



**DUAL
INDUCTION
LOG**

Company RONS OIL OPERATIONS, INC.
Well NICKELSON #15-1
Field HOLLY SOUTH EAST
County GRAHAM State KANSAS

Location: API #: 15-085-24131-0000
403' FNL & 960' FEL
SEC 15 TWP 9S RGE 24W
Permanent Datum GROUND LEVEL Elevation 2499
Log Measured From KELLY BUSHING 5' A.G.L
Drilling Measured From KELLY BUSHING
Other Services CDL/CNL
Elevation K.B. 2504
D.F. 2502
G.L. 2499

Date	4/23/17
Run Number	ONE
Depth Driller	4105
Depth Logger	4105
Bottom Logged Interval	4103
Top Log Interval	00
Casing Driller	8 5/8" @ 304
Casing Logger	304
Bit Size	7 7/8
Type Fluid in Hole	CHEMICAL MUD
Density / Viscosity	9.0/48
PH / Fluid Loss	9.0/7.2
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.30 @ 75F
Rmt @ Meas. Temp	0.97 @ 75F
Rmc @ Meas. Temp	1.56 @ 75F
Source of Rmf / Rmc	MEASUREMENT
Rm @ BHT	0.83 @ 117F
Time Circulation Stopped	2 HOURS
Time Logger on Bottom	
Maximum Recorded Temperature	117F
Equipment Number	3802
Location	HAYS, KANSAS
Recorded By	JASON CAPPELLUCCI
Witnessed By	CHRIS BEAN

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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.

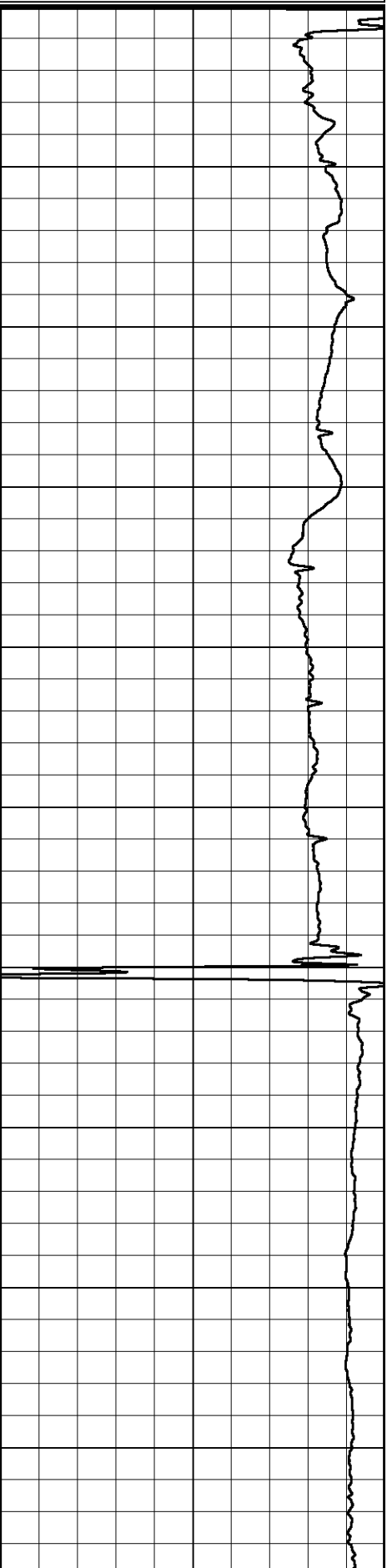
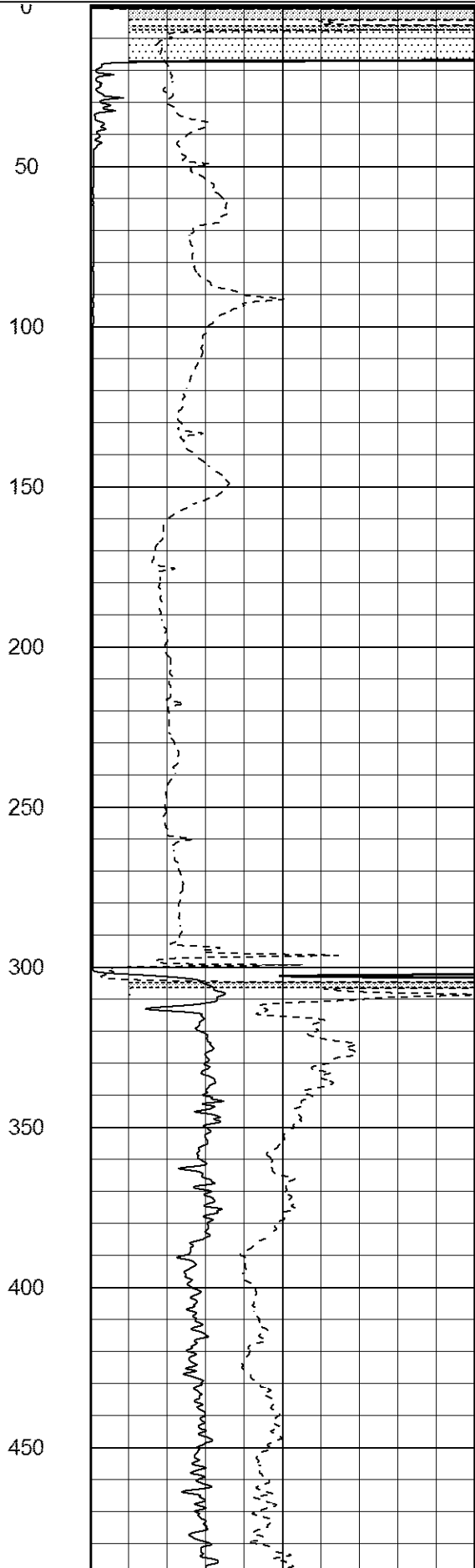
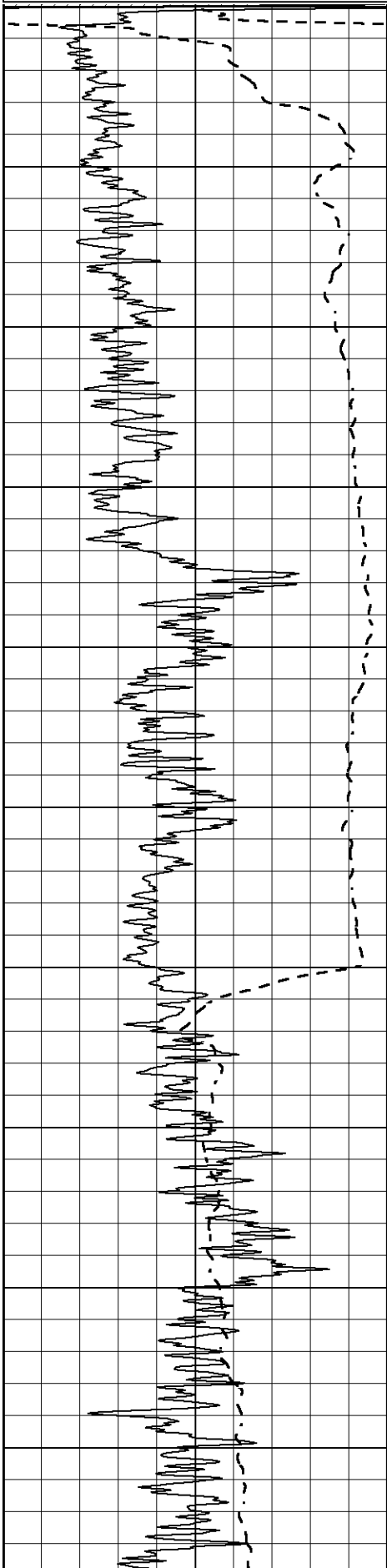
Comments

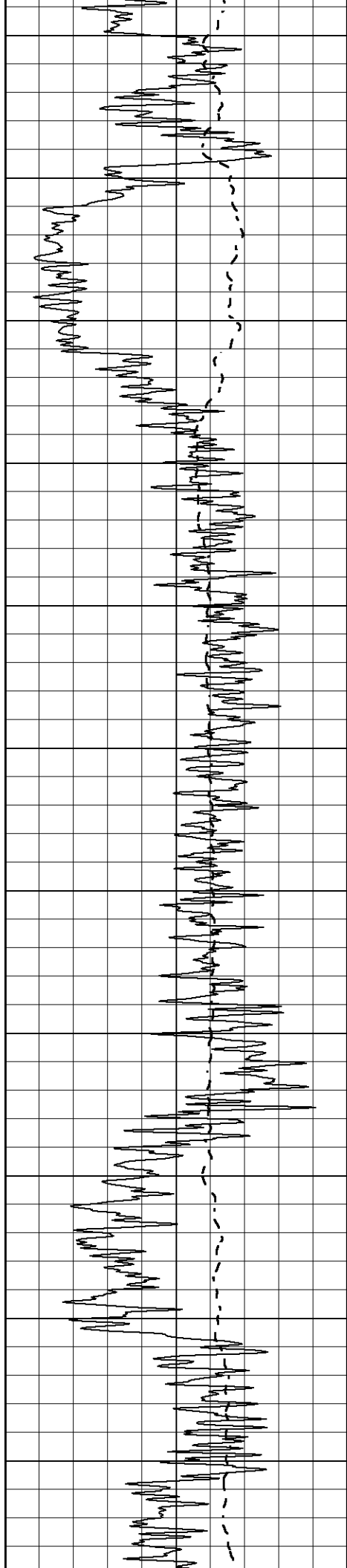
THANK YOU FOR USING ELI WIRELINE SERVICES, HAYS, KS. (785) 628-6395
DIRECTIONS
WAKEENEY, KS. - NORTH TO REDLINE RD. - 6 WEST TO 200 RD.
3 NORTH - WEST INTO

Database File 1137ddn8.db
Dataset Pathname pass3.3
Presentation Format _dil2
Dataset Creation Sun Apr 23 08:36:24 2017
Charted by Depth in Feet scaled 1:600

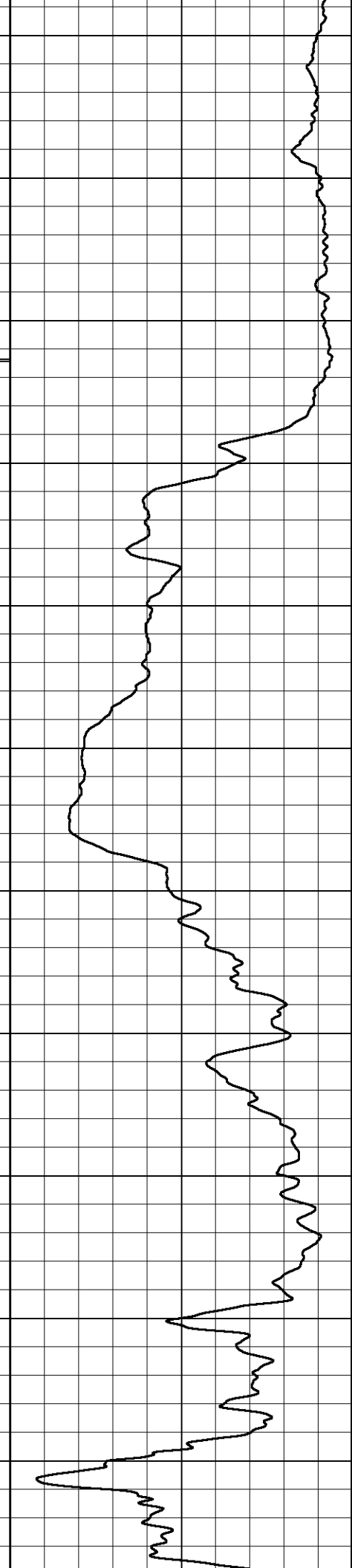
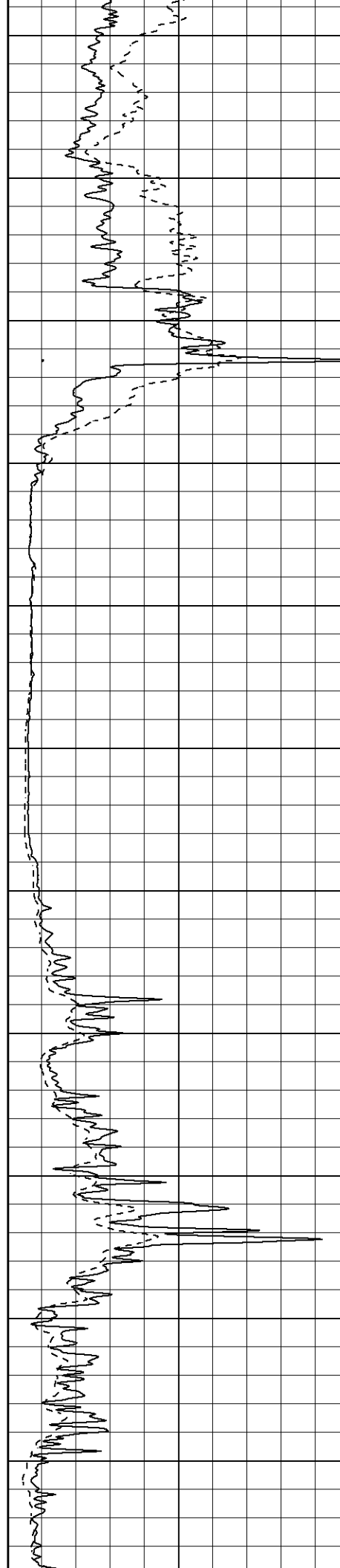
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-100	SP (mV)	100

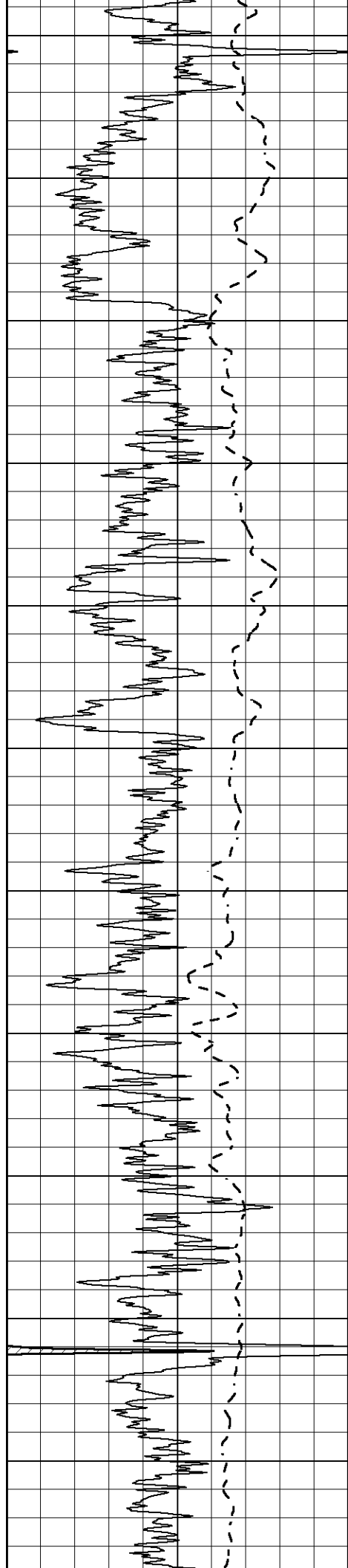
1000	CILD (mmho/m)	0
0	RLL3 (Ohm-m)	50
0	Deep Induction (Ohm-m)	50
50	RILD X10 (Ohm-m)	500
50	RLL3 X10 (Ohm-m)	500





500
550
600
650
700
750
800
850
900
950
1000





1050

1100

1150

1200

1250

1300

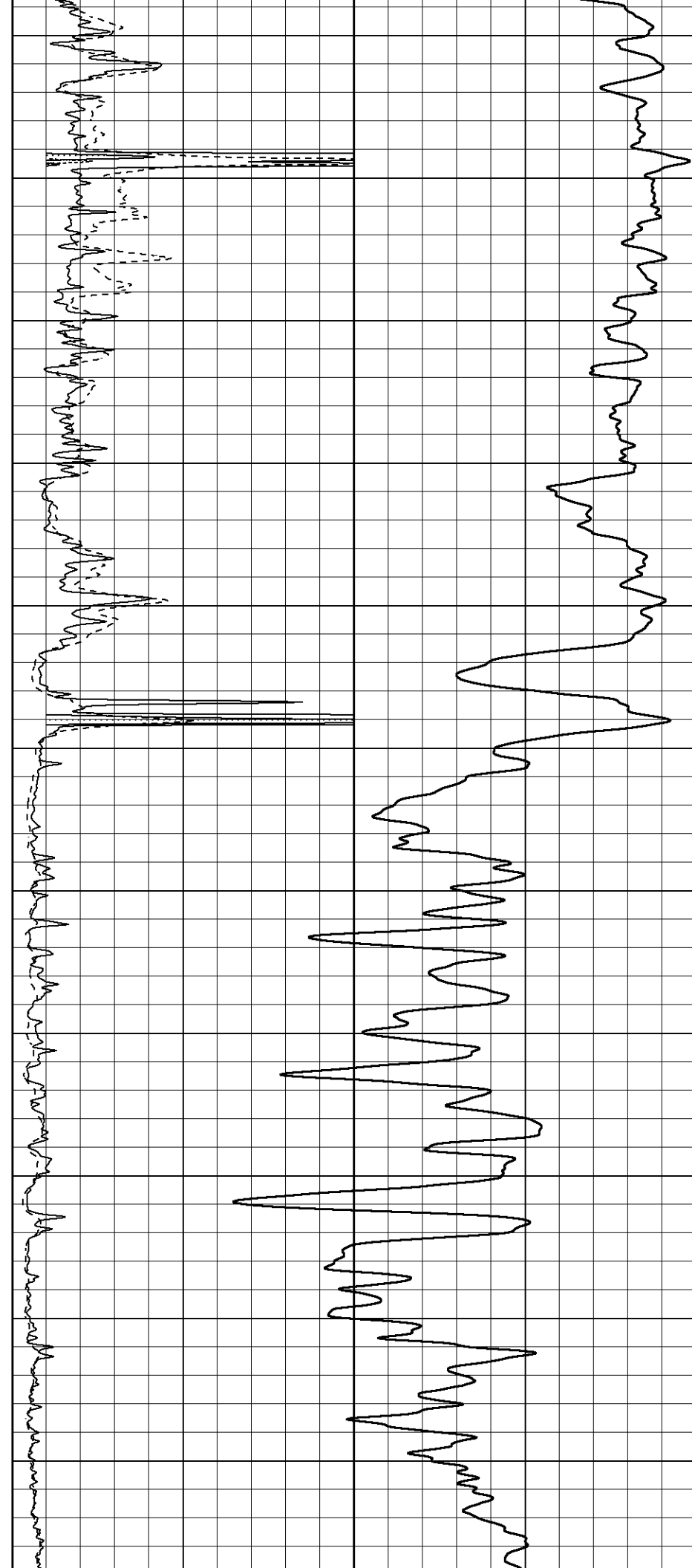
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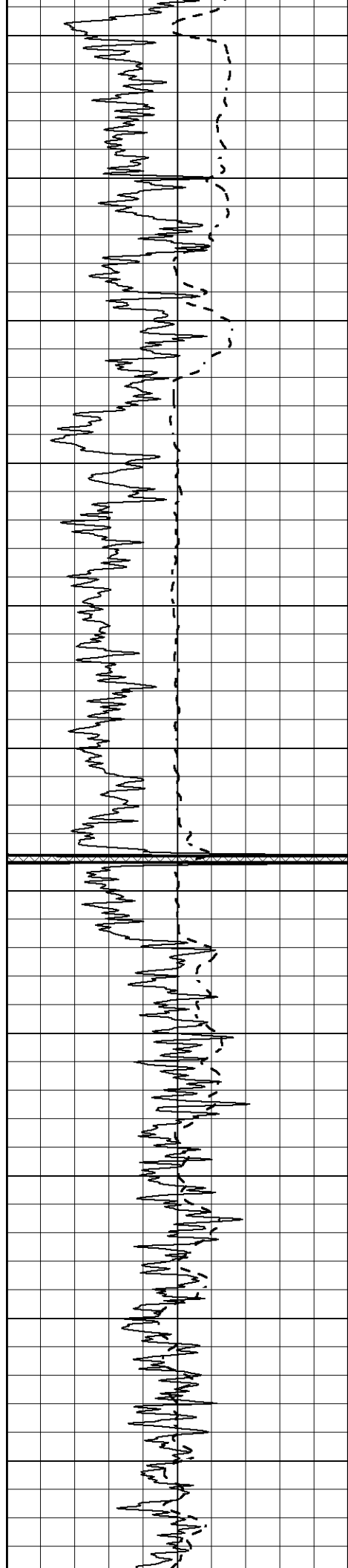
1400

1450

1500

1550





1600

1650

1700

1750

1800

1850

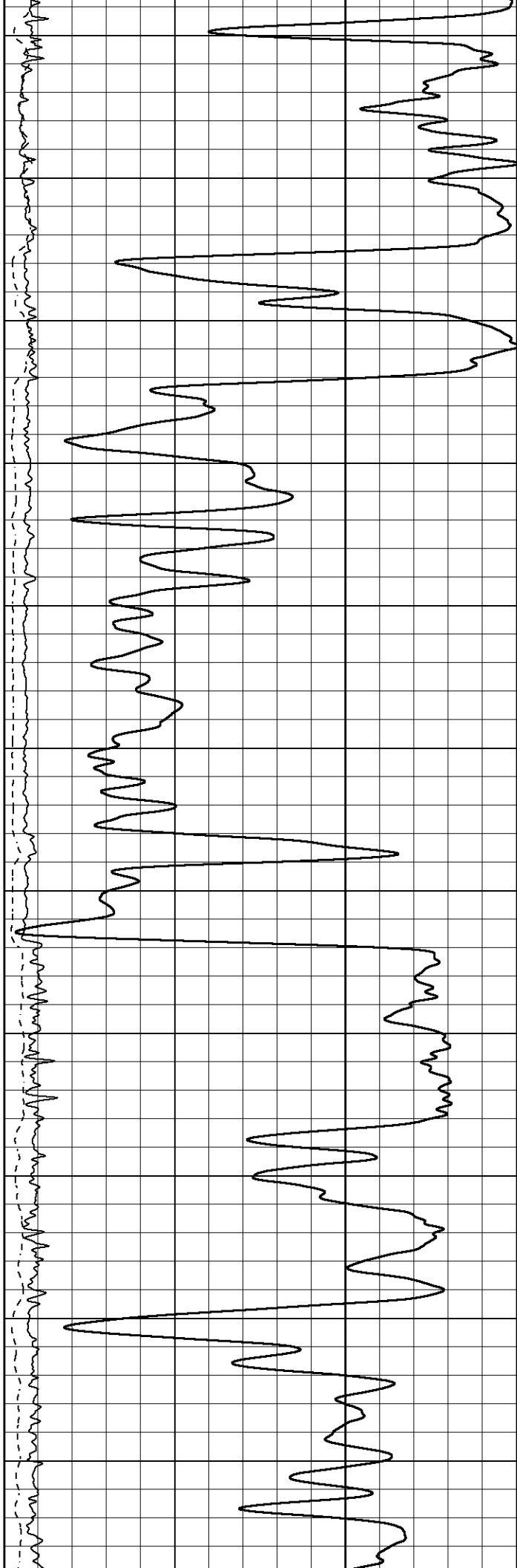
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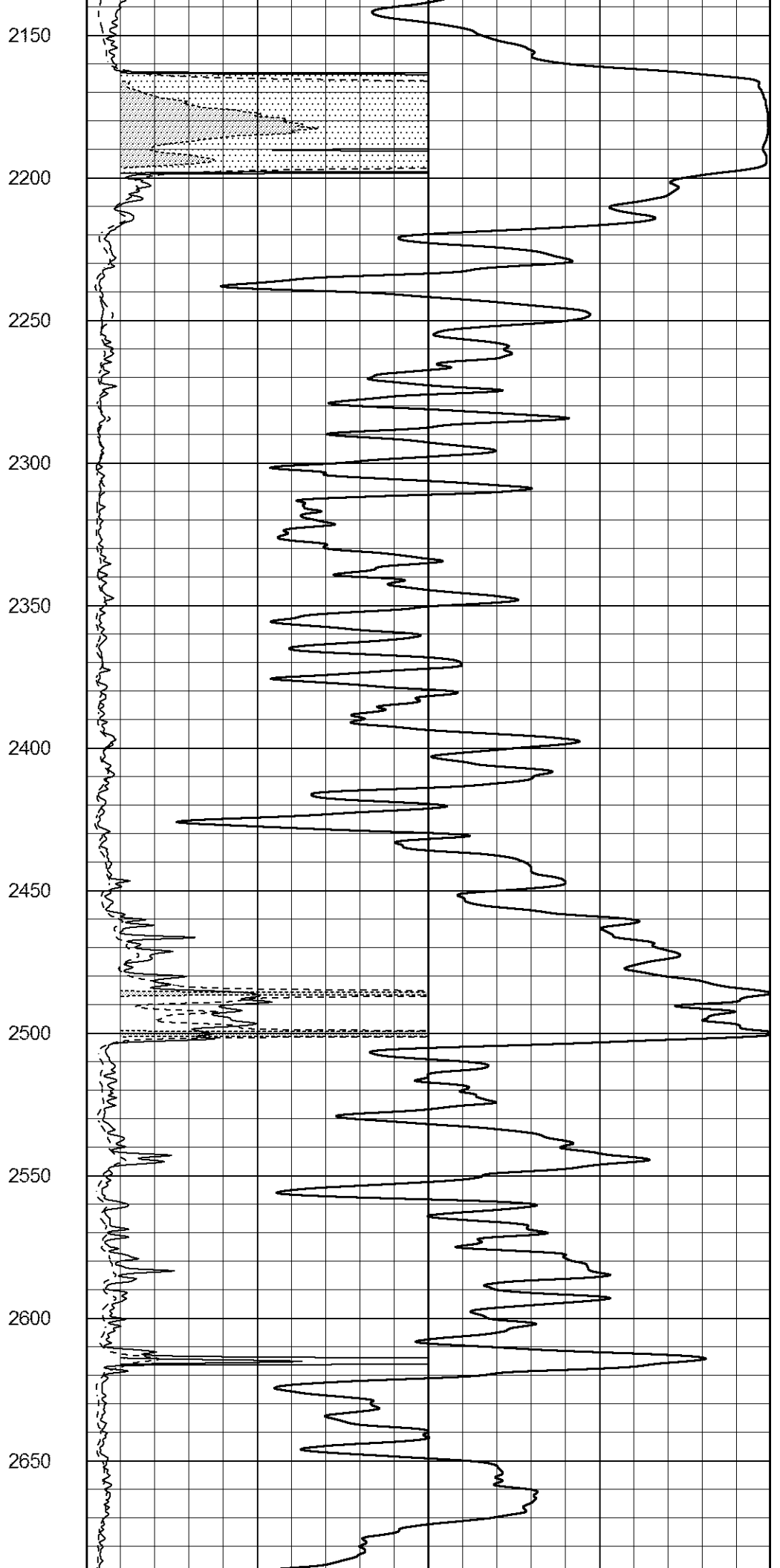
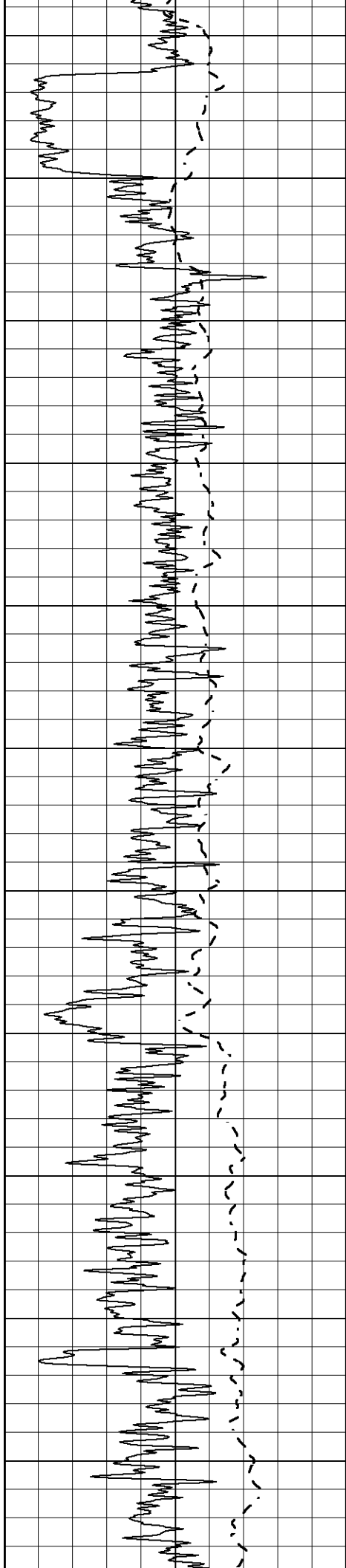
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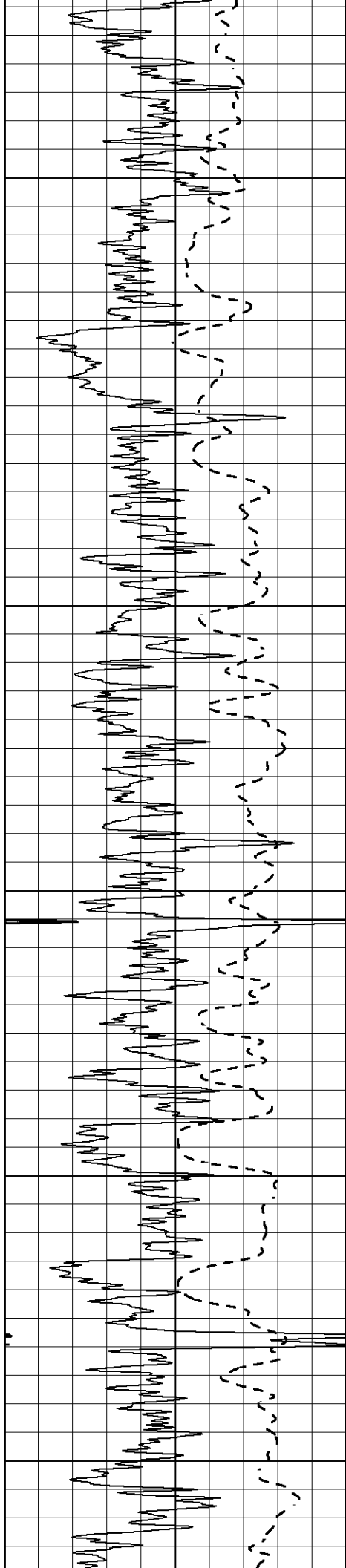
2000

2050

2100







2700

2750

2800

2850

2900

2950

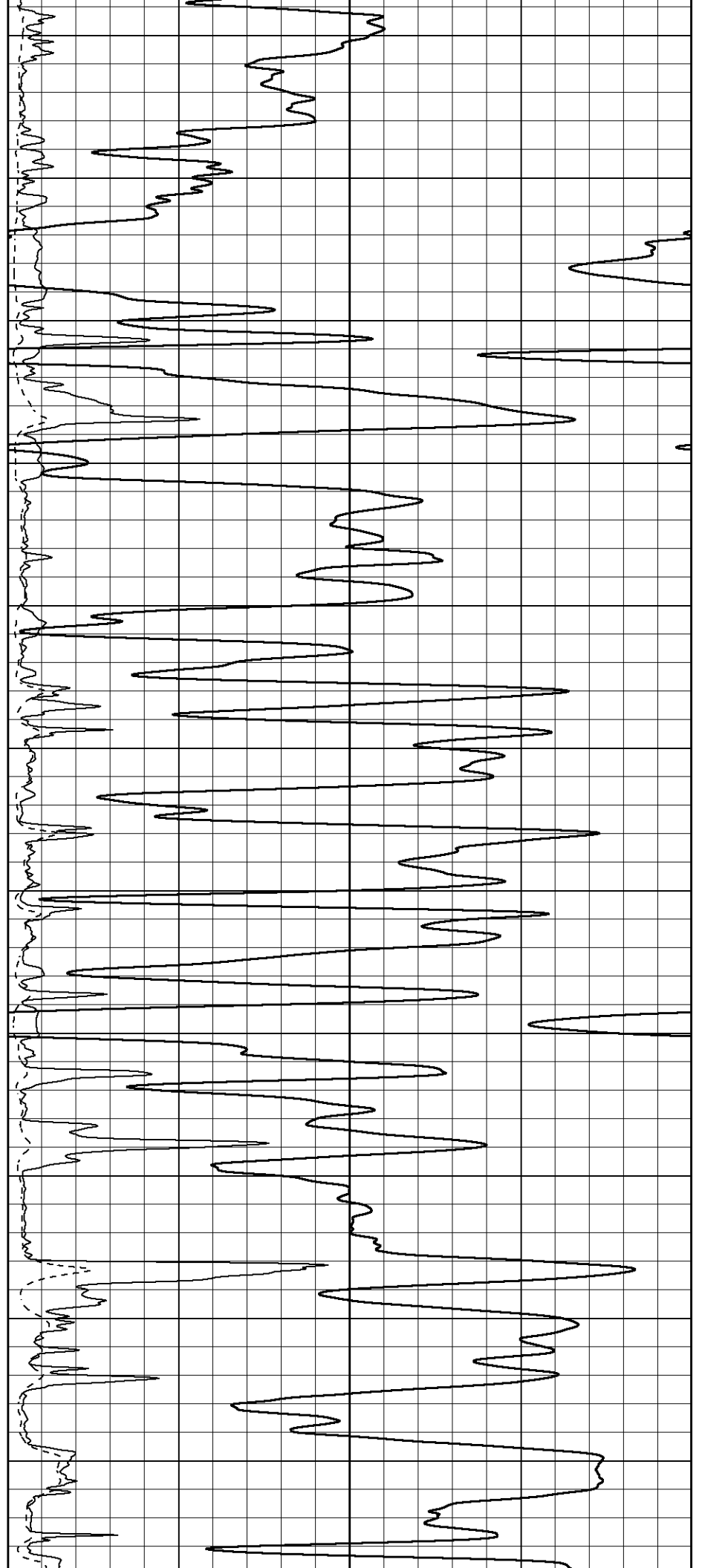
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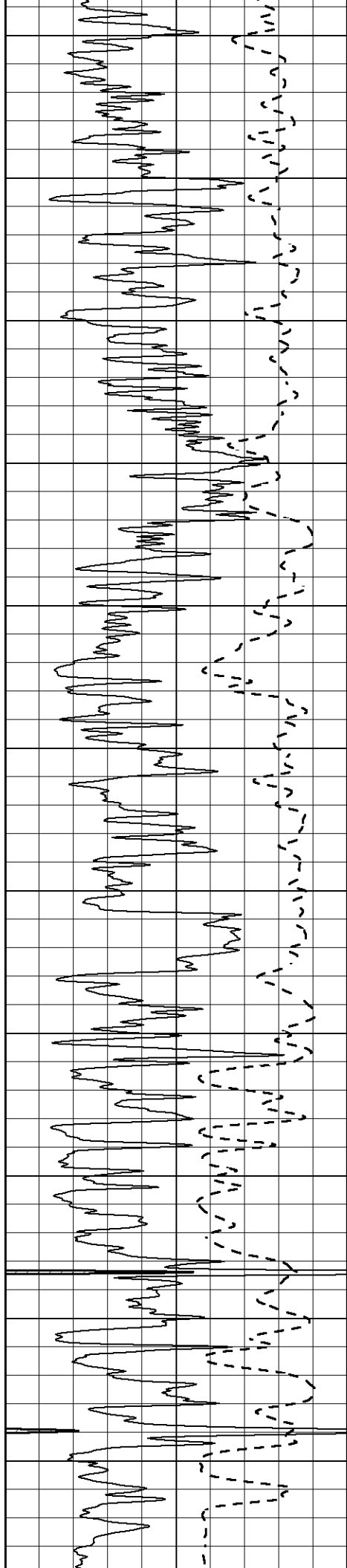
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3100

3150

3200





3250

3300

3350

3400

3450

3500

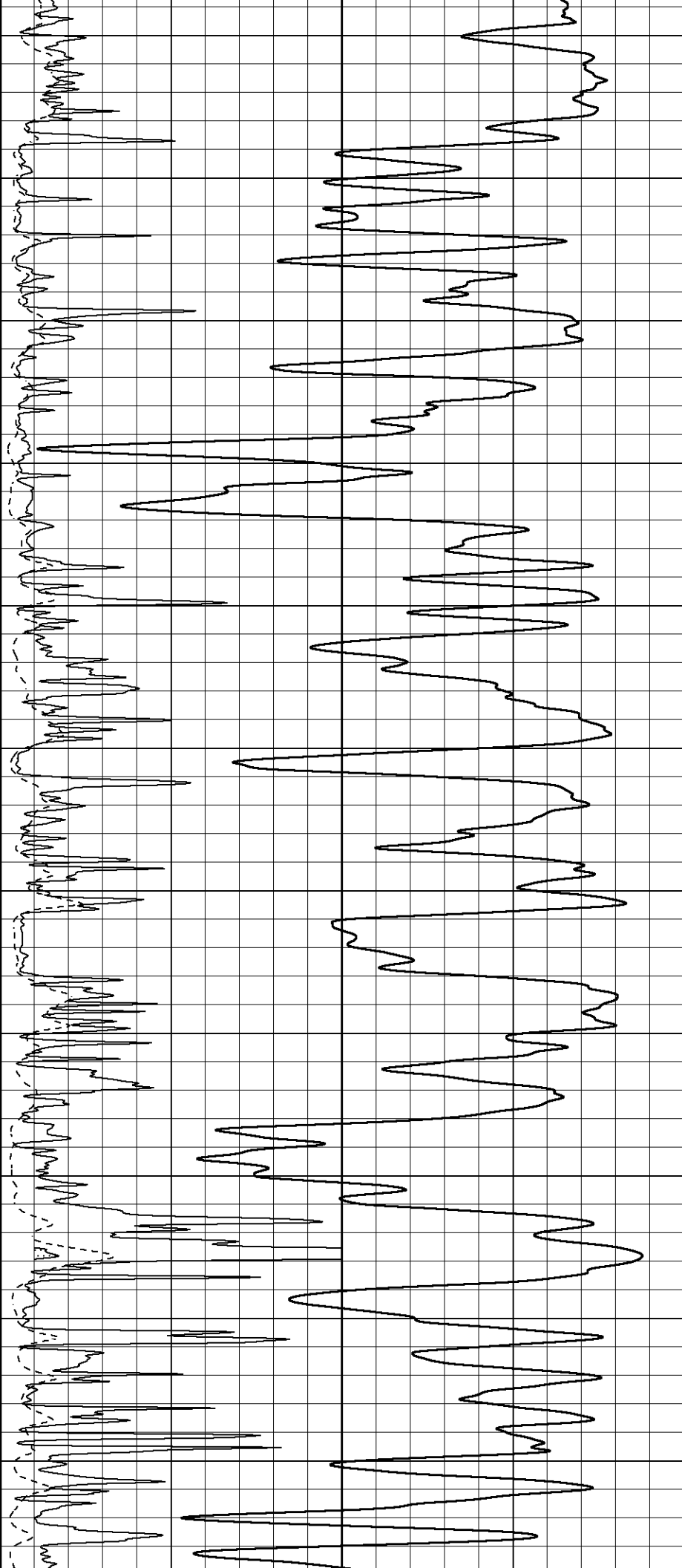
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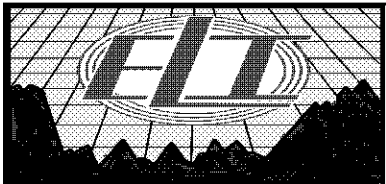
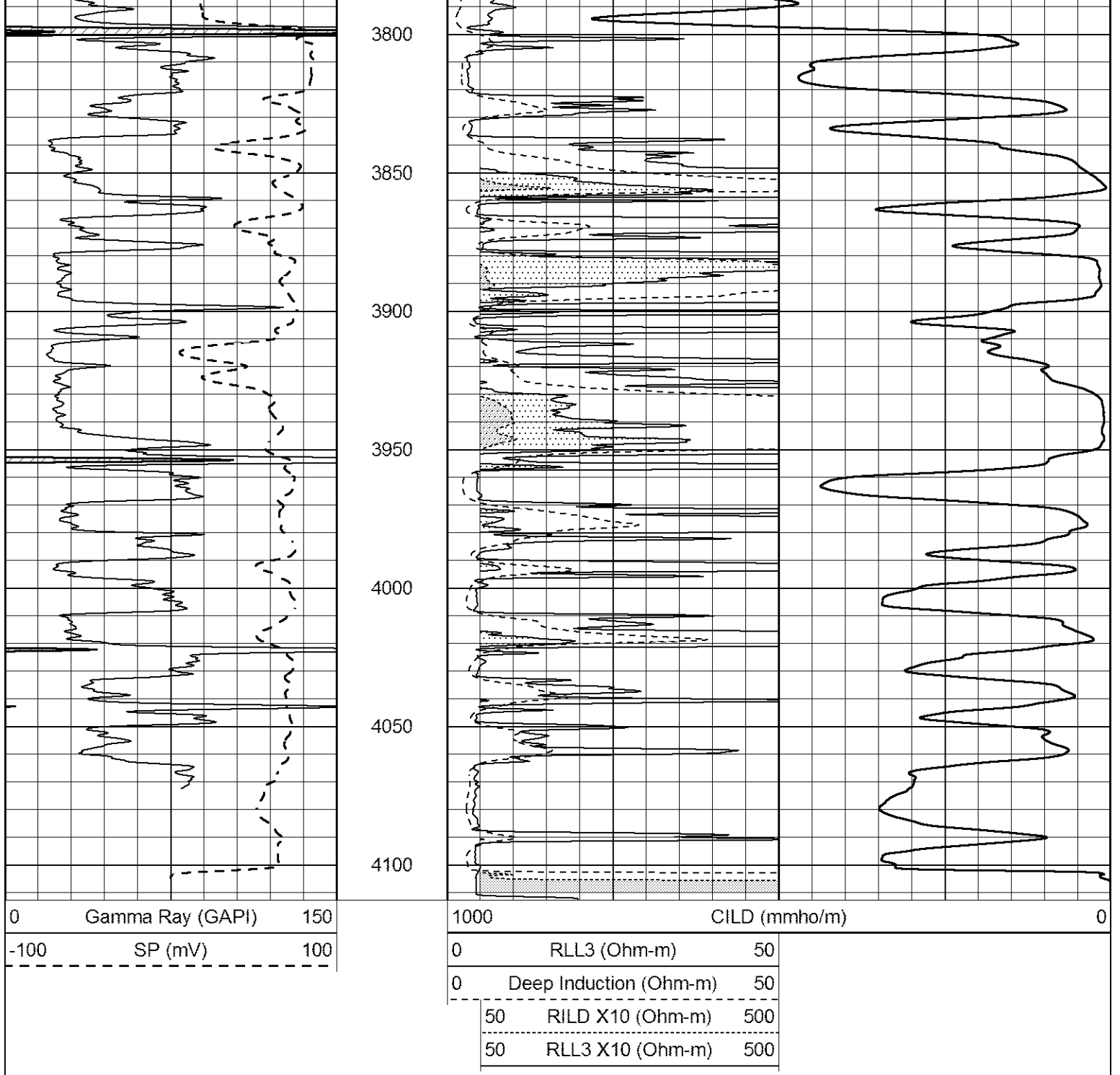
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3650

3700

3750

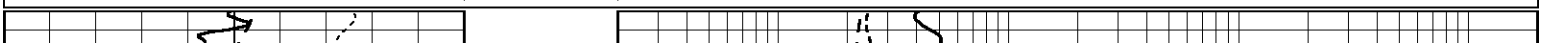


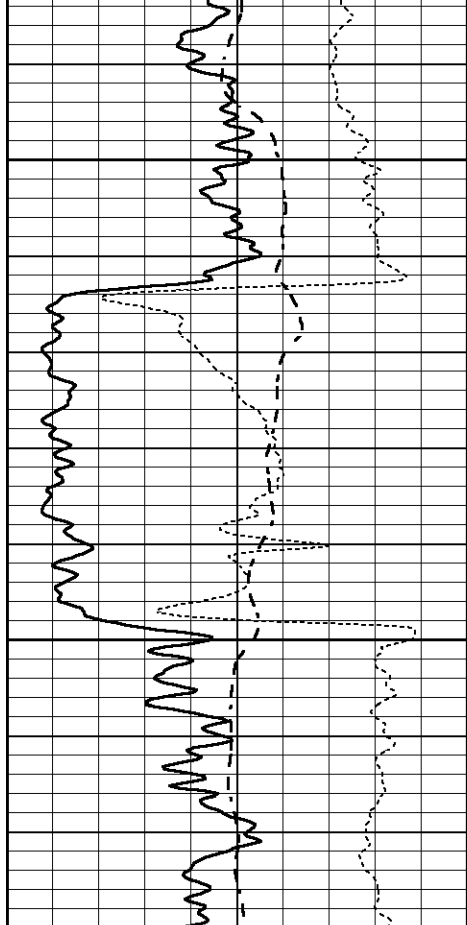


ANHYDRITE

Database File 1137ddn8.db
 Dataset Pathname pass3.2
 Presentation Format _dil
 Dataset Creation Sun Apr 23 07:54:24 2017
 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

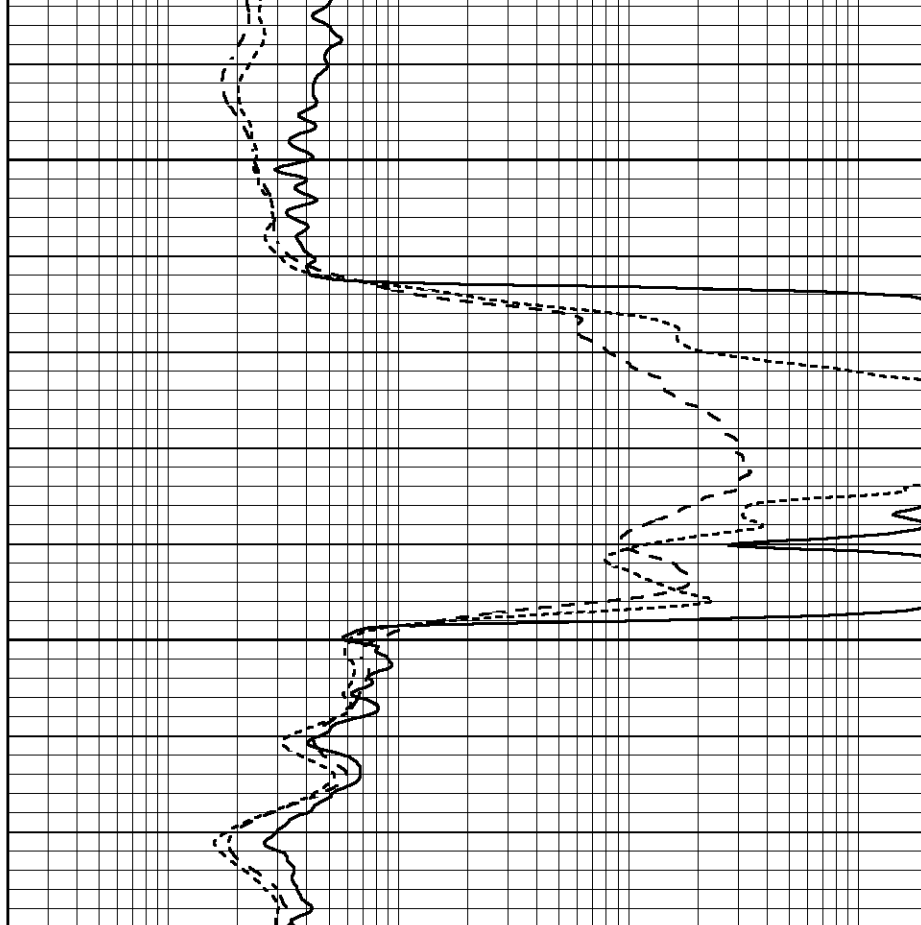




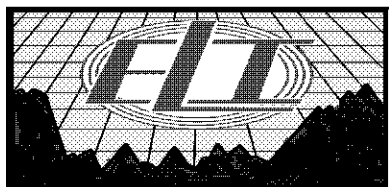
2150

2200

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

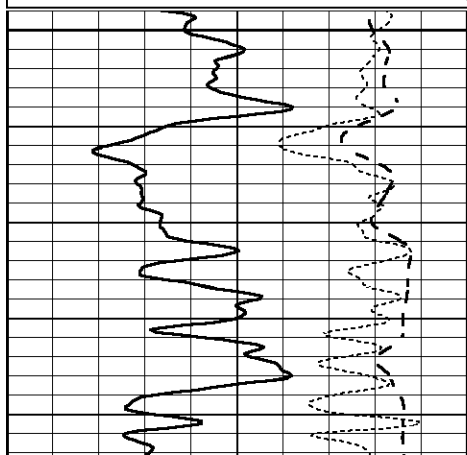


MAIN SECTION

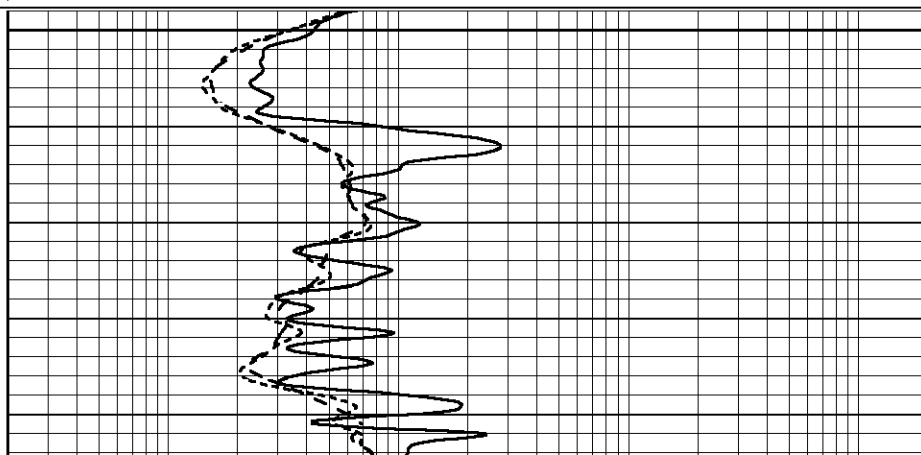
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 Dataset Pathname pass3.1
 Presentation Format _dil
 Dataset Creation Sun Apr 23 07:39:58 2017
 Charted by Depth in Feet scaled 1:240

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



3500



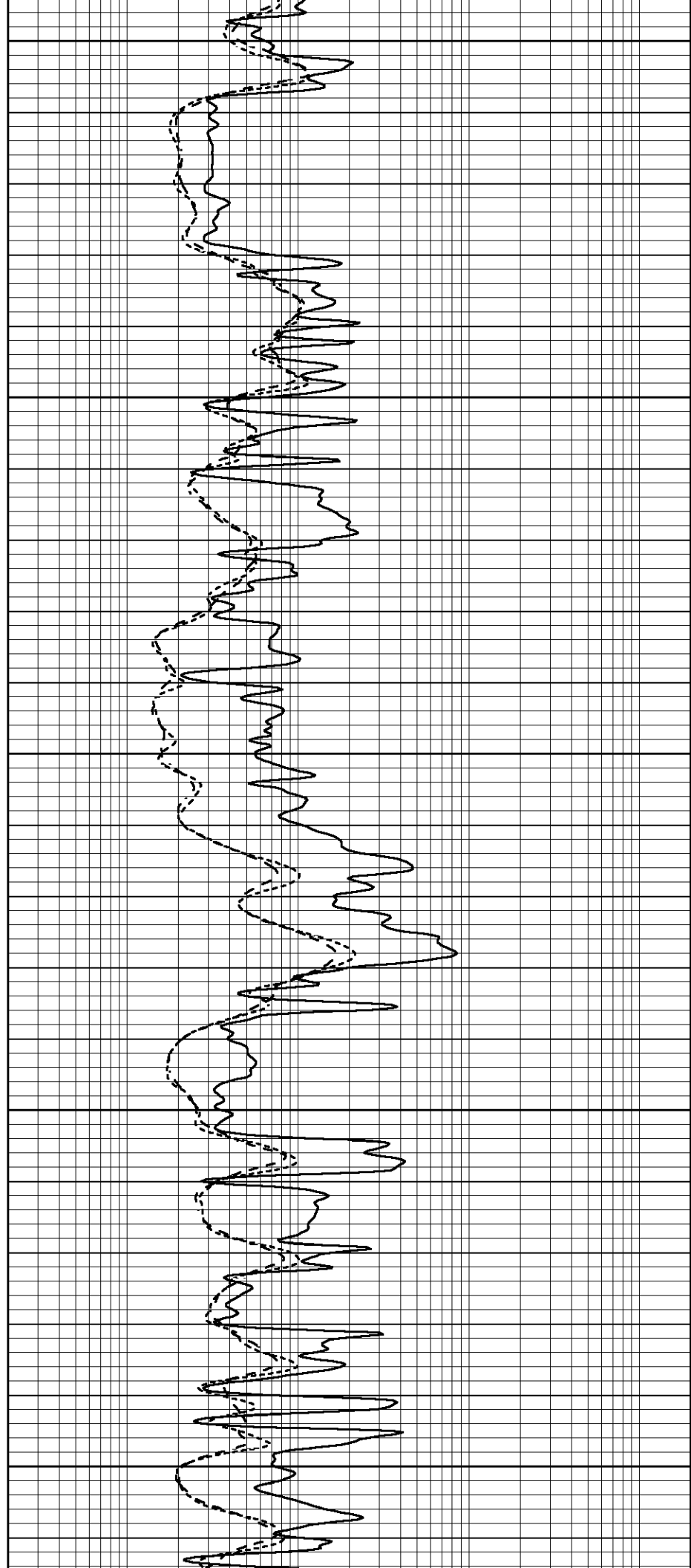
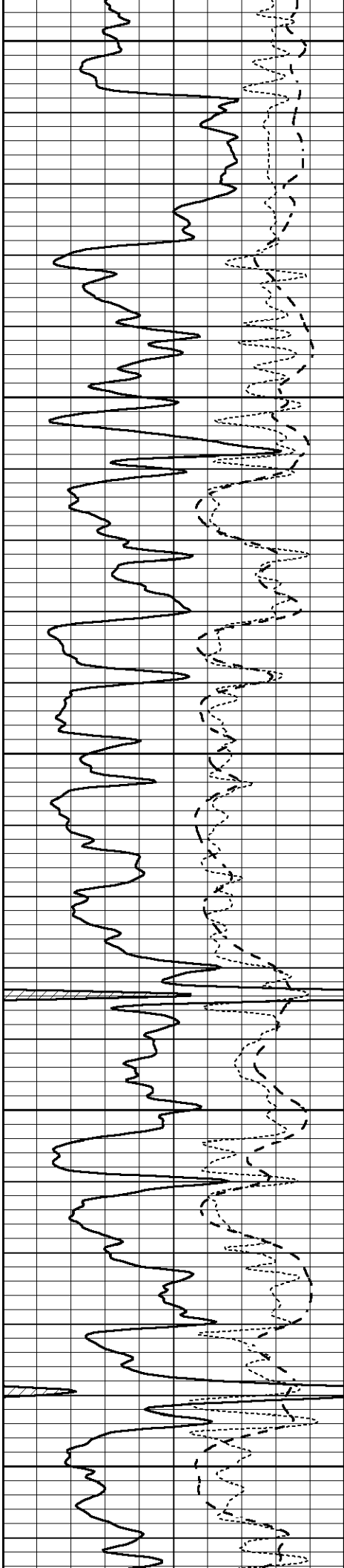
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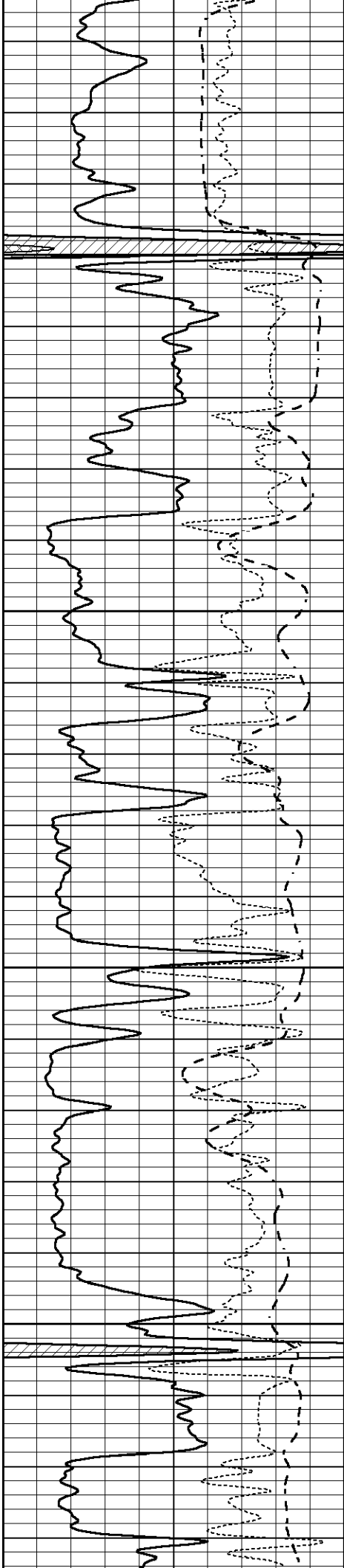
3600

3650

3700

3750



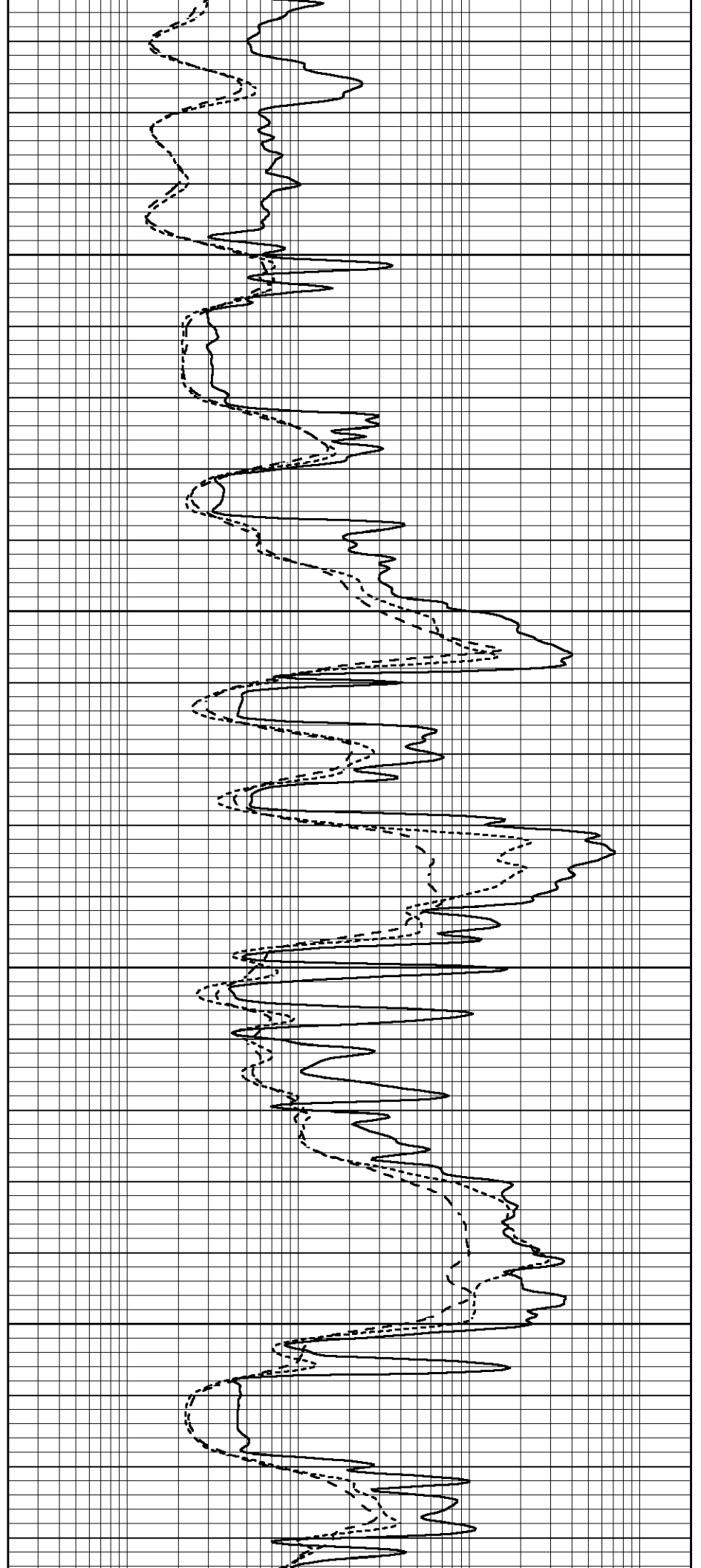


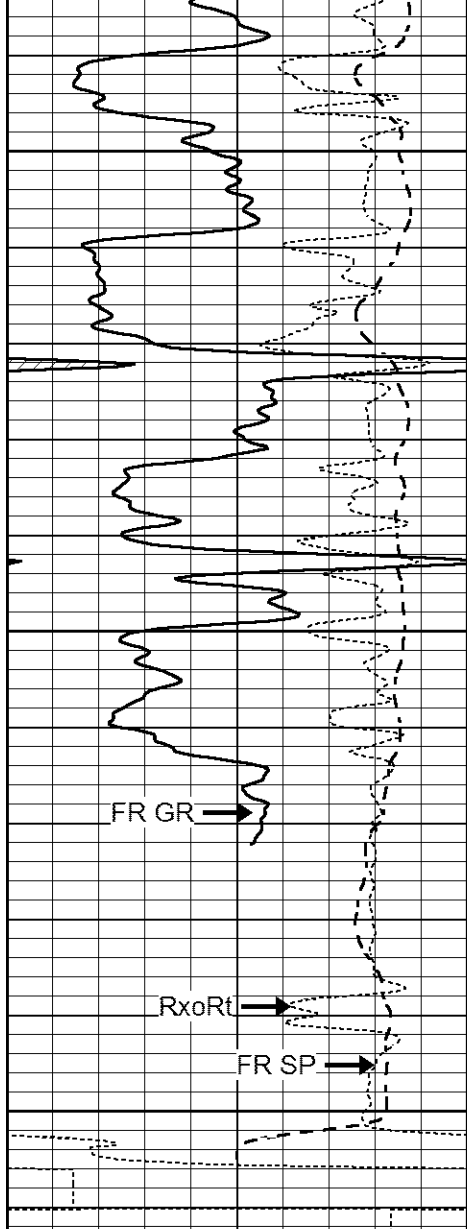
3800

3850

3900

3950





4000

4050

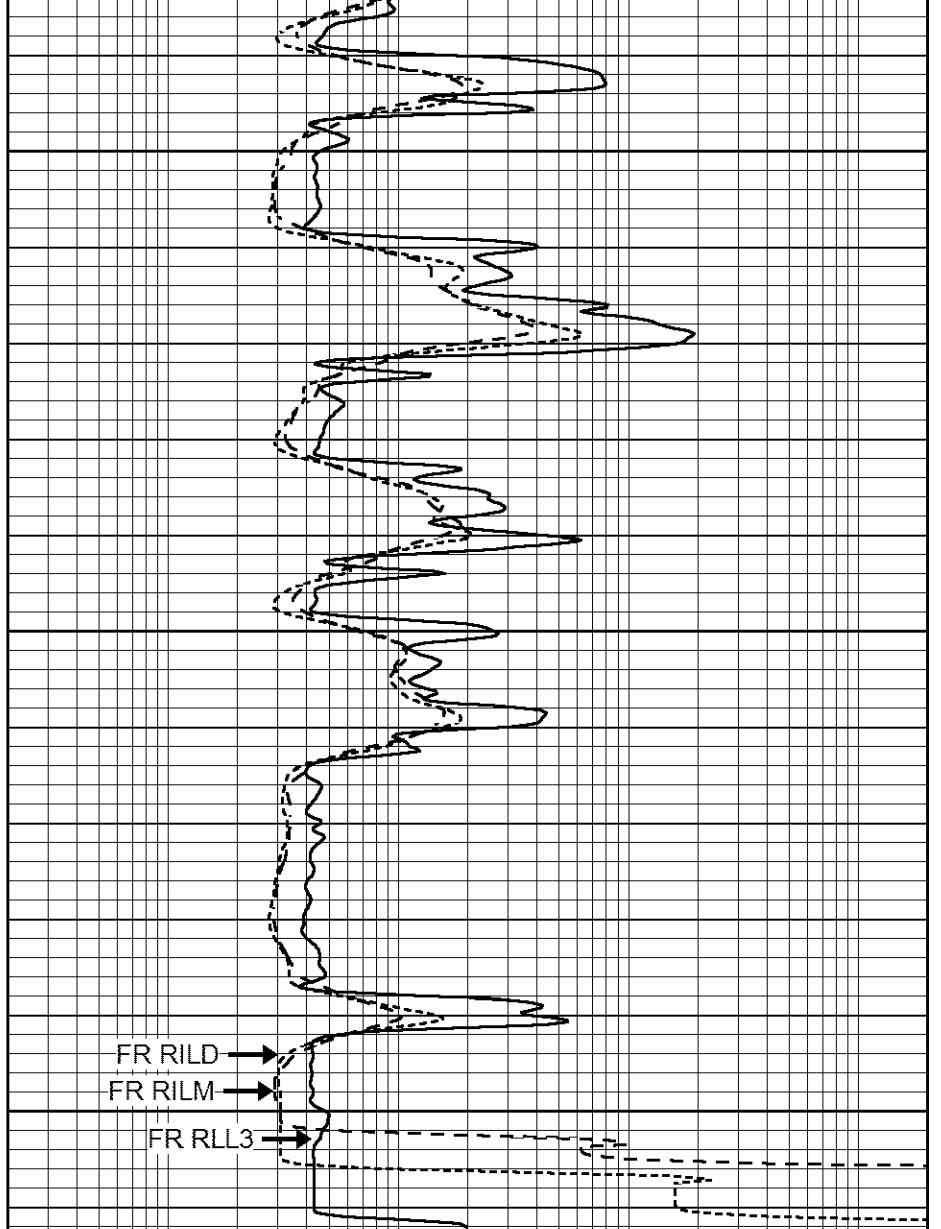
4100
LTD 4105

FR GR →

RxoRt →

FR SP →

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



FR RILD →

FR RILM →

FR RLL3 →

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

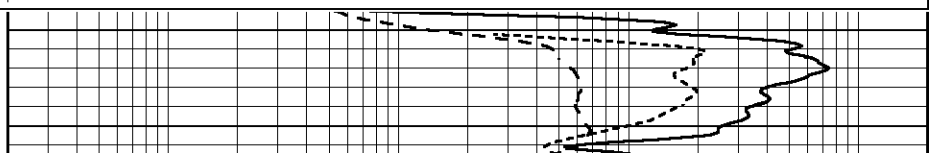
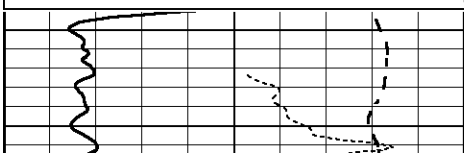


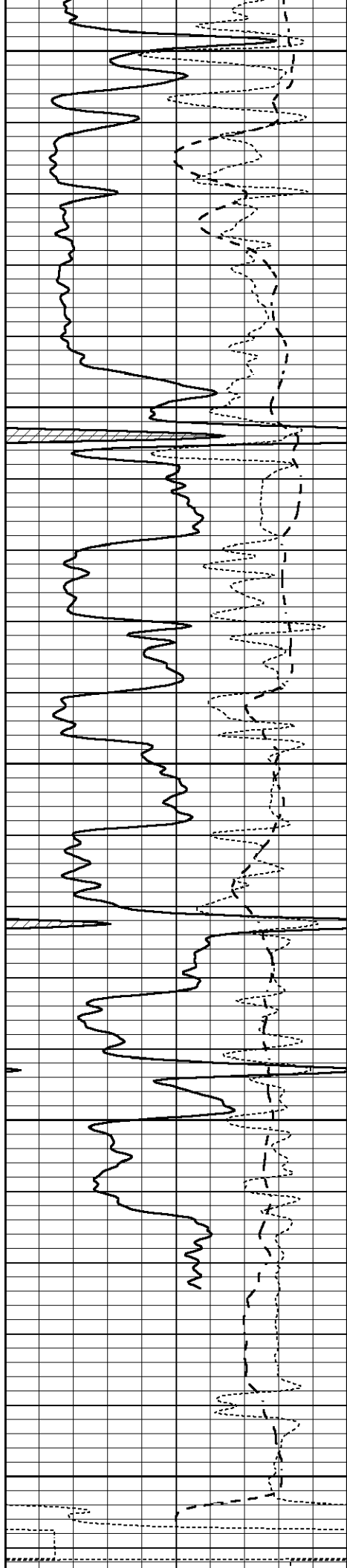
REPEAT SECTION

Database File 1137ddn8.db
 Dataset Pathname pass2.1
 Presentation Format _dil
 Dataset Creation Sun Apr 23 07:27:02 2017
 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





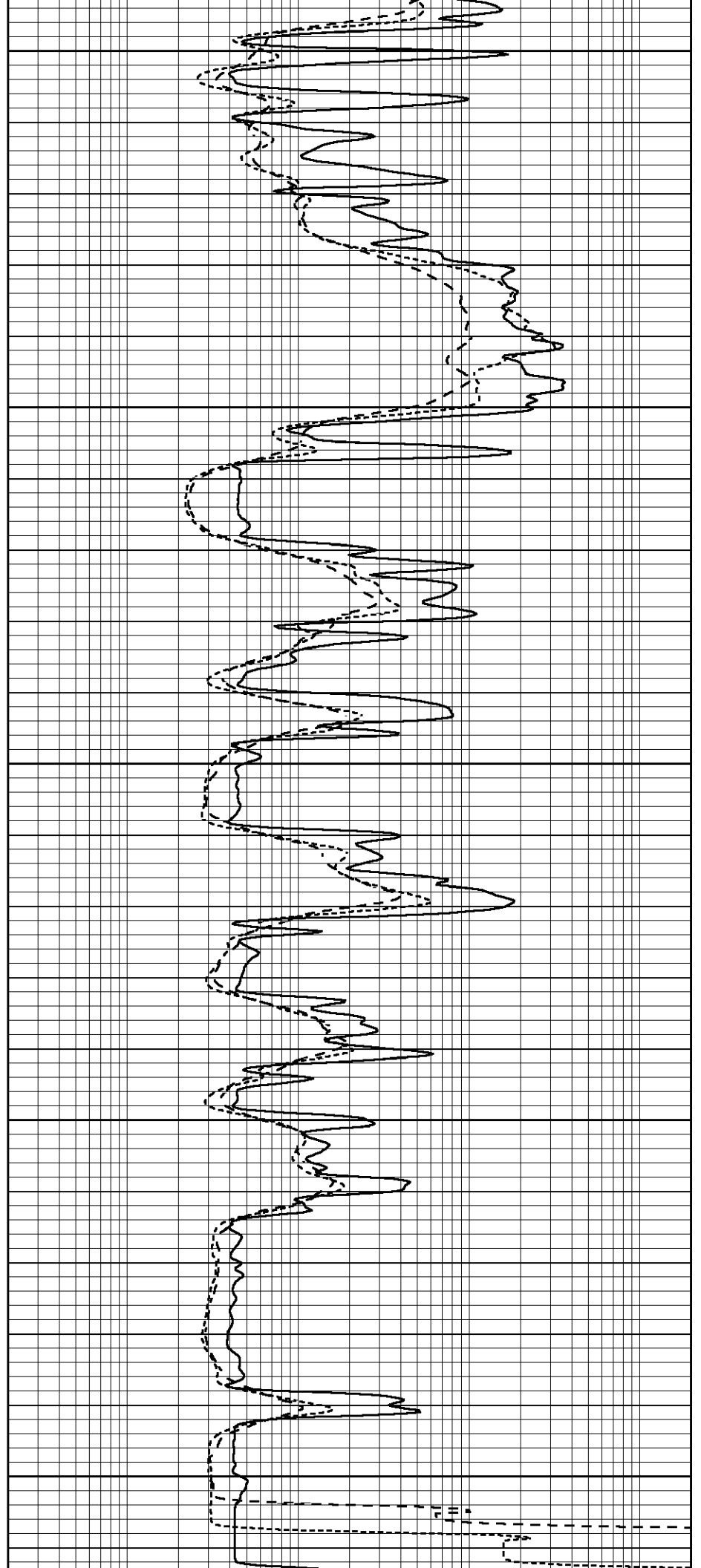
3900

3950

4000

4050

4100



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

Calibration Report

Database File 1137ddn8.db
Dataset Pathname pass2.1
Dataset Creation Sun Apr 23 07:27:02 2017

Dual Induction Calibration Report

Serial-Model: FW1410-55-Probe
Surface Cal Performed: Thu Mar 12 09:27:11 2015
Downhole Cal Performed: Thu Mar 12 09:29:20 2015
After Survey Verification Performed: Thu Mar 12 09:29:20 2015

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.011	0.656	V	1.000	400.000	mmho/m	618.595	-5.524
Medium	-0.000	0.731	V	1.000	464.000	mmho/m	632.856	1.197
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.007	0.649	V	0.000	400.000	mmho/m	623.784	-4.595
Medium	0.004	0.743	V	0.000	464.000	mmho/m	627.284	-2.251

Downhole Calibration

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	-0.824	395.917	mmho/m	-0.976	397.550	mmho/m	1.004	-0.149
Medium	3.565	471.327	mmho/m	3.468	471.590	mmho/m	1.001	-0.099
LL3		7.503	V		1500.000	Ohm-m		
		0.001	V		20.000	Ohm-m		
		-7.481	V		3745.000	mmho-m		

After Survey Verification

	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	-0.824	395.917	mmho/m	1.000	0.000
Medium	0.000	0.000	mmho/m	3.565	471.327	mmho/m	1.000	0.000
LL3		0.000	Ohm-m		1500.000	Ohm-m		
		0.000	Ohm-m		20.000	Ohm-m		
		0.000	mmho-m		3745.000	mmho-m		

Litho Density Calibration Report

Serial: 140704
Model: V4_10P
Source Number: 74GBq-19

Master Calibration

Performed: Wed Feb 11 18:53:41 2015

	Background	Aluminum	Magnesium	
Window 1	613.01	6027.40	27508.60	cps
Window 2	48.21	1424.77	7132.66	cps
Window 4	266.48	1373.19	5767.15	cps
Window 5	622.07	10090.30	18937.90	cps

Window 6	49.07	1682.84	3271.18	cps	
Window 8	298.04	3248.38	5980.58	cps	
Bulk Density	-	2.6020	1.6830	g/cc	
Pe	-	3.0000	2.5070	b/e	
LS Alpha:	: -1.8451	SS Alpha:	: -0.7542	LS CPE:	: 1.0882
LS Beta:	: 138648.8473	SS Beta:	: 21960.9250	SS CPE:	: 1.5181

Before Survey Background Counts Verification Performed: Wed Dec 31 18:00:00 1969

Window 1	0.00	cps
Window 2	0.00	cps
Window 4	0.00	cps
Window 5	0.00	cps
Window 6	0.00	cps
Window 8	0.00	cps

After Survey Background Counts Verification Performed: Wed Dec 31 18:00:00 1969

Window 1	0.00	cps
Window 2	0.00	cps
Window 4	0.00	cps
Window 5	0.00	cps
Window 6	0.00	cps
Window 8	0.00	cps

Lithodensity Caliper Calibration Performed: Wed Feb 11 18:53:41 2015

Results	Readings	References (in)		Gain	Offset
<u>Low</u>	<u>High</u>	<u>Low</u>	<u>High</u>	<u>Gain</u>	<u>Offset</u>
5123.0	9461.6	8.5	14.0	0.0	1.4

Before Survey Caliper Verification Performed:

	Reference	Reading
	_____	_____
Caliper (in)		

After Survey Caliper Verification Performed:

	Reference	Reading
	_____	_____
Caliper (in)		

Compensated Neutron Calibration Report

Serial Number: 080621PMC
Tool Model: NABORS

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: 070558
Tool Model: Probe1
Performed: Wed Jun 29 08:29:10 2016

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps

Calibrator Reading: 1.0 cps

Sensitivity: 0.3000 GAPI/cps