

DUAL INDUCTION LOG

Company TYLUKA OPERATING, LLC.	
Well AXMAN FARMS #1-18	
Field	
County	BARTON
State	KANSAS
Location: AP1 # : 15-009-26132-0000 1953' FSL & 921' FWL	
SEC 18 TWP 17S RGE 14W	
CDL/CNL MEL/SON	
Elevation K.B. 1892 D.F. 1890 G.L. 1884	
Permanent Datum GROUND LEVEL Elevation 1884	
Log Measured From KELLY BUSHING & A.G.L.	
Drilling Measured From KELLY BUSHING	
Date	12/15/15
Run Number	ONE
Depth Driller	3500
Depth Logger	3498
Bottom Logged Interval	3496
Top Log Interval	00
Casing Driller	8 5/8" @ 897'
Casing Logger	894
Bit Size	7 7/8"
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.1/43
pH / Fluid Loss	10.5/8.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.65 @ 60F
Rmt @ Meas. Temp	.48 @ 60F
Rmc @ Meas. Temp	.78 @ 60F
Source of Rmt / Rmc	MEASUREMENT
Rm @ BHT	.34 @ 112F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	112F
Equipment Number	4010
Location	HAYS, KANSAS
Recorded By	JASON CAPELLUCCI
Witnessed By	JEREMY SCHWARTZ

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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 CASEDHOLE SOLUTIONS, HAYS, KS. (785) 628-6395
DIRECTIONS:
AT INTERSECTION OF HWY 4 & HWY 281 - 3 NORTH TO 150 RD.
4 WEST TO 80 RD. - SOUTH INTO

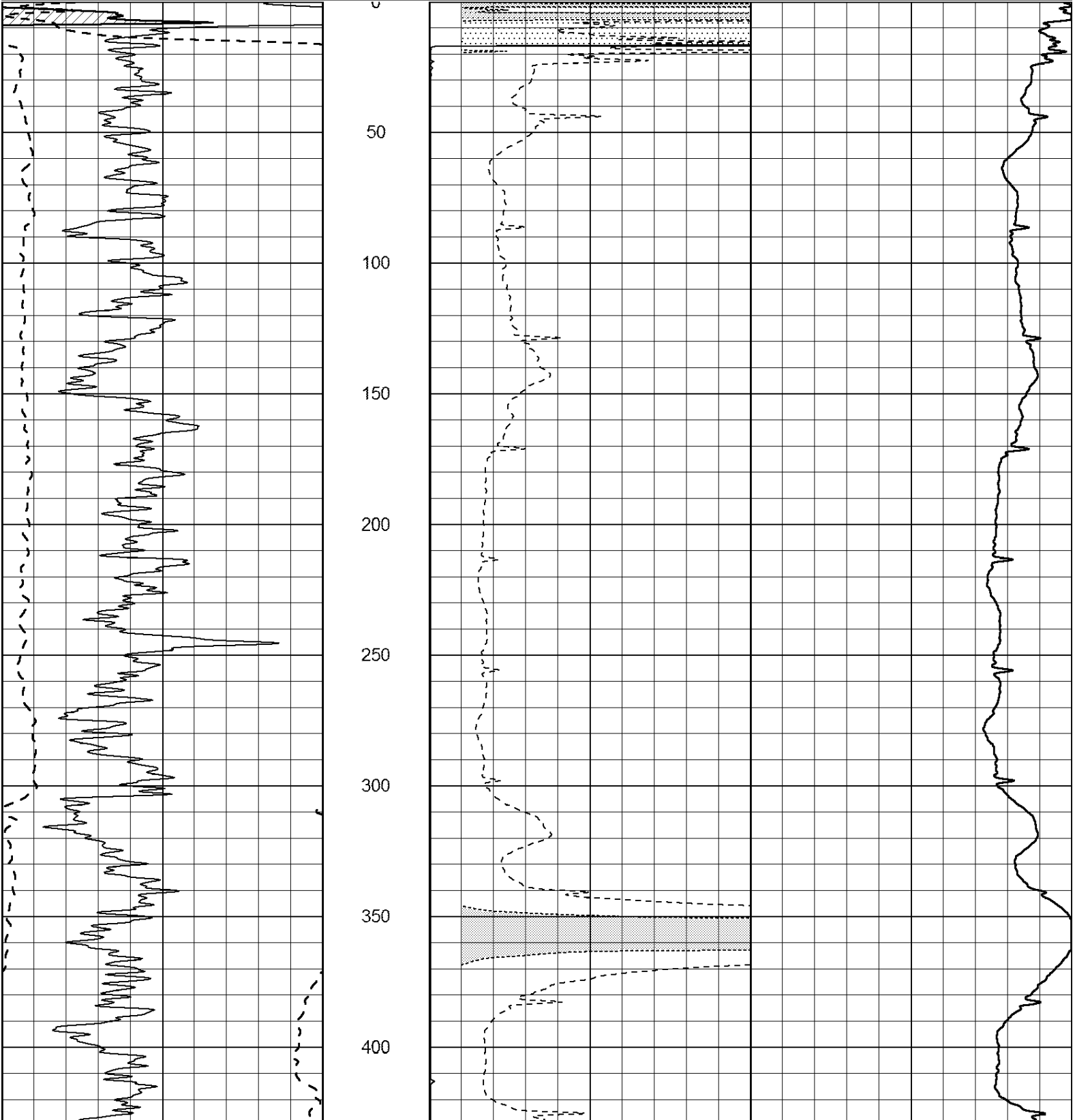


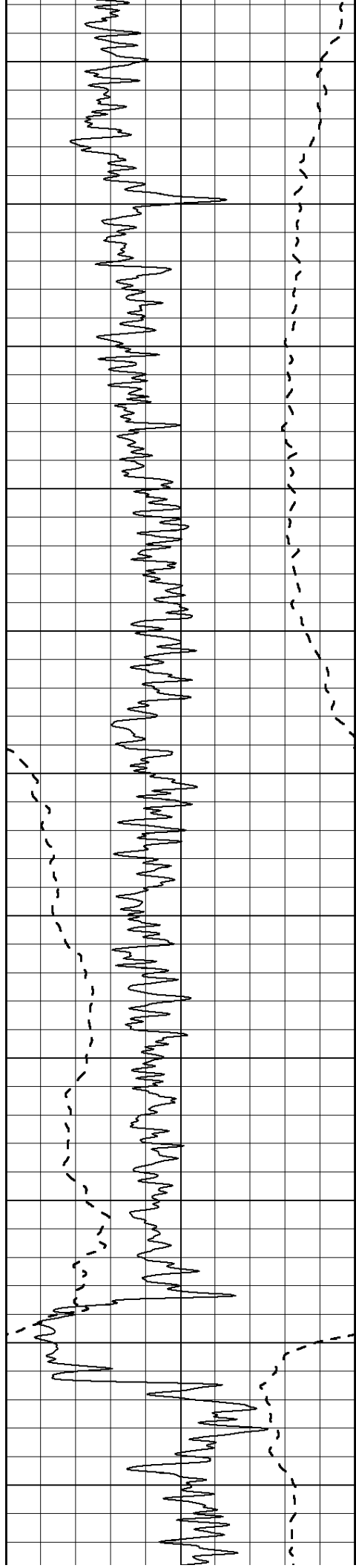
Casedhole
Solutions

MAIN SECTION

Database File: 30888ddn.db
Dataset Pathname: pass3.3
Presentation Format: _dil2
Dataset Creation: Tue Dec 15 14:36:09 2015 by Calc Open-Cased 090629
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	
-----			1000	CILD (mmho/m)		0
			50	RILD X10 (Ohm-m)	500	
			50	RLL3 X10 (Ohm-m)	500	





450

500

550

600

650

700

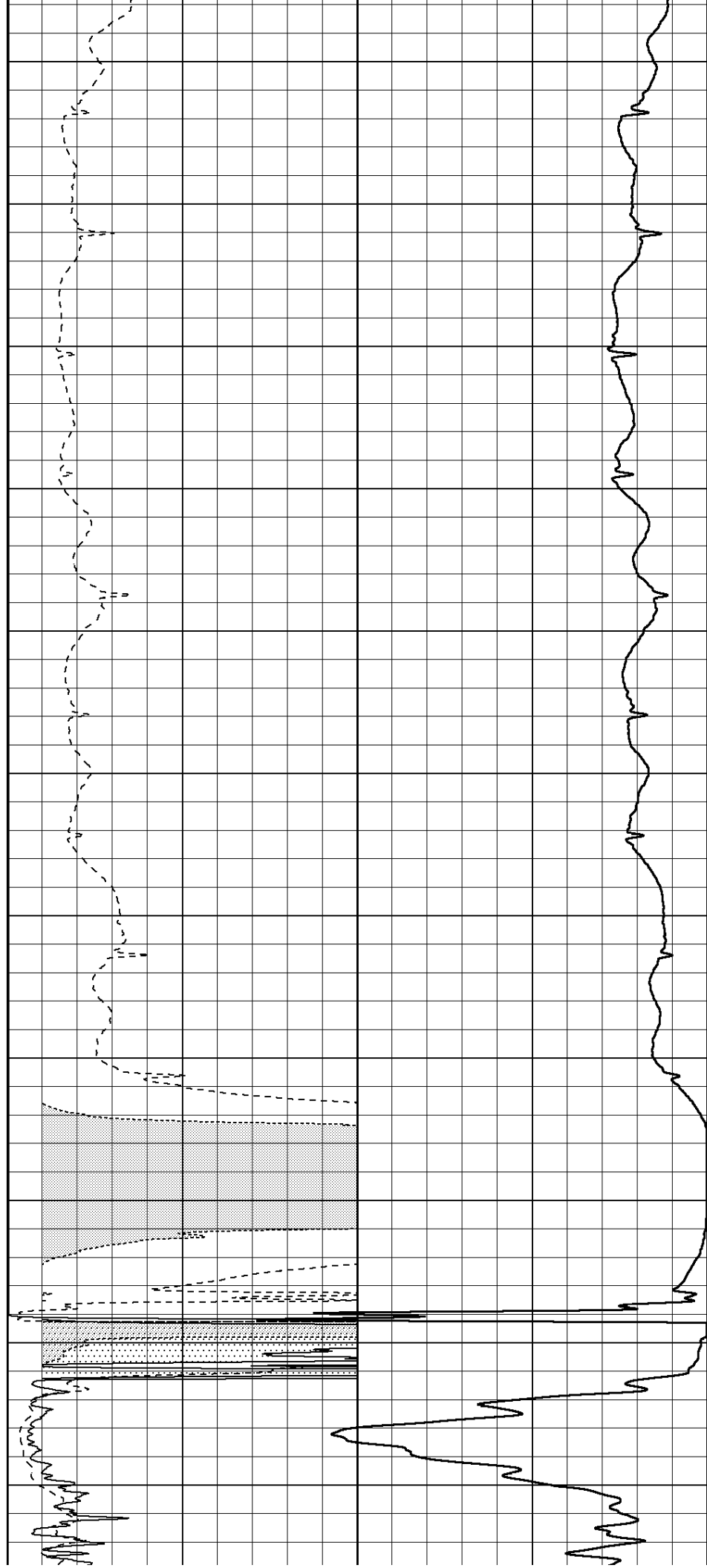
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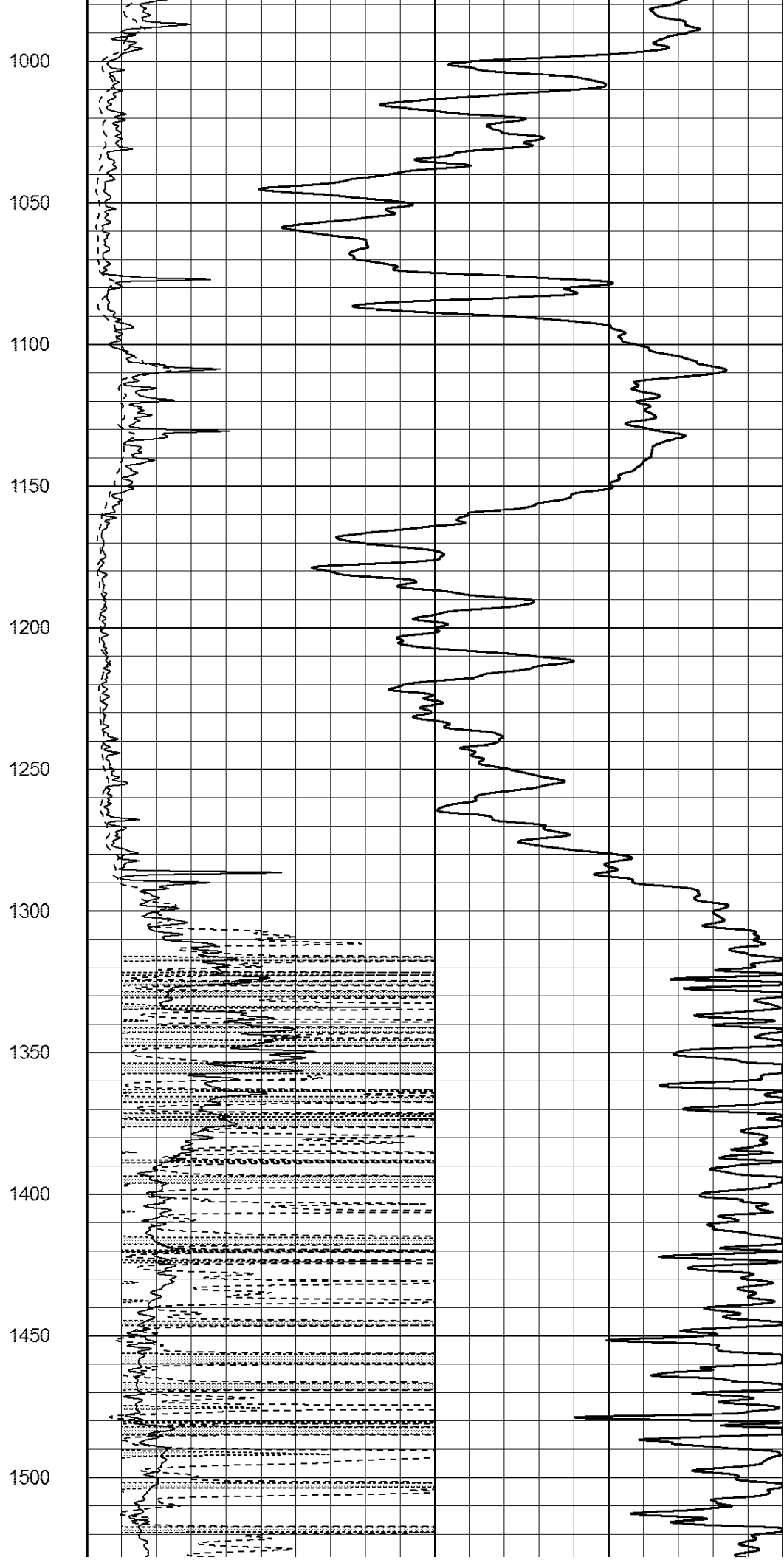
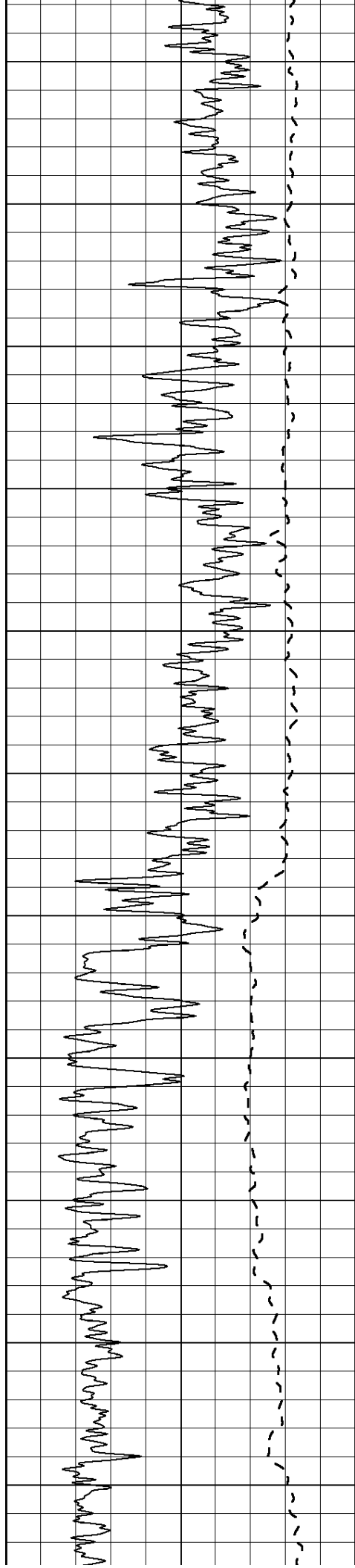
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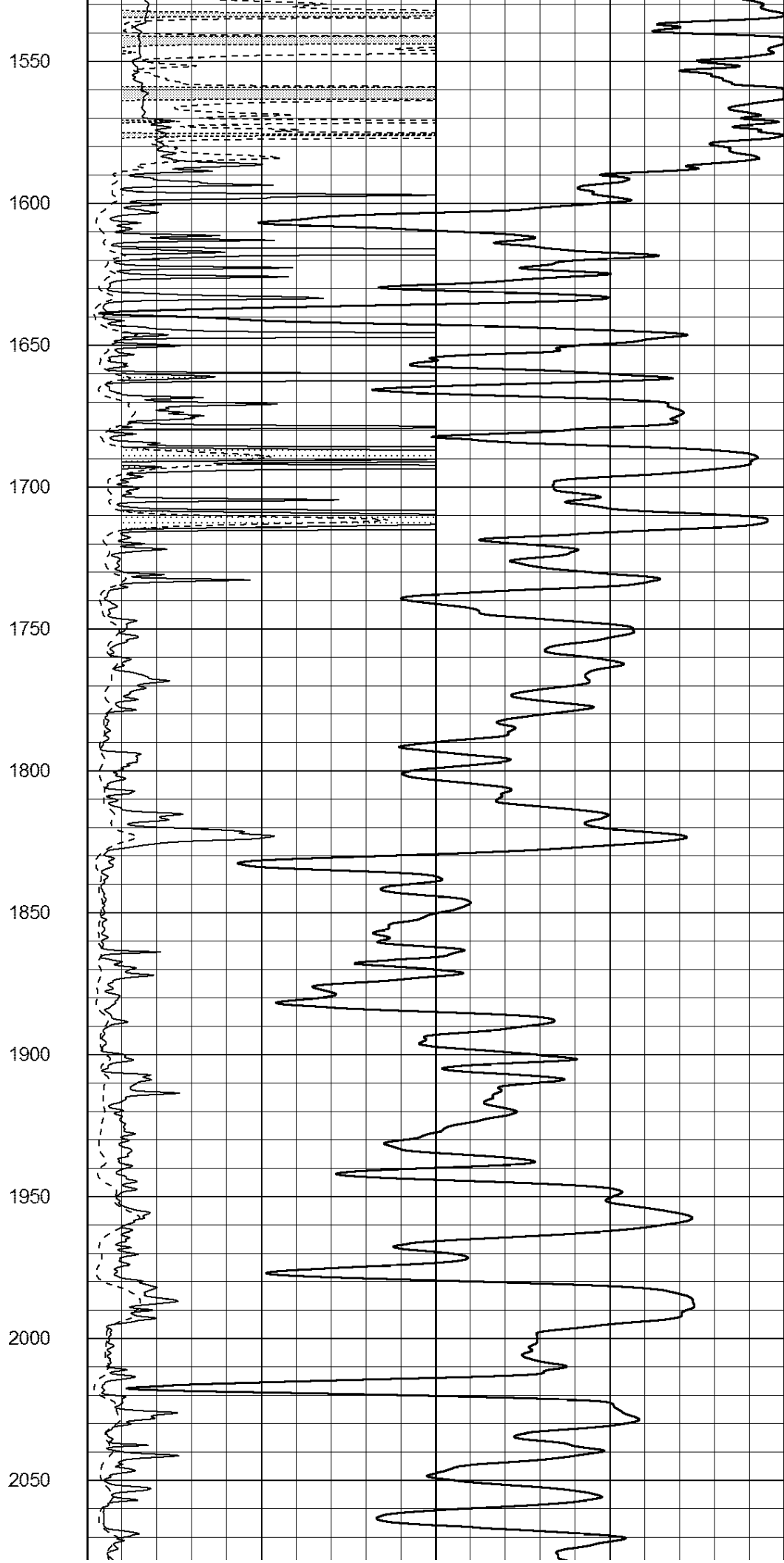
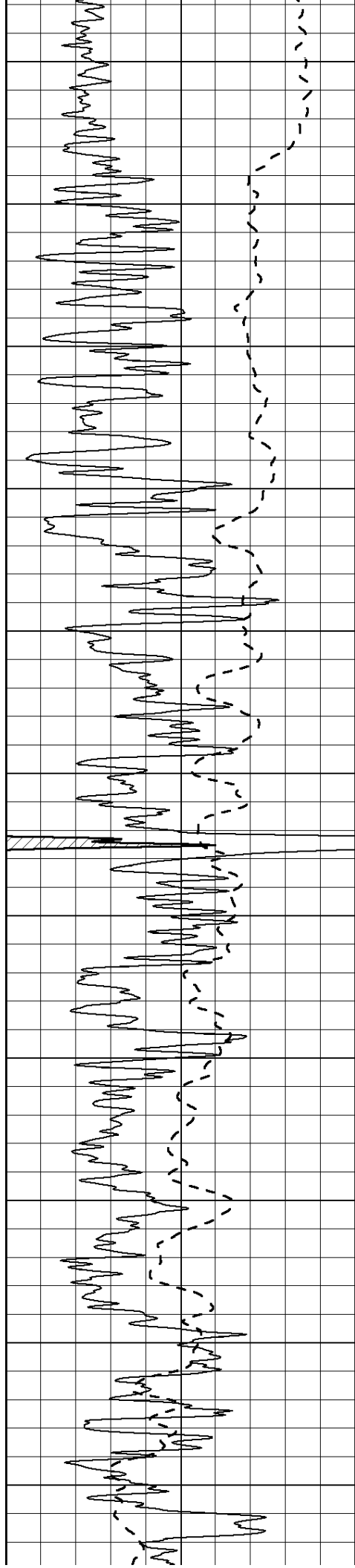
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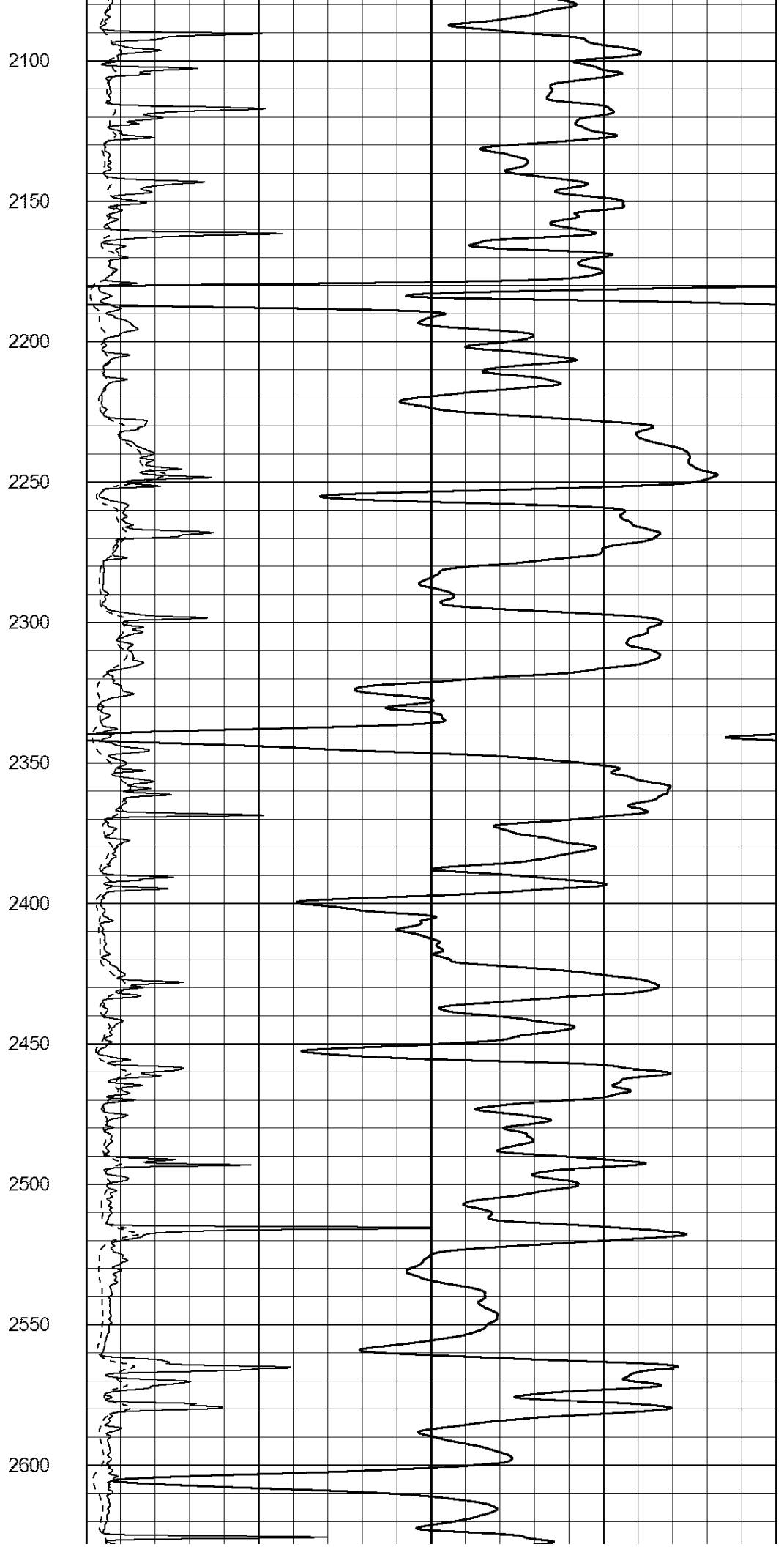
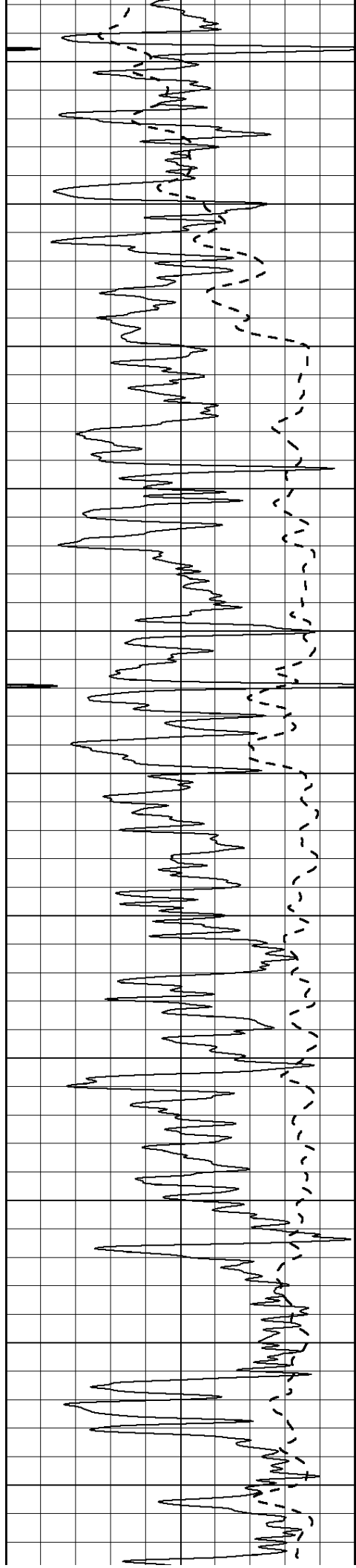
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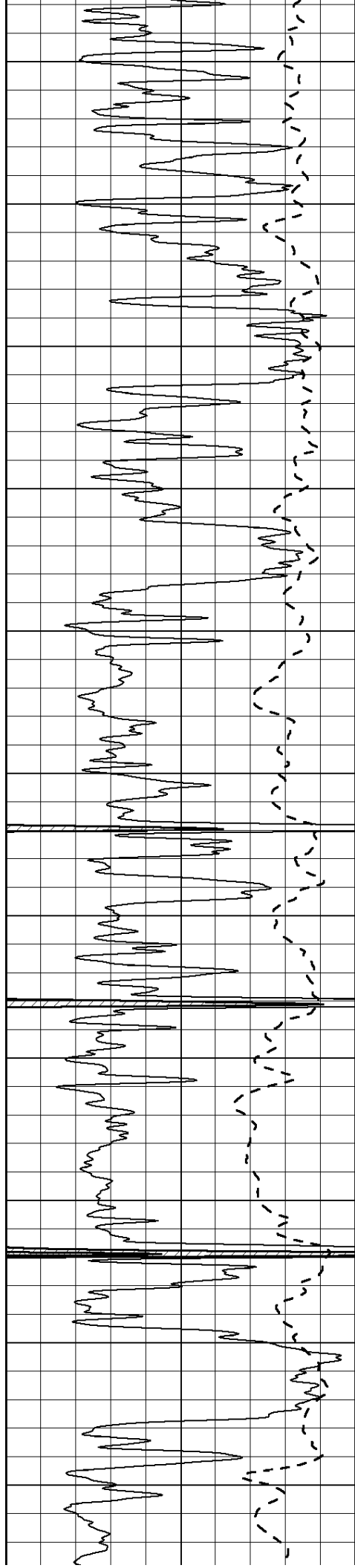
950











2650

2700

2750

2800

2850

2900

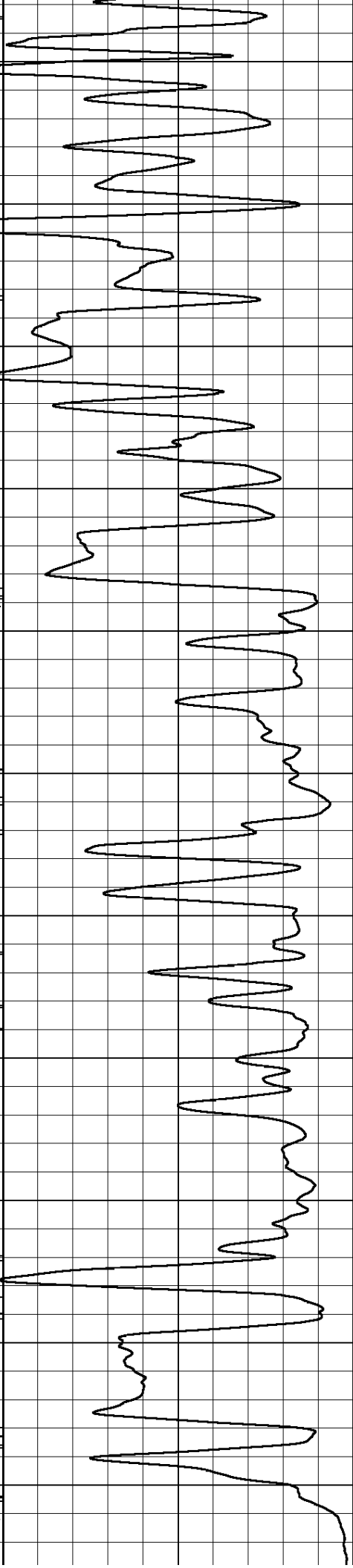
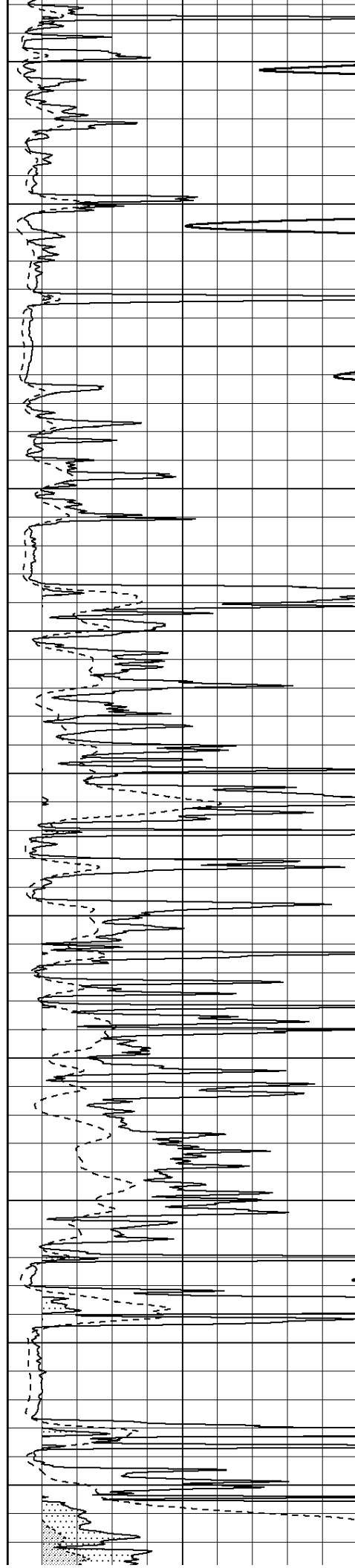
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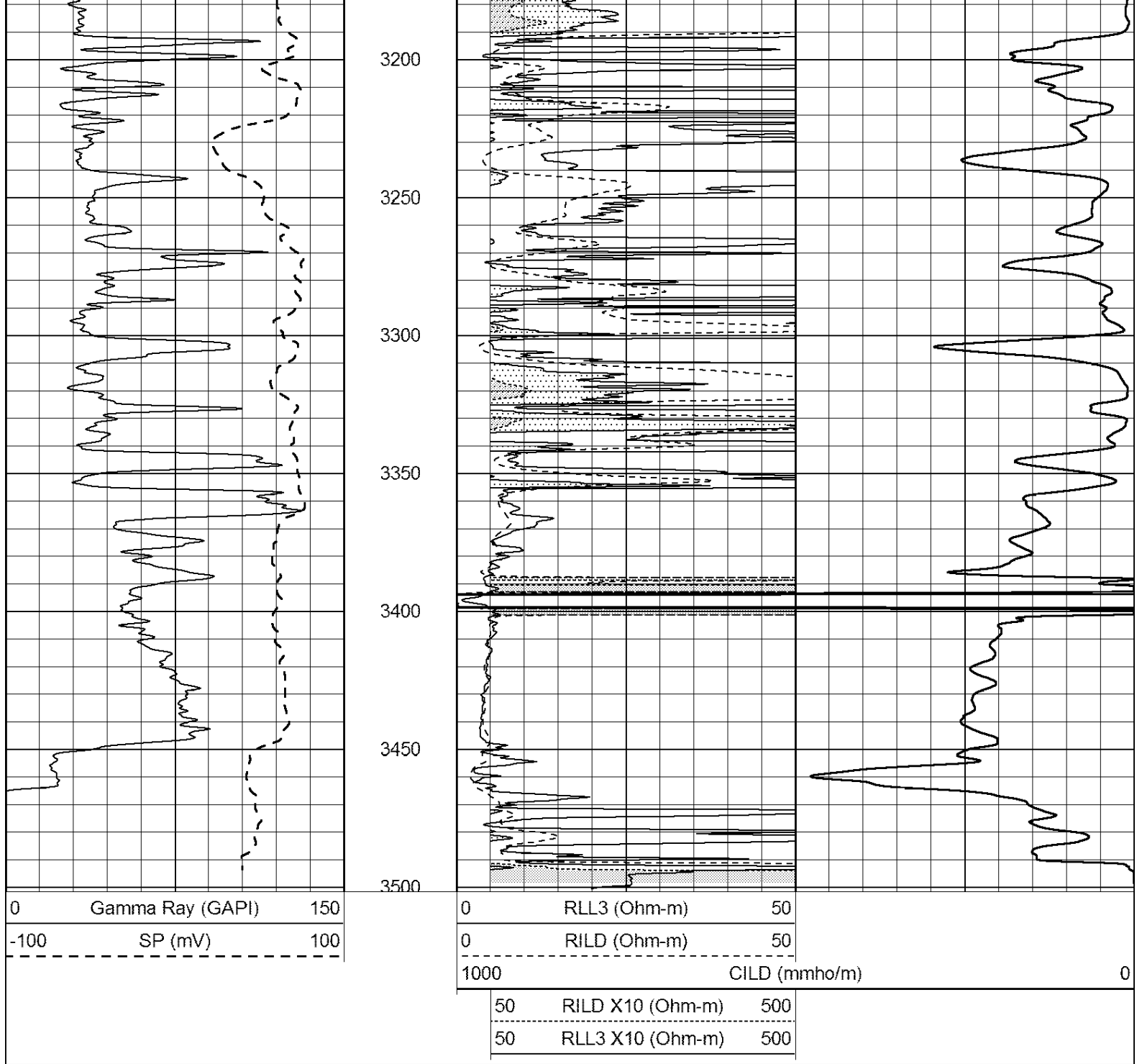
3000

3050

3100

3150





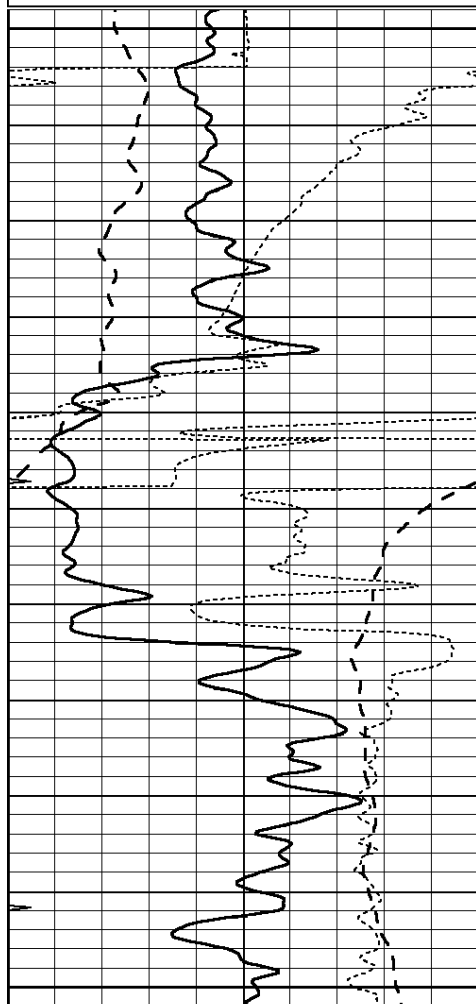
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ANHYDRITE

Database File: 30888ddn.db
 Dataset Pathname: pass3.2
 Presentation Format: _dil
 Dataset Creation: Tue Dec 15 14:17:07 2015 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

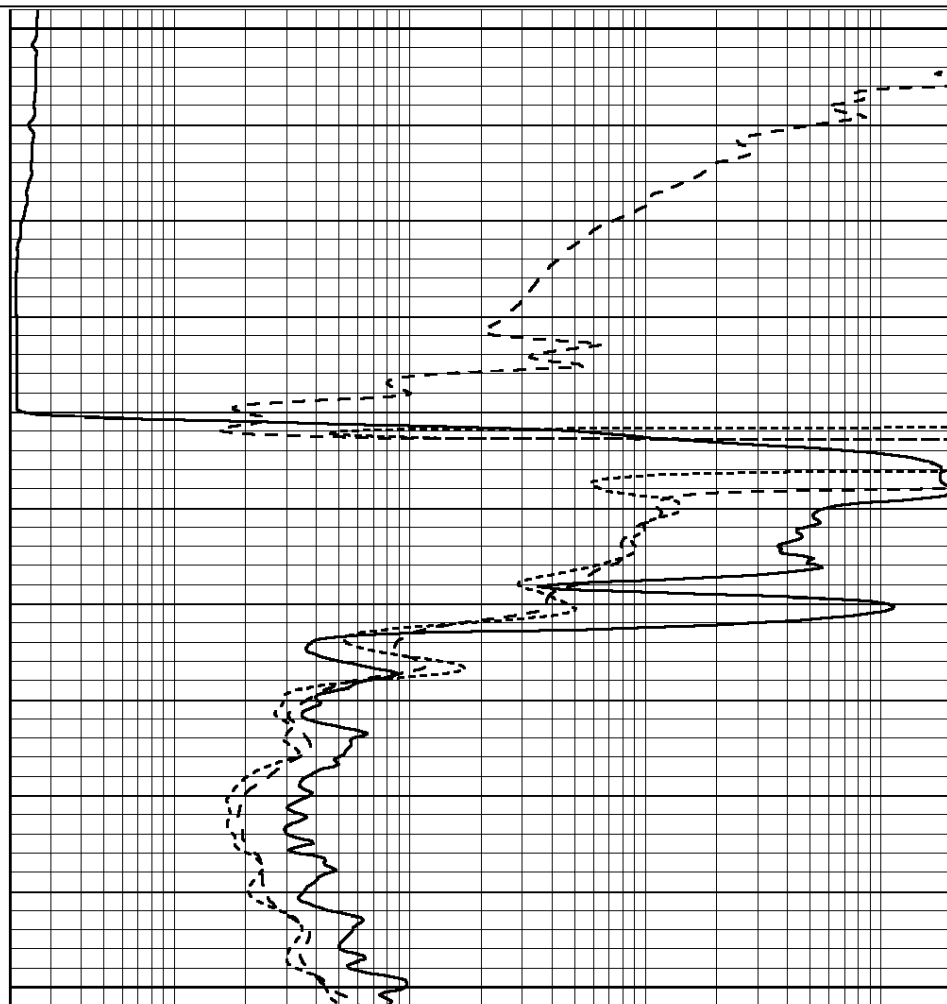


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

850

900

950



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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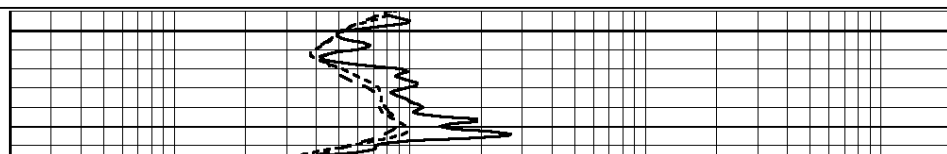
MAIN SECTION

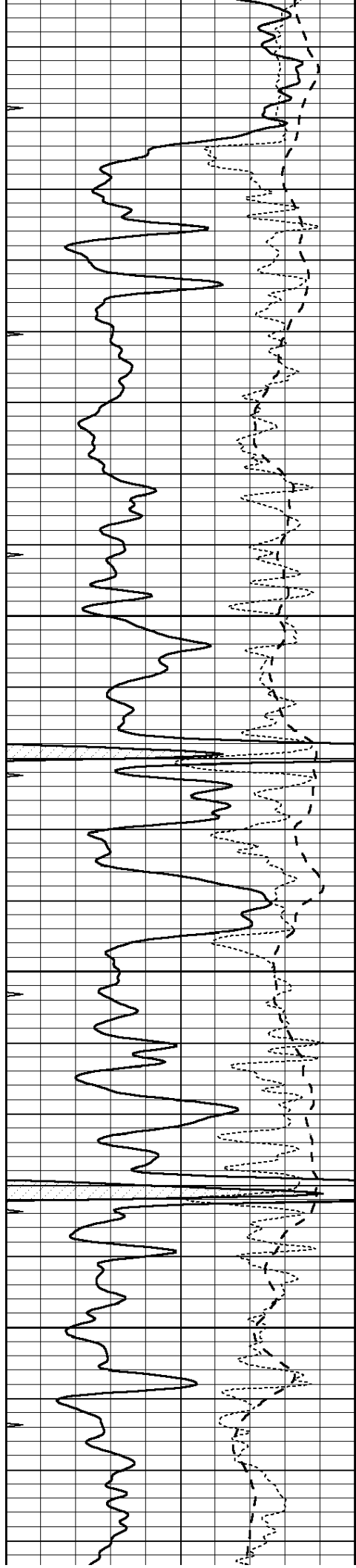
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 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Tue Dec 15 14:00:30 2015 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

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

2800



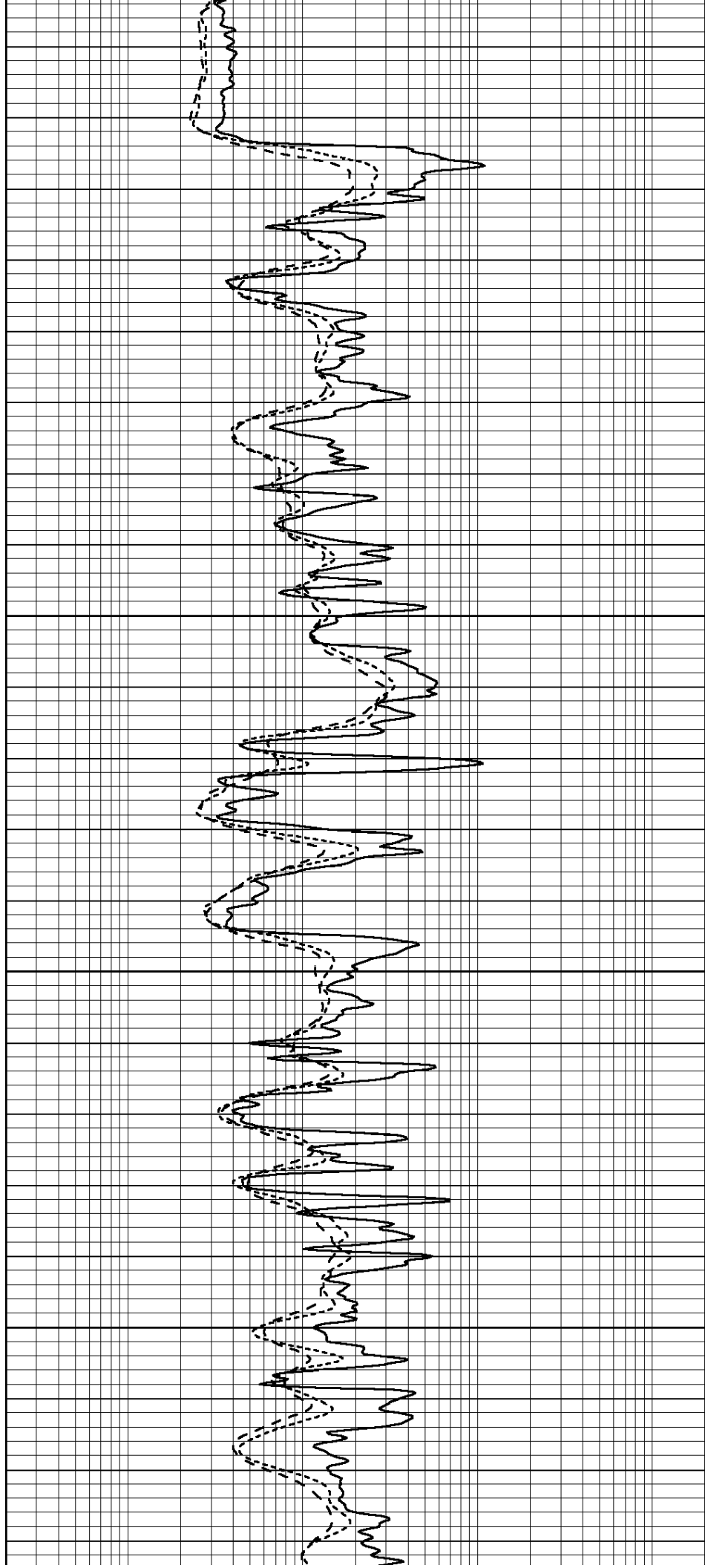


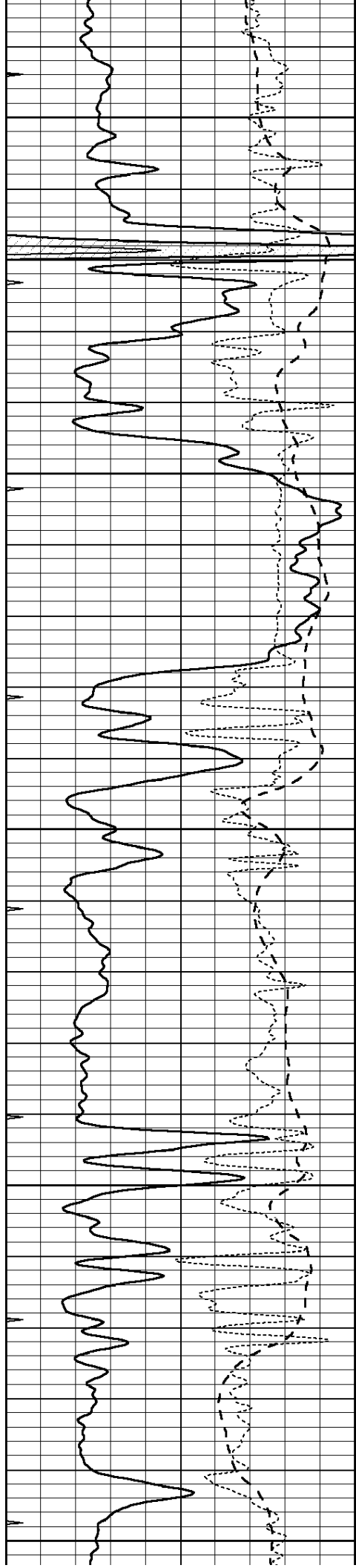
2850

2900

2950

3000





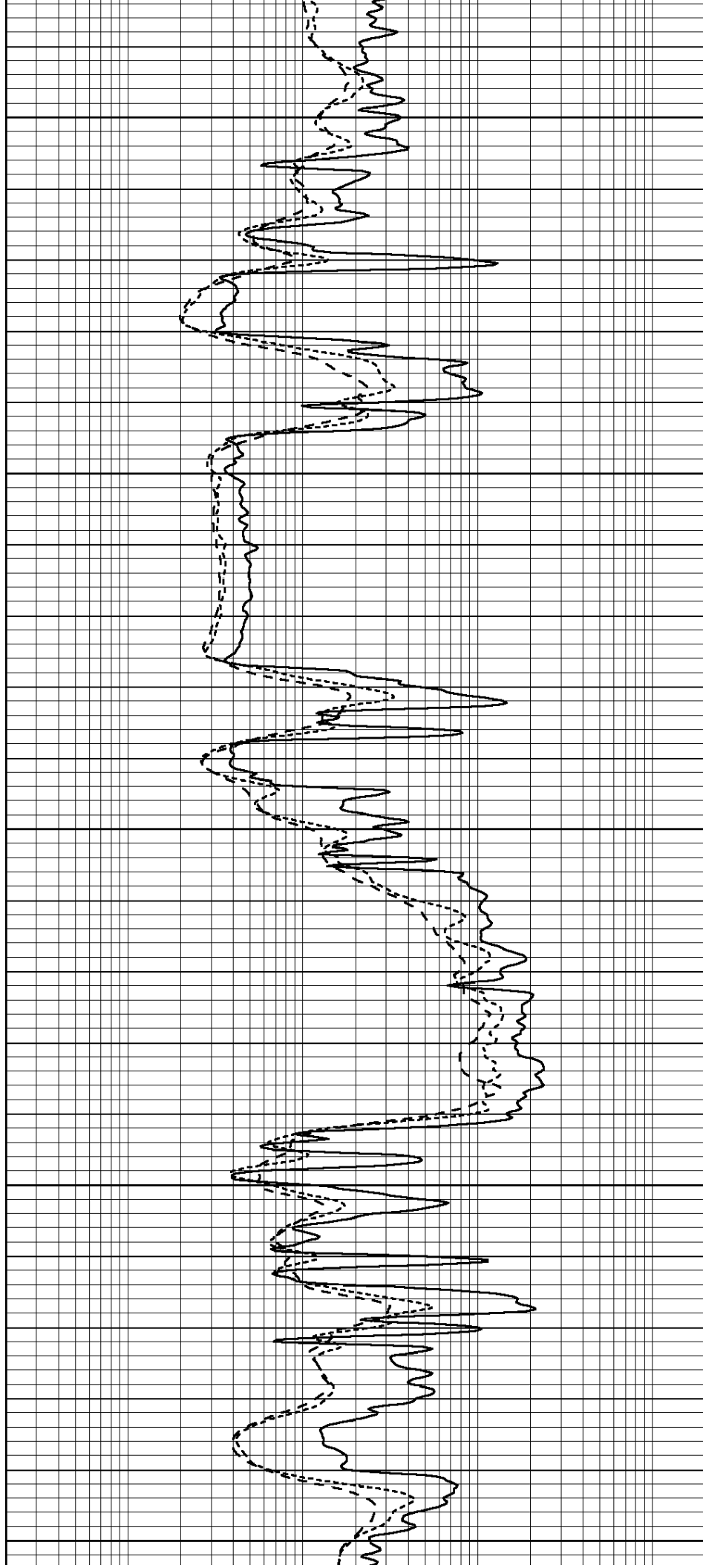
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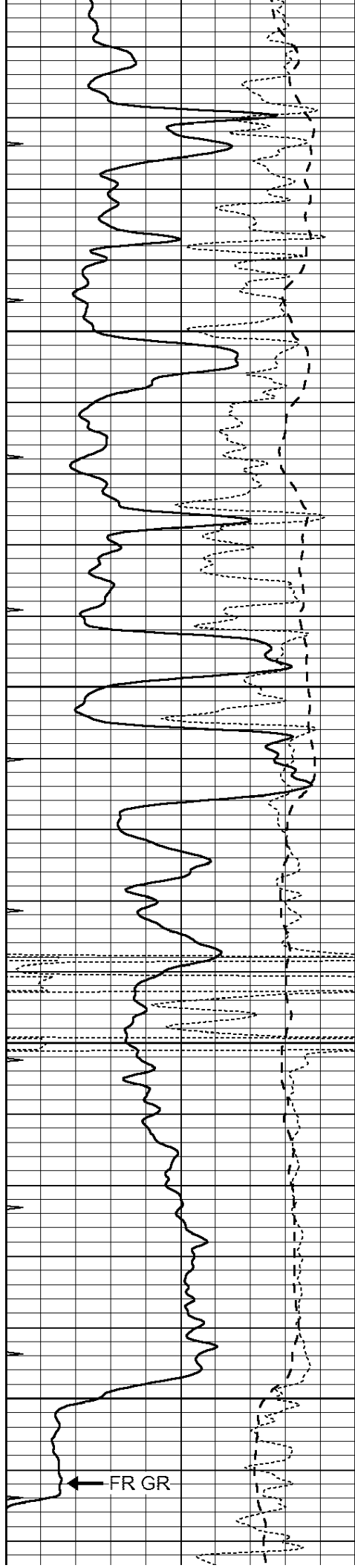
3100

3150

3200

3250



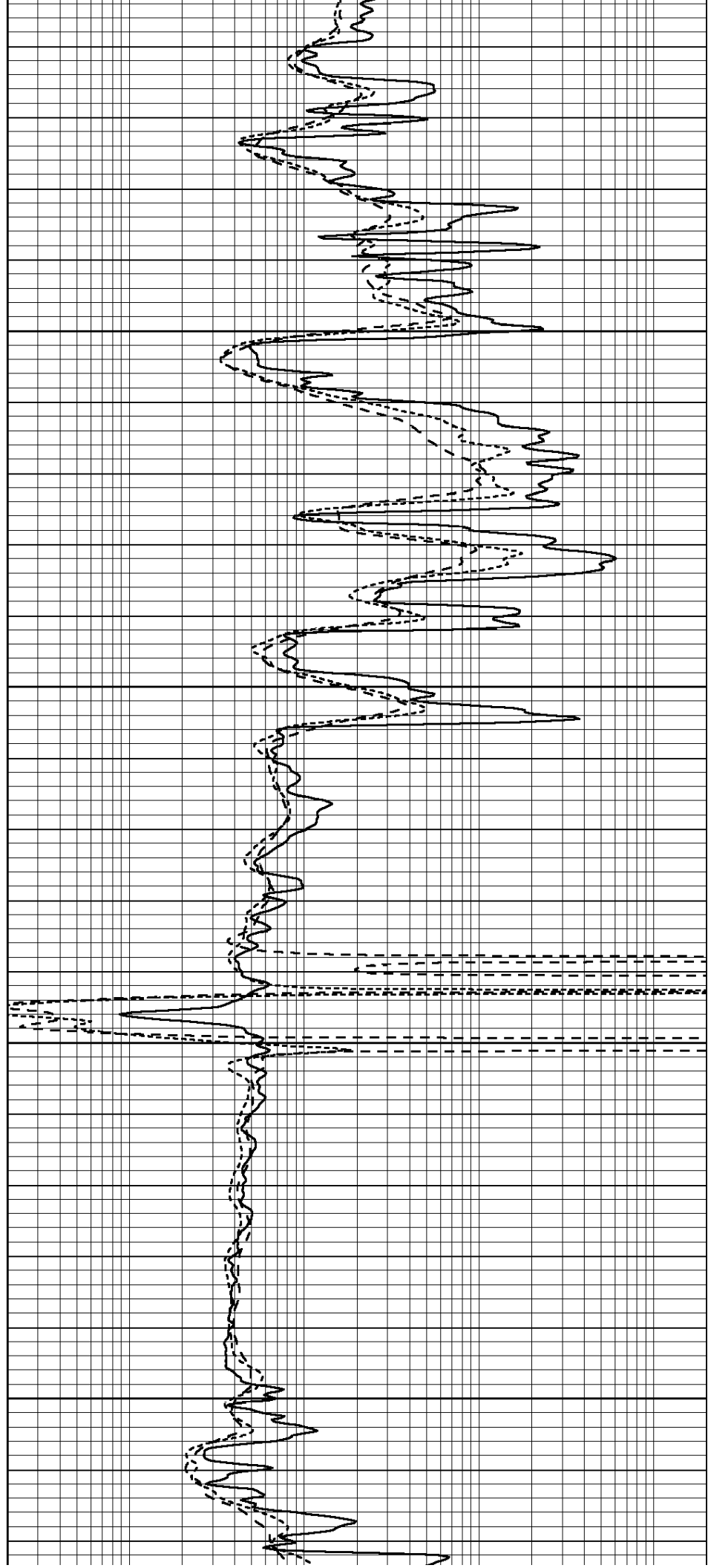


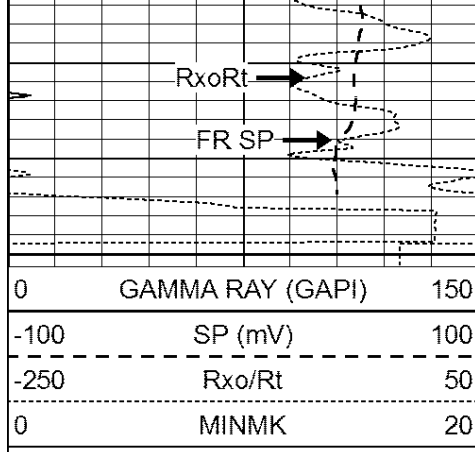
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3350

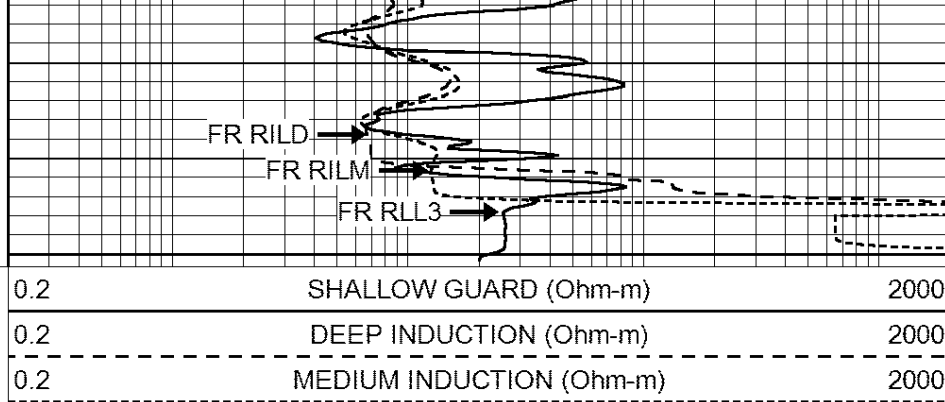
3400

3450





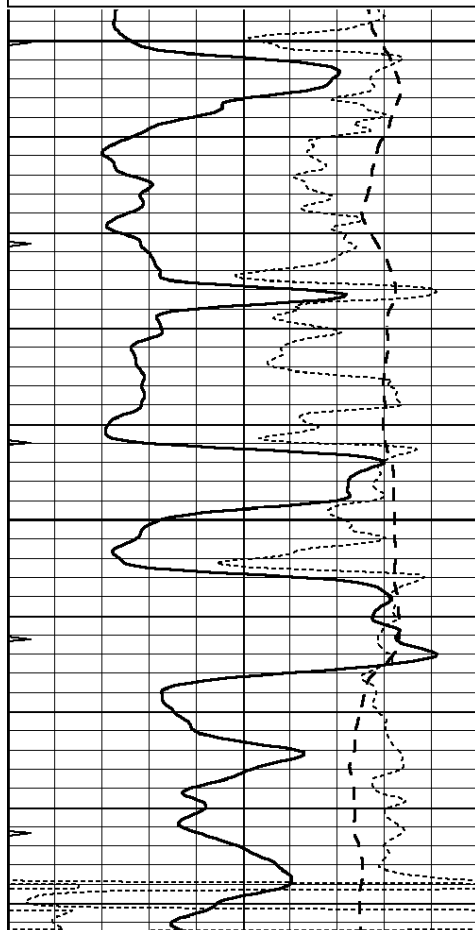
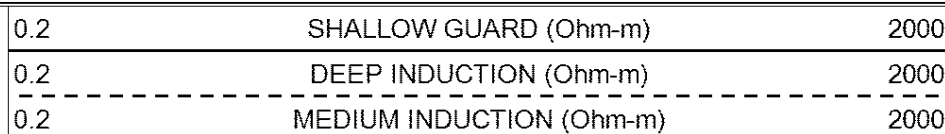
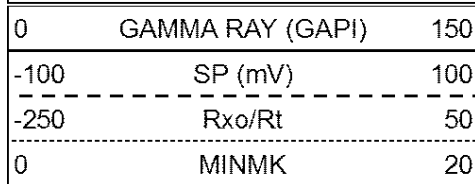
LTD 3498
3500



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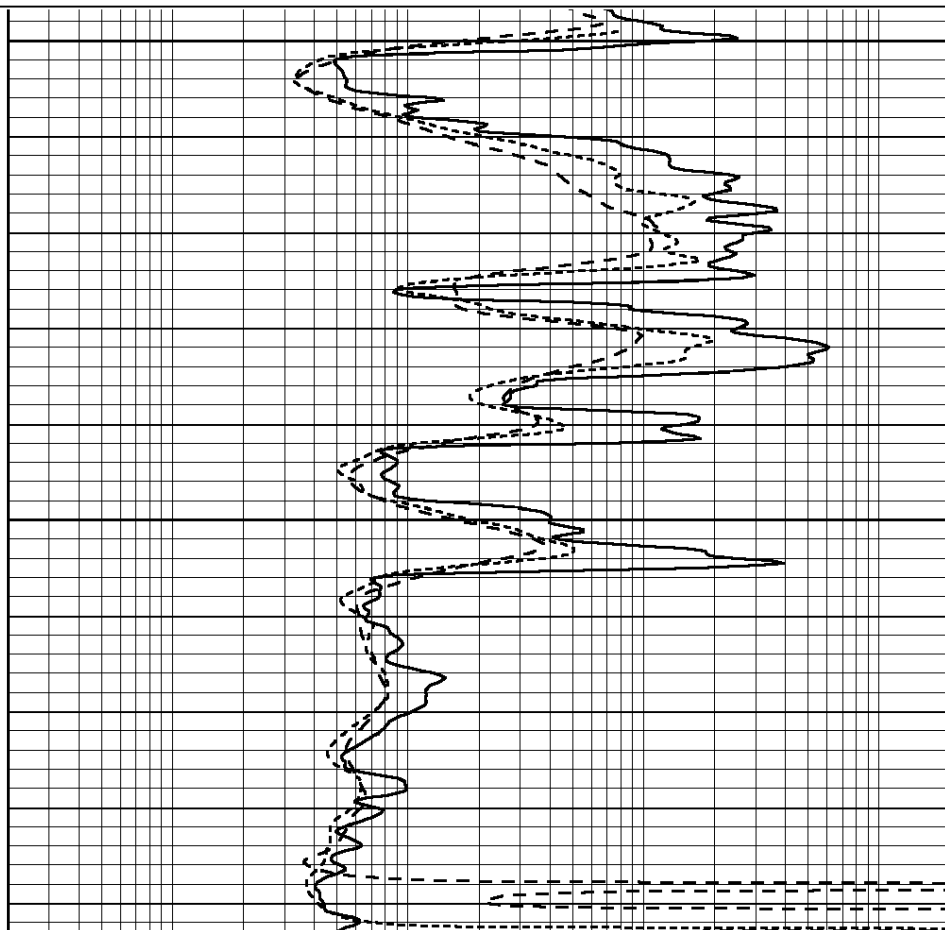
REPEAT SECTION

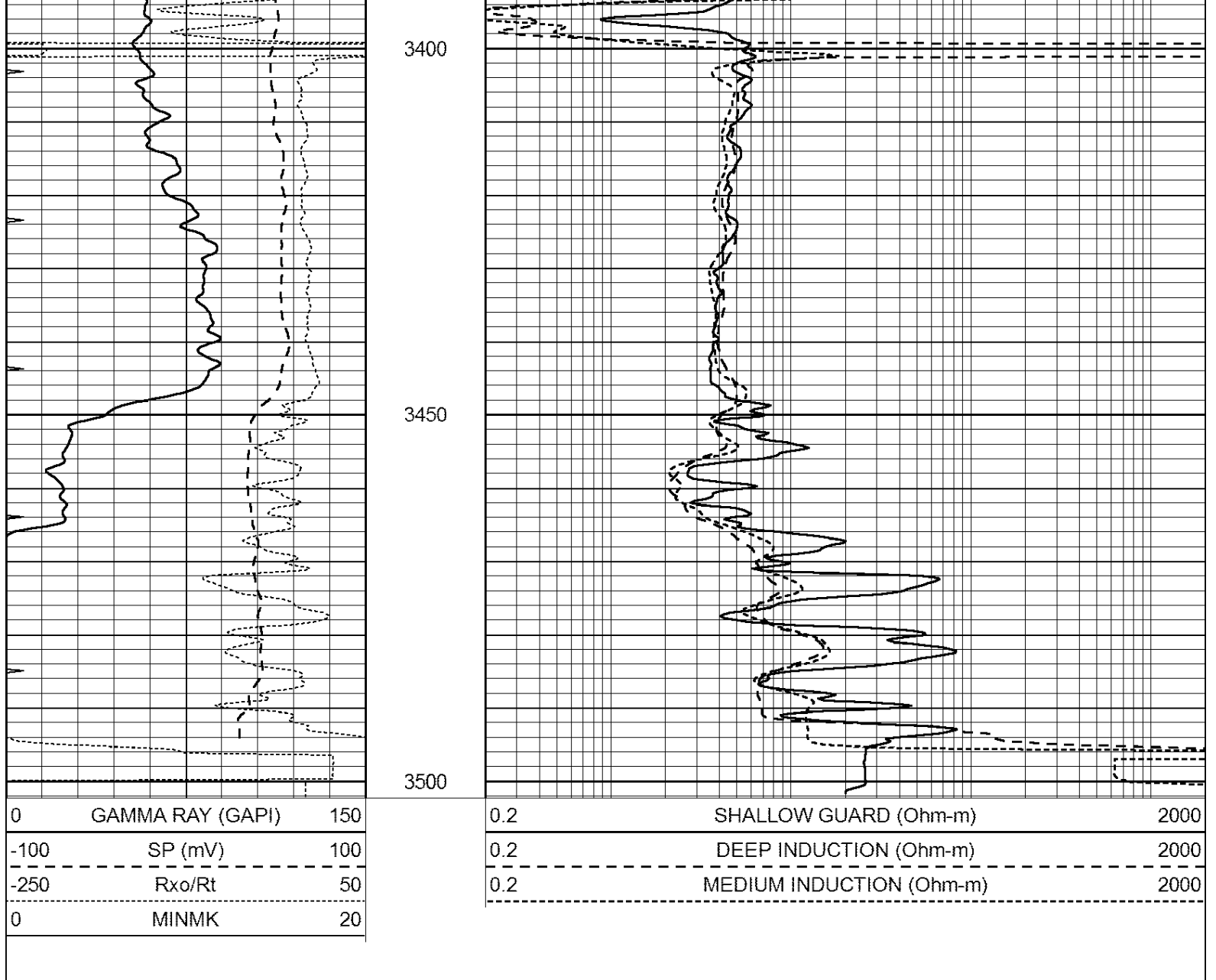
Database File: 30888ddn.db
 Dataset Pathname: pass2.1
 Presentation Format: _dil
 Dataset Creation: Tue Dec 15 13:56:03 2015 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240



3300

3350





Calibration Report									
Database File:		30888ddn.db							
Dataset Pathname:		pass2.1							
Dataset Creation:		Tue Dec 15 13:56:03 2015 by Calc Open-Cased 090629							
Dual Induction Calibration Report									
Serial-Model:		PROBE8-DILG							
Surface Cal Performed:		Sun May 10 19:54:09 2015							
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	0.000	
Medium	0.029	0.796	V	0.000	464.000	mmho/m	590.000	-12.000	
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:	GEAR5-GEARHART
Source / Verifier:	/
Master Calibration Performed:	Sun Dec 06 13:45:22 2015
Before Survey Verification Performed:	
After Survey Verification Performed:	

Master Calibration			Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc			798.83	465.02	cps
Aluminum	2.570	g/cc			178.16	323.19	cps
Spine Angle = 76.37			Density/Spine Ratio = 0.557				
	Size			Reading			
Small Ring	7.00	in		1.47	V		
Large Ring	14.00	in		3.01	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			Readings		Target	Normalization
Detector						
Short Space	1.00	cps	1.00	cps	1.0000	

	Short Space	1.00	cps	1.00	cps	1.0000
	Long Space	1.00	cps			
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:		Thu Nov 12 05:47:01 2015				
Calibrator Value:		150.0		GAPI		
Background Reading:		0.0		cps		
Calibrator Reading:		276.0		cps		
Sensitivity:		0.4500		GAPI/cps		