



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

DUAL INDUCTION LOG

Company		PHILLIPS EXPLORATION COMPANY, L.C.	
Well		HERMAN TRUST #5-34	
Field		KOHART	
County		GRAHAM	
State		KANSAS	
Company		PHILLIPS EXPLORATION COMPANY, L.C.	
Well		HERMAN TRUST #5-34	
Field		KOHART	
County		GRAHAM	
State		KANSAS	
Location:		API # : 15-065-23921-0000 1717' FNL & 1702' FWL	
Permanent Datum		GROUND LEVEL	
Log Measured From		Elevation KELLY BUSHING 5' A.G.L. 2513	
Drilling Measured From		Elevation KELLY BUSHING 2518 D.F. 2516 G.L. 2513	
SEC 34		TWP 9S	
RGE 24W			
Date		5/1/13	
Run Number		ONE	
Depth Driller		4150	
Depth Logger		4151	
Bottom Logged Interval		4149	
Top Log Interval		00	
Casing Driller		8 5/8" @ 218	
Casing Logger		218	
Bit Size		7 7/8	
Type Fluid in Hole		CHEMICAL MUD	
Density / Viscosity		9.1/59	
pH / Fluid Loss		10.5/7.4	
Source of Sample		FLOWLINE	
Rim @ Meas. Temp		1.0 @ 86F	
Rmf @ Meas. Temp		.75 @ 86F	
Rmc @ Meas. Temp		1.02 @ 86F	
Source of Rmf / Rmc		MEASURED	
Rim @ BHT		.73 @ 117F	
Time Circulation Stopped		2 HOURS	
Time Logger on Bottom			
Maximum Recorded Temperature		117F	
Equipment Number		680	
Location		HAYS, KS.	
Recorded By		JASON CAPPELLUCCI	
Witnessed By		JIM PHILLIPS	

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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. (RD. H) - 7 W. - S. INTO AT TANK BATTERY



NABORS
COMPLETION
& PRODUCTION

MAIN SECTION

Database File:

010149ddn.db

Dataset Pathname:

pass3.3

Presentation Format:

_dil2

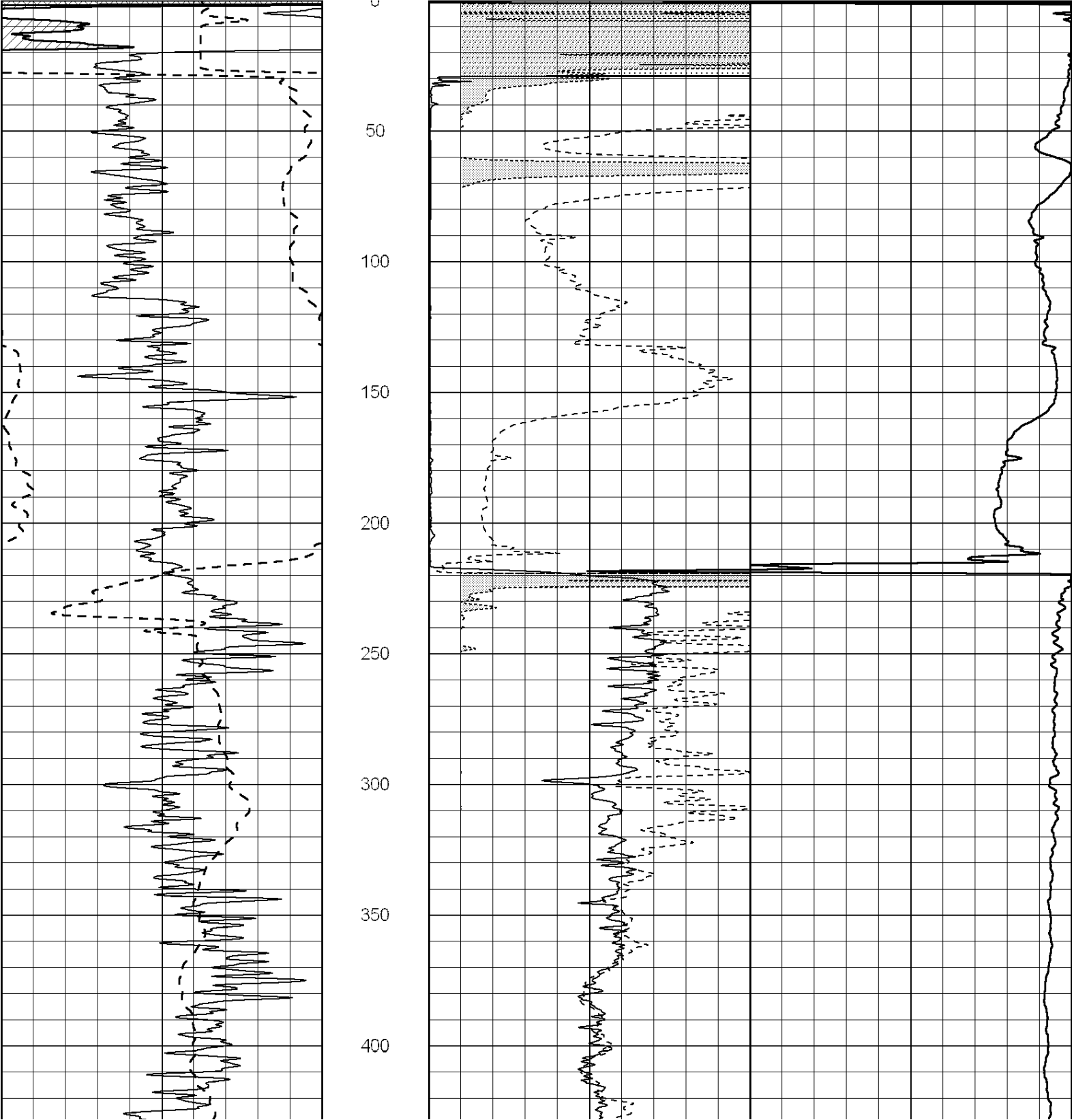
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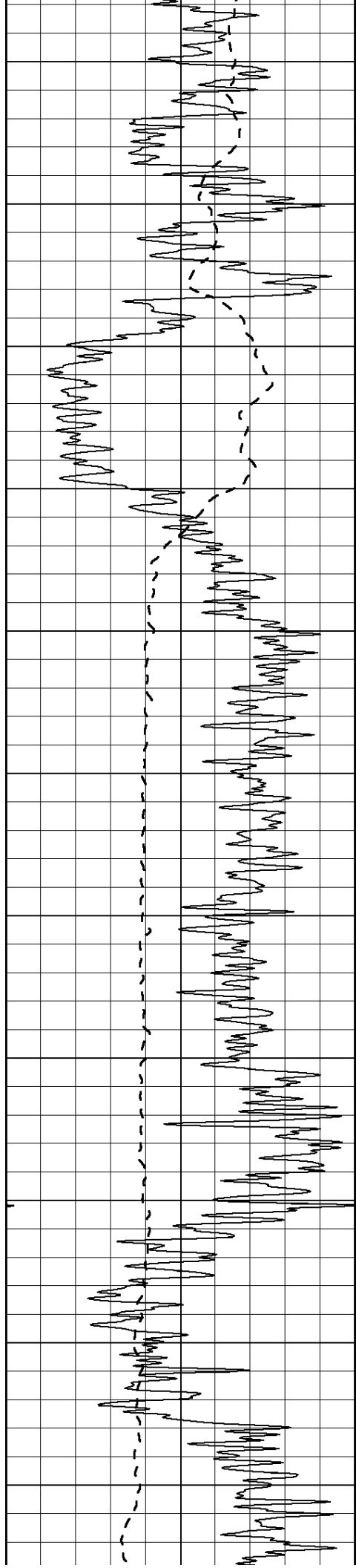
Wed May 01 19:30:47 2013 by Calc Open-Cased 090629

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

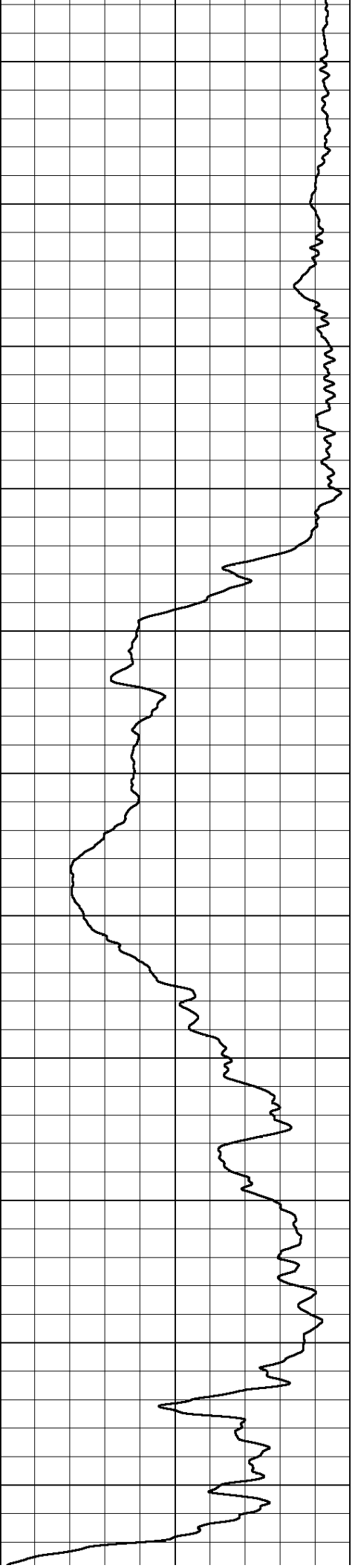
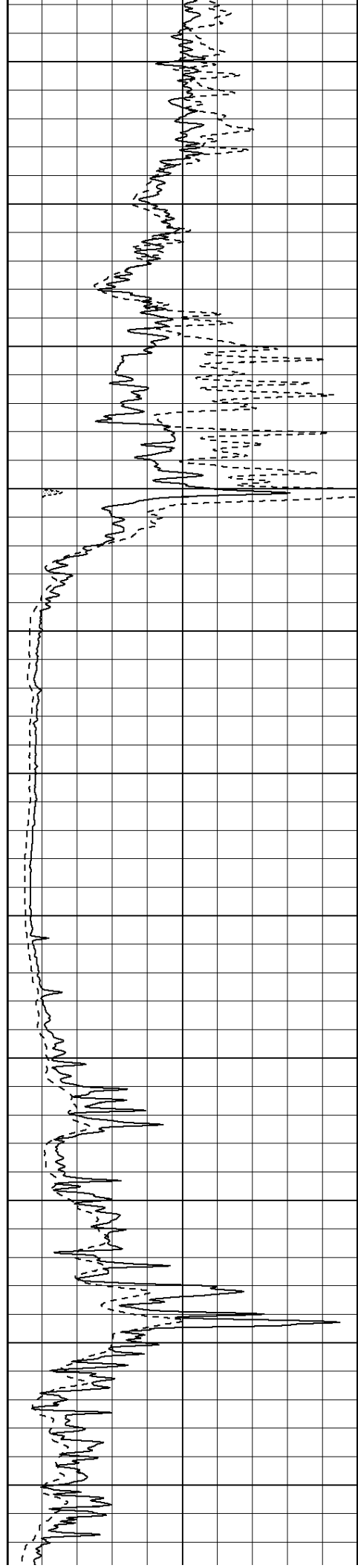
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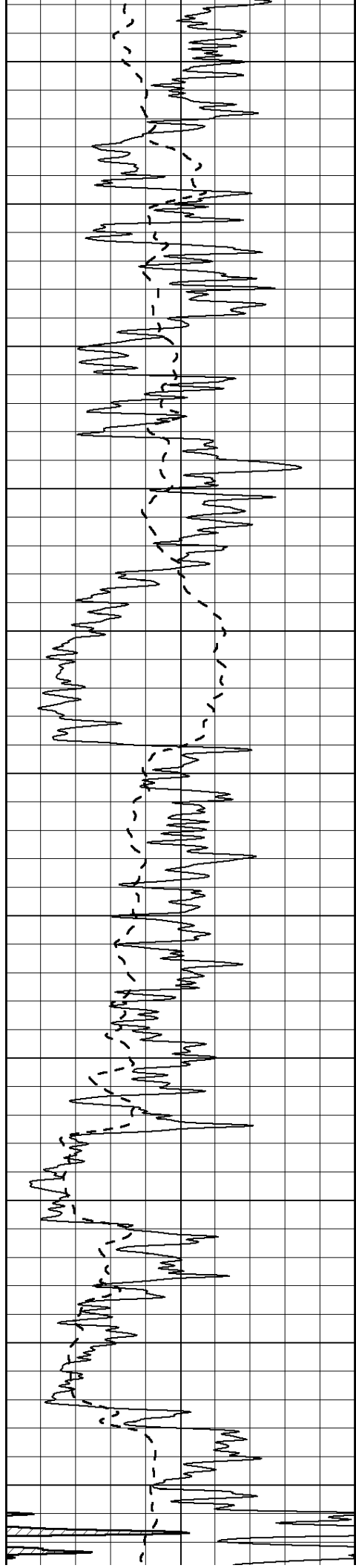
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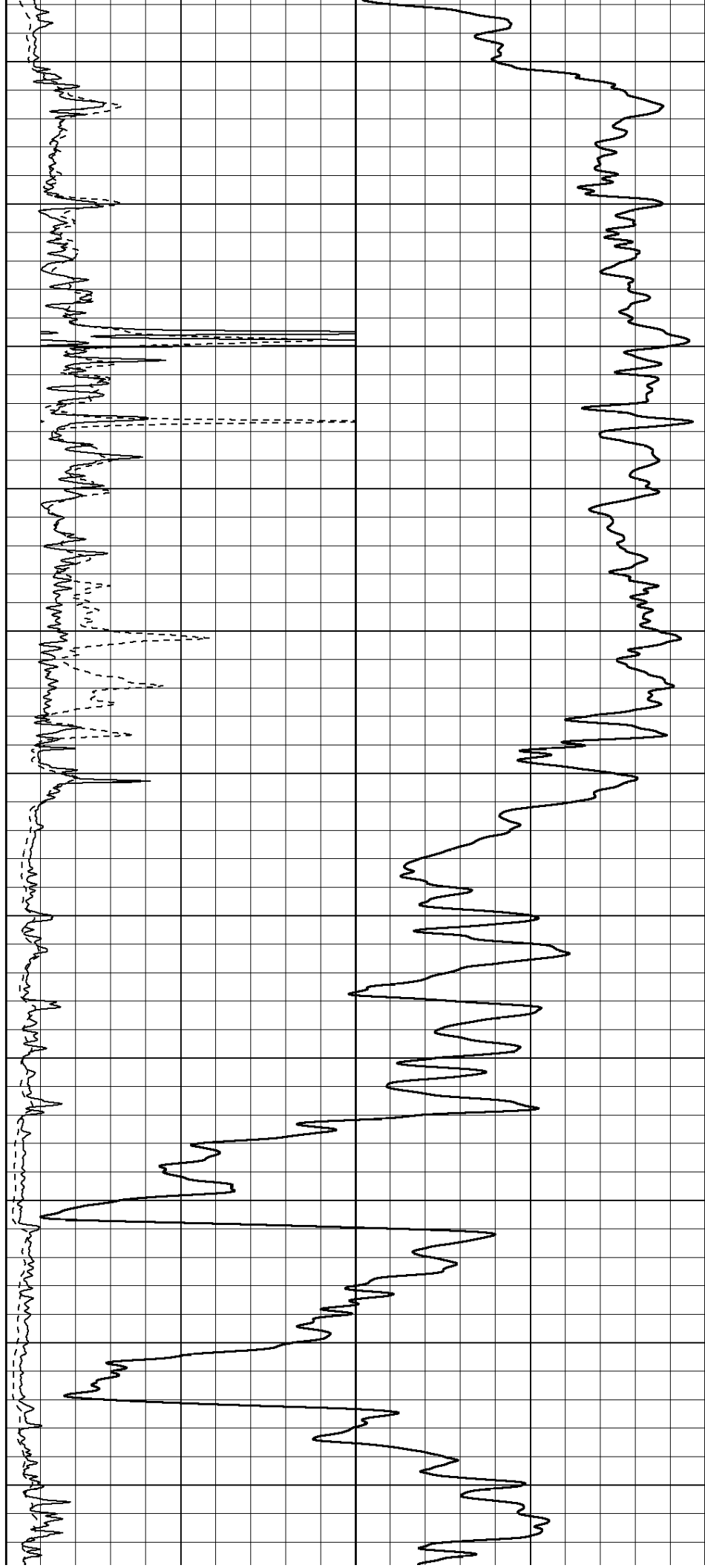
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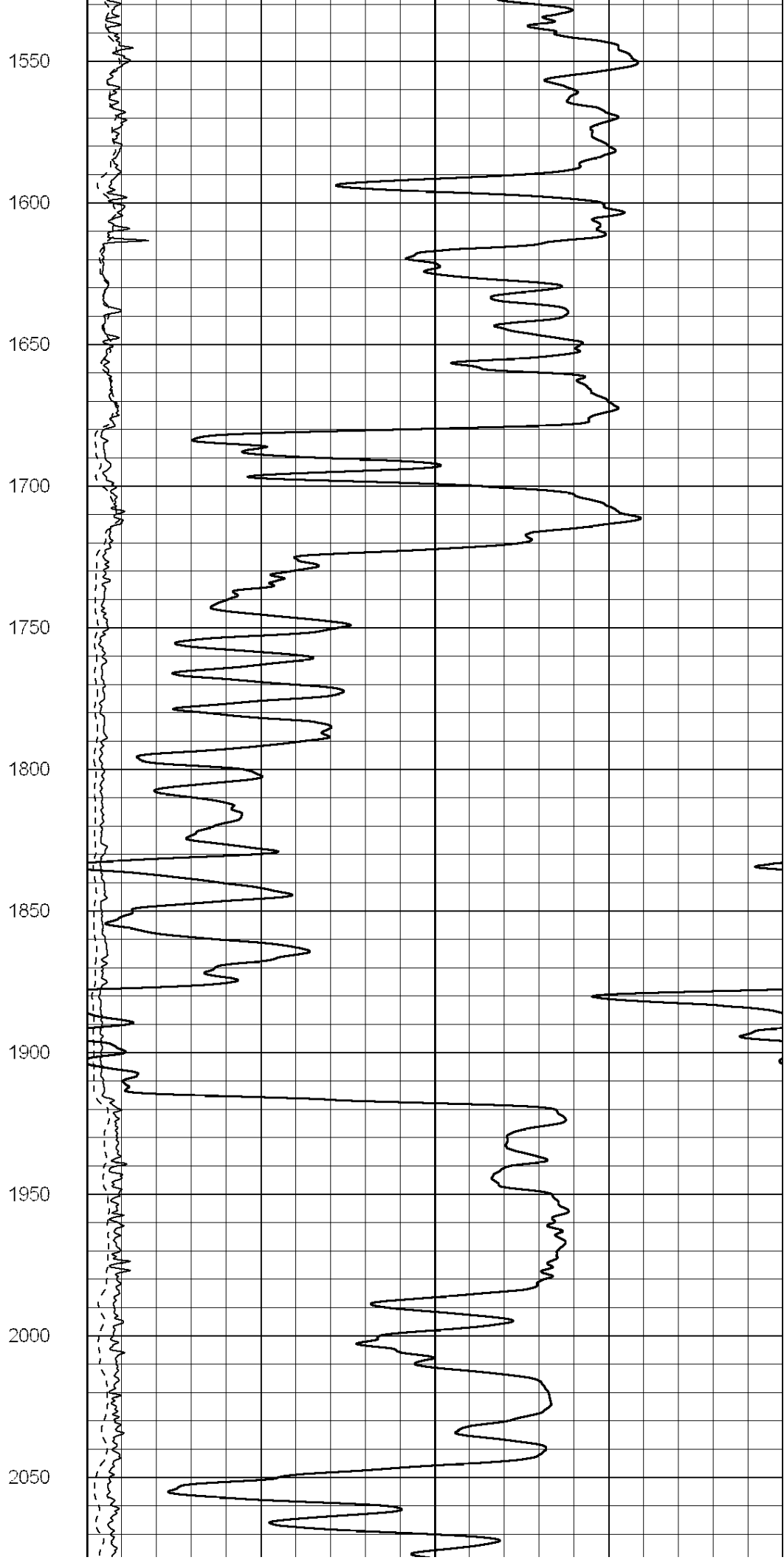
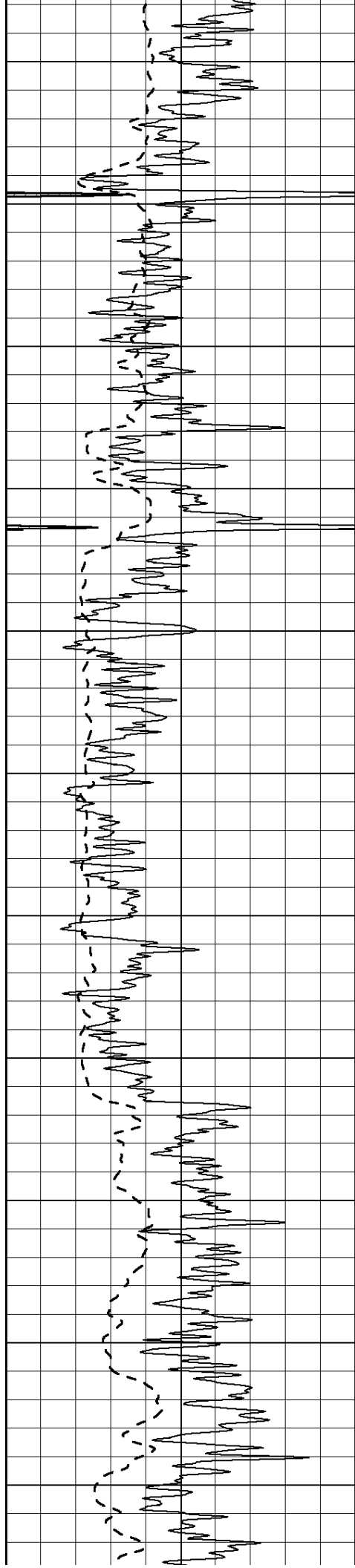
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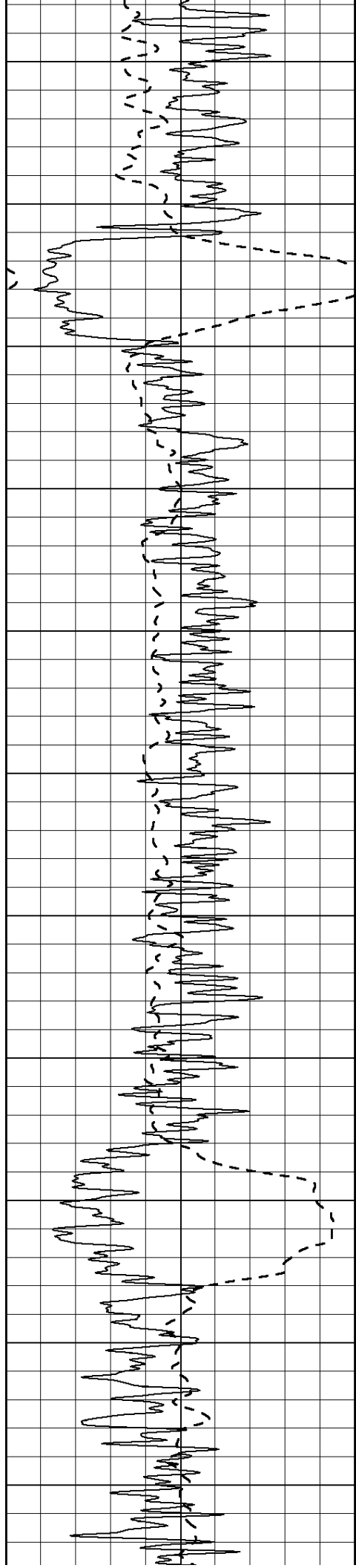




1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500







2100

2150

2200

2250

2300

2350

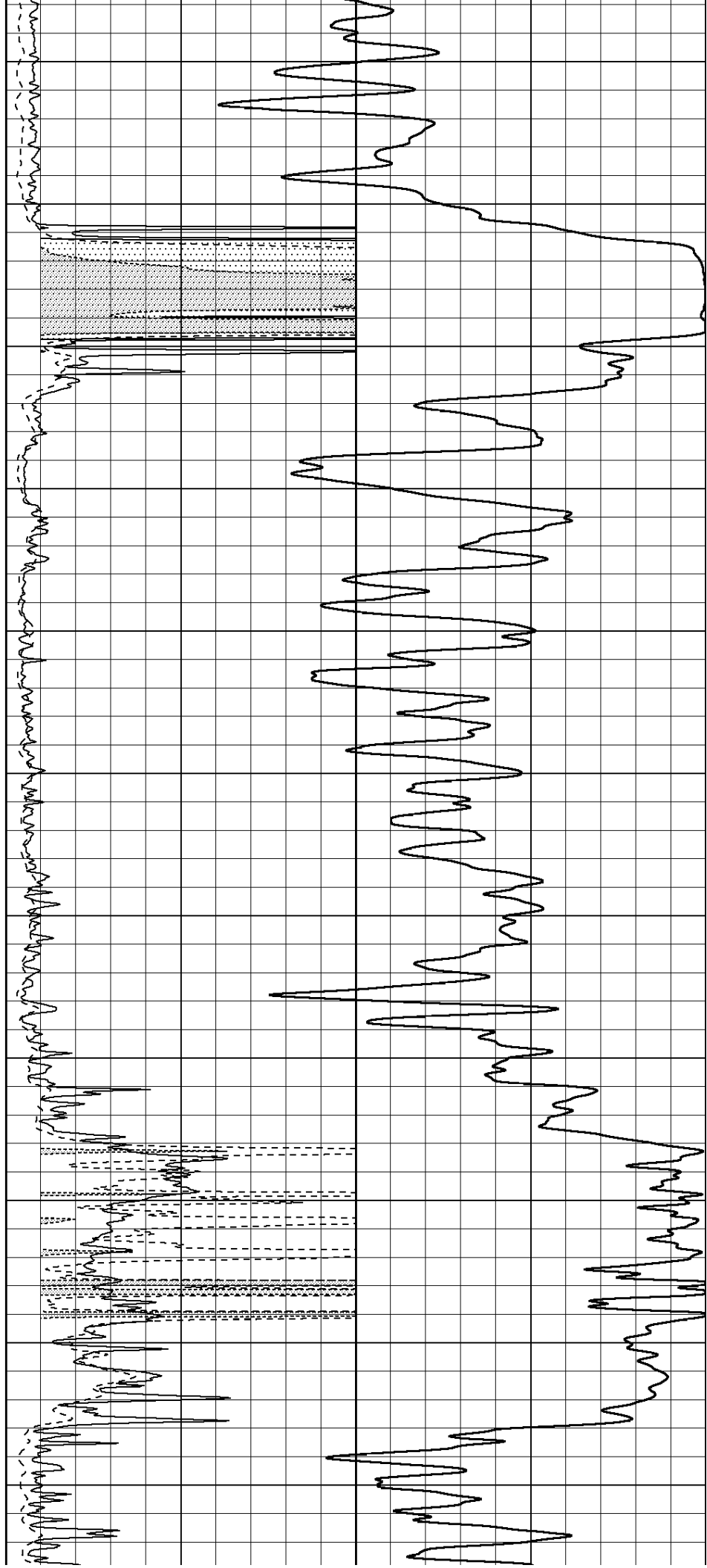
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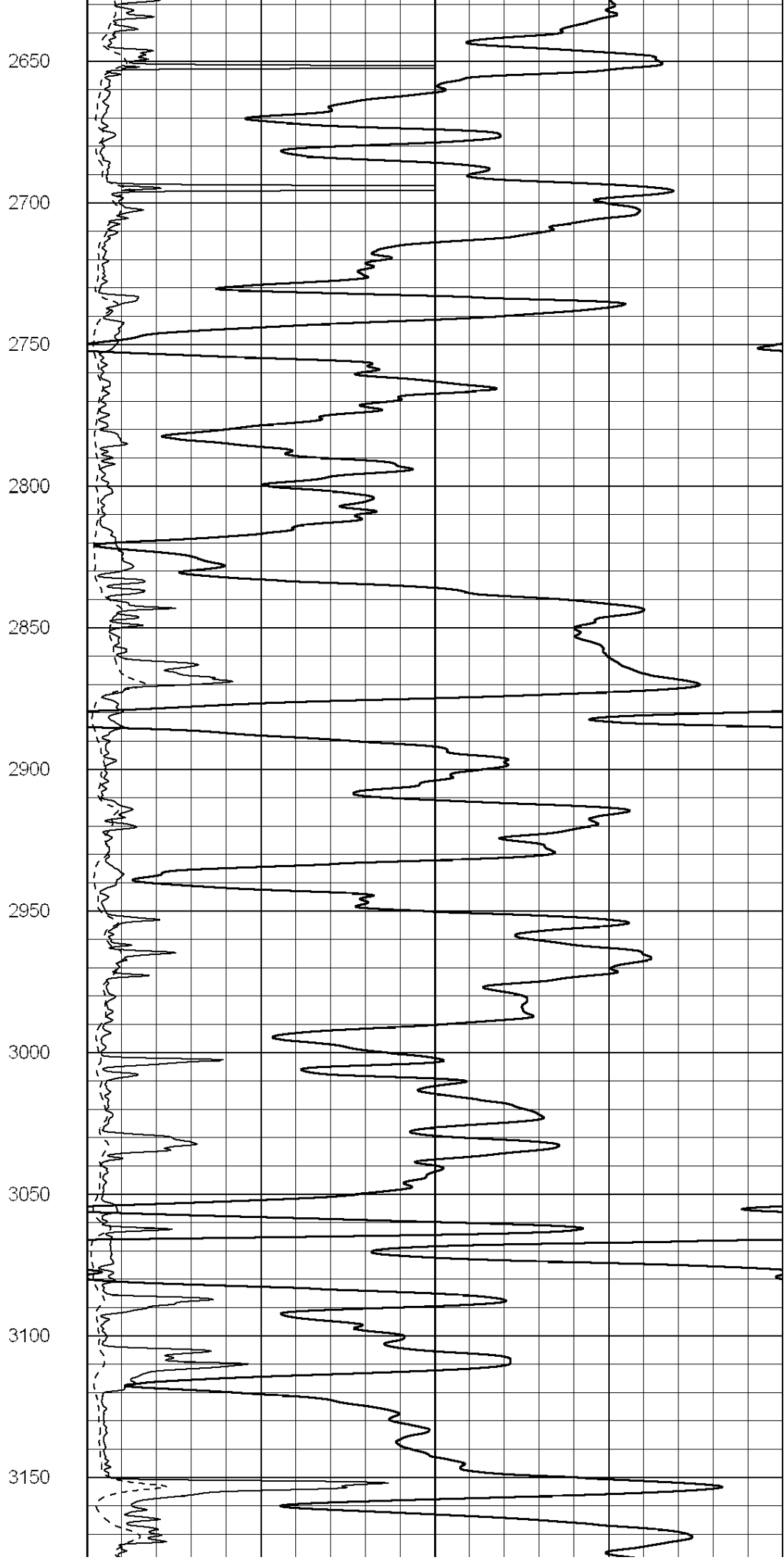
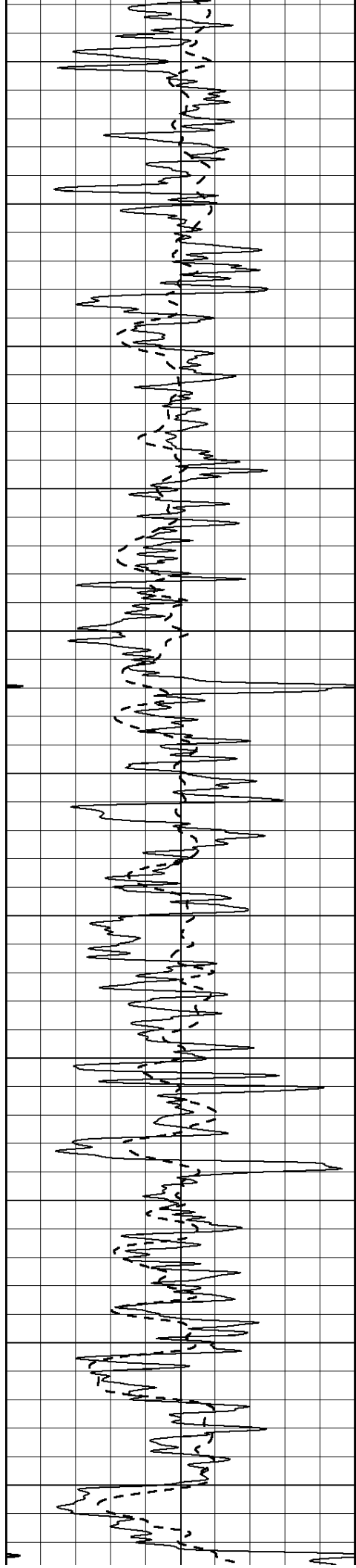
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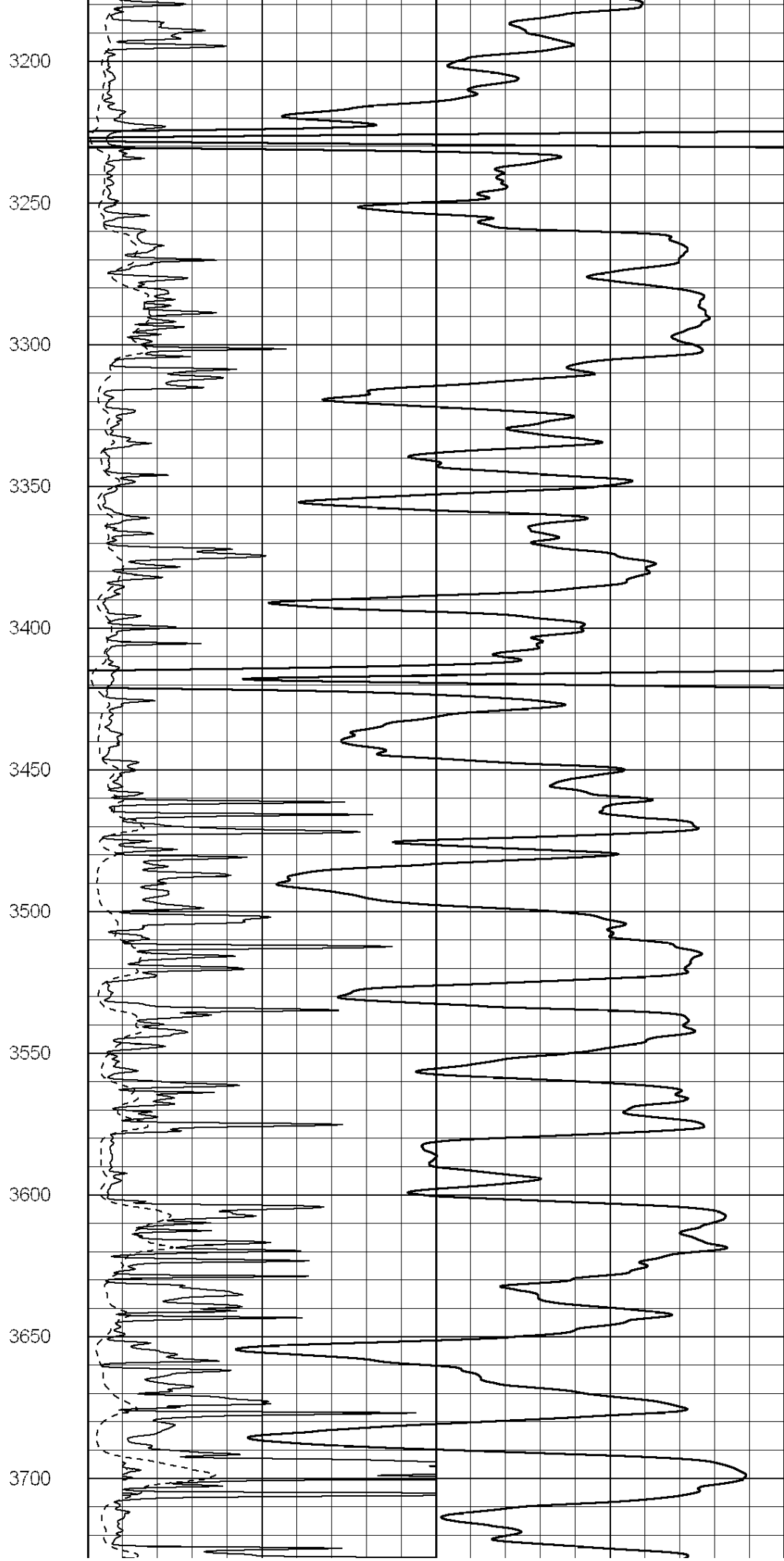
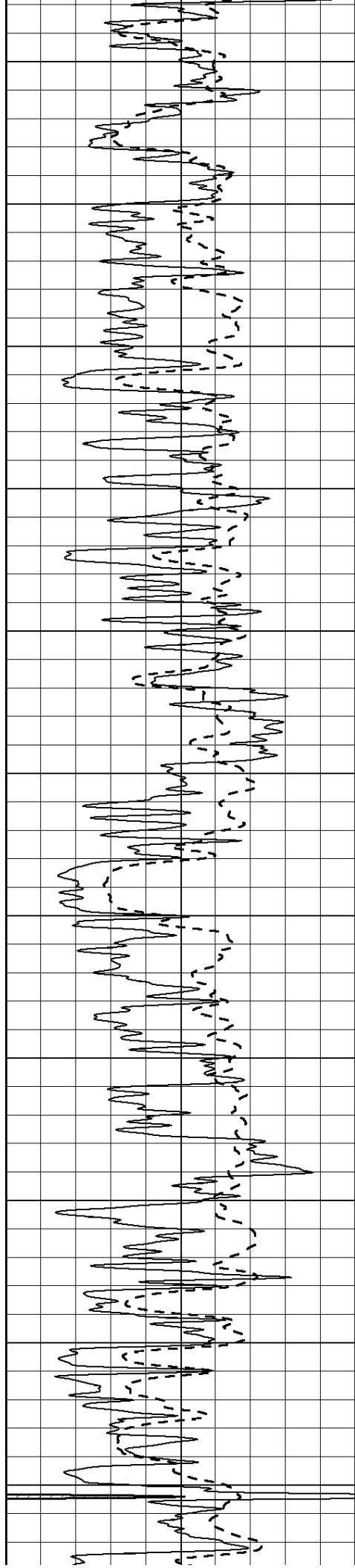
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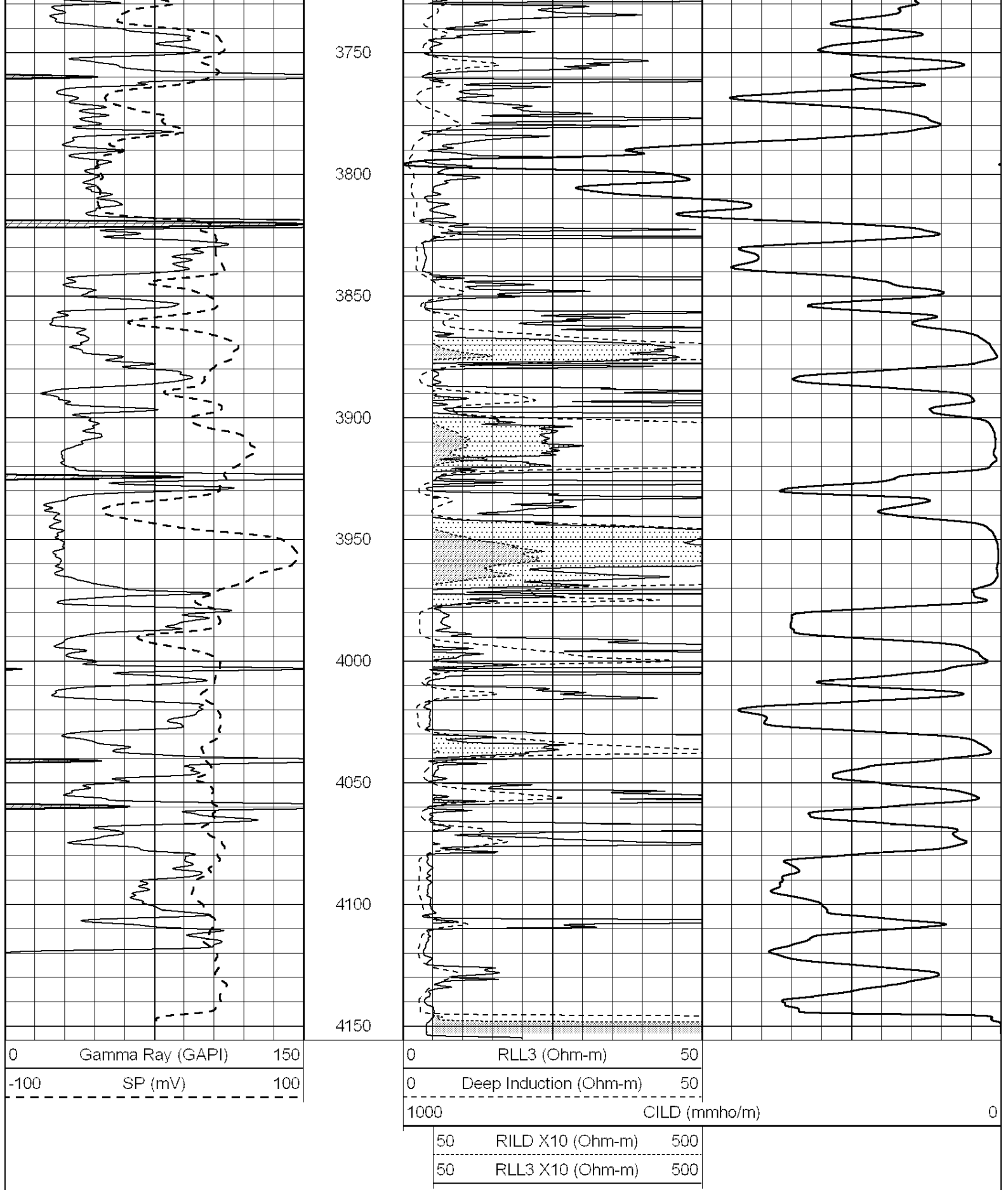
2550

2600









NABORS

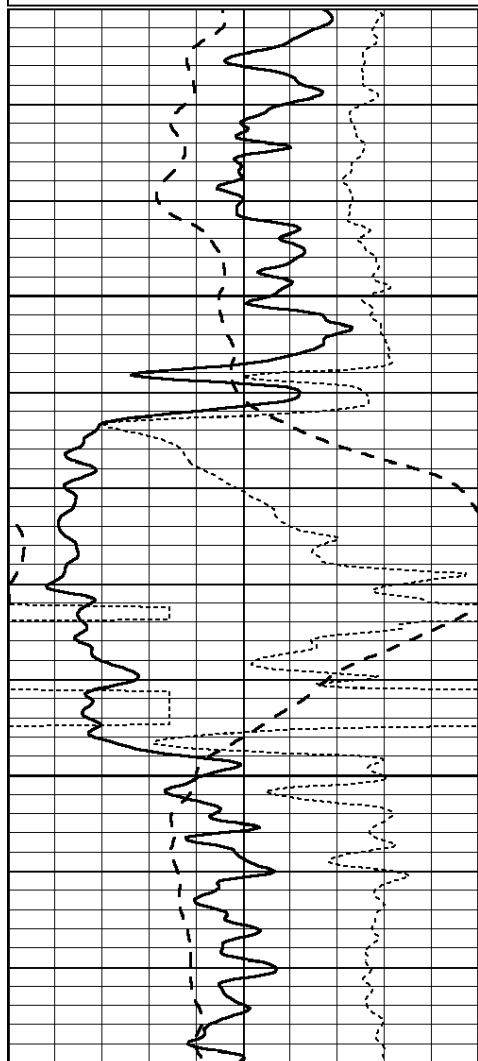
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SERVICES CO.

ANHYDRITE

Database File: 010149ddn.db
Dataset Pathname: pass3.2
Presentation Format: _dil
Dataset Creation: Wed May 01 18:57:47 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

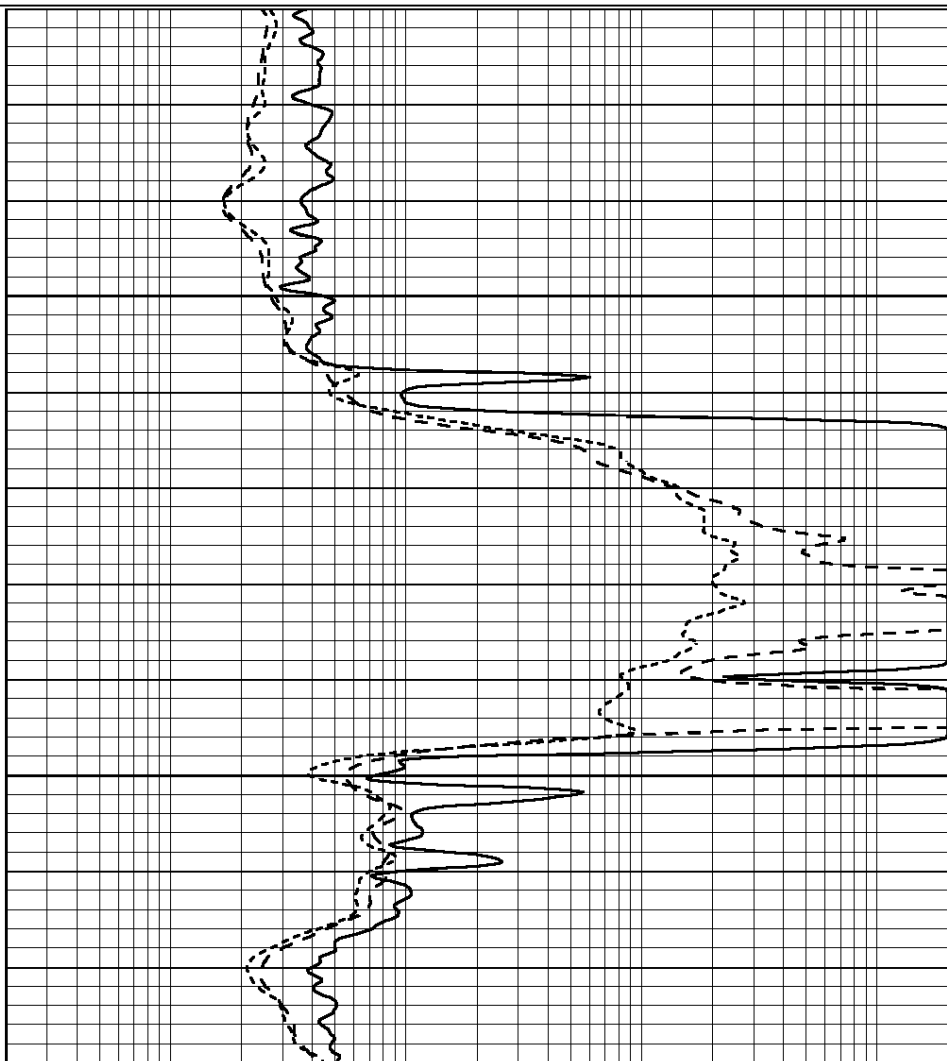
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000



2150

2200

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

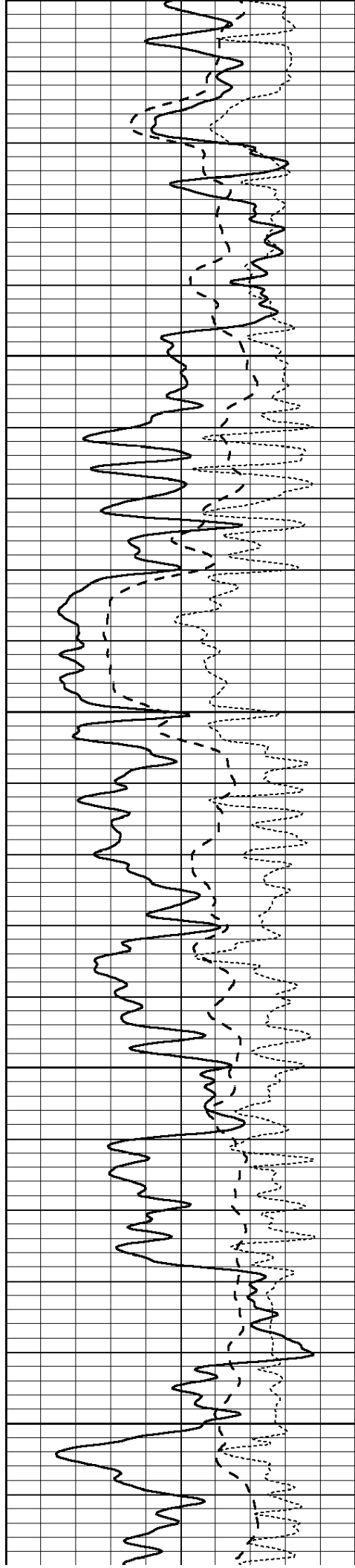


MAIN SECTION

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Dataset Pathname: pass3.1
Presentation Format: _dil
Dataset Creation: Wed May 01 18:56:11 2013 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
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0.2	SHALLOW GUARD (Ohm-m)	2000
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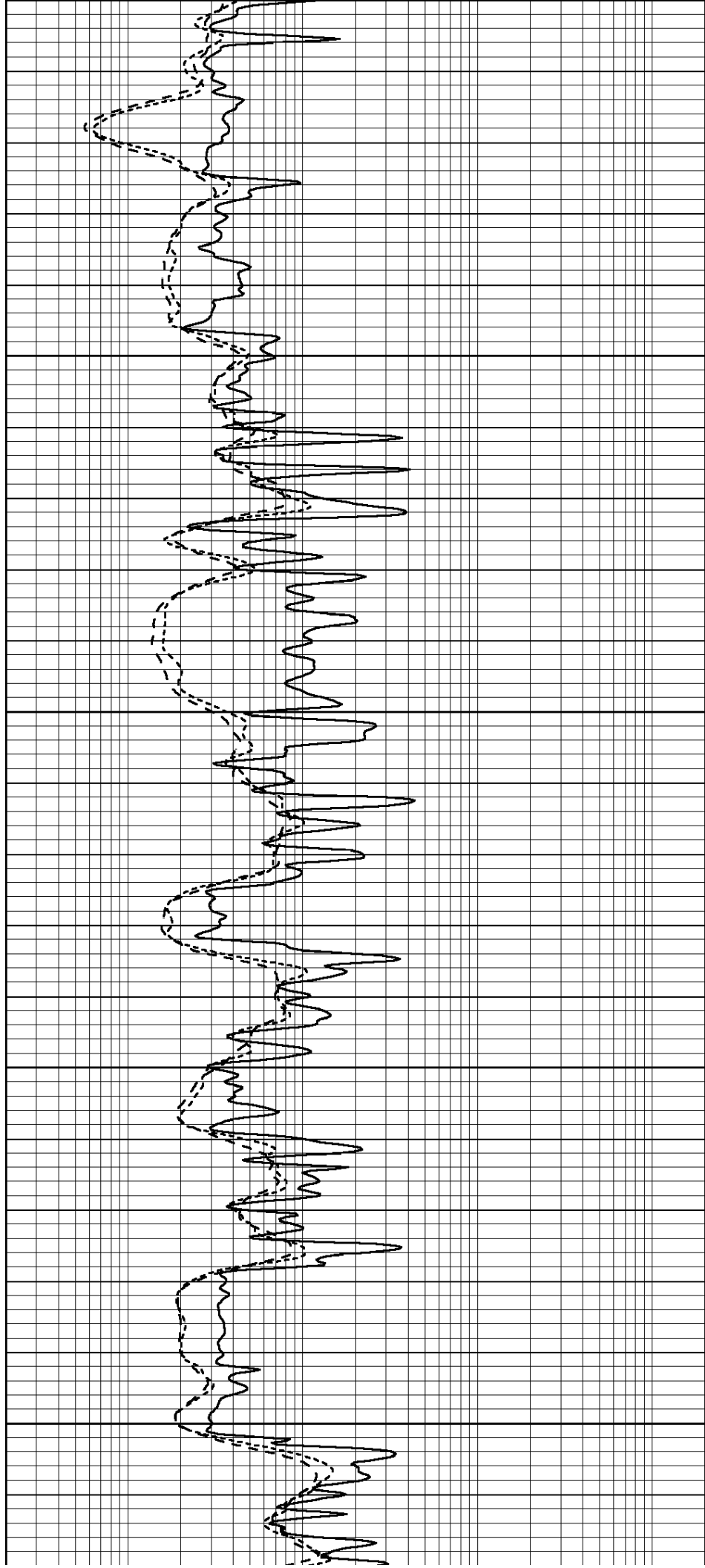
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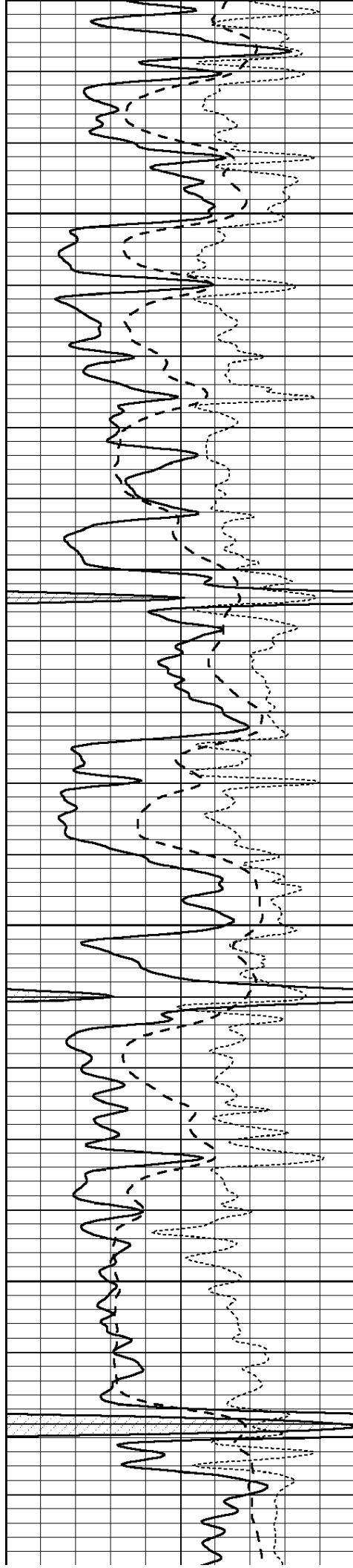
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3500

3550

3600



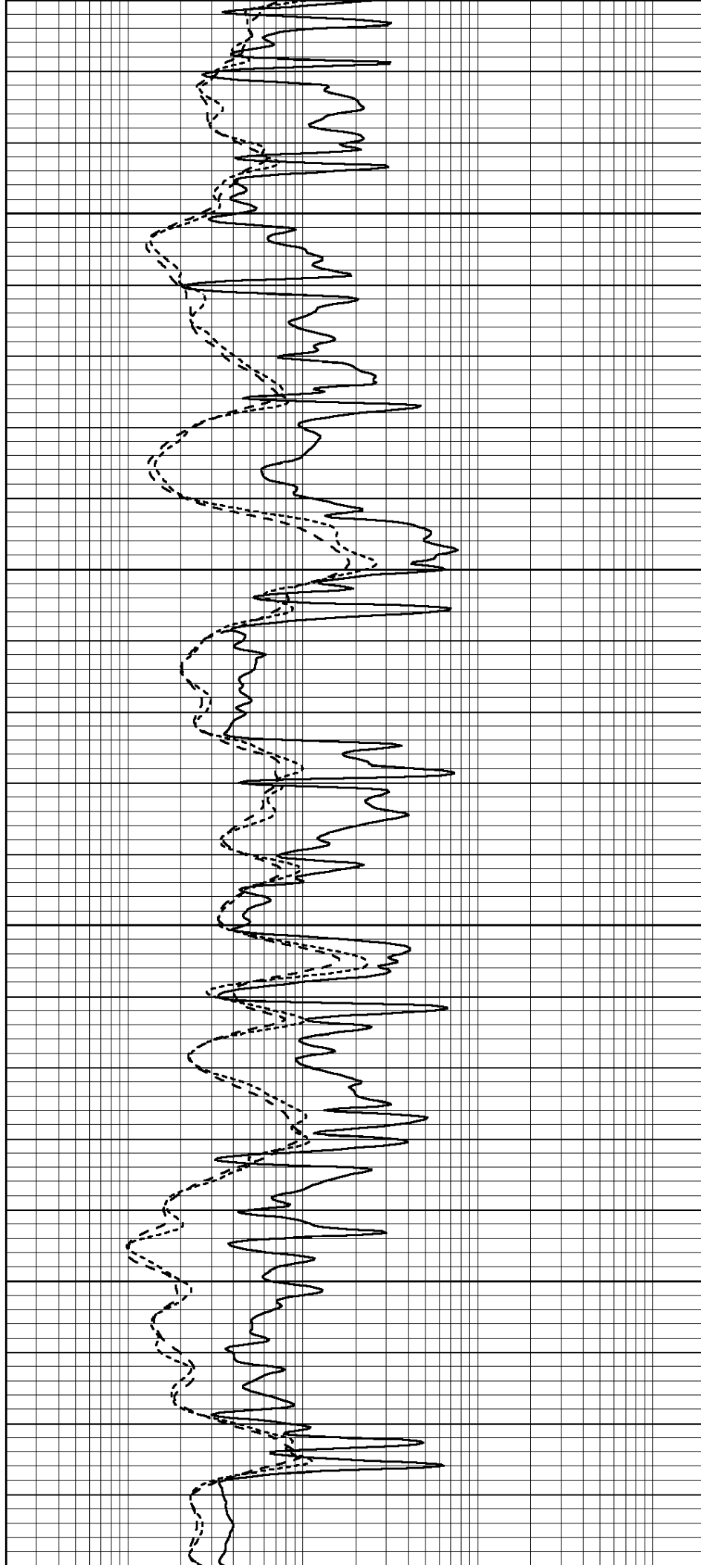


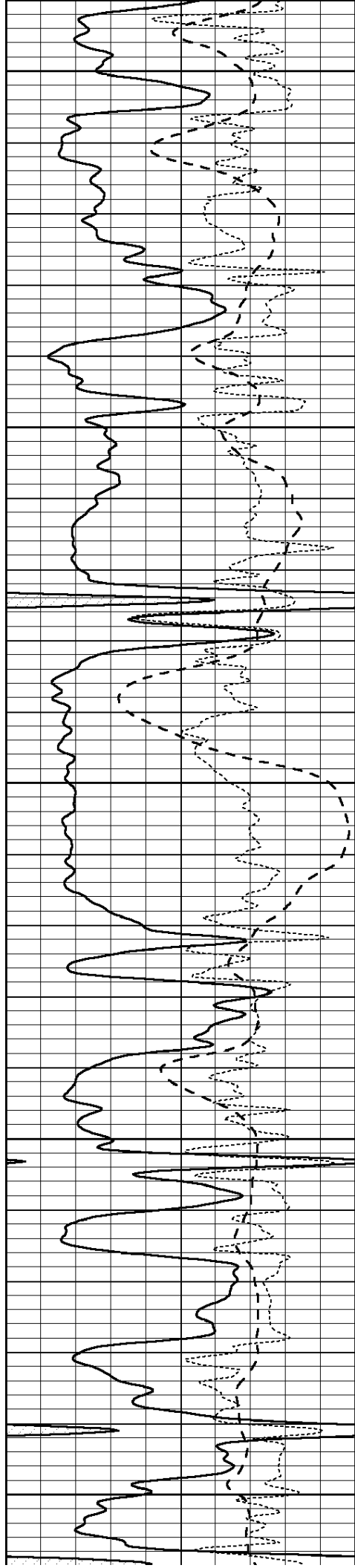
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3700

3750

3800





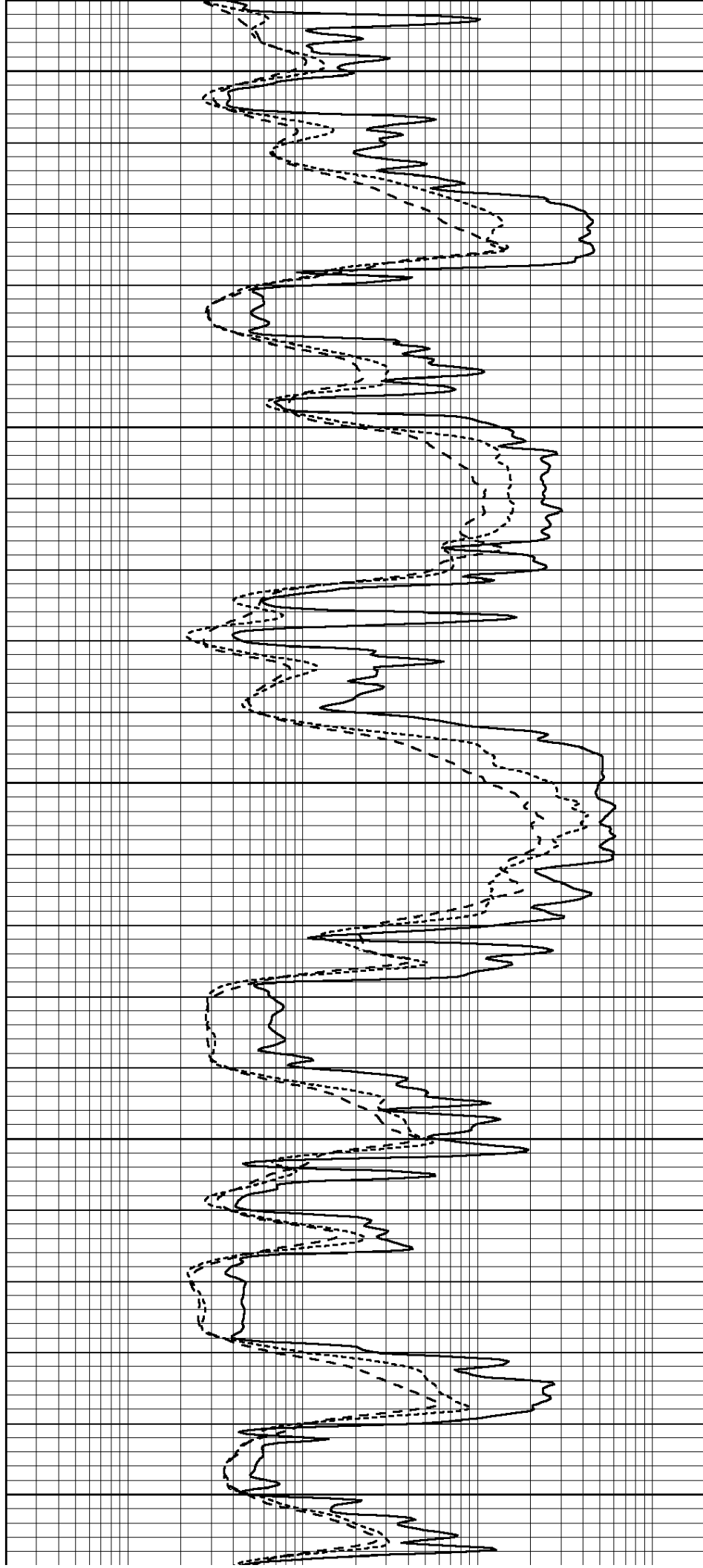
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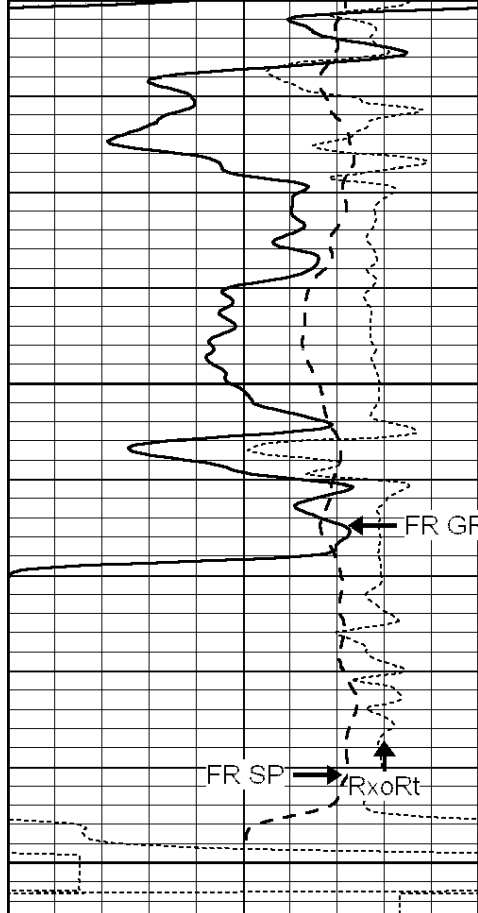
3900

3950

4000

4050

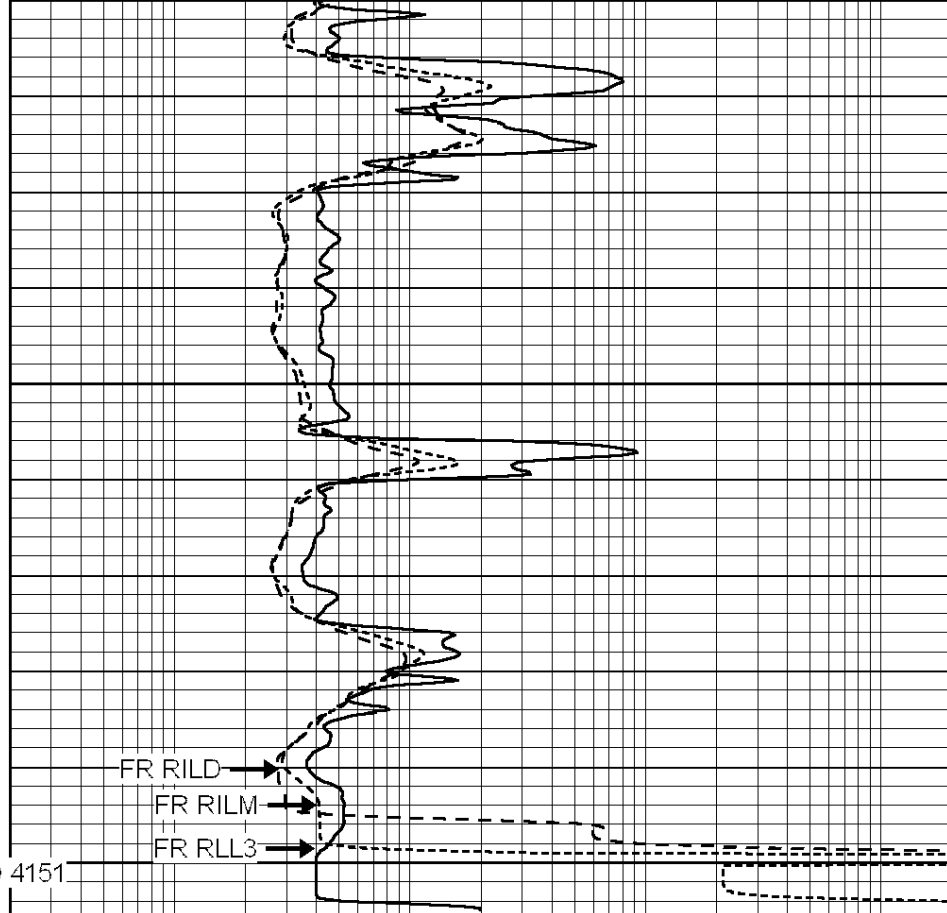




0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

4100

4150 LTD 4151



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



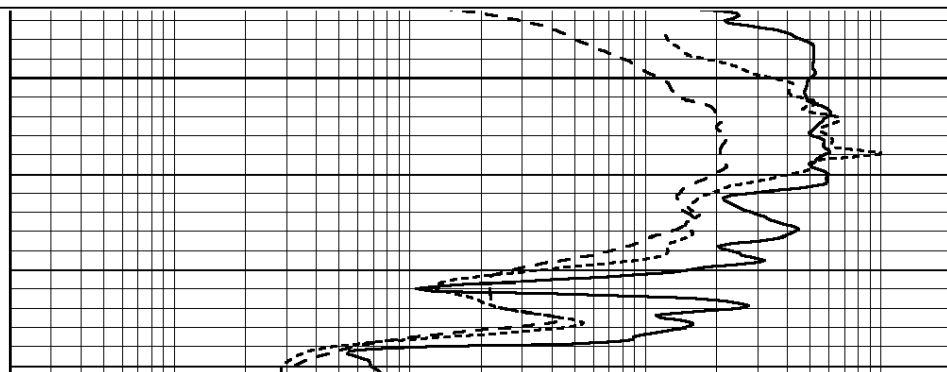
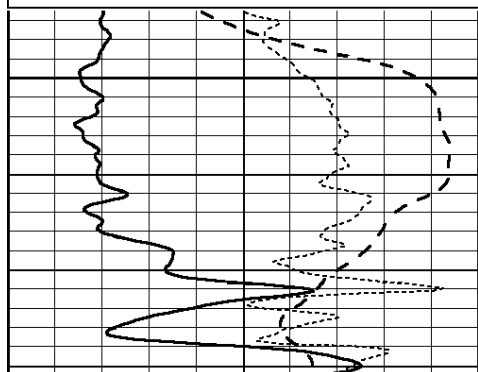
REPEAT SECTION

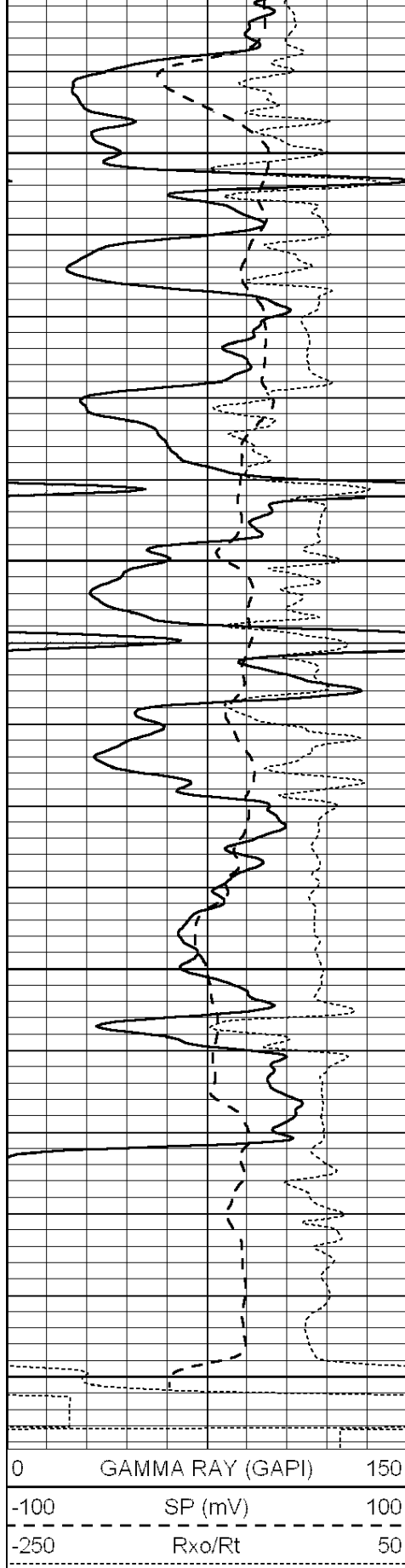
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 Dataset Pathname: pass2.1
 Presentation Format: _dil
 Dataset Creation: Wed May 01 18:56:53 2013 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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

3950



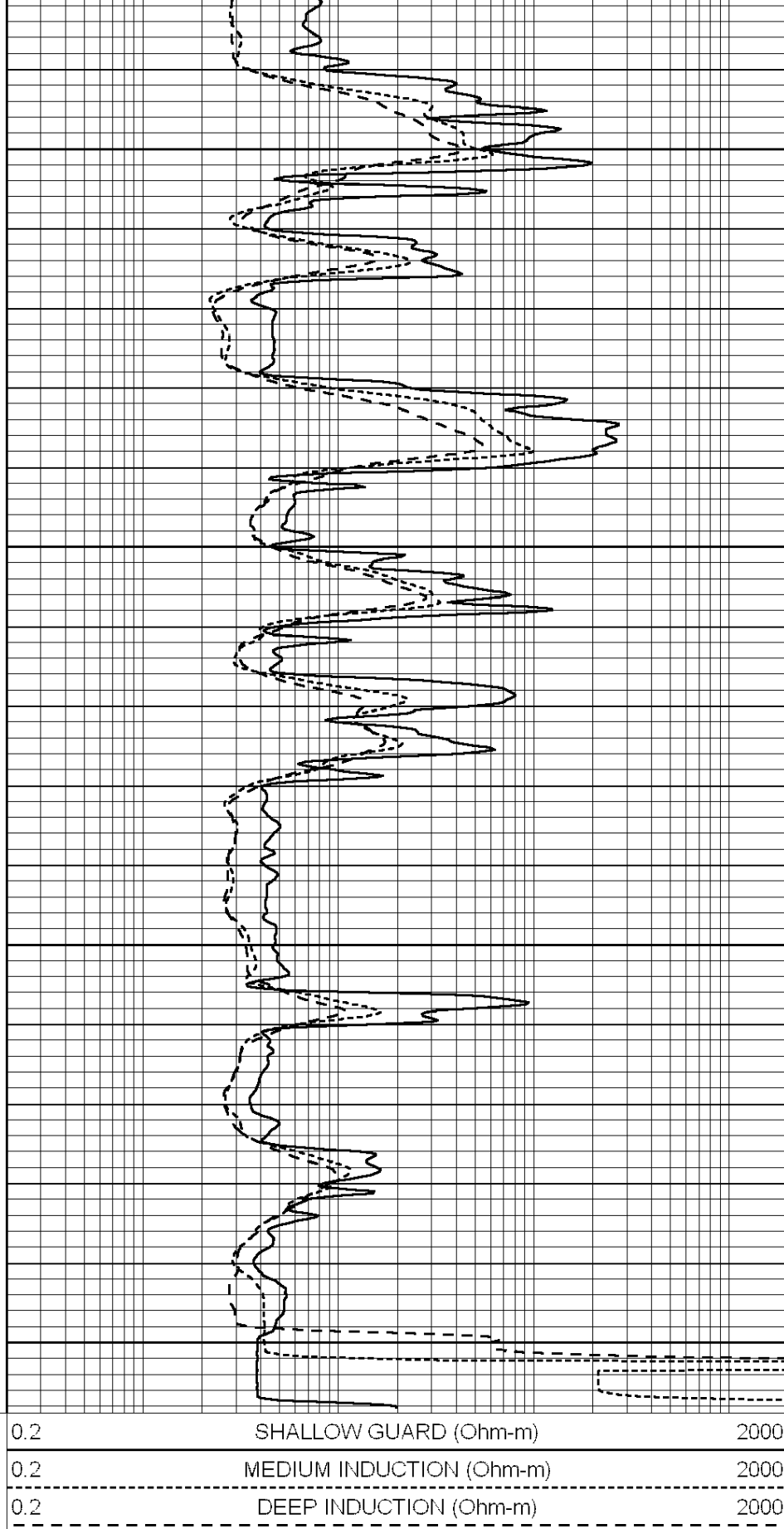


4000

4050

4100

4150



Calibration Report

Database File: 010149ddn.db
Dataset Pathname: pass2.1
Dataset Creation: Wed May 01 18:56:53 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	2.580	g/cc		212.31		367.26		cps
Spine Angle = 74.66				Density/Spine Ratio = 0.552				
	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		