NABORS
COMPLETION & PRODUCTION SERVICES CO.

DUAL INDUCTION LOG

Company MAI OIL OPERATIONS, INC.
Well SCHMITT #5
Field KENNEBEC
County RUSSELL
State KANSAS

Company MAI OIL OPERATIONS, INC.
Well SCHMITT #5
Field KENNEBEC
County RUSSELL
State KANSAS

Location: API # : 15-167-23837-0000
330' FSL & 1985' FEL
E/2 - SW - SW - SE
SEC 4 TWP 15S RGE 14W

Other Services
CDL/CNL
MEL

Permanent Datum GROUND LEVEL Elevation 1770
Log Measured From KELLY BUSHING 8' A.G.L.
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1778
D.F. 1776
G.L. 1770

Date	11/19/12		
Run Number	ONE		
Depth Driller	3300		
Depth Logger	3298		
Bottom Logged Interval	3296		
Top Log Interval	00		
Casing Driller	8 5/8"@473'		
Casing Logger	473		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 8,600 PPM	
Density / Viscosity	9.6/54		
pH / Fluid Loss	11.0/10.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.600@82F		
Rmf @ Meas. Temp	.450@82F		
Rmc @ Meas. Temp	.720@82F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.447@110F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	10:15 A.M.		
Maximum Recorded Temperature	110F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	JIM MUSGROVE		

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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

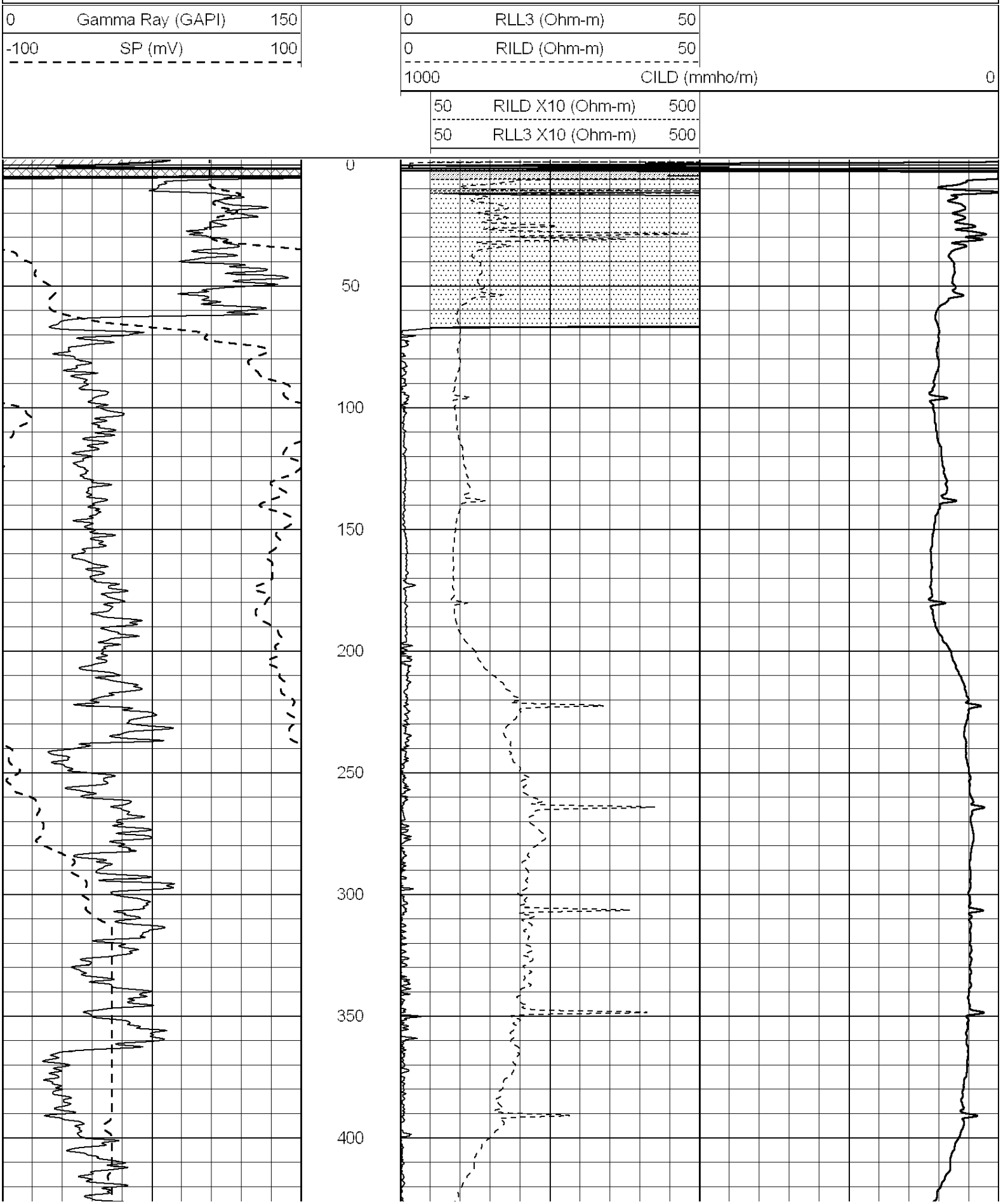
RUSSELL, KS. & I-70, 6S. ON HWY 281 TO "WALTERS RD." (JUST S. OF RIVER BRIDGE), 1W., 1/2S., 1/2W., N. INTO

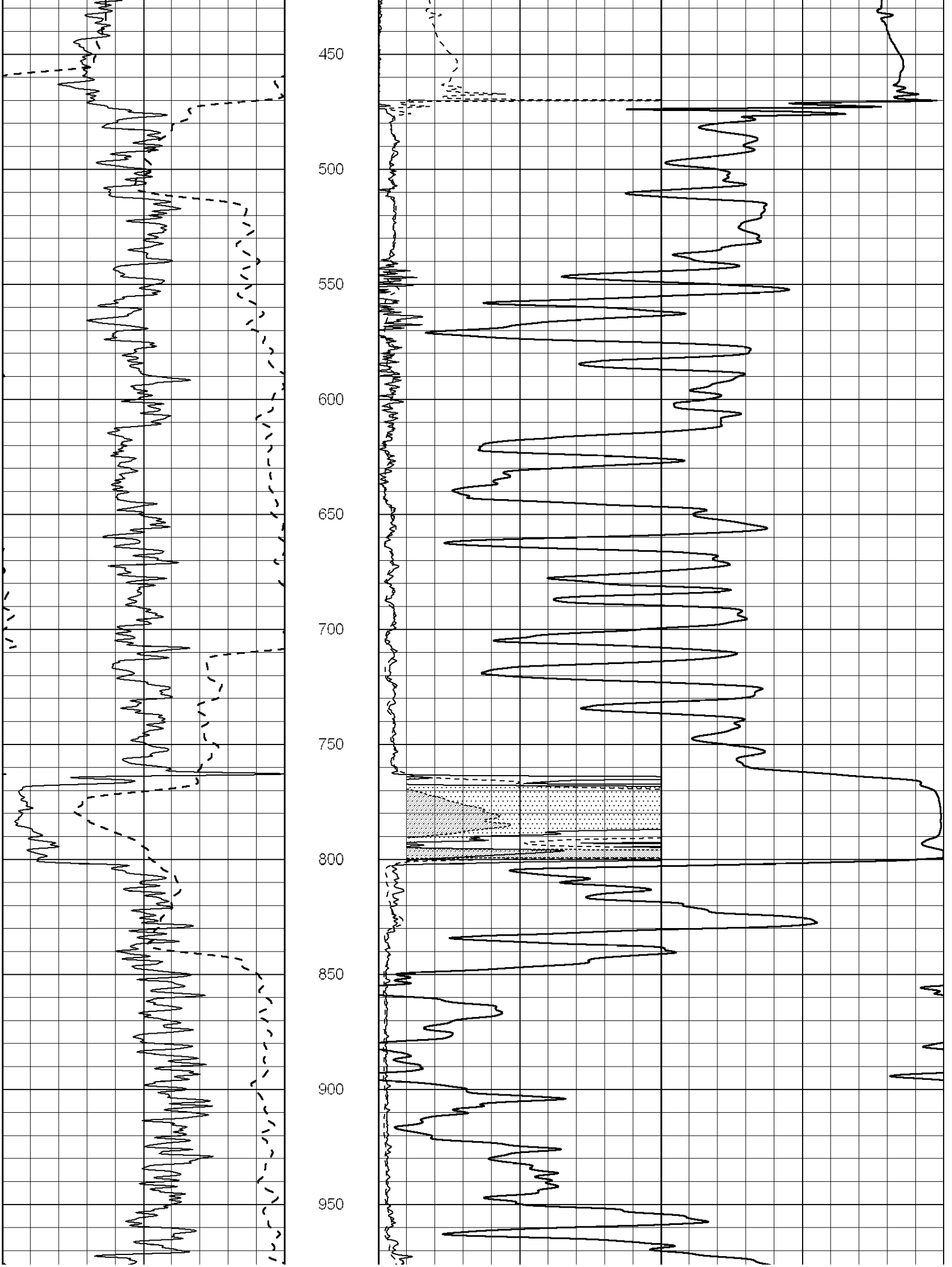
MAIN SECTION

NABORS
COMPLETION & PRODUCTION

SERVICES CO.

Database File: 010017ddn.db
Dataset Pathname: pass3.4
Presentation Format: dil2
Dataset Creation: Mon Nov 19 11:34:32 2012 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:600

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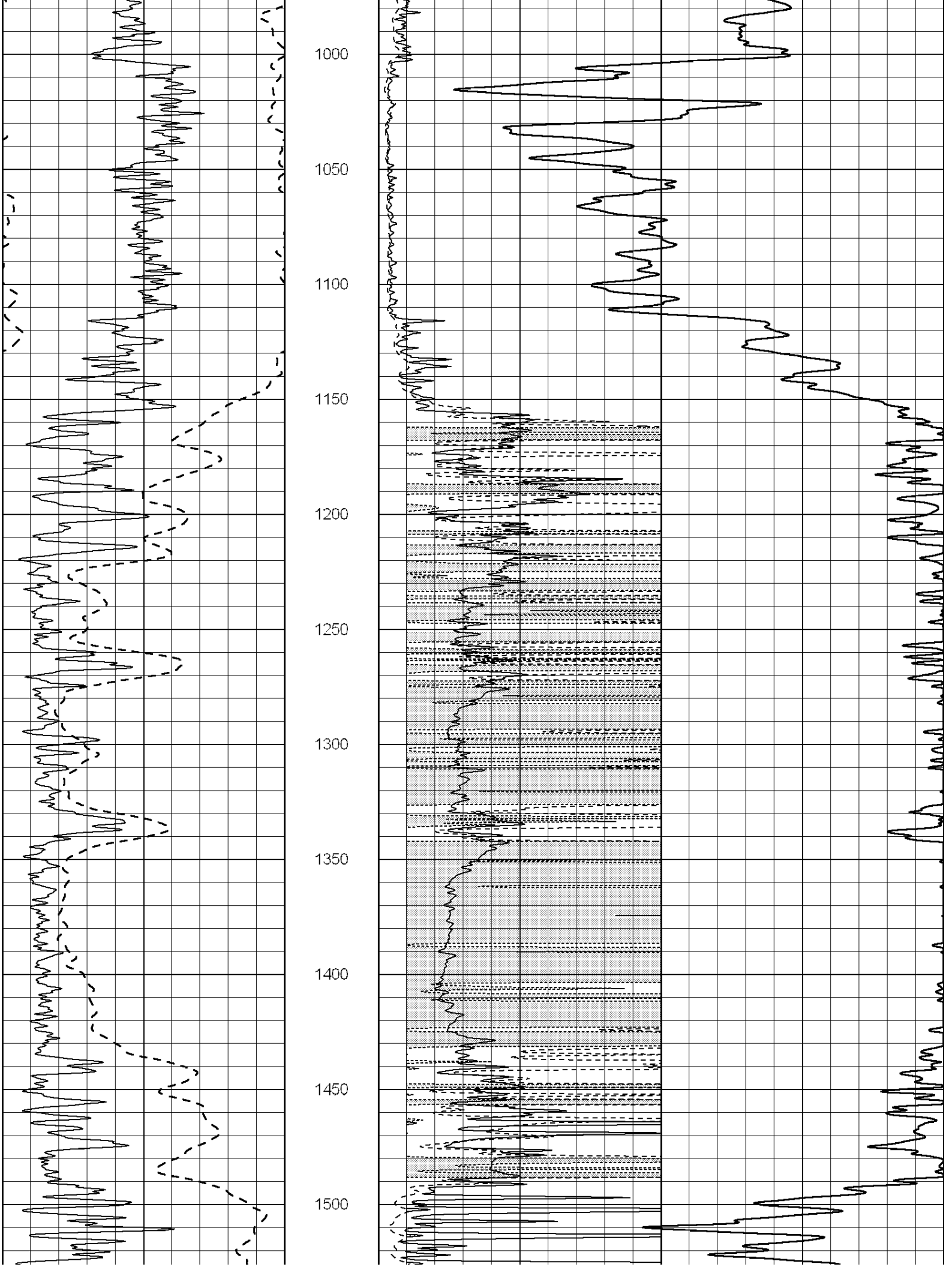
500
550
600
650
700
750
800
850
900
950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1400
1450
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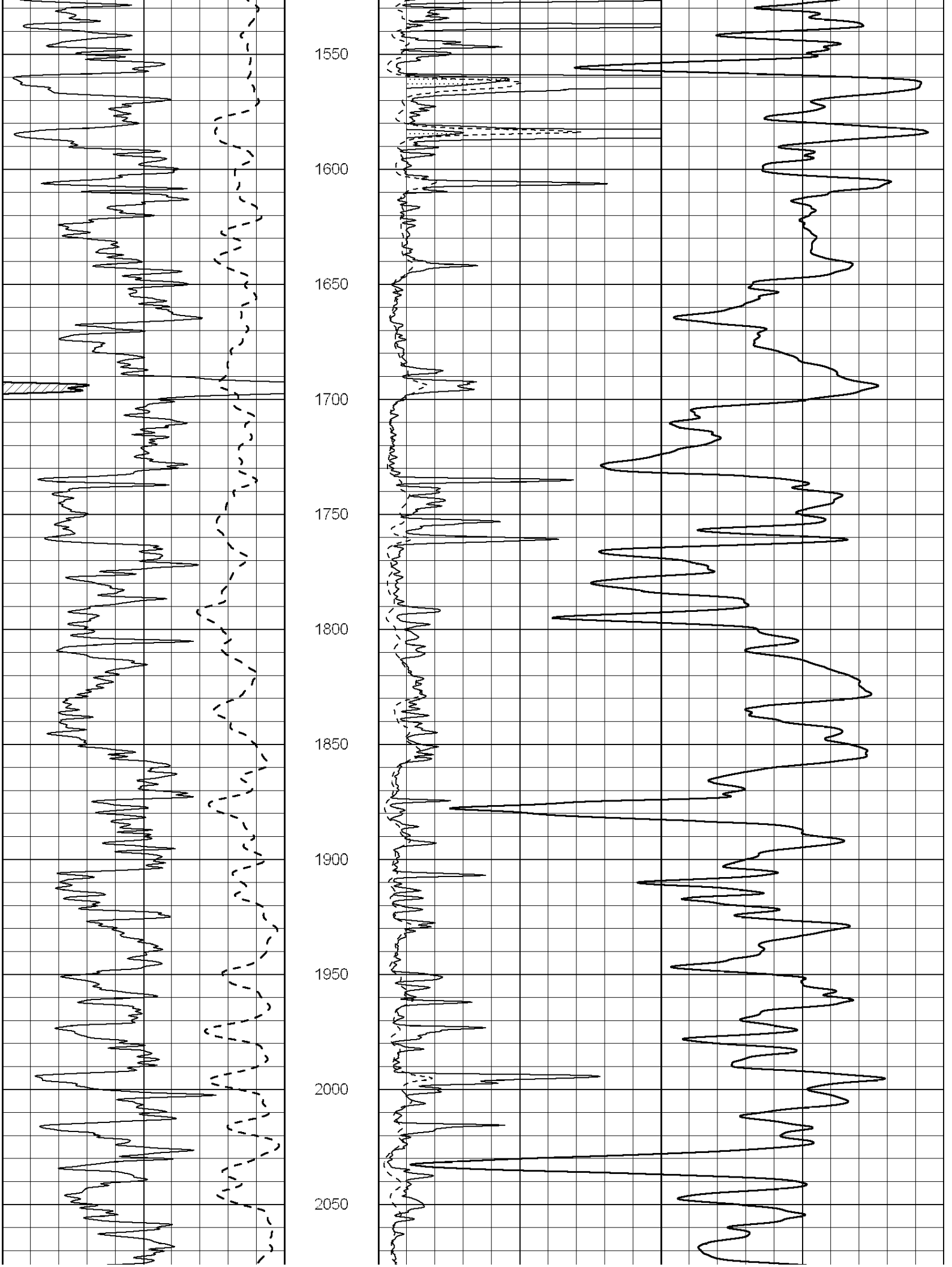
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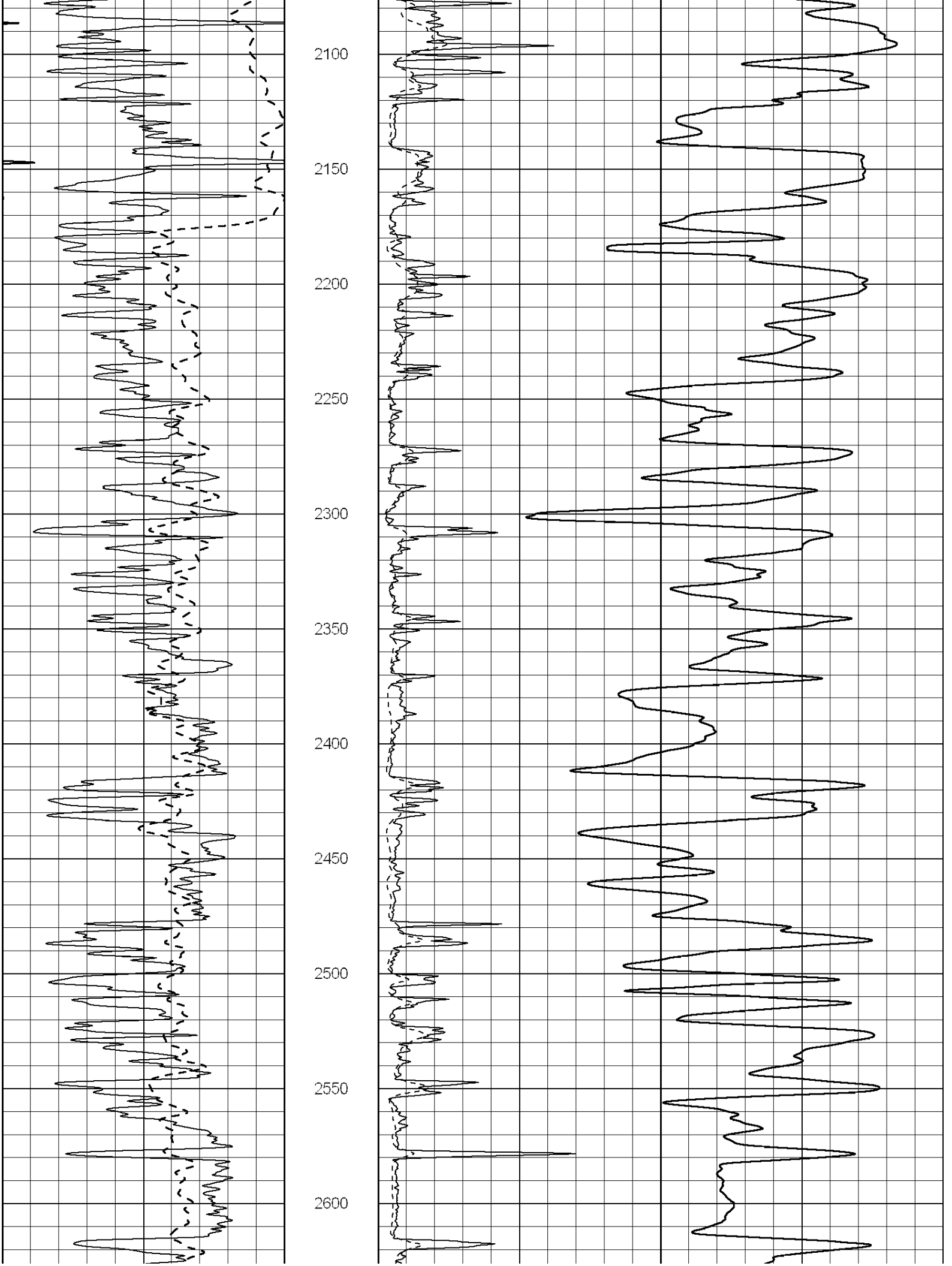
1700
1750
1800
1850
1900
1950
2000
2050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2250
2300
2350
2400
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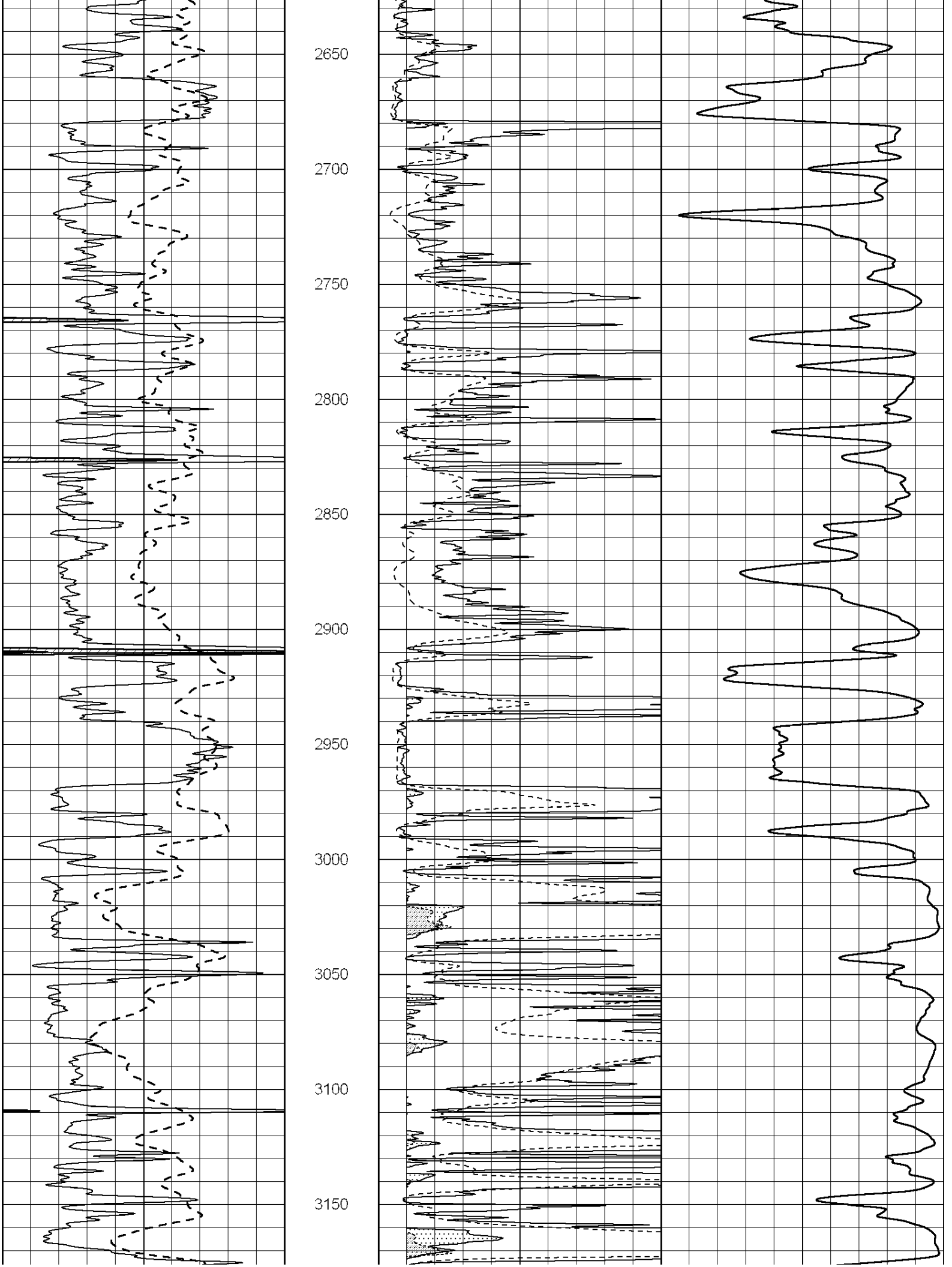
2500
2550
2600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2900
2950
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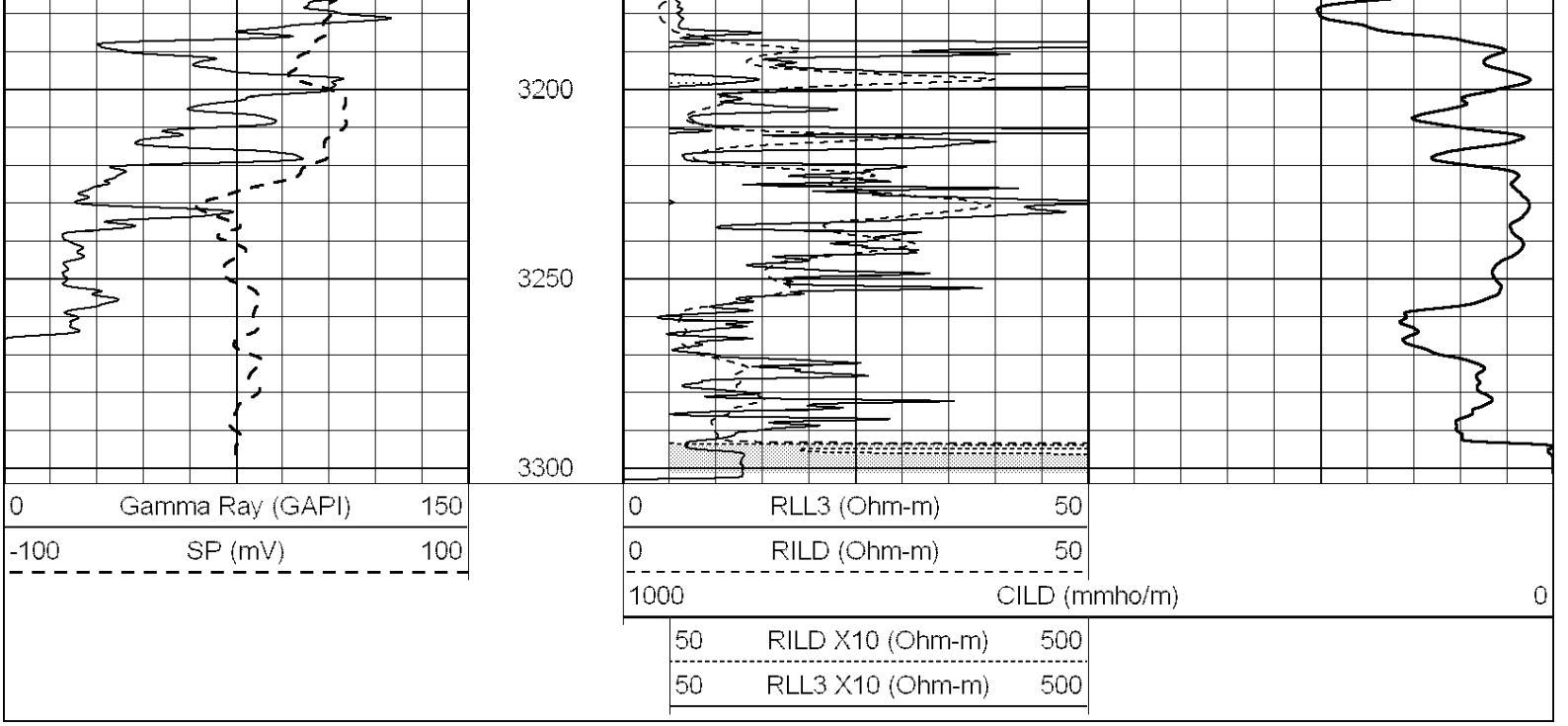
3050
3100
3150



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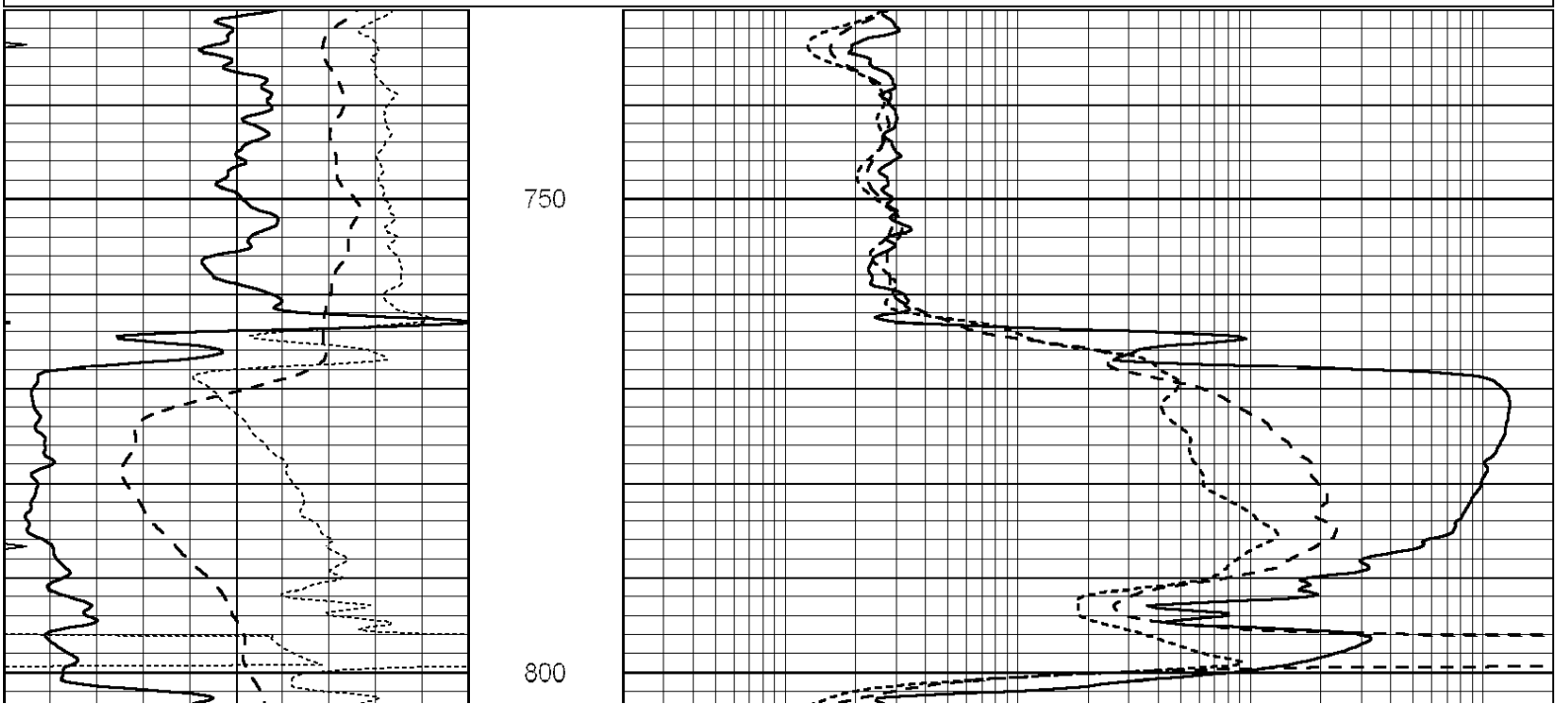
COMPLETION & PRODUCTION SERVICES CO.

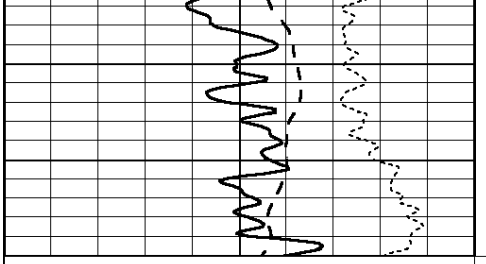
ANHYDRITE

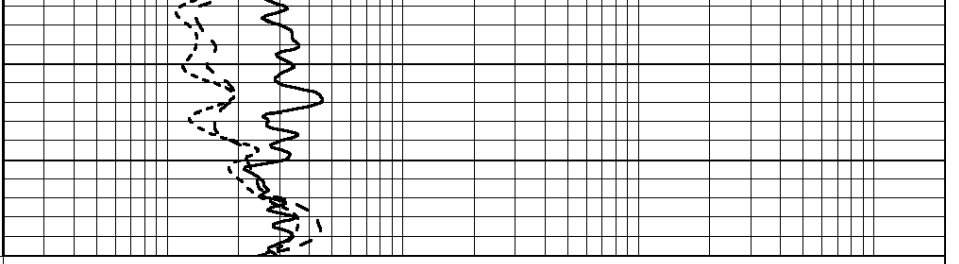
Database File: 010017ddn.db
Dataset Pathname: pass3.5
Presentation Format: _dil
Dataset Creation: Mon Nov 19 11:35:01 2012 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:240

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

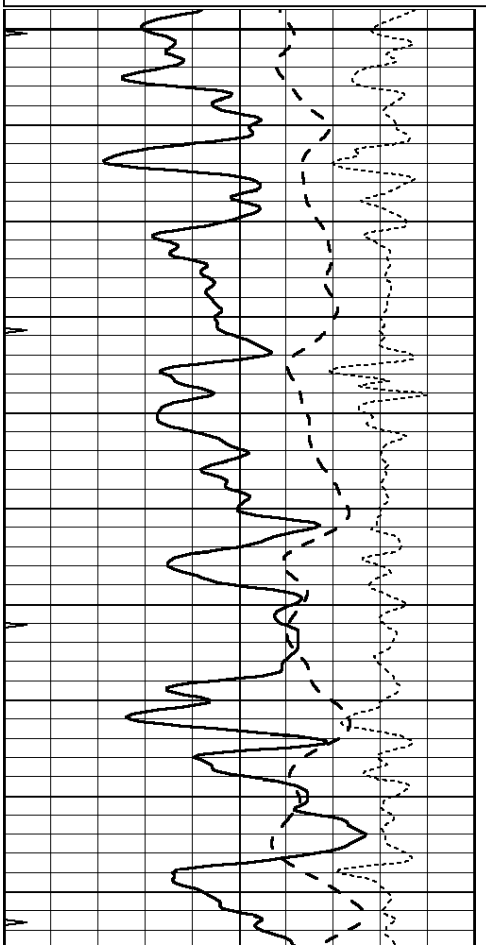
NABORS
COMPLETION & PRODUCTION SERVICES CO.

MAIN SECTION

Database File:	010017ddn.db
Dataset Pathname:	pass3.4
Presentation Format:	dil
Dataset Creation:	Mon Nov 19 11:34:32 2012 by Calc SOC 120430
Charted by:	Depth in Feet scaled 1:240

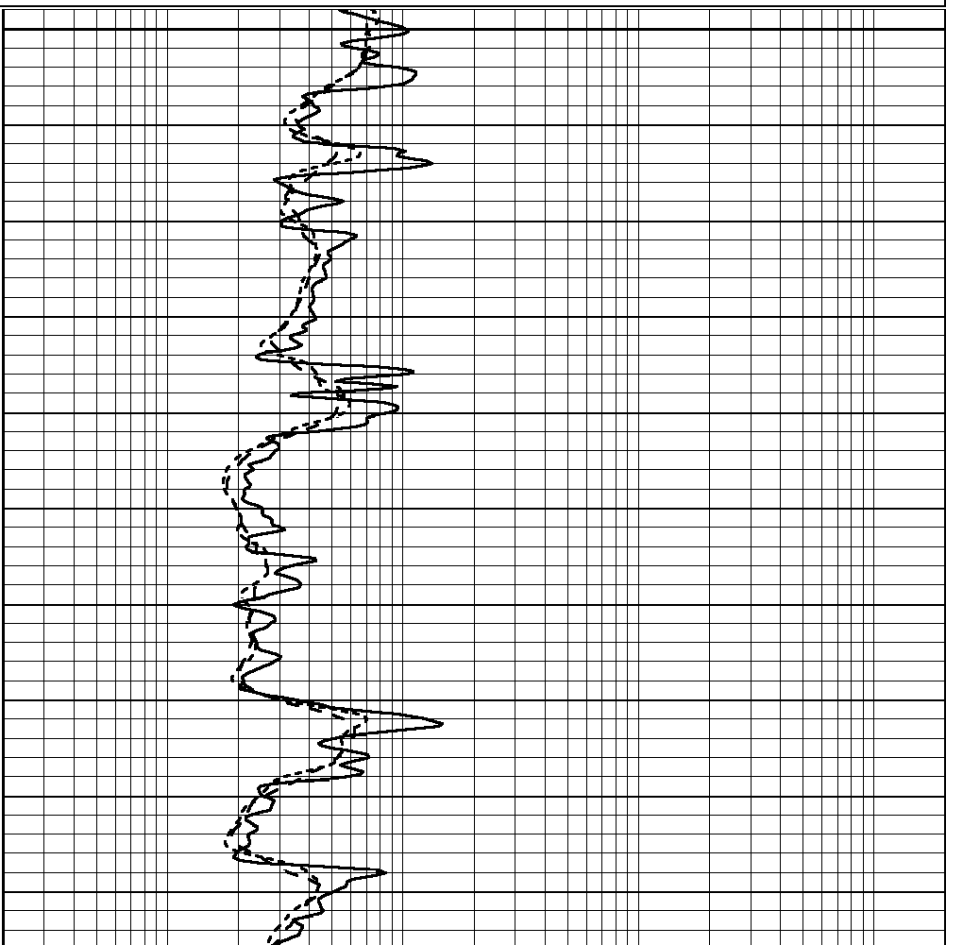
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

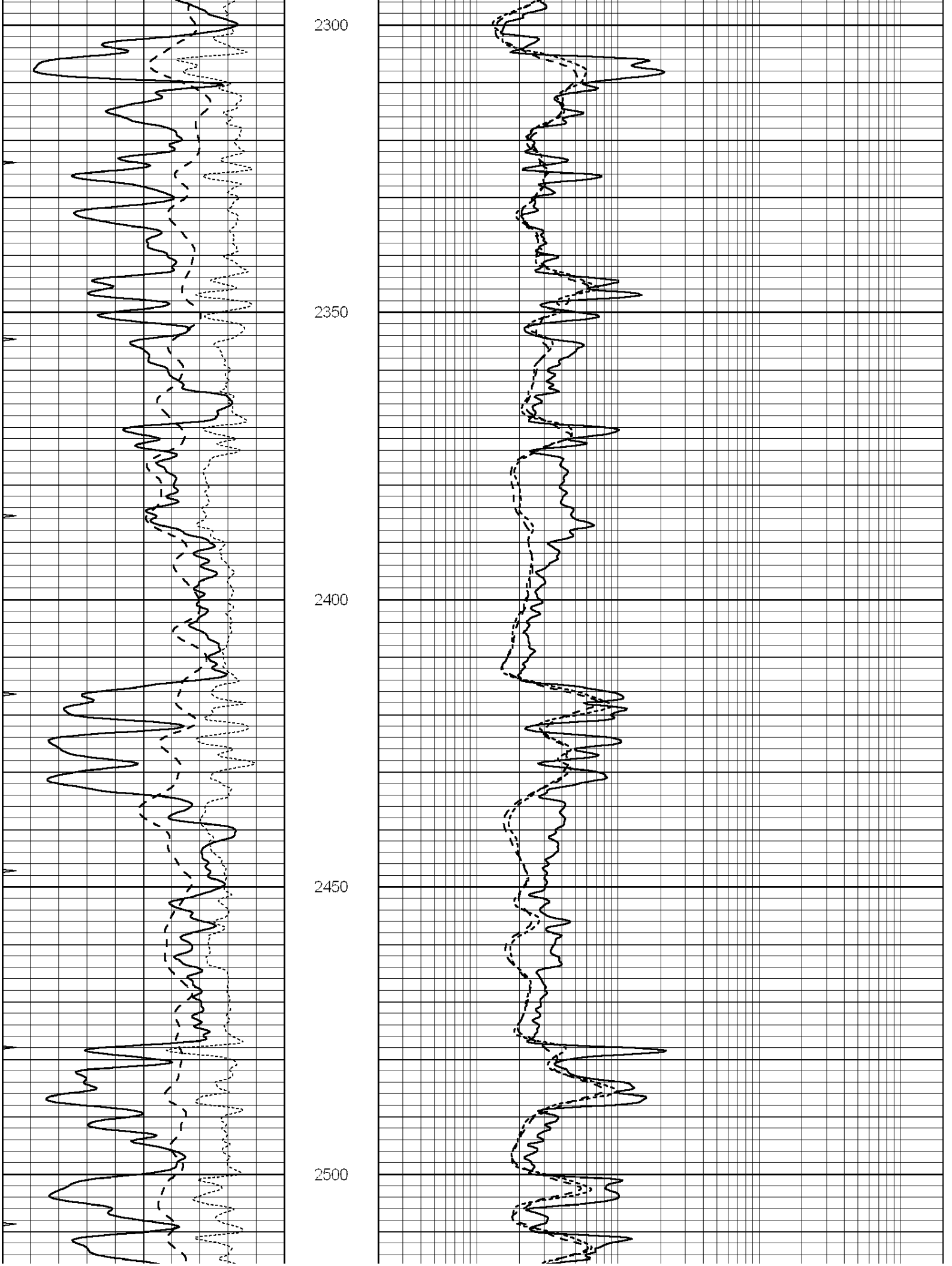
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



2200

2250

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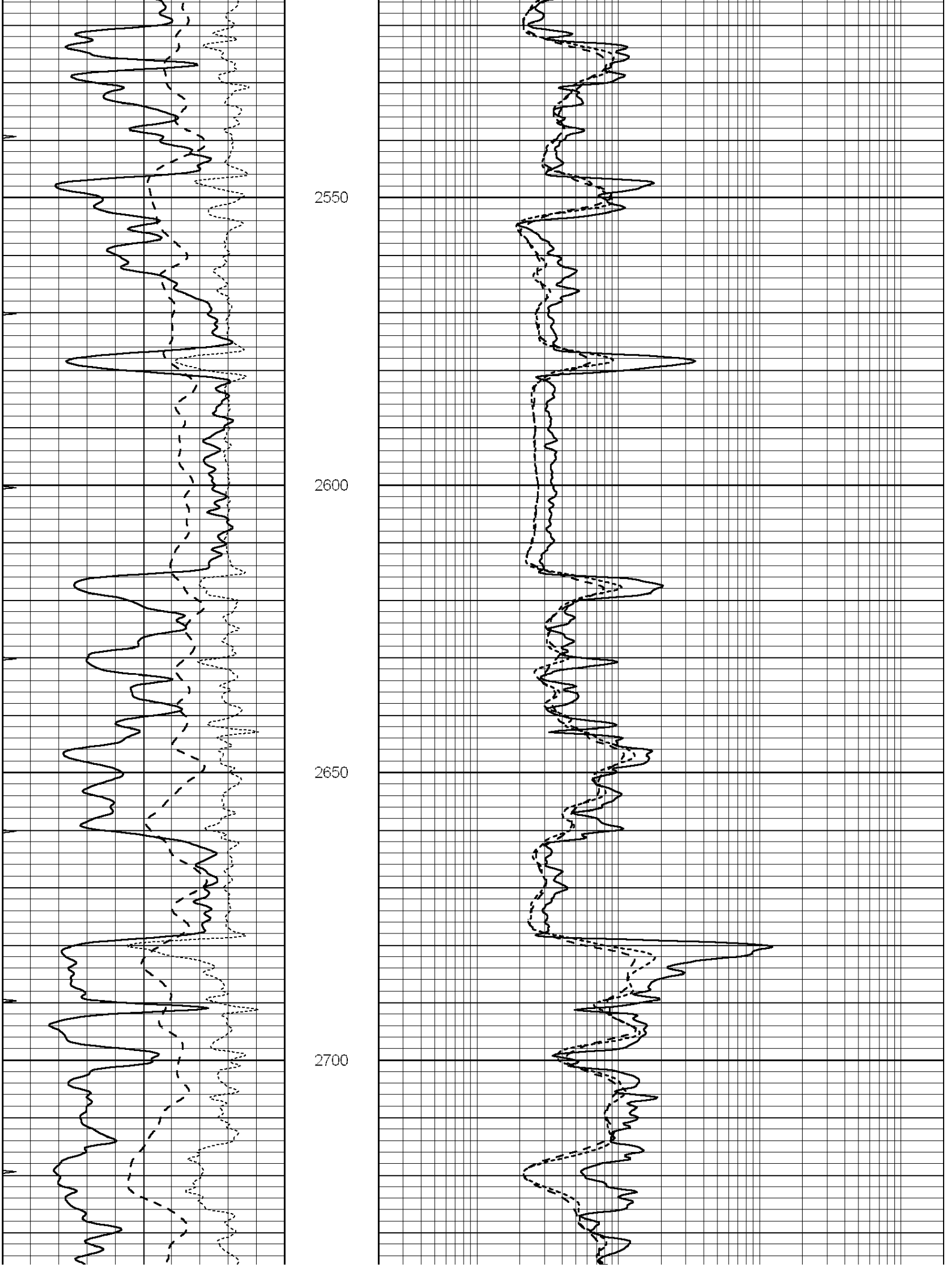
2400
2450
2500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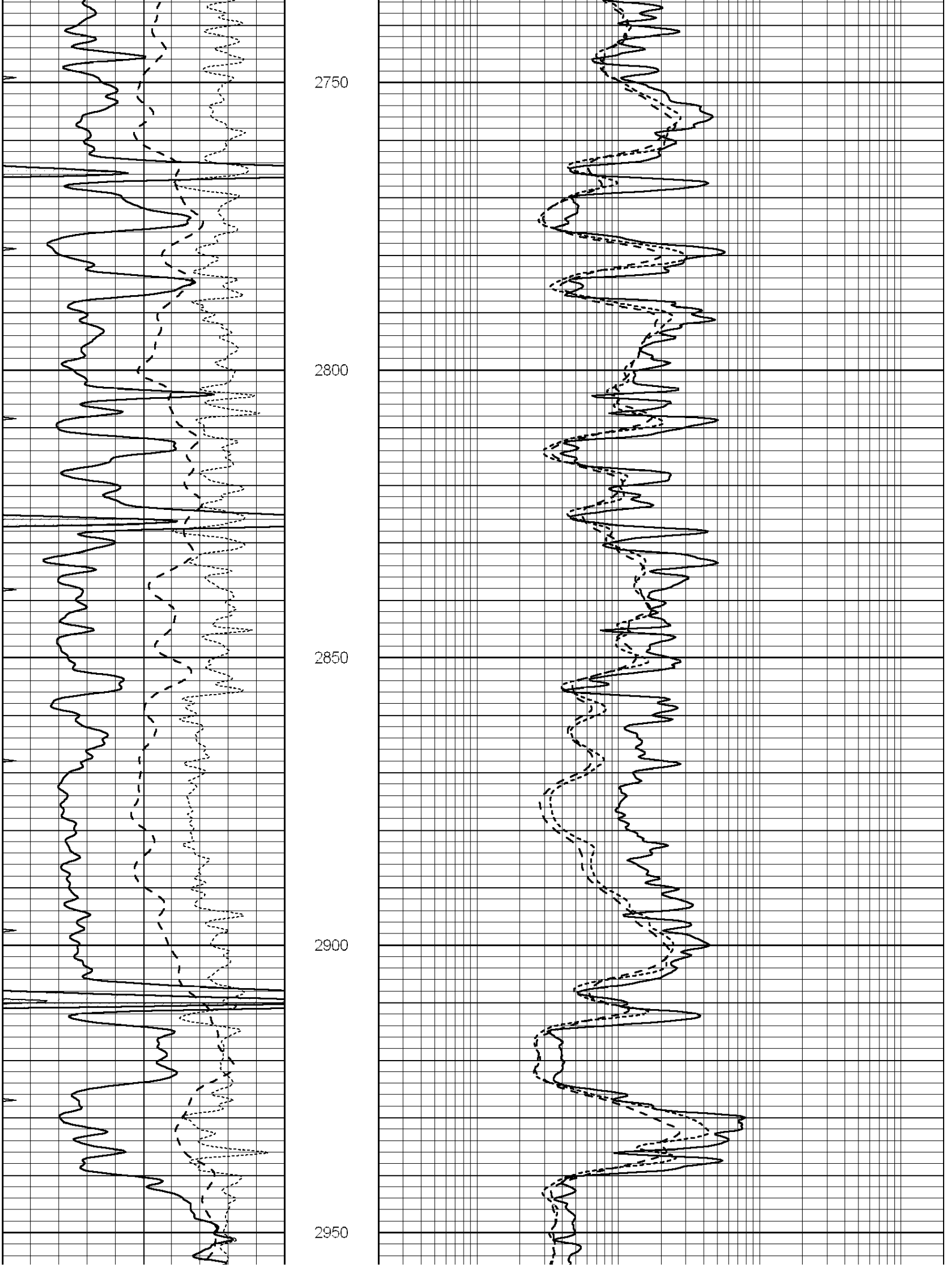
2600
2650
2700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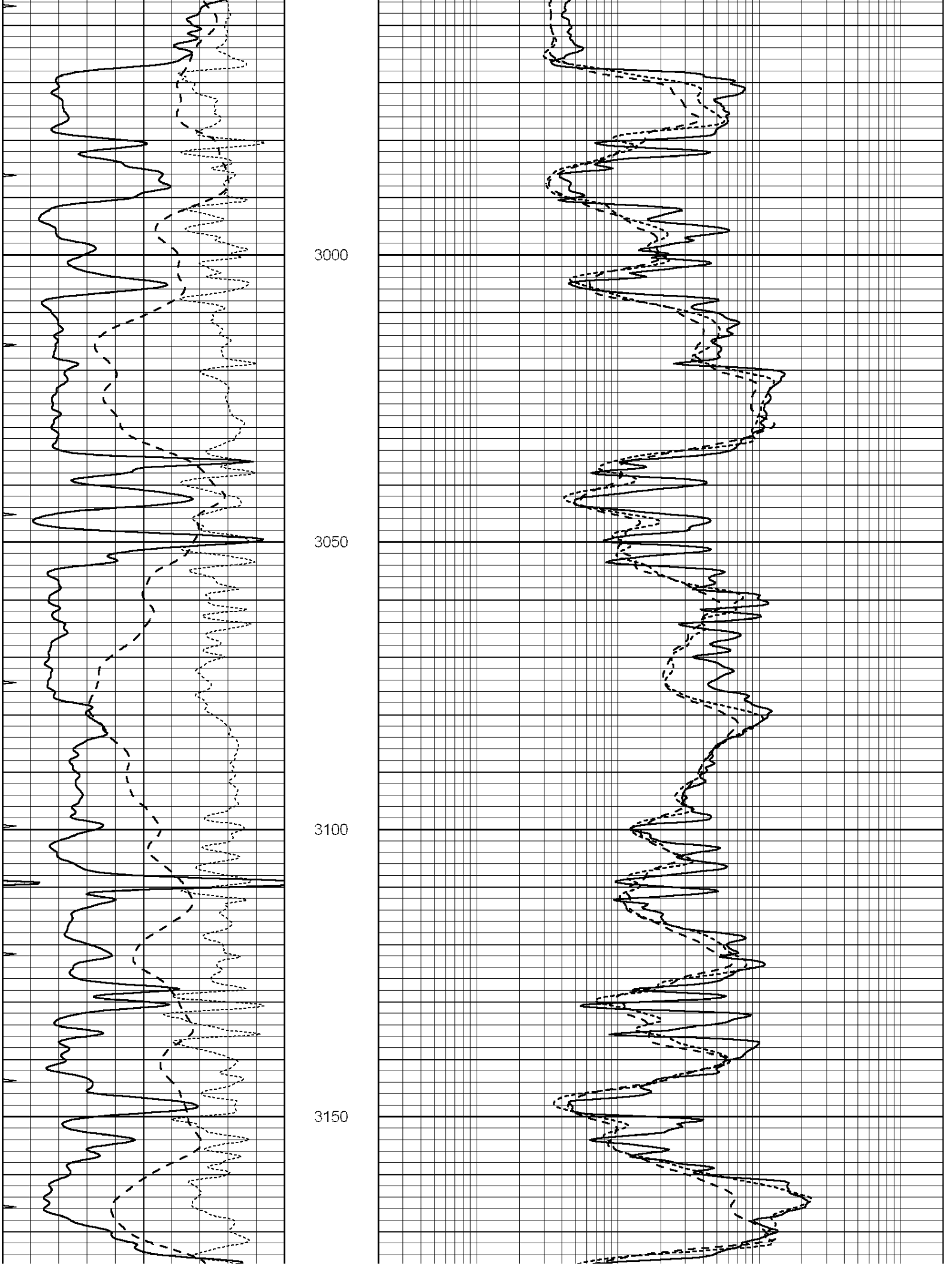
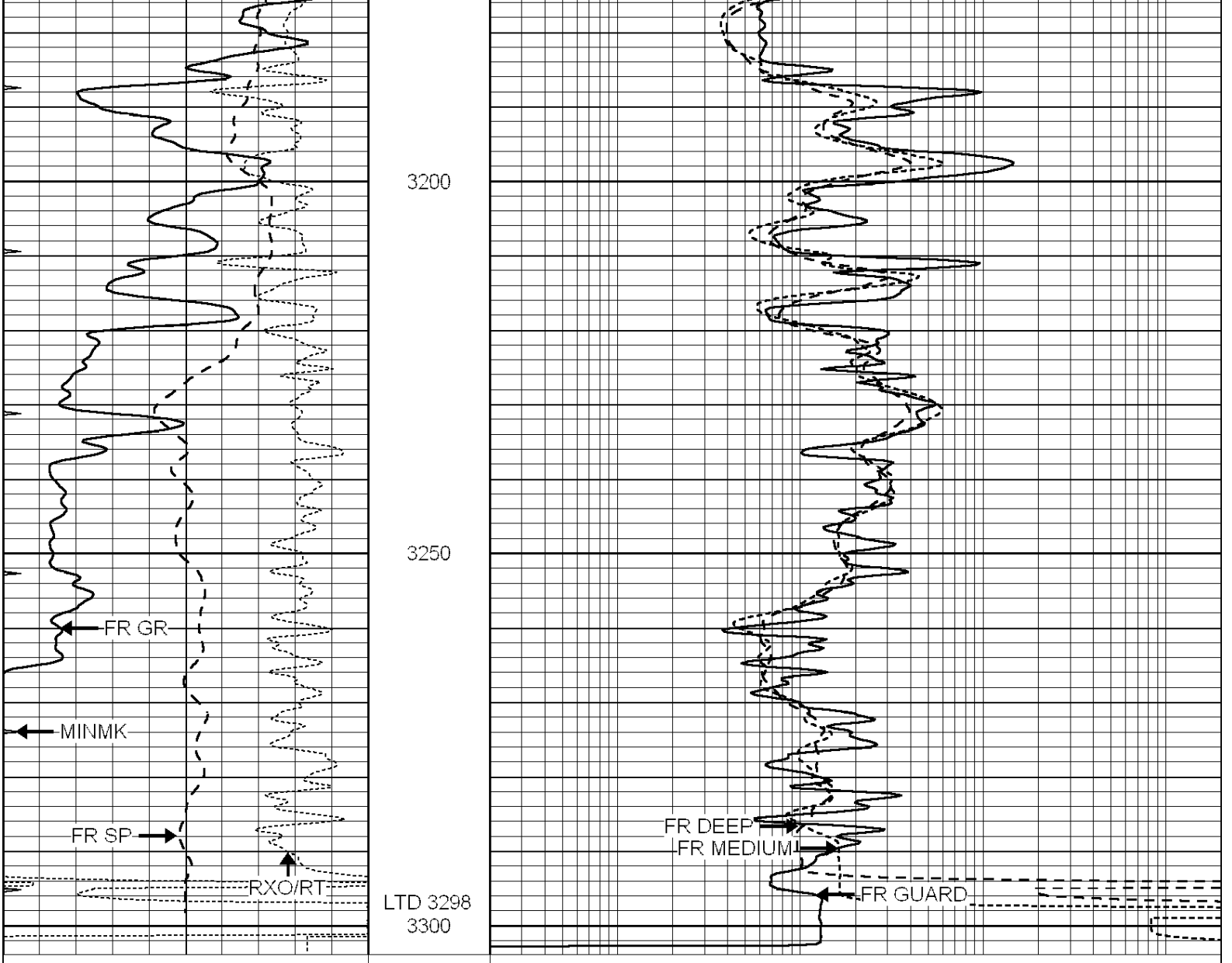
2800
2850
2900
2950


3000
3050
3100
3150



0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			

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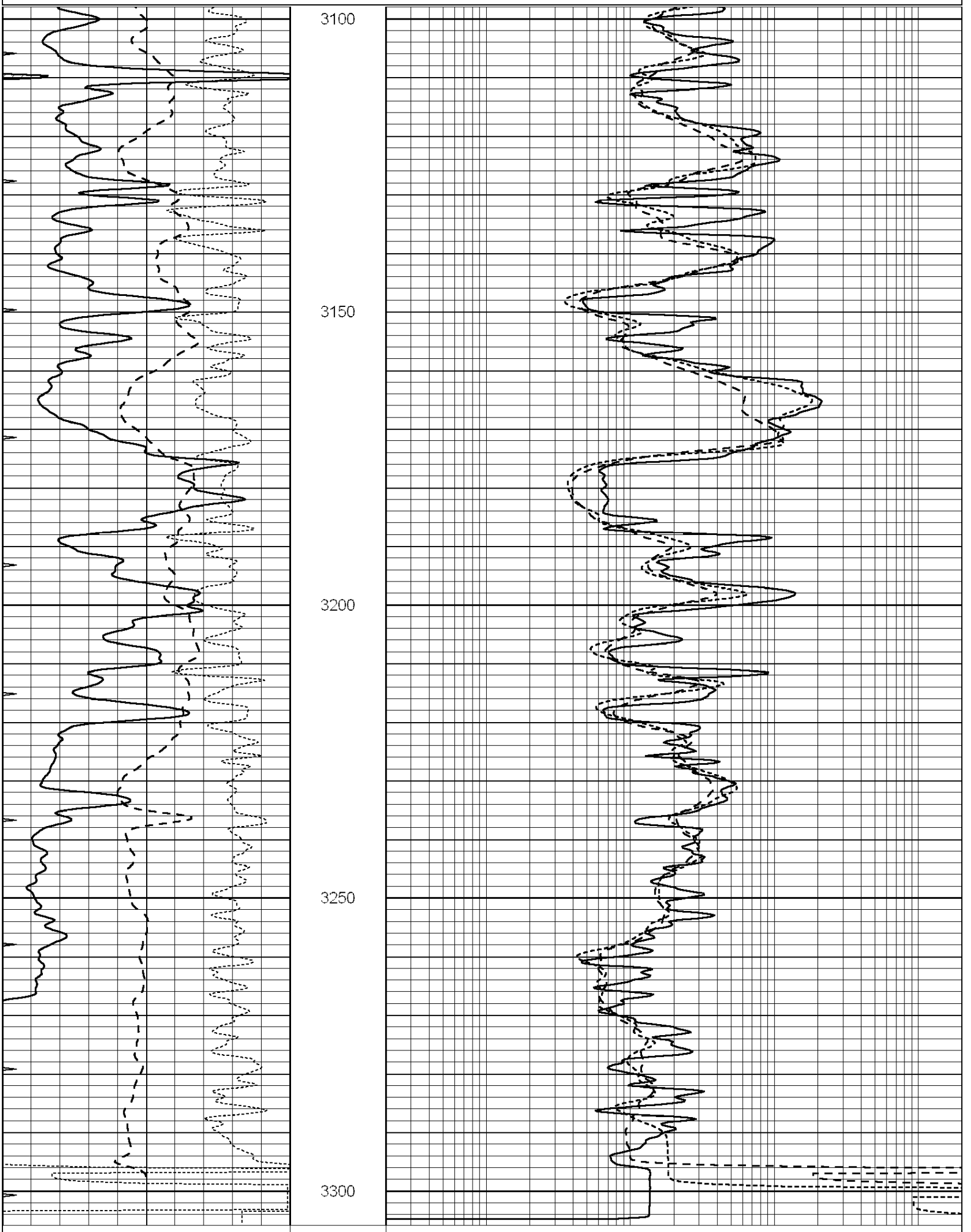
COMPLETION & PRODUCTION SERVICES CO.

REPEAT SECTION

Database File: 010017ddn.db
Dataset Pathname: pass2.3
Presentation Format: dil
Dataset Creation: Mon Nov 19 10:34:14 2012 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			


3100
3150
3200
3250
3300
0
GAMMA RAY (GAPI)
150
-100
SP (mV)
100
0.2
SHALLOW GUARD (Ohm-m)
2000
0.2
DEEP INDUCTION (Ohm-m)
2000

-250	Rxo/Rt	50
0	MINMK	20

0.2	MEDIUM INDUCTION (Ohm-m)	2000

Calibration Report

Database File: 010017ddn.db
Dataset Pathname: pass3.4
Dataset Creation: Mon Nov 19 11:34:32 2012 by Calc SOC 120430

Dual Induction Calibration Report

Serial-Model: DIL4-GEAR
Performed: Thu Nov 15 14:25:31 2012

	Readings			References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.008	0.666	V	0.000	400.000	mmho/m	570.000	-8.000
Medium	-0.003	0.769	V	0.000	462.500	mmho/m	560.000	-7.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.013	0.651	V	0.000	400.000	mmho/m	627.541	-8.365
Medium	0.020	0.754	V	0.000	462.500	mmho/m	630.311	-12.549

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	3.4	7.9
High Ref	5.0	15.0

Gain: 4.5 Offset: -7.4

Compensated Neutron Calibration Report

Serial Number: 070808
Tool Model: Probe

PRE-SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

POST-SURVEY VERIFICATION

Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	070559	
Tool Model:	OPEN_GR	
Performed:	Wed Sep 19 15:58:00 2012	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.3000	GAPI/cps