



**COMPLETION
& PRODUCTION
SERVICES CO.**

**DUAL
INDUCTION
LOG**

Company MAI OIL OPERATIONS, INC.
Well STULL #1
Field ROLAND EAST
County RUSH
State KANSAS

Company MAI OIL OPERATIONS, INC.
Well STULL #1
Field ROLAND EAST
County RUSH State KANSAS

Location: API # : 15-165-22057-0000
SEC 19 TWP 16S RGE 19W
Permanent Datum GROUND LEVEL Elevation 2123
Log Measured From KELLY BUSHING 8' A.G.L.
Drilling Measured From KELLY BUSHING
Other Services
CDL/CNL
MEL/SON
Elevation
K.B. 2131
D.F. 2129
G.L. 2123

Date	4/10/14		
Run Number	ONE		
Depth Driller	3921		
Depth Logger	3923		
Bottom Logged Interval	3921		
Top Log Interval	00		
Casing Driller	8 5/8" @ 1103		
Casing Logger	1103		
Bit Size	7 7/8"		
Type Fluid in Hole	CHEMICAL MUD	CHLORIDES 7400 PPM	
Density / Viscosity	9.2/58		
pH / Fluid Loss	11.5/8.0		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.60 @ 79F		
Rmt @ Meas. Temp	.45 @ 79F		
Rmc @ Meas. Temp	.72 @ 79F		
Source of Rmf / Rmc	MEASUREMENT		
Rm @ BHT	.40 @ 116F		
Time Circulation Stopped	2 HOURS		
Time Logger on Bottom			
Maximum Recorded Temperature	116F		
Equipment Number	4010		
Location	HAYS, KANSAS		
Recorded By	JASON CAPPELLUCCI		
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

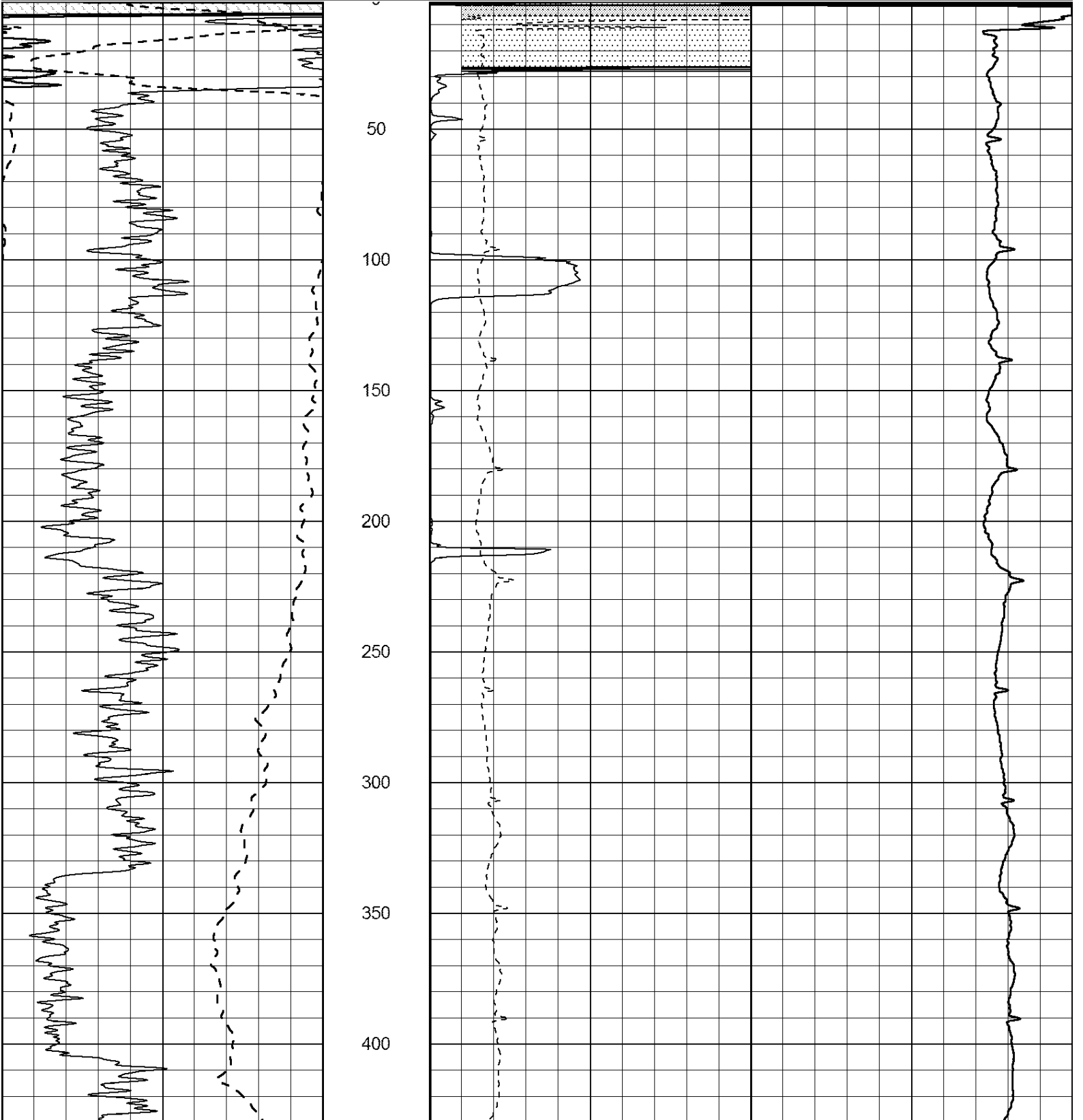
THANK YOU FOR USING NABORS, HAYS, KS. (785) 628-6395
DIRECTIONS:
LIEBENTHAL, KS. - 7 1/2 WEST ON BLKTOP TO RD. 170 - 1 NORTH - 1/2 WEST
SOUTH INTO

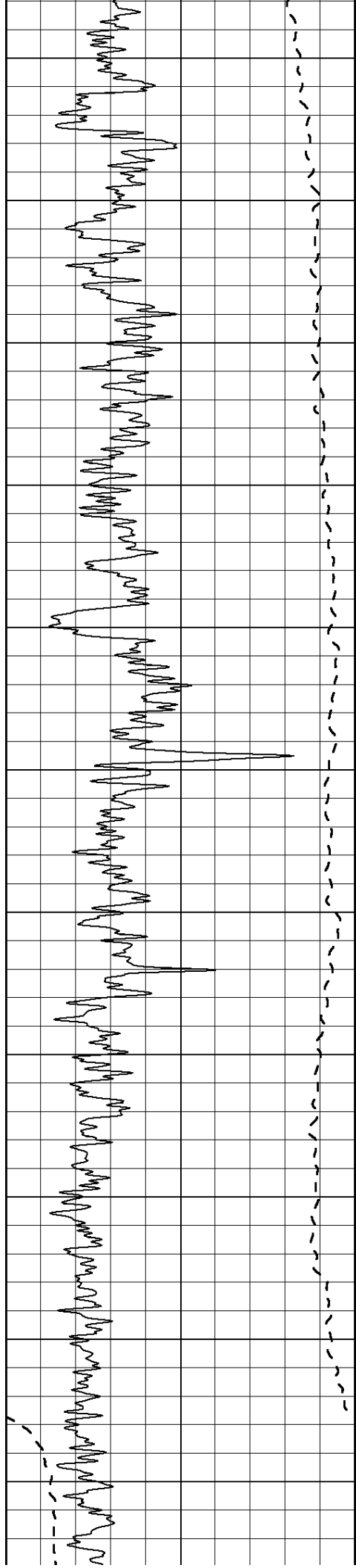


MAIN SECTION

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 Presentation Format: _dil2
 Dataset Creation: Thu Apr 10 14:48:08 2014 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

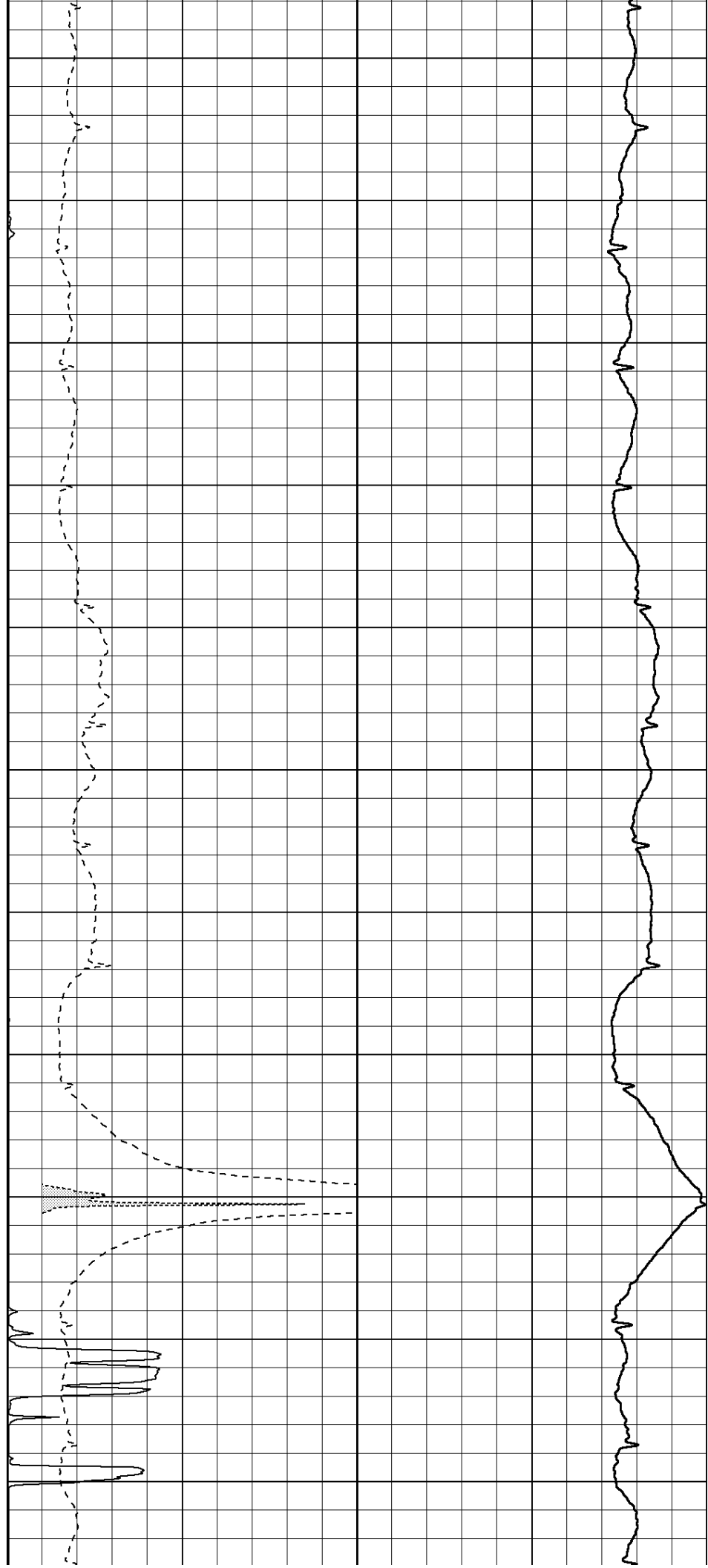
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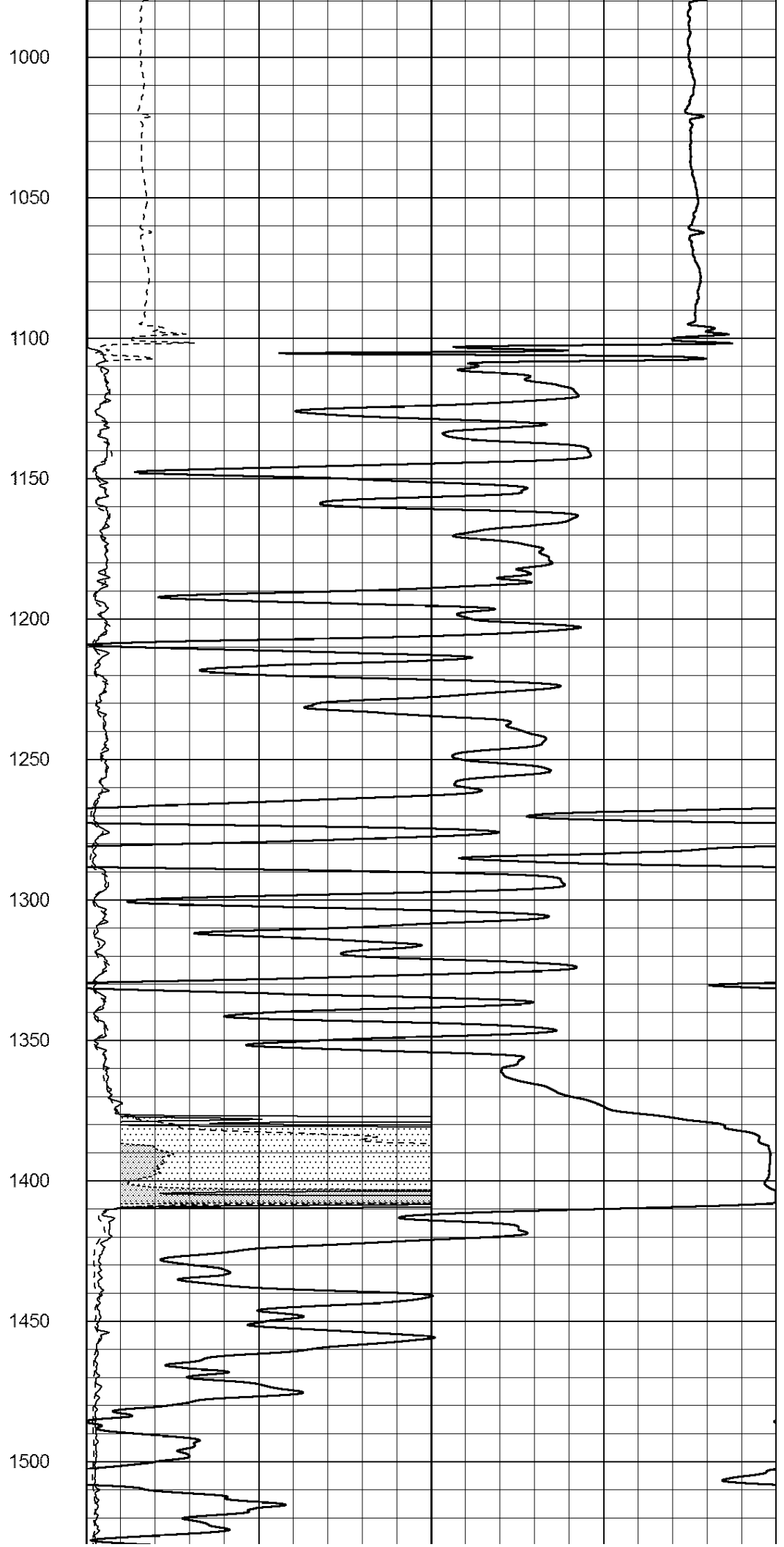
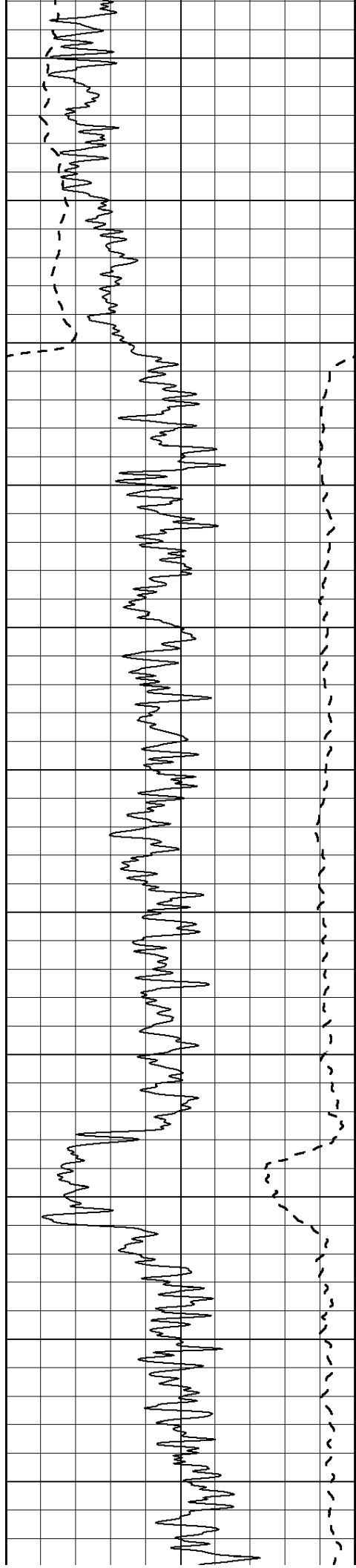
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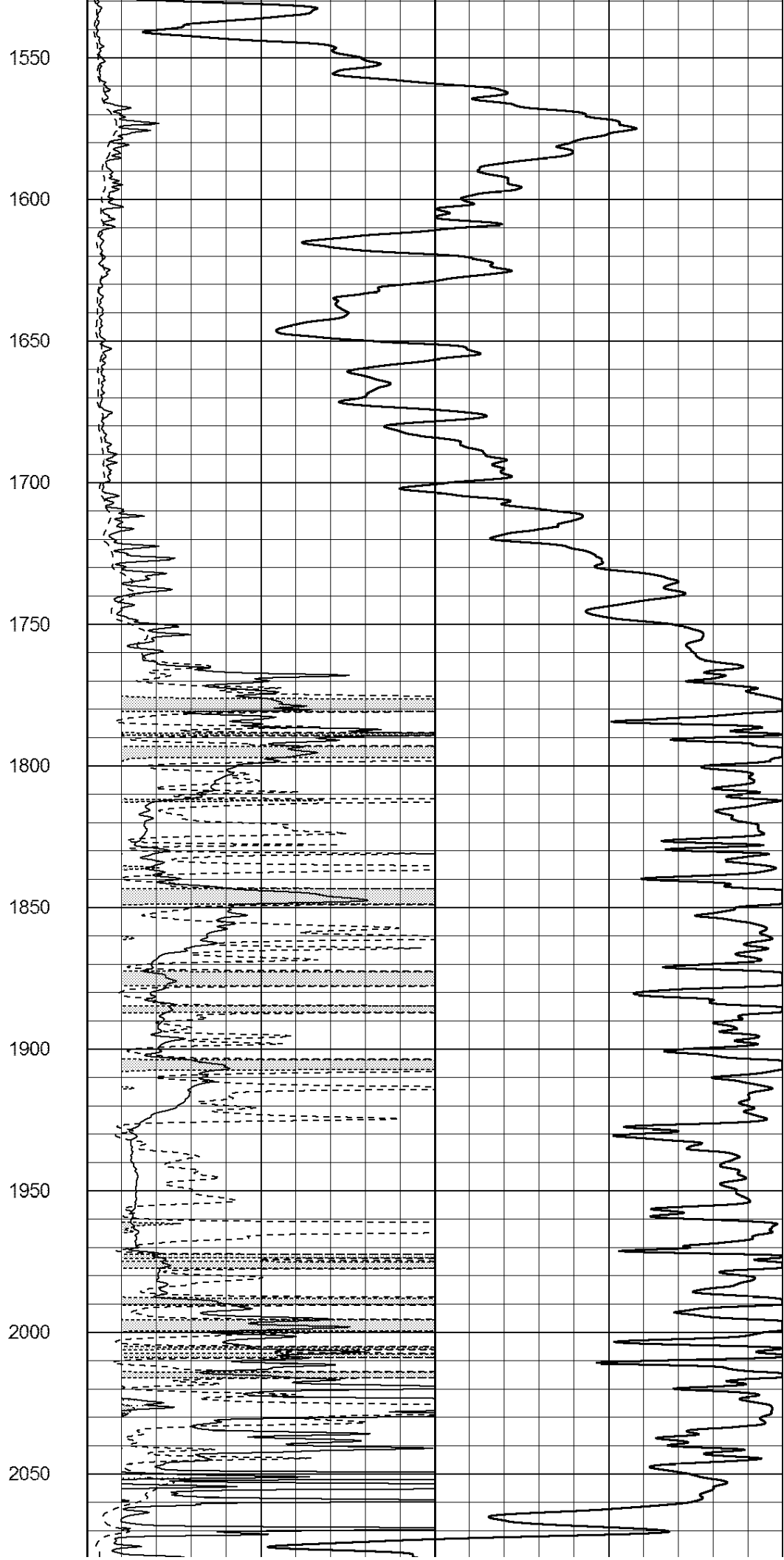
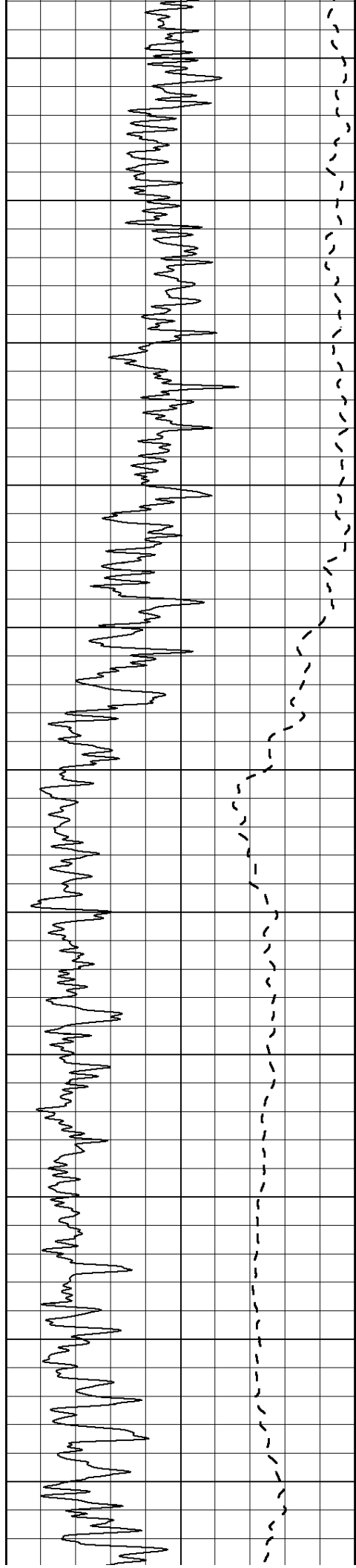
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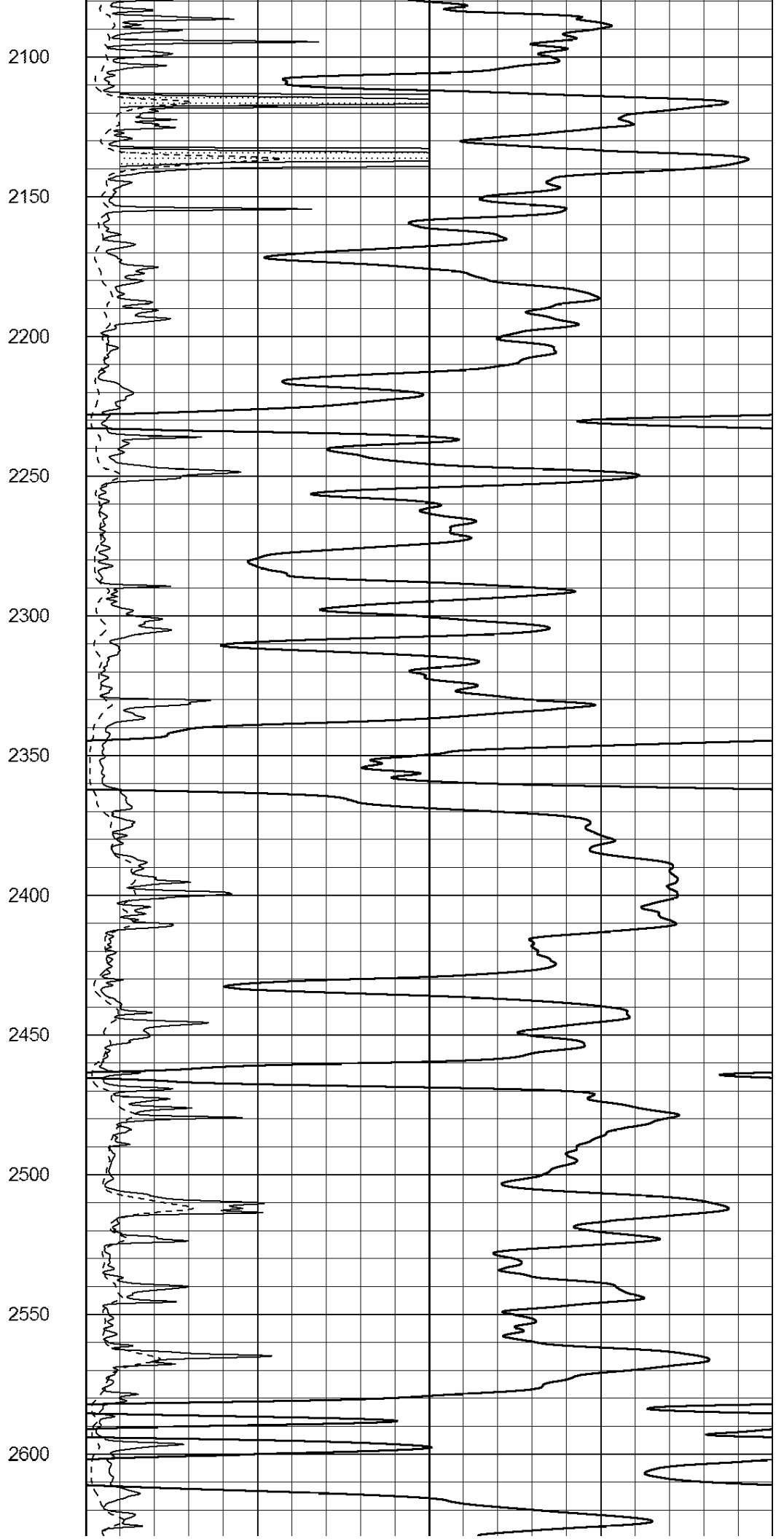
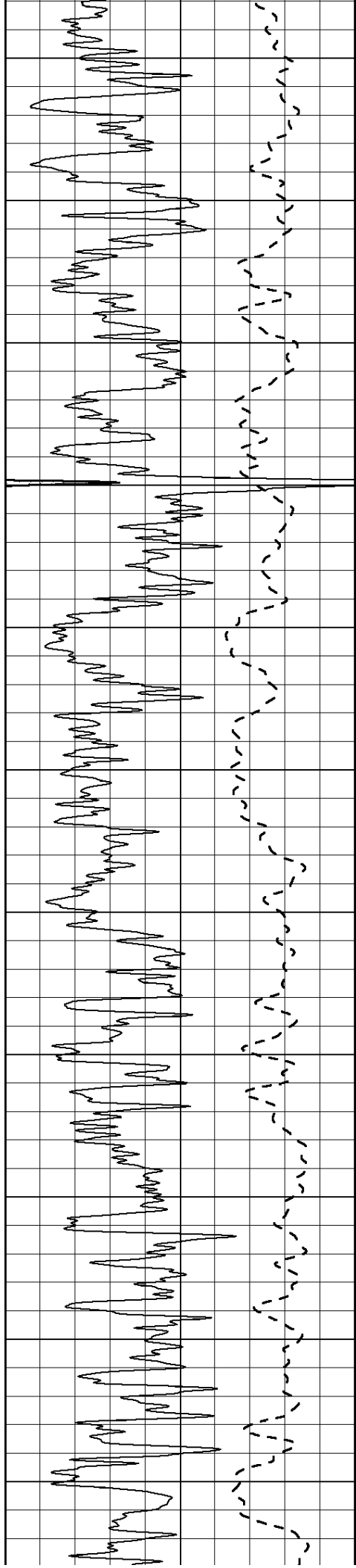
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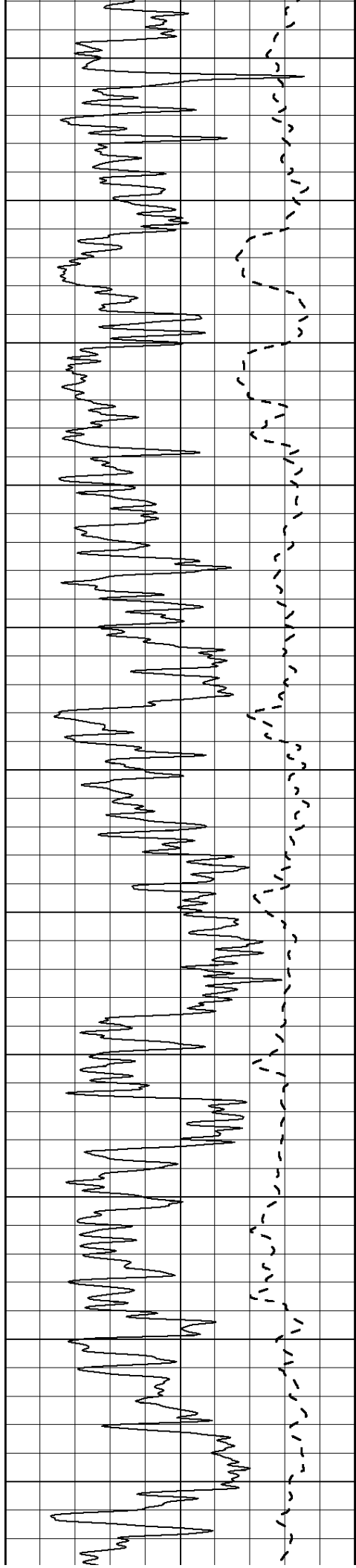
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2650

2700

2750

2800

2850

2900

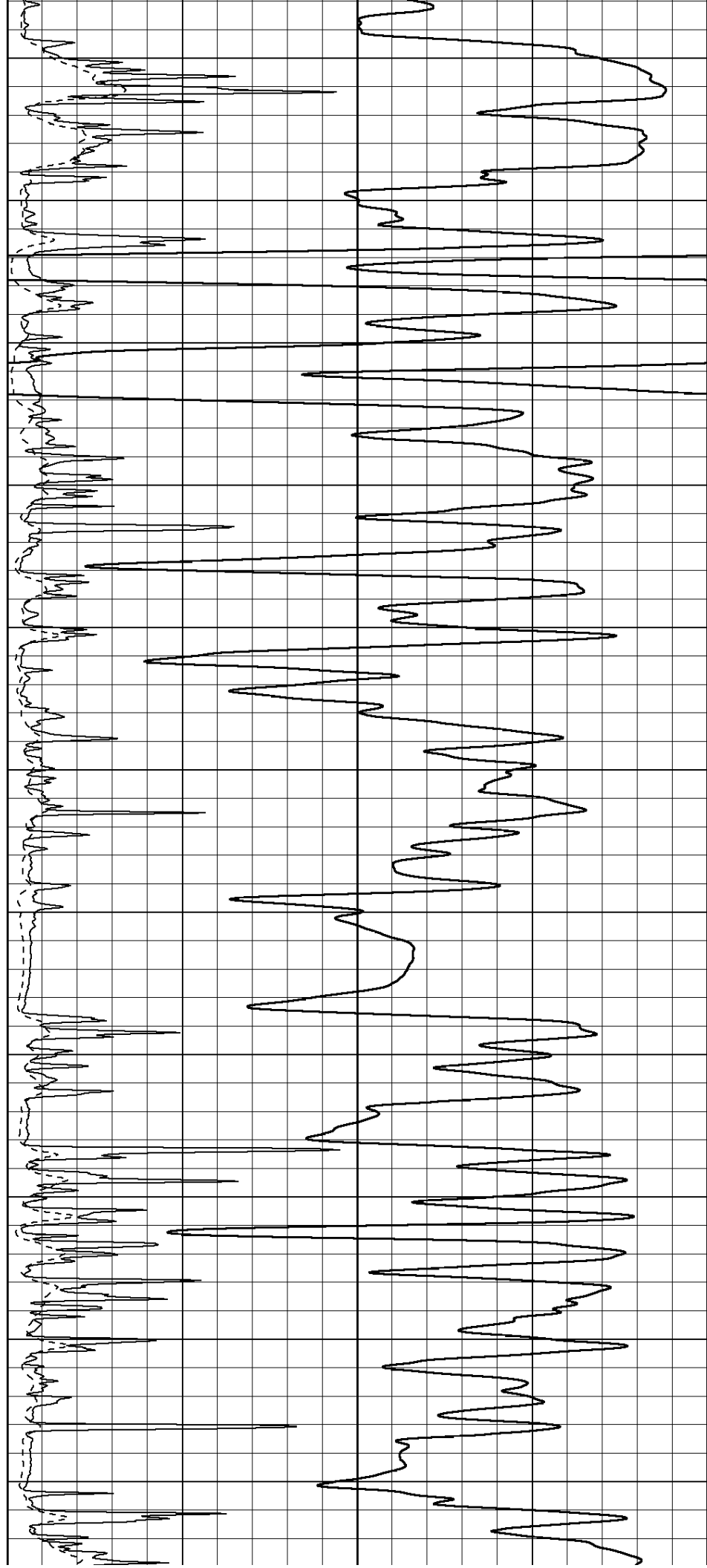
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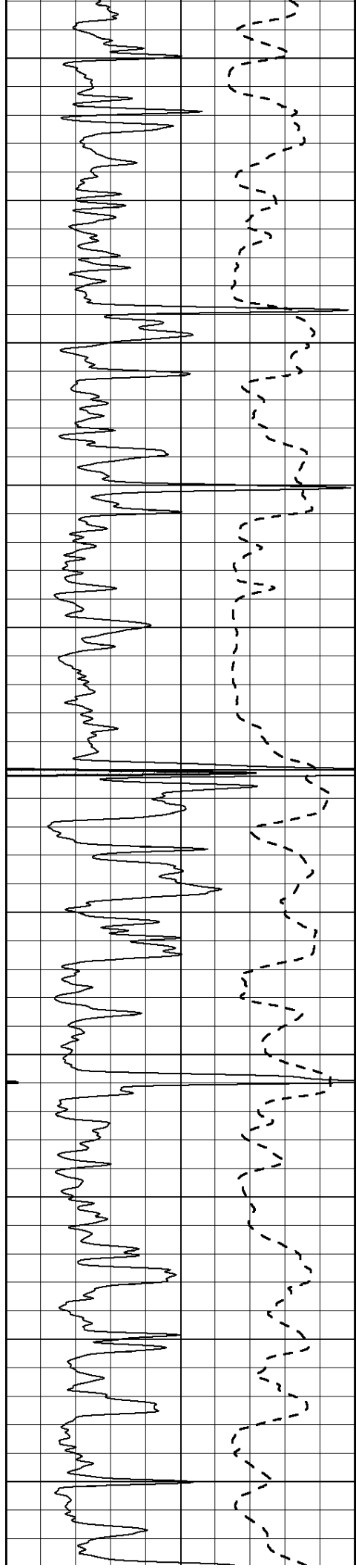
3000

3050

3100

3150





3200

3250

3300

3350

3400

3450

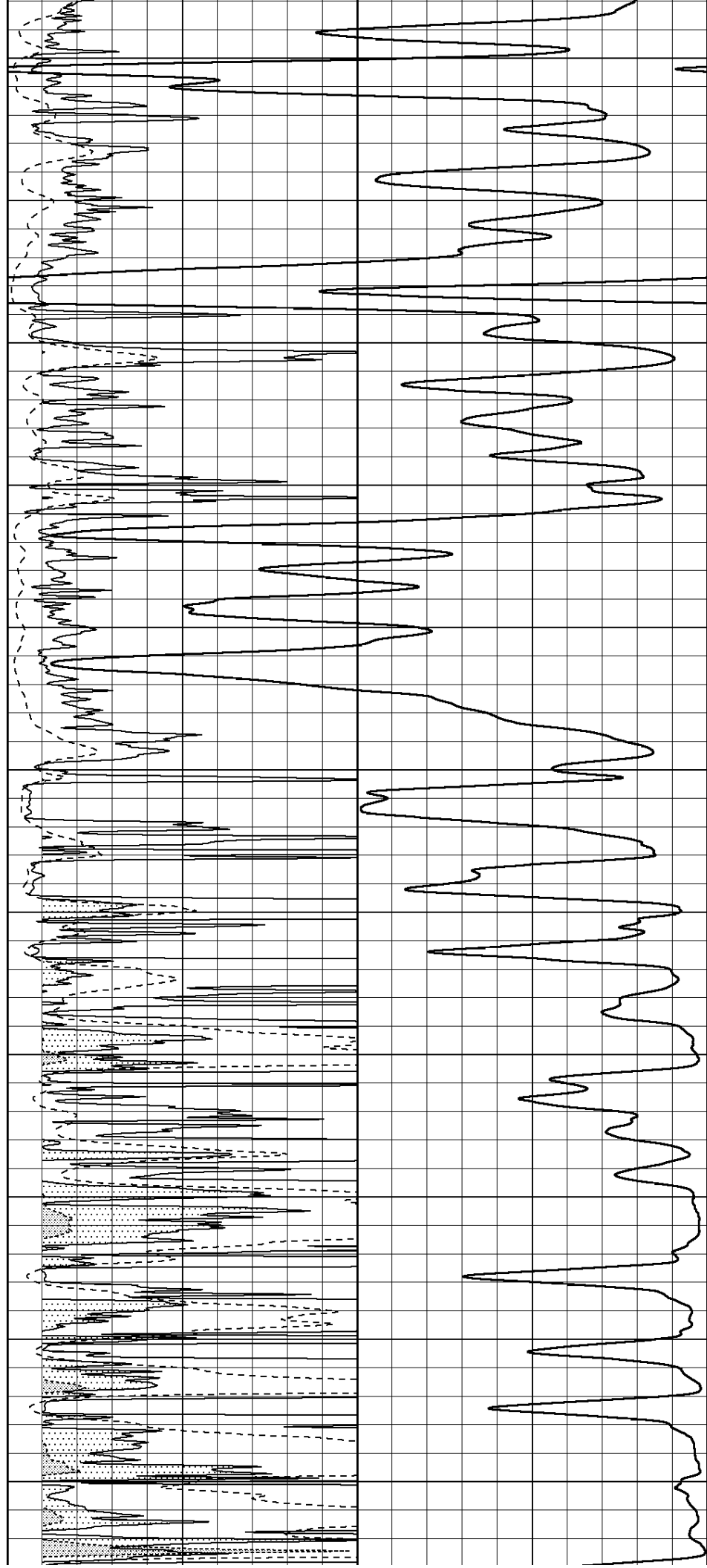
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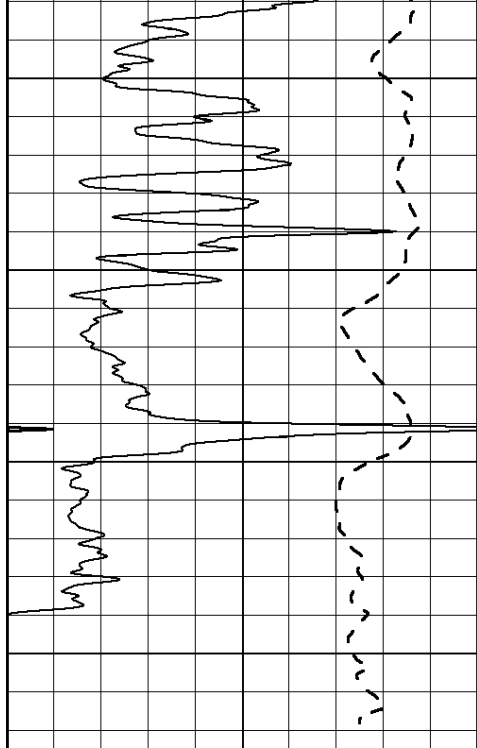
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3600

3650

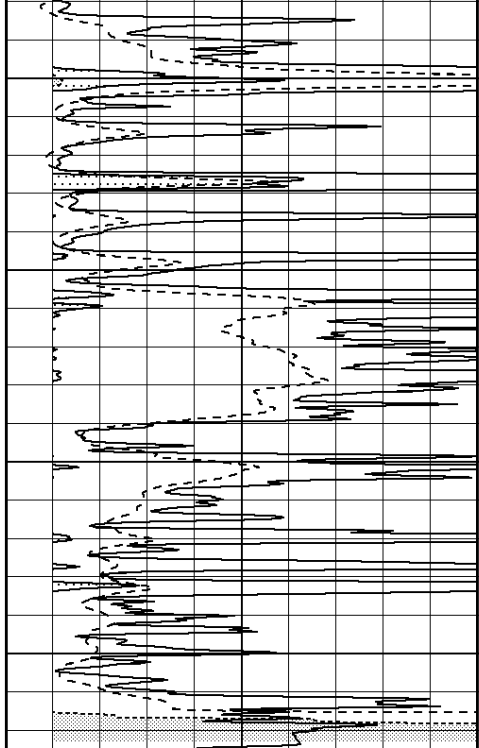
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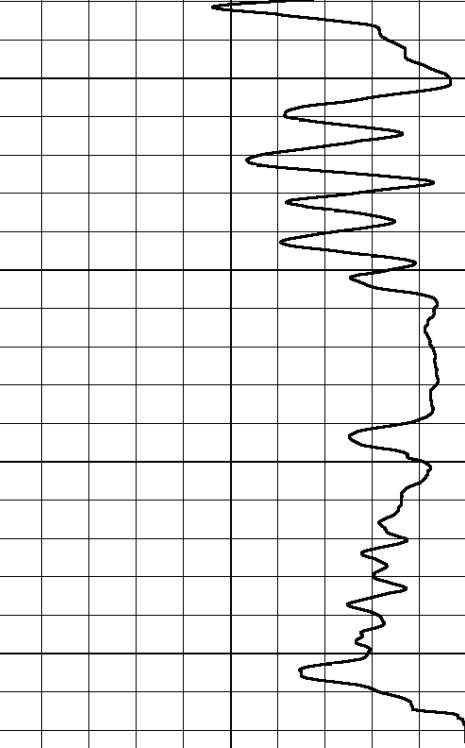


0 Gamma Ray (GAPI) 150
 -100 SP (mV) 100

3750
 3800
 3850
 3900



0 RLL3 (Ohm-m) 50
 0 RILD (Ohm-m) 50



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

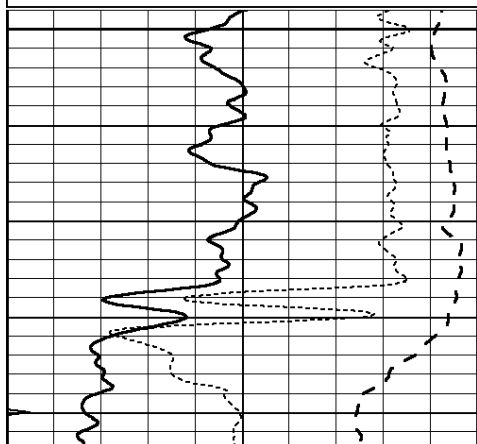


ANHYDRITE

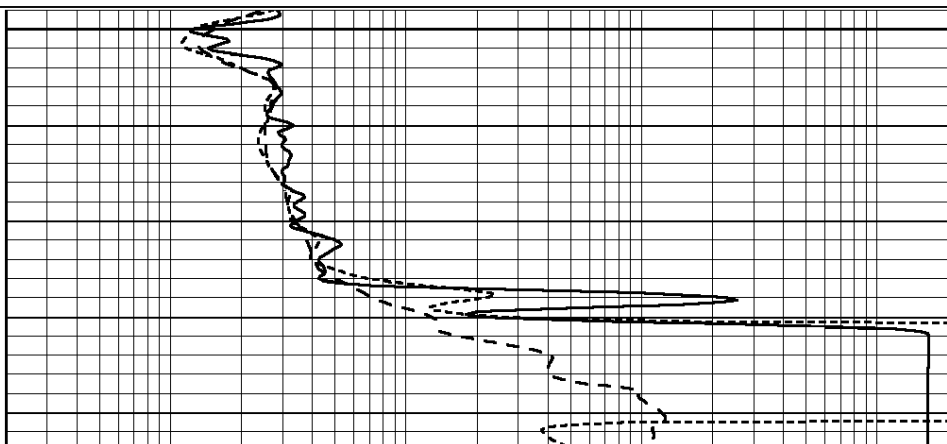
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 Presentation Format: _dil
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 Charted by: Depth in Feet scaled 1:240

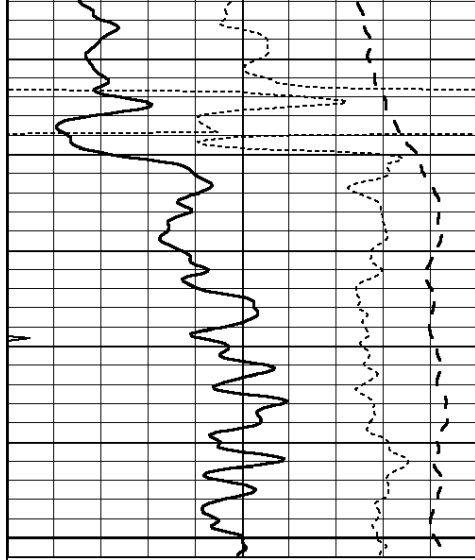
0 GAMMA RAY (GAPI) 150
 -100 SP (mV) 100
 -250 Rxo/Rt 50
 0 MINMK 20

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



1350

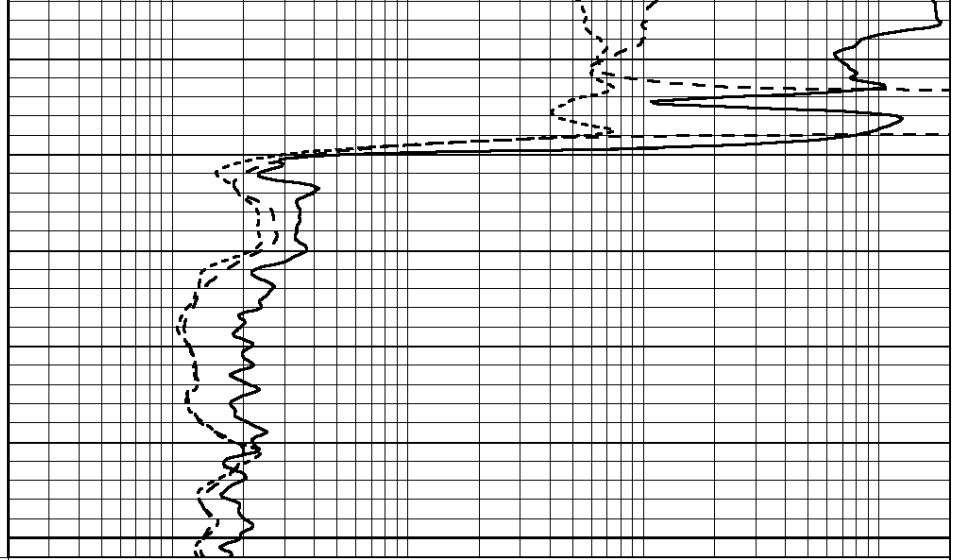




1400

1450

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

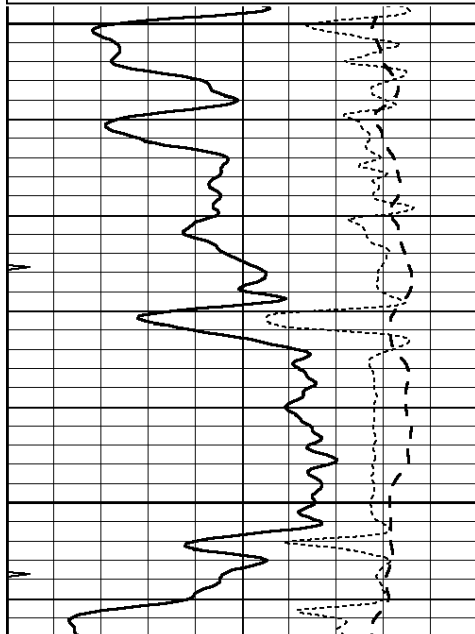


MAIN SECTION

Database File: 24022ddn.db
 Dataset Pathname: pass3.1
 Presentation Format: _dil
 Dataset Creation: Thu Apr 10 14:02:47 2014 by Calc Open-Cased 090629
 Charted by: Depth in Feet scaled 1:240

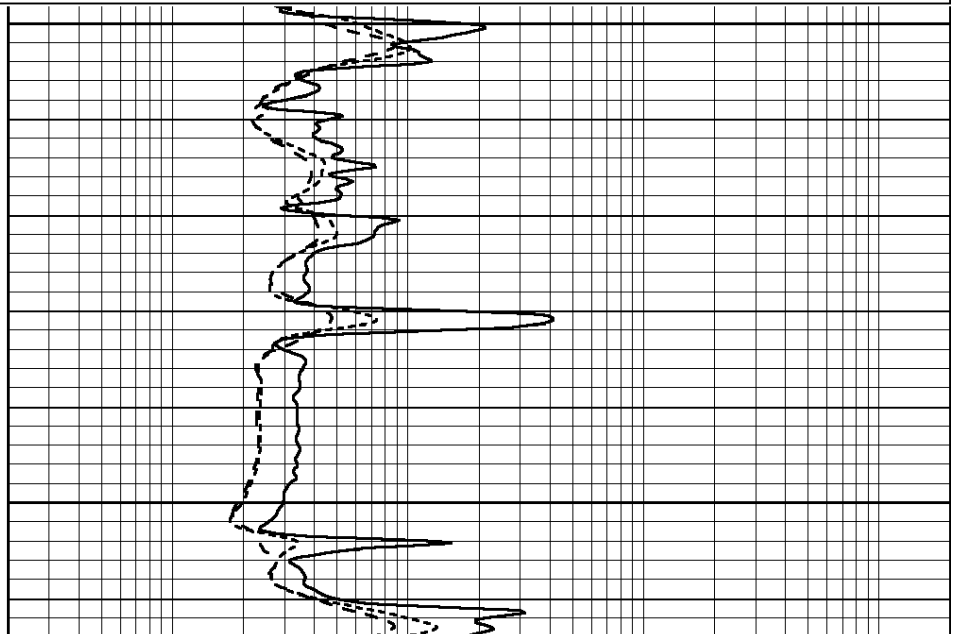
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

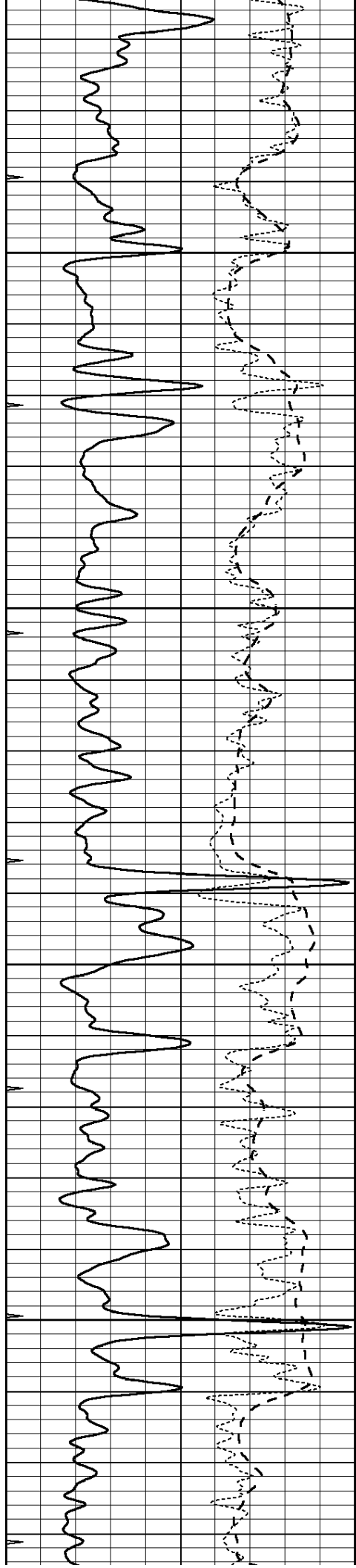
0.2	SHALLOW GUARD (Ohm-m)	2000
0.2	DEEP INDUCTION (Ohm-m)	2000
0.2	MEDIUM INDUCTION (Ohm-m)	2000



3100

3150



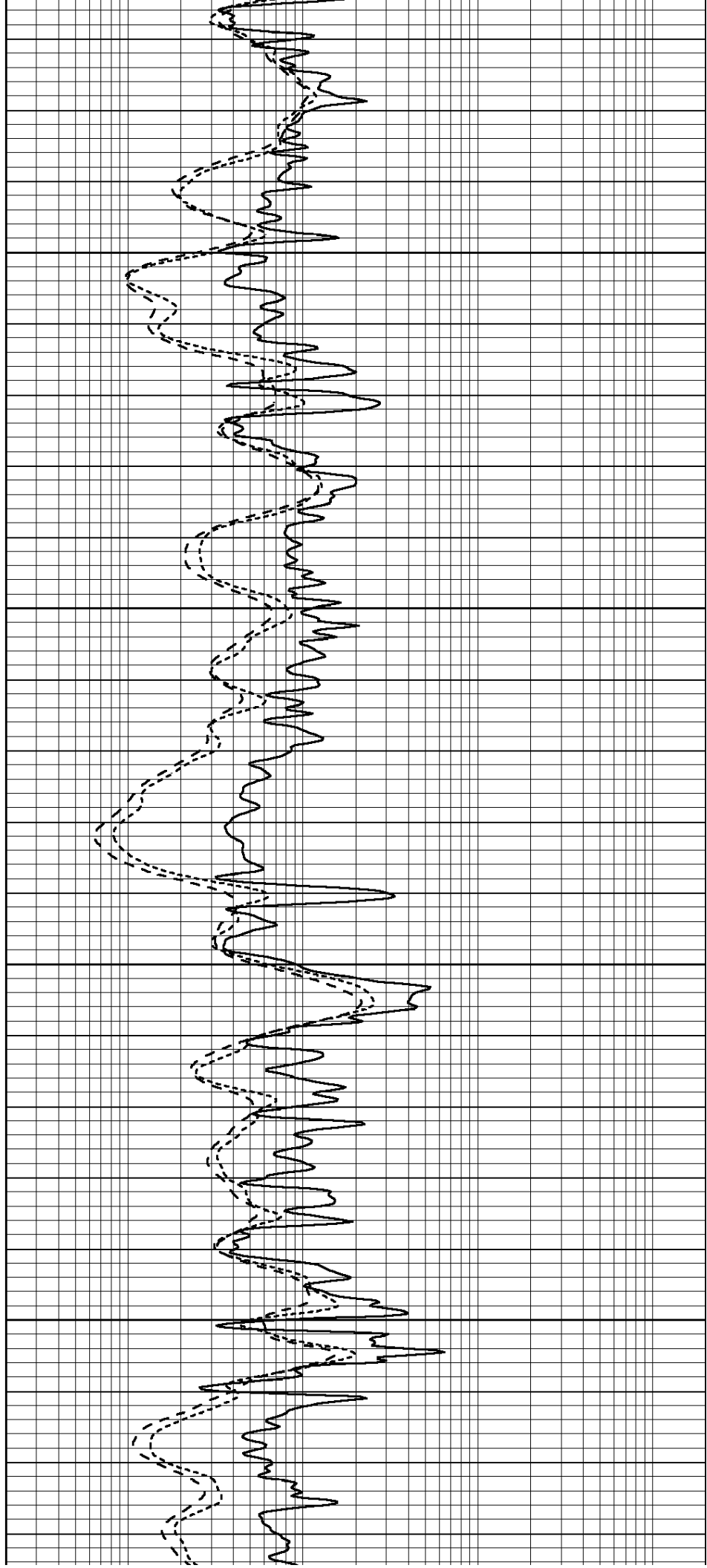


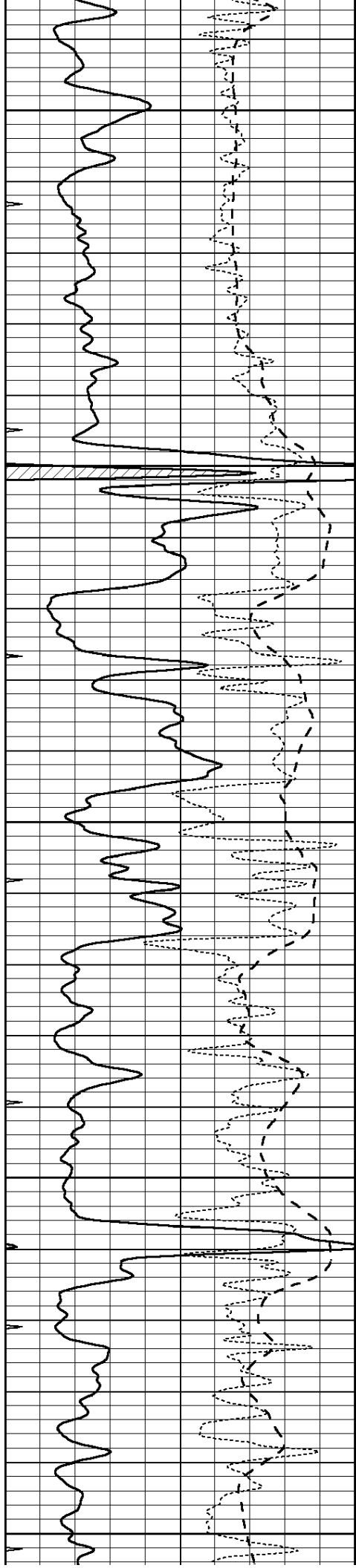
3200

3250

3300

3350





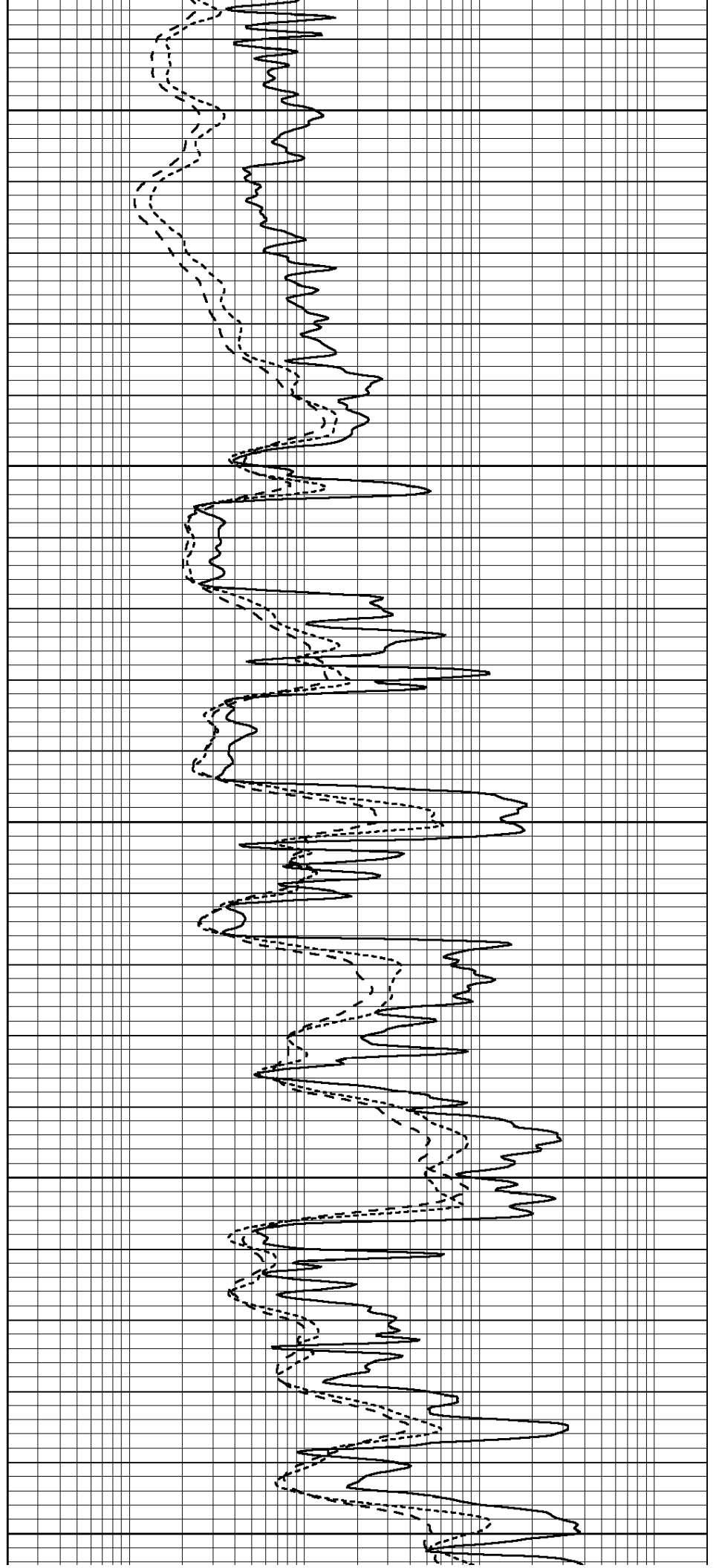
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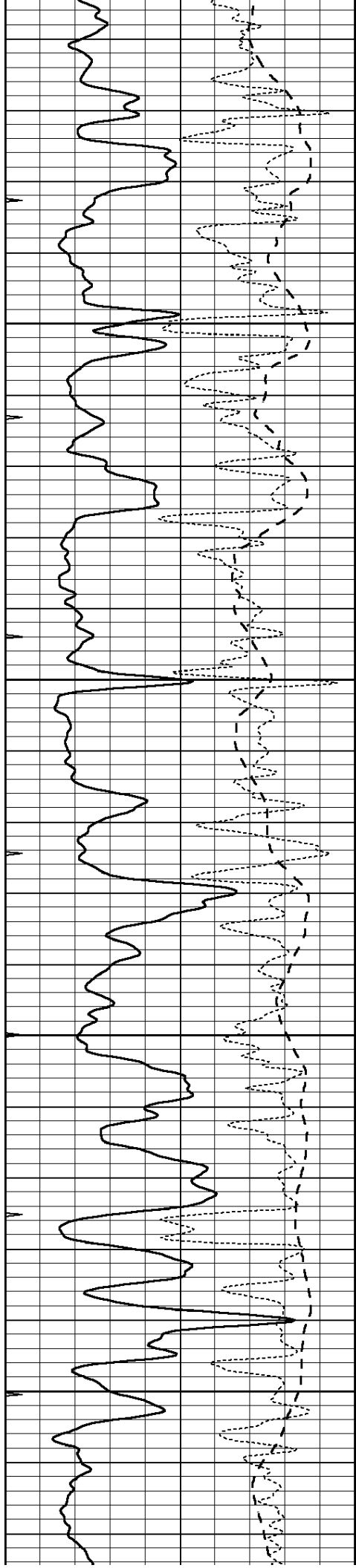
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3500

3550

3600



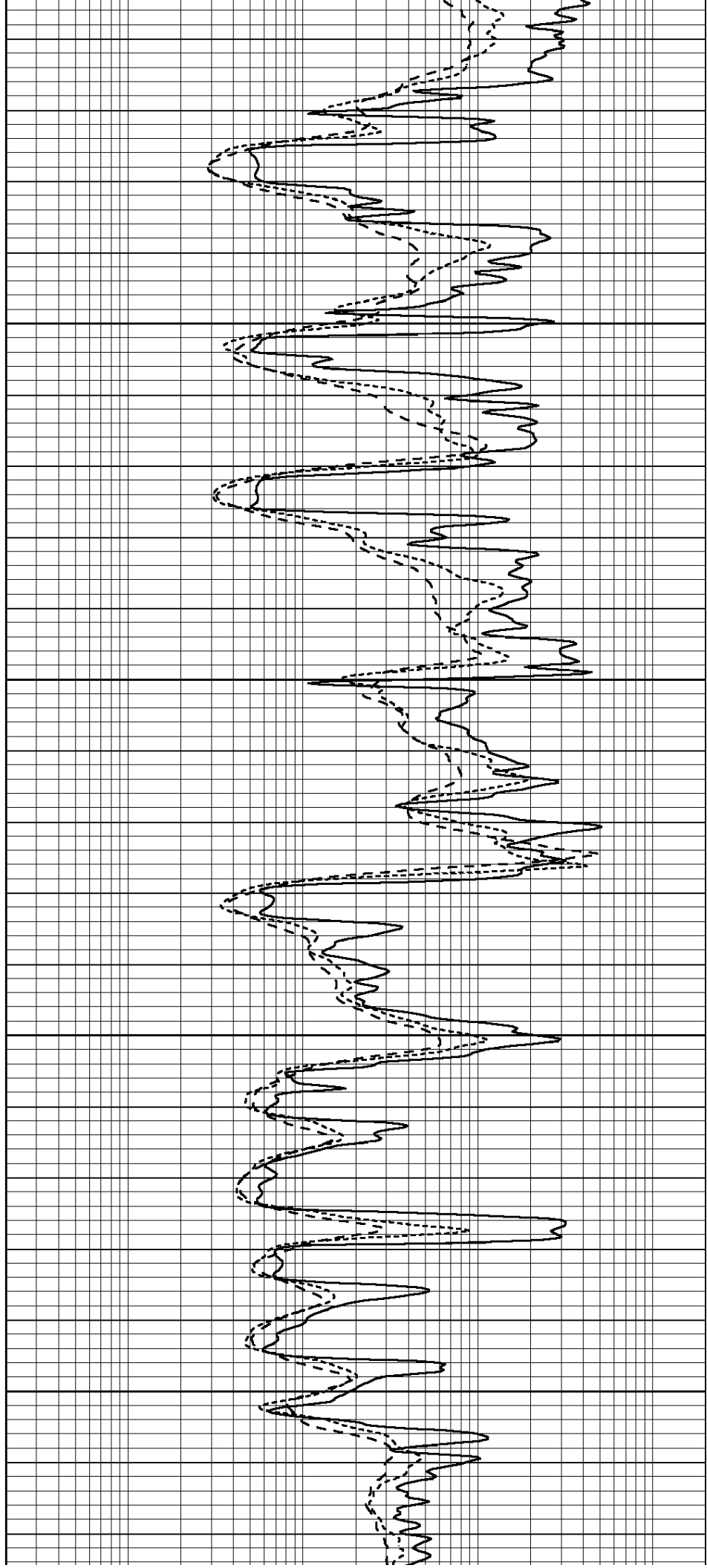


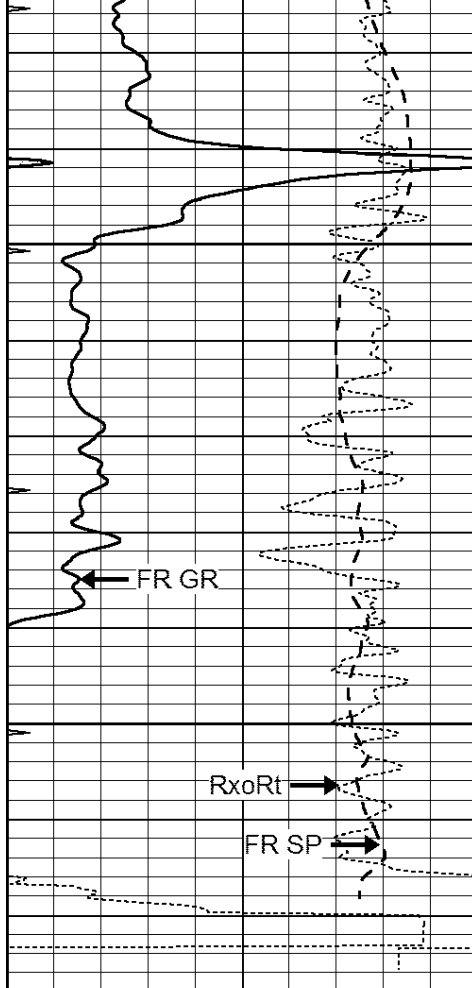
3650

3700

3750

3800



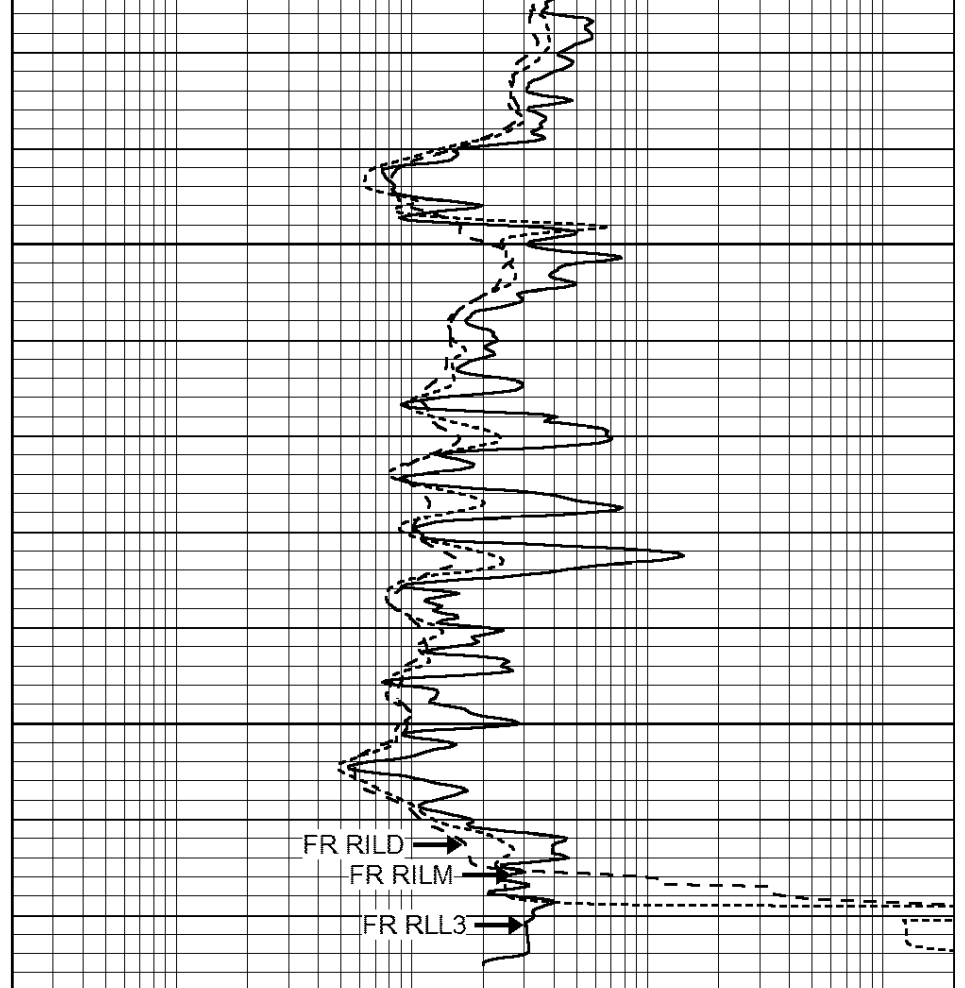


3850

3900

LTD 3923

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

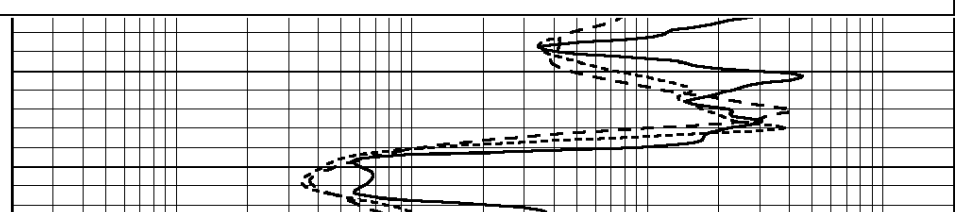
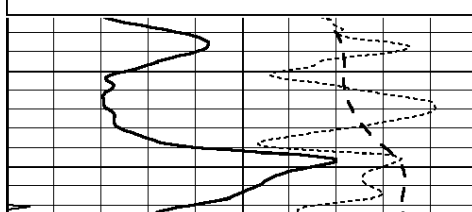


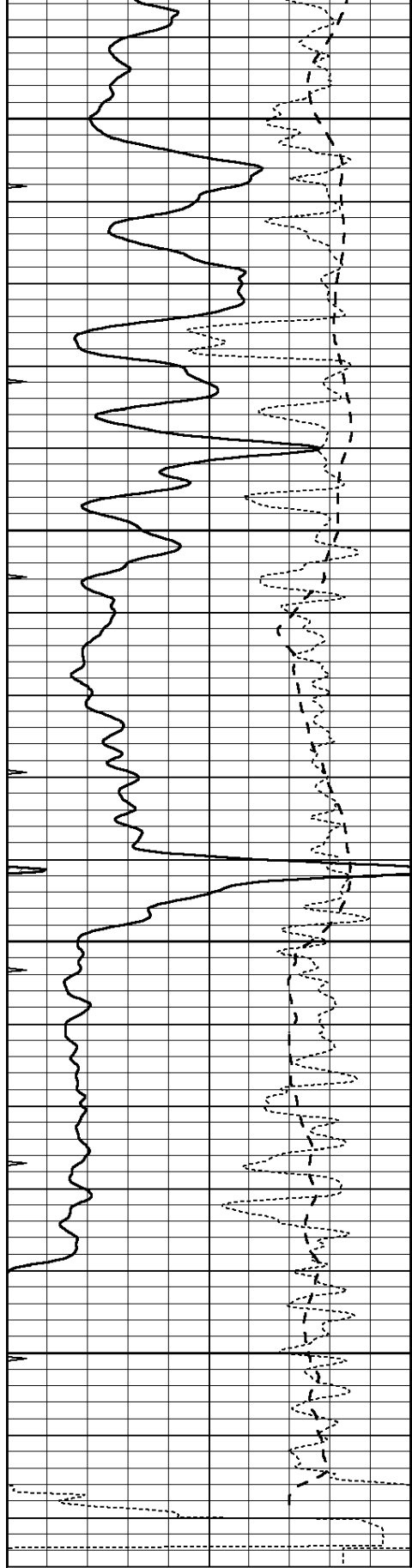
REPEAT SECTION

Database File: 24022ddn.db
 Dataset Pathname: pass2.1
 Presentation Format: _dil
 Dataset Creation: Thu Apr 10 14:01:13 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	MINMK	20

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





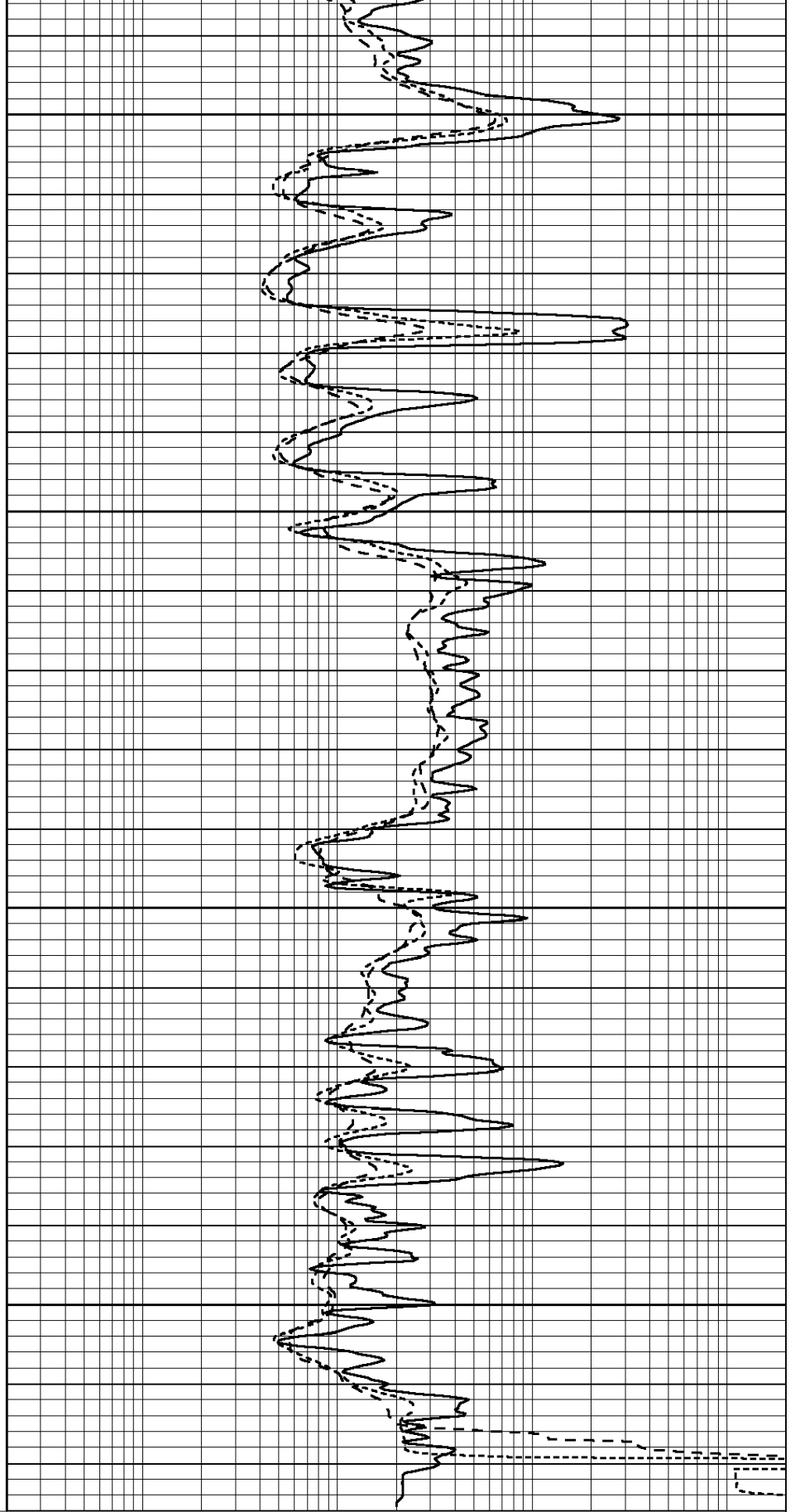
0	GAMMA RAY (GAPI)	150
-100	SP (mV)	100
-250	Rxo/Rt	50
0	MINMK	20

3750

3800

3850

3900



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: 24022ddn.db
 Dataset Pathname: pass3.1
 Dataset Creation: Thu Apr 10 14:02:47 2014 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

Loop:	Readings			References			Results	
	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		

Compensated Density Calibration Report

Serial-Model: GEAR4-GEARHART
 Source / Verifier: 143 / 143
 Master Calibration Performed: Wed Sep 18 03:03:09 2013
 Before Survey Verification Performed:
 After Survey Verification Performed:

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	1075.98	532.39	cps
Aluminum	2.560	g/cc	286.51	422.88	cps
Spine Angle = 80.13			Density/Spine Ratio = 0.633		
	Size		Reading		
Small Ring	8.00	in	3.21	V	
Large Ring	14.00	in	5.46	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: 61
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:	Fri Nov 29 08:34:37 2013	
Calibrator Value:	150.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	276.0	cps
Sensitivity:	0.6035	GAPI/cps