SUPERIOR WELL SERVICES

SUPERIOR
Hays, Kansas

DUAL INDUCTION LOG

Company MID-CONTINENT ENERGY OPERATING CO.

Well HINEMAN UNIT #1-6

Field WILDCAT

County LANE State KANSAS

Location: API # : 15-101-22207-0000

180' FNL & 1865' FWL
NE - NW - NE - NW

SEC 6 TWP 19S RGE 28W

Other Services
CDL/CNL
MEL

Permanent Datum GROUND LEVEL Elevation 2757
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2762
D.F. 2760
G.L. 2757

Company MID-CONTINENT ENERGY
Well HINEMAN UNIT #1-6
Field WILDCAT
County LANE
State KANSAS

Date	11/28/09		
Run Number	ONE		
Depth Driller	4675		
Depth Logger	4675		
Bottom Logged Interval	4673		
Top Log Interval	00		
Casing Driller	8 5/8"@311'		
Casing Logger	305		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 2,200 PPM	
Density / Viscosity	9.4/57		
pH / Fluid Loss	10.0/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.950@90F		
Rmf @ Meas. Temp	.713@90F		
Rmc @ Meas. Temp	1.14@90F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.701@122F		
Time Circulation Stopped	3 HOURS		
Time Logger on Bottom	3:30 P.M.		
Maximum Recorded Temperature	122F		
Equipment Number	0836		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	MIKE KIDWELL		

<<< Fold Here >>>

Comments

THANK YOU FOR USING SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395

DIRECTIONS

DIGHTON, KS. 3S. ON HWY 23 TO FEEDLOT SIGN, 1/2 E., S. INTO

MAIN SECTION

SUPERIOR
Hays, Kansas

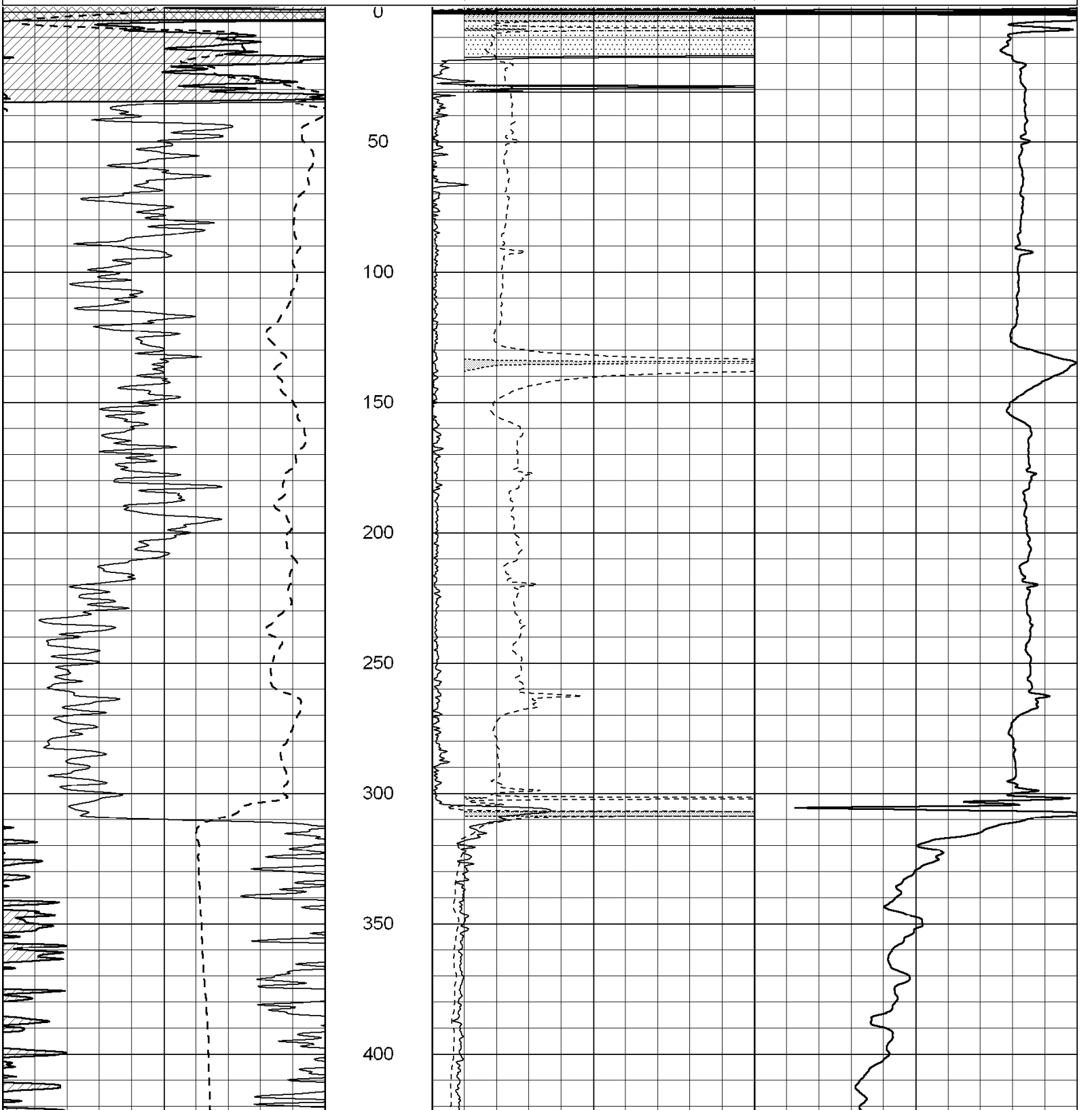
SUPERIOR WELL SERVICES

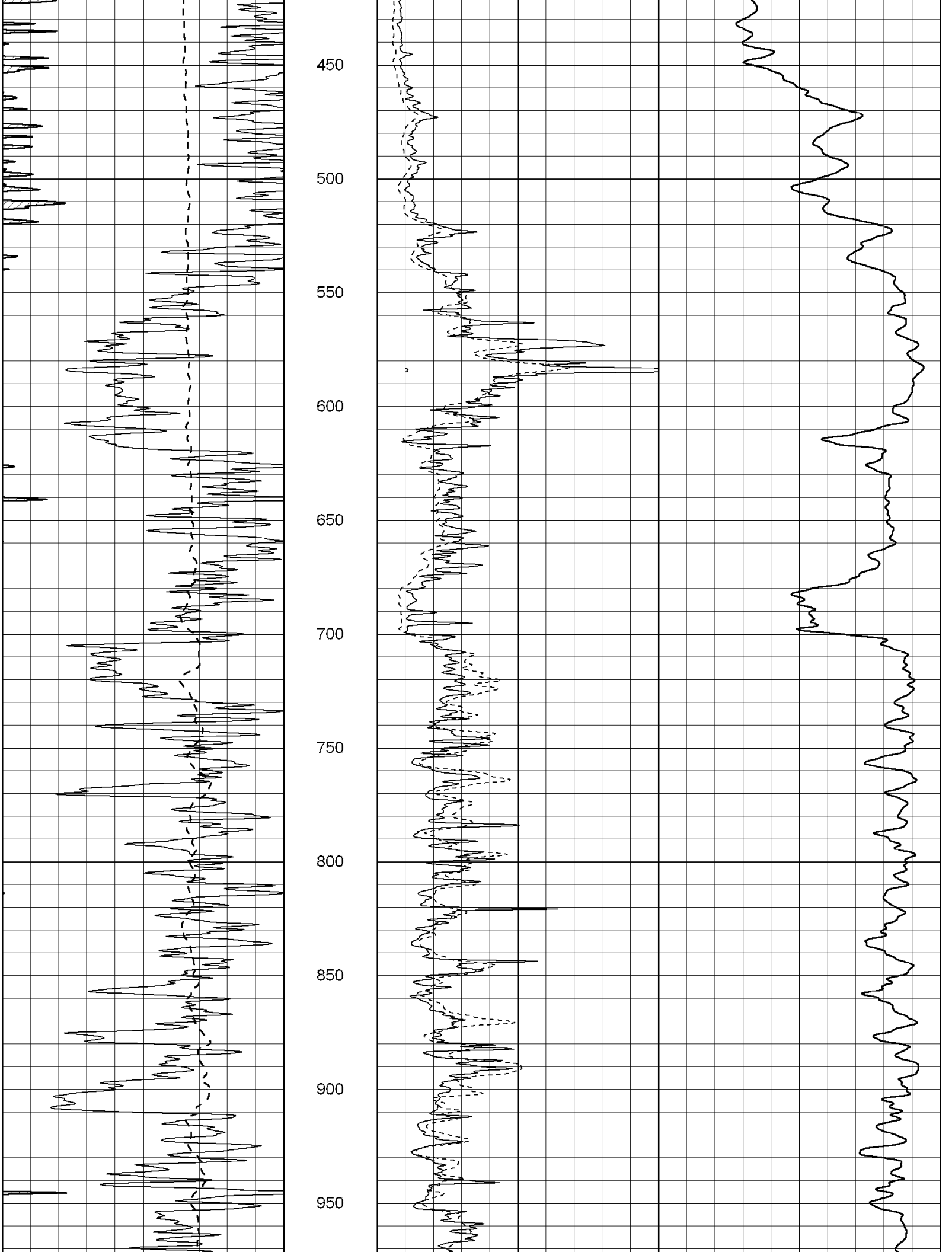
Kansas

Database File:	004376ddn.db
Dataset Pathname:	pass4.7
Presentation Format:	dil2
Dataset Creation:	Sat Nov 28 17:17:53 2009 by Calc Open-Cased 060407
Charted by:	Depth in Feet scaled 1:600

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

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

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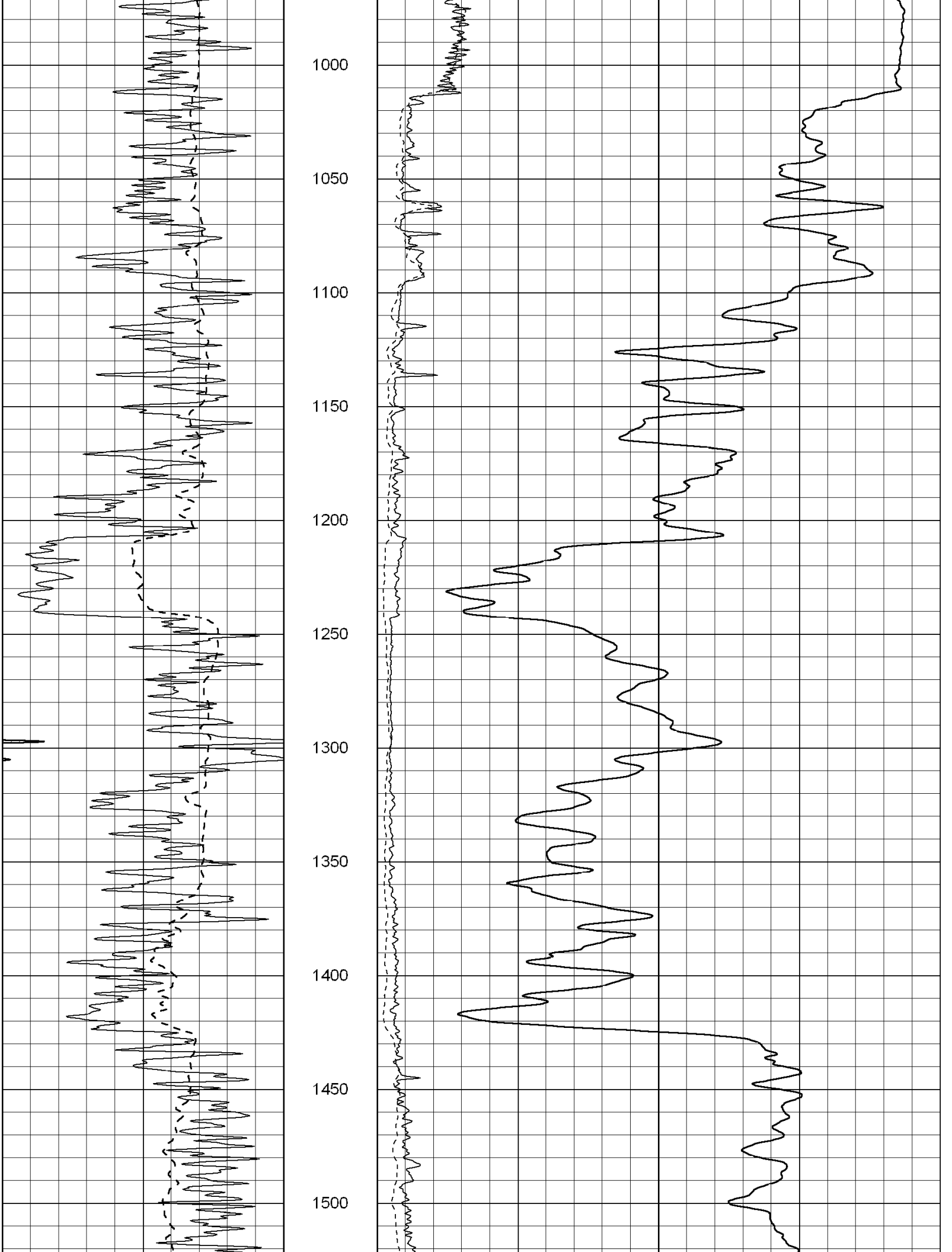
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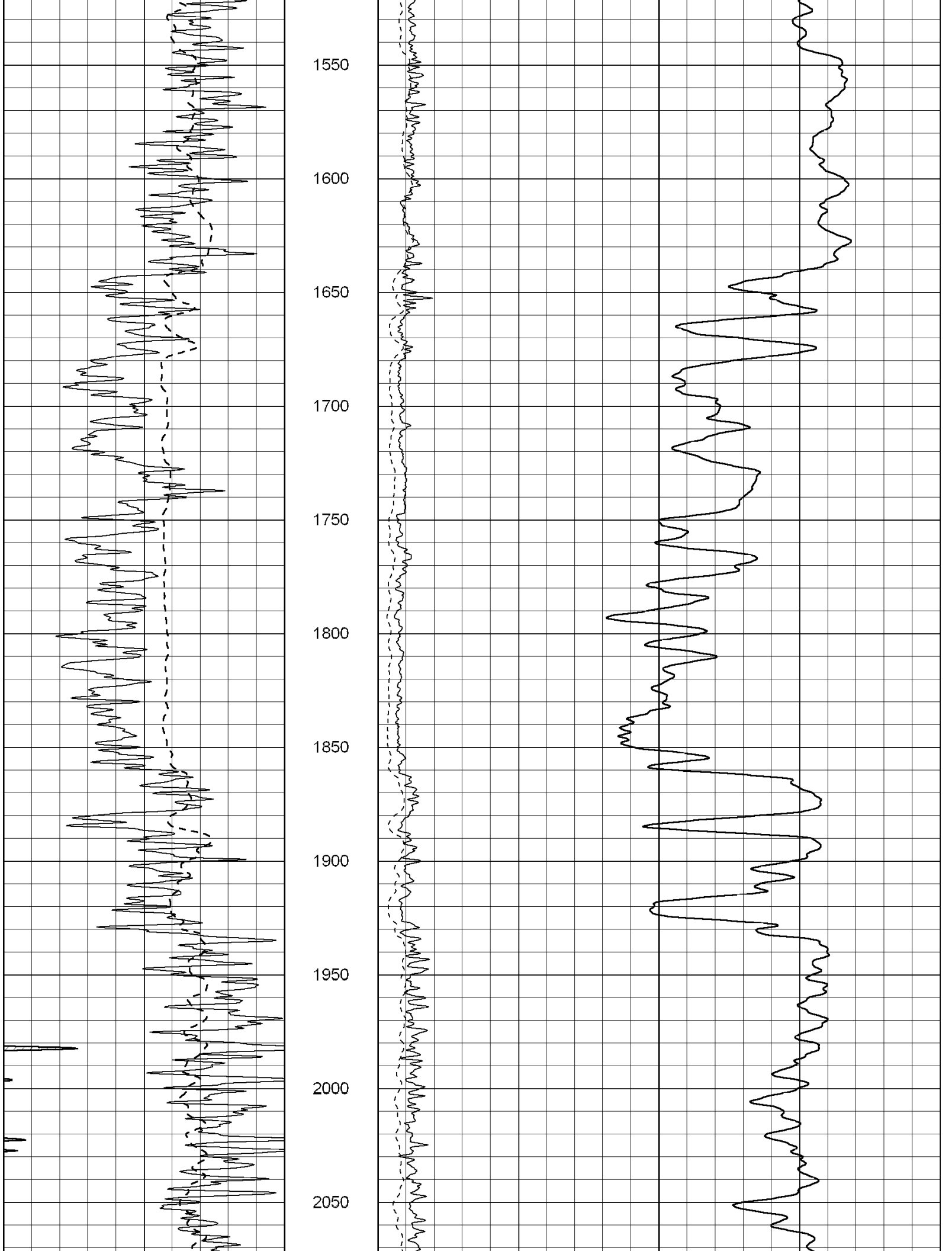
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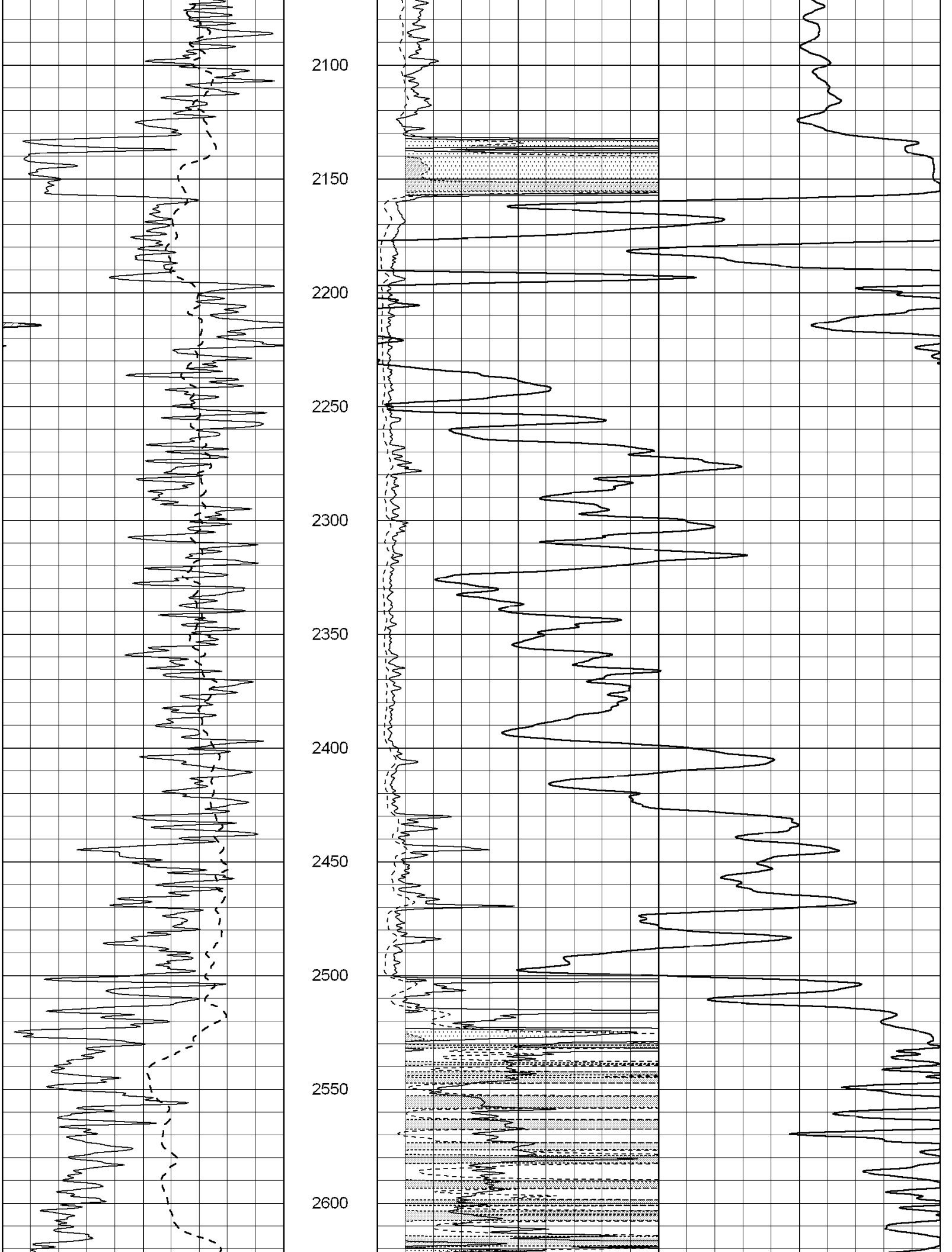
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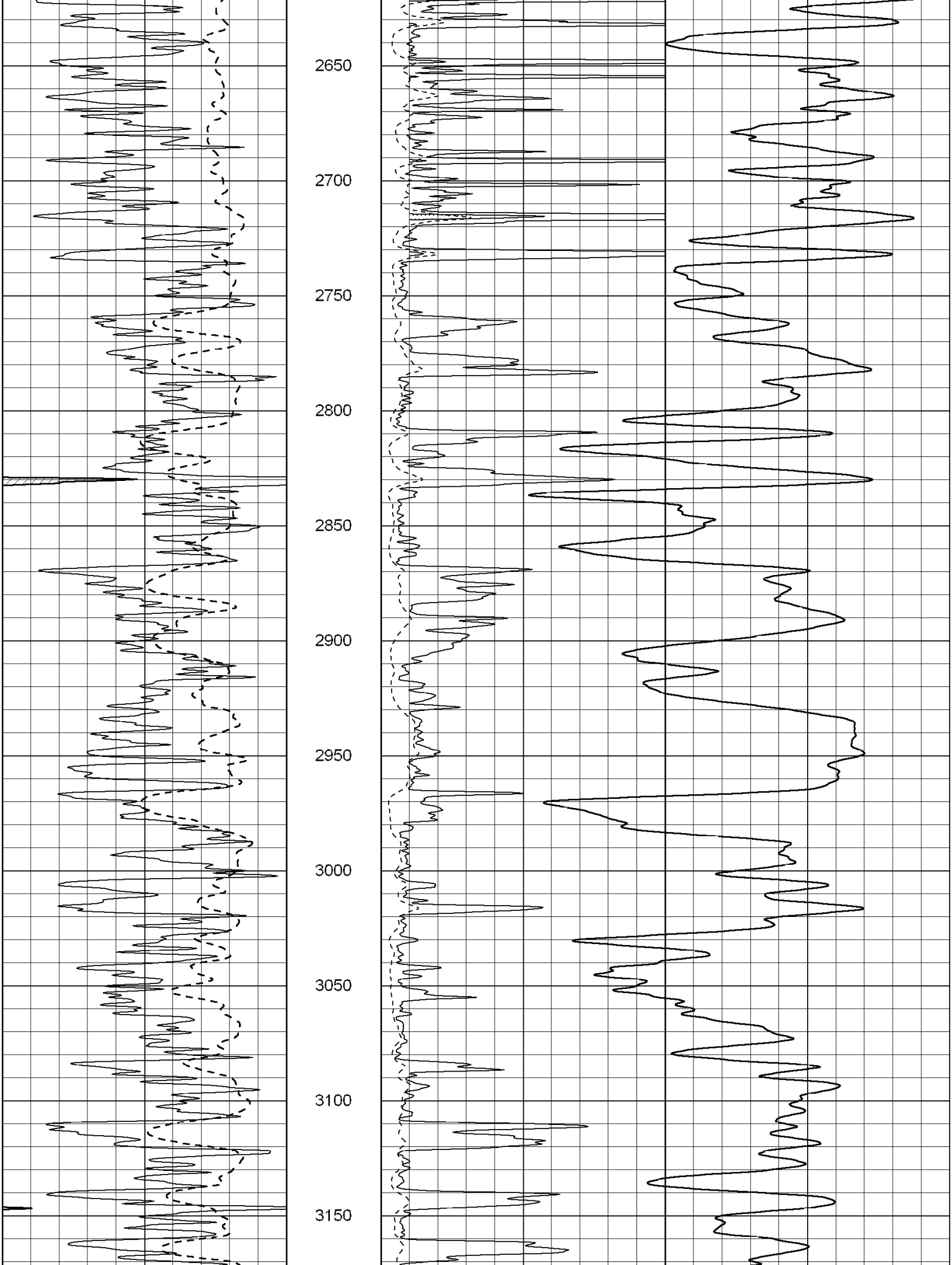
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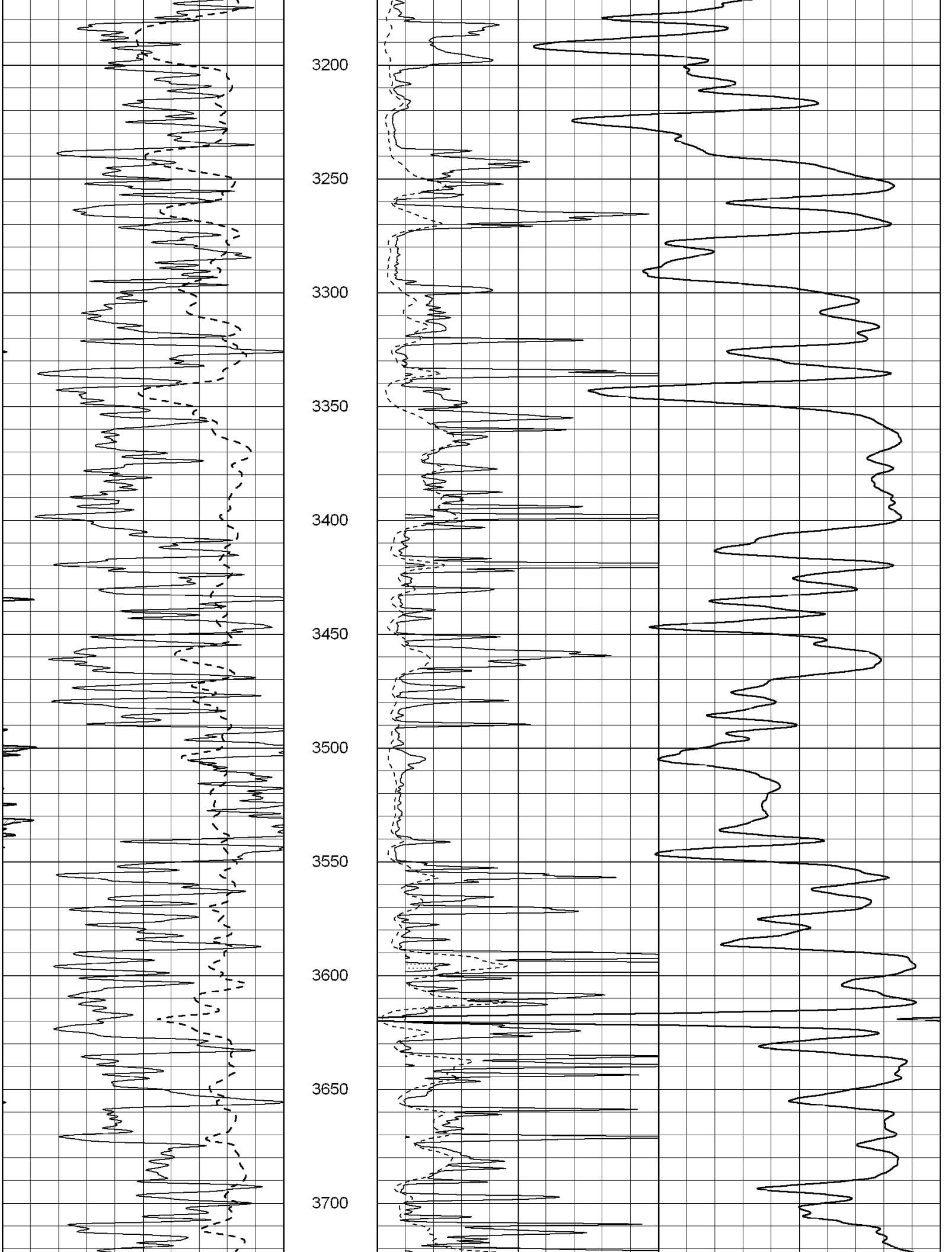
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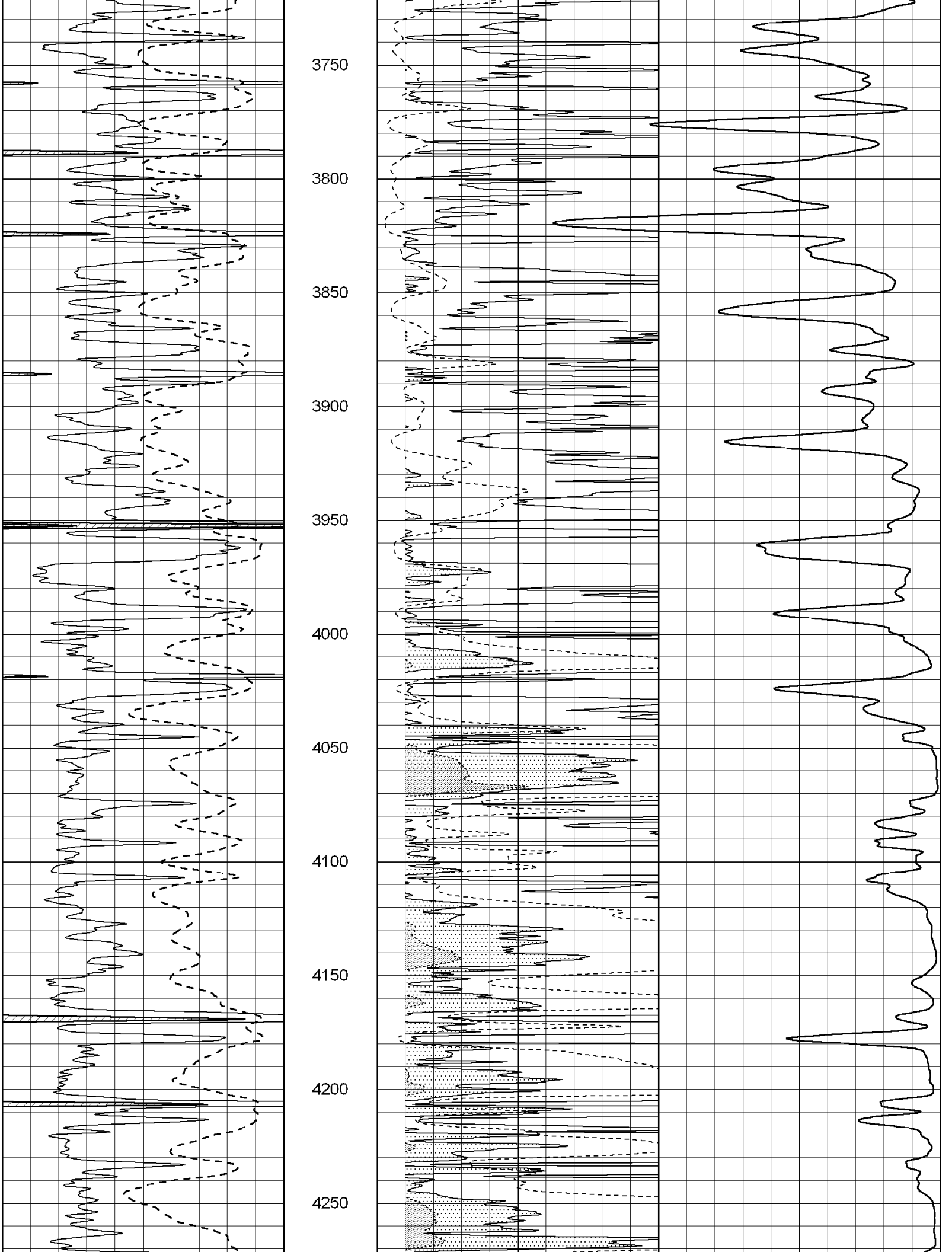
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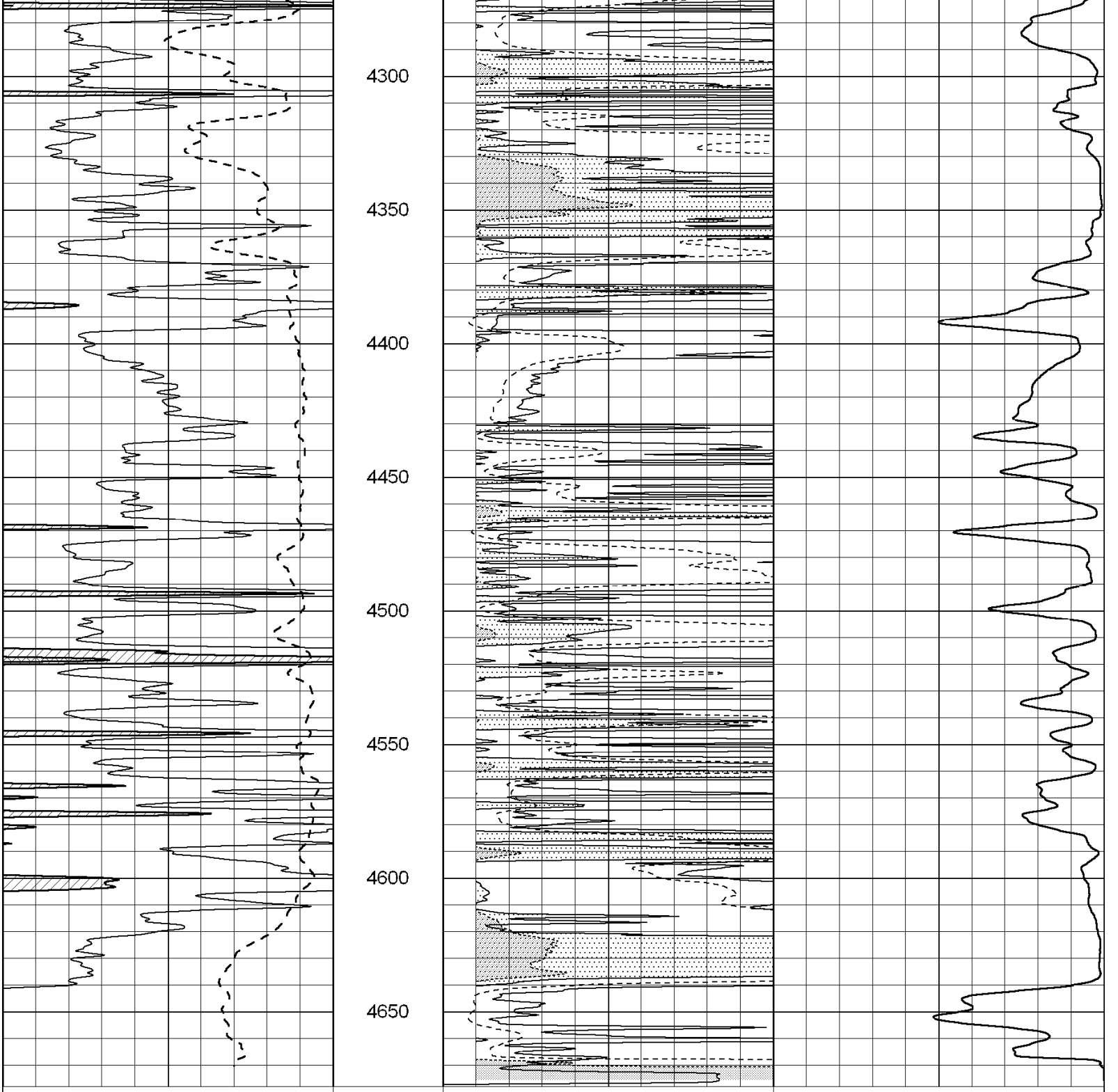


SUPERIOR WELL SERVICES

SUPERIOR
Hays,
Kansas

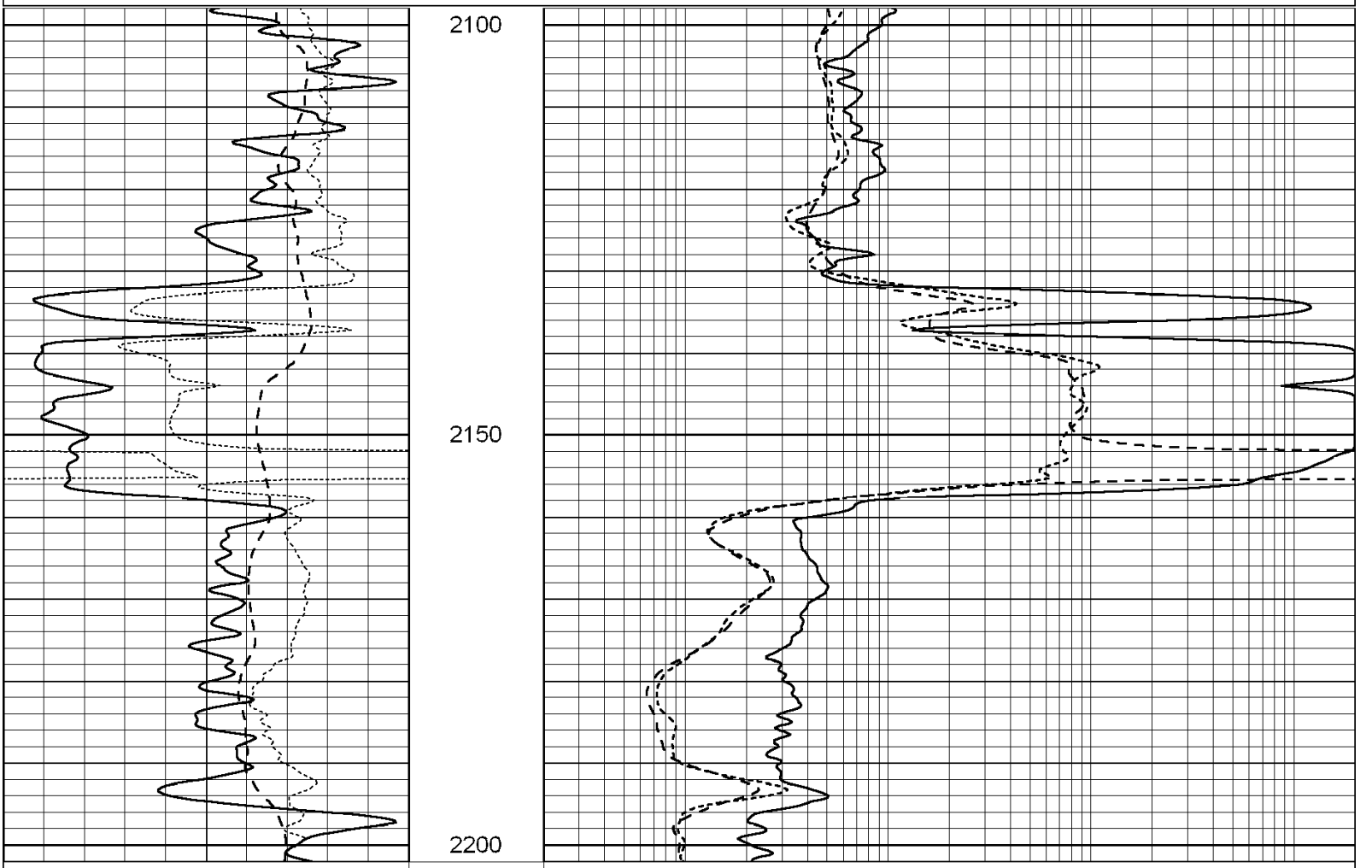
ANHYDRITE

Database File: 004376ddn.db

Dataset Pathname: pass4.8
Presentation Format: dil
Dataset Creation: Sat Nov 28 17:18:19 2009 by Calc Open-Cased 060407
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	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM 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	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

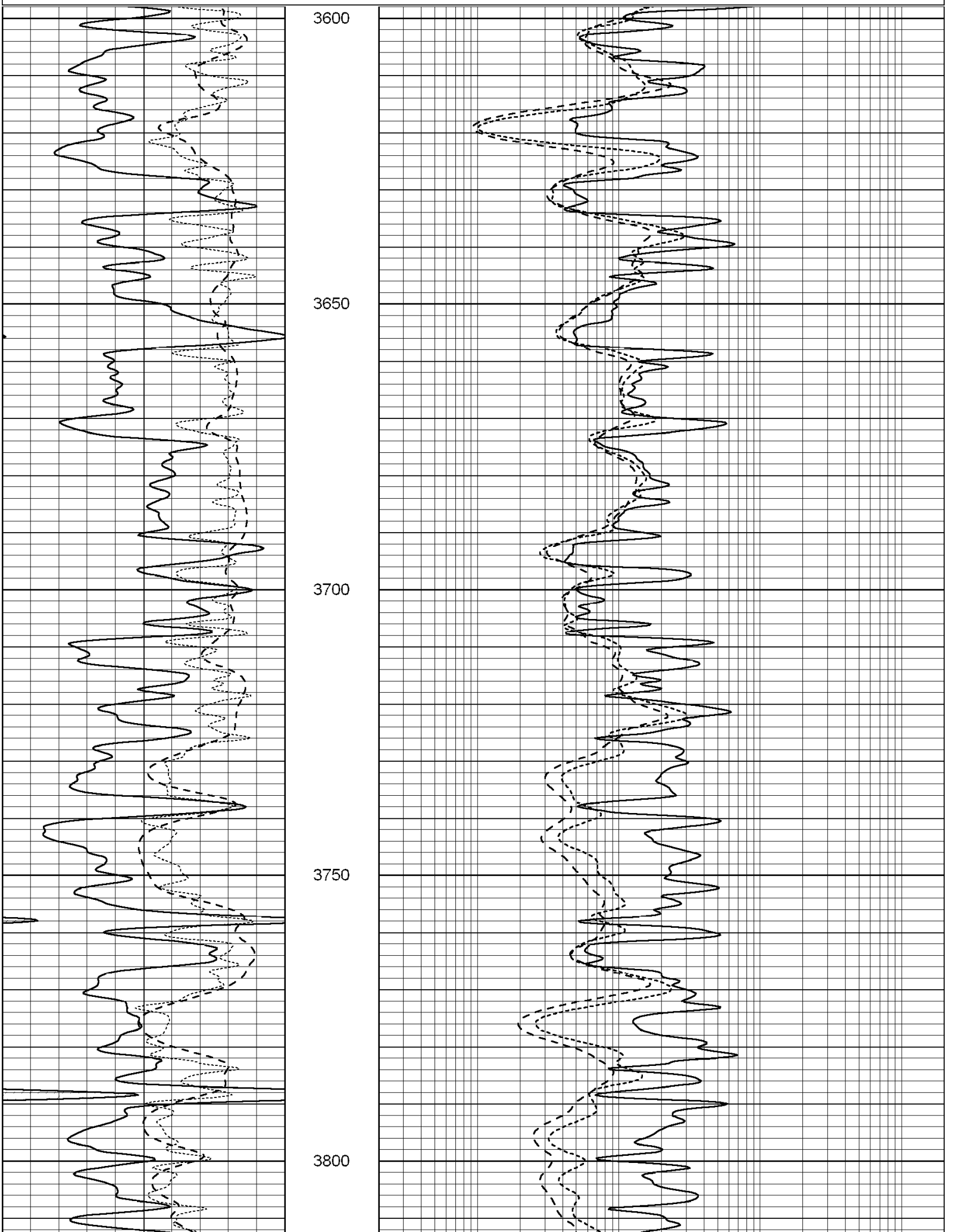
SUPERIOR WELL SERVICES
SUPERIOR
Hays, Kansas

MAIN SECTION

Database File: 004376ddn.db
Dataset Pathname: pass4.7
Presentation Format: dil
Dataset Creation: Sat Nov 28 17:17:53 2009 by Calc Open-Cased 060407
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	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000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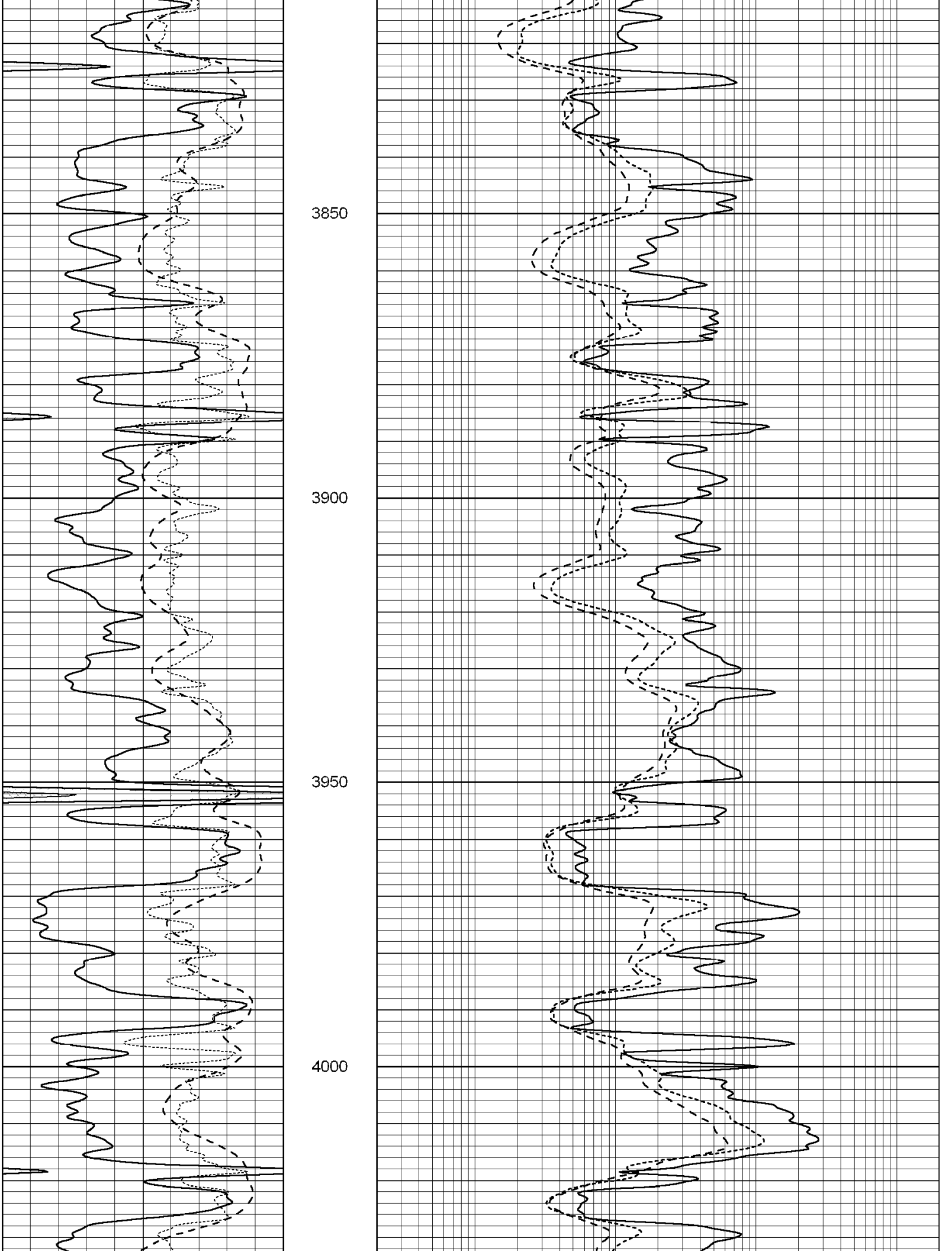
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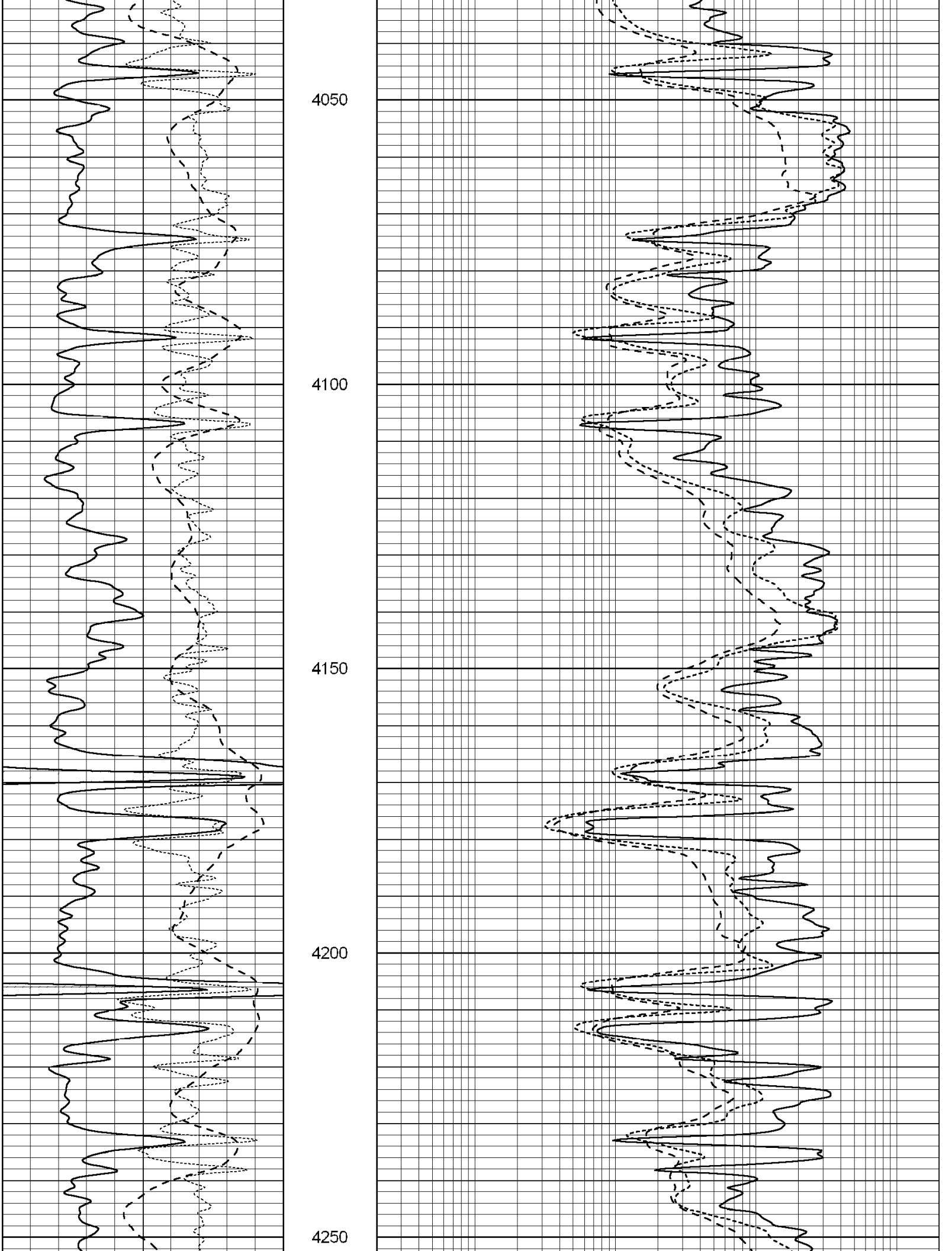
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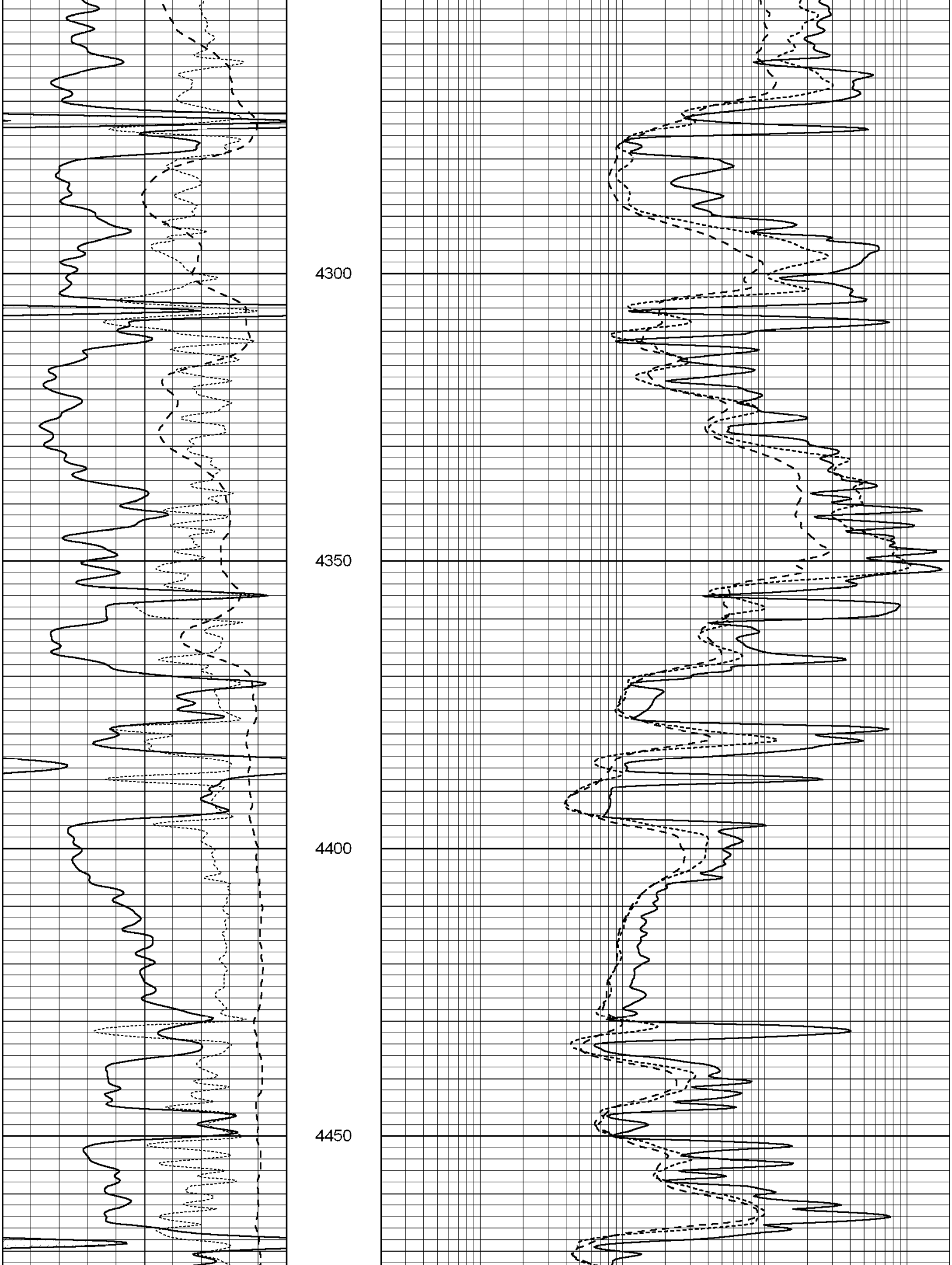
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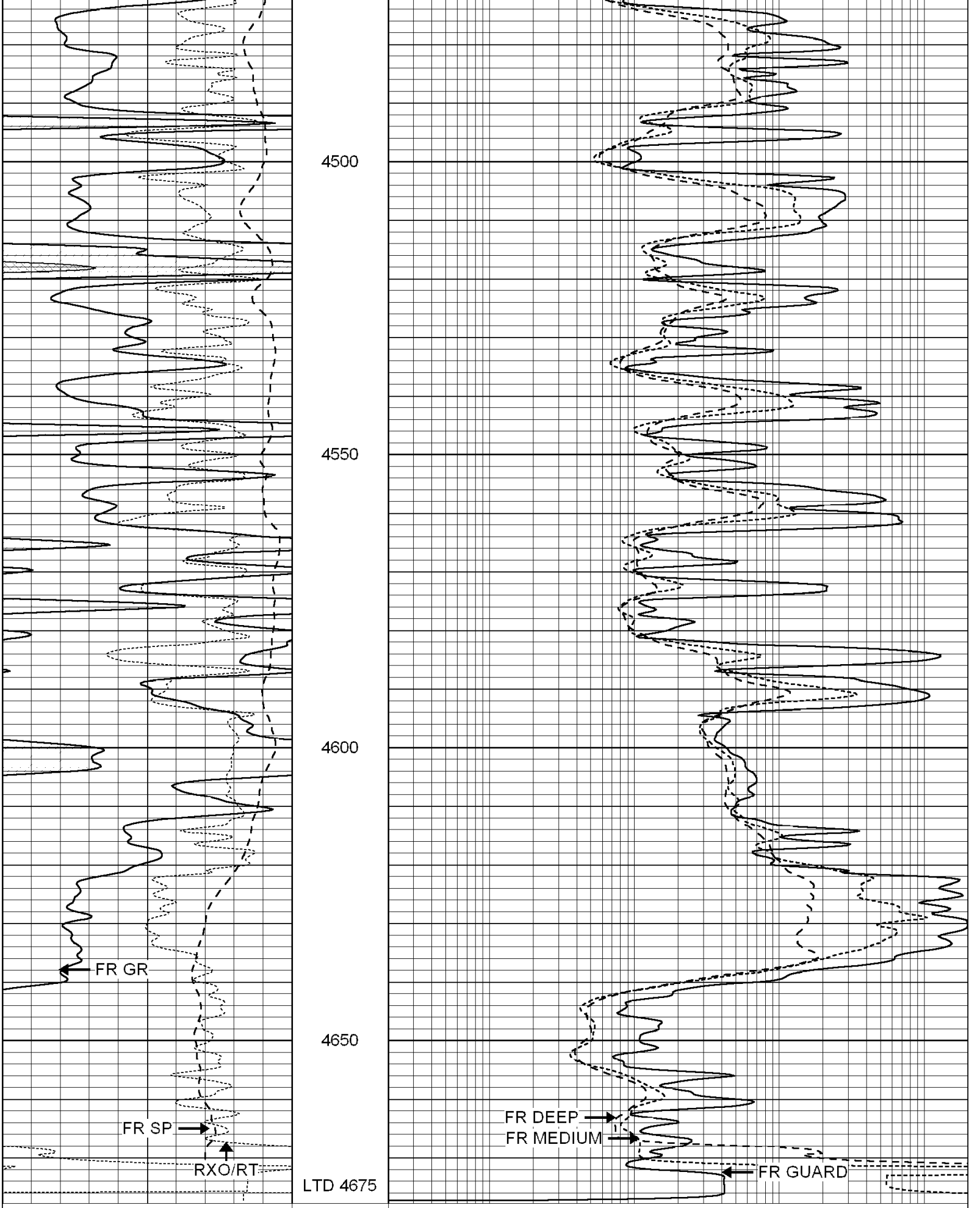

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

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

SUPERIOR WELL SERVICES

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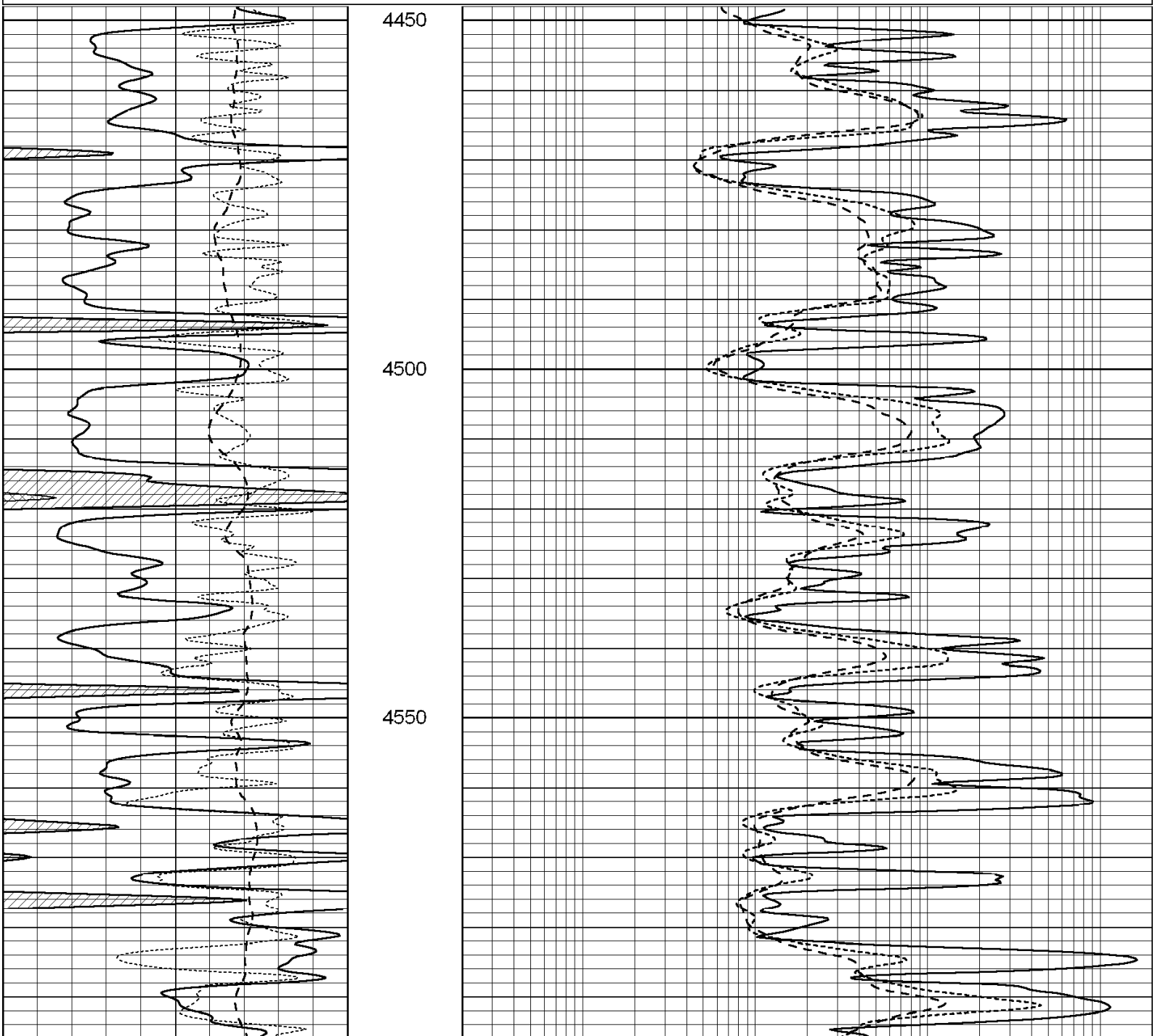
Kansas

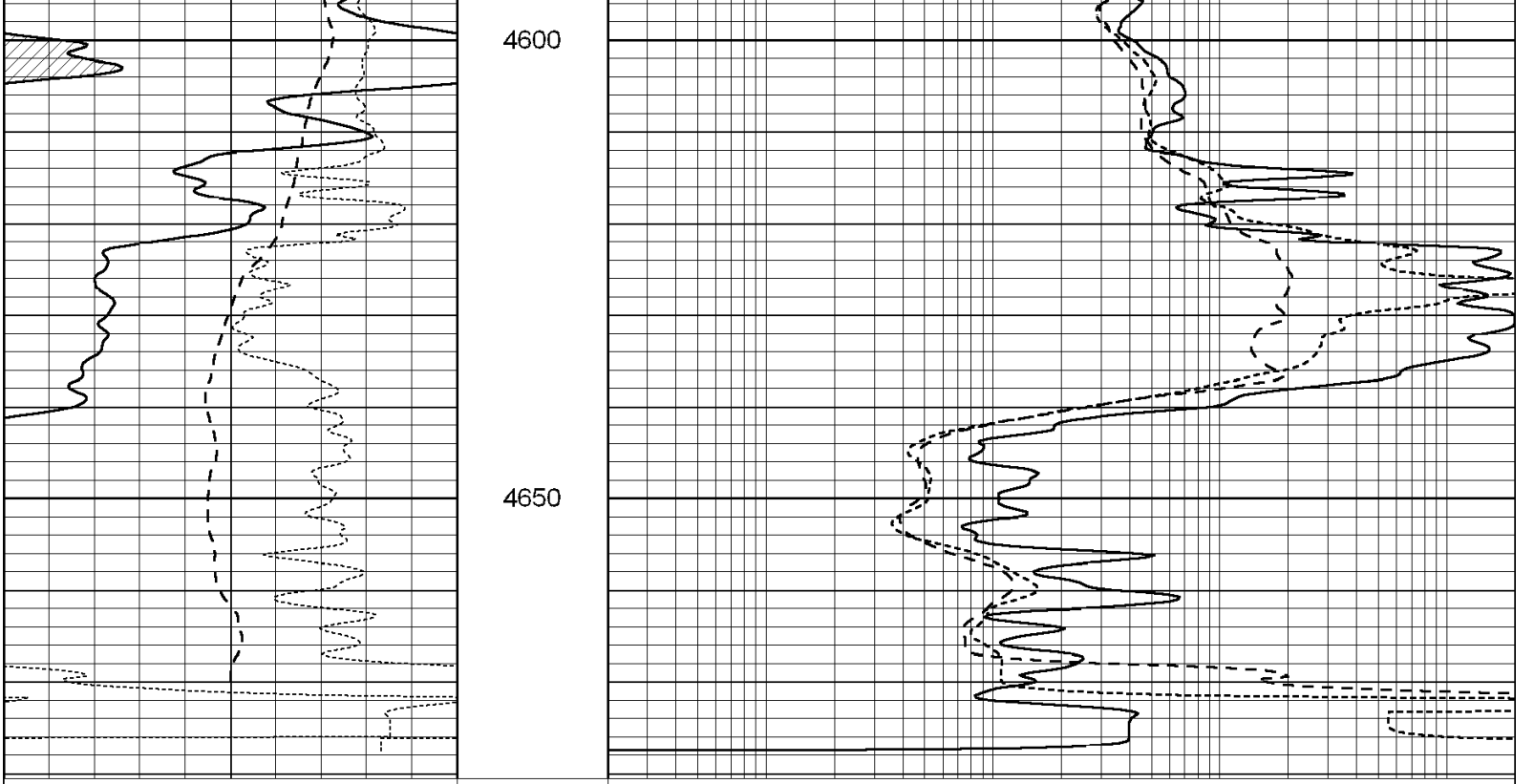
REPEAT SECTION

Database File:	004376ddn.db
Dataset Pathname:	pass3.8
Presentation Format:	dil
Dataset Creation:	Sat Nov 28 17:04:57 2009
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	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000





Calibration Report

Database File: 004376ddn.db
Dataset Pathname: pass4.7
Dataset Creation: Sat Nov 28 17:17:53 2009 by Calc Open-Cased 060407

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
Performed: Sat Nov 28 15:48:25 2009

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho-m	640.000	-2.000
Medium	0.013	0.740	V	0.000	462.500	mmho-m	675.000	-11.500
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.002	0.645	V	0.000	400.000	mmho-m	622.059	-1.071
Medium	0.007	0.740	V	0.000	462.500	mmho-m	631.393	-4.555

Litho Density Calibration Report

Serial: 003N Model: PRB
Performed Tue Sep 08 14:14:44 2009

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	2042.6	12312.8	4225.8	13758.4	cps
Window 2	1855.8	10134.7	3624.2	11113.1	cps
Window 3	1639.4	6760.2	2716.3	7260.3	cps

Window 4	466.4	469.2	466.1	476.5	cps
Long Space	0.0	8278.9	1768.4	9257.4	cps
Short Space	2.2	2377.3	1544.1	2574.2	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe			2.5700	1.5500	

Rib Angle	: 44.4	Rib Slope	: 0.979	Density/Spine Ratio	: 0.549
Spine Angle	: 74.4	Spine Slope	: 3.577	Spine Intercept	: -18.8

Caliper

	Readings	Reference
Low Ref	1.8	7.0
High Ref	4.2	14.0
	Gain: 3.0	Offset: 1.6

Compensated Neutron Calibration Report

Serial Number: NEU_3I
Tool Model: G

CALIBRATION

Detector	Readings	Target	Normalization
Short Space	997.00 cps	1000.00 cps	1.0000
Long Space	986.00 cps	1000.00 cps	1.0000

Gamma Ray Calibration Report

Serial Number: GR3
Tool Model: OPEN
Performed: Sat Nov 28 15:48:04 2009

Calibrator Value: 200.0 GAPI

Background Reading: 3.0 cps
Calibrator Reading: 186.0 cps

Sensitivity: 0.6500 GAPI/cps