



SUPERIOR
Hays,
Kansas

DUAL
INDUCTION
LOG

Company VALHALLA EXPLORATION, LLC.		Company VALHALLA EXPLORATION, LLC.	
Well MORGENSTERN #1-2		Well MORGENSTERN #1-2	
Field TRAPP		Field TRAPP	
County BARTON		County BARTON	
State KANSAS		State KANSAS	
Location: 330' FSL & 1650' FWL		API # : 15-009-25642-0000	
SEC 2 TWP 17S RGE 13W		Other Services CDL/CNL MEL	
Permanent Datum	GROUND LEVEL	Elevation	
Log Measured From	KELLY BUSHING & A.G.L.	K.B. 1867	
Drilling Measured From	KELLY BUSHING	D.F. 1865	
		G.L. 1859	
Date	12/9/11		
Run Number	ONE		
Depth Driller	3450		
Depth Logger	3450		
Bottom Logged Interval	3448		
Top Log Interval	00		
Casing Driller	8 5/8" @ 773		
Casing Logger	774		
Bit Size	7 7/8		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6300 PPM	
Density / Viscosity	9.3/59		
pH / Fluid Loss	11.5/7.6		
Source of Sample	FLOWLINE		
Rin @ Meas. Temp	1.5 @ 57F		
Rinf @ Meas. Temp	1.1 @ 57F		
Rinc @ Meas. Temp	1.8 @ 57F		
Source of Rinf / Rinc	MEASURED		
Rin @ BHT	.67 @ 126F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	126F		
Equipment Number	680		
Location	HAYS, KS.		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	ADAM KENNEDY		

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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
HOISINGTON KS. - N. ON SUSANK BLKTOP. TO RD 160 - 3/4 W. - N. INTO



SUPERIOR
Hays,
Kansas

MAIN SECTION

Database File: 008099ddn.db
Dataset Pathname: pass3.2
Presentation Format: _dil2
Dataset Creation: Fri Dec 09 06:49:46 2011 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:600

0 Gamma Ray (GAPI) 150
-100 SP (mV) 100

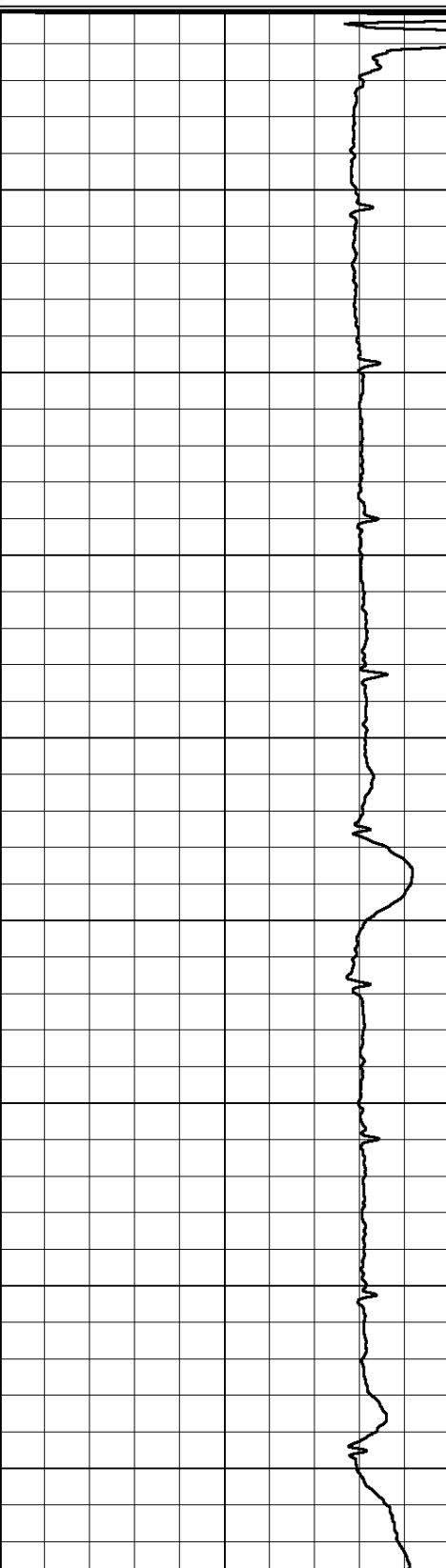
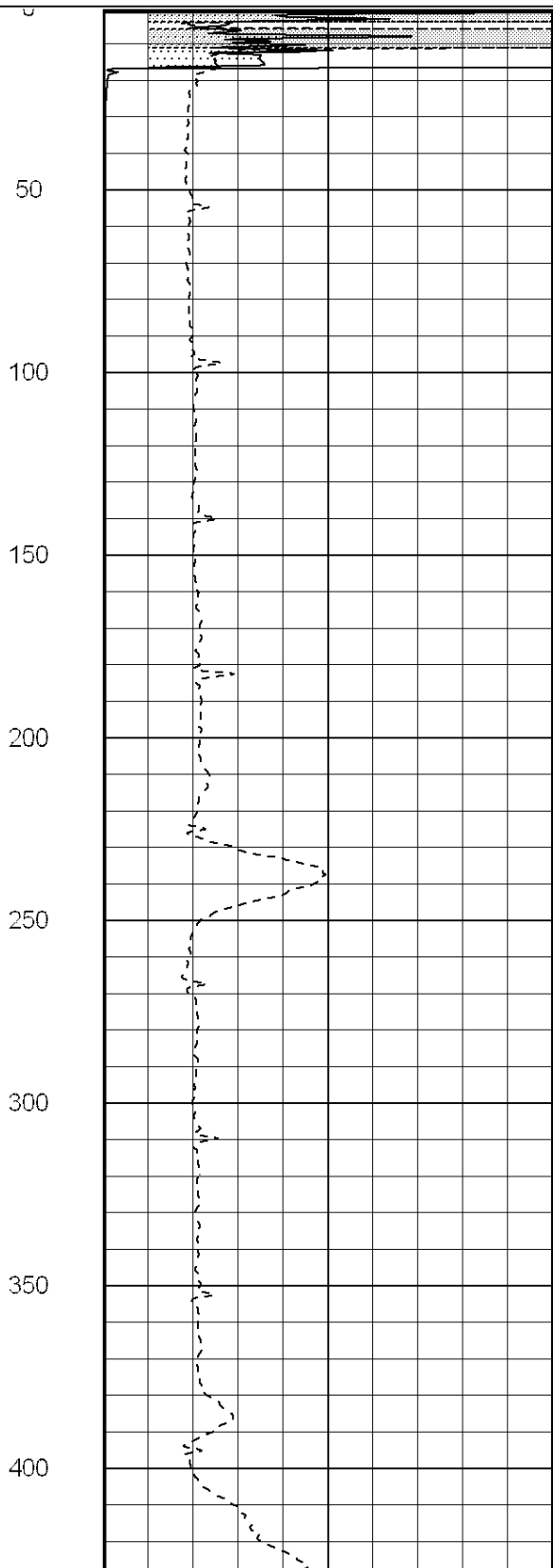
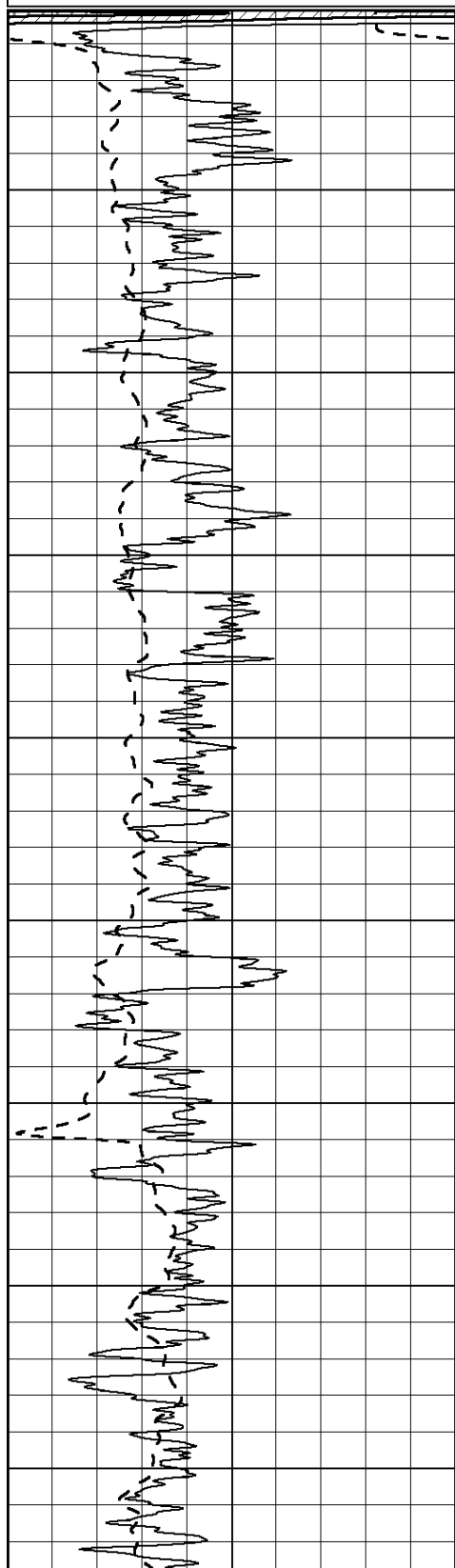
0 RLL3 (Ohm-m) 50

0 Deep Induction (Ohm-m) 50

1000 CILD (mmho/m) 0

50 RILD X10 (Ohm-m) 500

50 RLL3 X10 (Ohm-m) 500



400

350

300

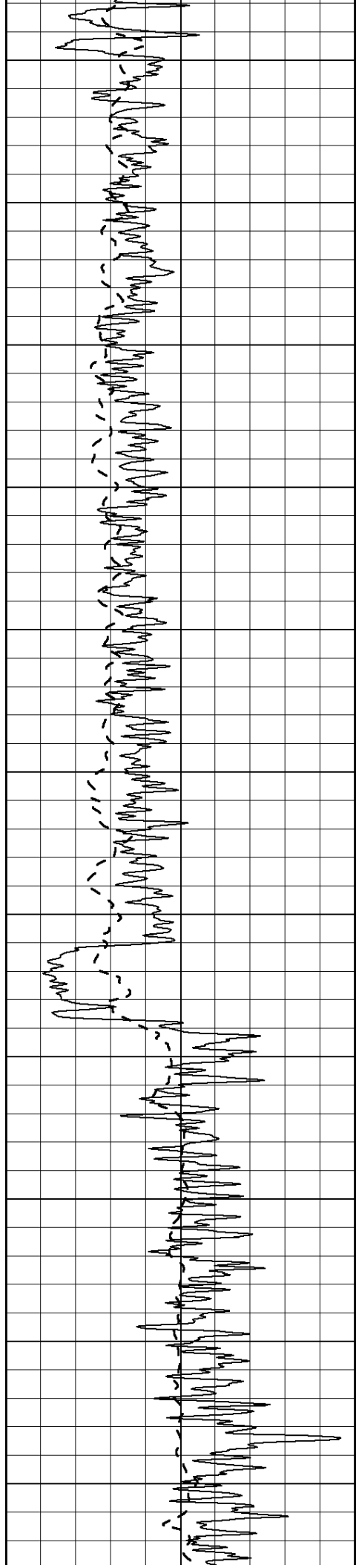
250

200

150

100

50



450

500

550

600

650

700

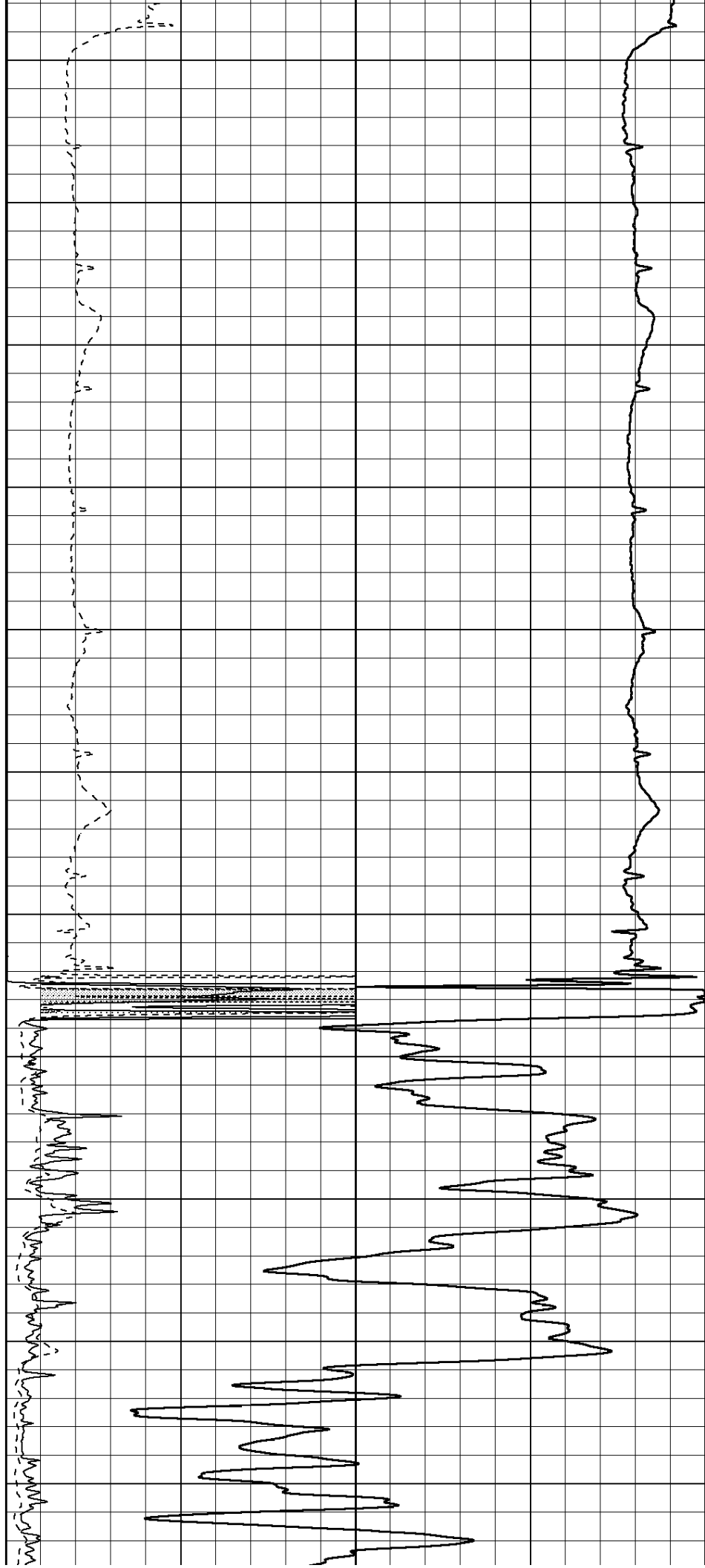
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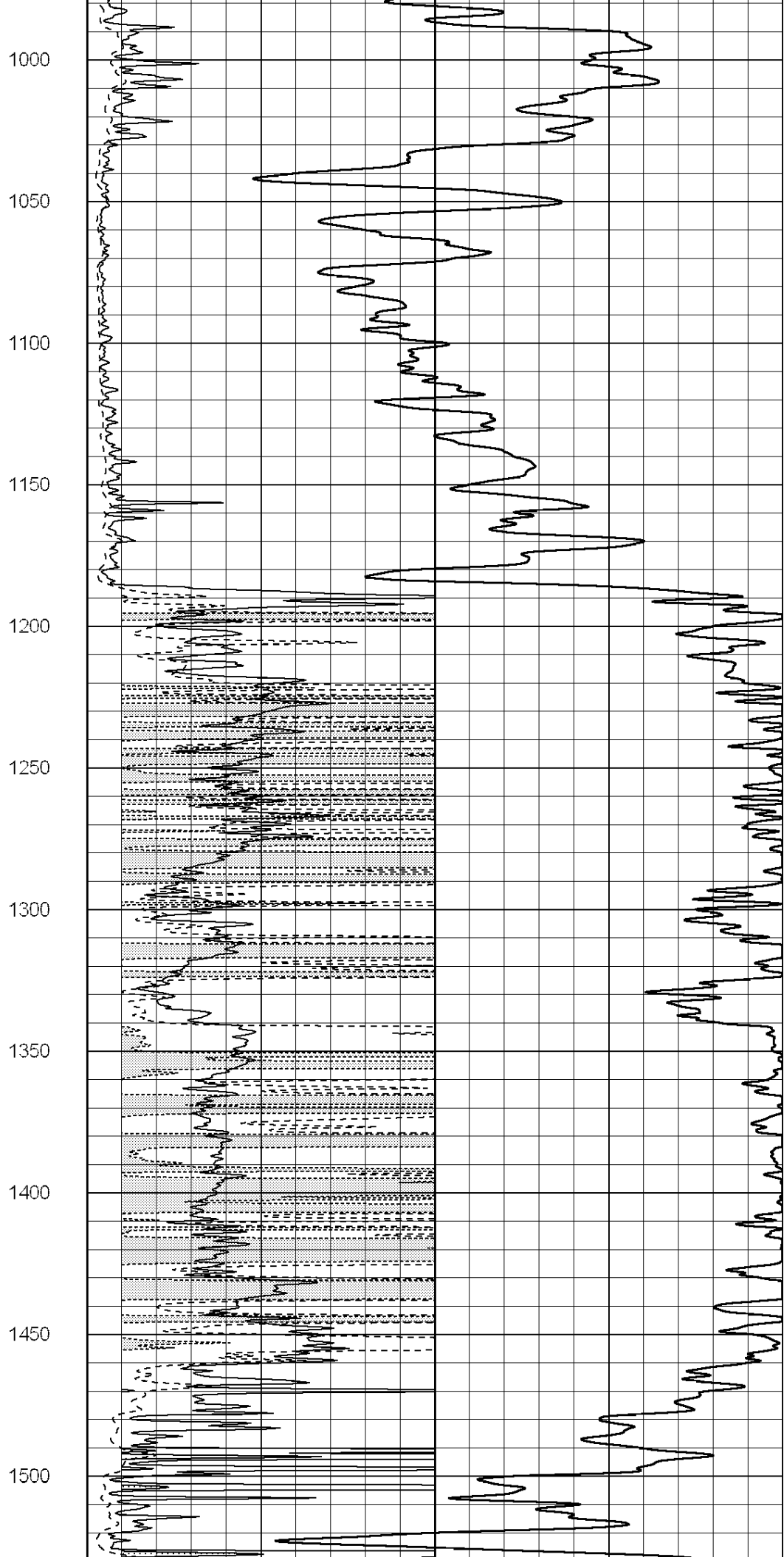
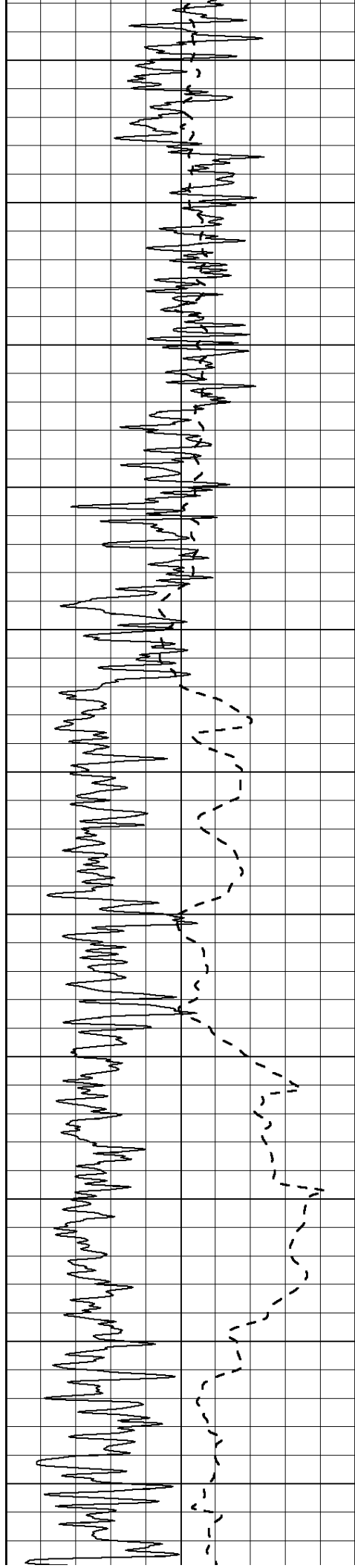
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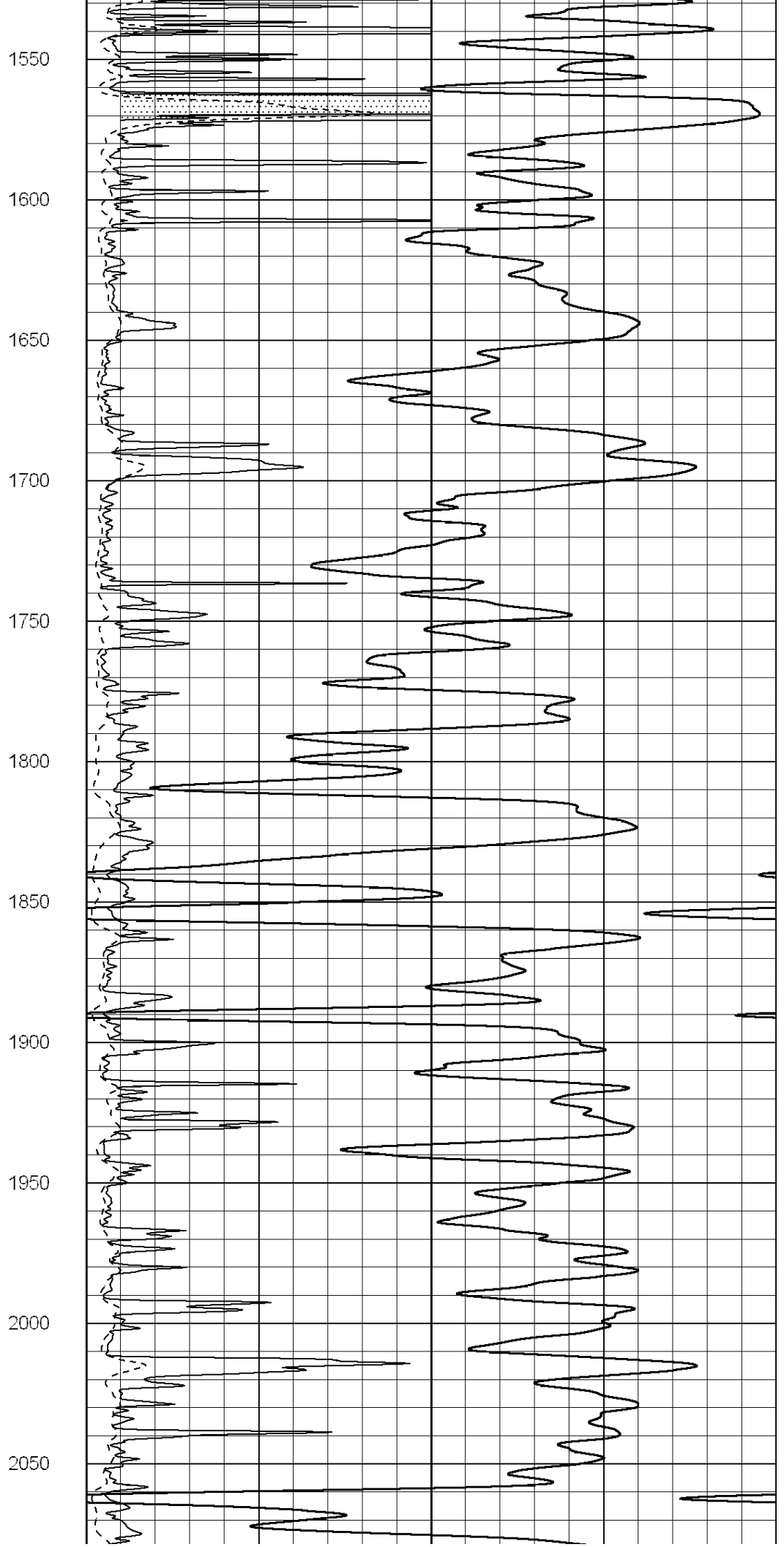
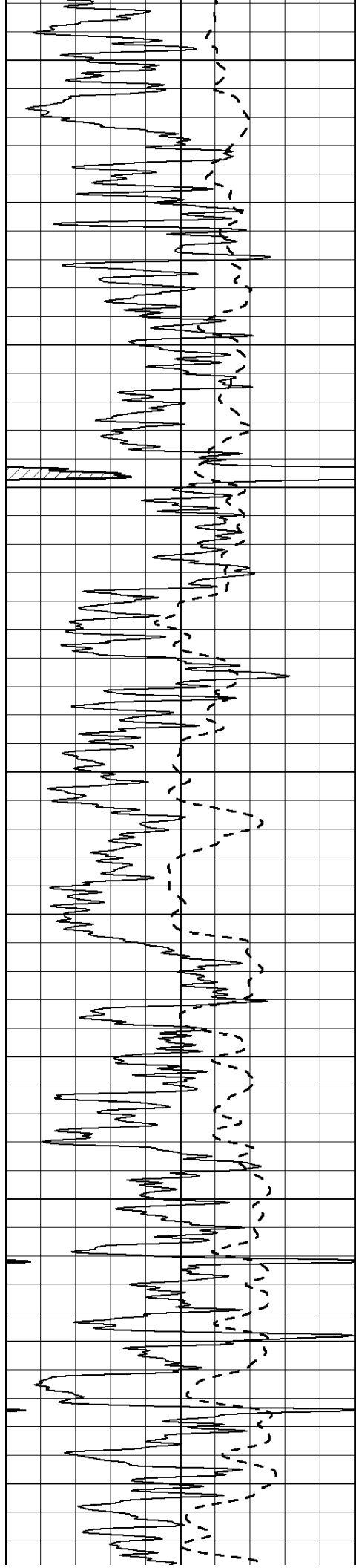
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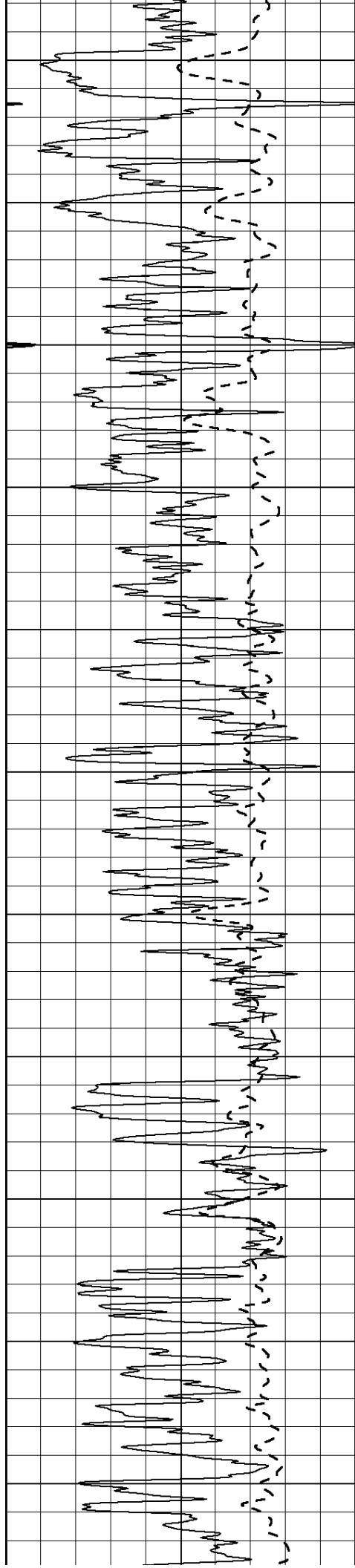
900

950









2100

2150

2200

2250

2300

2350

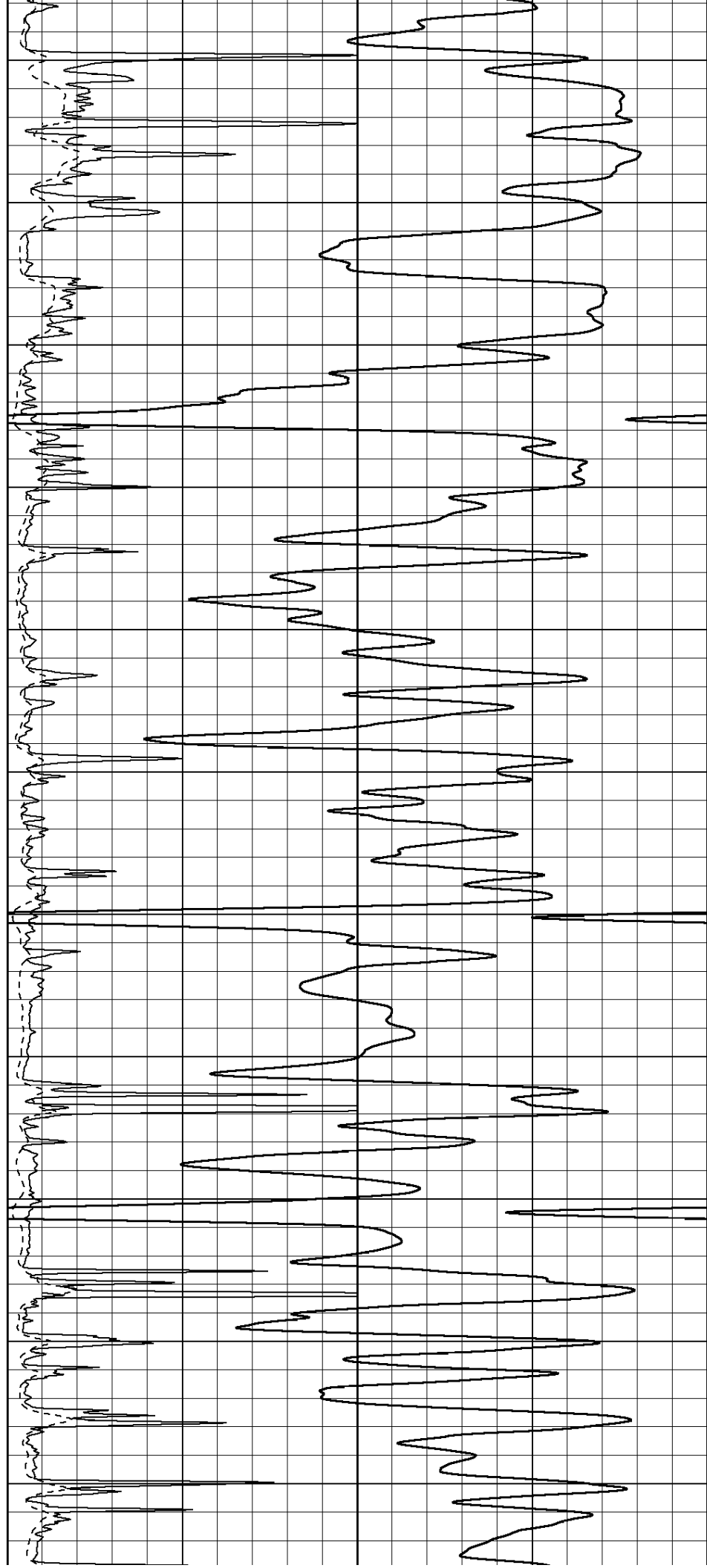
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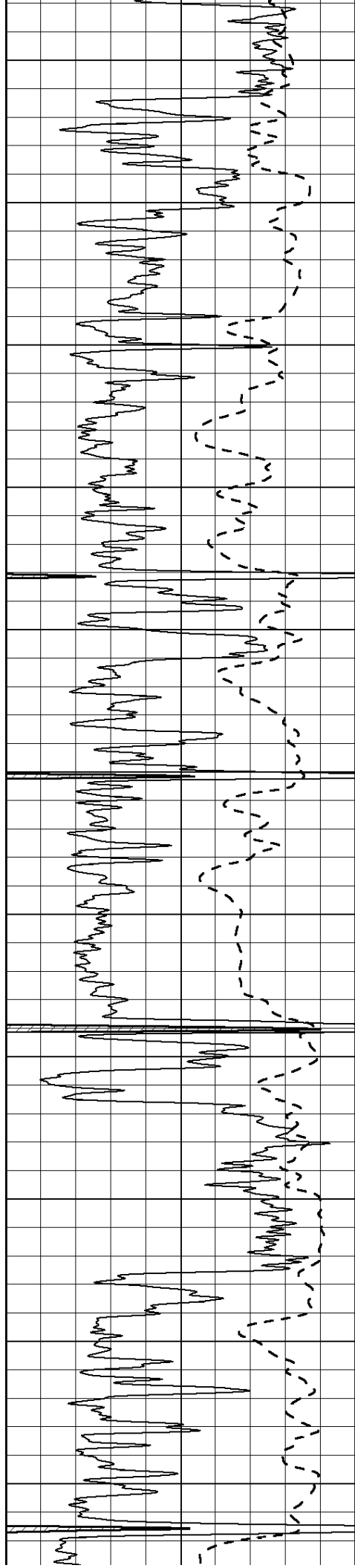
2450

2500

2550

2600





2650

2700

2750

2800

2850

2900

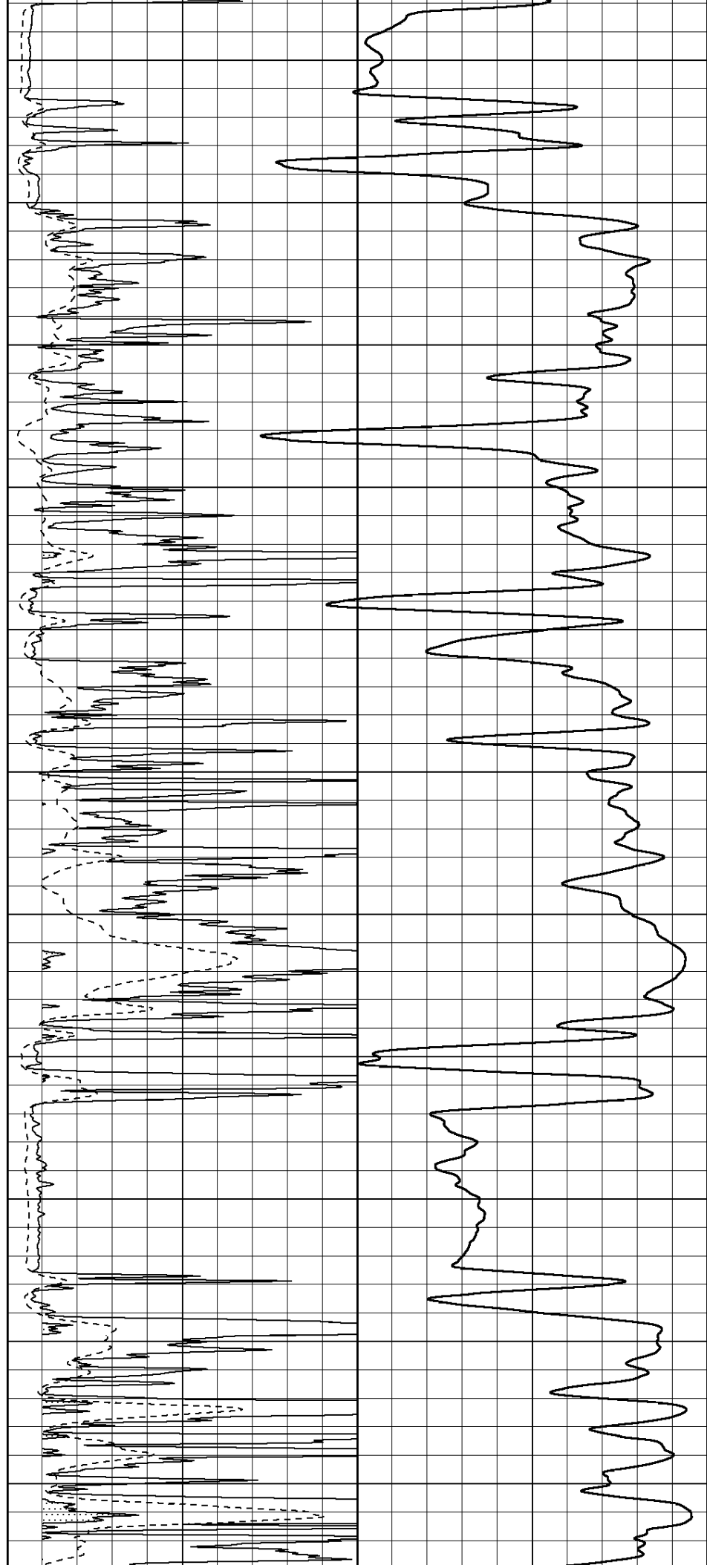
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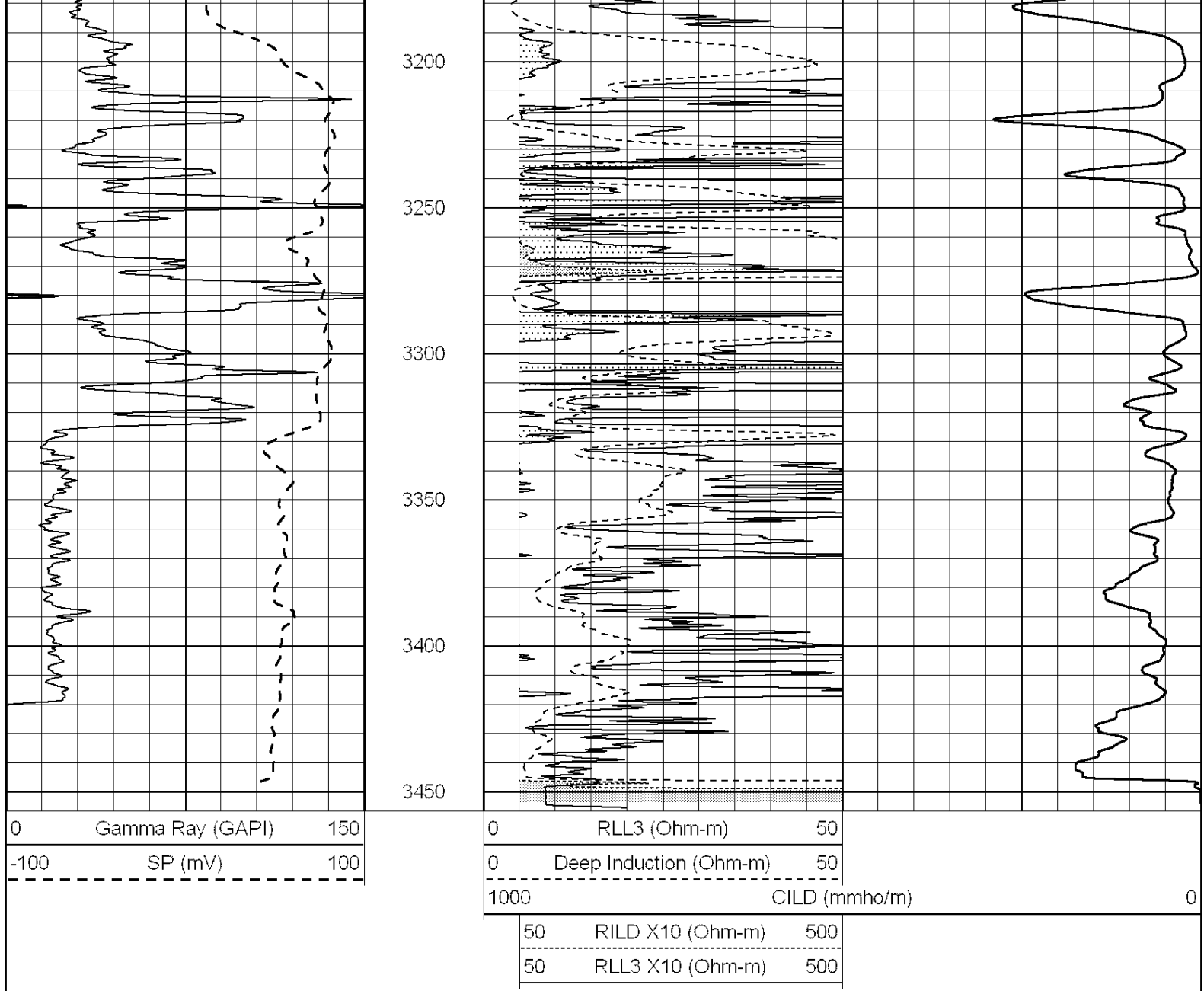
3000

3050

3100

3150



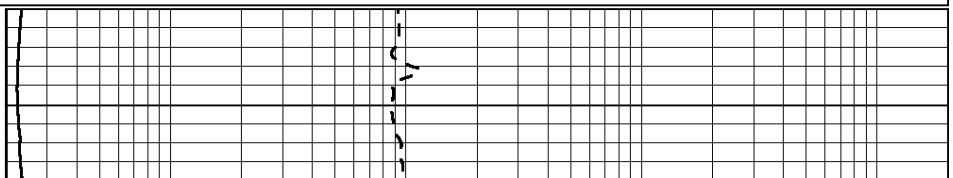
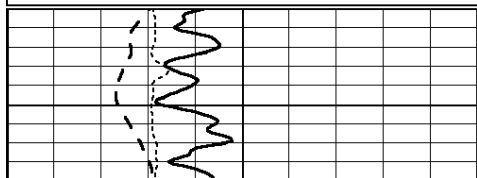


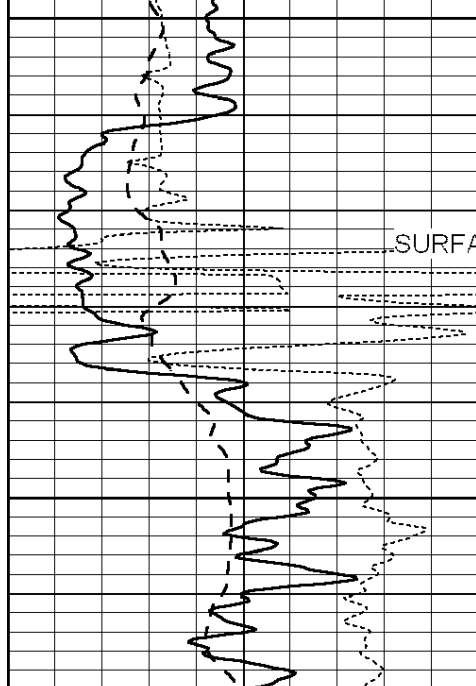
SUPERIOR
Hays,
Kansas

ANHYDRITE

Database File: 008099ddn.db
Dataset Pathname: pass3.3
Presentation Format: _dil
Dataset Creation: Fri Dec 09 06:24:01 2011 by Calc Open-Cased 090629
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	MEDIUM INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	DEEP INDUCTION (Ohm-m)	2000



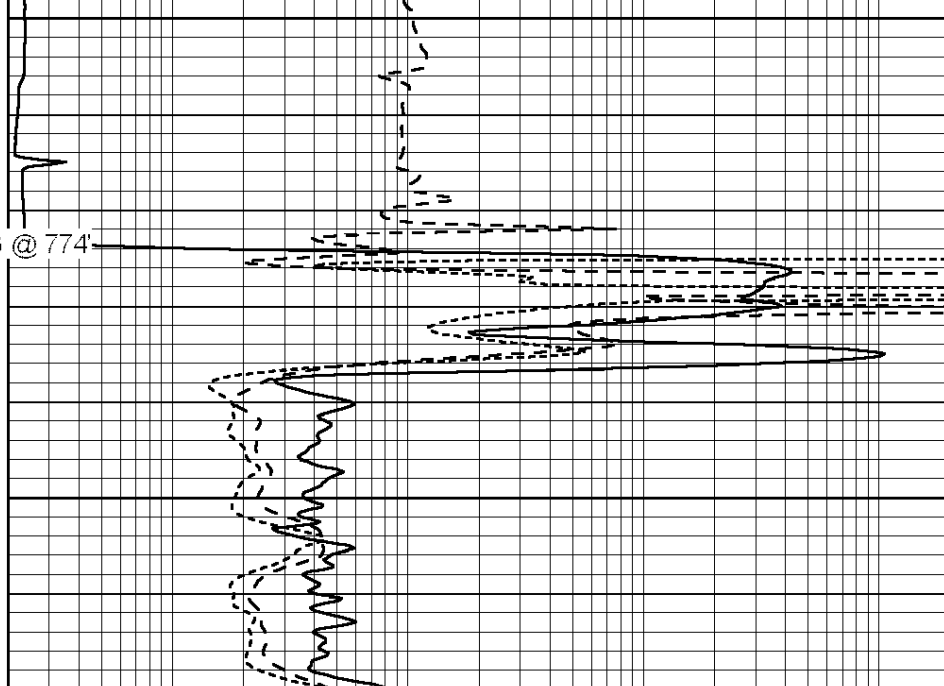


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

750

800

SURFACE CASING @ 774'



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



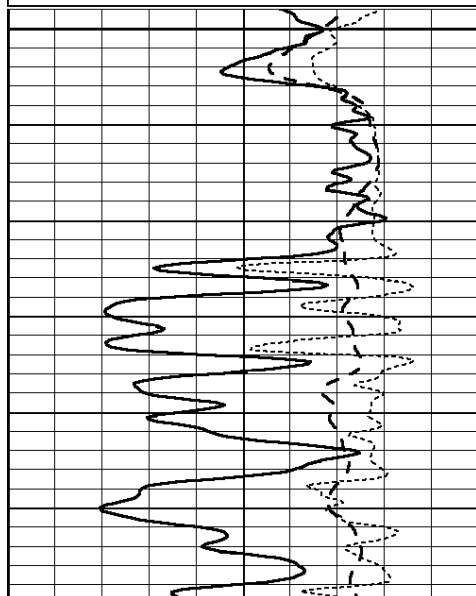
SUPERIOR
Hays,
Kansas

MAIN SECTION

Database File: 008099ddn.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Fri Dec 09 06:04:38 2011 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

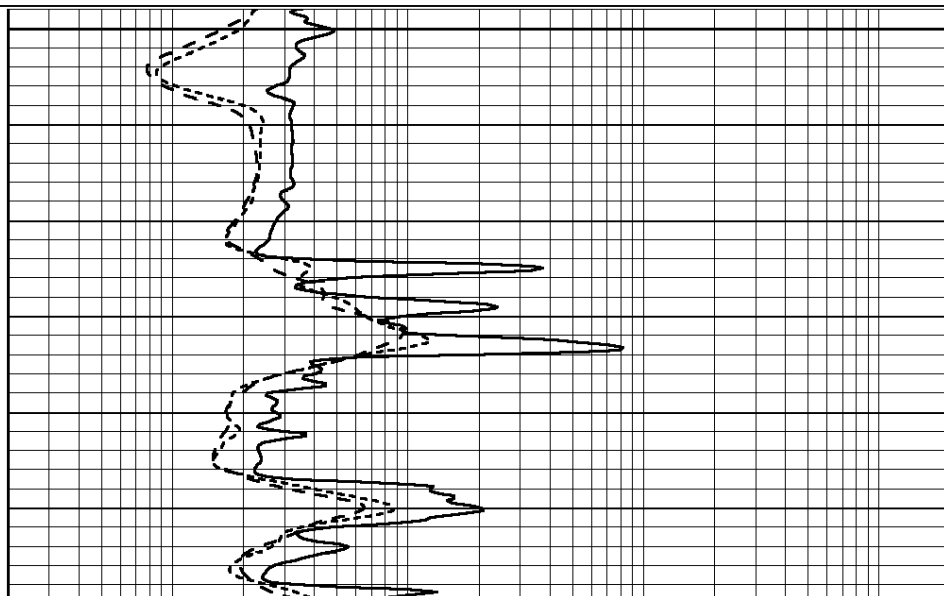
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

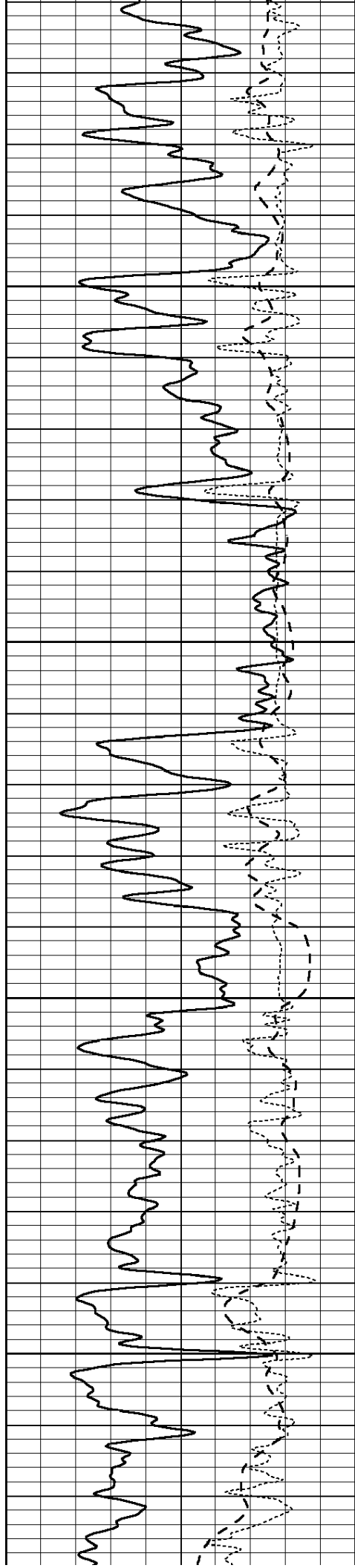
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000



2500

2550



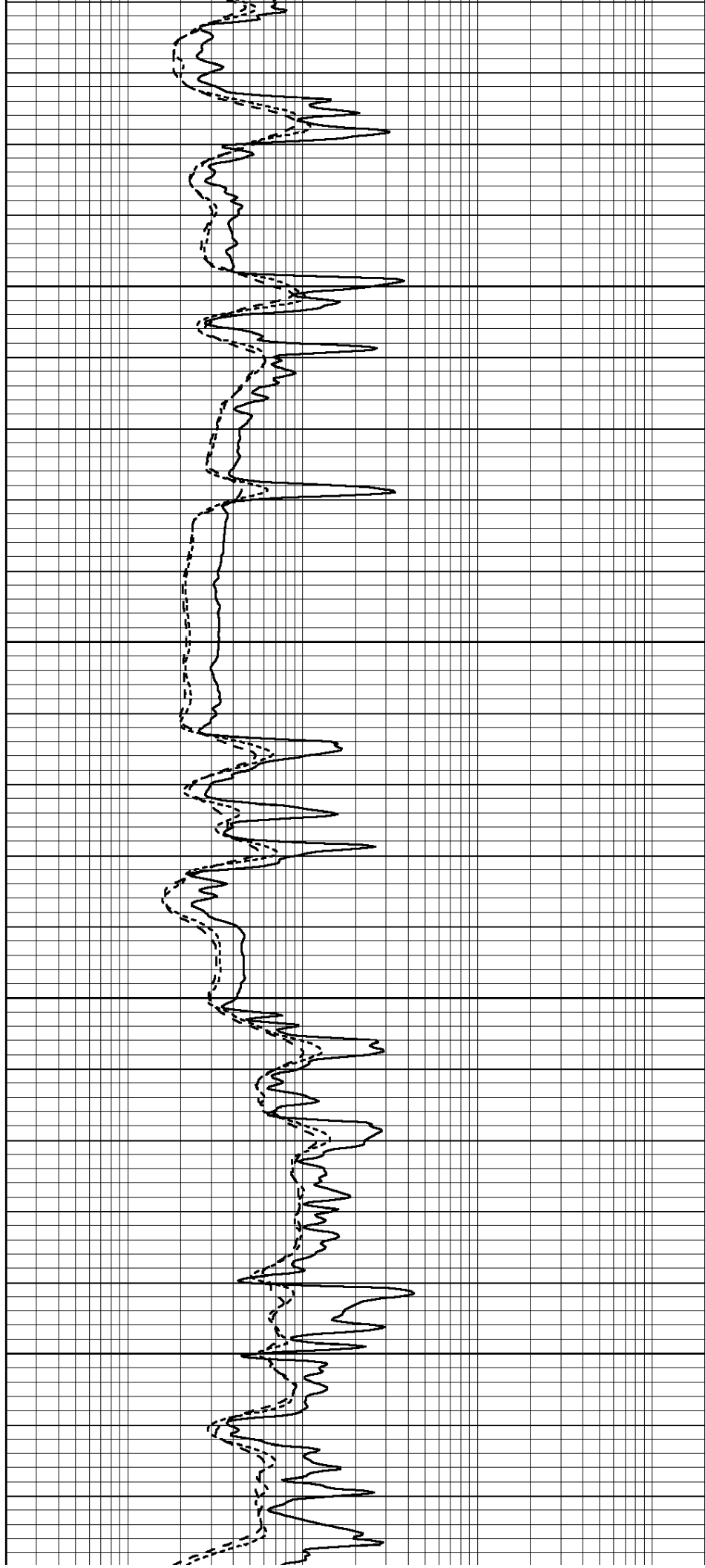


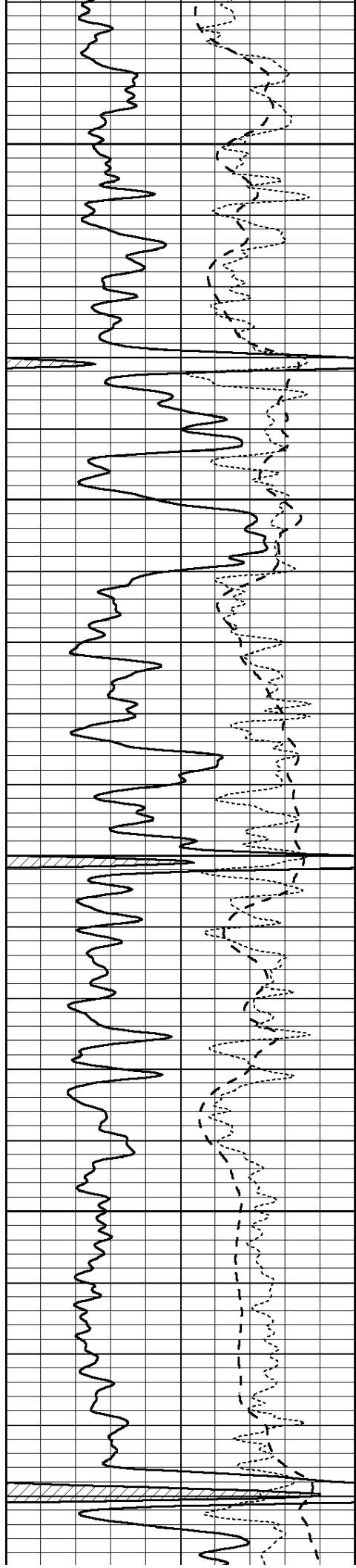
2600

2650

2700

2750





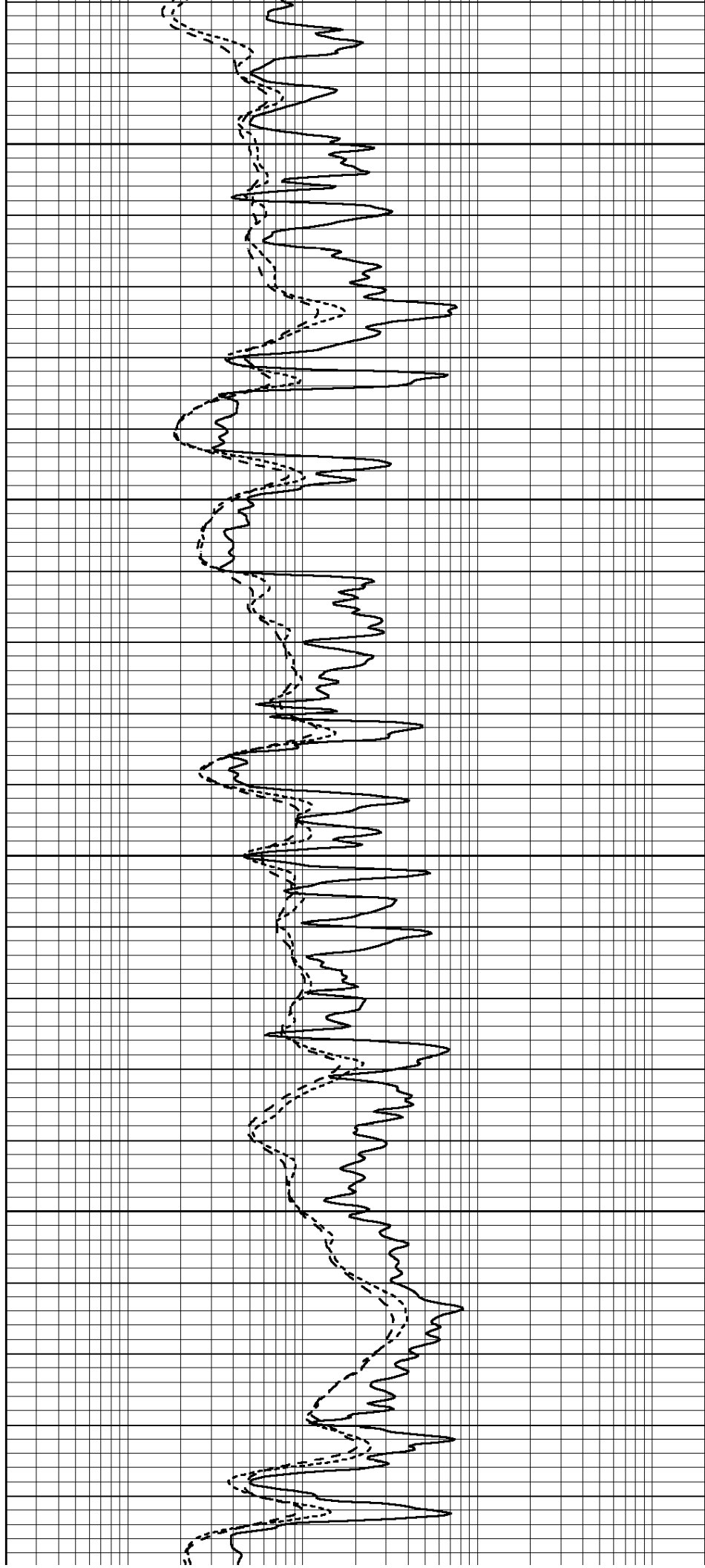
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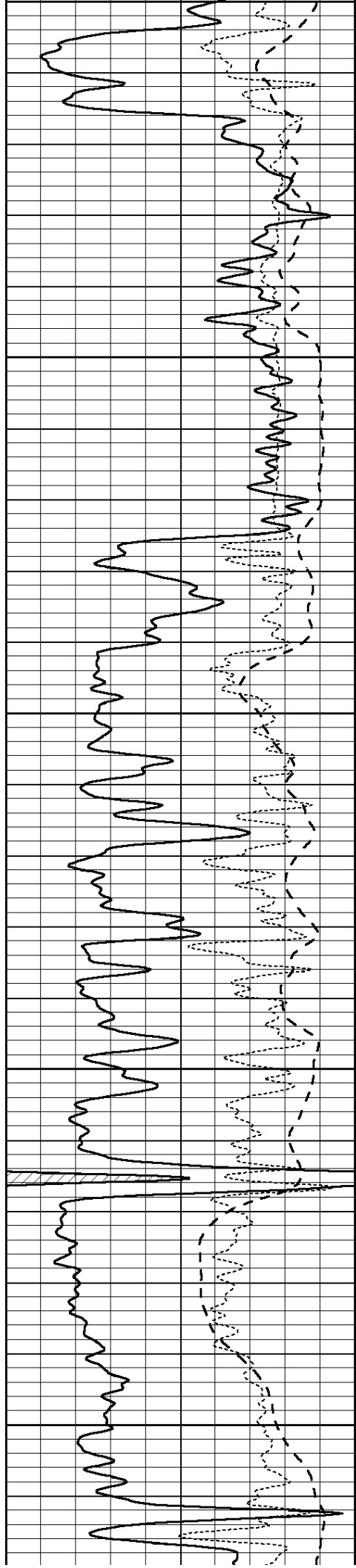
2850

2900

2950

3000





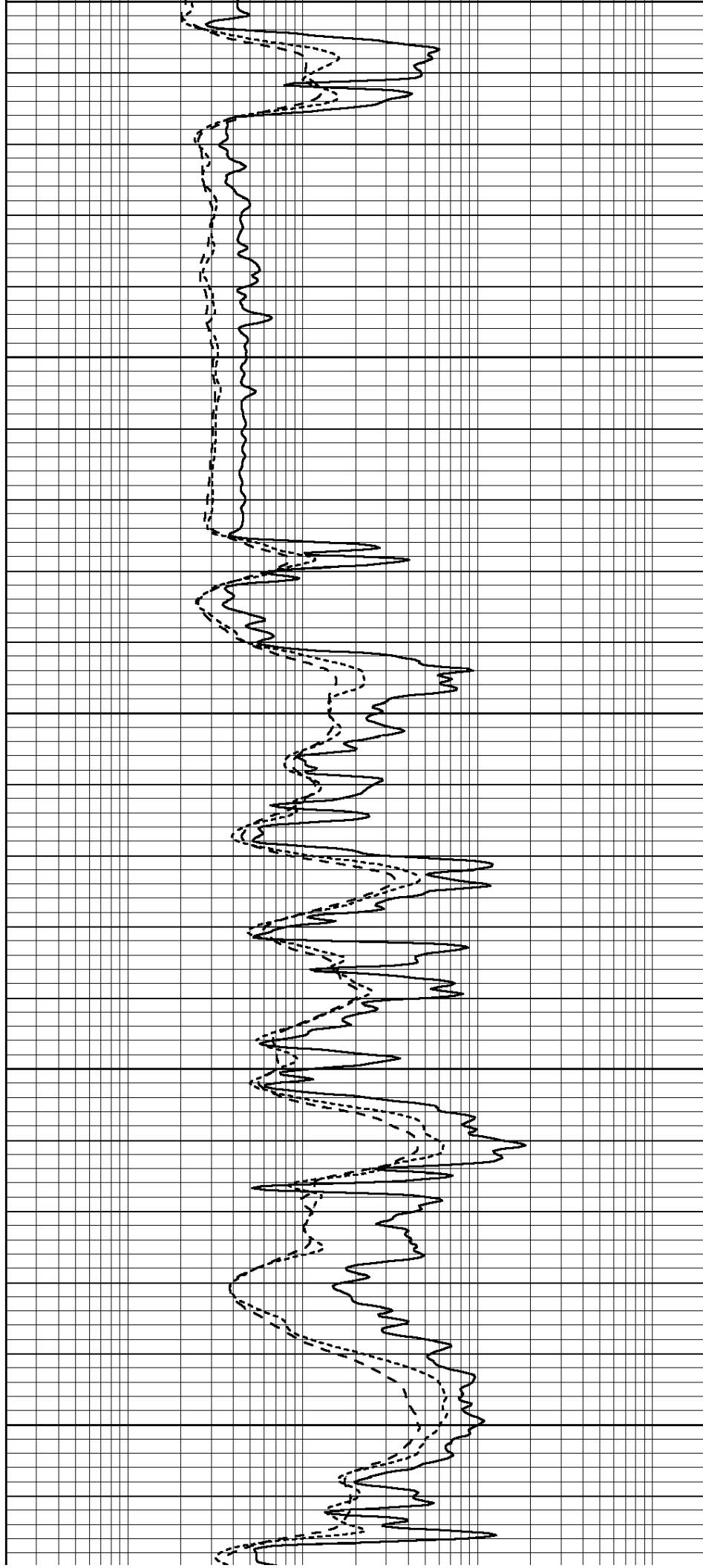
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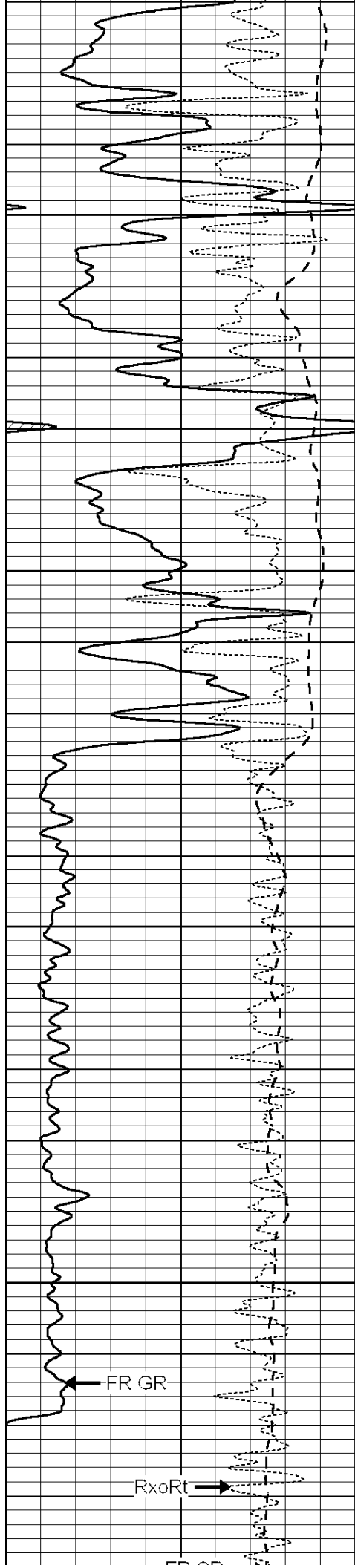
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3100

3150

3200



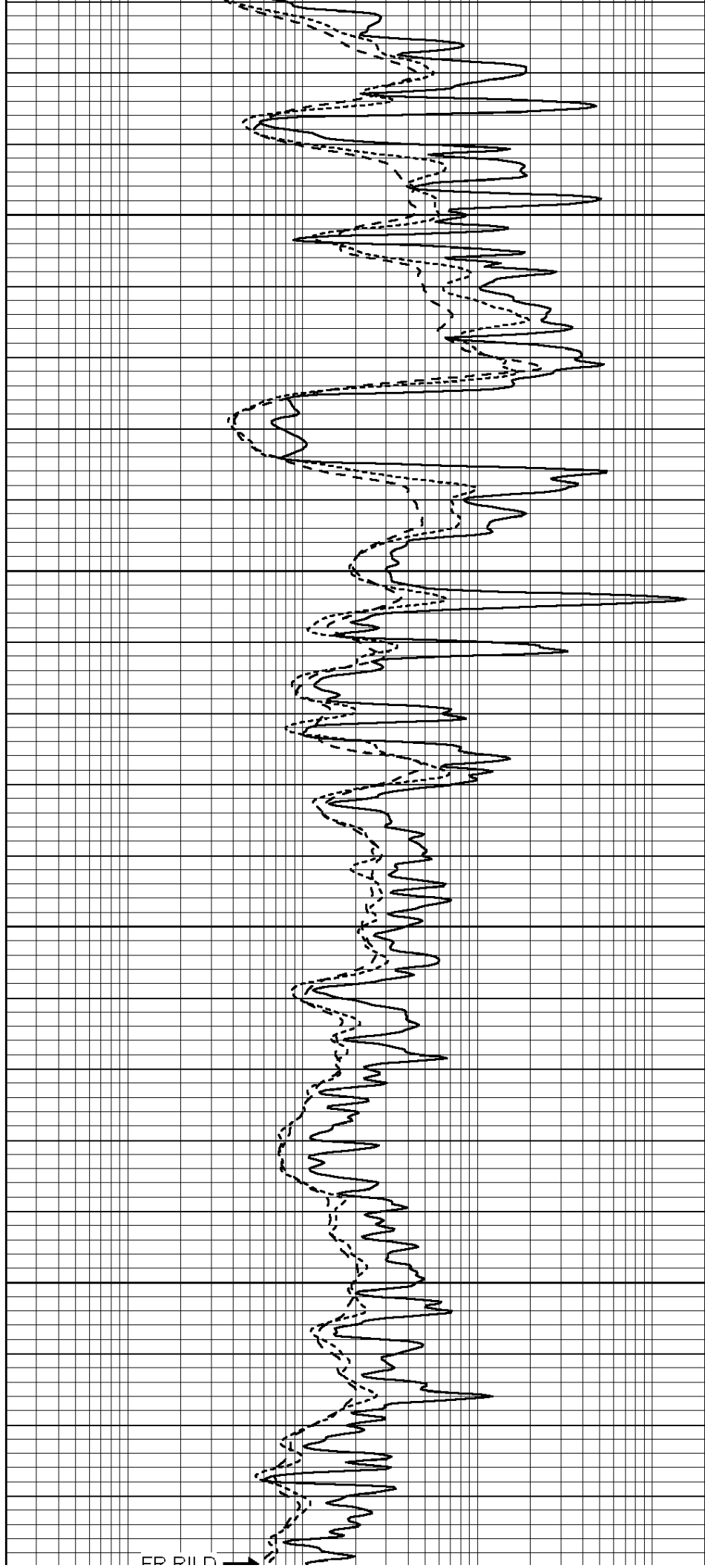


3250

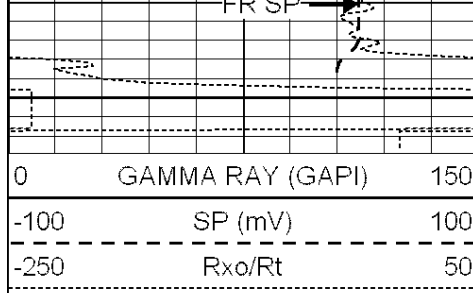
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3350

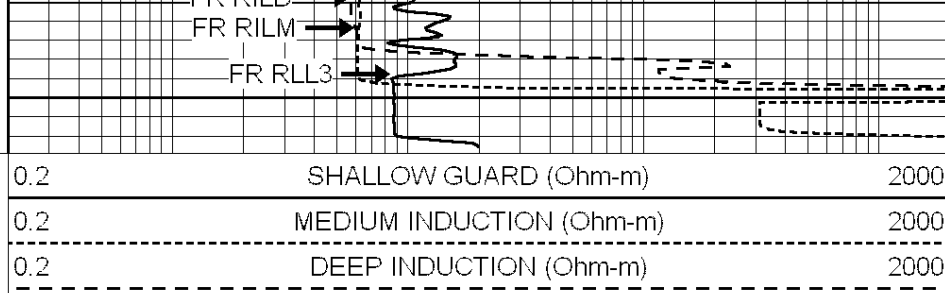
3400



FR GR



LTD 3450

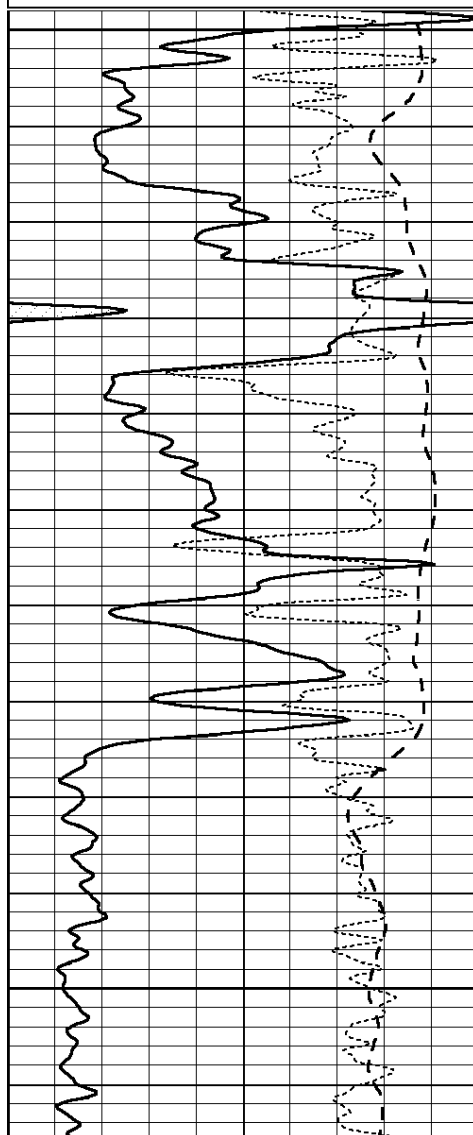
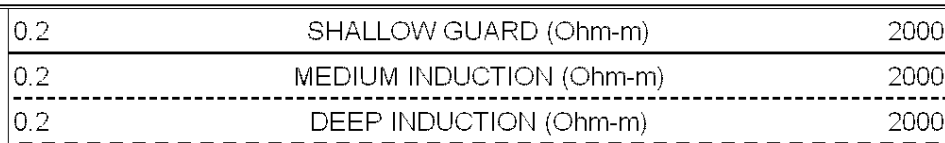
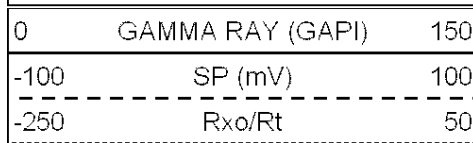


SUPERIOR

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REPEAT SECTION

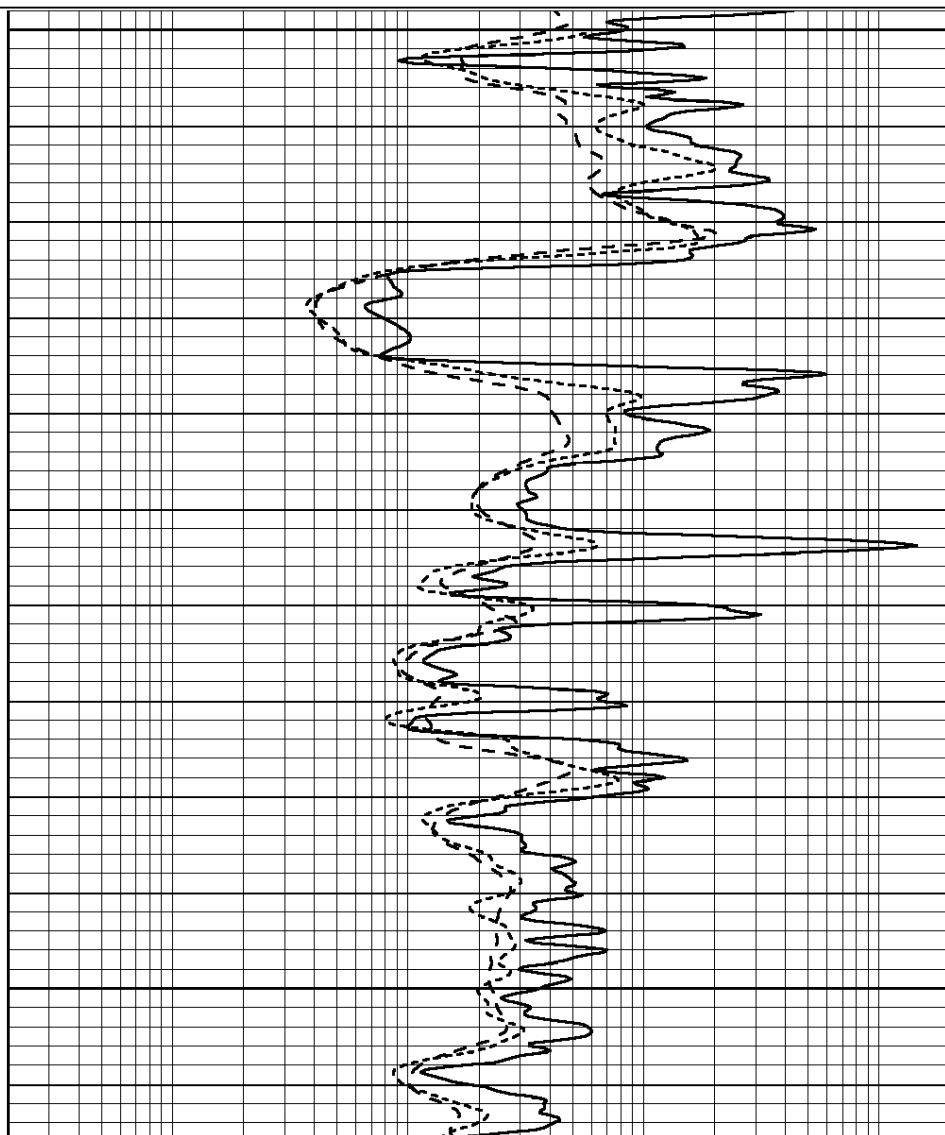
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 Presentation Format: _dil
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 Charted by: Depth in Feet scaled 1:240

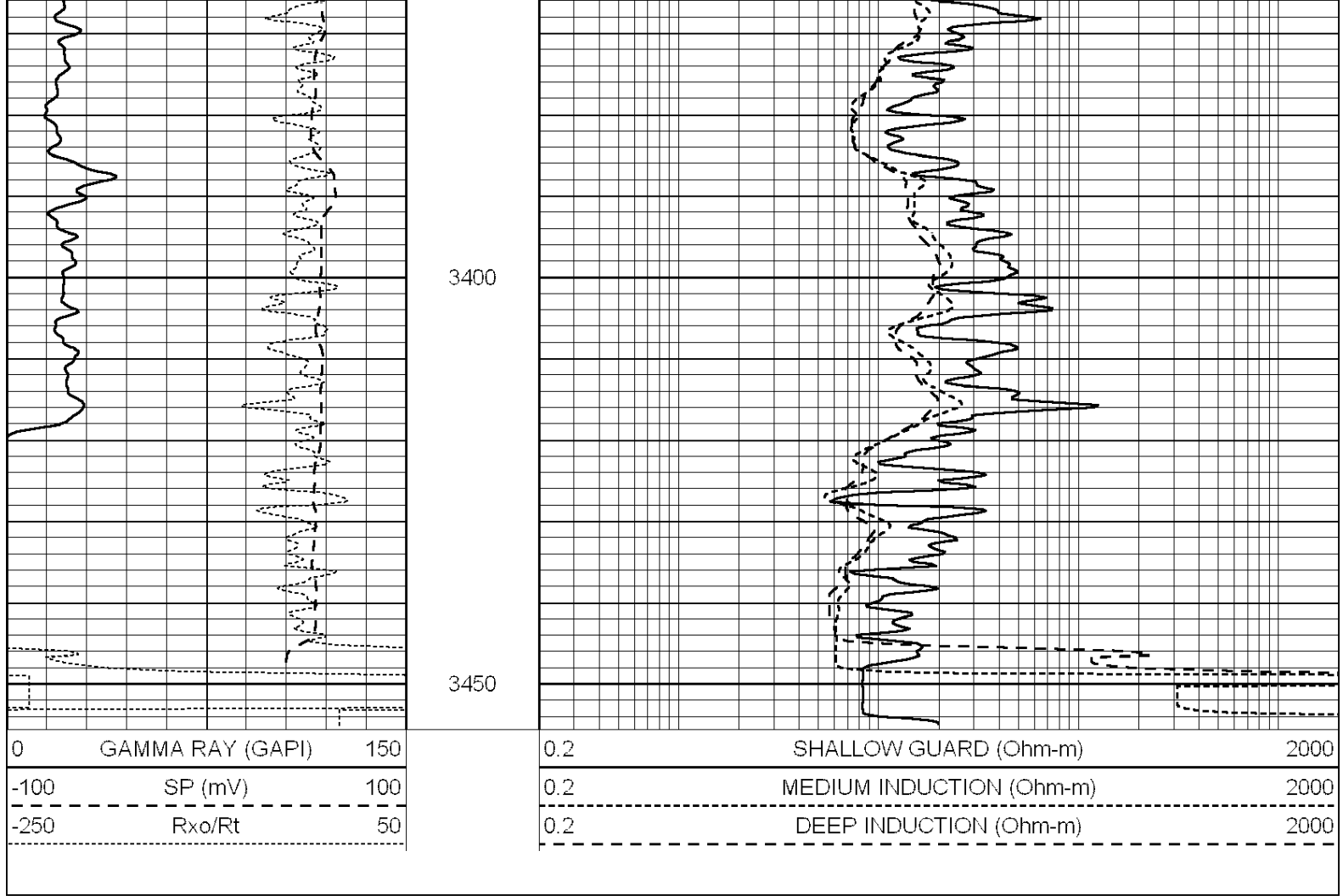


3250

3300

3350





Calibration Report										
Database File:	008099ddn.db									
Dataset Pathname:	pass3.1									
Dataset Creation:	Fri Dec 09 06:04:38 2011 by Calc Open-Cased 090629									
Dual Induction Calibration Report										
Serial-Model:			PROBE7-DILG							
Surface Cal Performed:			Wed Jul 30 06:14:24 2008							
Downhole Cal Performed:			Mon Jul 28 12:02:56 2008							
After Survey Verification Performed:			Mon Jul 28 12:02:56 2008							
Surface Calibration										
		Readings					References		Results	
Loop:	Air	Loop		Air	Loop		m	b		
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	621.923	8.759		
Medium	0.039	0.728	V	0.000	464.000	mmho/m	673.322	-26.058		
Internal:	Zero	Cal		Zero	Cal		m	b		
Deep	0.011	0.610	V	0.000	400.000	mmho/m	667.135	-7.256		
Medium	0.005	0.712	V	0.000	464.000	mmho/m	655.677	-3.102		
Downhole Calibration										
		Readings					References		Results	
	Zero	Cal		Zero	Cal		m'	b'		
Deep	0.000	0.000	mmho/m	14.508	388.384	mmho/m	1.000	0.000		
Medium	0.000	0.000	mmho/m	166.367	504.400	mmho/m	1.000	0.000		
LL3	0.000	7.500	V		1400.000	Ohm-m				

LL3	7.000	V	1400.000	Ohm-m
	0.000	V	20.000	Ohm-m
	-7.200	V	4000.000	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:	Sat Jul 16 17:35:04 2011

Master Calibration						
	Density			Far 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		2.24	V	
Large Ring	14.00	in		4.38	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