NABORS
COMPLETION & PRODUCTION SERVICES CO.

DUAL INDUCTION LOG

Company MAI OIL OPERATIONS, INC.
Well FLEGLER "C" #4
Field TRAPP
County RUSSELL State KANSAS

Location: API # : 15-167-23914-00-00
330' FSL & 2000' FEL
SEC 11 TWP 15S RGE 14W

Other Services
CDL/CNL
MEL

Permanent Datum GROUND LEVEL Elevation 1857
Log Measured From KELLY BUSHING 8' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1865
D.F. 1863
G.L. 1857

Date	11/19/13		
Run Number	ONE		
Depth Driller	3381		
Depth Logger	3382		
Bottom Logged Interval	3380		
Top Log Interval	2400		
Casing Driller	8 5/8 " @ 518'		
Casing Logger	518'		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 5800	
Density / Viscosity	9.3 / 50		
pH / Fluid Loss	11.0 / 7.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.60 @ 60F		
Rmf @ Meas. Temp	0.45 @ 60F		
Rmc @ Meas. Temp	0.72 @ 60F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	0.33 @ 110F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	110F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	JEFF GRONEWEG		
Witnessed By	KURT TALBOTT	WYATT URBAN	

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Comments

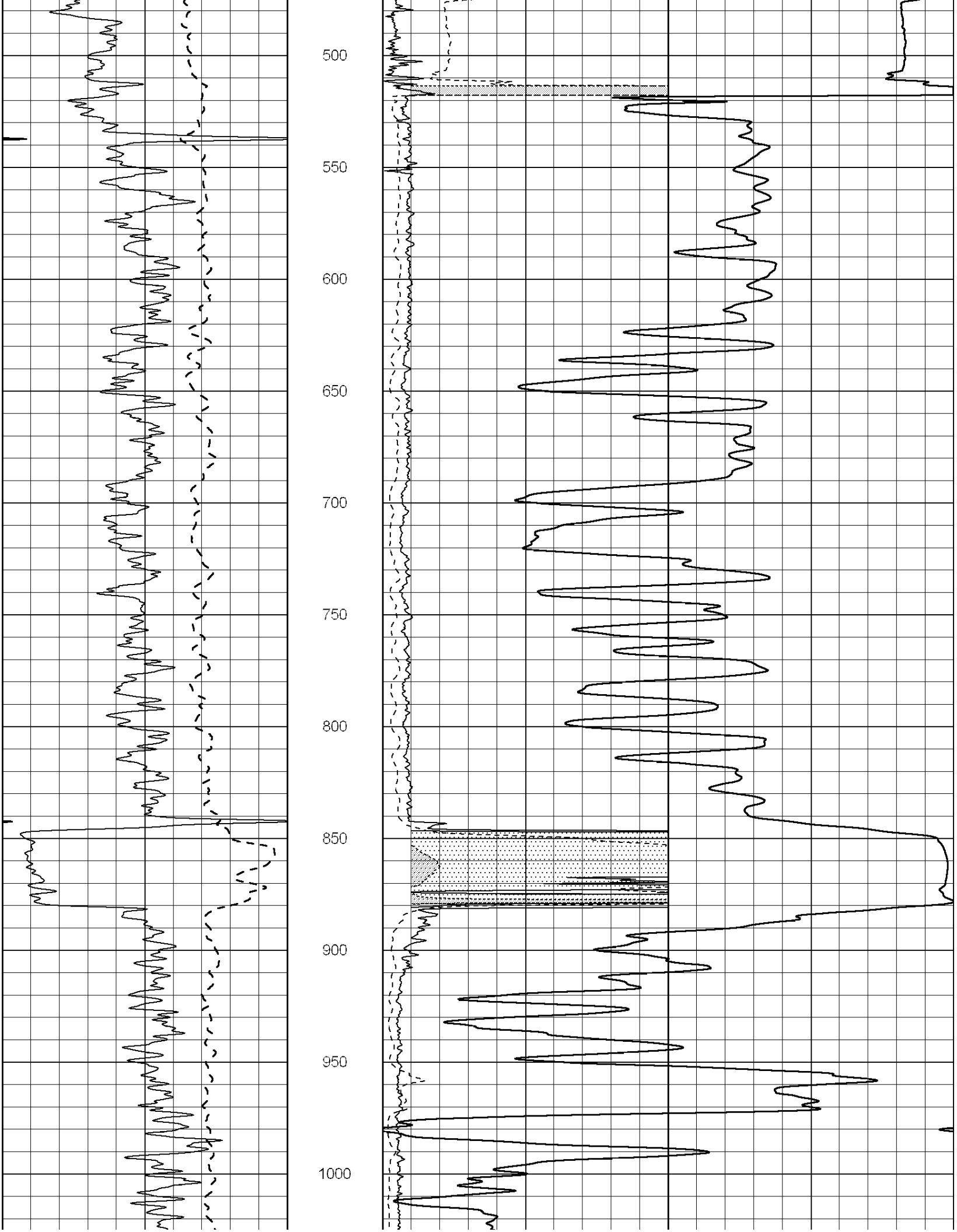
NABORS COMPLETION & PRODUCTION SERVICES
785-628-6395
THANK YOU FOR YOUR BUSINESS
DIRECTIONS: RUSSELL, KS - 9 MILES SOUTH TO WALTERS RD
1 EAST TO CURVE - 1/2 SOUTH - WEST INTO

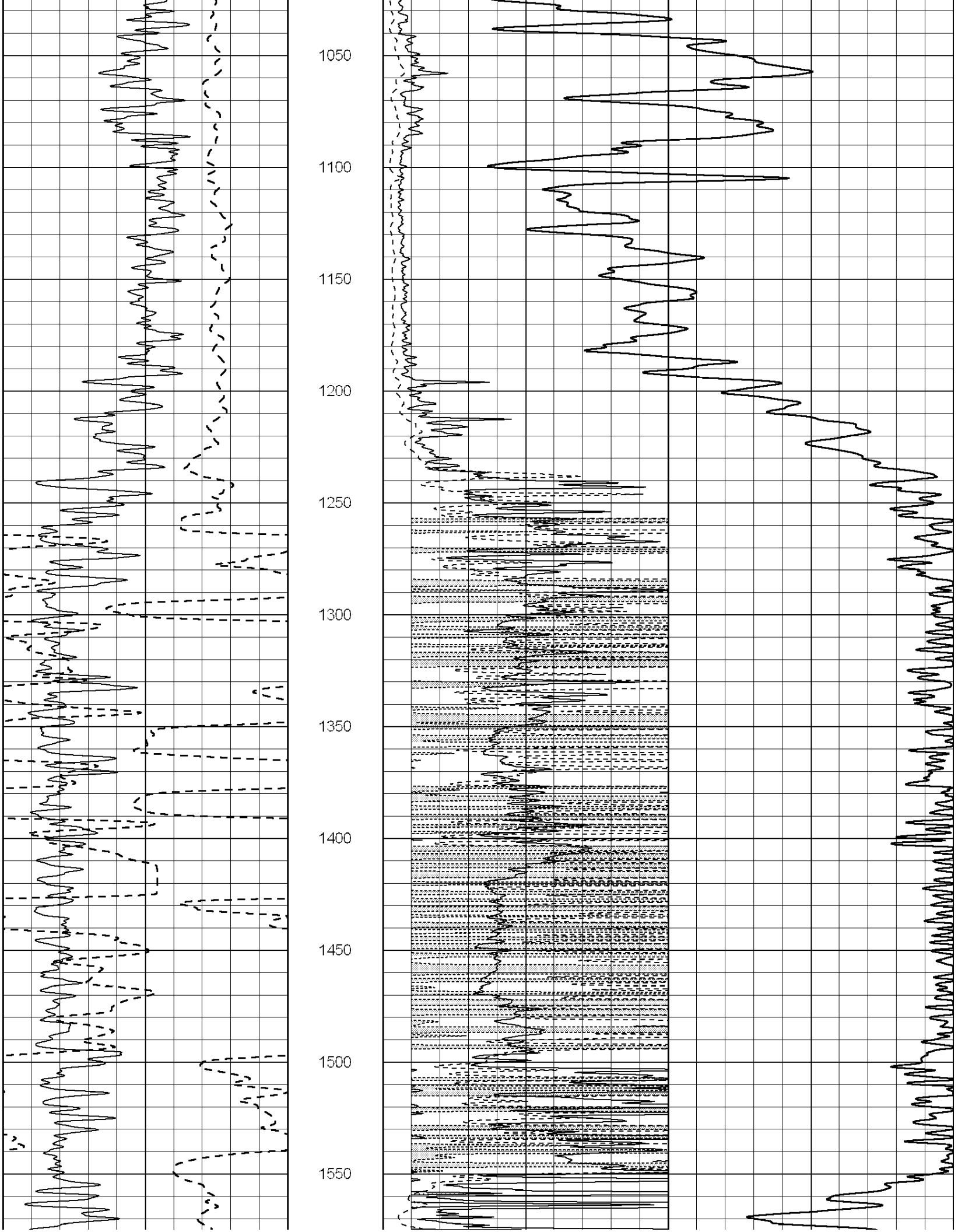
Database File: 012041ddn.db
Dataset Pathname: pass3.3
Presentation Format: _dil2
Dataset Creation: Tue Nov 19 13:58:10 2013

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


500
550
600
650
700
750
800
850
900
950
1000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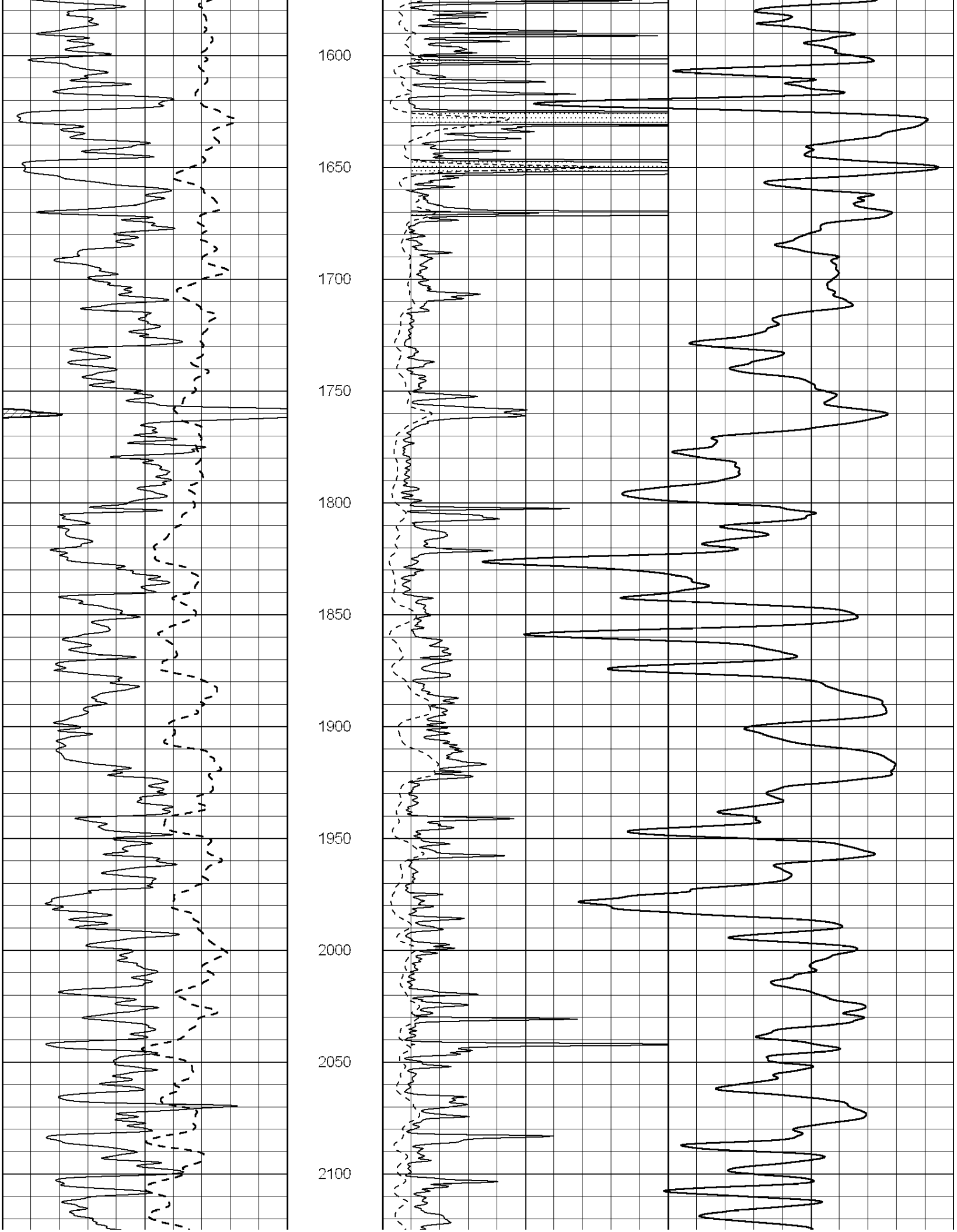
1100
1150
1200
1250
1300
1350
1400
1450
1500
1550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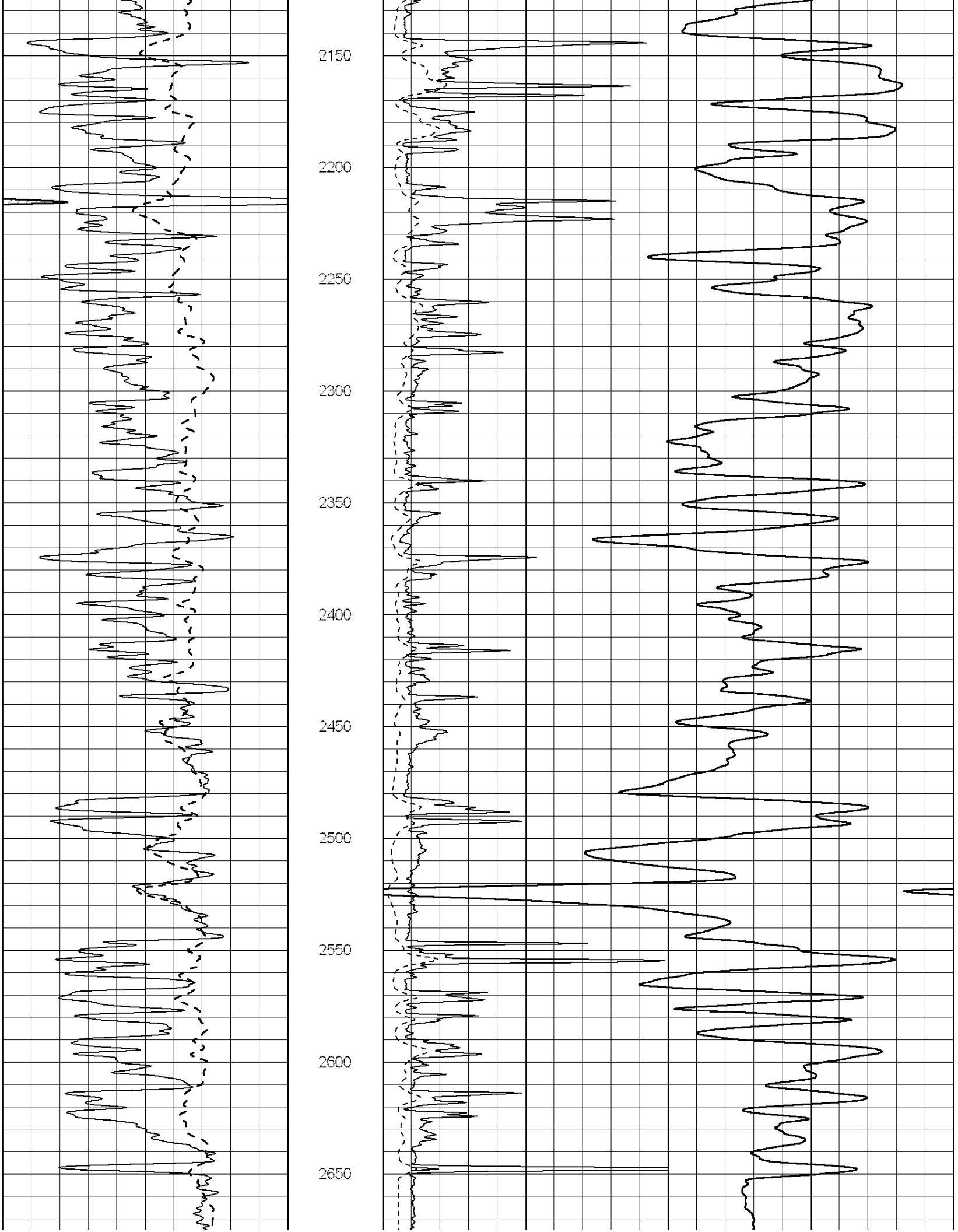
1650
1700
1750
1800
1850
1900
1950
2000
2050
2100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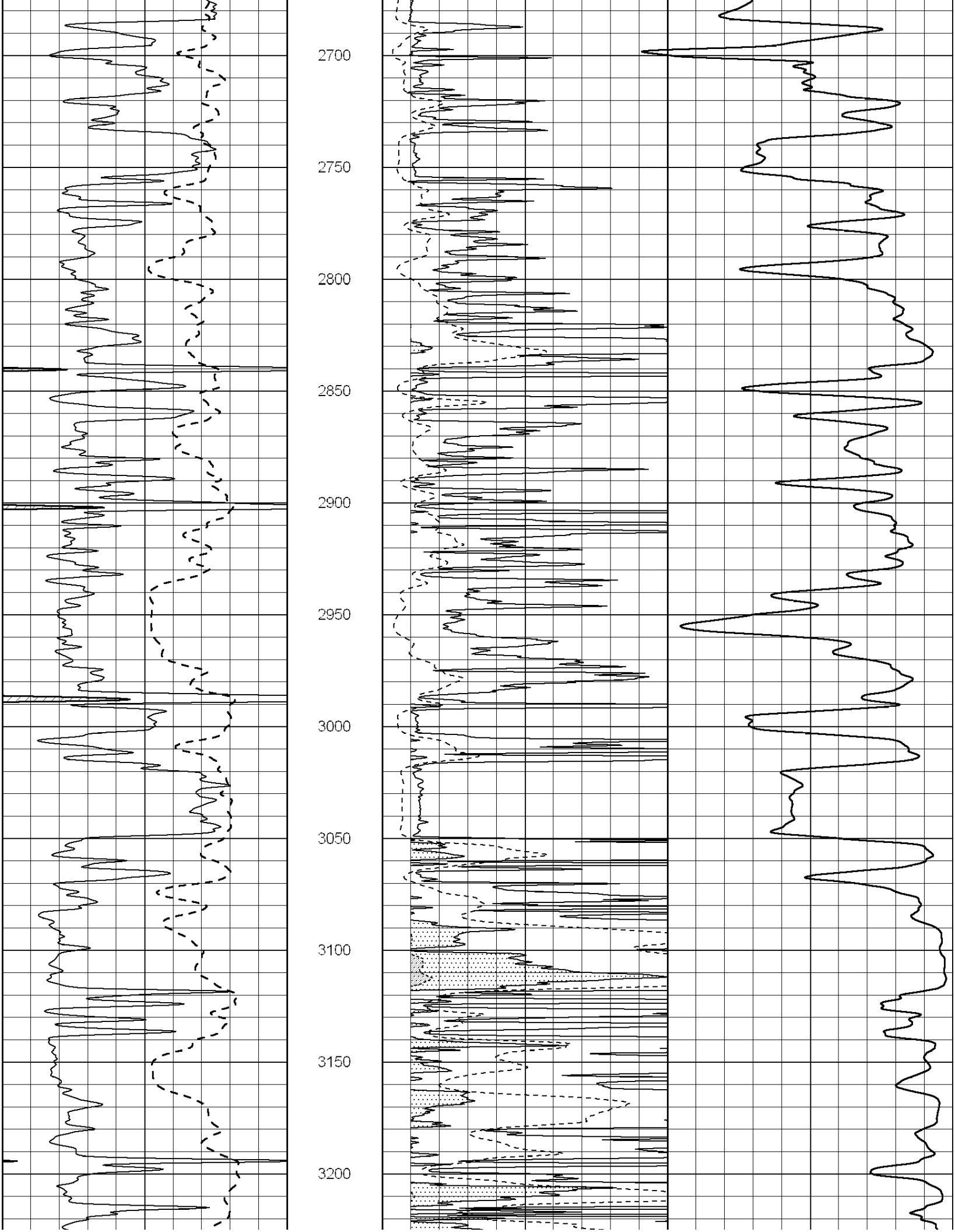
2200
2250
2300
2350
2400
2450
2500
2550
2600
2650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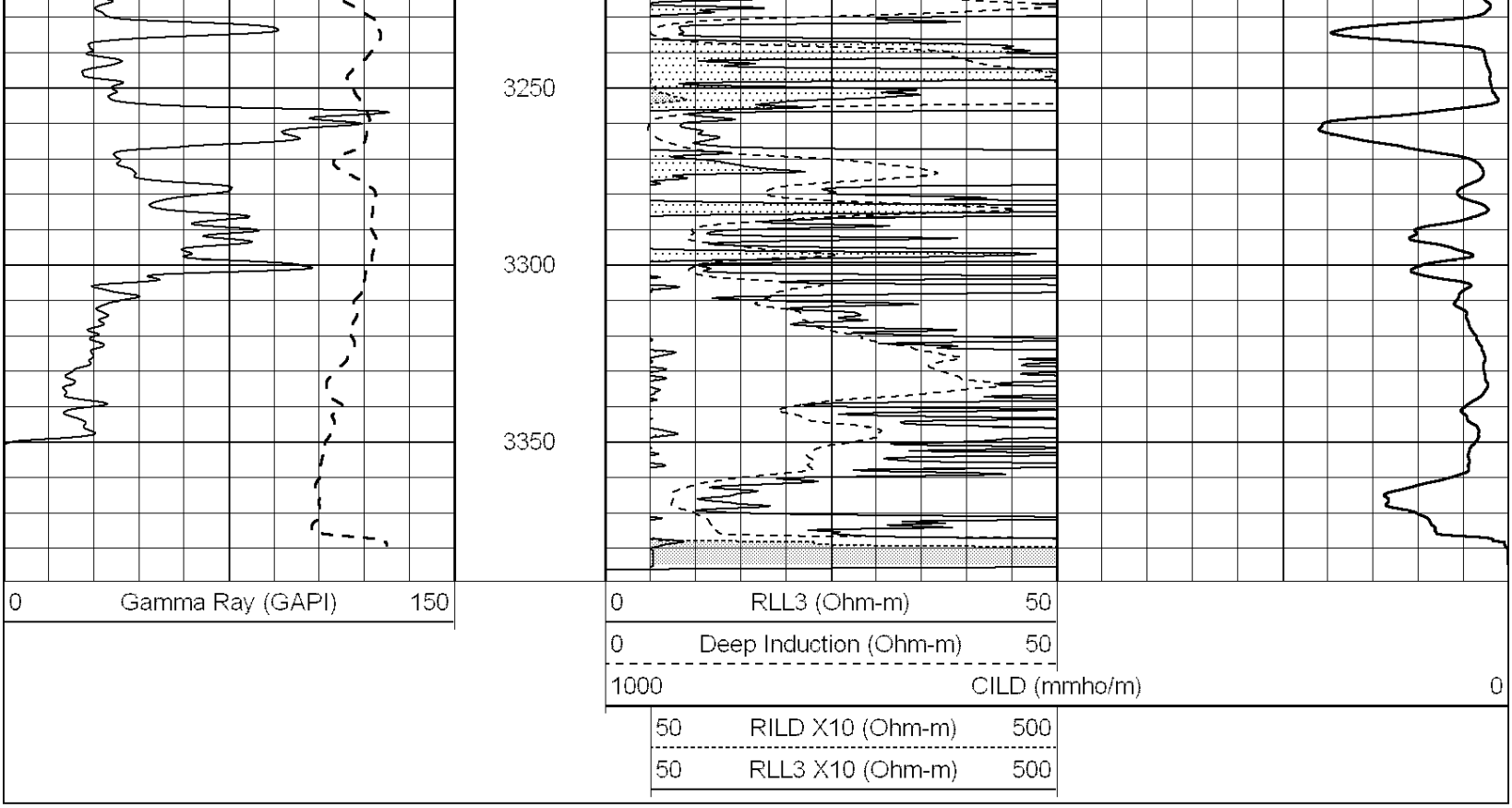
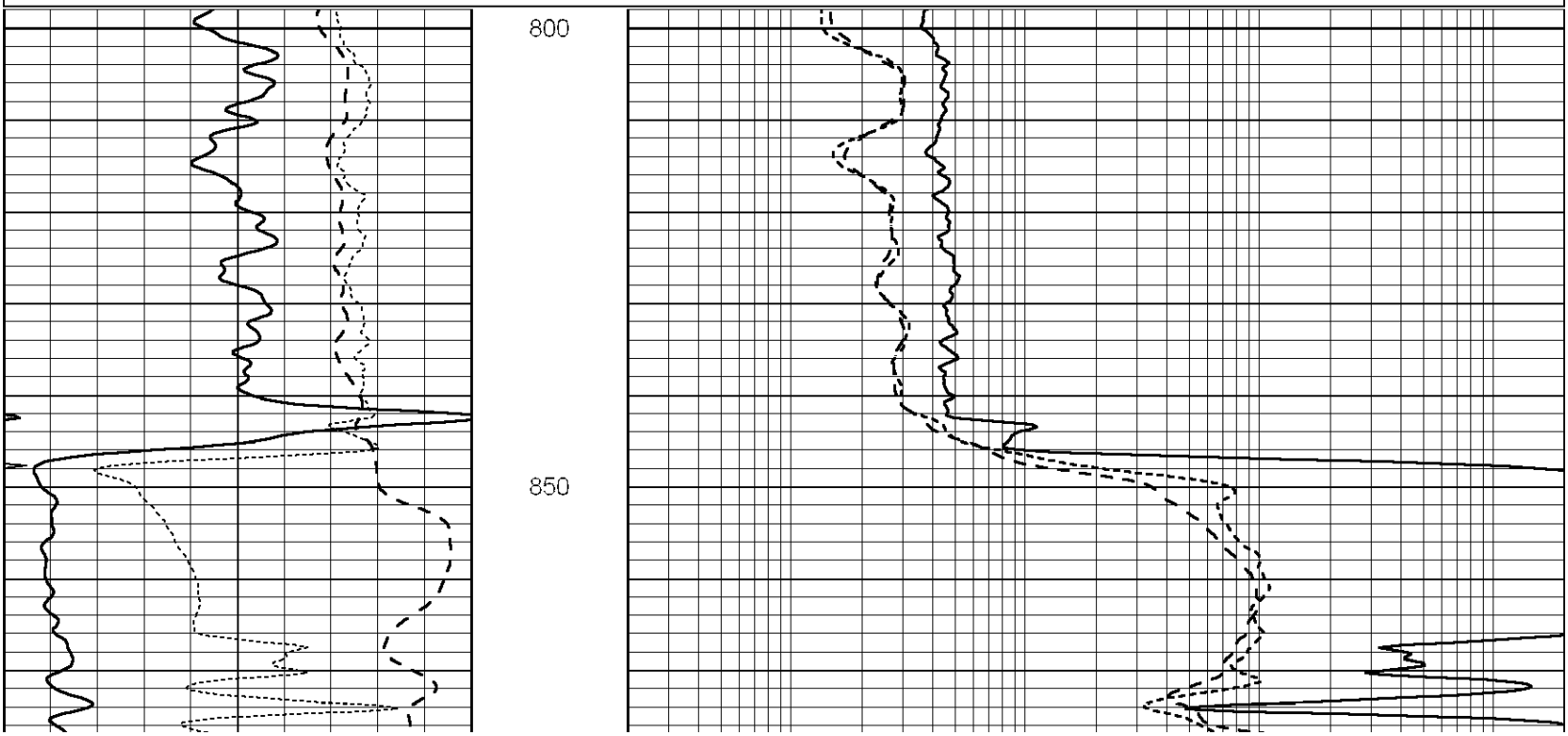
2750
2800
2850
2900
2950
3000
3050
3100
3150
3200

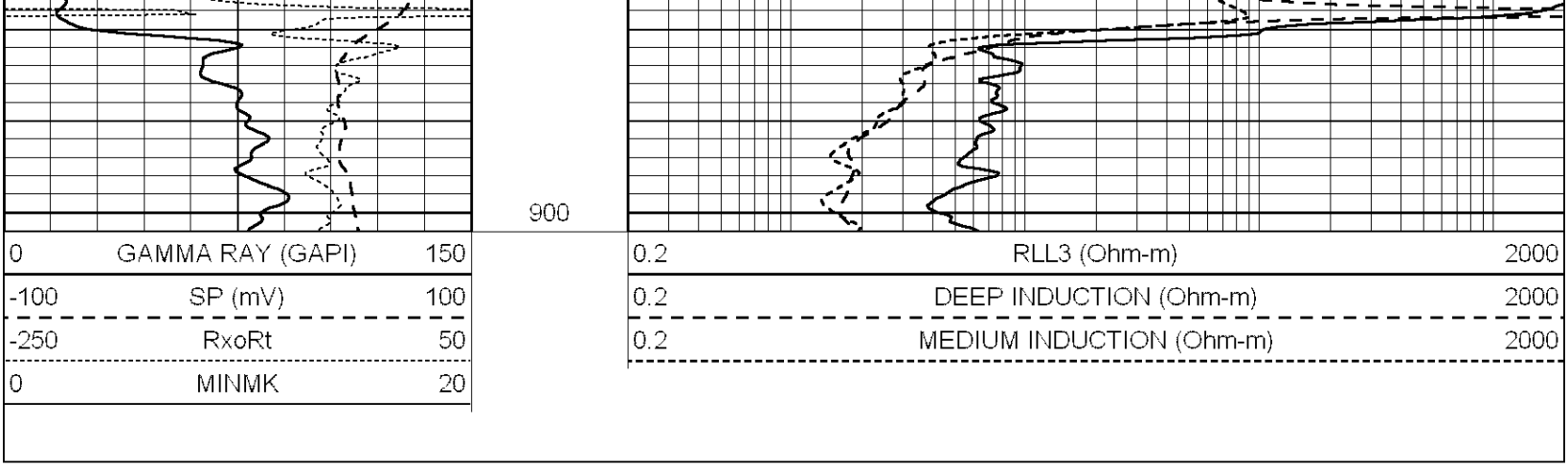


Database File: 012041ddn.db
Dataset Pathname: pass3.3
Presentation Format: _dil
Dataset Creation: Tue Nov 19 13:58:10 2013
Charted by: Depth in Feet scaled 1:240

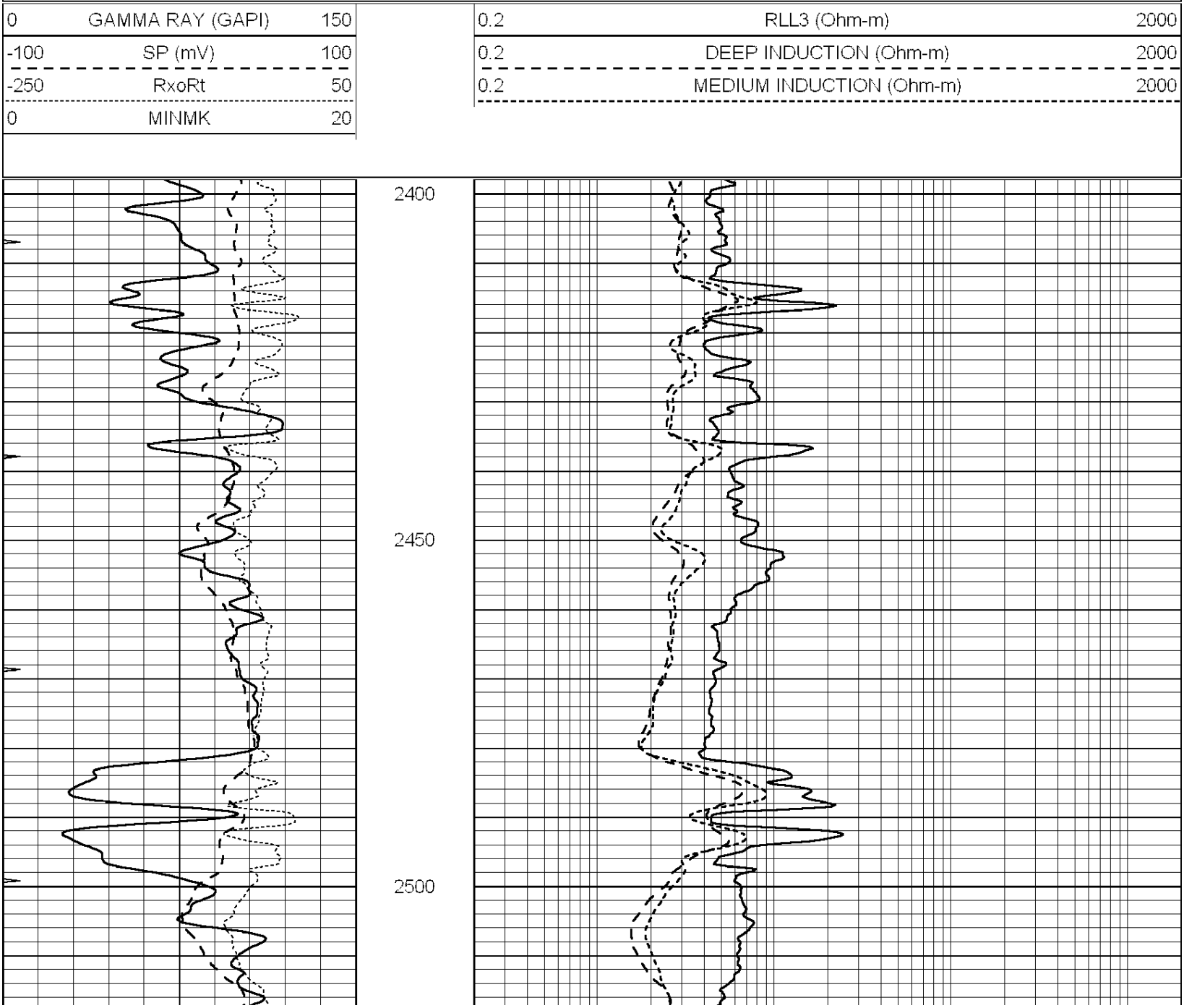
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

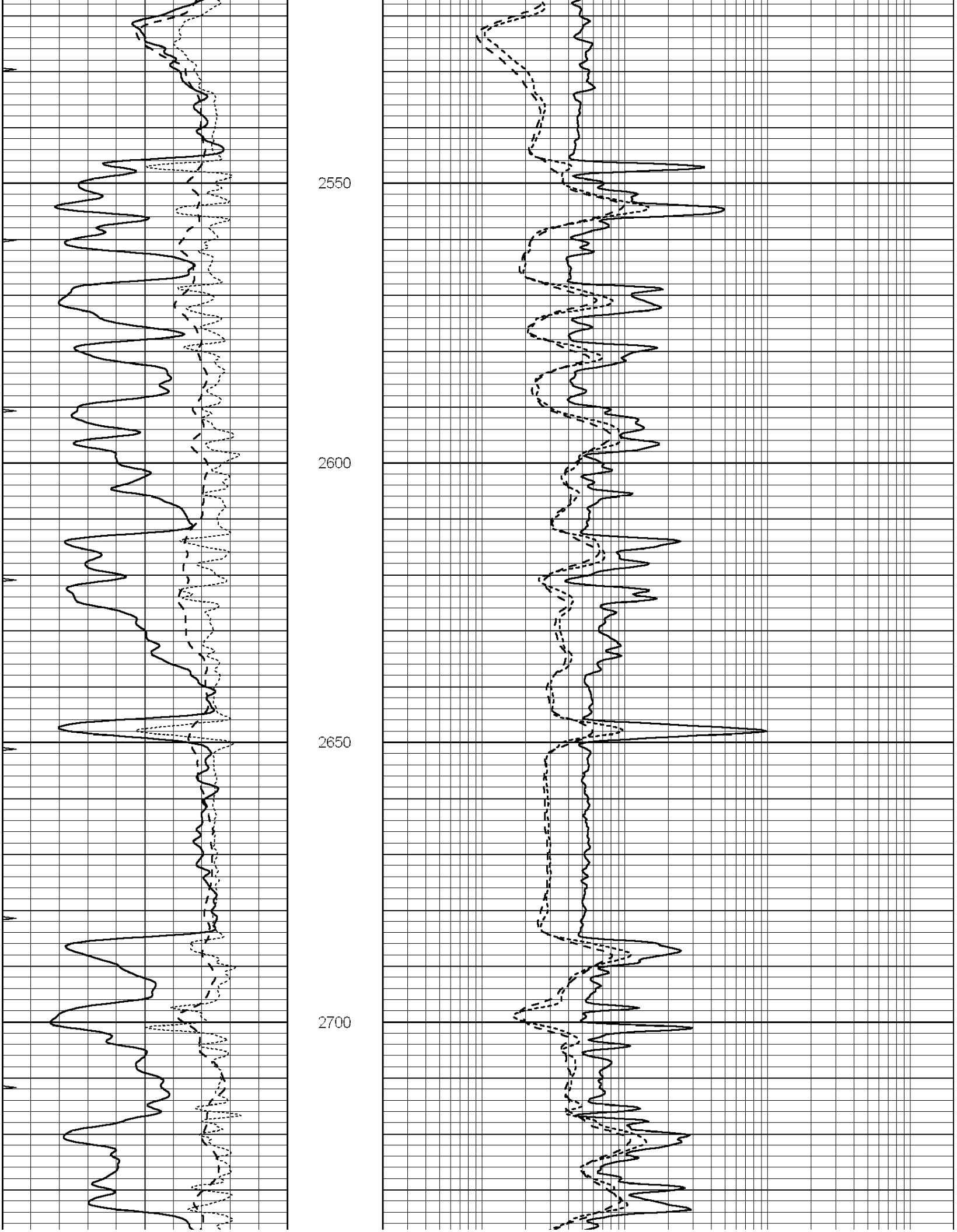
0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000





Database File: 012041ddn.db
Dataset Pathname: pass3.1
Presentation Format: _dil
Dataset Creation: Tue Nov 19 13:13:28 2013
Charted by: Depth in Feet scaled 1:240

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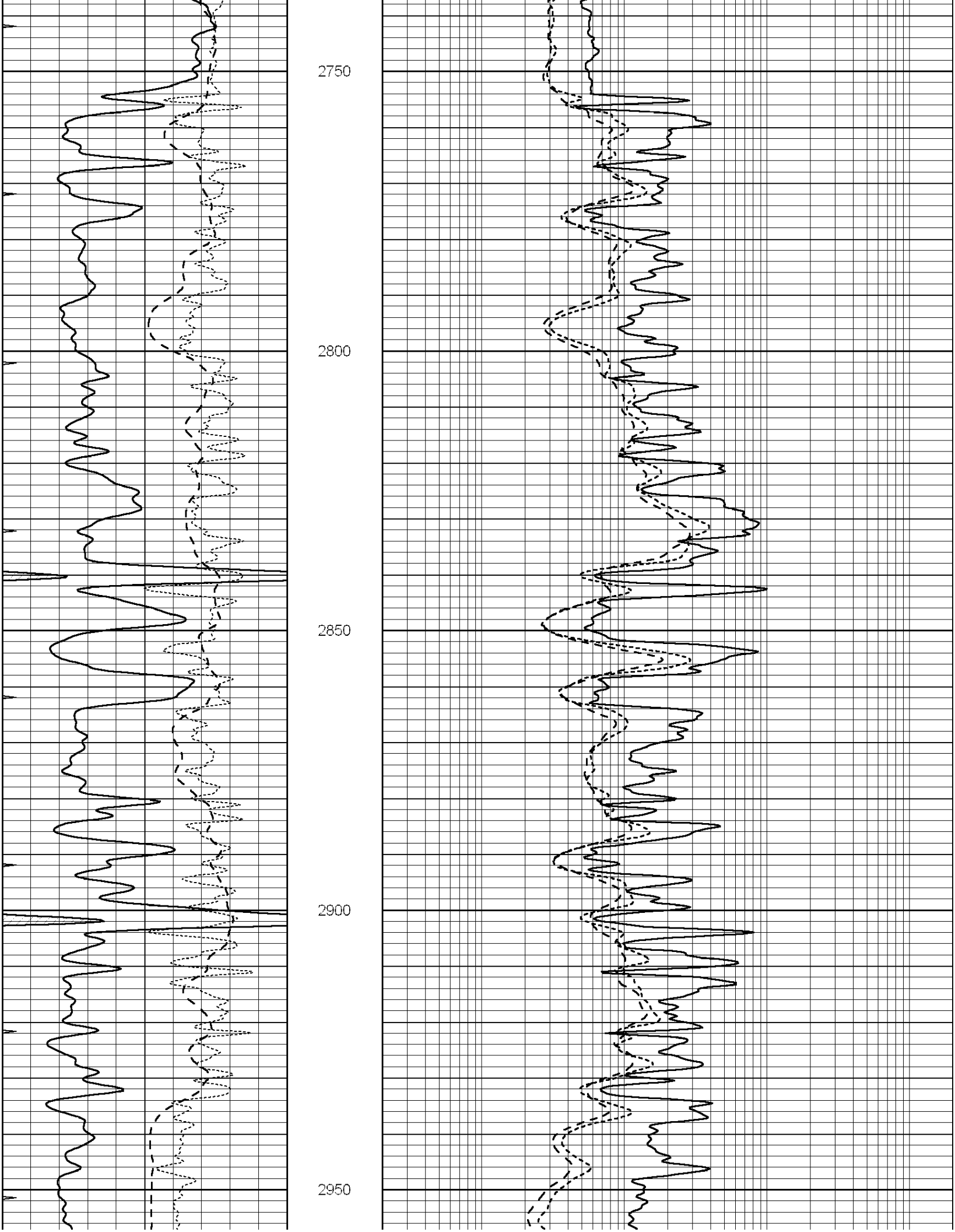
2700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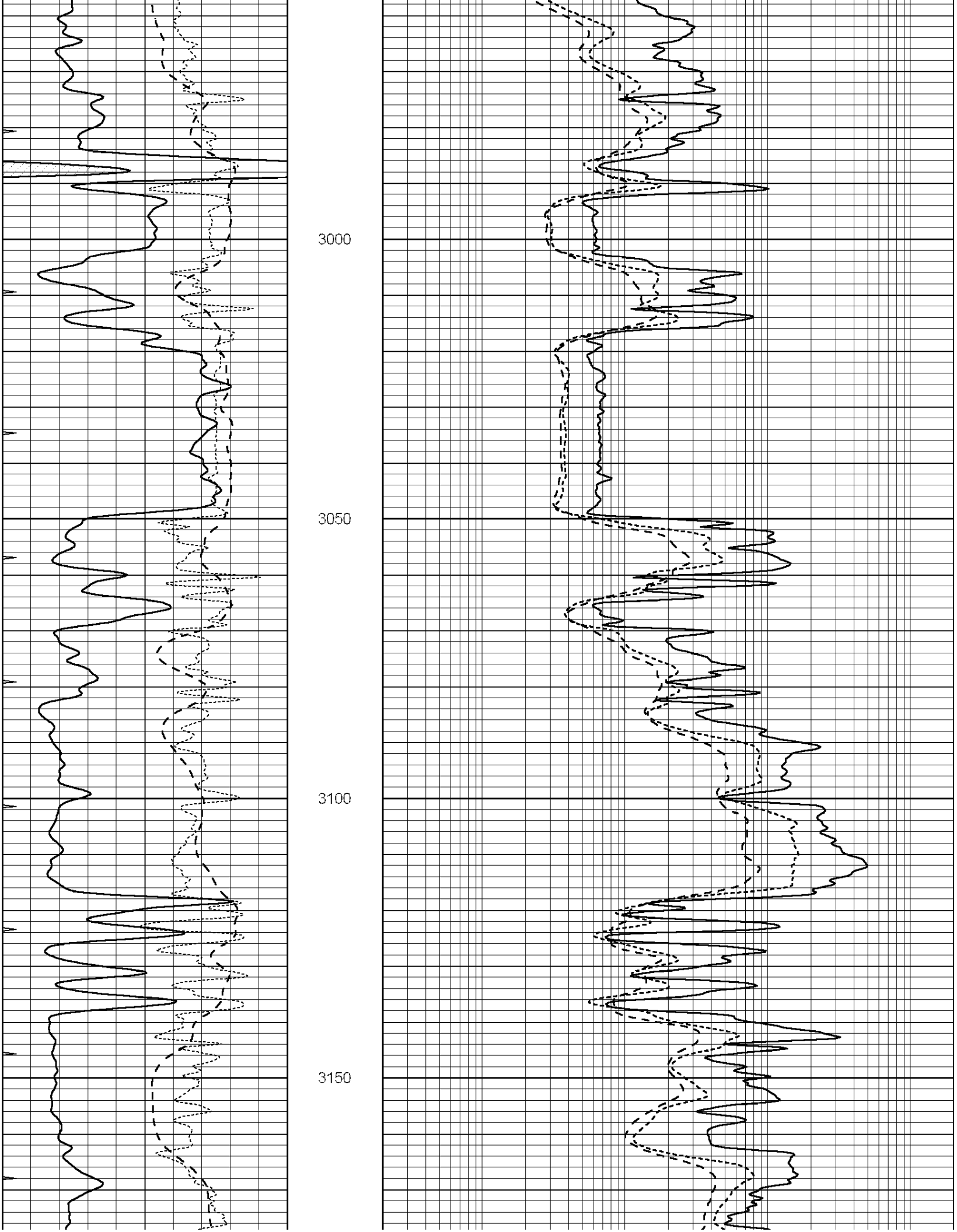
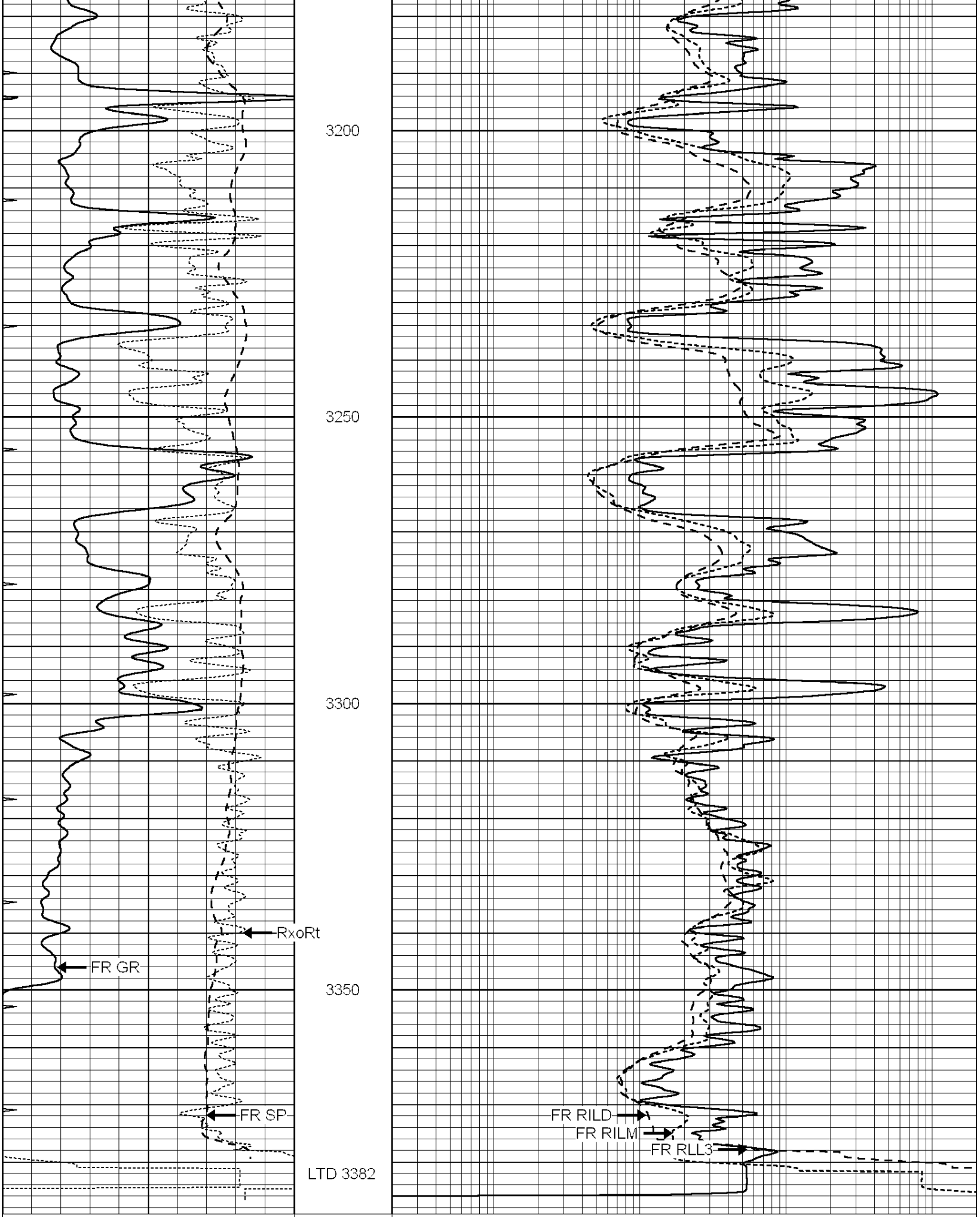
2800
2850
2900
2950


3000
3050
3100
3150


3200
3250
3300
3350
RxoRt
FR GR
FR SP
LTD 3382
FR RILD
FR RILM
FR RLL3
0
GAMMA RAY (GAPI)
150
0.2
RLL3 (Ohm-m)
2000
-100
SP (mV)
100
0.2
DEEP INDUCTION (Ohm-m)
2000

-250	RxoRt	50
0	MINMK	20

0.2	MEDIUM INDUCTION (Ohm-m)	2000

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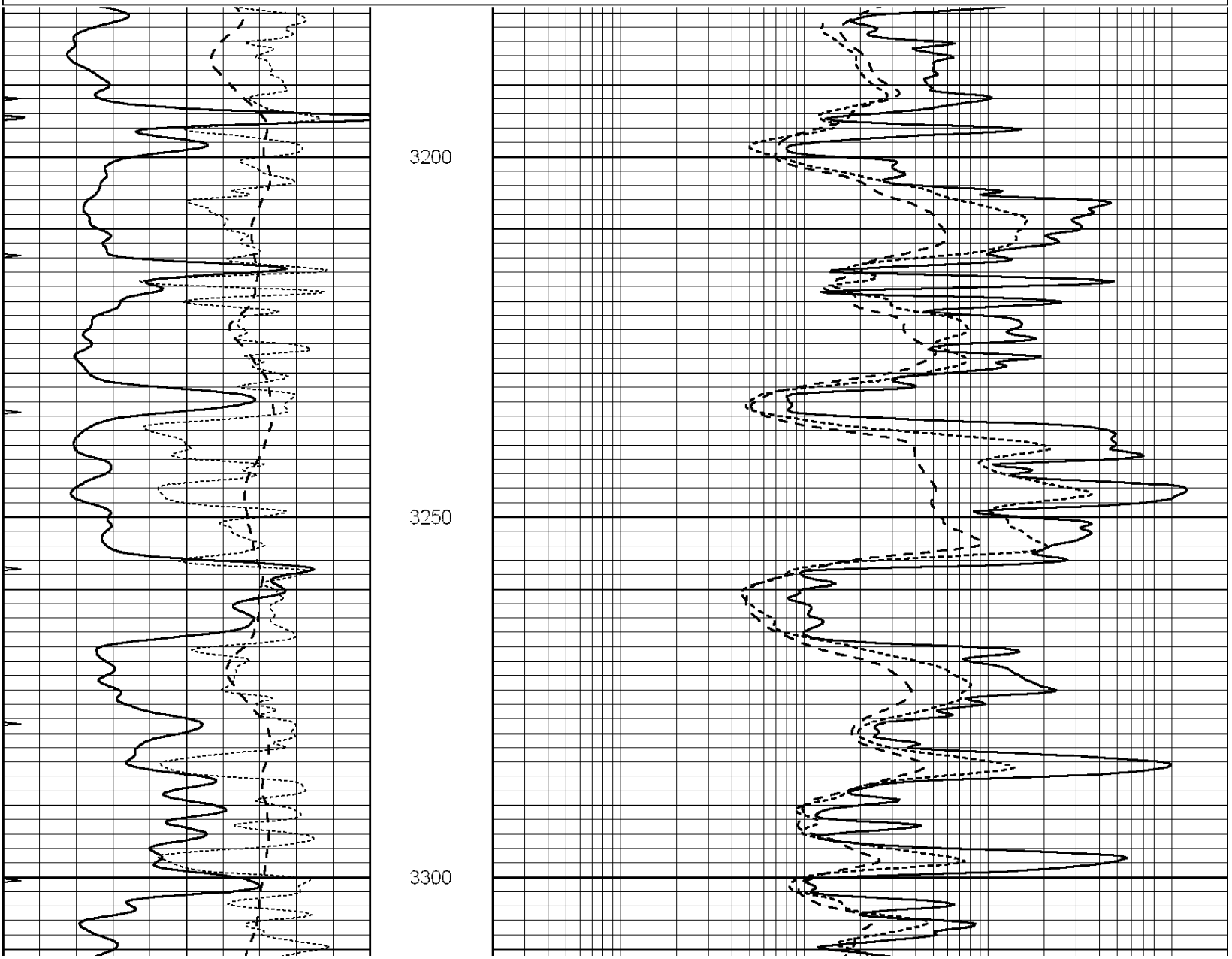
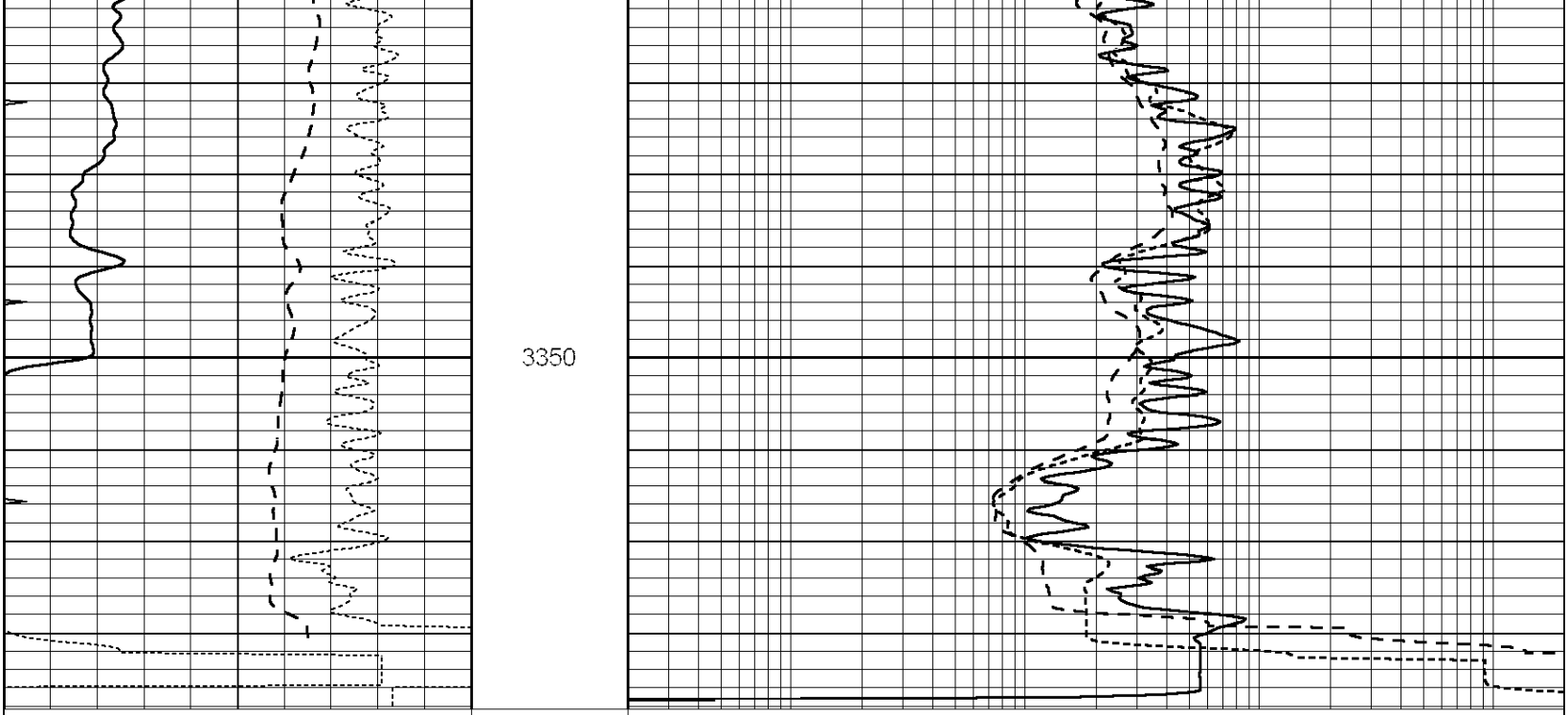
REPEAT SECTION

Database File: 012041ddn.db
Dataset Pathname: pass2.4
Presentation Format: _dil
Dataset Creation: Tue Nov 19 13:18:20 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





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

Calibration Report

Database File: 012041ddn.db
Dataset Pathname: pass3.3
Dataset Creation: Tue Nov 19 13:58:10 2013

Dual Induction Calibration Report

Serial-Model: DIL3-GEAR
Performed: Tue Nov 19 01:01:52 2013

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	0.000	400.000	mmho/m	540.000	12.000
Medium	0.013	0.740	V	0.000	462.500	mmho/m	640.000	3.000
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: Fri Nov 08 14:16:27 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_3I
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: GR2
Tool Model: OPEN
Performed: Fri May 10 09:38:15 2013

Calibrator Value: 200.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 740.0 cps

Sensitivity: 0.1500 GAPI/cps