



**SUPERIOR**  
Hays,  
Kansas

**DUAL  
INDUCTION  
LOG**

Company PIONEER RESOURCES  
Well MILLER #2  
Field WILDCAT  
County PHILLIPS  
State KANSAS

Company PIONEER RESOURCES  
Well MILLER #2  
Field WILDCAT  
County PHILLIPS State KANSAS

Location: 521 FSL & 1535<sup>th</sup> FEL  
API # : 15-147-20666-0000

Other Services  
CDL/CNL

SEC 3 TWP 3S RGE 19W

Permanent Datum GROUND LEVEL Elevation 2054  
Log Measured From KELLY BUSHING 5' A.G.L.  
Drilling Measured From KELLY BUSHING

Elevation  
K.B. 2059  
D.F. 2057  
G.L. 2054

Date	2/17/12
Run Number	ONE
Depth Driller	3640
Depth Logger	3644
Bottom Logged Interval	3642
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	9.2/58
pH / Fluid Loss	10.0/6.4
Source of Sample	FLOWLINE
Rim @ Meas. Temp	1.9 @ 63F
Rmf @ Meas. Temp	1.42 @ 63F
Rmc @ Meas. Temp	2.28 @ 63F
Source of Rmf / Rmc	MEASURED
Rim @ BHT	1.06 @ 113F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	113F
Equipment Number	680
Location	HAYS, KS.
Recorded By	JASON CAPPELLUCCI
Witnessed By	CLIFF OTTAWAY

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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 SUPERIOR WELL SERVICE (785) 628-6395  
DIRECTIONS  
PHILLIPSBURG, KS. - 5 MILES WEST TO RD. 500 - 1 NORTH - 1 WEST - 1 N. - 1/2 W.  
N. INTO



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Hays,  
Kansas

**MAIN SECTION**

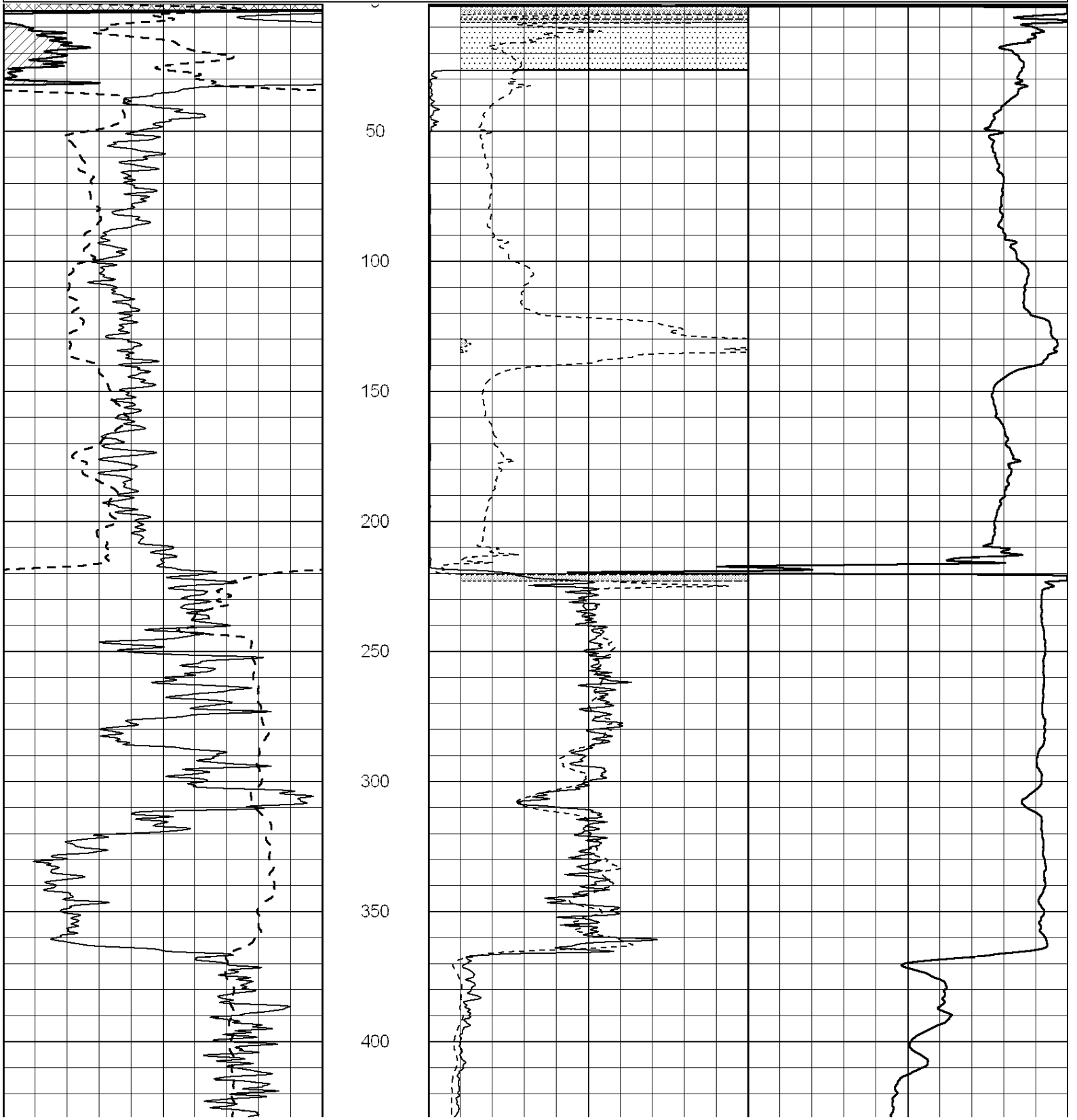
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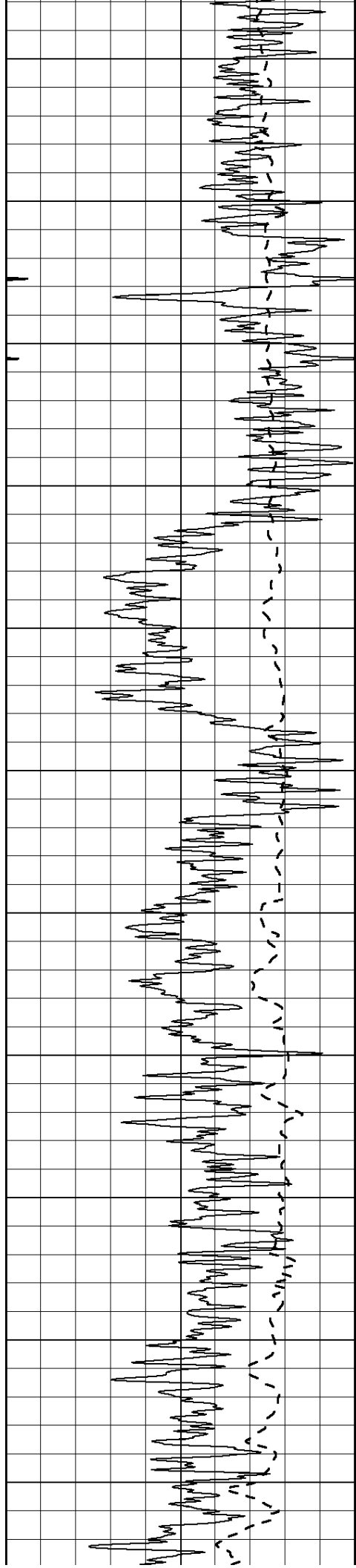
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-100	SP (mV)	100

0	RLL3 (Ohm-m)	50
0	Deep Induction (Ohm-m)	50

1000	CILD (mmho/m)	0
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50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500





450

500

550

600

650

700

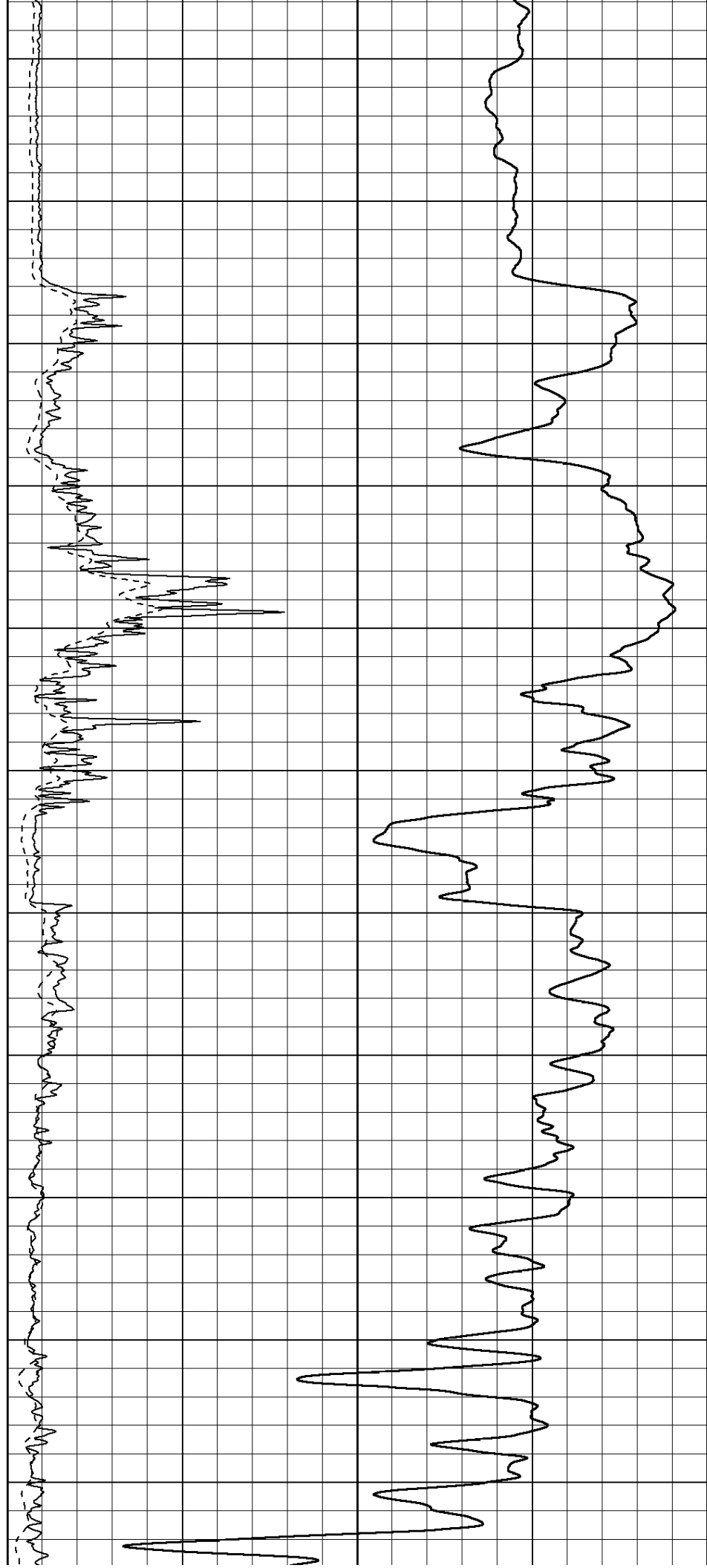
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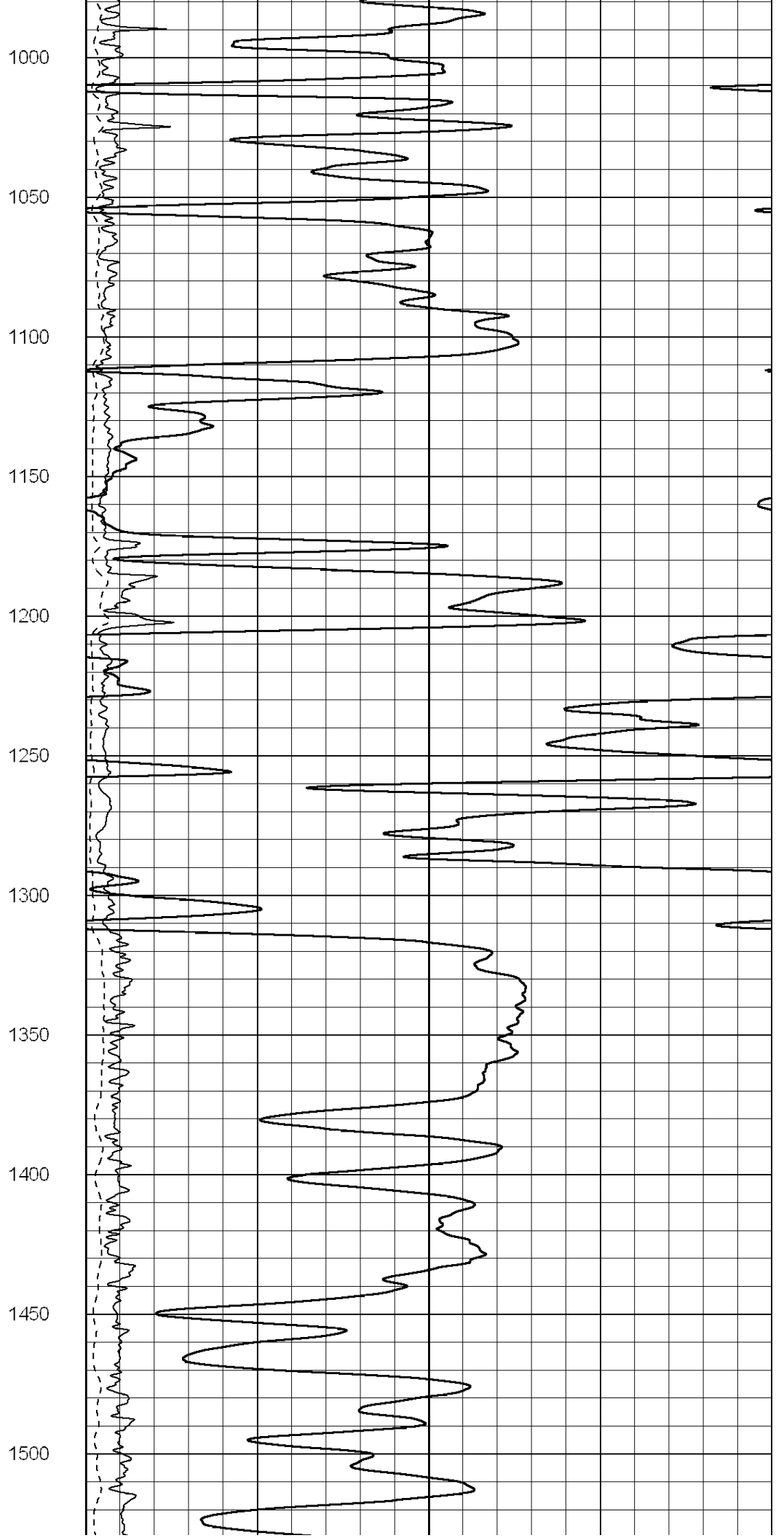
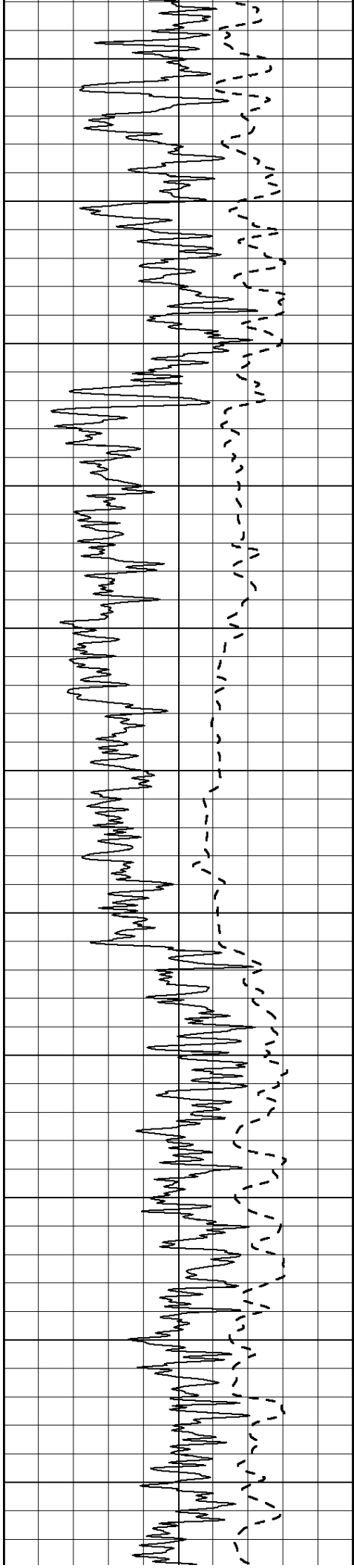
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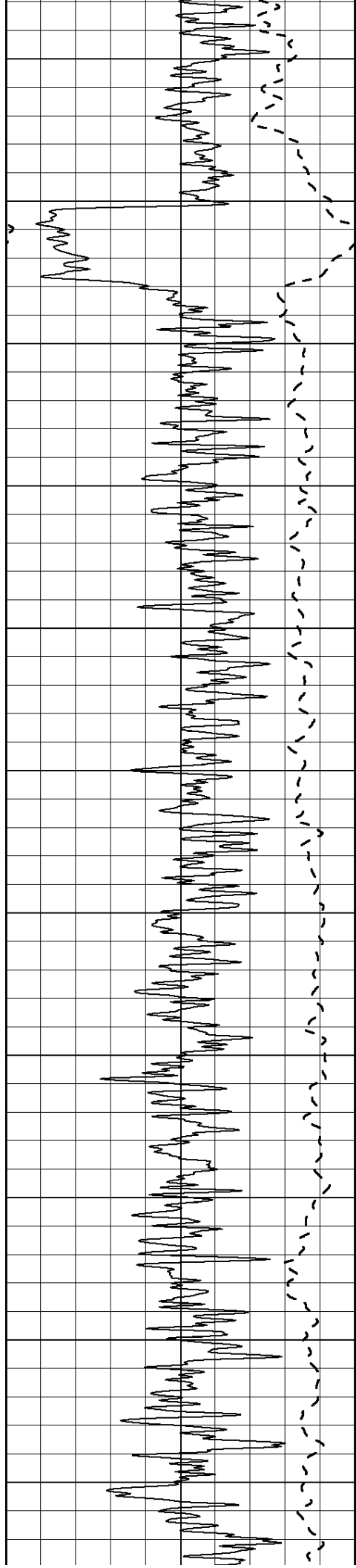
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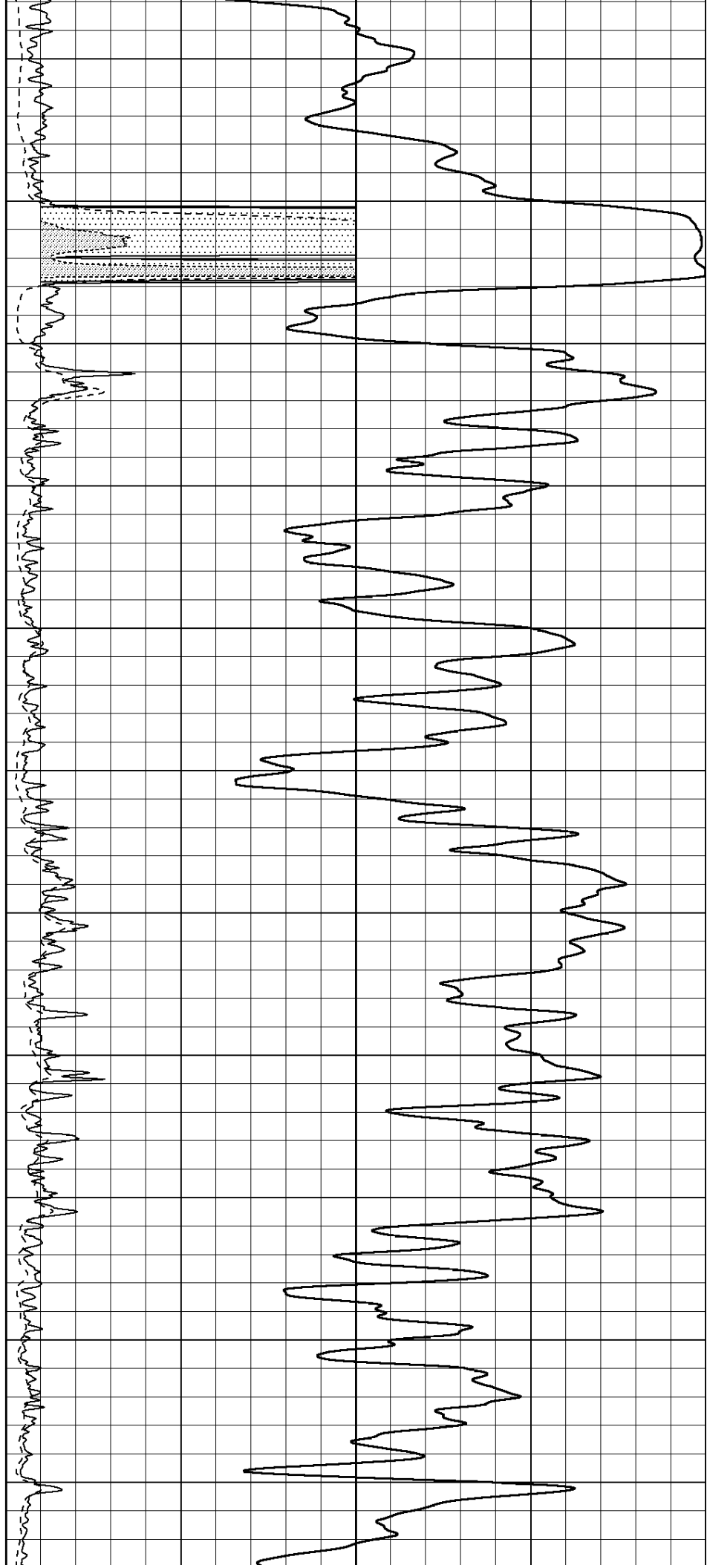
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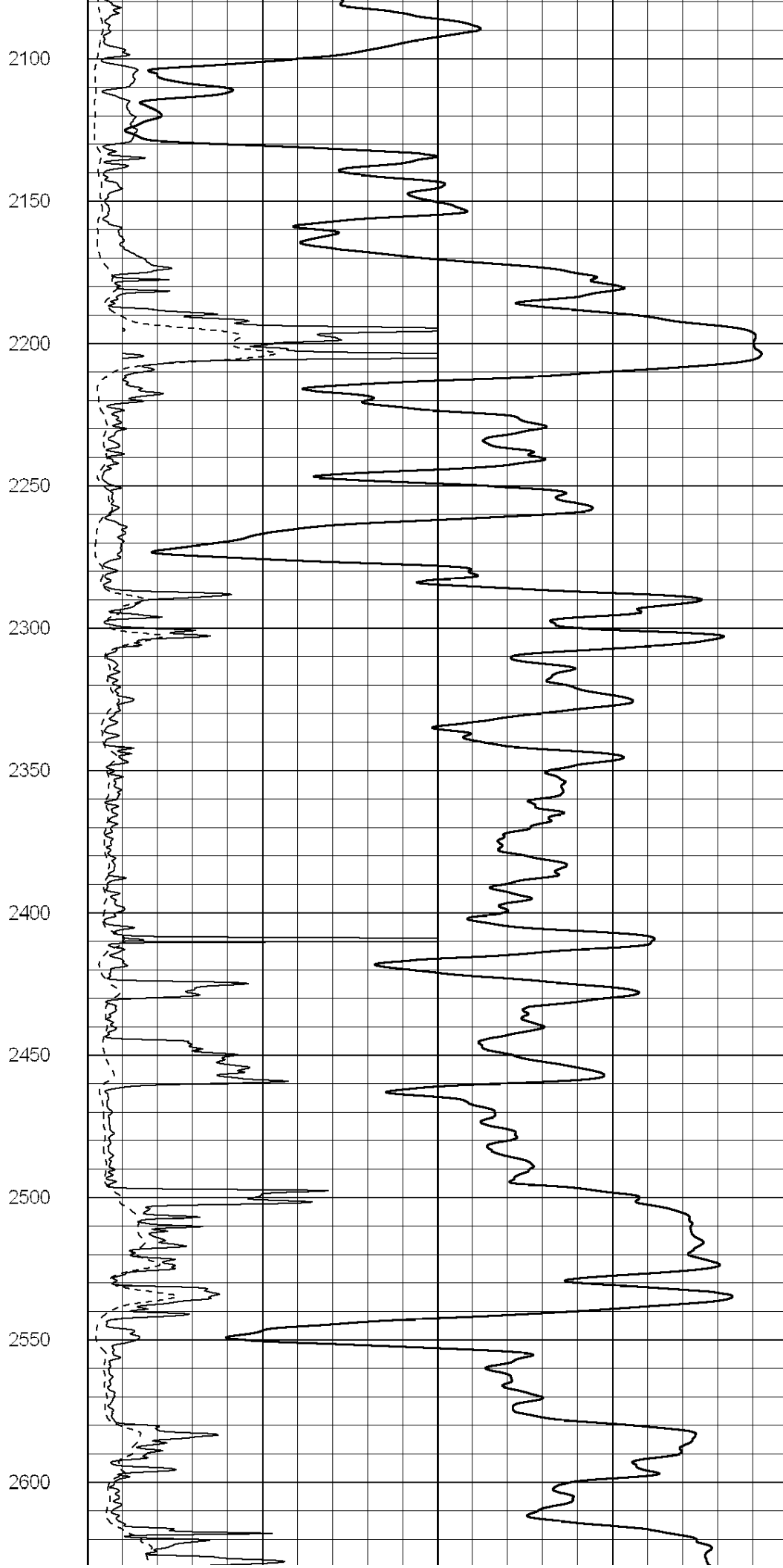
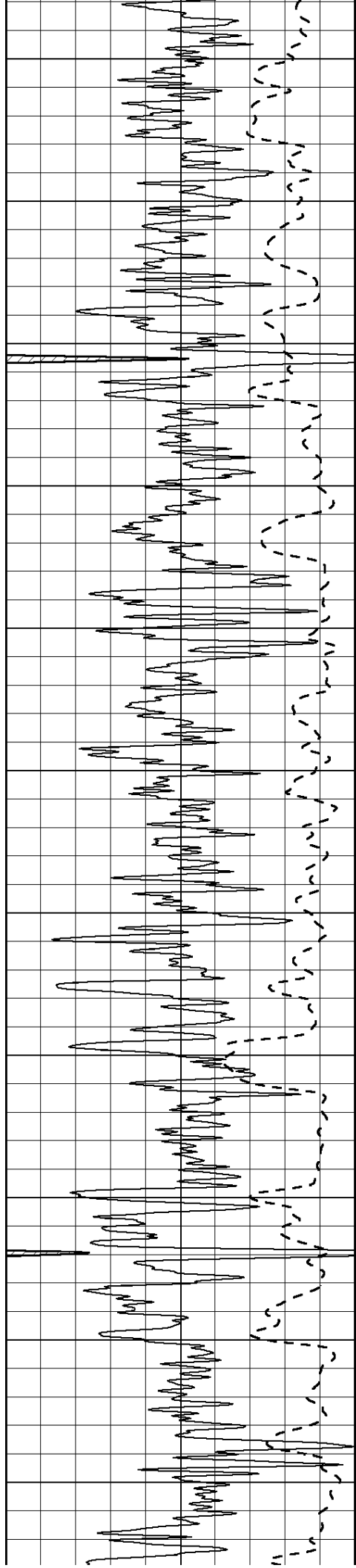


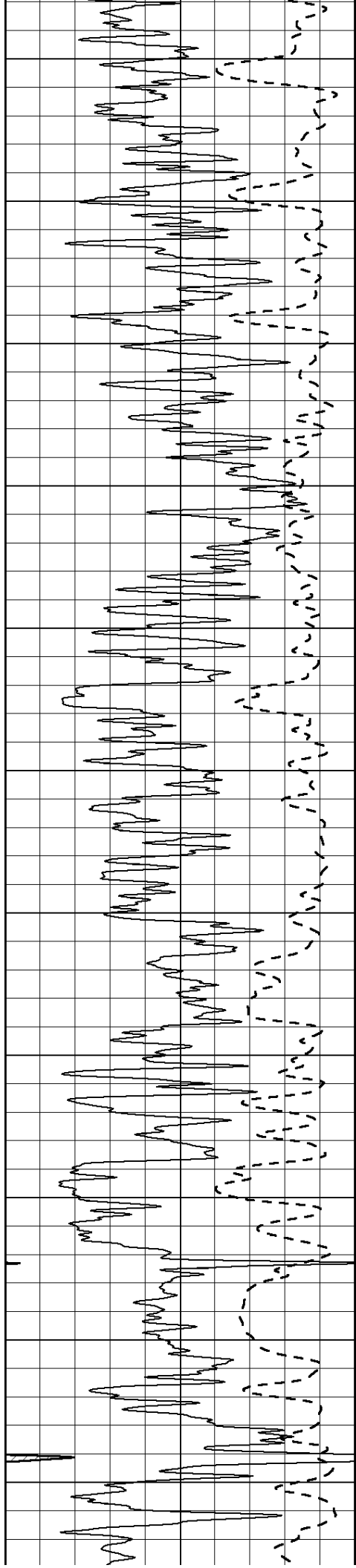




1550  
1600  
1650  
1700  
1750  
1800  
1850  
1900  
1950  
2000  
2050







2650

2700

2750

2800

2850

2900

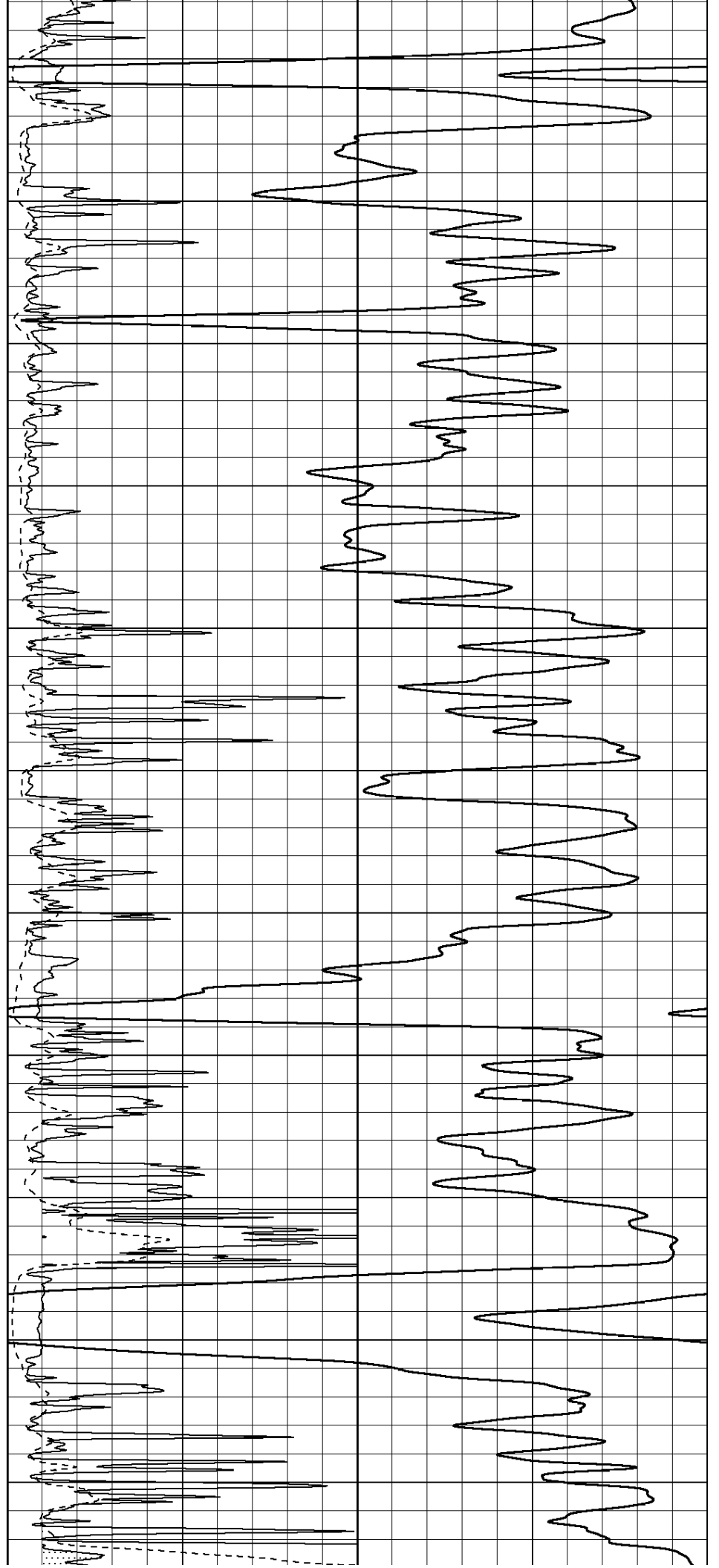
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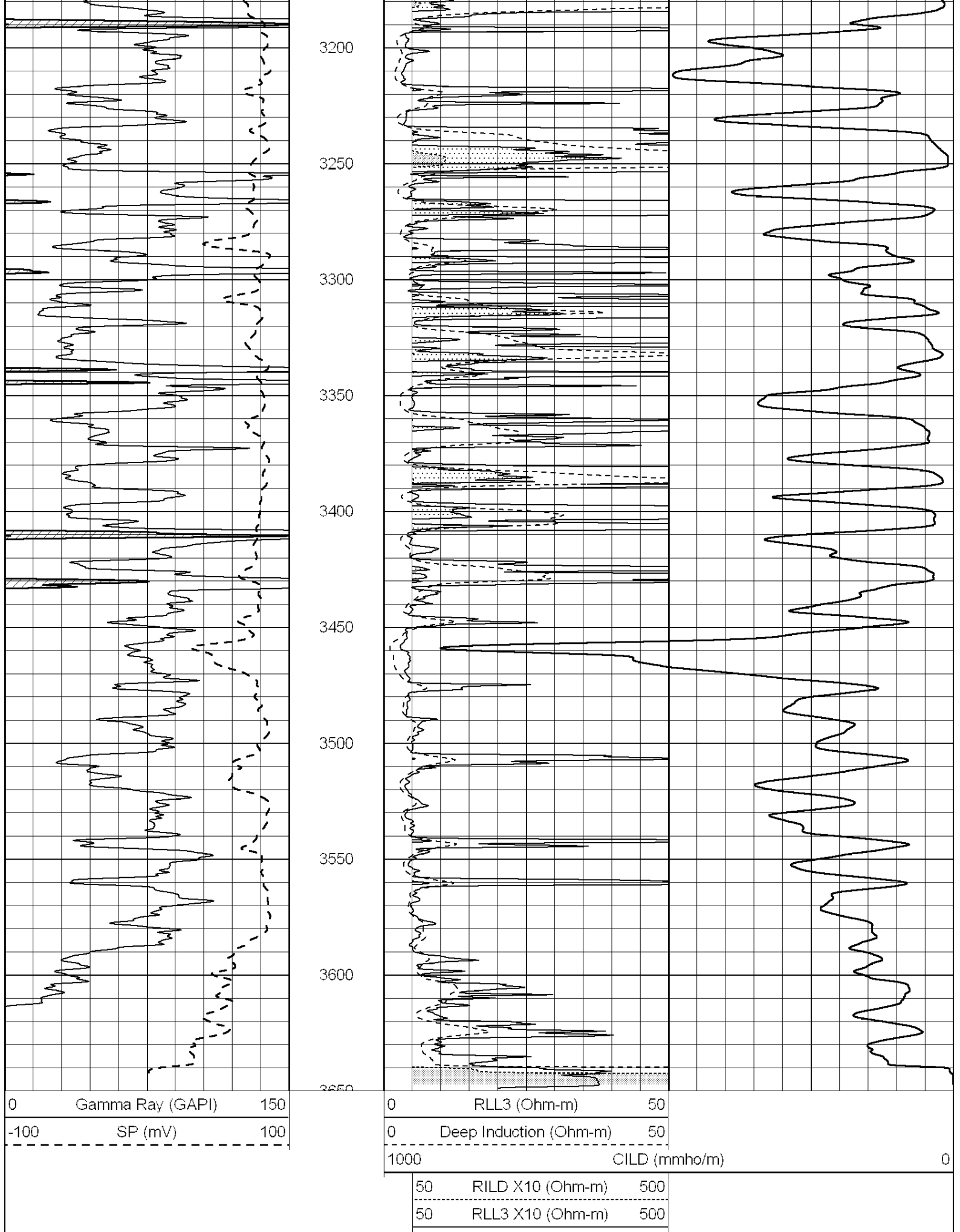
3000

3050

3100

3150









SUPERIOR

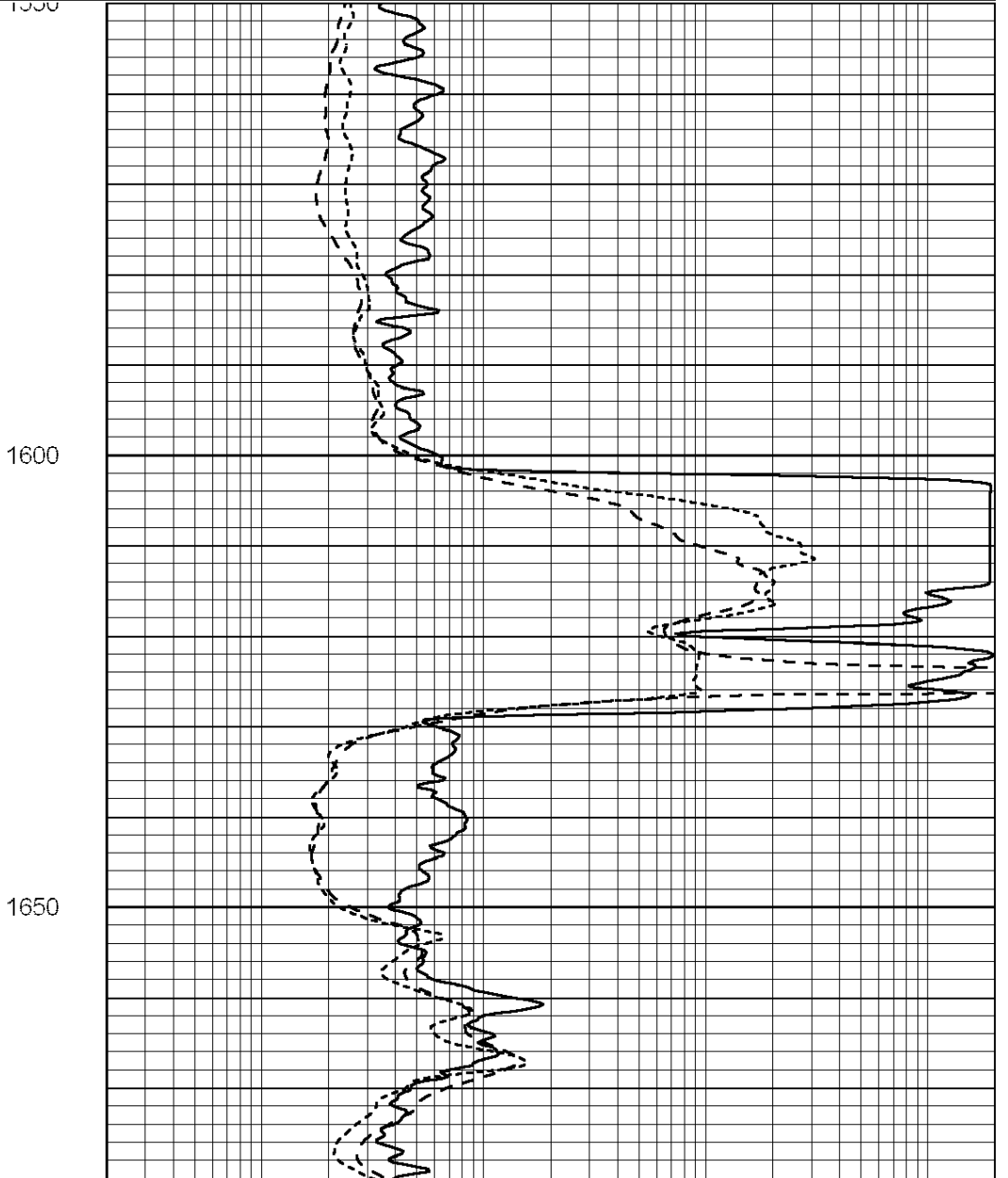
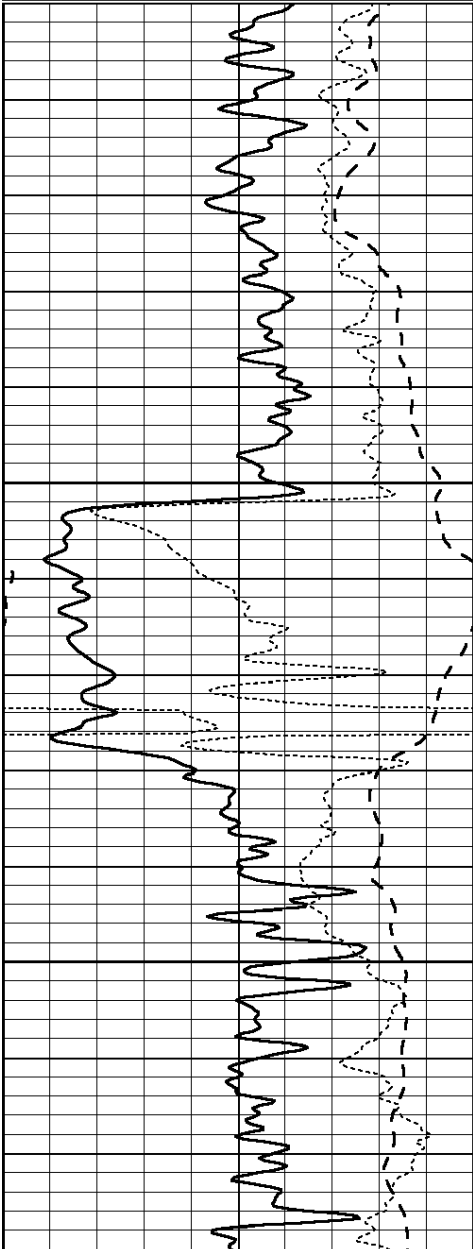
Hays,  
Kansas

# ANHYDRITE

Database File: 008542ddn.db  
 Dataset Pathname: pass3.3  
 Presentation Format: \_dil  
 Dataset Creation: Fri Feb 17 11:11:02 2012 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



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





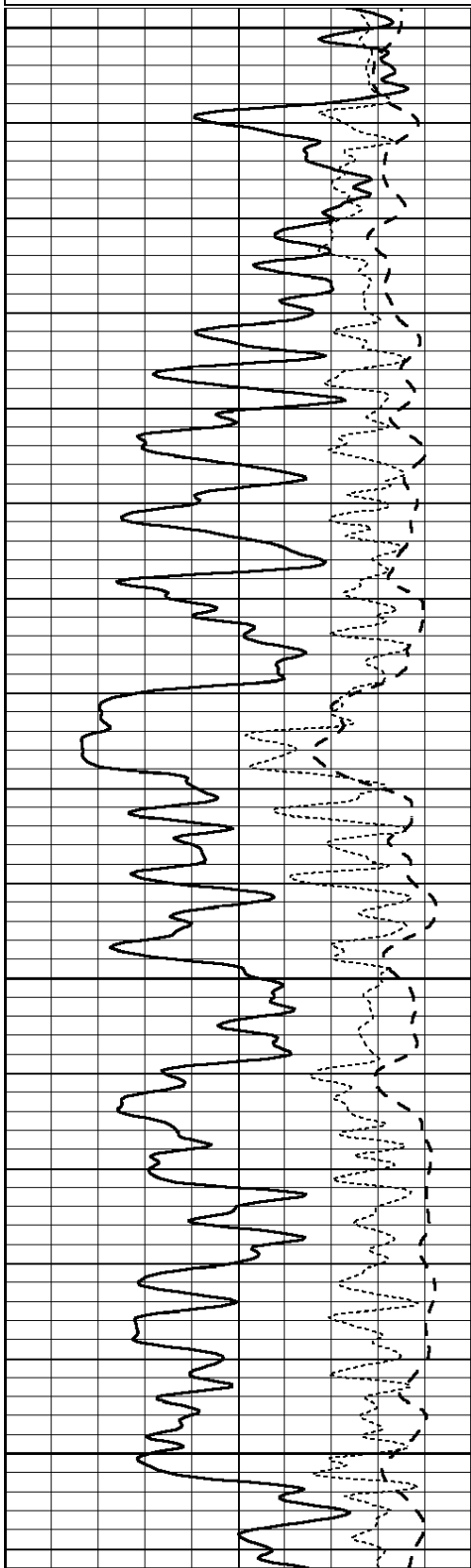
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# MAIN SECTION

Database File: 008542ddn.db  
 Dataset Pathname: pass3.1  
 Presentation Format: \_dil  
 Dataset Creation: Fri Feb 17 10:57:38 2012 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

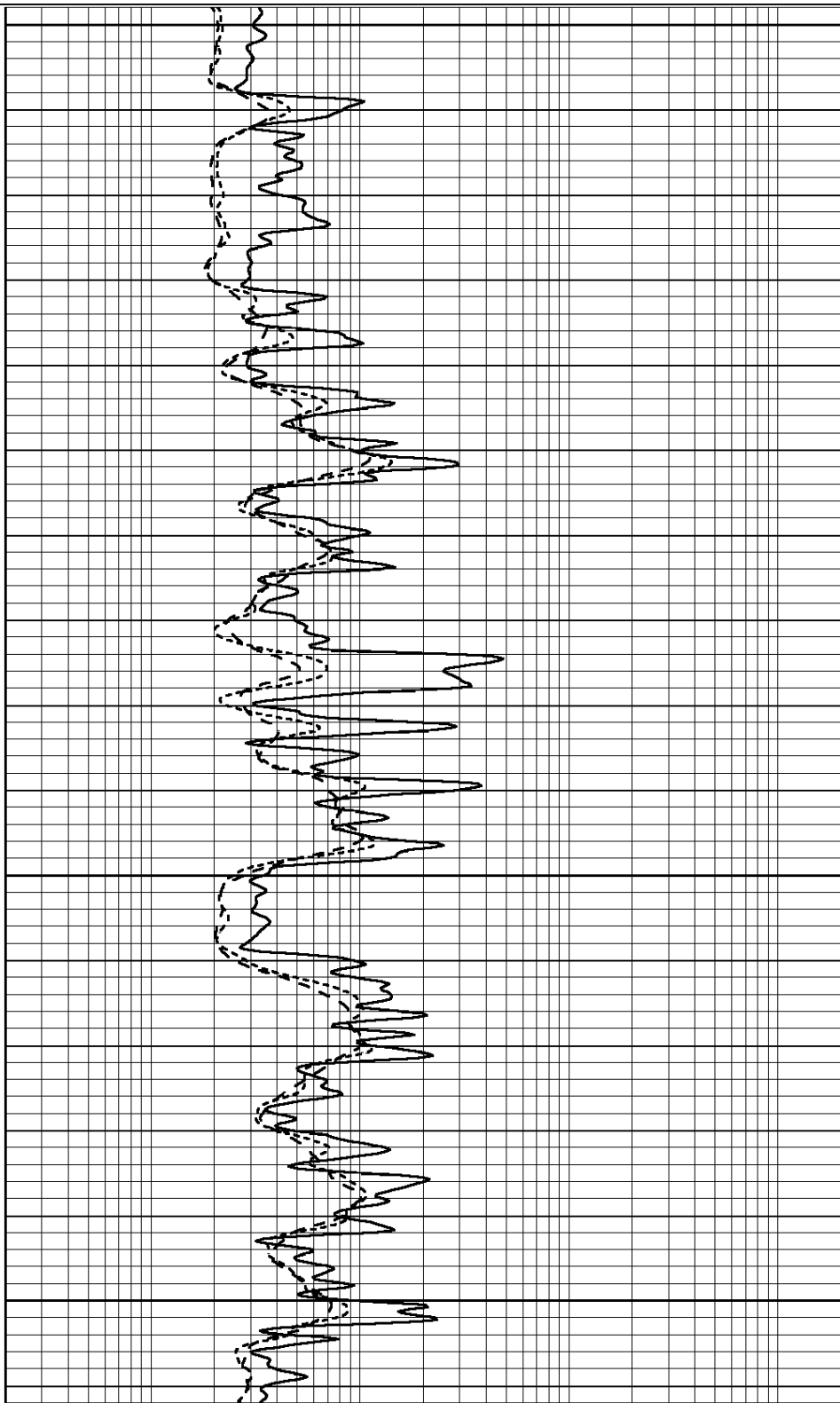


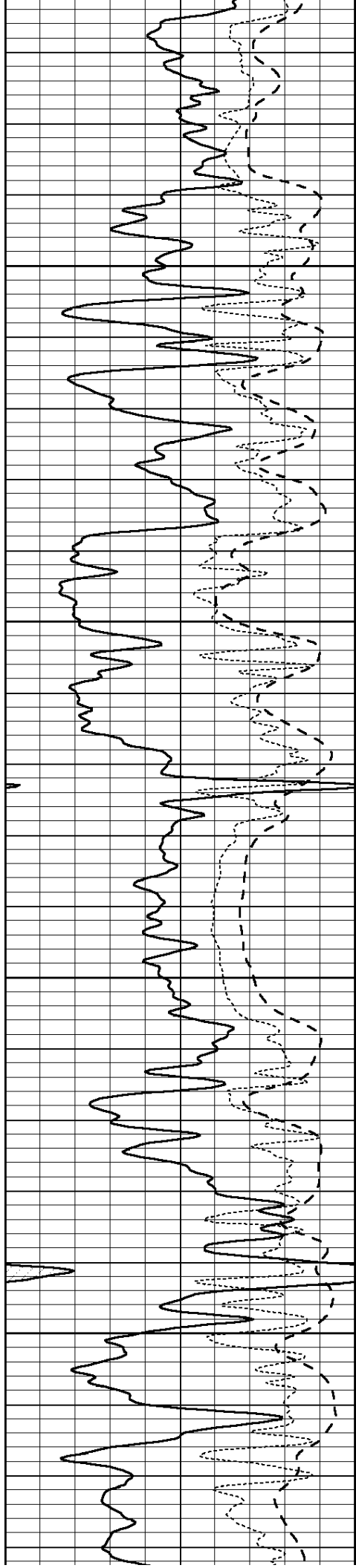
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2850

2900

2950



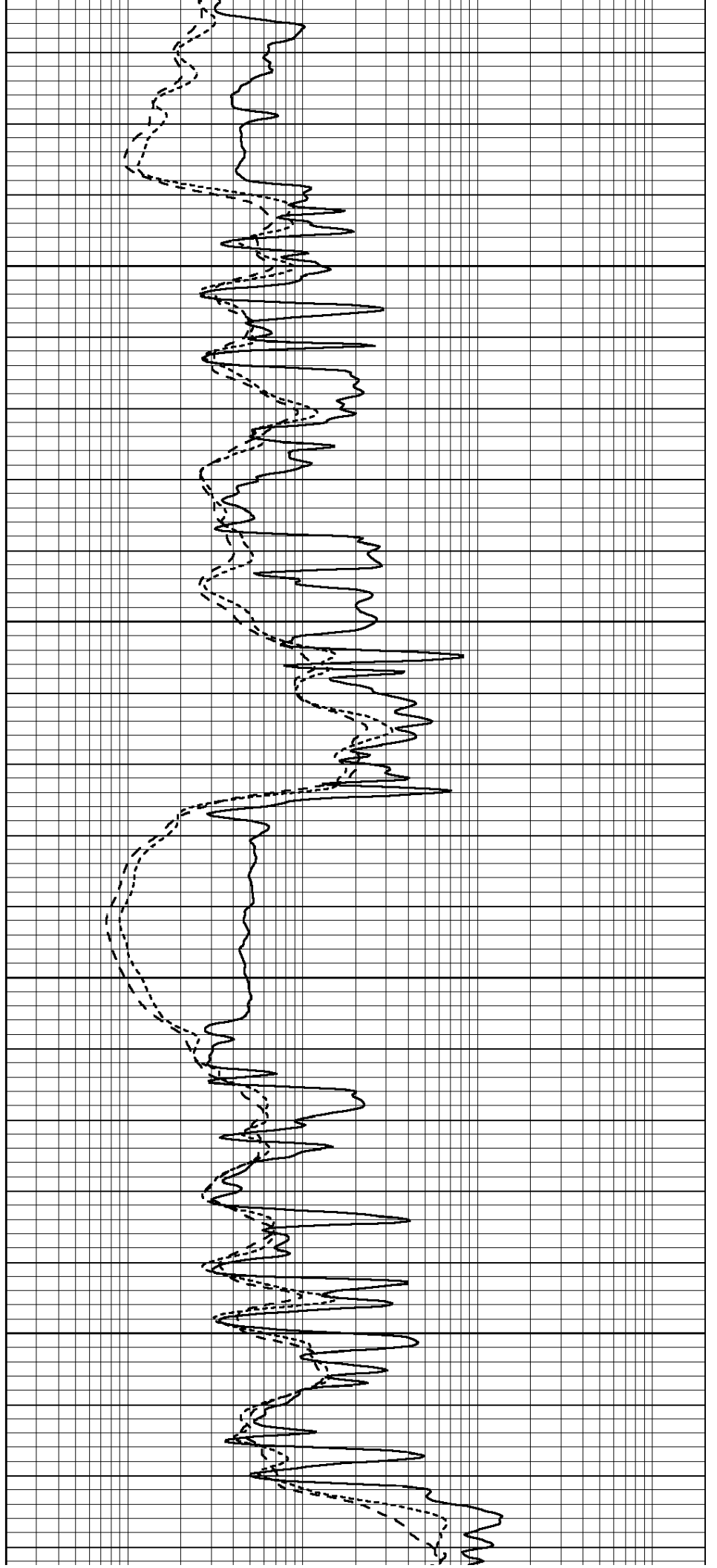


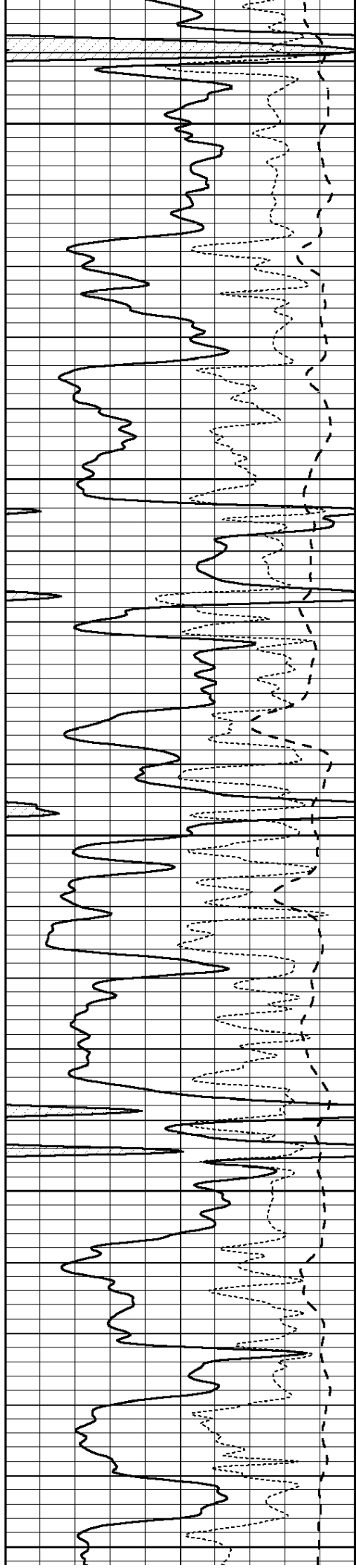
3000

3050

3100

3150





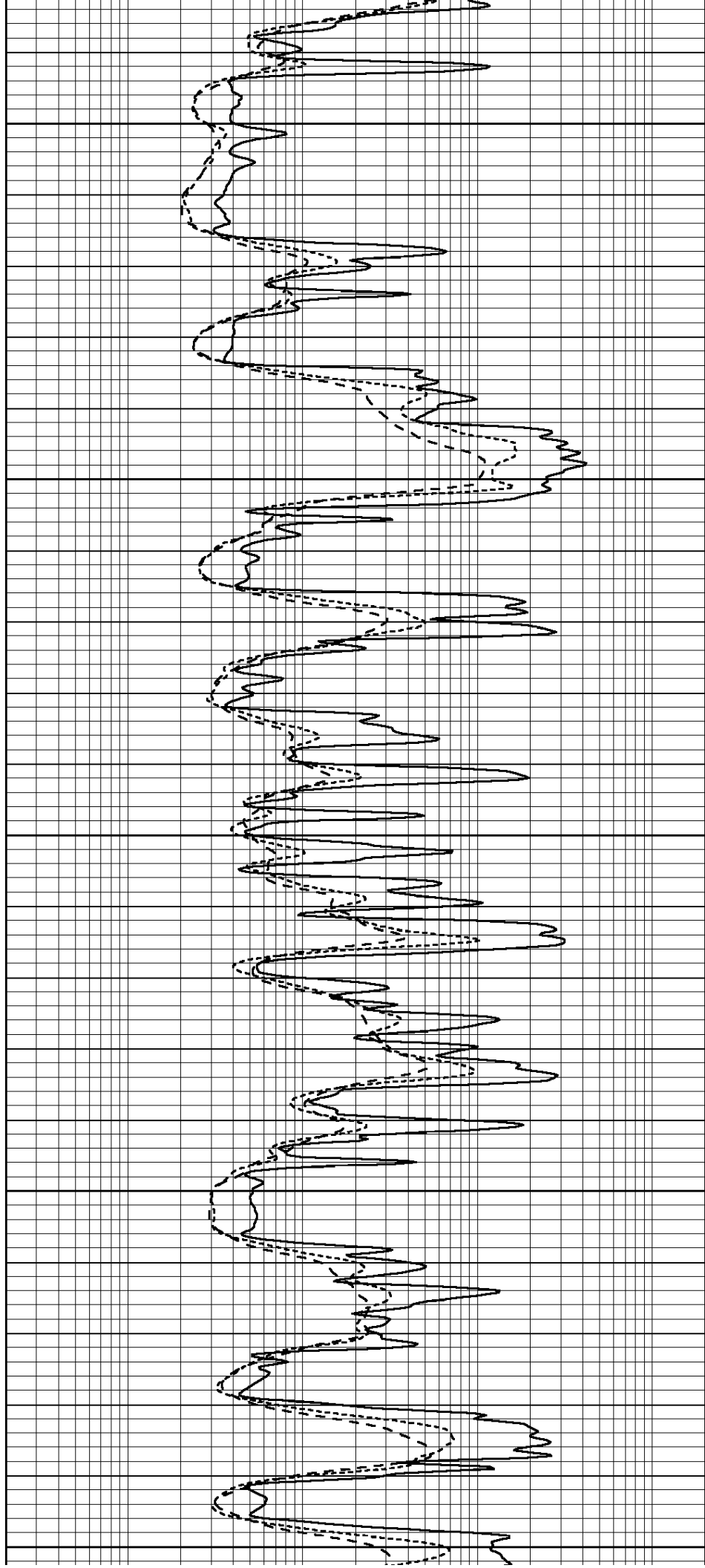
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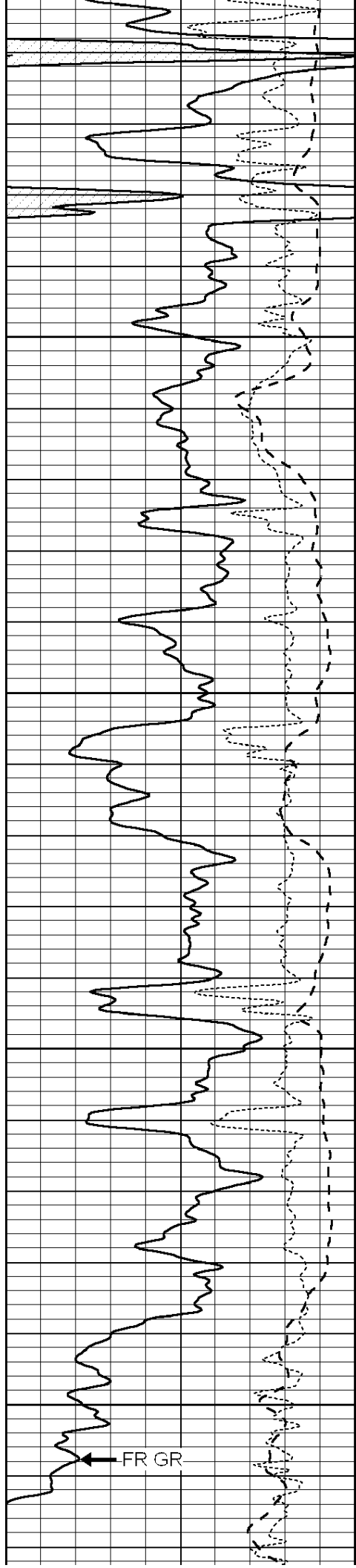
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3300

3350

3400



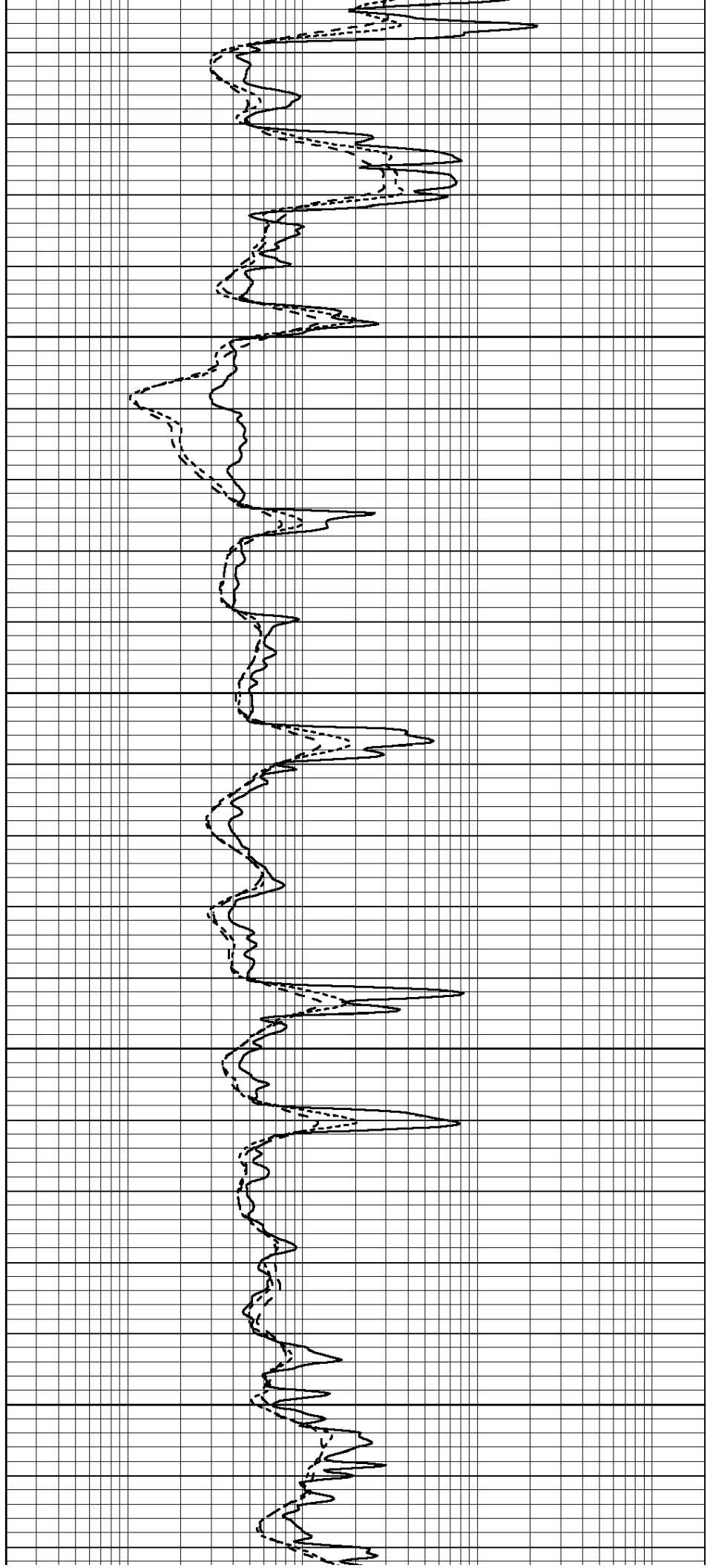


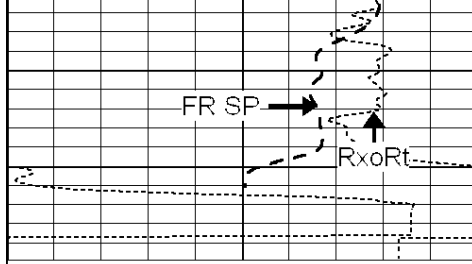
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3500

3550

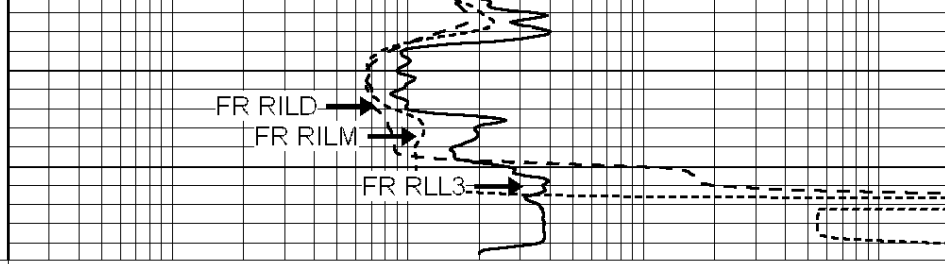
3600





LTD 3644

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



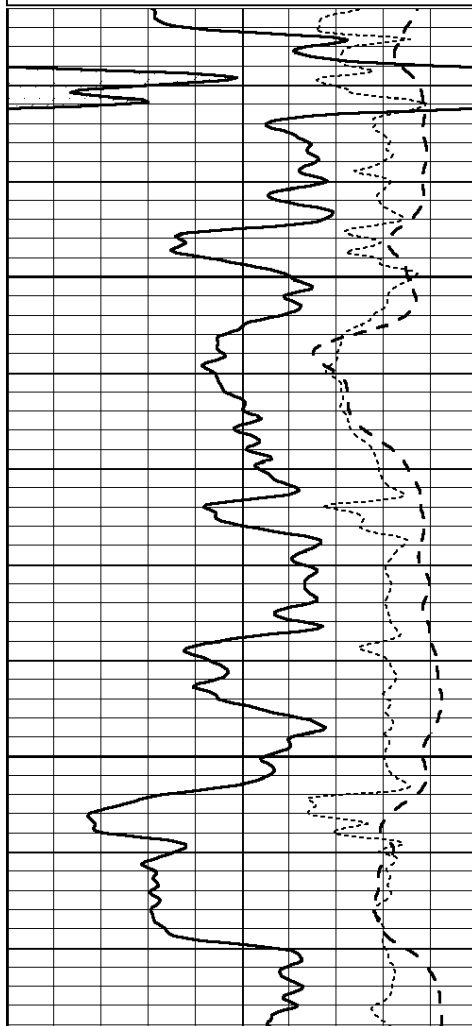
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# REPEAT SECTION

Database File: 008542ddn.db  
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 Charted by: Depth in Feet scaled 1:240

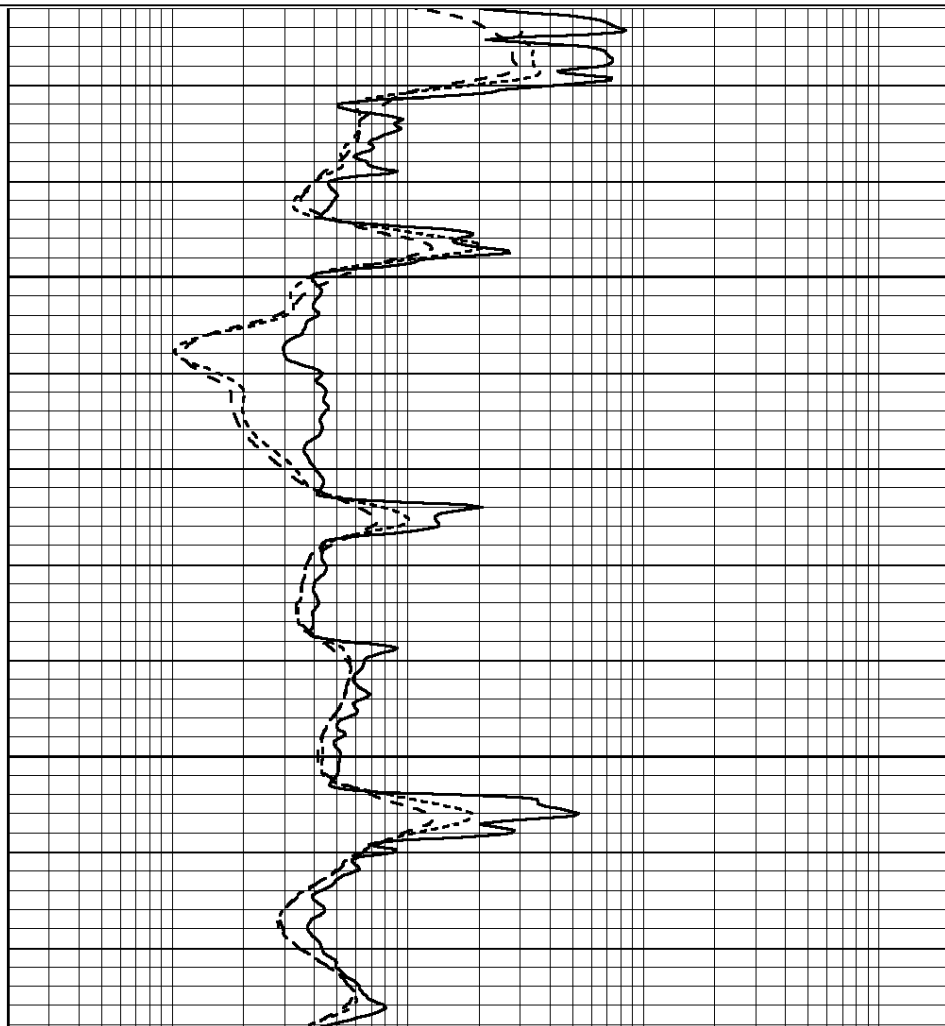
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

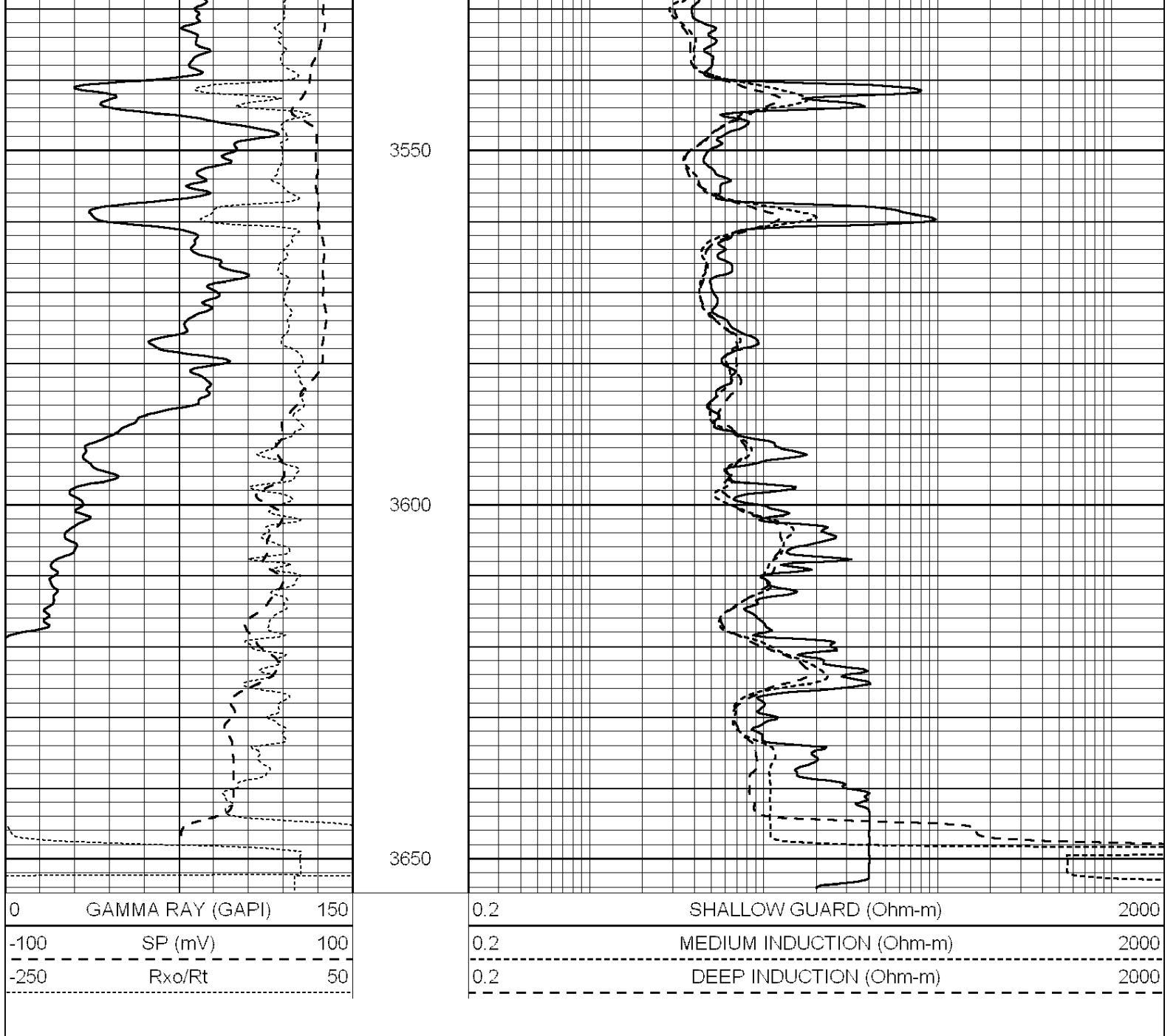
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000



3450

3500





### Calibration Report

Database File: 008542ddn.db  
 Dataset Pathname: pass3.1  
 Dataset Creation: Fri Feb 17 10:57:38 2012 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

Loop:	Readings			References			Results	
	Air	Loop	V	Air	Loop	mmho/m	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:	GEAR4-GEARHART
Source / Verifier:	143 / 143
Master Calibration Performed:	Fri Jan 06 21:06:59 2012

Master Calibration						
	Density		Far Detector	Near Detector		
Magnesium	1.710	g/cc	1015.91	497.51	cps	
Aluminum	2.580	g/cc	227.67	350.20	cps	
Spine Angle = 76.79			Density/Spine Ratio = 0.566			
	Size		Reading			
Small Ring	8.00	in	2.25	V		
Large Ring	14.00	in	4.37	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



