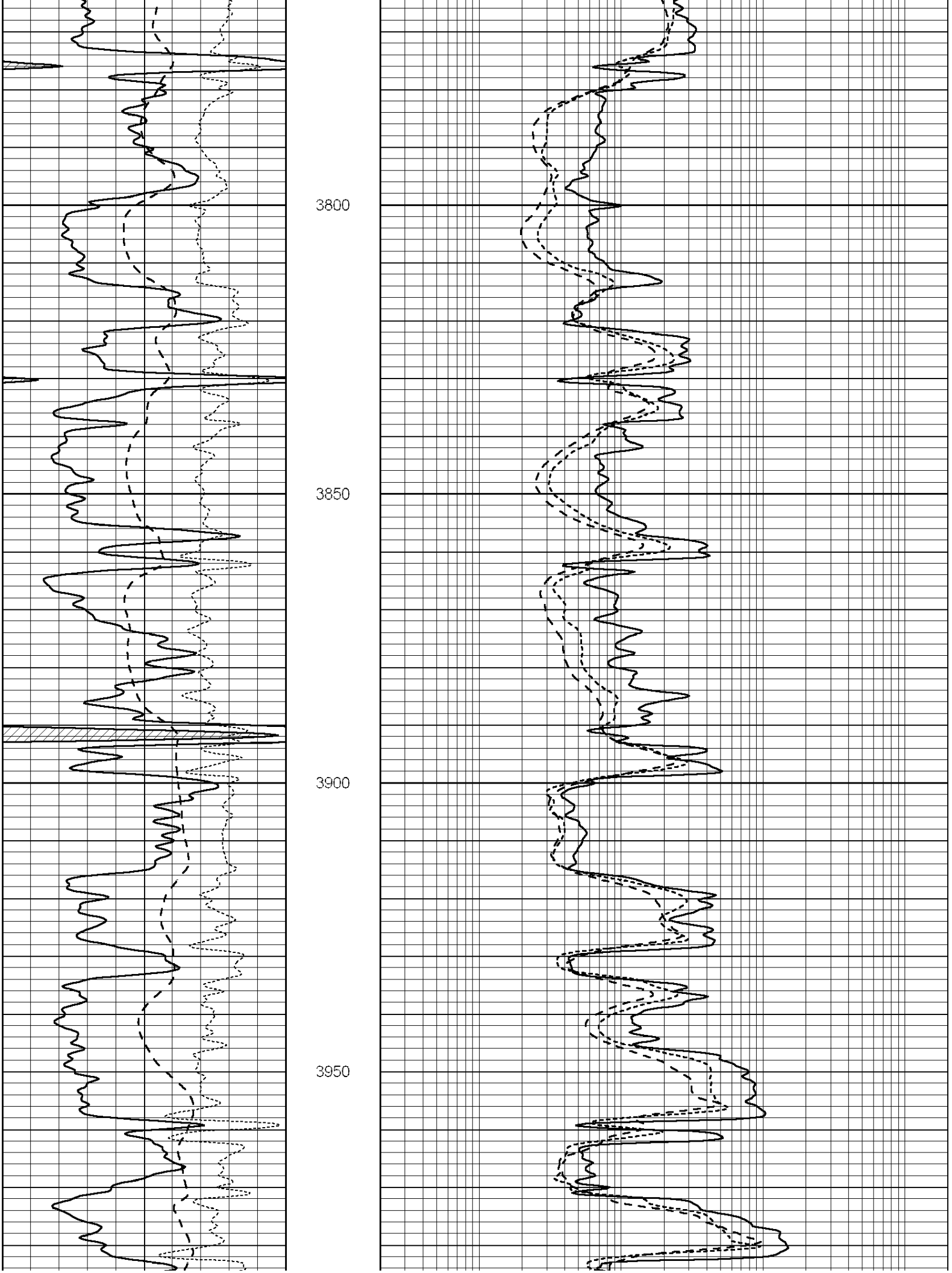
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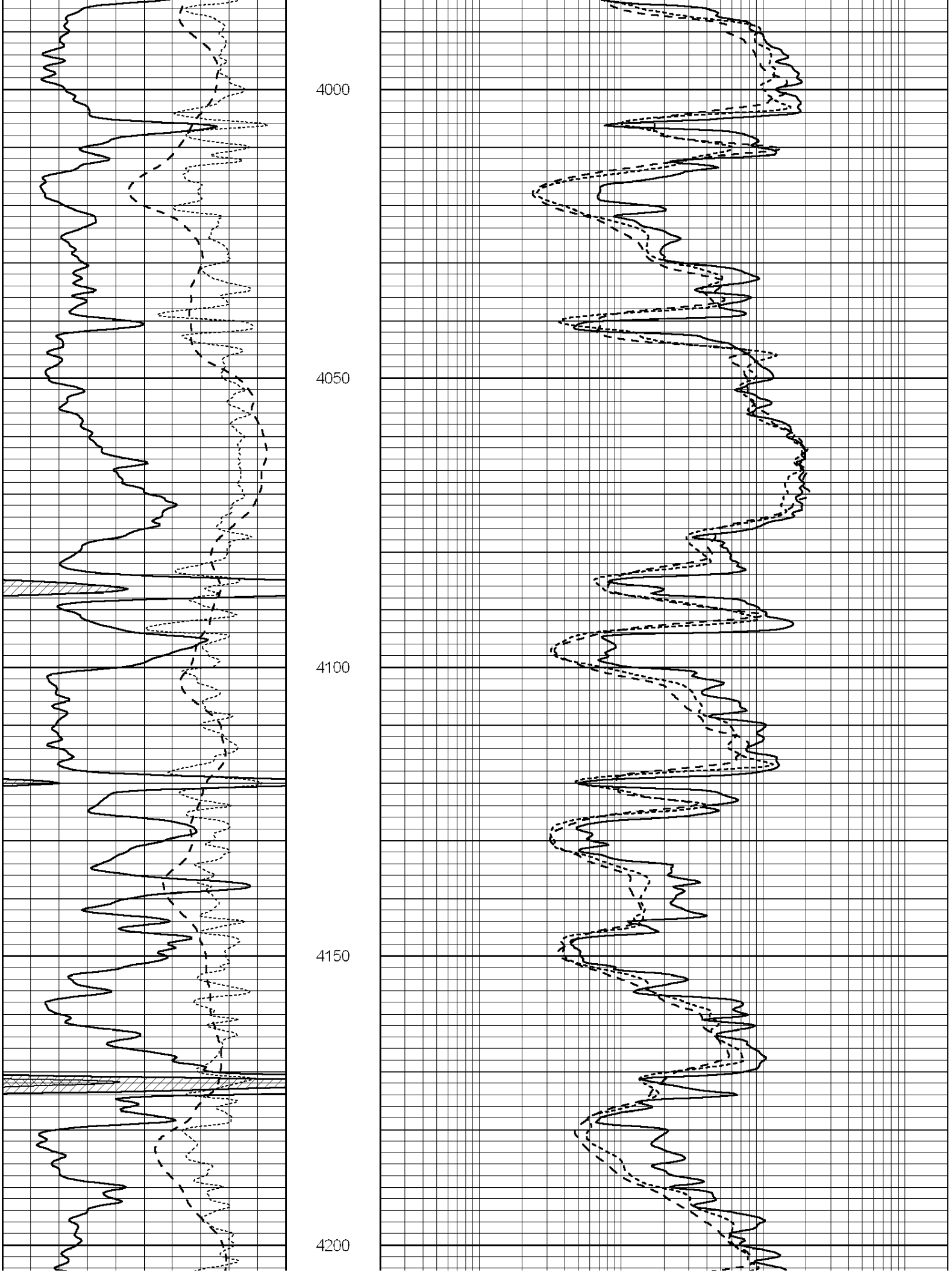
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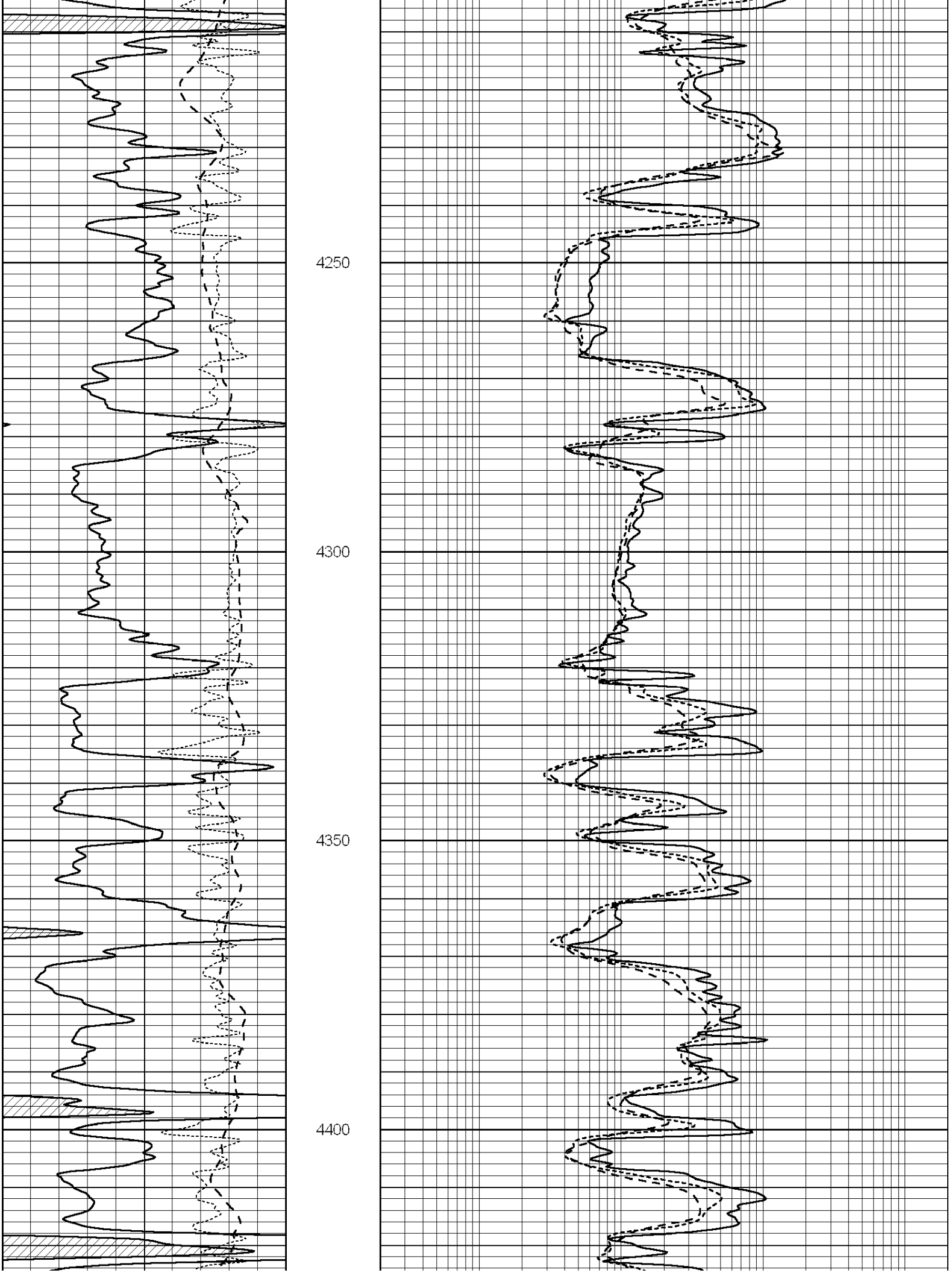
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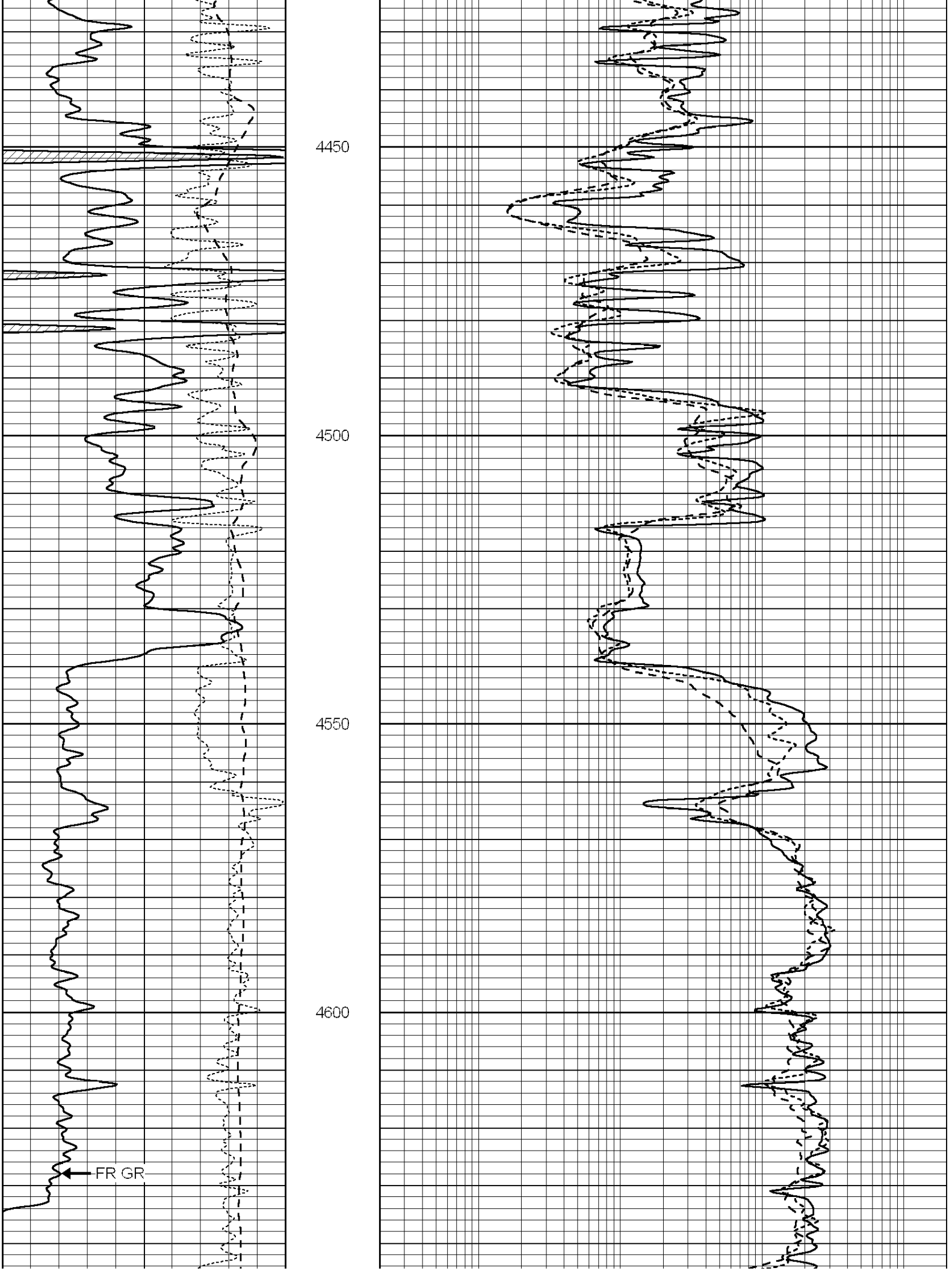
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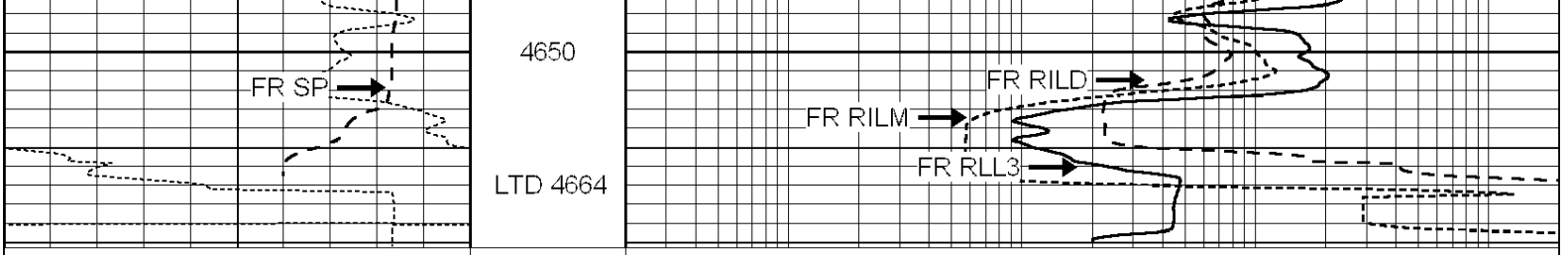

0	GAMMA RAY (GAPI)	150
-100	*SP (mV)*	100
-250	Rxo/Rt	50

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

SUPERIOR WELL SERVICES

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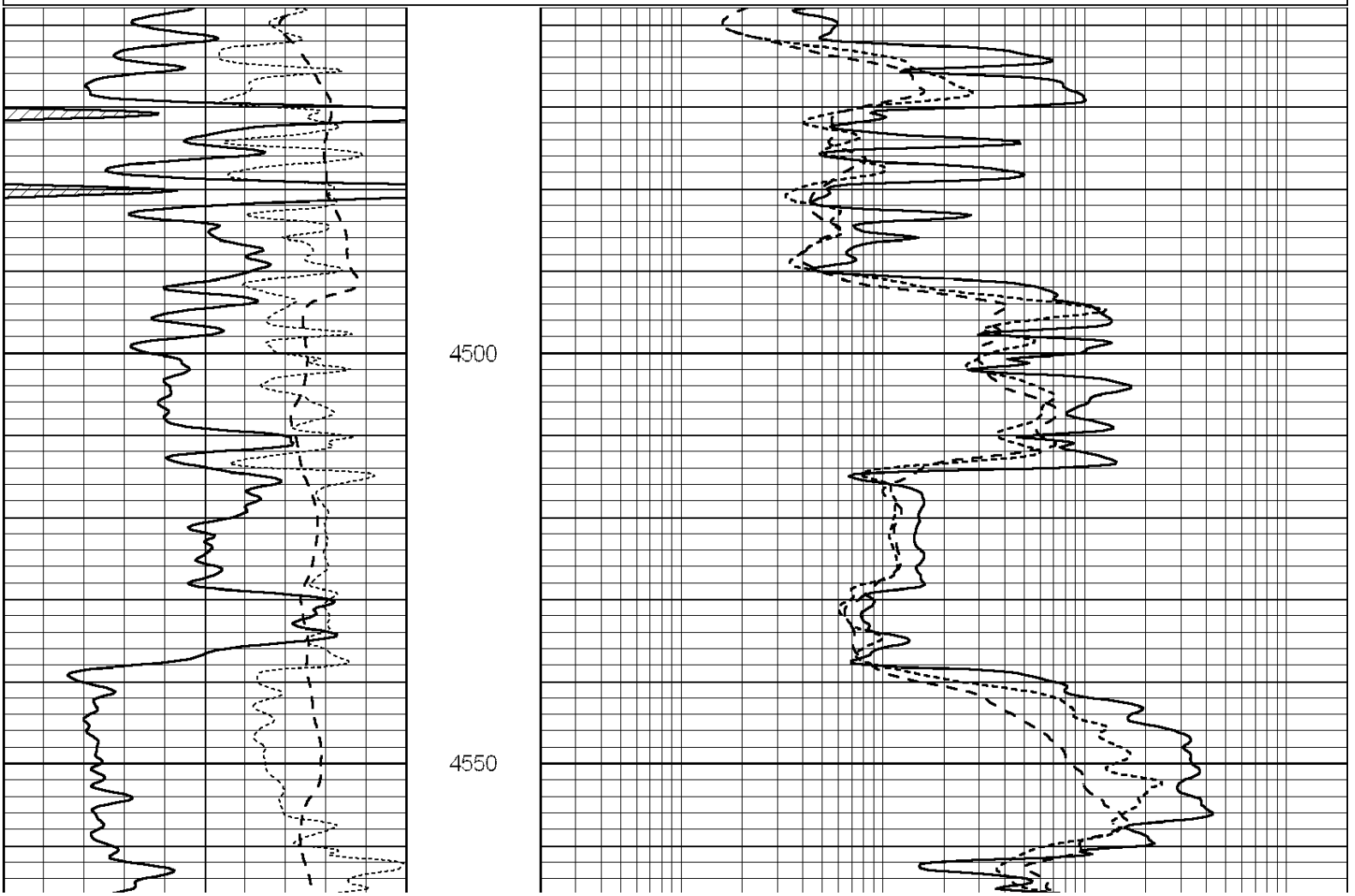
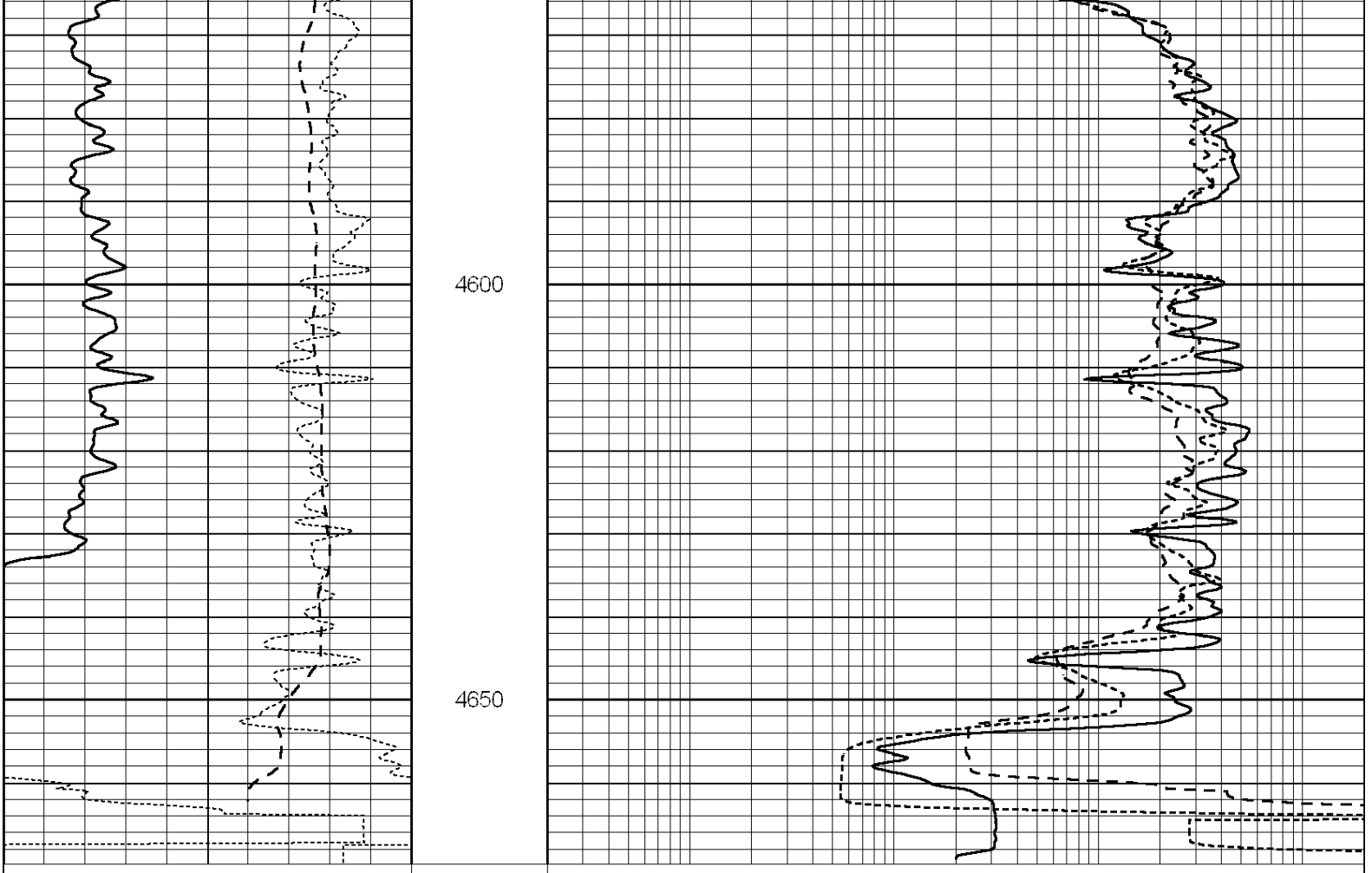
REPEAT SECTION

Database File: 008536ddn.db
Dataset Pathname: pass2.1
Presentation Format: _dil
Dataset Creation: Mon Feb 06 03:20:20 2012 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: 008536ddn.db
Dataset Pathname: pass2.1
Dataset Creation: Mon Feb 06 03:20:20 2012 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model:	PROBE8-DILG
Surface Cal Performed:	Fri Aug 01 06:33:19 2008
Downhole Cal Performed:	Mon Jul 28 11:08:27 2008
After Survey Verification Performed:	Mon Jul 28 11:08:27 2008

Surface Calibration

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	632.616	-9.730
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-17.680
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	

	Readings			Targets			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		

Compensated Density Calibration Report

Serial-Model:	GEAR4-GEARHART
Source / Verifier:	143 / 143
Master Calibration Performed:	Fri Jan 06 21:06:59 2012

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1015.91	497.51	cps
Aluminum	2.580	g/cc	227.67	350.20	cps

Spine Angle = 76.79 Density/Spine Ratio = 0.566

	Size		Reading	
Small Ring	8.00	in	2.25	V
Large Ring	14.00	in	4.37	V

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:	Mon Jun 13 16:56:43 2011	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	175.0	cps
Sensitivity:	0.8371	GAPI/cps