



DUAL INDUCTION LOG

Company	MAI OIL OPERATIONS, INC.		
Well	BUTTON #1		
Field	KOOPMAN NORTH		
County	BARTON	State	KANSAS
Location:	API # : 15-009-26177-0000 1345' FNL & 330' FEL N/2 - NE - SE - NE		Other Services CDL/CNL MEL
Permanent Datum	GROUND LEVEL	Elevation	1884
Log Measured From	KELLY BUSHING	8' A.G.L.	
Drilling Measured From	KELLY BUSHING		
SEC 13	TWP 19S	RGE 13W	
Date	7/6/17		
Run Number	ONE		
Depth Driller	3555		
Depth Logger	3554		
Bottom Logged Interval	3552		
Top Log Interval	00		
Casing Driller	8 5/8"@757'		
Casing Logger	757		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 4,700 PPM	
Density / Viscosity	9.3/59		
pH / Fluid Loss	10.5/9.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.700@80F		
Rmf @ Meas. Temp	.525@80F		
Rmc @ Meas. Temp	.840@80F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.500@112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	1:15 A.M.		
Maximum Recorded Temperature	112F		
Equipment Number	922339		
Location	HAYS, KANSAS		
Recorded By	JEFF LUEBBERS		
Witnessed By	JIM MUSGROVE		

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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 ELI WIRELINE HAYS, KANSAS (785) 628-6395
DIRECTIONS
GREAT BEND, KS. (BARTON COUNTY COMMUNITY COLLEGE) 1 1/2 E. TO "NE 40 AVE.", 1/4S., W. INTO



MAIN SECTION

Database File: 1583ddn.db
Dataset Pathname: pass3.5
Presentation Format: dil2
Dataset Creation: Thu Jul 06 02:16:07 2017 by Calc SOC 120430
Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
-100	SP (mV)	100
0	RWA (Ohm-m)	1

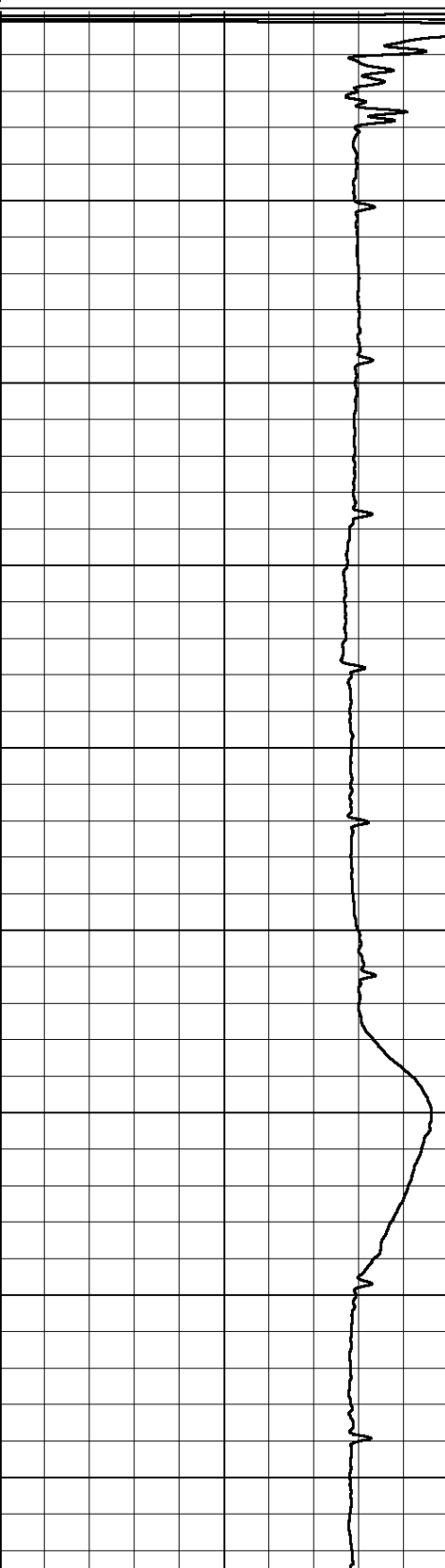
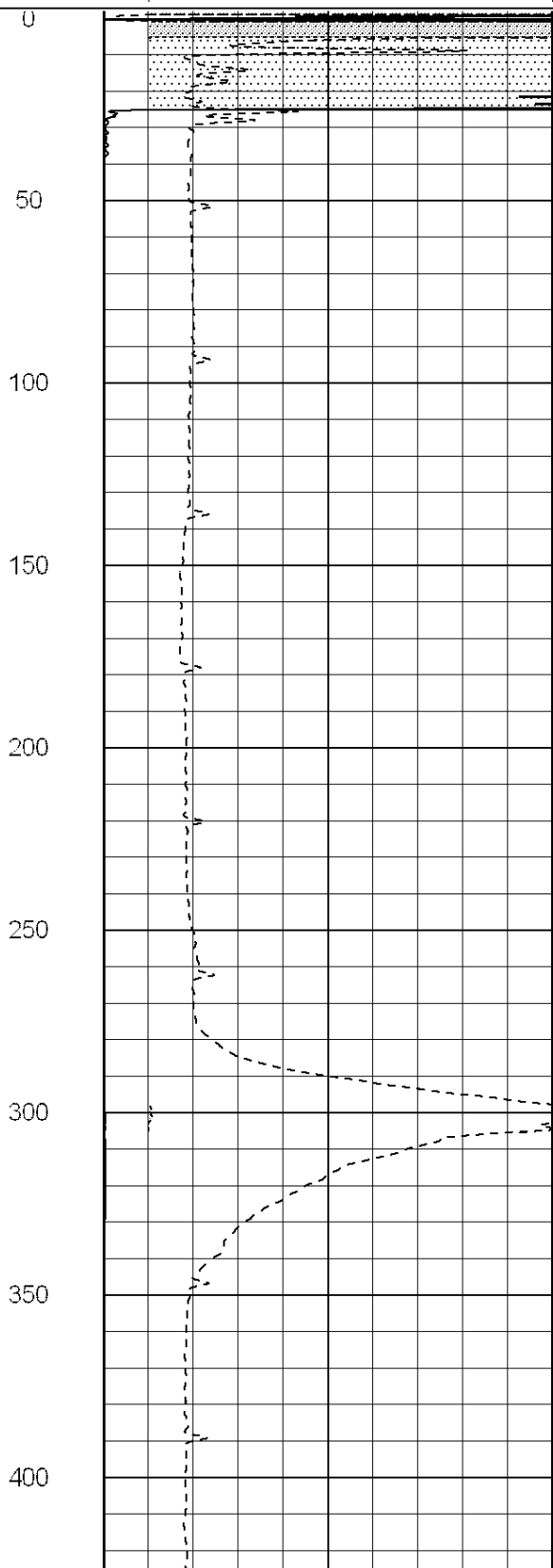
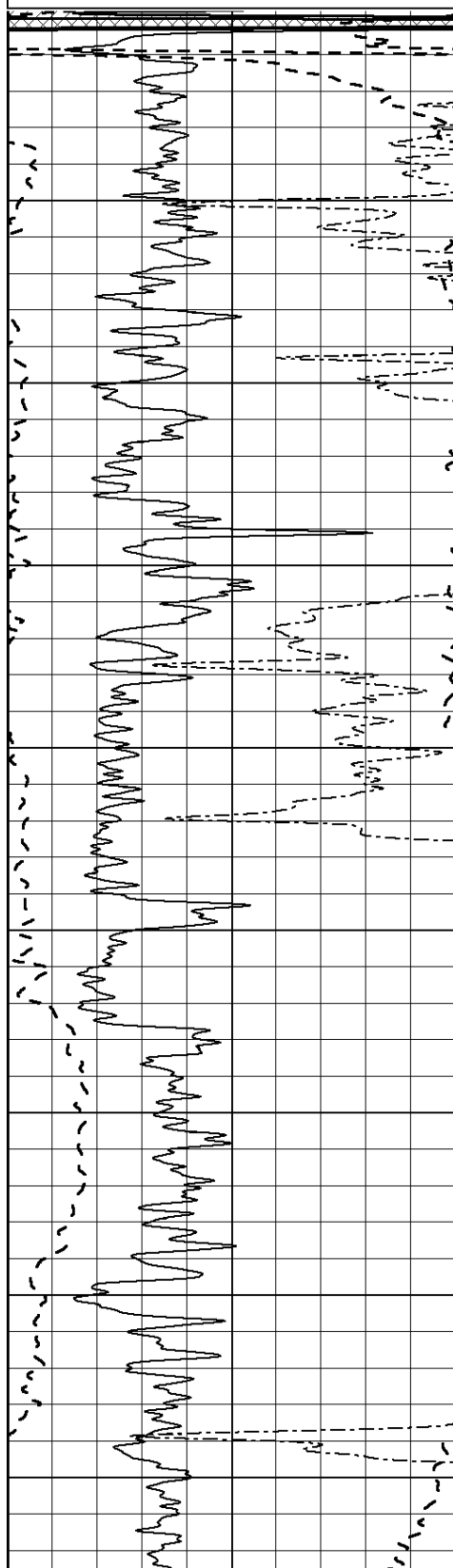
0	RLL3 (Ohm-m)	50
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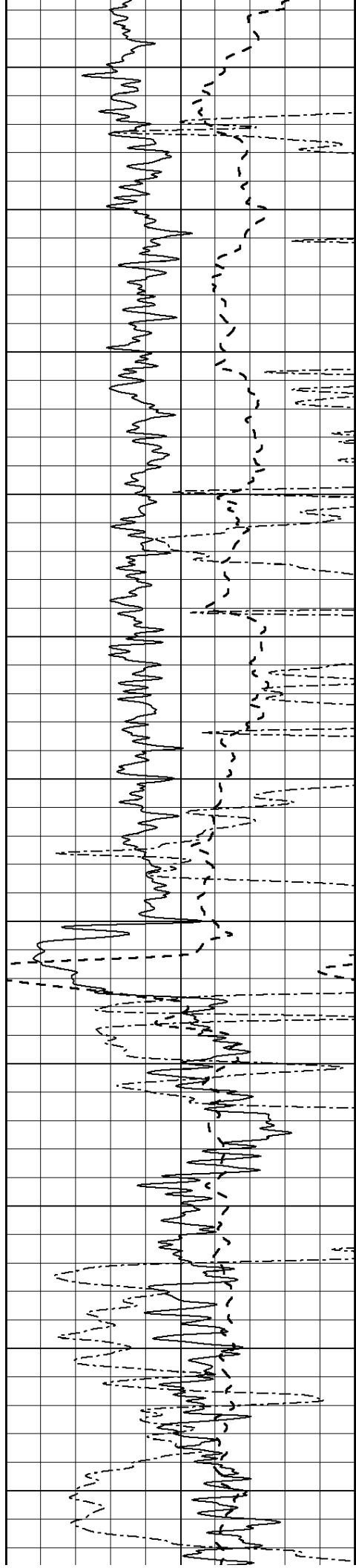
0	RILD (Ohm-m)	50
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1000	CILD (mmho/m)	0
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50	RILD X10 (Ohm-m)	500
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50	RLL3 X10 (Ohm-m)	500
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450

500

550

600

650

700

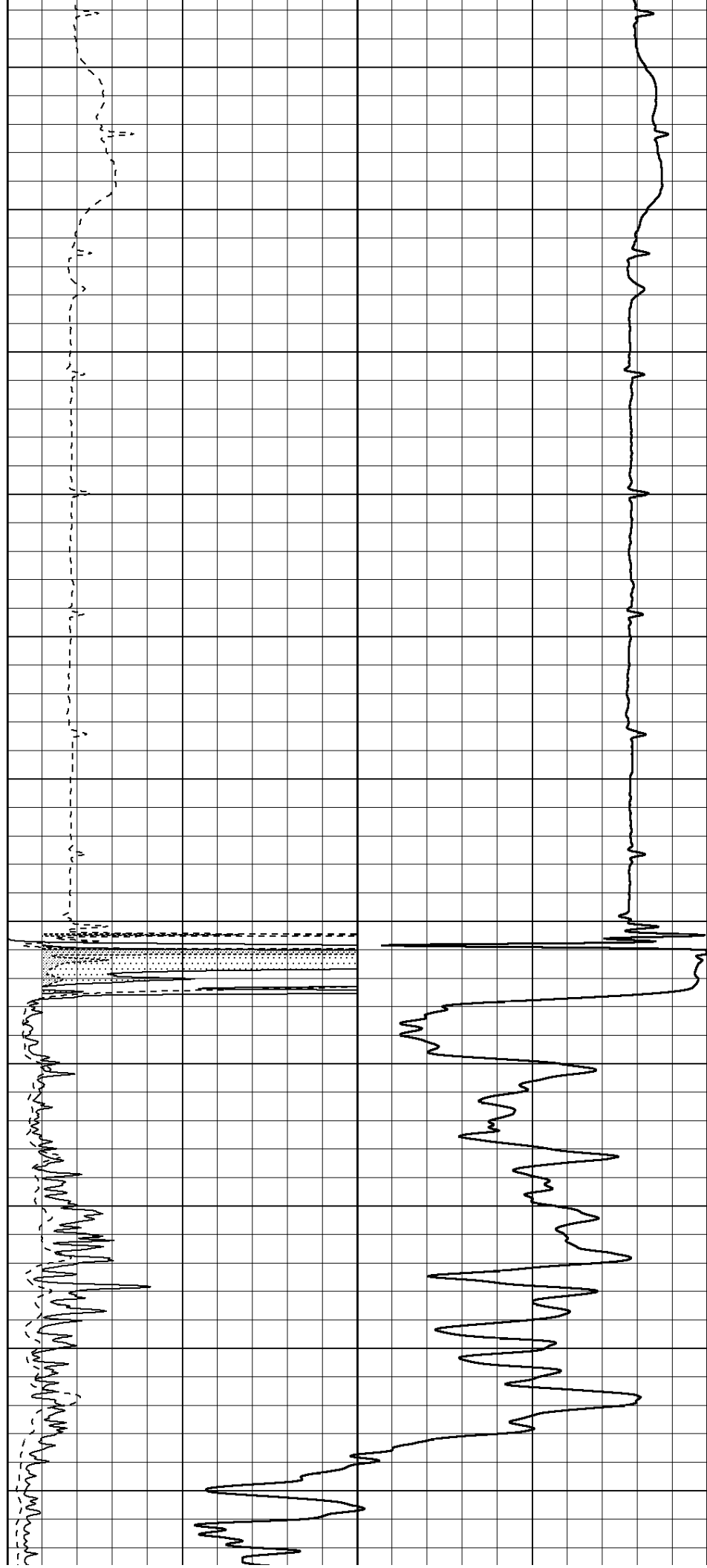
750

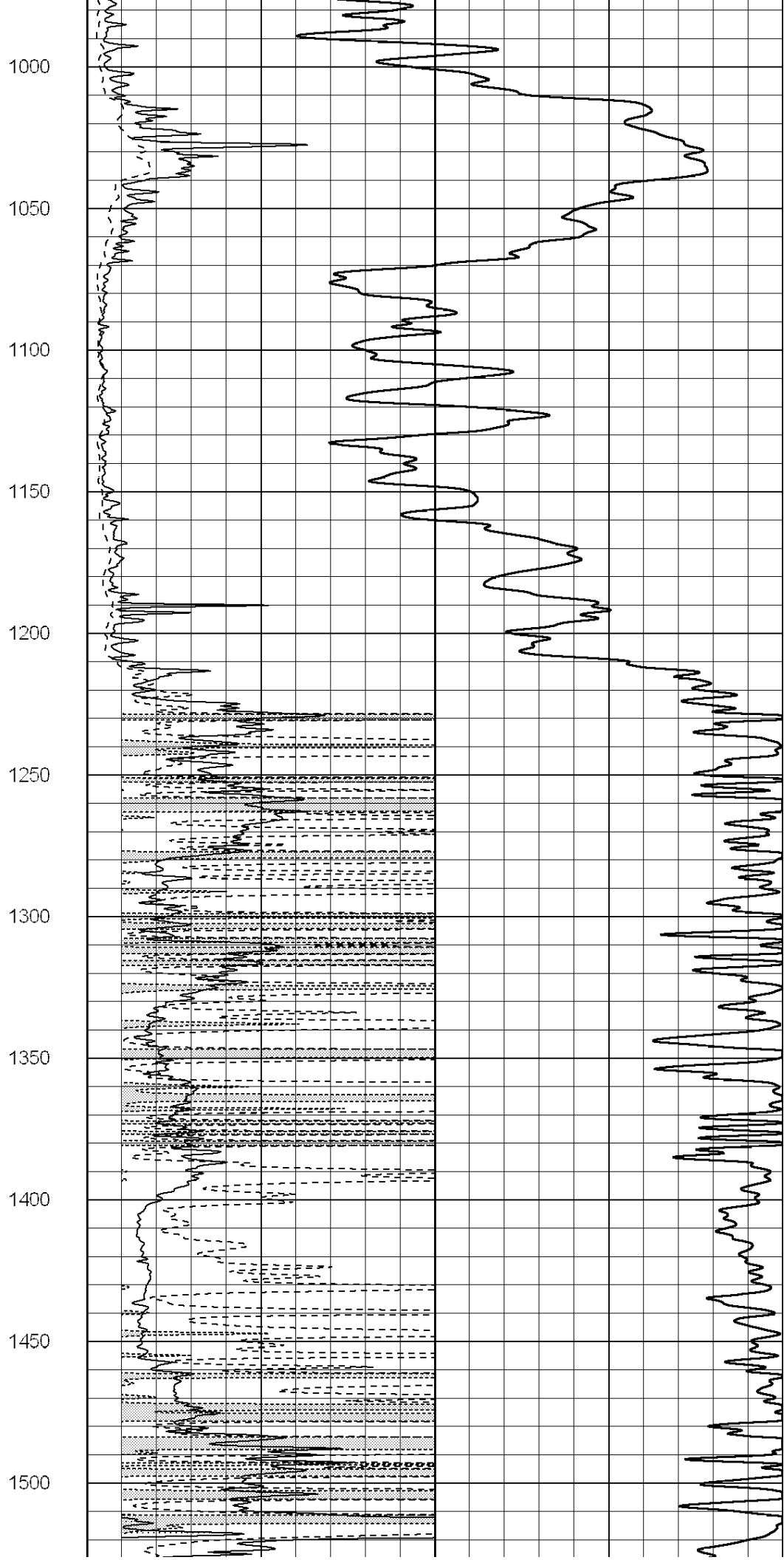
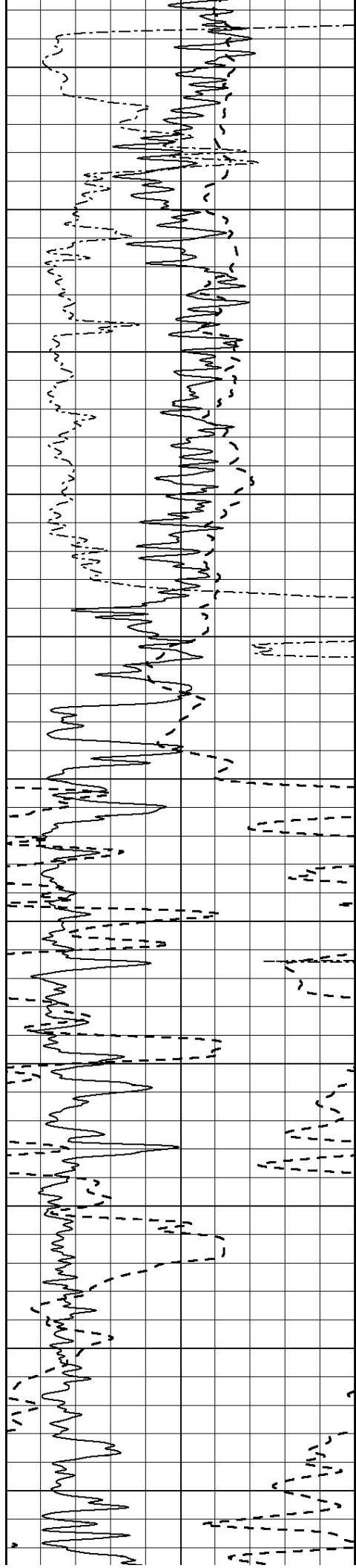
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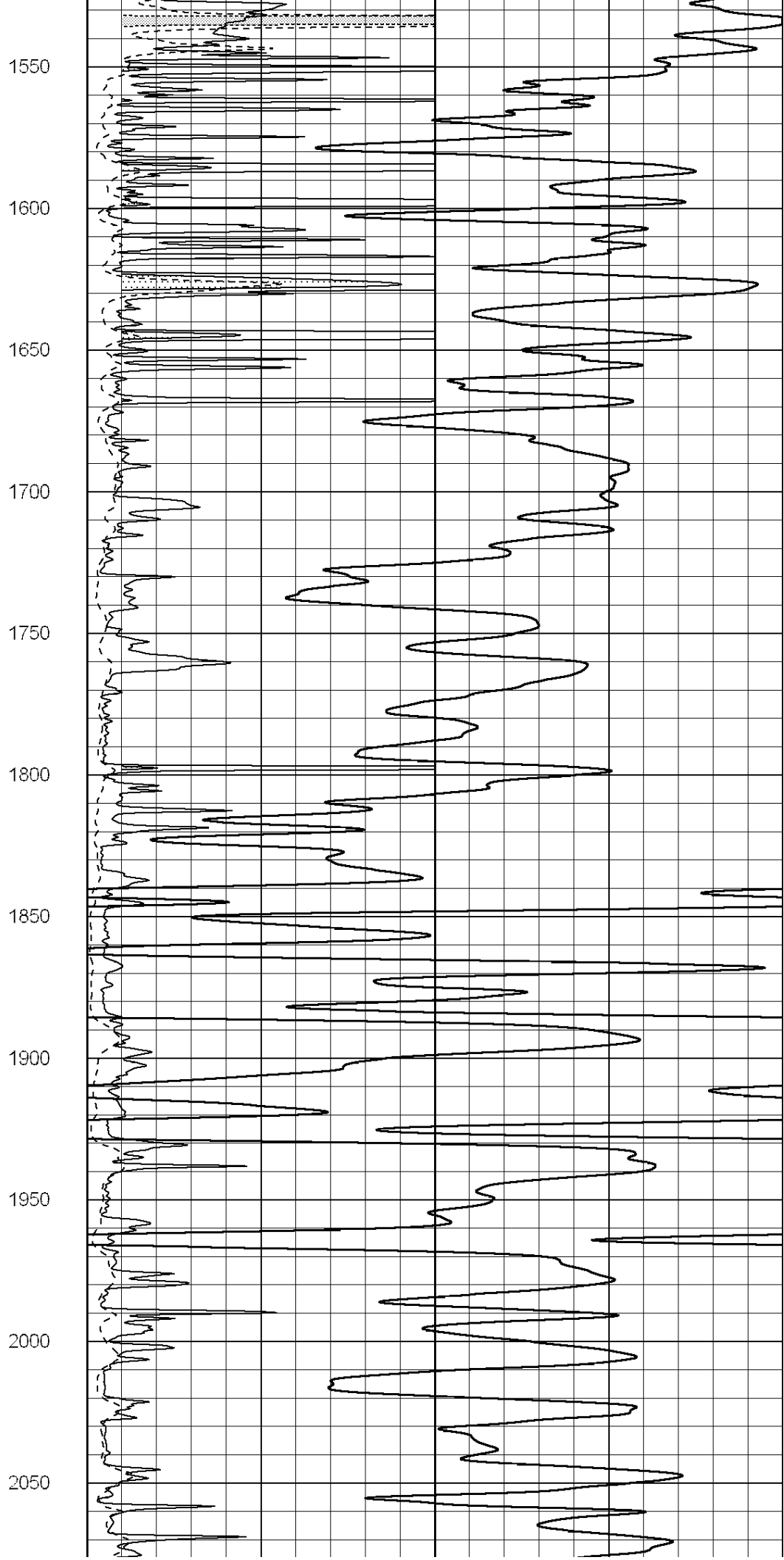
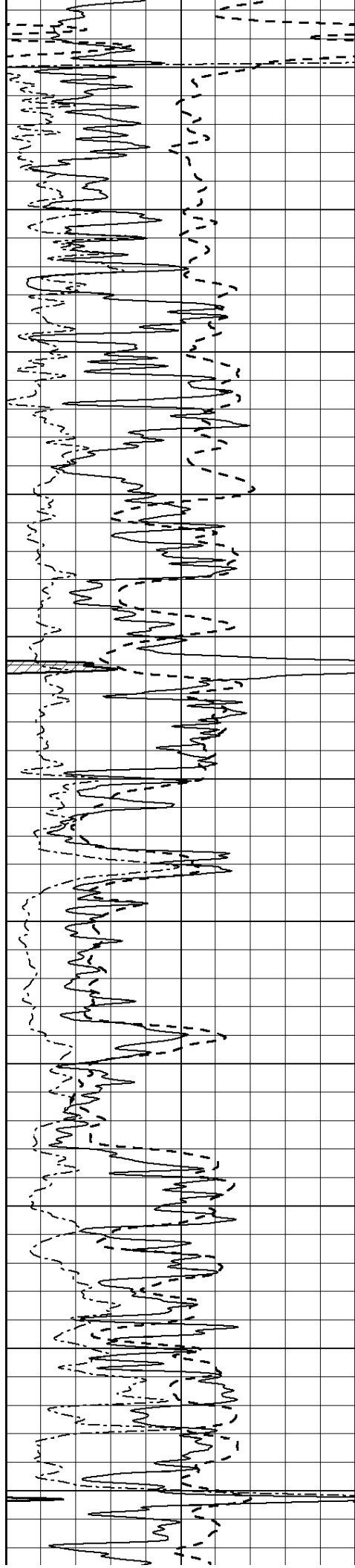
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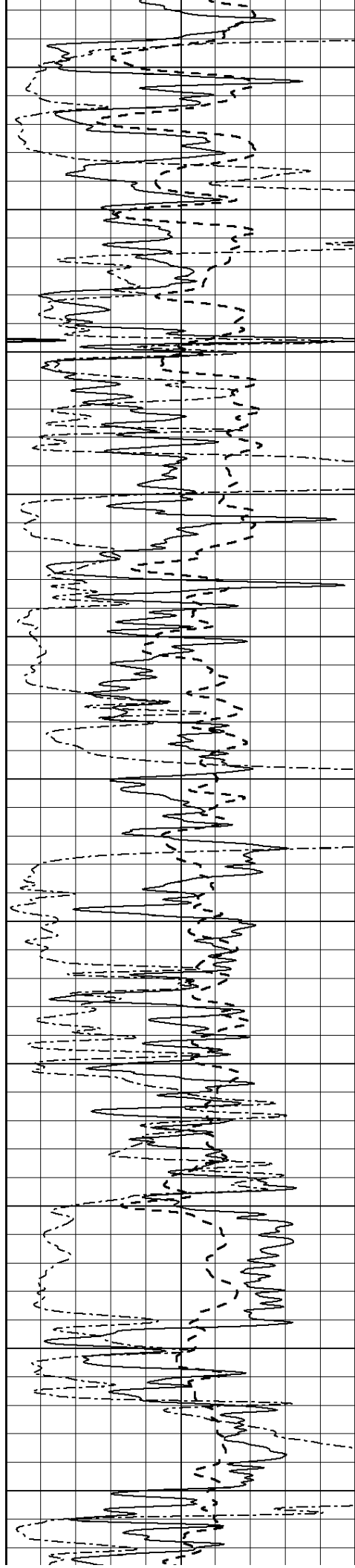
900

950









2100

2150

2200

2250

2300

2350

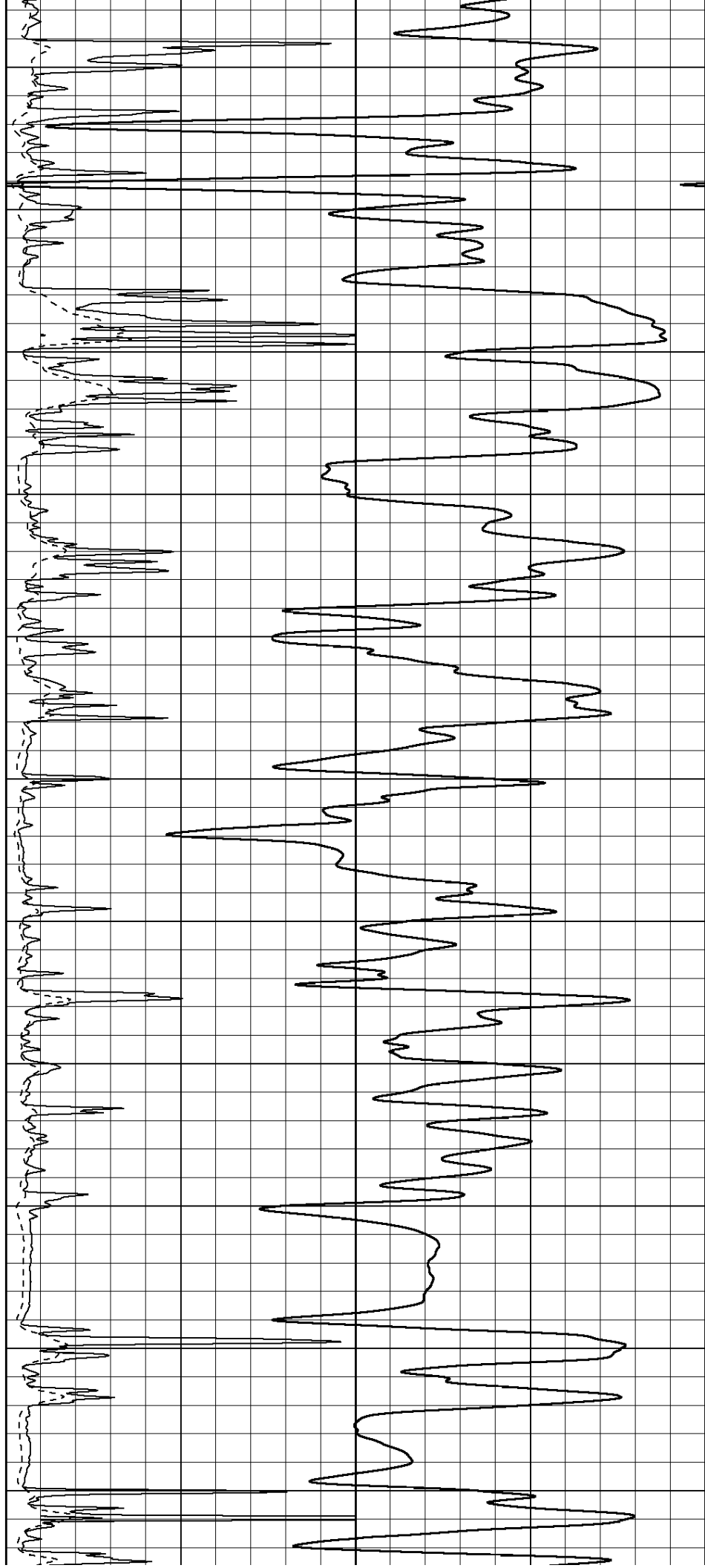
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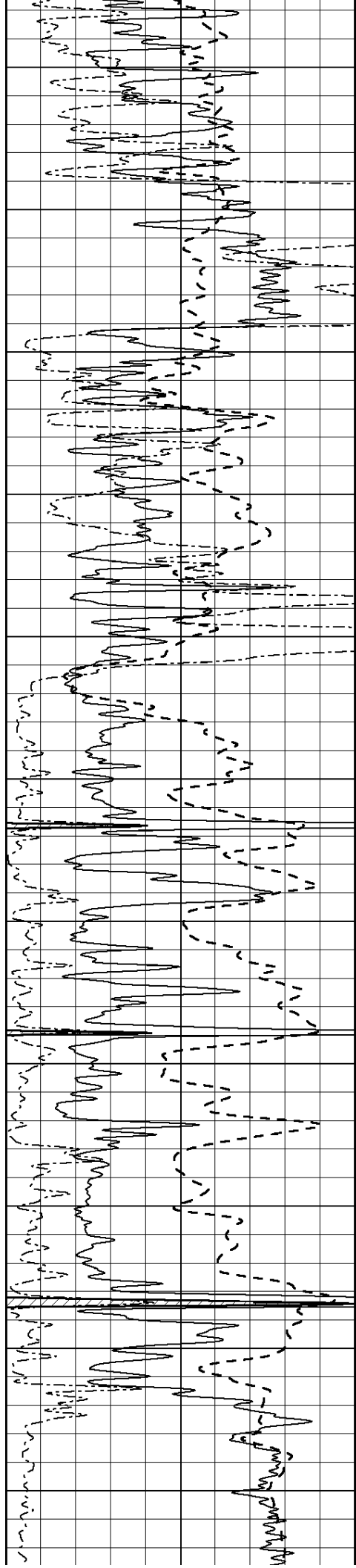
2450

2500

2550

2600





2650

2700

2750

2800

2850

2900

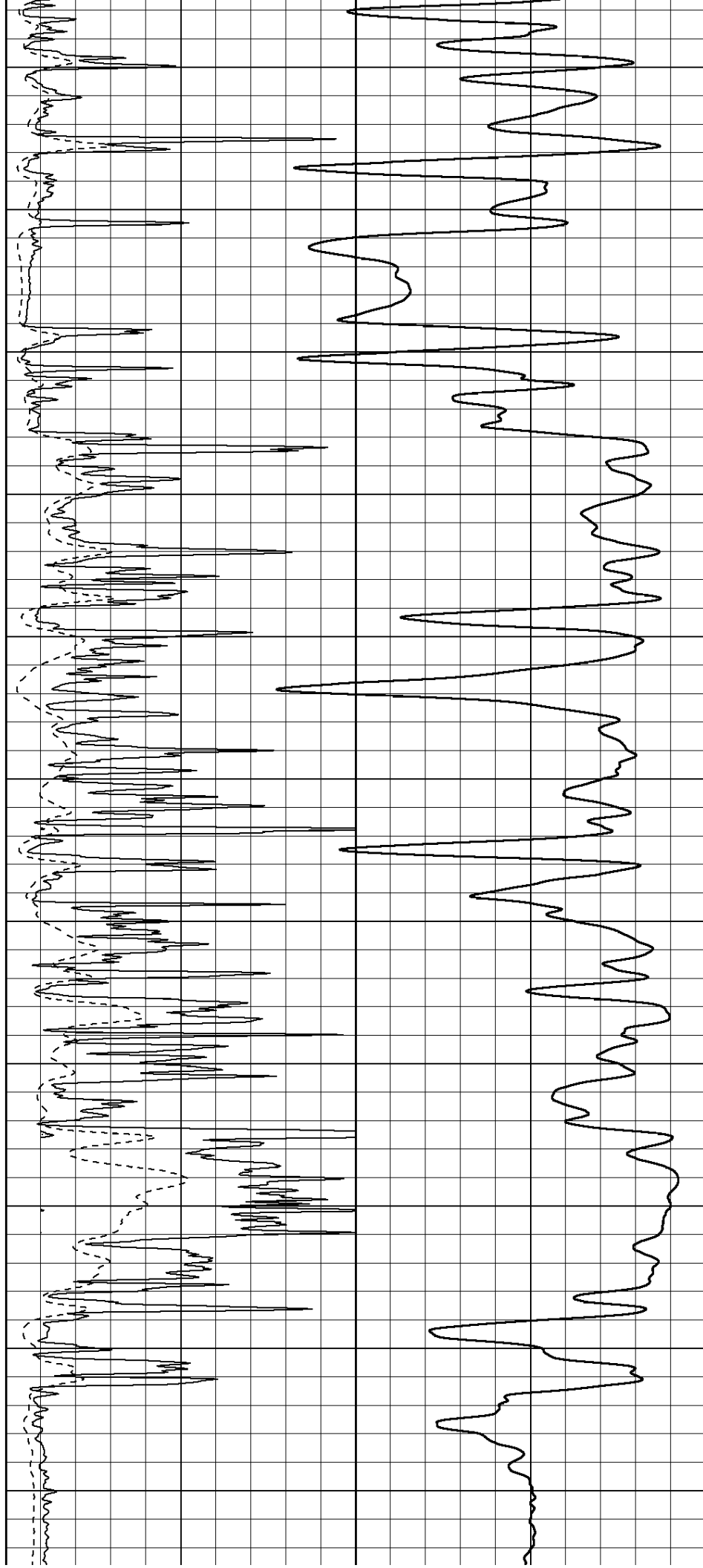
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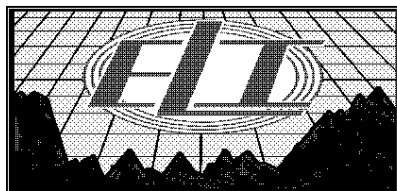
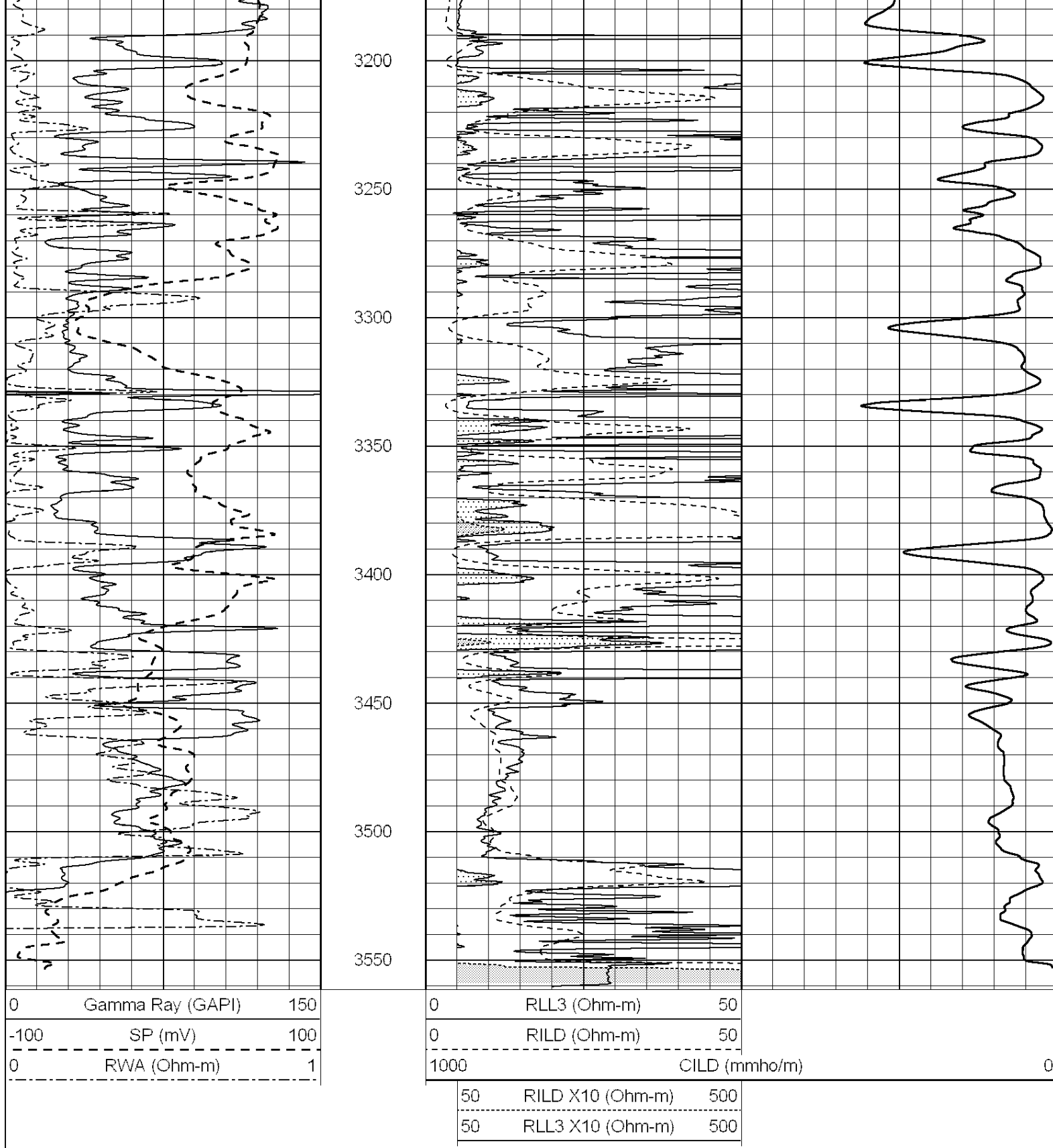
3000

3050

3100

3150





ANHYDRITE

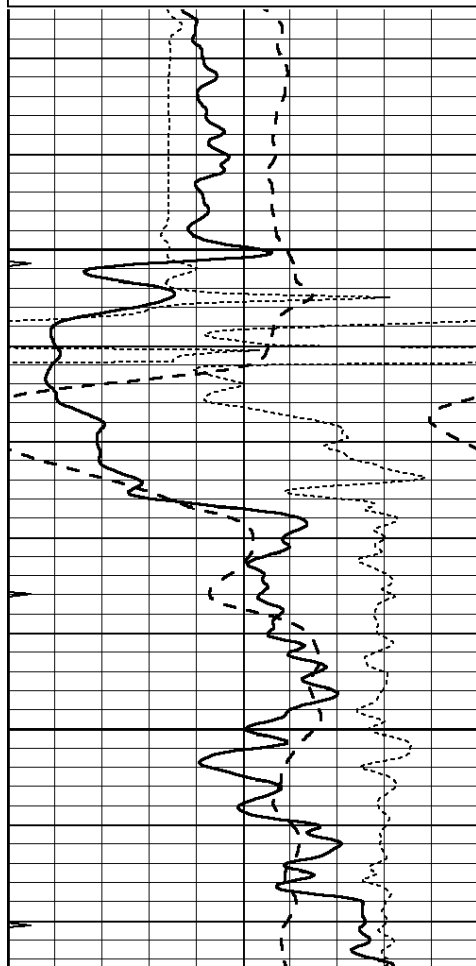
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 Dataset Pathname: pass3.6
 Presentation Format: _dil
 Dataset Creation: Thu Jul 06 02:20:16 2017 by Calc SOC 120430
 Created by: E. J. ...

Charted by:

Depth in Feet scaled 1:240

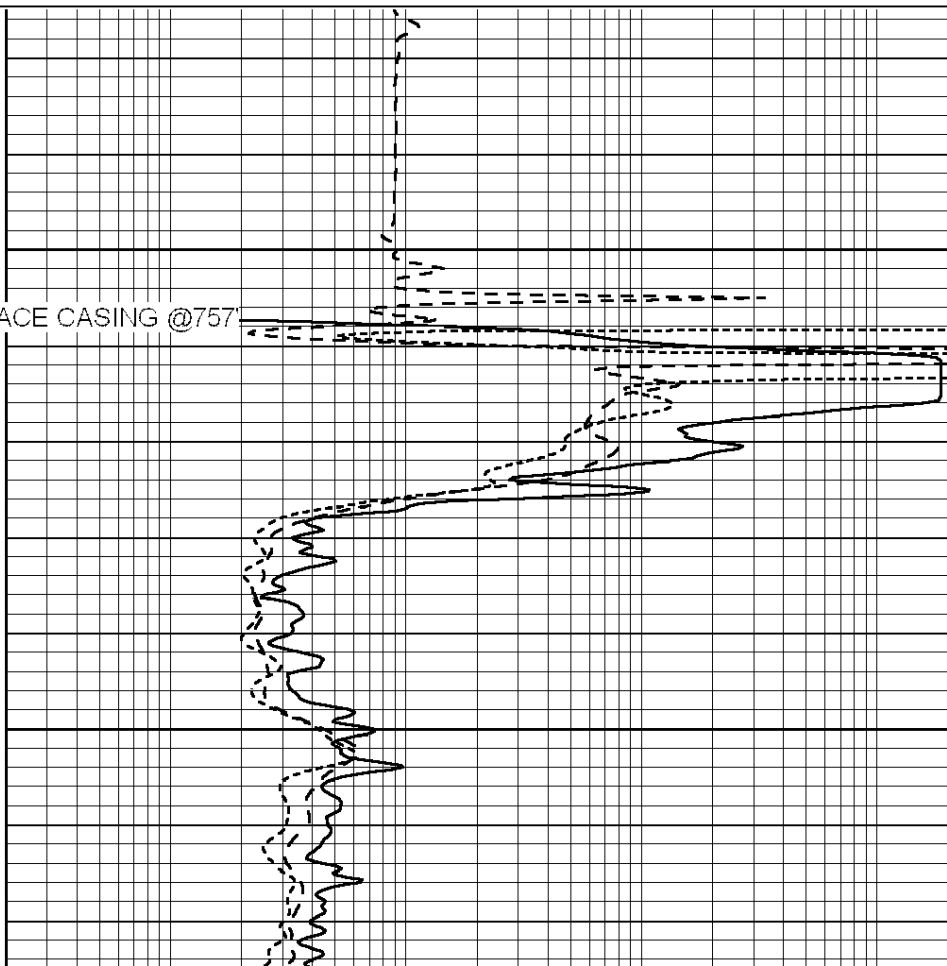
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



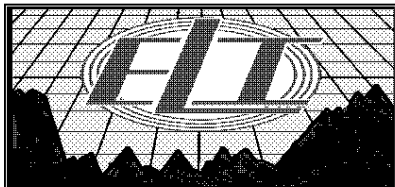
750
8 5/8" SURFACE CASING @757'

800



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

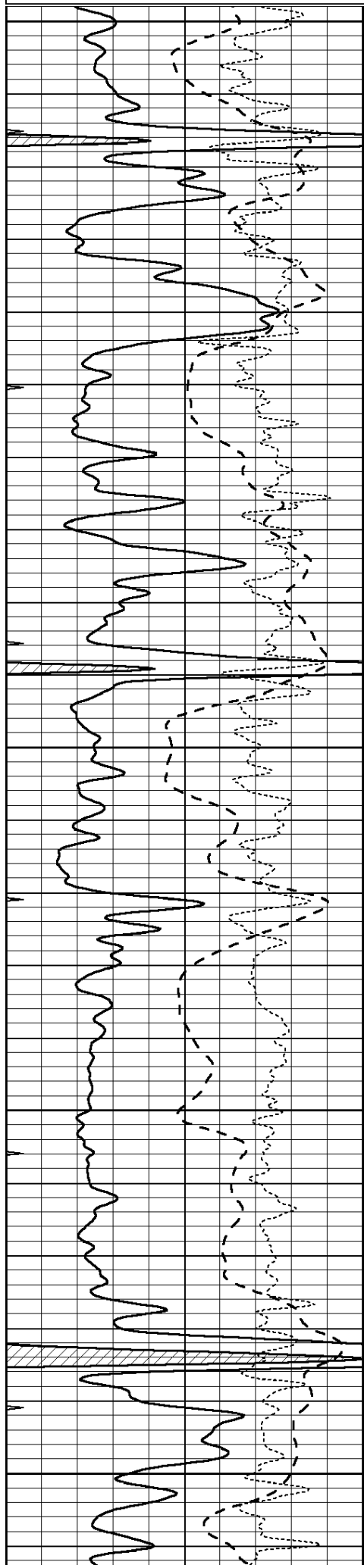


MAIN SECTION

Database File: 1583ddn.db
 Dataset Pathname: pass3.5
 Presentation Format: _dil
 Dataset Creation: Thu Jul 06 02:16:07 2017 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



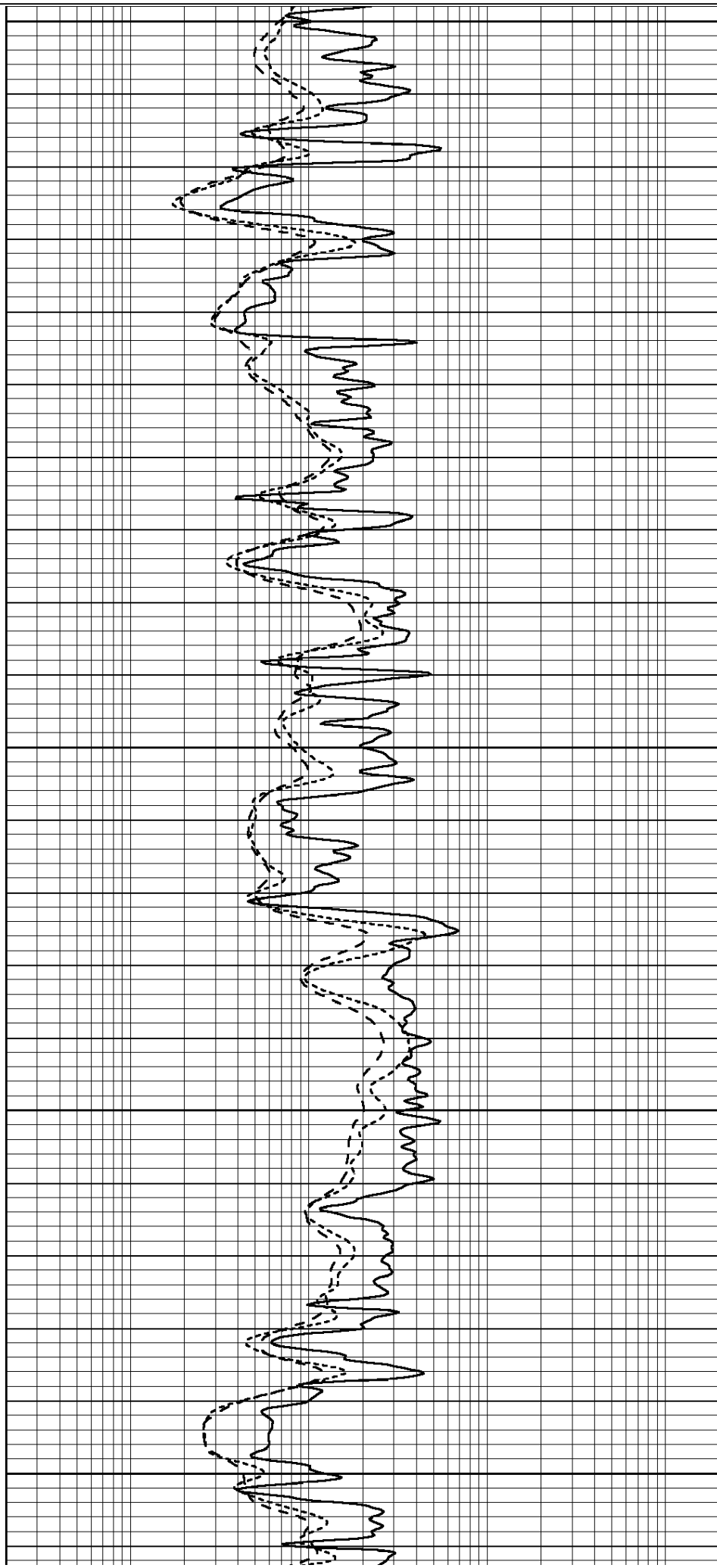
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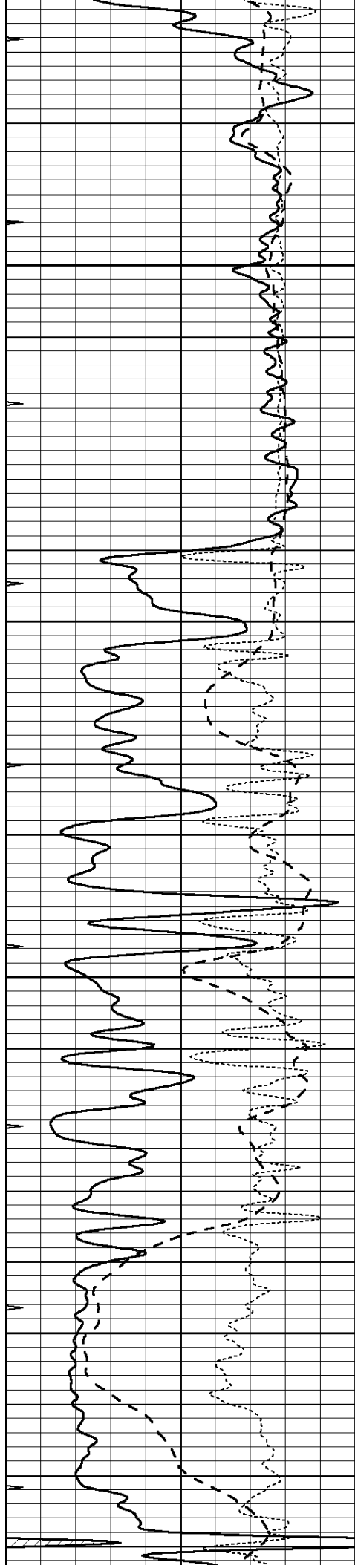
2950

3000

3050

3100



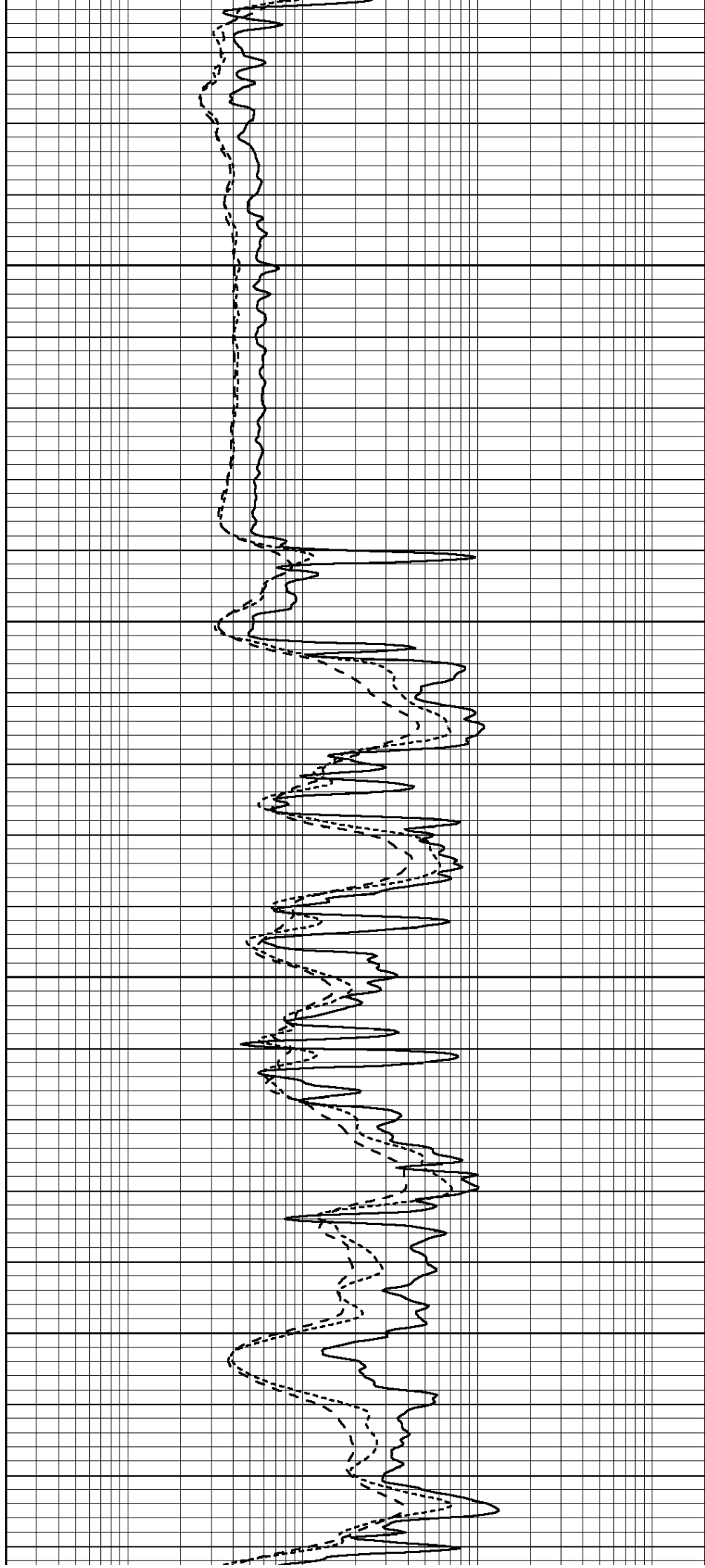


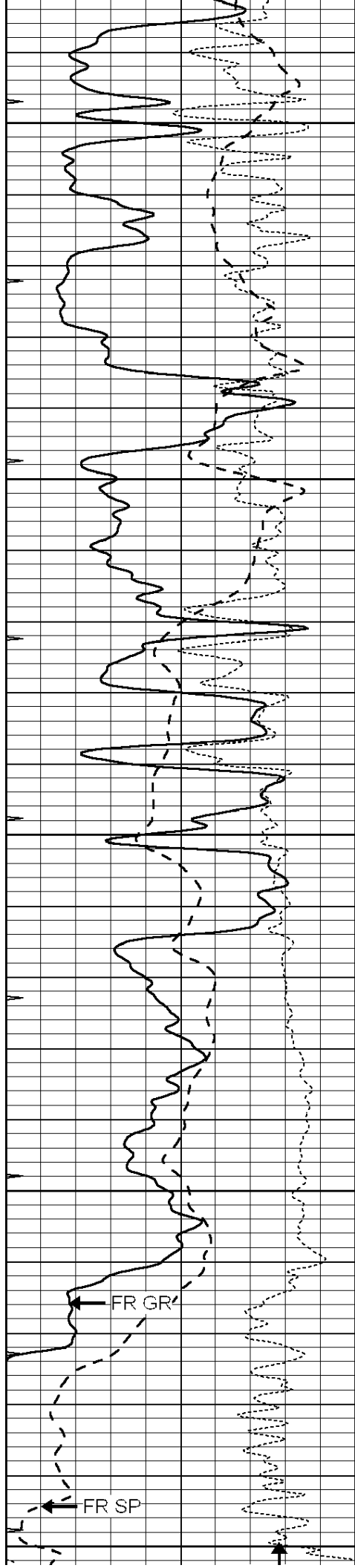
3150

3200

3250

3300





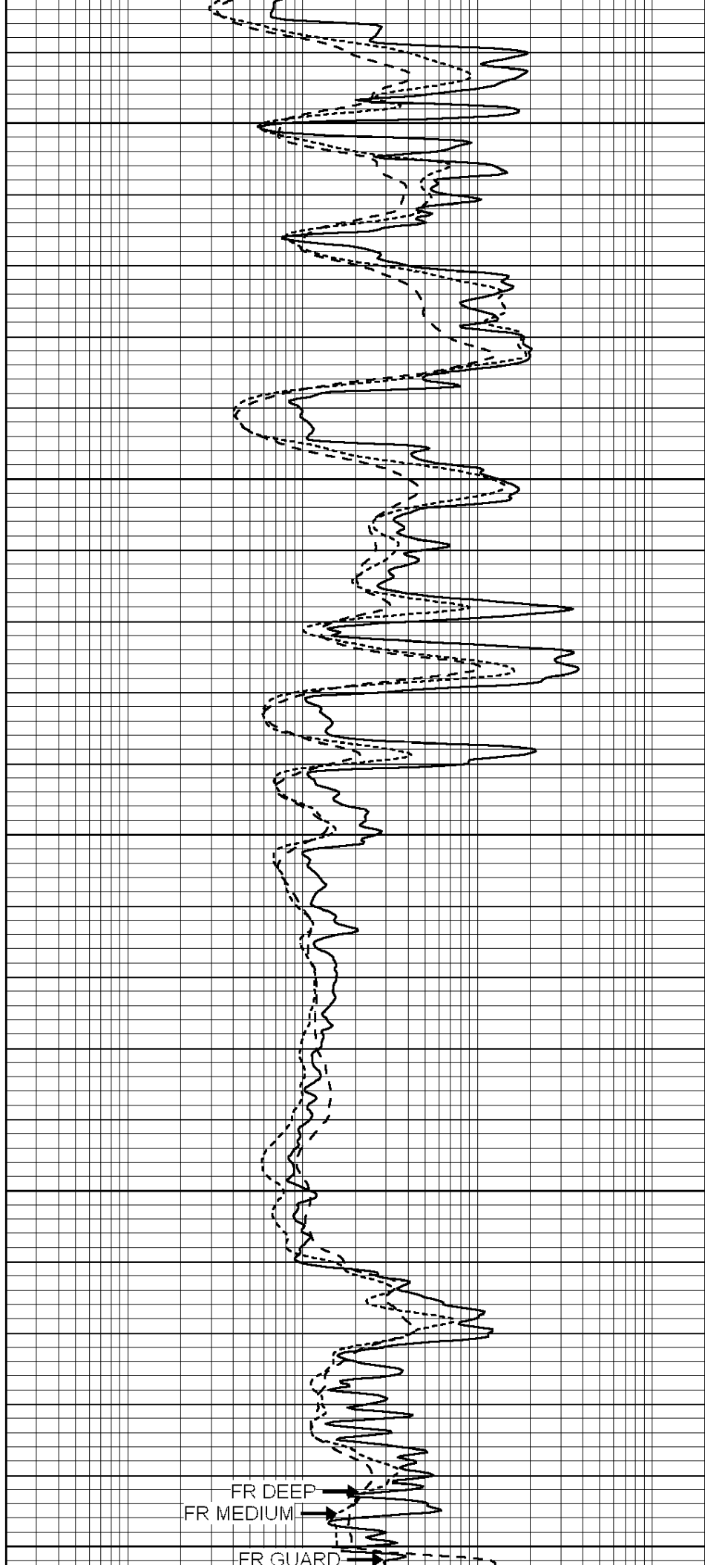
3350

3400

3450

3500

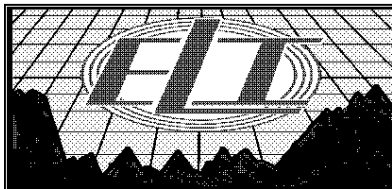
3550



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

LTD 3554

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

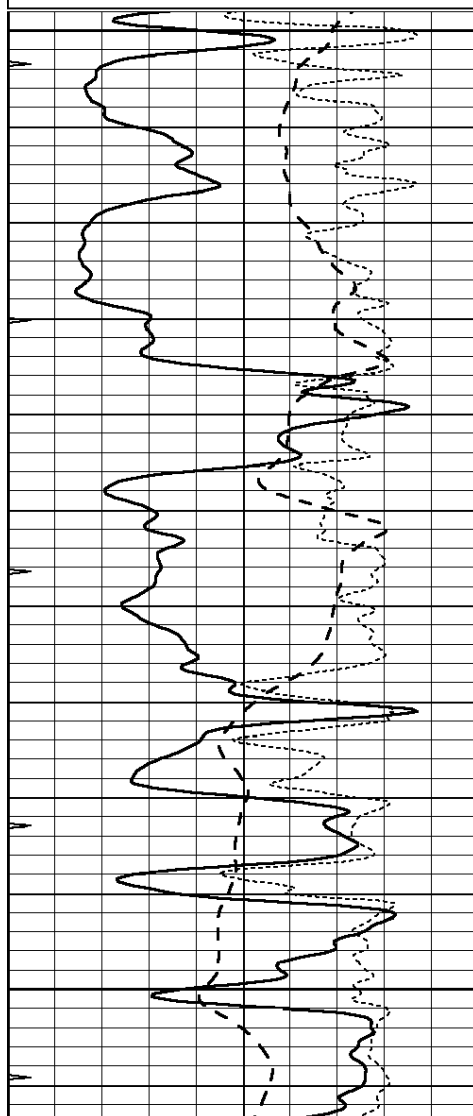


REPEAT SECTION

Database File: 1583ddn.db
 Dataset Pathname: pass2.6
 Presentation Format: _dil
 Dataset Creation: Thu Jul 06 01:30:58 2017
 Charted by: Depth in Feet scaled 1:240

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

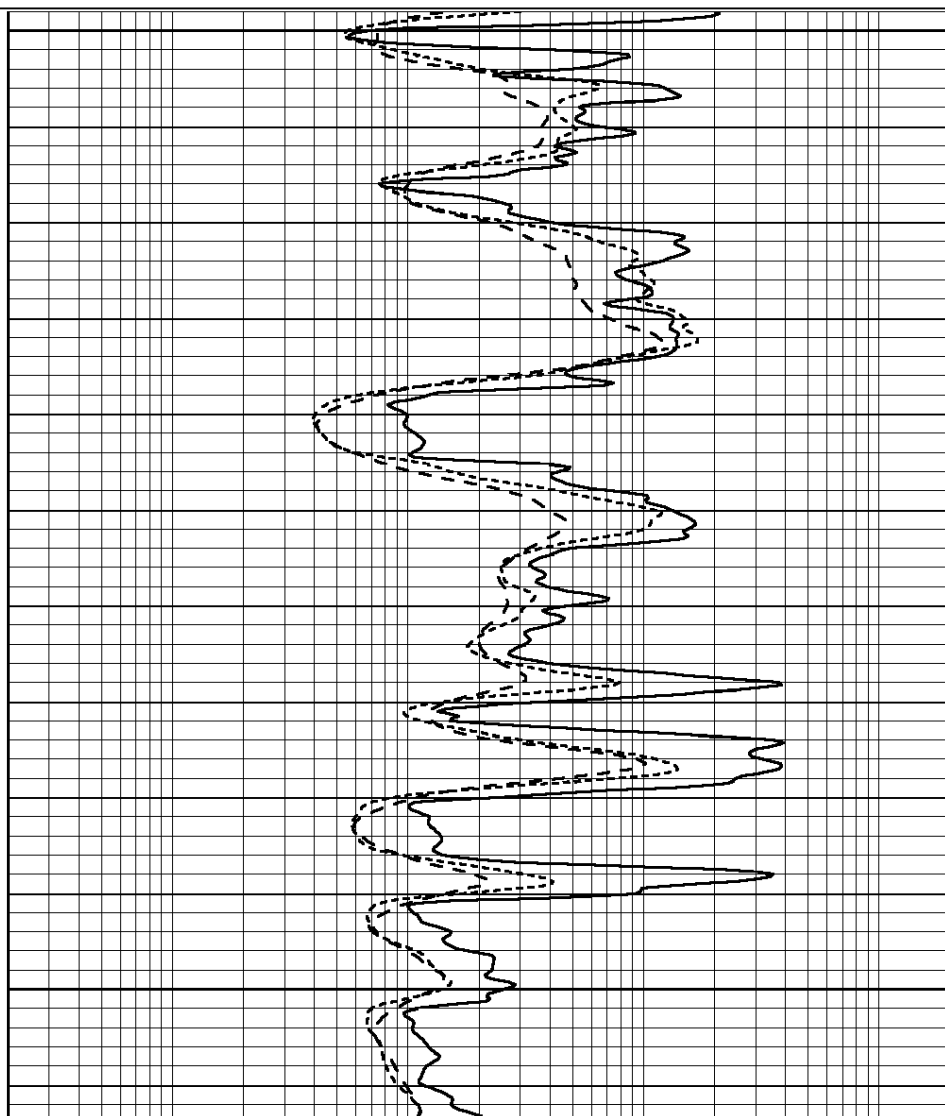
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000

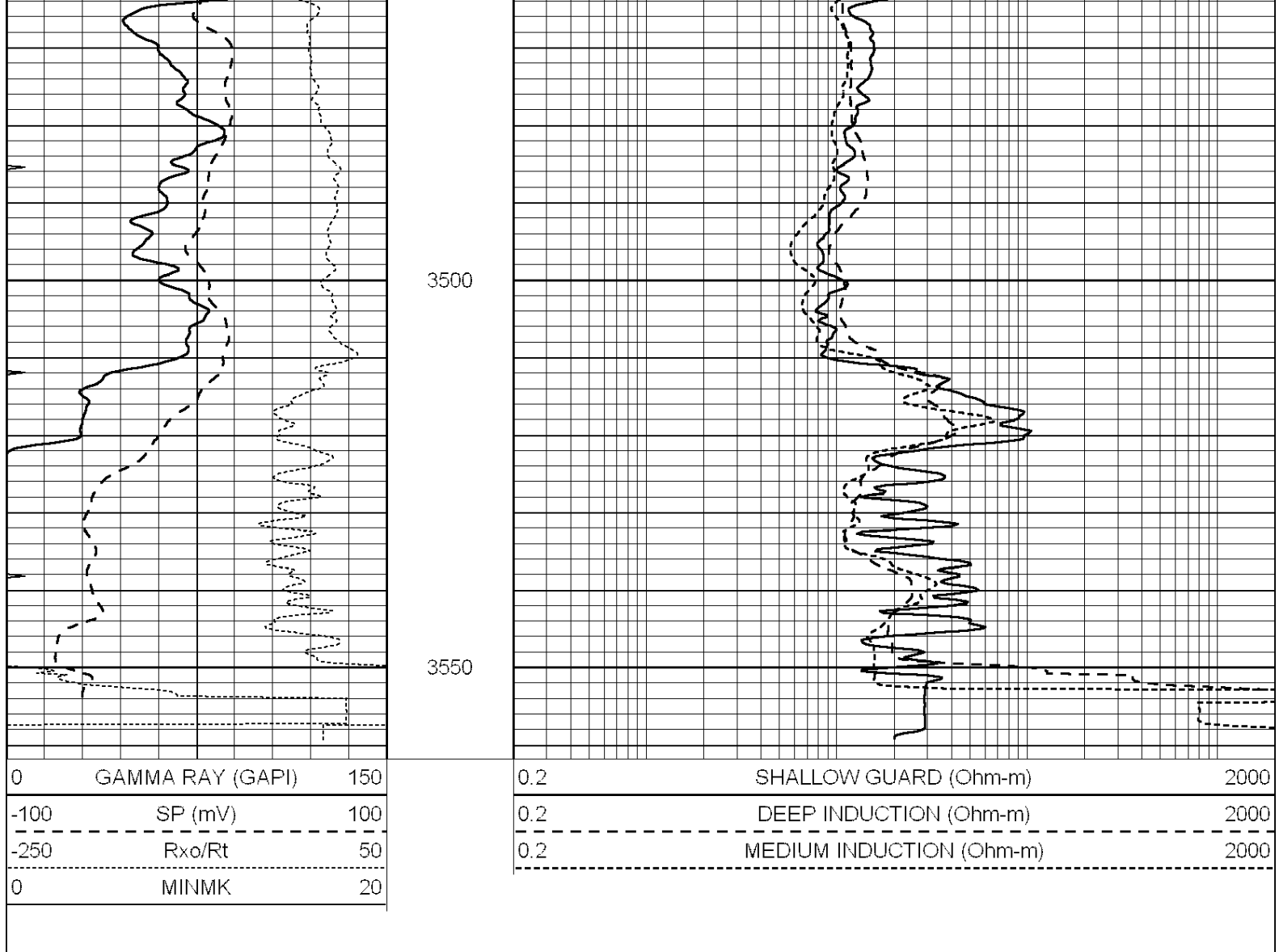


3350

3400

3450





Calibration Report									
Database File:		1583ddn.db							
Dataset Pathname:		pass3.5							
Dataset Creation:		Thu Jul 06 02:16:07 2017 by Calc SOC 120430							
Dual Induction Calibration Report									
Serial-Model:		PROBE7-DILG							
Surface Cal Performed:		Thu Jun 15 16:43:57 2017							
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	620.000	5.000	
Medium	0.039	0.728	V	0.000	464.000	mmho/m	675.000	-44.000	
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	
Loop:	Air	Loop		Air	Loop		m	b	

	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 Mon Mar 14 08:48:13 2016			
	Background	Magnesium	Aluminum	Sandstone				
Window 1	1751.3	11741.0	3857.3	12907.8				cps
Window 2	1589.4	9536.2	3267.6	10282.0				cps
Window 3	1413.4	6466.1	2463.2	6828.7				cps
Window 4	399.5	407.1	405.1	406.5				cps
Long Space	0.0	7946.7	1678.1	8692.6				cps
Short Space	2.2	3366.2	2134.1	3410.2				cps
Rho		1.7100	2.5900	1.3800				g/cc
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 43.7	Rib Slope	: 0.954	Density/Spine Ratio			: 0.543	
Spine Angle	: 73.7	Spine Slope	: 3.412	Spine Intercept			: -18.7	

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

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:	070558	
Tool Model:	OPEN_GR	
Performed:	Wed May 31 00:09:32 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.2800	GAPI/cps