



DUAL INDUCTION LOG

Company	MAI OIL OPERATIONS	Company	MAI OIL OPERATIONS
Well	KULTGEN #17	Well	KULTGEN #17
Field	CHEYENNE VIEW	Field	CHEYENNE VIEW
County	BARTON	County	BARTON
State	KANSAS	State	KANSAS
Location:	AP1 # : 15-009-26218-00-00 2024 FNL & 672 FWL	Other Services	CDL/CNL/MEL
Permanent Datum	SEC 12 TWP 19S RGE 12W	Elevation	
Log Measured From	GROUND LEVEL	Elevation	1809'
Drilling Measured From	KELLY BUSHING 8' A.G.L. KELLY BUSHING	Elevation	K.B. 1817 D.F. 1815 G.L. 1809
Date	06/07/18		
Run Number	ONE		
Depth Driller	3465		
Depth Logger	3469		
Bottom Logged Interval	3467		
Top Log Interval	50		
Casing Driller	8 5/8@ 366		
Casing Logger	366		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 8000 PPM	
Density / Viscosity	9.0/51		
pH / Fluid Loss	10.5/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.50@80		
Rmt @ Meas. Temp	.36@80		
Rmc @ Meas. Temp	.60@80		
Source of Rmt / Rmc	MEASURED		
Rm @ BHT	.36@111		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	///		
Maximum Recorded Temperature	111F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	GUS PFANENSTIEL		
Witnessed By	WYATT URBAN		

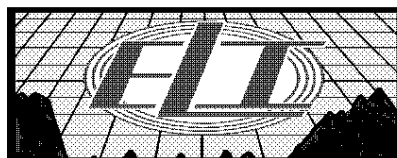
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All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on 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 ELI WIRELINE, HAYS, KS. (785) 628-6395

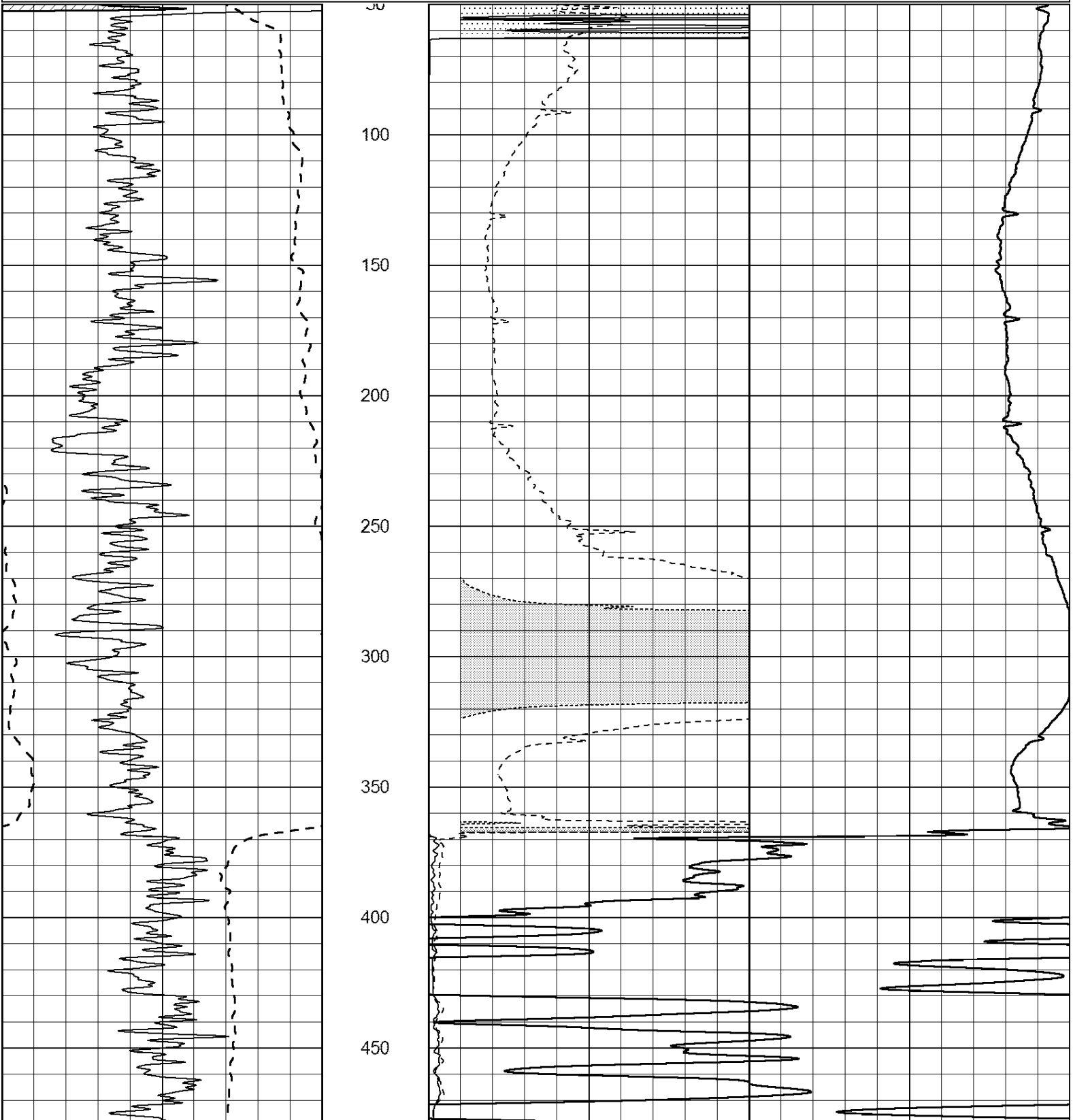
DIRECTIONS
GREAT BEND EAST TO SOUTH WINDS YARD
4 NORTH, EAST INTO

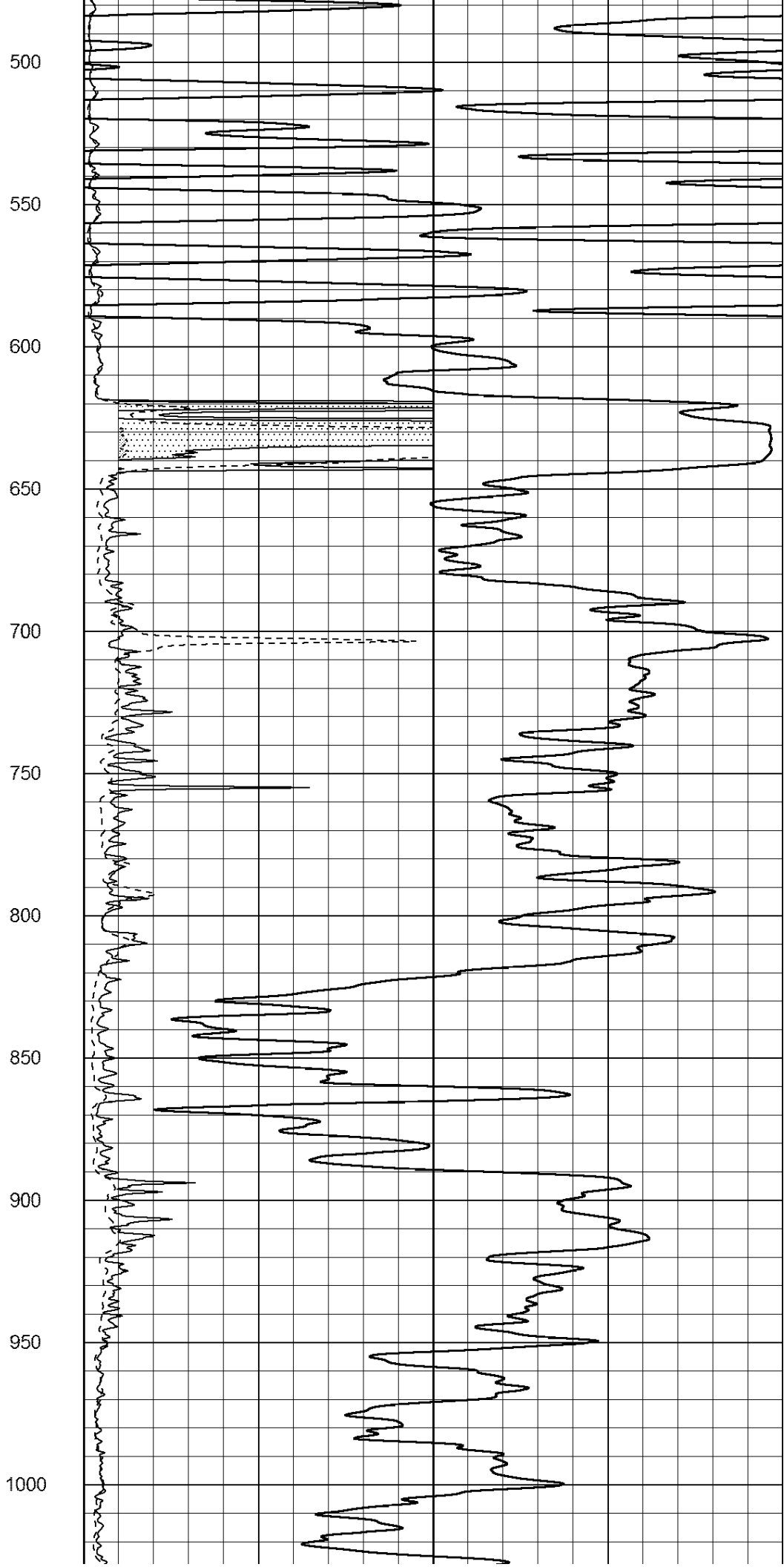
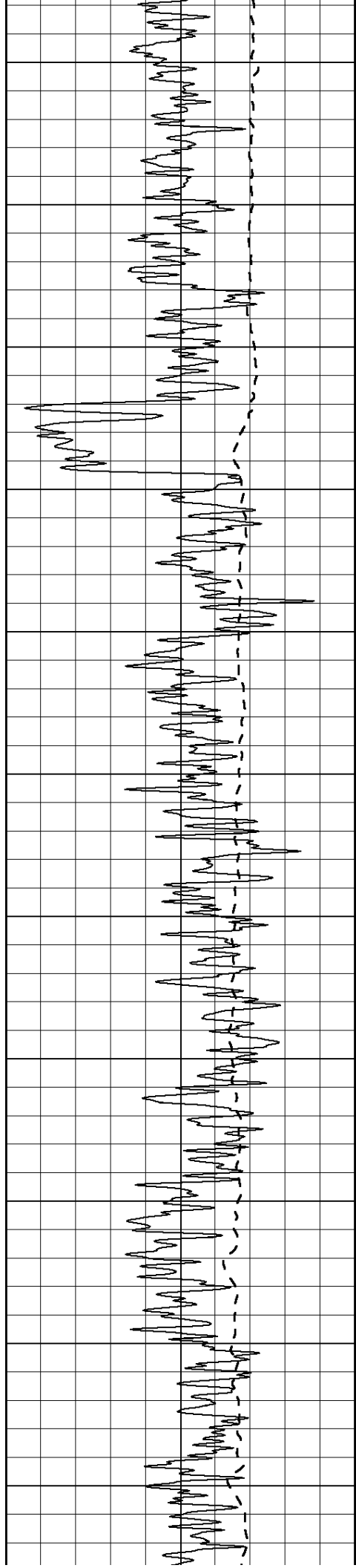


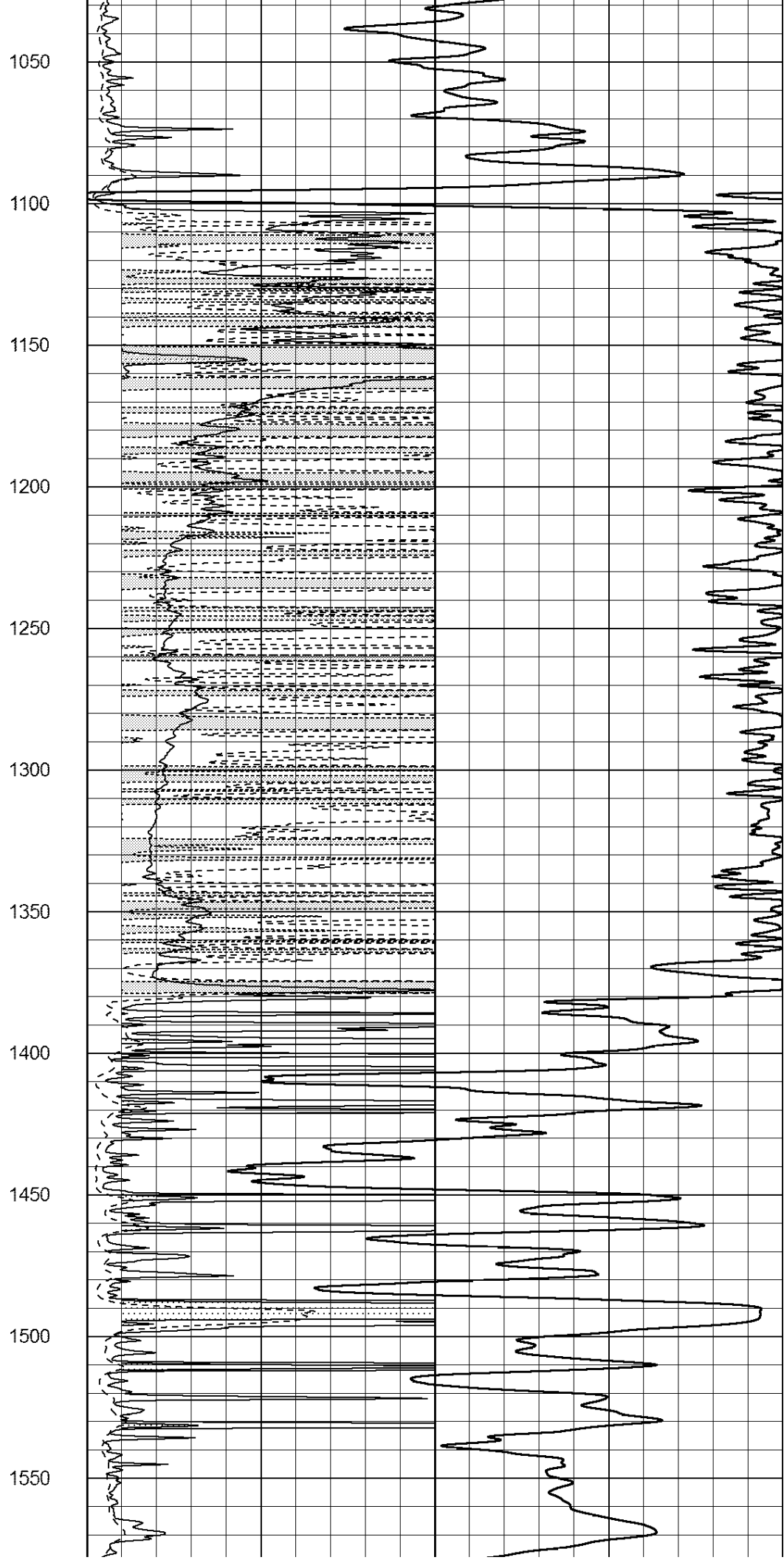
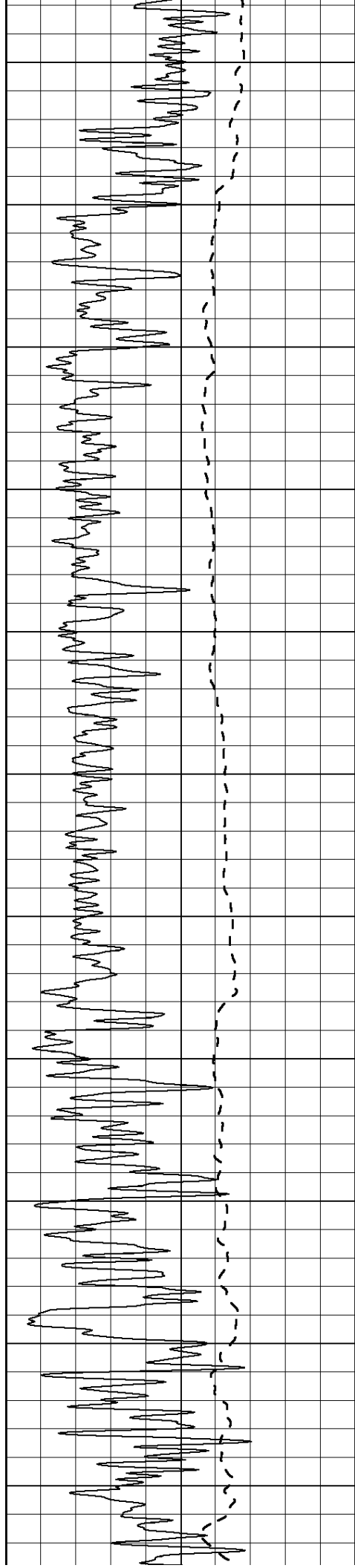
MAIN PASS

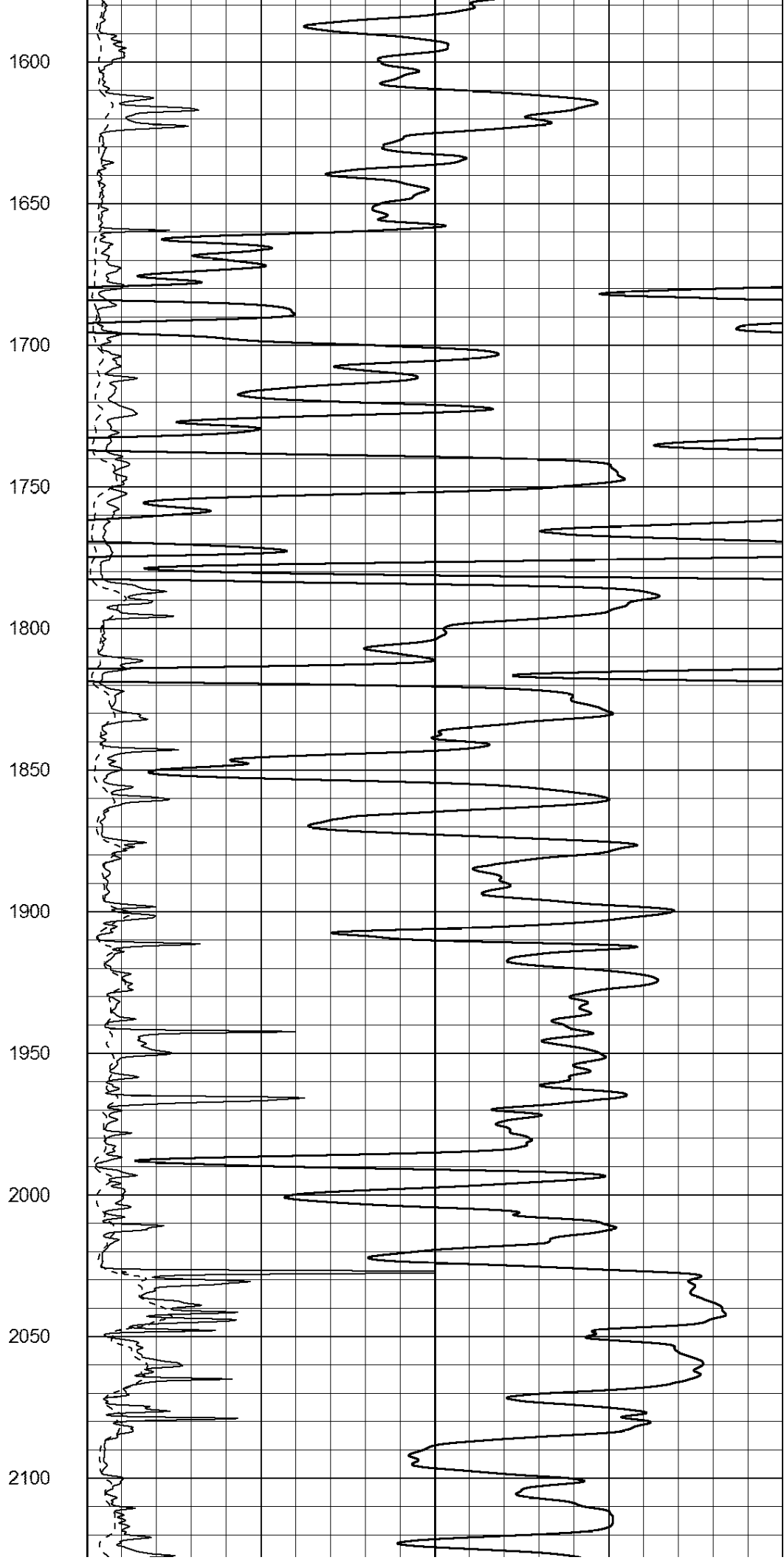
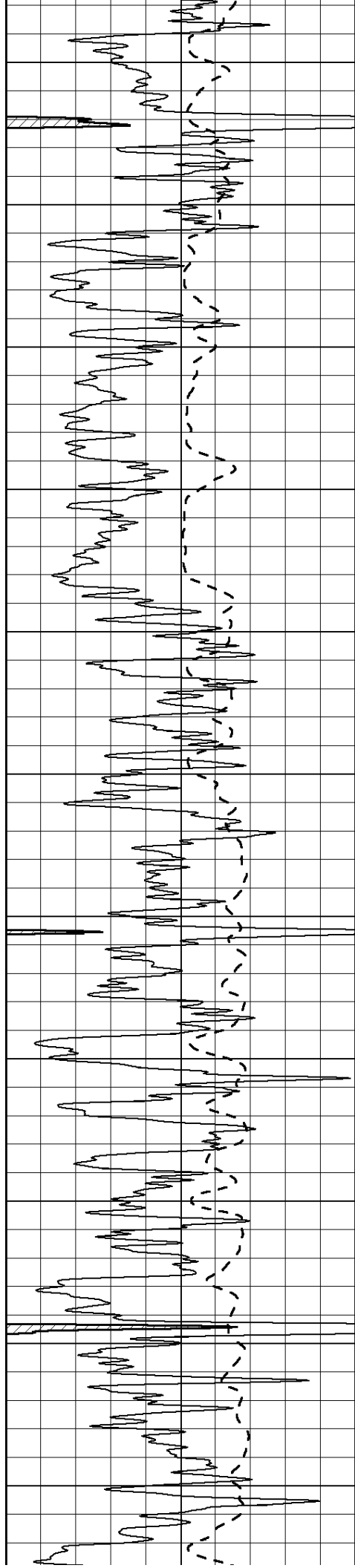
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Presentation Format: _dil2
Dataset Creation: Thu Jun 07 01:35:35 2018 by Calc Open-Cased 090629
Charted by: Depth in Feet scaled 1:600

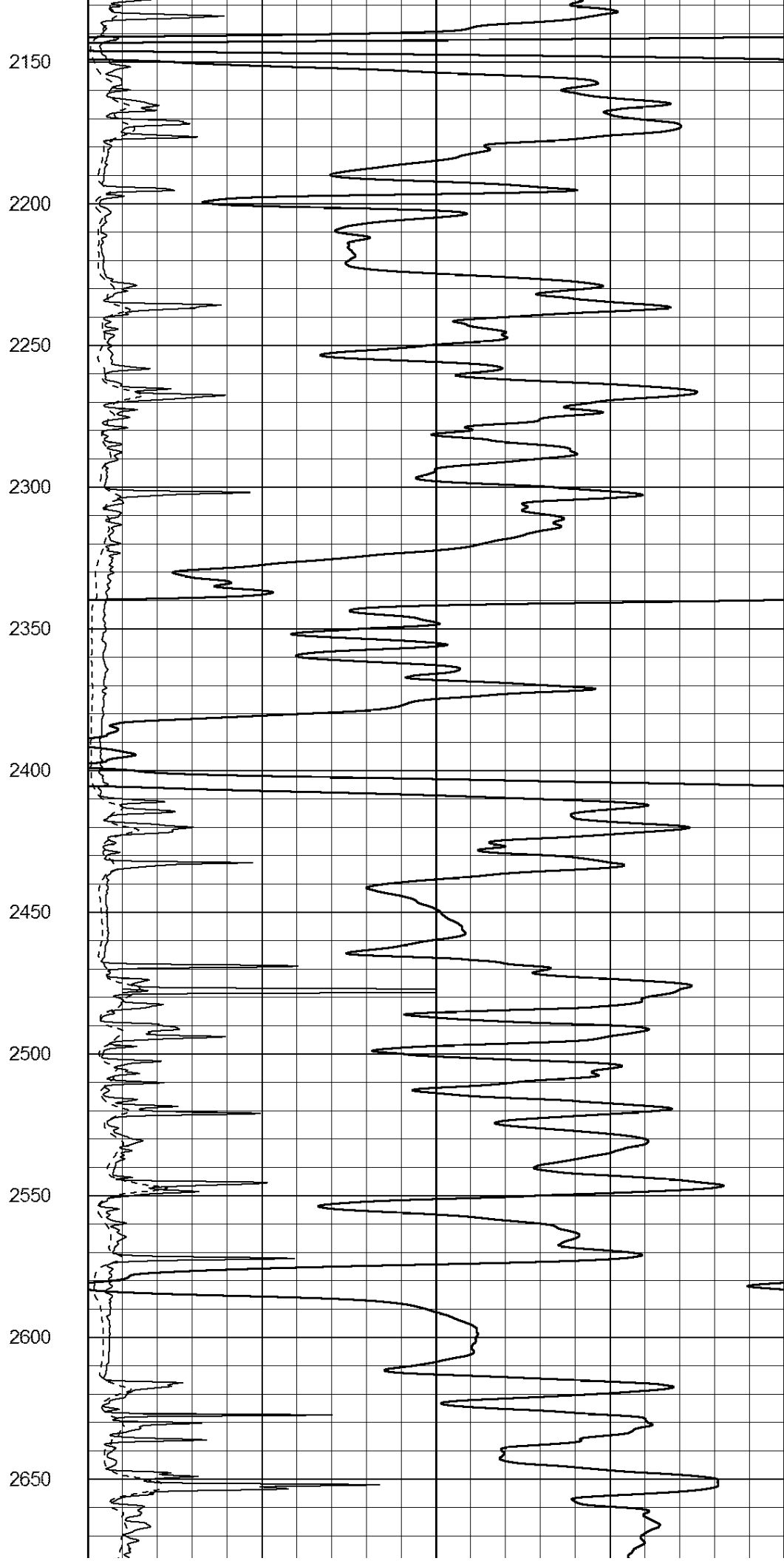
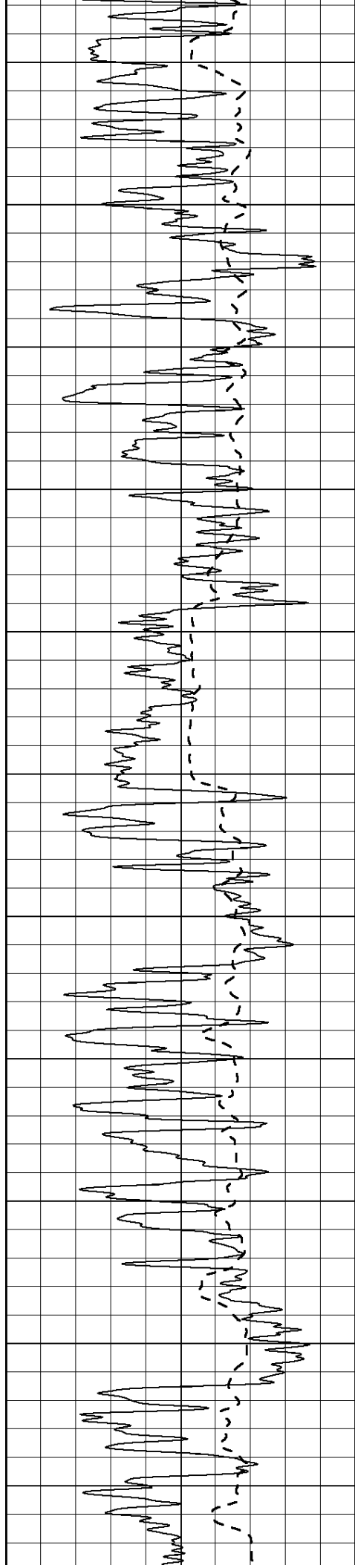
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-100	SP (mV)	100	0	RILD (Ohm-m)	50
-----			1000	CILD (mmho/m)	0
			50	RILD X10 (Ohm-m)	500
			50	RLL3 X10 (Ohm-m)	500

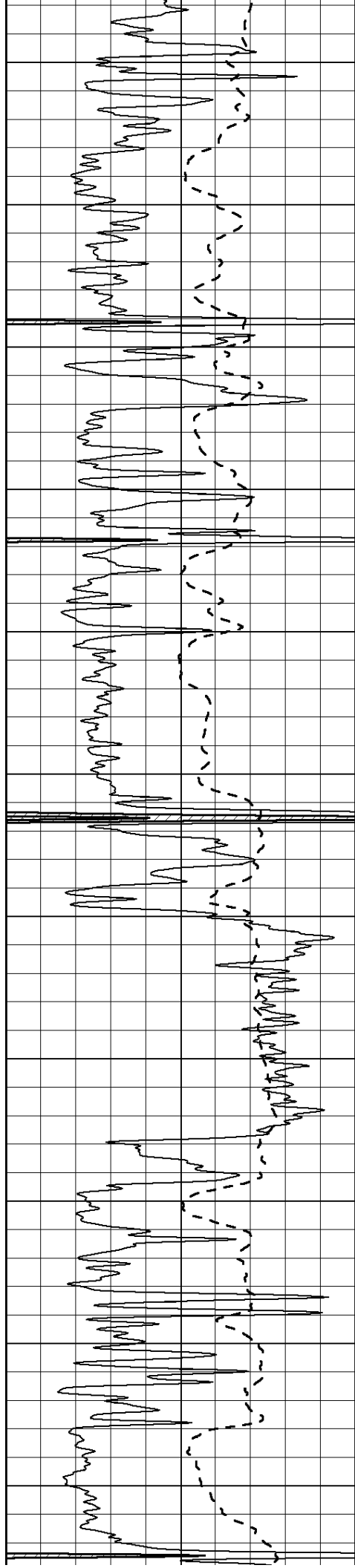












2700

2750

2800

2850

2900

2950

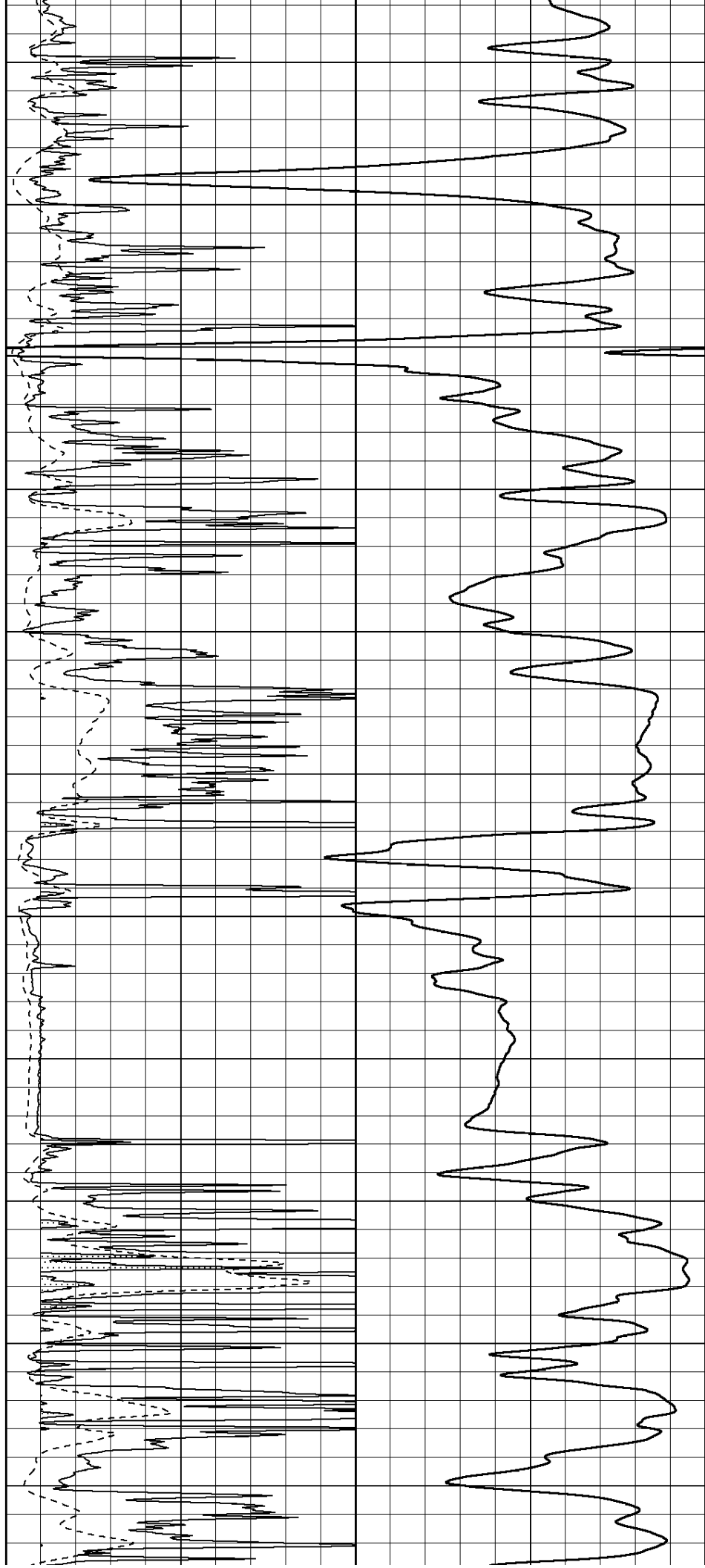
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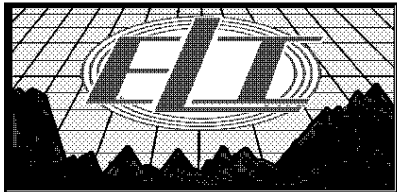
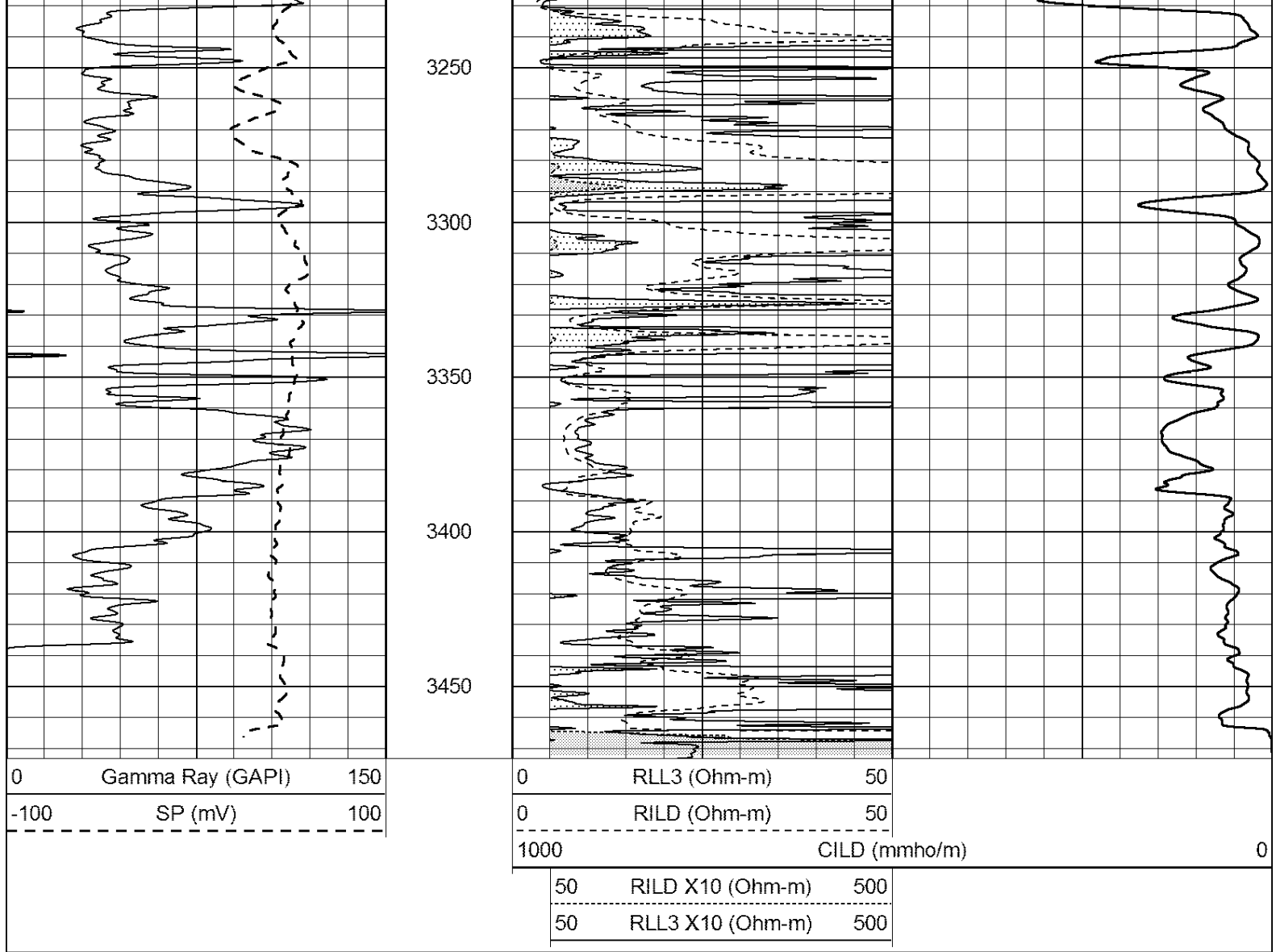
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3100

3150

3200

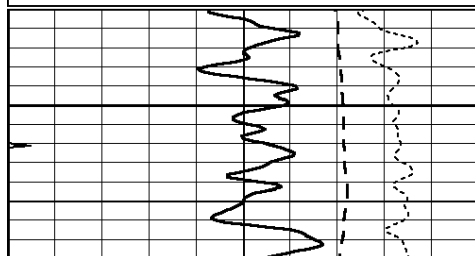




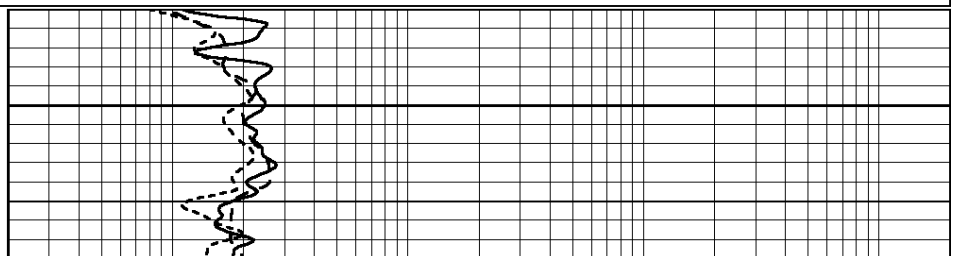
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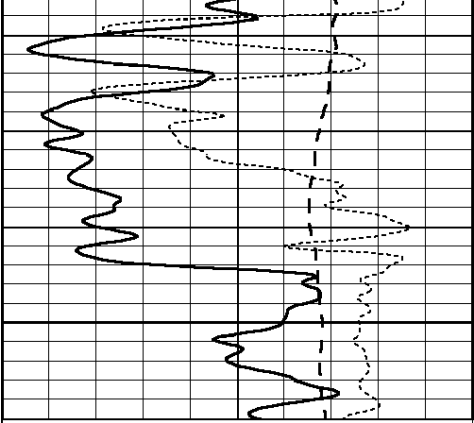
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 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Thu Jun 07 01:35:35 2018 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0.2	SHALLOW GUARD (Ohm-m)	2000
-100	SP (mV)	100	0.2	DEEP INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	MEDIUM INDUCTION (Ohm-m)	2000
0	MINMK	20			



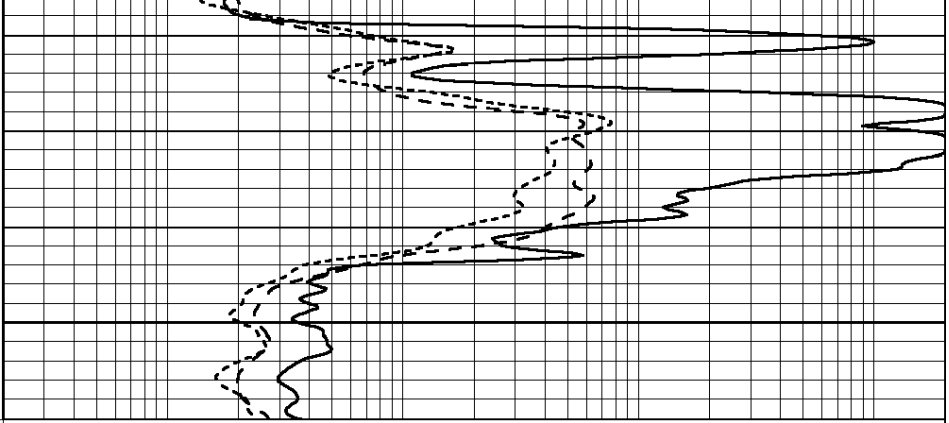
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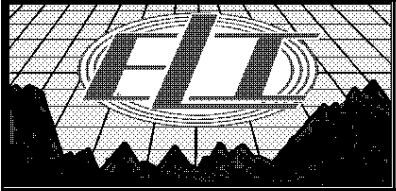


650

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

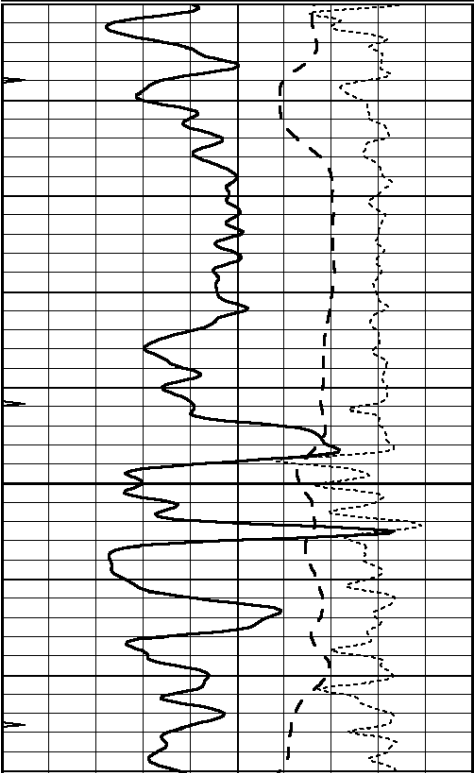


MAIN PASS

Database File: 2682ddn.db
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 Presentation Format: _dil
 Dataset Creation: Thu Jun 07 01:35:35 2018 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

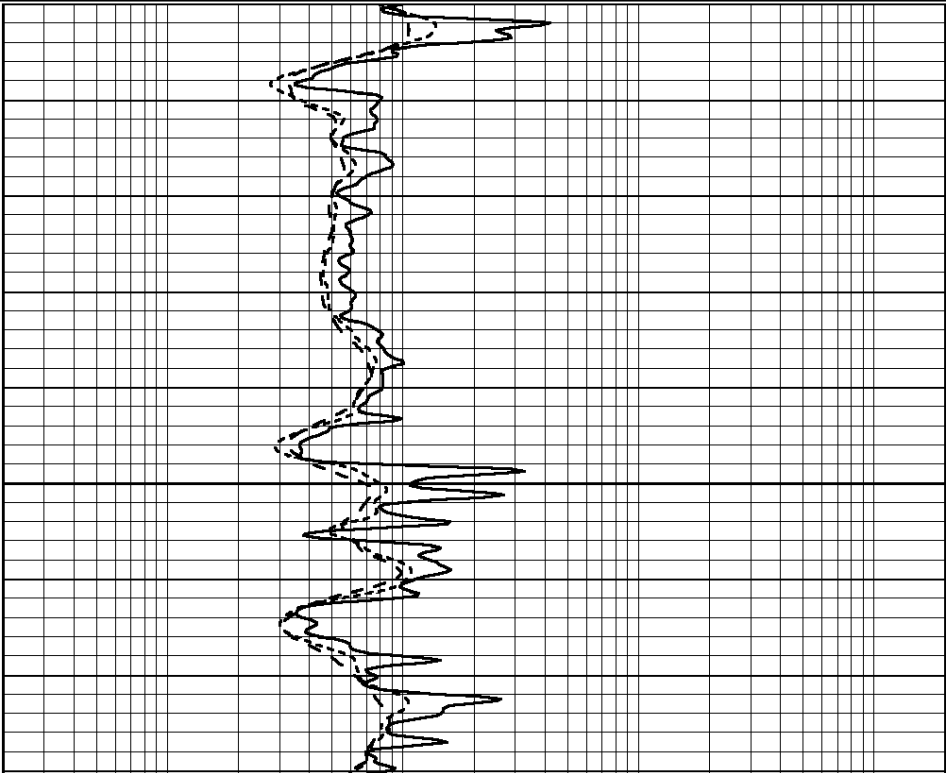
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

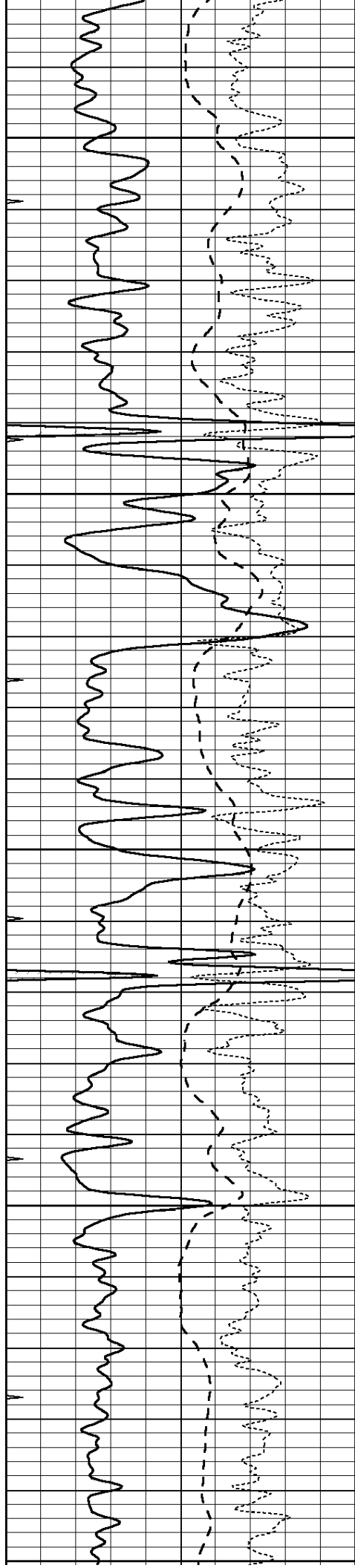
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



2000

2700





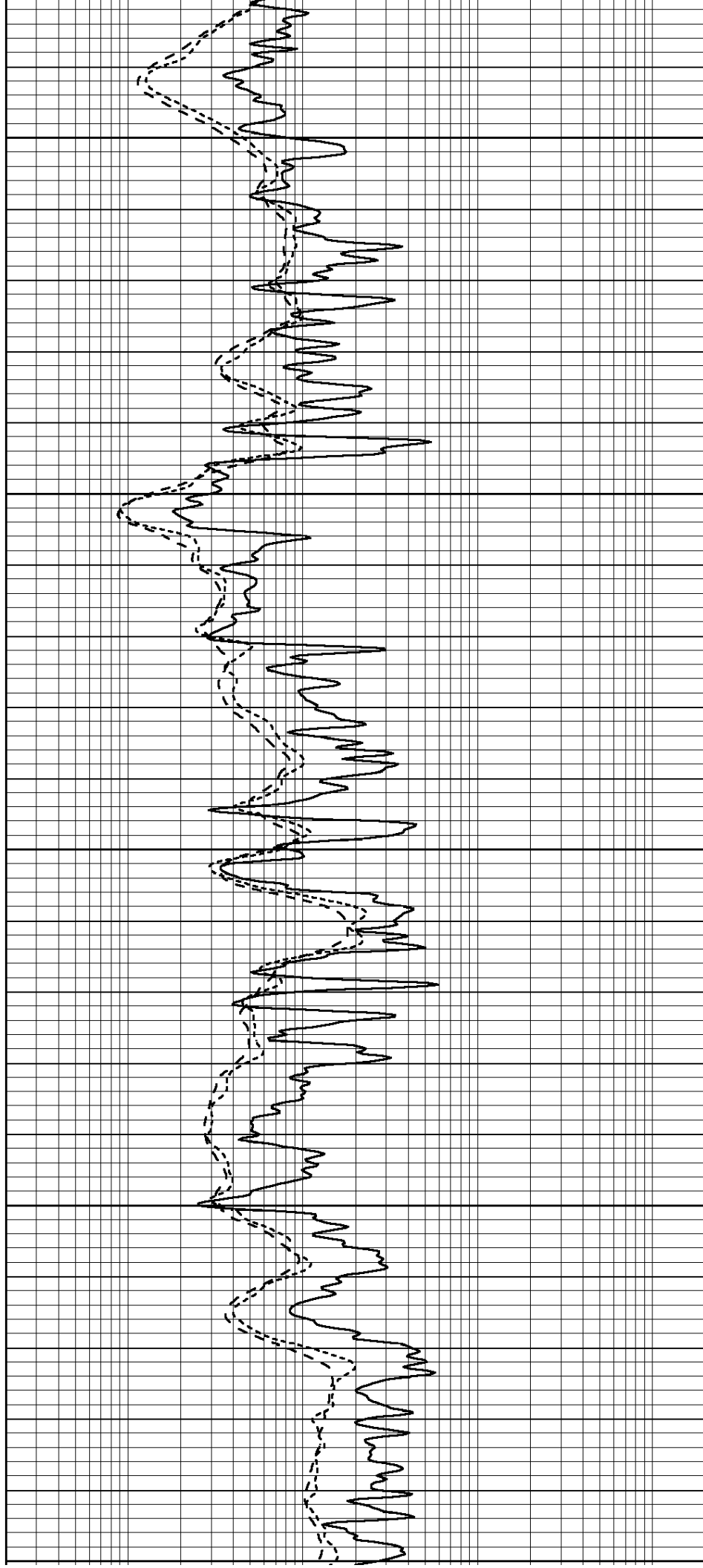
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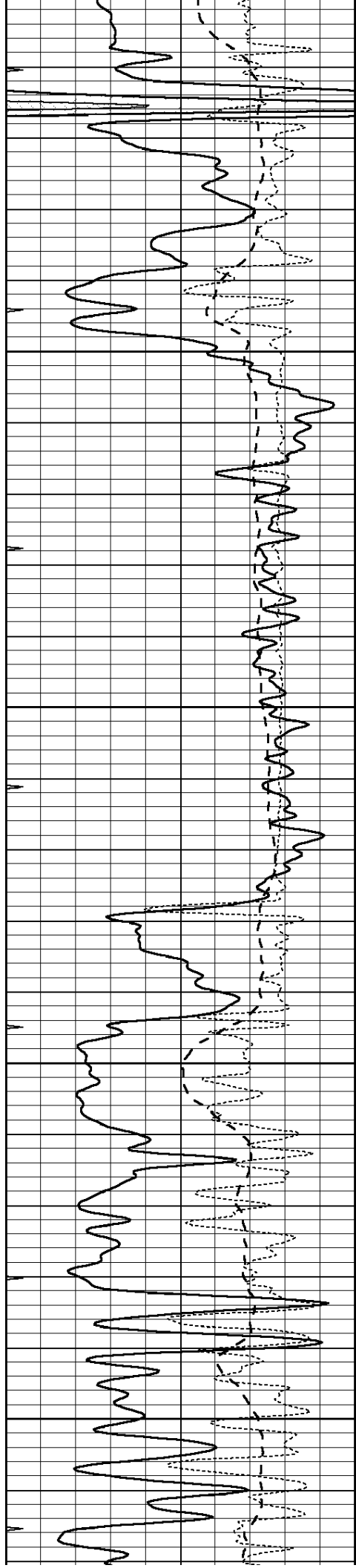
2800

2850

2900

2950





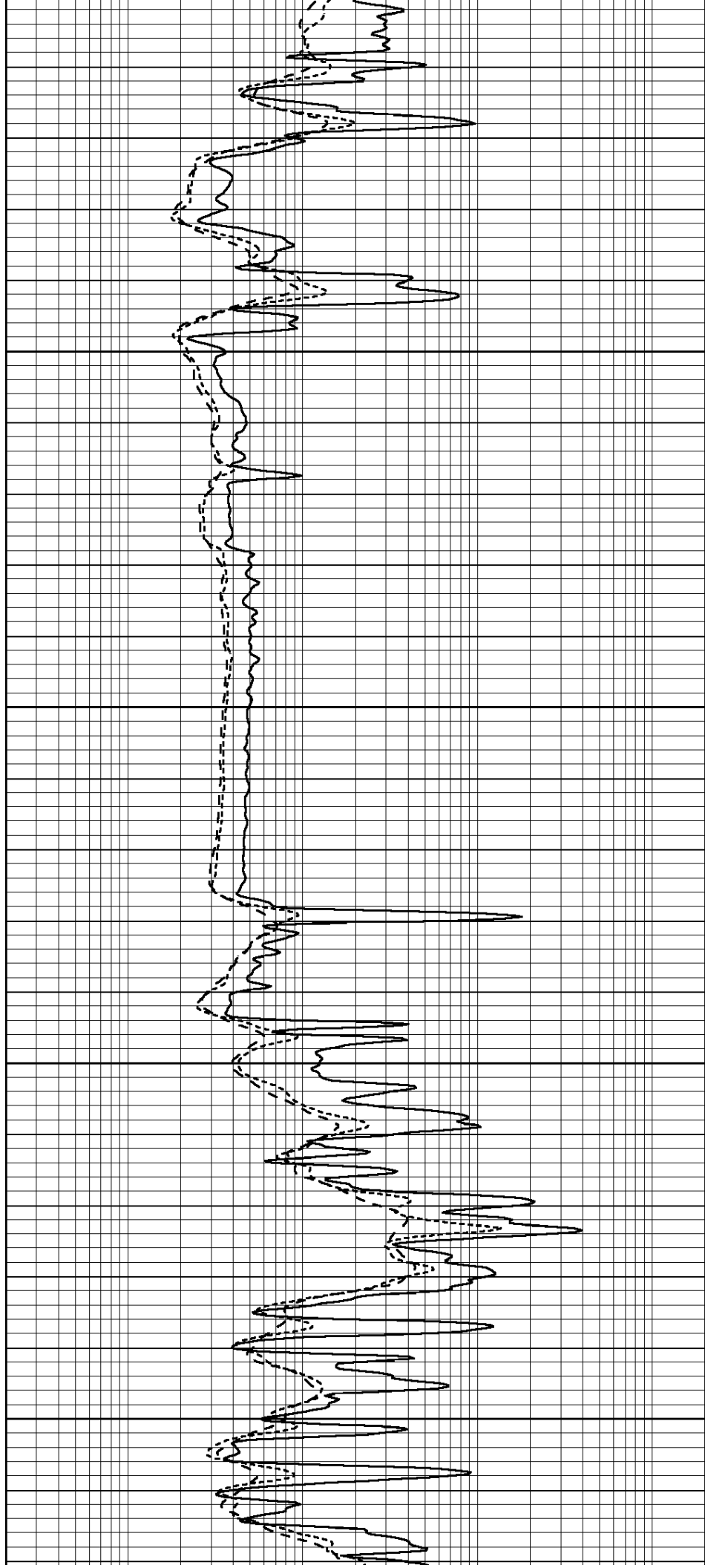
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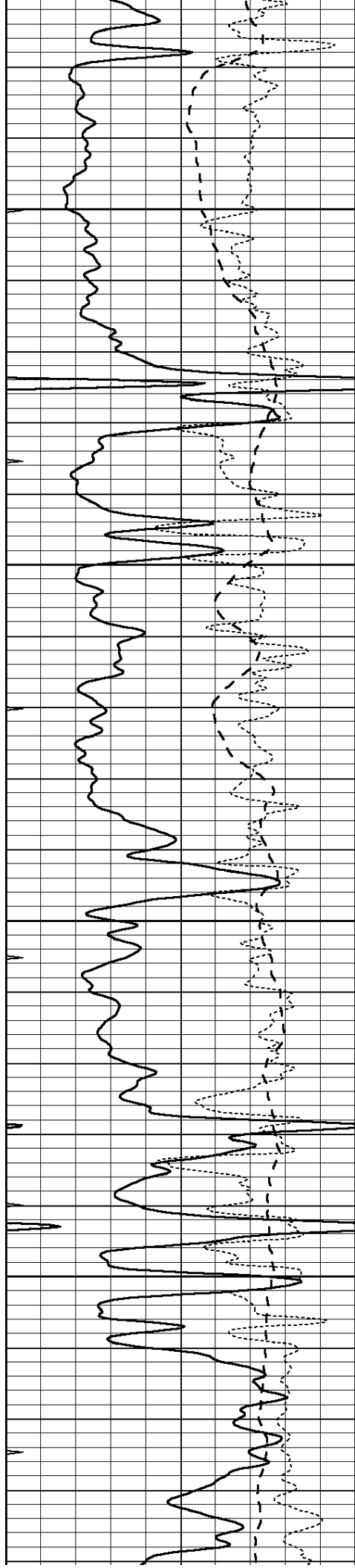
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3050

3100

3150



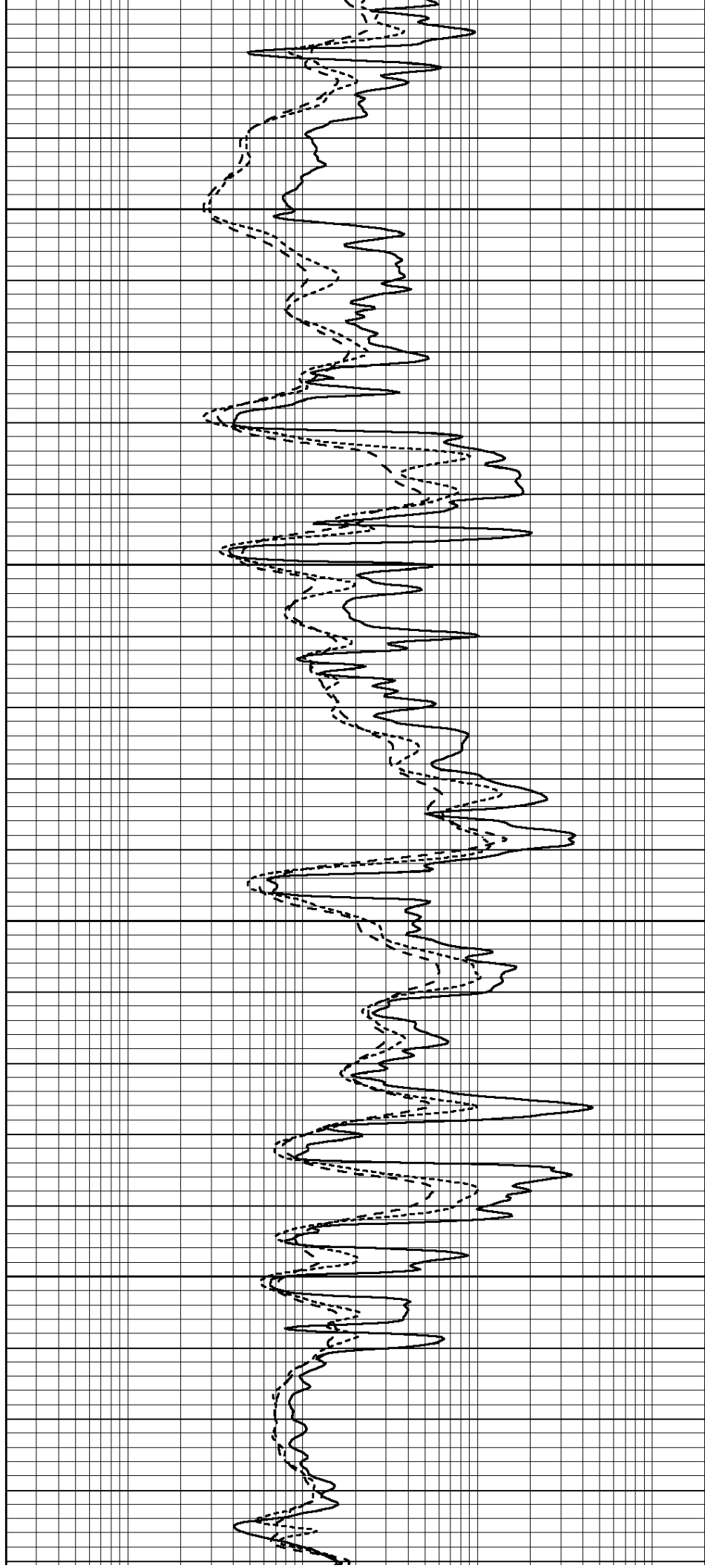


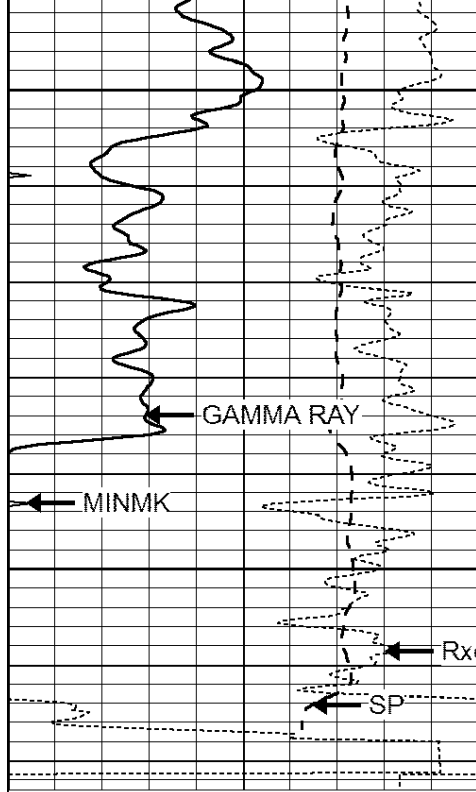
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3250

3300

3350



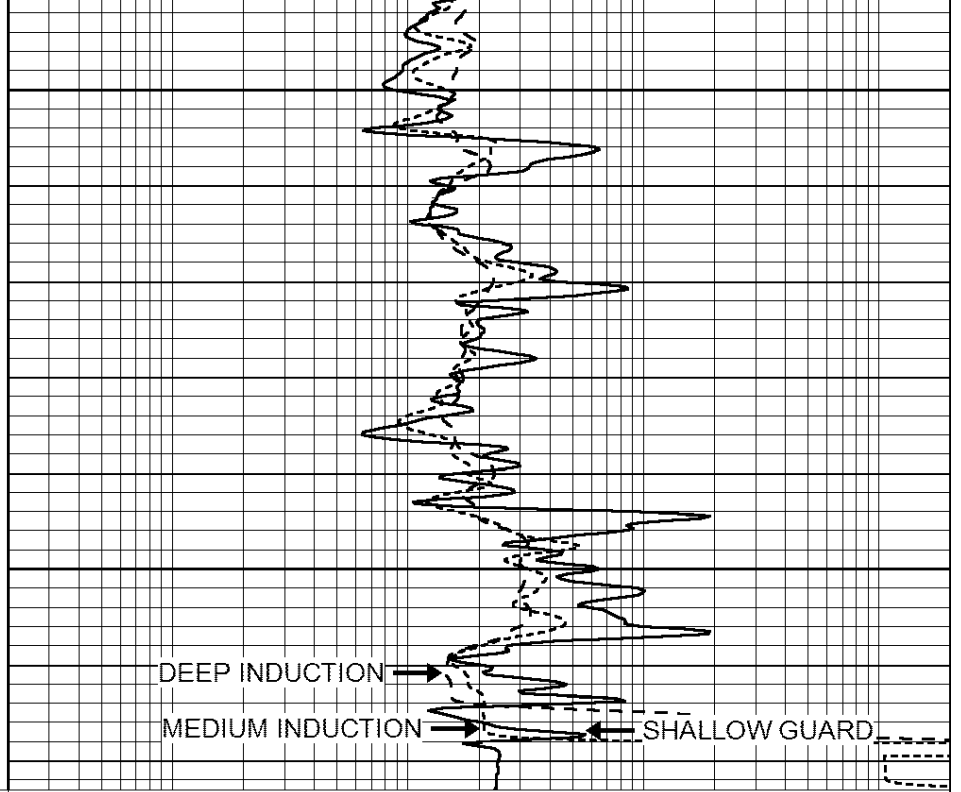


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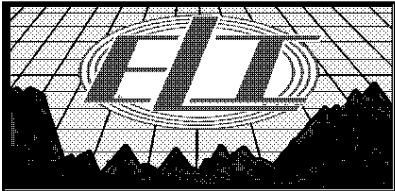
3450

LTD 3469

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

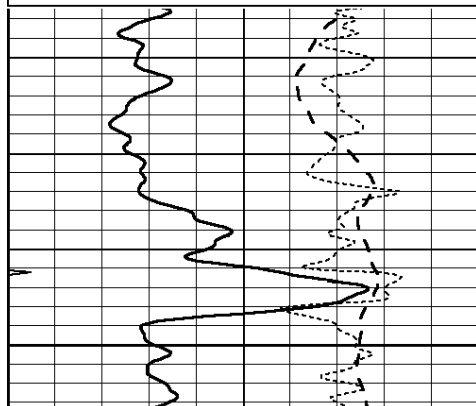


REPEAT SECTION

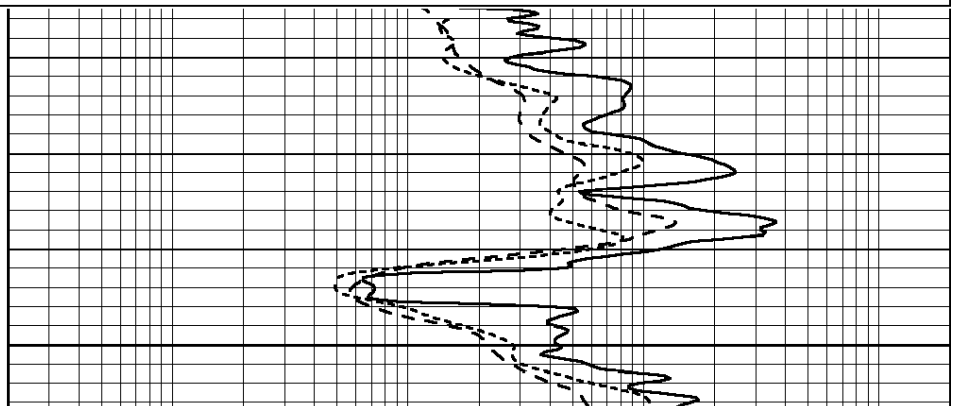
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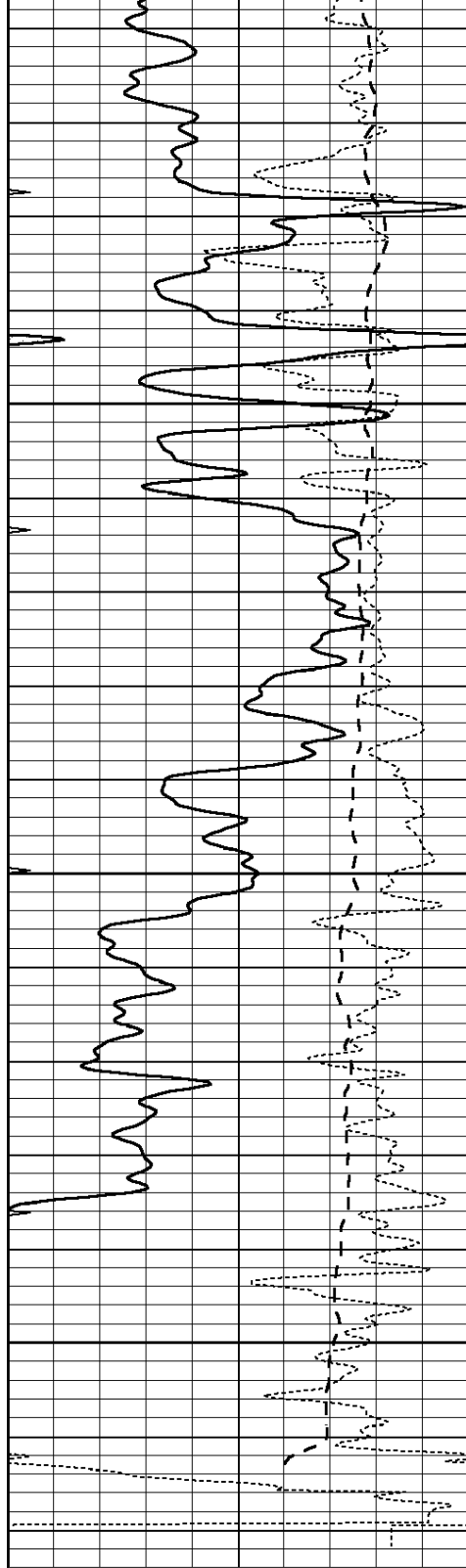
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

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



3300



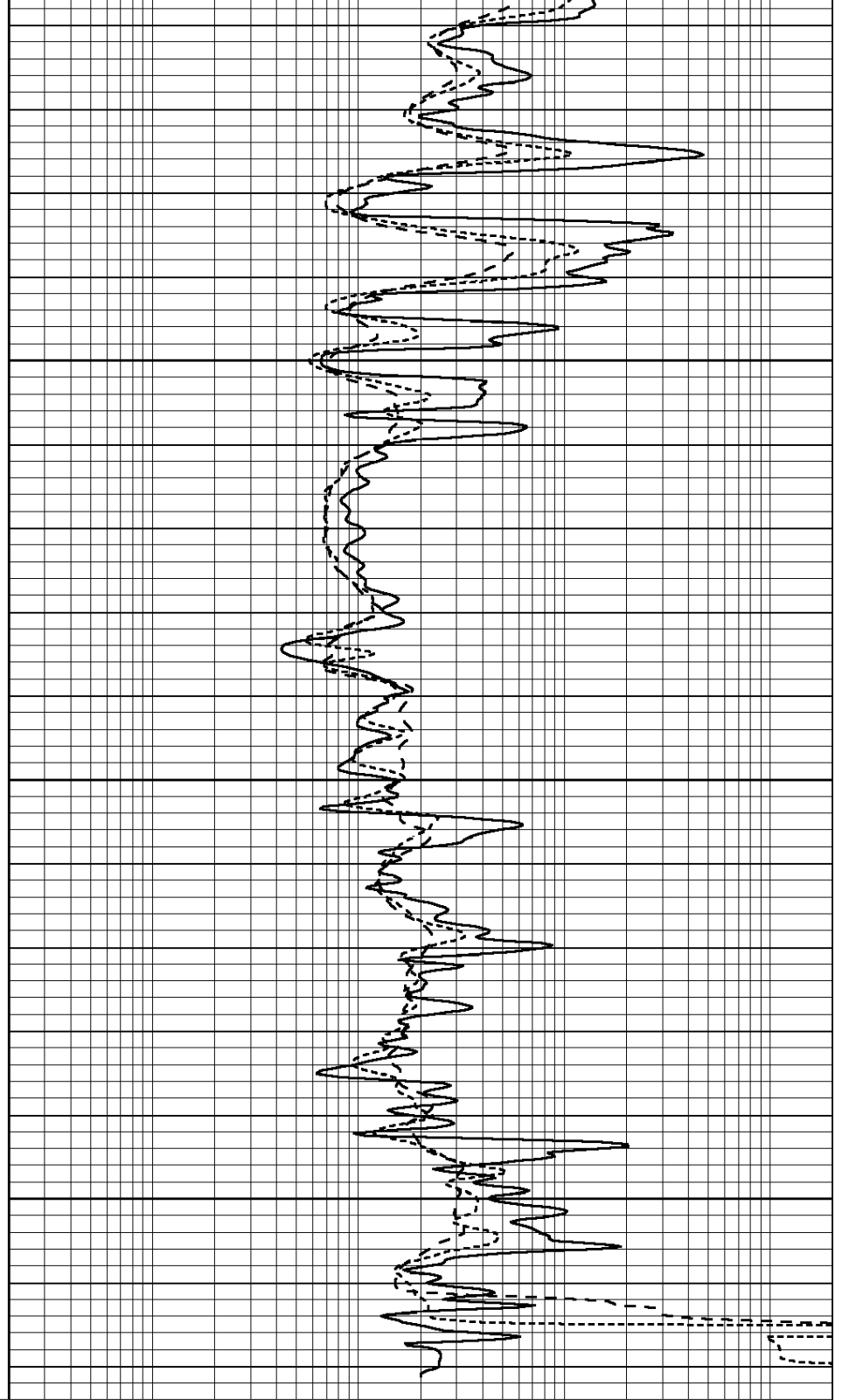


0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

3350

3400

3450



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: pe2.db
 Dataset Pathname: pass2
 Dataset Creation: Mon Aug 21 11:58:02 2017 by Log Open-Cased 090629

Serial-Model: PROBE8-DILG
 Surface Cal Performed: Mon Aug 21 11:58:18 2017
 Downhole Cal Performed: Mon Aug 21 11:58:21 2017
 After Survey Verification Performed: Mon Aug 21 11:58:23 2017

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		

Litho Density Calibration Report								
Serial: 002			Model: PRB					

Master Calibration					Performed Mon Aug 21 11:56:41 2017			
	Background	Magnesium	Aluminum	Sandstone				
Window 1	833.6	7394.2	2287.3	8111.8	cps			
Window 2	768.9	6322.3	1995.6	6800.0	cps			
Window 3	621.5	3261.9	1186.4	3380.9	cps			
Window 4	184.2	185.7	184.9	184.8	cps			
Long Space	0.0	5553.4	1226.6	6031.1	cps			
Short Space	1.2	1307.5	903.9	1387.7	cps			
Rho		1.7100	2.5900	1.3800	g/cc			
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 46.3	Rib Slope	: 1.045	Density/Spine Ratio	: 0.566			
Spine Angle	: 76.3	Spine Slope	: 4.090	Spine Intercept	: -20.7			

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:		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:	GR6		
Tool Model:	OPEN		
Performed:	Mon Aug 21 11:59:01 2017		
Calibrator Value:	150.0	GAPI	
Background Reading:	0.0	cps	
Calibrator Reading:	276.0	cps	

Sensitivity:

0.5500

GAPI/cps