



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company		RL INVESTMENT, LLC.		Company RL INVESTMENT, LLC. Well DREILING #6 Field County GRAHAM State KANSAS
Well		DREILING #6		
Field				
County		GRAHAM		
Location:		API # : 15-065-23934-0000 2310' FSL & 785' FEL		Other Services CDL/CNL MEL
Permanent Datum Log Measured From Drilling Measured From		GROUND LEVEL KELLY BUSHING 5' A.G.L. KELLY BUSHING		
Date		5/27/13		Elevation K.B. 2613 D.F. 2611 G.L. 2608
Run Number	ONE			
Depth Driller	4160			
Depth Logger	4161			
Bottom Logged Interval	4159			
Top Log Interval	00			
Casing Driller	8 5/8" @ 258'			
Casing Logger	258			
Bit Size	7 7/8			
Type Fluid in Hole	CHEMICAL MUD		CHLORIDES 2300 PPM	
Density / Viscosity	9.2/48			
pH / Fluid Loss	10.0/8.4			
Source of Sample	FLOWLINE			
Rim @ Meas. Temp	0.85 @ 93F			
Rmf @ Meas. Temp	0.64 @ 93F			
Rmc @ Meas. Temp	1.02 @ 93F			
Source of Rmf / Rmc	MEASURED			
Rim @ BHT	0.63 @ 116F			
Time Circulation Stopped	2 HOURS			
Time Logger on Bottom				
Maximum Recorded Temperature	116F			
Equipment Number	680			
Location	HAYS, KS.			
Recorded By	JASON CAPPELLUCCI			
Witnessed By	RICHARD BELL			

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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

THANK YOU FOR USING NABORS COMPLETION & PRODUCTION SVCS. (785) 628-6395

DIRECTIONS:
WAKEENEY, KS. - N. TO REDLINE RD. - 13 W. - 1 1/4 N. - W. INTO

Database File:

010794ddn.db

Dataset Pathname:

pass3.3

Presentation Format:

_dil2

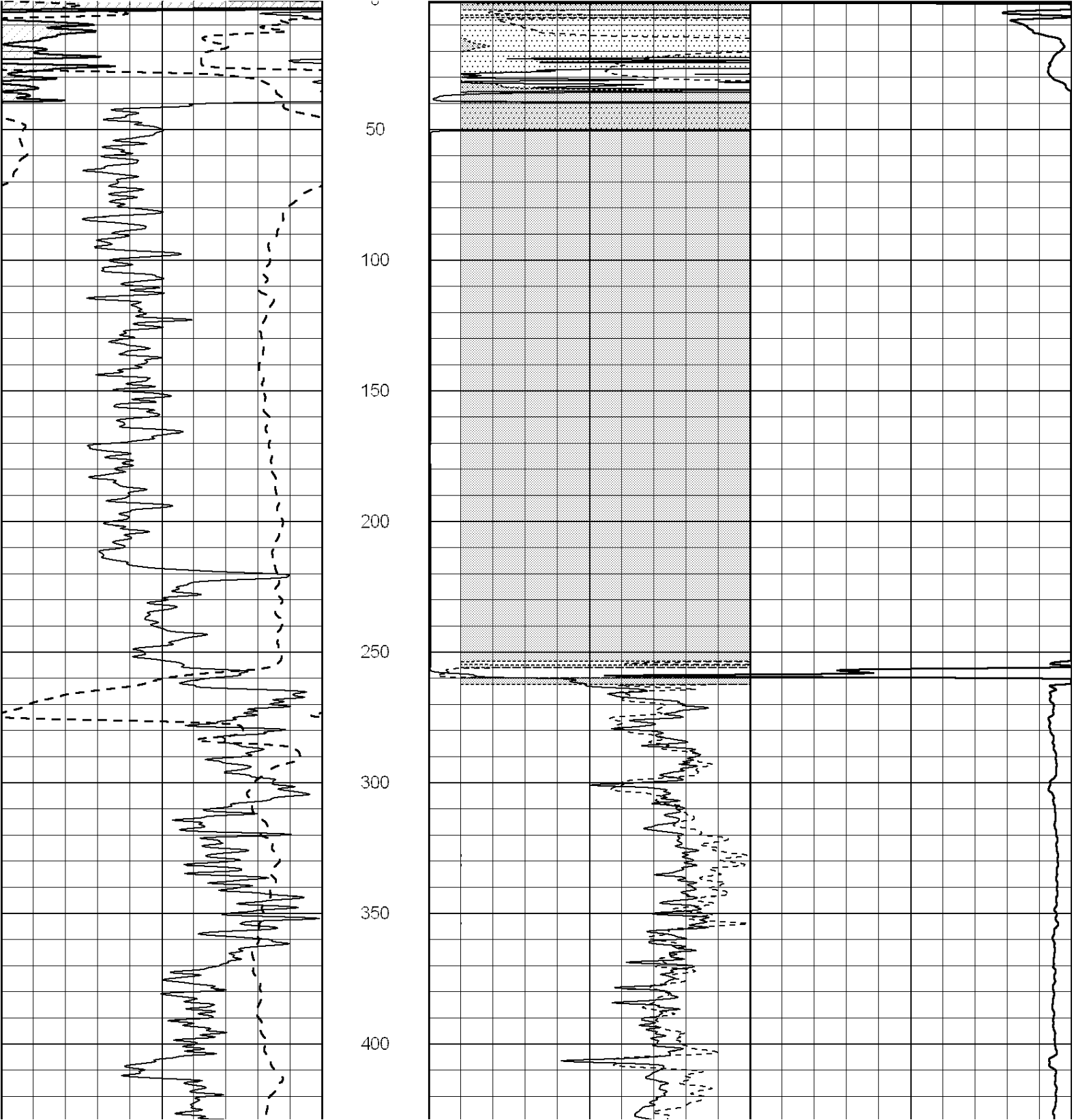
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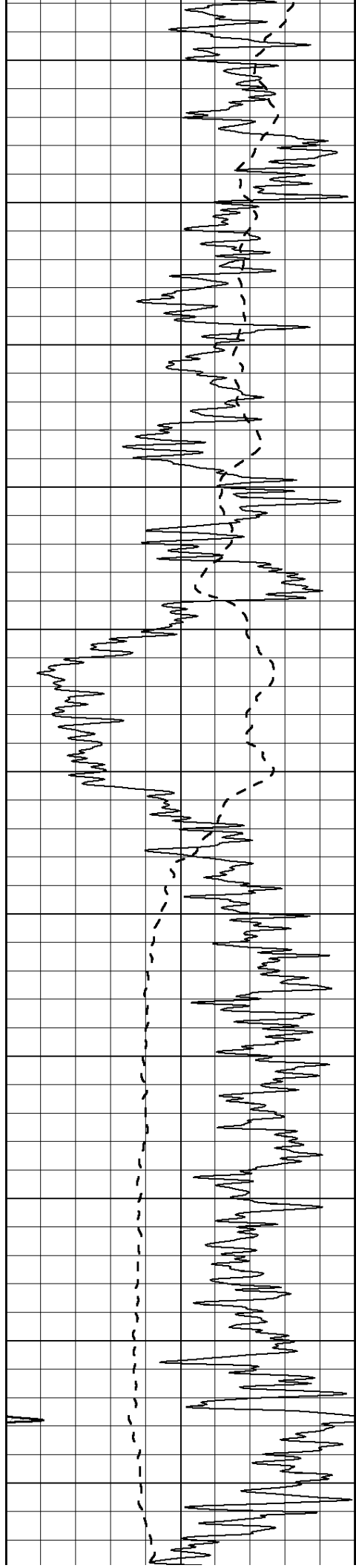
Mon May 27 04:44:42 2013 by Calc Open-Cased 090629

Charted by:

Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150	0	RLL3 (Ohm-m)	50	
-100	SP (mV)	100	0	Deep Induction (Ohm-m)	50	
-----			-----			
			1000		CILD (mmho/m)	0
			50	RILD X10 (Ohm-m)	500	
			50	RLL3 X10 (Ohm-m)	500	
-----			-----			





450

500

550

600

650

700

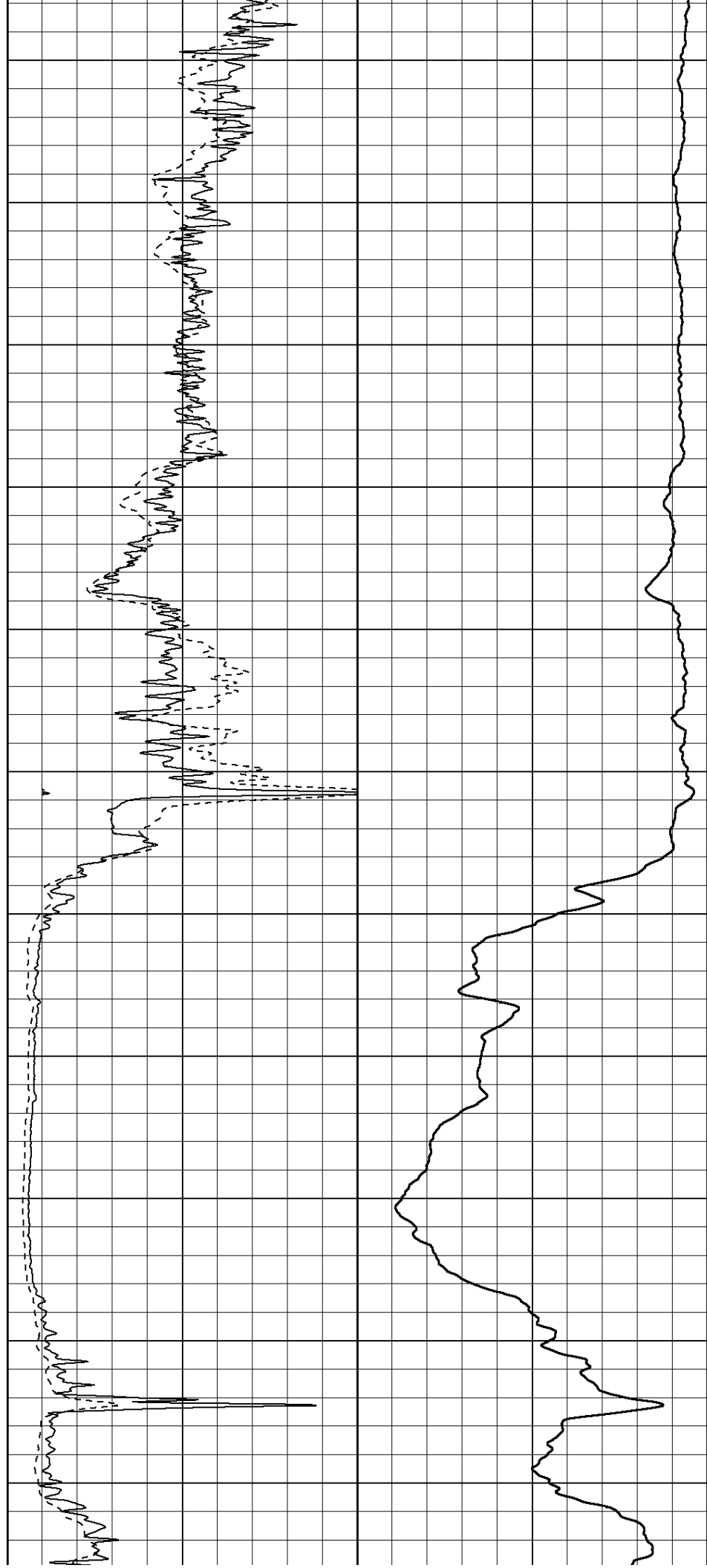
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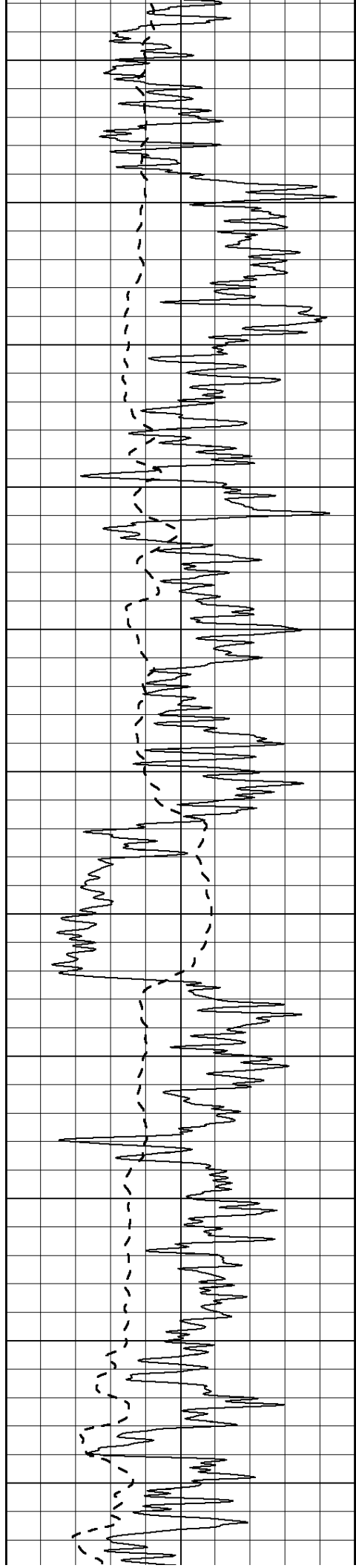
800

850

900

950





1000

1050

1100

1150

1200

1250

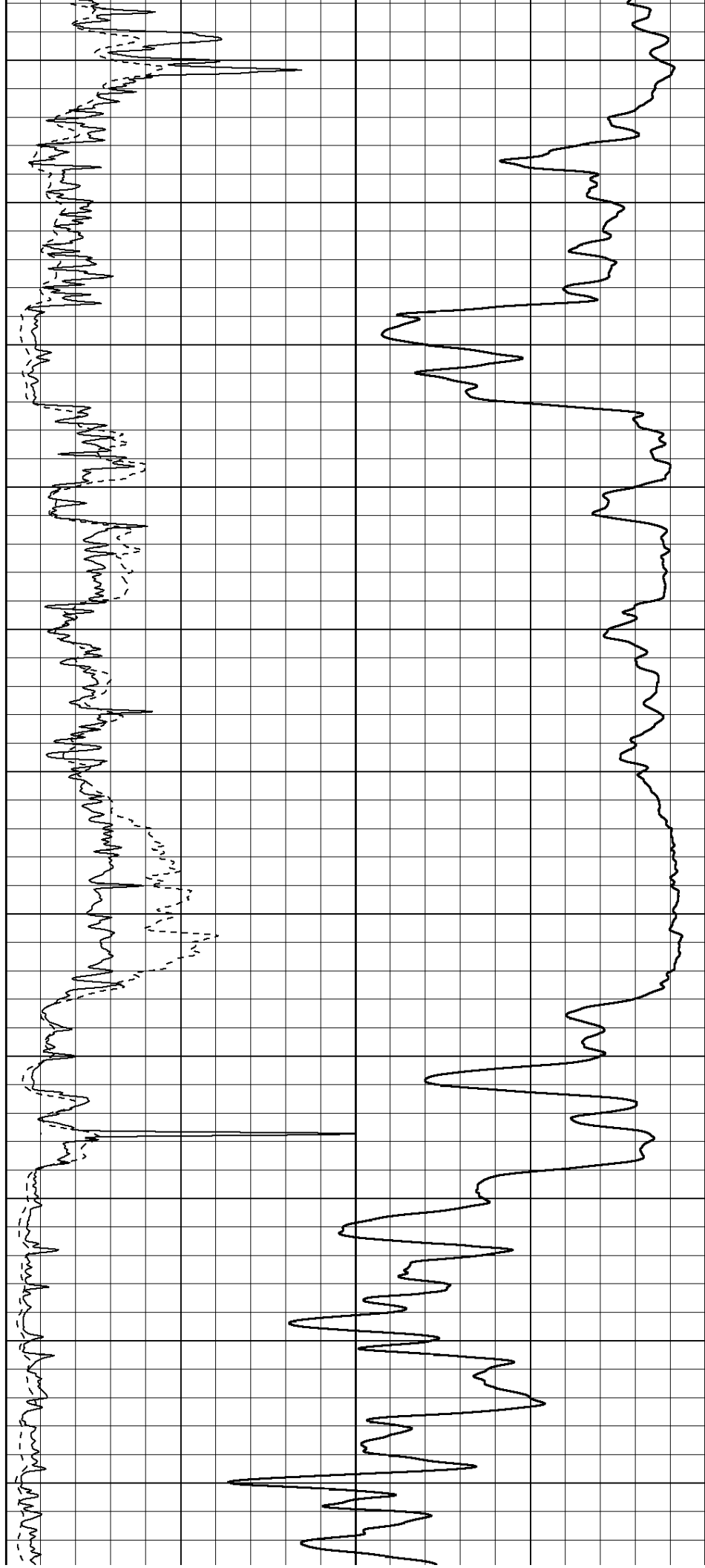
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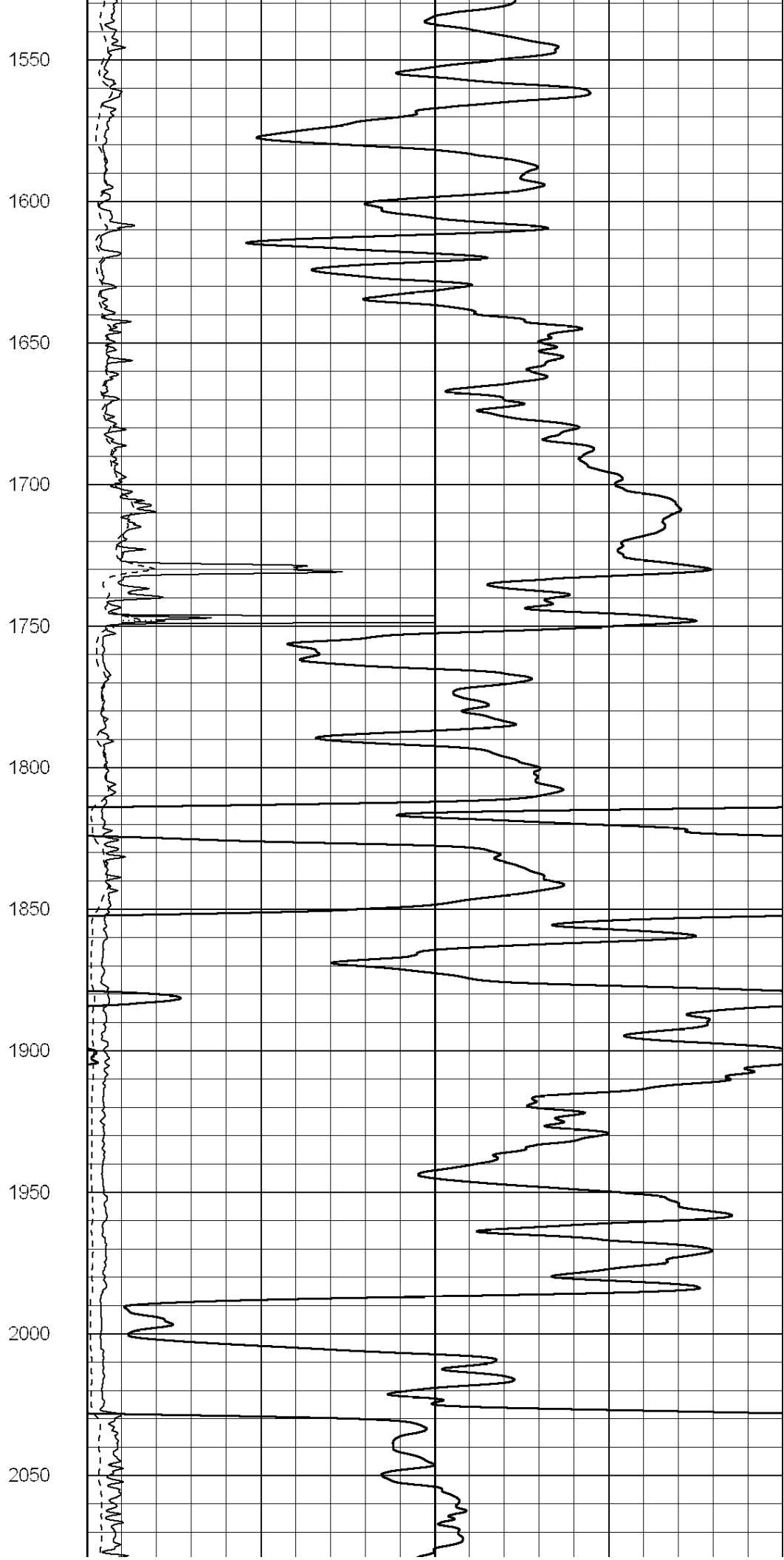
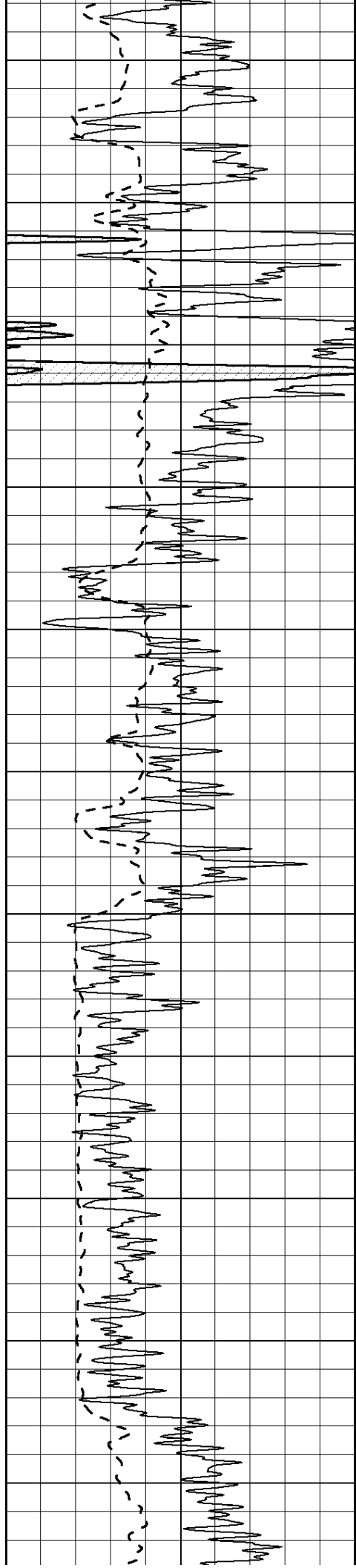
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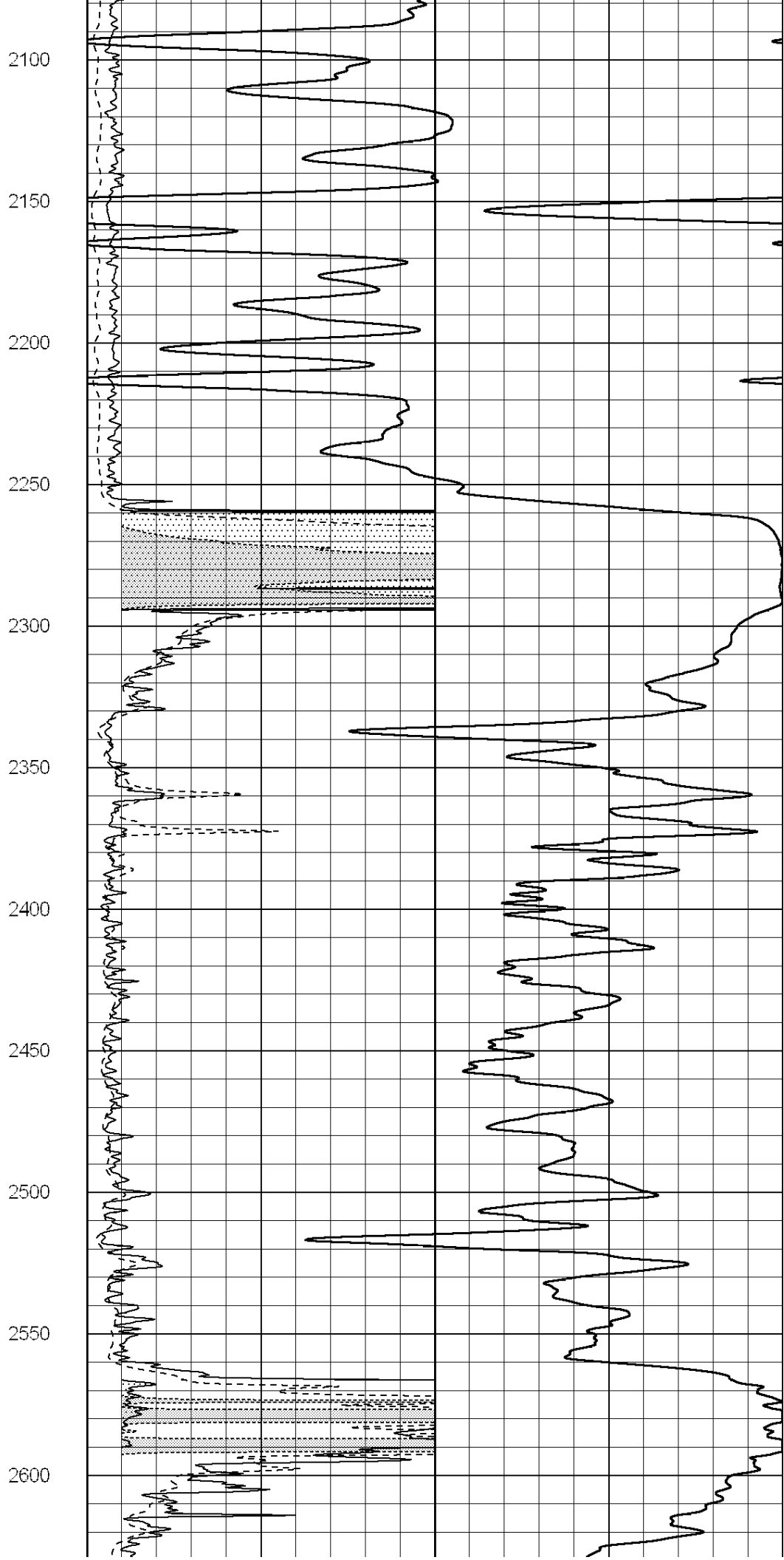
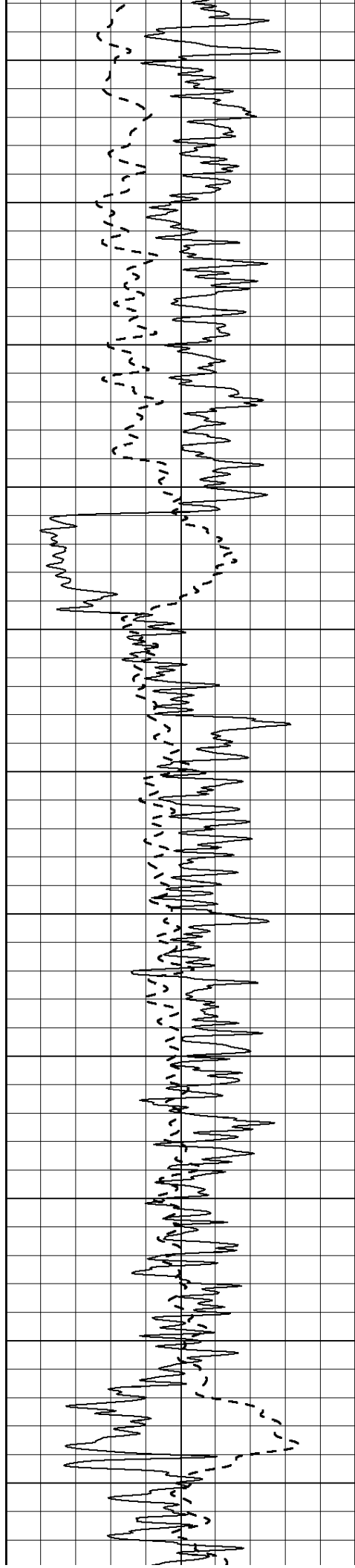
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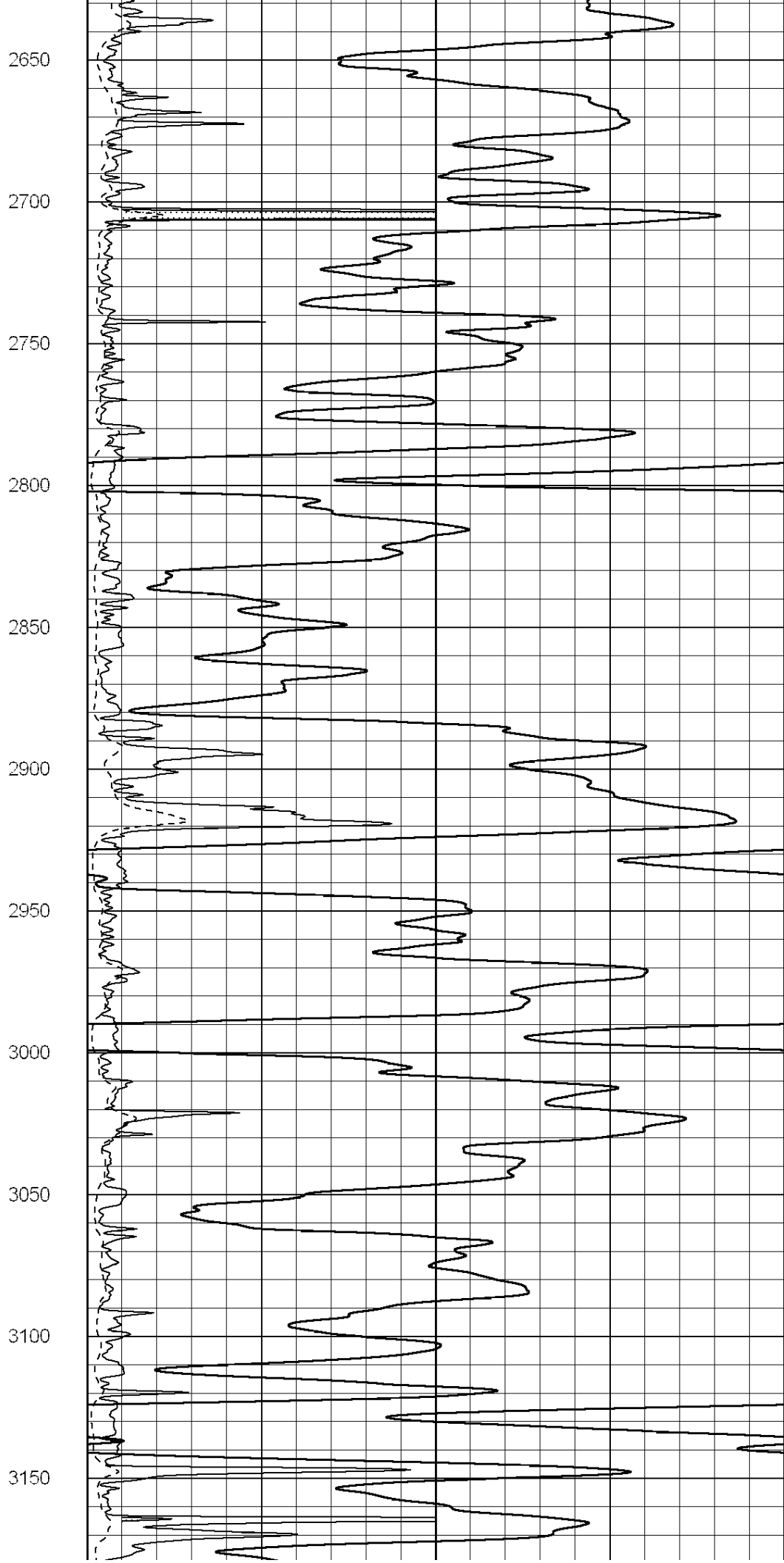
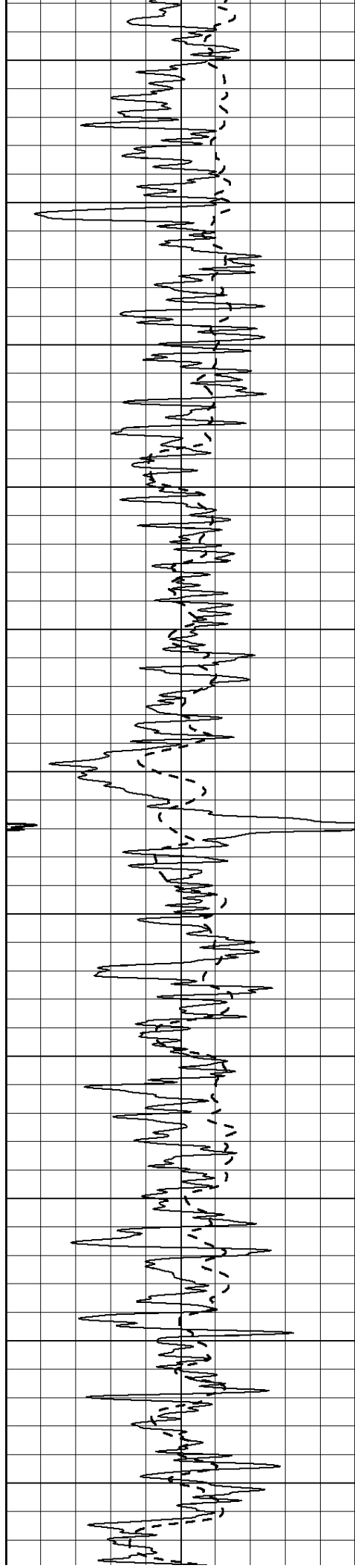
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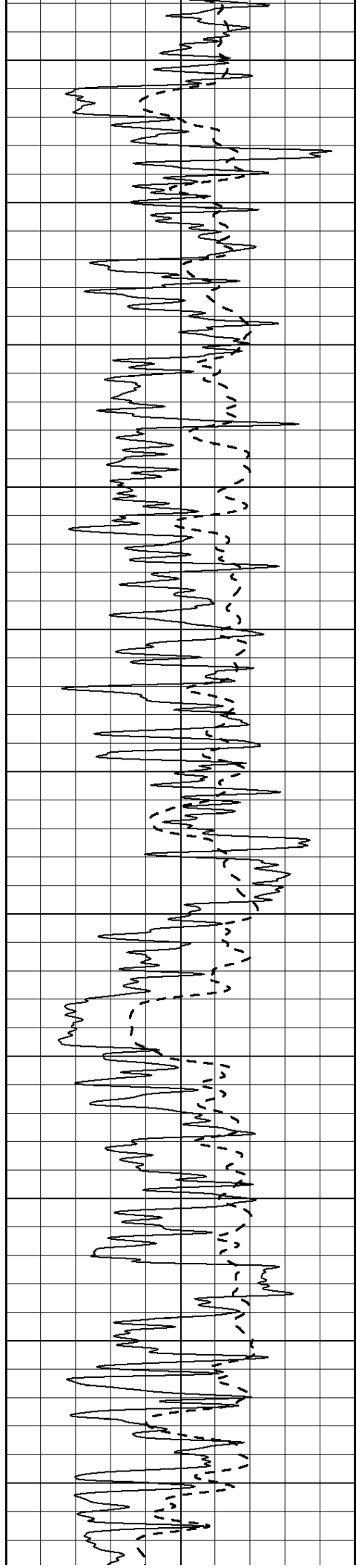
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3200

3250

3300

3350

3400

3450

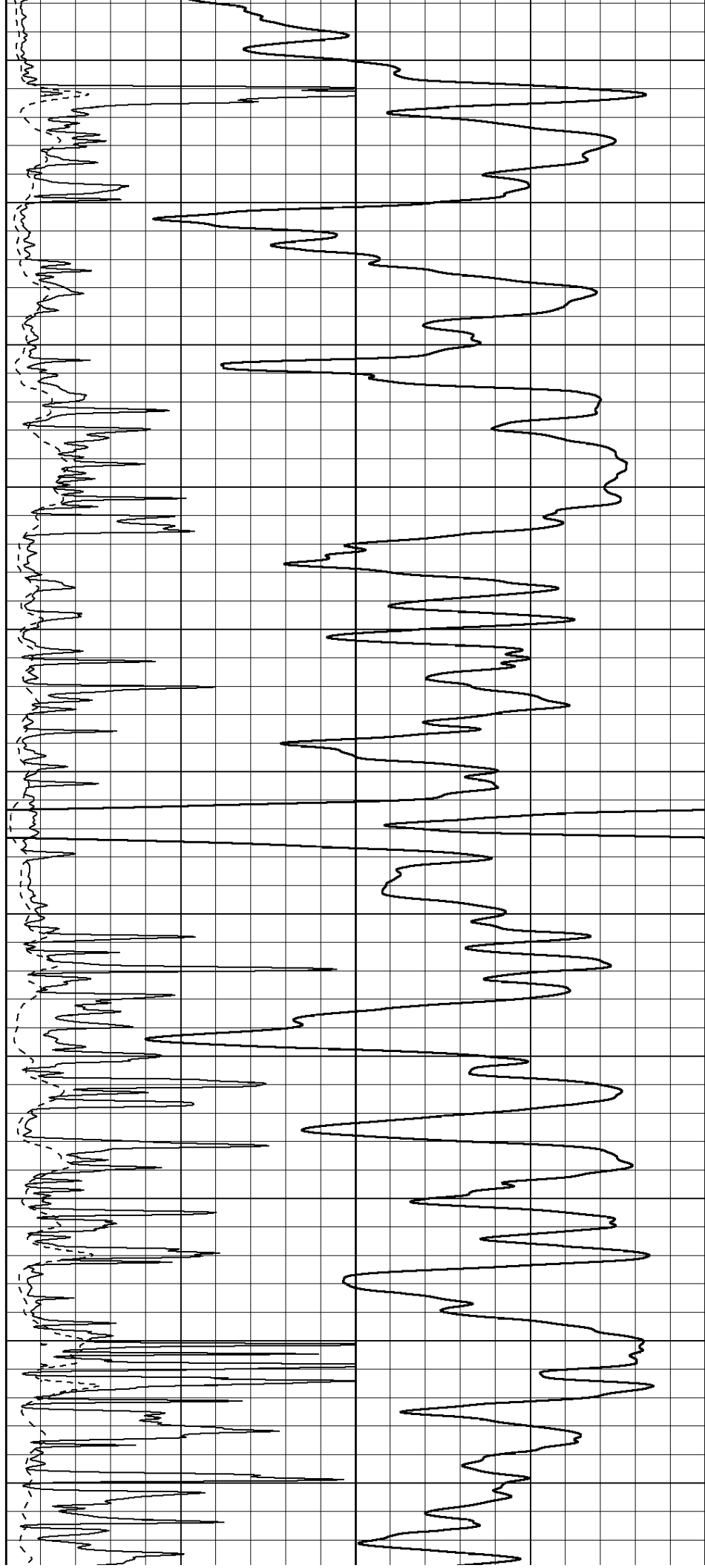
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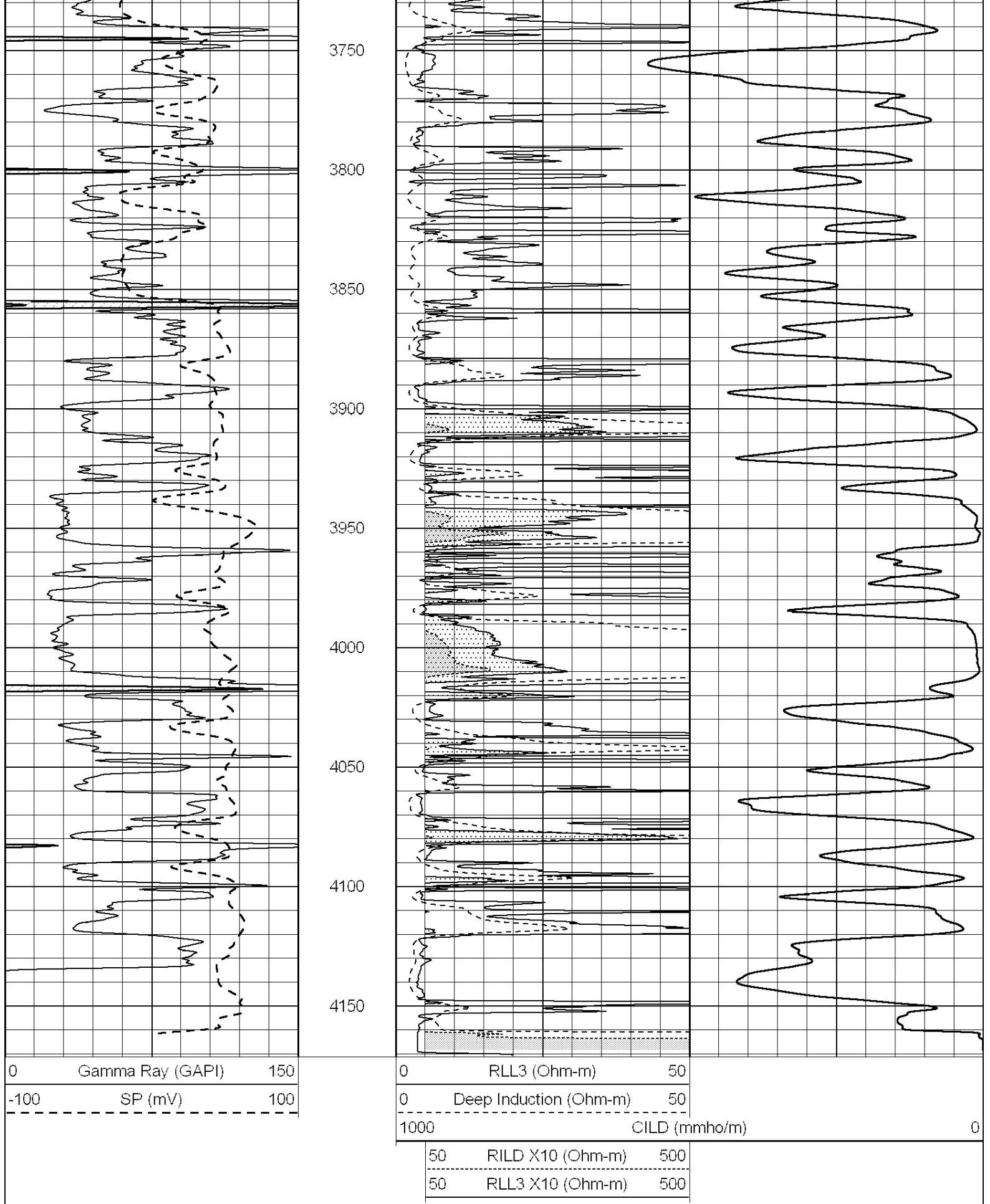
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3600

3650

3700

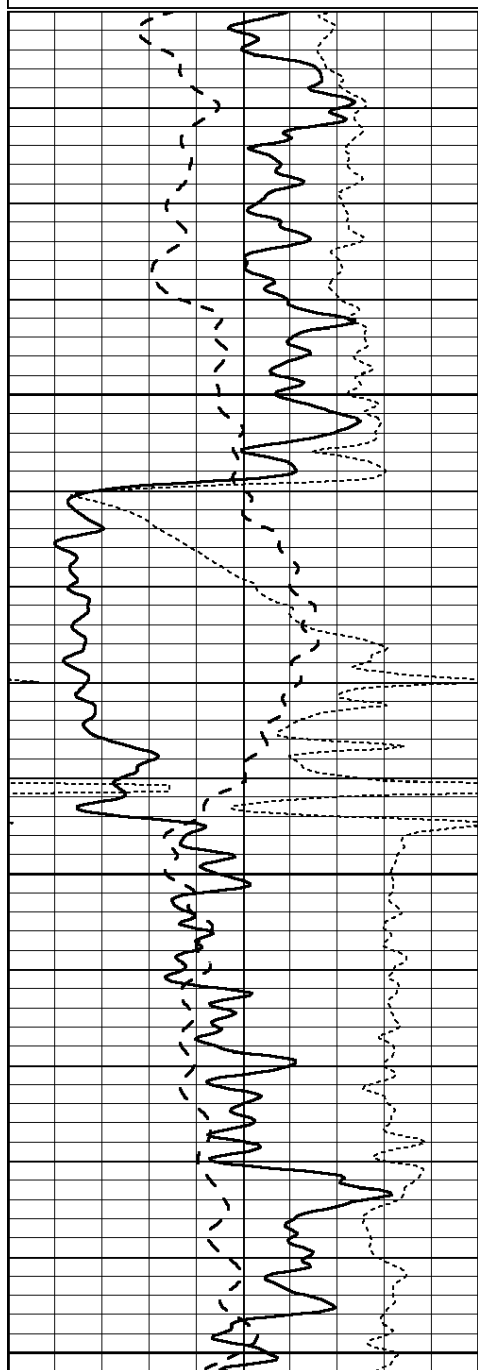




Database File: 010794ddn.db
 Dataset Pathname: pass3.2
 Presentation Format: _dil
 Dataset Creation: Mon May 27 04:02:42 2013 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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

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

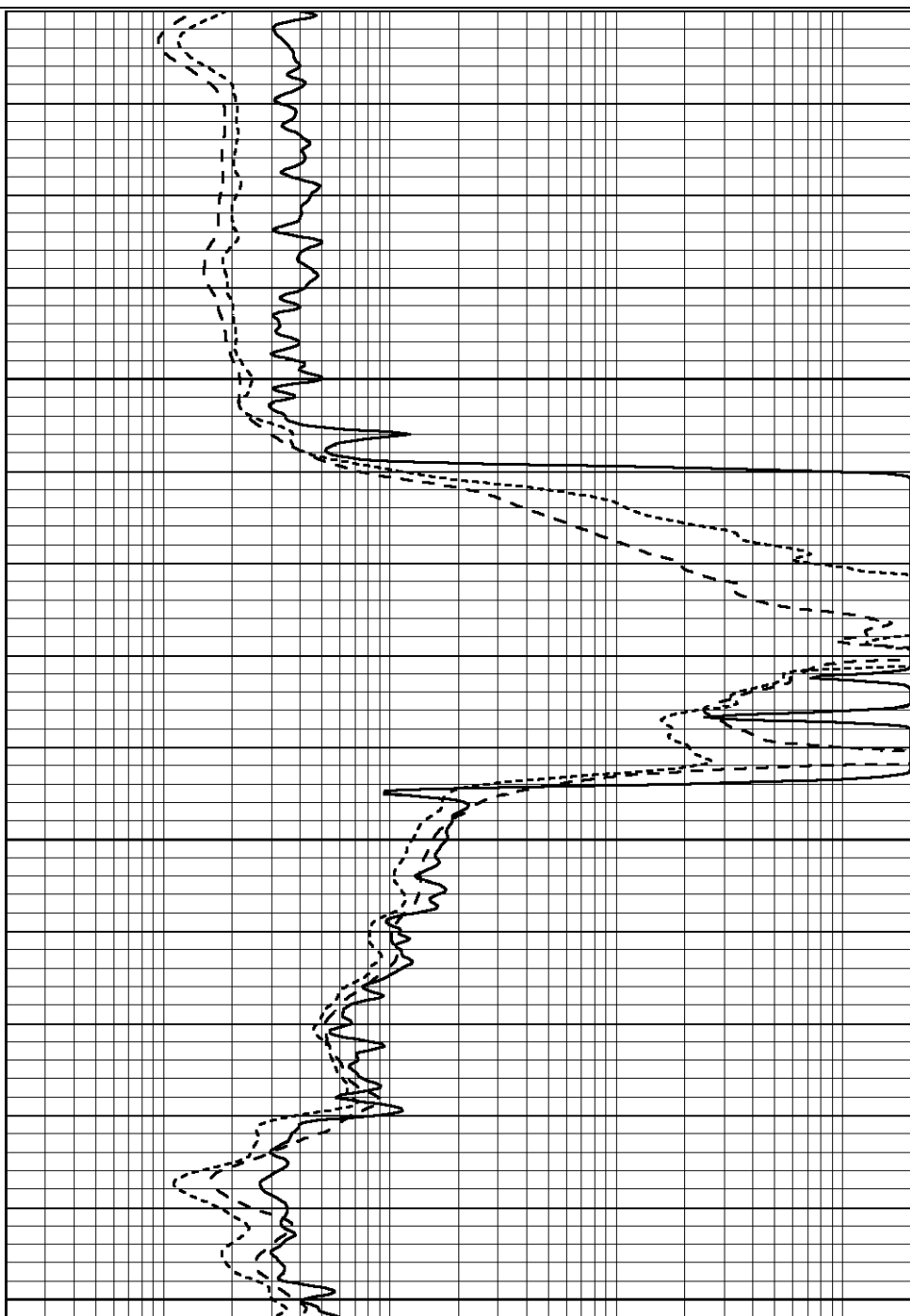


2250

2300

2350

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



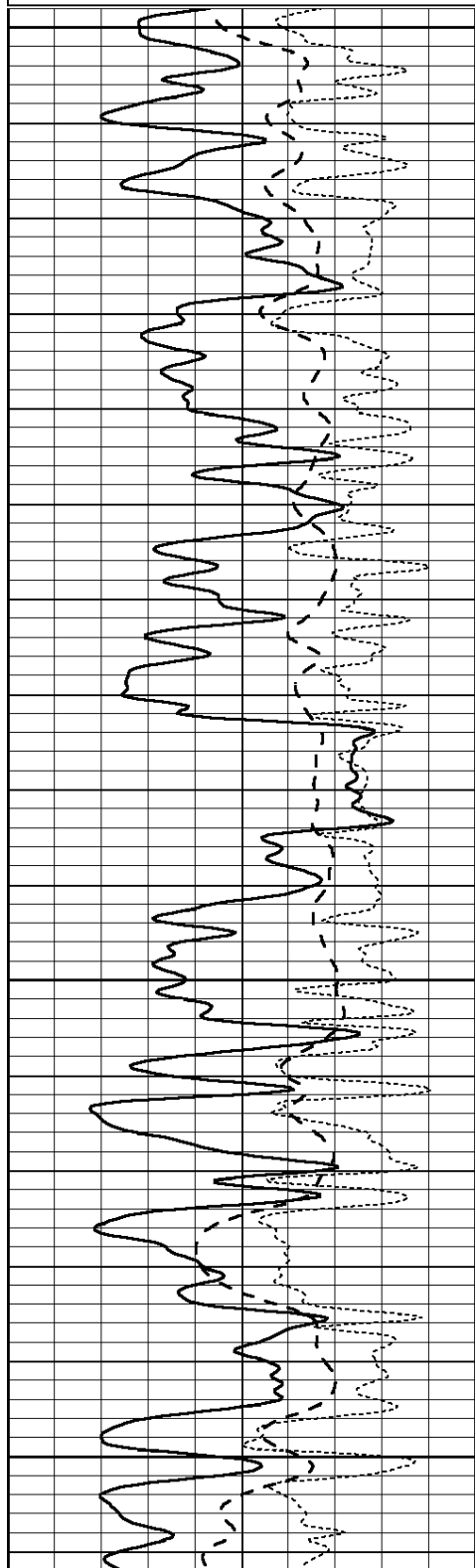
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

MAIN SECTION

Database File: 010794ddn.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Mon May 27 03:53:40 2013 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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

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

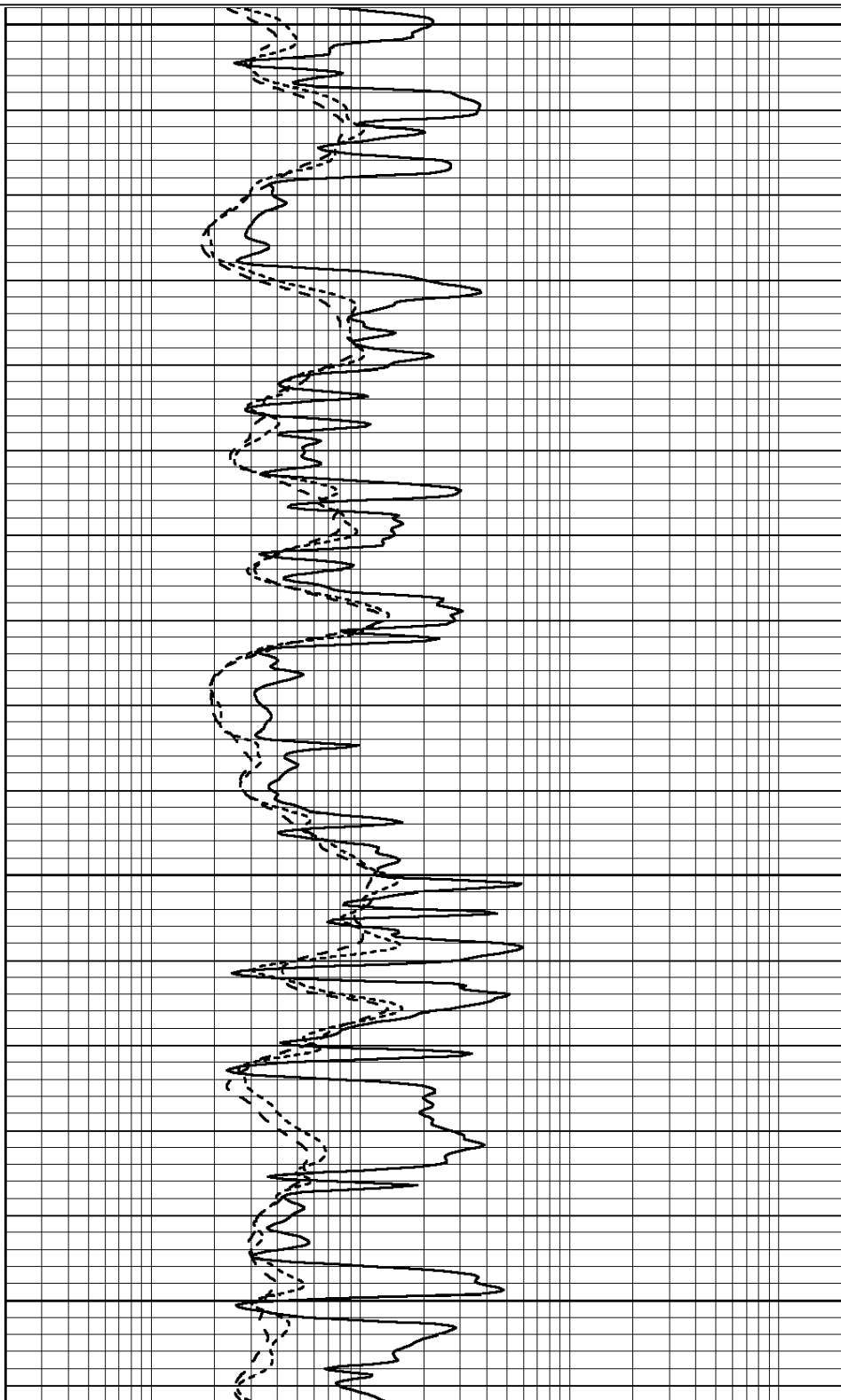


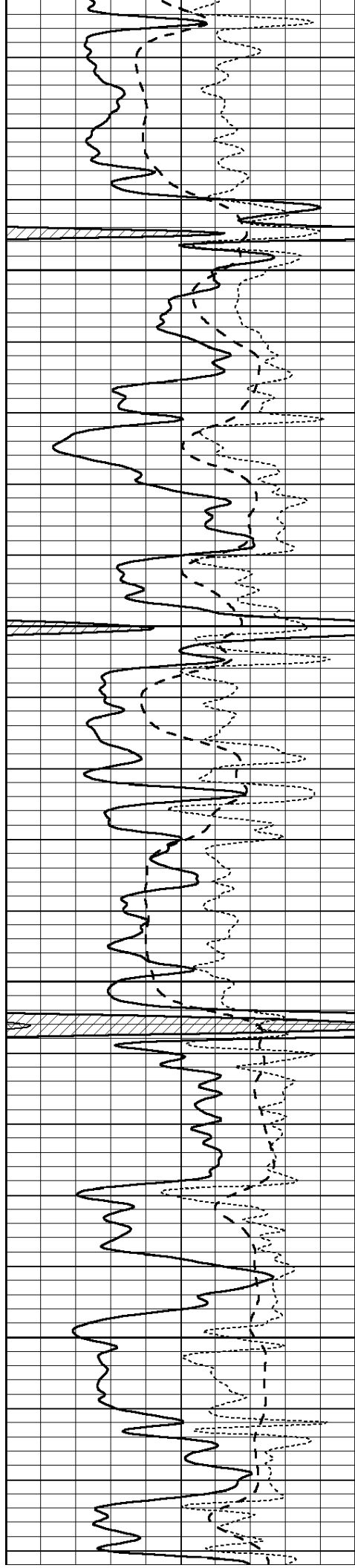
3550

3600

3650

3700



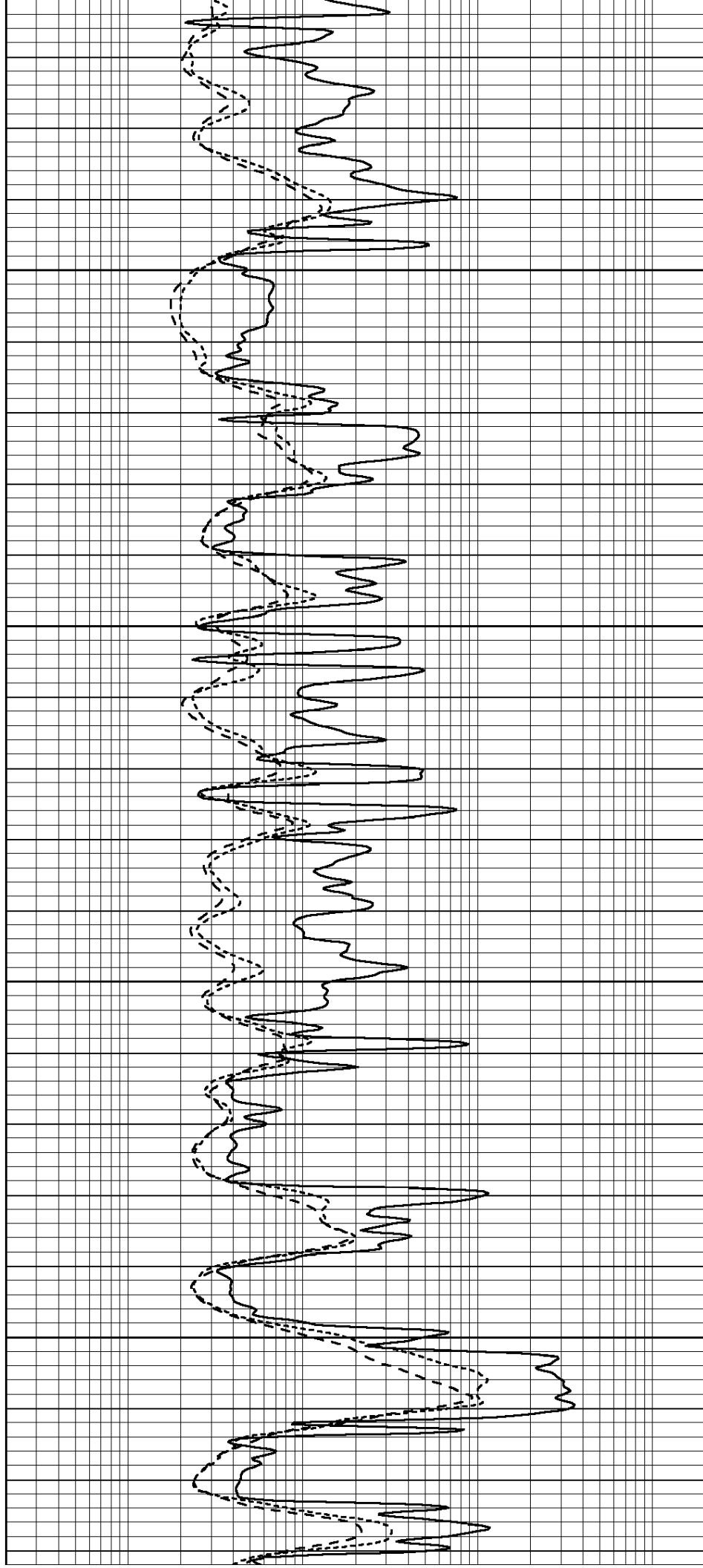


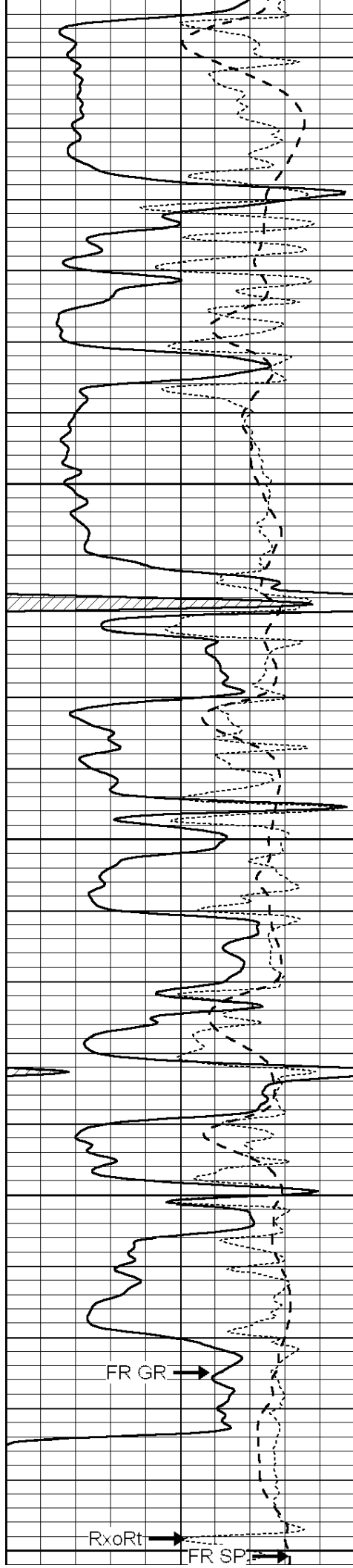
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3800

3850

3900





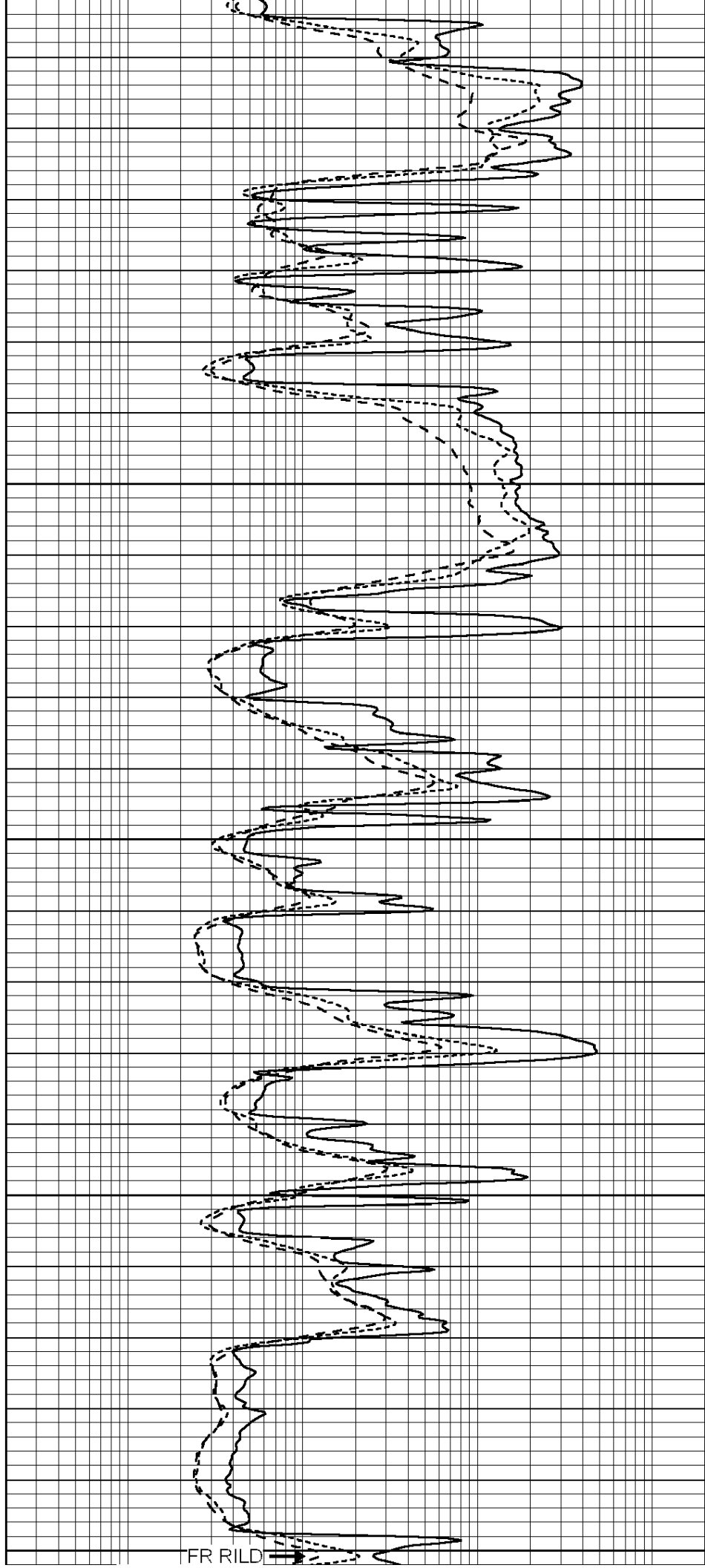
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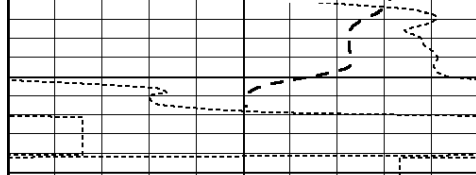
4000

4050

4100

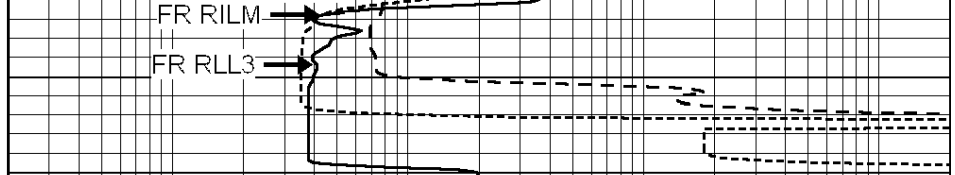
4150





LTD 4161

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



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



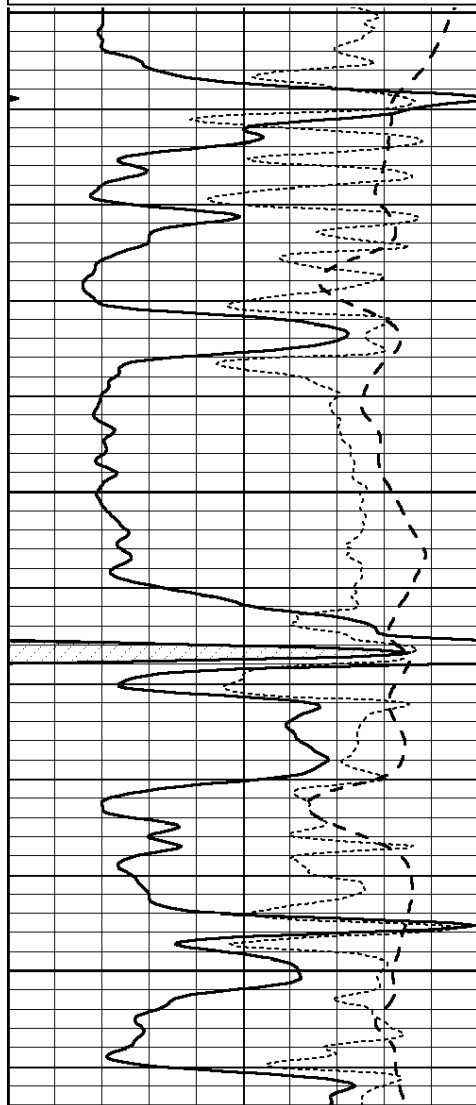
**COMPLETION
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REPEAT SECTION

Database File: 010794ddn.db
 Dataset Pathname: pass2.1
 Presentation Format: _dil
 Dataset Creation: Mon May 27 03:52:20 2013 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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

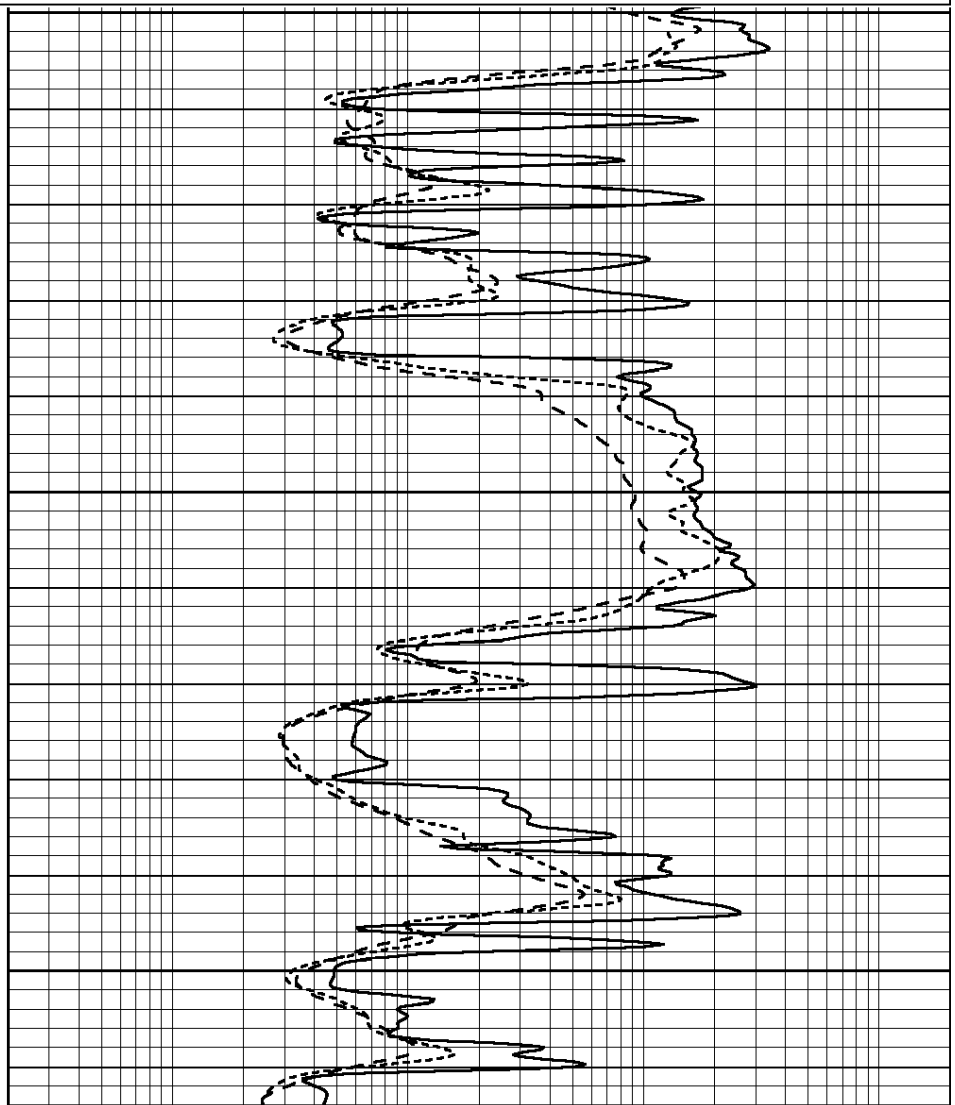
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0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000

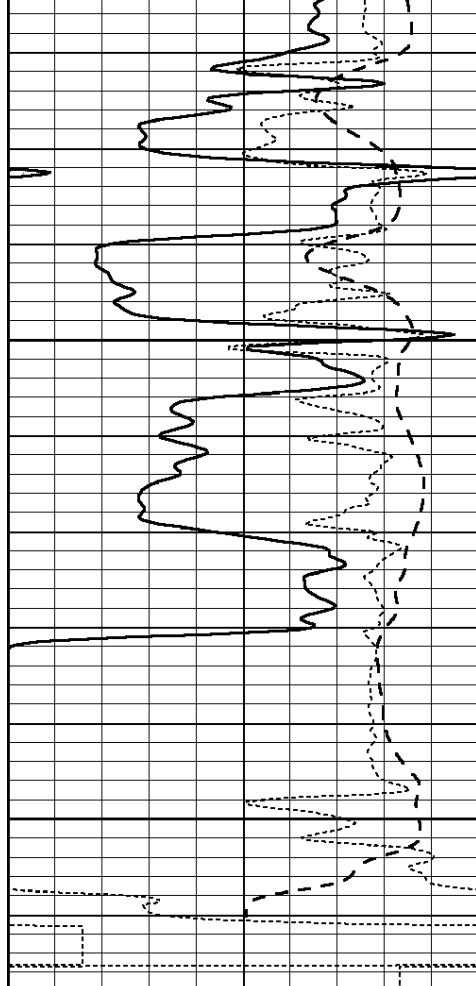


3950

4000

4050

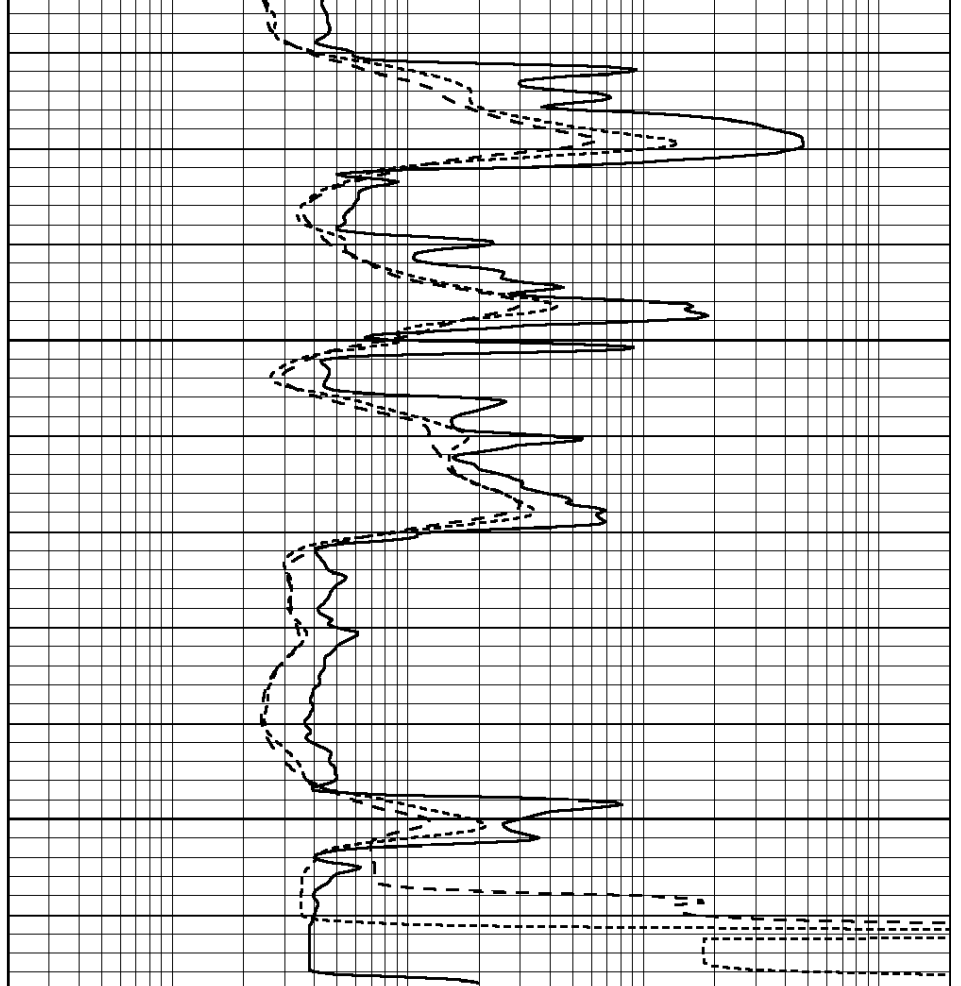




4100

4150

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



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

Calibration Report

Database File: 010794ddn.db
 Dataset Pathname: pass2.1
 Dataset Creation: Mon May 27 03:52:20 2013 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE8-DILG
 Surface Cal Performed: Fri Aug 01 06:33:19 2008
 Downhole Cal Performed: Mon Jul 28 11:08:27 2008
 After Survey Verification Performed: Mon Jul 28 11:08:27 2008

Surface Calibration

Readings				References			Results	
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.015	0.648	V	0.000	400.000	mmho/m	632.616	-9.730
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-17.680
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.017	0.657	V	0.000	400.000	mmho/m	625.153	-10.619
Medium	0.016	0.757	V	0.000	464.000	mmho/m	625.992	-9.739

Downhole Calibration

Readings References Results

	Zero	Cal		Zero	Cal		m	b
Deep	0.000	0.000	mmho/m	2.011	405.777	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	7.590	503.393	mmho/m	1.000	0.000
LL3		7.500	V		1500.000	Ohm-m		
		0.000	V		20.000	Ohm-m		
		-7.200	V		3800.000	mmho-m		
After Survey Verification								
	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
Medium	0.000	0.000	mmho/m	0.000	0.000	mmho/m	0.000	0.000
LL3		1.000	Ohm-m		1.000	Ohm-m		
		0.000	Ohm-m		0.000	Ohm-m		
		1.000	mmho-m		1.000	mmho-m		
Compensated Density Calibration Report								
Serial-Model:				GEAR3-GEARHART				
Source / Verifier:				143 / 143				
Master Calibration Performed:				Thu Jan 26 19:46:16 2012				
Master Calibration								
	Density			Far Detector		Near Detector		
Magnesium	1.710	g/cc		971.18		557.33	cps	
Aluminum	2.600	g/cc		212.31		367.26	cps	
	Spine Angle = 74.66			Density/Spine Ratio = 0.564				
	Size			Reading				
Small Ring	8.00	in		4.29	V			
Large Ring	14.00	in		6.24	V			
Compensated Neutron Calibration Report								
Serial Number:				6I				
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:			#8					
Tool Model:			OPEN					
Performed:			Mon Jun 13 16:56:43 2011					
Calibrator Value:			150.0	GAPI				
Background Reading:			0.0	cps				
Calibrator Reading:			175.0	cps				
Sensitivity:			0.8371	GAPI/cps				