



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company	EMPIRE ENERGY E&P, LLC.		
Well	CARMICHAEL "A" #19		
Field	BEMIS SHUTTS		
County	ELLIS	State	KANSAS
Location:	API # : 15-051-26747		Other Services CDL/CNL/PE SONIC/MEL
833' FNL & 1323' FWL			
SEC 18 TWP 11S RGE 17W		Elevation	
Permanent Datum	GROUND LEVEL	Elevation	1841
Log Measured From	KELLY BUSHING 5' A.G.L.		K.B. 1846
Drilling Measured From	KELLY BUSHING		D.F. G.L. 1841
Date	11-19-14		
Run Number	ONE		
Depth Driller	3430		
Depth Logger	3430		
Bottom Logged Interval	3428		
Top Log Interval	00		
Casing Driller	1079		
Casing Logger	1080		
Bit Size	7.875		
Type Fluid in Hole	CHEMICAL MUD		
Density / Viscosity	9.0 / 59		
pH / Fluid Loss	9.0 / 12.6		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.60 @ 67F		
Rmf @ Meas. Temp	0.45 @ 67F		
Rmc @ Meas. Temp	0.72 @ 67F		
Source of Rmf / Rmc	MEASURED		
Rm @ BHT	.369 @ 109F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	5:00 P.M.		
Maximum Recorded Temperature	109F		
Equipment Number	3802		
Location	HAYS, KS.		
Recorded By	RUPP		
Witnessed By	MIKE BAIR		

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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 SERVICES
785-628-6395
THANK YOU FOR YOUR BUSINESS
DIRECTIONS: HAYS, N TO SALINE RIVER RD., 2 3/4E, S INTO.

Database File: 26259pdn.db
 Dataset Pathname: pass3.2A
 Presentation Format: _dil2
 Dataset Creation: Wed Nov 19 18:34:59 2014 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
-100	SP (mV)	100

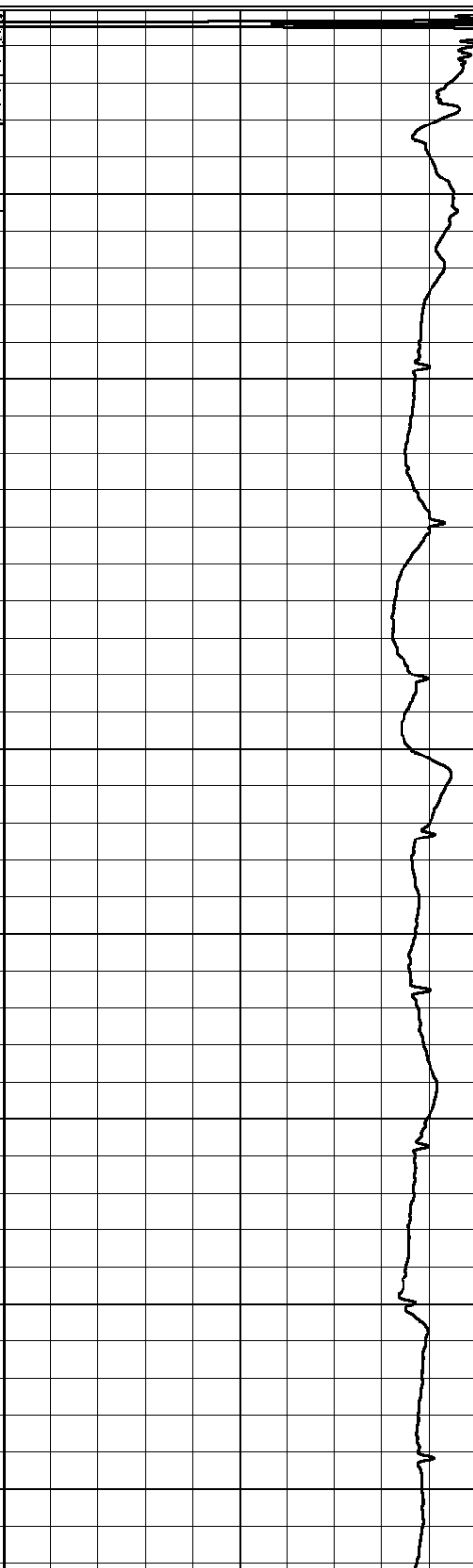
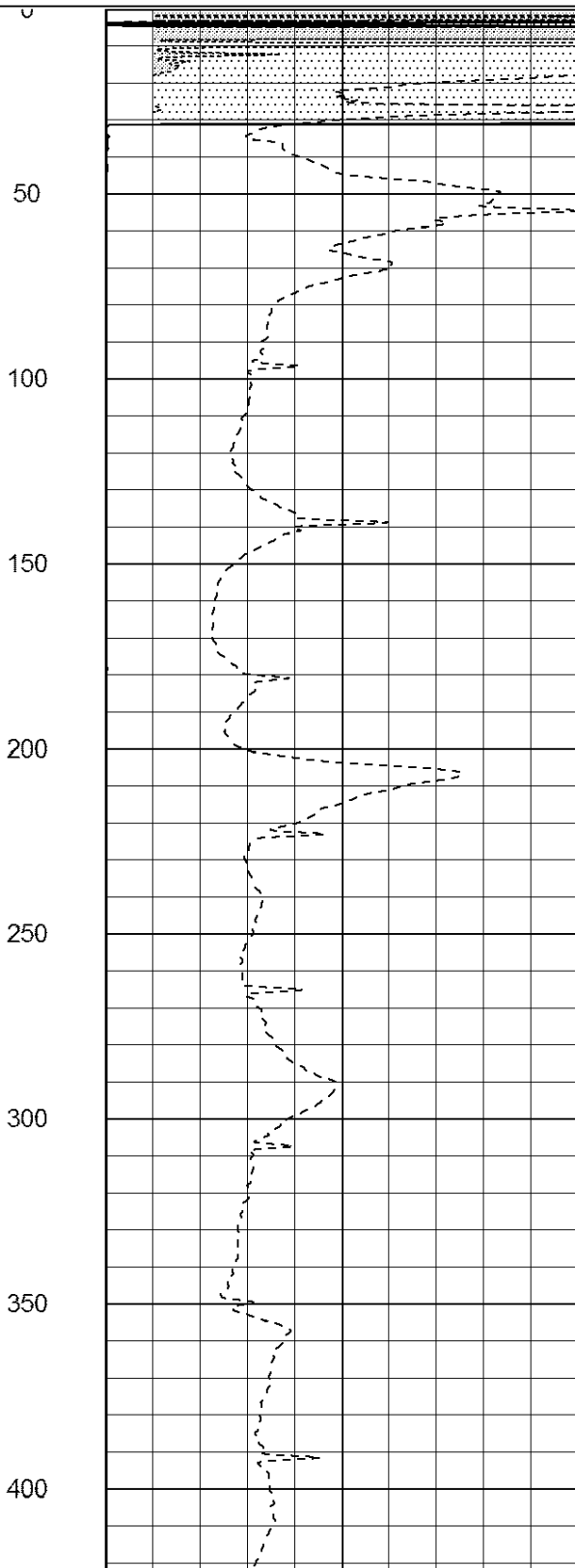
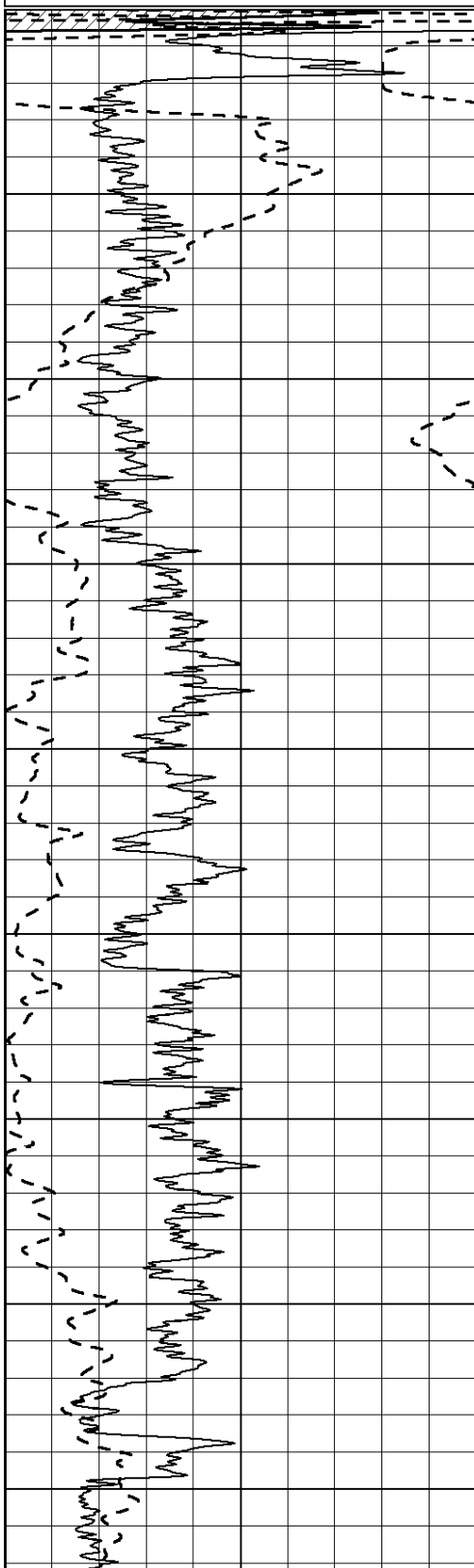
0	RLL3 (Ohm-m)	50
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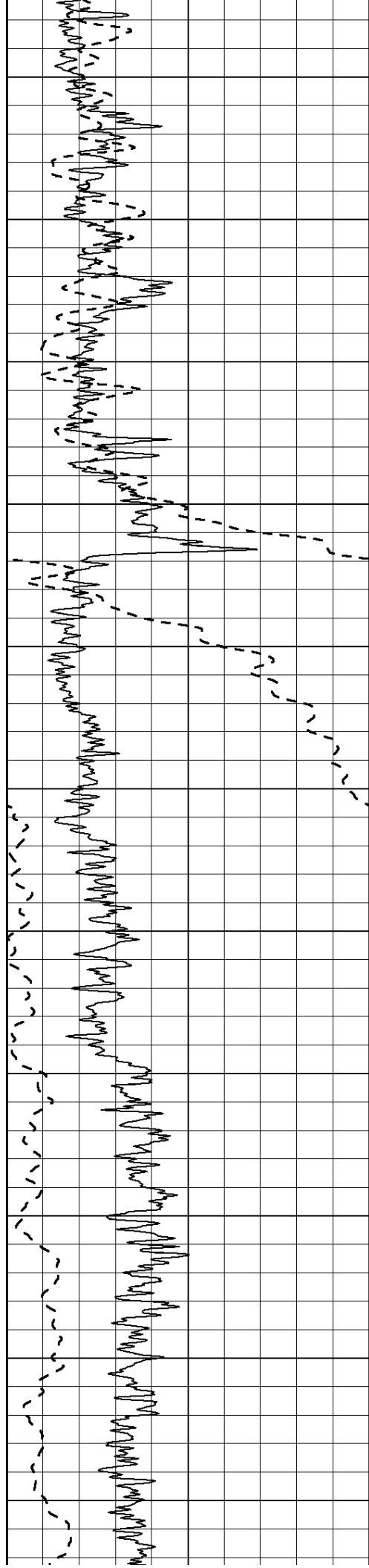
0	Deep Induction (Ohm-m)	50
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1000	CILD (mmho/m)	0
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50	RILD X10 (Ohm-m)	500
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50	RLL3 X10 (Ohm-m)	500
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450

500

550

600

650

700

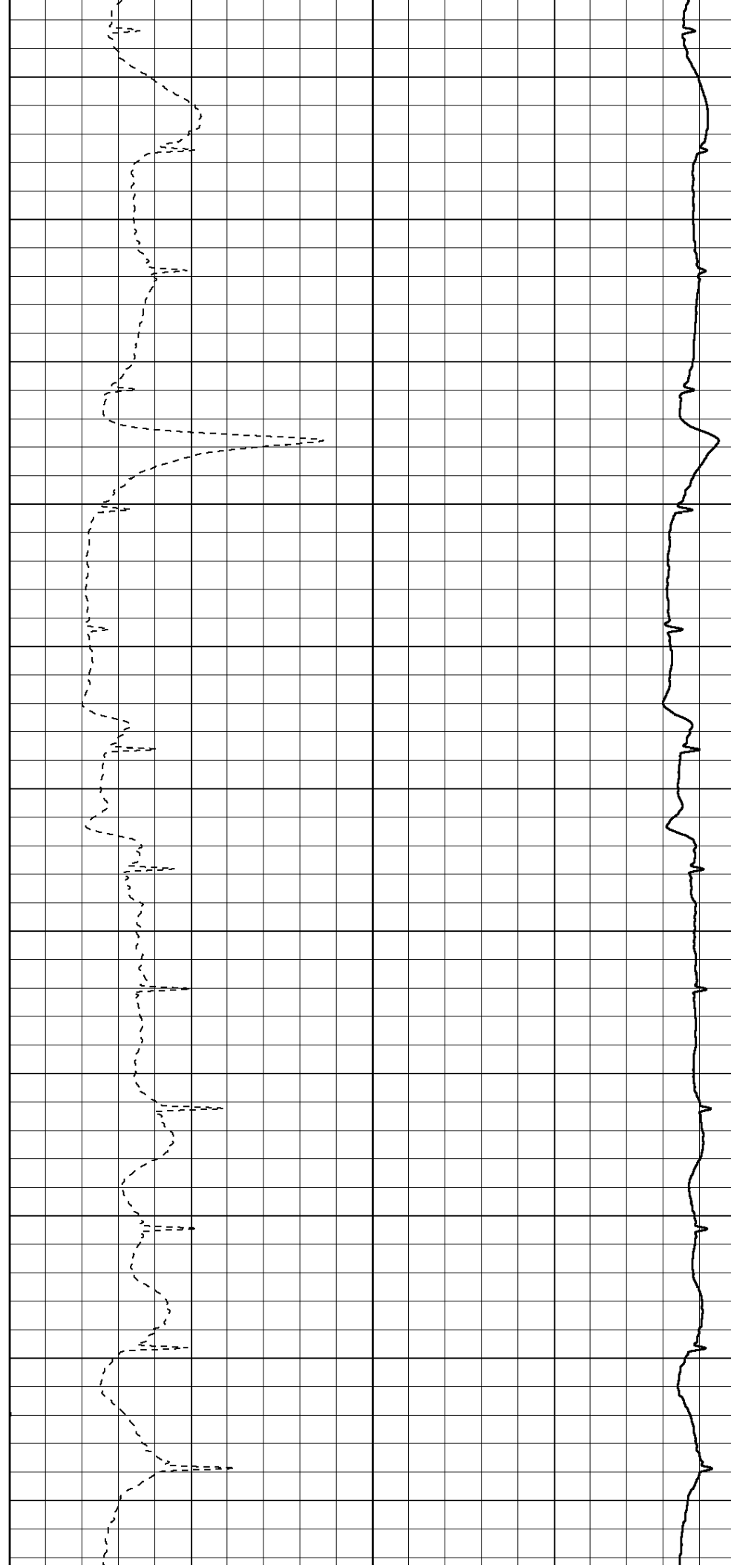
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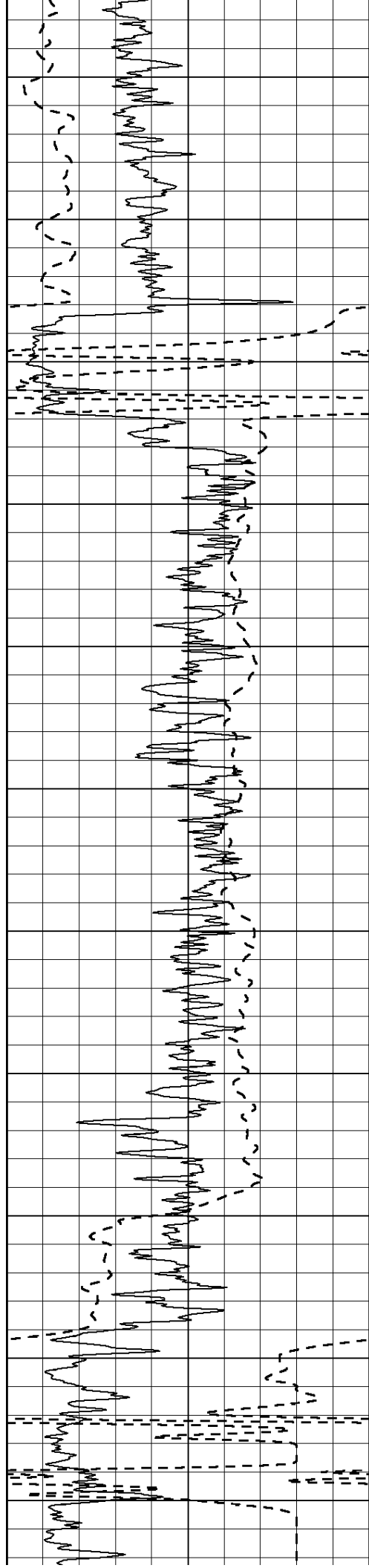
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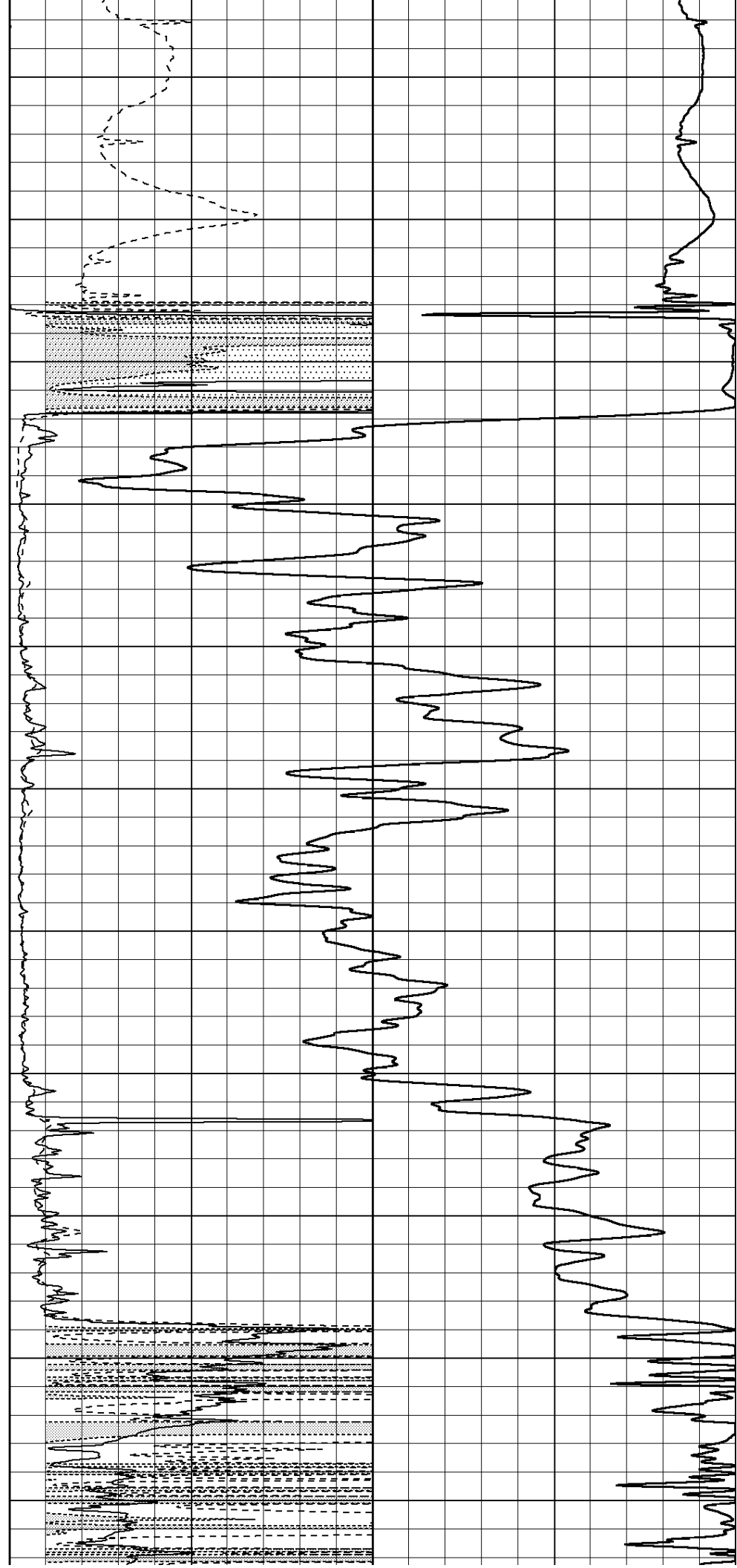
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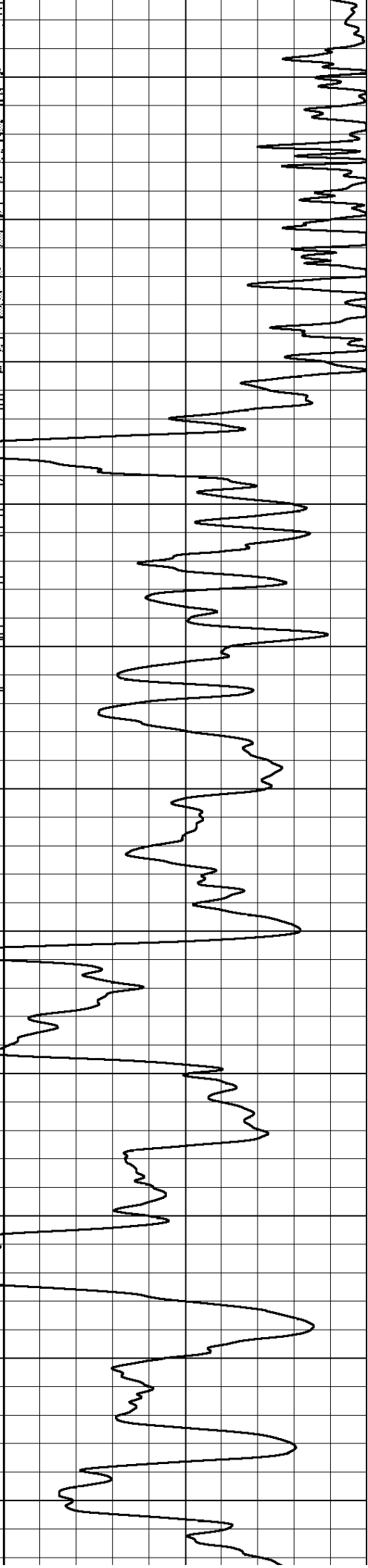
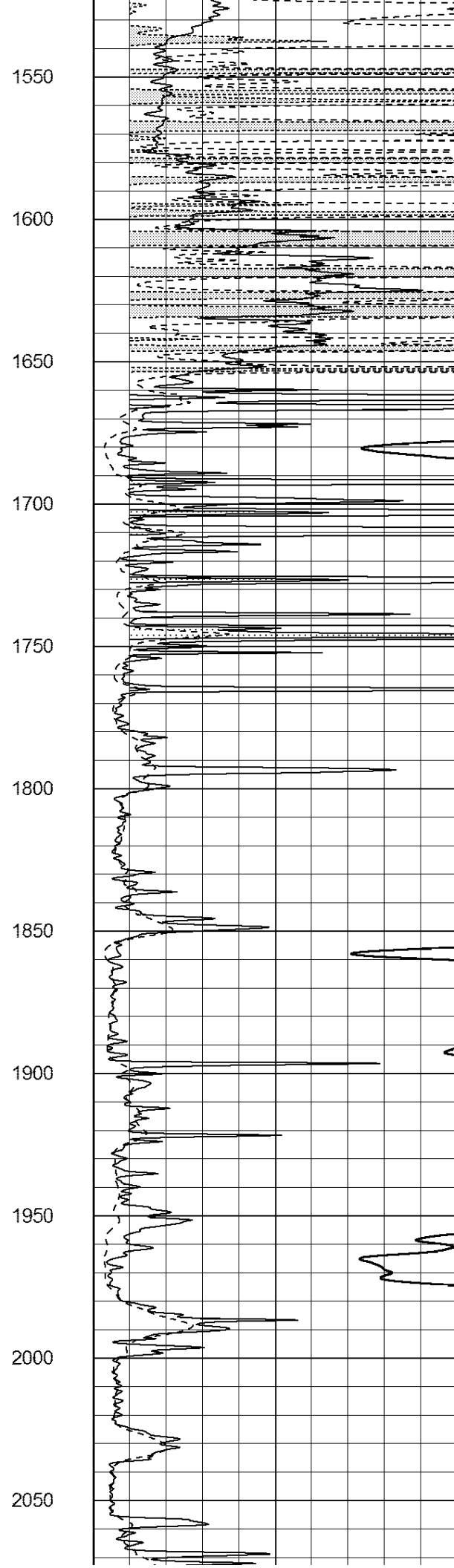
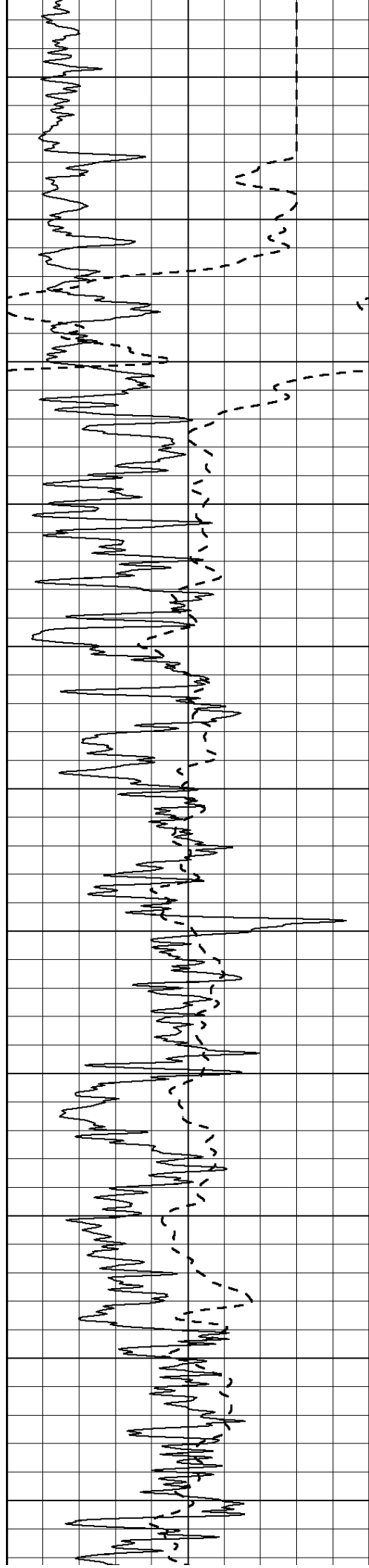
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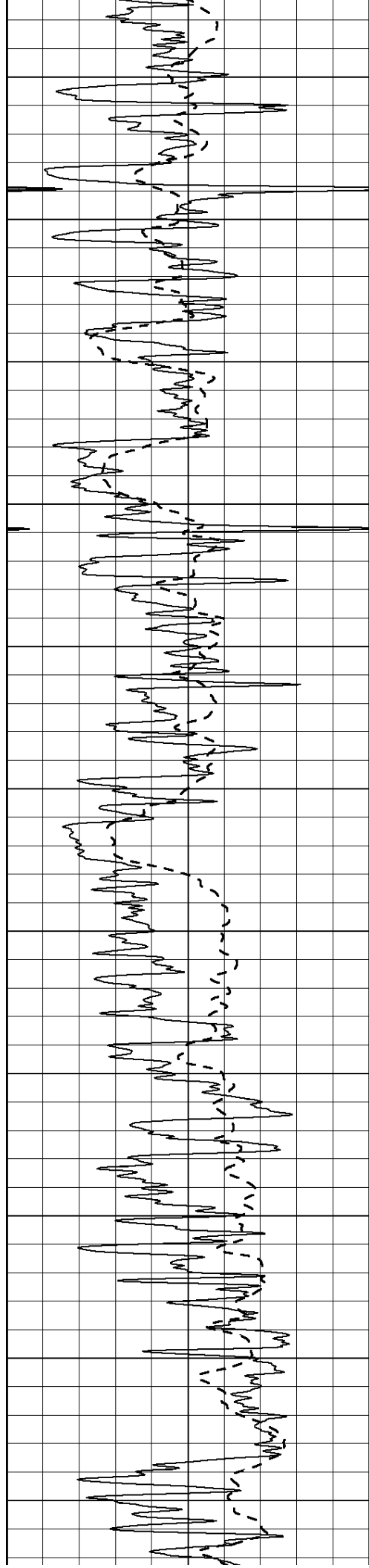




1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500







2100

2150

2200

2250

2300

2350

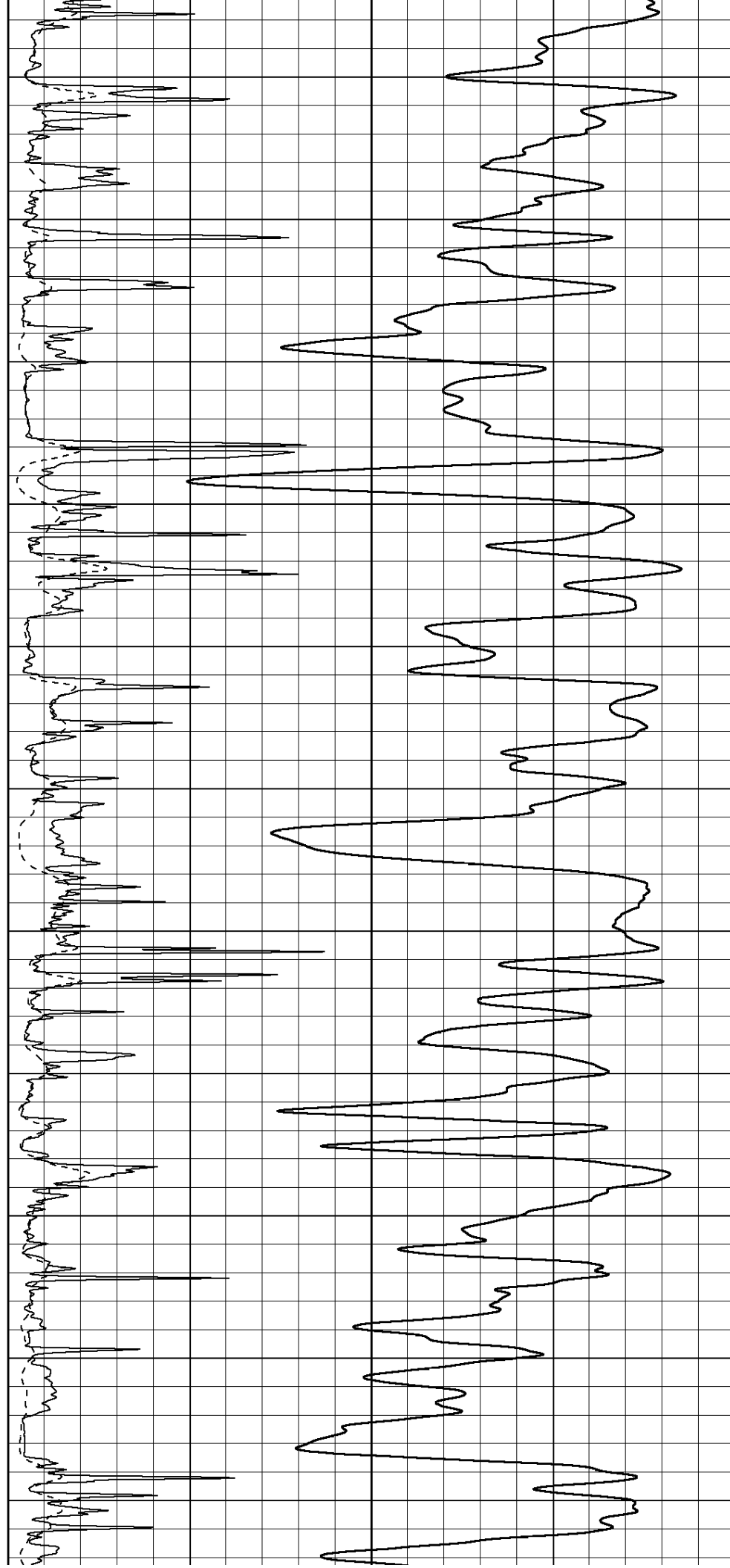
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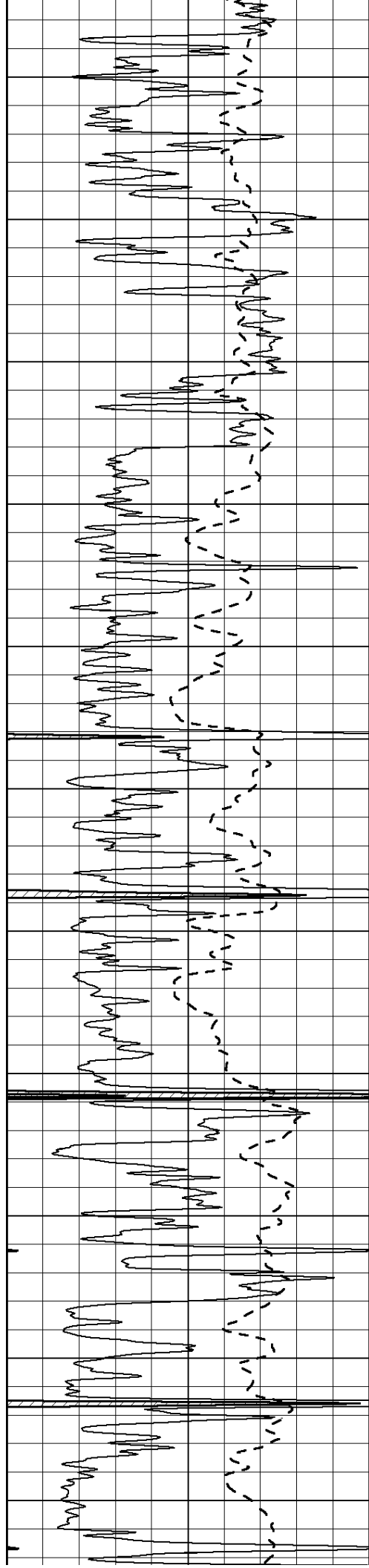
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2500

2550

2600





2650

2700

2750

2800

2850

2900

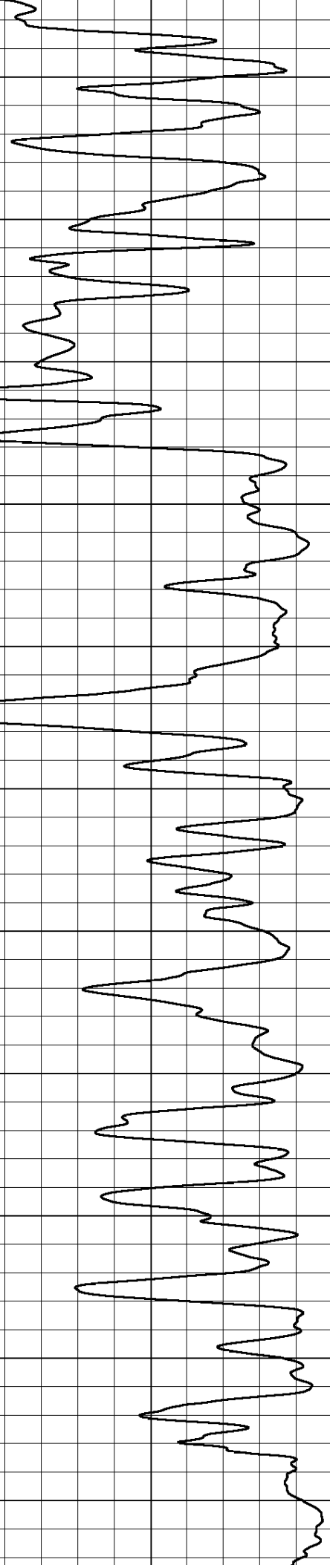
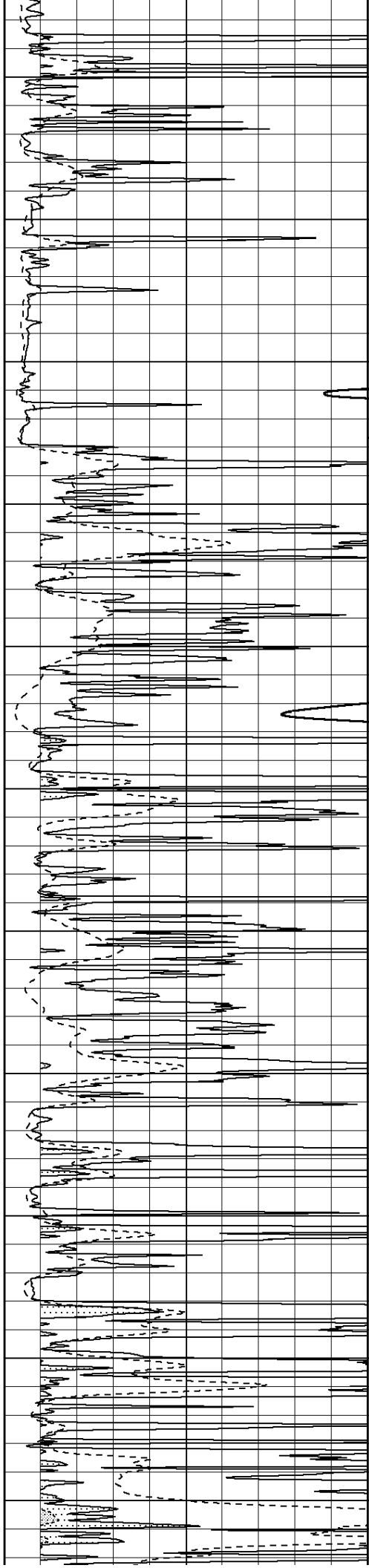
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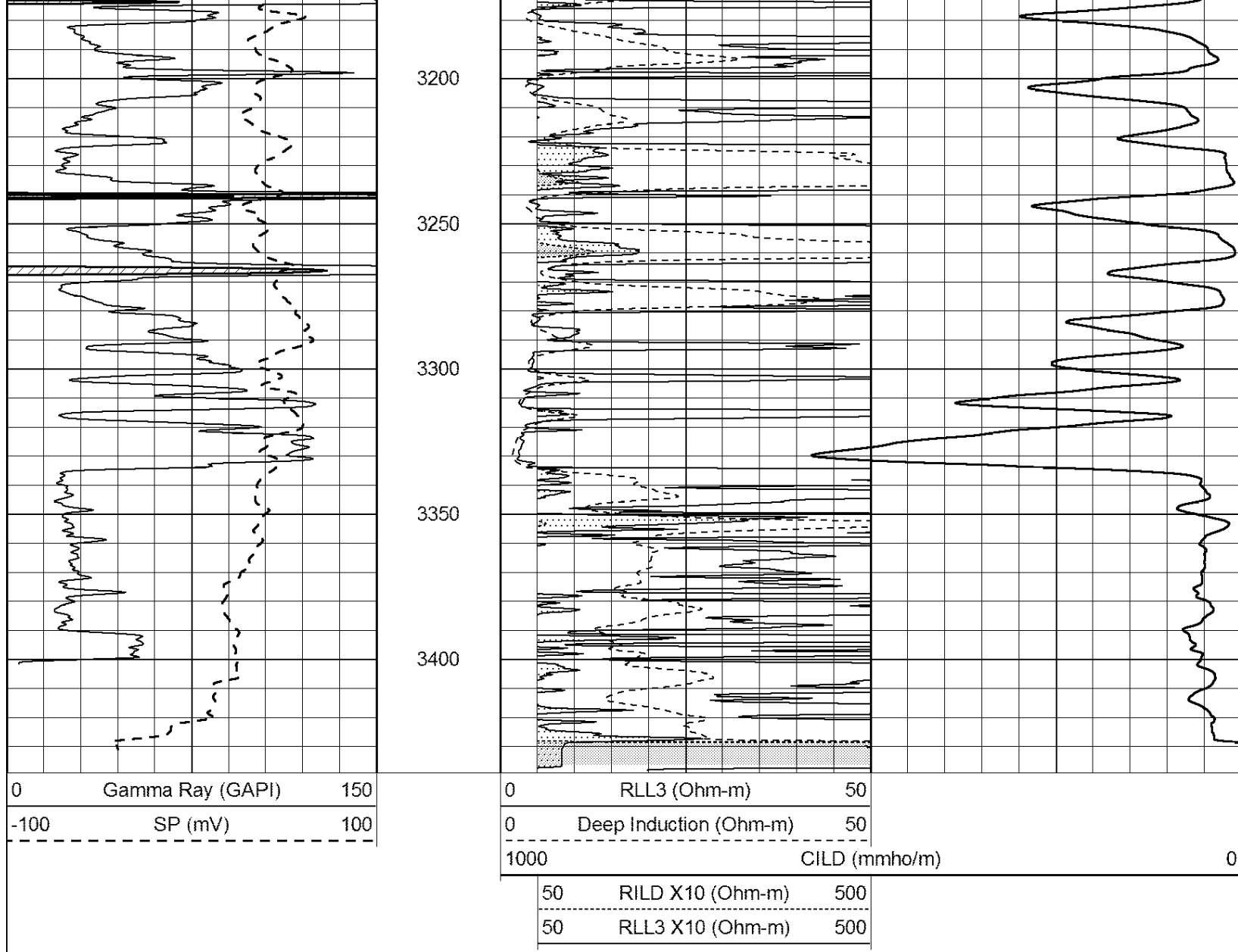
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3050

3100

3150

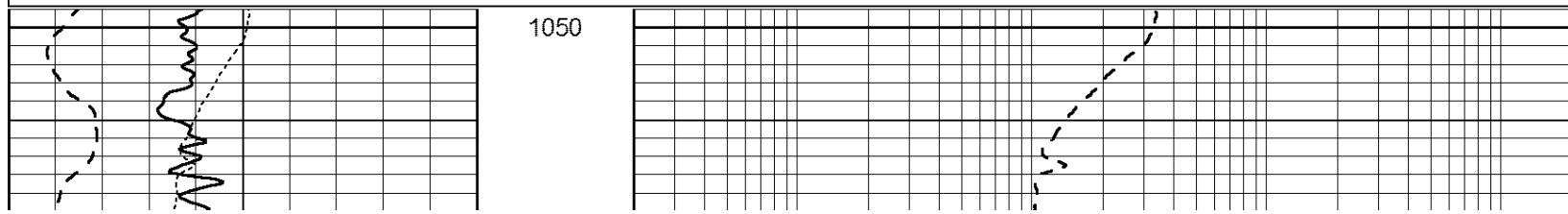


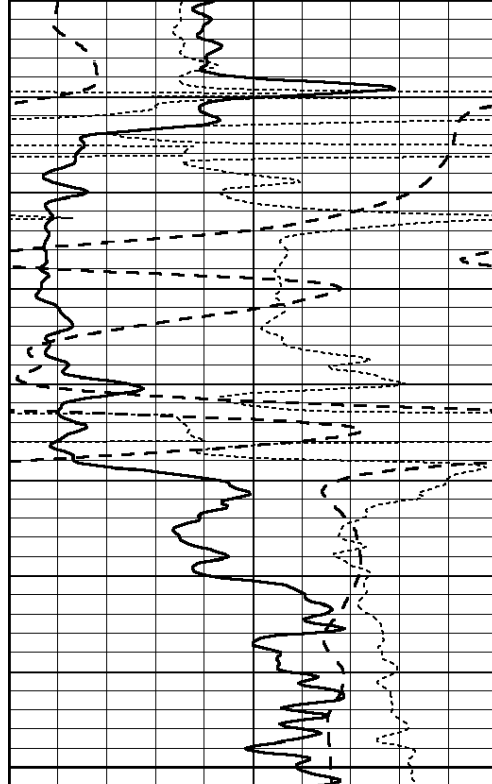


MAIN SECTION

Database File: 26259pdn.db
 Dataset Pathname: pass3.2A
 Presentation Format: _dil
 Dataset Creation: Wed Nov 19 18:34:59 2014 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	MEDIUM INDUCTION (Ohm-m)	2000
-250	Rxo/Rt	50	0.2	DEEP INDUCTION (Ohm-m)	2000

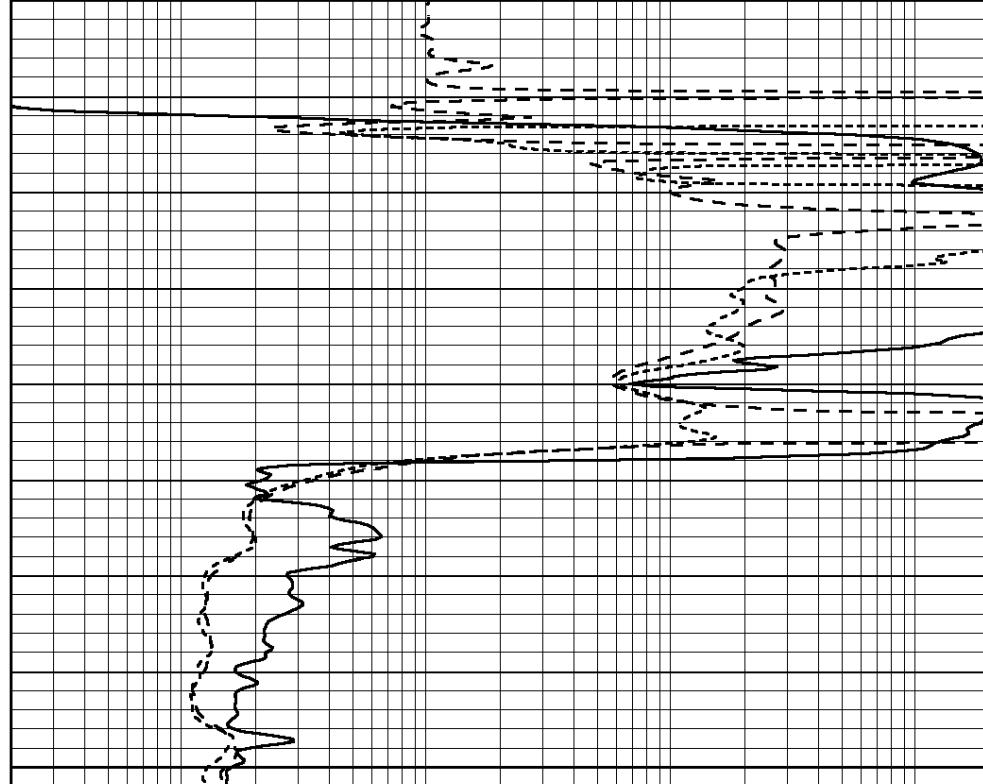




1100

1150

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



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

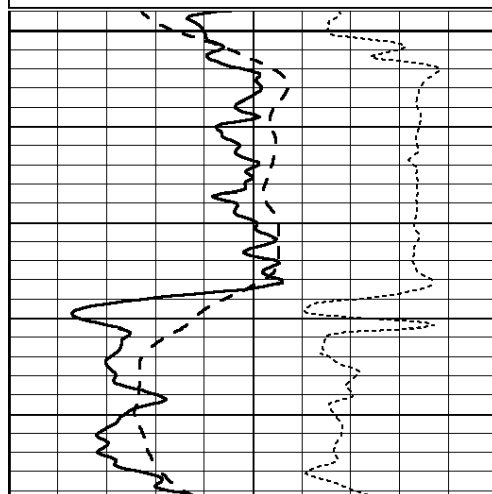


MAIN SECTION

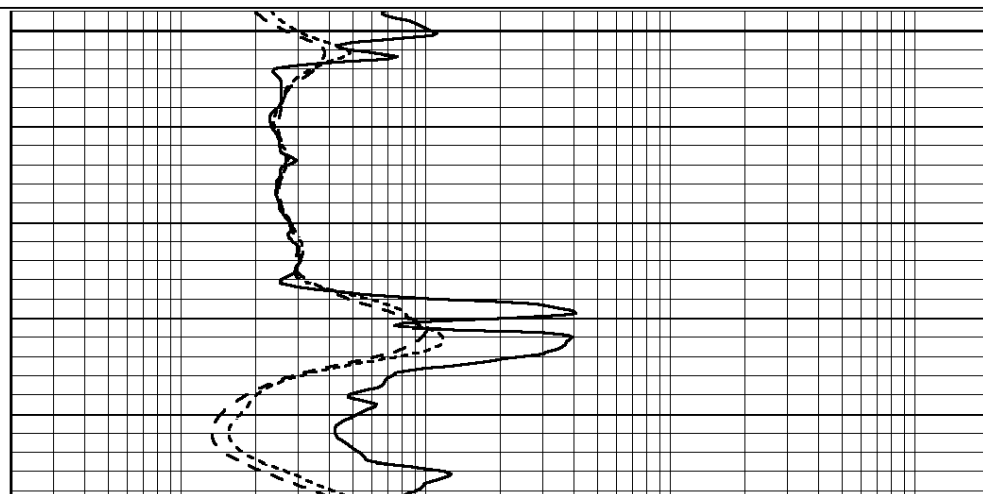
Database File: 26259pdr.db
 Dataset Pathname: pass3.2A
 Presentation Format: _dil
 Dataset Creation: Wed Nov 19 18:34:59 2014 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

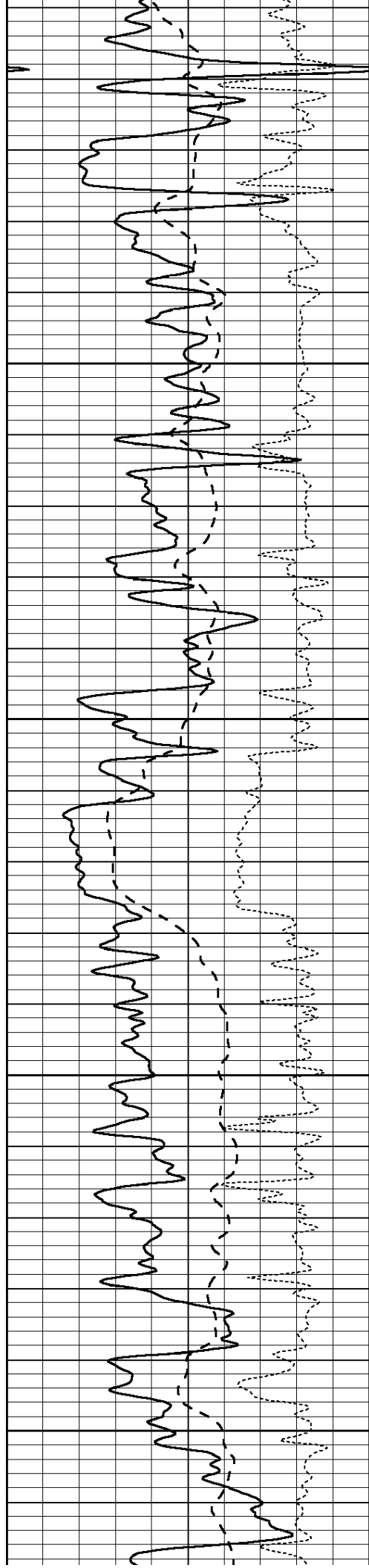
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50

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



2200





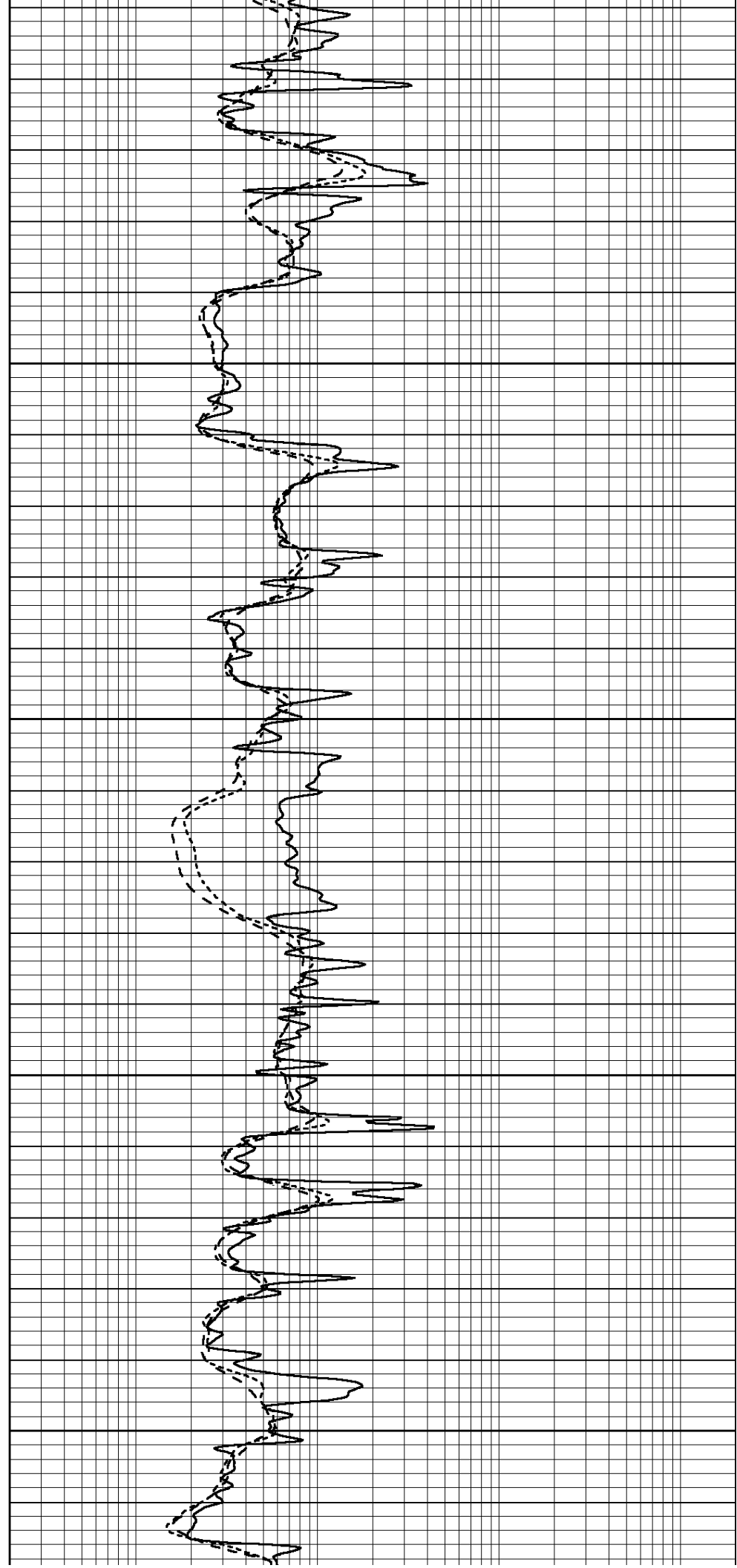
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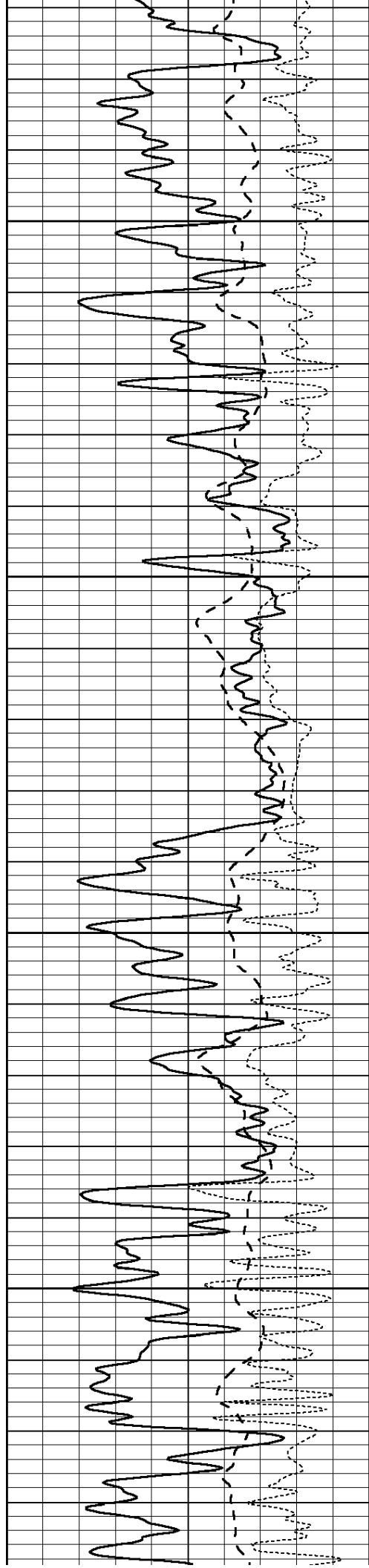
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2350

2400

2450



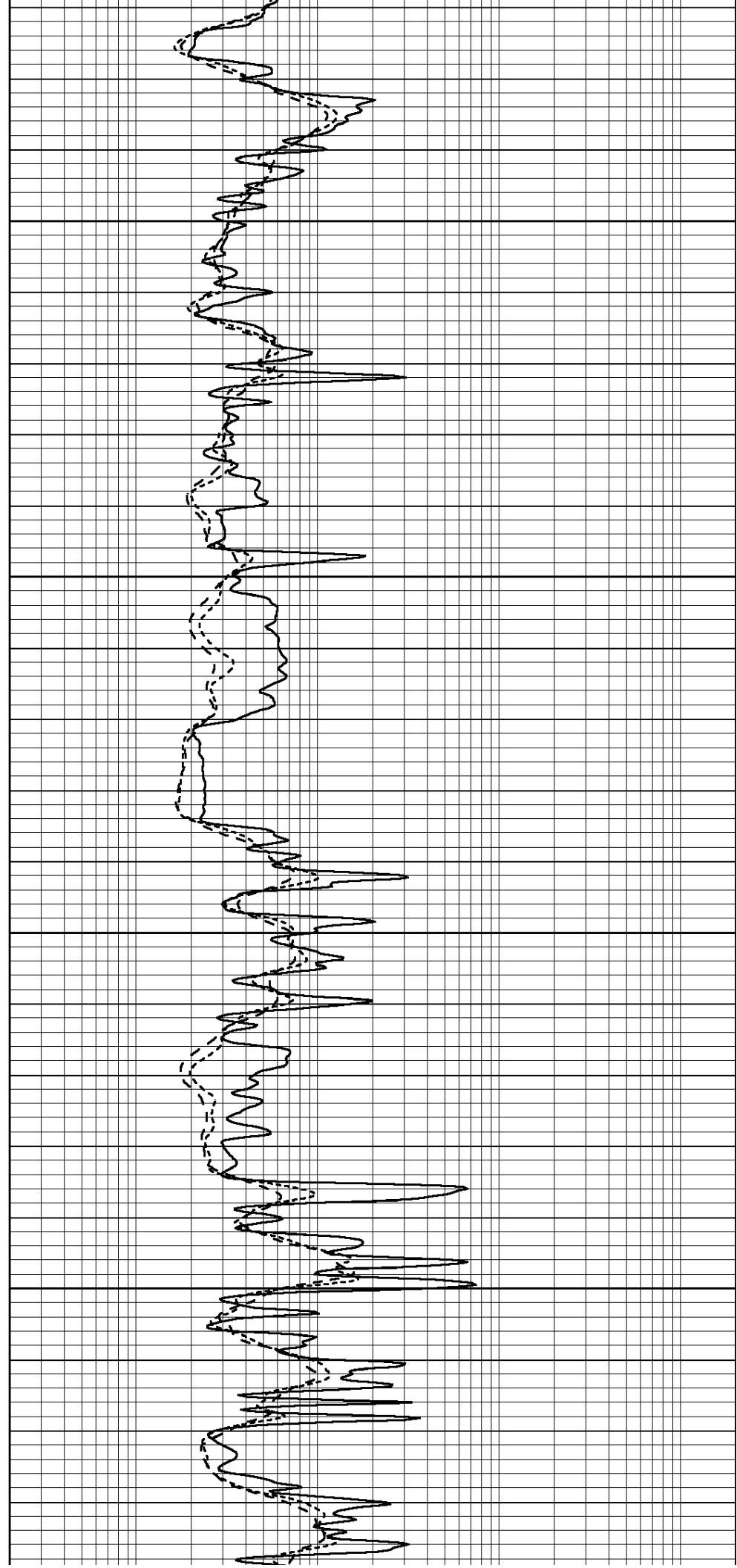


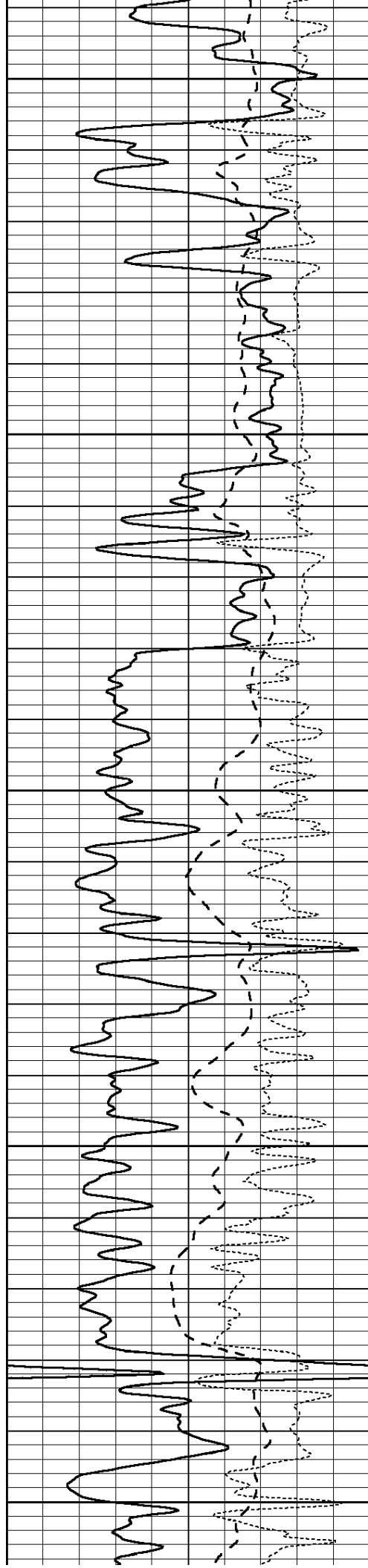
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2550

2600

2650





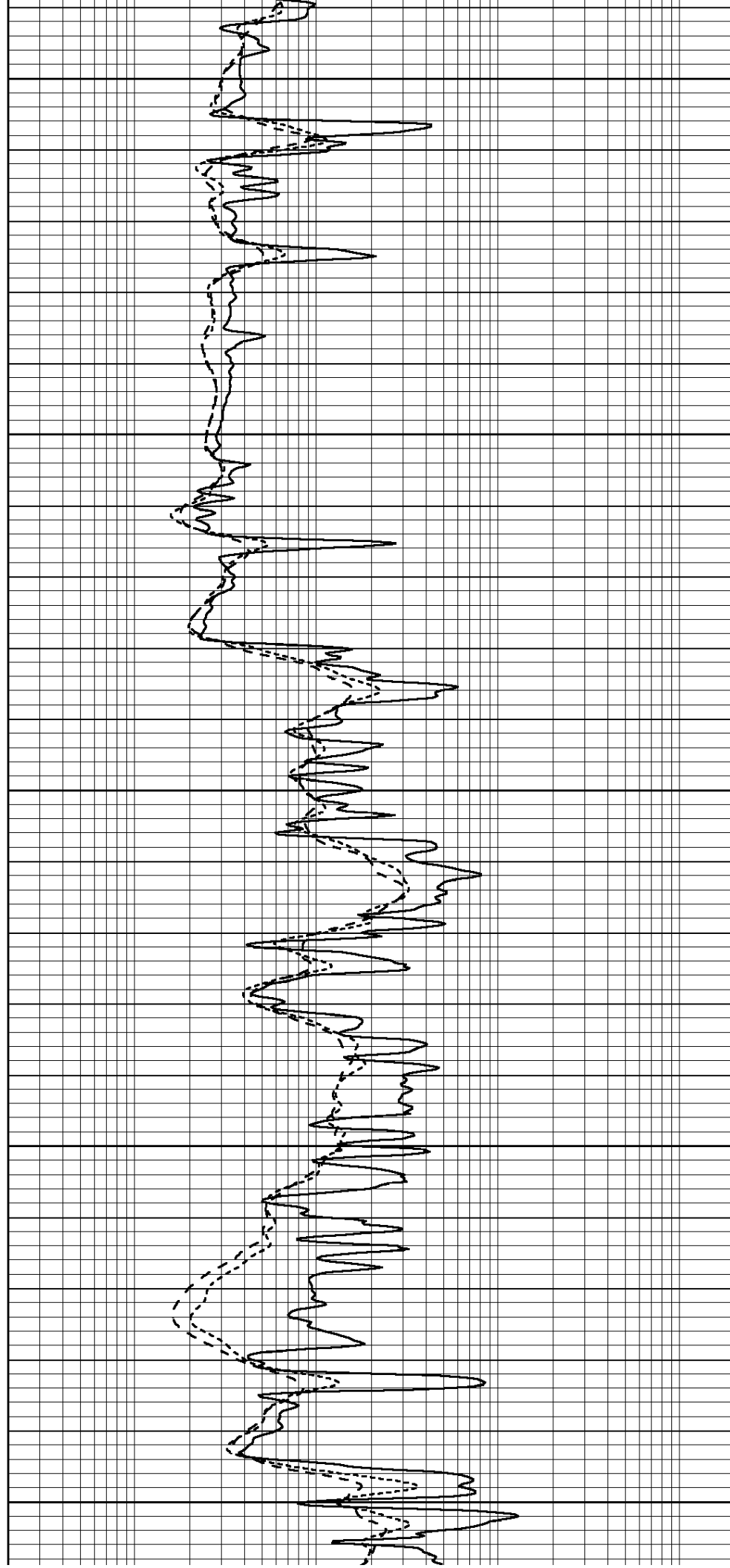
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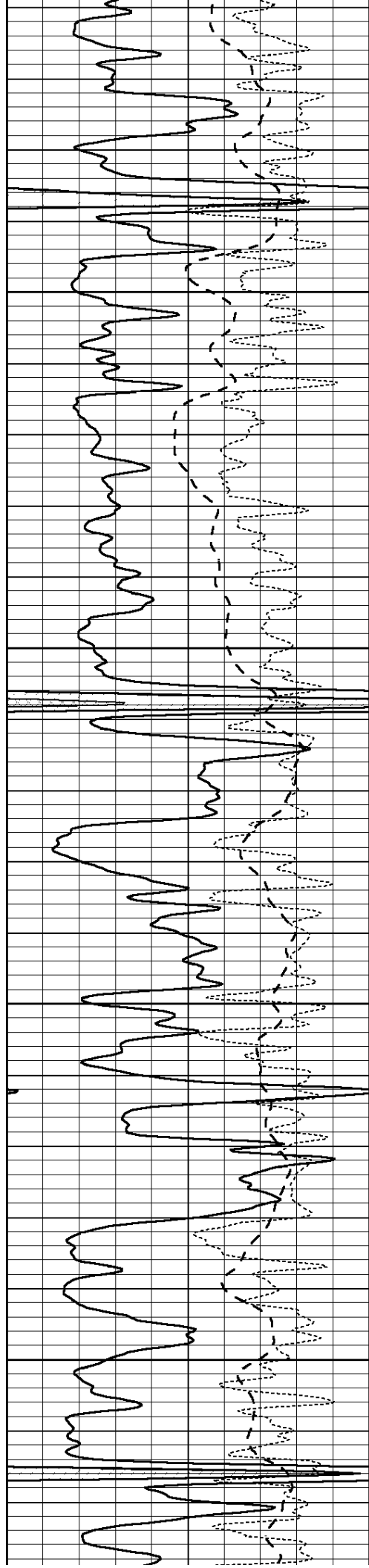
2750

2800

2850

2900



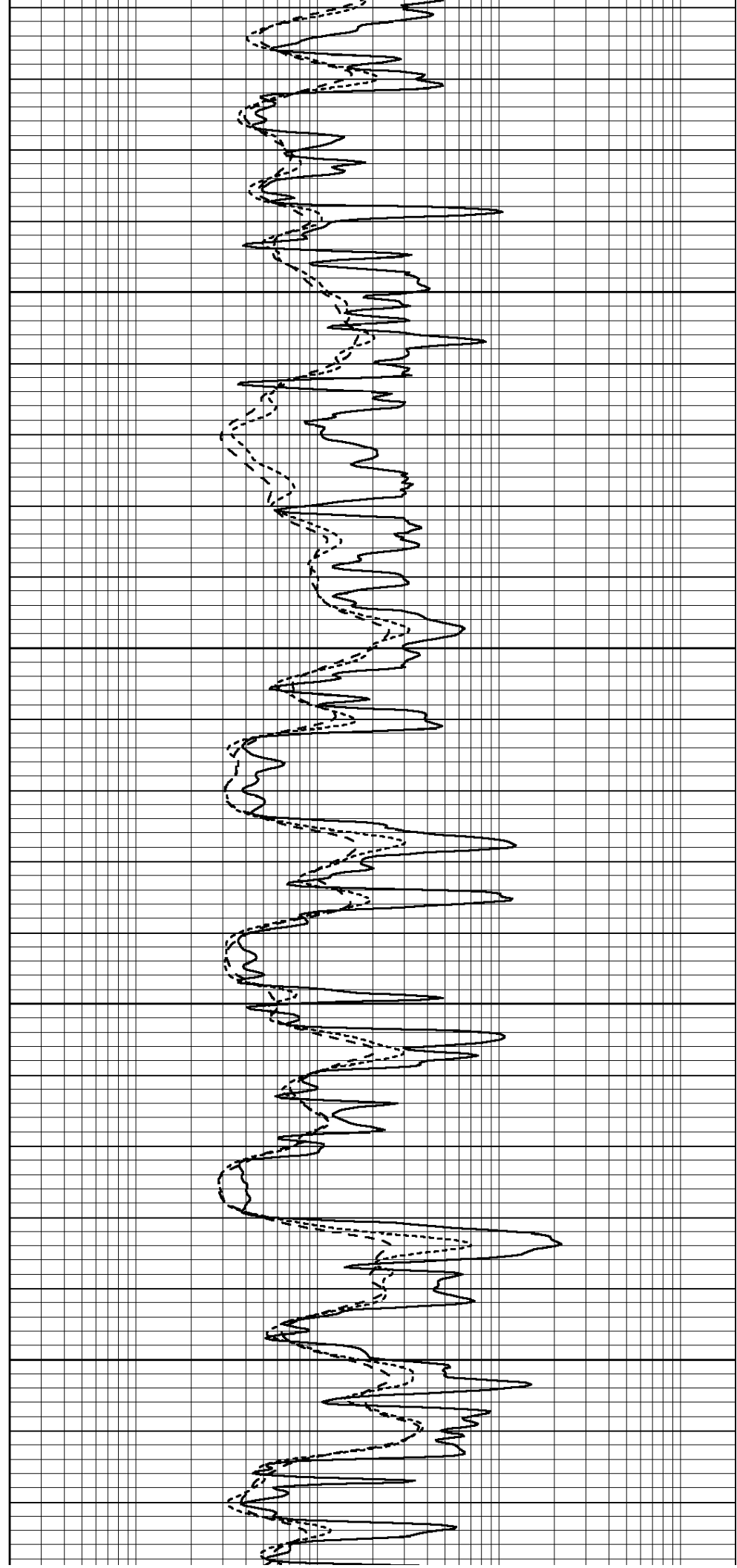


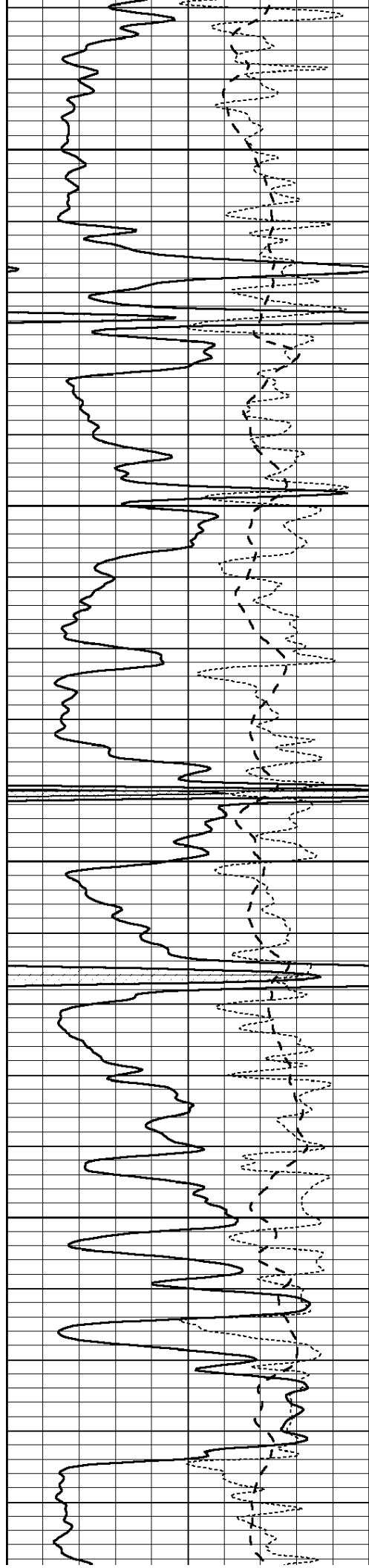
2950

3000

3050

3100



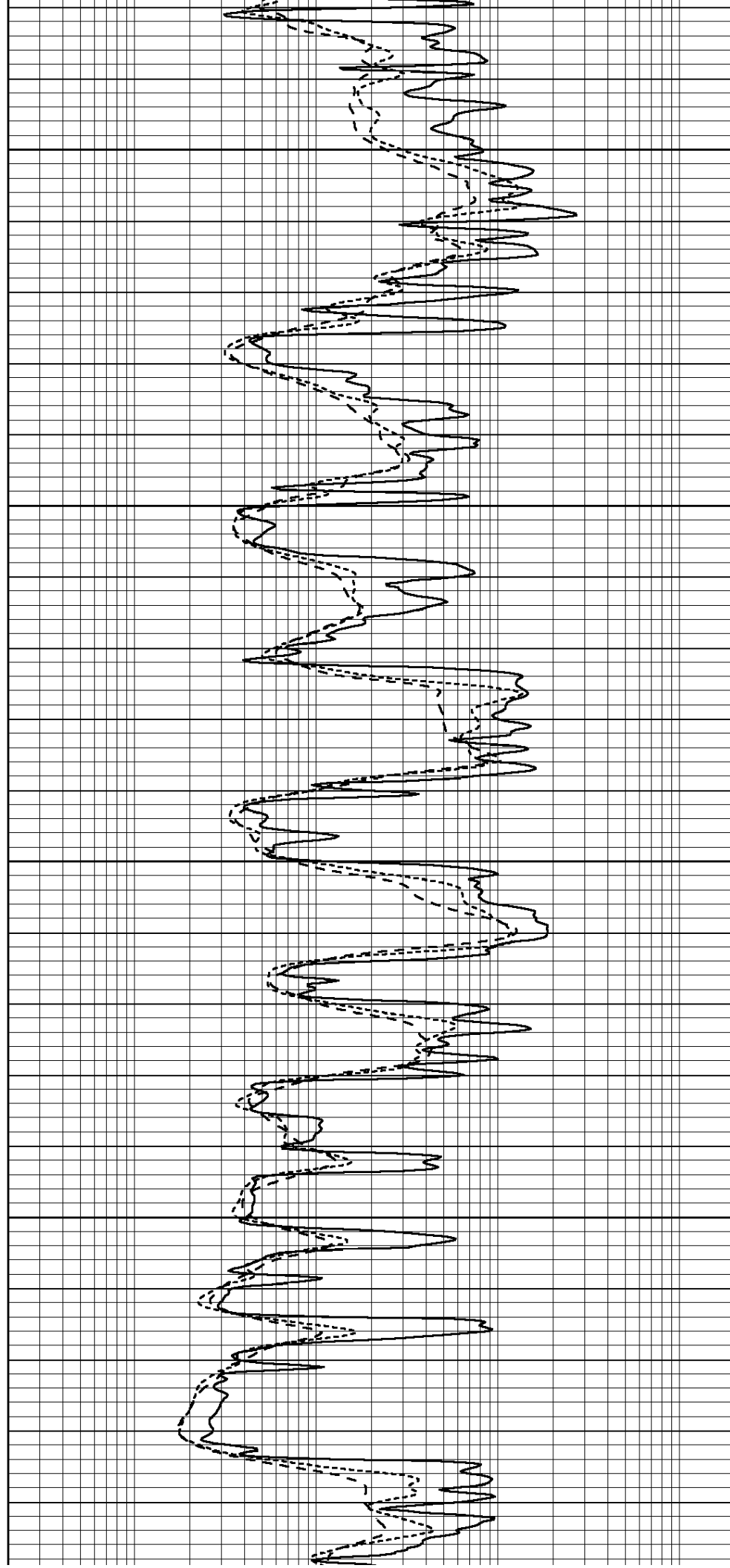


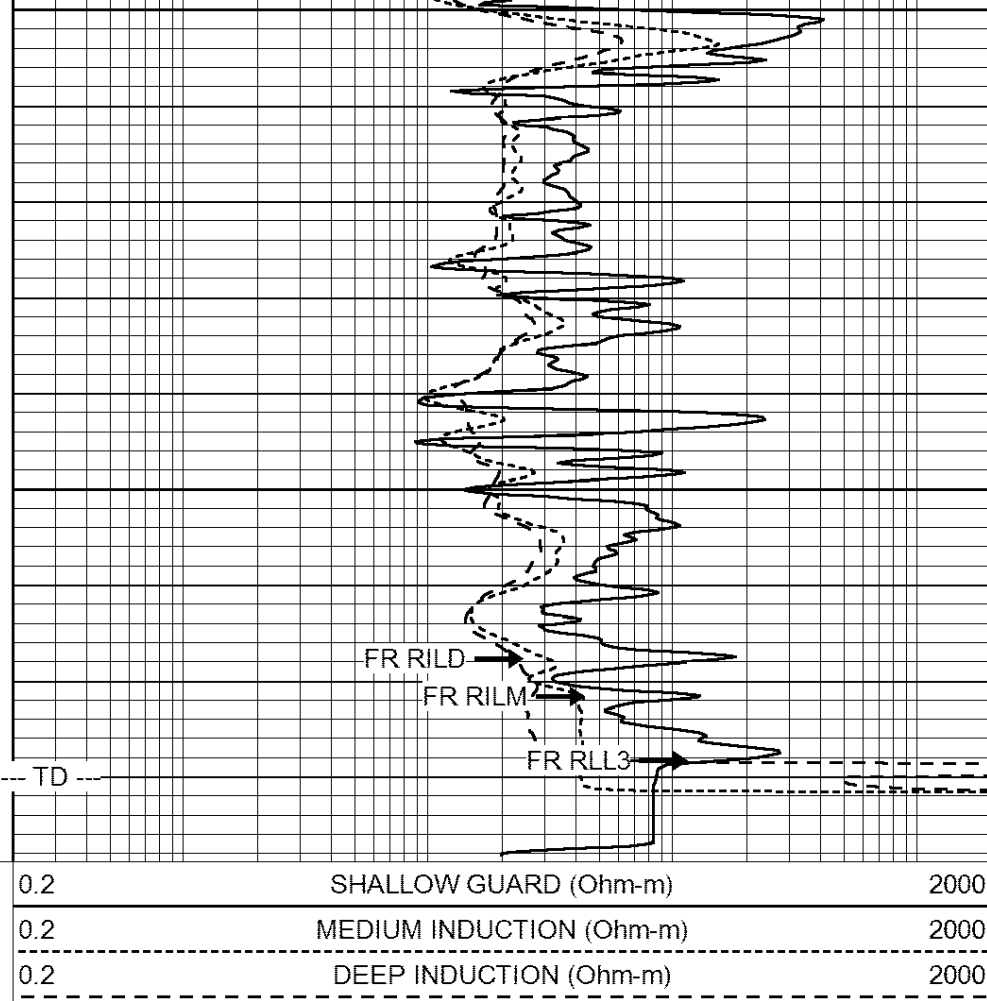
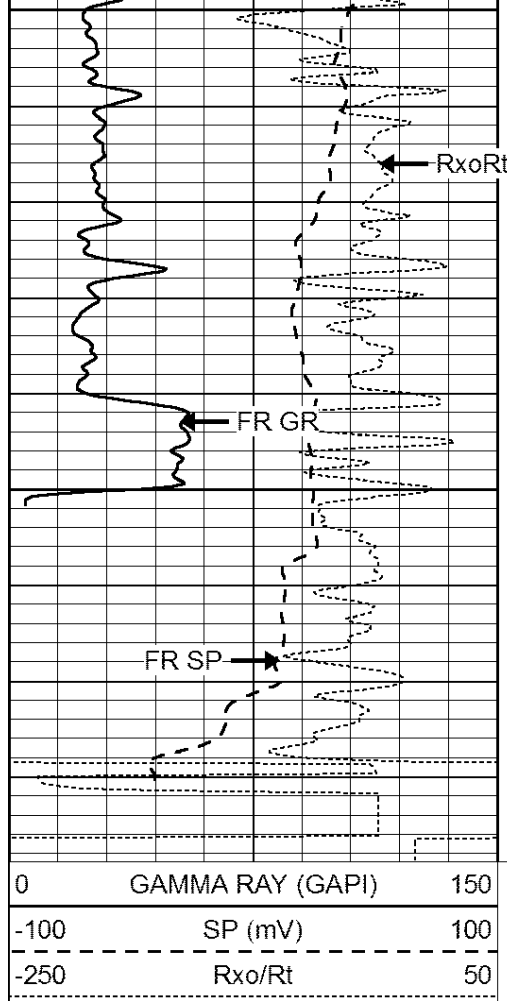
3150

3200

3250

3300



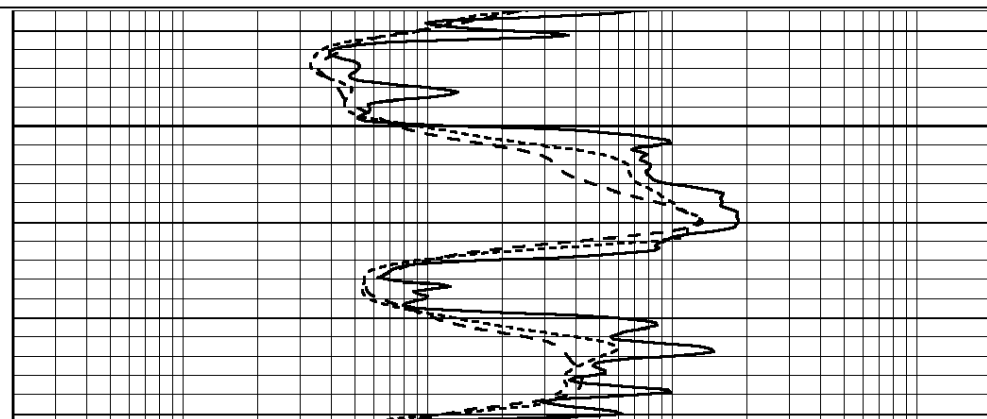
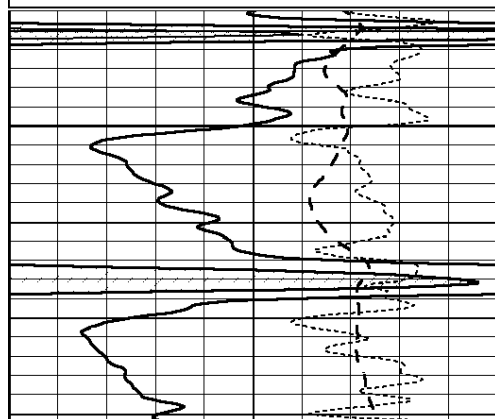


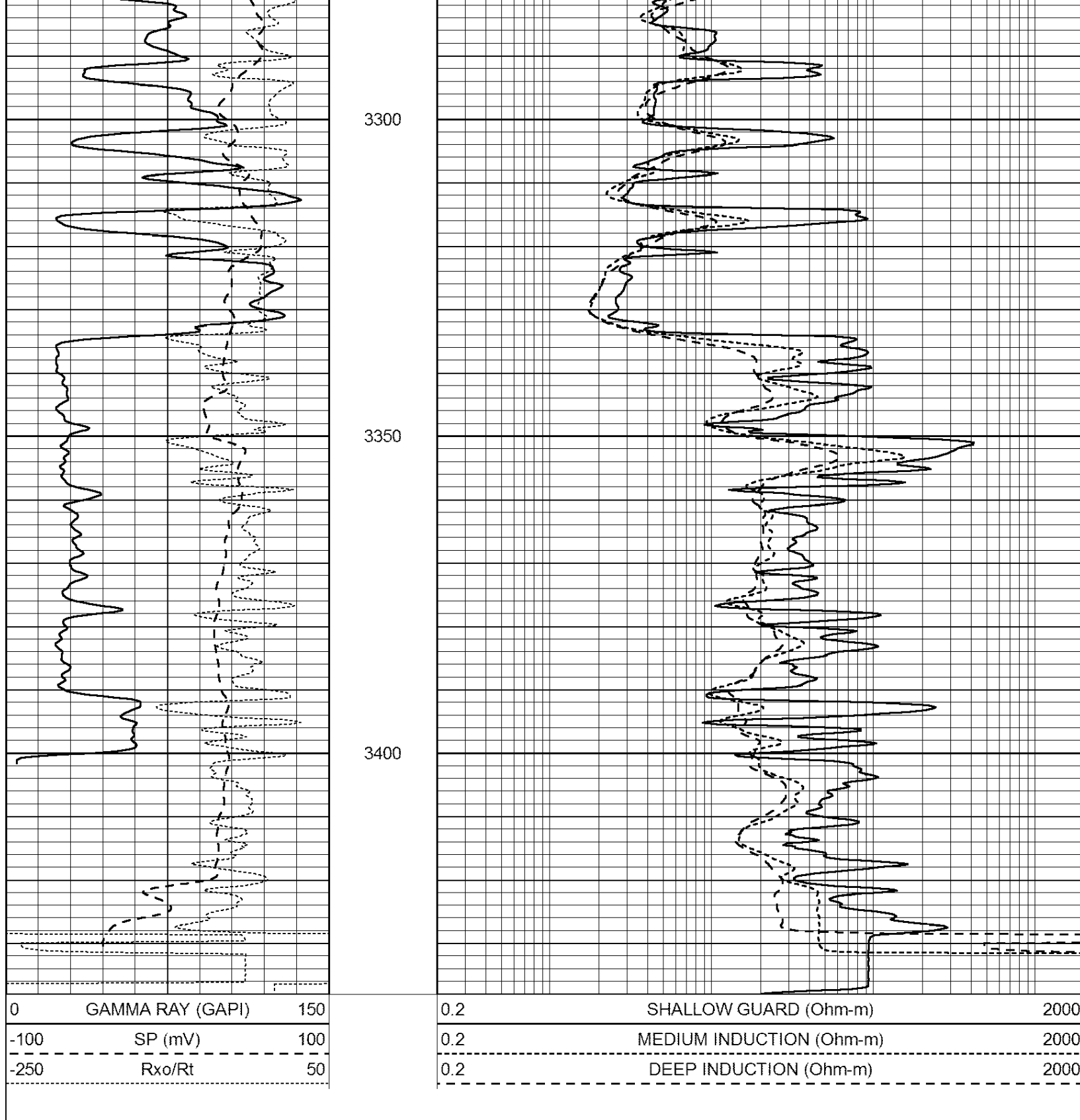
REPEAT SECTION

Database File: 26259pdn.db
 Dataset Pathname: pass2.3A
 Presentation Format: _dil
 Dataset Creation: Wed Nov 19 18:51:50 2014
 Charted by: Depth in Feet scaled 1:240

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

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





Calibration Report

Database File: 26259pdr.db
Dataset Pathname: pass3.2A
Dataset Creation: Wed Nov 19 18:34:59 2014 by Calc Open-Cased 090629

Dual Induction Calibration Report

Serial-Model:	PROBE7-DILG
Surface Cal Performed:	Wed Nov 19 18:15:20 2014
Downhole Cal Performed:	Sat Jan 19 19:51:38 2013
After Survey Verification Performed:	Sat Jan 19 19:51:38 2013

Surface Calibration								
Readings			References			Results		
Loop:	Air	Loop		Air	Loop		m	b
Deep	0.793	0.790	V	0.000	400.000	mmho/m	500.000	8.000
Medium	0.992	1.002	V	0.000	464.000	mmho/m	550.000	-36.000
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		

Litho Density Calibration Report								
Serial: 06			Model: PRB					

Master Calibration					Performed Tue May 27 11:57:56 2024			
	Background	Magnesium	Aluminum	Sandstone				
Window 1	1289.5	7810.5	2674.4	8037.2	cps			
Window 2	1206.9	6556.3	2297.3	6540.6	cps			
Window 3	913.8	3391.2	1327.7	3198.3	cps			
Window 4	602.5	319.3	304.5	310.6	cps			
Long Space	0.0	5349.4	1090.4	5333.8	cps			
Short Space	1.9	1879.1	1195.7	1883.0	cps			
Rho		1.7100	2.5960	1.3800	g/cc			
Pe		0.0000	2.5700	1.5500				
Rib Angle	: 44.1	Rib Slope	: 0.970	Density/Spine Ratio	: 0.536			
Spine Angle	: 74.1	Spine Slope	: 3.519	Spine Intercept	: -17.9			

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:	080620
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:	46001
Tool Model:	Probe1
Performed:	Wed Nov 19 18:14:32 2014

Calibrator Value:	1.0	GAPI
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Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps

Sensitivity:	0.2600	GAPI/cps
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