SUPERIOR WELL SERVICES

SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company CAERUS KANSAS, LLC.
Well MORTIMER #31-32
Field SETTE
County BARTON State KANSAS
Location: API # : 15-009-25680-0000
2310' FNL & 1490' FEL
E-2/SE/SW/NE
SEC 31 TWP 17S RGE 13W

Permanent Datum GROUND LEVEL Elevation 1851
Log Measured From KELLY BUSHING 13' A.G.L.
Drilling Measured From KELLY BUSHING

Other Services
CDL/CNL
MEL/SON

Elevation
K.B. 1864
D.F. 1862
G.L. 1851

Date	4/25/12		
Run Number	ONE		
Depth Driller	3420		
Depth Logger	3421		
Bottom Logged Interval	3419		
Top Log Interval	00		
Casing Driller	8 5/8" @ 846'		
Casing Logger	843		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 4000 PPM	
Density / Viscosity	9.0/56		
pH / Fluid Loss	9.0/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.52 @ 82F		
Rmf @ Meas. Temp	.39 @ 82F		
Rmc @ Meas. Temp	.62 @ 82F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	.38 @ 110F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	110F		
Equipment Number	680		
Location	HAYS, KS.		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	JEFF LAWLER		

<<< Fold Here >>>

Comments

THANK YOU FOR USING SUPERIOR WELL SERVICE (785) 628-6395
DIRECTIONS
RUSSELL, KS. - S. TO INTERSECTION OF HWY 281 & HWY 4
3 E. TO CURVE - 1/2 S. ON CURVE - W. INTO

SUPERIOR WELL SERVICES

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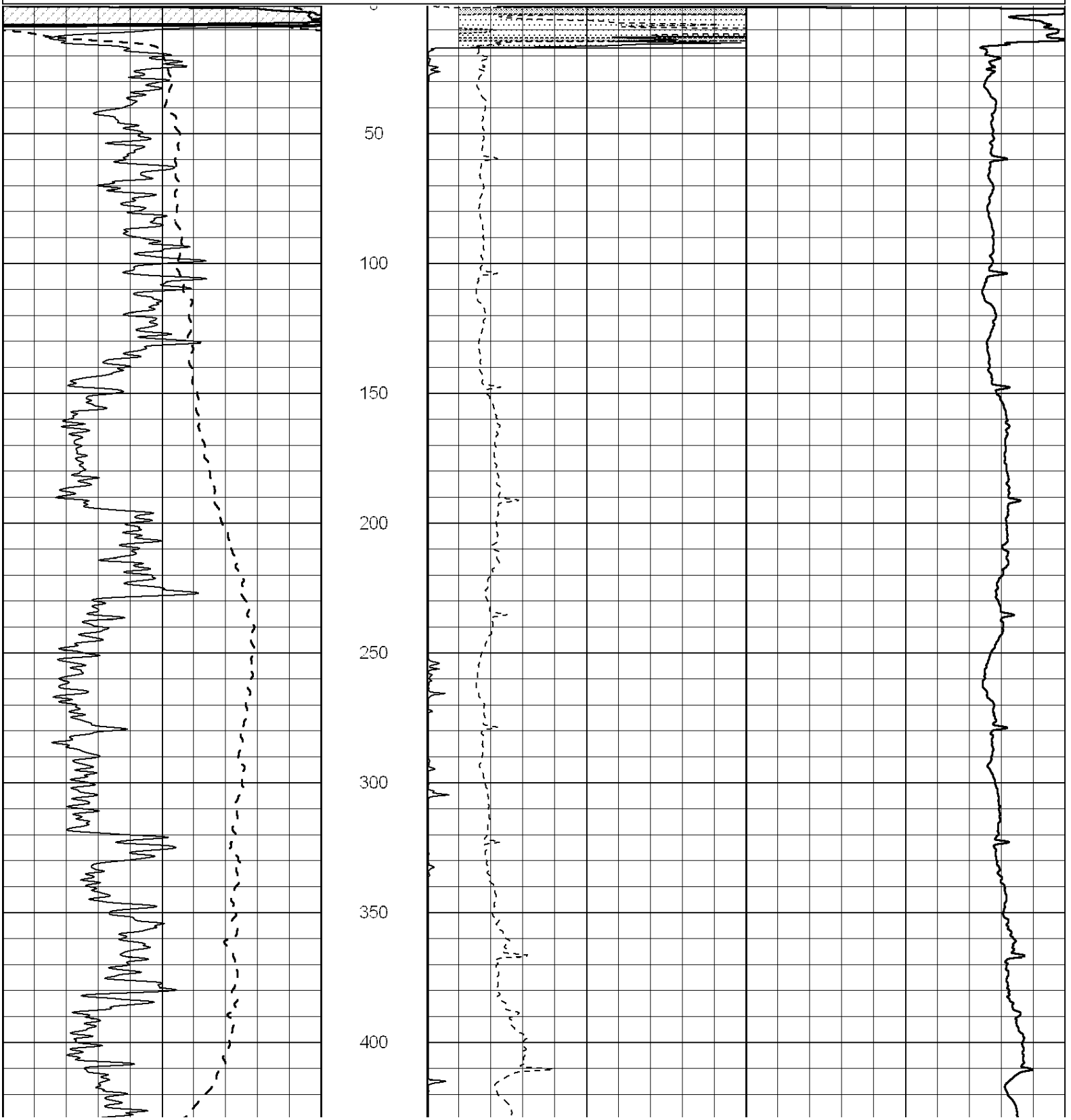
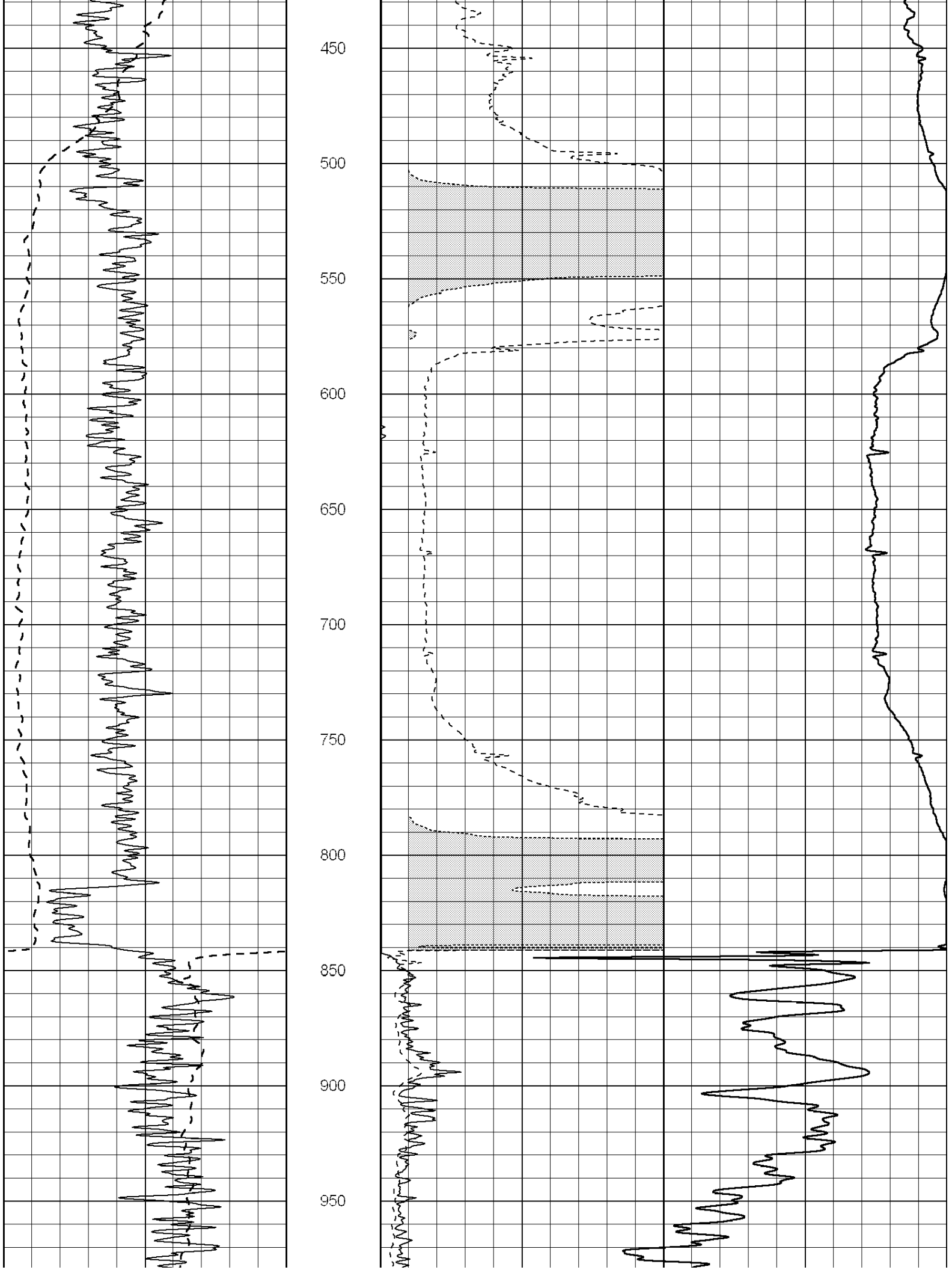
MAIN SECTION

Database File:	008849ddn.db
Dataset Pathname:	pass4.2
Presentation Format:	_dil2
Dataset Creation:	Wed Apr 25 21:55:16 2012 by Calc Open-Cased 090629
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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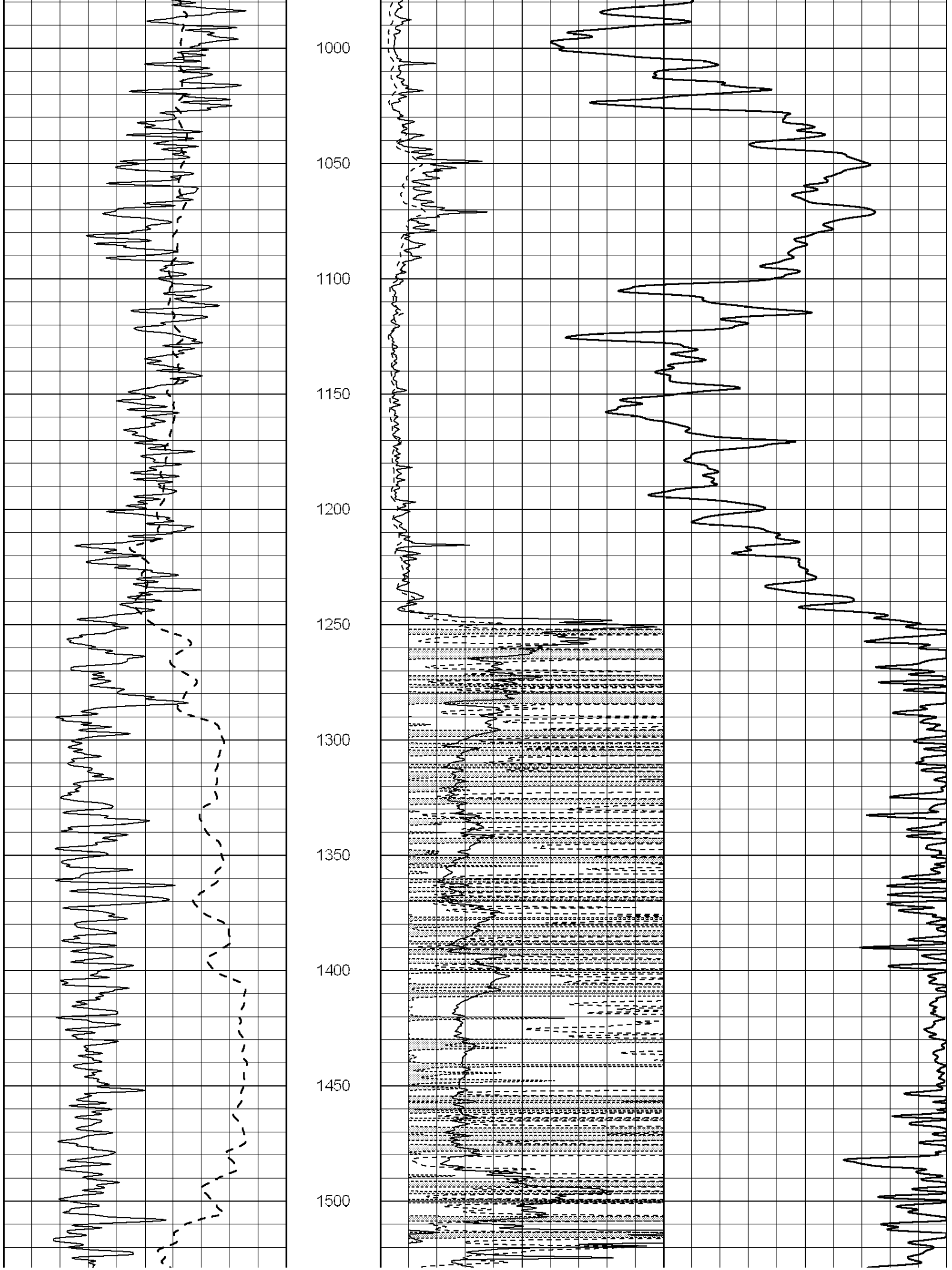
950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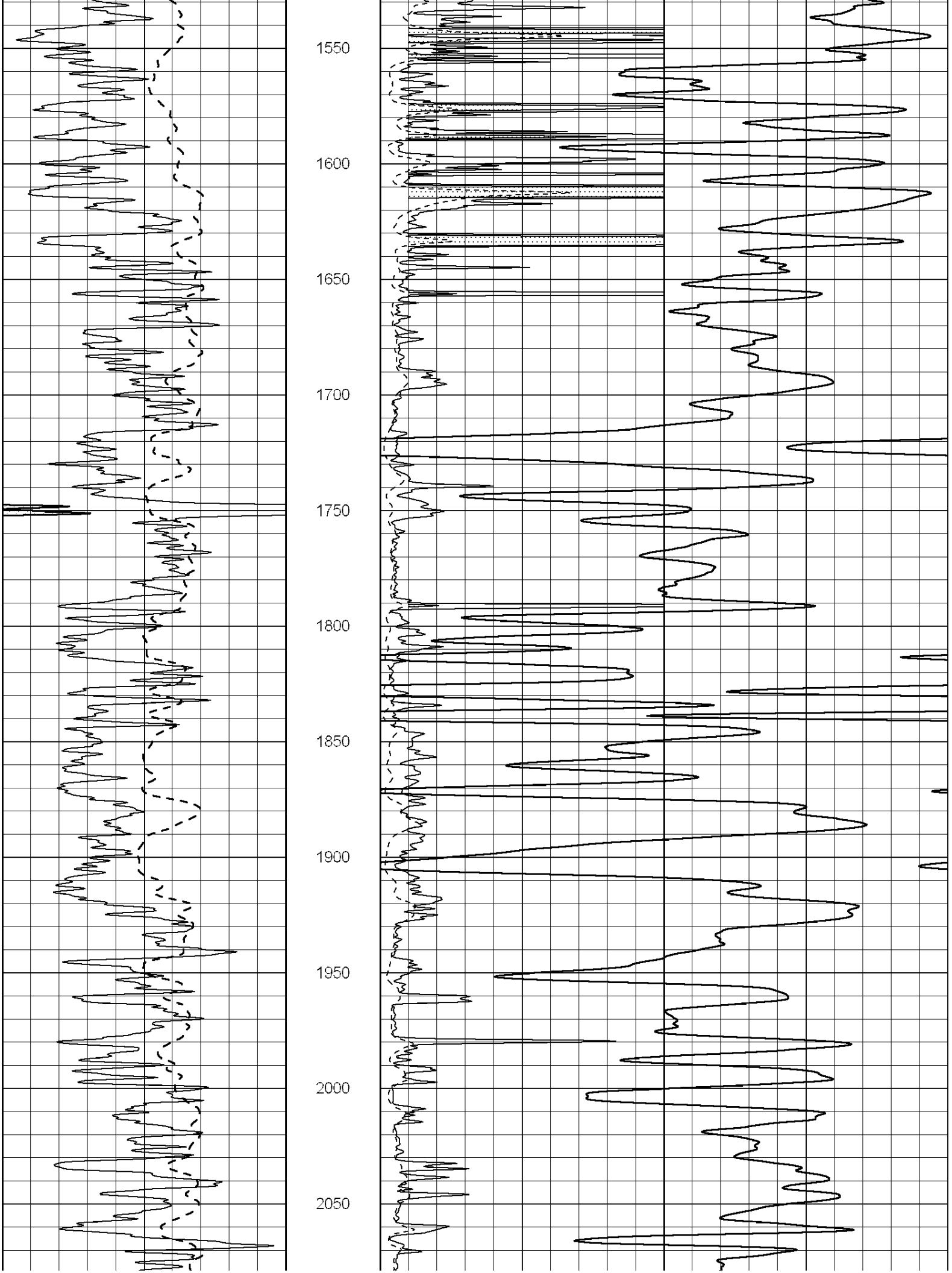
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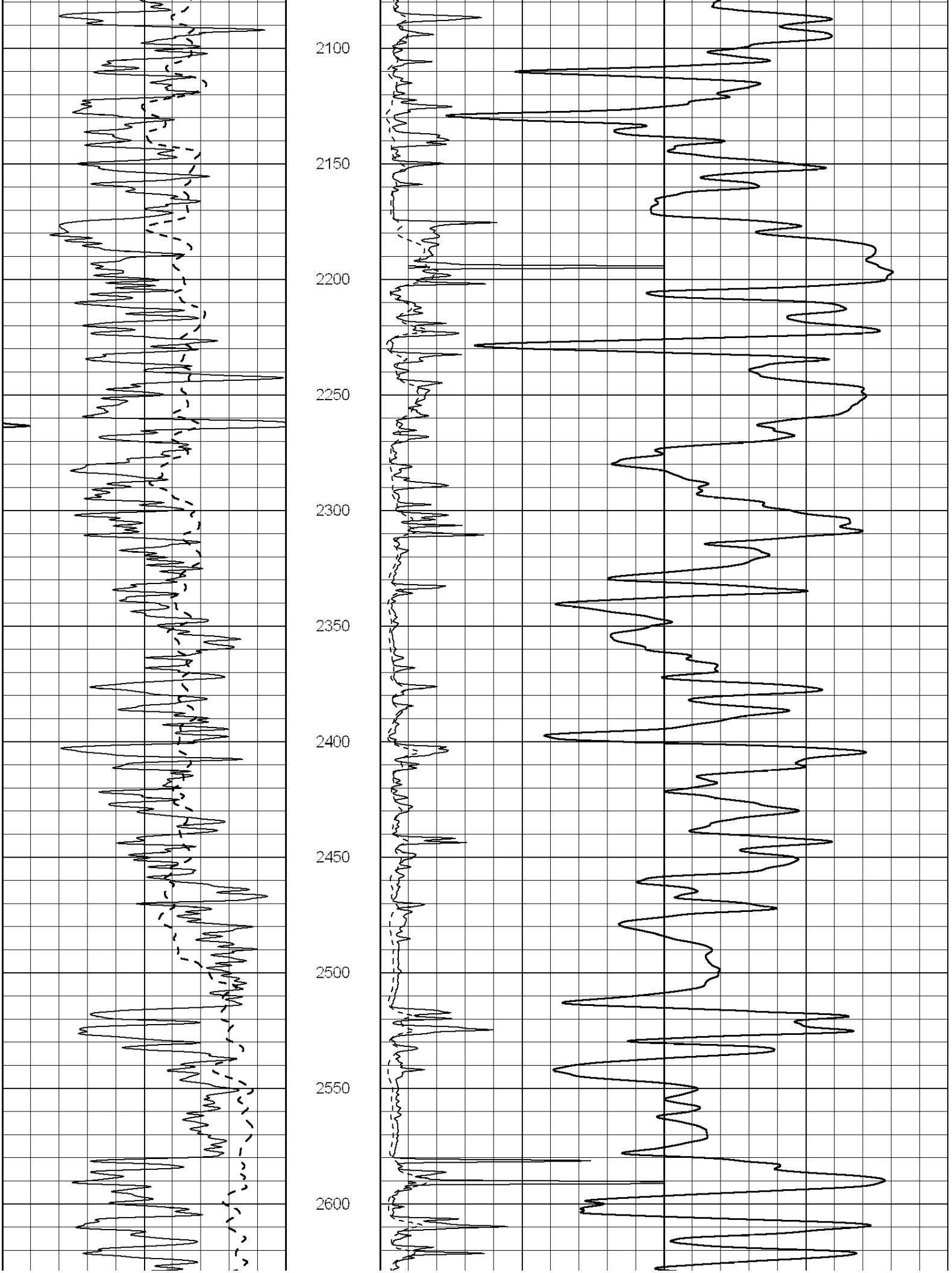
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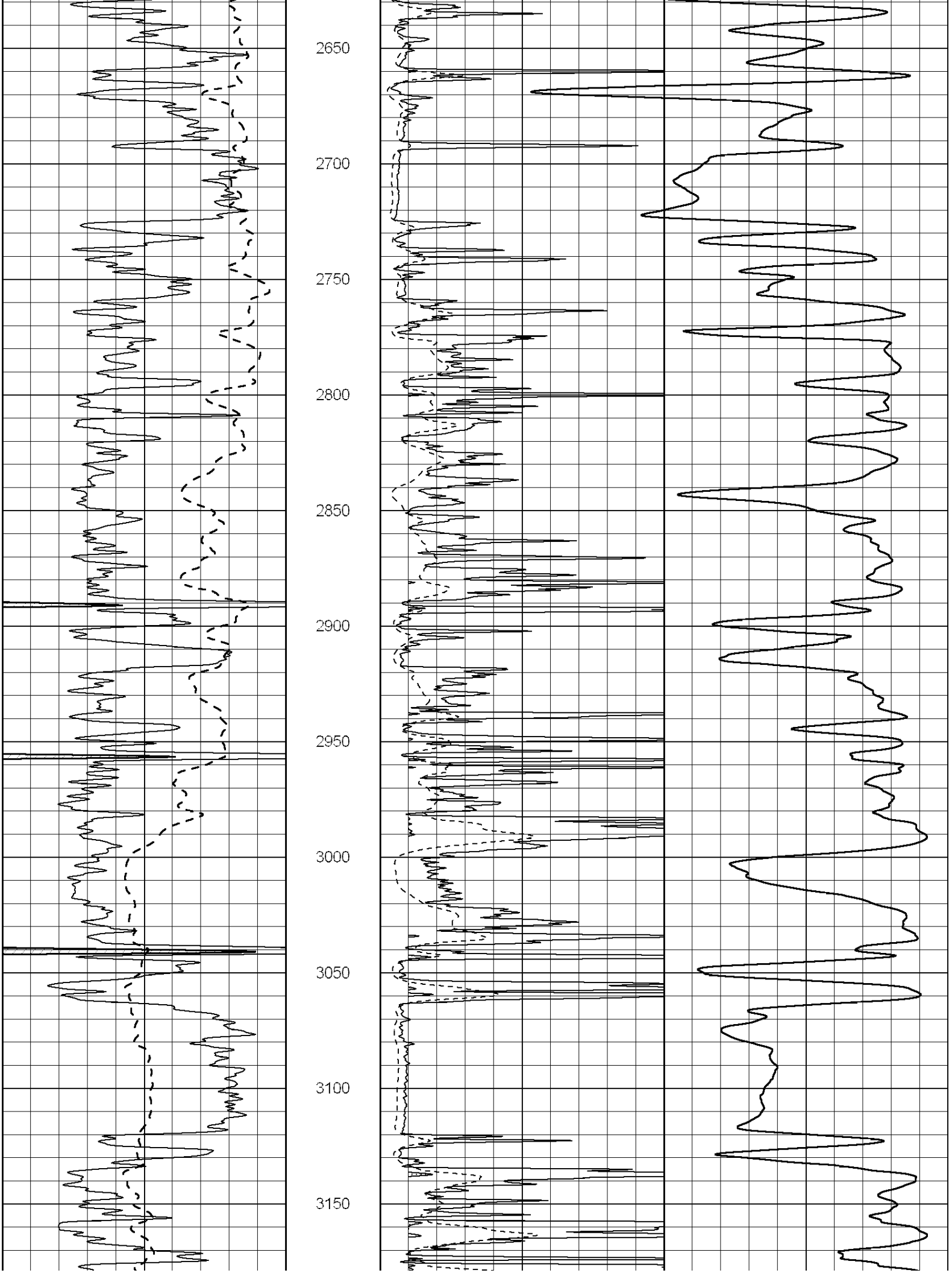
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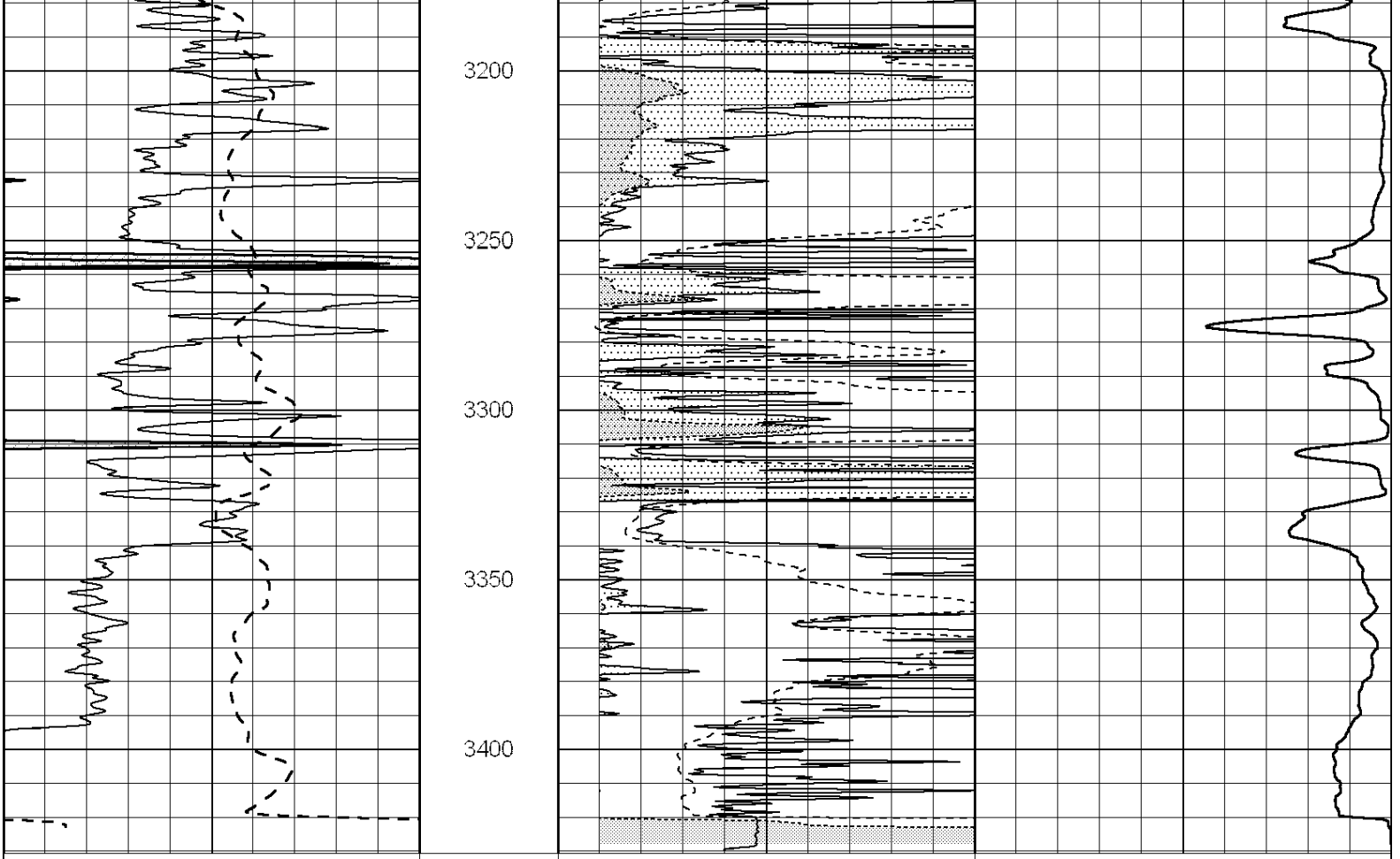

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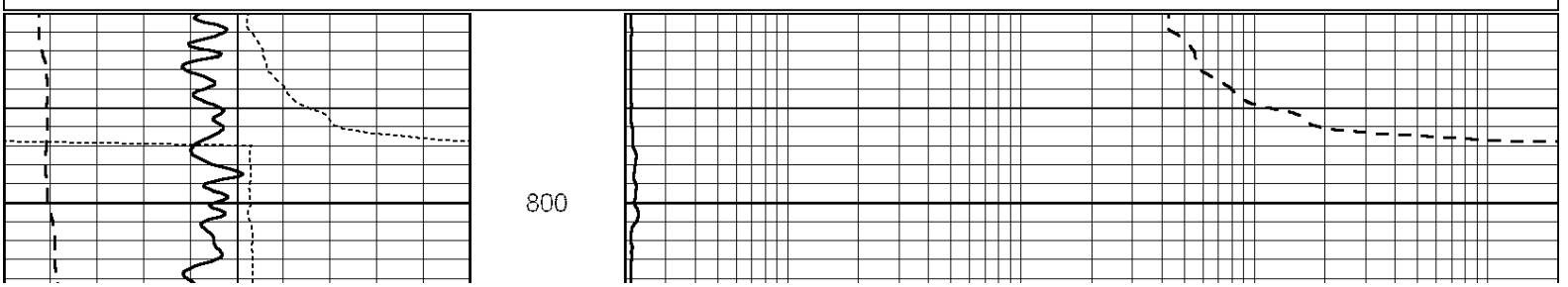
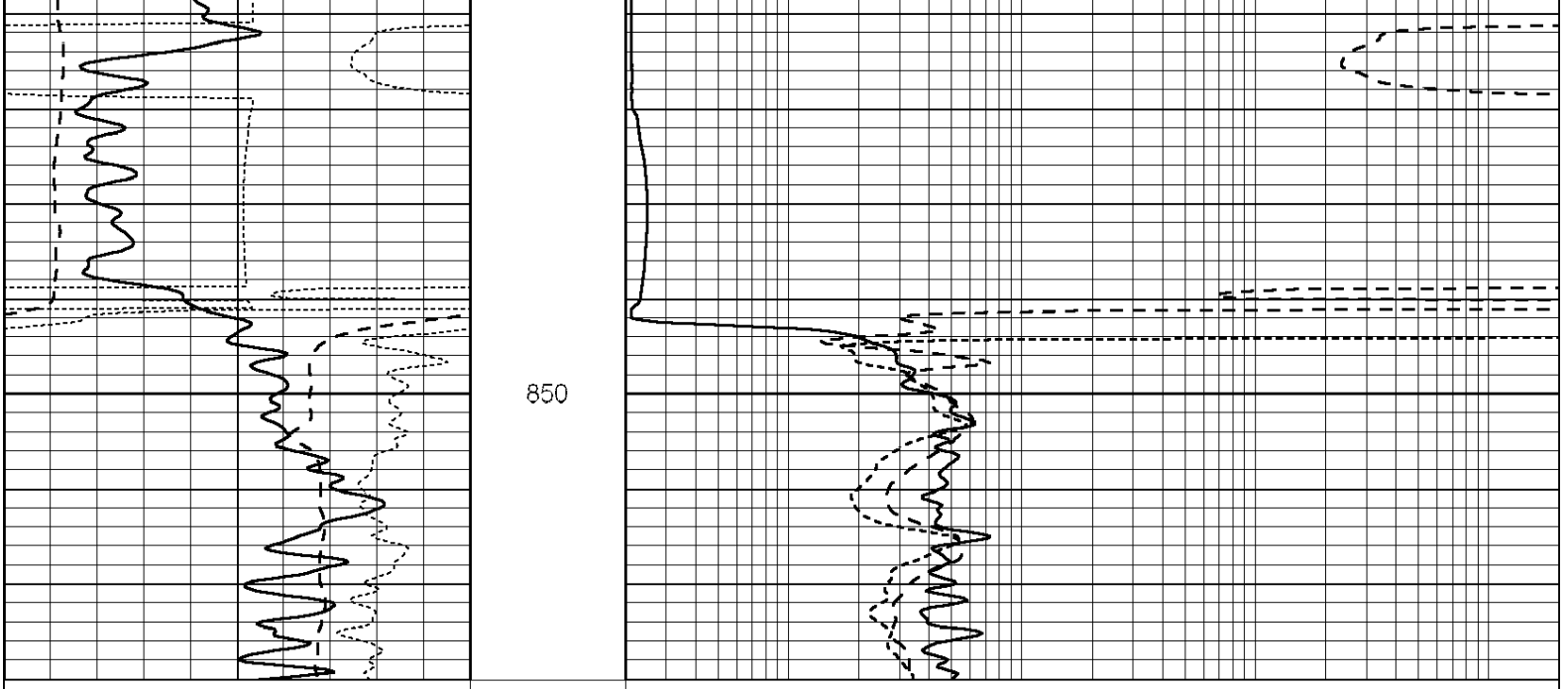
ANHYDRITE

Database File:	008849ddn.db
Dataset Pathname:	pass4.3
Presentation Format:	_dil
Dataset Creation:	Wed Apr 25 21:33:07 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

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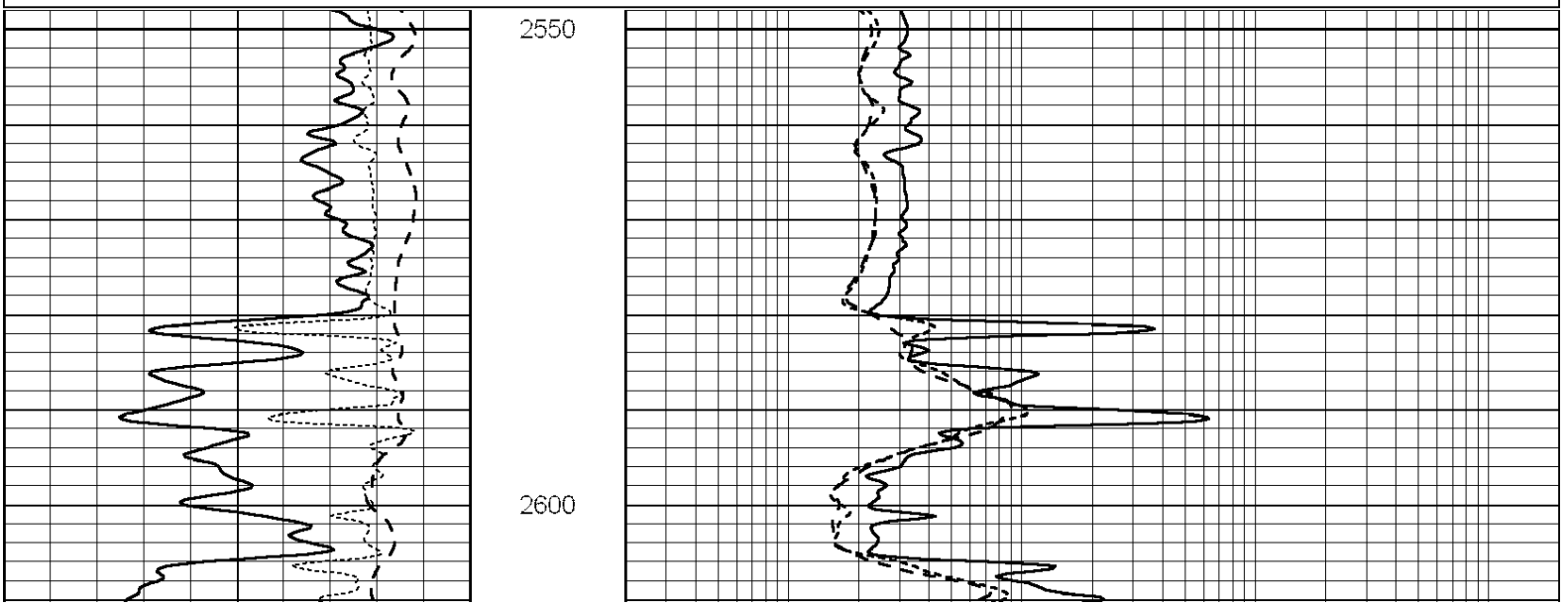
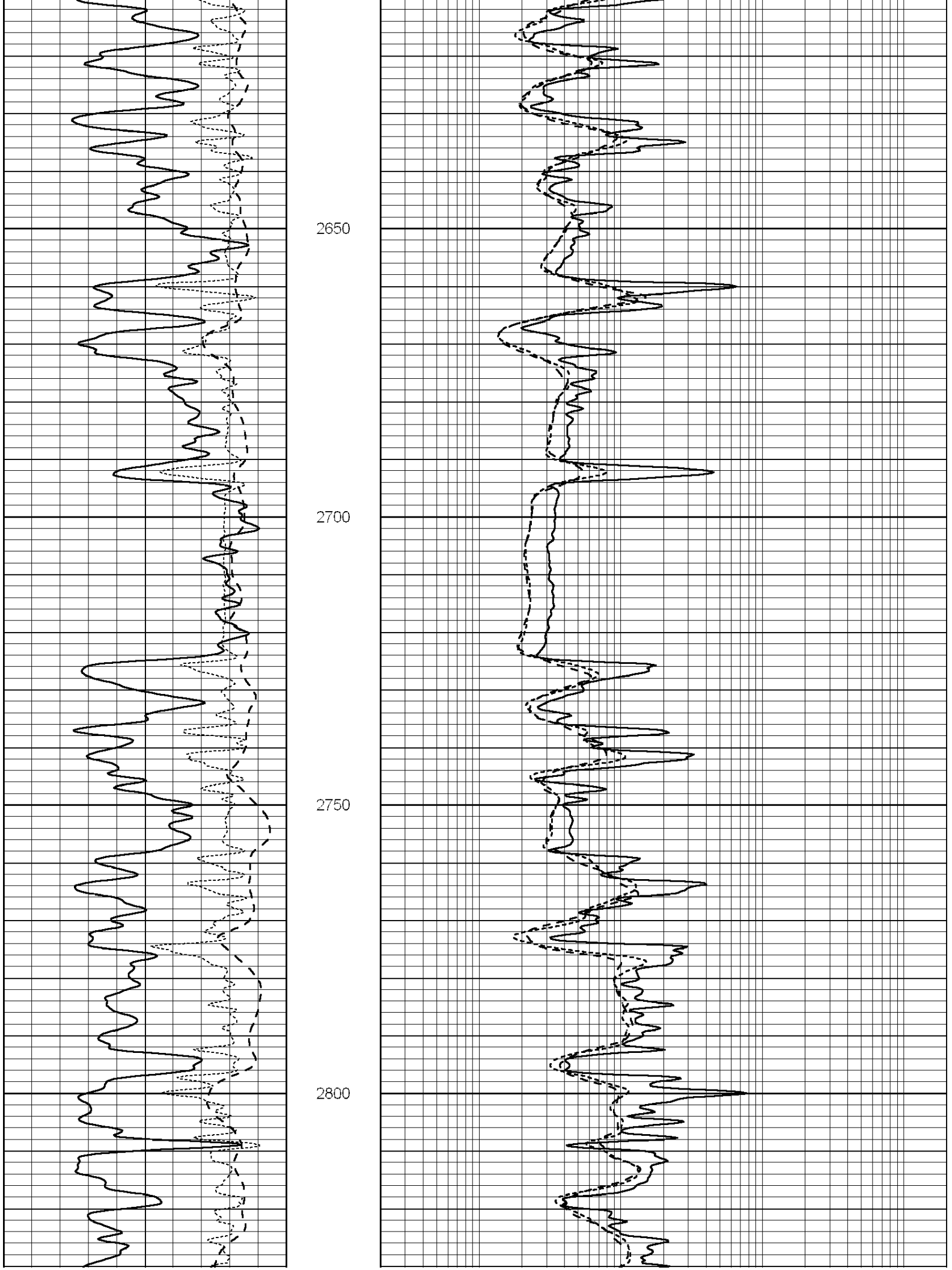
MAIN SECTION

Database File:	008849ddn.db
Dataset Pathname:	pass4.1
Presentation Format:	_dil
Dataset Creation:	Wed Apr 25 21:23:30 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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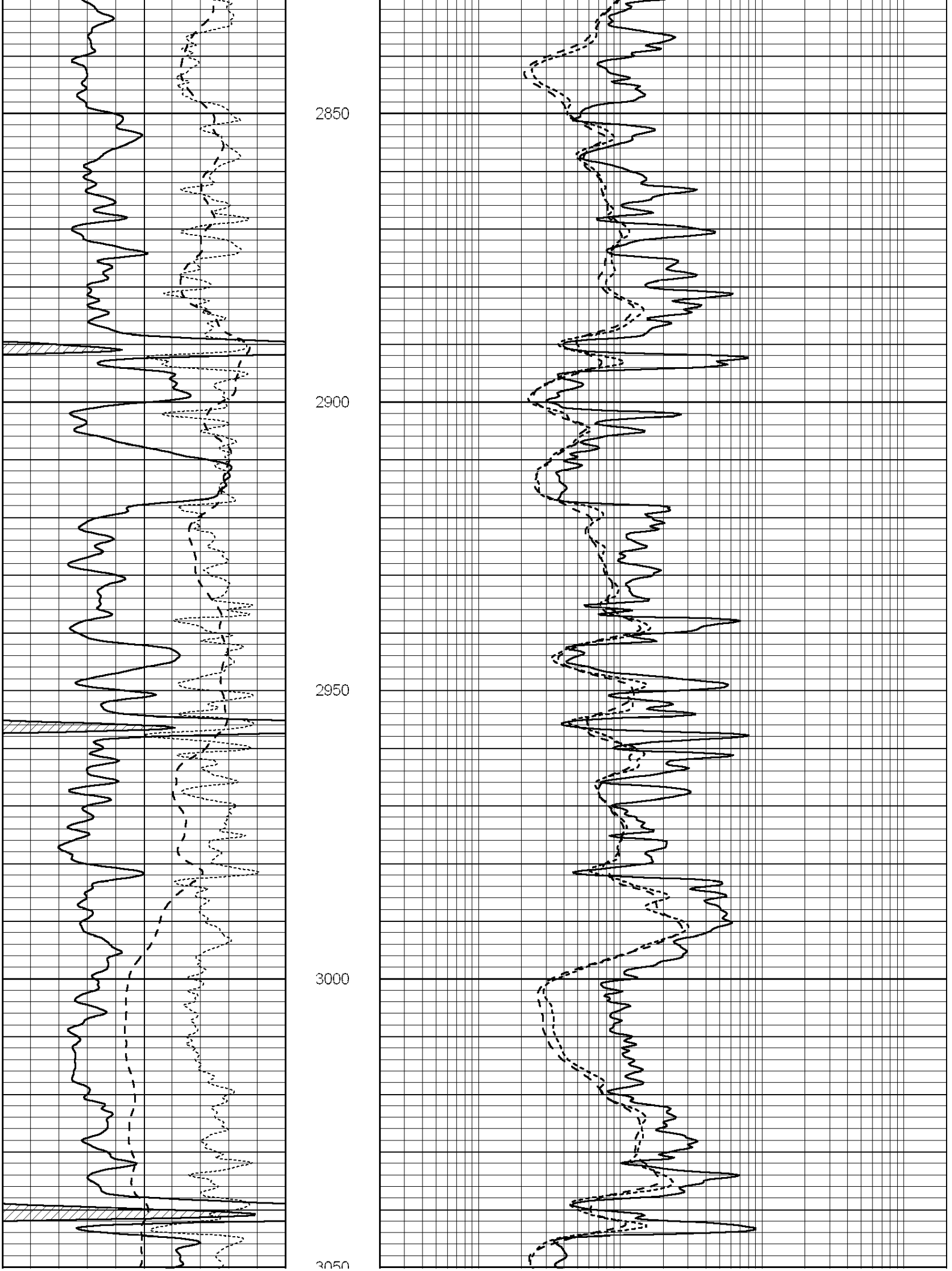
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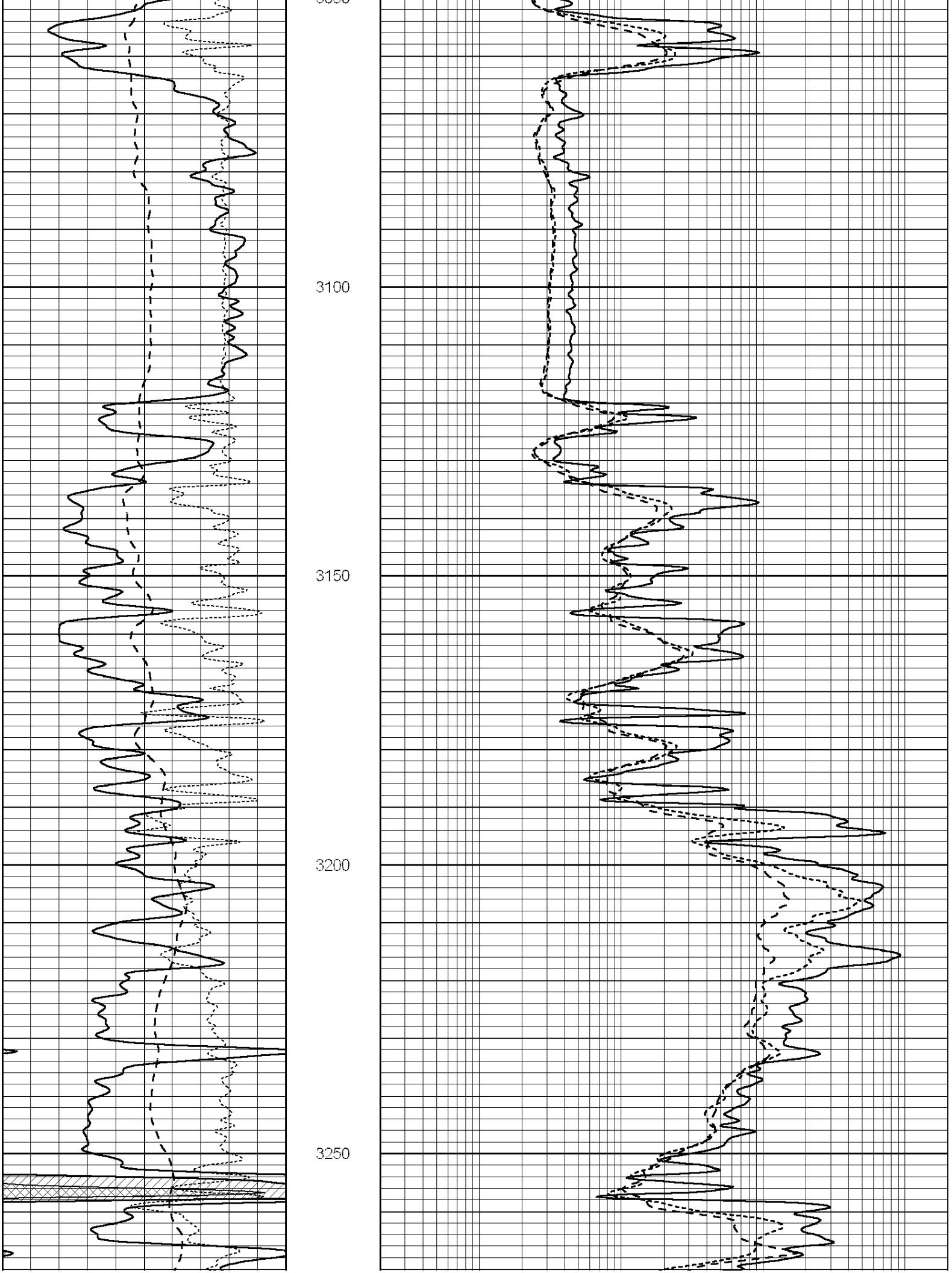
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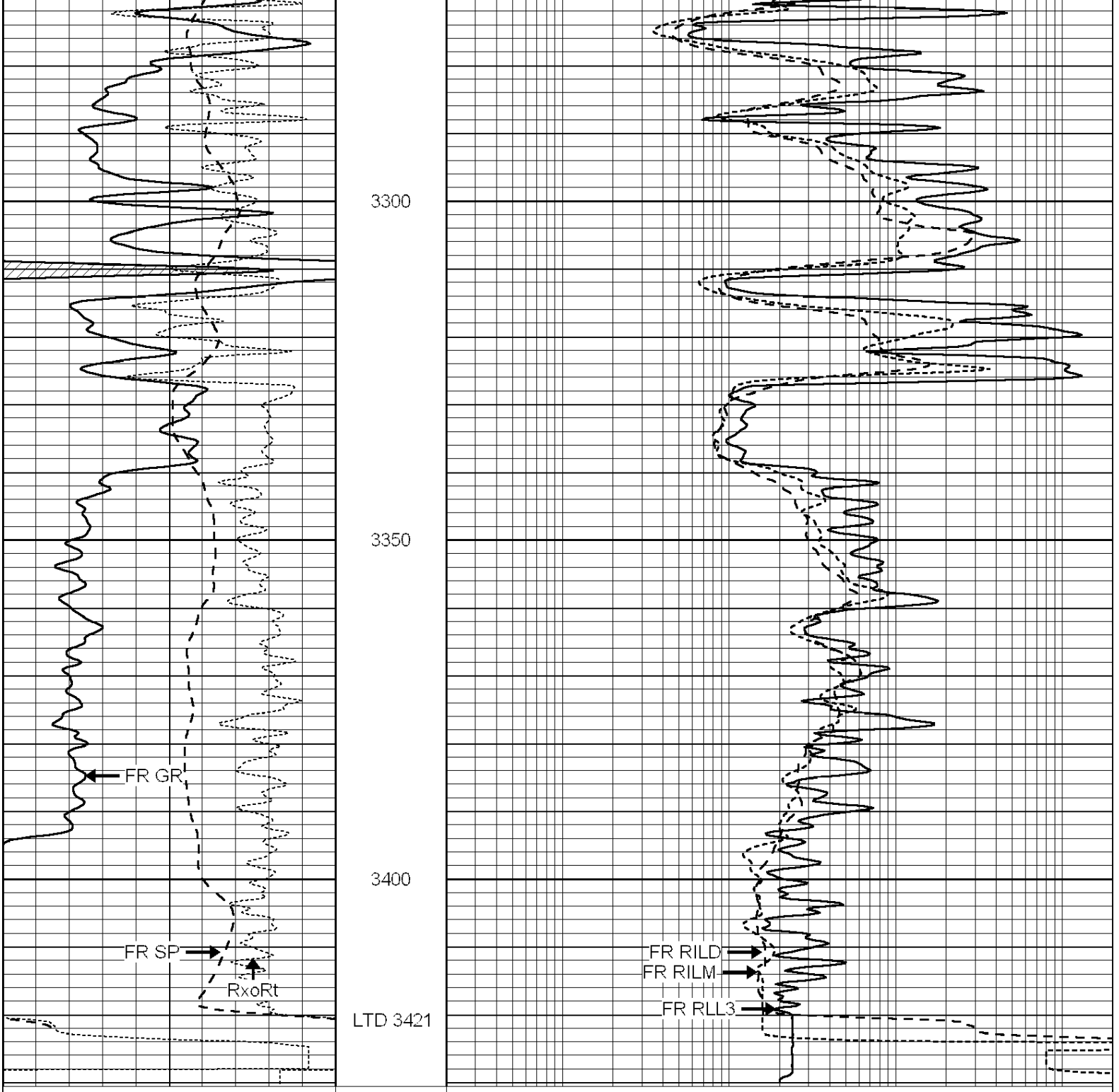

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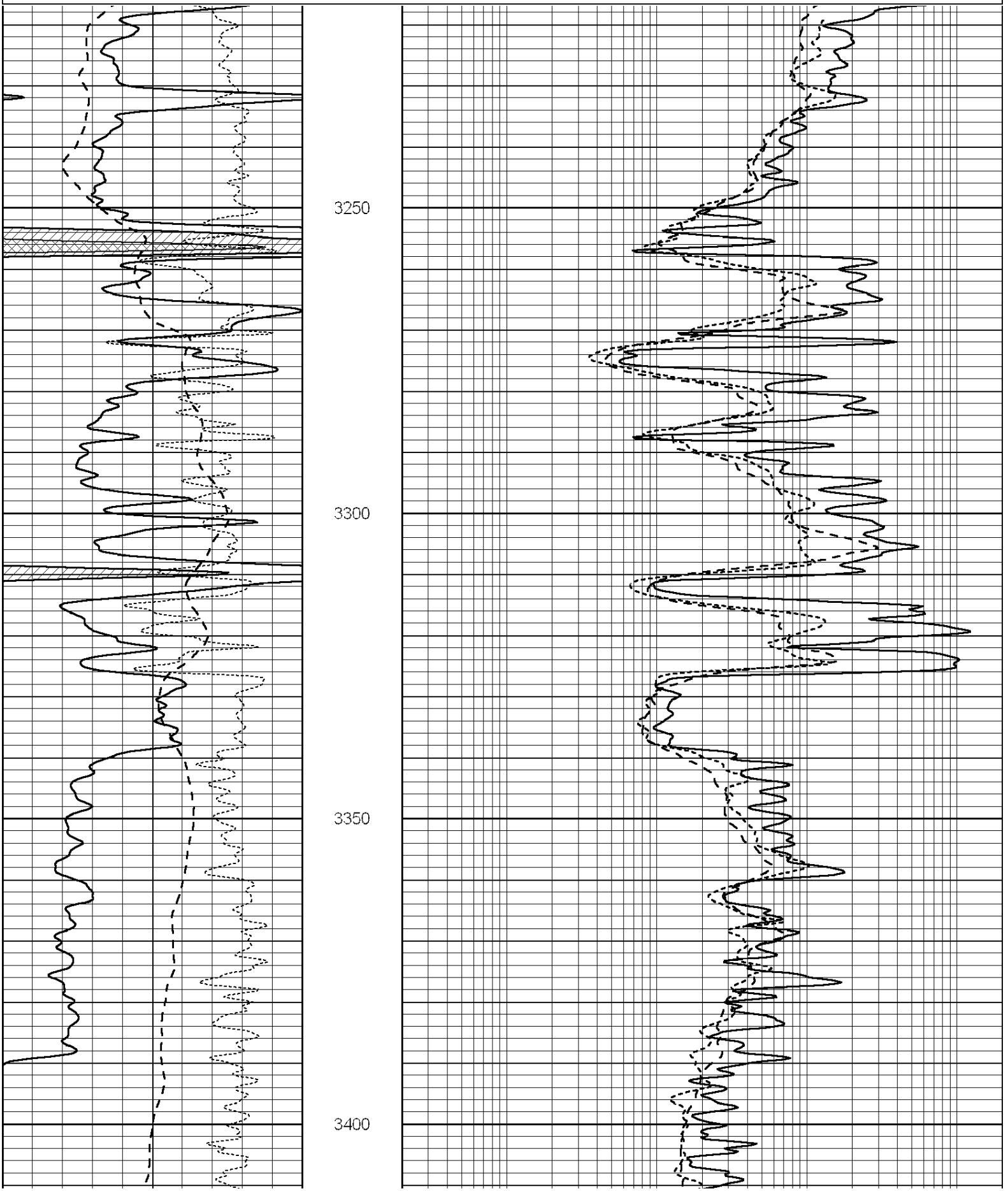
REPEAT SECTION

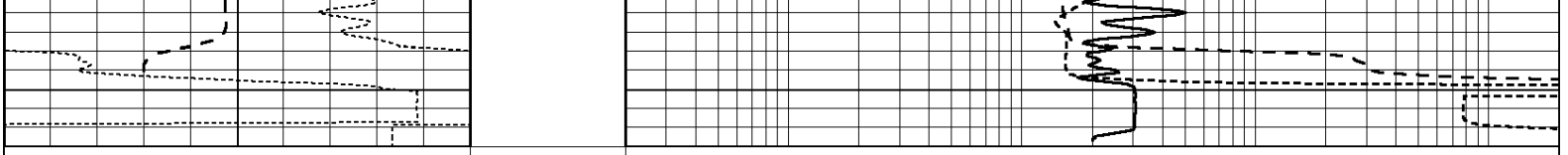
Database File:	008849ddn.db
Dataset Pathname:	pass3.2
Presentation Format:	_dil
Dataset Creation:	Wed Apr 25 21:17:10 2012 by Calc Open-Cased 090629

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

Calibration Report

Database File: 008849ddn.db
Dataset Pathname: pass3.2
Dataset Creation: Wed Apr 25 21:17:10 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	
	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:	GEAR3-GEARHART
Source / Verifier:	143 / 143
Master Calibration Performed:	Thu Jan 26 19:46:16 2012

Master Calibration

	Density	Far Detector	Near Detector

Magnesium	1.710	g/cc	971.18	557.33	cps
Aluminum	2.580	g/cc	212.31	367.26	cps

Spine Angle = 74.66 Density/Spine Ratio = 0.552

	Size		Reading	
Small Ring	8.00	in	4.29	V
Large Ring	14.00	in	6.24	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