



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company	LD DRILLING, INC.	Company	LD DRILLING, INC.
Well	QUIVERA RANCH #1-34	Well	QUIVERA RANCH #1-34
Field	SLEEPER SOUTH	Field	SLEEPER SOUTH
County	STAFFORD	County	STAFFORD
State	KANSAS	State	KANSAS
Location:	API # : 15-185-23784-0000	Other Services	CDL/CNL MEL/SON
Permanent Datum	662' FNL & 2290' FWL	Elevation	K.B. 1798
Log Measured From	NW - SE - NE - NW	D.F.	1796
Drilling Measured From	SEC 34 TWP 22S RGE 11W	G.L.	1793
	GROUND LEVEL		
	KELLY BUSHING 5' A.G.L.		
	KELLY BUSHING		
Date	1/7/13		
Run Number	ONE		
Depth Driller	3730		
Depth Logger	3728		
Bottom Logged Interval	3726		
Top Log Interval	0		
Casing Driller	8 5/8" @ 343'		
Casing Logger	345'		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 8000 PPM	
Density / Viscosity	9.4/48		
pH / Fluid Loss	8.5/12.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.65 @ 50F		
Rmt @ Meas. Temp	0.49 @ 50F		
Rmc @ Meas. Temp	0.78 @ 50F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	0.29 @ 111F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	111F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JEFF GRONEWEG		
Witnessed By	JOSH AUSTIN		

<<< Fold Here >>>

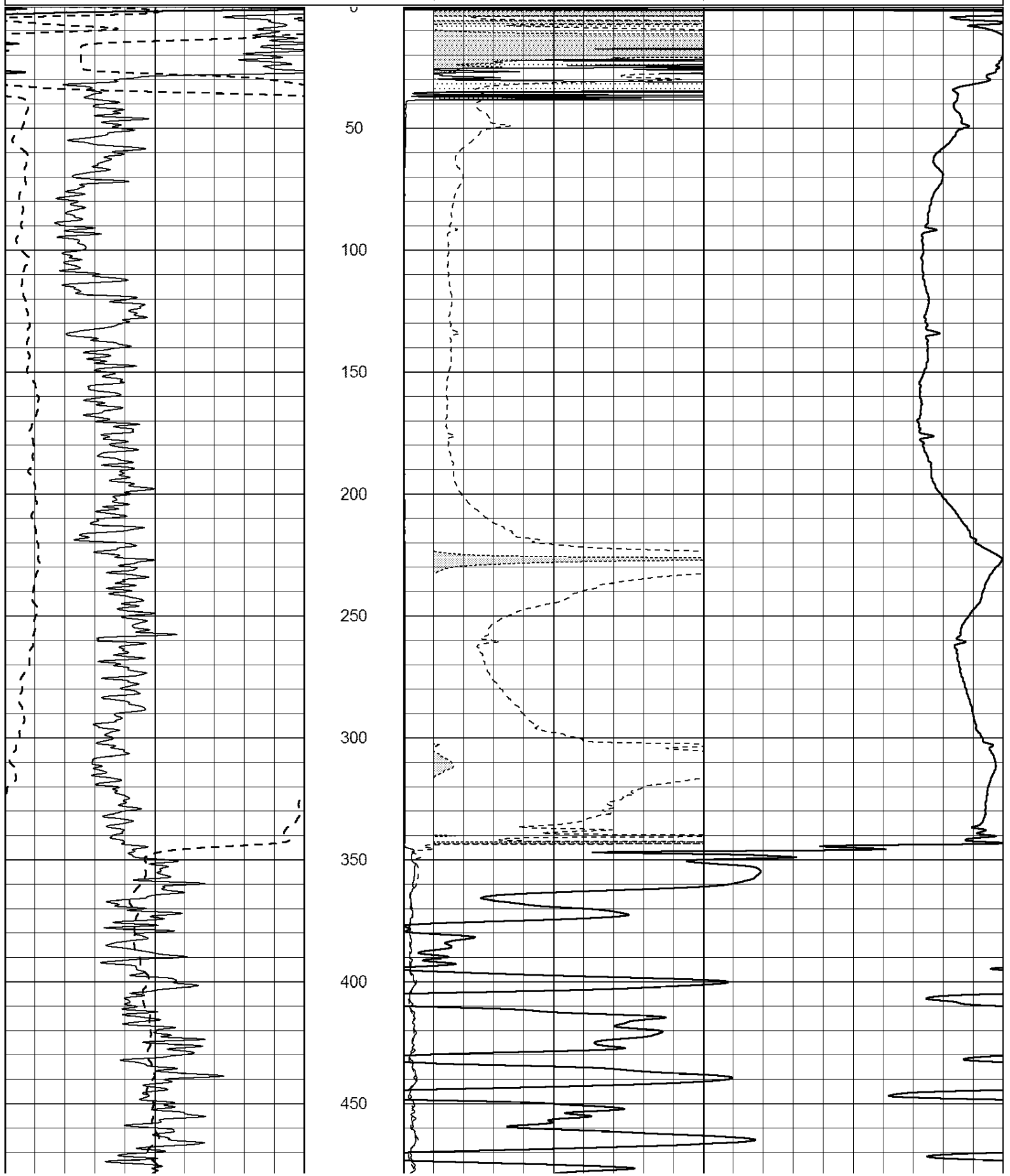
All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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, KANSAS (785) 628-6395
DIRECTIONS
GREAT BEND, KS - SOUTH TO 4TH STREET - 13 MILES EAST TO RD 130
3 MILES NORTH - WEST INTO

Database File: 009797ddn.db
Dataset Pathname: pass8.6
Presentation Format: _dil2
Dataset Creation: Mon Jan 07 12:23:39 2013 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:600

Charted by: _____ Depth in Feet sealed: 1100					
0	Gamma Ray (GAPI)	150	0	RLL3 (Ohm-m)	50
-100	SP (mV)	100	0	RILD (Ohm-m)	50
-----			1000	CILD (mmho/m)	0
			50	RILD X10 (Ohm-m)	500
			50	RLL3 X10 (Ohm-m)	500



500

550

600

650

700

750

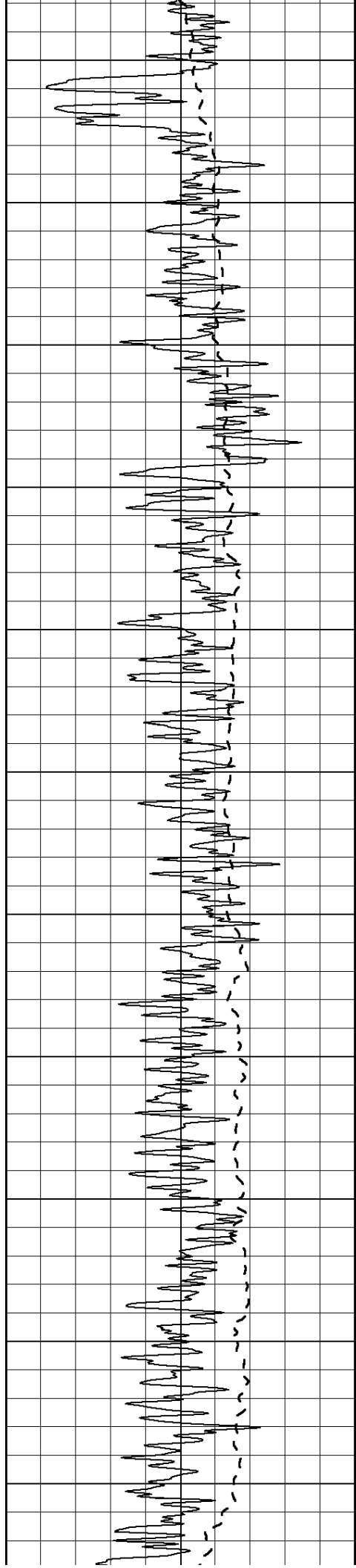
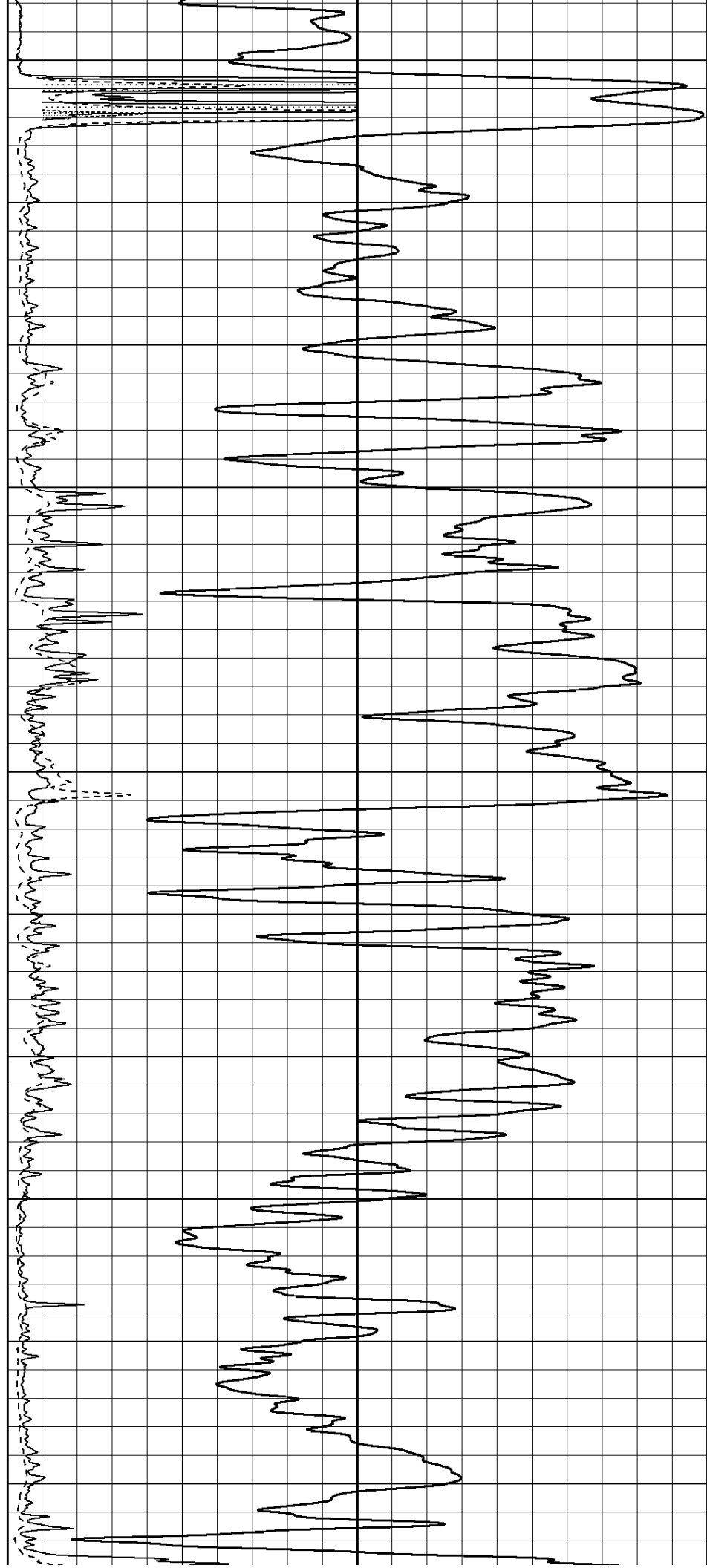
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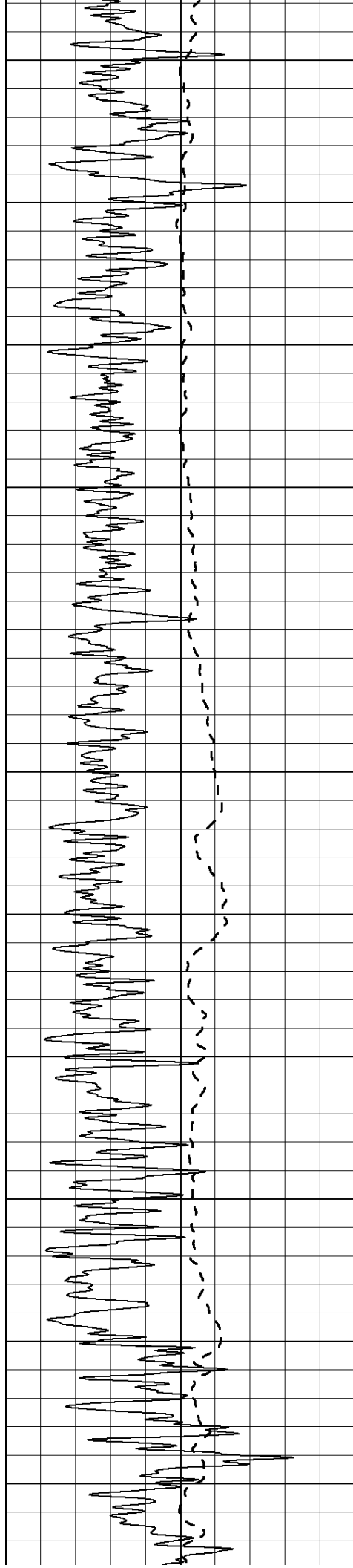
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900

950

1000





1050

1100

1150

1200

1250

1300

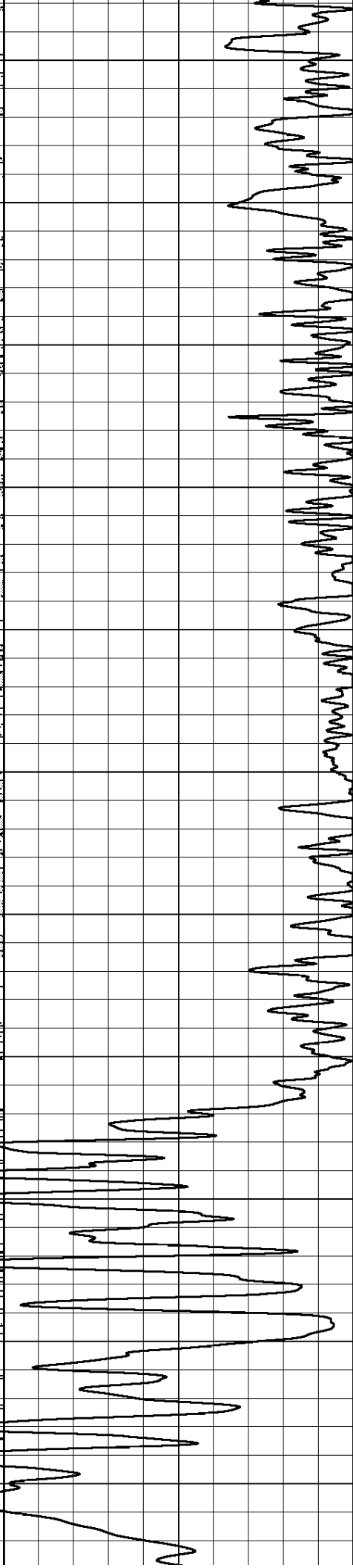
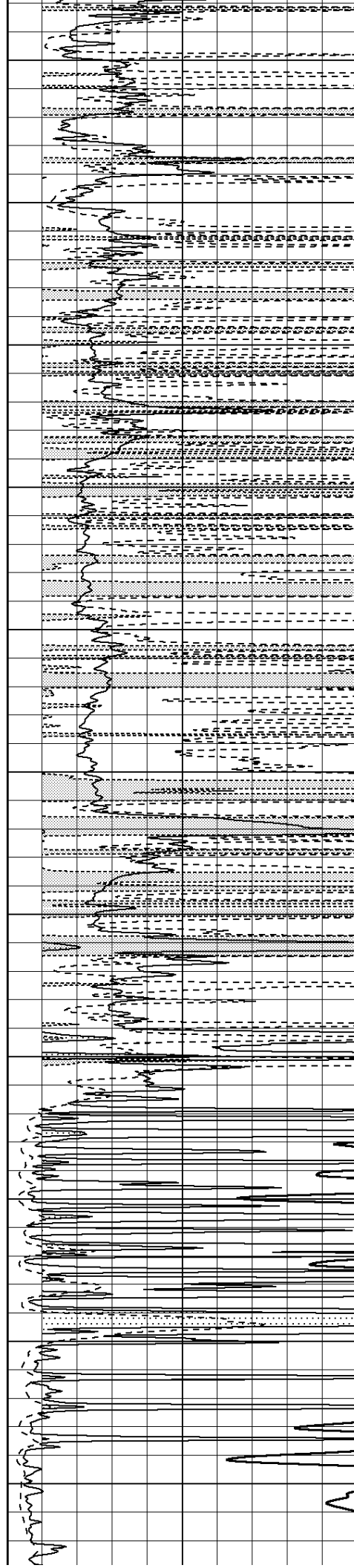
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1400

1450

1500

1550



1600

1650

1700

1750

1800

1850

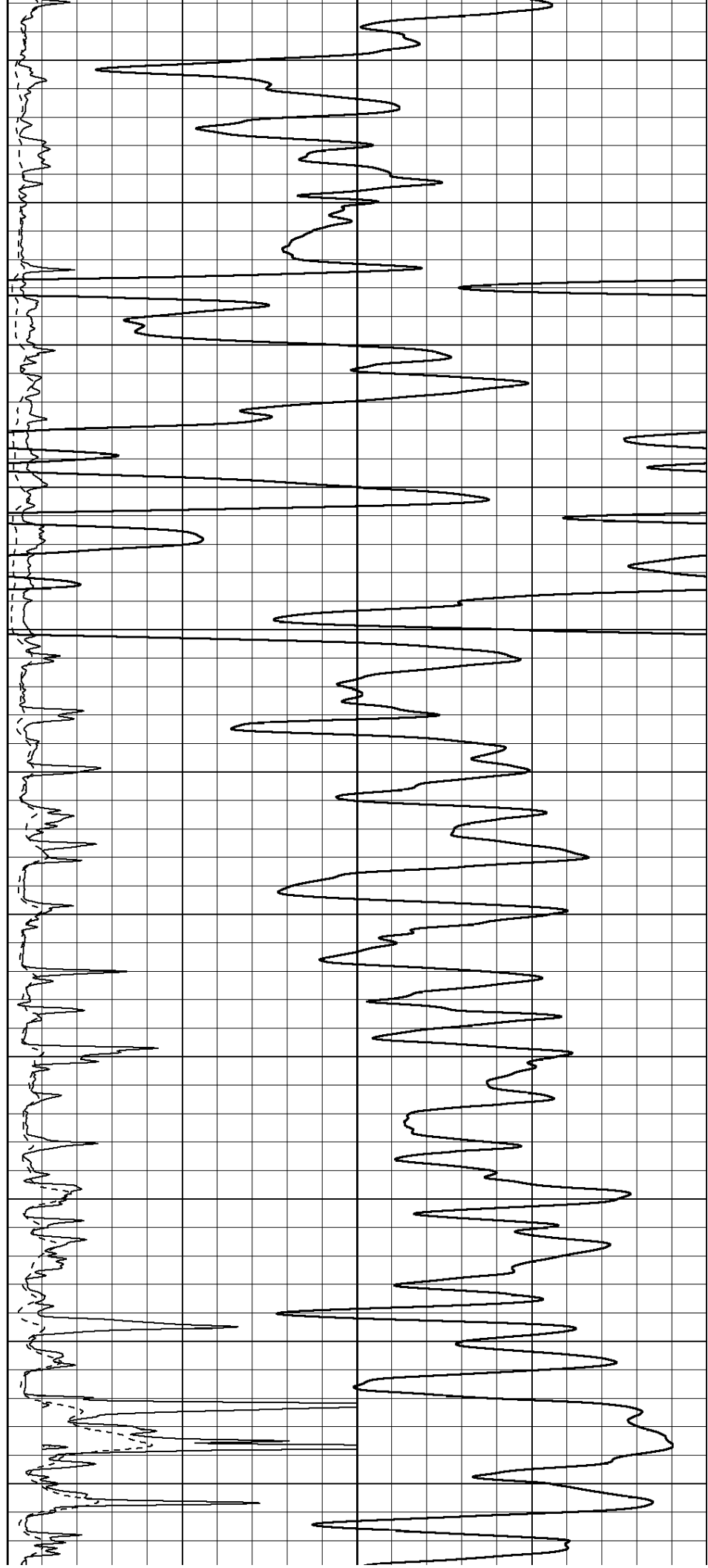
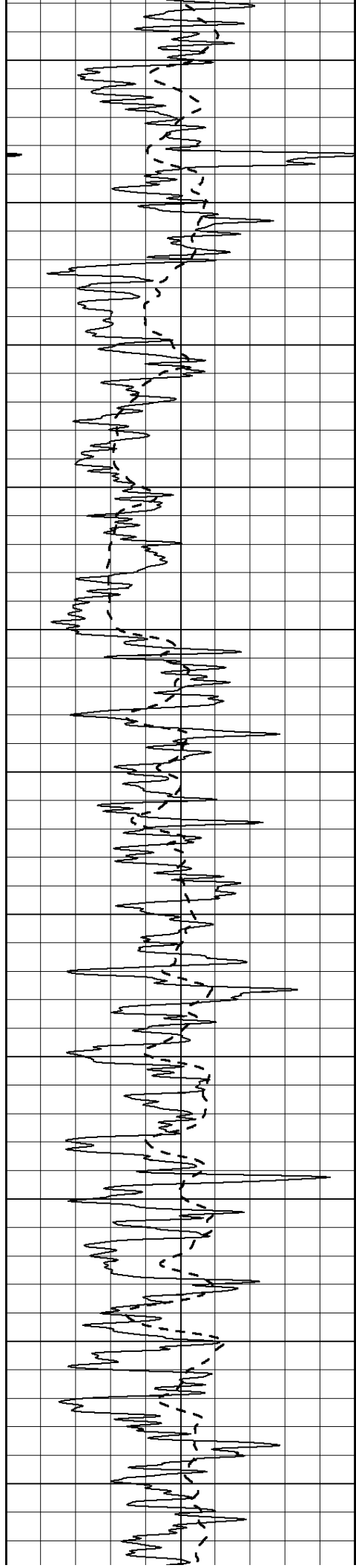
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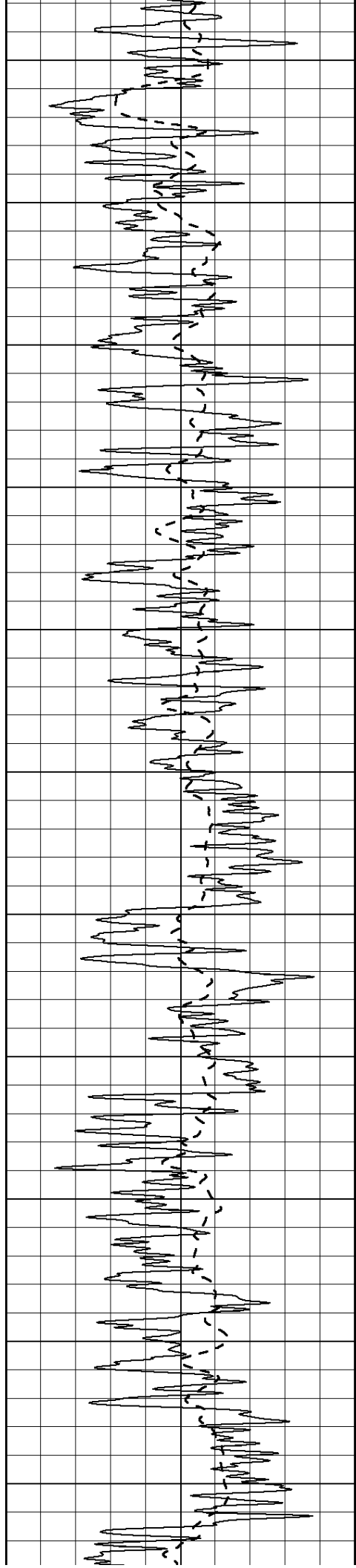
1950

2000

2050

2100





2150

2200

2250

2300

2350

2400

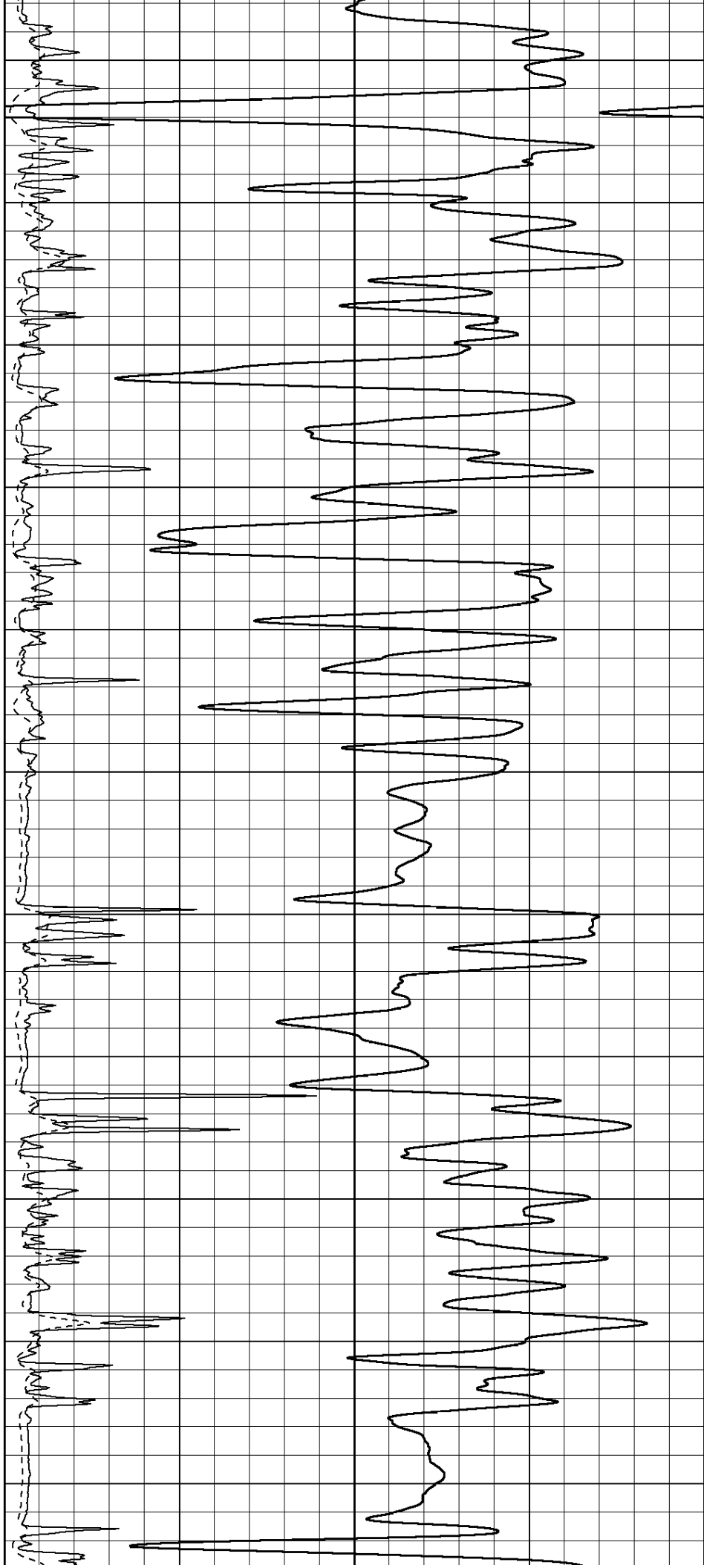
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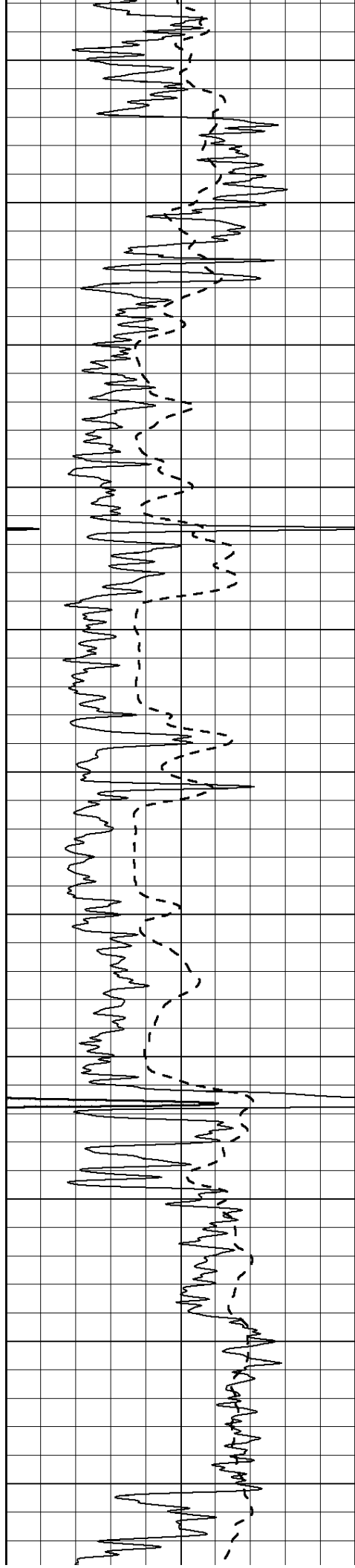
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2550

2600

2650





2700

2750

2800

2850

2900

2950

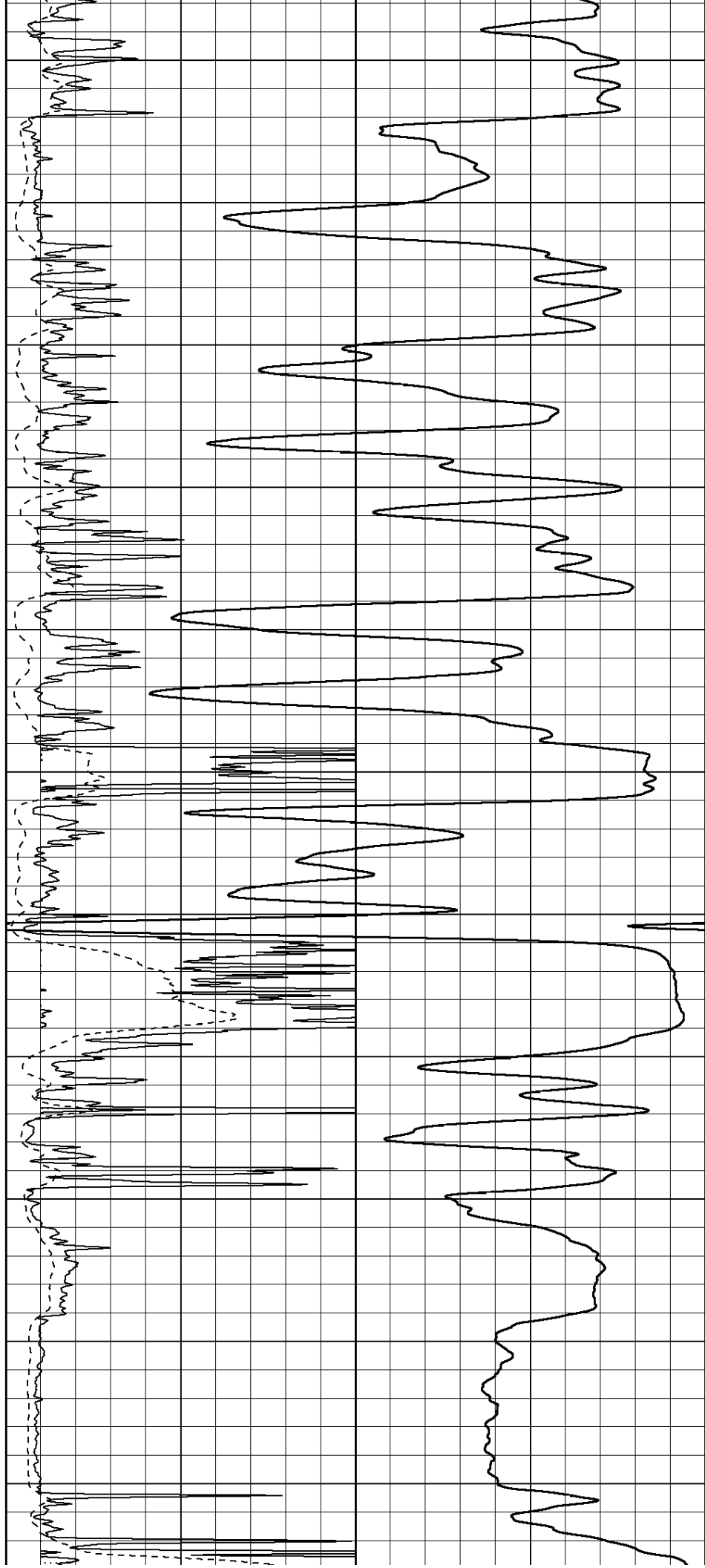
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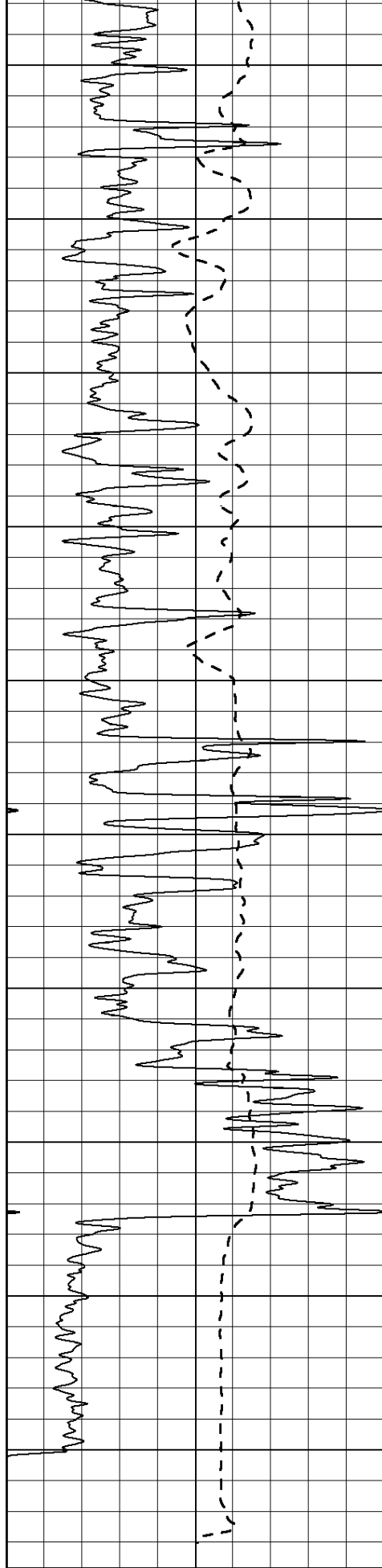
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3100

3150

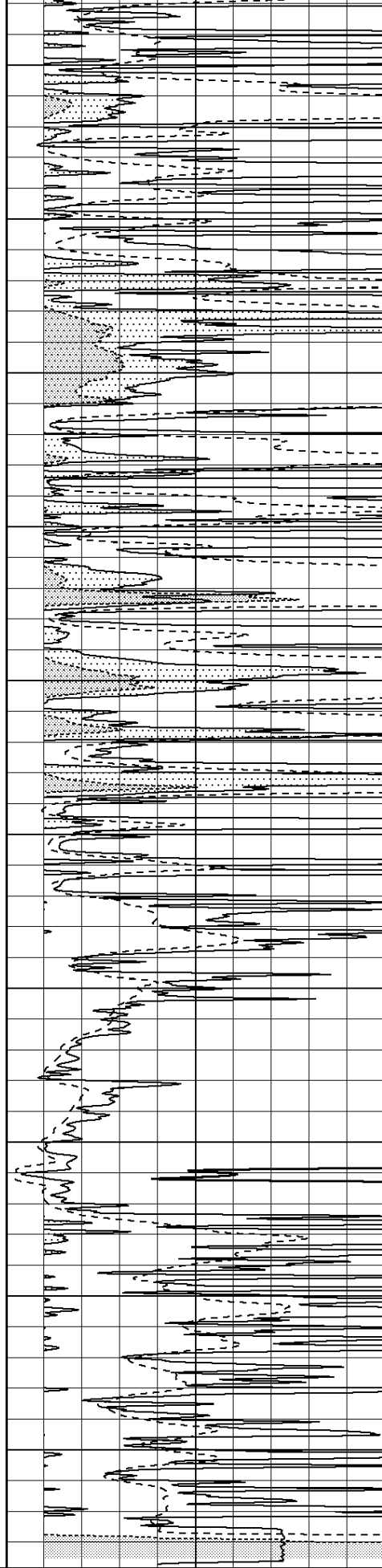
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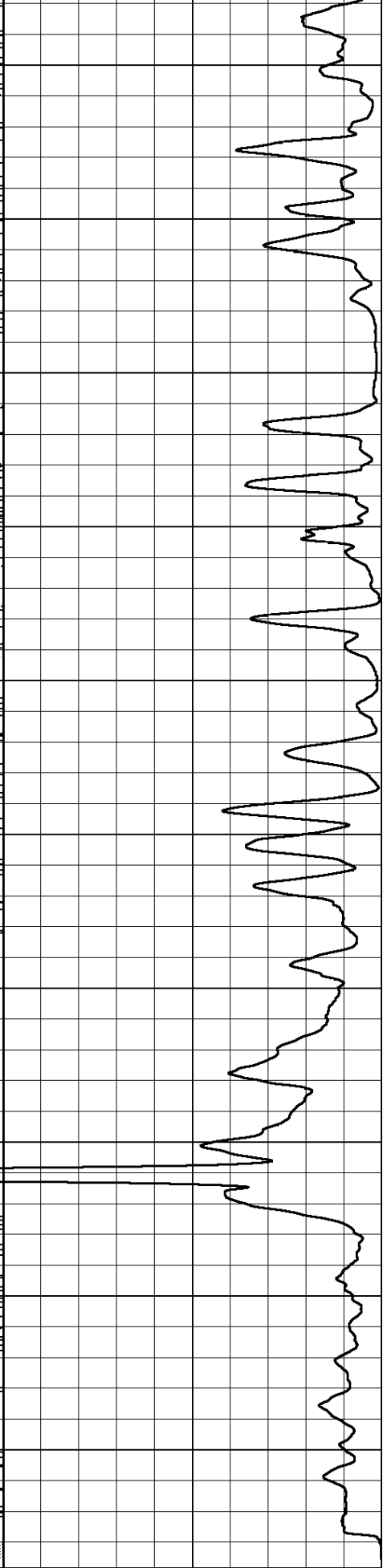


0 Gamma Ray (GAPI) 150
-100 SP (mV) 100

3250
3300
3350
3400
3450
3500
3550
3600
3650
3700



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



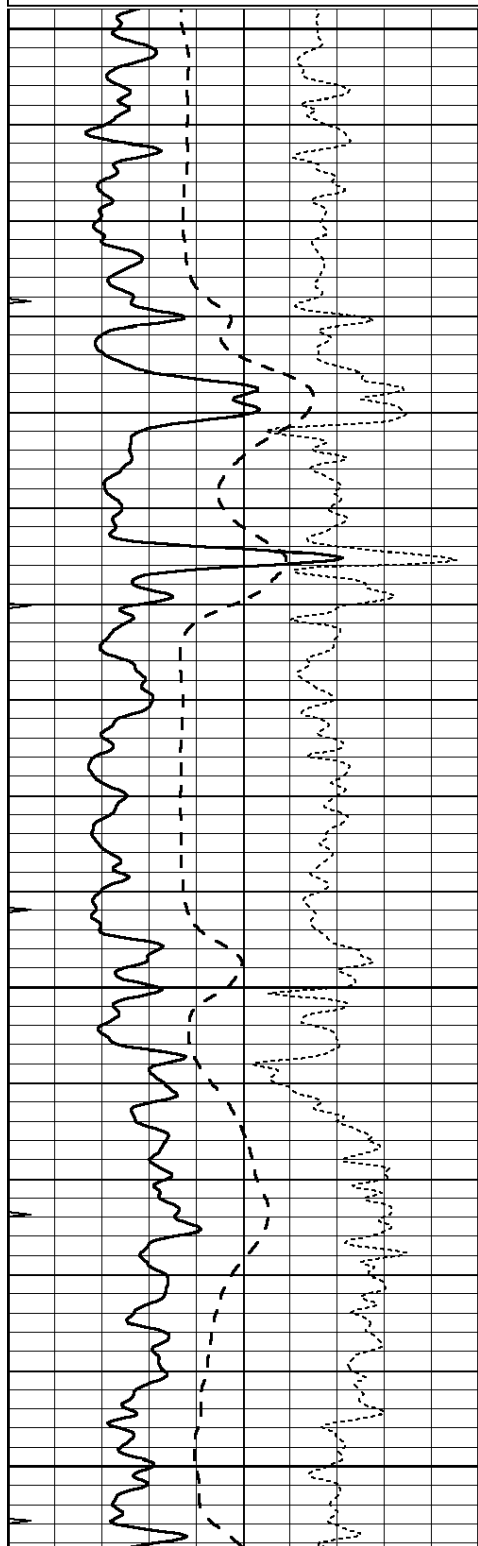
0 SP (mV) 100

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

Database File: 009797ddn.db
Dataset Pathname: pass8.5
Presentation Format: _dil
Dataset Creation: Mon Jan 07 11:23:21 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	MINMK	20

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

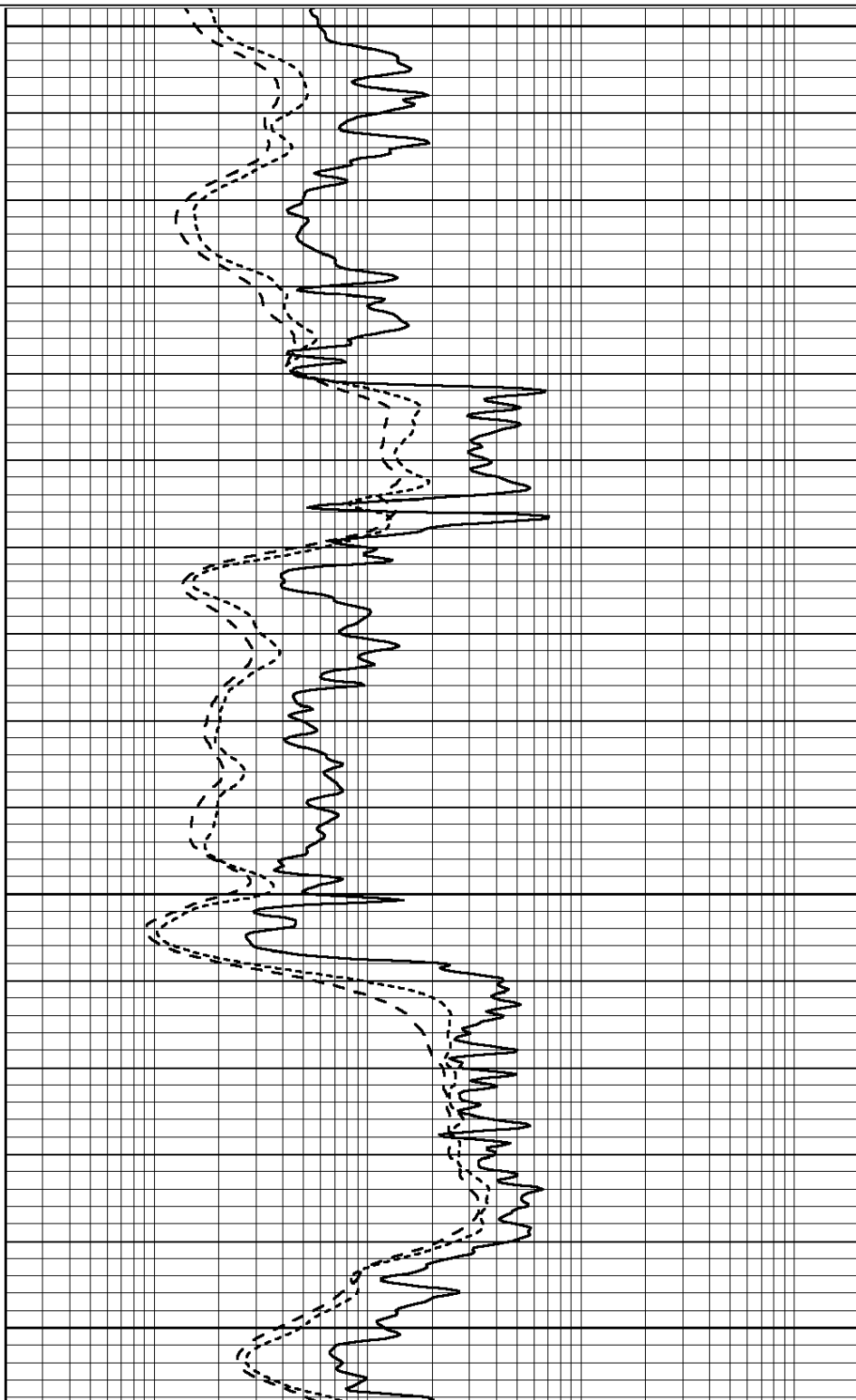


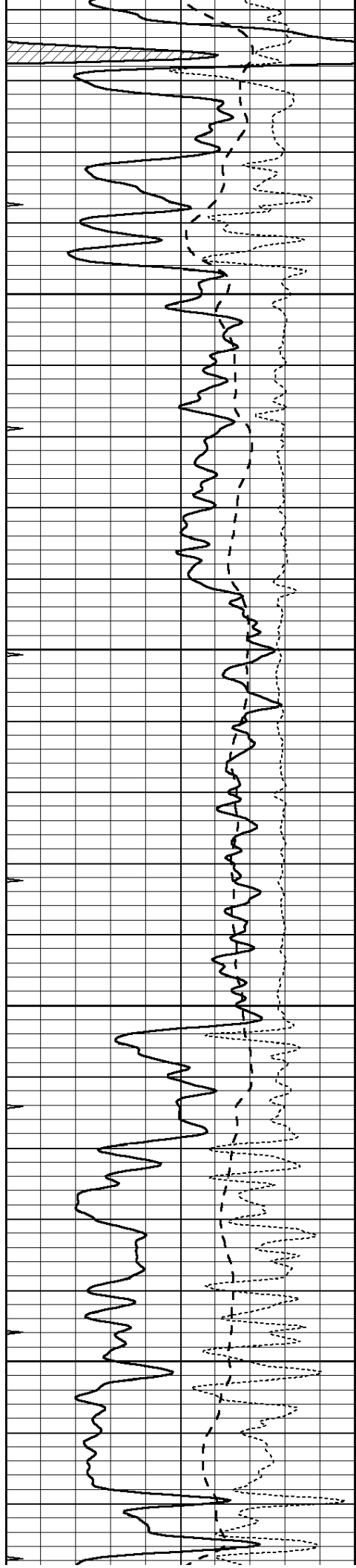
2900

2950

3000

3050



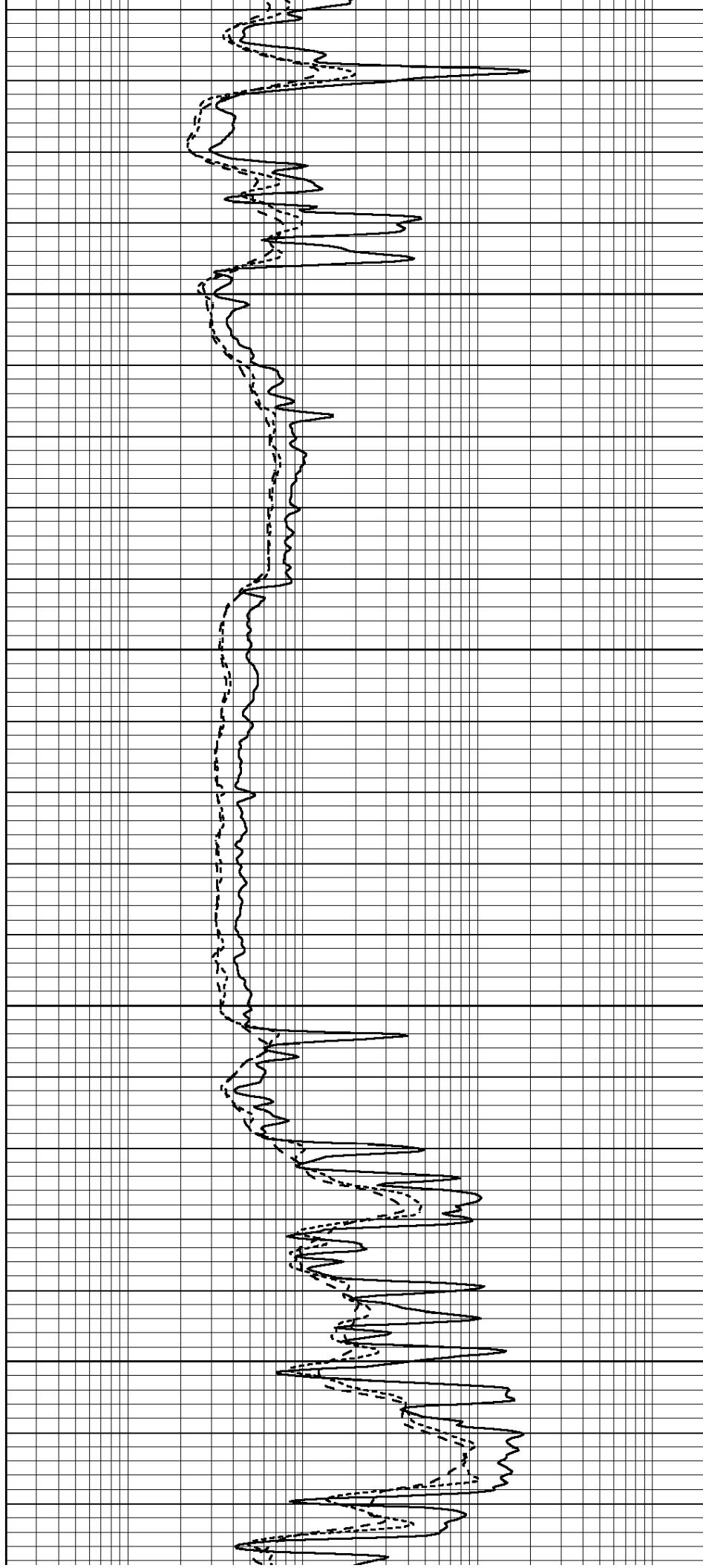


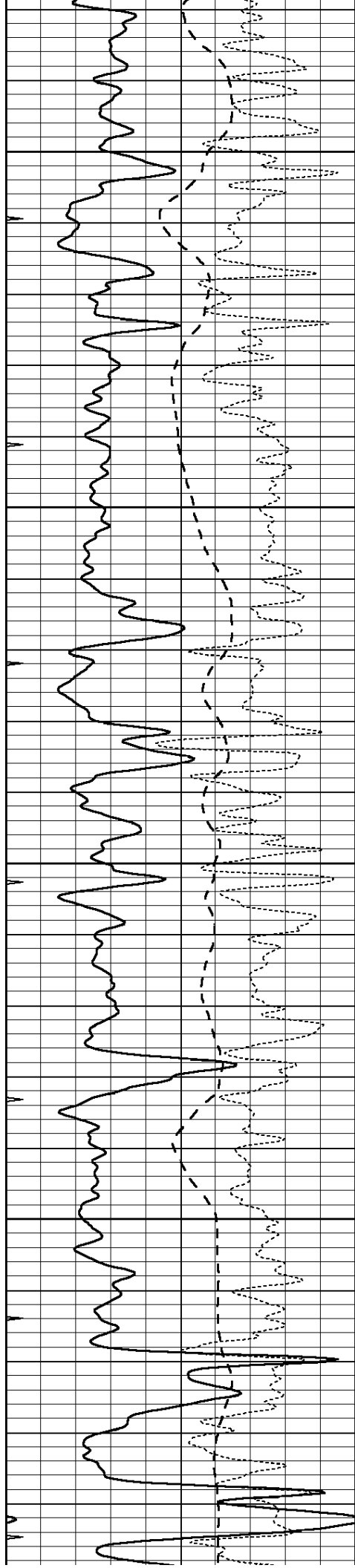
3100

3150

3200

3250



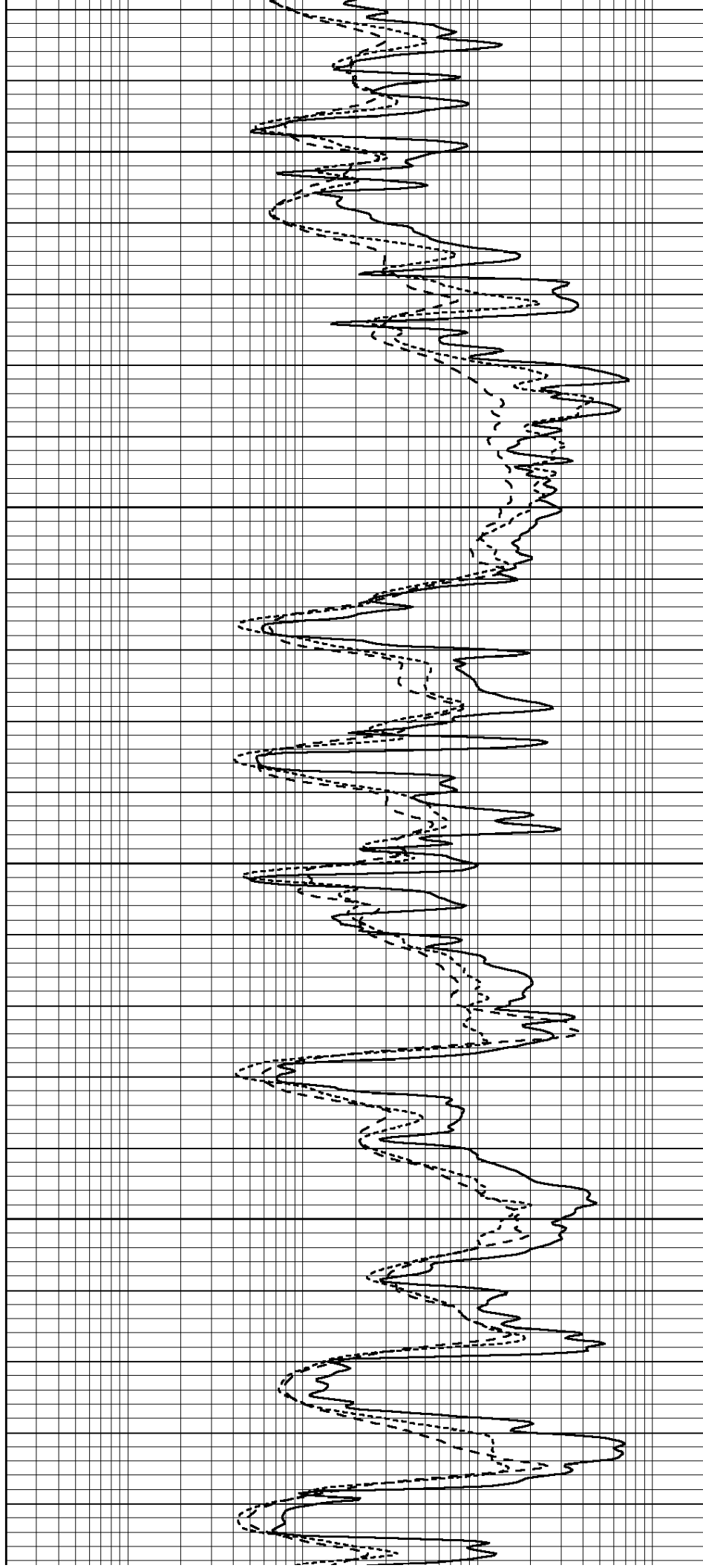


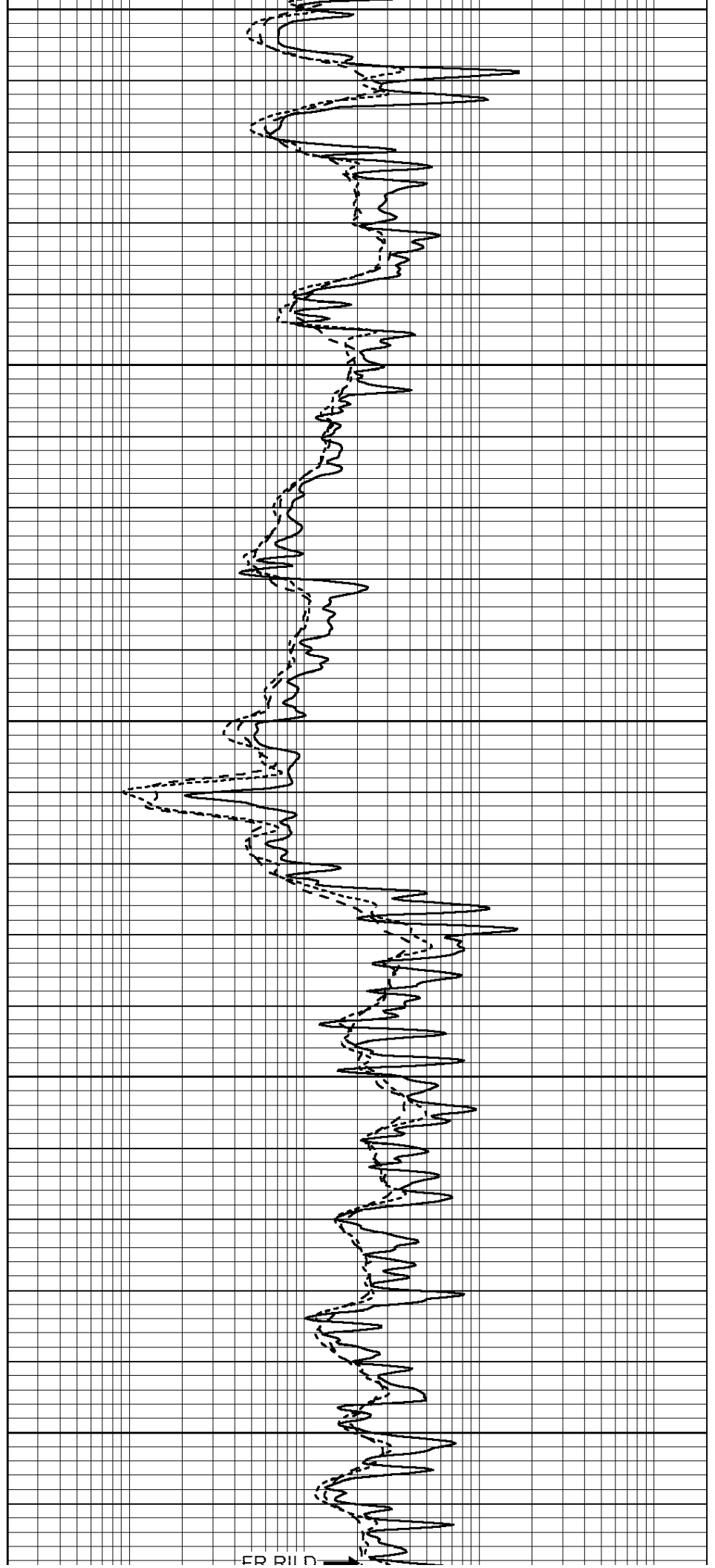
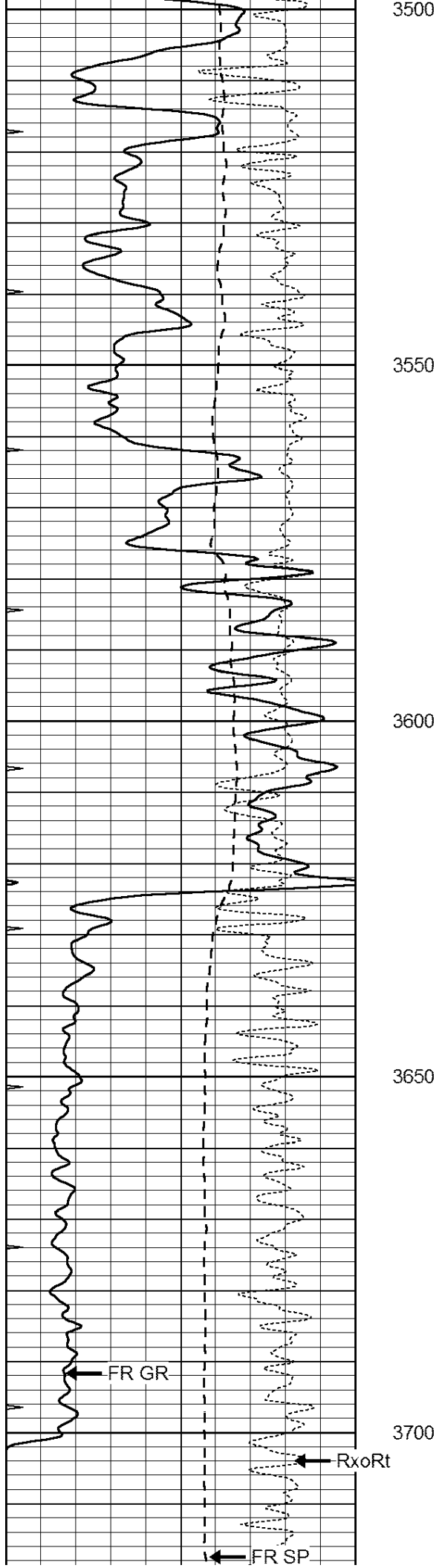
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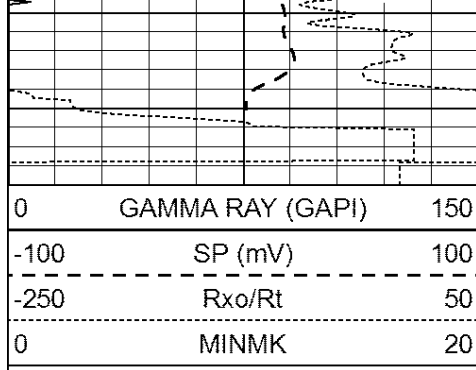
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3400

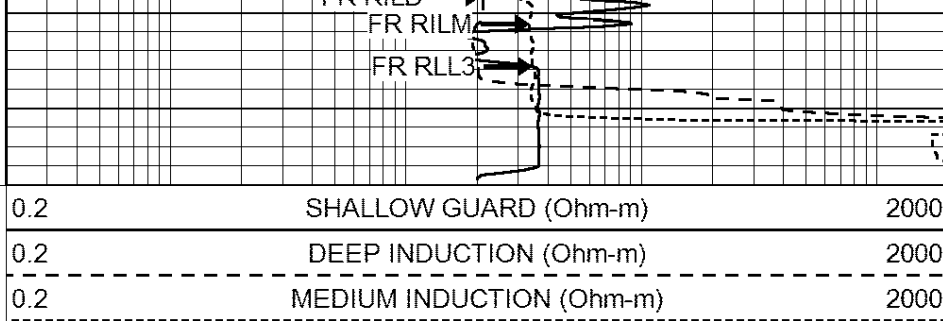
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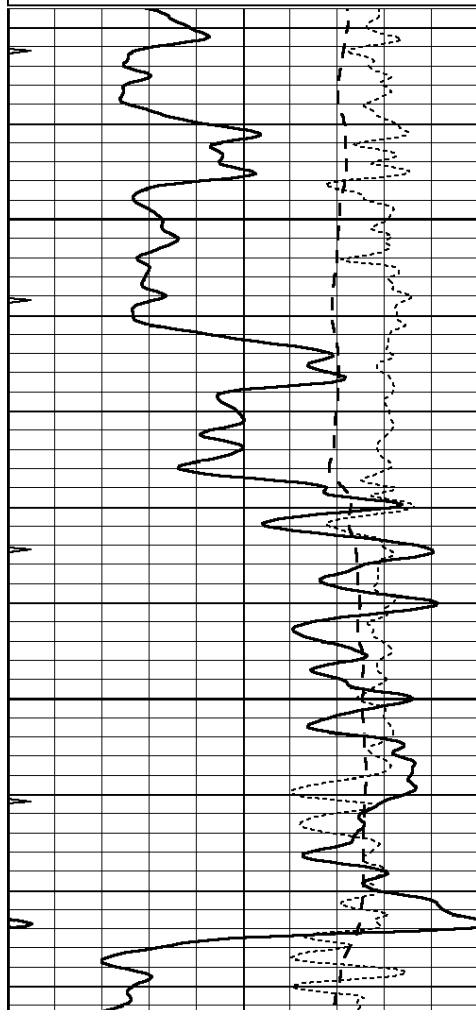
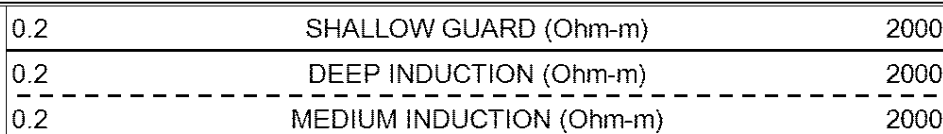
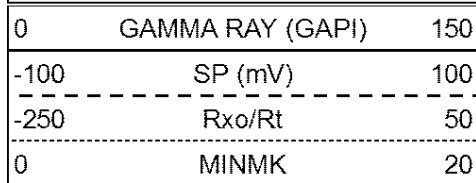


LTD 3728



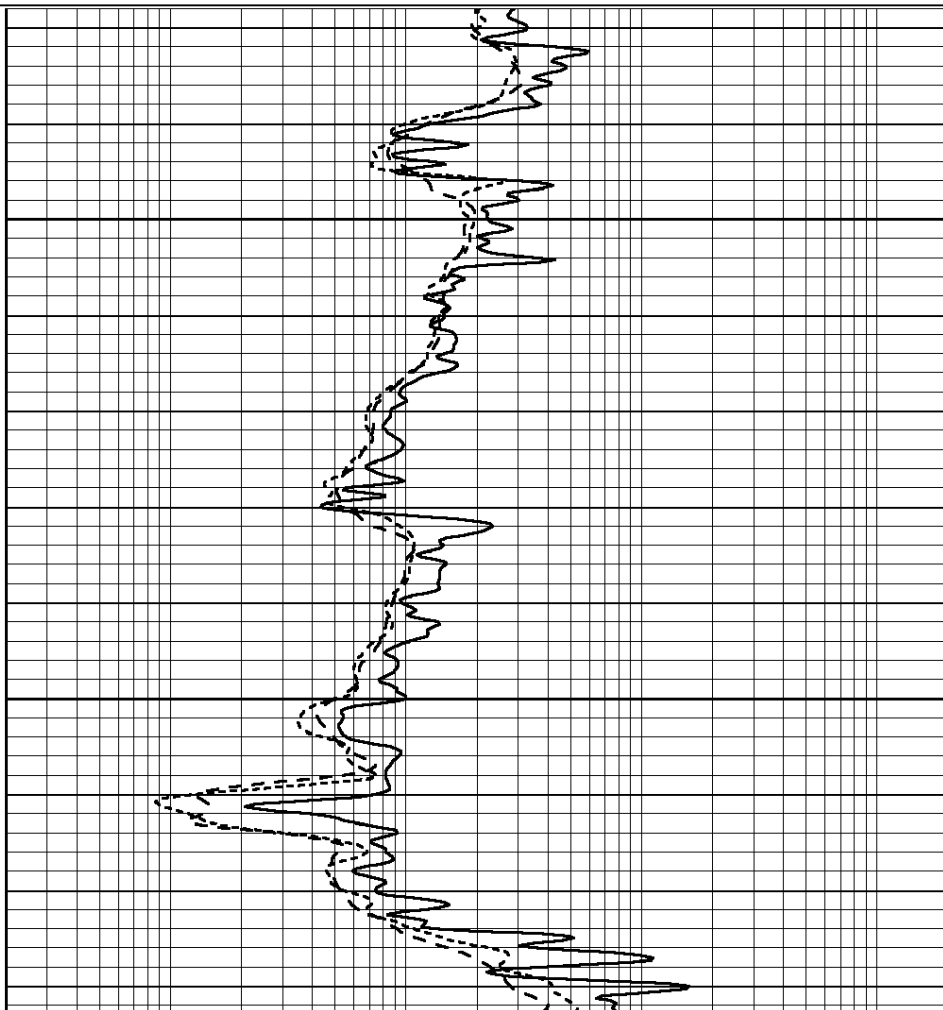
REPEAT SECTION

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Dataset Pathname: pass7.2
Presentation Format: _dil
Dataset Creation: Mon Jan 07 11:28:41 2013
Charted by: Depth in Feet scaled 1:240



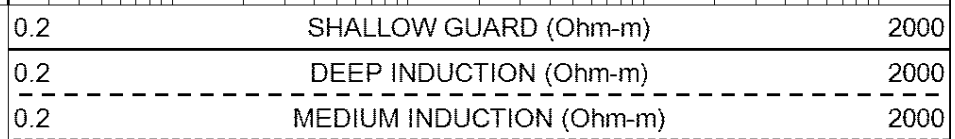
3550

3600





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



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 04 15:33:37 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:		#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	