



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company	MAI OIL OPERATIONS	Company	MAI OIL OPERATIONS
Well	MILLER FARMS #3	Well	MILLER FARMS #3
Field	BARRETT	Field	BARRETT
County	BARTON	County	BARTON
State	KANSAS	State	KANSAS
Location:	API # : 15-009-26045-0000 1465' FNL & 1460' FWL NE NE SW NE	Other Services CDL/CNL MEL	
Permanent Datum	SEC 36 TWP 16S RGE 14W	Elevation	
Log Measured From	GROUND LEVEL	K.B. 1981	
Drilling Measured From	KELLY BUSHING 8' A.G.L. KELLY BUSHING	D.F. 1979	
		G.L. 1973	
Date	11/23/14		
Run Number	ONE		
Depth Driller	3675		
Depth Logger	3676		
Bottom Logged Interval	3674		
Top Log Interval	00		
Casing Driller	8 5/8" @ 515		
Casing Logger	514		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 9500 PPM	
Density / Viscosity	9.2/55		
pH / Fluid Loss	9.5/9.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.50 @ 72F		
Rmt @ Meas. Temp	.37 @ 72F		
Rmc @ Meas. Temp	.60 @ 72F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.32 @ 112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	112F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	KURT TALBOTT		

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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, HAYS, KS. (785) 628-6395
DIRECTIONS:
SUSANK, KS. - 1 SOUTH - 2 1/2 WEST - SOUTH INTO



MAIN SECTION

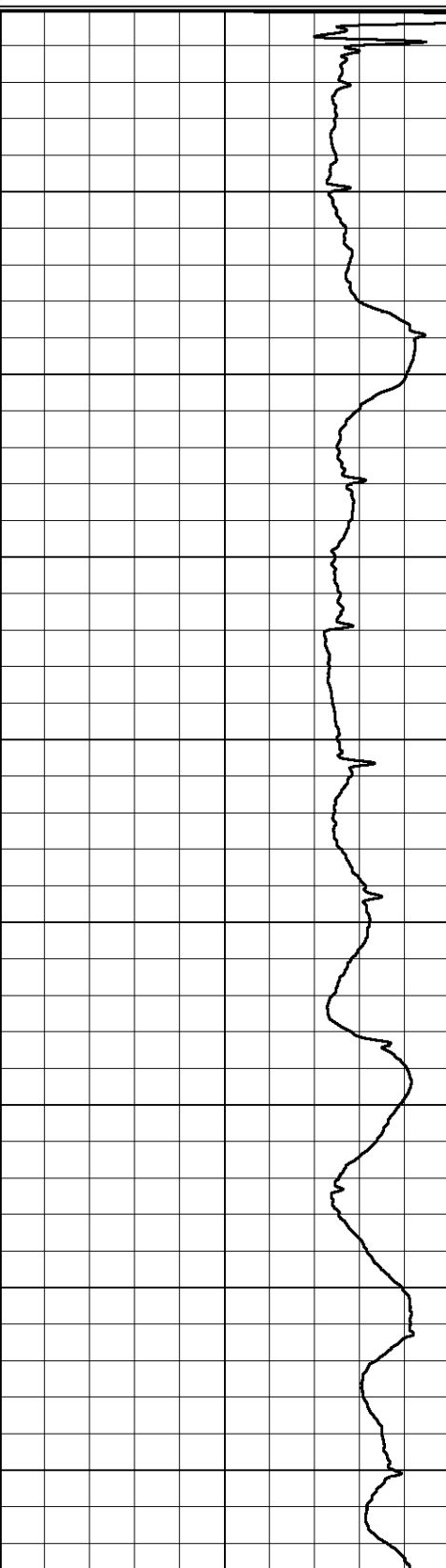
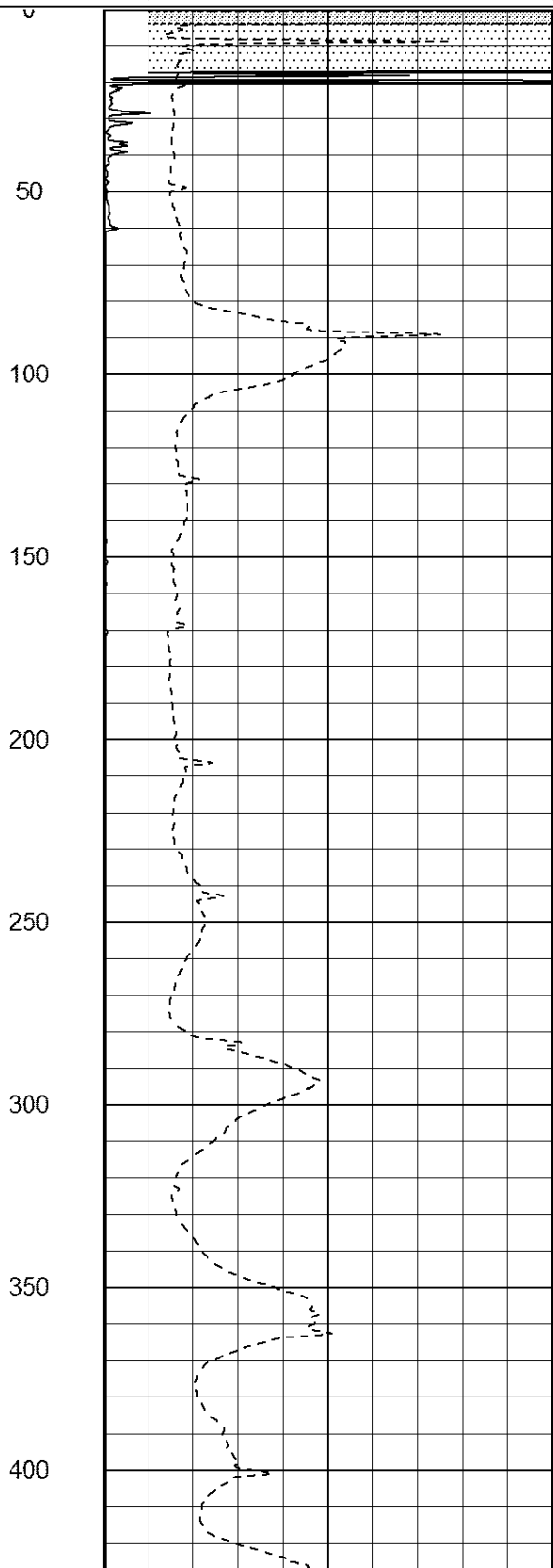
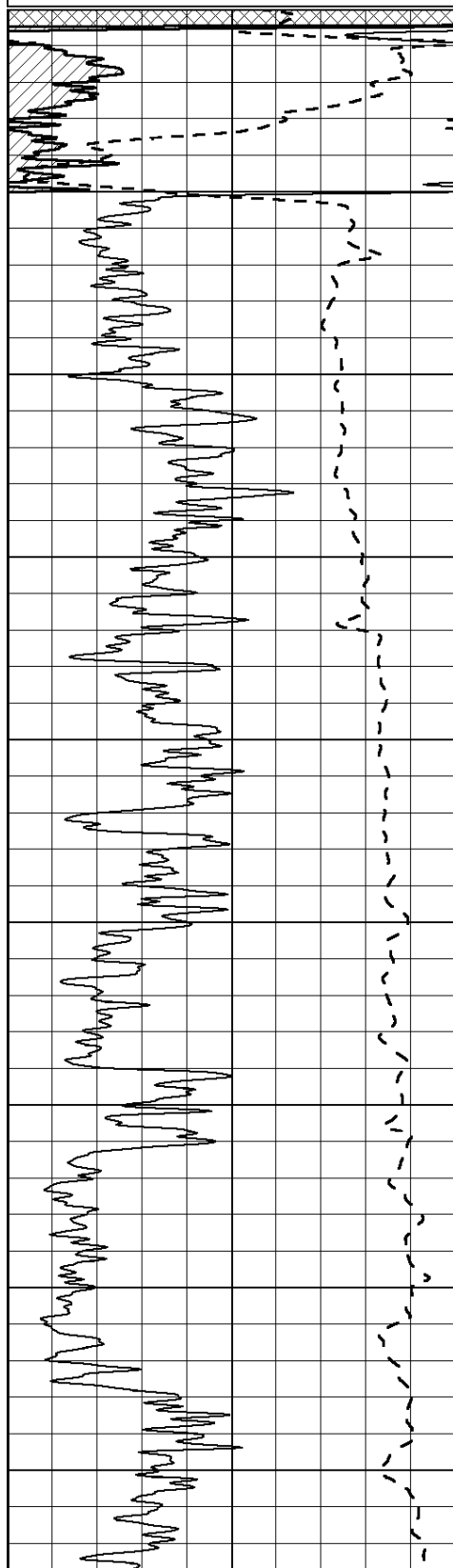
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 Presentation Format: _dil2
 Dataset Creation: Sun Nov 23 20:12:27 2014 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:600

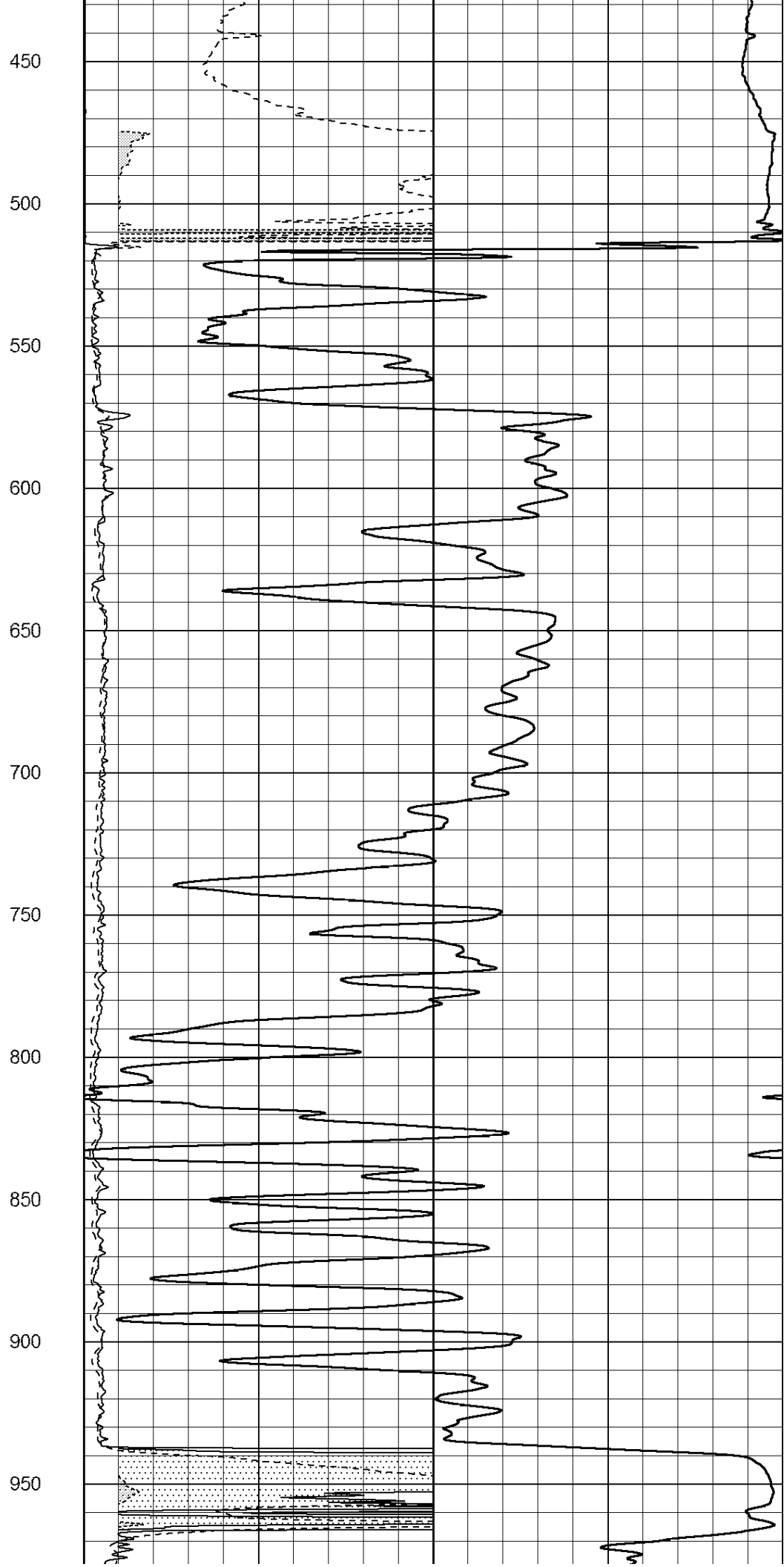
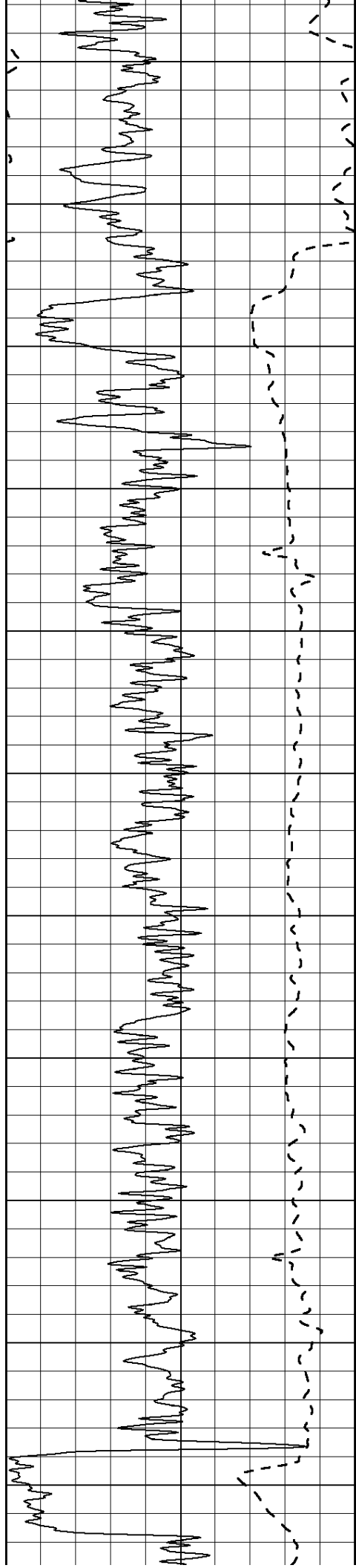
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 -100 SP (mV) 100

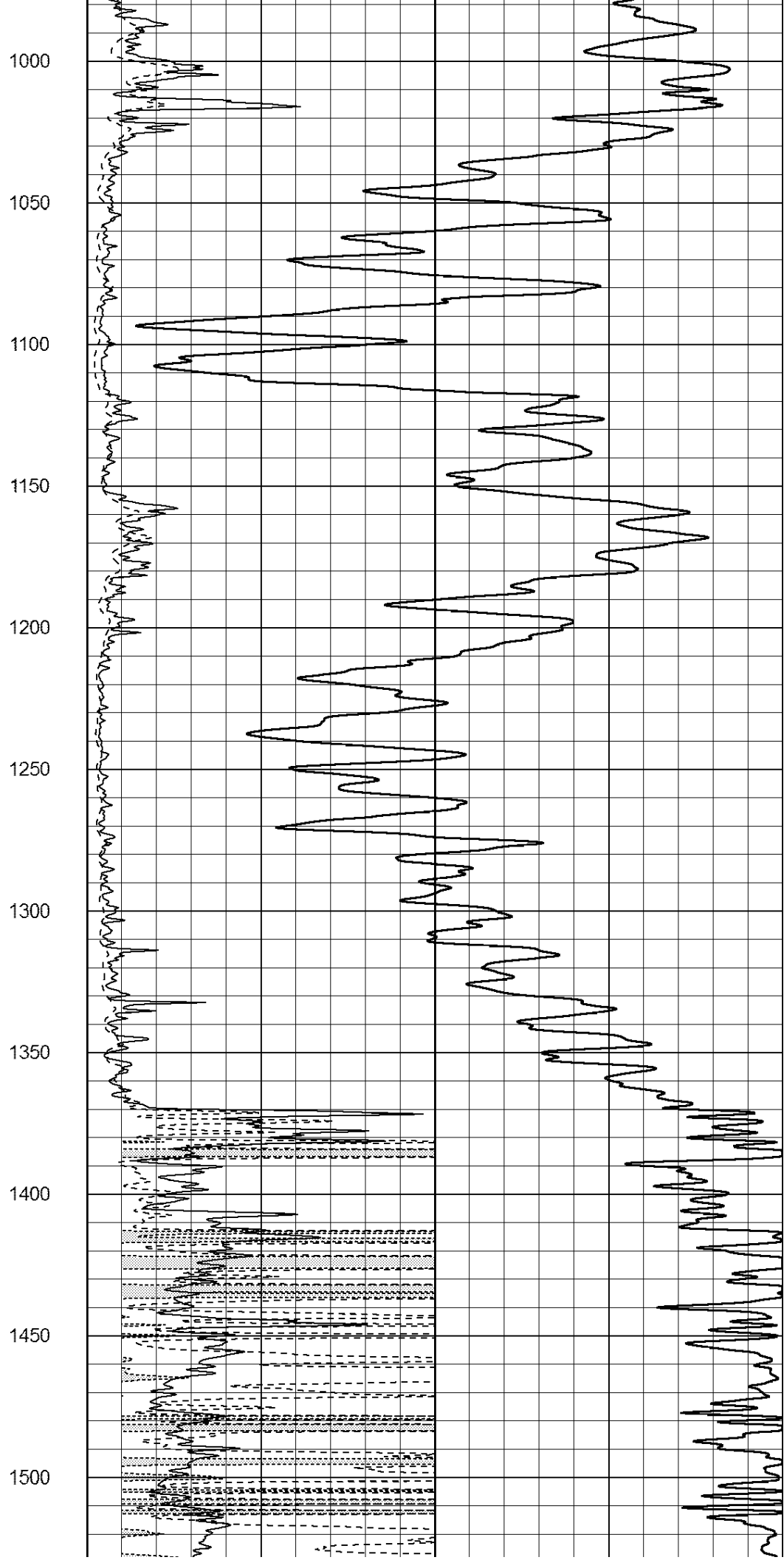
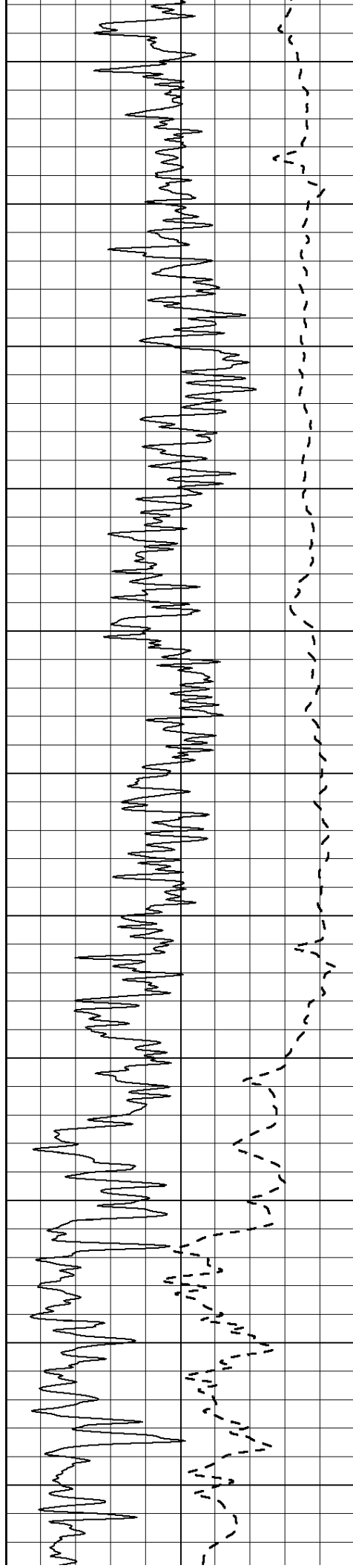
0 RLL3 (Ohm-m) 50
 0 RILD (Ohm-m) 50

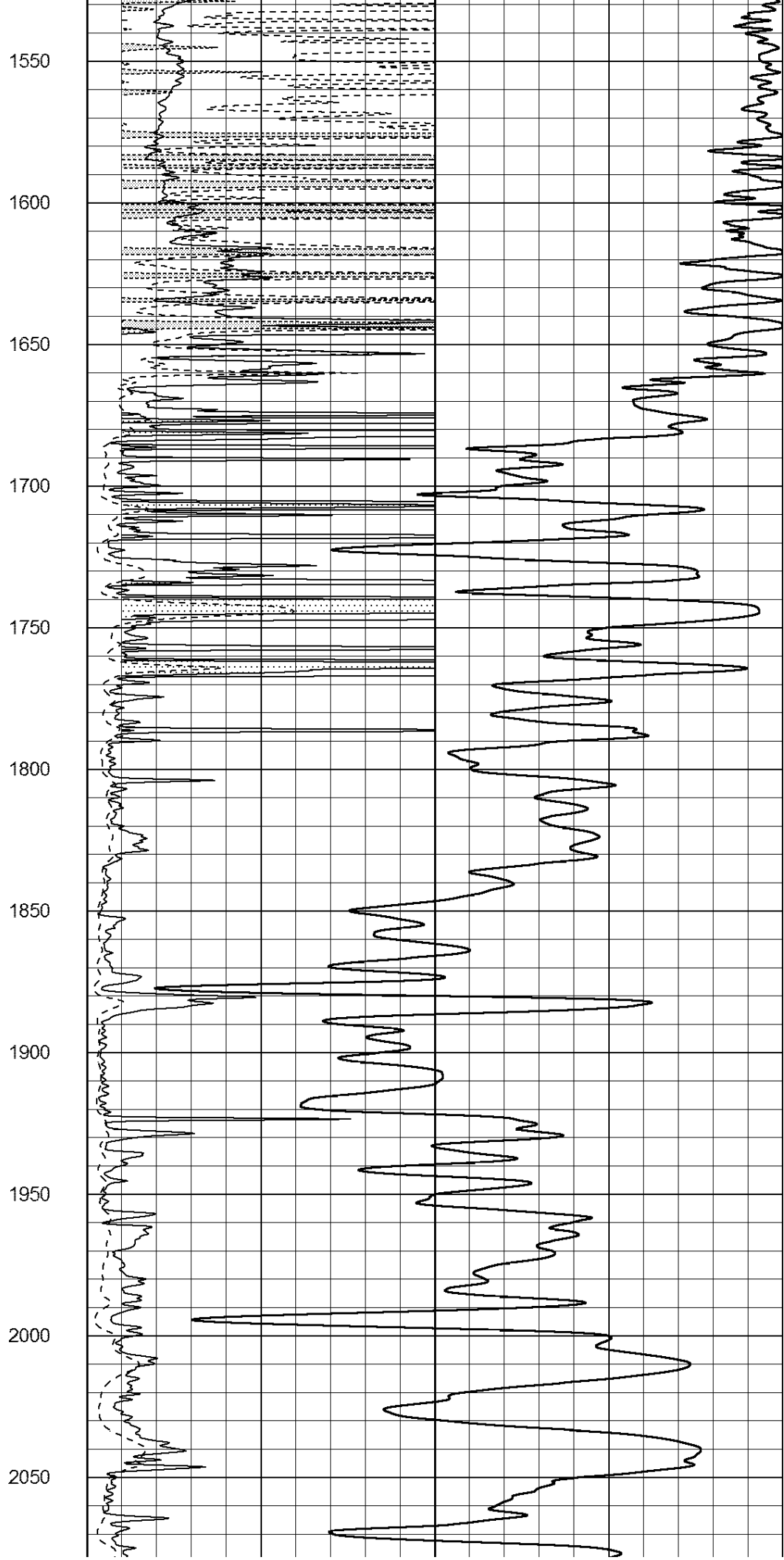
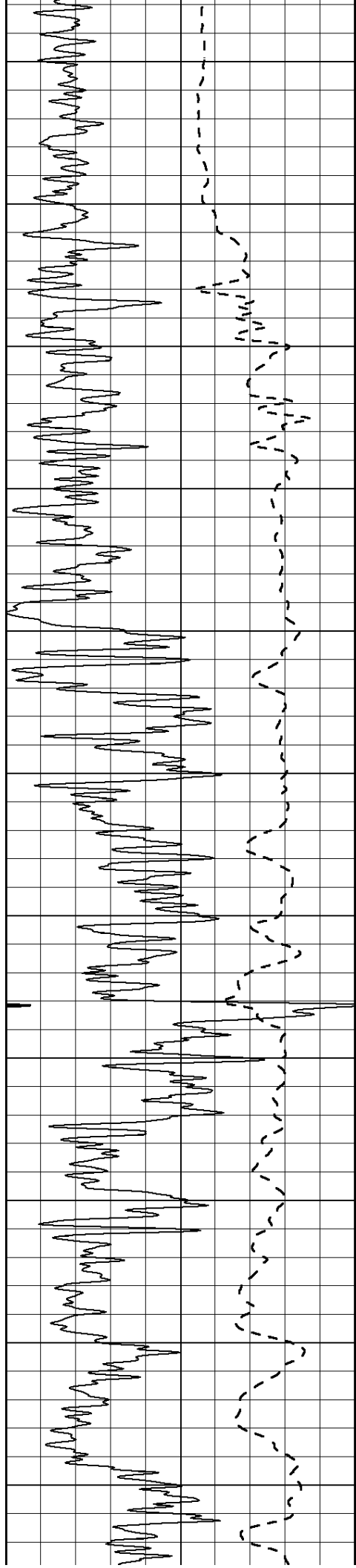
1000 CILD (mmho/m) 0

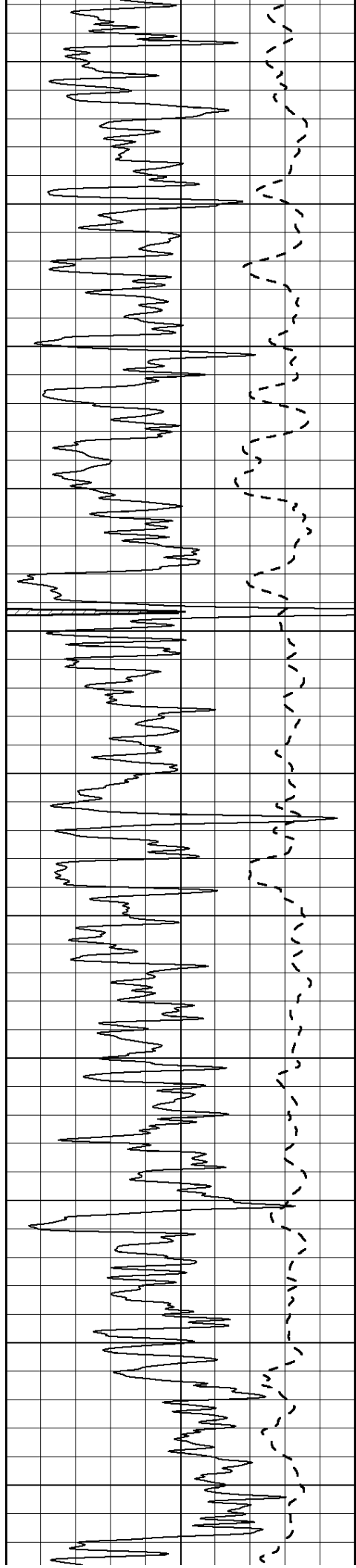
50 RILD X10 (Ohm-m) 500
 50 RLL3 X10 (Ohm-m) 500











2100

2150

2200

2250

2300

2350

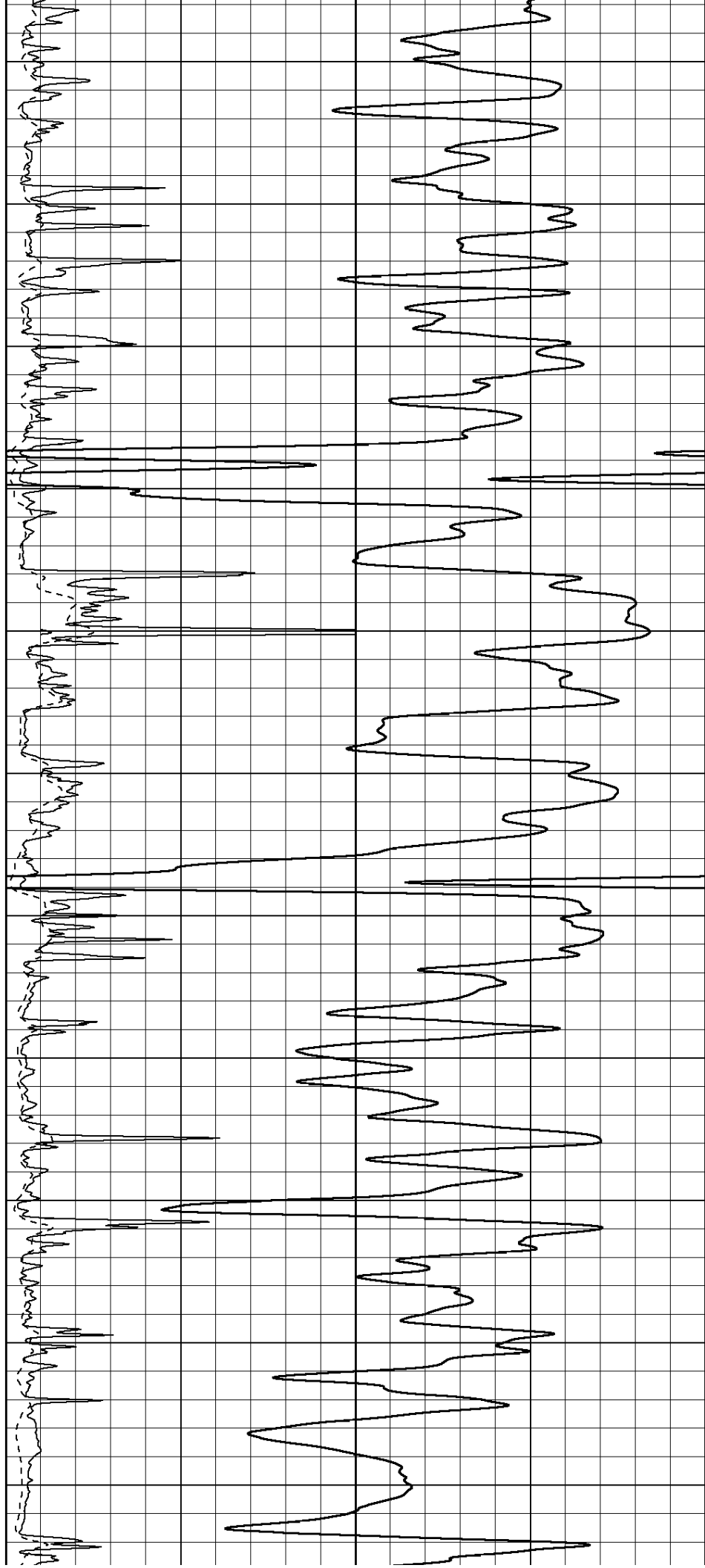
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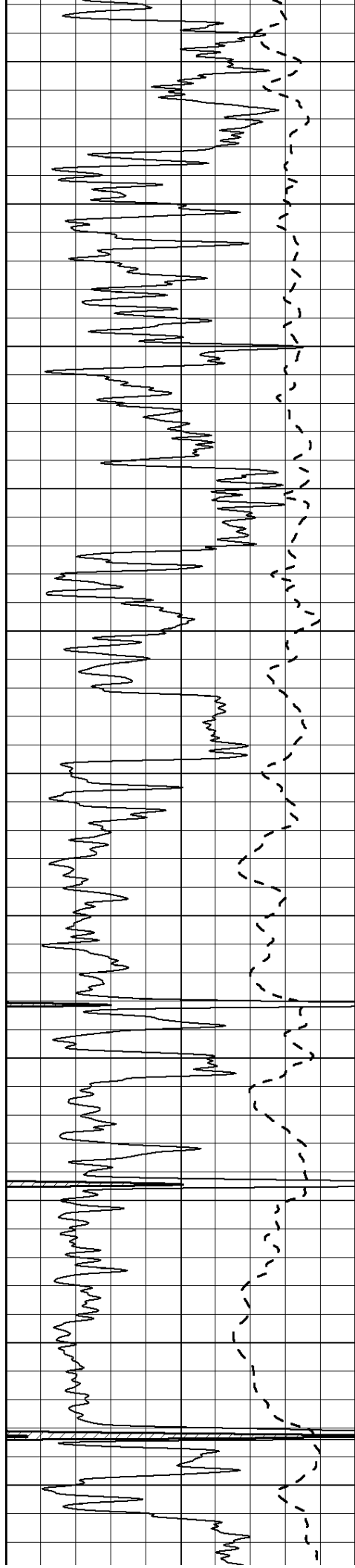
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2500

2550

2600





2650

2700

2750

2800

2850

2900

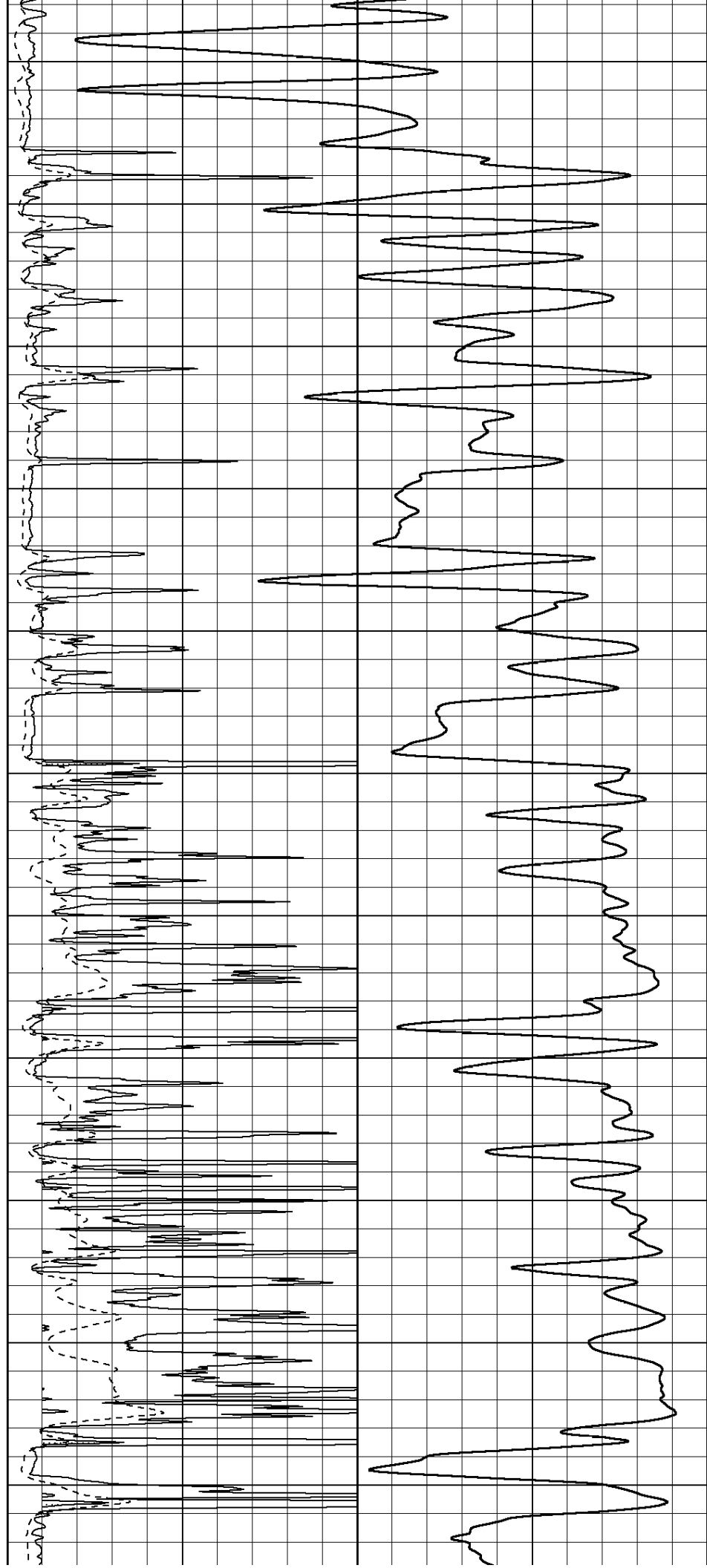
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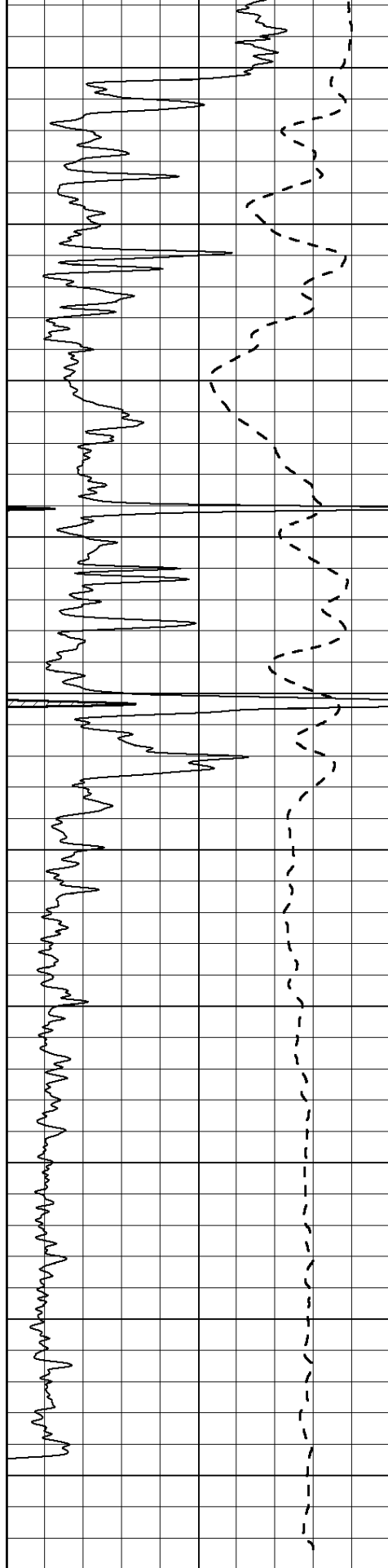
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3050

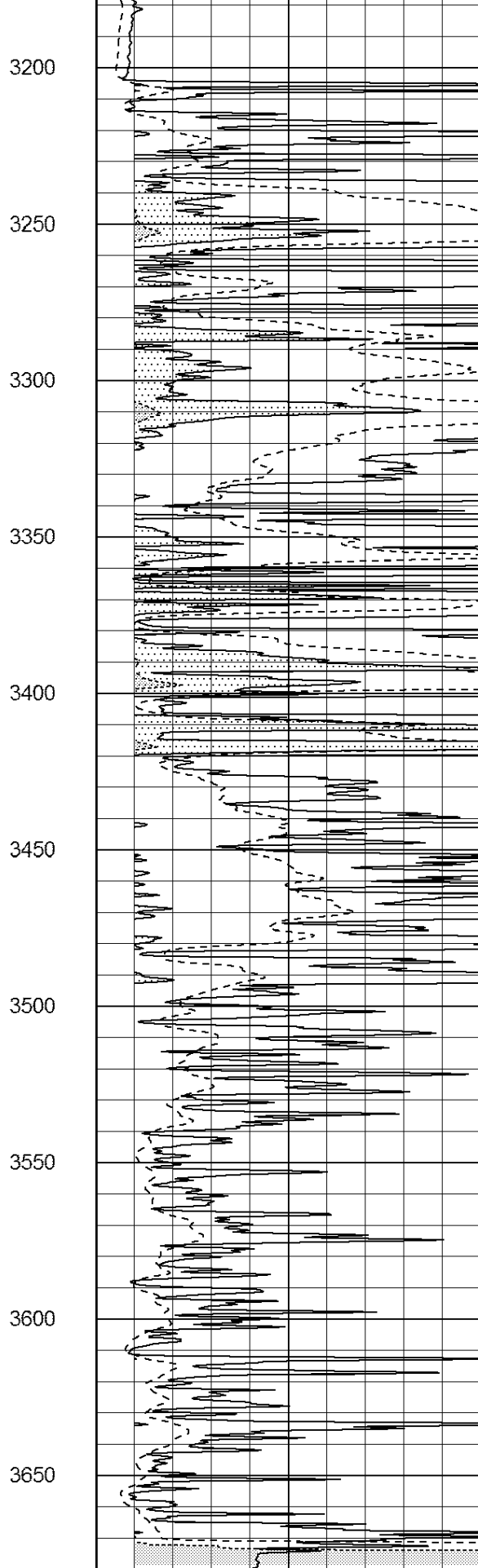
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3150

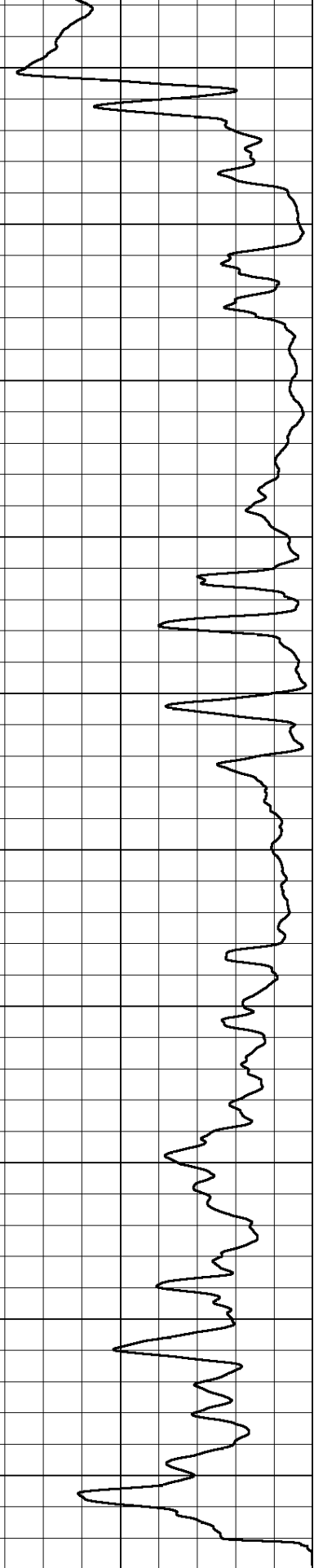




0 Gamma Ray (GAPI) 150
-100 SP (mV) 100



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



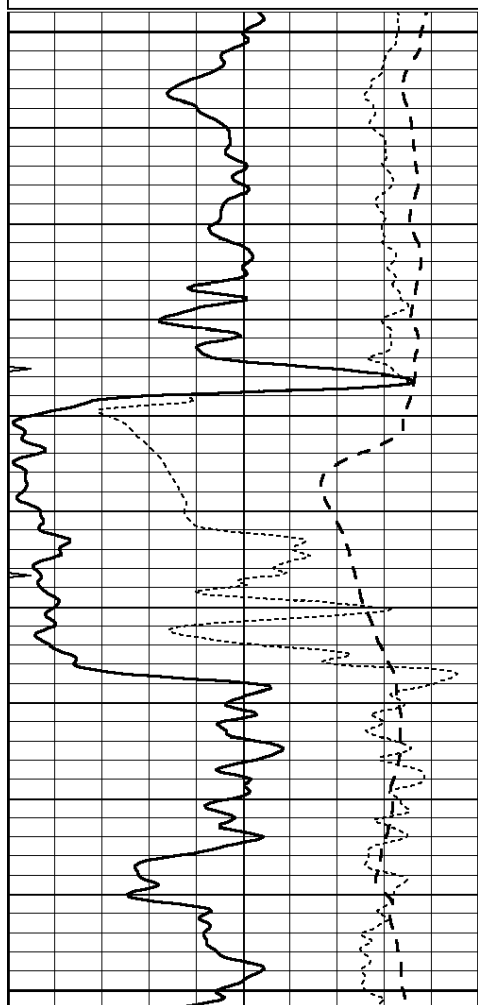
-100 SP (mV) 100

ANHYDRITE

Database File: 26410ddn.db
 Dataset Pathname: pass3.2
 Presentation Format: _dil
 Dataset Creation: Sun Nov 23 19:49:29 2014 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	MINMK	20

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

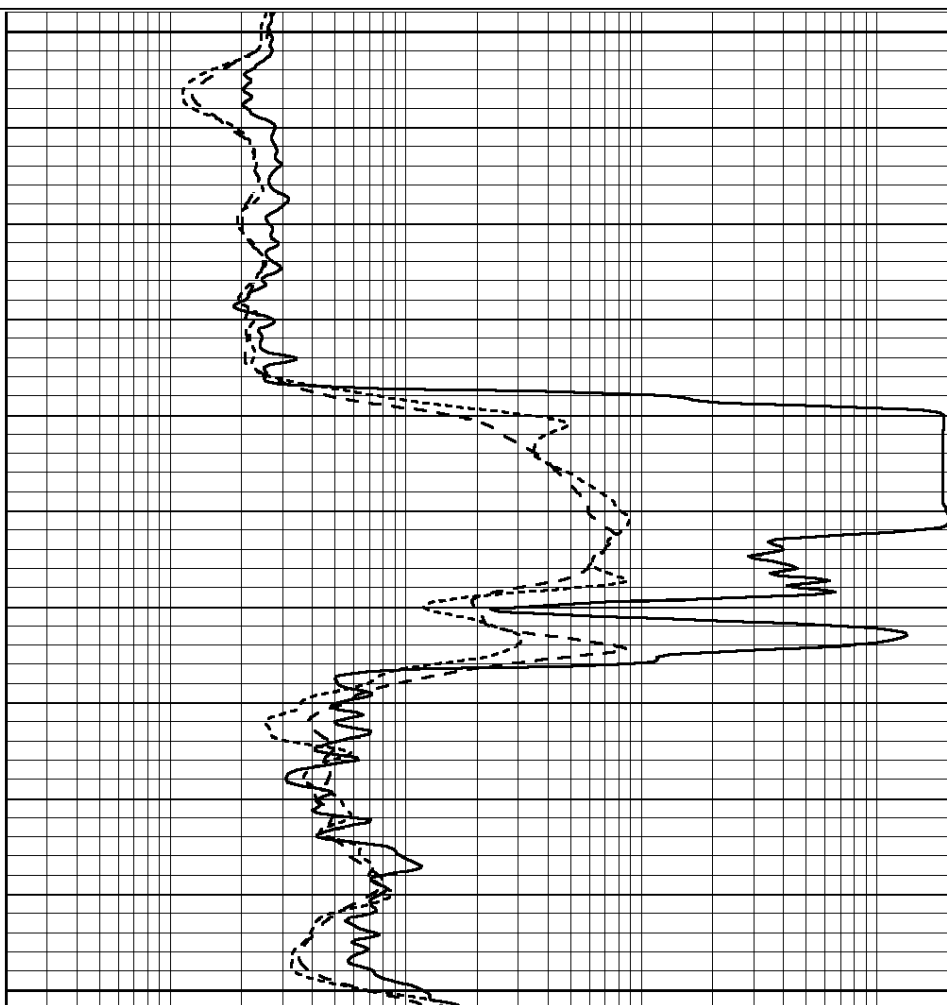


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

900

950

1000

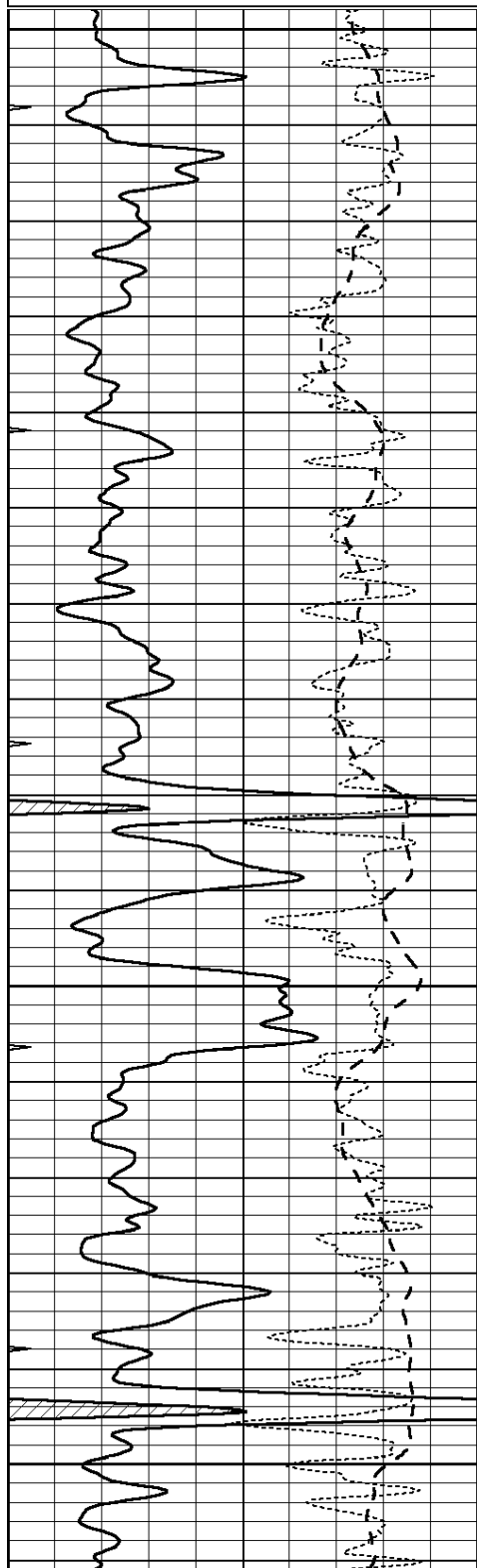


0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

Database File: 26410ddn.db
Dataset Pathname: pass3.1
Presentation Format: _dil
Dataset Creation: Sun Nov 23 19:29:01 2014 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	MINMK	20

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

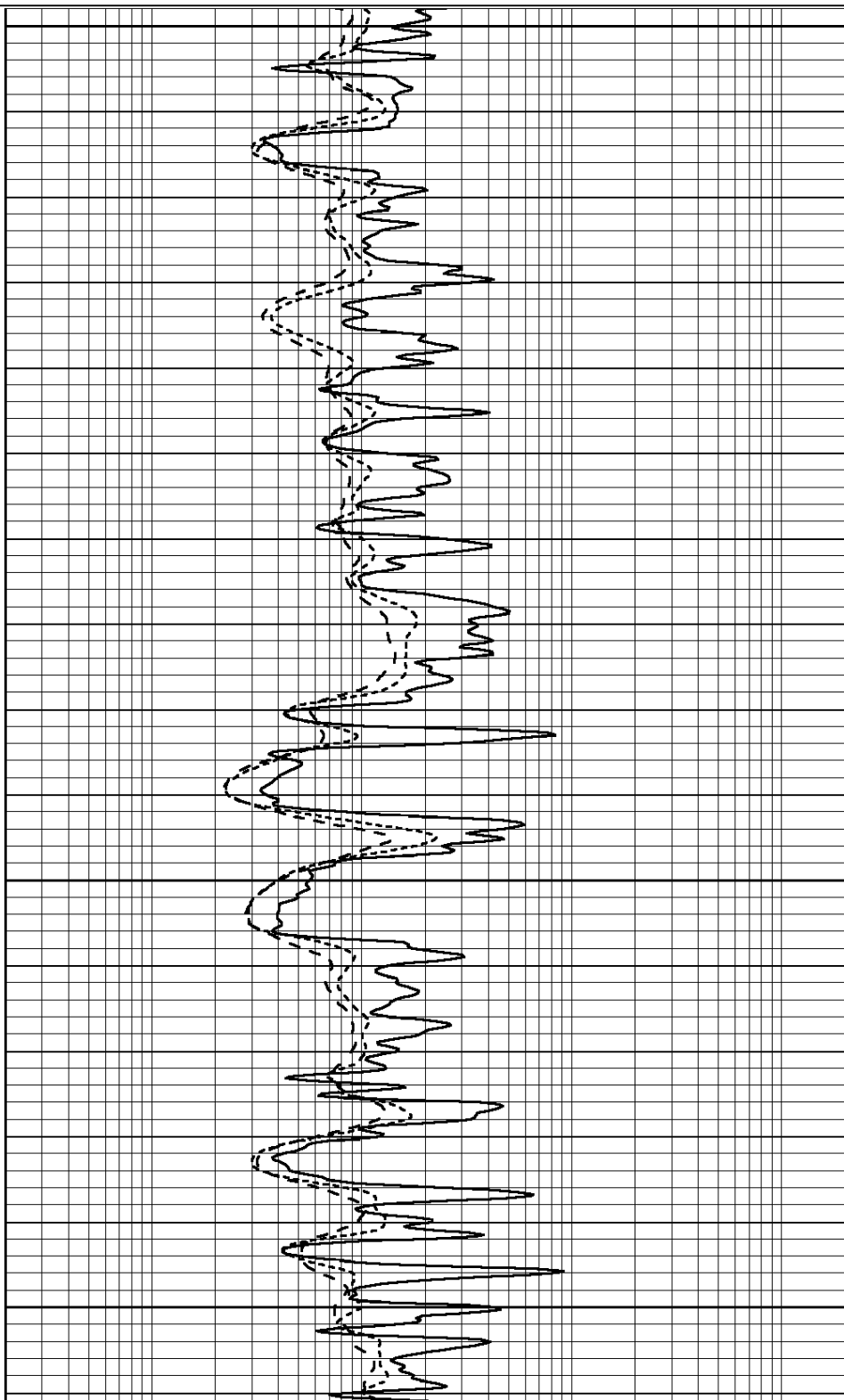


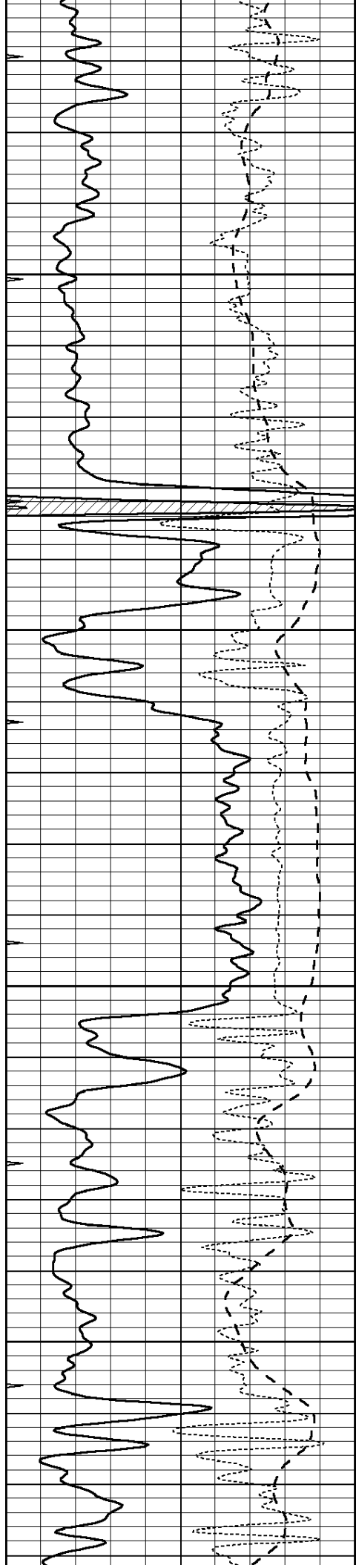
2900

2950

3000

3050



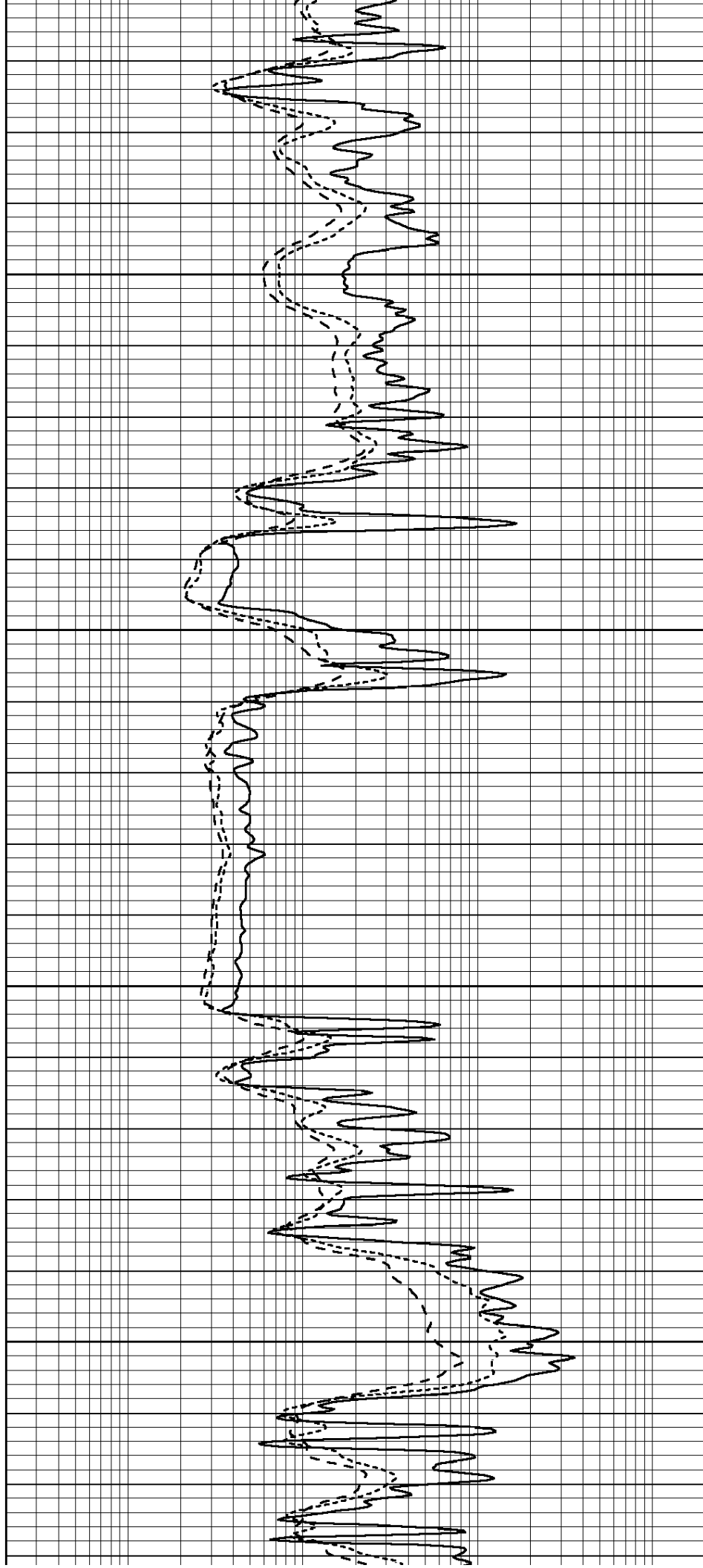


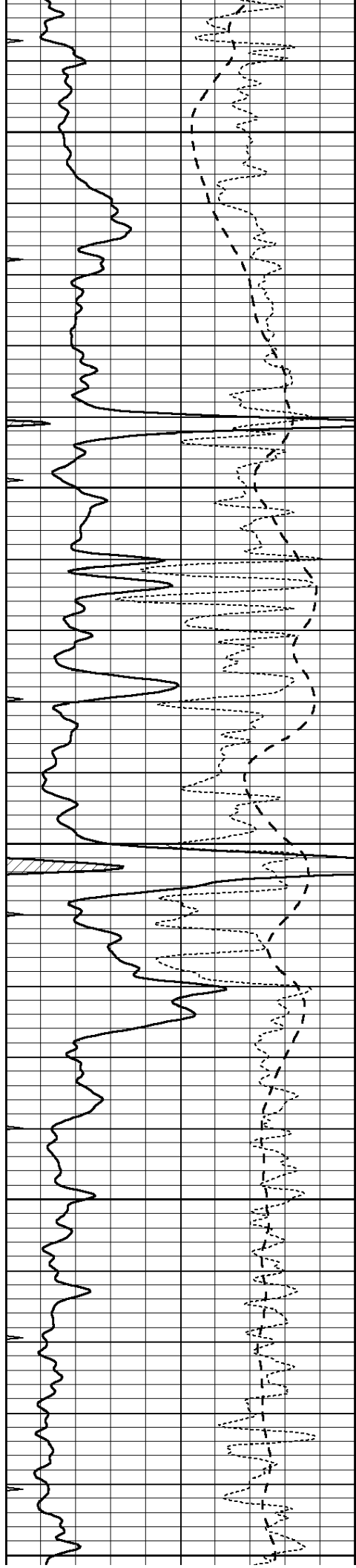
3100

3150

3200

3250





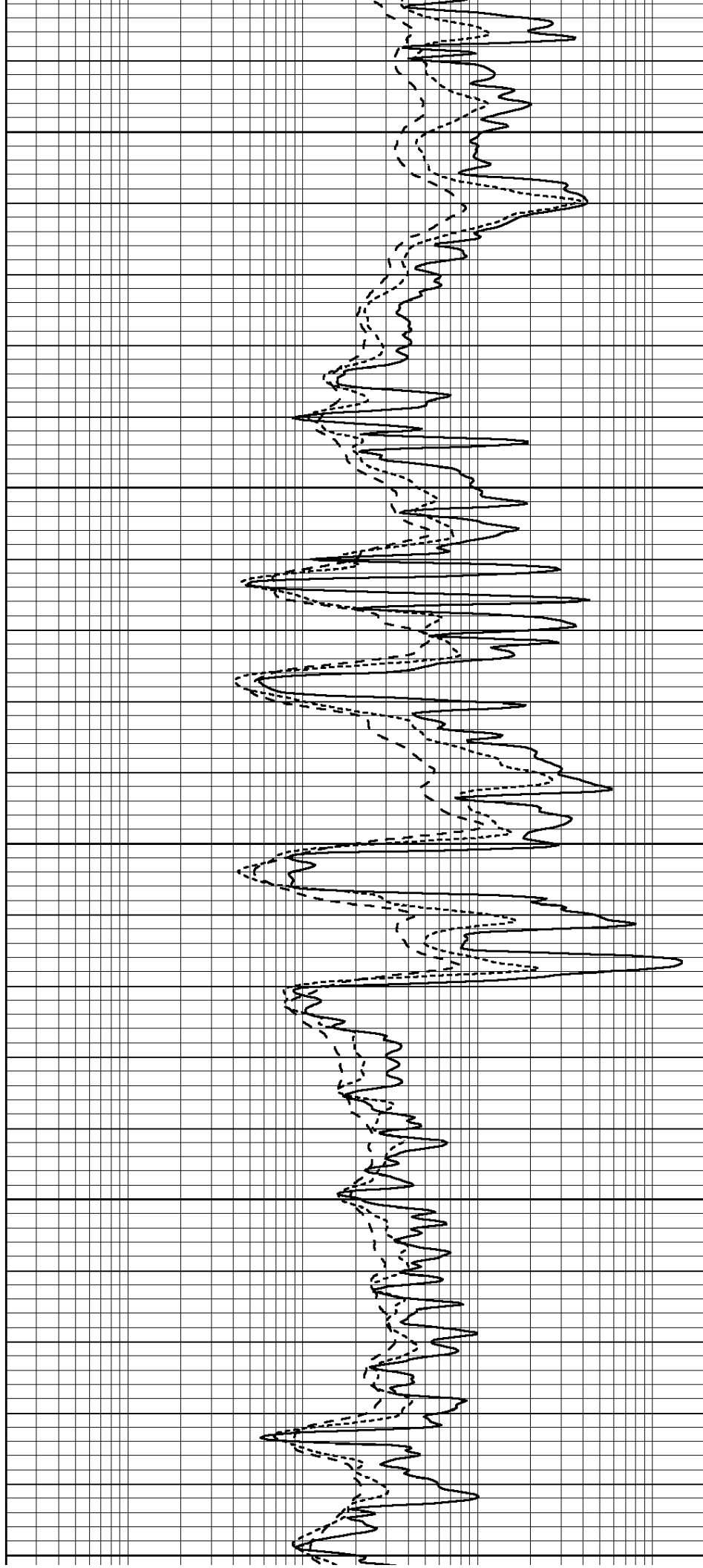
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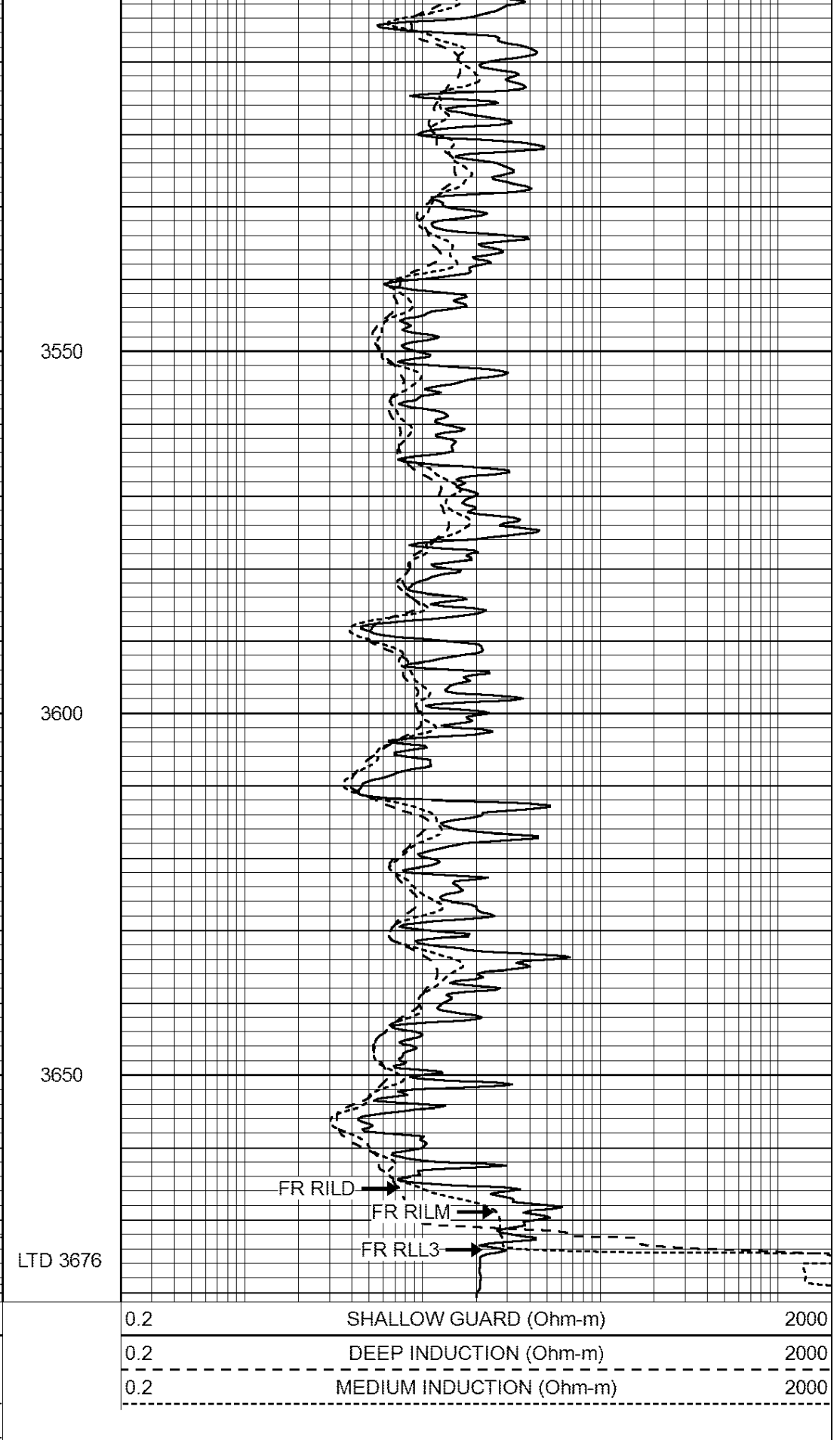
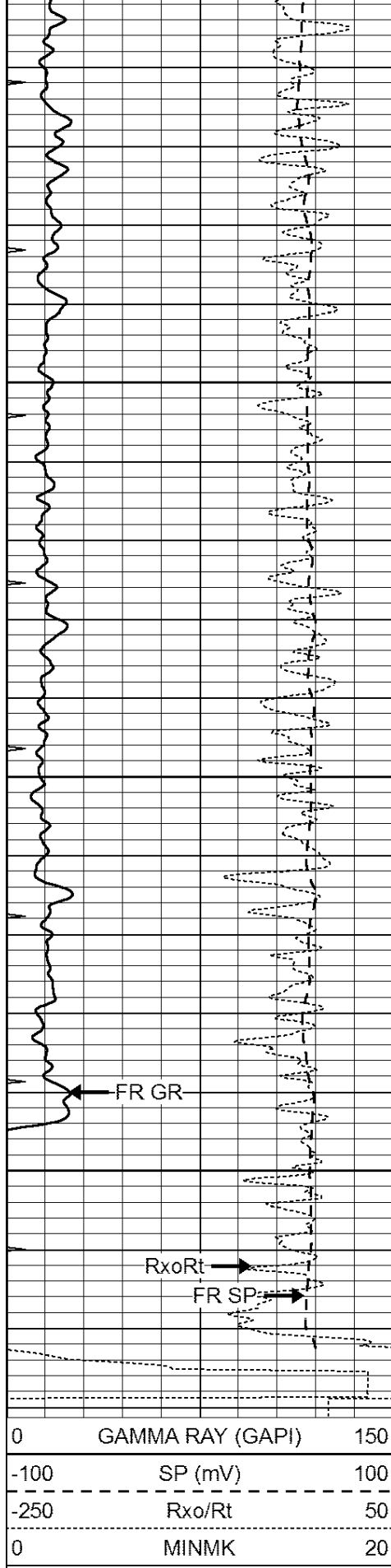
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3400

3450

3500

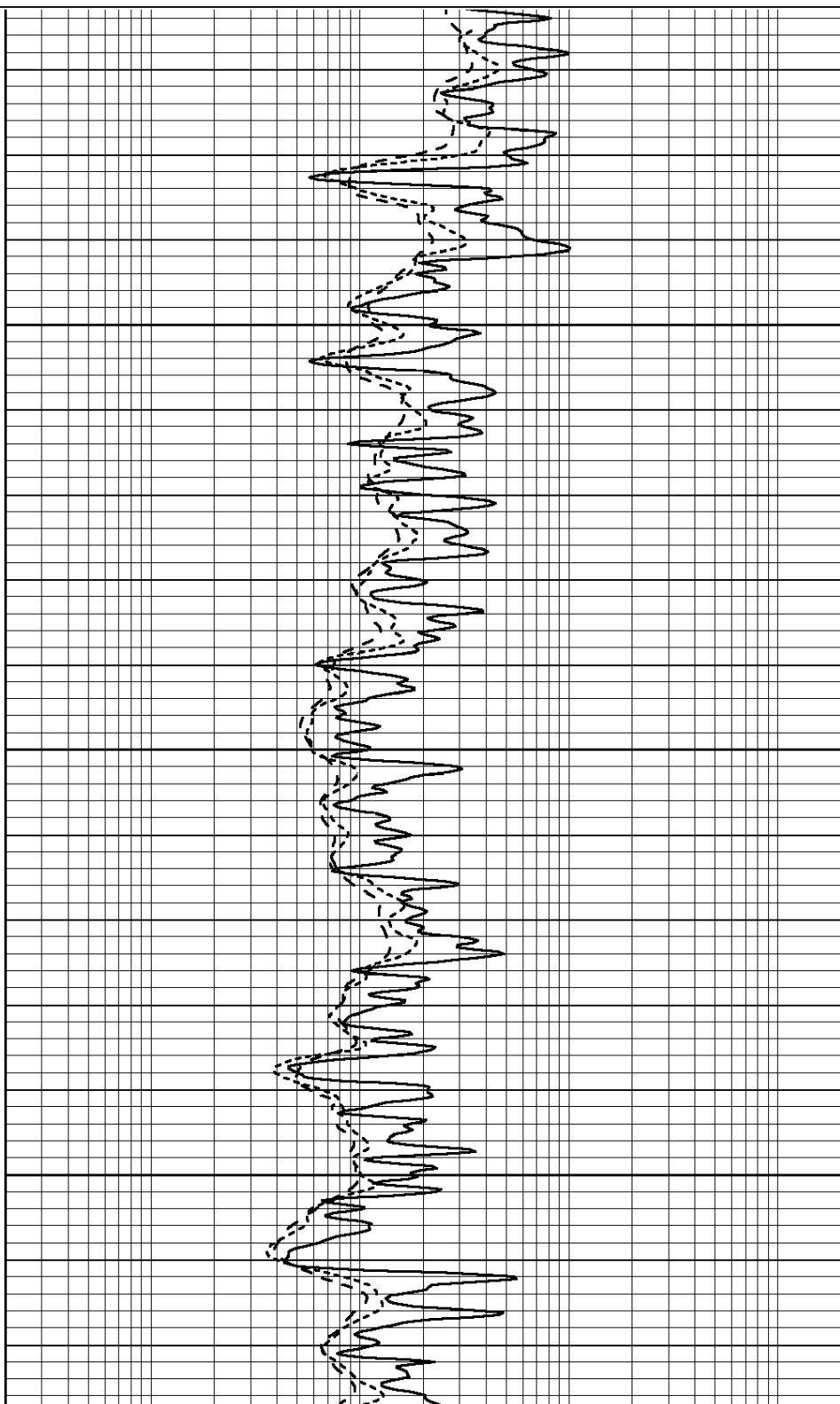
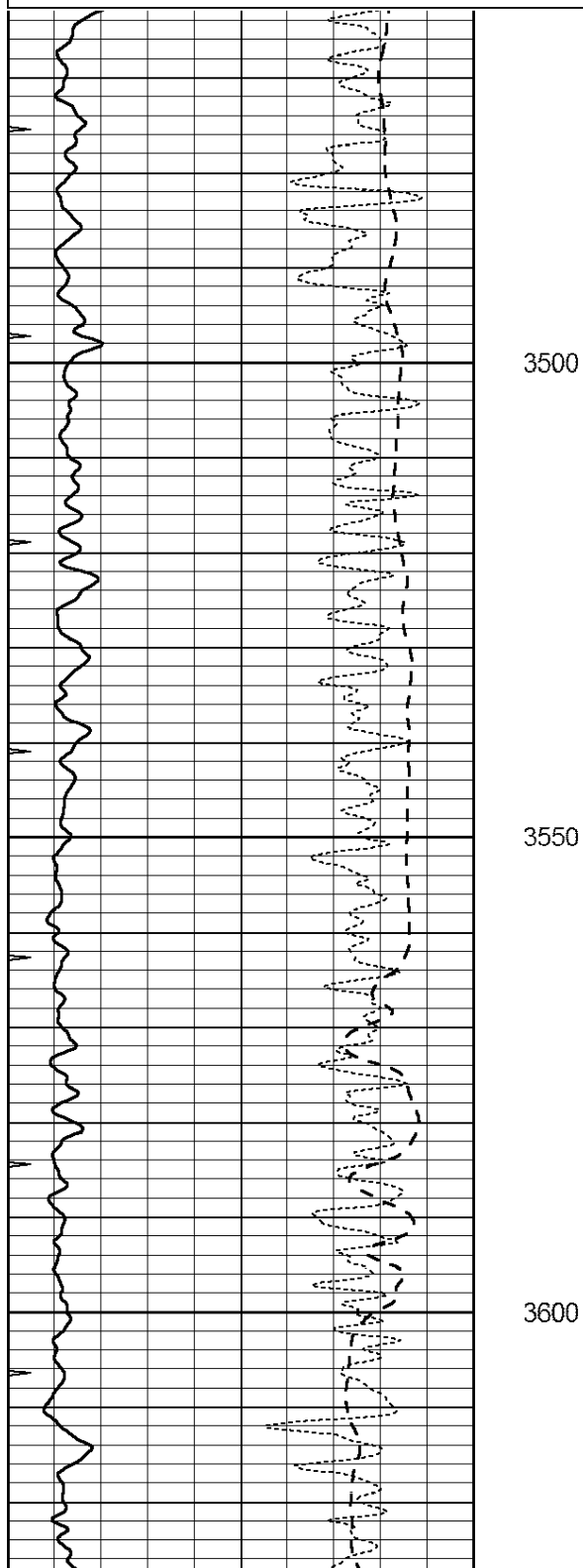


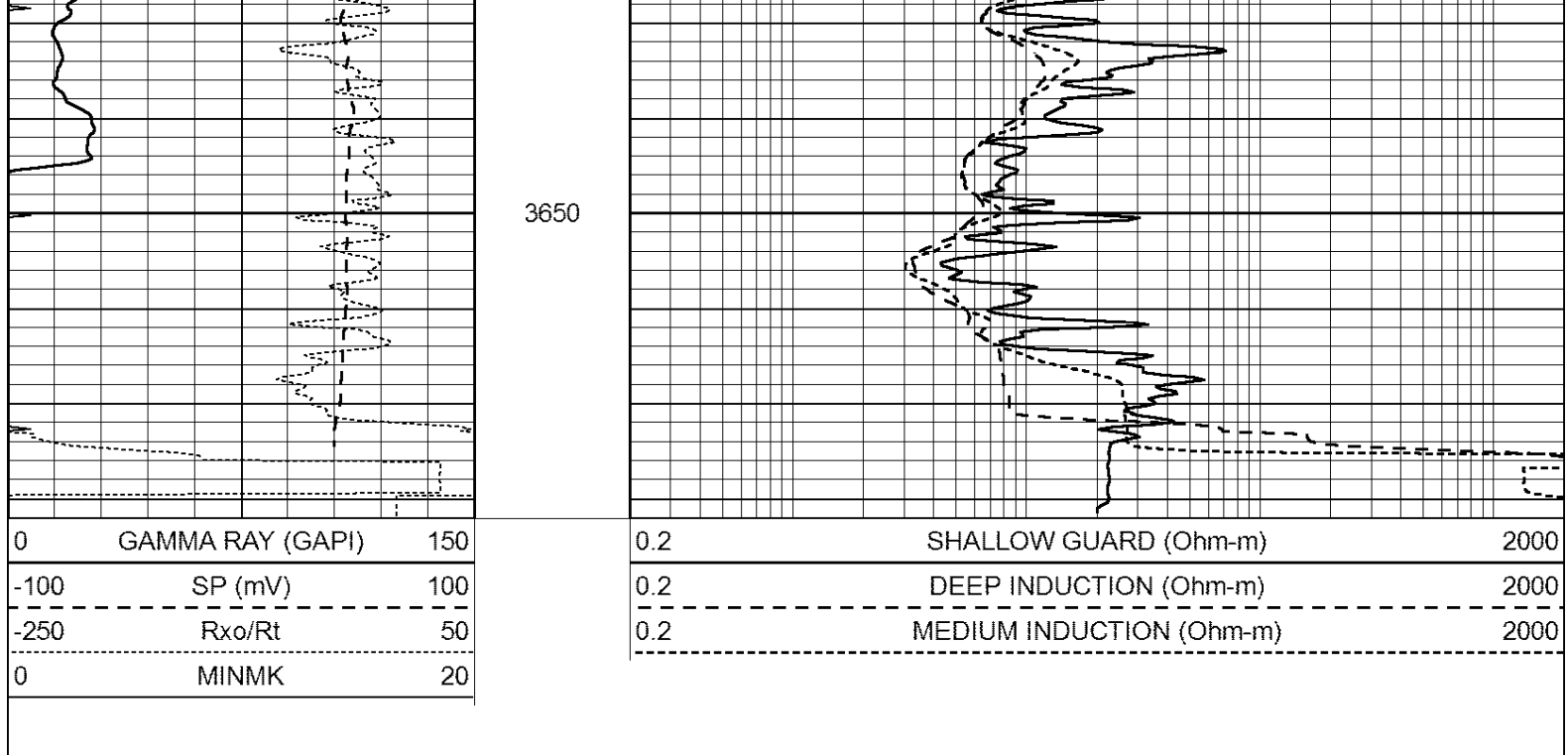


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Dataset Pathname: pass2.1
Presentation Format: _dil
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Charted by: Depth in Feet scaled 1:240

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

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





Calibration Report								
Database File:		26410ddn.db						
Dataset Pathname:		pass2.1						
Dataset Creation:		Sun Nov 23 19:23:24 2014 by Calc Open-Cased 090629						
Dual Induction Calibration Report								
Serial-Model:			PROBE8-DILG					
Surface Cal Performed:			Sun Aug 17 08:09:53 2014					
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	620.000	-2.000
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-16.000
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:	Wed Sep 18 03:03:09 2013
Before Survey Verification Performed:	
After Survey Verification Performed:	

Master Calibration					
	Density			Far Detector	Near Detector
Magnesium	1.710	g/cc		1075.98	532.39 cps
Aluminum	2.560	g/cc		286.51	422.88 cps
	Spine Angle = 80.13			Density/Spine Ratio = 0.633	
	Size			Reading	
Small Ring	8.00	in		3.21	V
Large Ring	14.00	in		5.46	V

Before Survey Verification					
	Target			Measured	
		g/cc			g/cc
		g/cc			g/cc
		g/cc			g/cc

After Survey Verification					
	Target			Measured	
		g/cc			g/cc
		g/cc			g/cc
		g/cc			g/cc

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

PRE-SURVEY VERIFICATION						
	Detector	Readings		Measured		Target
1)	Short Space		cps			
	Long Space		cps	pu		pu
2)	Short Space		cps			
	Long Space		cps	pu		
3)	Short Space		cps			
	Long Space		cps	pu		

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	pu
3)	Short Space	cps		
	Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	GR6	
Tool Model:	OPEN	
Performed:	Sun Aug 17 15:23:09 2014	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.7000	GAPI/cps