NABORS
COMPLETION & PRODUCTION SERVICES CO.

DUAL INDUCTION LOG

Company GATEWAY RESOURCES, LLC.
Well WORCESTER "A" #1-8
Field WILDCAT
County GRAHAM State KANSAS

Location: API # : 15-065-23992

900' FSL & 375' FEL

SEC 8 TWP 7S RGE 22W

Other Services
CDL/CNL
MICRO

Elevation
K.B. 2319
D.F.
G.L. 2314

Permanent Datum GROUND LEVEL Elevation 2314
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING

Date	11-23-13		
Run Number	ONE		
Depth Driller	3910		
Depth Logger	3910		
Bottom Logged Interval	3908		
Top Log Interval	00		
Casing Driller	219		
Casing Logger	219		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.0 / 47		
pH / Fluid Loss	9.5 / 6.8		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	1.30 @ 54F		
Rmf @ Meas. Temp	0.98 @ 54F		
Rmc @ Meas. Temp	1.56 @ 54F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	.620 @ 114F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	5:30 A.M.		
Maximum Recorded Temperature	114F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	RUPP		
Witnessed By	GARY F. GENSCH		

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Comments

NABORS COMPLETION & PRODUCTION SERVICES
785-628-6395
THANK YOU FOR YOUR BUSINESS
DIRECTIONS: HILL CITY, 5N TO V RD., 2 1/2E, 1N, 1/2E, N INTO.

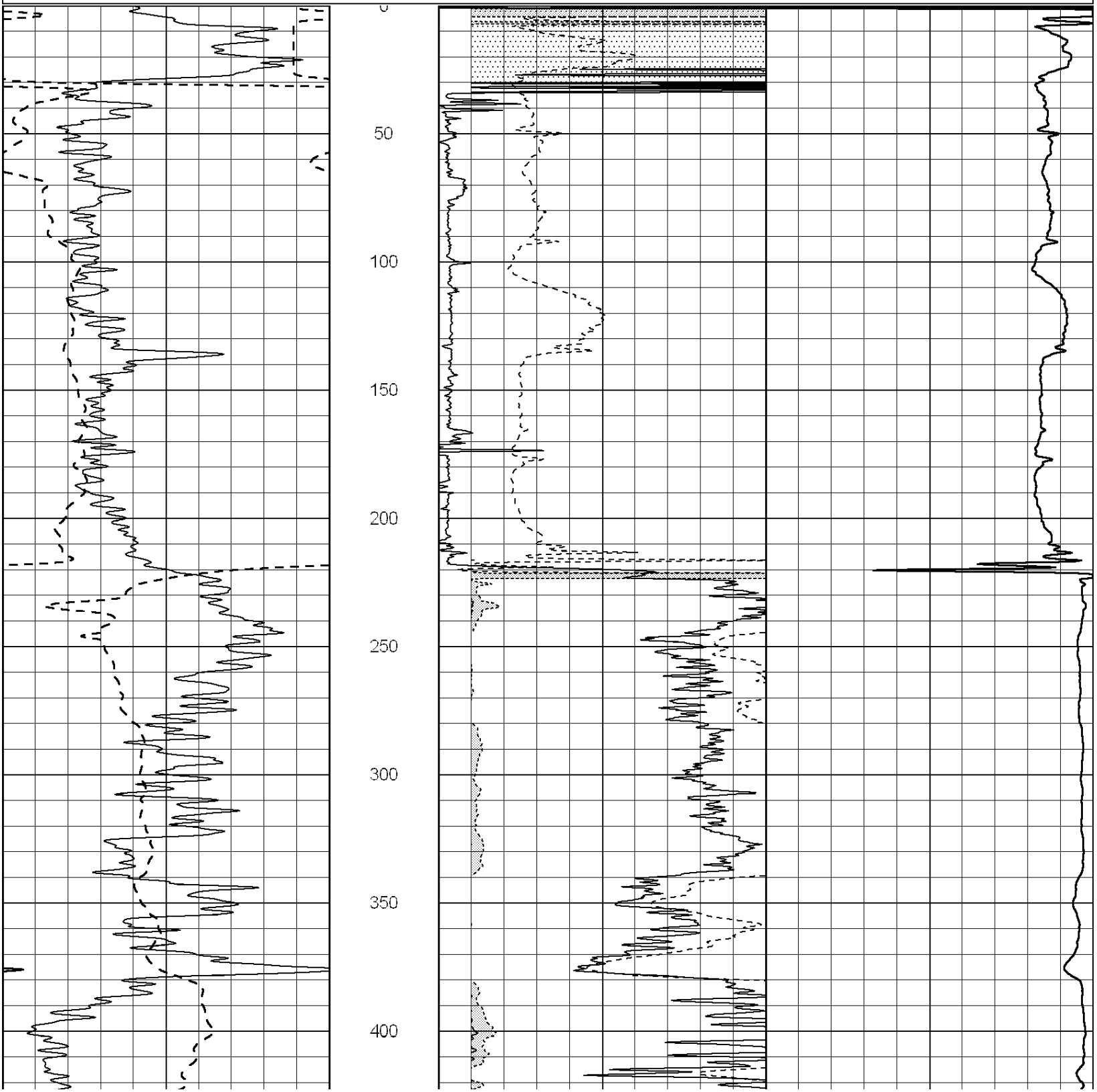
MAIN SECTION

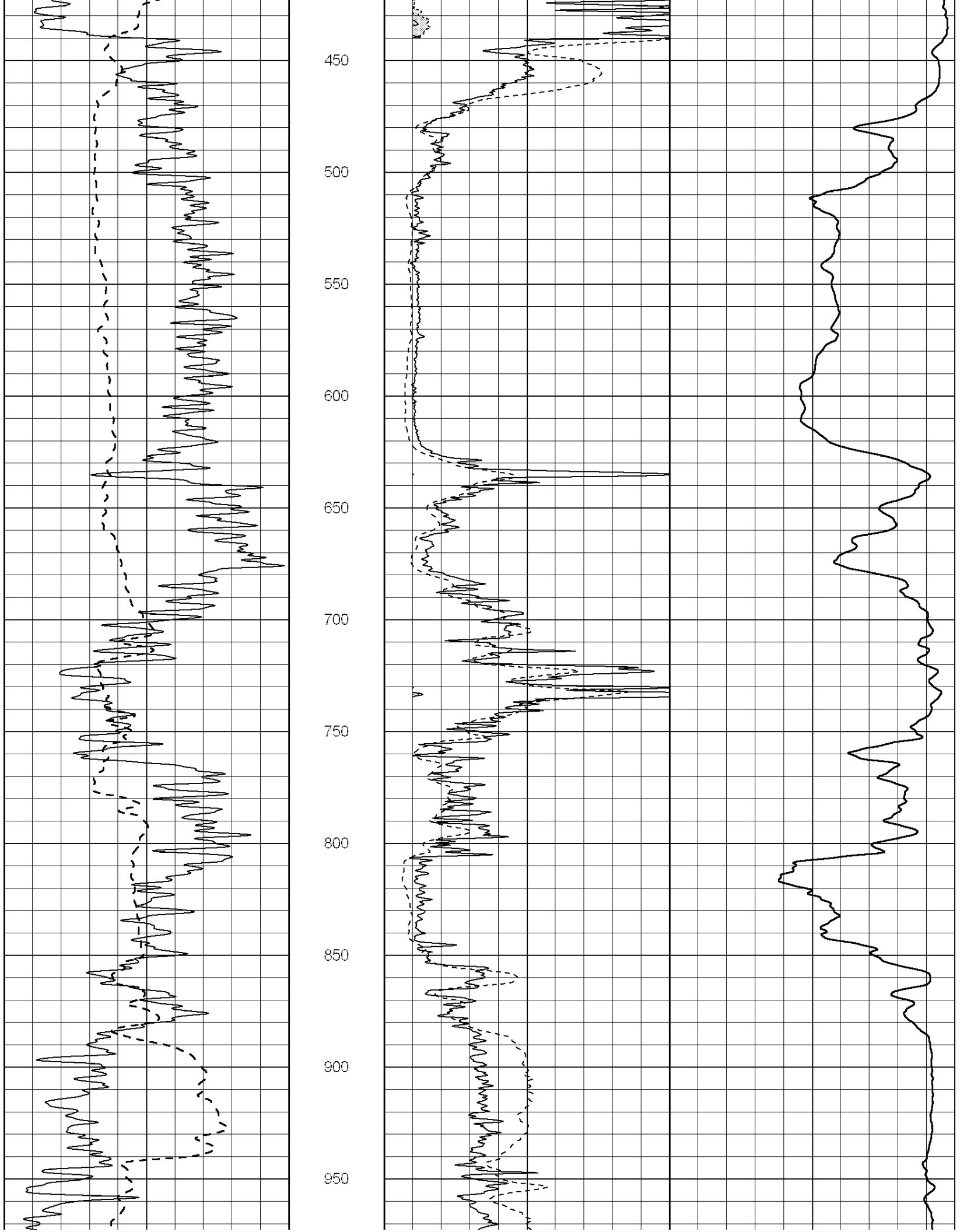
NABORS COMPLETION & PRODUCTION

SERVICES CO.

Database File: 012043ddn.db
Dataset Pathname: pass3.1A
Presentation Format: _dil2
Dataset Creation: Sat Nov 23 06:43:24 2013
Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
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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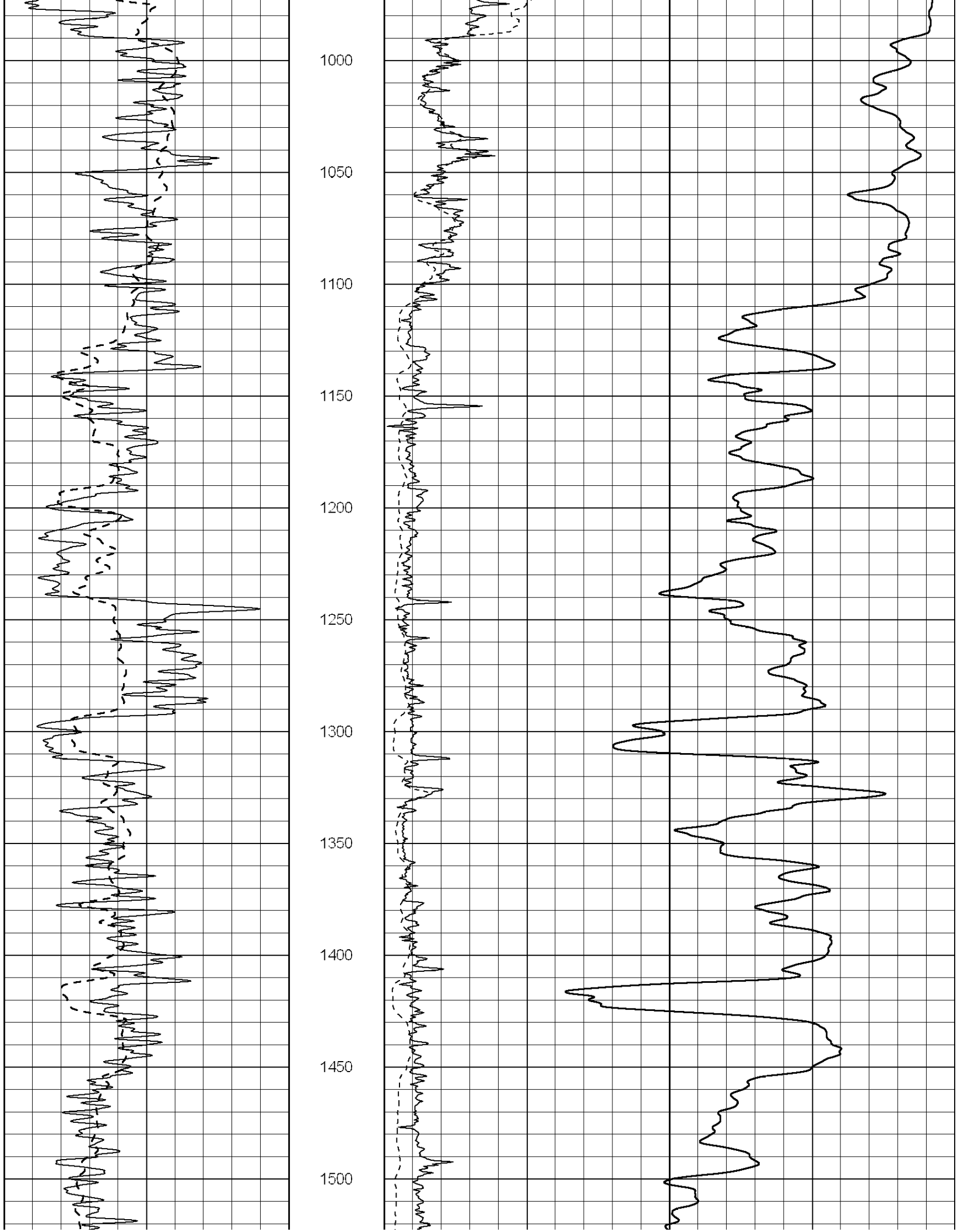
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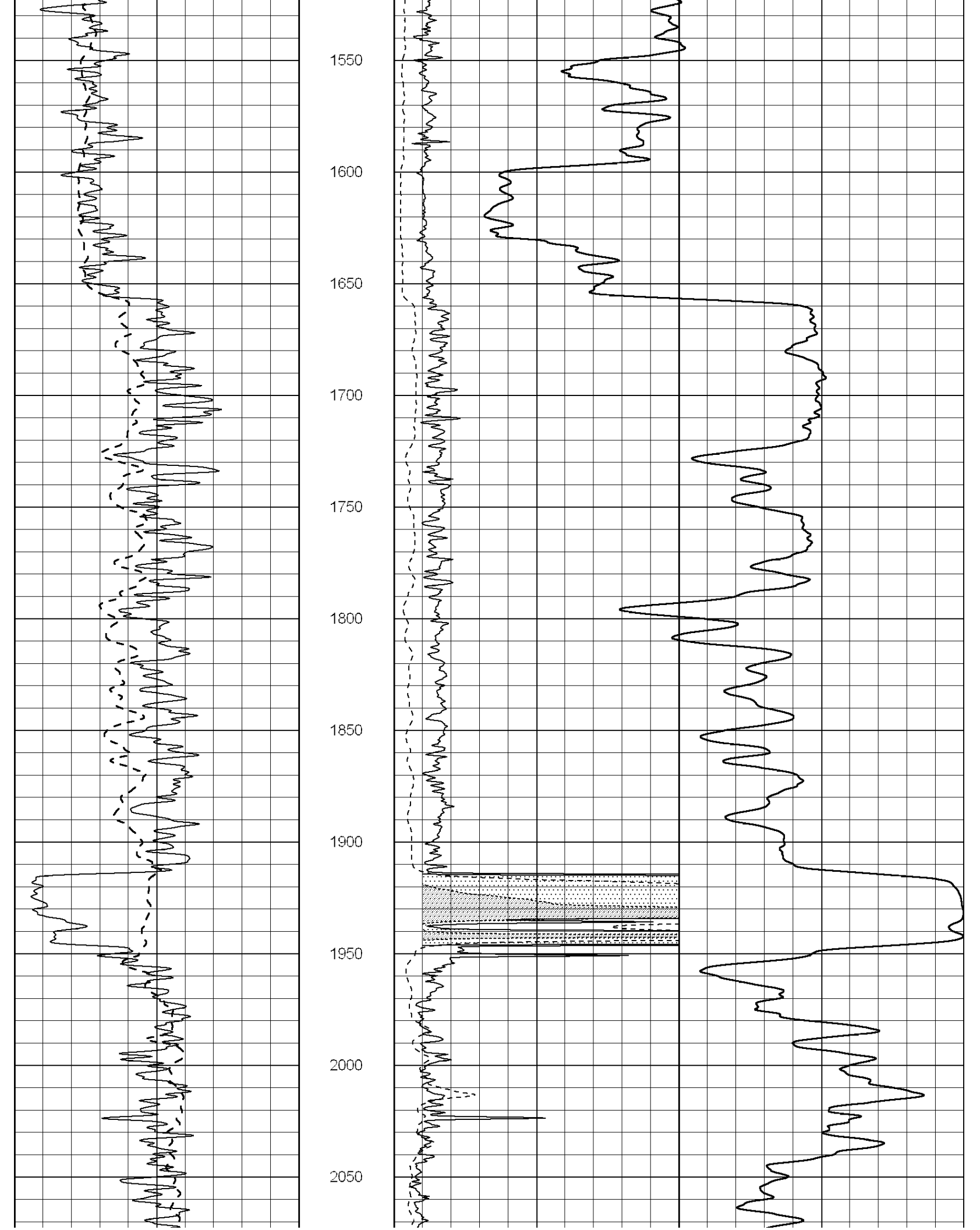
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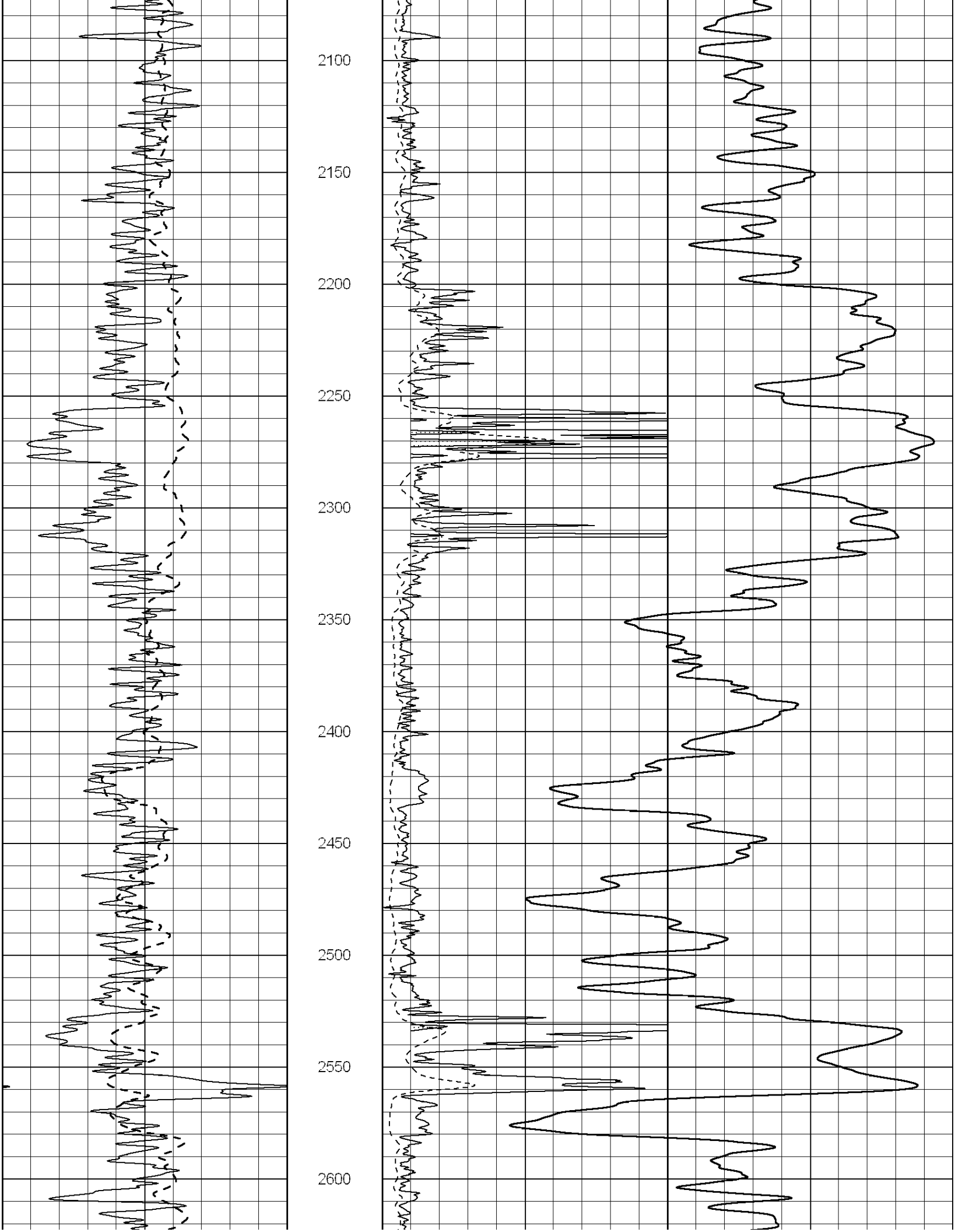
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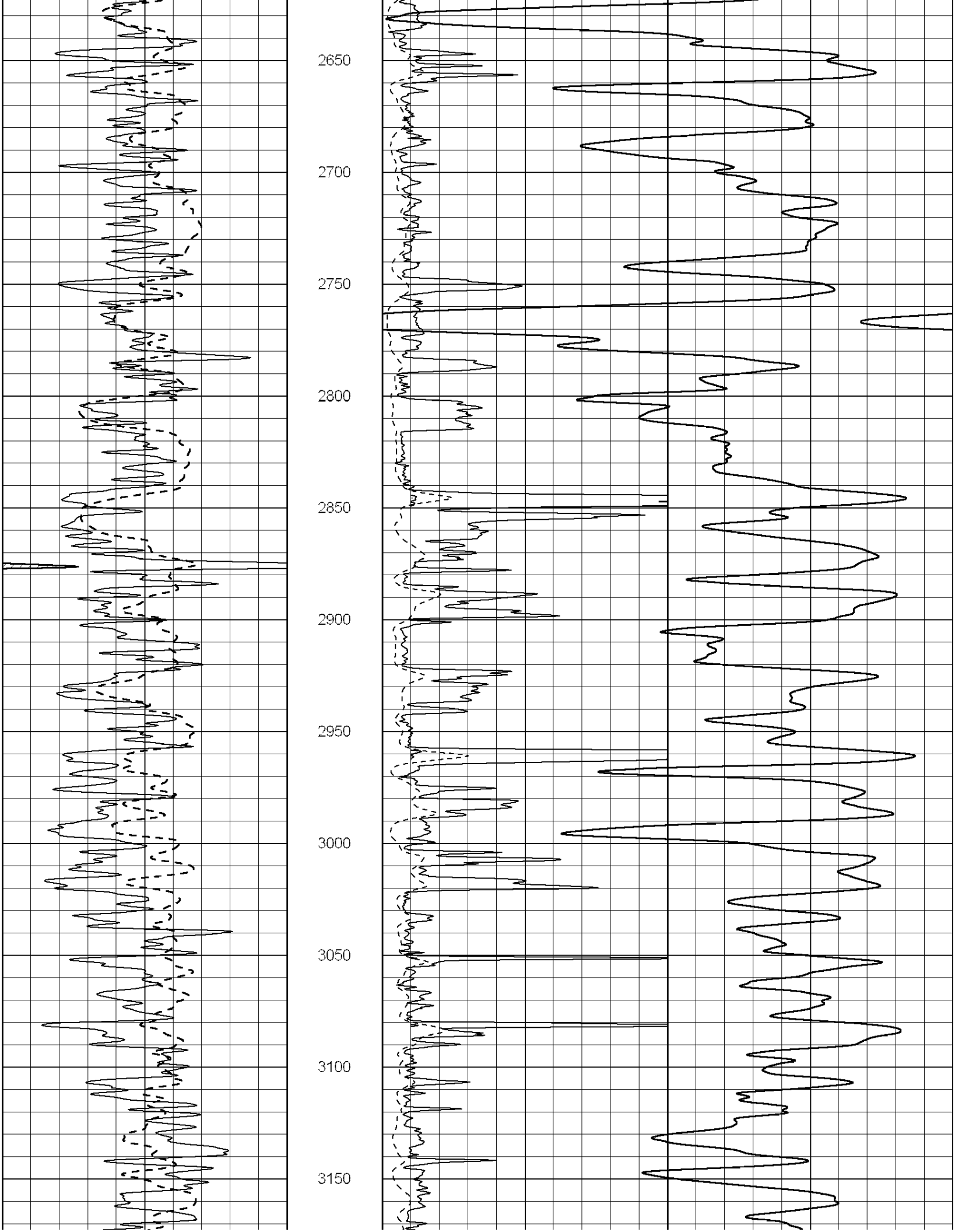
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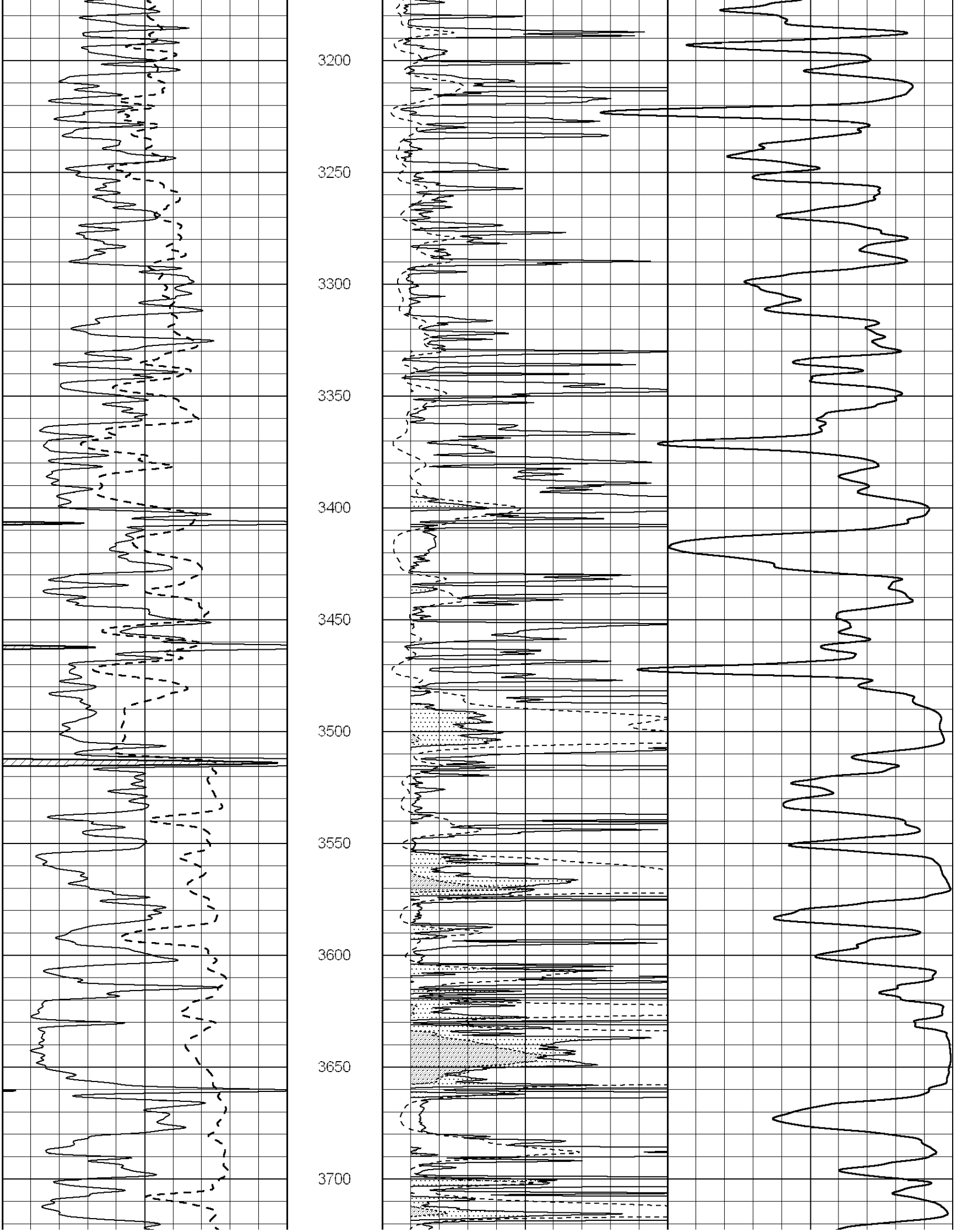
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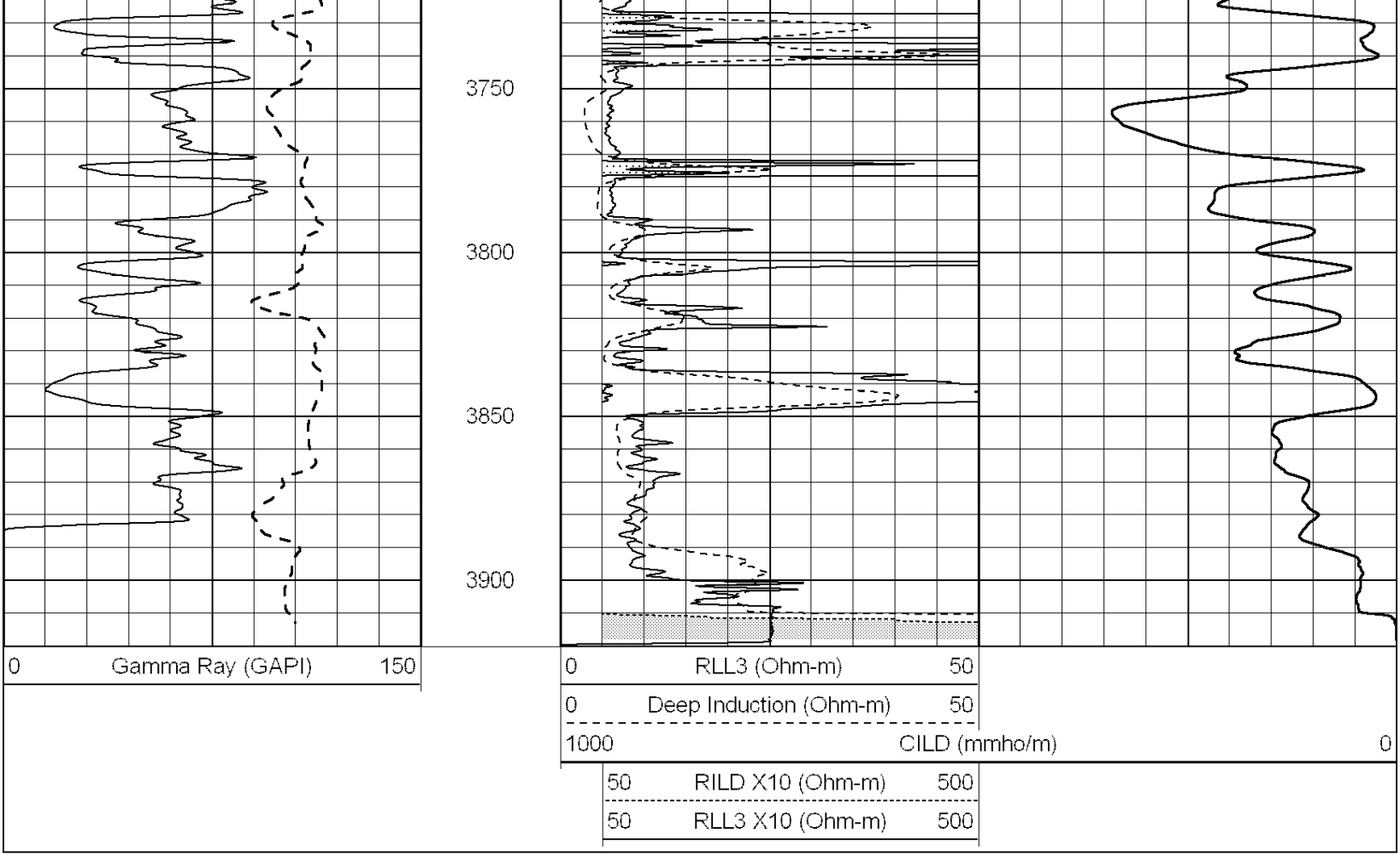


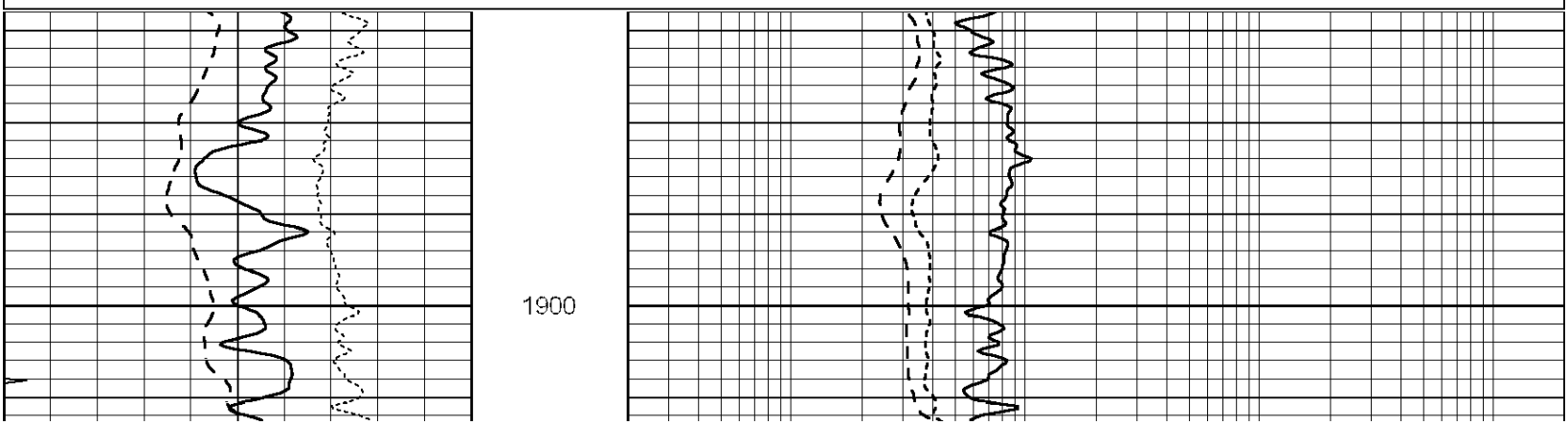
NABORS
COMPLETION & PRODUCTION SERVICES CO.

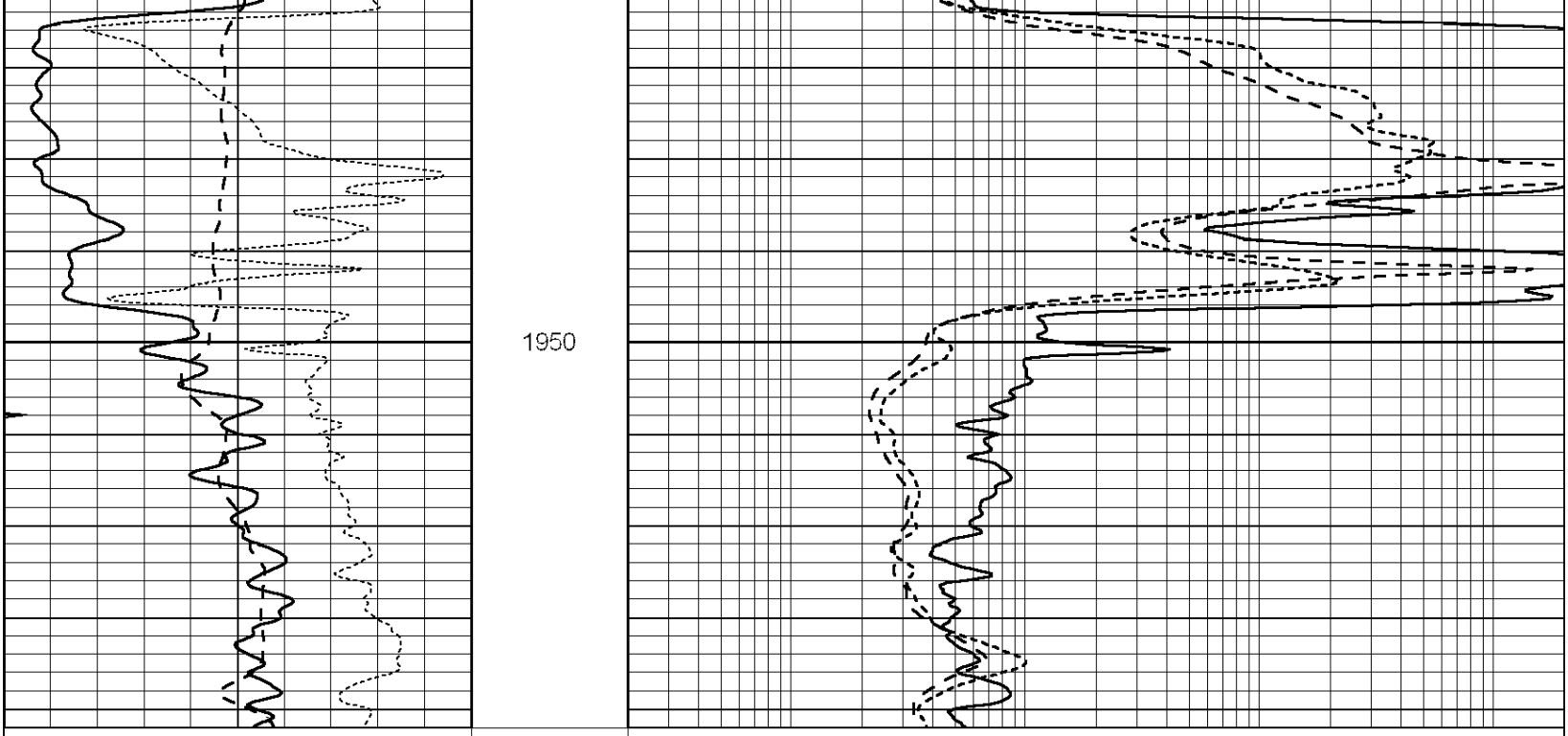
MAIN SECTION

Database File: 012043ddn.db
Dataset Pathname: pass3.1A
Presentation Format: _dil
Dataset Creation: Sat Nov 23 06:43:24 2013
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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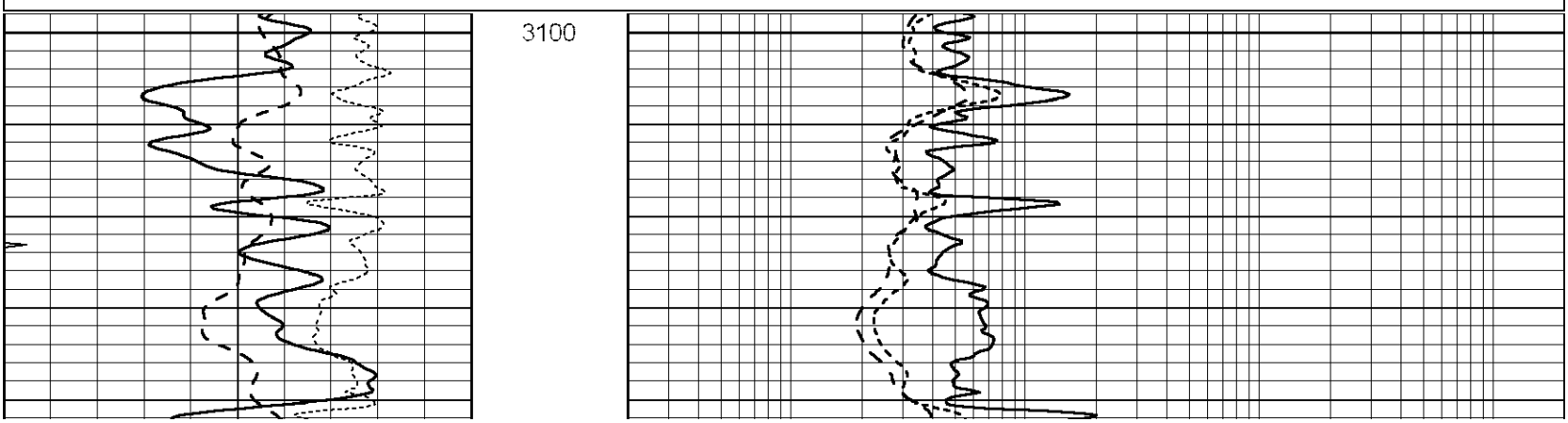
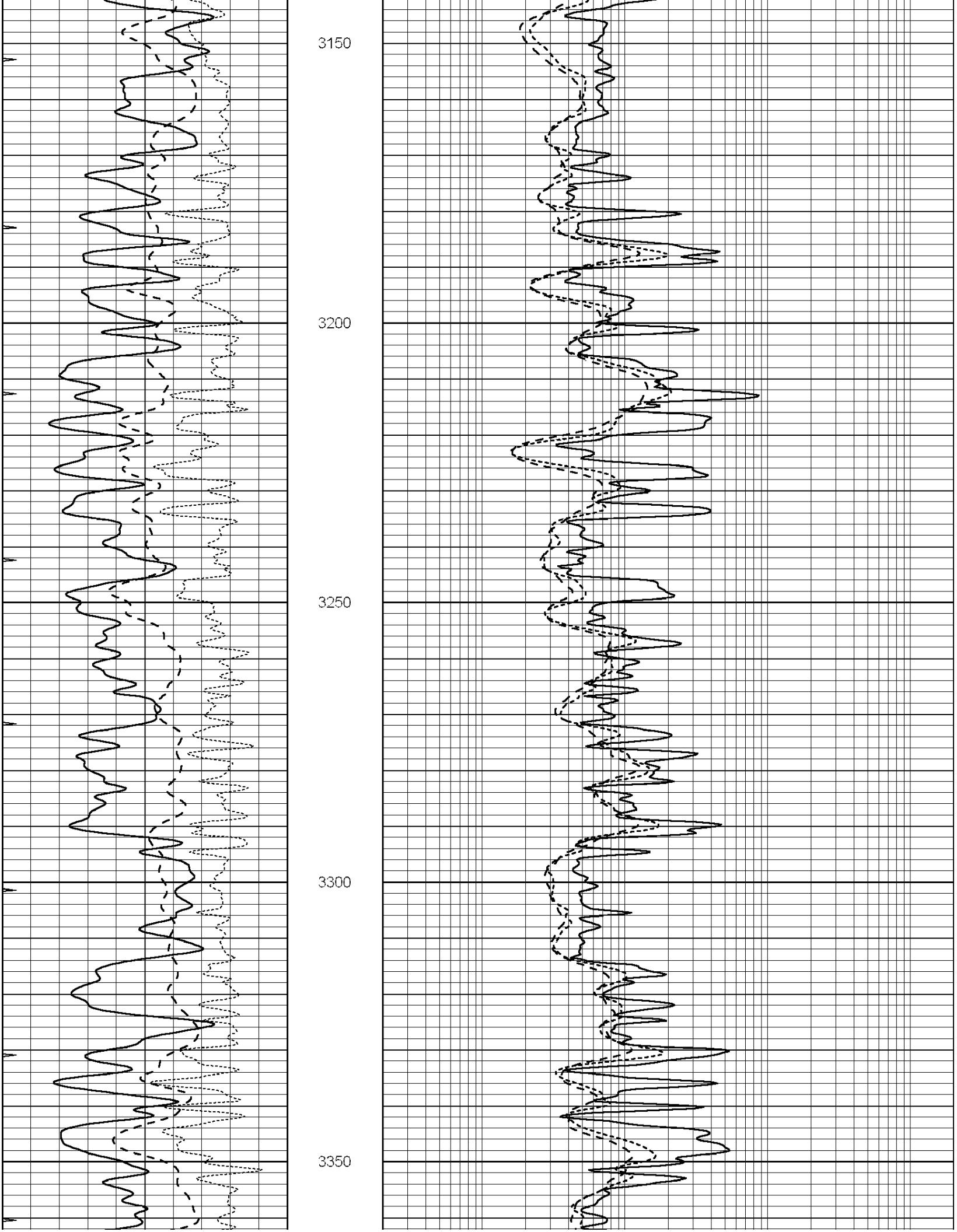
MAIN SECTION

Database File: 012043ddn.db
Dataset Pathname: pass3.1A
Presentation Format: _dil
Dataset Creation: Sat Nov 23 06:43:24 2013
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

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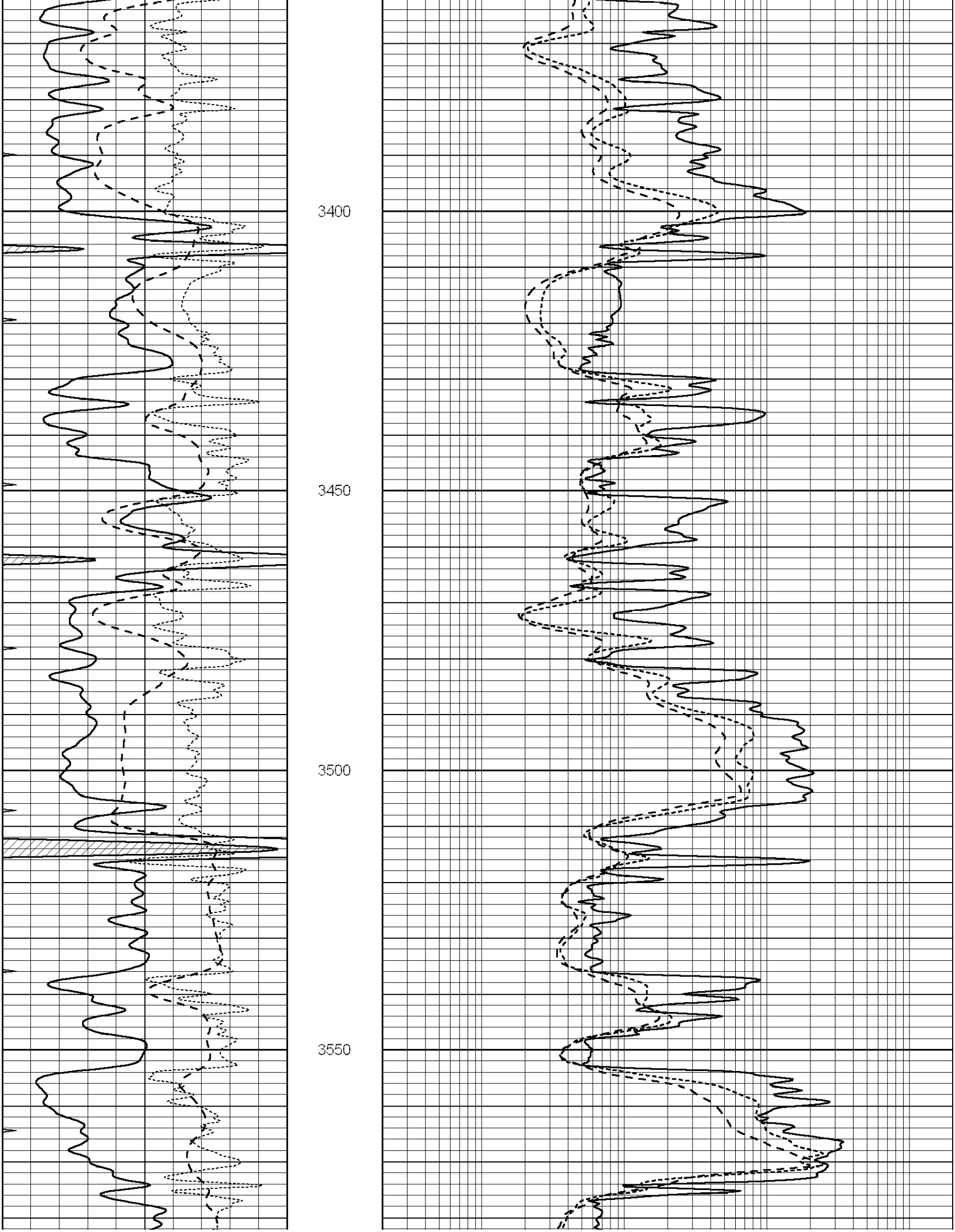
3250
3300
3350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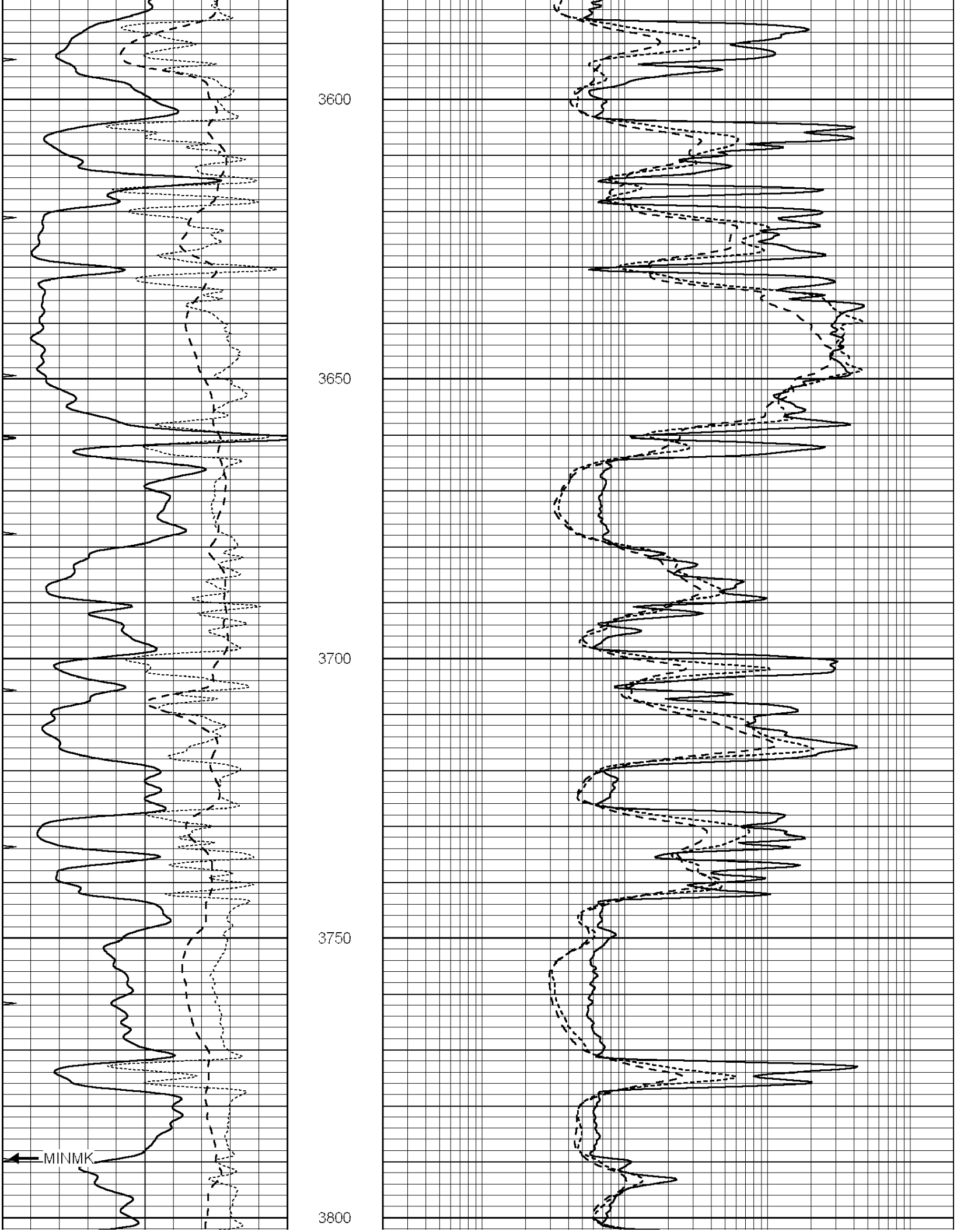
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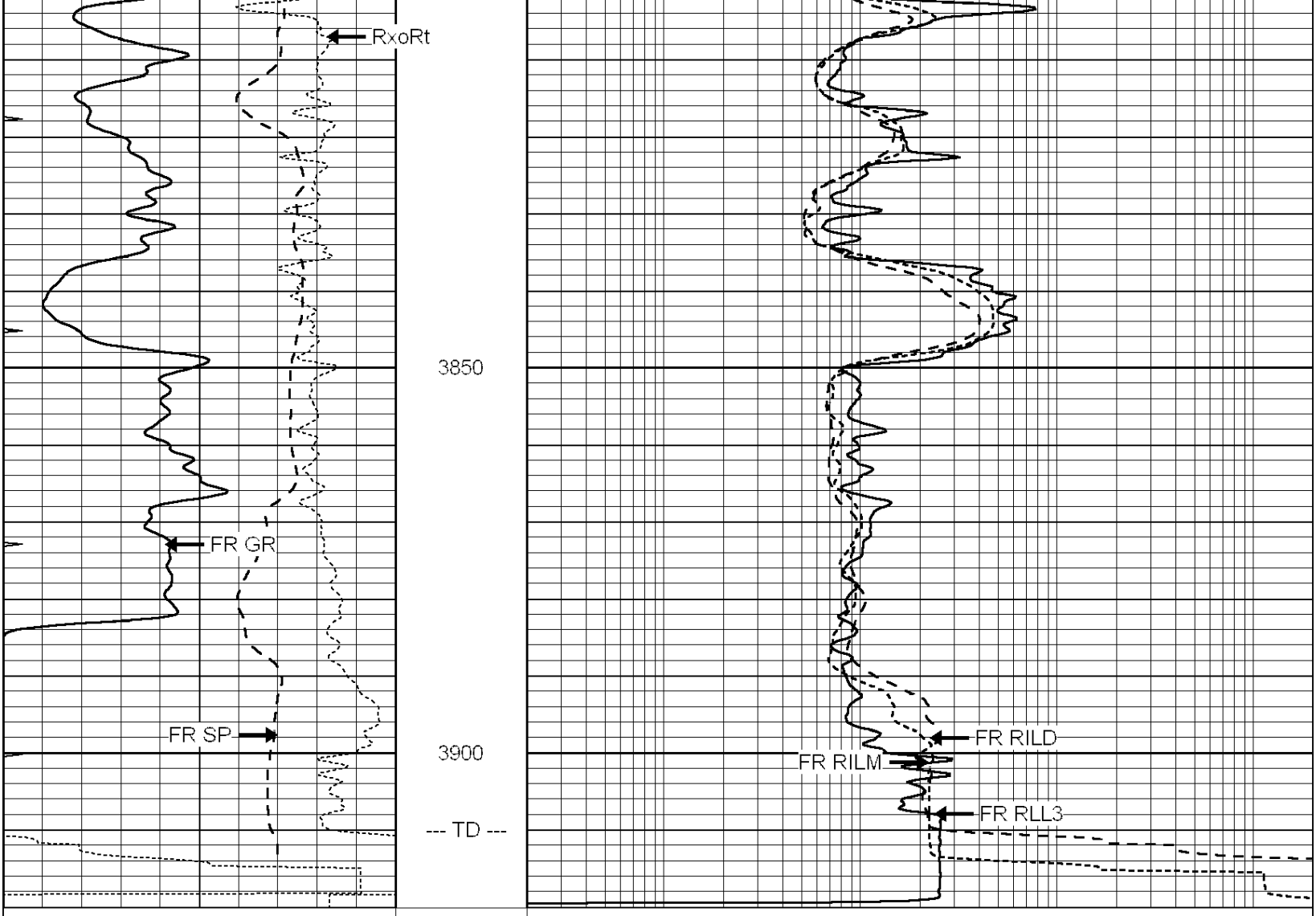
3700
3750
MINMK
3800



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

NABORS
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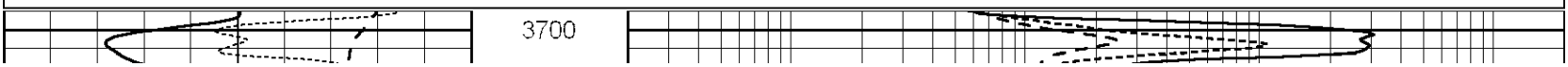
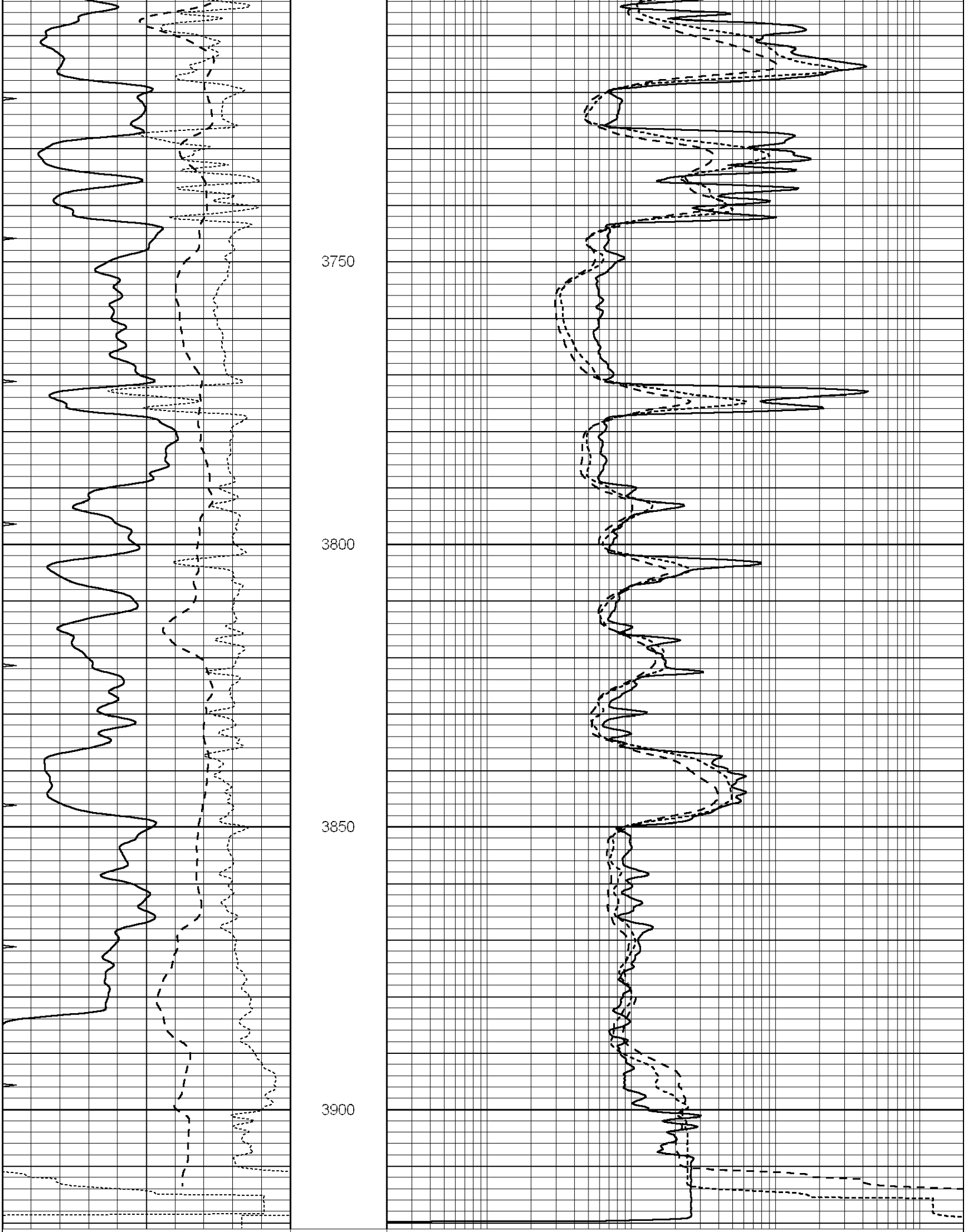
REPEAT SECTION

Database File: 012043ddn.db
Dataset Pathname: pass2A
Presentation Format: _dil
Dataset Creation: Sat Nov 23 06:59:24 2013 by Calc Open-Cased 090629
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




3750
3800
3850
3900
0
GAMMA RAY (GAPI)
150
0.2
RLL3 (Ohm.m)
2000

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

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

Calibration Report

Database File: 012043ddn.db
Dataset Pathname: pass3.1A
Dataset Creation: Sat Nov 23 06:43:24 2013

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
Performed: Sat Nov 23 06:00:54 2013

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	500.000	3.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	580.000	5.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.002	0.645	V	0.000	400.000	mmho/m	560.000	-1.071
Medium	0.007	0.740	V	0.000	462.500	mmho/m	540.000	-4.000

Compensated Density Calibration Report

Serial-Model: GEAR1-GEARHART
Source / Verifier: 147 / 147
Master Calibration Performed: Sat Nov 23 06:00:12 2013

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1205.77	610.74	cps
Aluminum	2.580	g/cc	271.21	419.72	cps

Spine Angle = 75.89 Density/Spine Ratio = 0.566

	Size		Reading	
Small Ring	8.20	in	4.83	V
Large Ring	14.00	in	7.01	V

Compensated Neutron Calibration Report

Serial Number: NEU_4I
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: Sat Nov 23 06:23:14 2013

Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.9200	GAPI/cps