



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company L.D. DRILLING, INC.
Well FB #1-21
Field WILDCAT
County BARTON State KANSAS

Company L.D. DRILLING, INC.
Well FB #1-21
Field WILDCAT
County BARTON
State KANSAS

Location: API #: 15-009-25826-00-00
633' FNL & 460' FEL
SW - NE - NE - NE
SEC 21 TWP 18S RGE 14W
GROUND LEVEL Elevation 1926
Log Measured From KELLY BUSHING 5' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
DIL/MEL
SONIC
Elevation
K.B. 1931
D.F. 1929
G.L. 1926

Date	4/11/13		
Run Number	ONE		
Depth Driller	3550		
Depth Logger	3552		
Bottom Logged Interval	3550		
Top Log Interval	00		
Casing Driller	892		
Casing Logger	894		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.5 / 59	CHLORIDES 7.000	
pH / Fluid Loss	8.5 / 9.2		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	0.70 @ 78F		
Rmf @ Meas. Temp	0.53 @ 78F		
Rmc @ Meas. Temp	0.84 @ 78F		
Source of Rmf / Rmc	MEASURED		
Rim @ BHT	0.49 @ 112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	112F		
Equipment Number	860		
Location	HAYS, KS.		
Recorded By	IAN MABB		
Witnessed By	KIM SHOEMAKER		

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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.

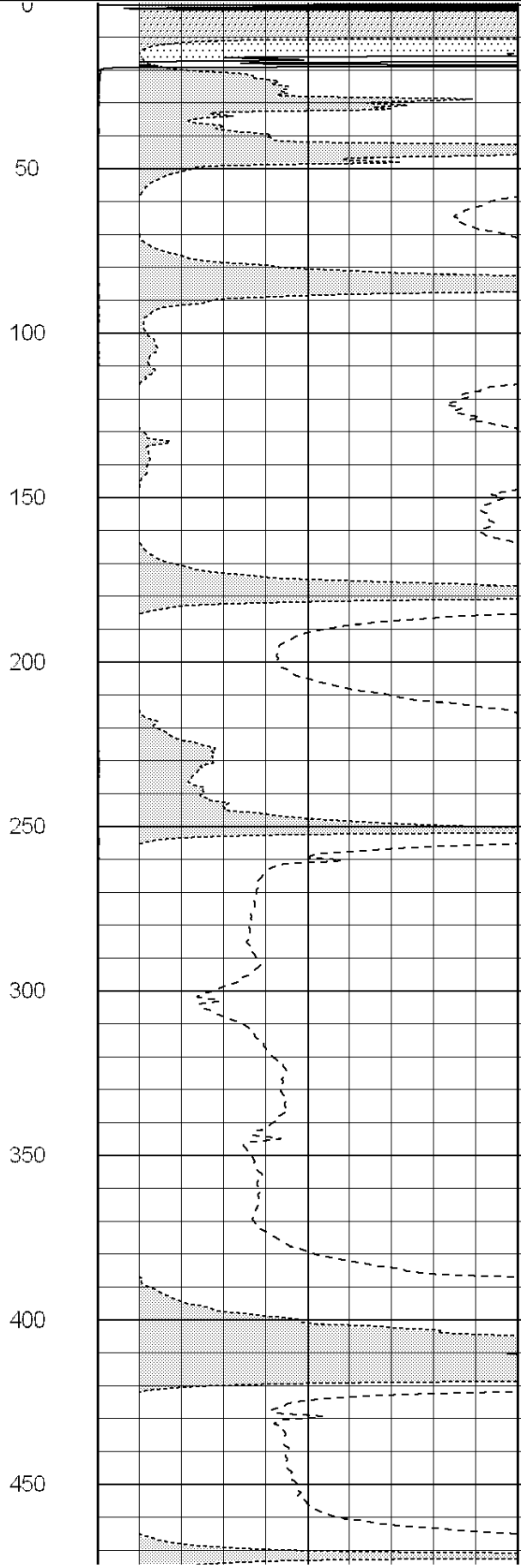
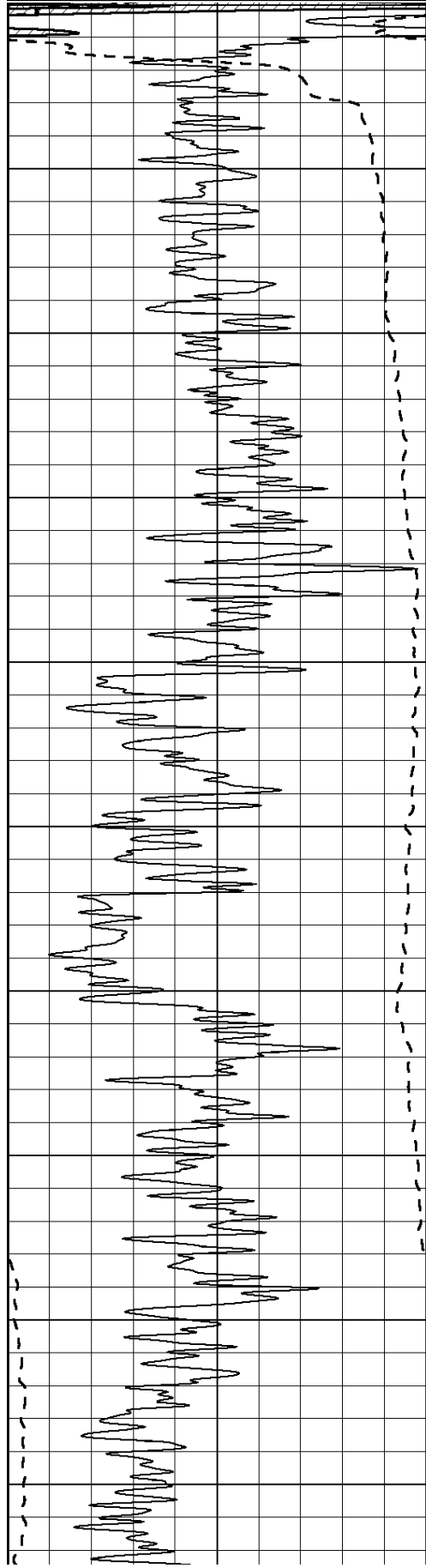
Comments

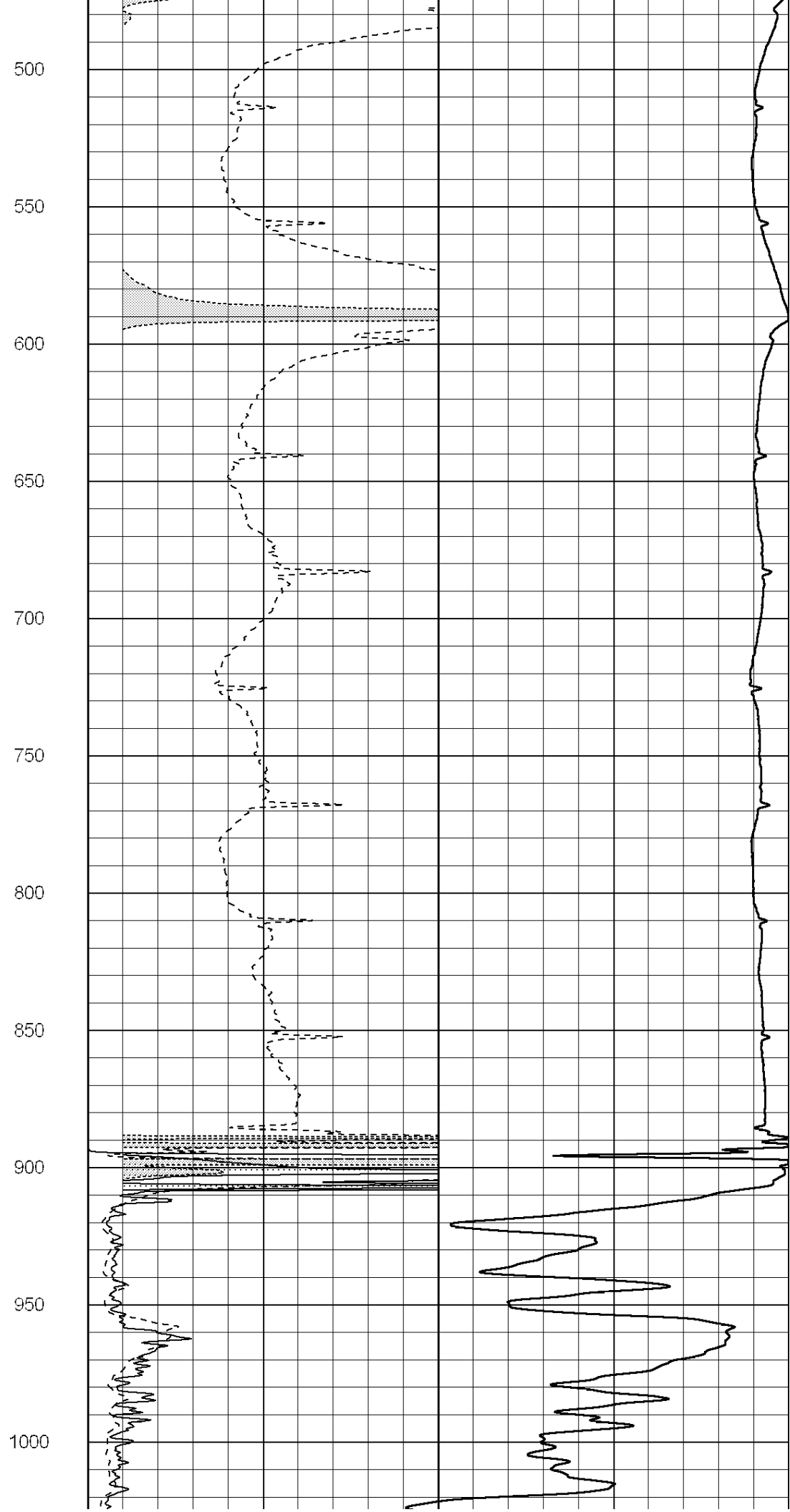
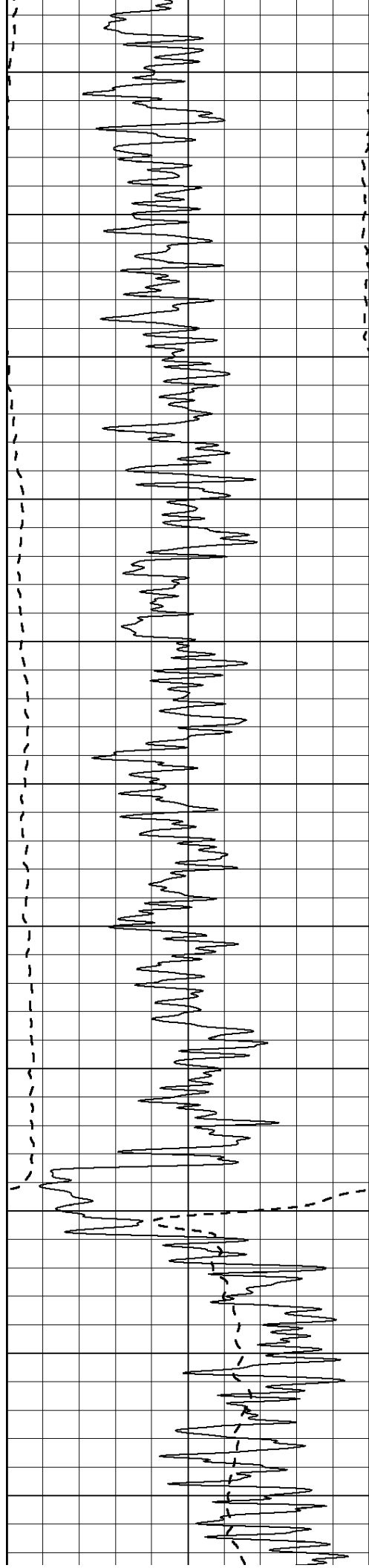
NABORS COMPLETION & PRODUCTION CO.
785-628-6395
THANK YOU FOR YOUR BUSINESS

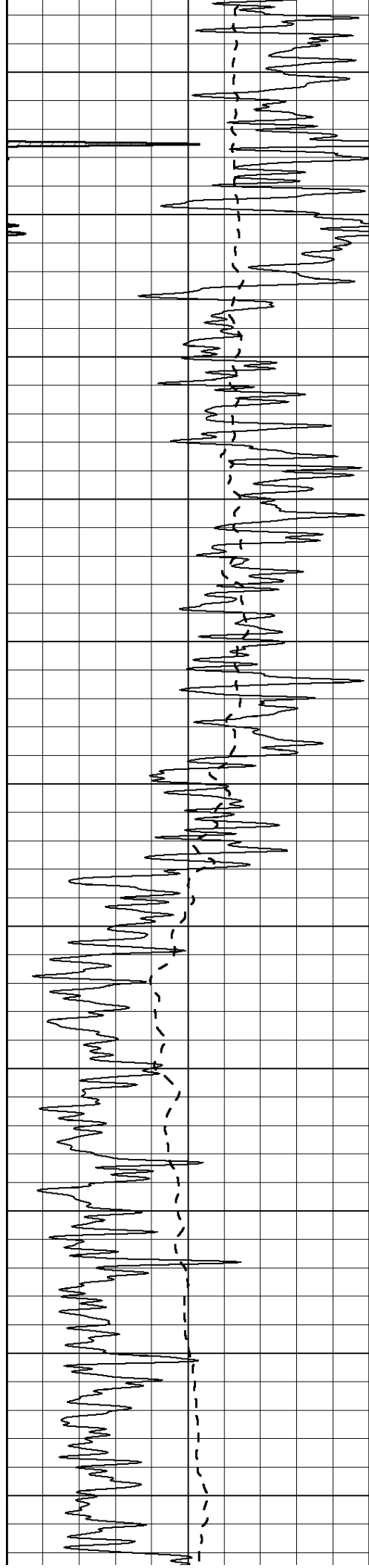
DIRECTIONS: HWY 281 & HWY 4 - 3 1/2 MILES SOUTH ON BOYD BLACKTOP TO RD. 80 - 1 WEST - 1/4 SOUTH - WEST INTO

0	Gamma Ray (GAPI)	150
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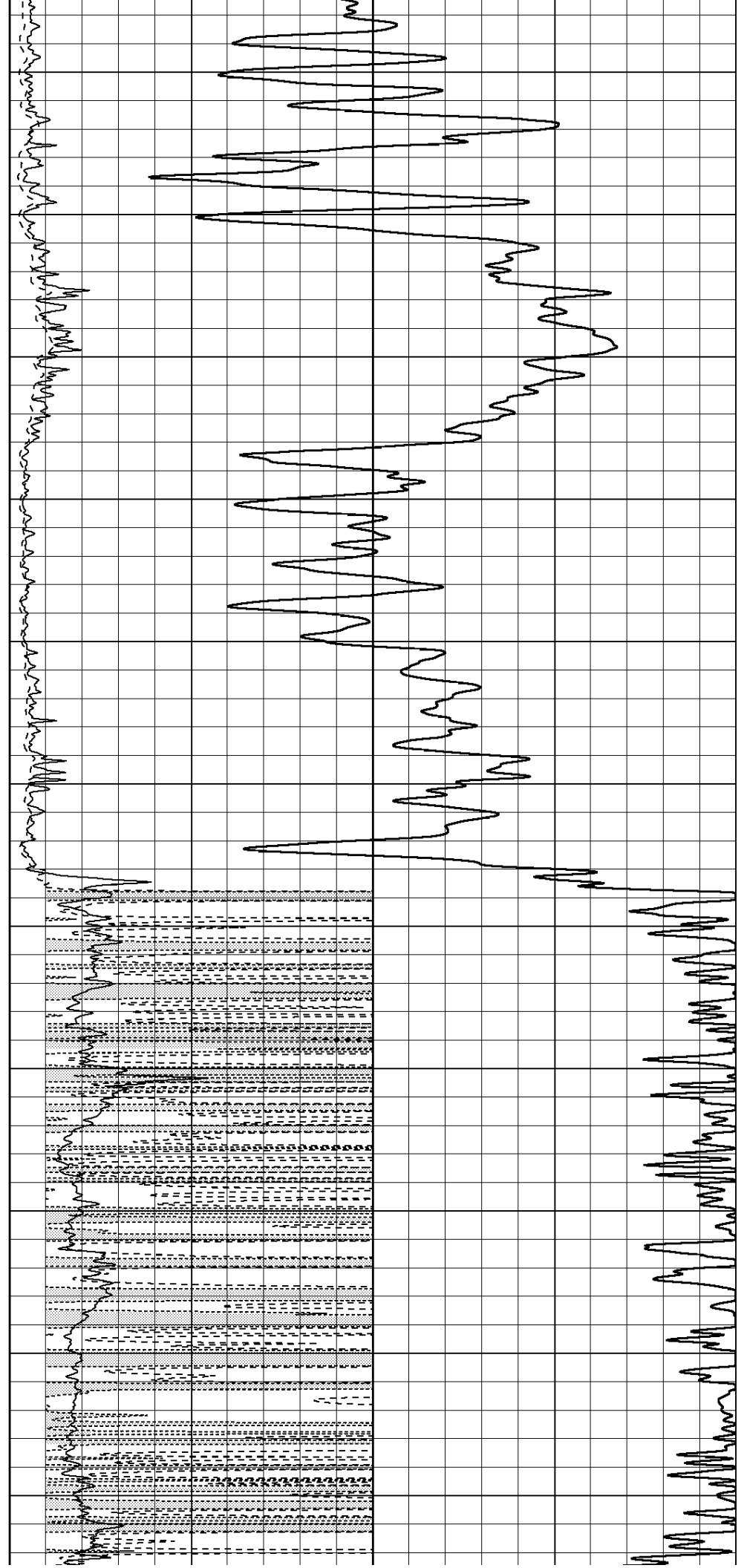
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0	Deep Induction (Ohm-m)	50
1000	CILD (mmho/m)	0
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500

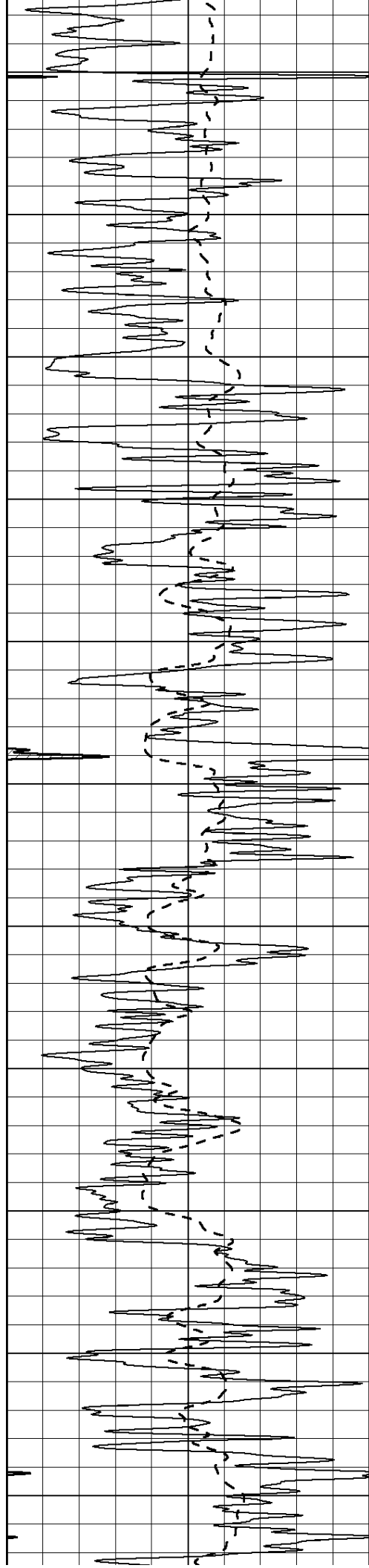




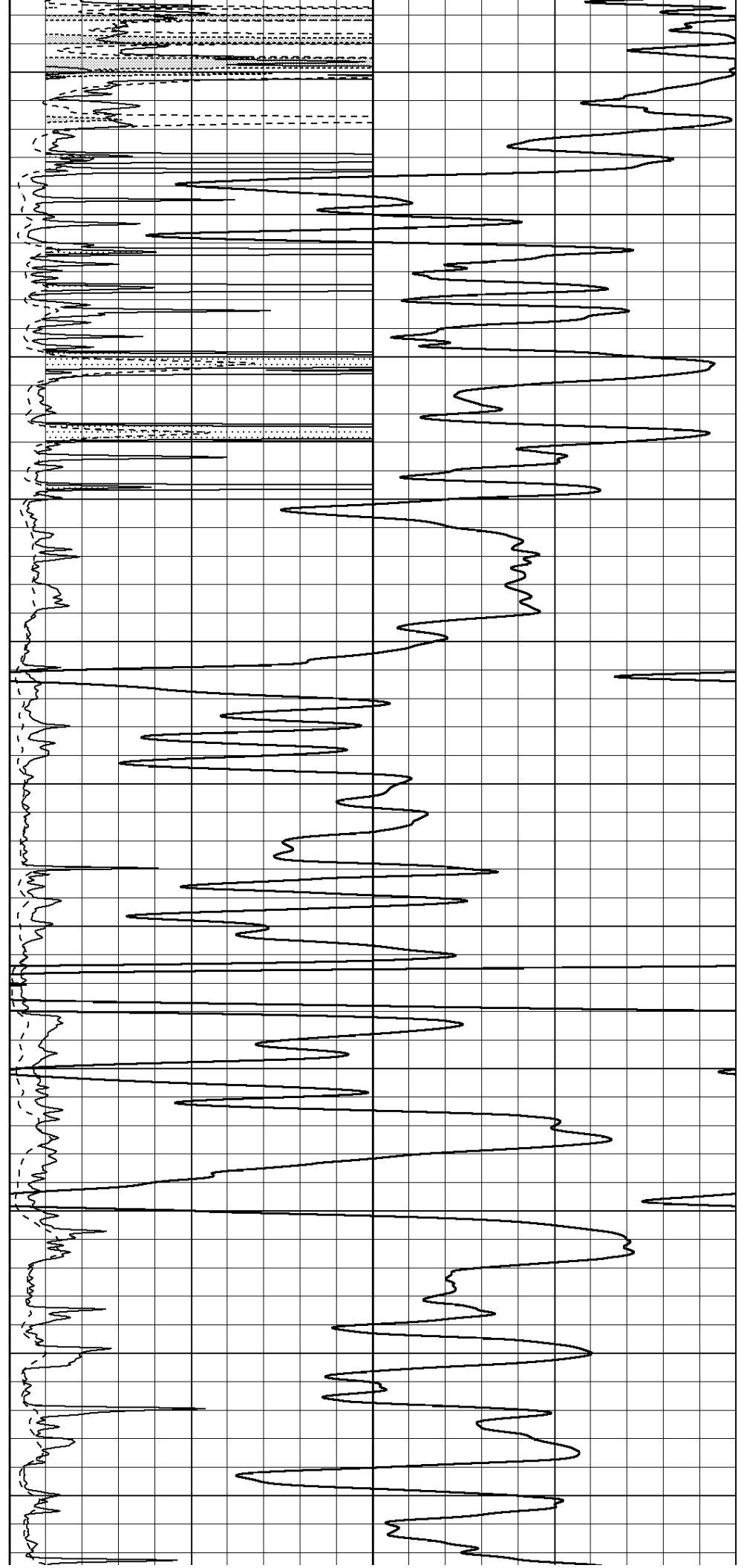


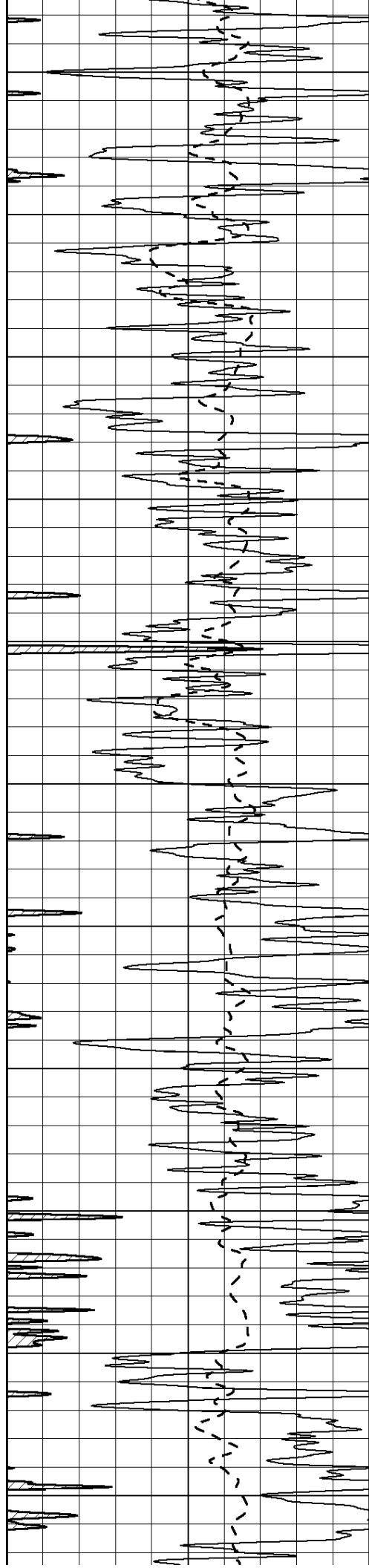
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500
1550





1600
1650
1700
1750
1800
1850
1900
1950
2000
2050
2100





2150

2200

2250

2300

2350

2400

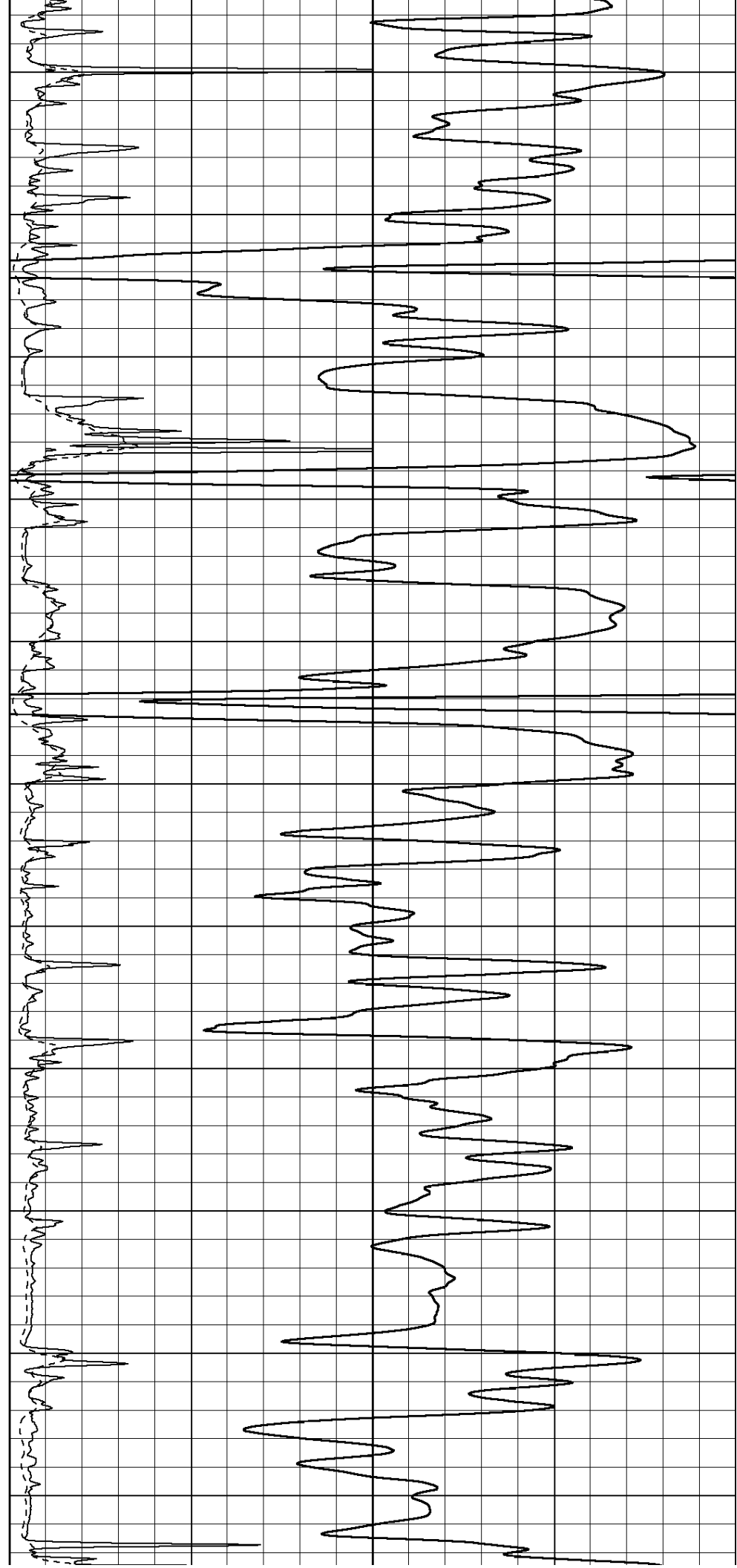
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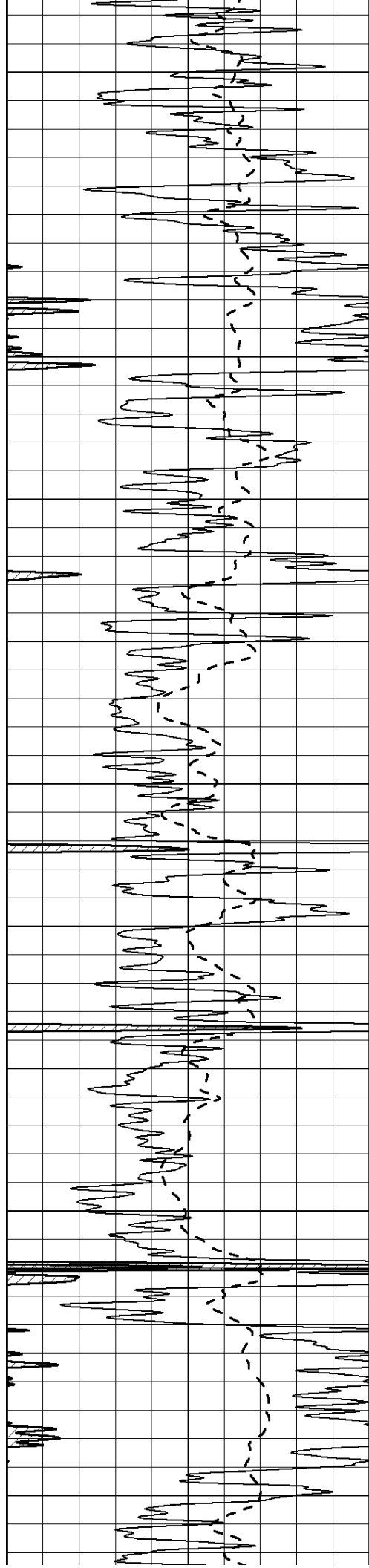
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2550

2600

2650





2700

2750

2800

2850

2900

2950

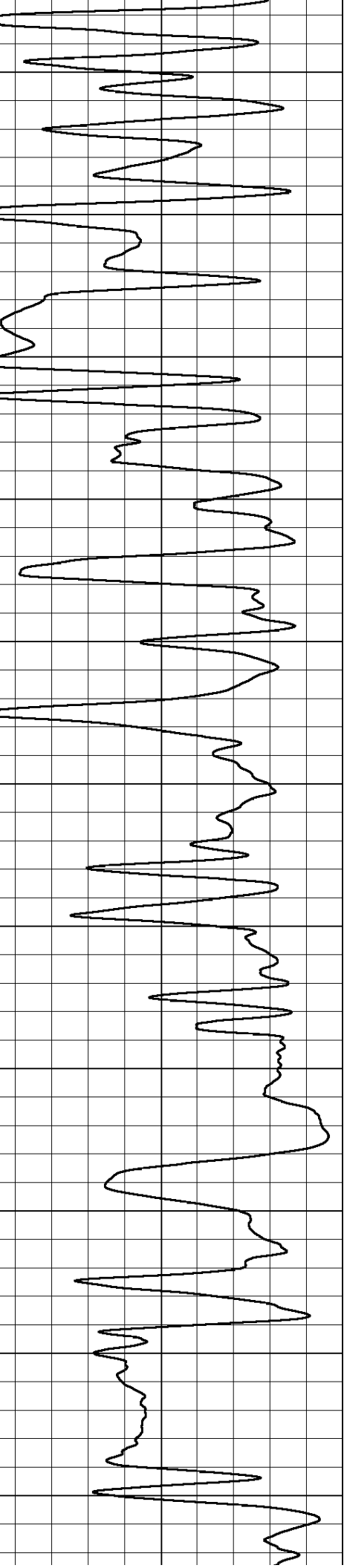
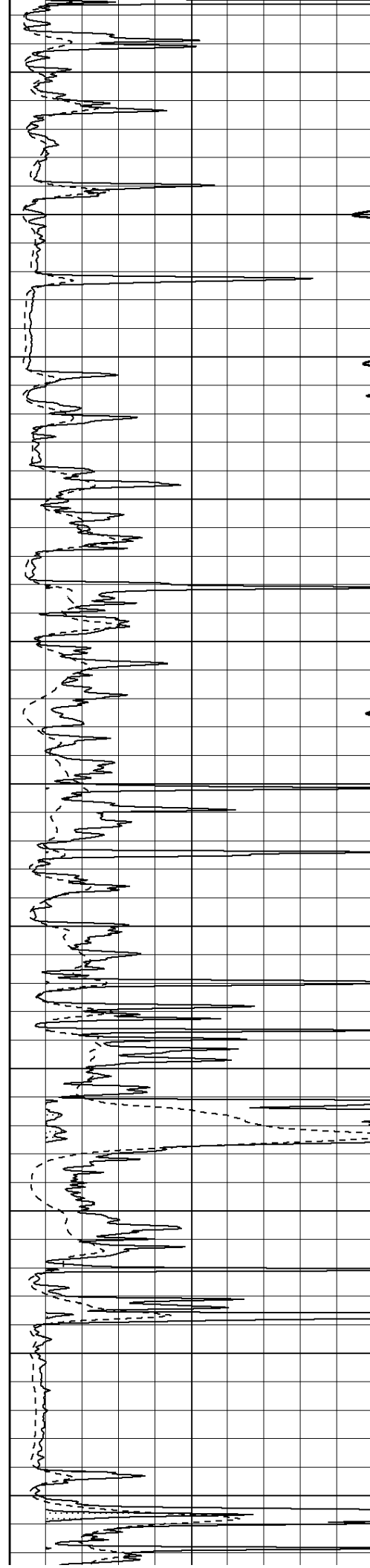
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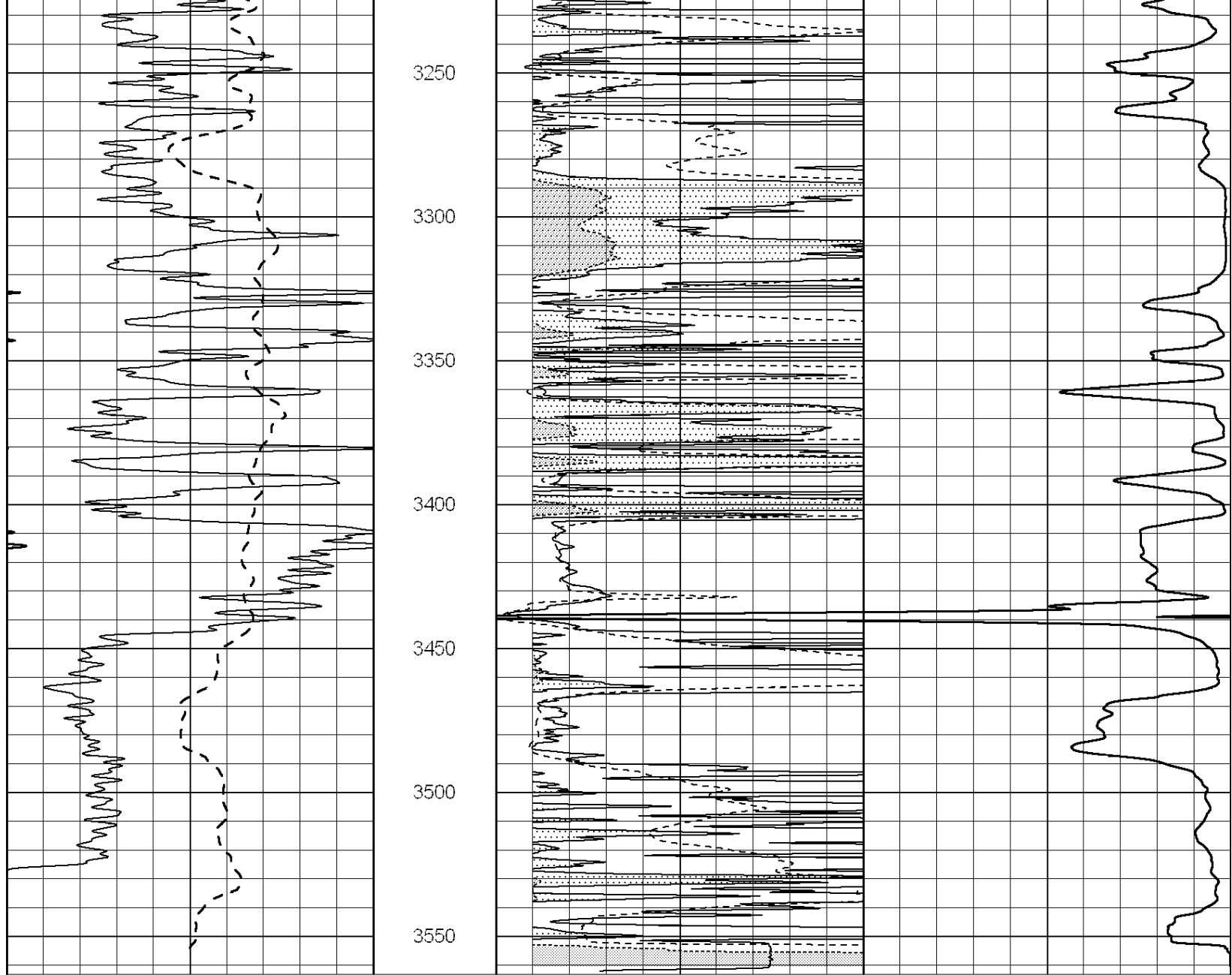
3050

3100

3150

3200

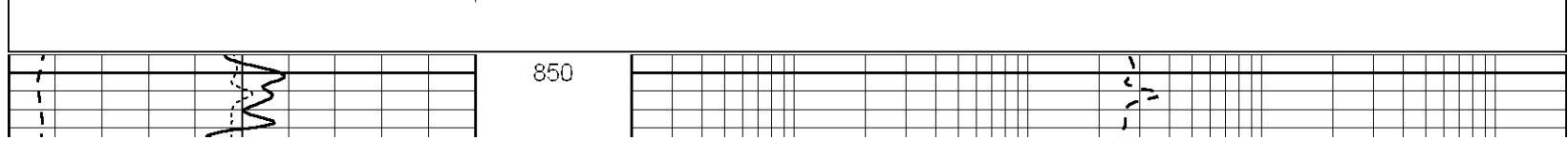


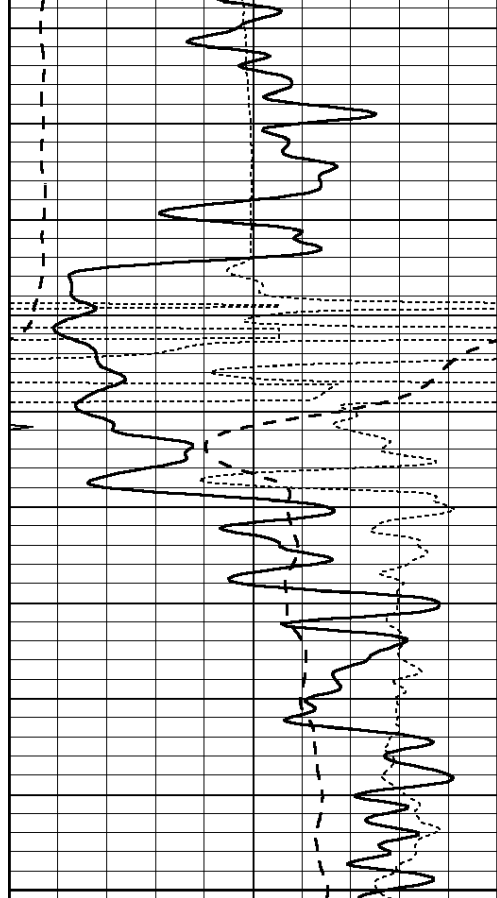


0	Gamma Ray (GAPI)	150	0	RLL3 (Ohm-m)	50
			0	Deep Induction (Ohm-m)	50
			1000	CILD (mmho/m)	0
			50	RILD X10 (Ohm-m)	500
			50	RLL3 X10 (Ohm-m)	500

Database File: 010983ddn.db
 Dataset Pathname: pass6.1.6
 Presentation Format: _dil
 Dataset Creation: Thu Apr 11 17:24:27 2013 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0.2	RLL3 (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	RxoRt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			

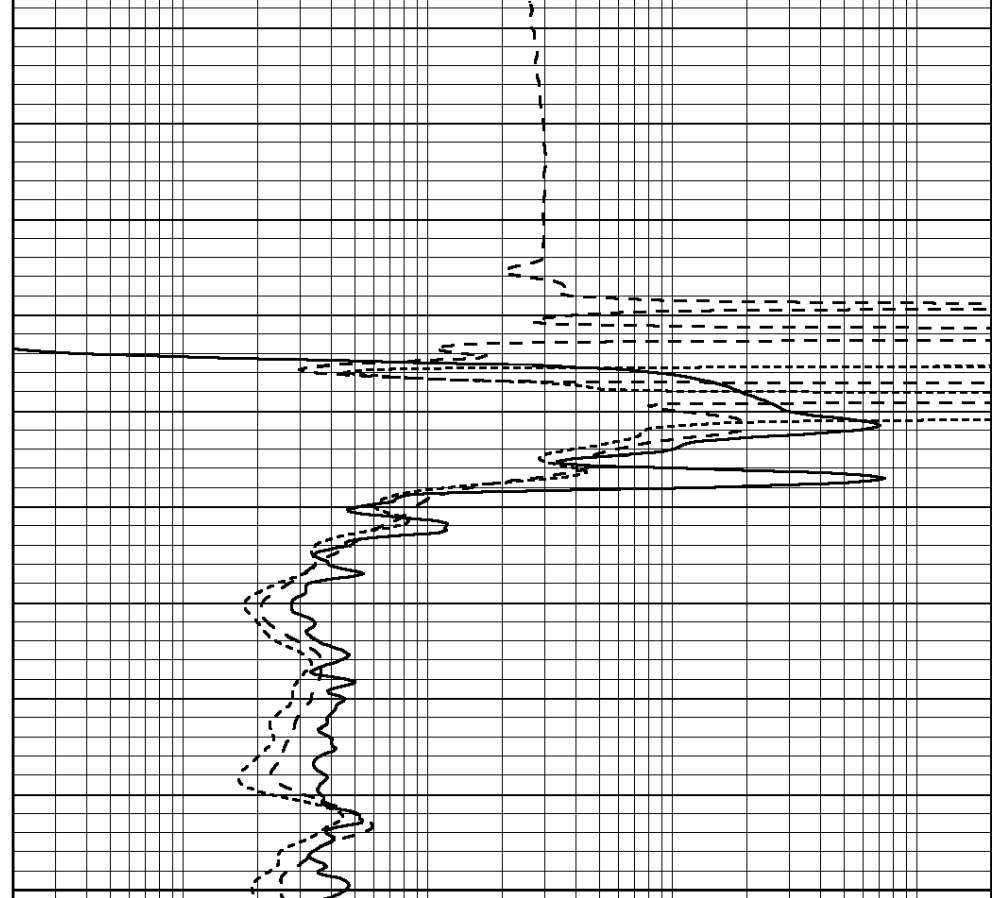




0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

900

950



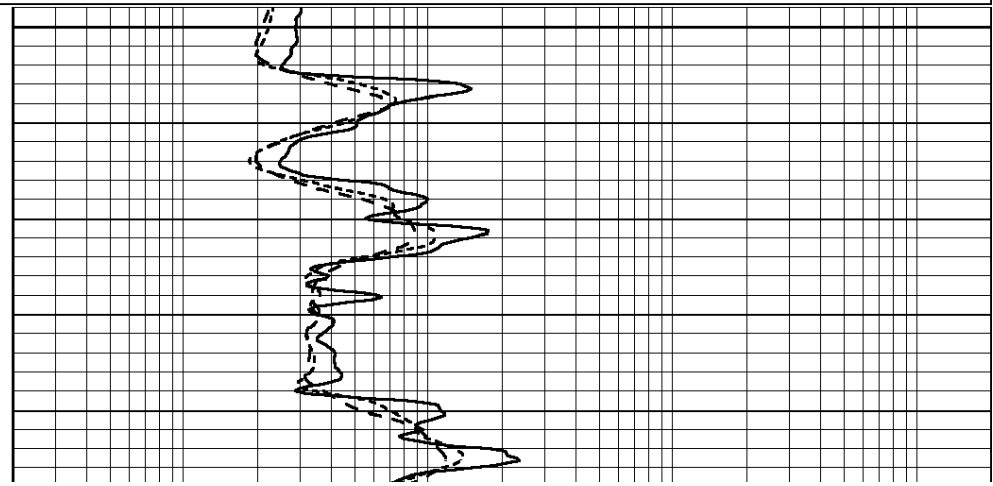
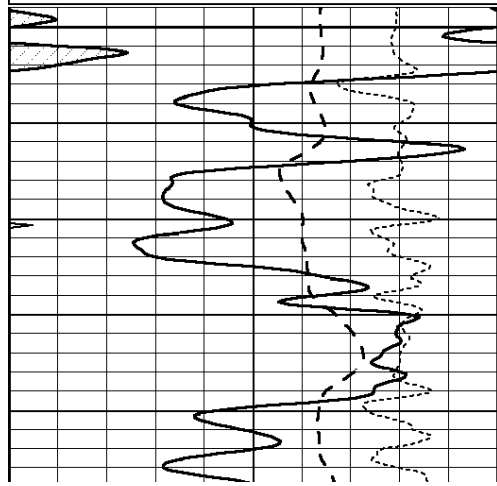
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0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

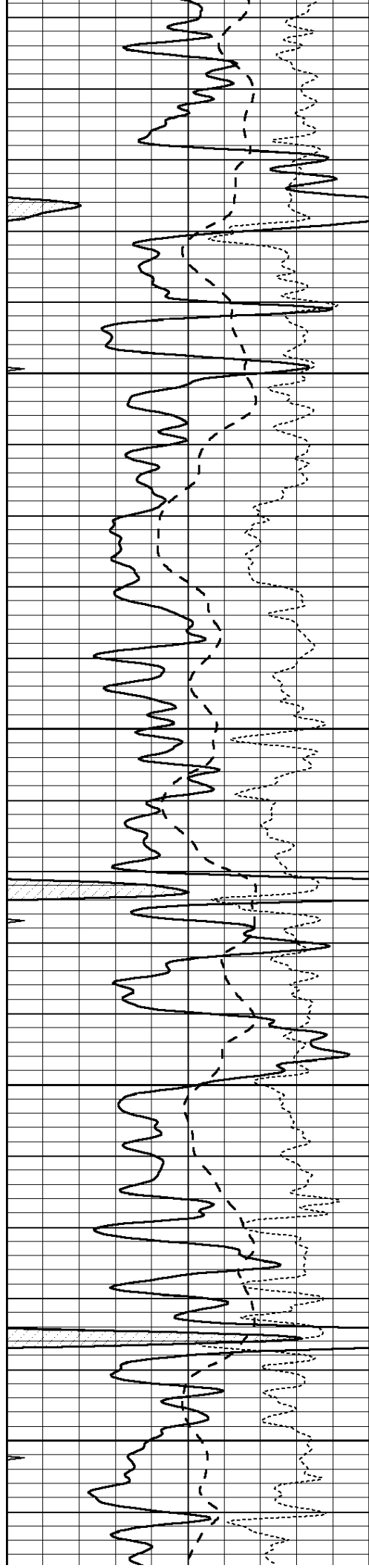
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 Dataset Pathname: pass6.1.5
 Presentation Format: _dil
 Dataset Creation: Thu Apr 11 16:59:00 2013 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

2800





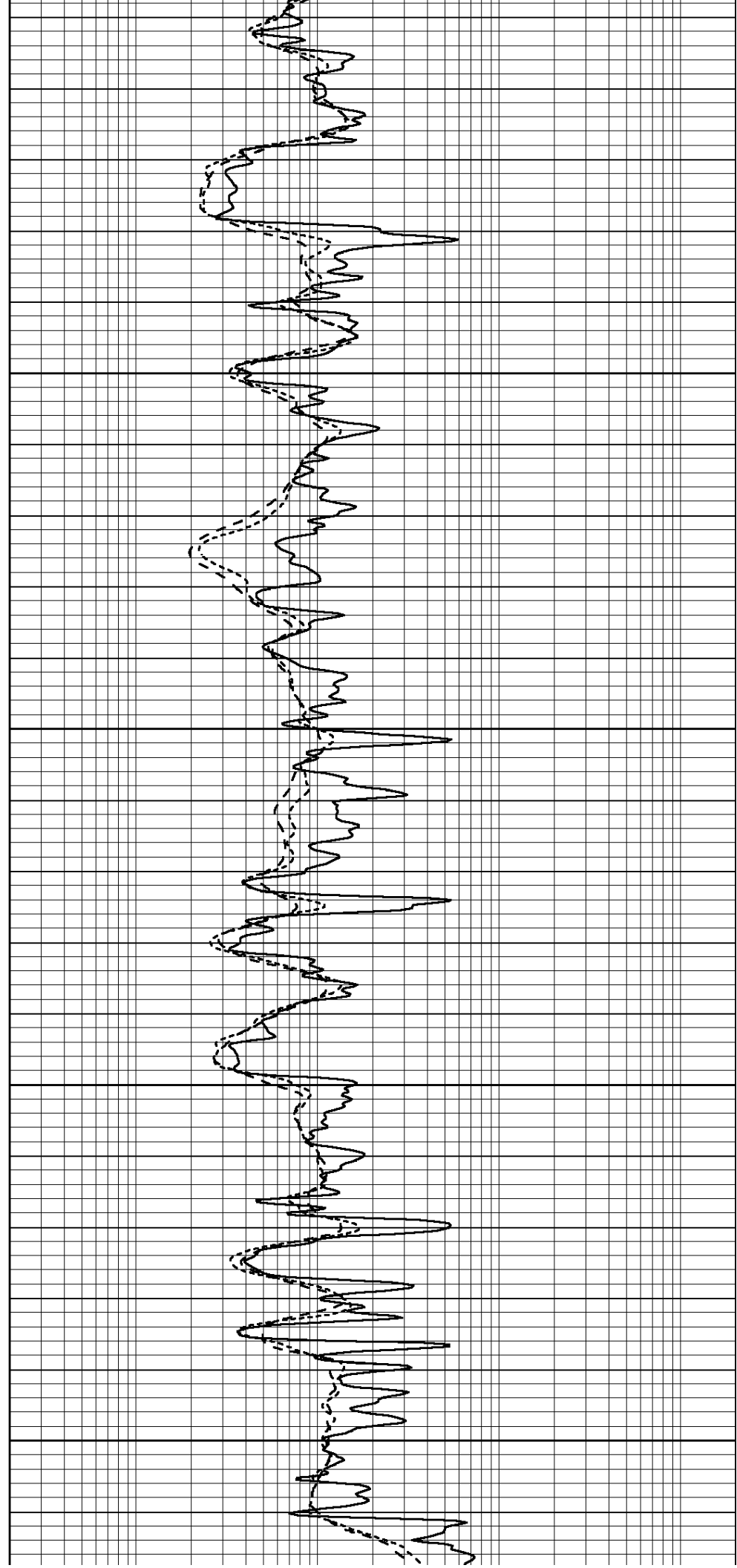
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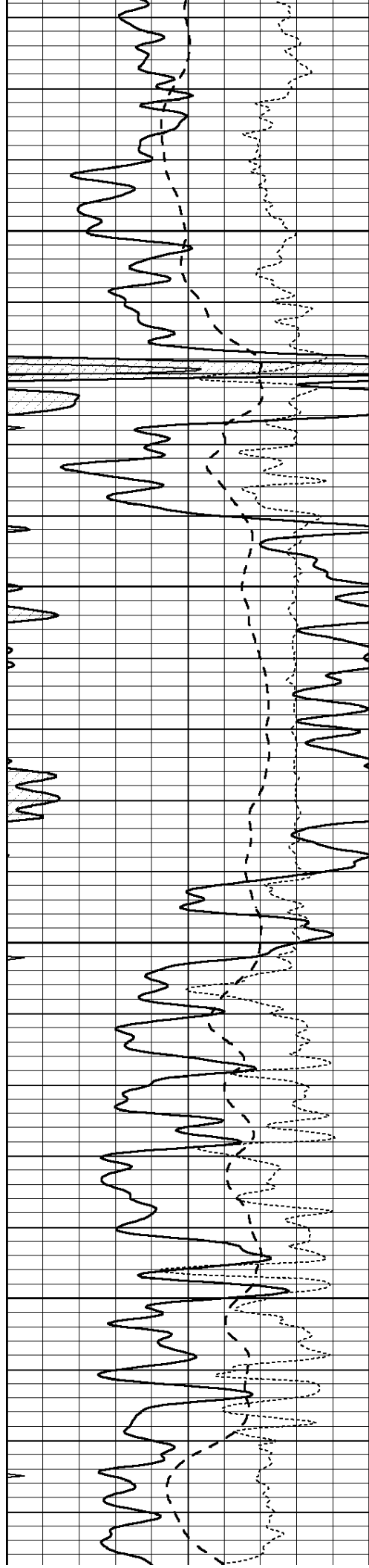
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2950

3000

3050



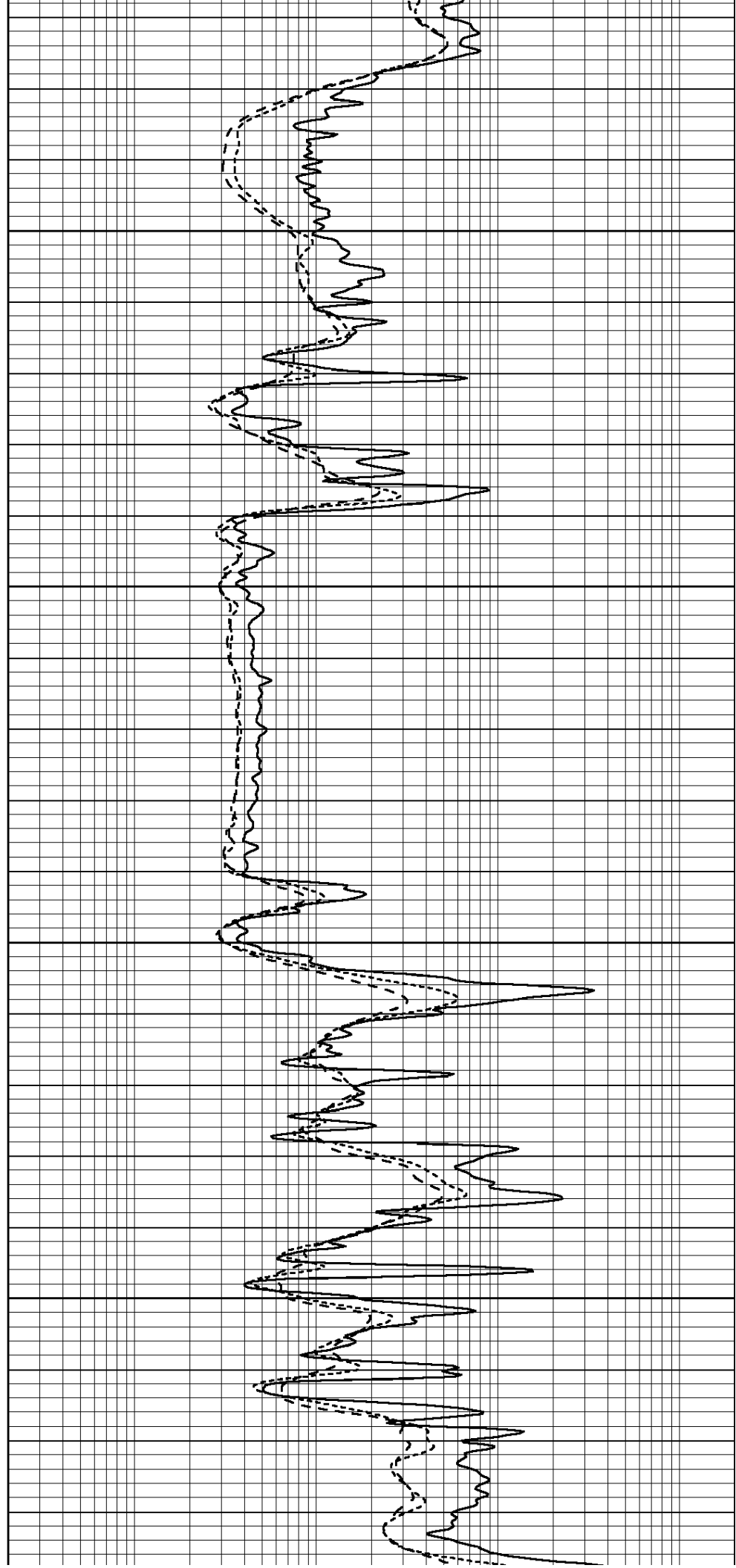


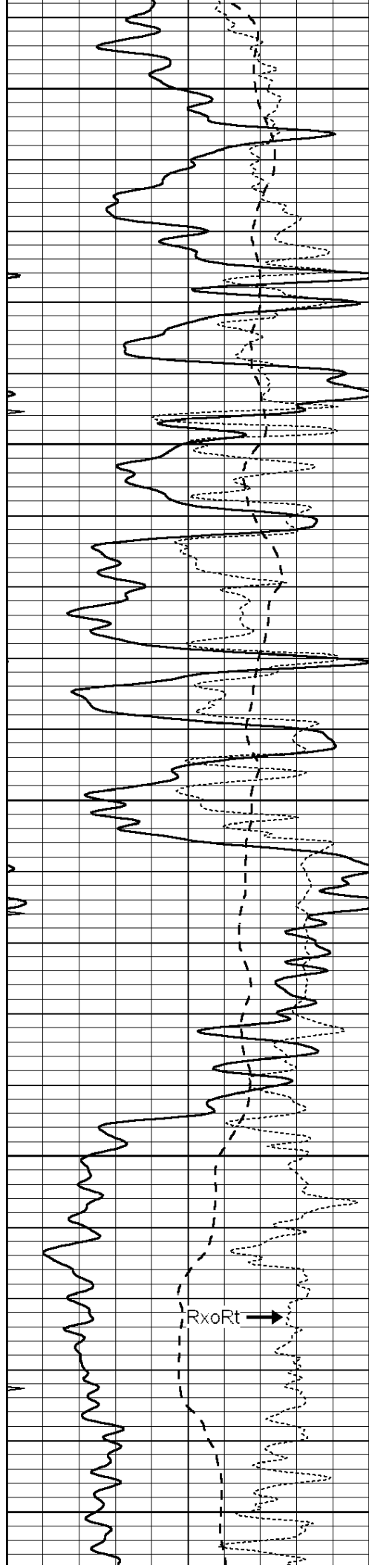
3100

3150

3200

3250





3300

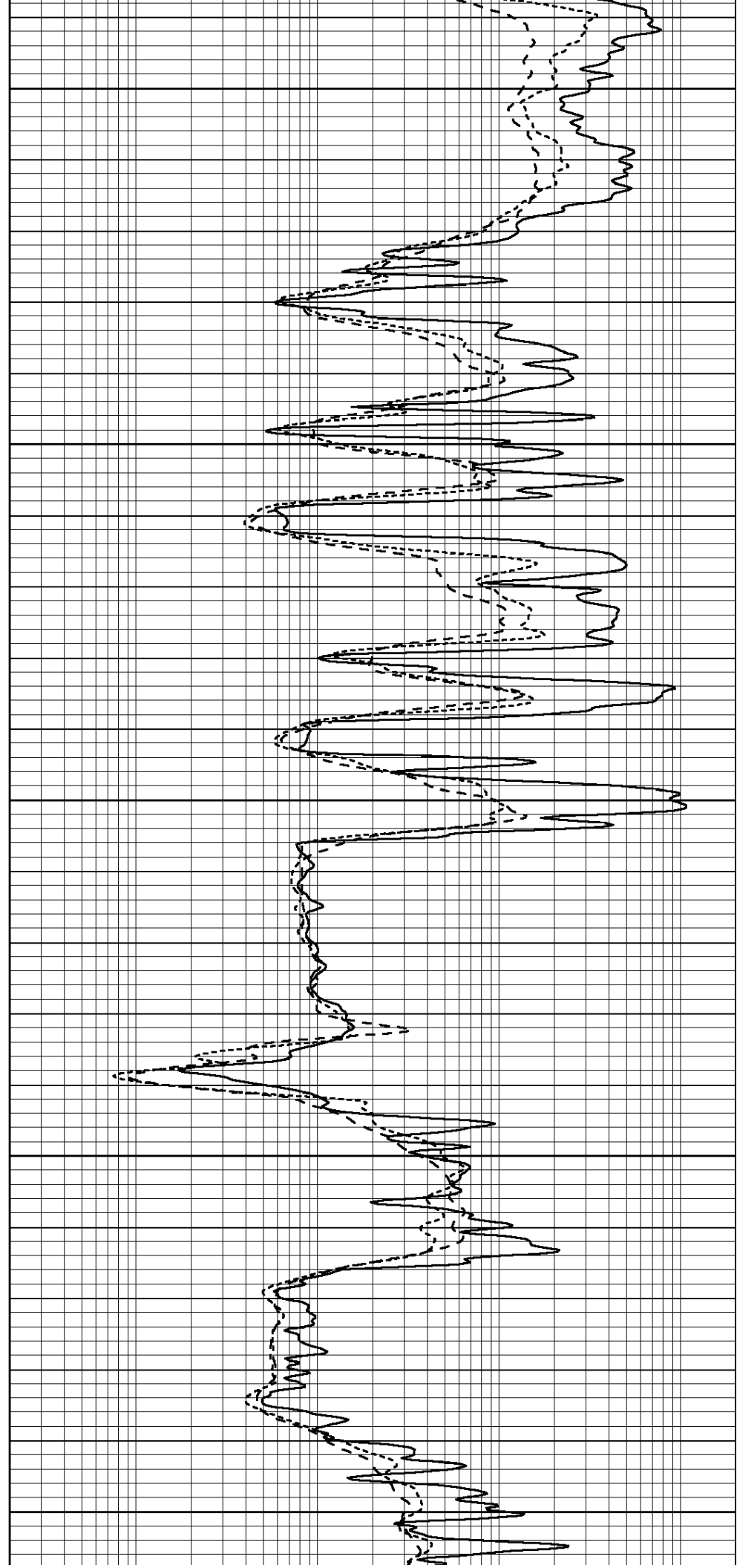
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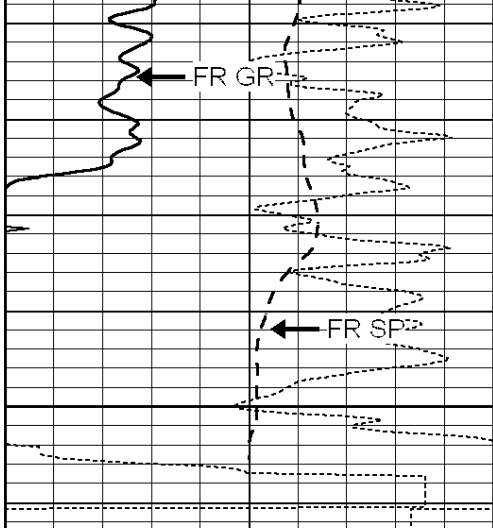
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3450

3500

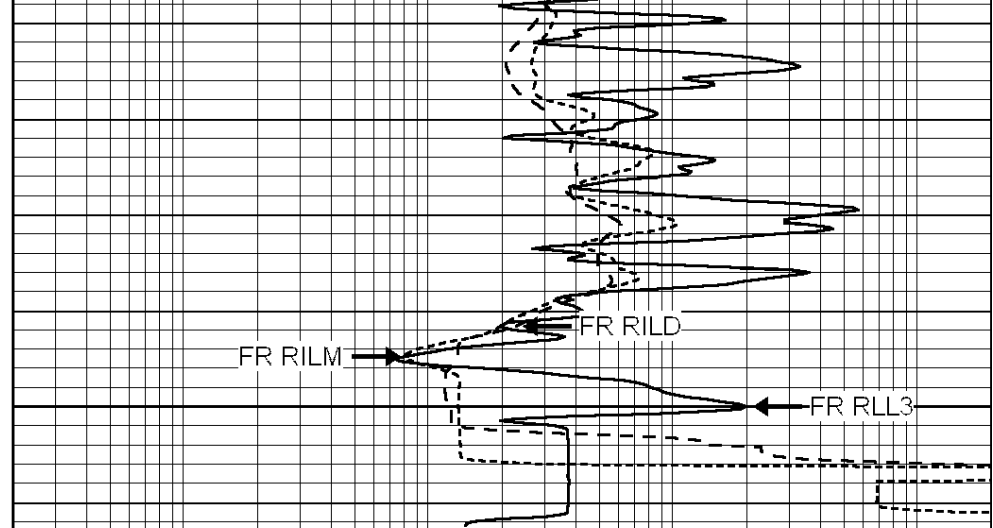
RxoRt →





3550
LT 3552

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20



0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

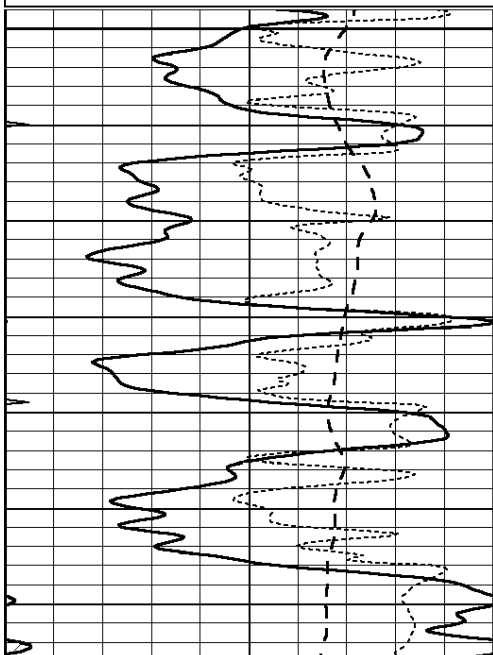


REPEAT SECTION

Database File: 010983ddn.db
 Dataset Pathname: pass4.5
 Presentation Format: _dil
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 Charted by: Depth in Feet scaled 1:240

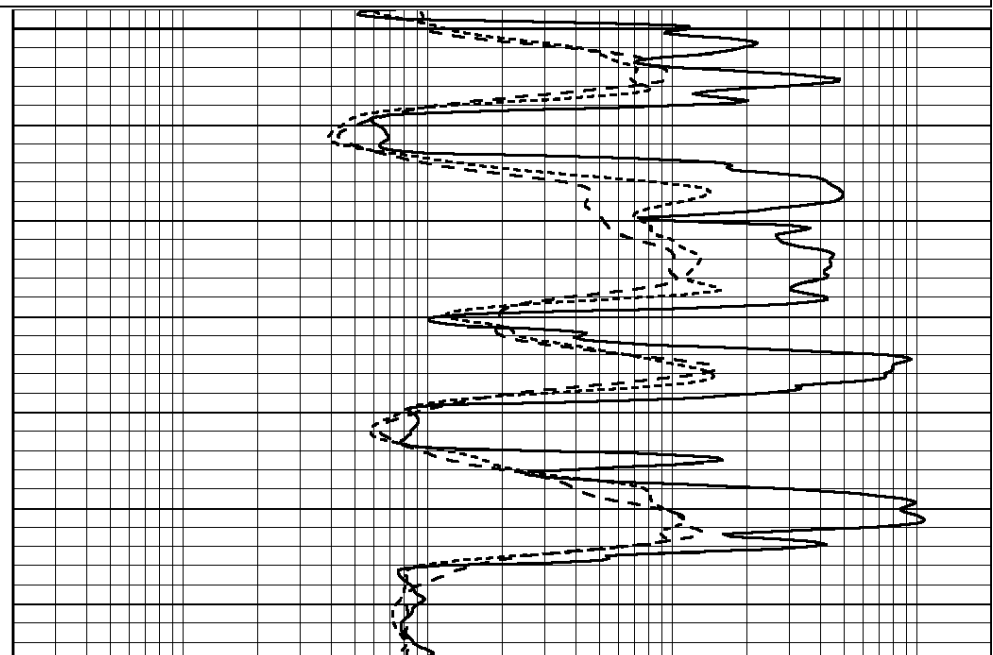
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-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20

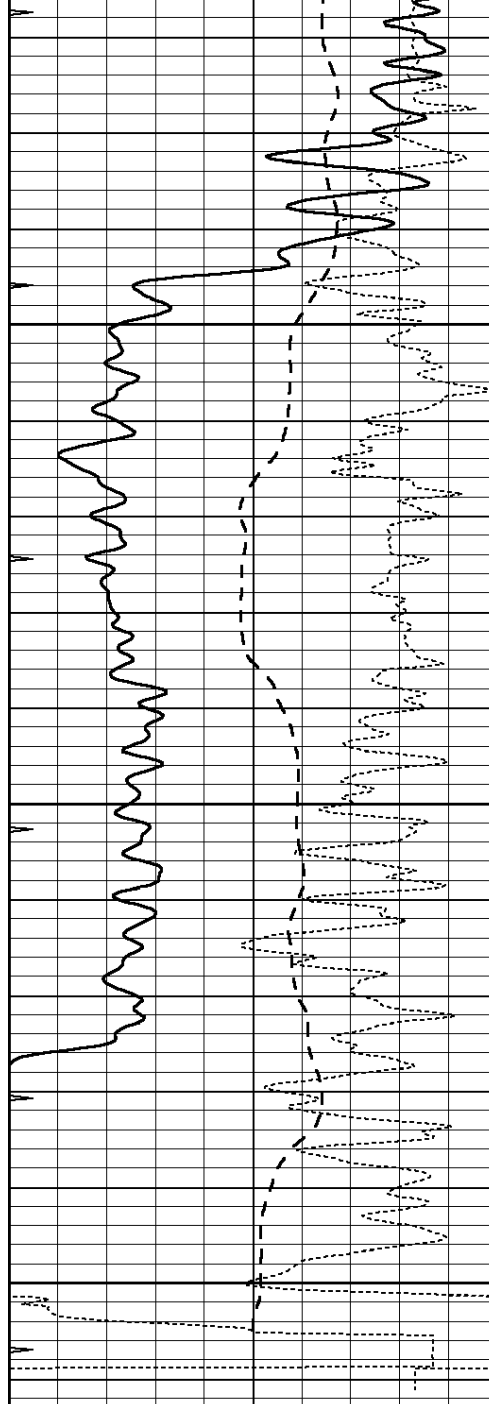
0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3350

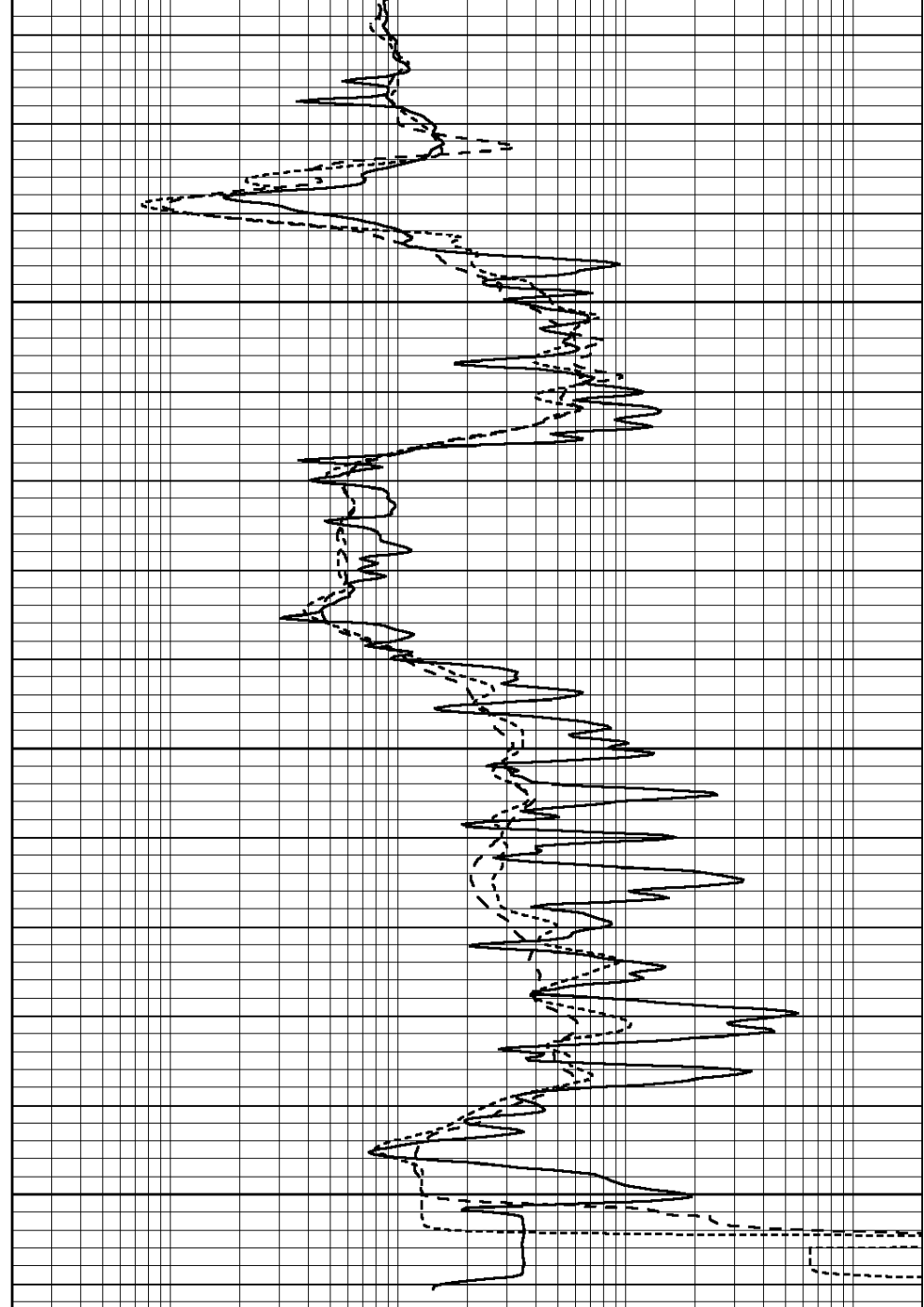
3400





3450
3500
3550

0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	RxoRt	50
0	MINMK	20



0.2	RLL3 (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

Calibration Report

Database File: 010983ddn.db
 Dataset Pathname: pass6.1.6
 Dataset Creation: Thu Apr 11 17:24:27 2013 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model: PROBE7-DILG
 Surface Cal Performed: Tue Mar 26 01:01:54 2013
 Downhole Cal Performed: Sat Jan 19 19:51:38 2013
 After Survey Verification Performed: Sat Jan 19 19:51:38 2013

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.793	0.790	V	0.000	400.000	mmho/m	620.000	0.000
Medium	0.992	1.002	V	0.000	464.000	mmho/m	680.000	-48.000
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.041	0.642	V	0.000	400.000	mmho/m	664.874	-27.011
Medium	0.035	0.802	V	0.000	464.000	mmho/m	604.936	-21.367

Downhole Calibration								
	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	135384.000	27094.500	mmho/m	135400.000	27082.400	mmho/m	1.000	-19.259
Medium	-47330.100	-9381.740	mmho/m	-47327.100	-9389.280	mmho/m	1.000	-10.154
LL3		7.322	V		1400.000	Ohm-m		
		0.038	V		20.000	Ohm-m		
		-7.273	V		4000.000	mmho-m		

After Survey Verification								
	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	135384.000	27094.500	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	-47330.100	-9381.740	mmho/m	1.000	0.000
LL3		0.000	Ohm-m		1400.000	Ohm-m		
		0.000	Ohm-m		20.000	Ohm-m		
		0.000	mmho-m		4000.000	mmho-m		

Compensated Density Calibration Report

Serial-Model:	GEAR2-GEARHART
Source / Verifier:	147 / 147
Master Calibration Performed:	Fri Jan 04 10:28:05 2013

Master Calibration						
	Density			Far Detector	Near Detector	
Magnesium	1.710	g/cc		923.76	475.45	cps
Aluminum	2.580	g/cc		205.31	331.69	cps
Spine Angle = 76.54			Density/Spine Ratio = 0.563			
	Size			Reading		
Small Ring	8.40	in		5.48	V	
Large Ring	14.00	in		7.58	V	

Compensated Neutron Calibration Report

Serial Number:	NEU_4I
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:	GR5
Tool Model:	GR5

Tool Model: OPEN
Performed: Tue Mar 26 03:22:48 2013

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps

Calibrator Reading: 1.0 cps

Sensitivity: 2.4000 GAPI/cps