SUPERIOR
Hays,
Kansas

DUAL INDUCTION LOG

Company MULL DRILLING COMPANY, INC.

Well TOKOI #1-21

Field

County NESS State KANSAS

Location: API # : 15-135-25229

1158' FNL & 1846' FEL

SEC 21 TWP 16S RGE 26W

Other Services
CDL/CNL/PE
SONIC/MEL

Elevation
K.B. 2640
D.F.
G.L. 2632

Permanent Datum GROUND LEVEL Elevation 2632
Log Measured From KELLY BUSHING 8' A.G.L.
Drilling Measured From KELLY BUSHING

Company MULL DRILLING CO., INC.
Well TOKOI #1-21
Field
County NESS
State KANSAS

Date	7-14-11		
Run Number	ONE		
Depth Driller	4640		
Depth Logger	4640		
Bottom Logged Interval	4638		
Top Log Interval	00		
Casing Driller	227		
Casing Logger	227		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.4 / 57		
pH / Fluid Loss	9.0 / 8.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.00 @ 87F		
Rmf @ Meas. Temp	0.75 @ 87F		
Rmc @ Meas. Temp	1.20 @ 87F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	.720 @ 121F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	12:30 P.M.		
Maximum Recorded Temperature	121F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	RUPP		
Witnessed By	BOB STOLZLE		

<<< Fold Here >>>

Comments

SUPERIOR WELL SERVICES
785-628-6395
THANK YOU FOR YOUR BUSINESS
DIRECTIONS: UTICA, WEST EDGE TO RD. "D", 1N TO RD. #270, 1 1/2W, S INTO.

MAIN SECTION

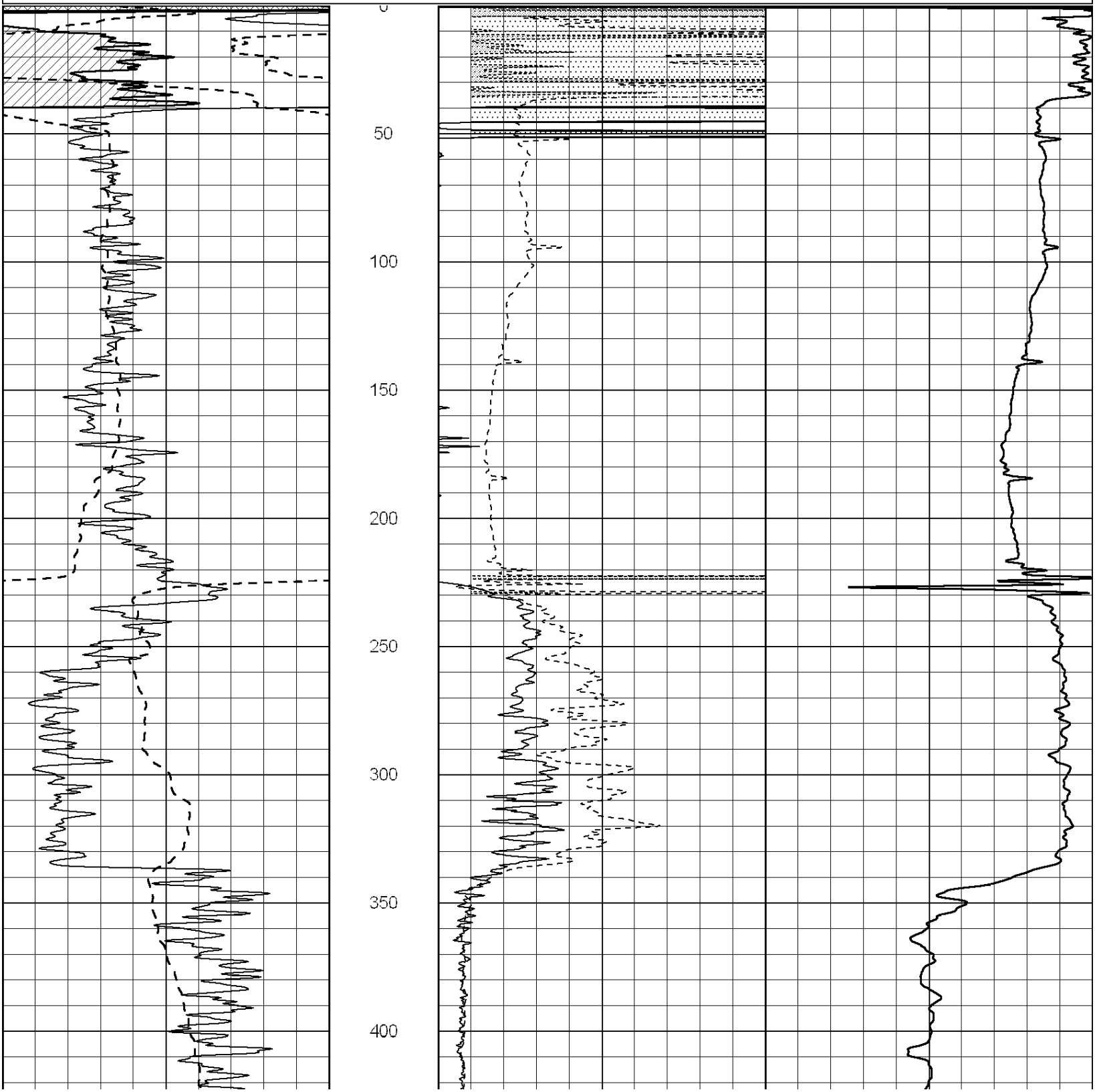
SUPERIOR
Hays,

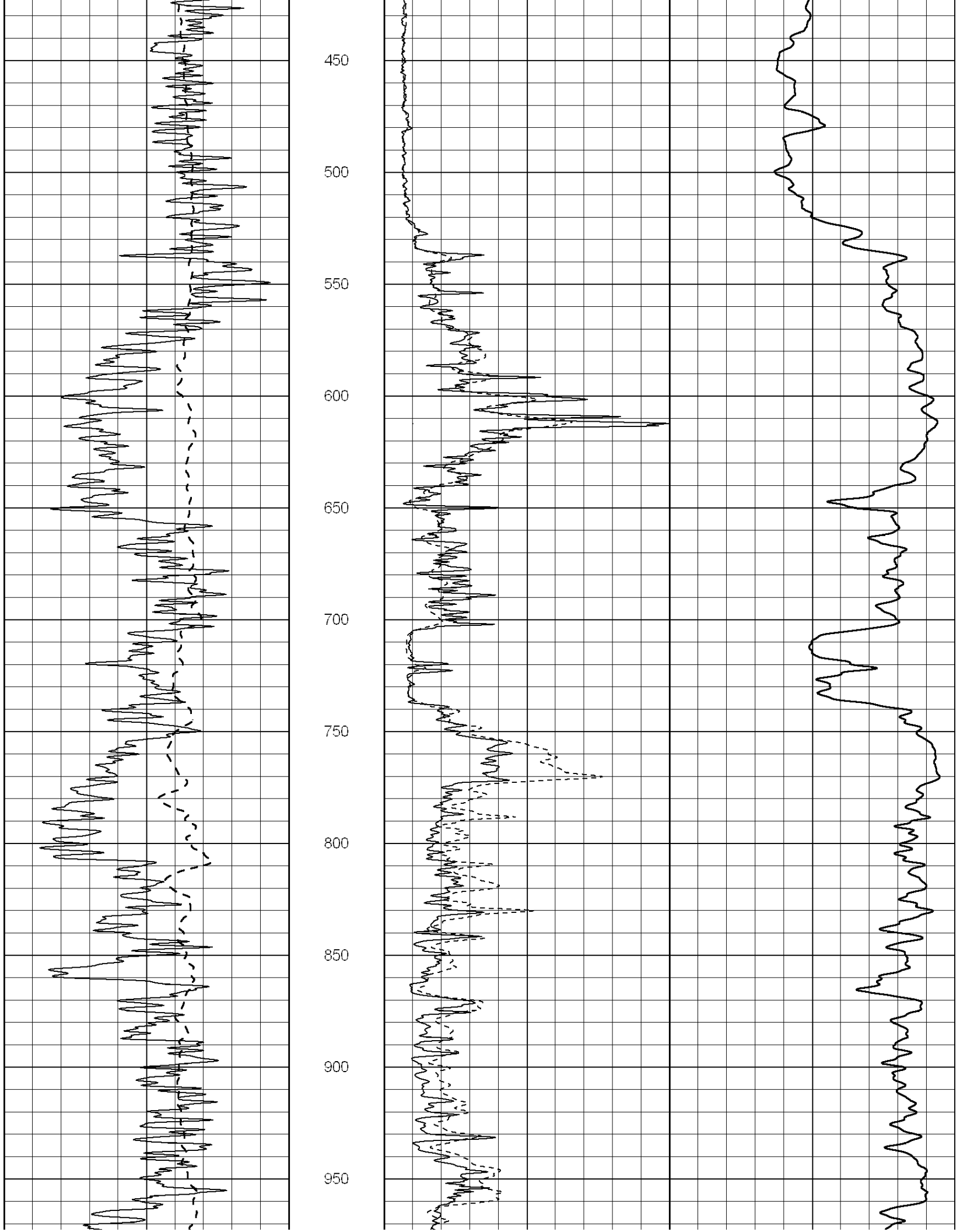
Kansas

Database File:	007329pdn.db
Dataset Pathname:	pass3.2
Presentation Format:	dil2
Dataset Creation:	Thu Jul 14 14:29:54 2011
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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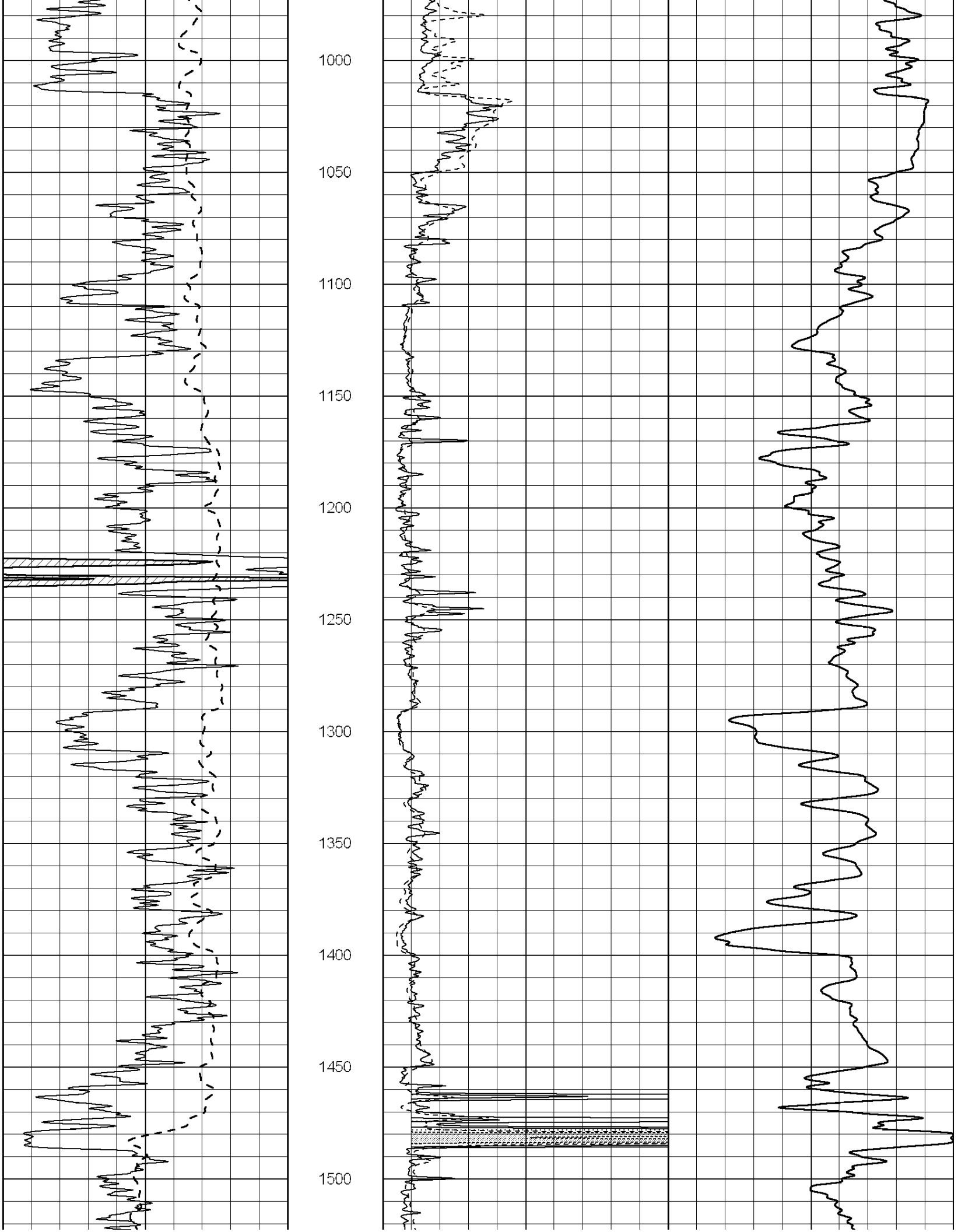
500
550
600
650
700
750
800
850
900
950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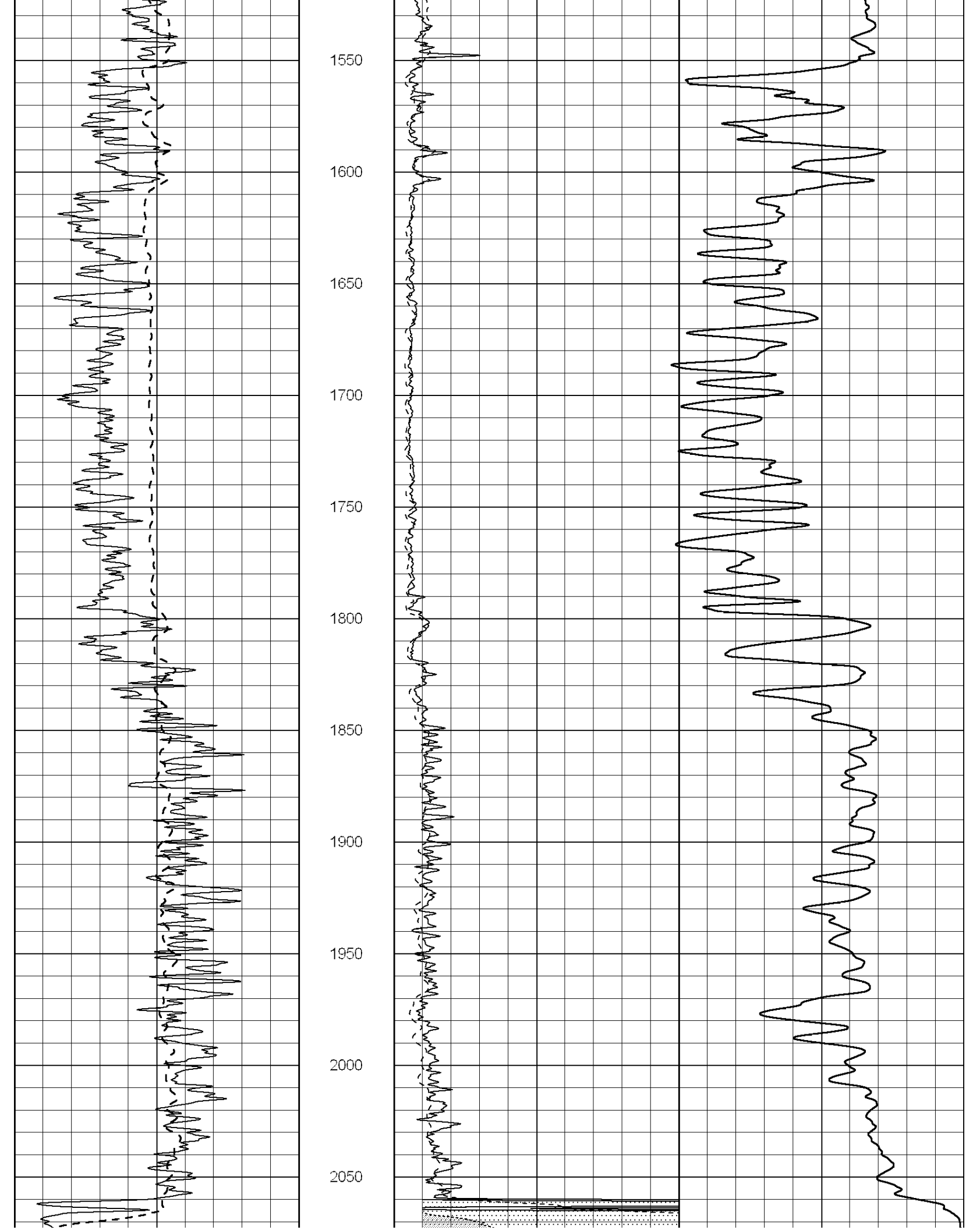
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500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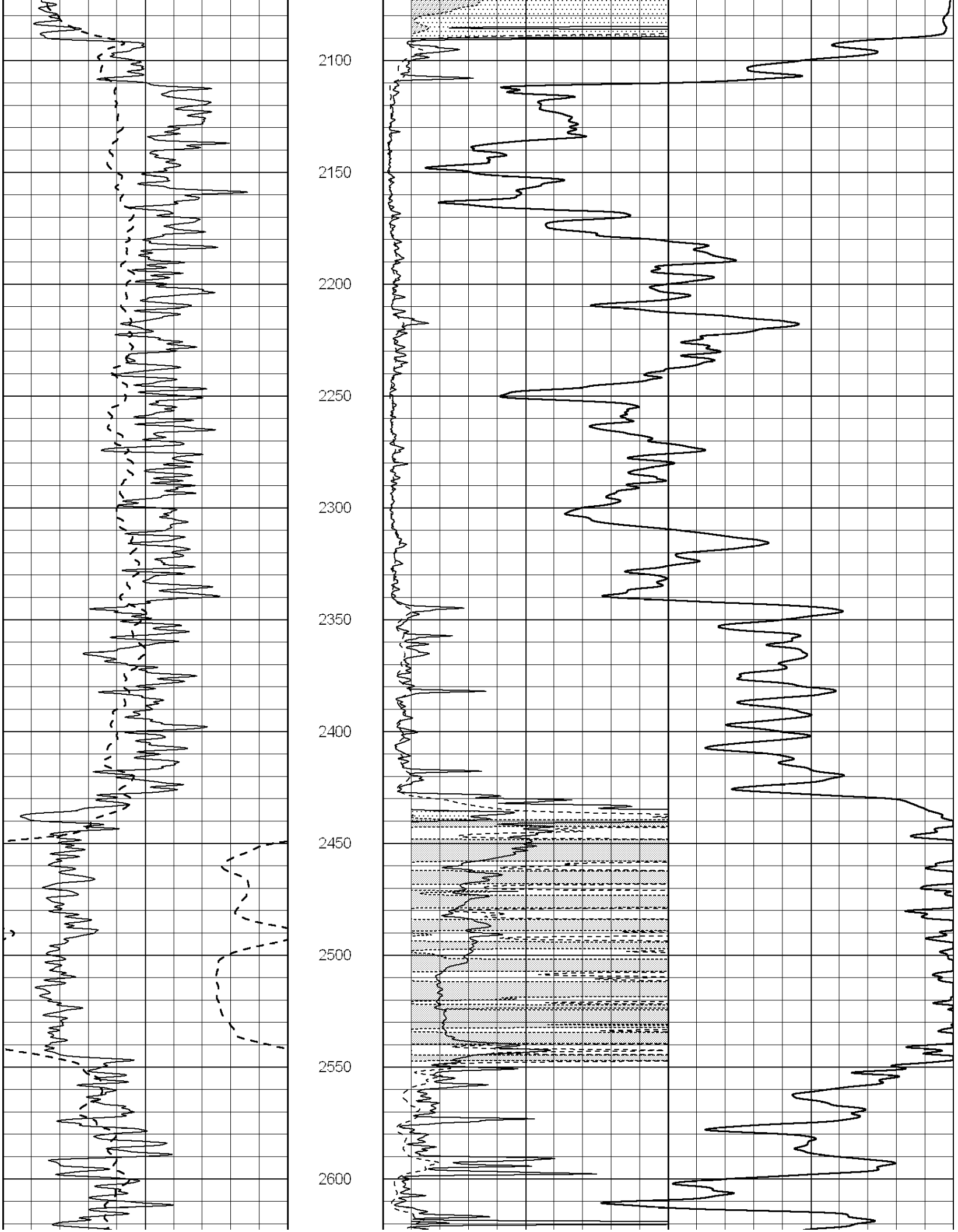
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050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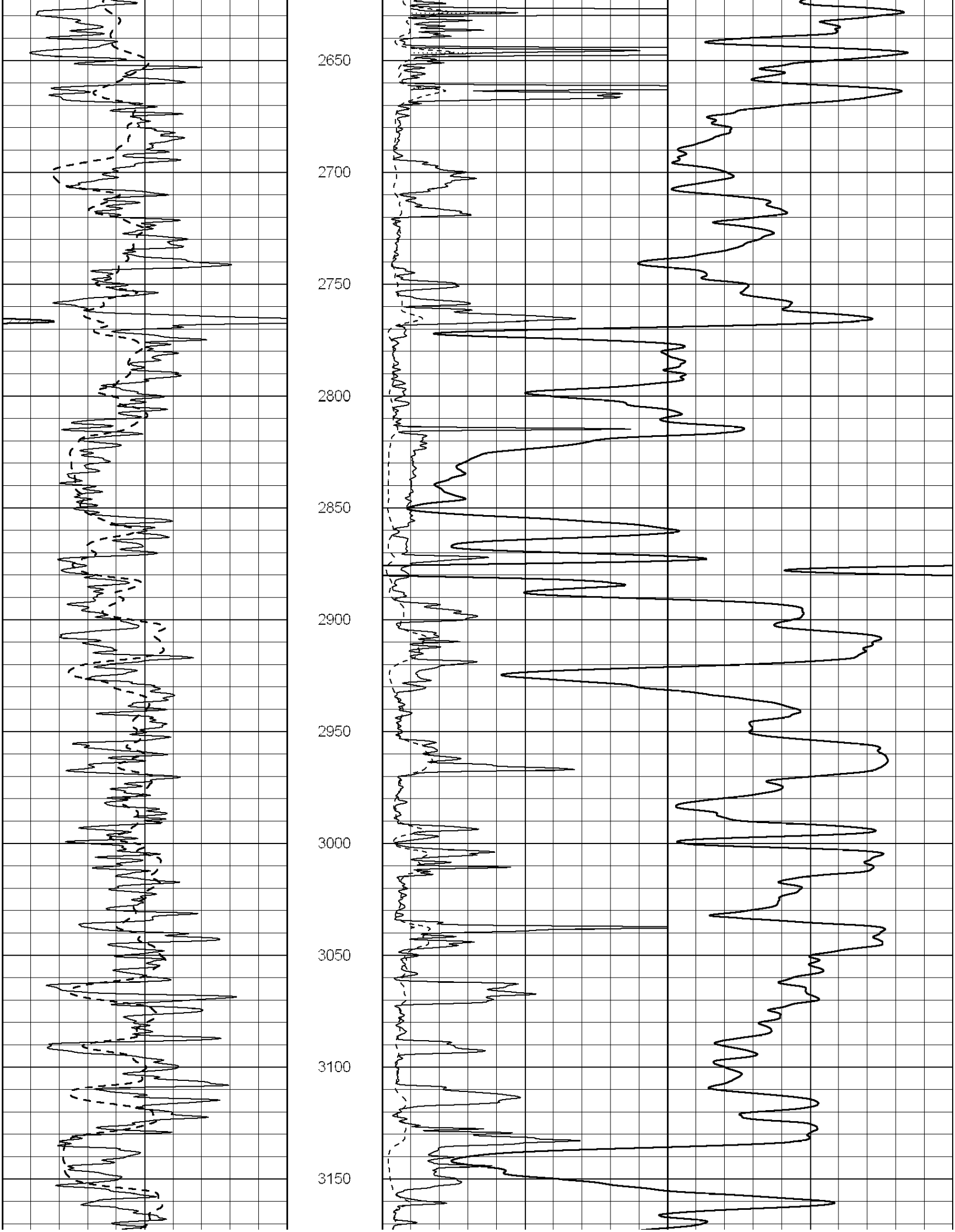
2150
2200
2250
2300
2350
2400
2450
2500
2550
2600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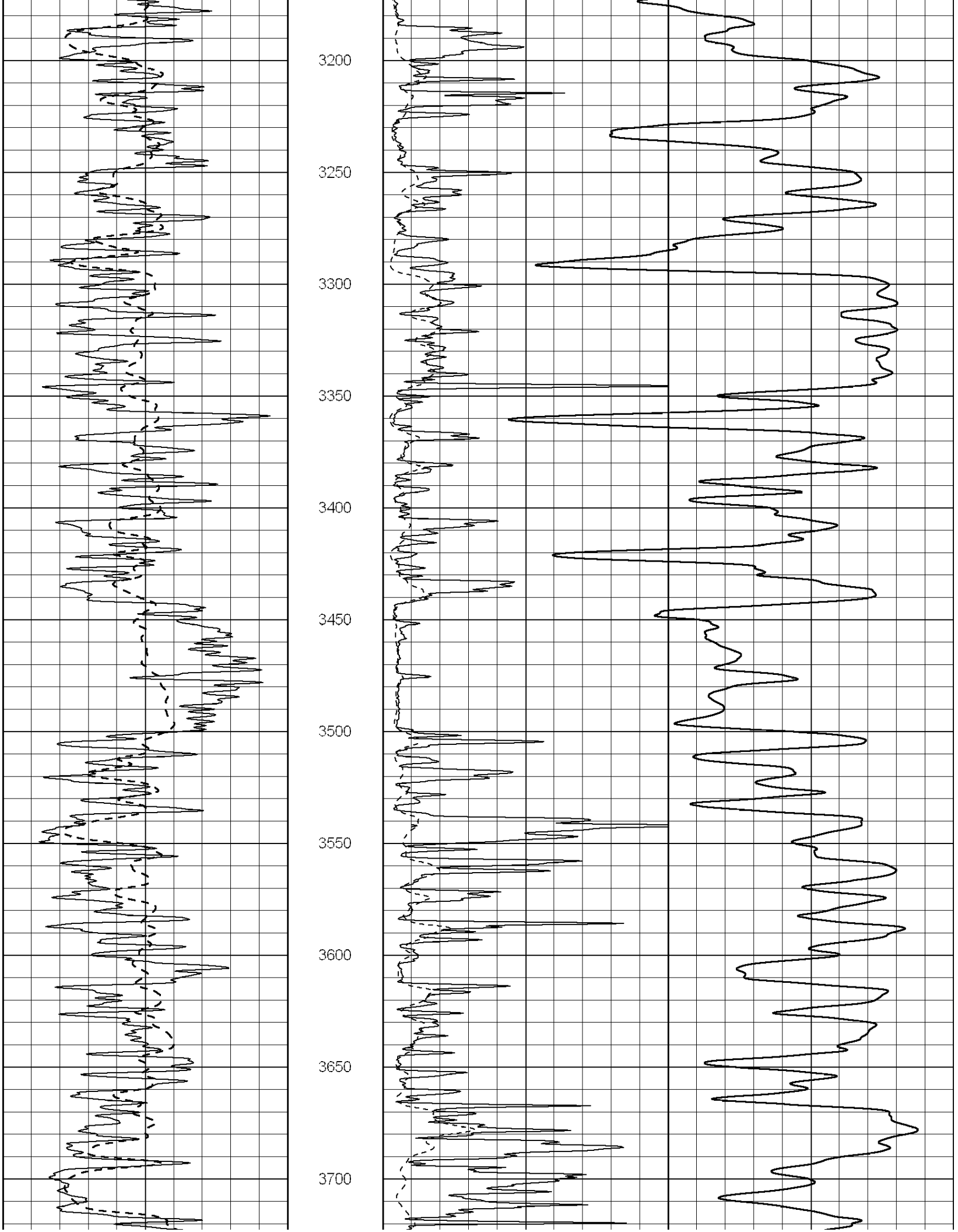
2750
2800
2850
2900
2950
3000
3050
3100
3150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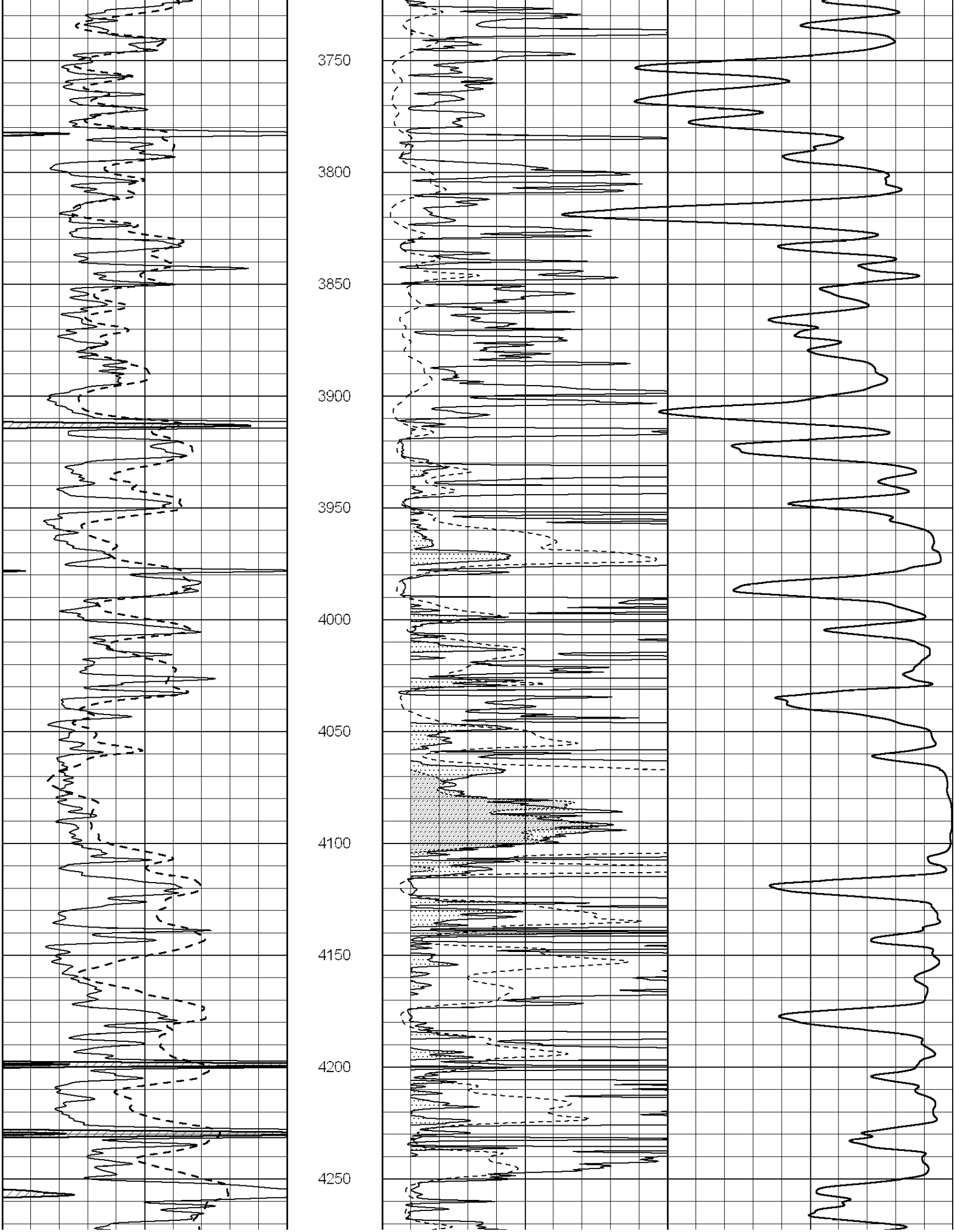
3250
3300
3350
3400
3450
3500
3550
3600
3650
3700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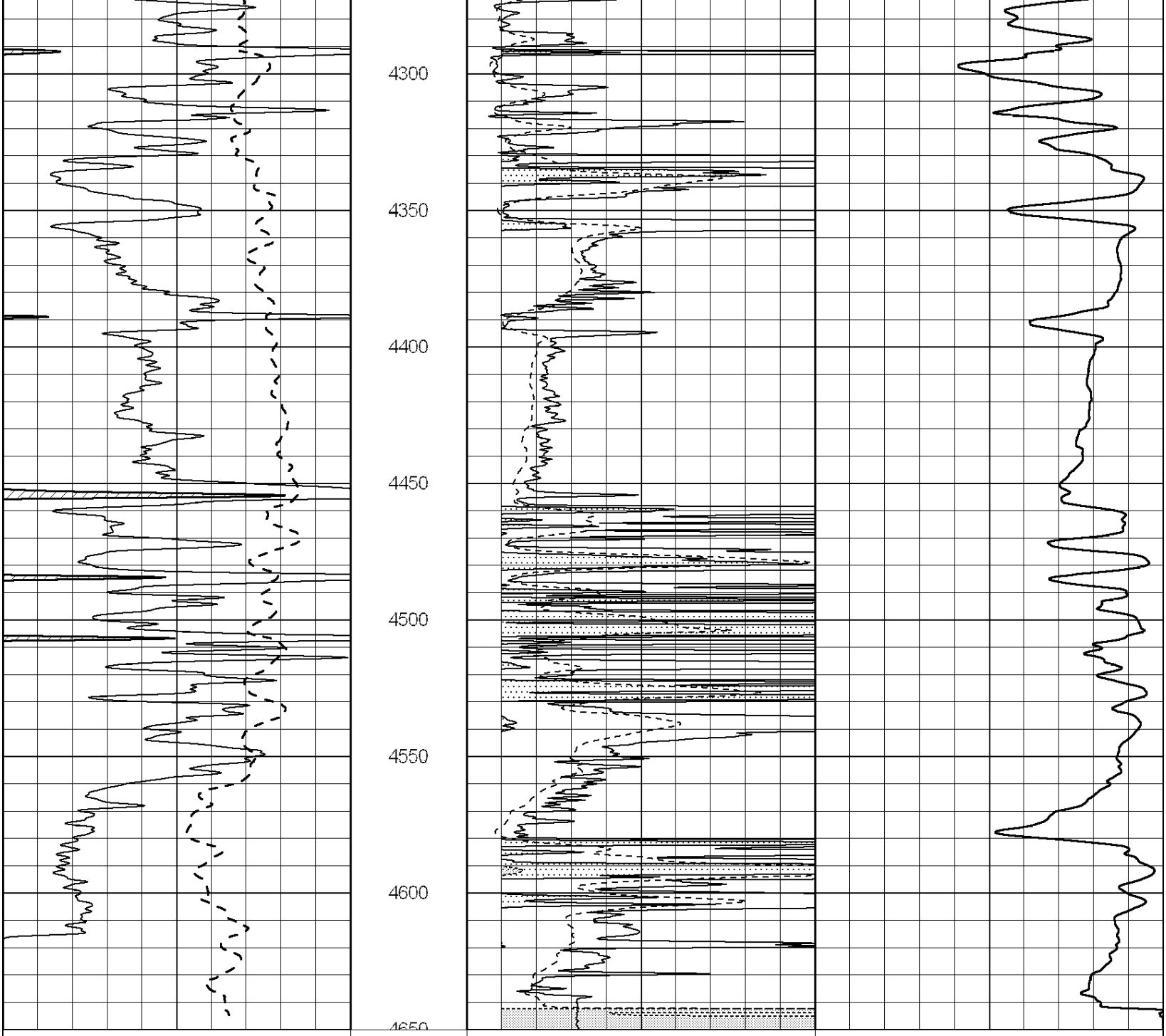
3800
3850
3900
3950
4000
4050
4100
4150
4200
4250



SUPERIOR WELL SERVICES

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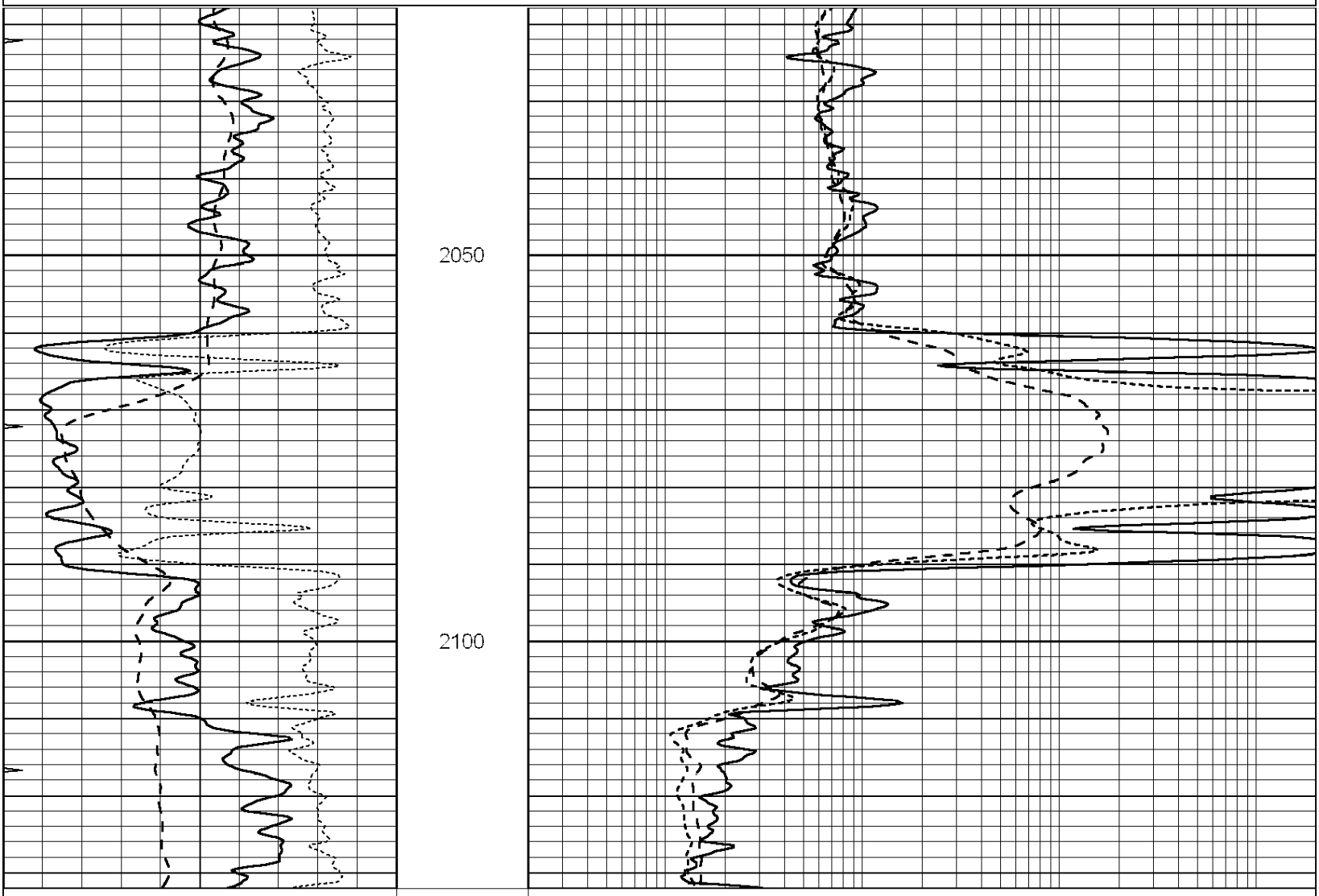
Kansas

MAIN SECTION

Database File:	007329pdn.db
Dataset Pathname:	pass3.2
Presentation Format:	dil
Dataset Creation:	Thu Jul 14 14:29:54 2011
Charted by:	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

0.2	RLL3 (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	RxoRt	50
0	MINMK	20

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

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MAIN SECTION

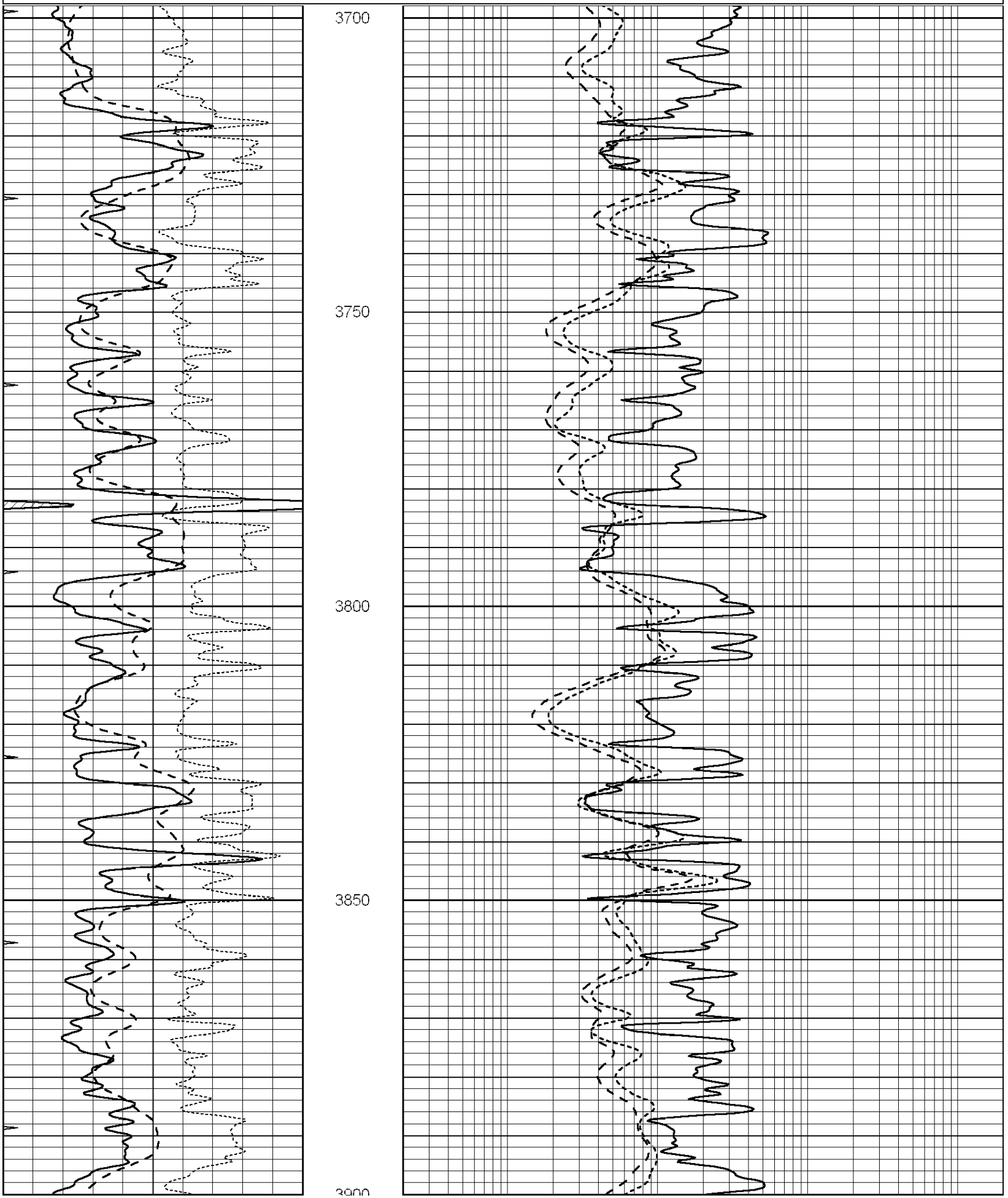
Database File:	007329pdn.db
Dataset Pathname:	pass3.2
Presentation Format:	dil
Dataset Creation:	Thu Jul 14 14:29:54 2011
Charted by:	Depth in Feet scaled 1:240

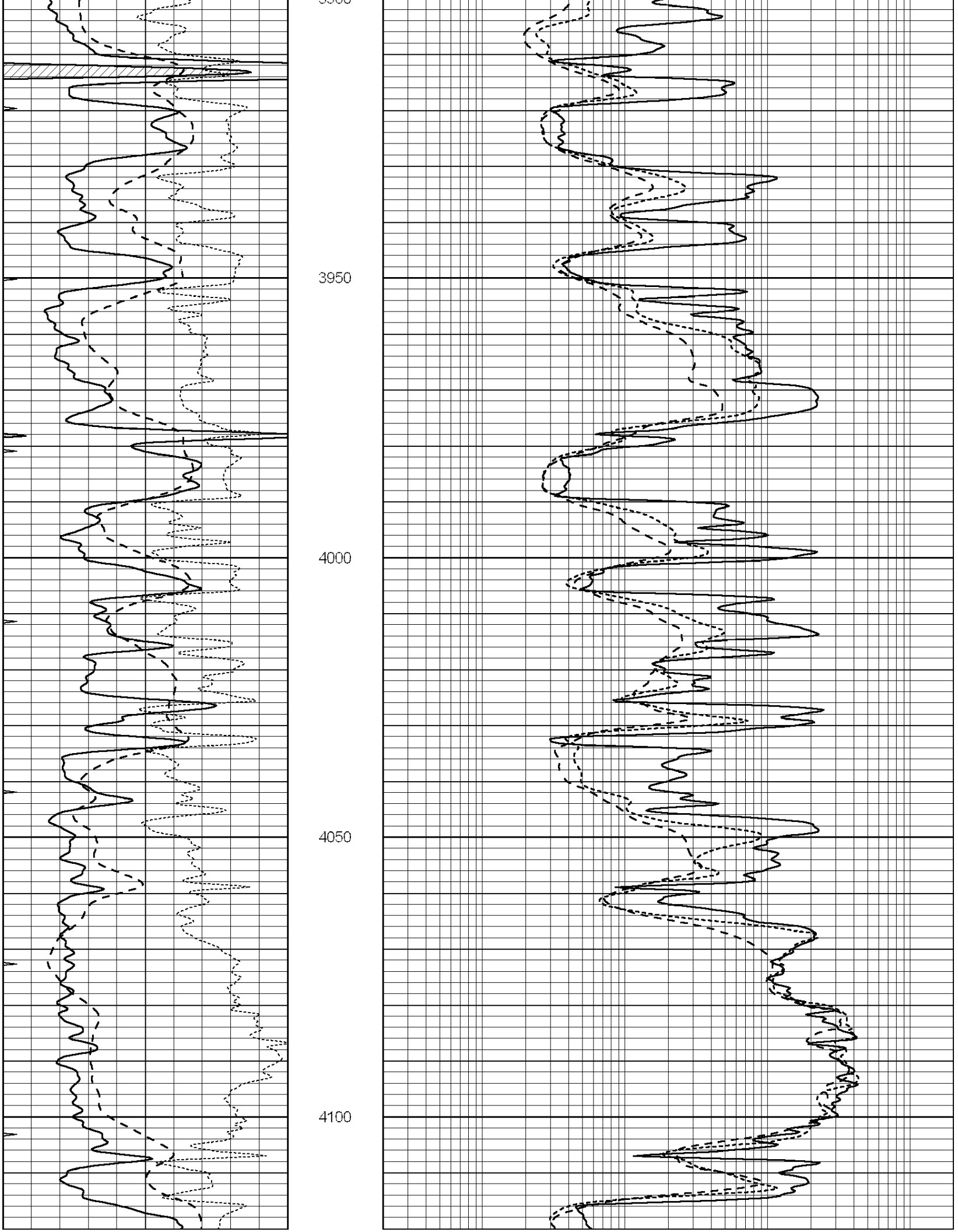
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

-250	RxoRt	50
0	MINMK	20

0.2	MEDIUM INDUCTION (Ohm-m)	2000

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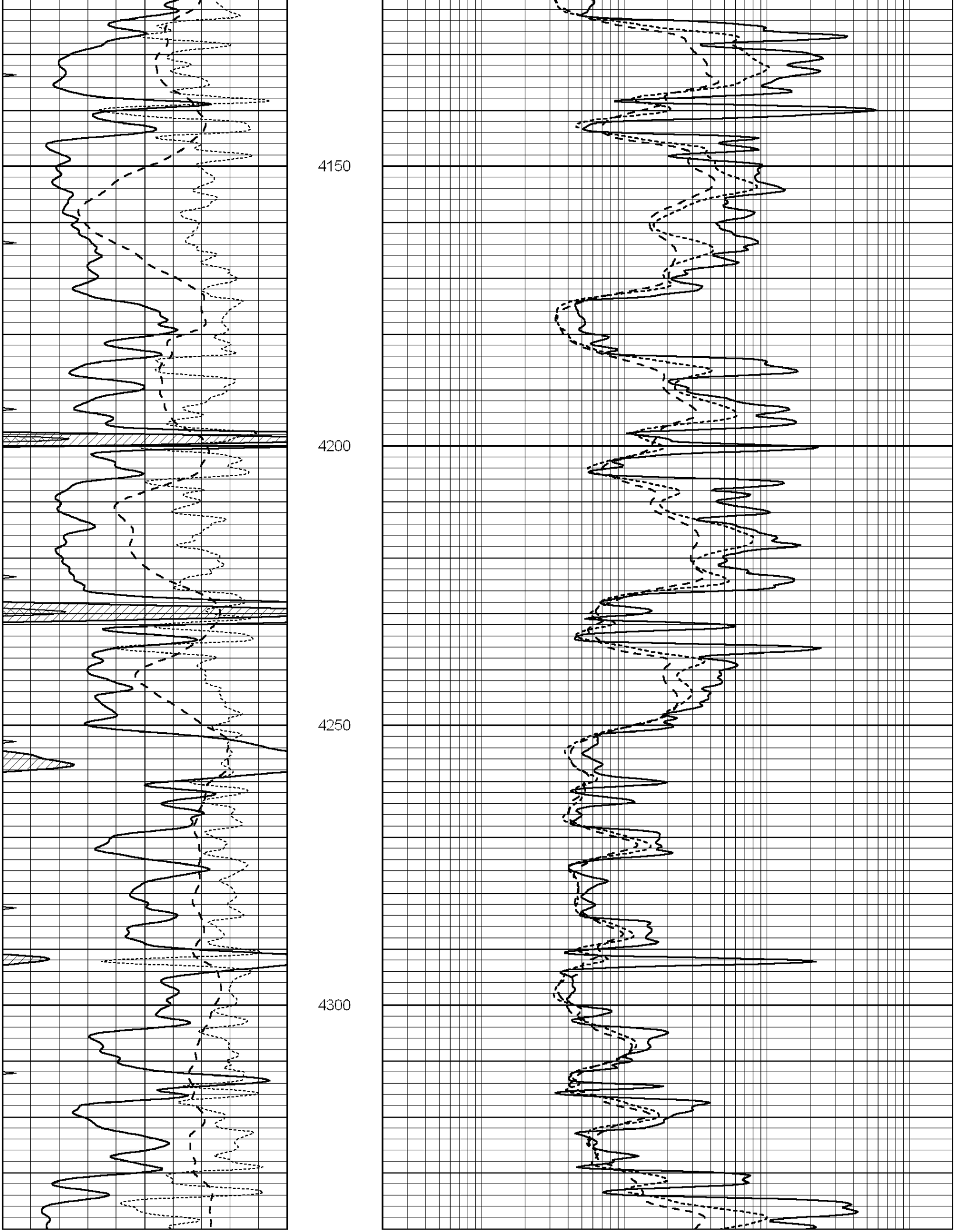
3950
4000
4050
4100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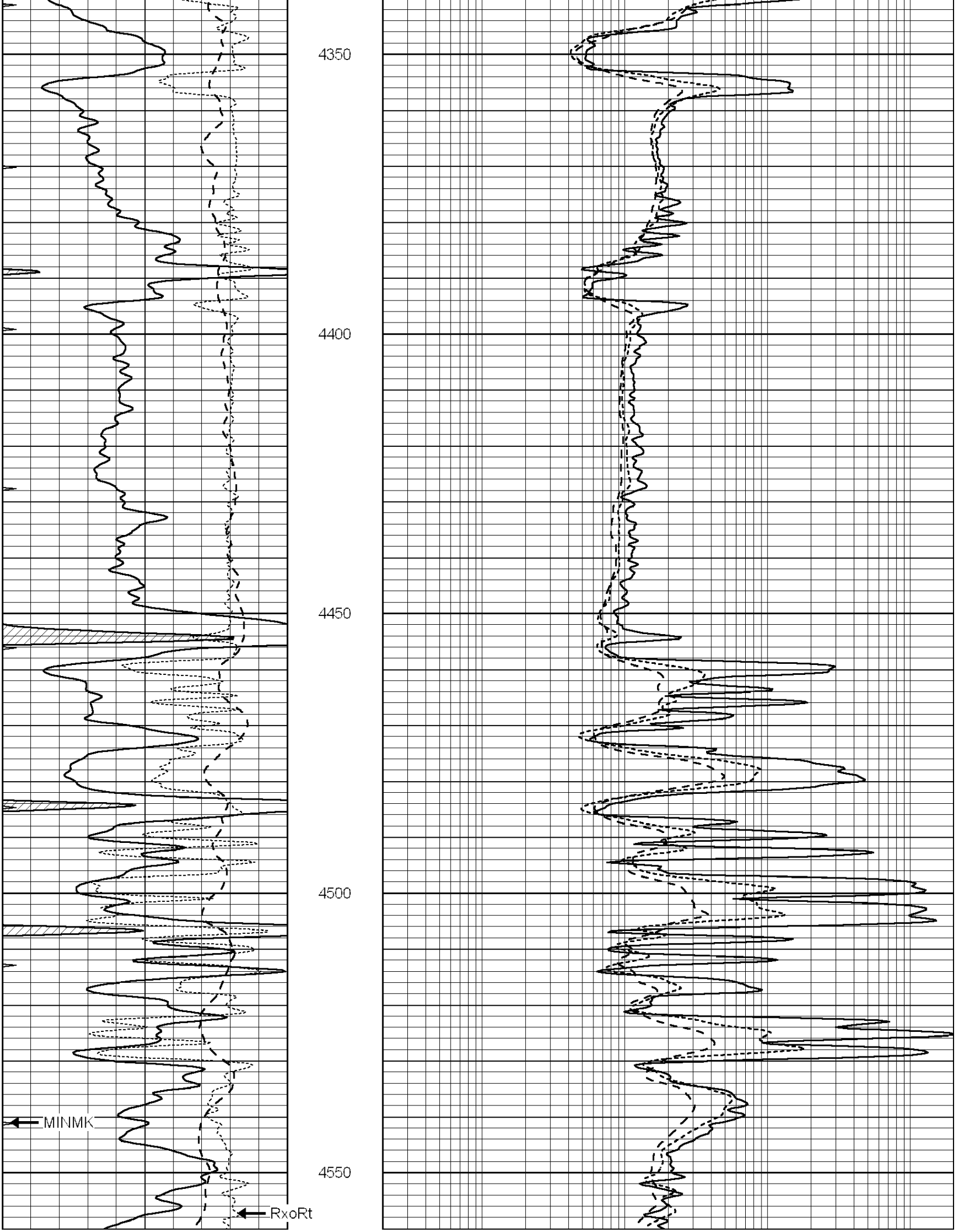
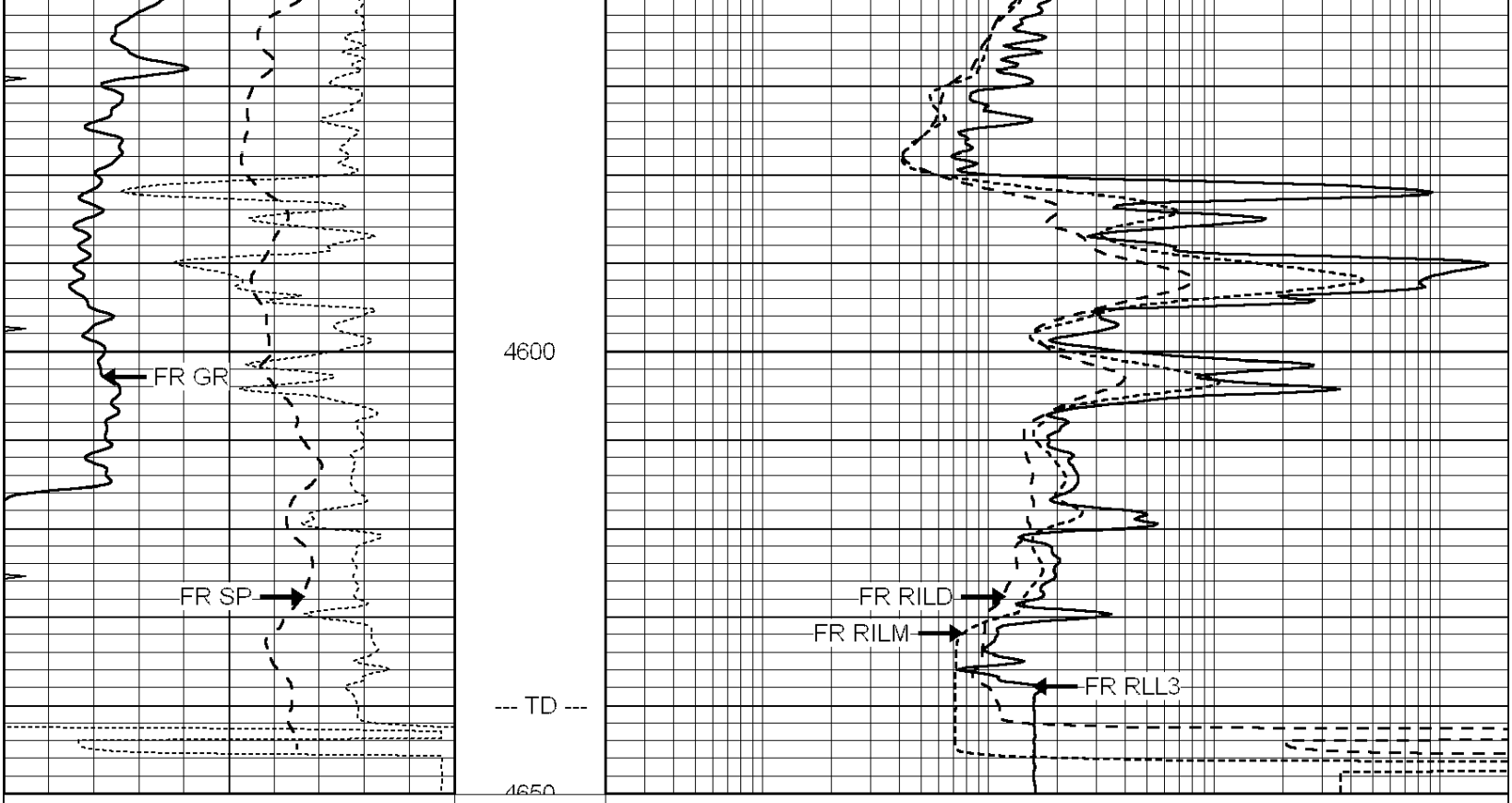
4200
4250
4300


4350
4400
4450
4500
4550
MINMK
RxoRt



0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

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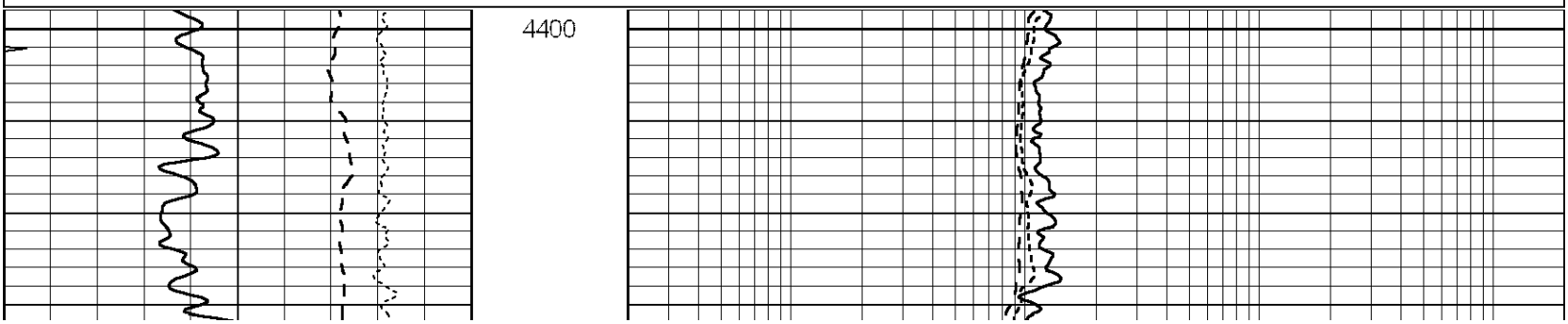
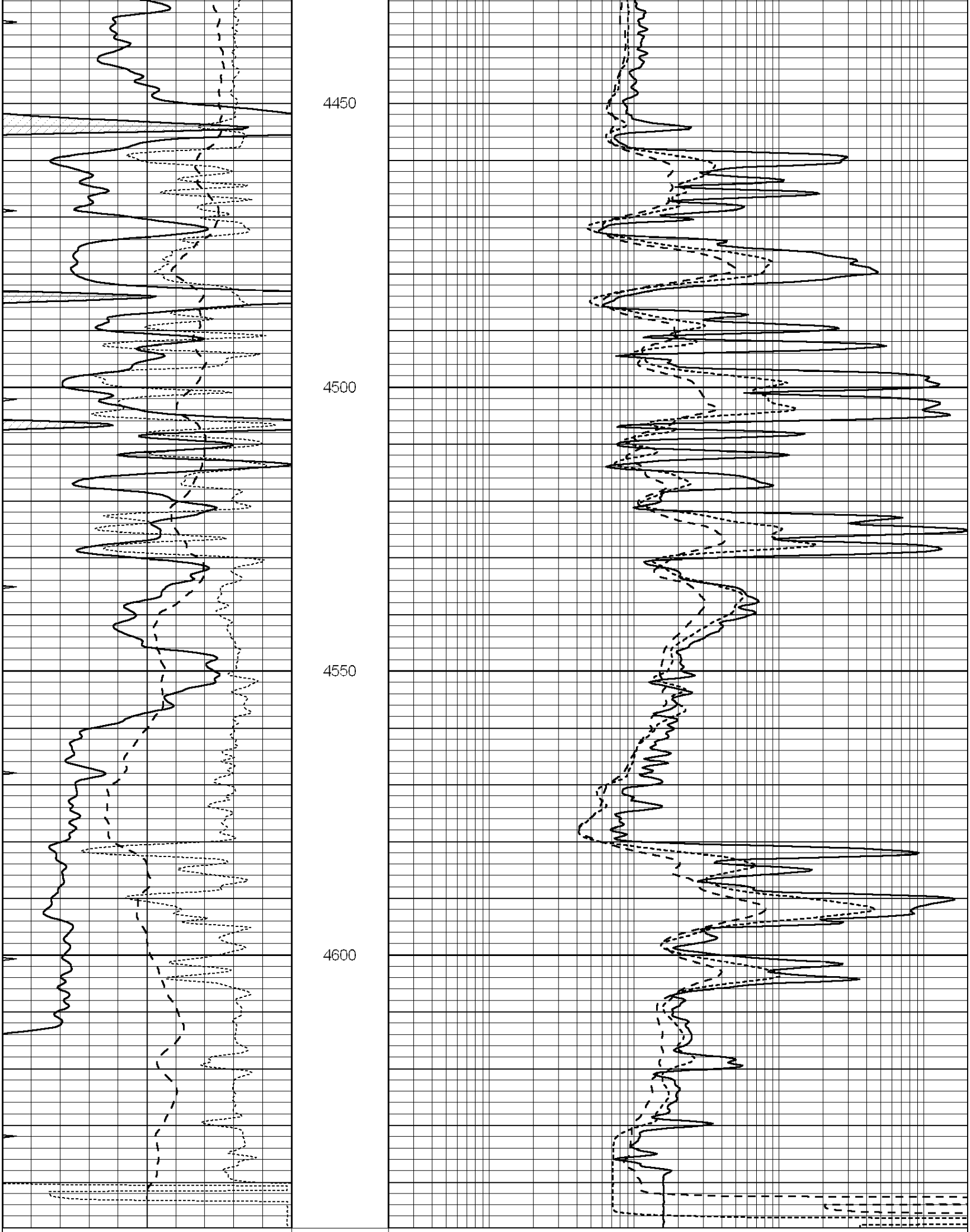
REPEAT SECTION

Database File:	007329pdn.db
Dataset Pathname:	pass2.2
Presentation Format:	dil
Dataset Creation:	Thu Jul 14 14:23:34 2011
Charted by:	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000




4450
4500
4550
4600
0
GAMMA RAY (GAPI)
150
0.2
RLL3 (Ohm-m)
2000

-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

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

Calibration Report

Database File: 007329pdn.db
Dataset Pathname: pass3.2
Dataset Creation: Thu Jul 14 14:29:54 2011

Dual Induction Calibration Report

Serial-Model: DIL5-GEAR
Performed: Thu Jul 14 12:52:50 2011

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.004	0.654	V	0.000	400.000	mmho/m	520.000	-20.000
Medium	-0.005	0.737	V	0.000	462.500	mmho/m	560.000	-11.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.006	0.655	V	0.000	400.000	mmho/m	615.668	-3.483
Medium	0.010	0.747	V	0.000	462.500	mmho/m	627.607	-6.064

Litho Density Calibration Report

Serial: 002 Model: PRB
Performed Tue Jul 03 11:12:28 2007

Litho Density Calibration

	Background	Magnesium	Aluminum	Sandstone	
Window 1	1059.5	9172.0	2859.6	10210.6	cps
Window 2	976.0	7793.2	2486.1	8515.6	cps
Window 3	689.8	2930.5	1159.0	3096.2	cps
Window 4	231.9	237.2	231.1	234.0	cps
Long Space	0.0	6817.1	1510.1	7539.6	cps
Short Space	1.6	1758.1	1188.6	1898.8	cps
Rho		1.7100	2.5960	1.3800	g/cc
Pe			2.5700	1.5500	

Rib Angle	: 45.4	Rib Slope	: 1.015	Density/Spine Ratio	: 0.569
Spine Angle	: 75.4	Spine Slope	: 3.850	Spine Intercept	: -19.9

Caliper

	Readings	Reference
Low Ref	3.8	9.1
High Ref	5.9	14.0
	Gain: 2.3	Offset: 0.4

Compensated Neutron Calibration Report

Serial Number: NUE_2I
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:	GR5	
Tool Model:	OPEN	
Performed:	Thu Jul 14 12:51:35 2011	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6500	GAPI/cps