DUAL INDUCTION LOG

Company	MAI OIL OPERATIONS, INC.
Well	MORGENSTERN FAMILY CORP. #1
Field	AKERS
County	BARTON
State	KANSAS

Company MAI OIL OPERATIONS, INC.
Well MORGENSTERN FAMILY CORP. #1
Field AKERS
County BARTON State KANSAS
Location: API # : 15-009-26182-0000
2184' FNL & 802' FWL
NW - SE - SW - NW
SEC 35 TWP 17S RGE 13W

Other Services
CDL/CNL
MEL

Permanent Datum GROUND LEVEL Elevation 1878
Log Measured From KELLY BUSHING 8' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1886
D.F. 1884
G.L. 1878

Date	8/30/17		
Run Number	ONE		
Depth Driller	3455		
Depth Logger	3456		
Bottom Logged Interval	3454		
Top Log Interval	00		
Casing Driller	8 5/8"@454'		
Casing Logger	454		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 8,000 PPM	
Density / Viscosity	9.2/52		
pH / Fluid Loss	9.0/9.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.900@85F		
Rmf @ Meas. Temp	.675@85F		
Rmc @ Meas. Temp	1.08@85F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.689@111F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	1:00 A.M.		
Maximum Recorded Temperature	111F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	JIM MUSGROVE		

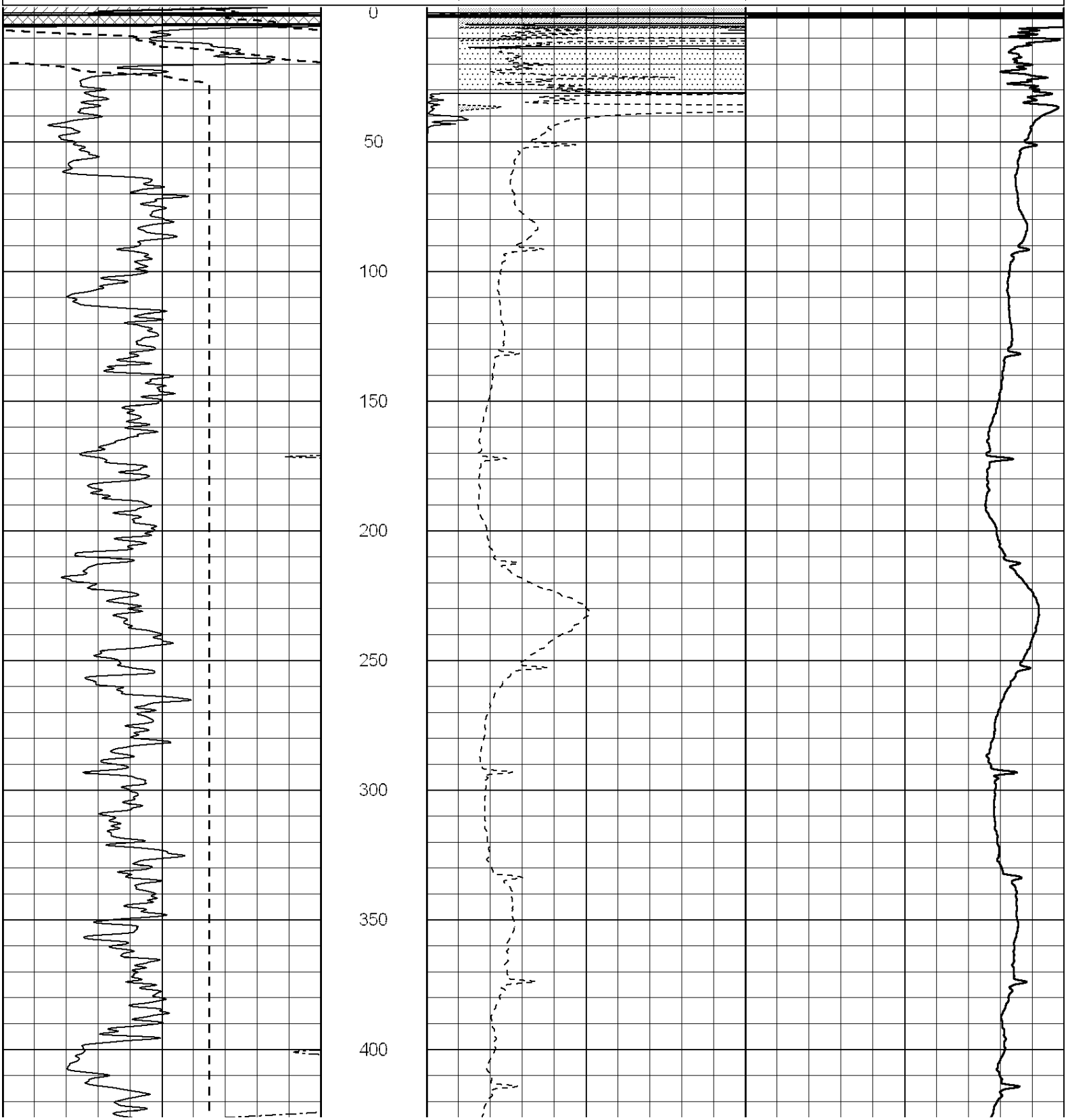
<<< Fold Here >>>

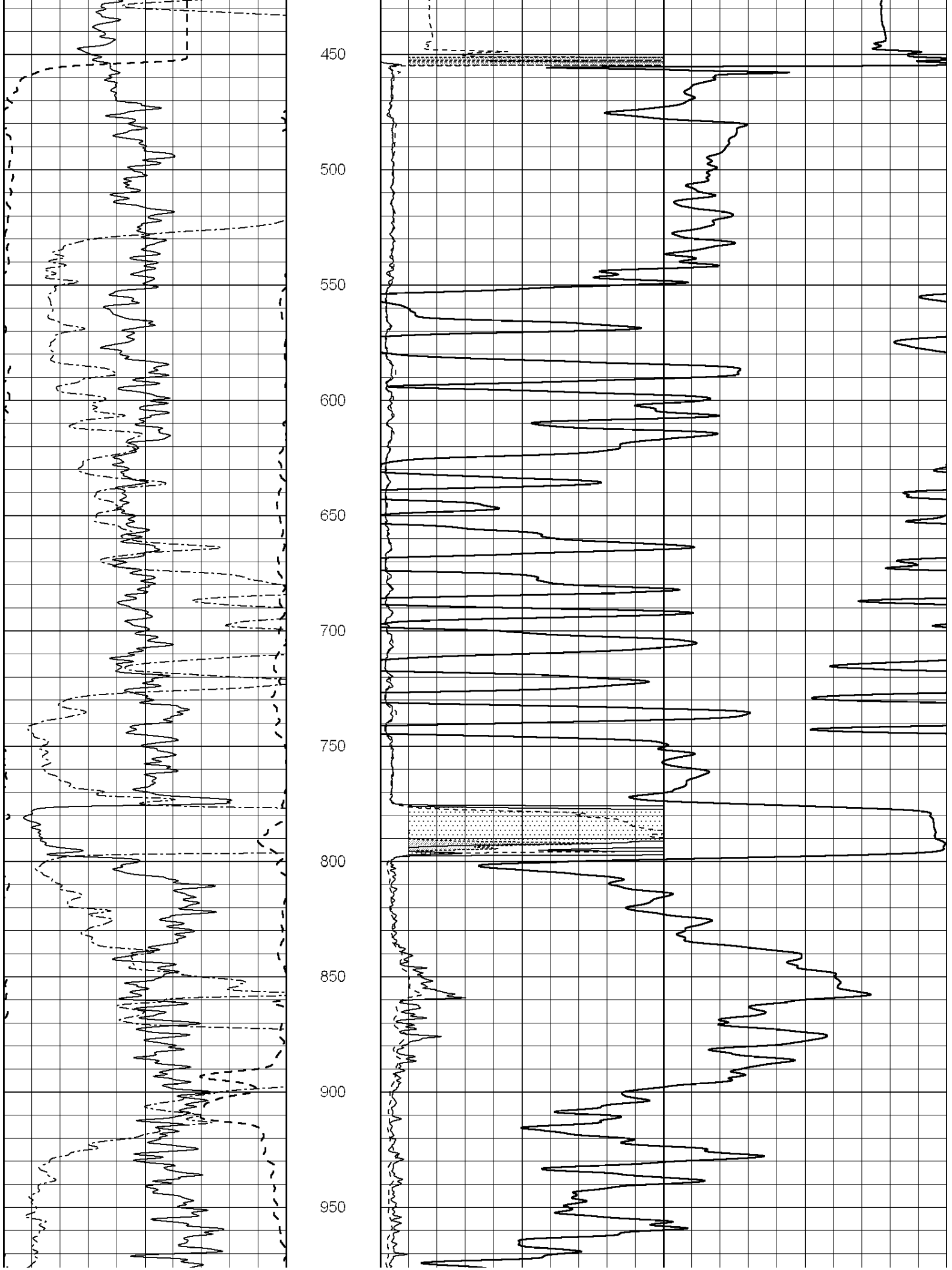
Comments

THANK YOU FOR USING ELI WIRELINE HAYS, KANSAS (785) 628-6395
DIRECTIONS
HOISINGTON, KS., 2E. ON HWY 4 TO "NE 20TH RD.", 1/2N., E. INTO

MAIN SECTION

Database File: 1598ddn.db
Dataset Pathname: pass3.5
Presentation Format: dil2
Dataset Creation: Wed Aug 30 02:03:37 2017 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:600

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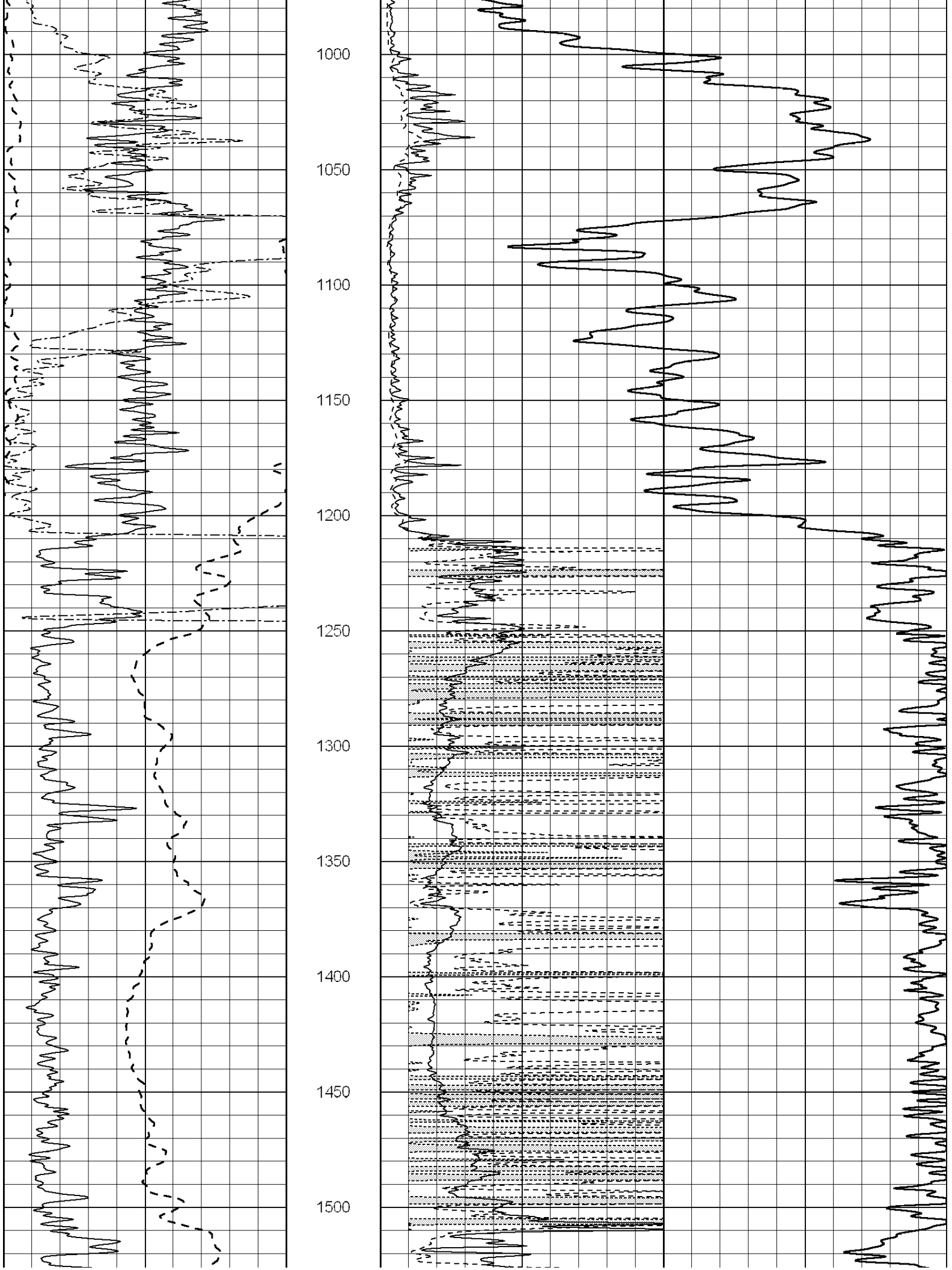
500
550
600
650
700
750
800
850
900
950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1100
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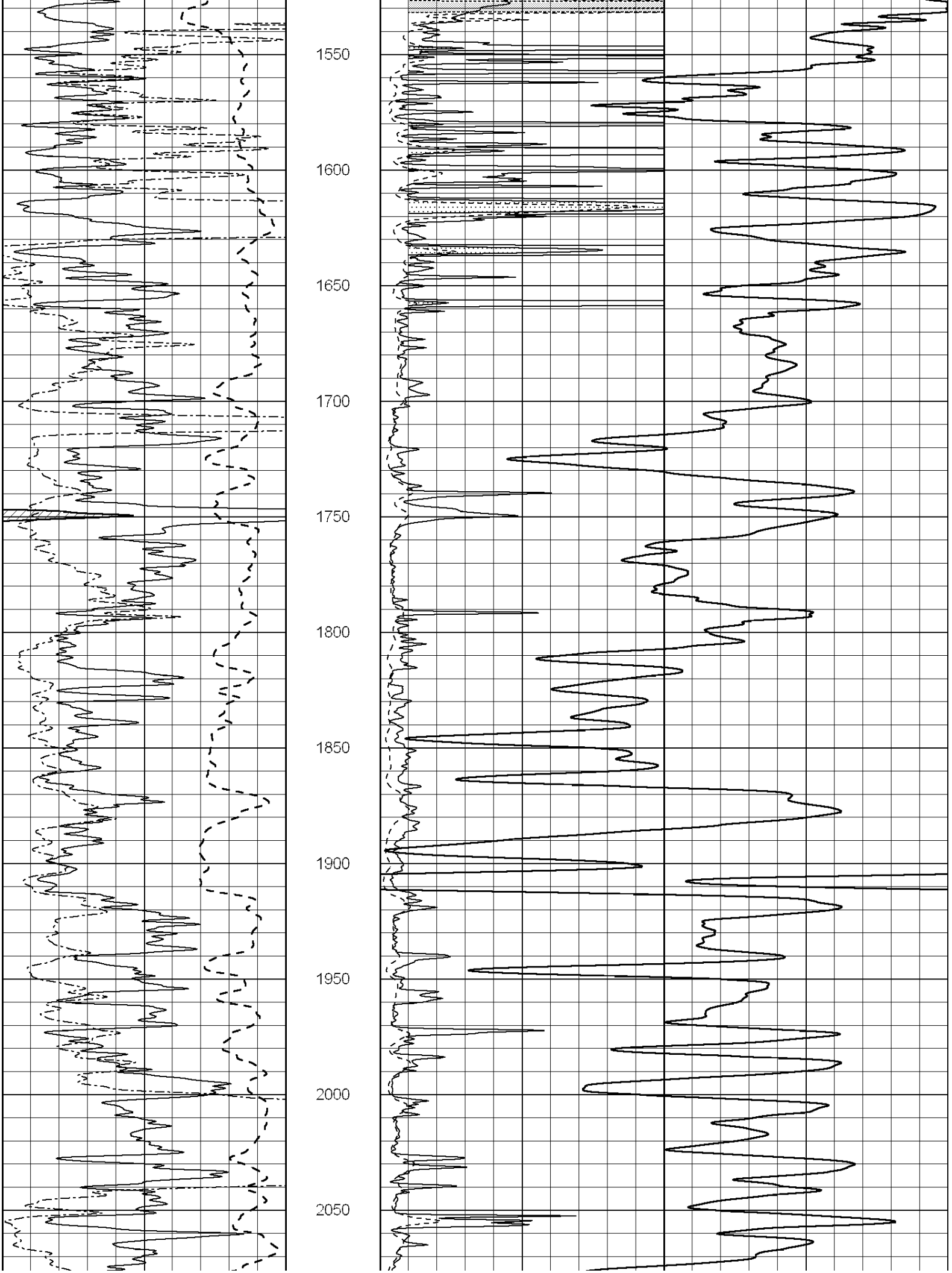
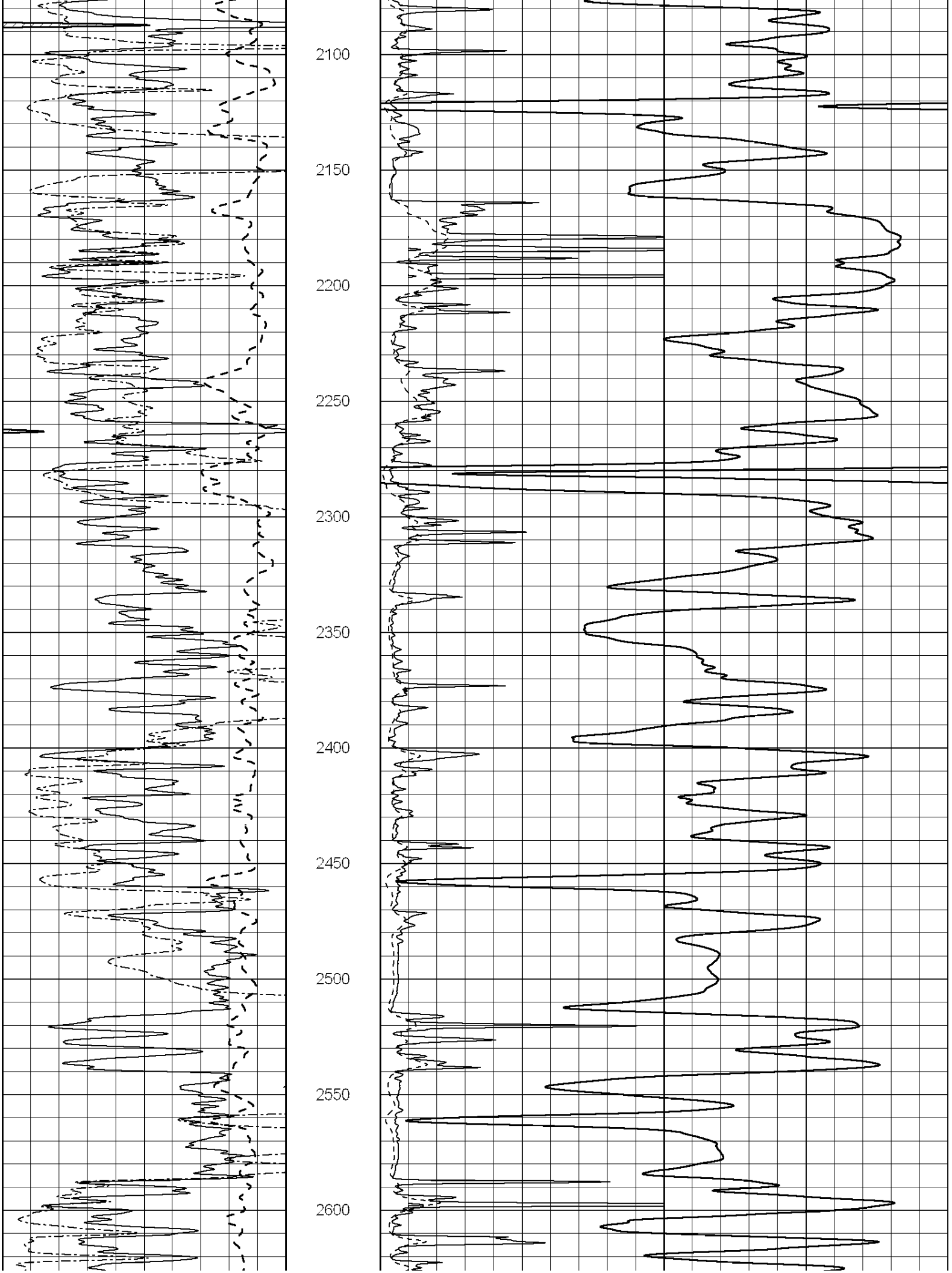
1200
1250
1300
1350
1400
1450
1500


1550
1600
1650
1700
1750
1800
1850
1900
1950
2000
2050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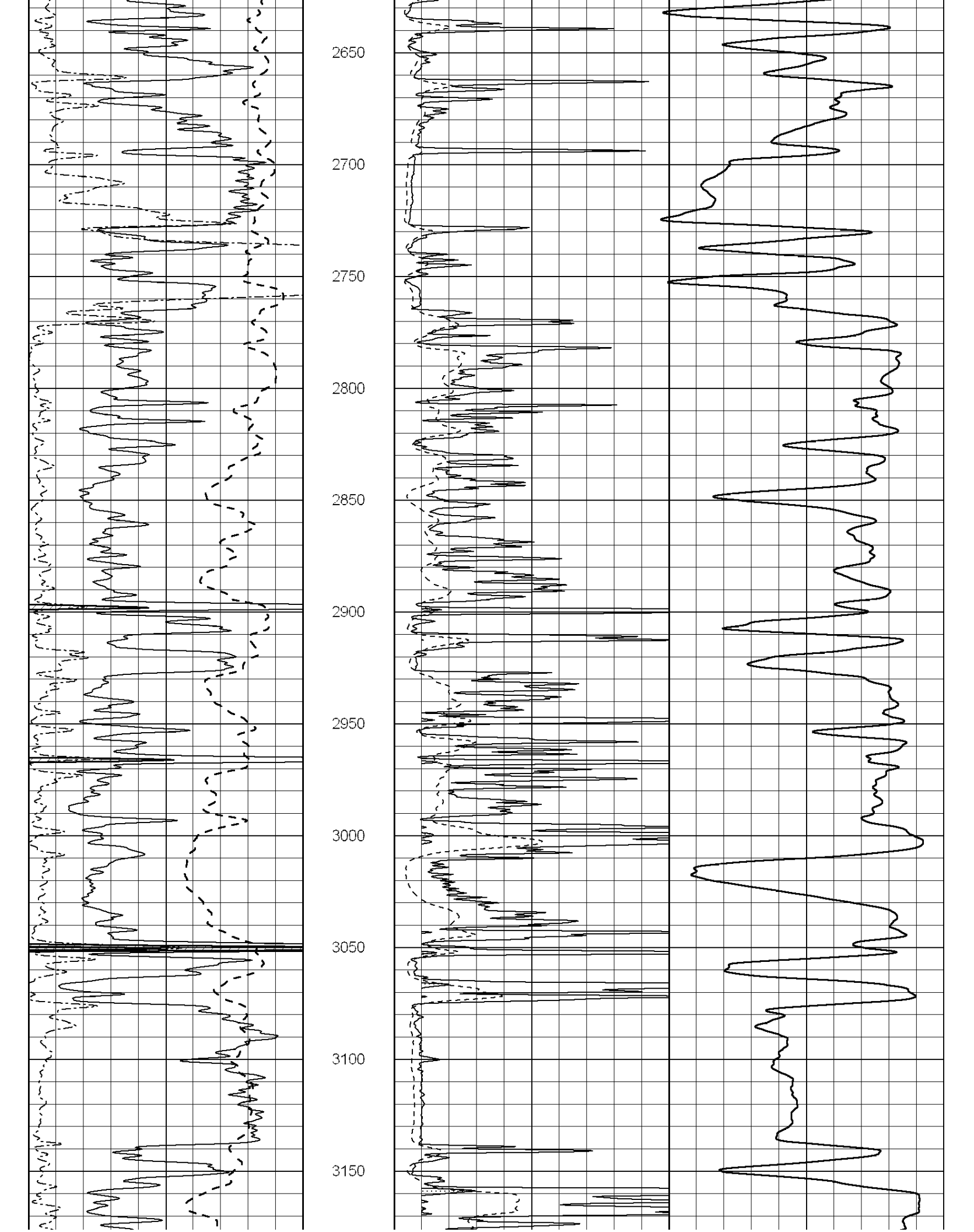
2200
2250
2300
2350
2400
2450
2500
2550
2600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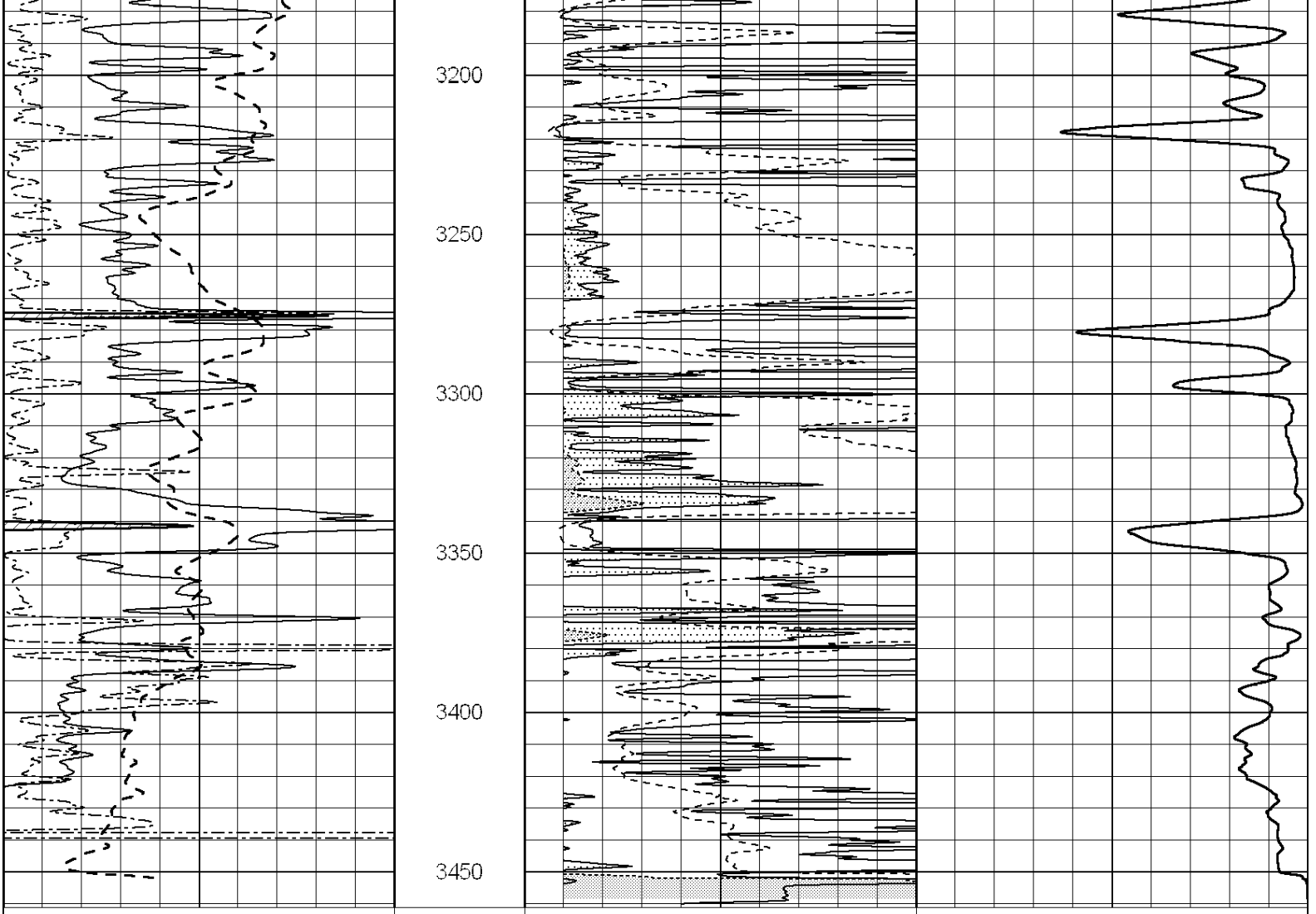
2750
2800
2850
2900
2950
3000
3050
3100
3150



0	Gamma Ray (GAPI)	150
-100	SP (mV)	100
0	RWA (Ohm-m)	1

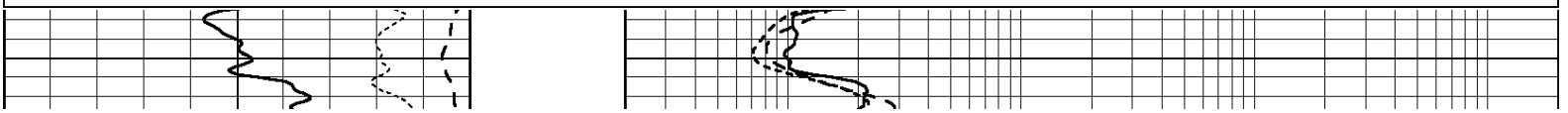
0	RLL3 (Ohm-m)	50
0	RILD (Ohm-m)	50
1000	CILD (mmho/m)	0
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

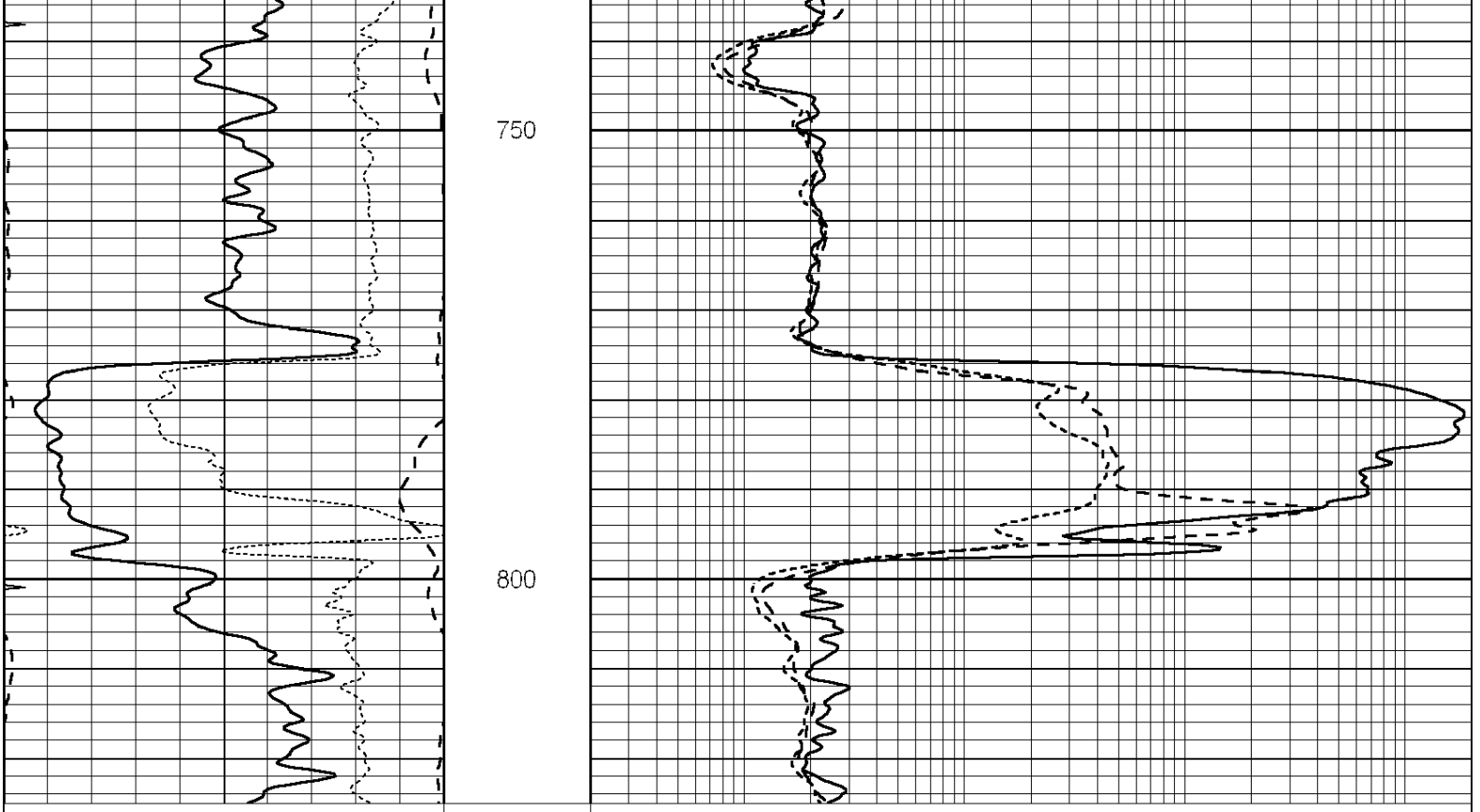
ANHYDRITE

Database File:	1598ddn.db
Dataset Pathname:	pass3.6
Presentation Format:	_dil
Dataset Creation:	Wed Aug 30 02:04:07 2017 by Calc SOC 120430
Charted by:	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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	MINMK	20

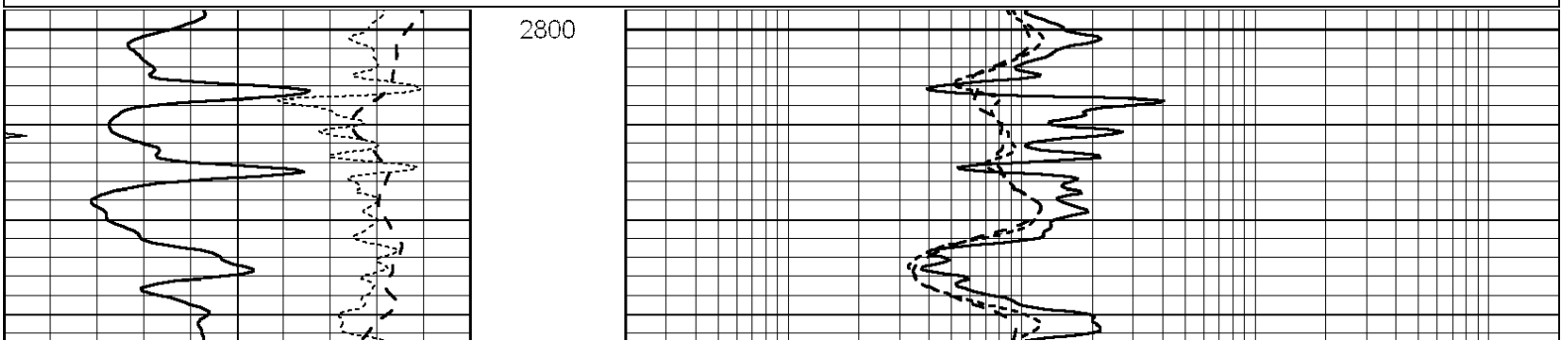
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

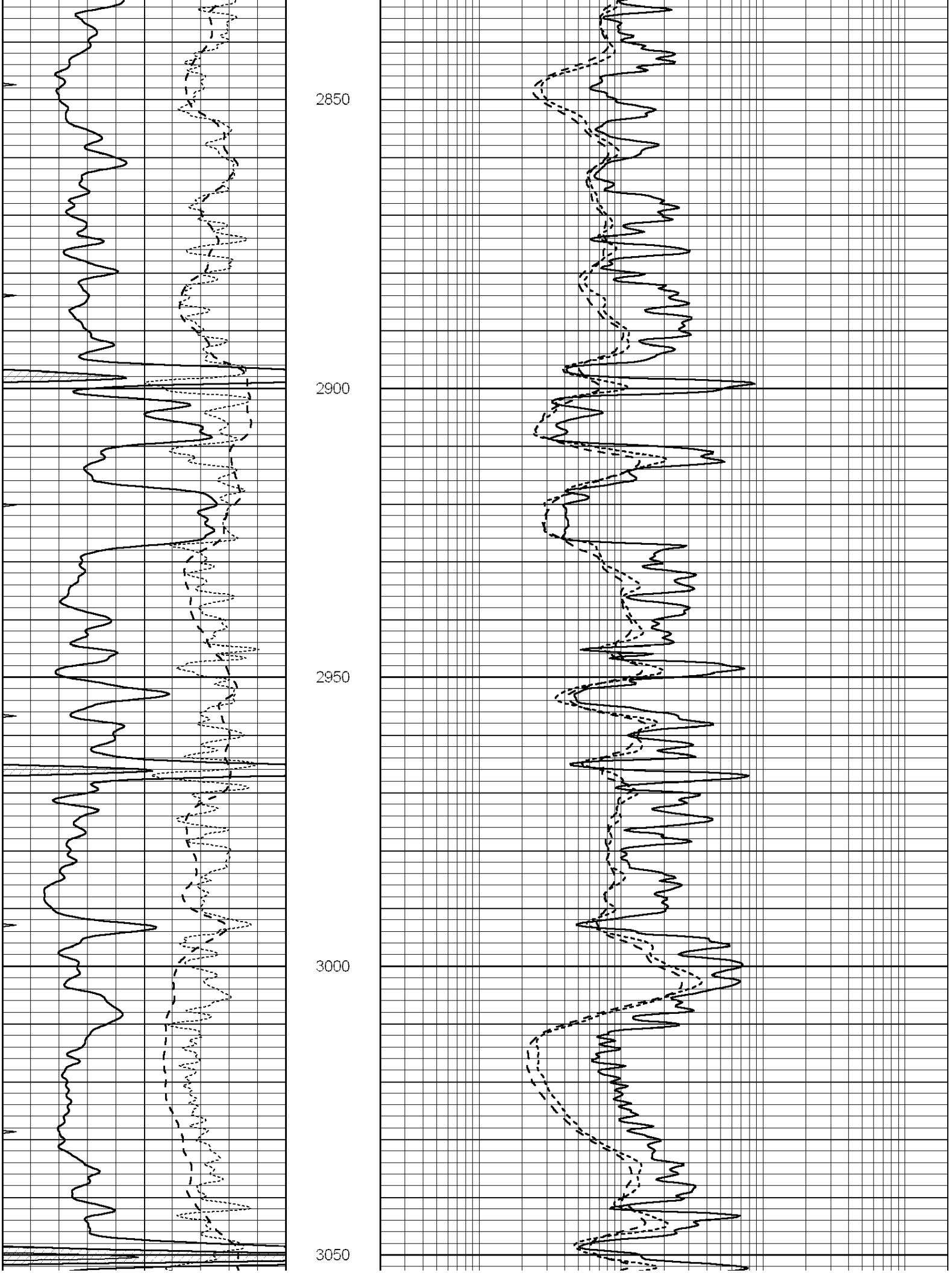
MAIN SECTION

Database File: 1598ddn.db
Dataset Pathname: pass3.5
Presentation Format: _dil
Dataset Creation: Wed Aug 30 02:03:37 2017 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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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2900
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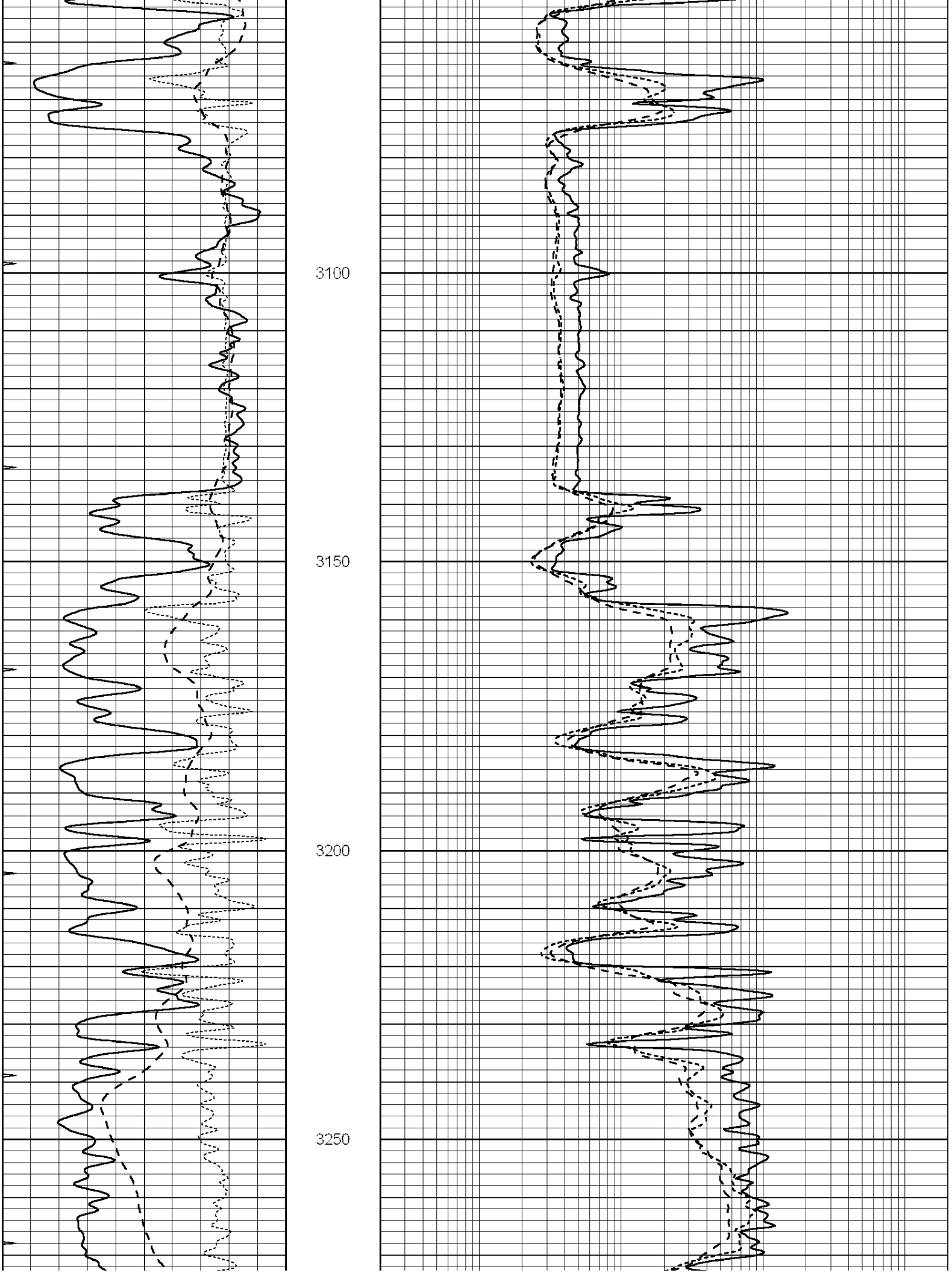
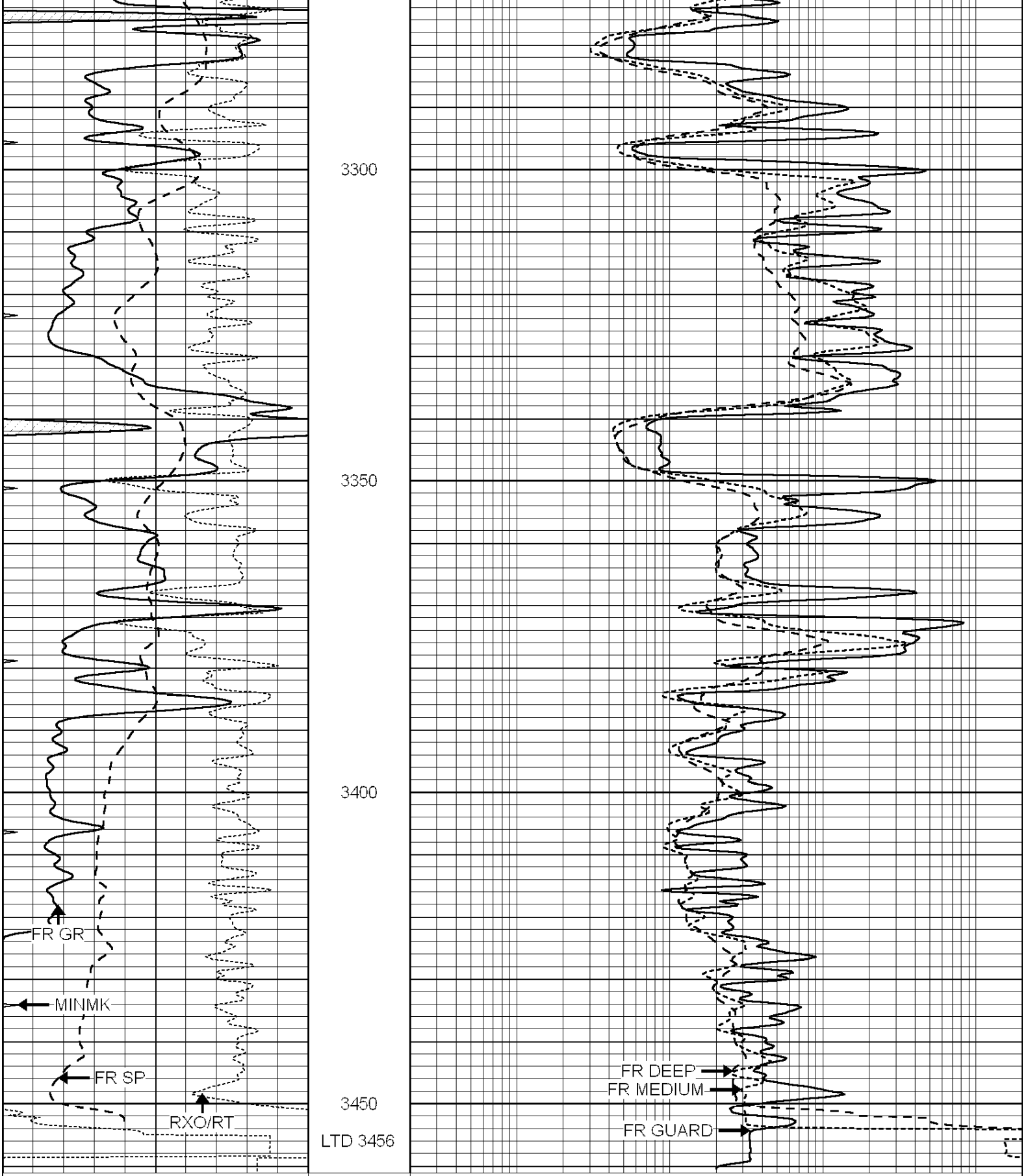
3000
3050


3100
3150
3200
3250



0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

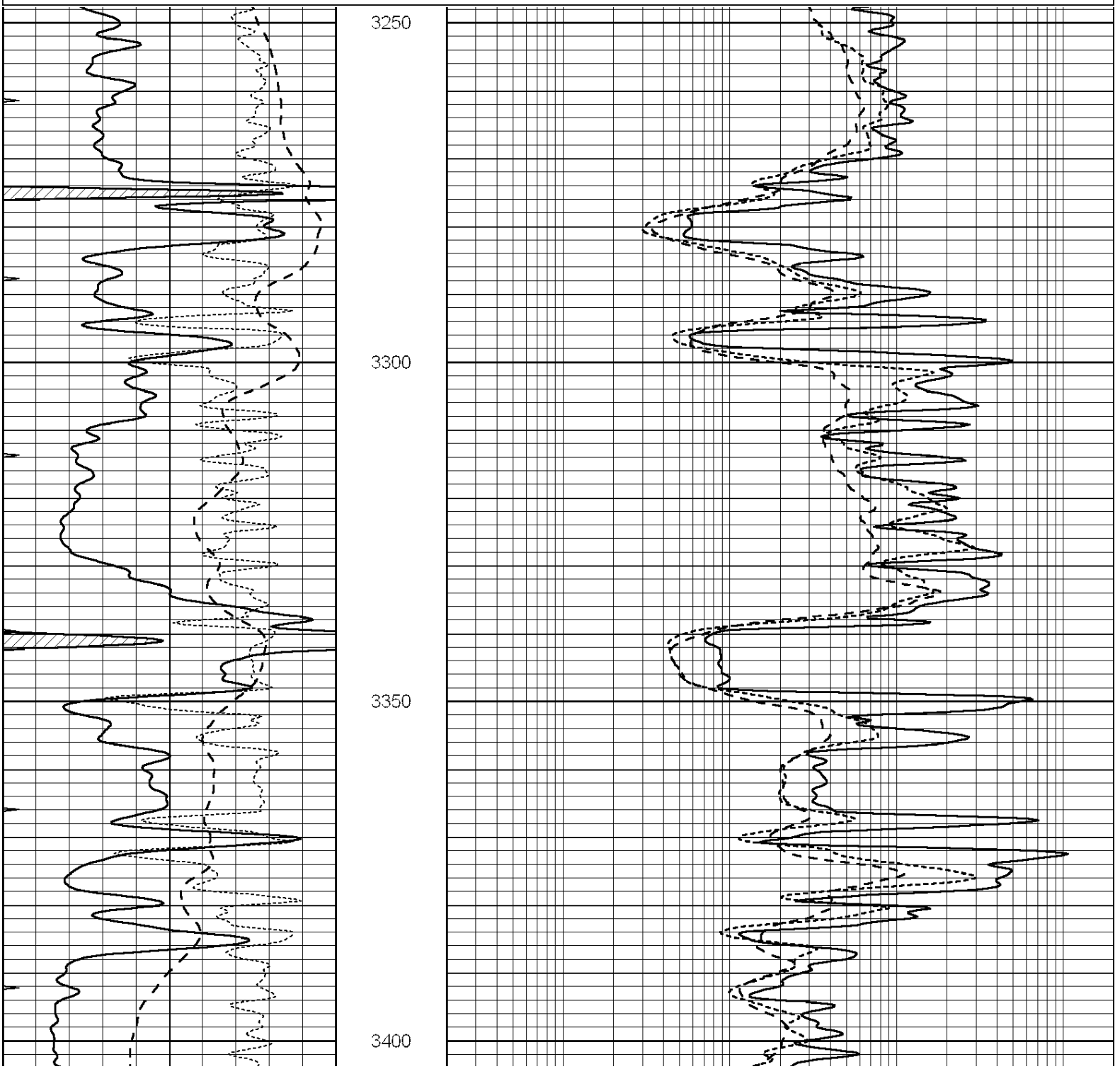
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

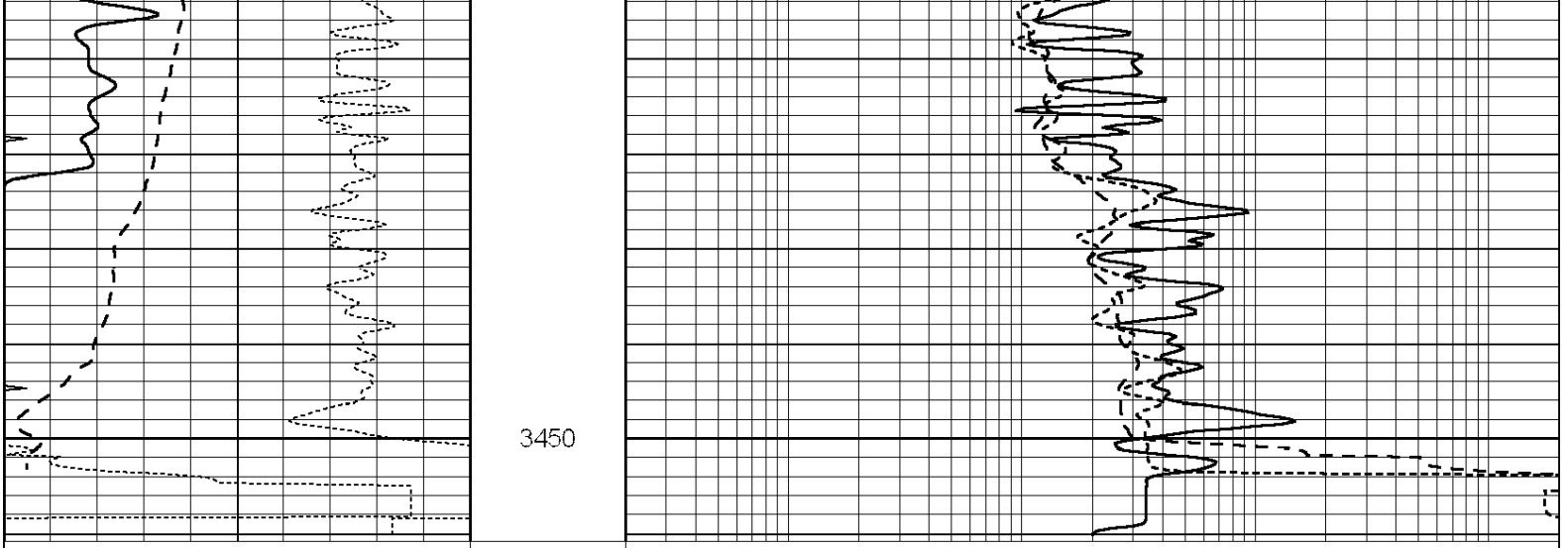
REPEAT SECTION

Database File:	1598ddn.db
Dataset Pathname:	pass2.3
Presentation Format:	_dil
Dataset Creation:	Wed Aug 30 01:08:51 2017 by Calc SOC 120430
Charted by:	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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	MINMK	20

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: 1587pe2.db
Dataset Pathname: pass2
Dataset Creation: Mon Aug 21 11:29:56 2017 by Log SOC 120430

Litho Density Calibration Report
Serial: 002 Model: PRB

Master Calibration — Performed Mon Aug 21 11:27:42 2017

	Background	Magnesium	Aluminum	Sandstone	
Window 1	837.1	10632.5	2945.1	12110.1	cps
Window 2	772.0	9117.4	2570.1	10197.3	cps
Window 3	631.7	4669.0	1481.9	5042.9	cps
Window 4	187.0	187.5	185.9	189.9	cps
Long Space	0.0	8345.4	1798.1	9425.3	cps
Short Space	1.1	1927.9	1285.9	2050.2	cps
Rho		1.7100	2.5960	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	

Rib Angle	: 45.2	Rib Slope	: 1.008	Density/Spine Ratio	: 0.558
Spine Angle	: 75.2	Spine Slope	: 3.790	Spine Intercept	: -19.6

Before Survey Verification — Performed Wed Dec 31 18:00:00 1969

Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

After Survey Verification — Performed Wed Dec 31 18:00:00 1969

Window 1	0.0	0.0	0.0	0.0	cps
Window 2	0.0	0.0	0.0	0.0	cps
Window 3	0.0	0.0	0.0	0.0	cps
Window 4	0.0	0.0	0.0	0.0	cps
Long Space	0.0	0.0	0.0	0.0	cps
Short Space	0.0	0.0	0.0	0.0	cps
Measured Rho		0.0000	0.0000	0.0000	g/cc
Measured Correction		0.0000	0.0000	0.0000	g/cc
Measured Pe			0.0000	0.0000	

Gamma Ray Calibration Report

Serial Number:	070558	
Tool Model:	OPEN_GR	
Performed:	Wed May 31 00:09:32 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.2800	GAPI/cps