



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

DUAL INDUCTION LOG

Company Well Field County State		MAI OIL OPERATIONS, INC. KENNEDY - DOPKINS UNIT #1 CARROLL BARTON KANSAS	
Company Well Field County State		MAI OIL OPERATIONS, INC. KENNEDY - DOPKINS UNIT #1 CARROLL BARTON KANSAS	
Location: Permanent Datum Log Measured From Drilling Measured From		API # : 15-009-25816-0000 820' FSL & 2365' FWL SE - NE - SE - SW SEC 20 TWP 17S RGE 14W GROUND LEVEL KELLY BUSHING 8' A.G.L. KELLY BUSHING	
		Other Services CDL/CNL MEL	
		Elevation K.B. 1874 D.F. 1872 G.L. 1866	
Date	4/7/13		
Run Number	ONE		
Depth Driller	3265		
Depth Logger	3263		
Bottom Logged Interval	3261		
Top Log Interval	00		
Casing Driller	8 5/8"@85.1'		
Casing Logger	851		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 6,000 PPM	
Density / Viscosity	9.0/60		
pH / Fluid Loss	10.0/8.0		
Source of Sample	FLOWLINE		
Rim @ Meas. Temp	.550@90F		
Rmf @ Meas. Temp	.413@90F		
Rmc @ Meas. Temp	.660@90F		
Source of Rmf / Rmc	MEASUREMENT		
Rim @ BHT	.446@111F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	4:15 A.M.		
Maximum Recorded Temperature	111F		
Equipment Number	4854		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	WYATT URBAN		

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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, KANSAS (785) 628-6395
DIRECTIONS

HWY 281 & 4 JUNCTION, 2N. TO "RD. 130", 2W. TO "NW 60 RD.", JOG N. TO TANK BATTERY, 1/2W. INTO



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MAIN SECTION

Database File:

010735ddn.db

Dataset Pathname:

pass3.6

Presentation Format:

dil2

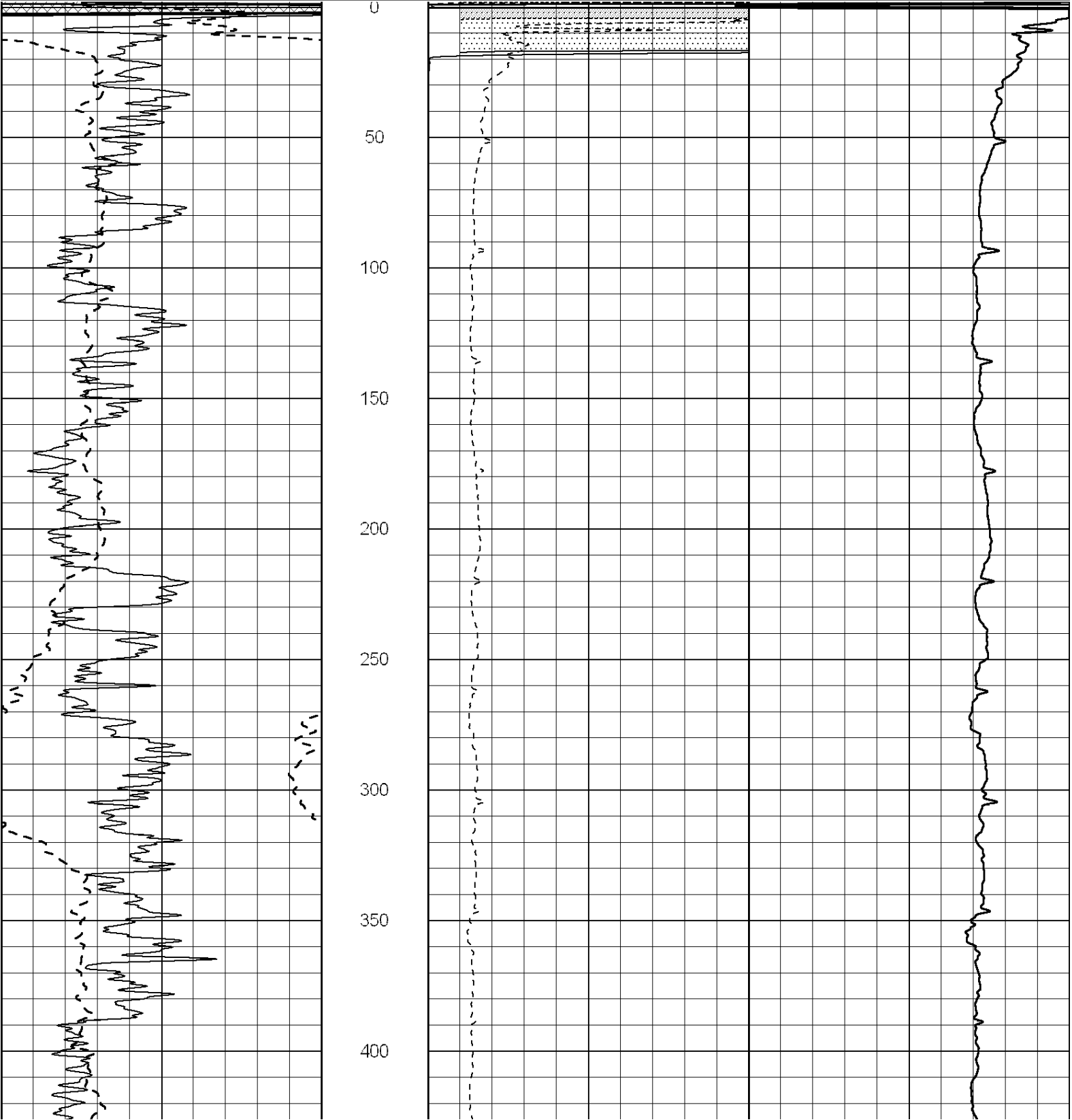
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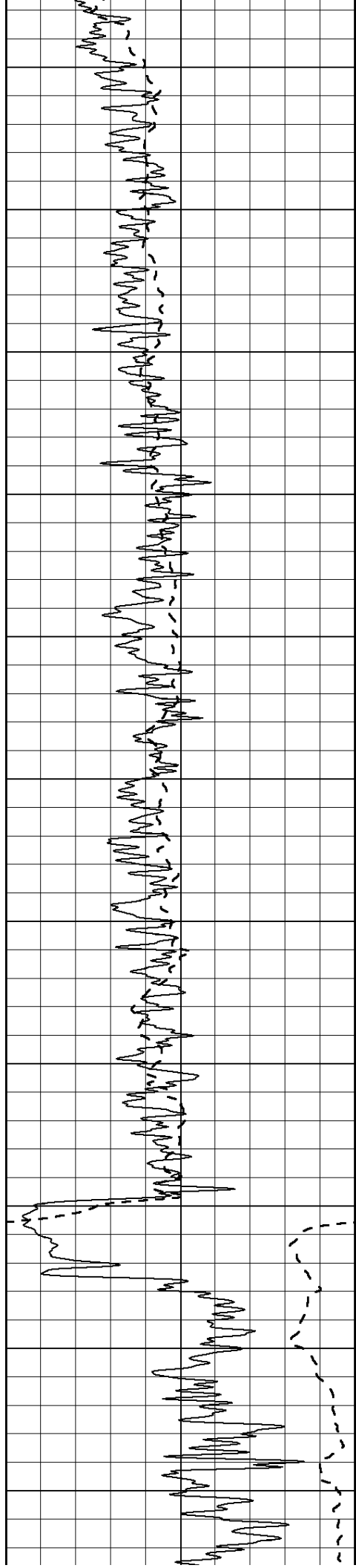
Sun Apr 07 06:14:24 2013

Charted by:

Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150	0	RLL3 (Ohm-m)	50
-100	SP (mV)	100	0	RILD (Ohm-m)	50
-----			CILD (mmho/m)		
			1000		0
			50	RILD X10 (Ohm-m)	500
			50	RLL3 X10 (Ohm-m)	500





450

500

550

600

650

700

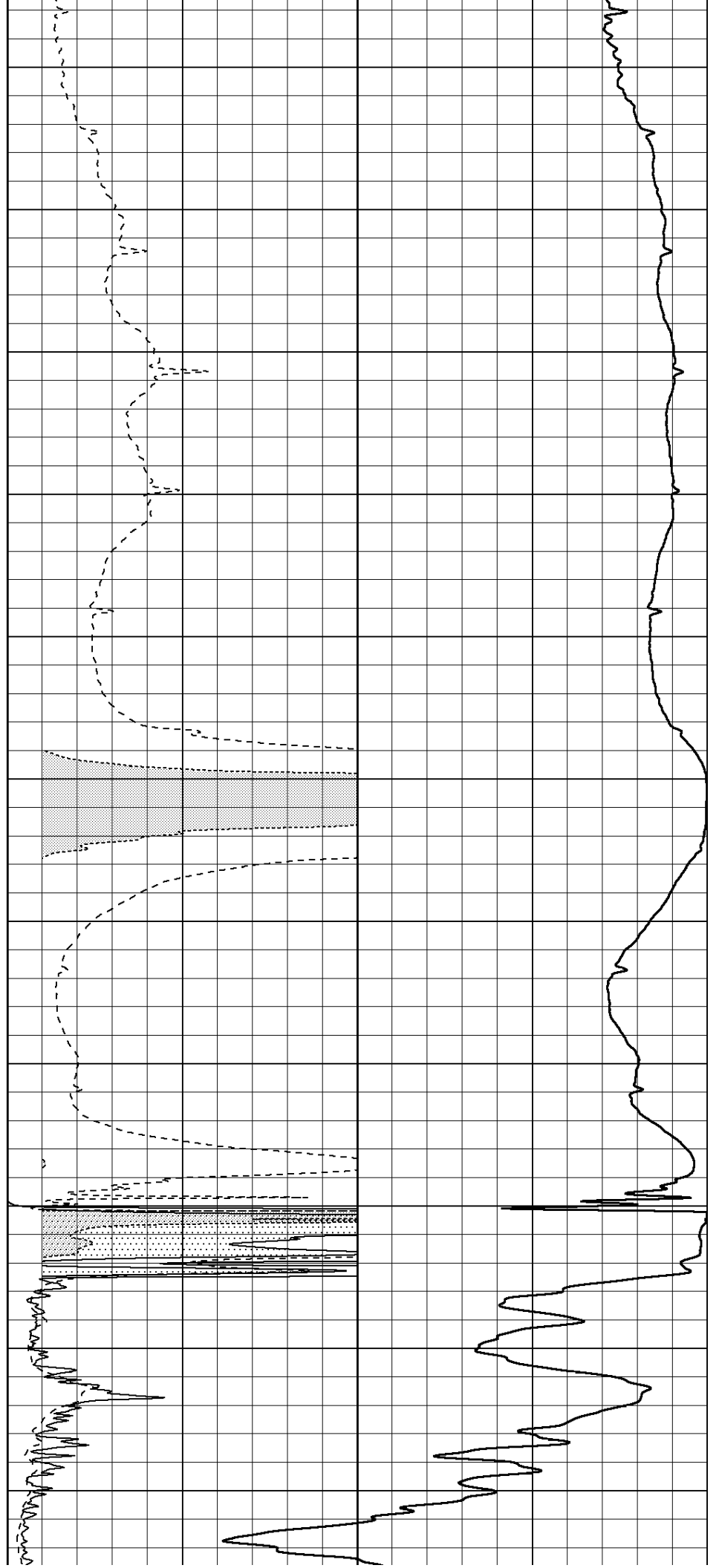
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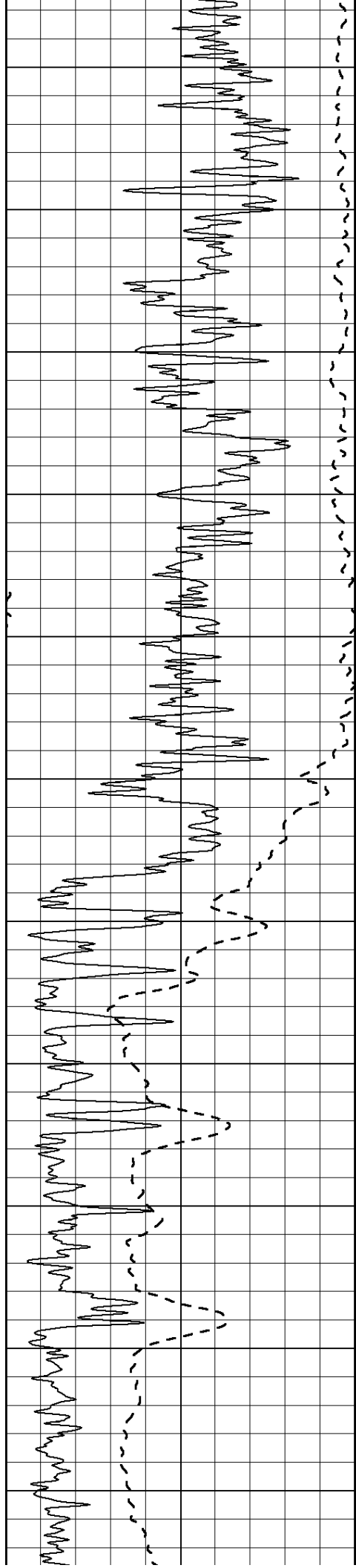
800

850

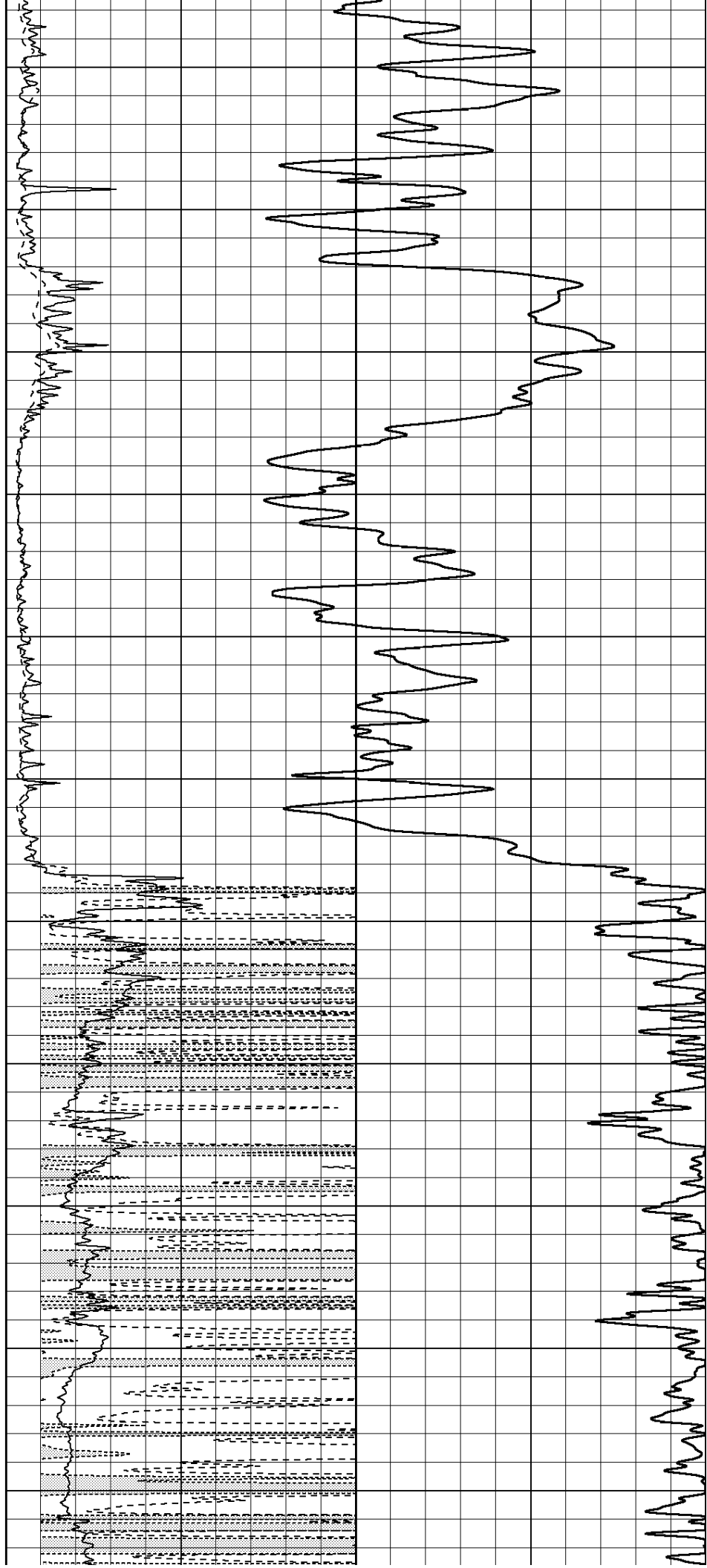
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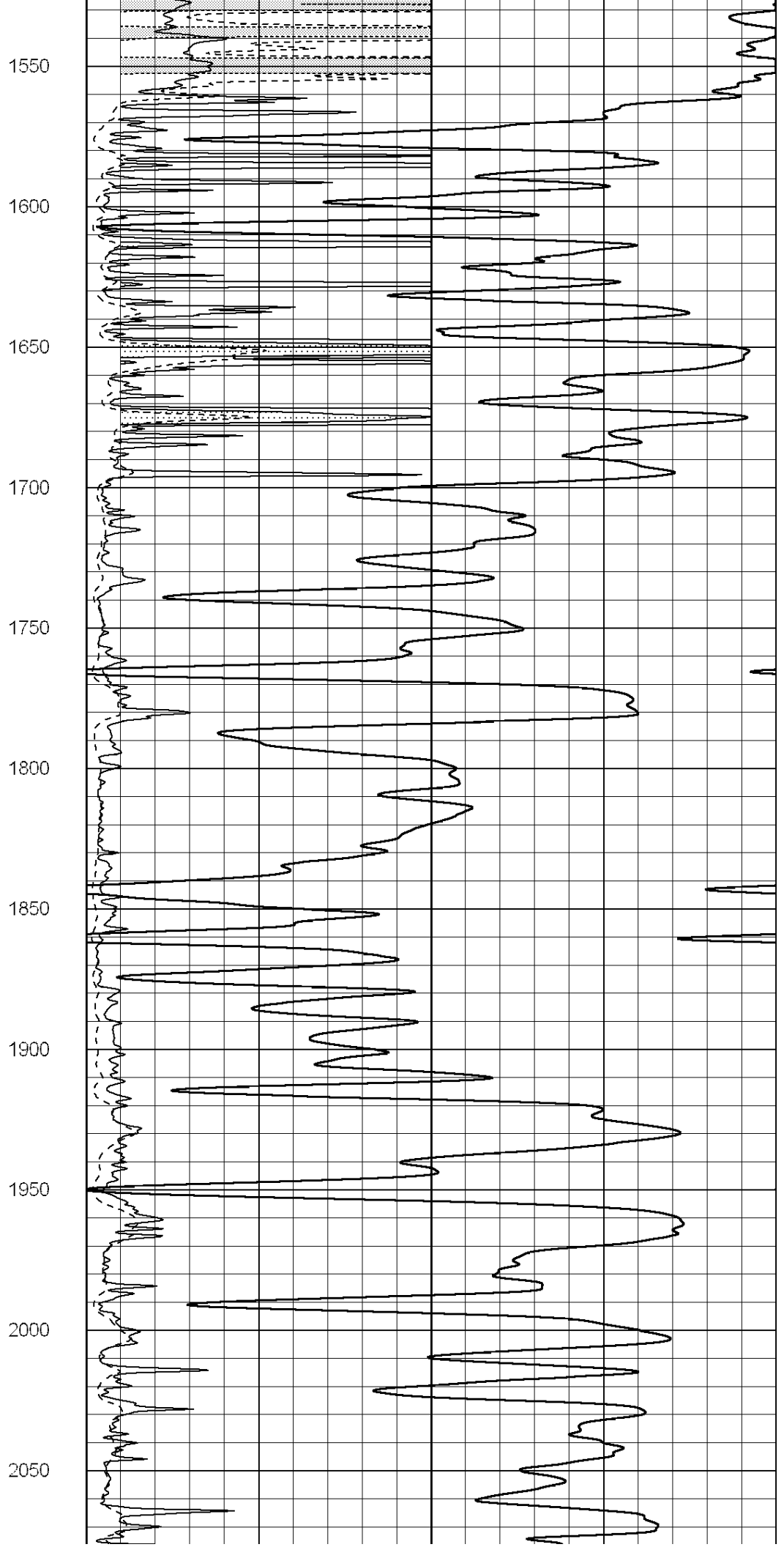
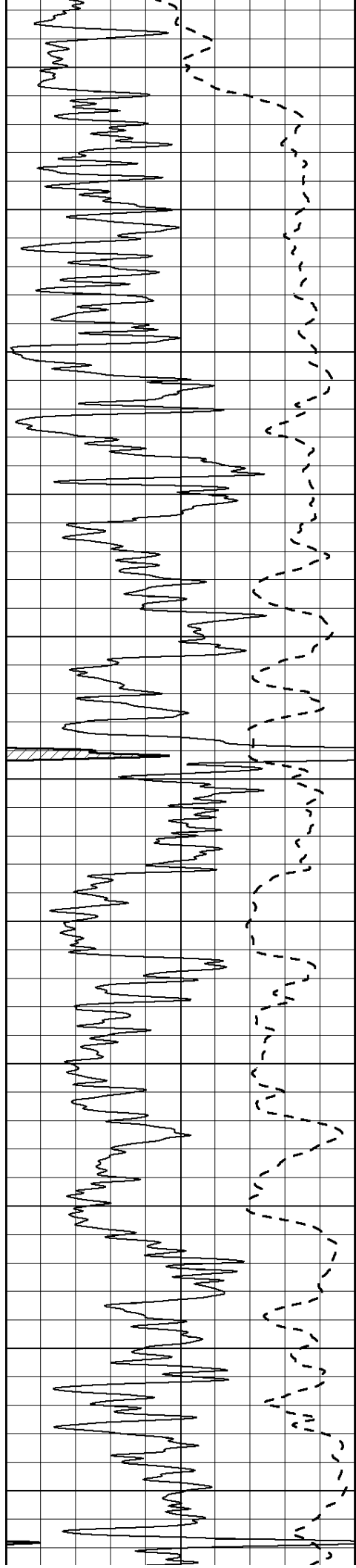
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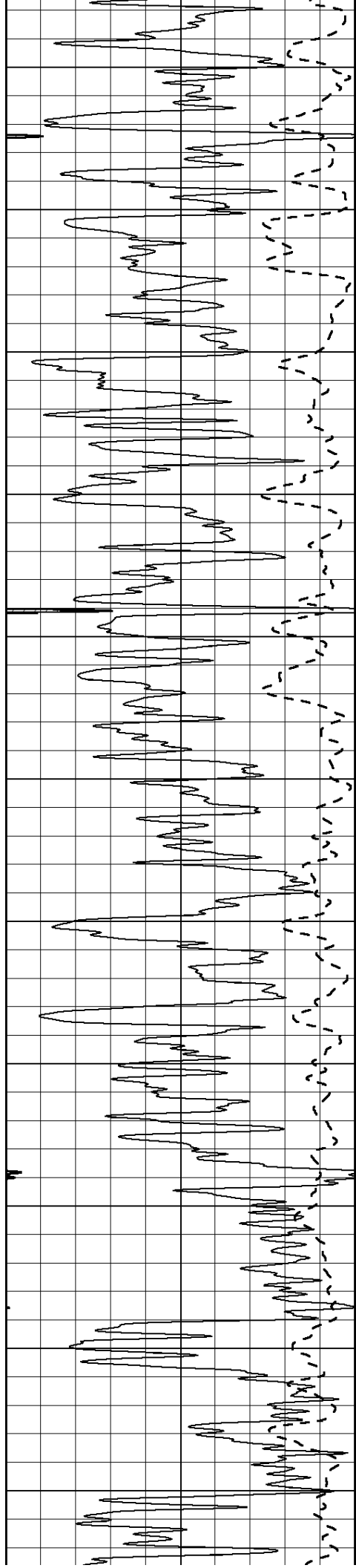




1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500







2100

2150

2200

2250

2300

2350

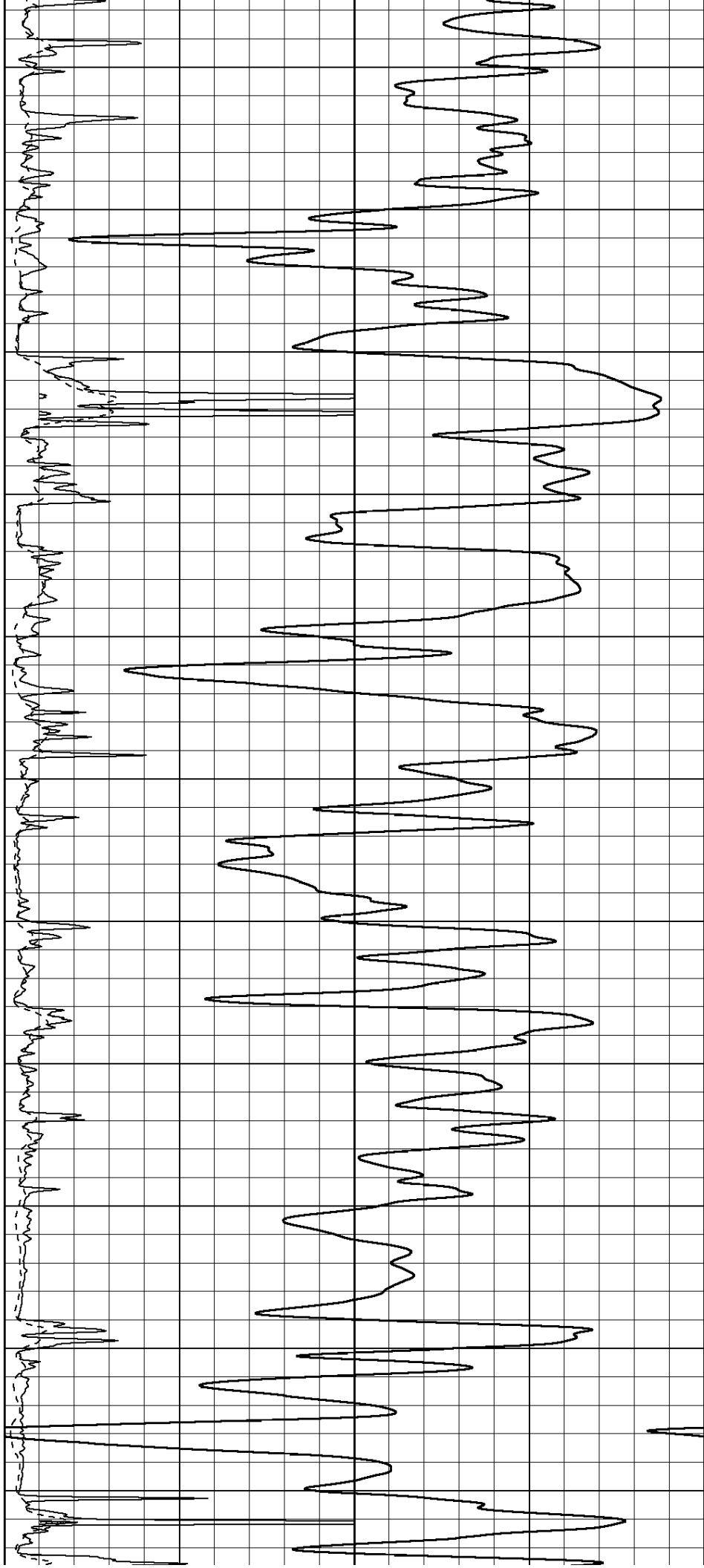
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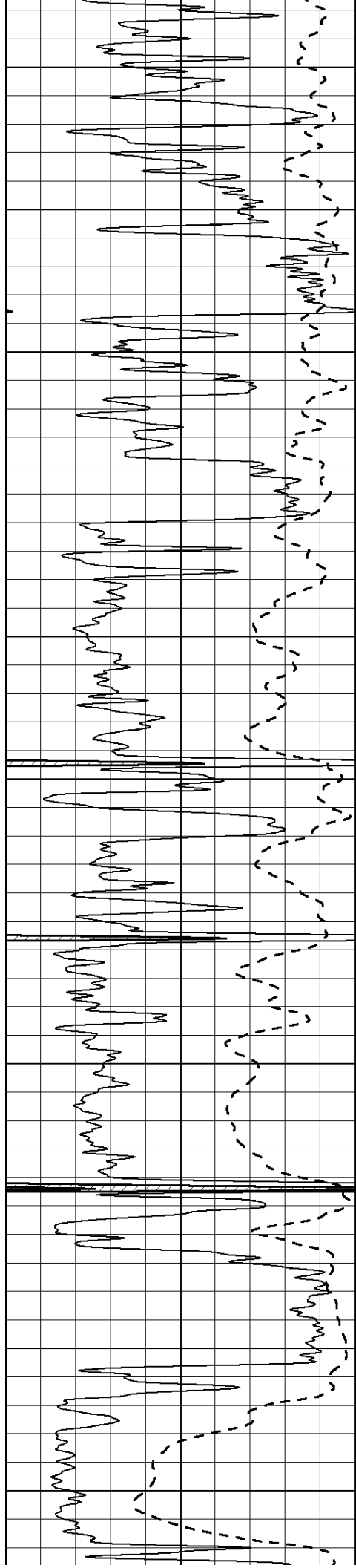
2450

2500

2550

2600





2650

2700

2750

2800

2850

2900

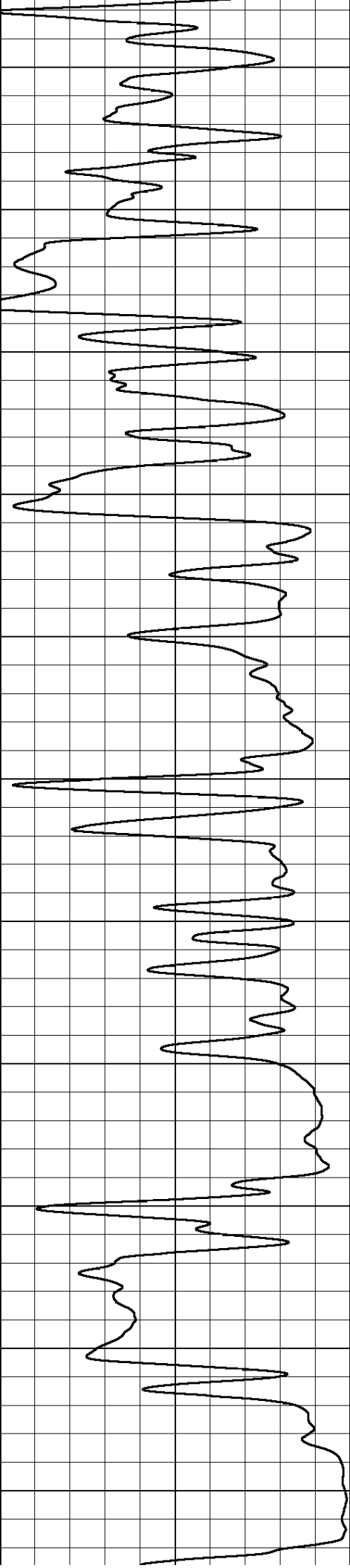
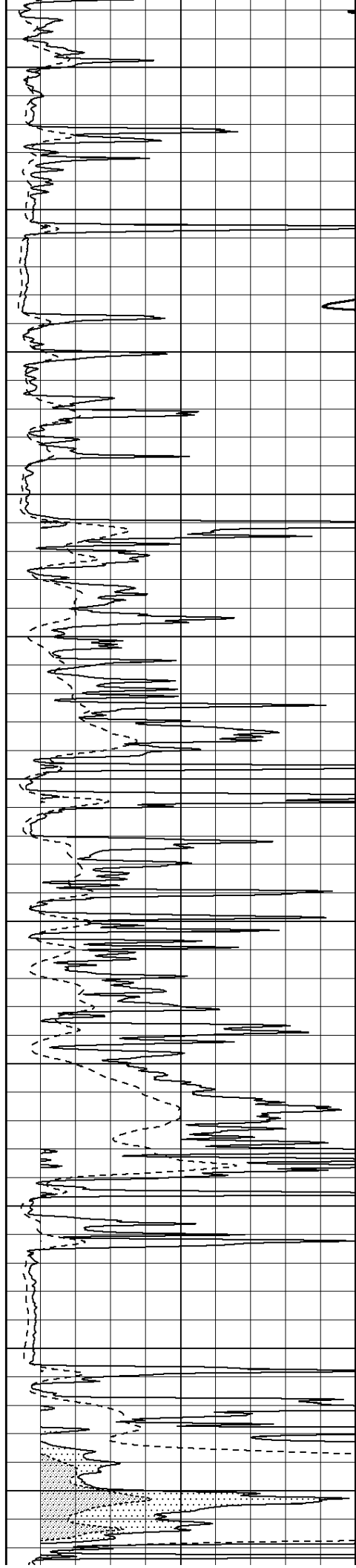
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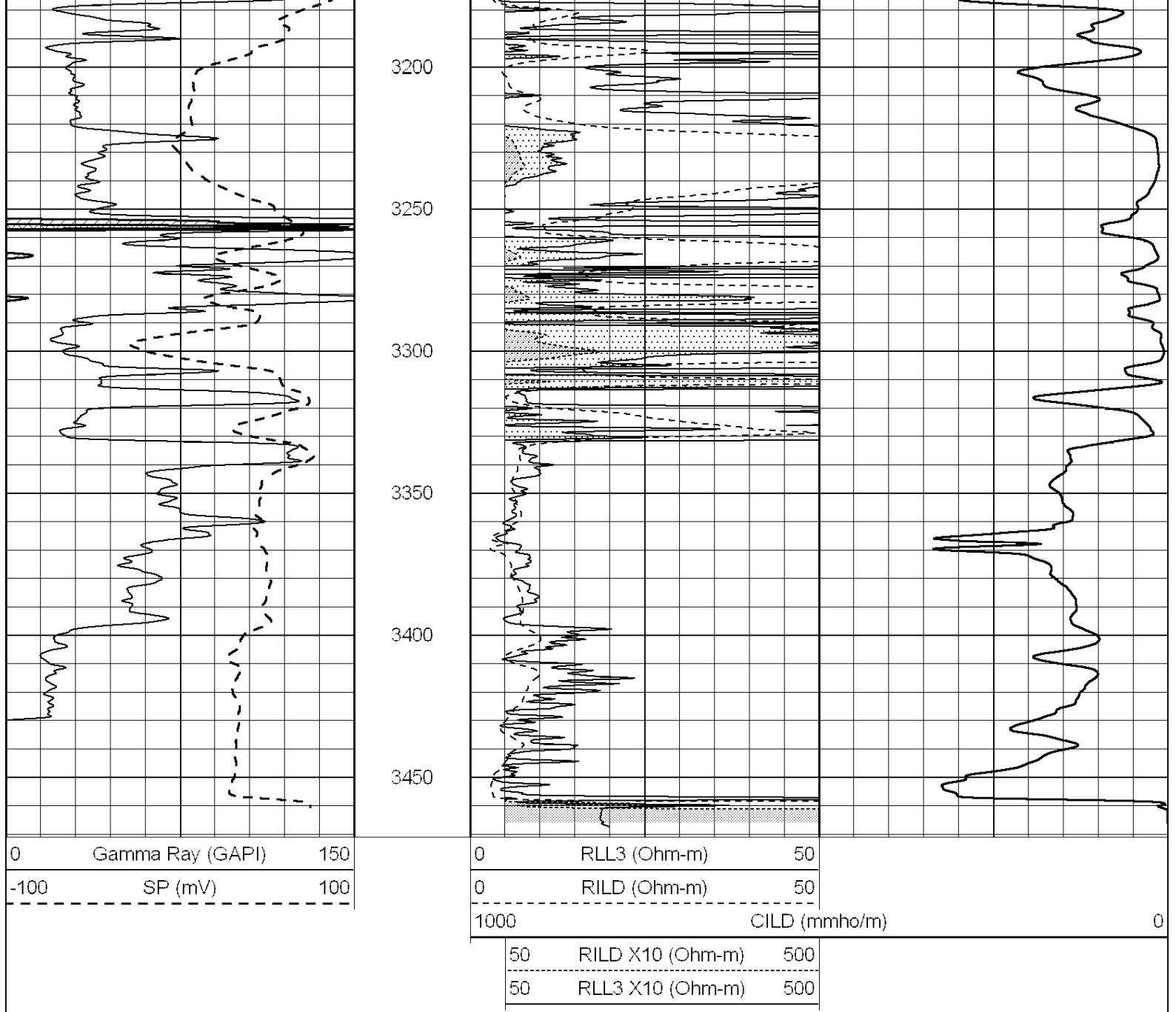
3000

3050

3100

3150

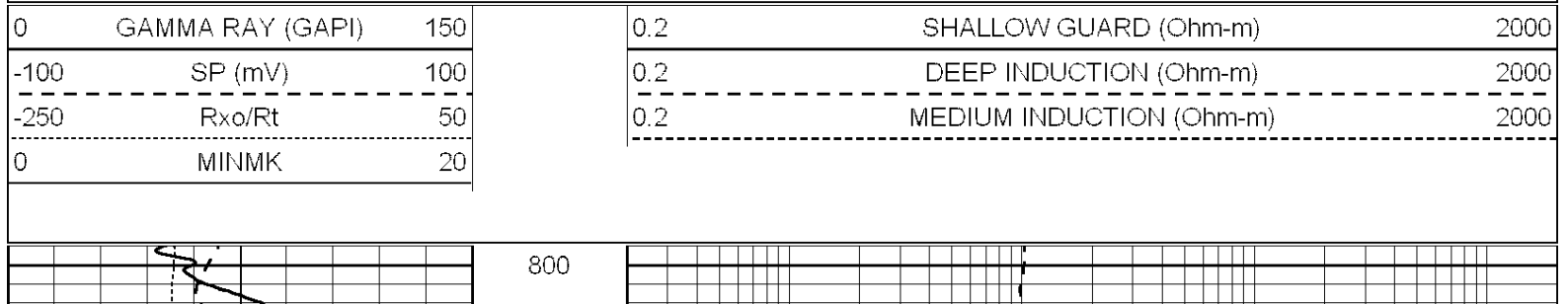


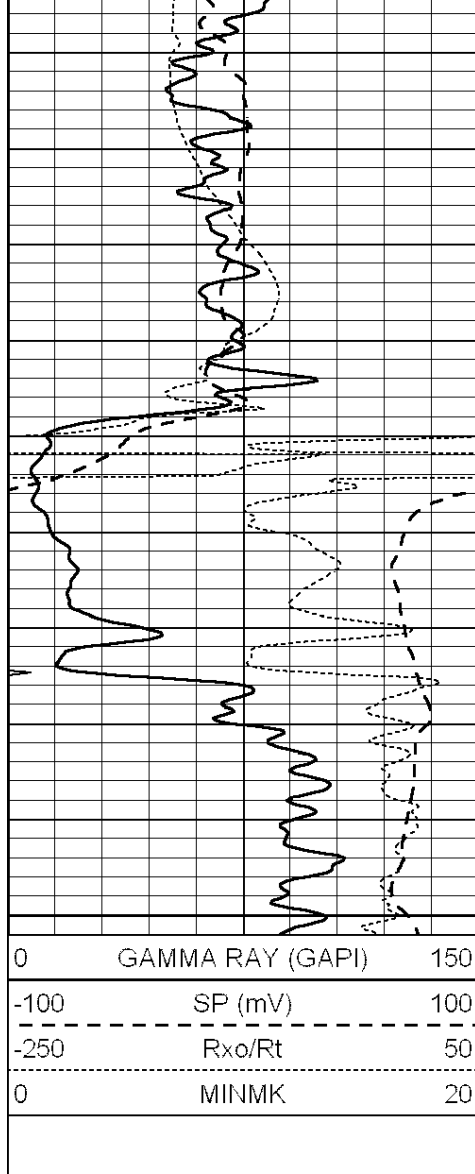


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ANHYDRITE

Database File: 010735ddn.db
Dataset Pathname: pass3.7
Presentation Format: _dil
Dataset Creation: Sun Apr 07 06:14:35 2013
Charted by: Depth in Feet scaled 1:240

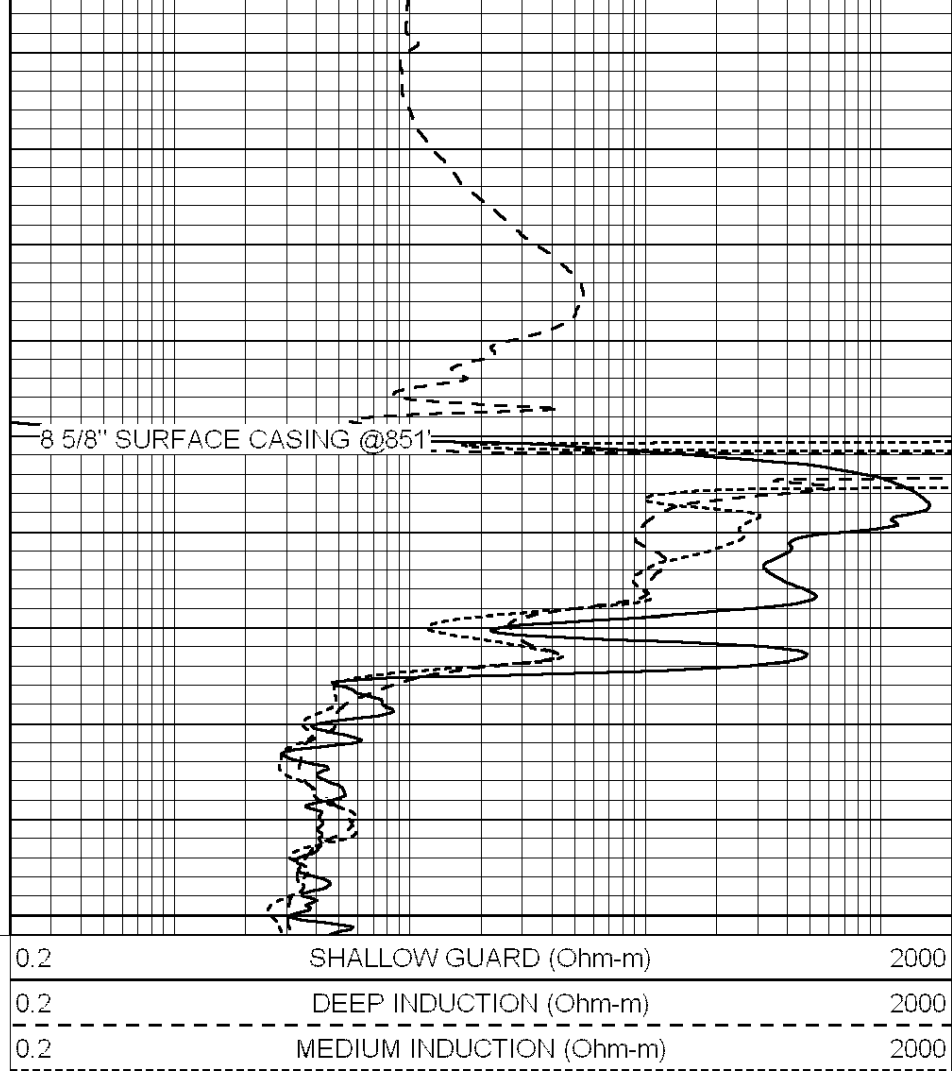




850

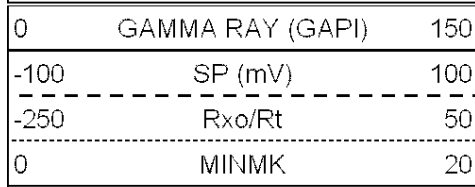
8 5/8" SURFACE CASING @851'

900

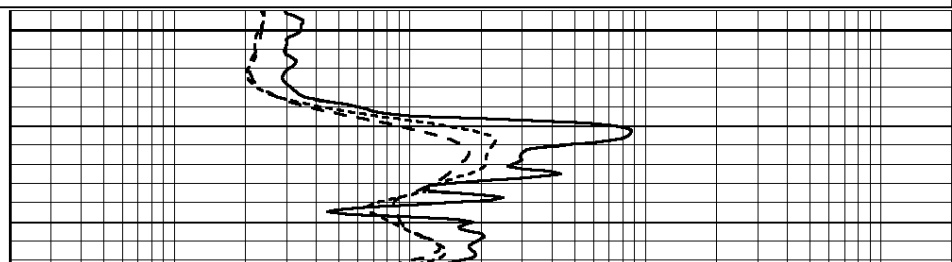
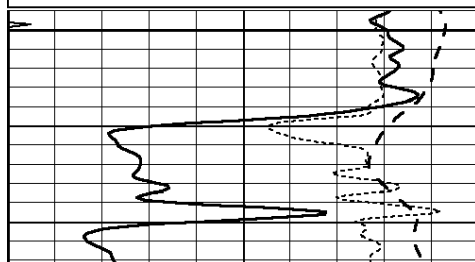
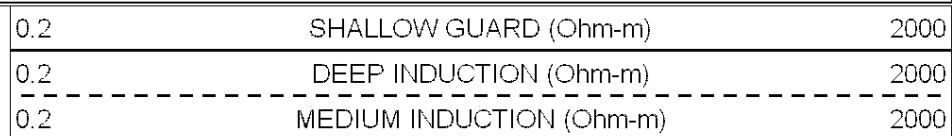


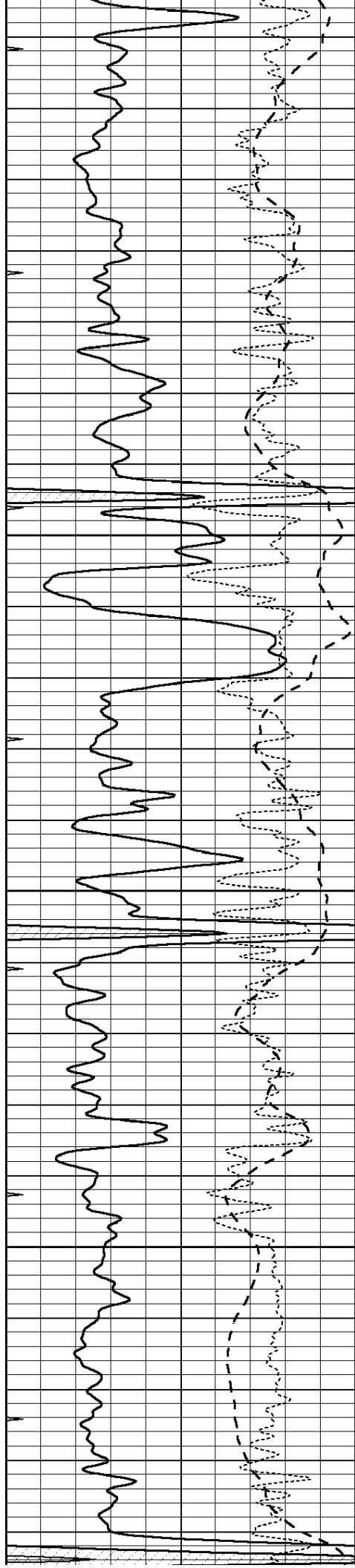
MAIN SECTION

Database File: 010735ddn.db
 Dataset Pathname: pass3.6
 Presentation Format: _dil
 Dataset Creation: Sun Apr 07 06:14:24 2013
 Charted by: Depth in Feet scaled 1:240



2800



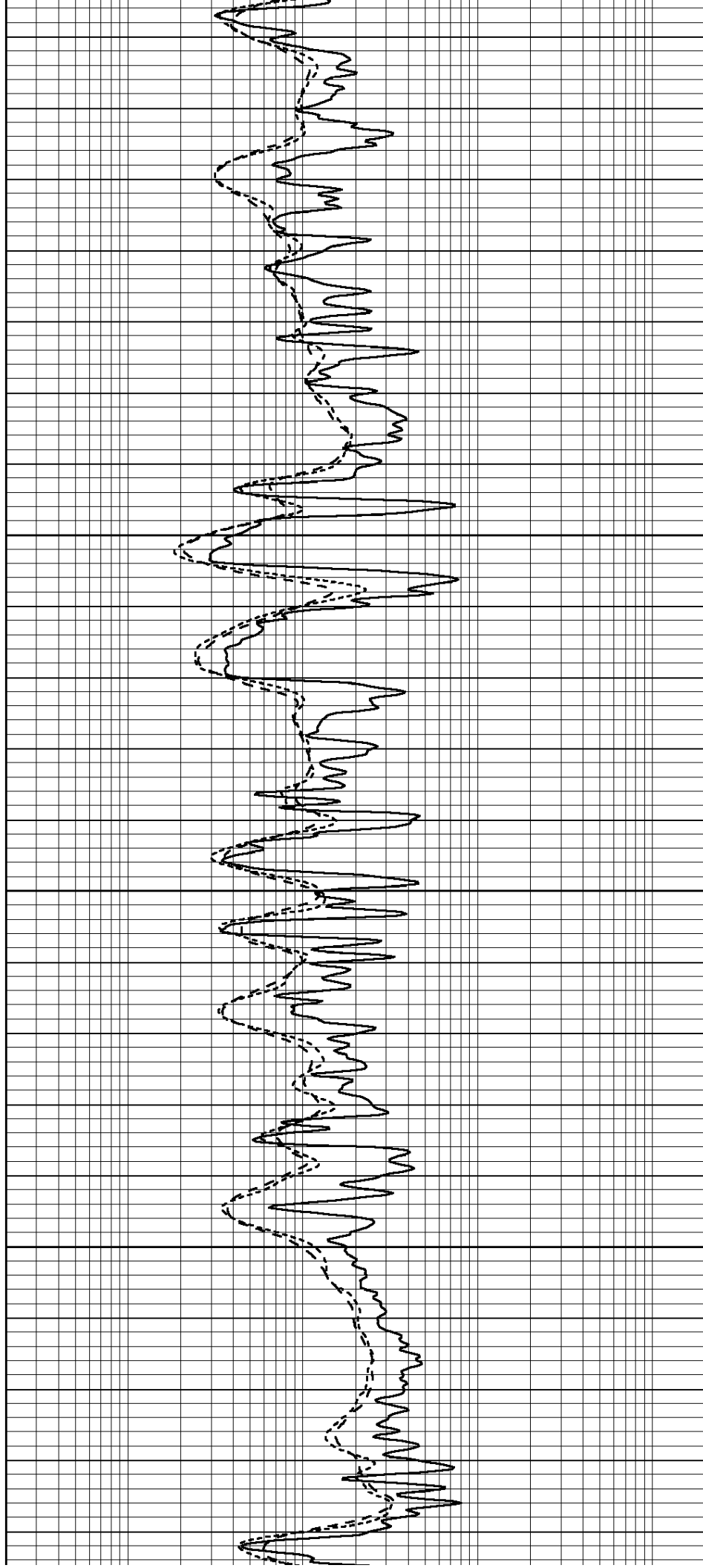


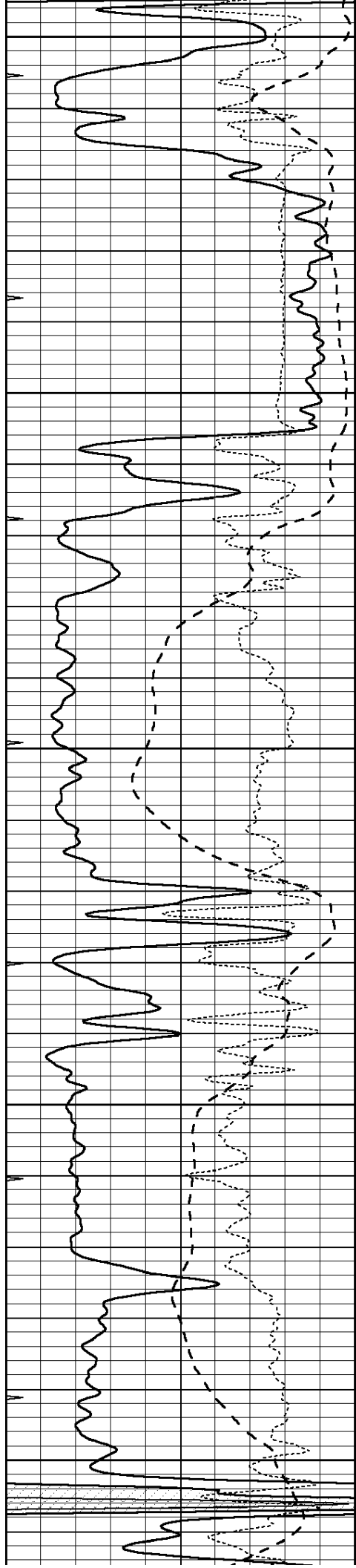
2850

2900

2950

3000





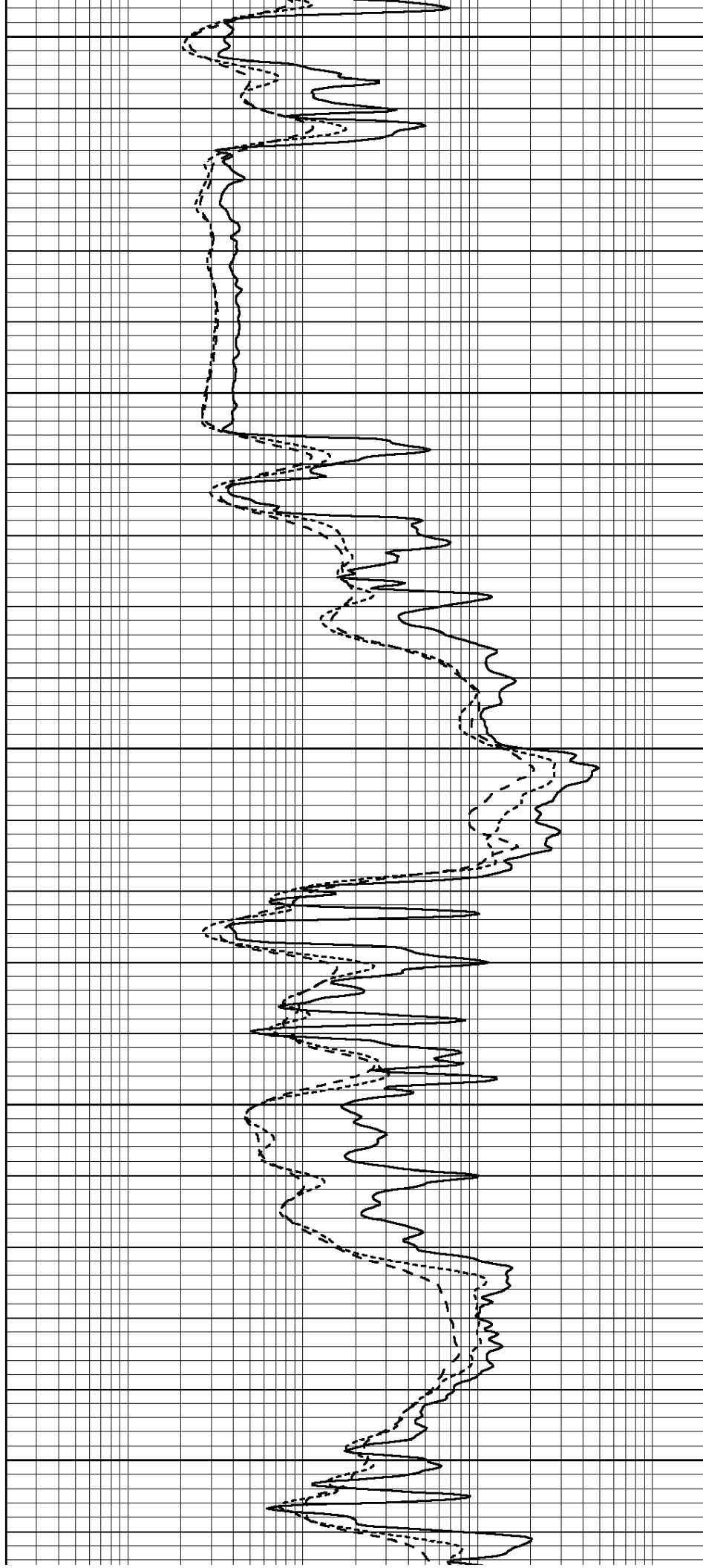
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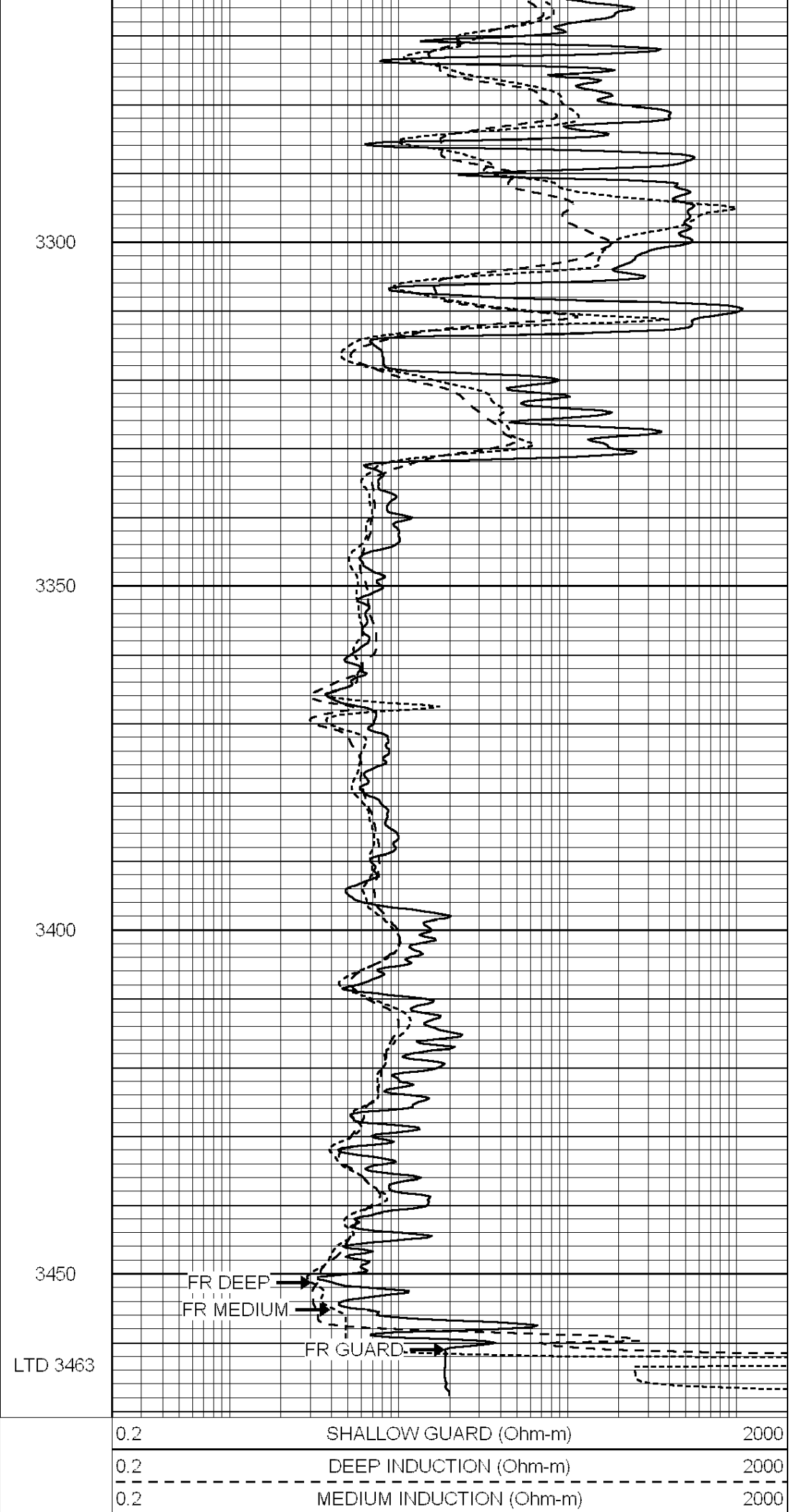
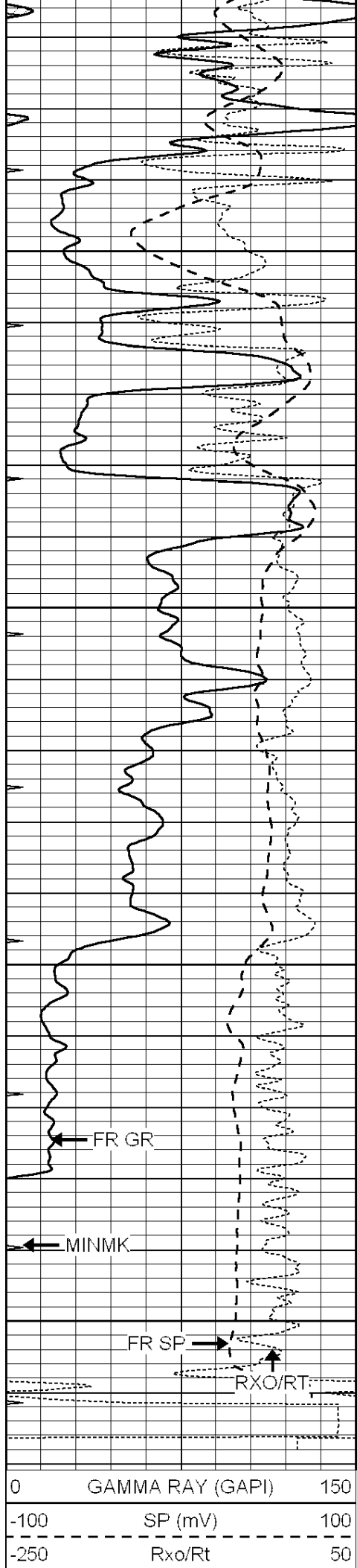
3100

3150

3200

3250





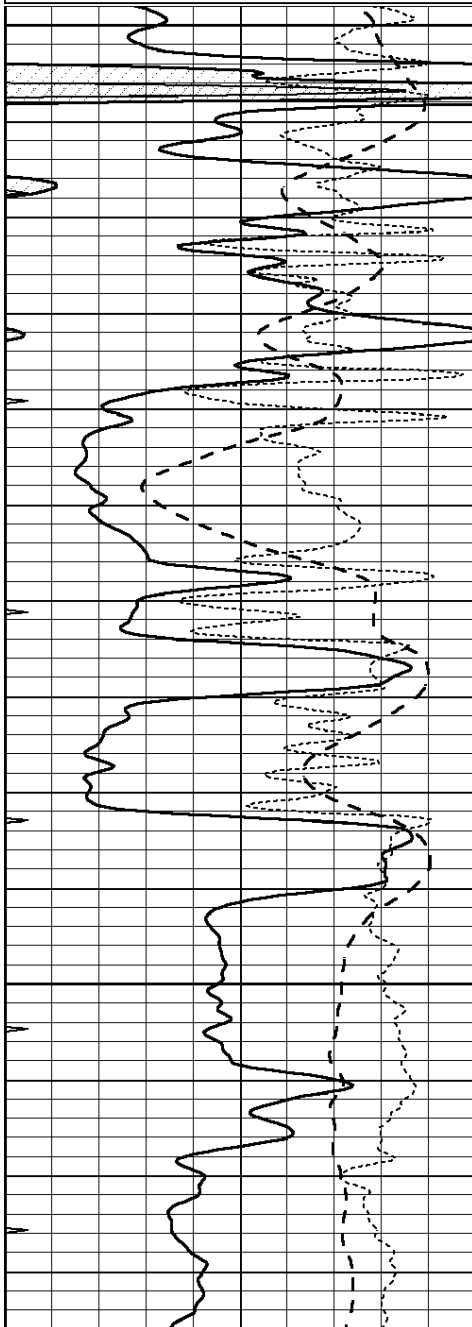


REPEAT SECTION

Database File: 010735ddn.db
 Dataset Pathname: pass2.4
 Presentation Format: _dil
 Dataset Creation: Sun Apr 07 05:31:05 2013 by Calc SOC 120430
 Charted by: Depth in Feet scaled 1:240

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

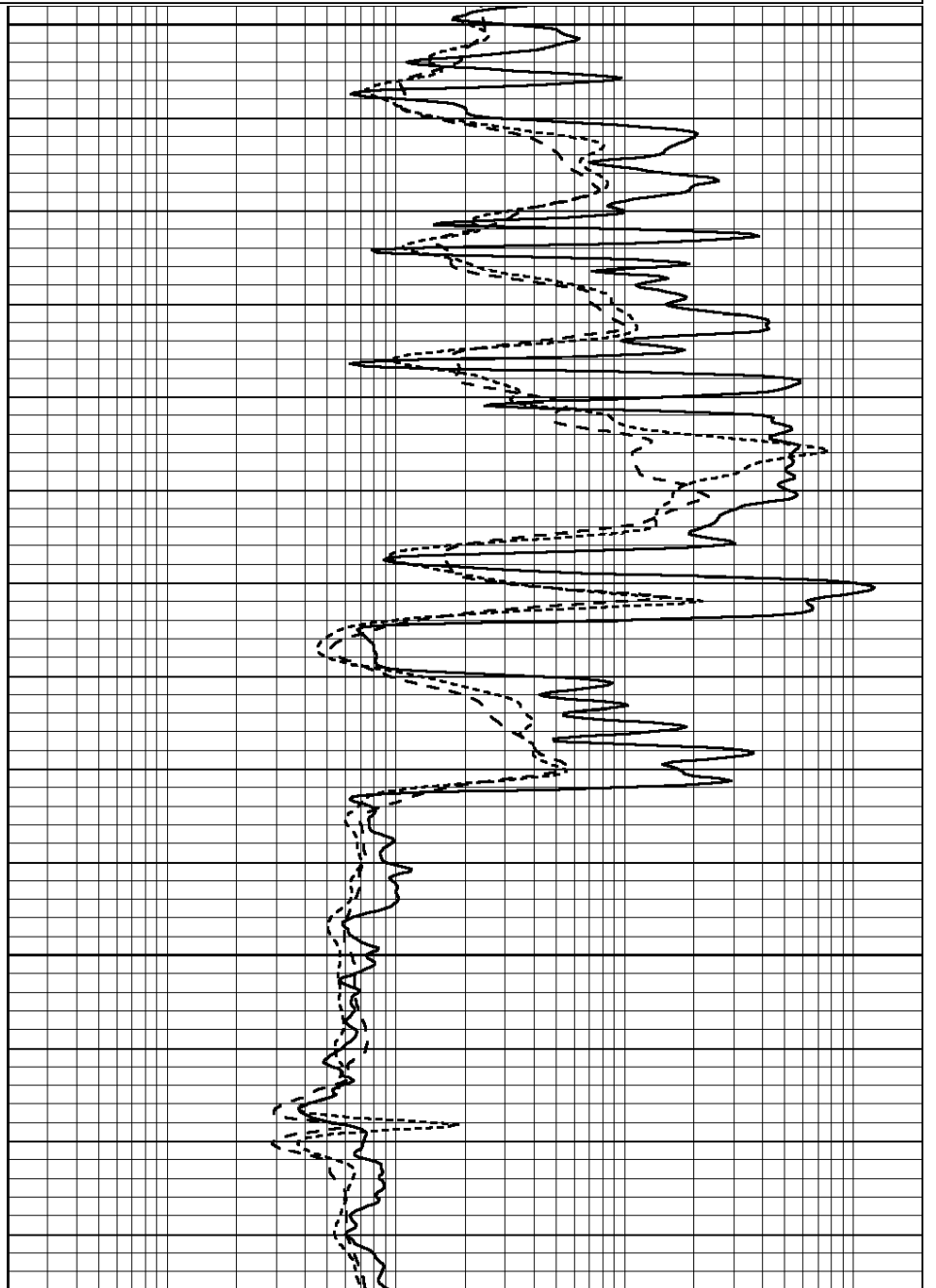
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

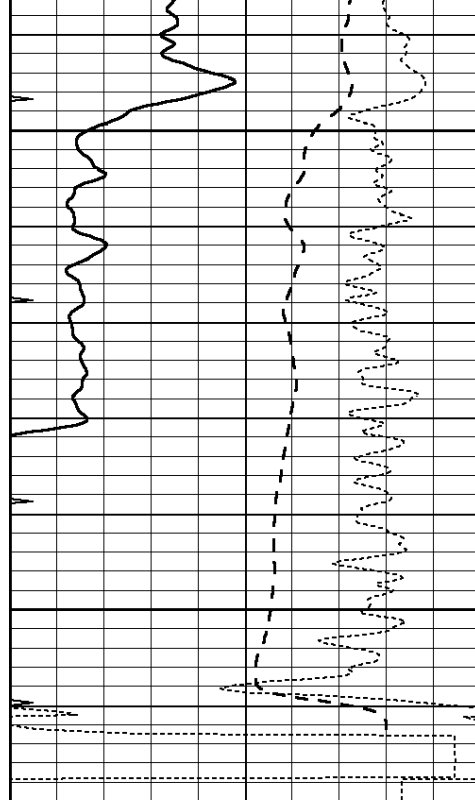


3250

3300

3350

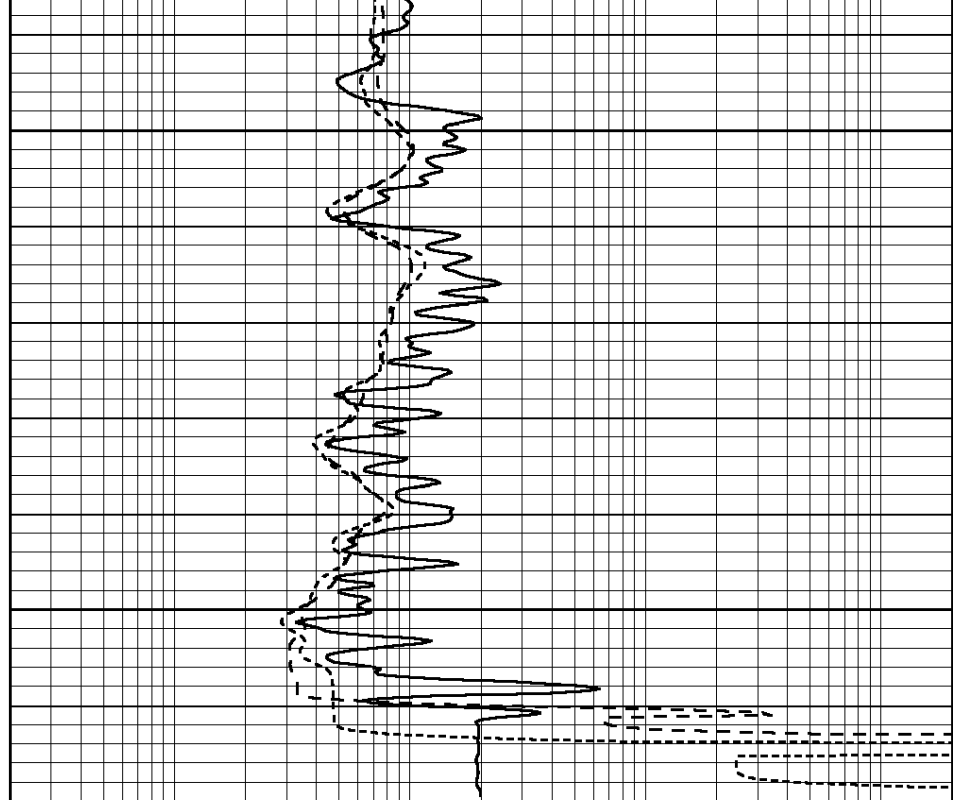




3400

3450

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: 010735ddn.db
 Dataset Pathname: pass3.6
 Dataset Creation: Sun Apr 07 06:14:24 2013

Dual Induction Calibration Report

Serial-Model: PROBE9-DILG
 Surface Cal Performed: Sun Mar 10 00:44:14 2013
 Downhole Cal Performed: Mon Jul 28 12:02:56 2008
 After Survey Verification Performed: Mon Jul 28 12:02:56 2008

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	-0.014	0.629	V	0.000	400.000	mmho/m	621.923	-11.000
Medium	0.039	0.728	V	0.000	464.000	mmho/m	640.000	-16.000
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		7.500	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		

Litho Density Calibration Report								
Serial: 003N Model: PRB								

Master Calibration			Performed Tue Sep 08 14:14:44 2009					
	Background		Magnesium		Aluminum		Sandstone	
Window 1	2042.6		12312.8		4225.8		13758.4	cps
Window 2	1855.8		10134.7		3624.2		11113.1	cps
Window 3	1639.4		6760.2		2716.3		7260.3	cps
Window 4	466.4		469.2		466.1		476.5	cps
Long Space	0.0		8278.9		1768.4		9257.4	cps
Short Space	2.2		2377.3		1544.1		2574.2	cps
Rho			1.7100		2.5900		1.3800	g/cc
Pe			0.0000		2.5700		1.5500	
Rib Angle	: 44.4		Rib Slope	: 0.979	Density/Spine Ratio			: 0.549
Spine Angle	: 74.4		Spine Slope	: 3.577	Spine Intercept			: -18.8

Before Survey Verification			Performed Wed Dec 31 18:00:00 1969					
Window 1	0.0		0.0		0.0		0.0	cps
Window 2	0.0		0.0		0.0		0.0	cps
Window 3	0.0		0.0		0.0		0.0	cps
Window 4	0.0		0.0		0.0		0.0	cps
Long Space	0.0		0.0		0.0		0.0	cps
Short Space	0.0		0.0		0.0		0.0	cps
Measured Rho			0.0000		0.0000		0.0000	g/cc
Measured Correction			0.0000		0.0000		0.0000	g/cc
Measured Pe					0.0000		0.0000	

After Survey Verification			Performed Wed Dec 31 18:00:00 1969					
Window 1	0.0		0.0		0.0		0.0	cps
Window 2	0.0		0.0		0.0		0.0	cps
Window 3	0.0		0.0		0.0		0.0	cps
Window 4	0.0		0.0		0.0		0.0	cps
Long Space	0.0		0.0		0.0		0.0	cps
Short Space	0.0		0.0		0.0		0.0	cps
Measured Rho			0.0000		0.0000		0.0000	g/cc
Measured Correction			0.0000		0.0000		0.0000	g/cc
Measured Pe					0.0000		0.0000	

Compensated Neutron Calibration Report								
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Serial Number:			070808					
Tool Model:			Probe					

PRE-SURVEY VERIFICATION			
Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu
POST-SURVEY VERIFICATION			
Detector	Readings	Measured	Target
Short Space	cps		
Long Space	cps	pu	pu
Gamma Ray Calibration Report			
Serial Number:	070559		
Tool Model:	OPEN_GR		
Performed:	Sun Apr 07 04:15:47 2013		
Calibrator Value:	1.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	1.0	cps	
Sensitivity:	0.3500	GAPI/cps	