



NABORS

**COMPLETION
& PRODUCTION
SERVICES CO.**

DUAL INDUCTION LOG

Company	CITATION OIL & GAS CORP.		
Well	SLIMMER #10		
Field	BEMIS-SHUTTS		
County	ELLIS	State	KANSAS
Location:	AP1 # : 15-051-26543-0000		Other Services CDL/CNL/PE MEL
SEC 19 TWP 11S RGE 16W		Elevation	
Permanent Datum	GROUND LEVEL	Elevation	1906
Log Measured From	KELLY BUSHING 11' A.G.L.	K.B. 1917 D.F. 1915 G.L. 1906	
Drilling Measured From	KELLY BUSHING		
Date	6/25/13		
Run Number	ONE		
Depth Driller	3510		
Depth Logger	3511		
Bottom Logged Interval	3509		
Top Log Interval	00		
Casing Driller	8 5/8" @ 1094		
Casing Logger	1094		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 2250 PPM	
Density / Viscosity	9.1/52		
pH / Fluid Loss	10.5/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.70 @ 93F		
Rmt @ Meas. Temp	.52 @ 93F		
Rmc @ Meas. Temp	.84 @ 93F		
Source of Rmt / Rmc	MEASUREMENT		
Rm @ BHT	.58 @ 112F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom	1:55 P.M.		
Maximum Recorded Temperature	112F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
Witnessed By	ED GLASSMAN		

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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, KS. (785) 628-6395
DIRECTIONS:
HAYS, KS - NORTH TO SALINE RIVER RD - 8 MILES EAST
1 1/2 MILES SOUTH INTO

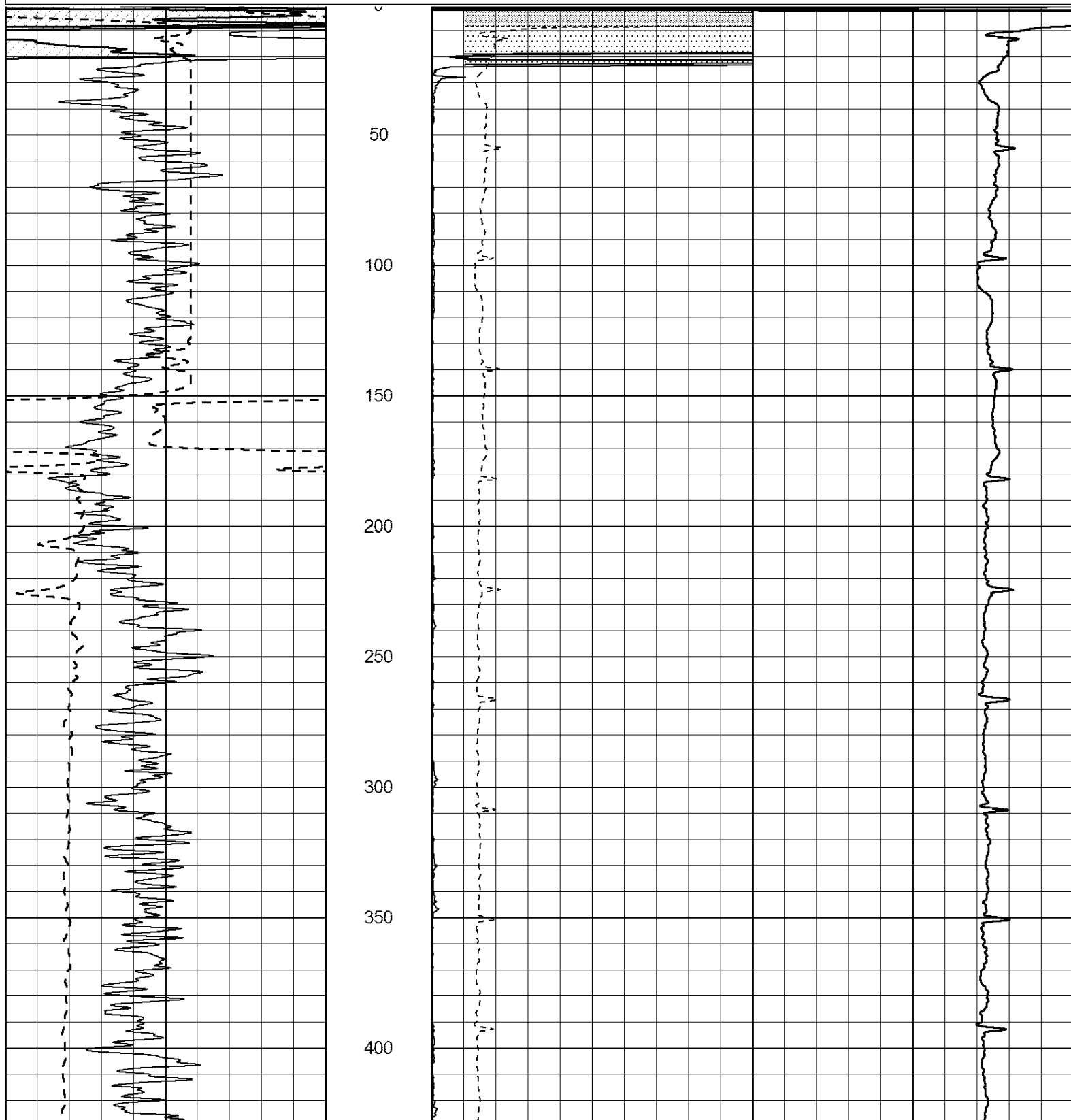


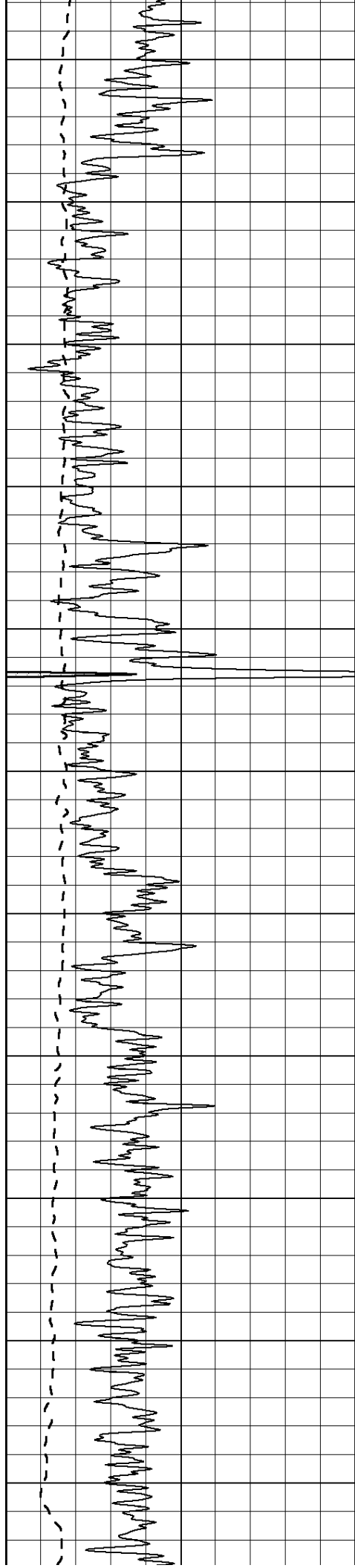
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MAIN SECTION

Database File: 011261pe.db
 Dataset Pathname: pass3.3
 Presentation Format: _dil2
 Dataset Creation: Tue Jun 25 15:33:55 2013 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
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450

500

550

600

650

700

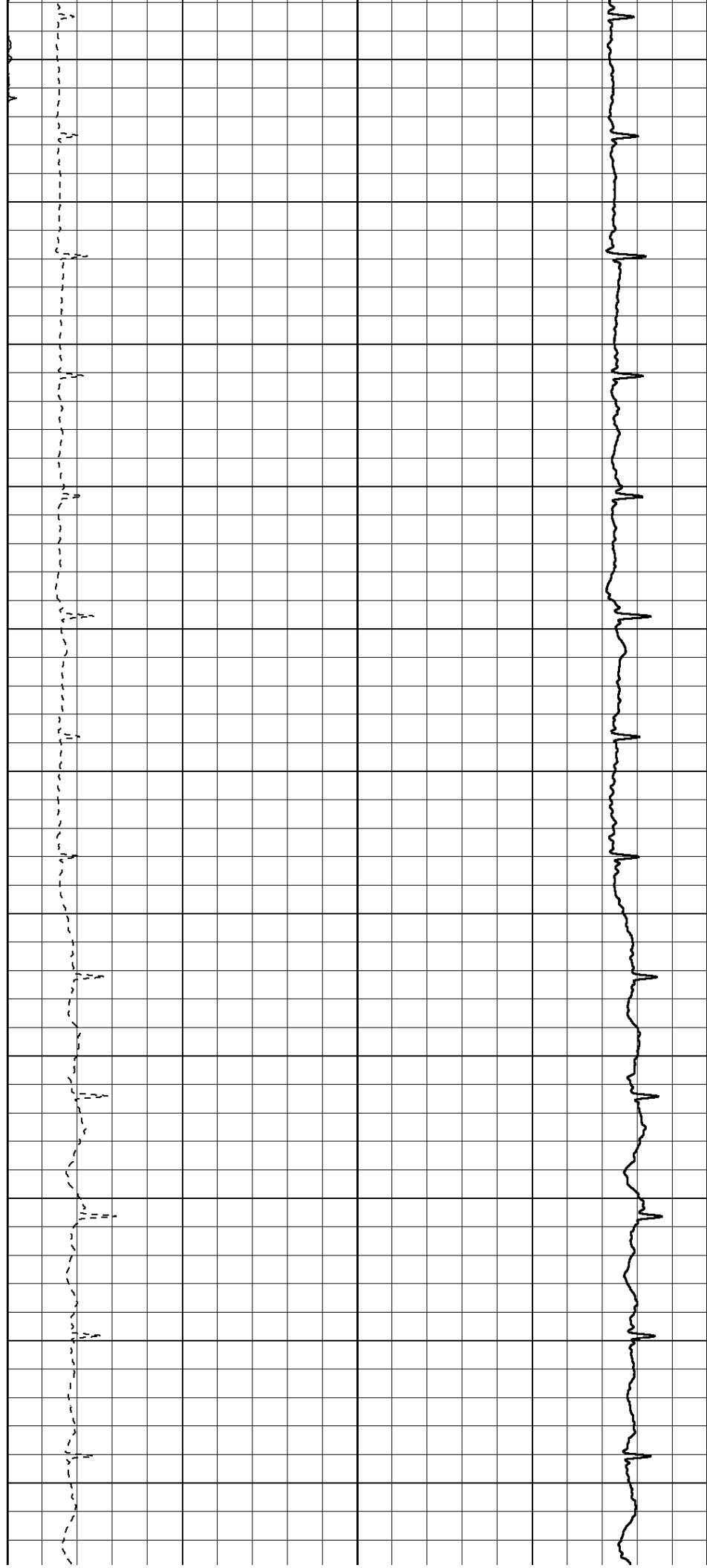
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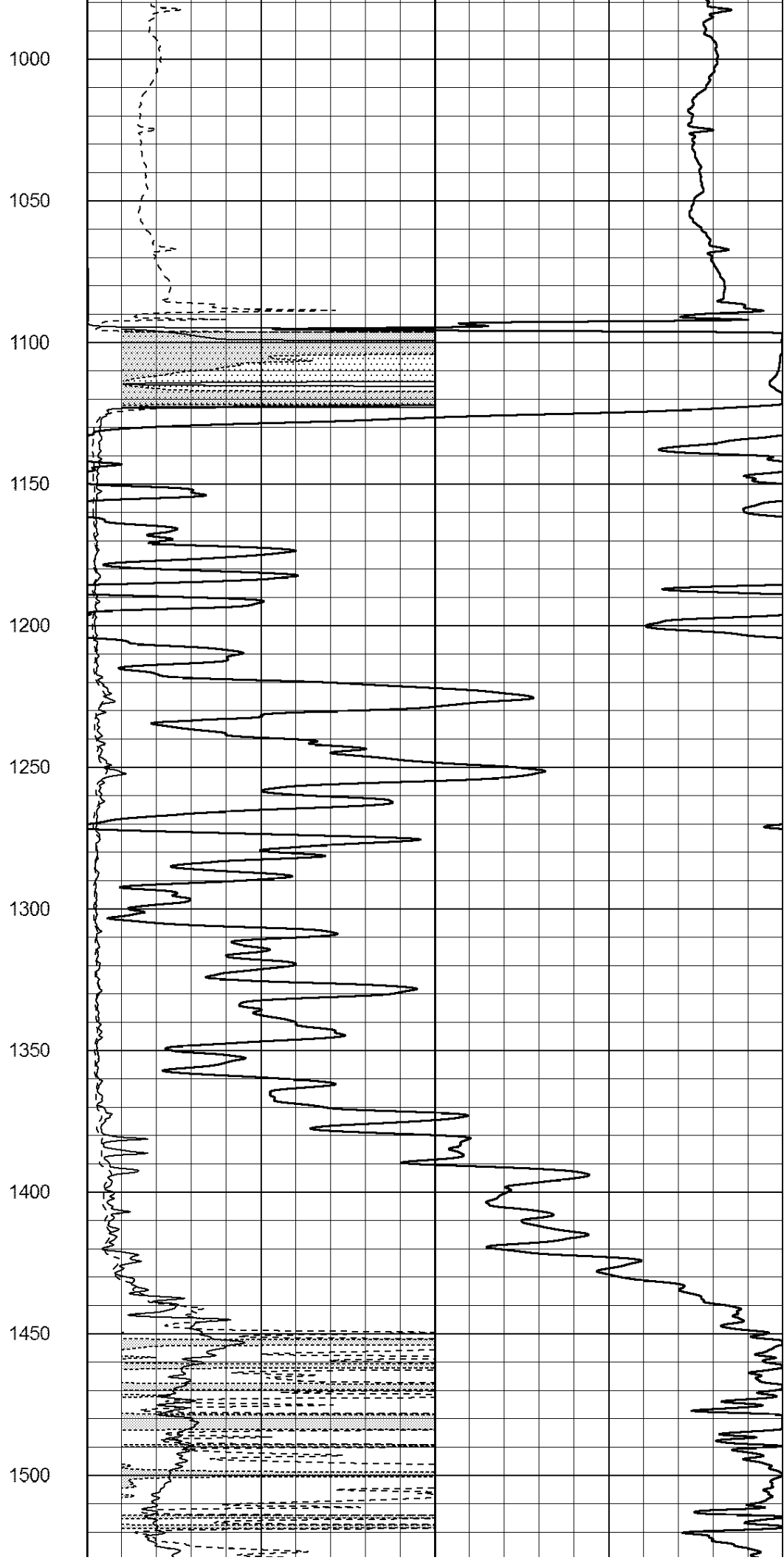
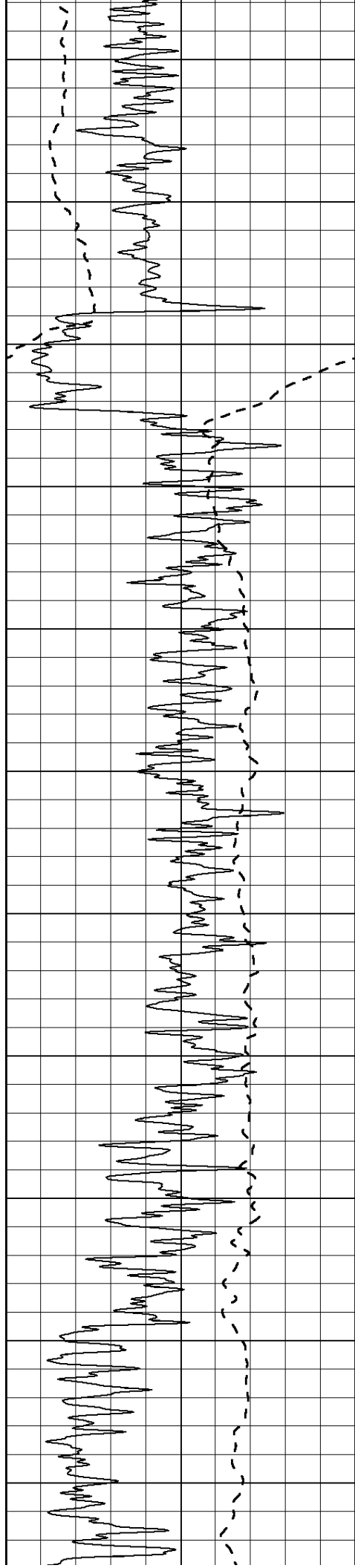
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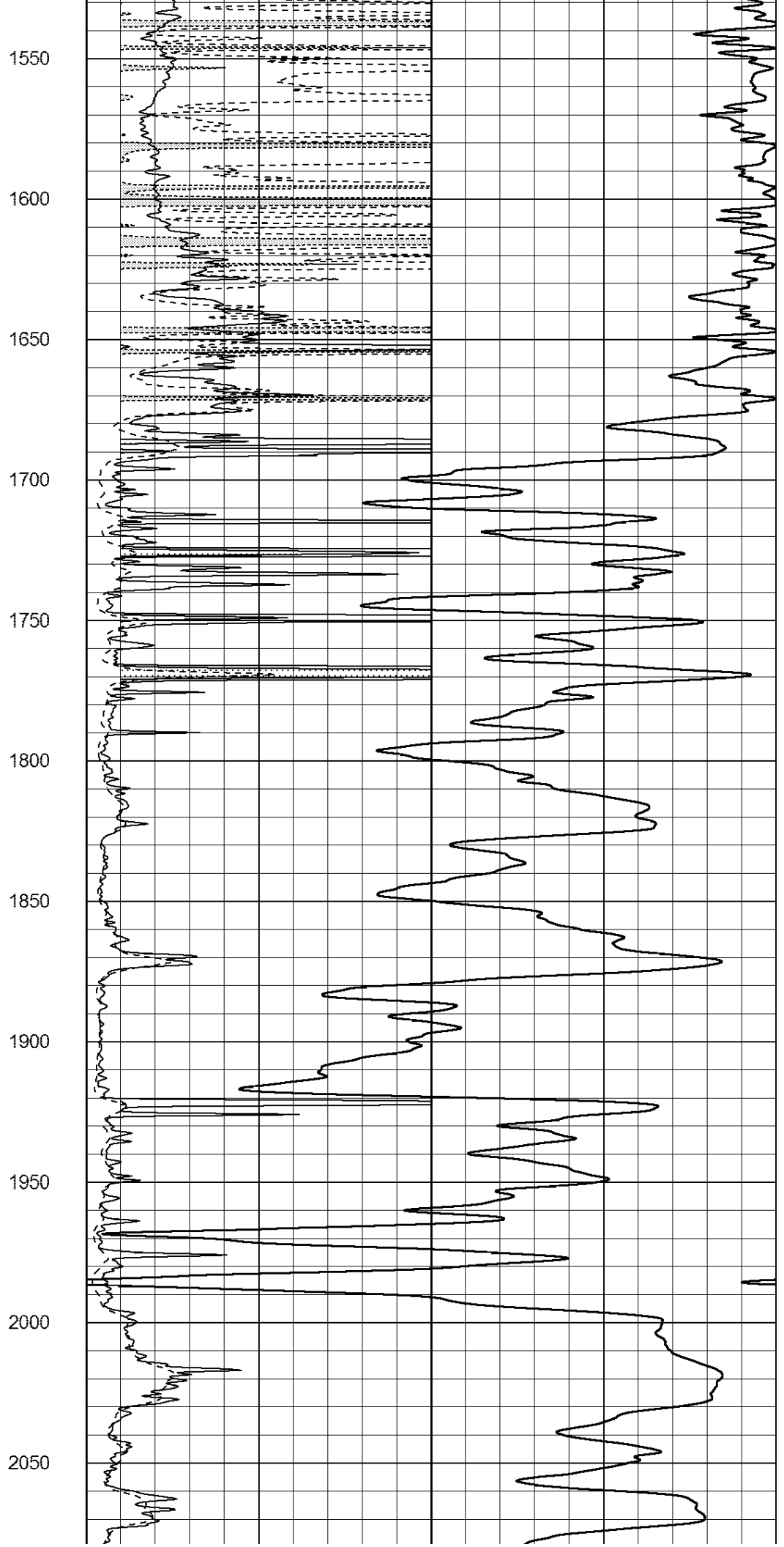
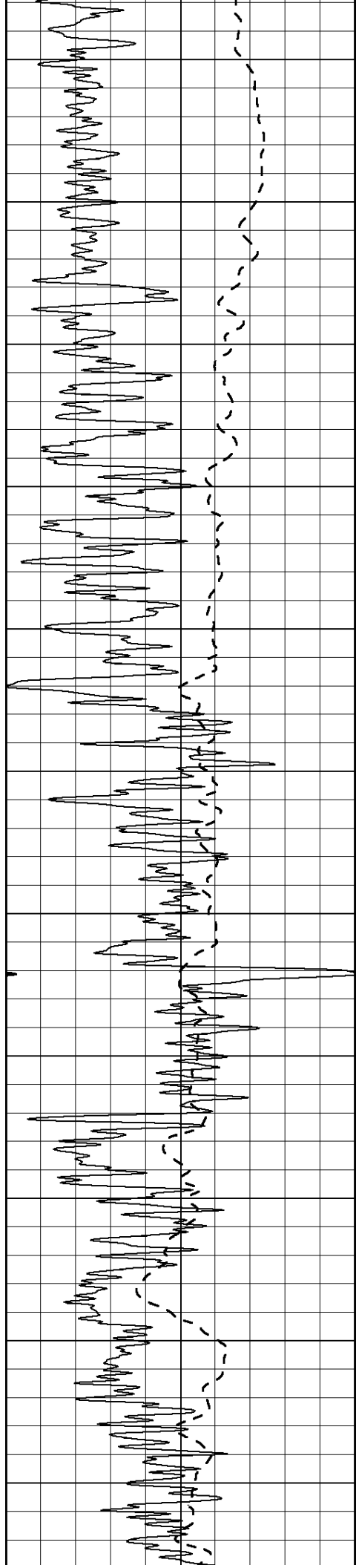
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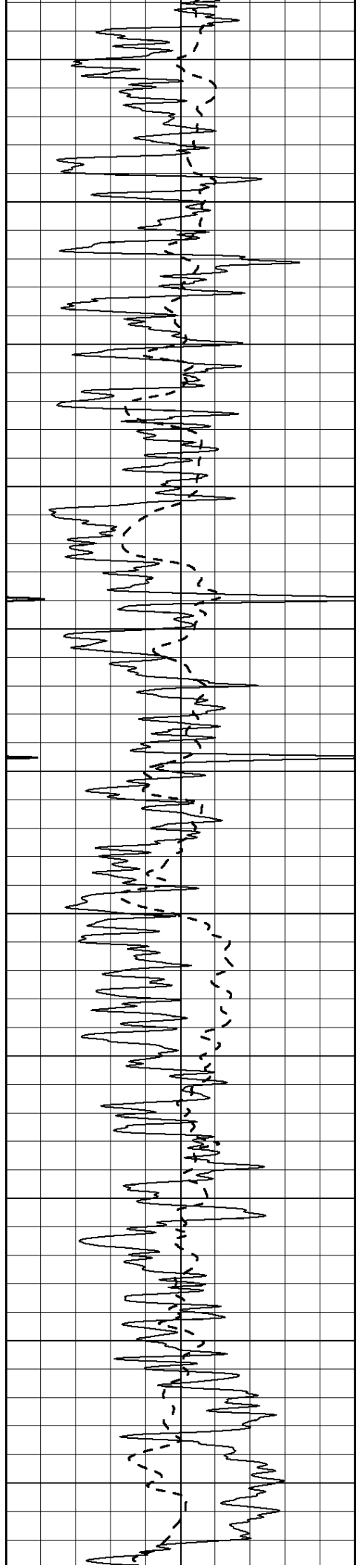
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950









2100

2150

2200

2250

2300

2350

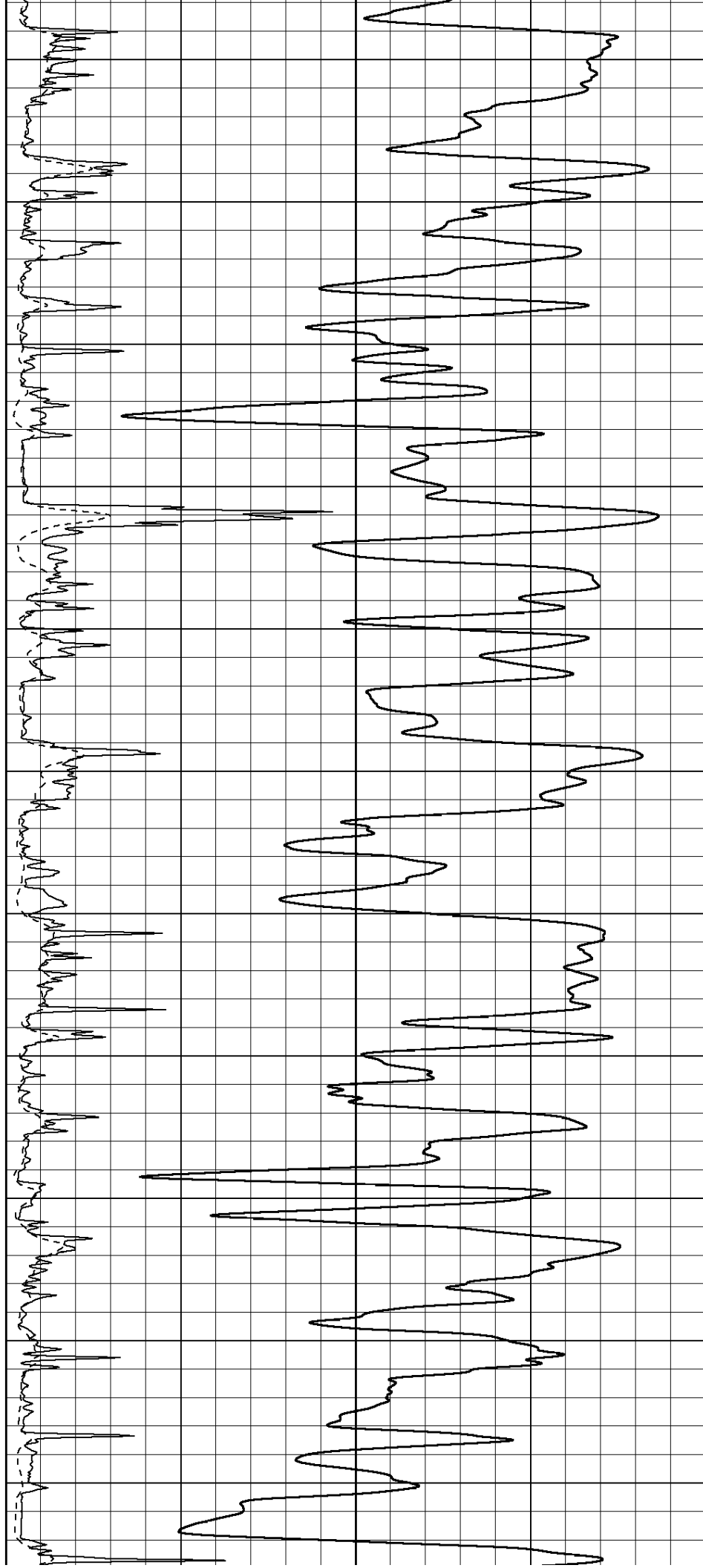
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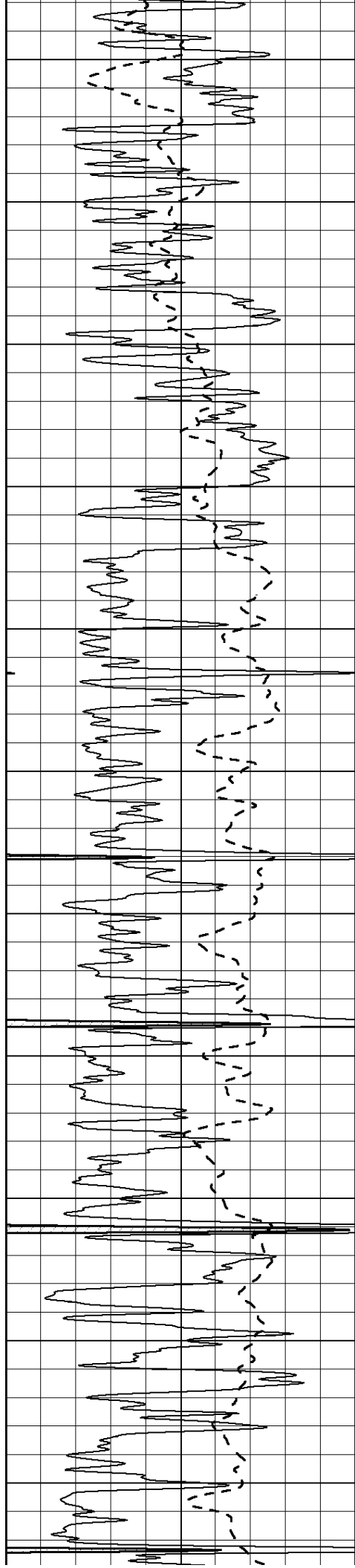
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2500

2550

2600





2650

2700

2750

2800

2850

2900

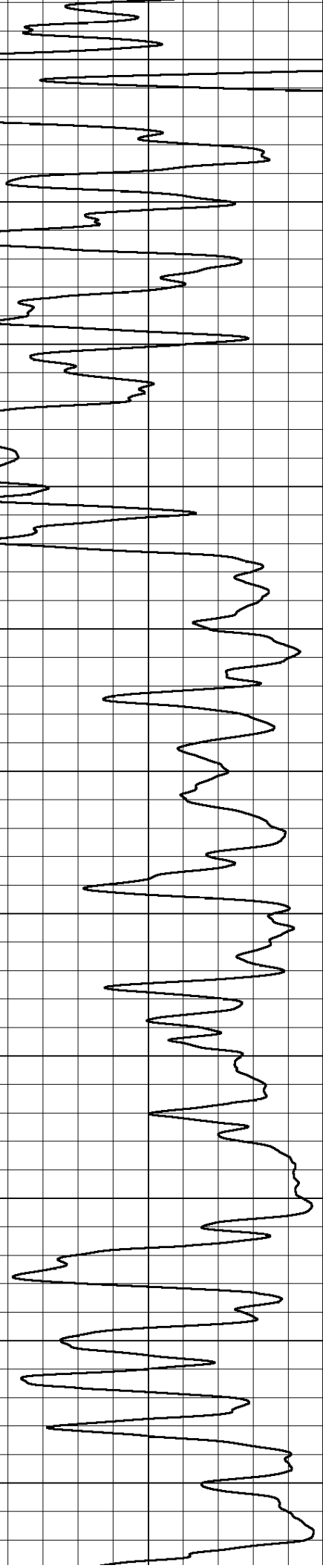
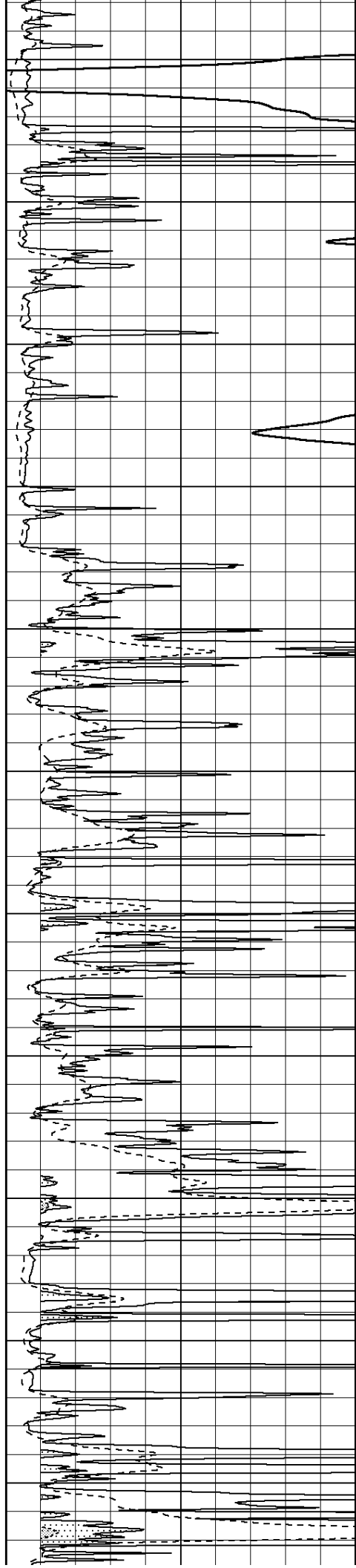
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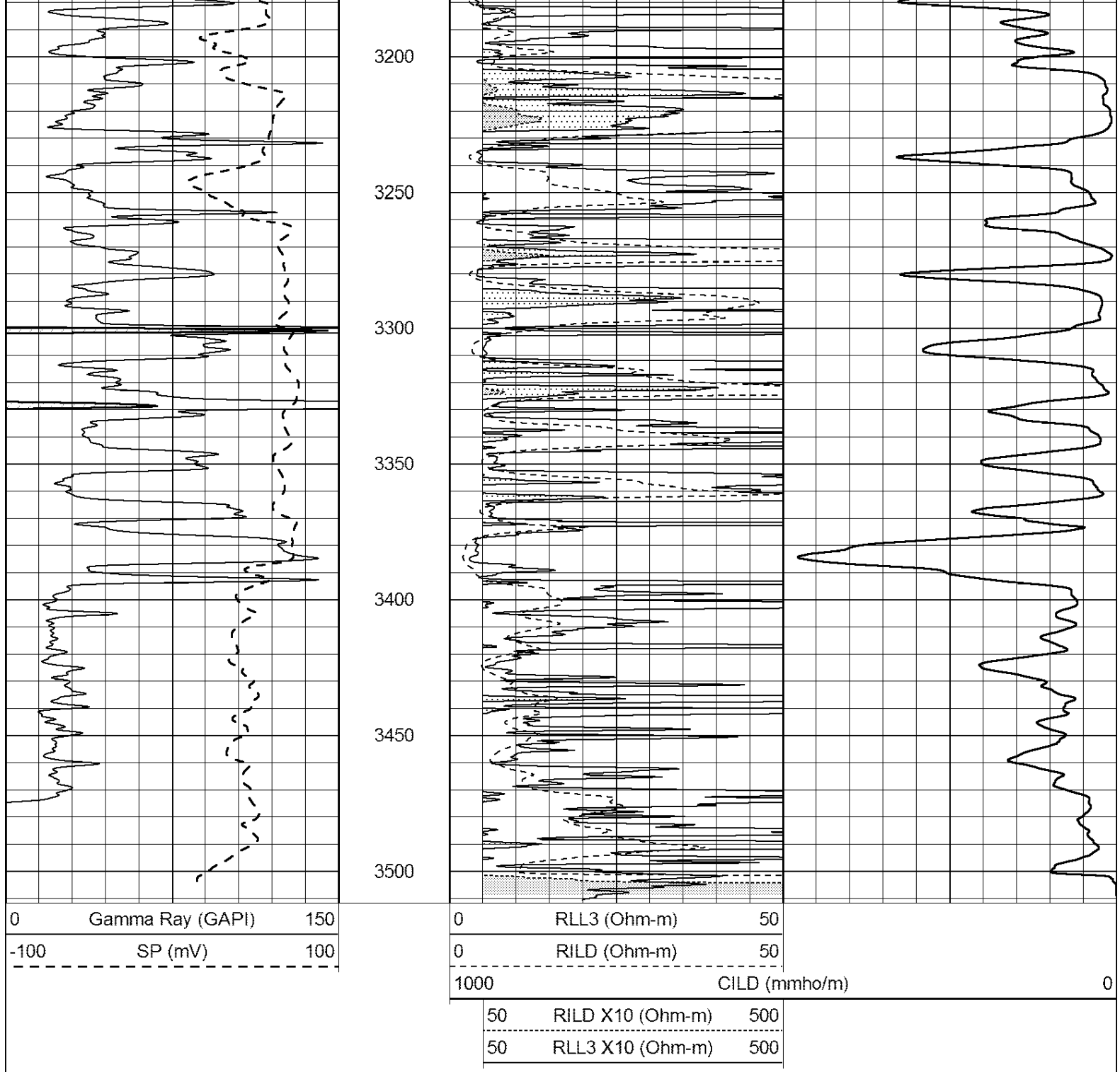
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3050

3100

3150



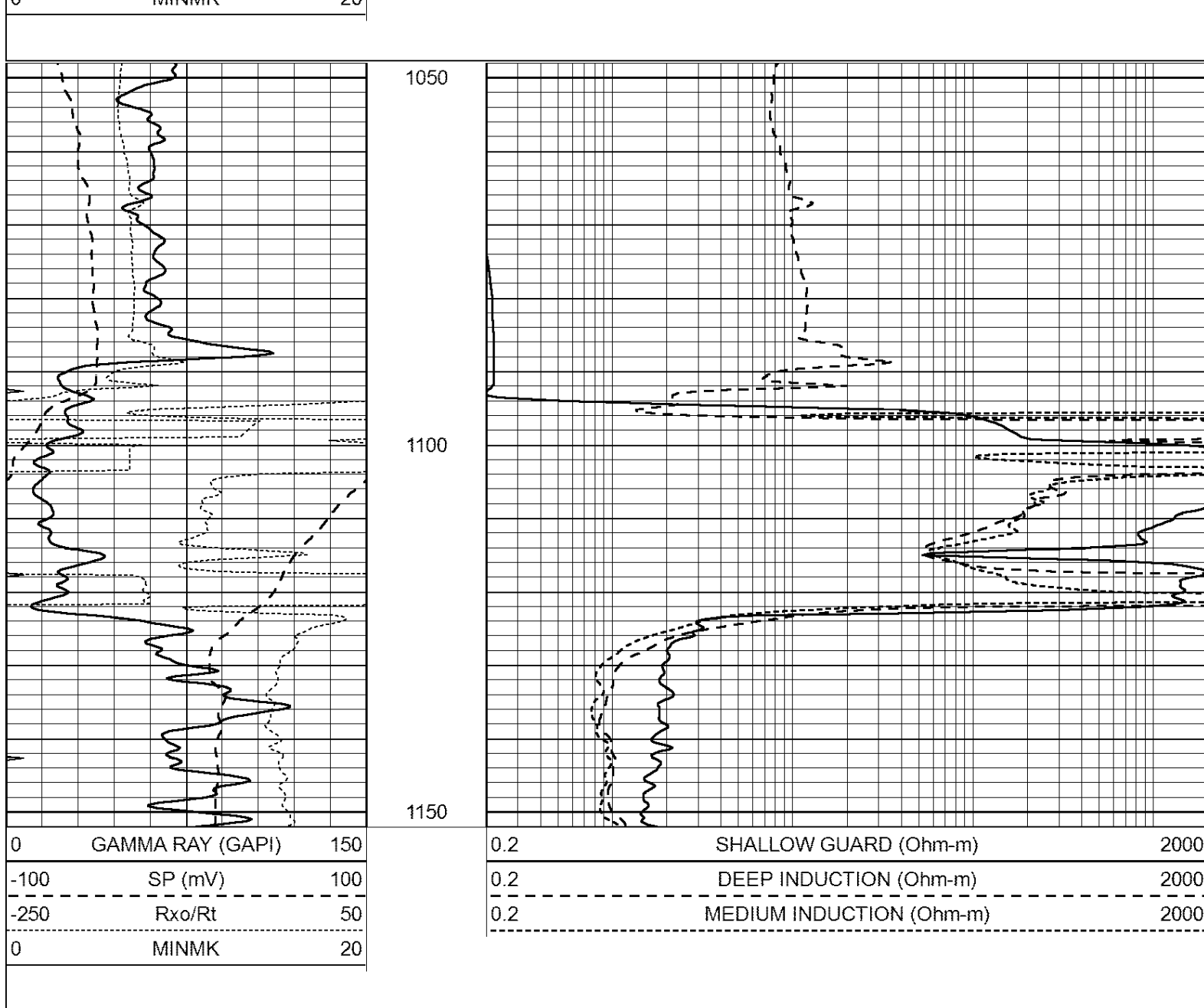


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ANHYDRITE

Database File: 011261pe.db
Dataset Pathname: pass3.2
Presentation Format: _dil
Dataset Creation: Tue Jun 25 15:01:06 2013 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	MINIMUM	20			



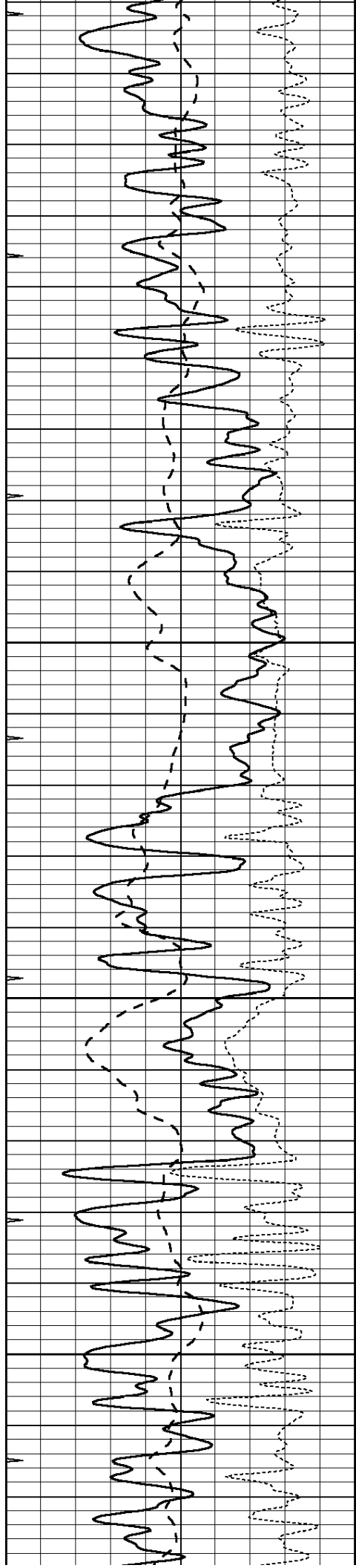
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MAIN SECTION

Database File: 011261pe.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Tue Jun 25 14:47:22 2013 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

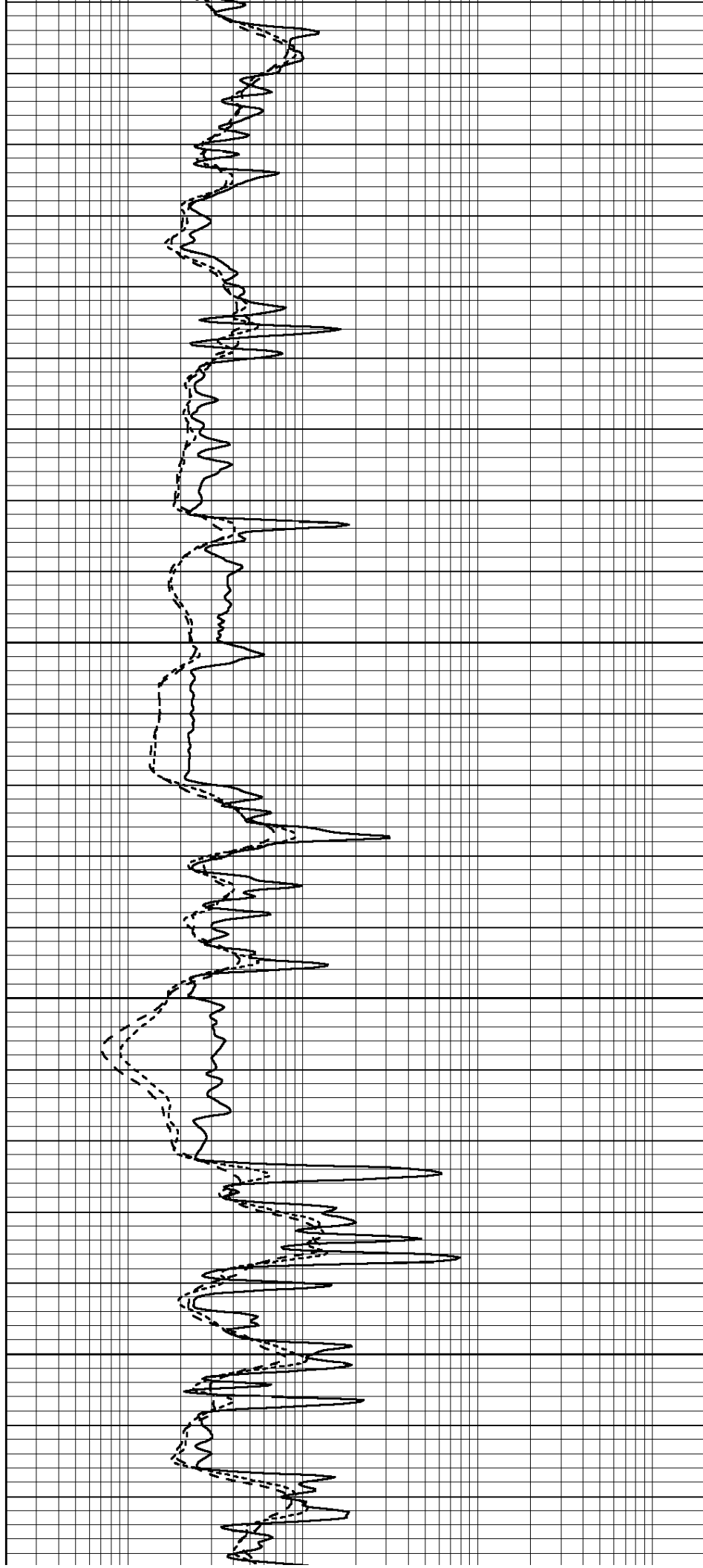


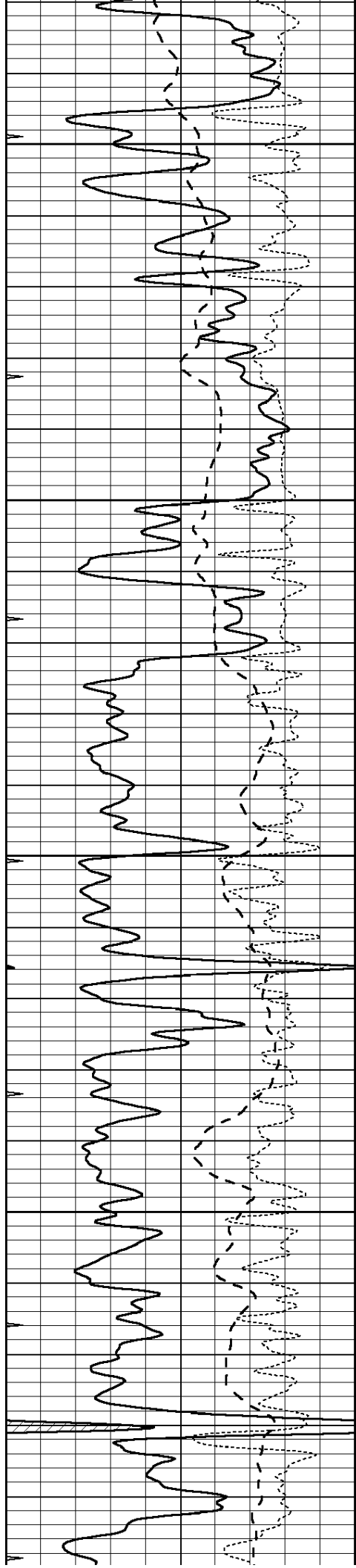
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2600

2650

2700





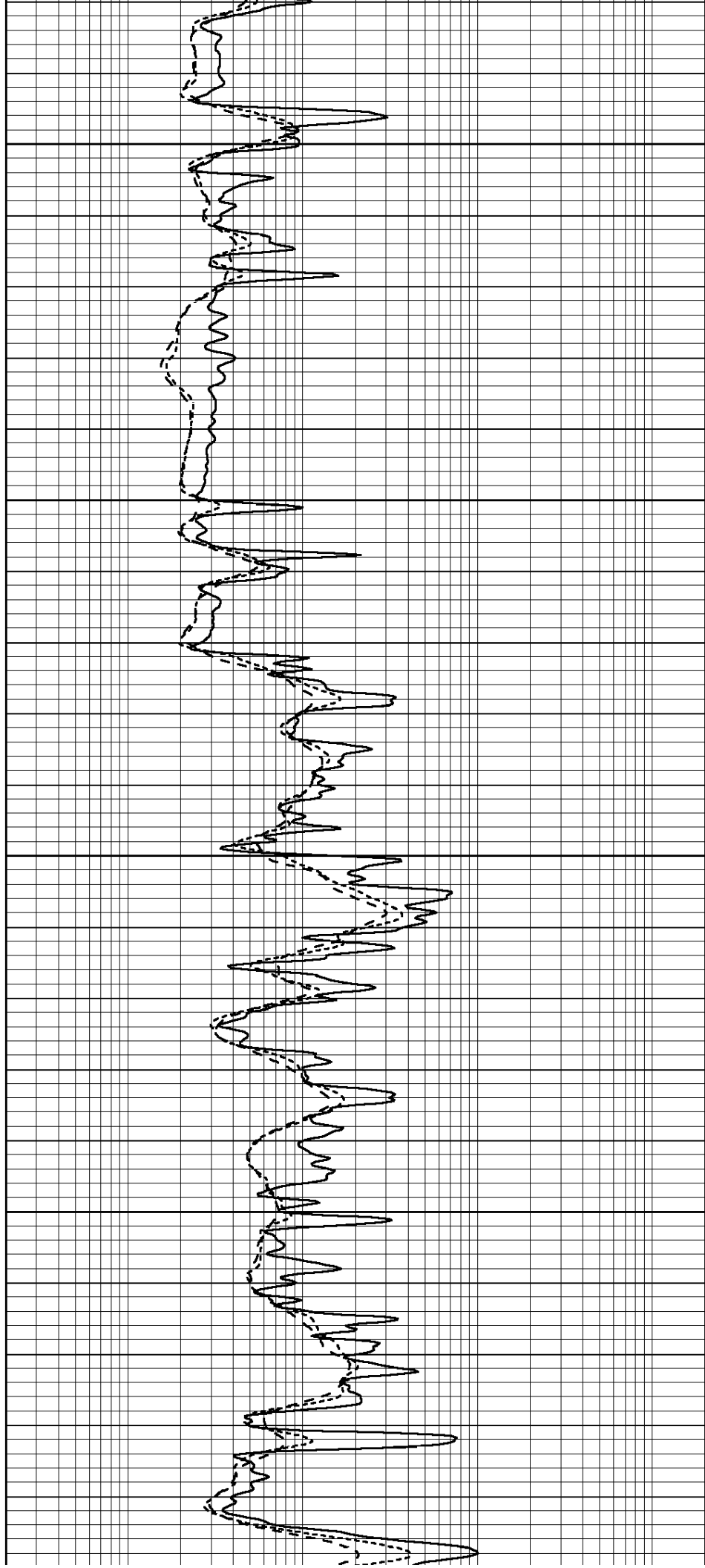
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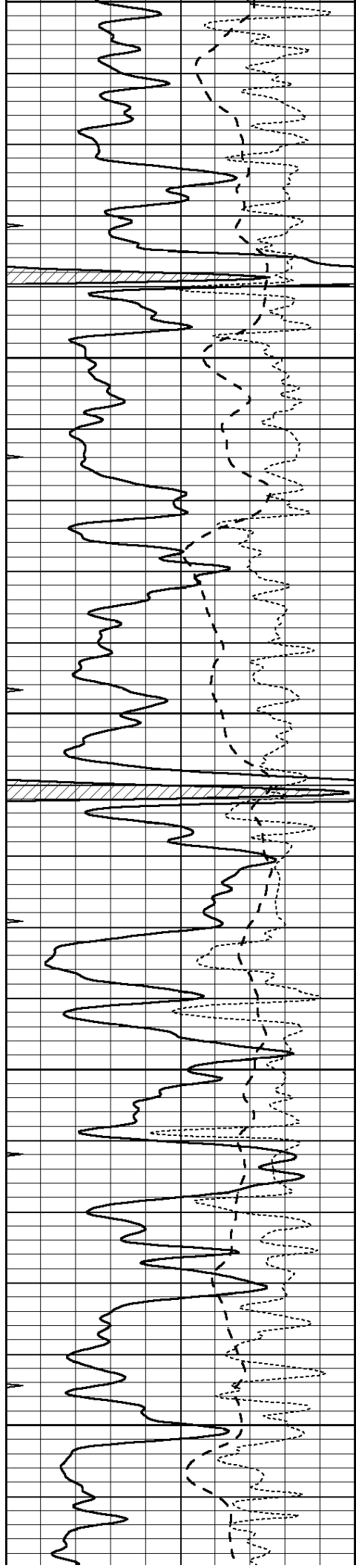
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2850

2900

2950





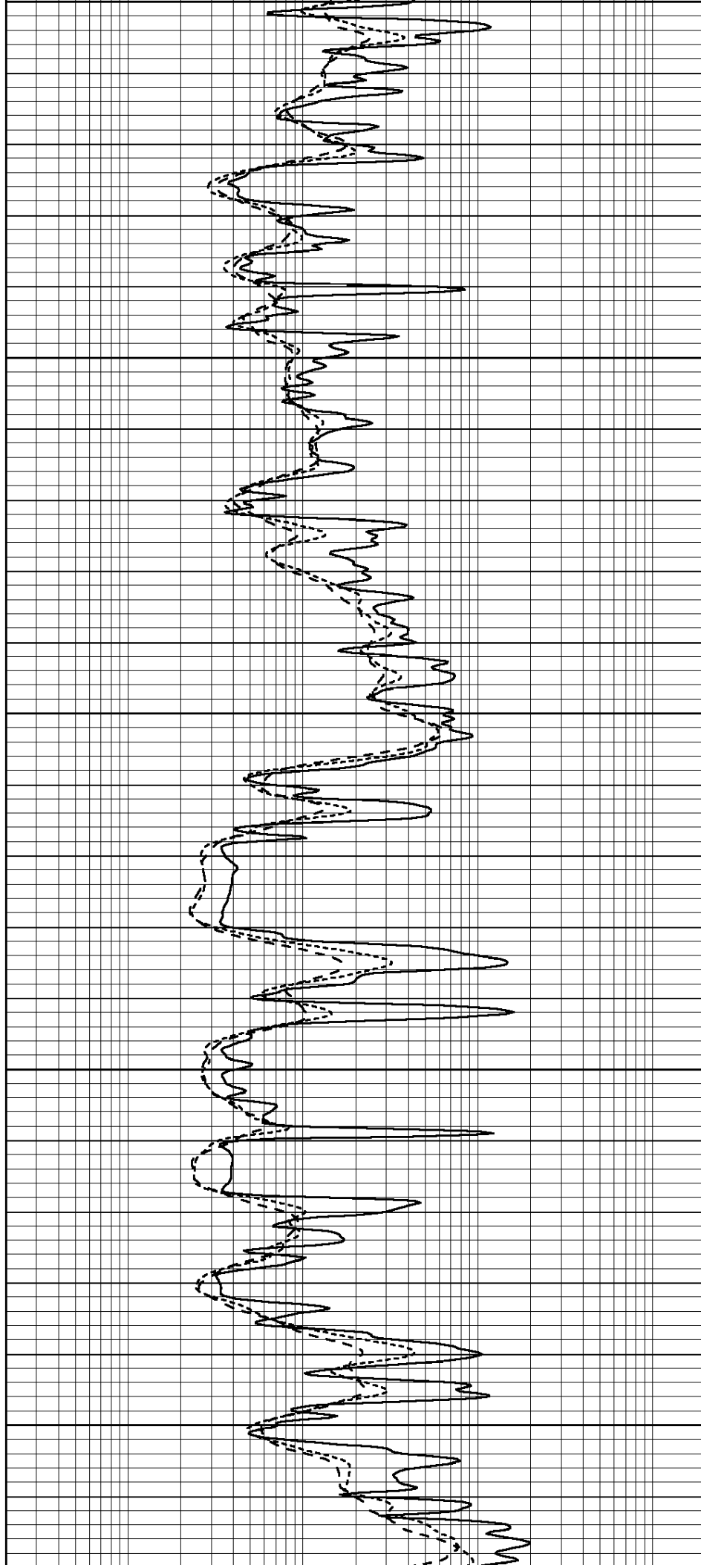
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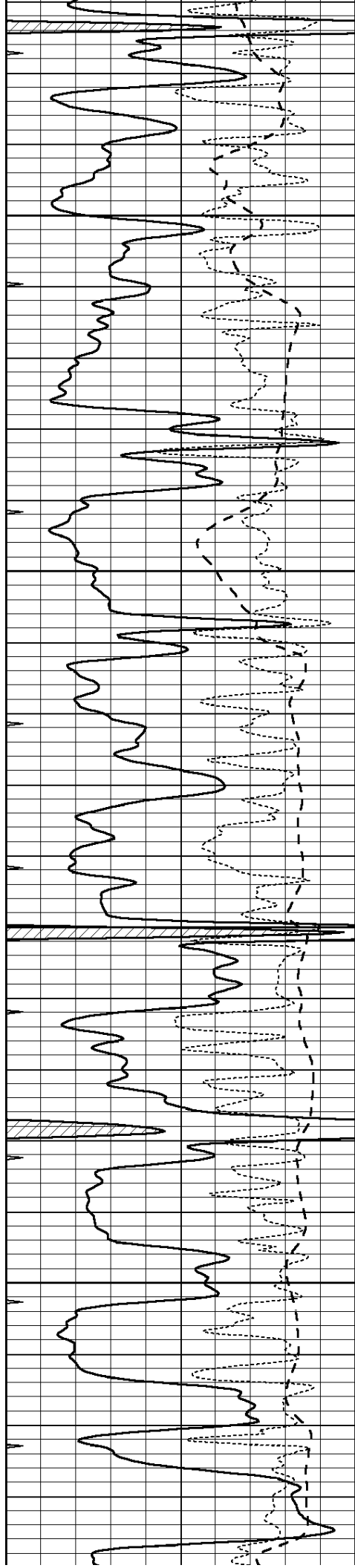
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3050

3100

3150



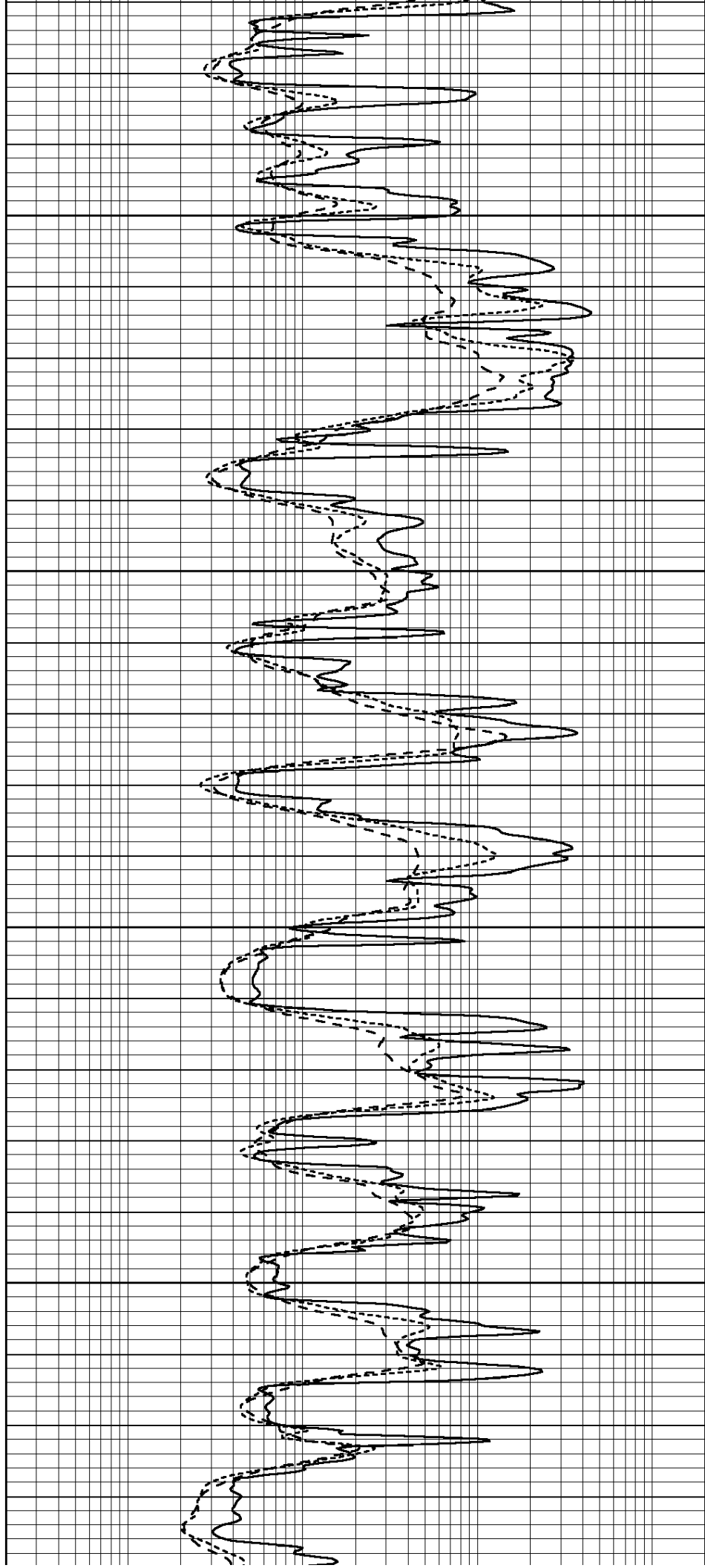


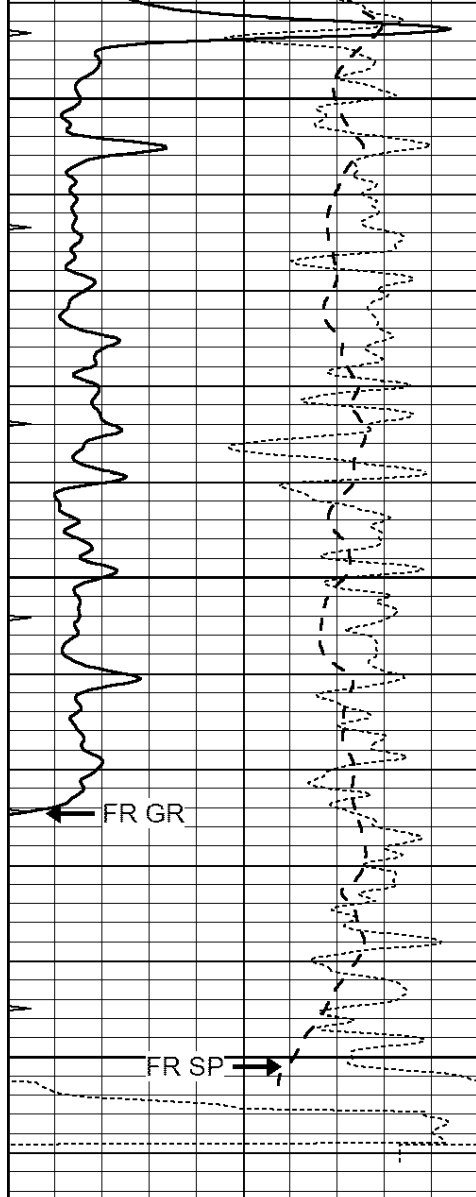
3200

3250

3300

3350





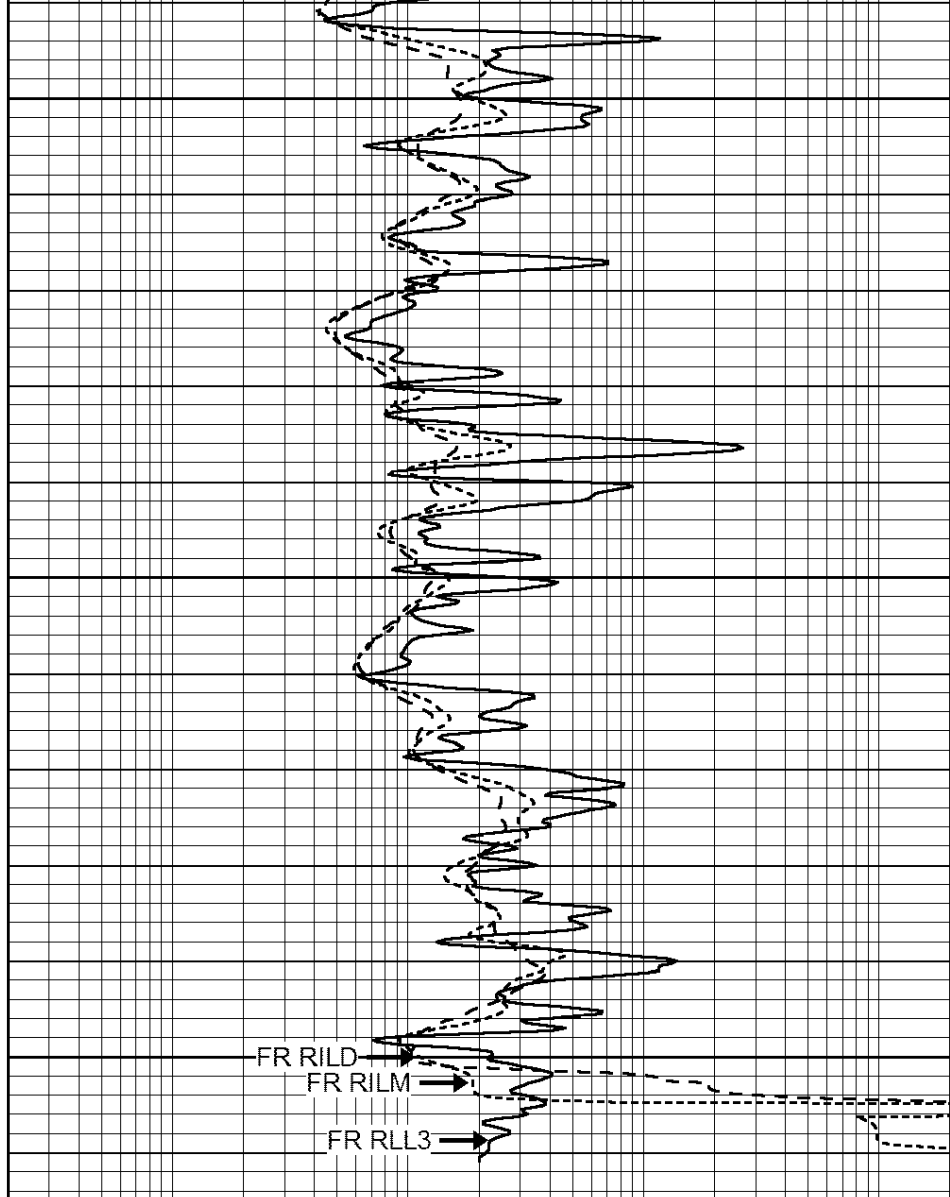
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

3400

3450

3500

LTD 3511



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

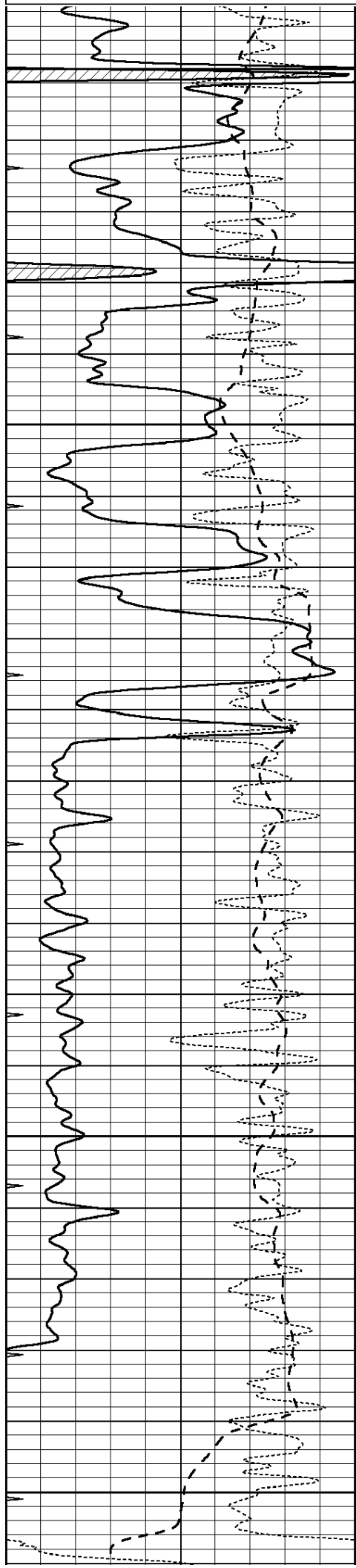


REPEAT SECTION

Database File: 011261pe.db
 Dataset Pathname: pass2.1
 Presentation Format: _dil
 Dataset Creation: Tue Jun 25 14:45:53 2013 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



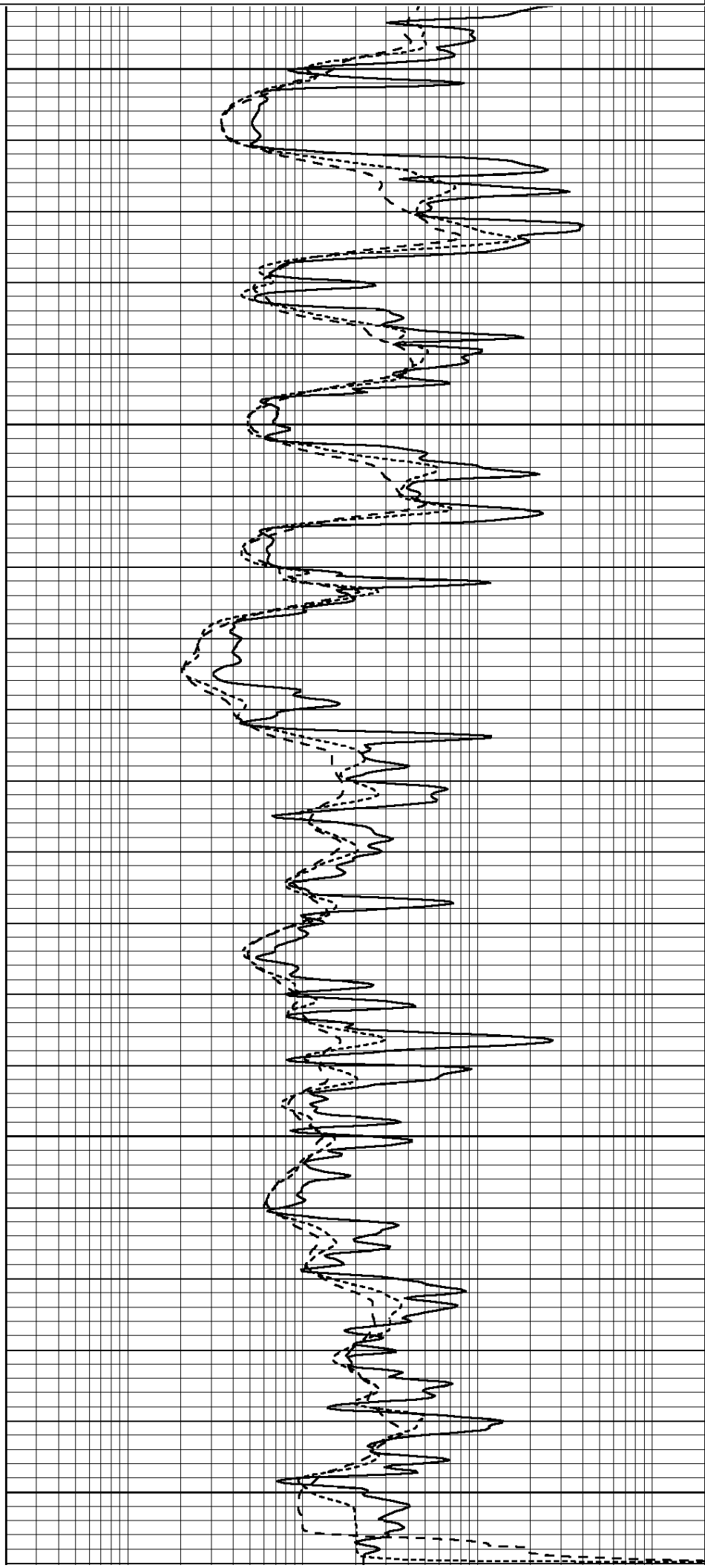
3300

3350

3400

3450

3500



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			

Calibration Report									
Database File:		011261pe.db							
Dataset Pathname:		pass3.1							
Dataset Creation:		Tue Jun 25 14:47:22 2013 by Calc Open-Cased 090629							
Dual Induction Calibration Report									
Serial-Model:		PROBE8-DILG							
Surface Cal Performed:		Fri Aug 01 06:33:19 2008							
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	632.616	-9.730	
Medium	0.029	0.796	V	0.000	464.000	mmho/m	605.049	-17.680	
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 Thu Feb 07 10:52:14 2013				
	Background	Magnesium	Aluminum	Sandstone					
Window 1	863.7	7238.8	2276.4	7857.4				cps	
Window 2	793.4	5538.8	1841.2	5896.4				cps	
Window 3	628.1	2999.7	1149.1	3136.4				cps	
Window 4	401.1	1057.7	408.0	1078.0				cps	

Window 4	191.1	193.7	196.0	197.8	cps
Long Space	0.0	4745.3	1047.7	5103.0	cps
Short Space	0.8	978.5	647.5	1041.5	cps
Rho		1.7100	2.5900	1.3800	g/cc
Pe		0.0000	2.5700	1.5500	
Rib Angle	: 44.7	Rib Slope	: 0.990	Density/Spine Ratio	: 0.562
Spine Angle	: 74.7	Spine Slope	: 3.658	Spine Intercept	: -16.7

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	

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Compensated Neutron Calibration Report
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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			pu	
	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 Long Space	cps cps	pu pu	pu pu
2)	Short Space Long Space	cps cps	pu pu	pu pu
3)	Short Space Long Space	cps cps	pu pu	pu pu

Gamma Ray Calibration Report				
Serial Number:		#8		
Tool Model:		OPEN		
Performed:		Tue Jun 18 19:34:11 2013		
Calibrator Value:		150.0	GAPI	
Background Reading:		0.0	cps	
Calibrator Reading:		175.0	cps	
Sensitivity:		0.8371	GAPI/cps	