SUPERIOR WELL SERVICES

SUPERIOR
Hays, Kansas

DUAL INDUCTION LOG

Company PIONEER EXPLORATION, LLC.
Well DIRKS #7
Field
County HARPER
State KANSAS

Company PIONEER EXPLORATION, LLC

Well DIRKS #7

Field

County HARPER State KANSAS

Location: API # : 15-077-21672-0000

990' FSL & 130' FWL
W/2 - NW - SW - SW

SEC 28 TWP 31S RGE 9W

Other Services
CDL/CNL
MEL

Permanent Datum GROUND LEVEL Elevation 1639
Log Measured From KELLY BUSHING 10' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1649
D.F. 1647
G.L. 1639

Date	3-22-10		
Run Number	ONE		
Depth Driller	4600		
Depth Logger	4601		
Bottom Logged Interval	4599		
Top Log Interval	0		
Casing Driller	8 5/8" @ 266		
Casing Logger	266		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 3500 PPM	
Density / Viscosity	9.3 / 52		
pH / Fluid Loss	10.5 / 8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.95 @ 74F		
Rmf @ Meas. Temp	0.71 @ 74F		
Rmc @ Meas. Temp	1.14 @ 74F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	0.58 @ 121F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	121F		
Equipment Number	680		
Location	HAYS, KANSAS		
Recorded By	JEFF GRONEWEG		
Witnessed By	SEAN DEENIHAN		

<<< Fold Here >>>

Comments

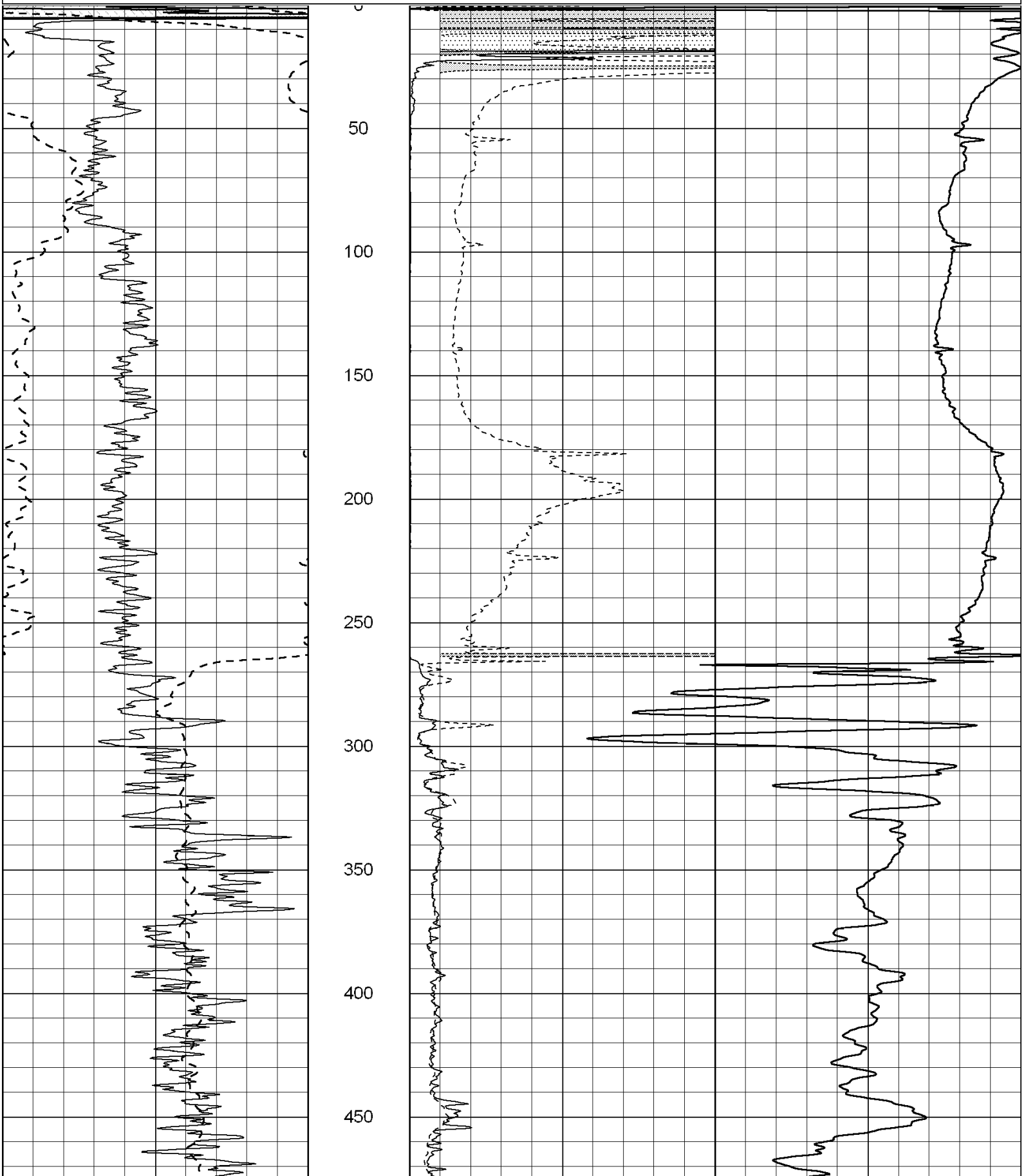
THANK YOU FOR USING SUPERIOR WELL SERVICES HAYS, KANSAS (785)628-6395
DIRECTIONS
ATTICA, KS - 4 1/2 MILES WEST TO RD NW 150 - 4 1/2 MILES NORTH
EAST INTO

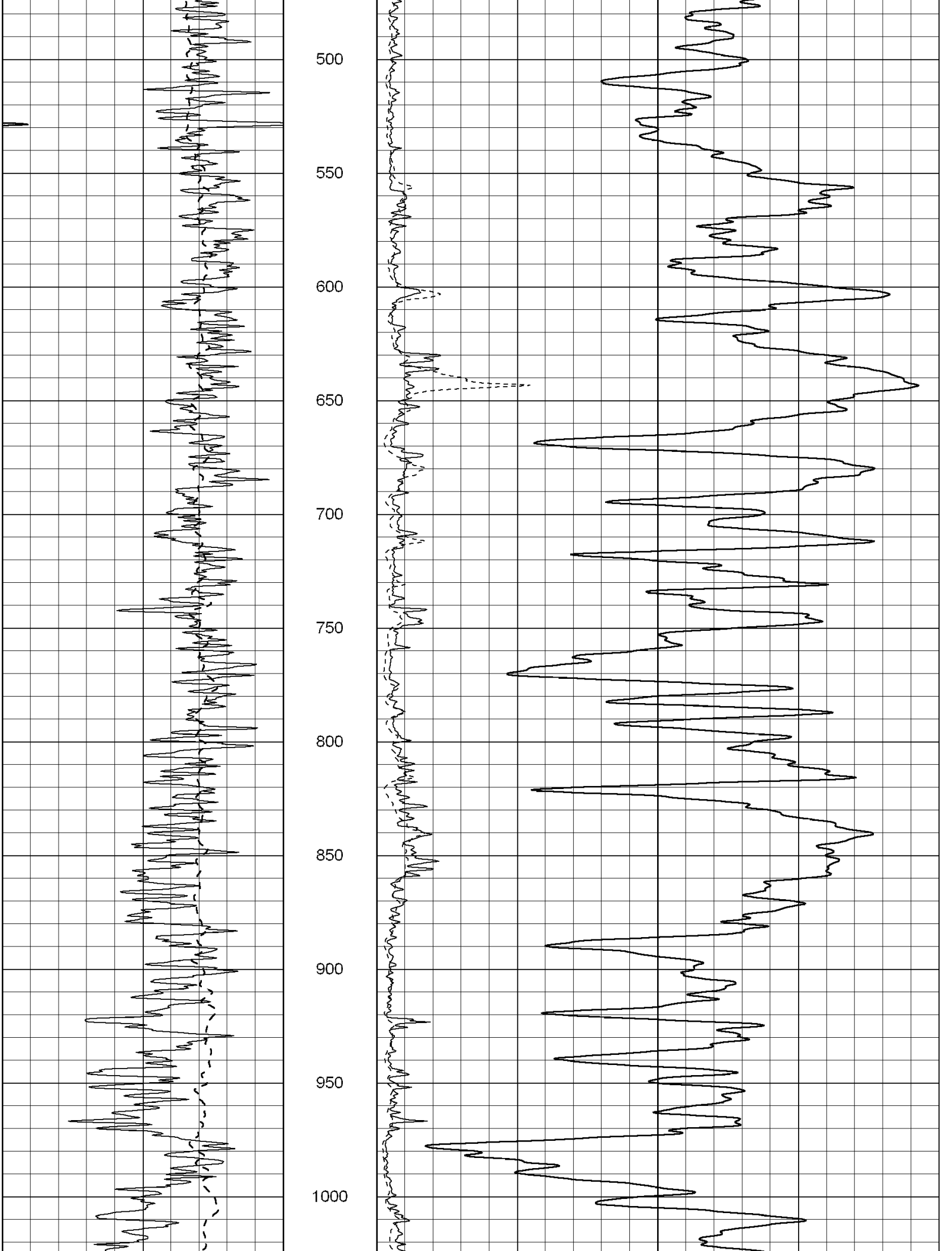
Database File: 005104ddn.db
Dataset Pathname: pass3.3
Presentation Format: _dil2
Dataset Creation: Mon Mar 22 22:59:09 2010 by Calc Open-Cased 090629

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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600
650
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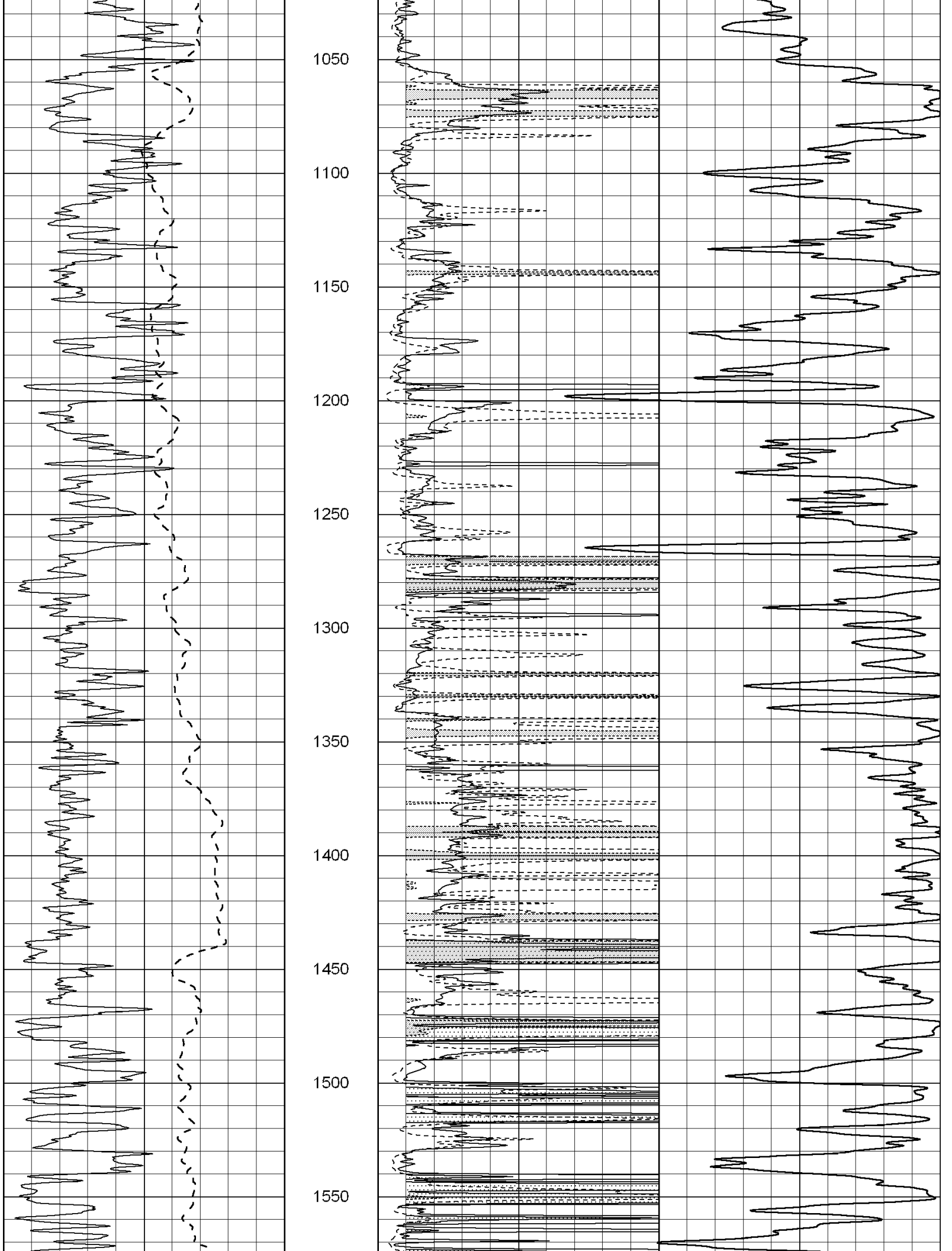
1000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1200
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1300
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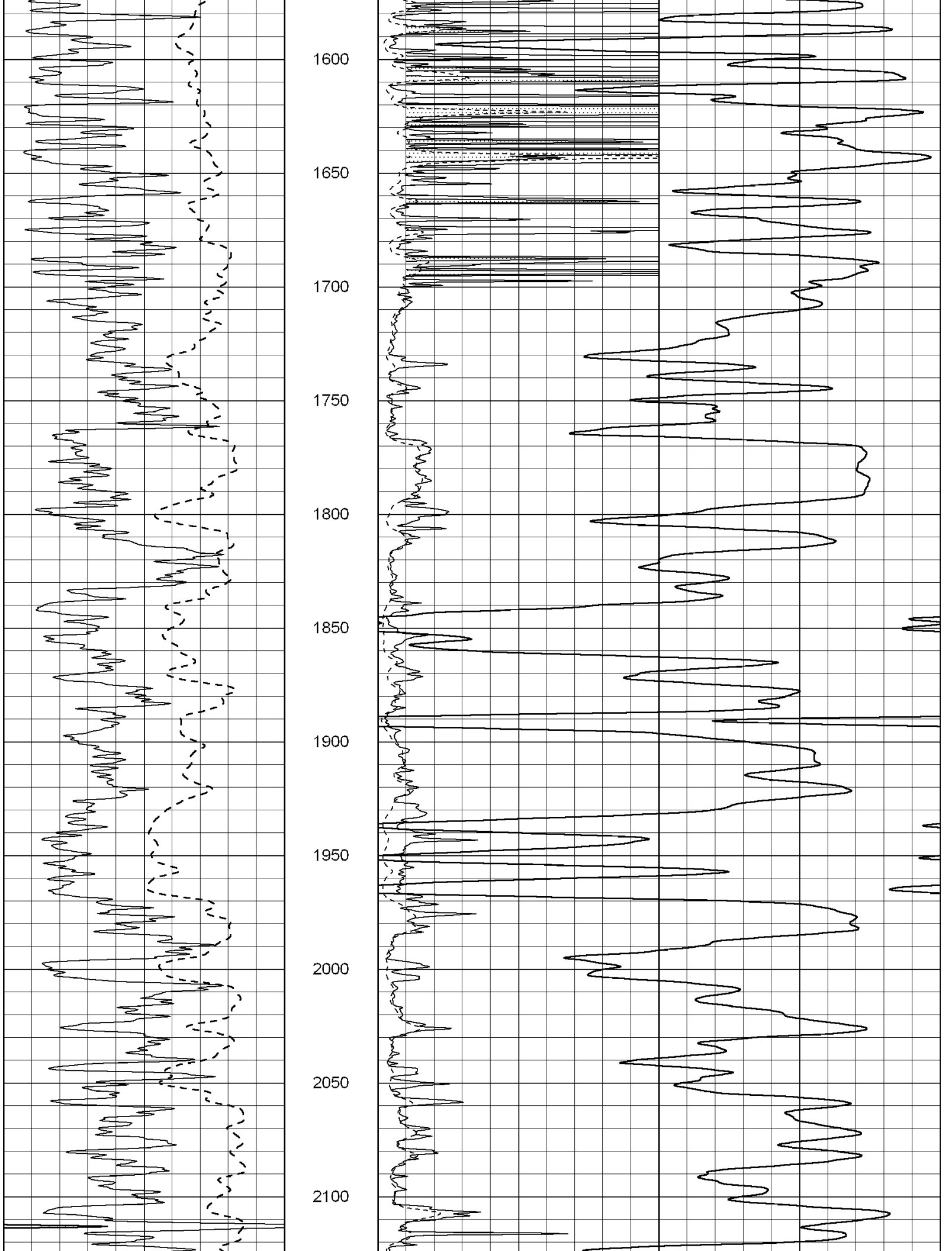
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1800
1850
1900
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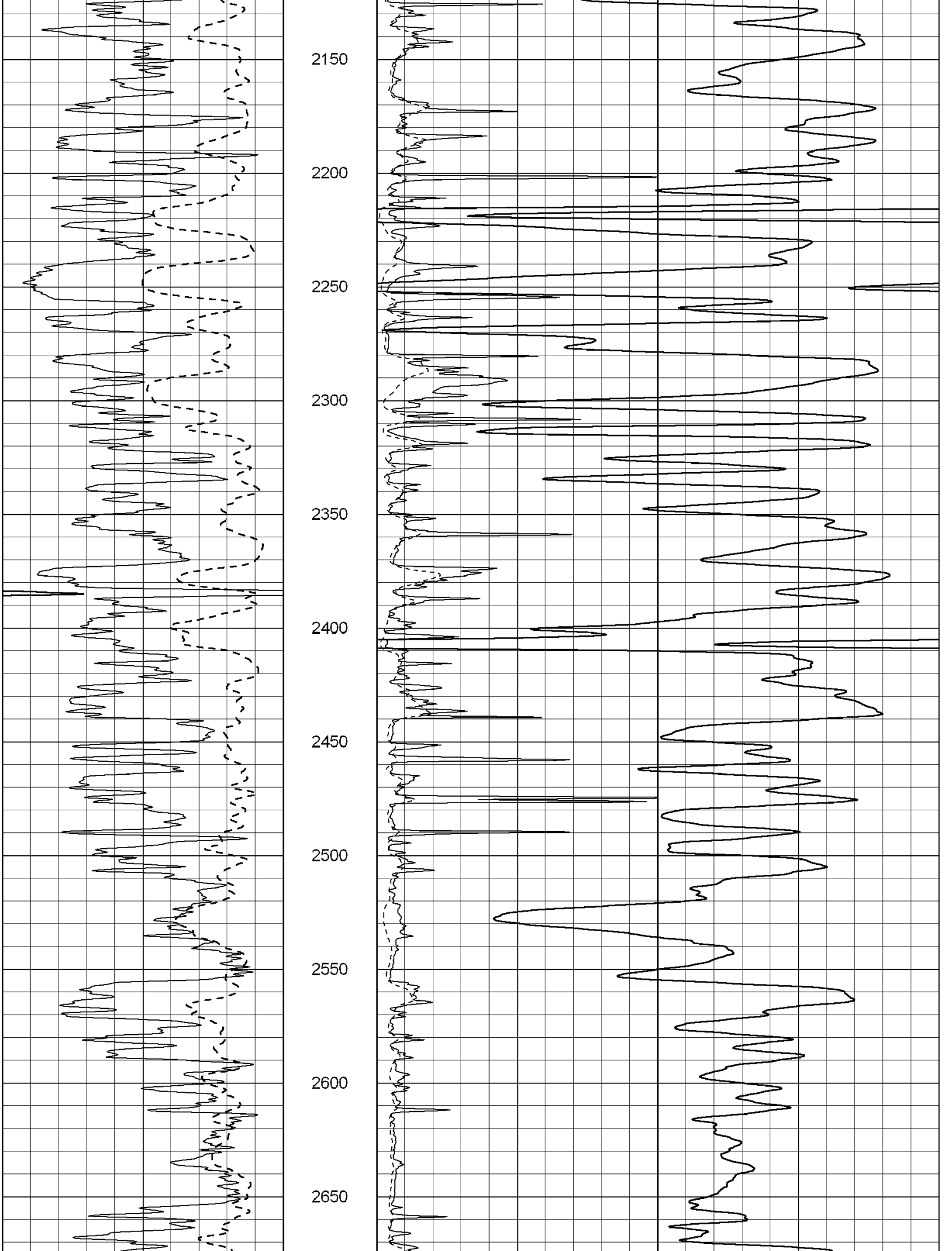
2050
2100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2400
2450
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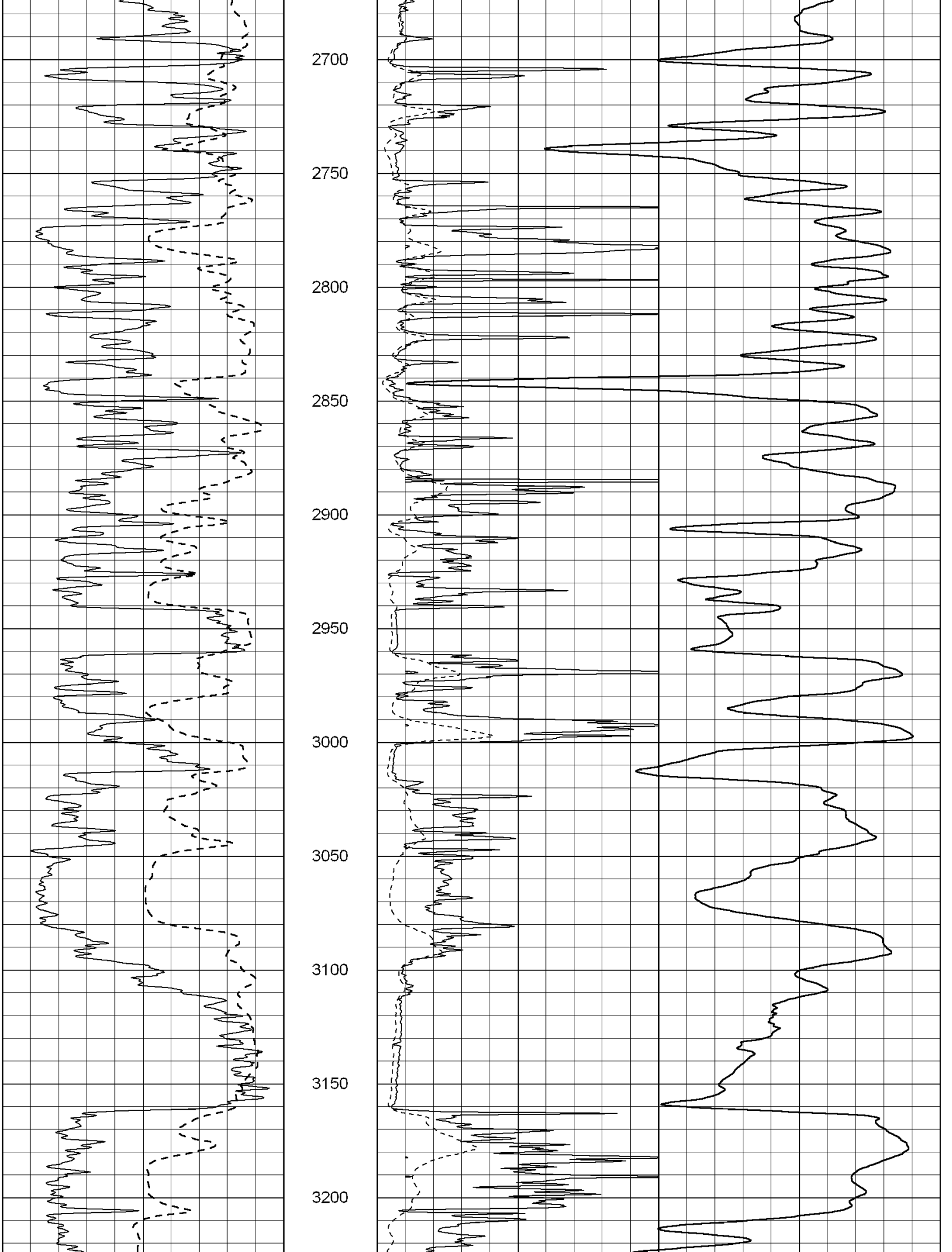
2550
2600
2650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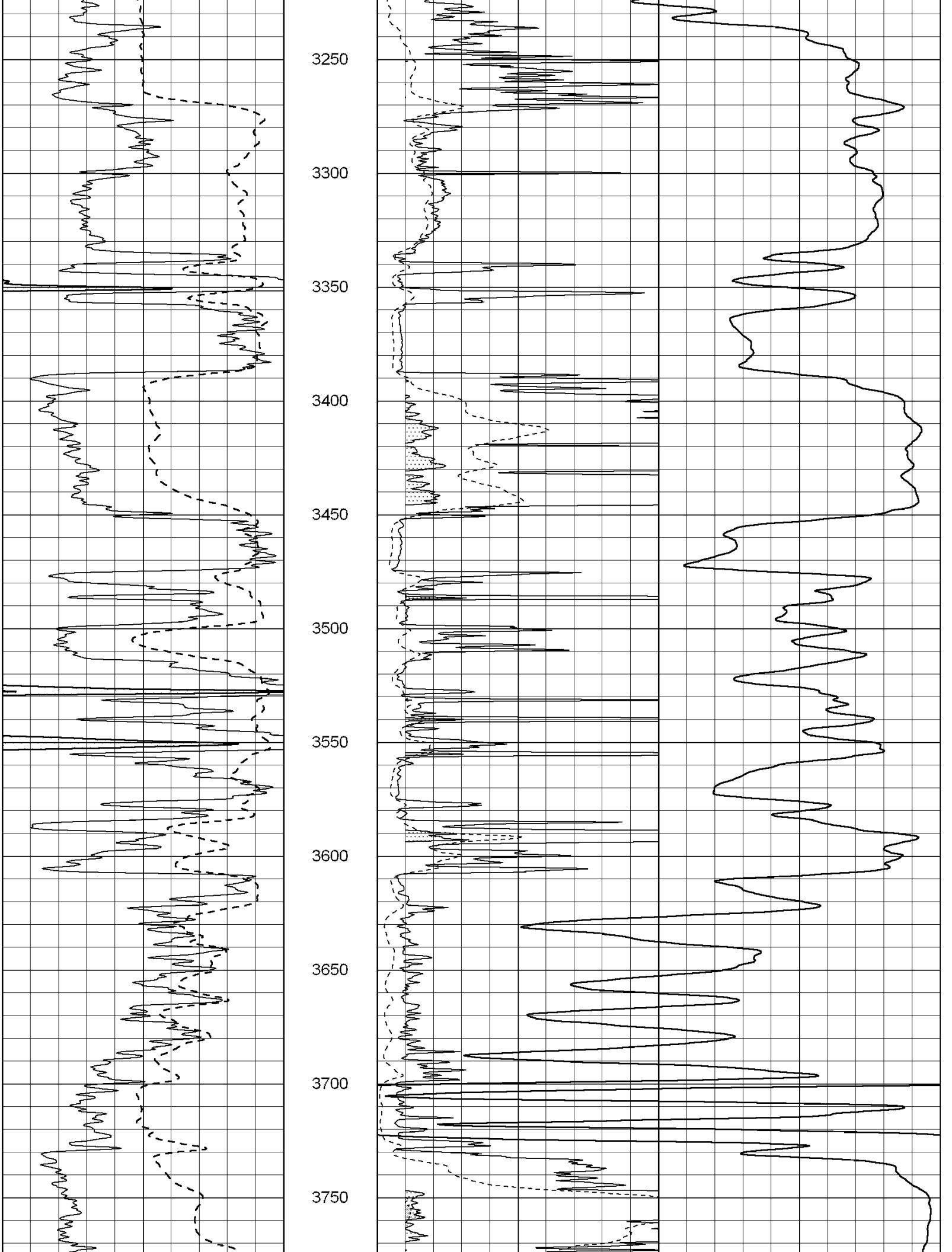
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3700
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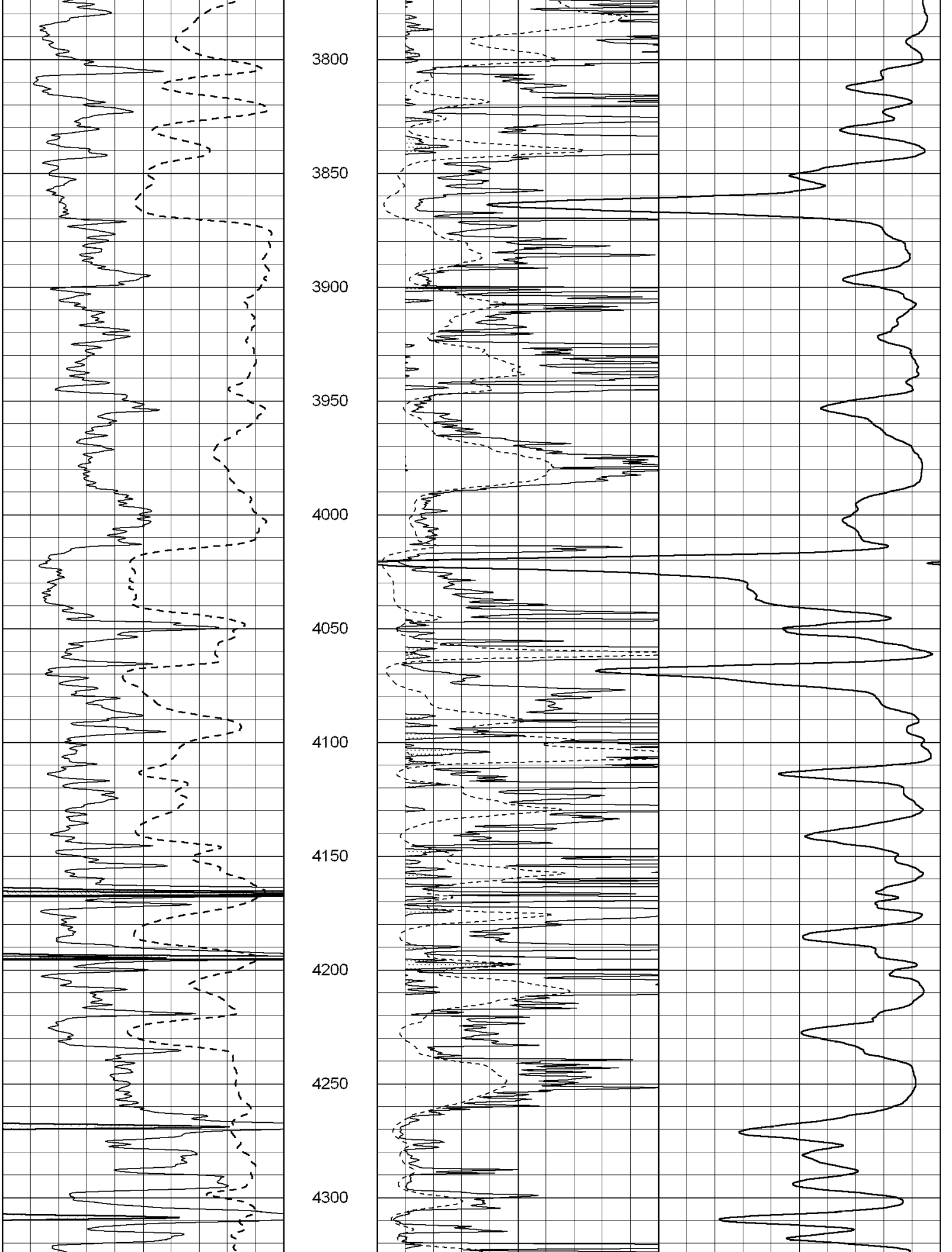
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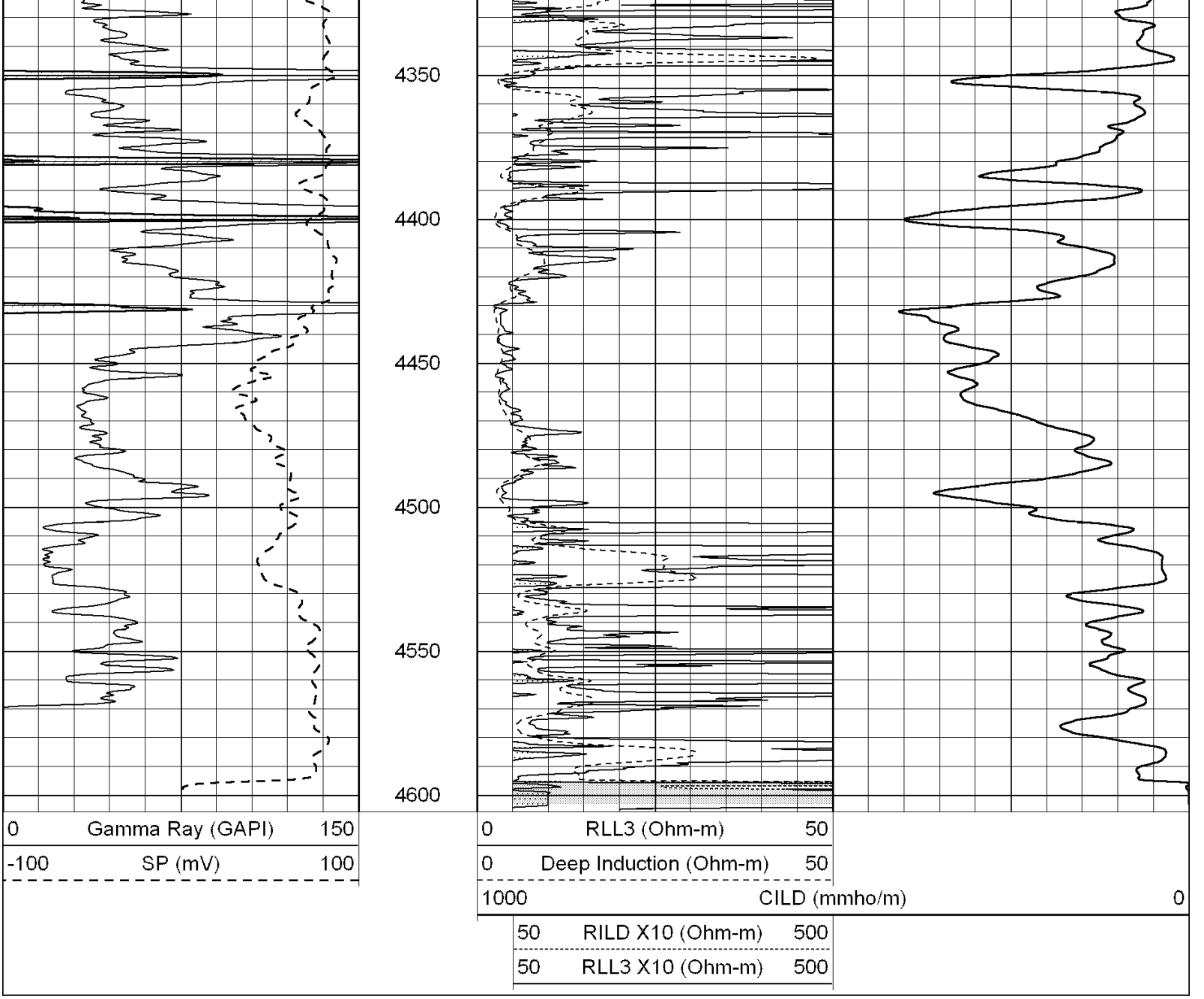

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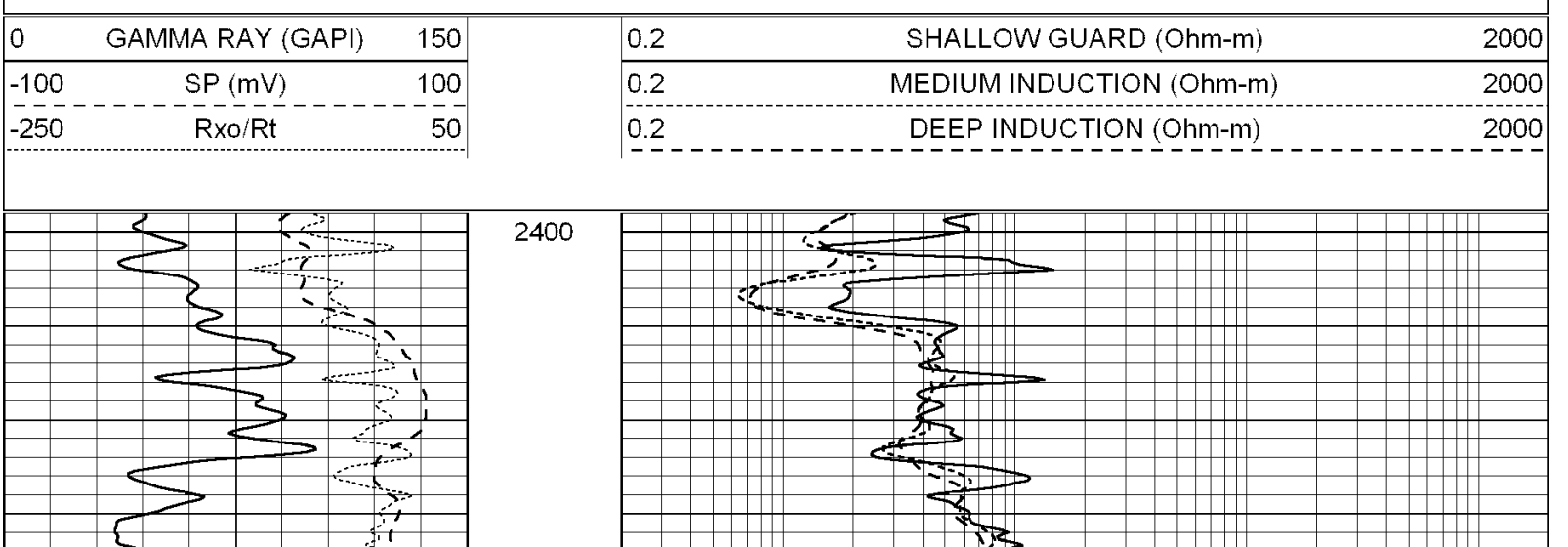
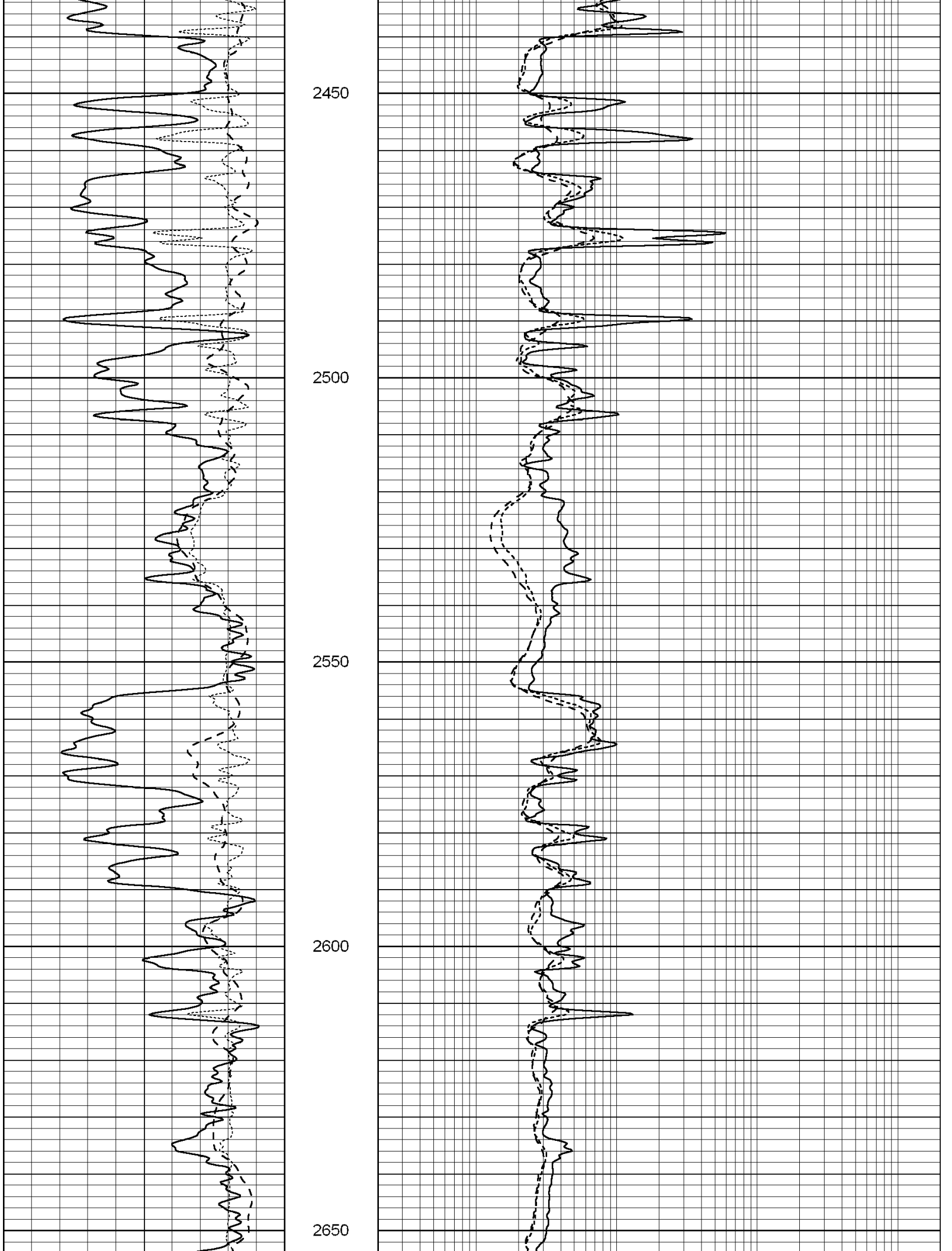
Dataset Pathname: pass3.2
Presentation Format: _dil
Dataset Creation: Mon Mar 22 22:10:15 2010 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

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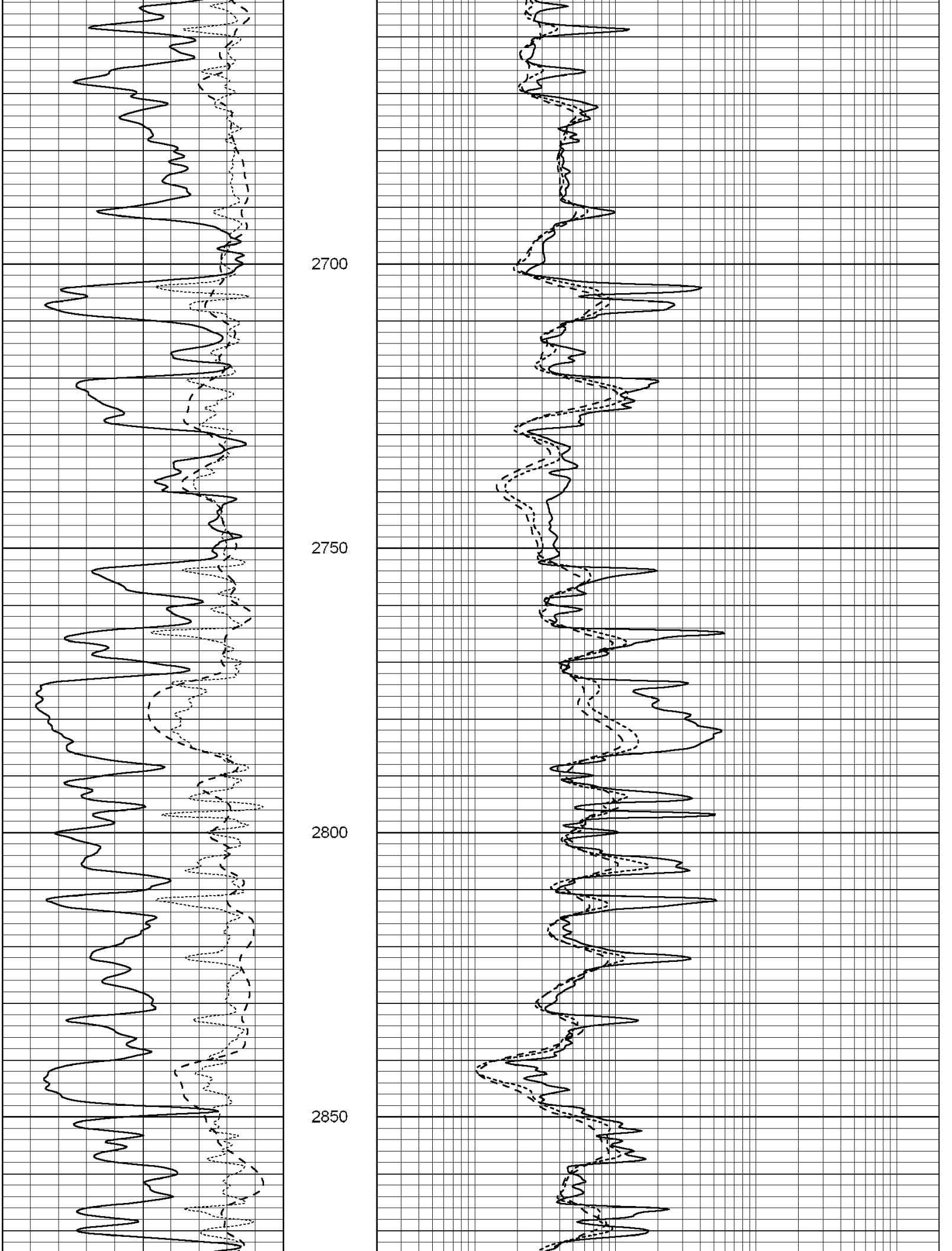
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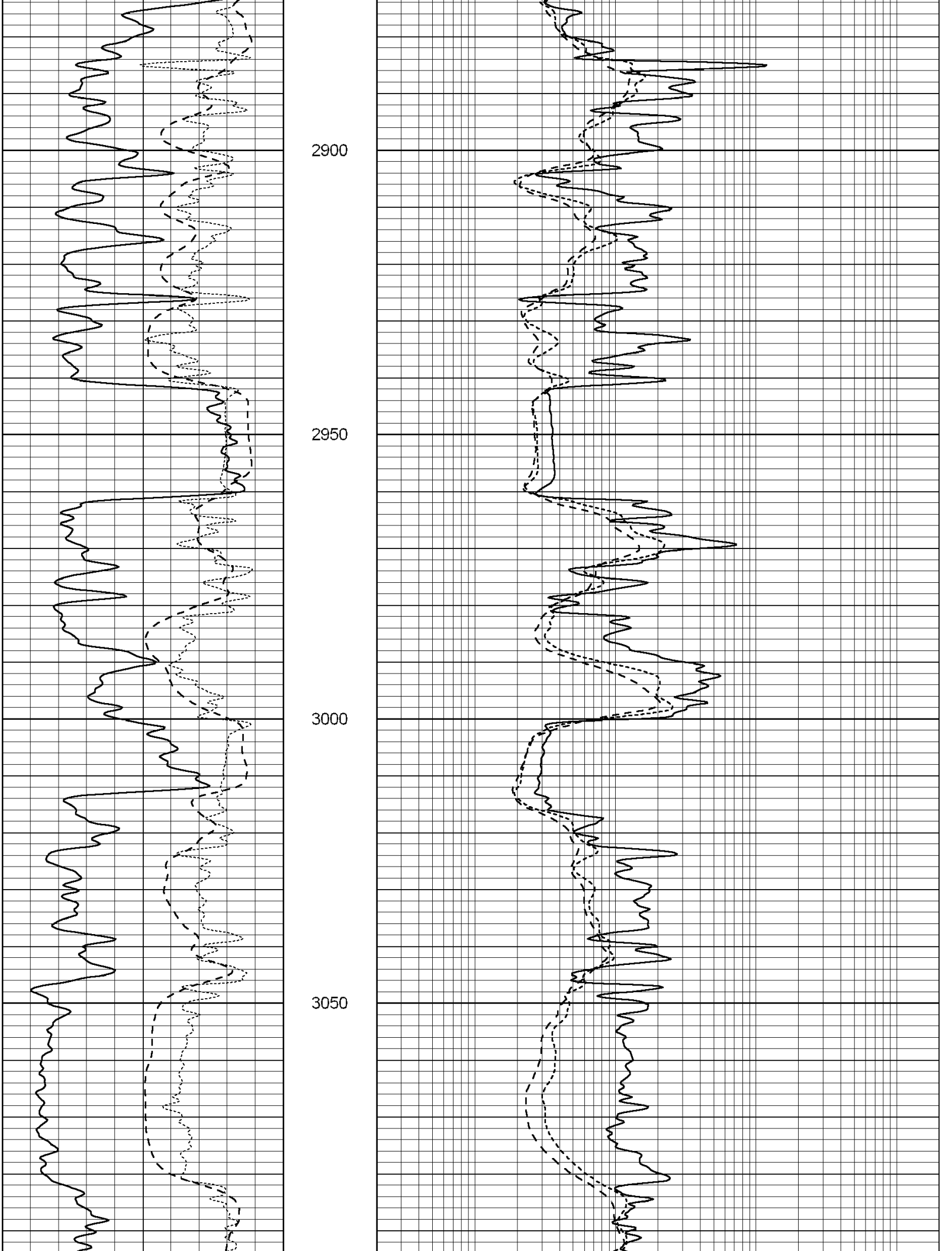
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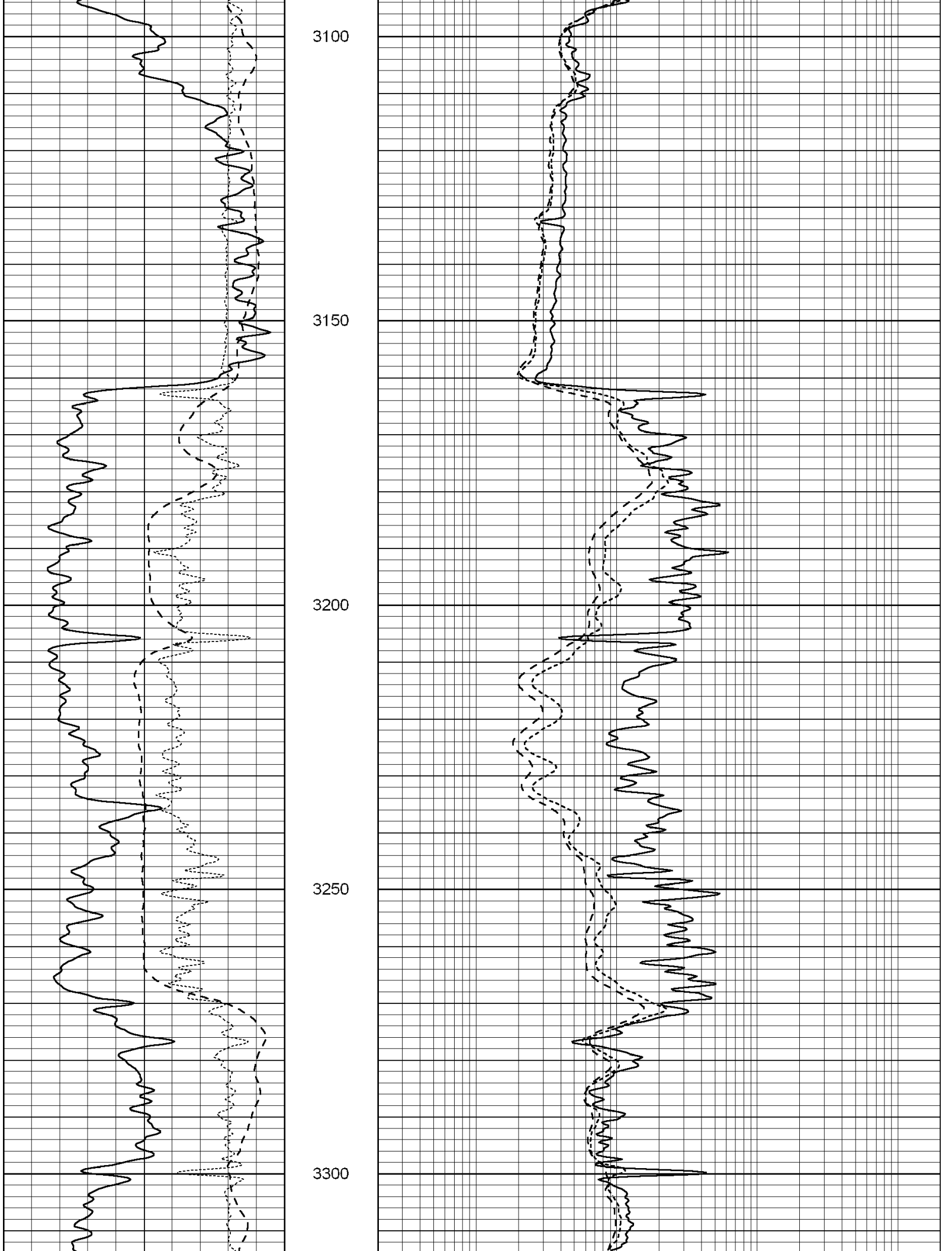
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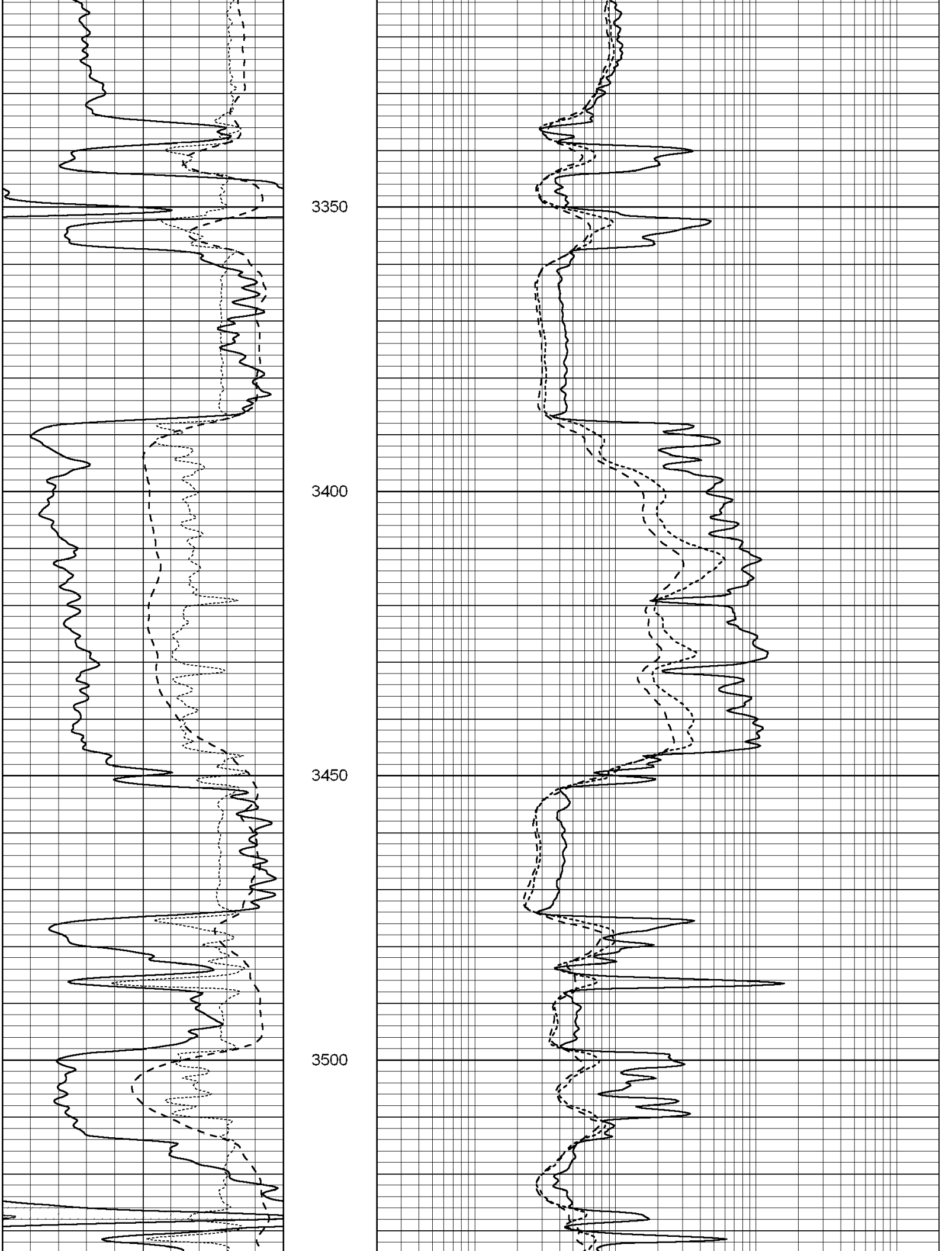
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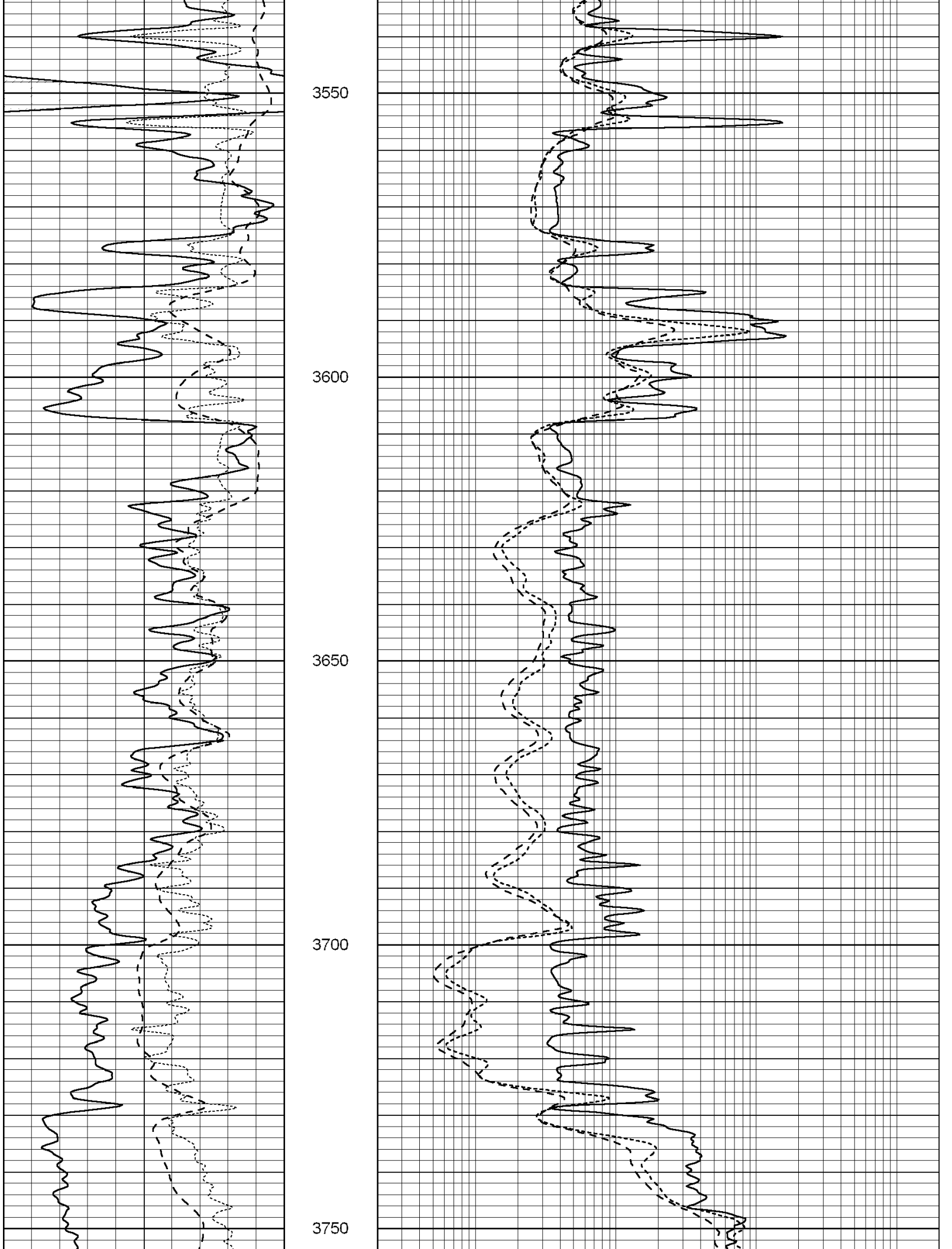
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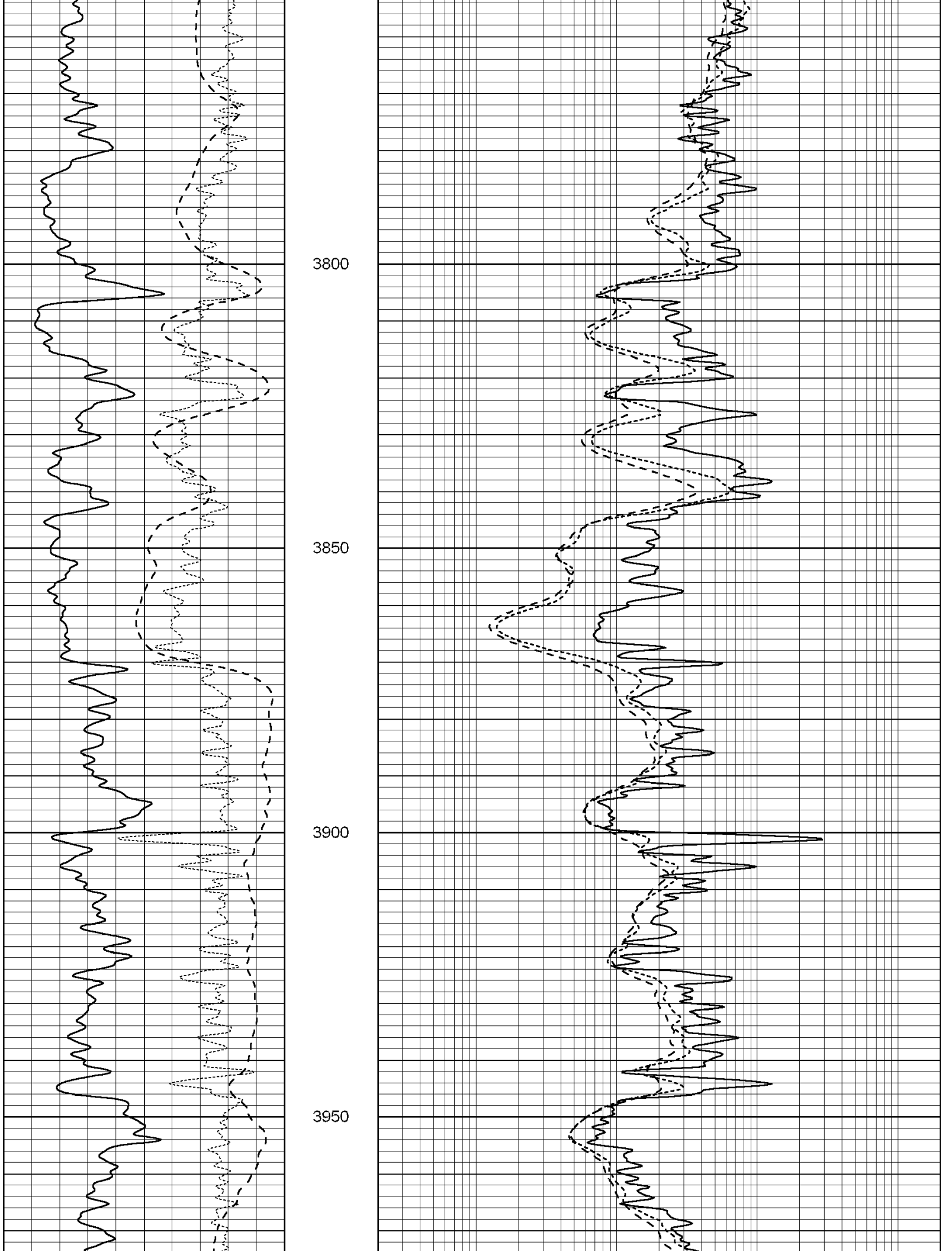
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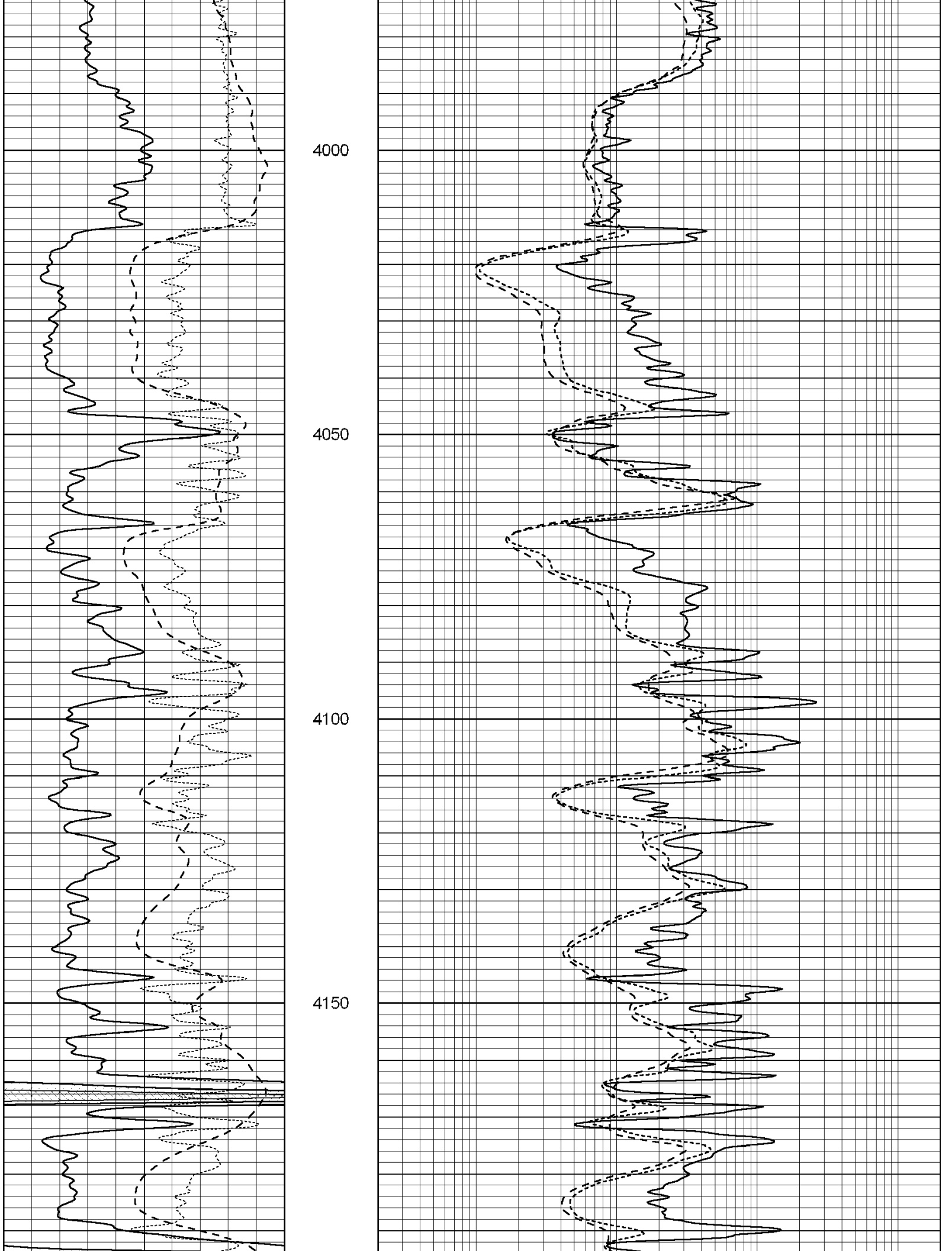
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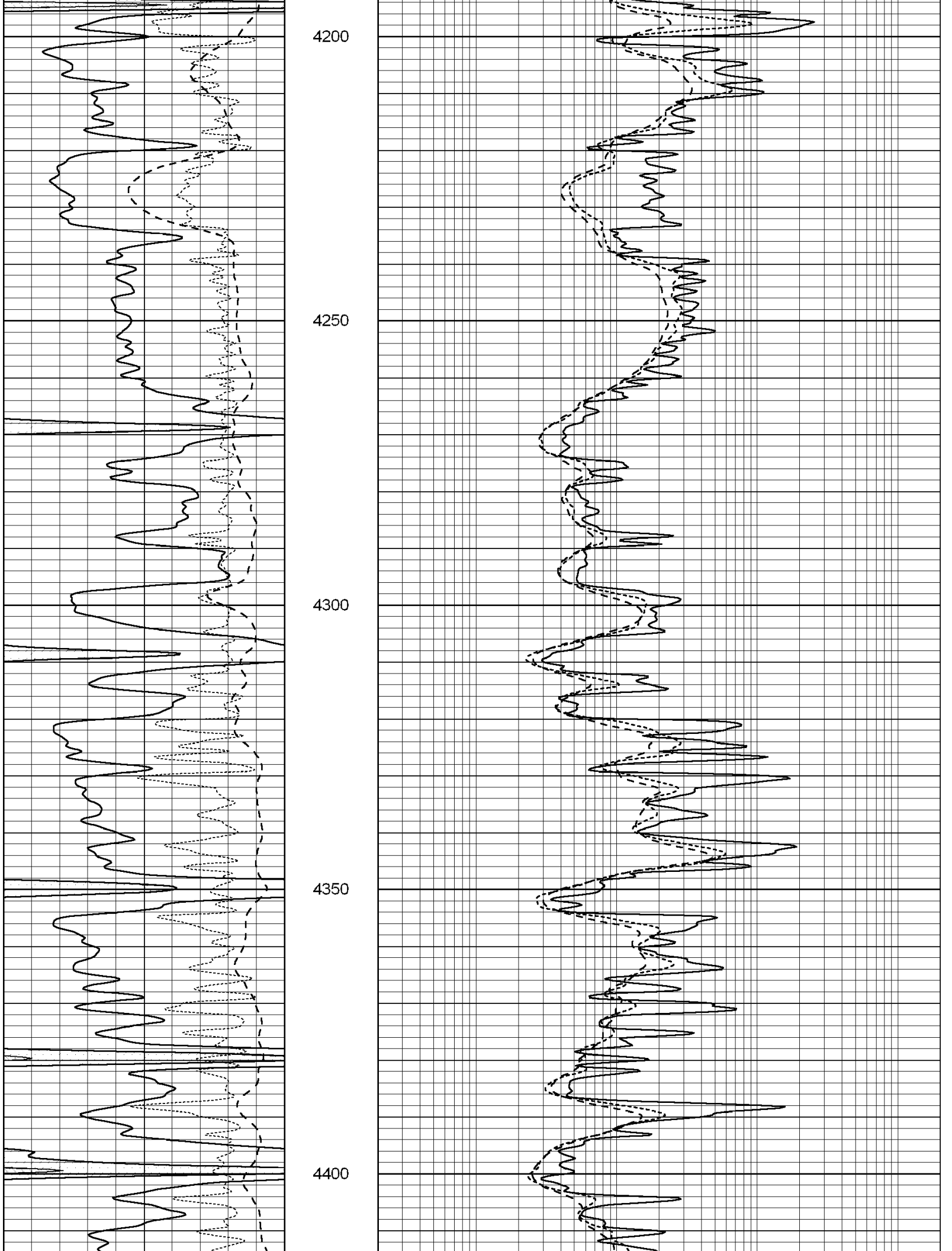
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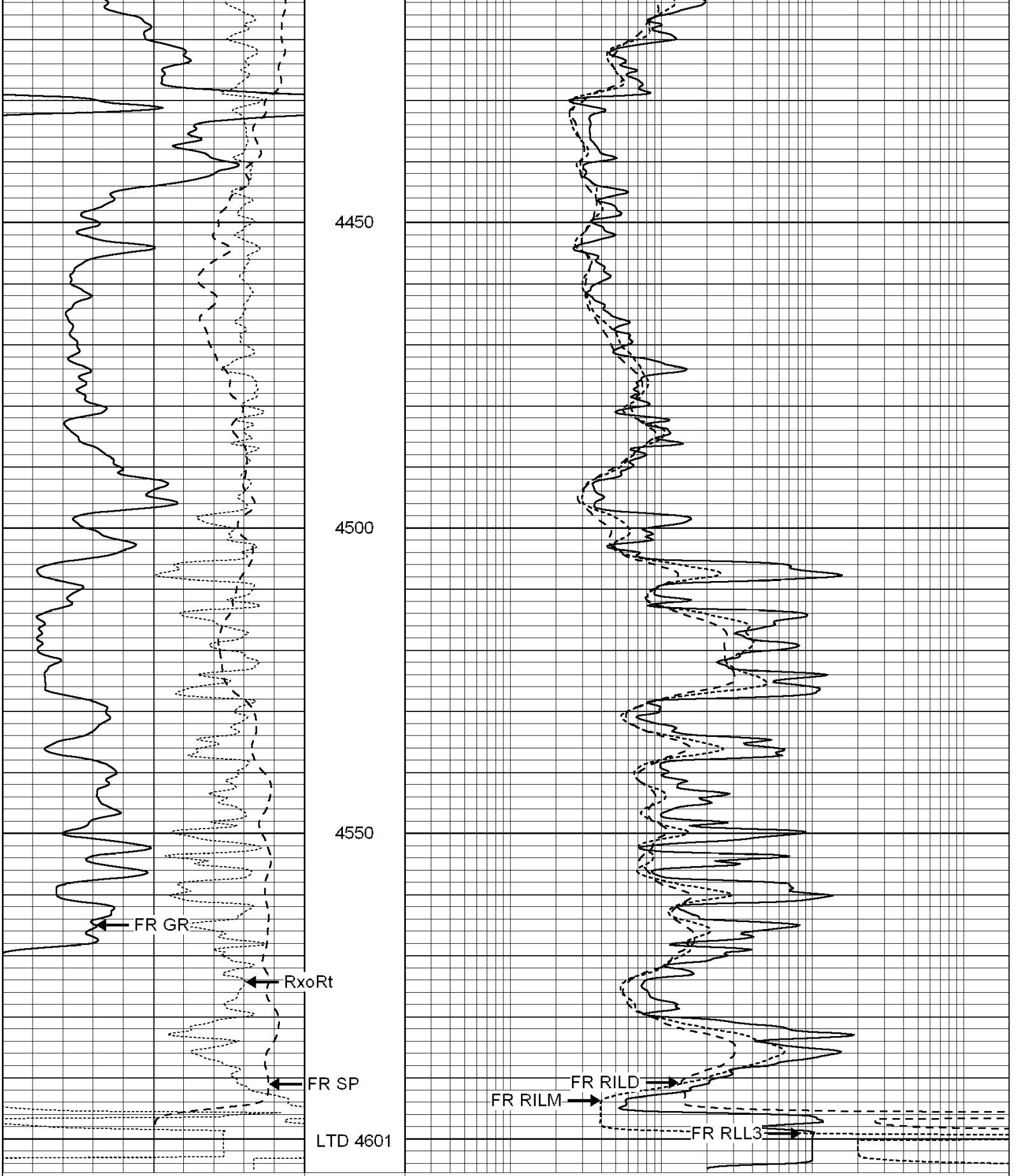
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FR GR
RxoRt
FR SP
LTD 4601
FR RILD
FR RILM
FR RLL3
0
GAMMA RAY (GAPI)
150
-100
SP (mV)
100
-250
Rxo/Rt
50
0.2
SHALLOW GUARD (Ohm-m)
2000
0.2
MEDIUM INDUCTION (Ohm-m)
2000
0.2
DEEP INDUCTION (Ohm-m)
2000

SUPERIOR
WELL SERVICES

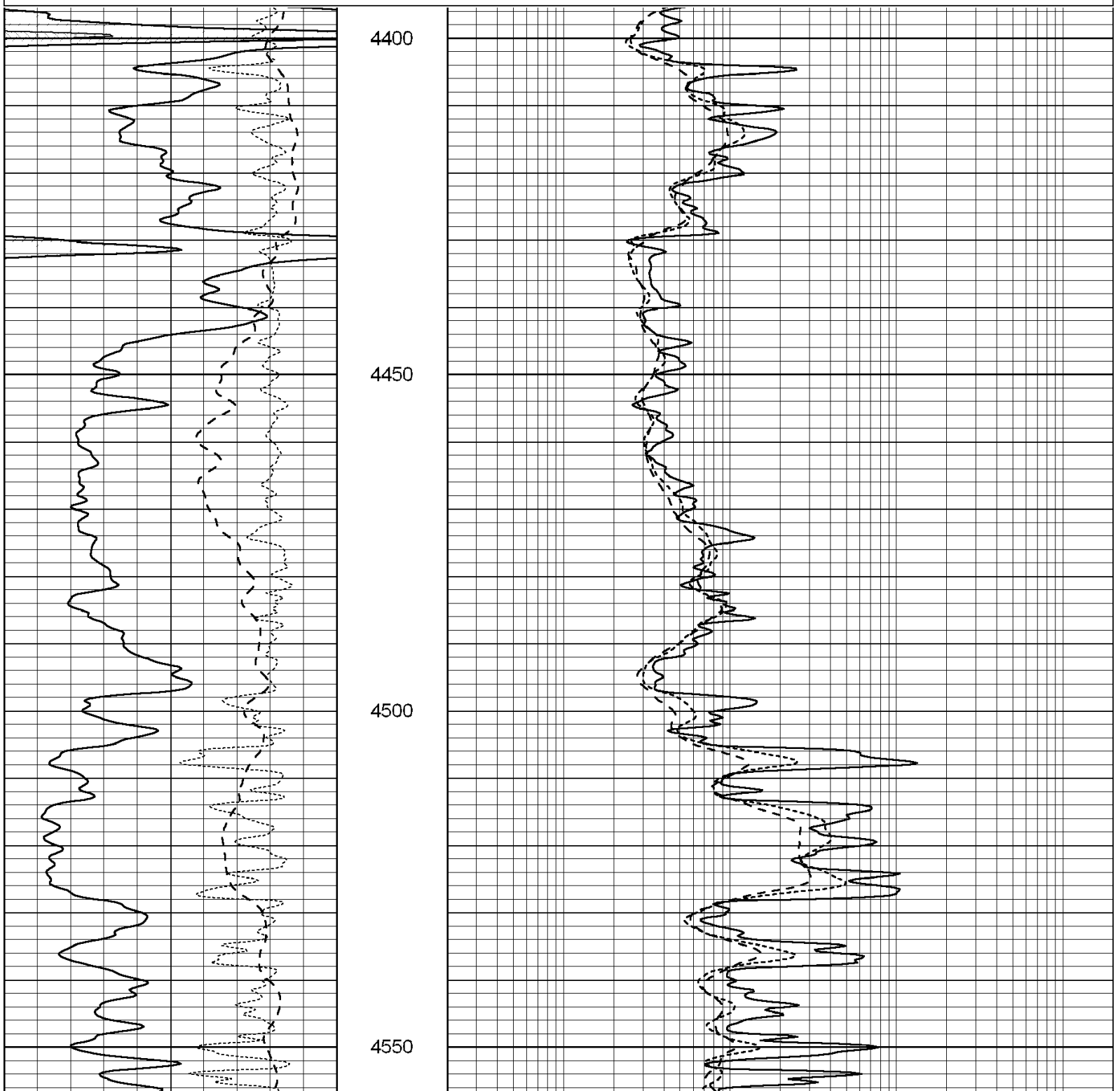
SUPERIOR
Hays,
Kansas

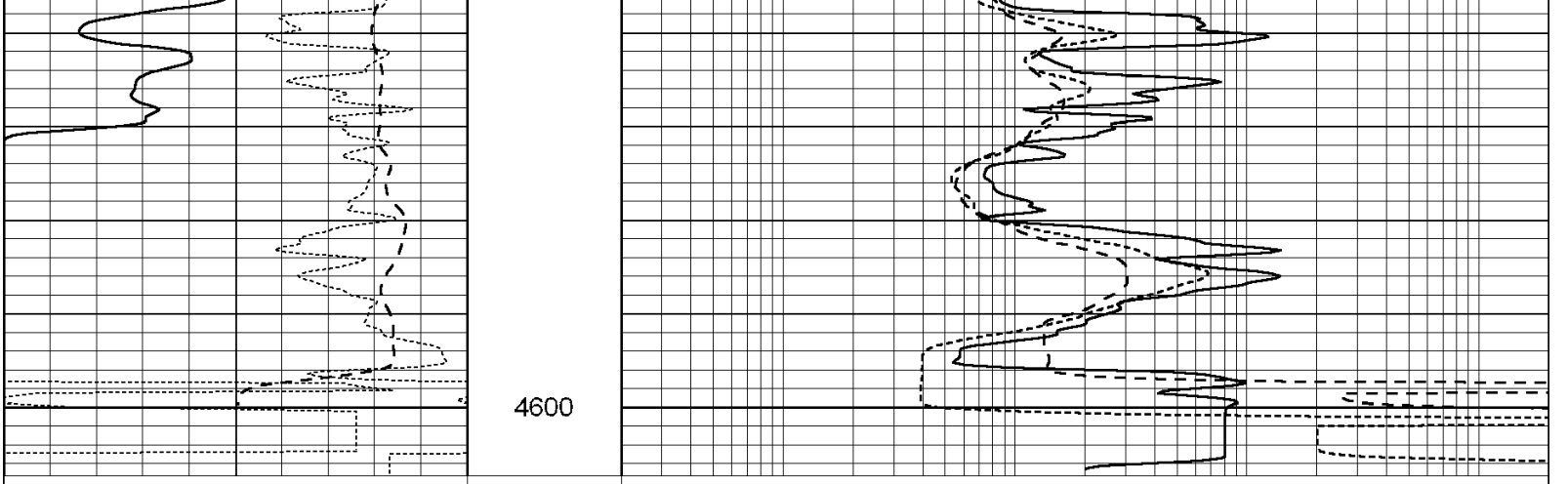
REPEAT SECTION

Database File:	005104ddn.db
Dataset Pathname:	pass2.1
Presentation Format:	_dil
Dataset Creation:	Mon Mar 22 20:58:01 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





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: 005104ddn.db
Dataset Pathname: pass3.3
Dataset Creation: Mon Mar 22 22:59:09 2010 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		
		-6.500	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:	Mon Mar 22 11:13:58 2010

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	861.09	413.41	cps
Aluminum	2.580	g/cc	196.82	293.14	cps

Spine Angle = 76.89 Density/Spine Ratio = 0.574

	Size		Reading	
Small Ring	8.00	in	1.66	V
Large Ring	14.00	in	2.72	V

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:	Tue Nov 10 08:32:36 2009	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.5535	GAPI/cps