



DUAL INDUCTION LOG

Company PIONEER OPERATIONS, LLC.
Well LACY #1
Field ORONOQUE NORTHEAST
County NORTON
State KS

Company PIONEER OPERATIONS, LLC.
Well LACY #1
Field ORONOQUE NORTHEAST
County NORTON State KS

Location: API #: 15 137 20765
1300' FSL & 1940' FEL
SEC 30 TWP 2S RGE 23W
Permanent Datum Ground Level Elevation 2366
Log Measured From KB 5' AGL
Drilling Measured From KB
Other Services
ML
CDNL
Elevation
K.B. 2371
D.F. 2369
G.L. 2366

Date	3/6/2023
Run Number	One
Depth Driller	3682
Depth Logger	3682
Bottom Logged Interval	3680
Top Log Interval	00
Casing Driller	8 5/8" @ 266
Casing Logger	266
Bit Size	7 7/8"
Type Fluid in Hole	Chemical Mud
Density / Viscosity	9.3/51
pH / Fluid Loss	10.0/6.8
Source of Sample	Calculated
Rm @ Meas. Temp	1.1 @ 60degf
Rmf @ Meas. Temp	.83 @ 60degf
Rmc @ Meas. Temp	1.32 @ 60degf
Source of Rmf / Rmc	Calculated
Rm @ BHT	0.59 @ 111degf
Time Circulation Stopped	12:00 pm
Time Logger on Bottom	2:00 pm
Maximum Recorded Temperature	111degf
Equipment Number	T-605
Location	HAYS, KS
Recorded By	GUS PFANENSTIEL
Witnessed By	RYAN SEIB

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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

NORTON WEST TO 3W, NORTH 1 MILE, 1/2 WEST,
NORTH INTO.

Thank you for using Gemini Wireline
785-625-1182



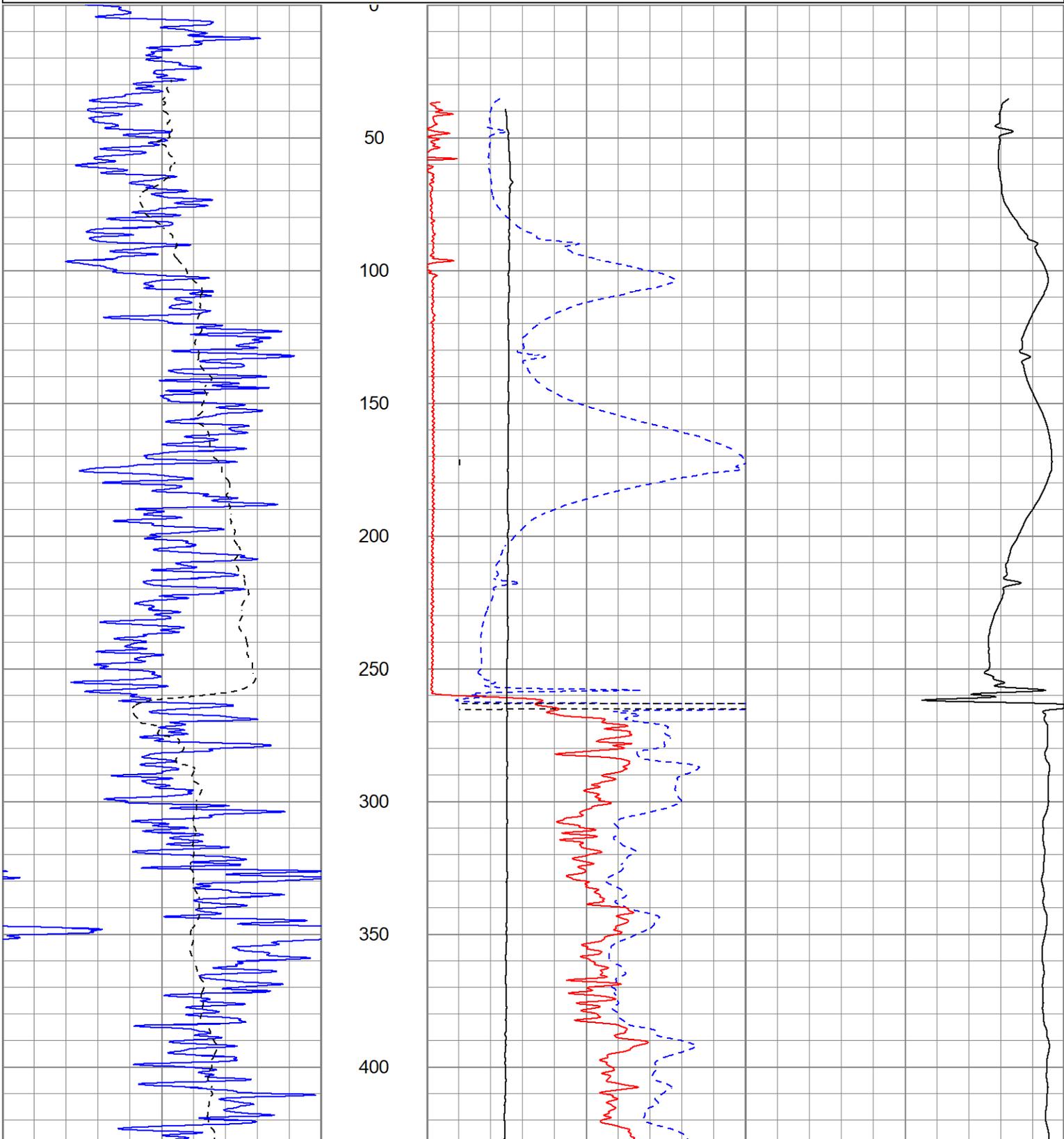
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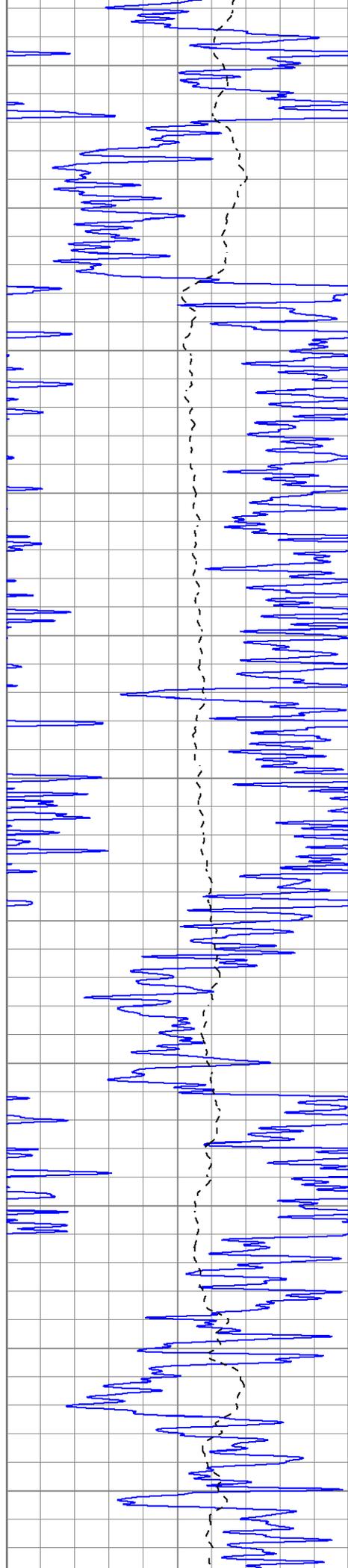
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 Dataset Pathname pass3.1
 Presentation Format kdrillinn
 Dataset Creation Mon Mar 06 14:56:48 2023
 Charted by Depth in Feet scaled 1:600

0	GR (GAPI)	150
-100	SP (mV)	100

1000	CILD (mmho/m)	0
10000	LTEN (lb)	0

0	RILD (Ohm-m)	50
0	RLL3 (Ohm-m)	50
50	RILD x 10 (Ohm-m)	500
50	RLL3 x 10 (Ohm-m)	500





450

500

550

600

650

700

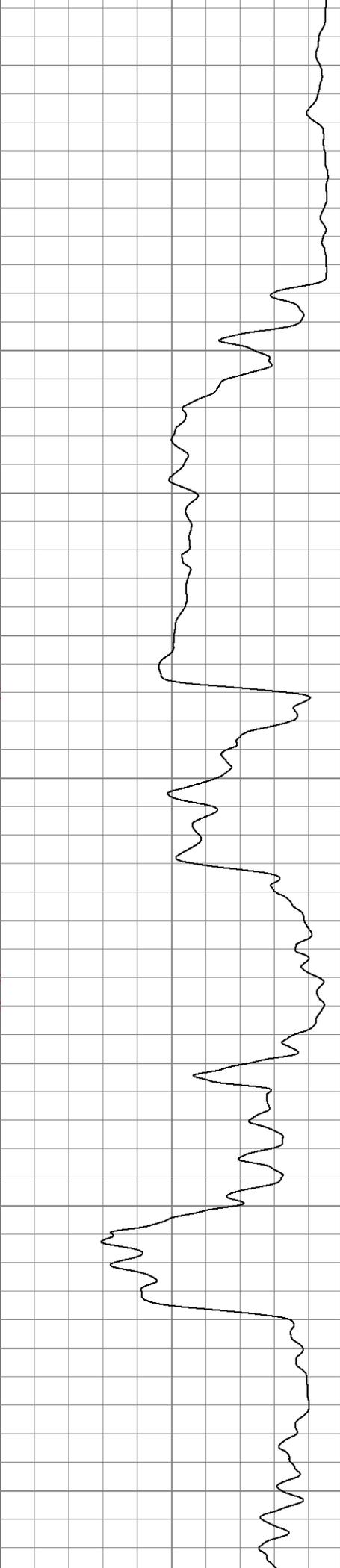
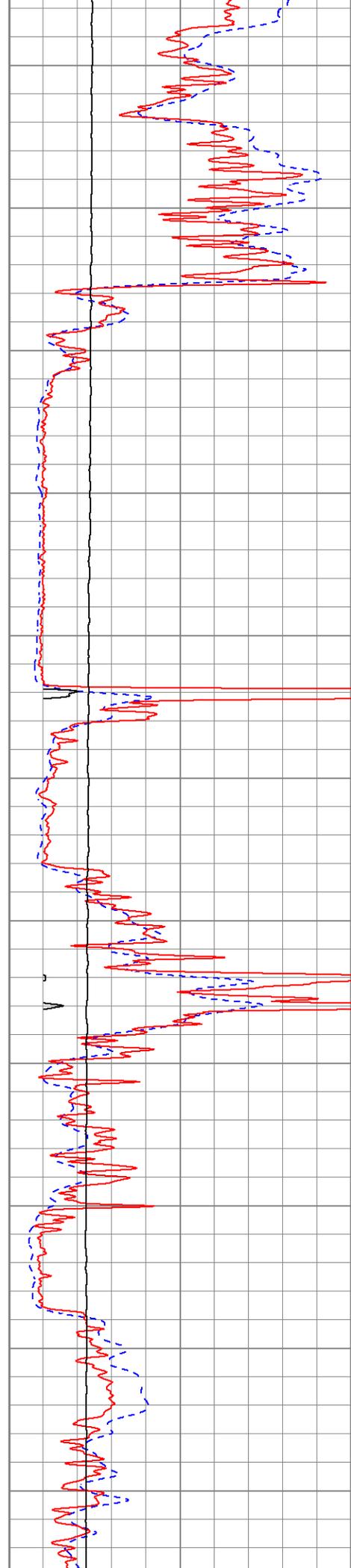
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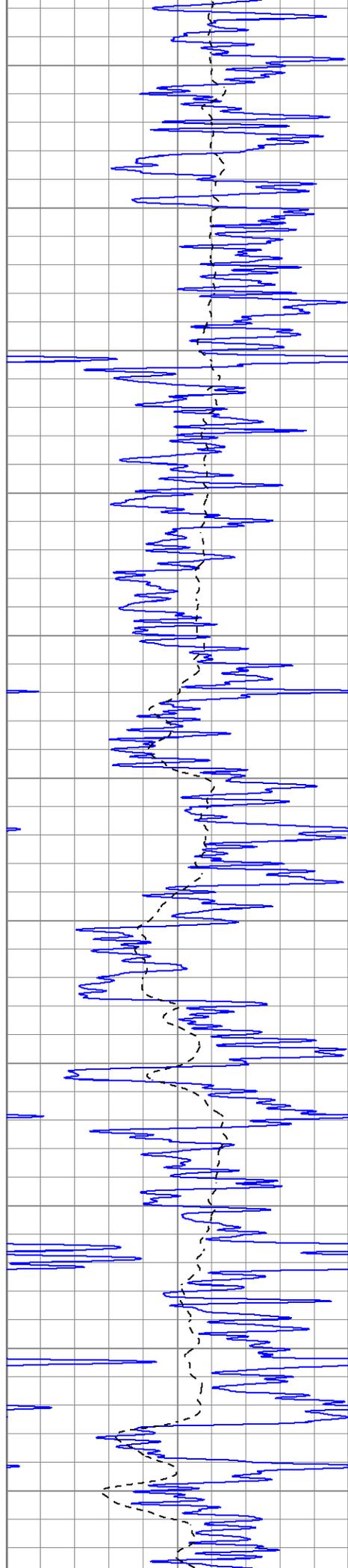
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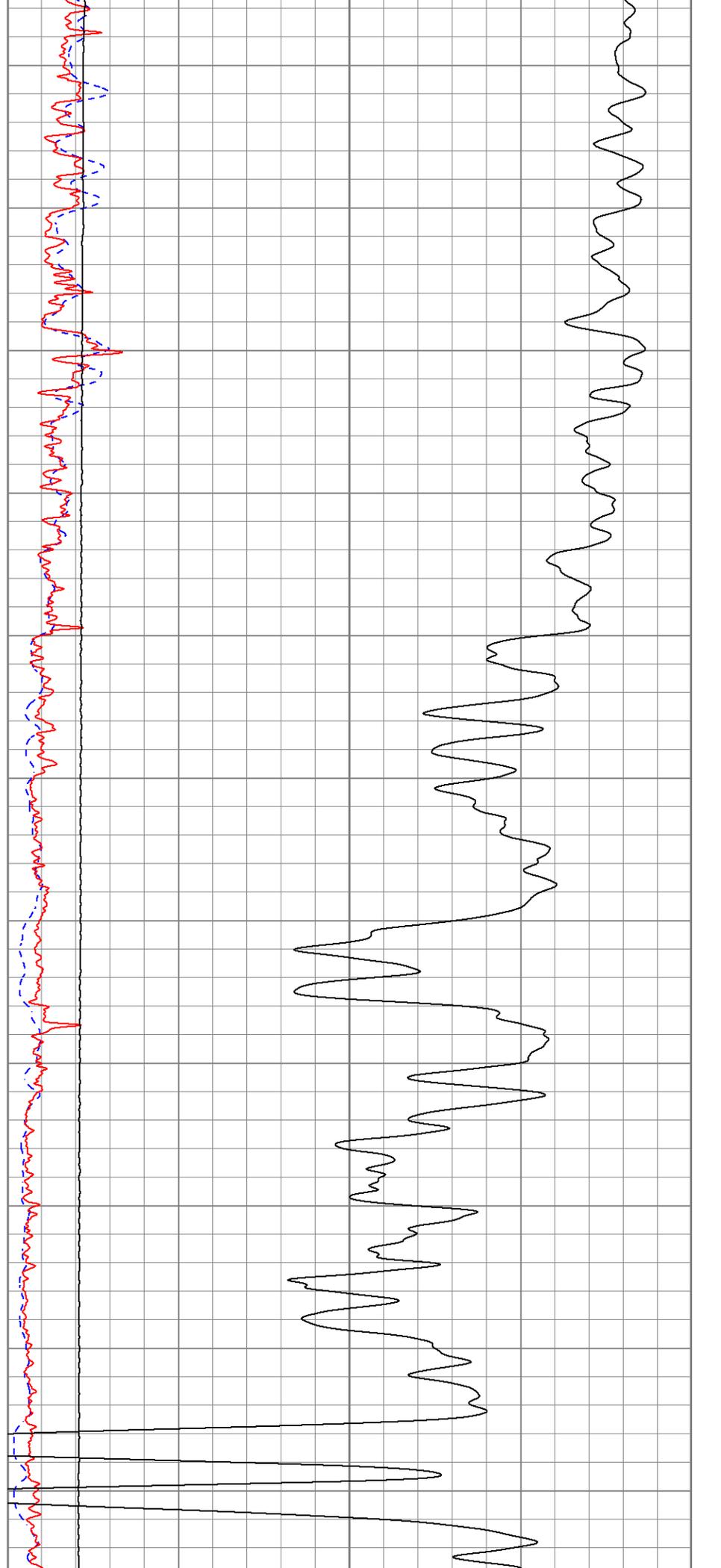
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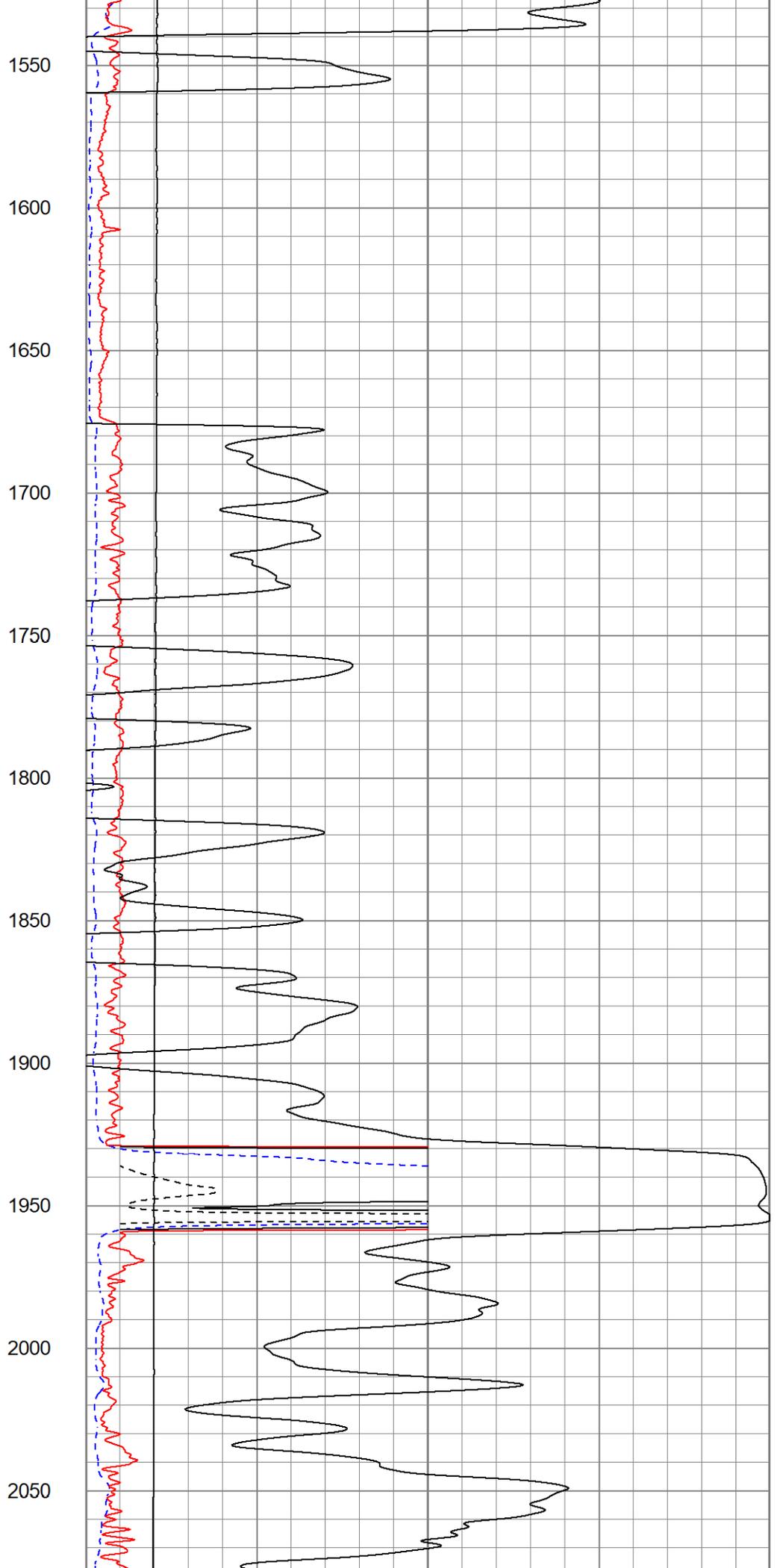
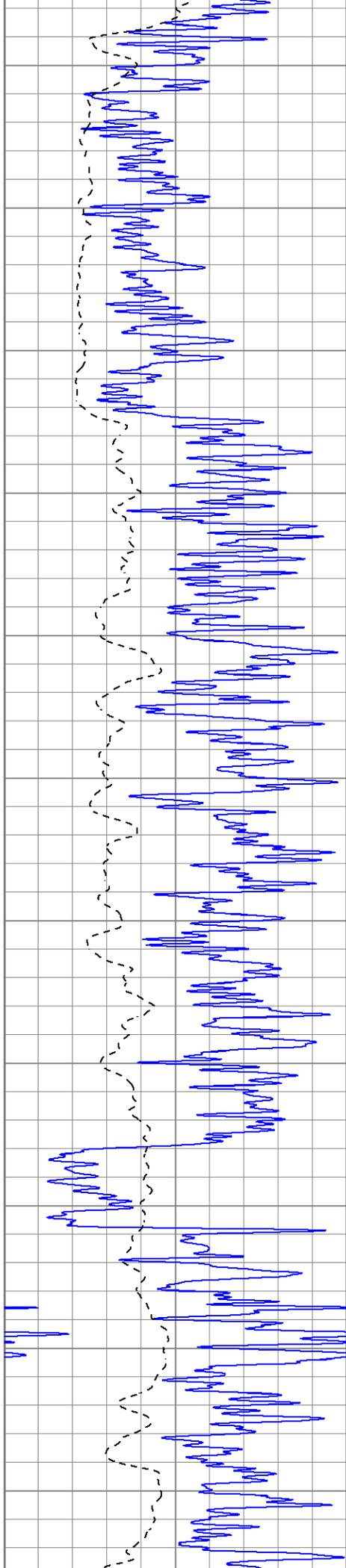
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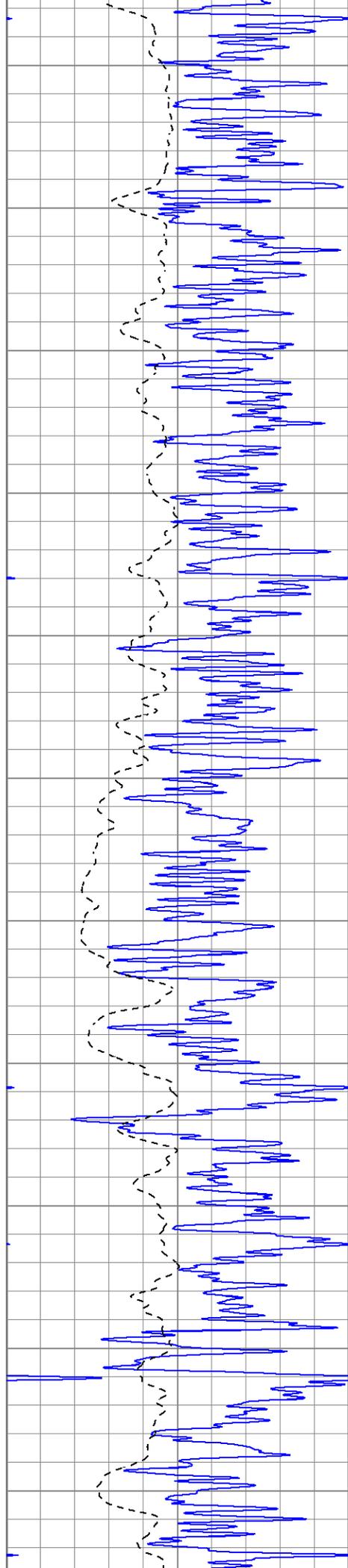




1000
1050
1100
1150
1200
1250
1300
1350
1400
1450
1500







2100

2150

2200

2250

2300

2350

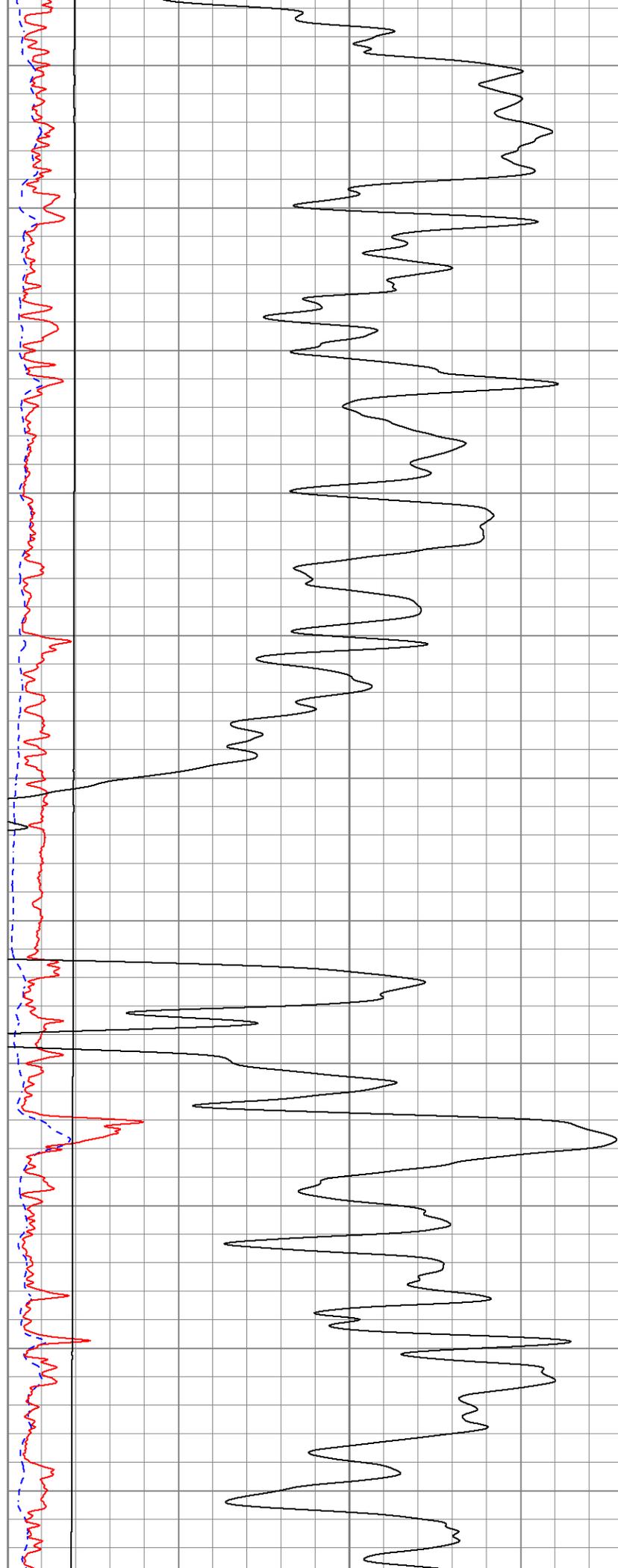
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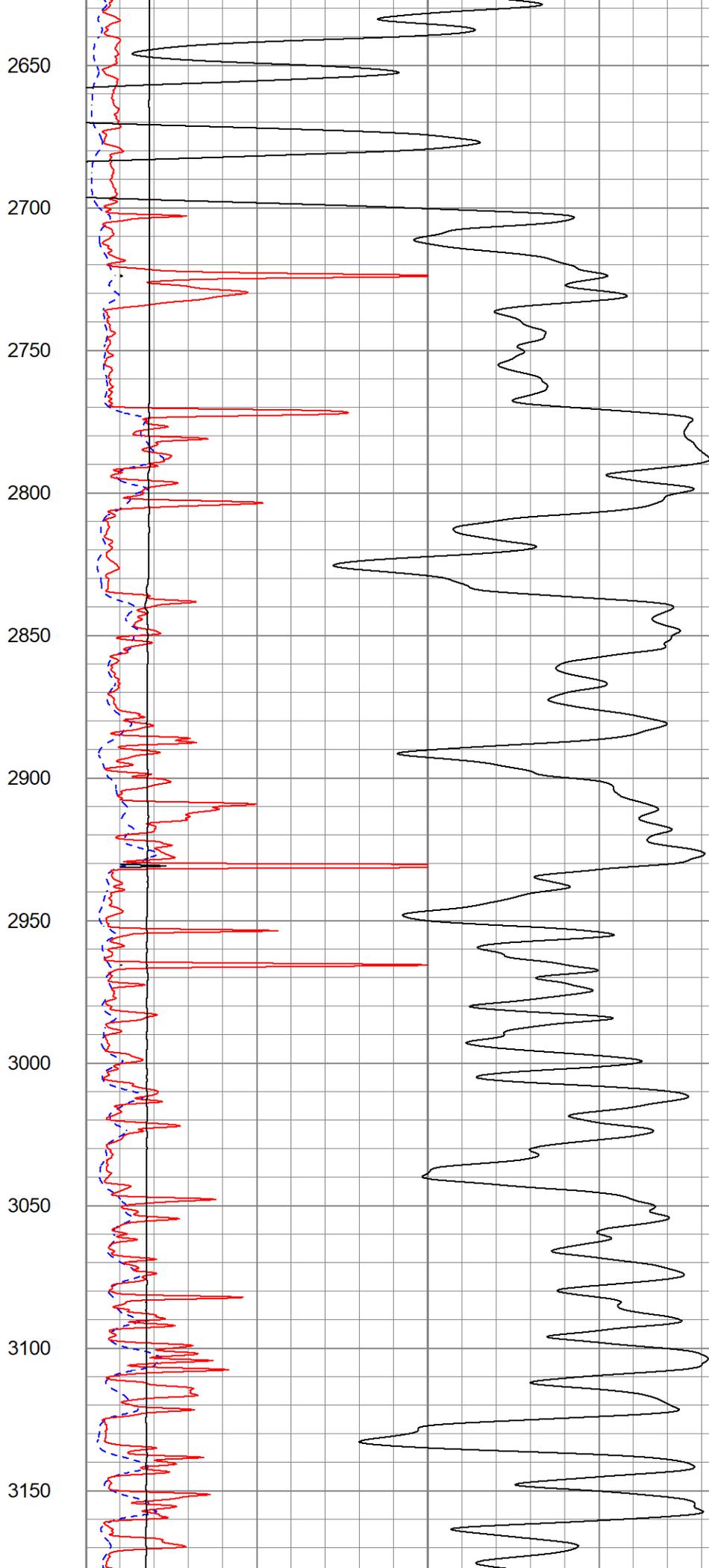
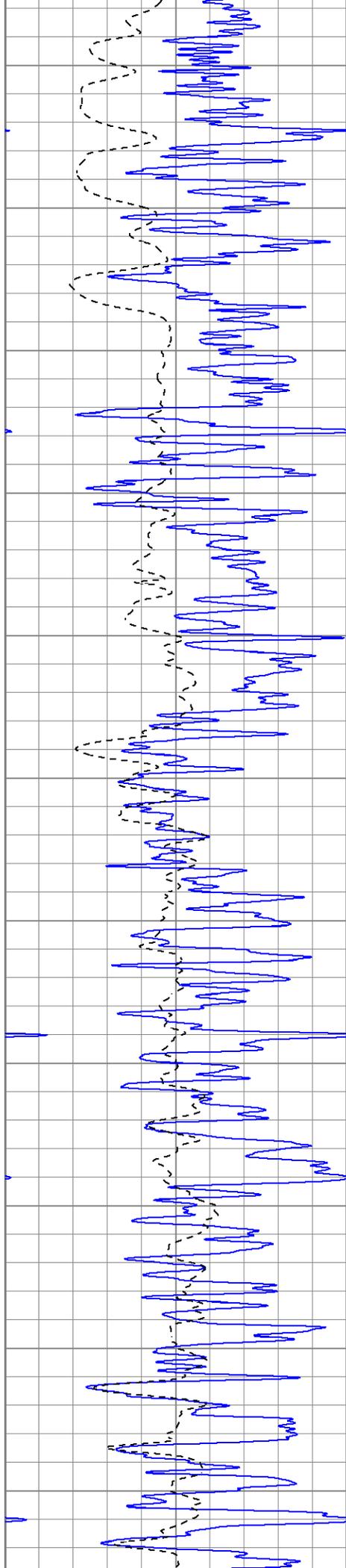
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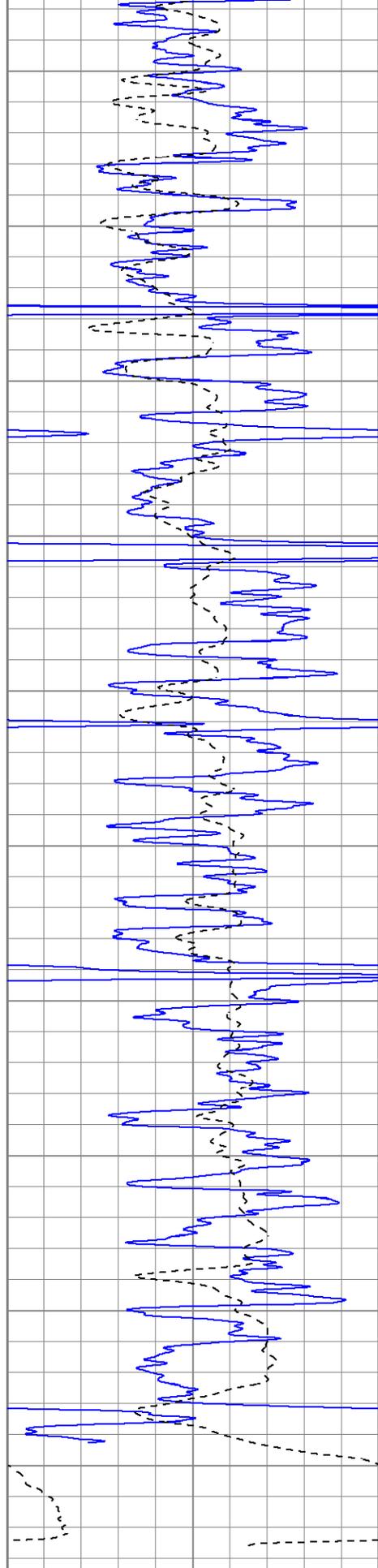
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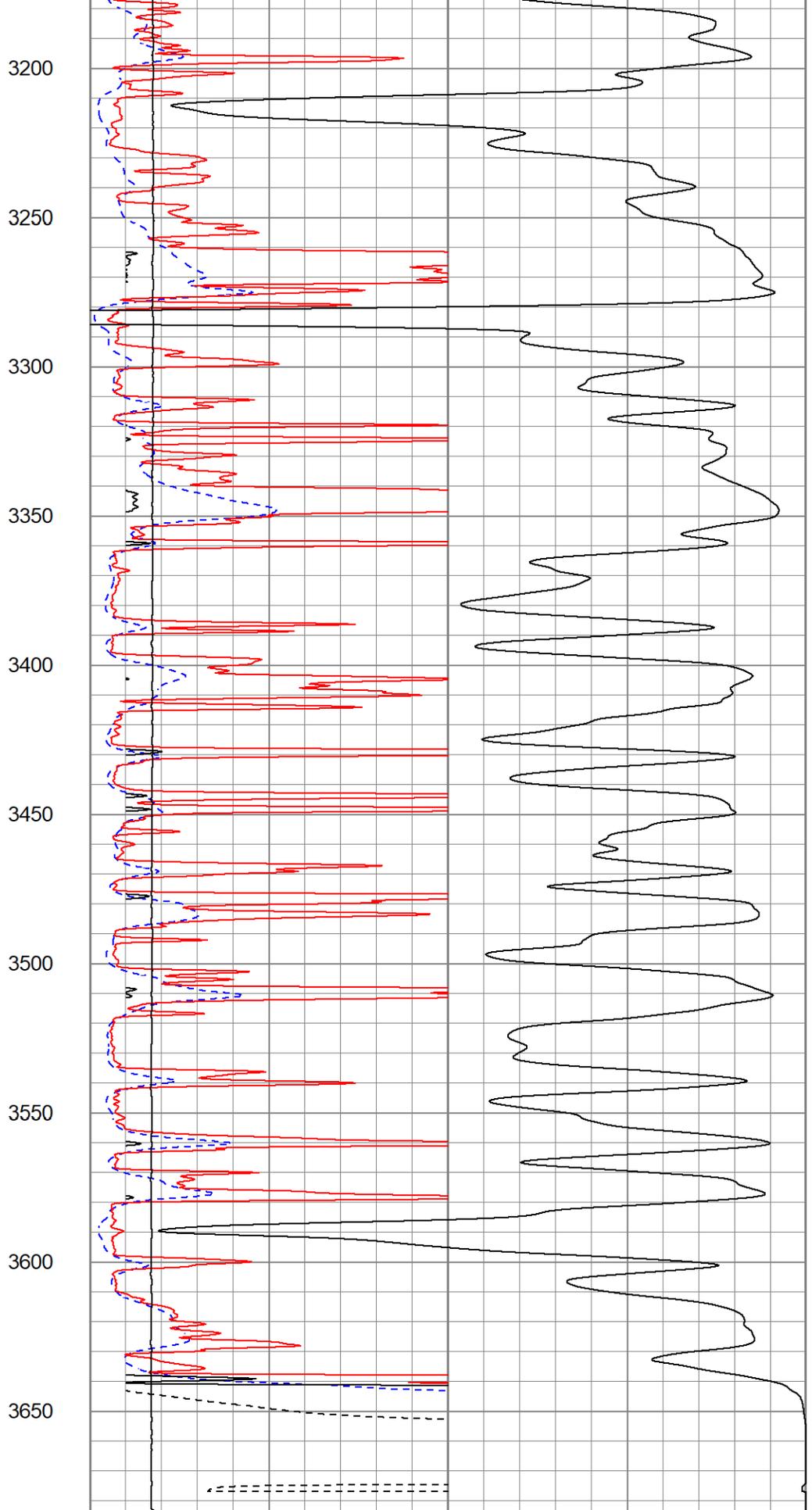
2600







0	GR (GAPI)	150
-100	SP (mV)	100



1000	CILD (mmho/m)	0
10000	LTEN (lb)	0

0	RILD (Ohm-m)	50
0	RIL 3 (Ohm-m)	50

0	RILD (Ohm-m)	50
0	RIL 3 (Ohm-m)	50

0	RLL3 (Ohm-m)	50
50	RILD x 10 (Ohm-m)	500
50	RLL3 x 10 (Ohm-m)	500

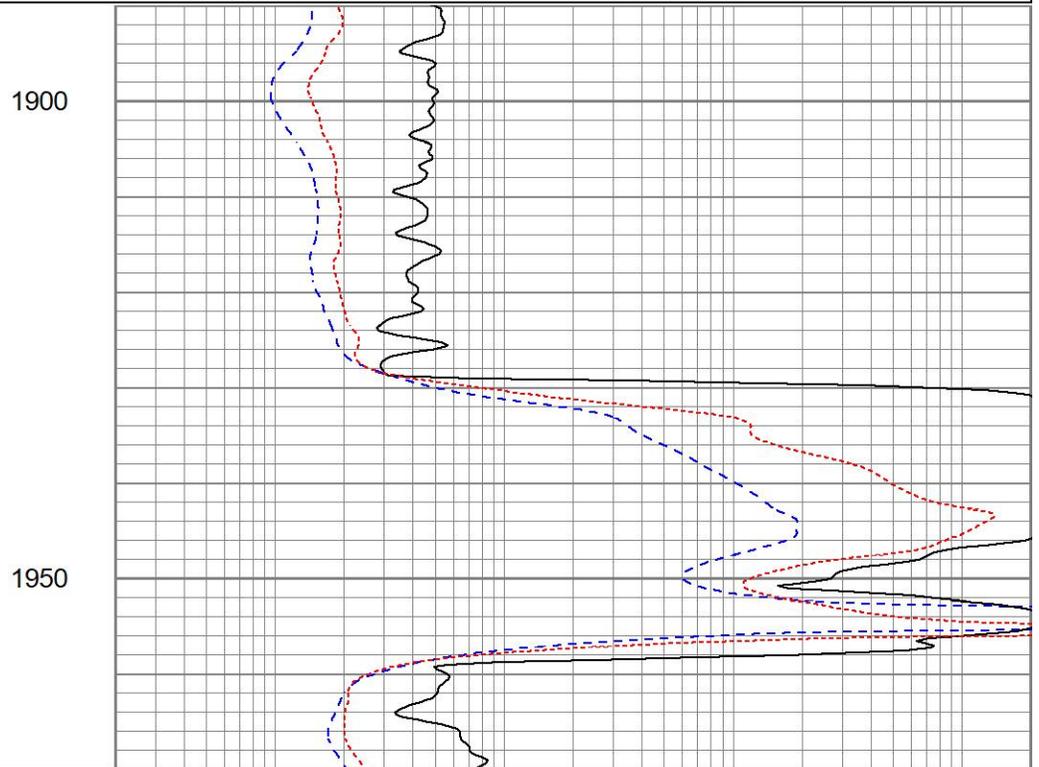
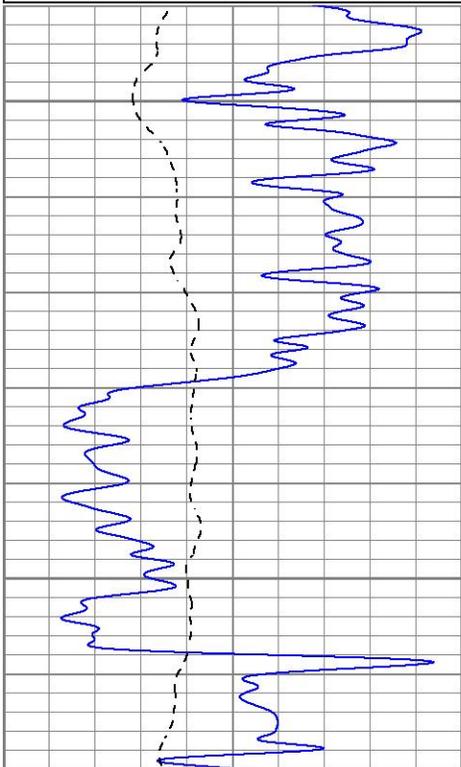


MAIN PASS

Database File polacy#1oh.db
 Dataset Pathname pass3.1
 Presentation Format kdil
 Dataset Creation Mon Mar 06 14:56:48 2023
 Charted by Depth in Feet scaled 1:240

0	GR (GAPI)	150
-100	SP (mV)	100

0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000



0	GR (GAPI)	150
-100	SP (mV)	100

0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000



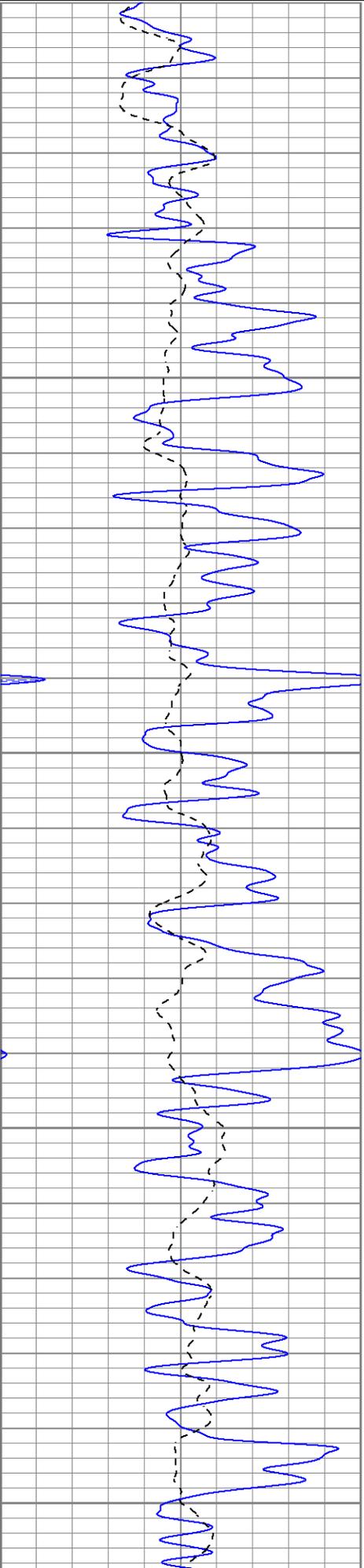
MAIN PASS

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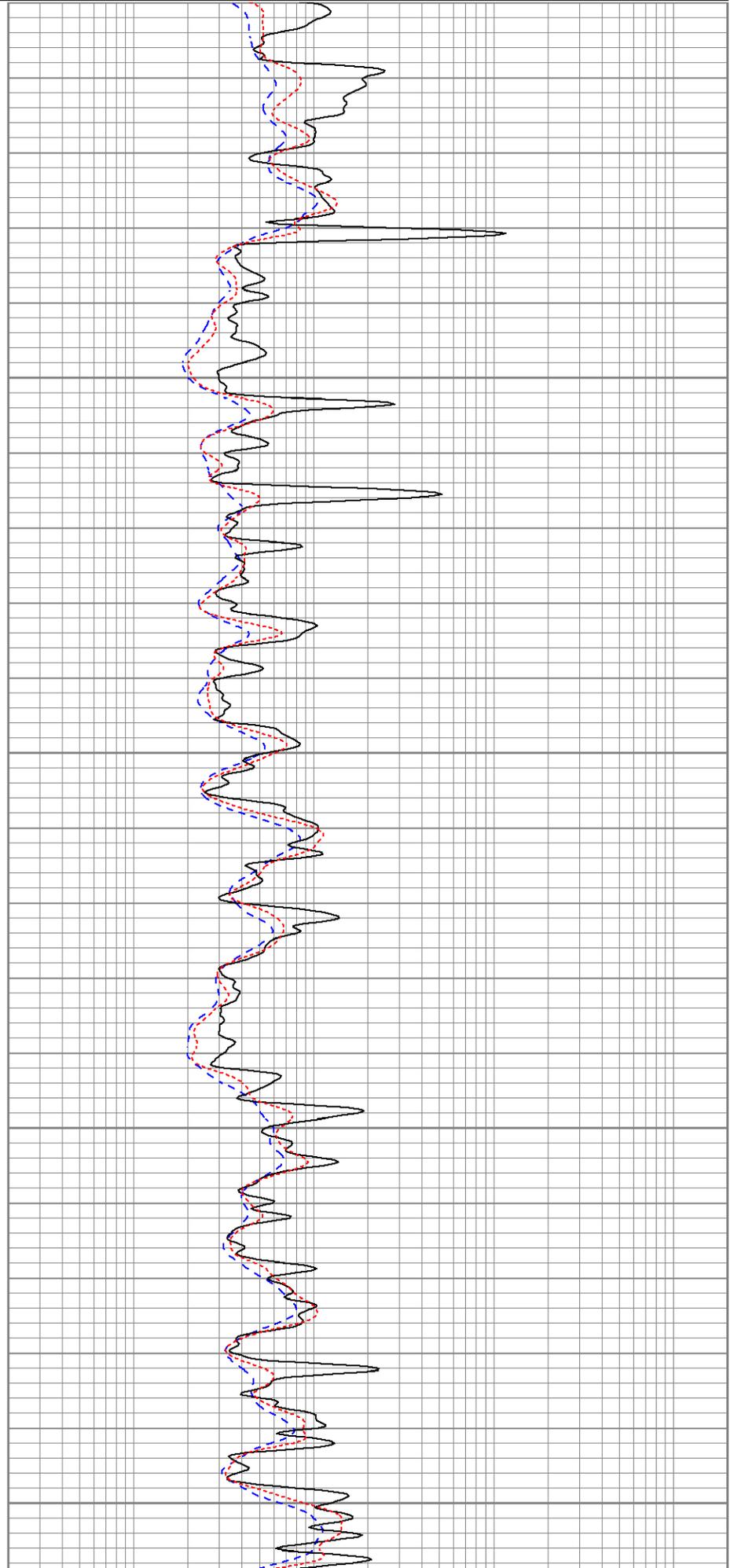
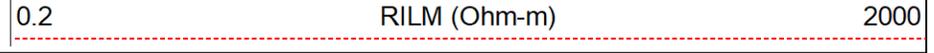
0	GR (GAPI)	150
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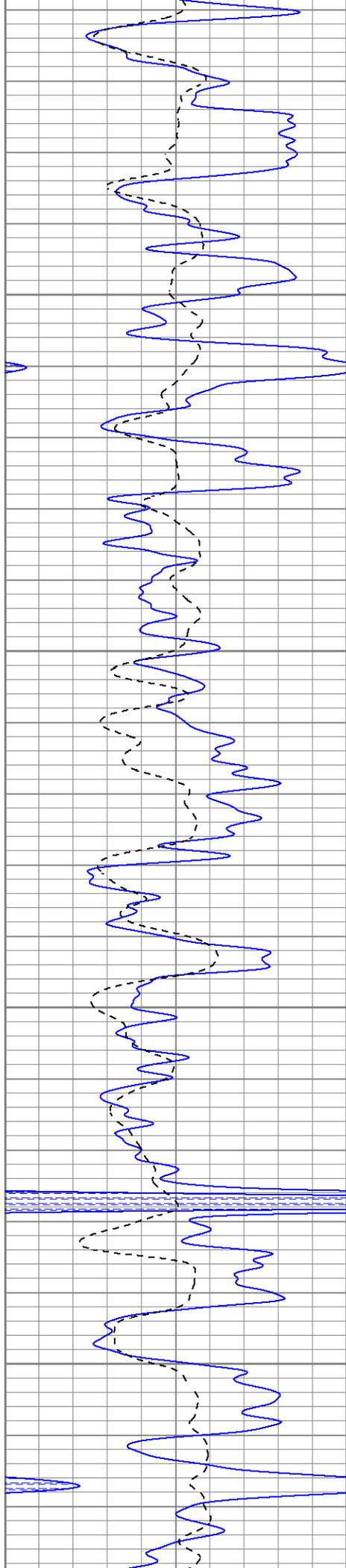
0.2	RILD (Ohm-m)	2000
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-100 SP (mV) 100



0.2 RLL3 (Ohm-m) 2000



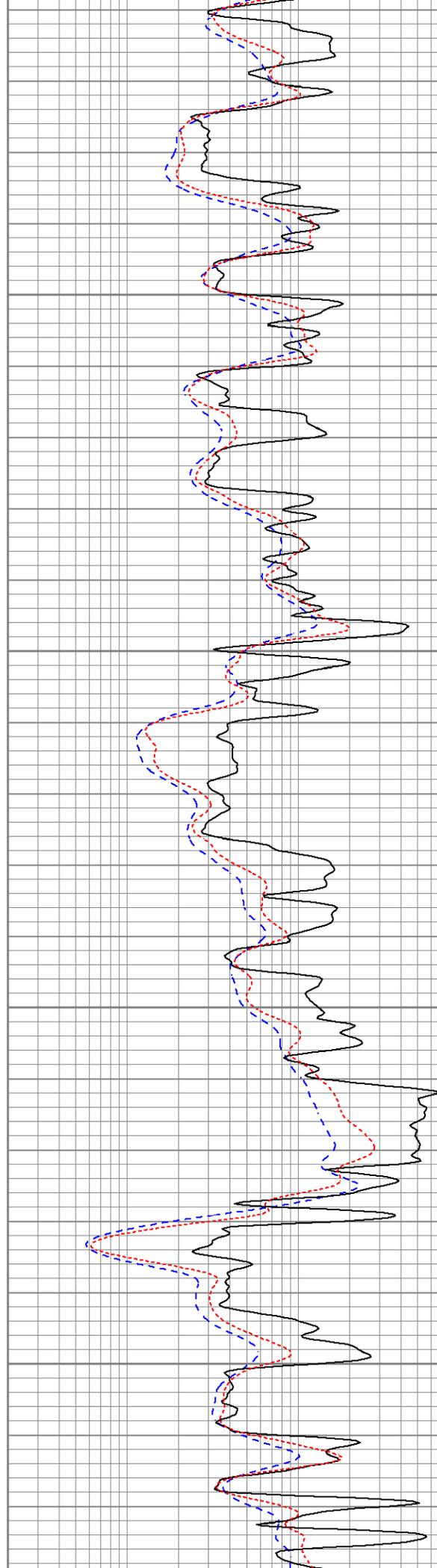


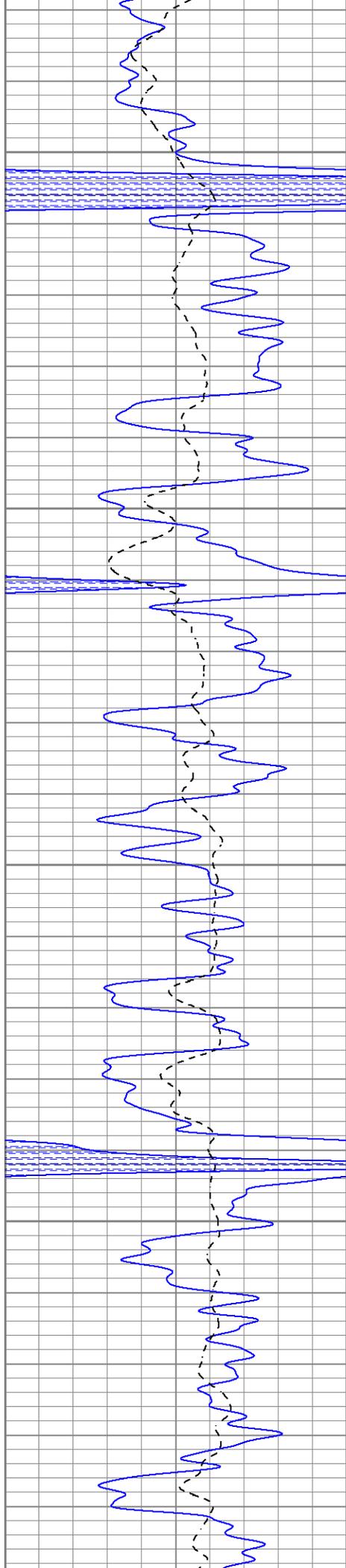
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3200

3250

3300



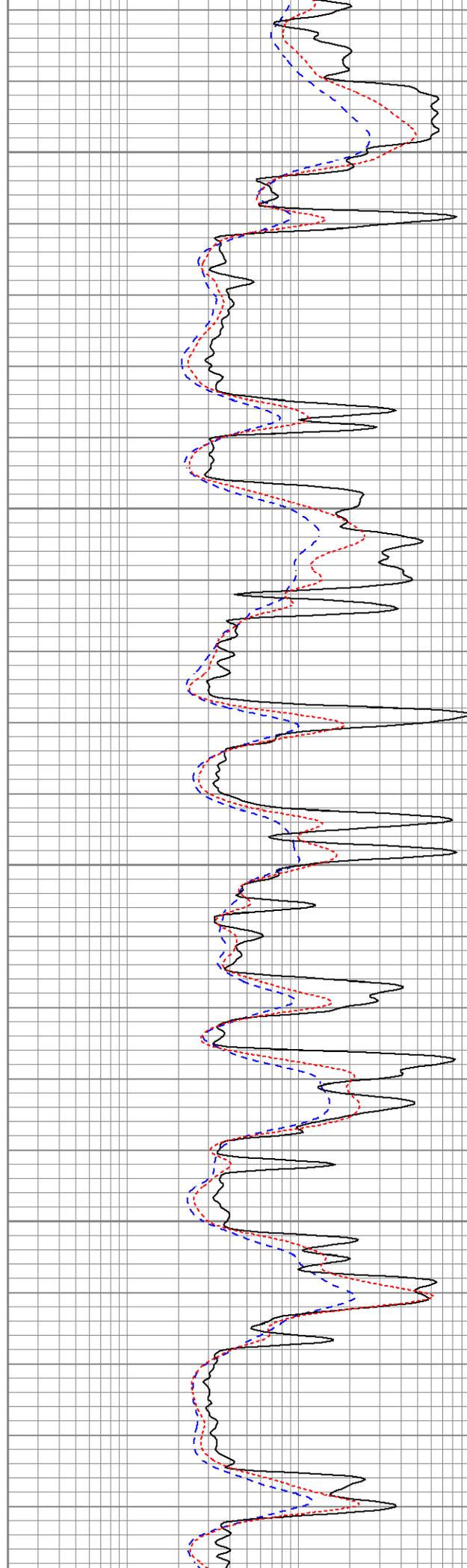


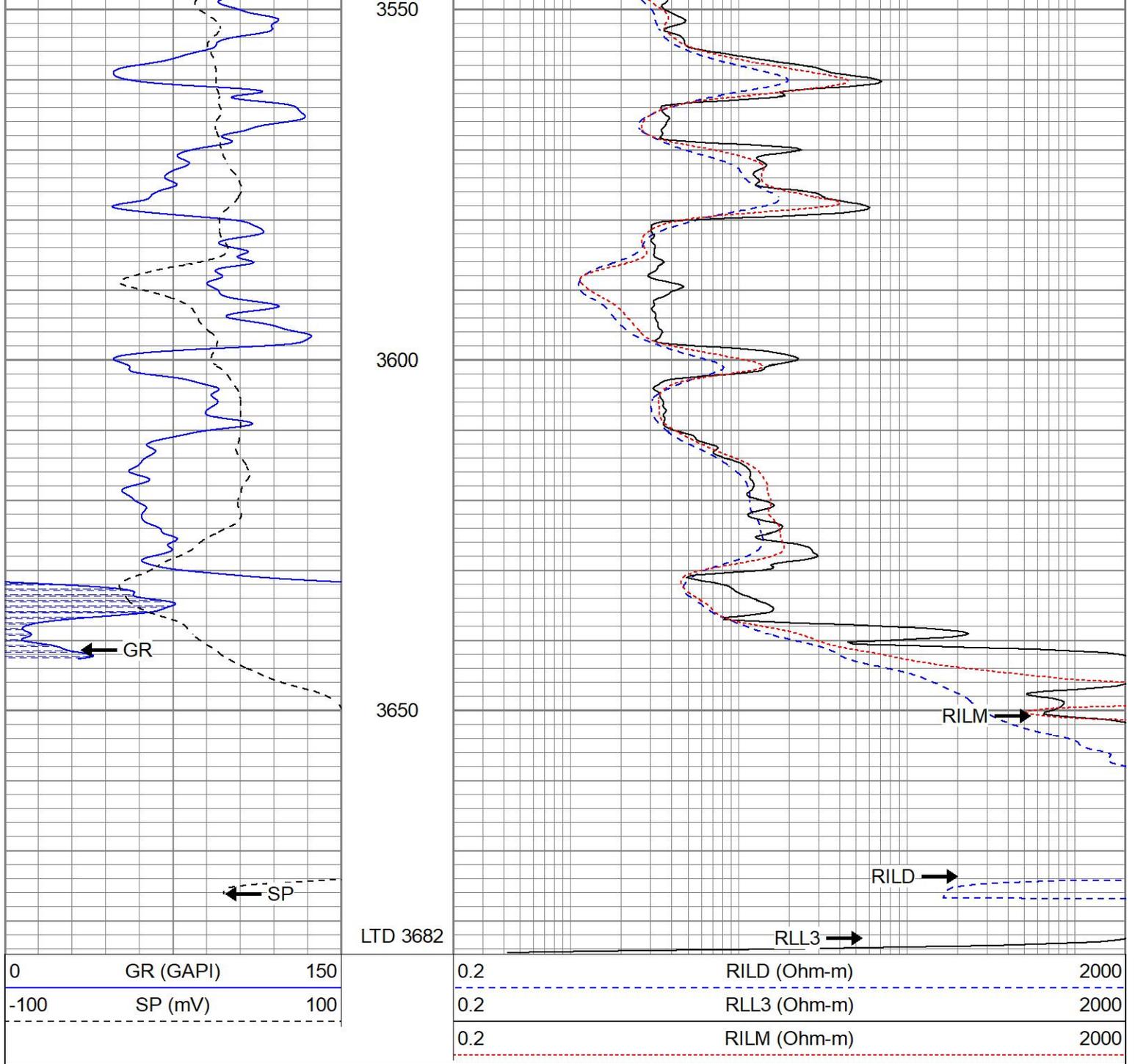
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3400

3450

3500

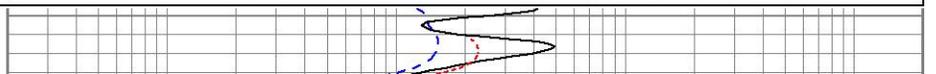
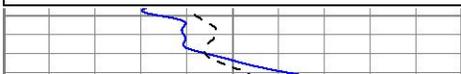


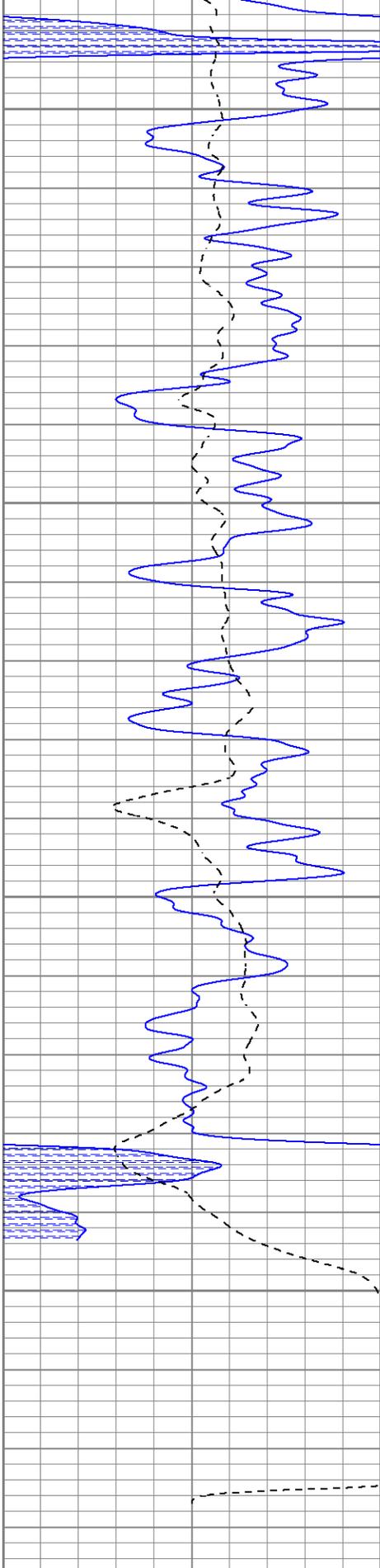


REPEAT SECTION

Database File: policy#1oh.db
 Dataset Pathname: pass2
 Presentation Format: kdil
 Dataset Creation: Mon Mar 06 13:55:22 2023
 Charted by: Depth in Feet scaled 1:240

0	GR (GAPI)	150	0.2	RILD (Ohm-m)	2000
-100	SP (mV)	100	0.2	RLL3 (Ohm-m)	2000
			0.2	RILM (Ohm-m)	2000





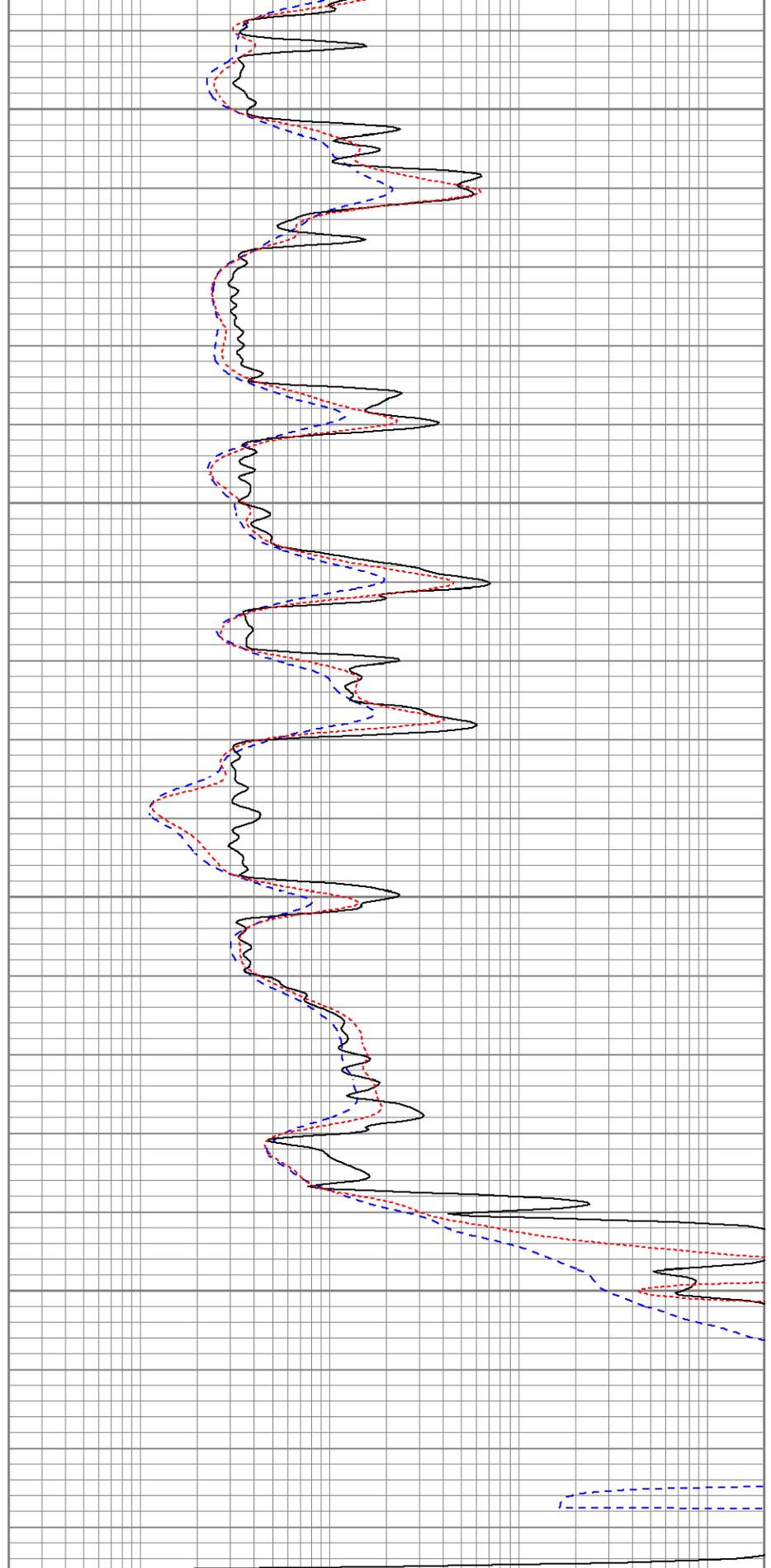
3500

3550

3600

3650

0	GR (GAPI)	150
-100	SP (mV)	100



0.2	RILD (Ohm-m)	2000
0.2	RLL3 (Ohm-m)	2000
0.2	RILM (Ohm-m)	2000

Calibration Report

Database File polacy#1oh.db
 Dataset Pathname pass2
 Dataset Creation Mon Mar 06 13:55:22 2023

Dual Induction Calibration Report

Serial-Model: 5375-G
 Surface Cal Performed: Wed May 5 19:18:35 2021
 Downhole Cal Performed: Wed May 5 19:19:37 2021
 After Survey Verification Performed: Wed May 5 19:19:37 2021

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.001	0.643	V	0.000	350.000	mmho/m	545.845	-0.739
Medium	0.006	0.727	V	0.000	400.000	mmho/m	554.957	-3.517
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.001	0.642	V	0.000	350.000	mmho/m	545.941	-0.743
Medium	0.006	0.727	V	0.000	550.000	mmho/m	762.787	-4.700

Downhole Calibration

Internal:	Readings			References			Results	
	Zero	Cal		Zero	Cal		m	b
Deep	0.127	350.109	mmho/m	0.003	349.942	mmho/m	1.000	-0.123
Medium	0.122	400.202	mmho/m	-0.097	400.049	mmho/m	1.000	-0.219
Shallow	2.429	0.012	V	500.000	2.000	Ohm-m	205.985	0.227

After Survey Verification

Internal:	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	0.127	350.109	mmho/m	1.000	-0.123
Medium	0.000	0.000	mmho/m	0.122	400.202	mmho/m	1.000	-0.219
Shallow	0.000	0.000	Ohm-m	500.000	2.000	Ohm-m	1.000	0.000

Admyr Lithodensity Calibration Report

Serial-Model: 1C-C
 Source: Blue2
 Master Calibration Performed: Tue Aug 30 10:20:37 2022

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.670	g/cc	6362.49	3546.71	cps
Aluminium	2.640	g/cc	1733.54	2362.69	cps
Aluminium+Sleeve	2.617	g/cc	1657.01	2197.69	cps
Spine Angle = 72.65			Density/Spine Ratio = 0.712		
	PE		NLITH	NHARD	
Magnesium	2.000	barn	2520.00	1620.00	cps
Aluminium	3.000	barn	1926.00	1699.00	cps
Aluminium+Sleeve	5.000	barn	915.00	1230.00	cps

M = 0.370

B = -0.079

R = 0.999

	Size		Reading	
Small Ring	8.00	in	8.61	V
Large Ring	14.30	in	12.40	V

Neutron Calibration Report

Serial Number: AD5139
 Tool Model: ADMY5139
 Performed: (Not Performed)

Calibrator Value: 1 NAPI
 Calibrator Reading: 1 cps
 Sensitivity: 1 NAPI/cps

Temperature Calibration Report

Serial Number: WithMC
 Tool Model: WMC
 Performed: Fri Apr 19 12:15:04 2019

	Reference	Reading
Low Reference:	0.00 degF	0.00 degF
High Reference:	1.00 degF	1.00 degF
Gain:	1.00	
Offset:	0.00	
Delta Spacing	1	

Inclinometer Calibration Report

Performed: Wed May 5 19:20:48 2021

	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	205.00	1843.00	-1.00	1.00	gee
Y Accelerometer	205.00	1843.00	-1.00	1.00	gee
Z Accelerometer					gee

Gamma Ray Calibration Report

Serial Number: WithMC
 Tool Model: WMC
 Performed: Wed Jun 15 11:53:49 2022

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 1.1000 GAPI/cps