



**DUAL
INDUCTION
LOG**

Company Patterson Energy LLC.
Well Rolfs #1
Field Lorraine
County Ellsworth
State KS

Company Patterson Energy LLC.

Well Rolfs #1

Field Lorraine

County Ellsworth

State KS

Location:

API #: 15 053 21390

Other Services

2310' FSL & 1320' FEL

ML
CDNL

SEC 14 TWP 17S RGE 9W

Elevation

Permanent Datum Ground Level Elevation 1787'
Log Measured From KB 8' AGL
Drilling Measured From KB

K.B. 1795'
D.F. 1794'
G.L. 1787'

Date	10/22/23
Run Number	One
Depth Driller	3300'
Depth Logger	3299'
Bottom Logged Interval	3297'
Top Log Interval	Surface
Casing Driller	8 5/8" @ 340'
Casing Logger	340'
Bit Size	7 7/8"
Type Fluid in Hole	Chemical
Density / Viscosity	8.9/51
pH / Fluid Loss	10.0/8.8
Source of Sample	Pit
Rm @ Meas. Temp	1.7 @ 70degf
Rmf @ Meas. Temp	1.3 @ 70degf
Rmc @ Meas. Temp	2.0 @ 70degf
Source of Rmf / Rmc	Calculated
Rm @ BHT	1.0 @ 103degf
Time Circulation Stopped	5:15 AM
Time Logger on Bottom	8:00 AM
Maximum Recorded Temperature	103degf
Equipment Number	T-605
Location	Hays, KS.
Recorded By	C. Patterson
Witnessed By	Austin Klaus

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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

Lorraine, KS 10 Rd1 mi North to Ave. U East 2 mi to 12th Rd.
12th Rd. 0.4 mi West into 0.3 mi.

Thanks for using Gemini Wireline LLC
785-625-1182



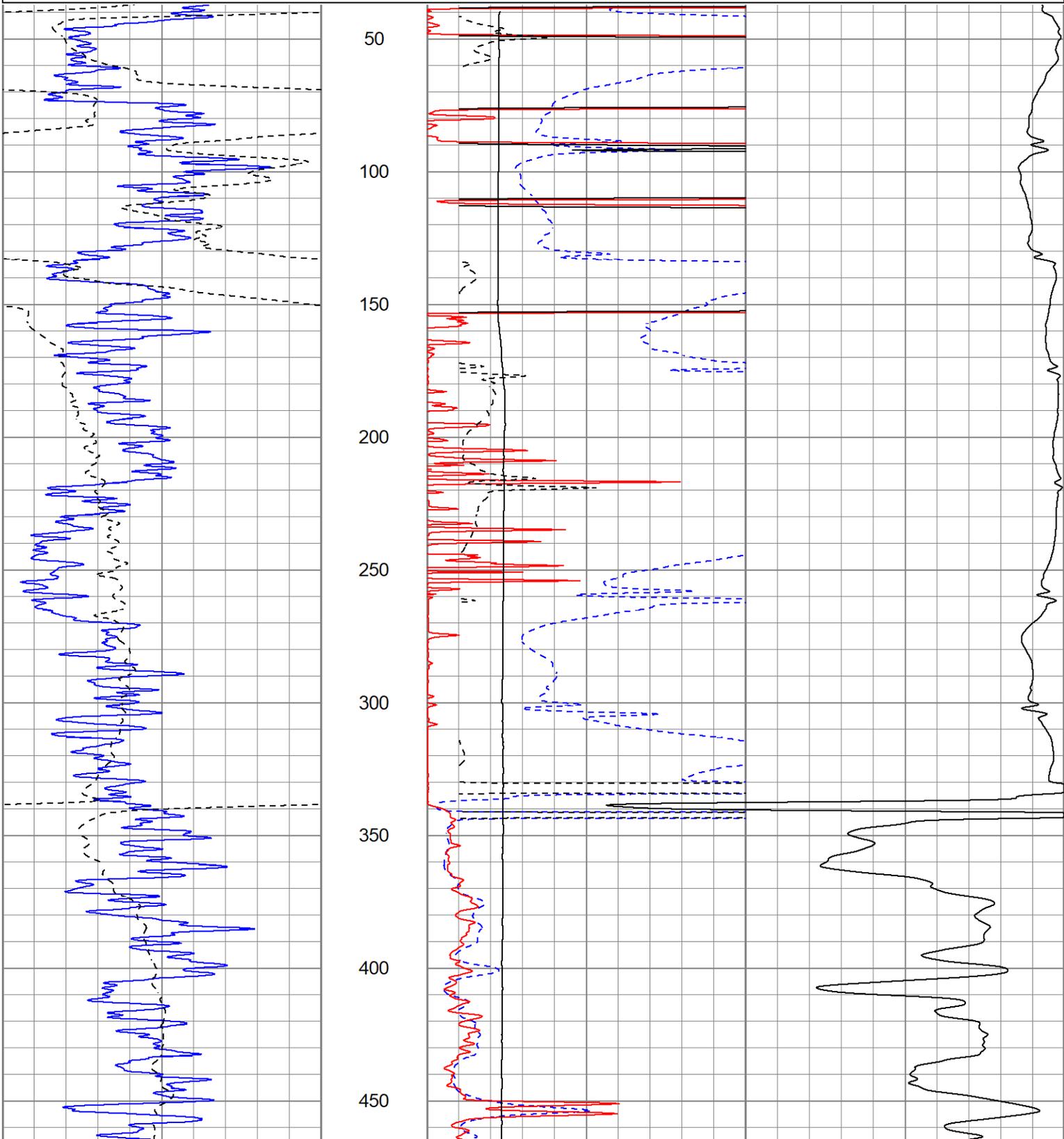
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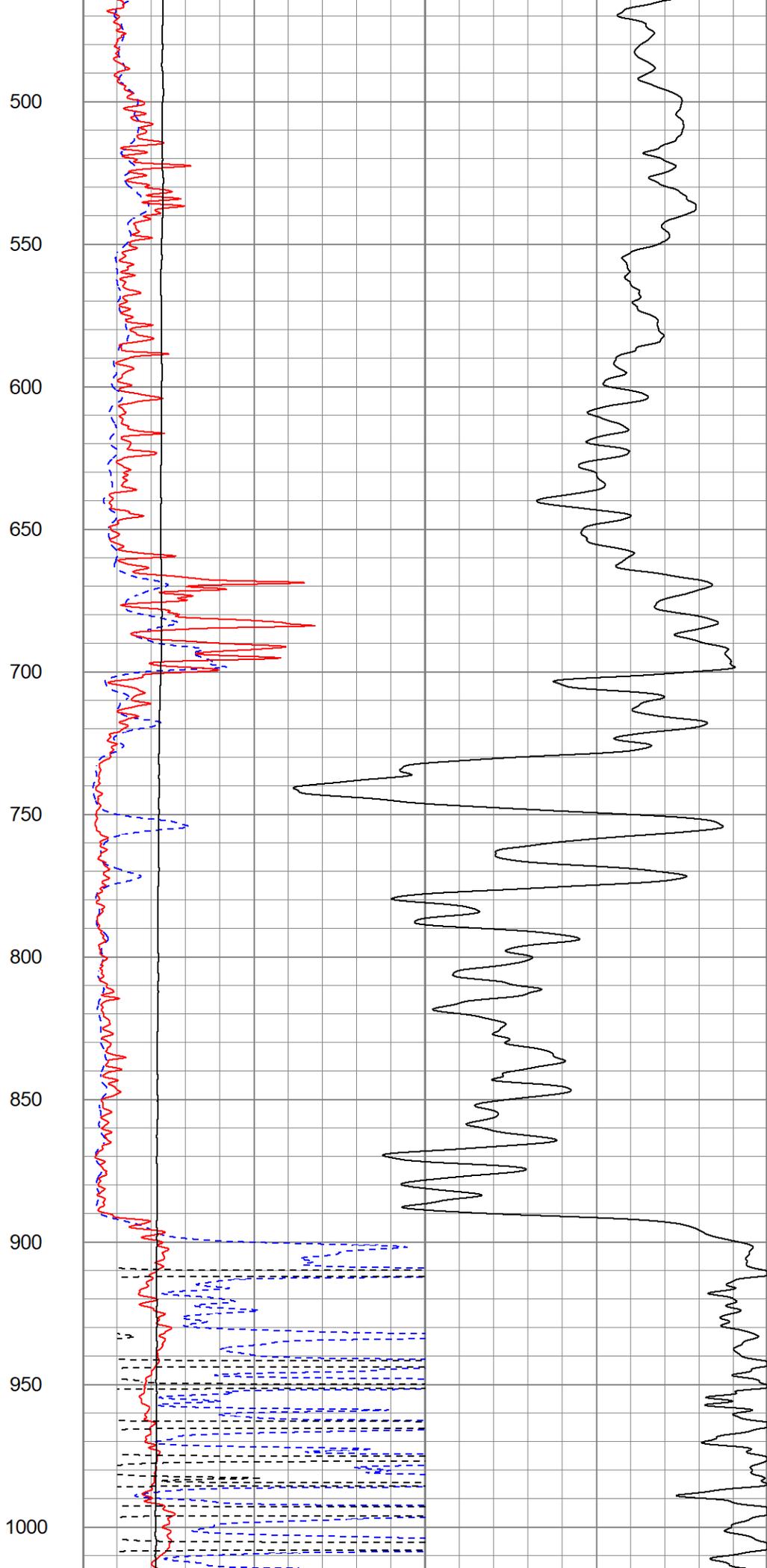
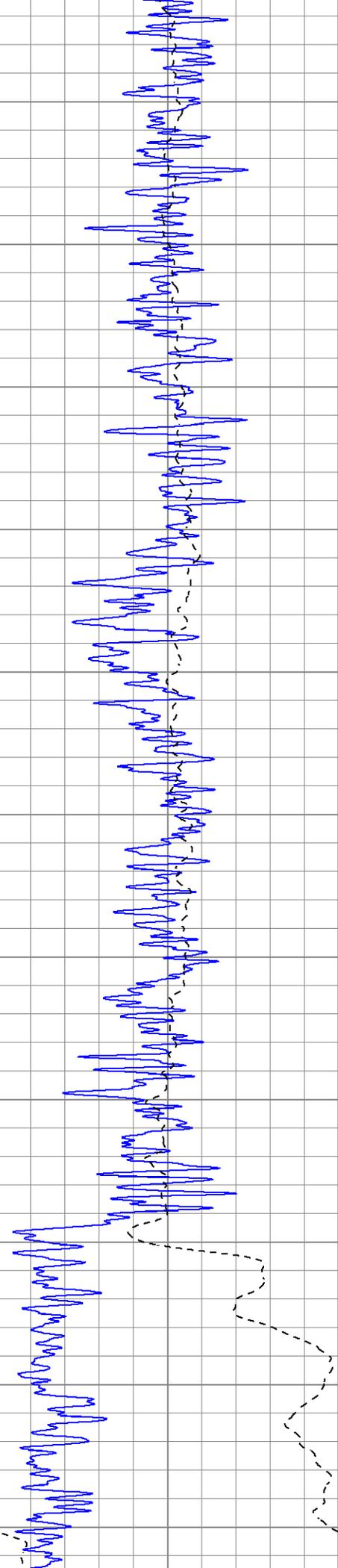
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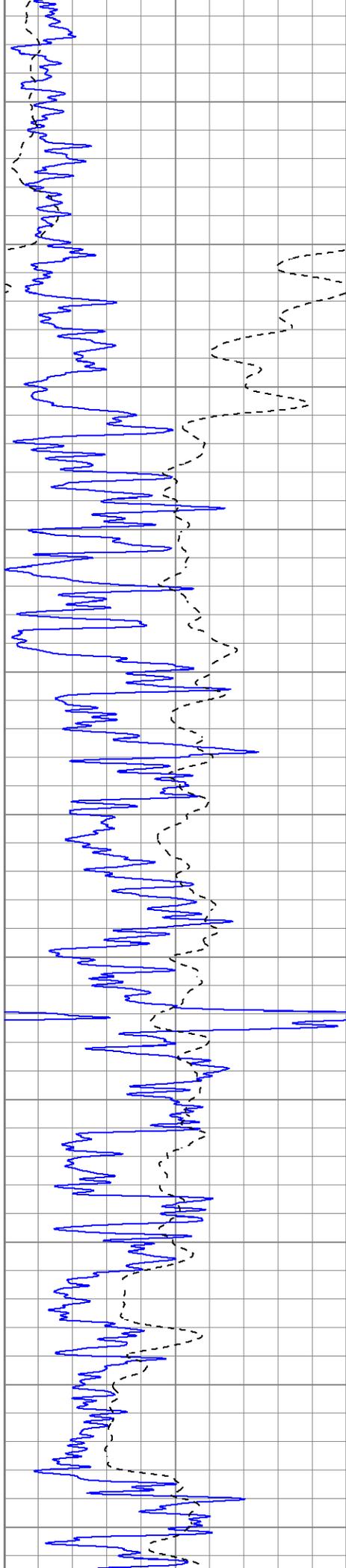
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 -100 SP (mV) 100

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







1050

1100

1150

1200

1250

1300

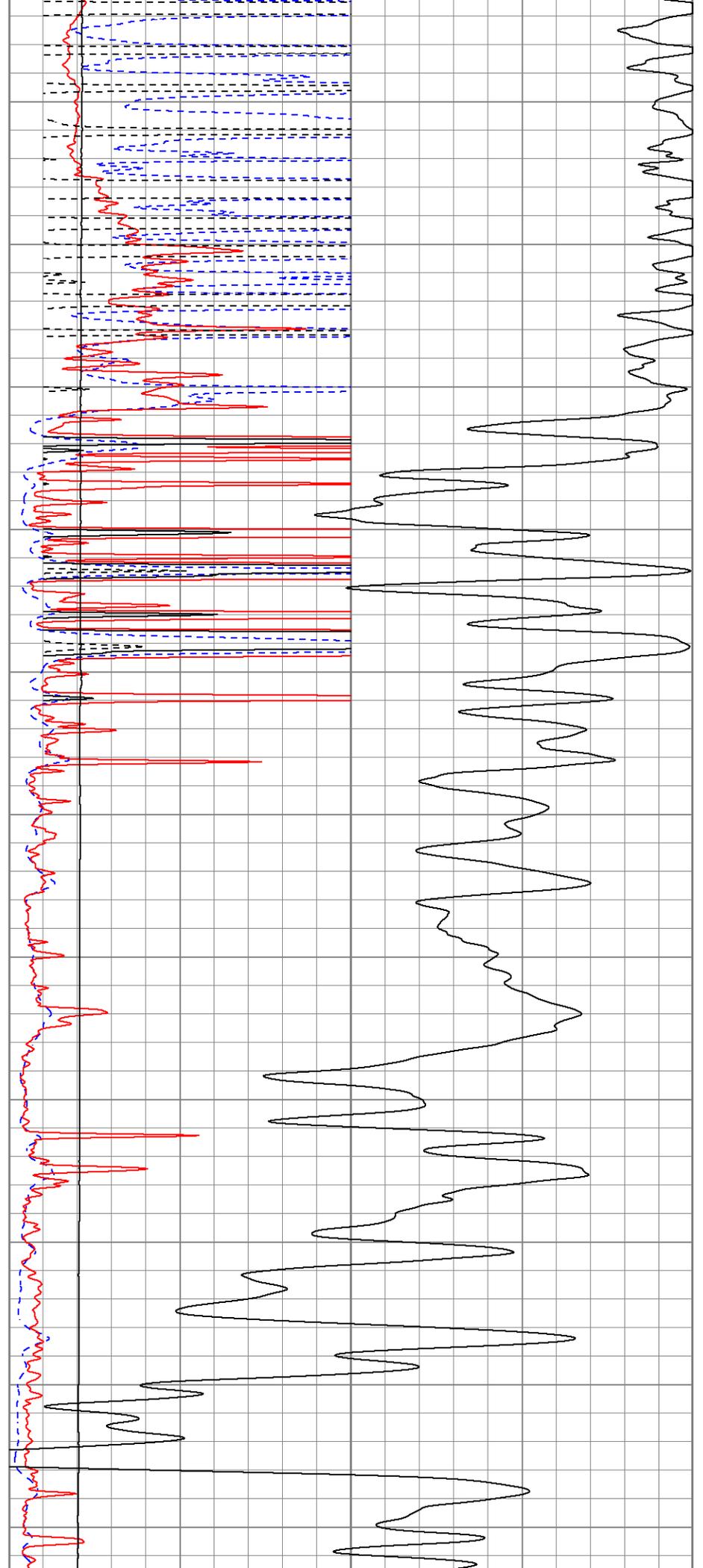
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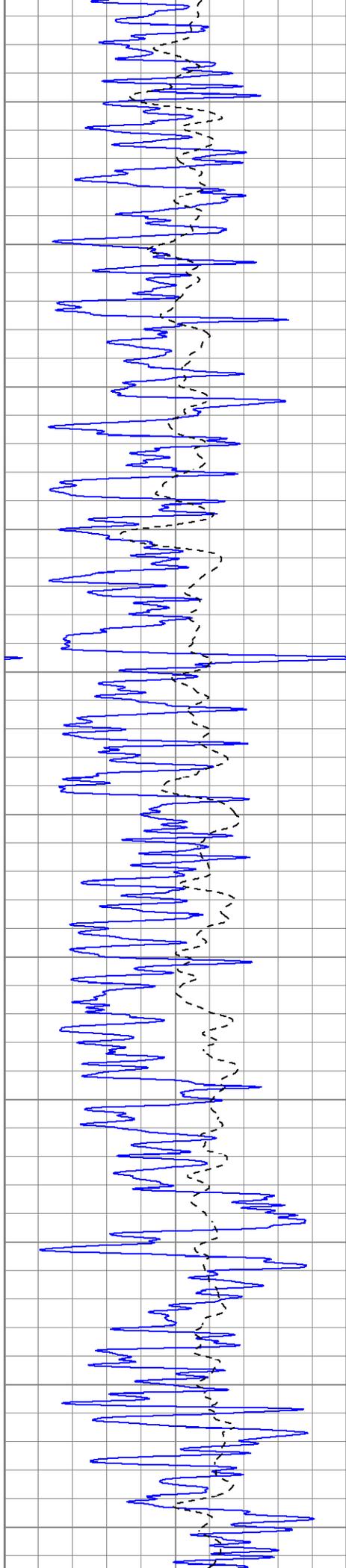
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1450

1500

1550





1600

1650

1700

1750

1800

1850

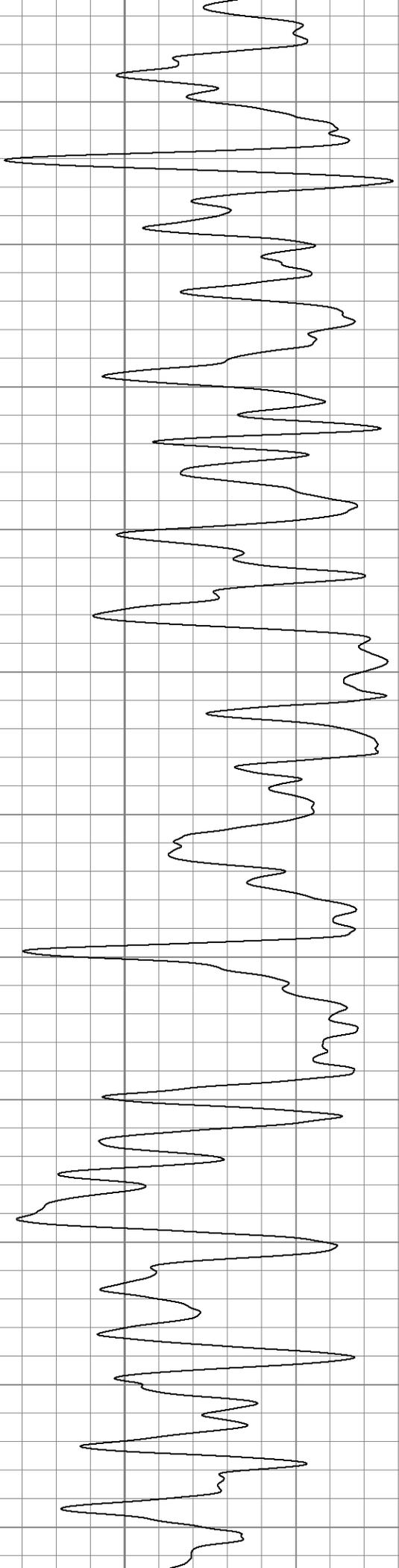
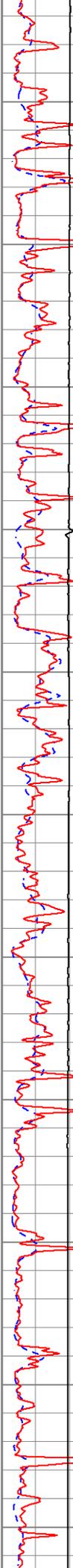
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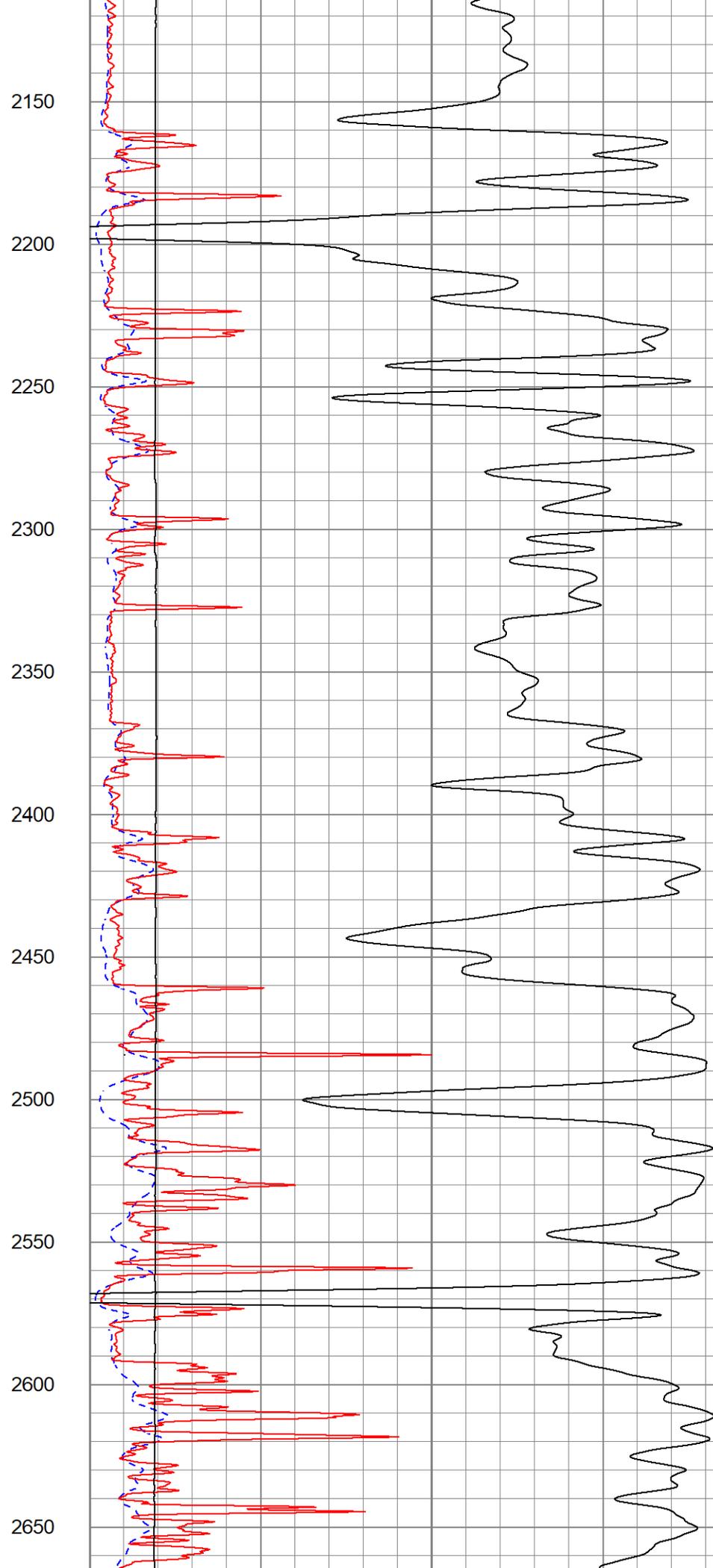
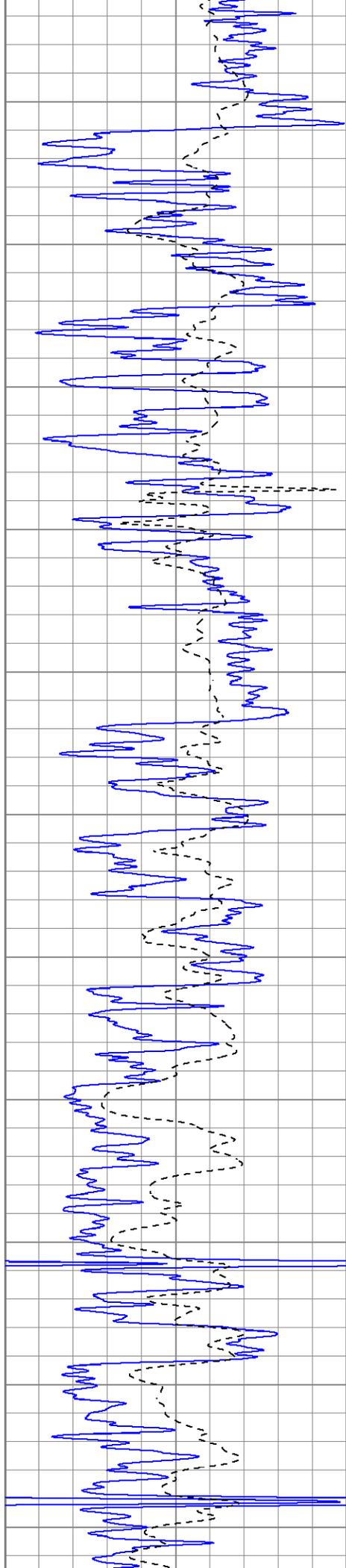
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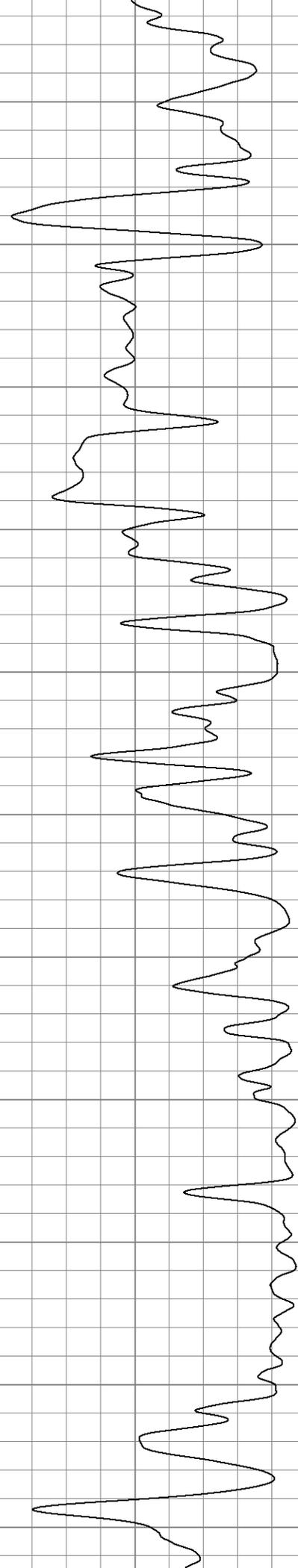
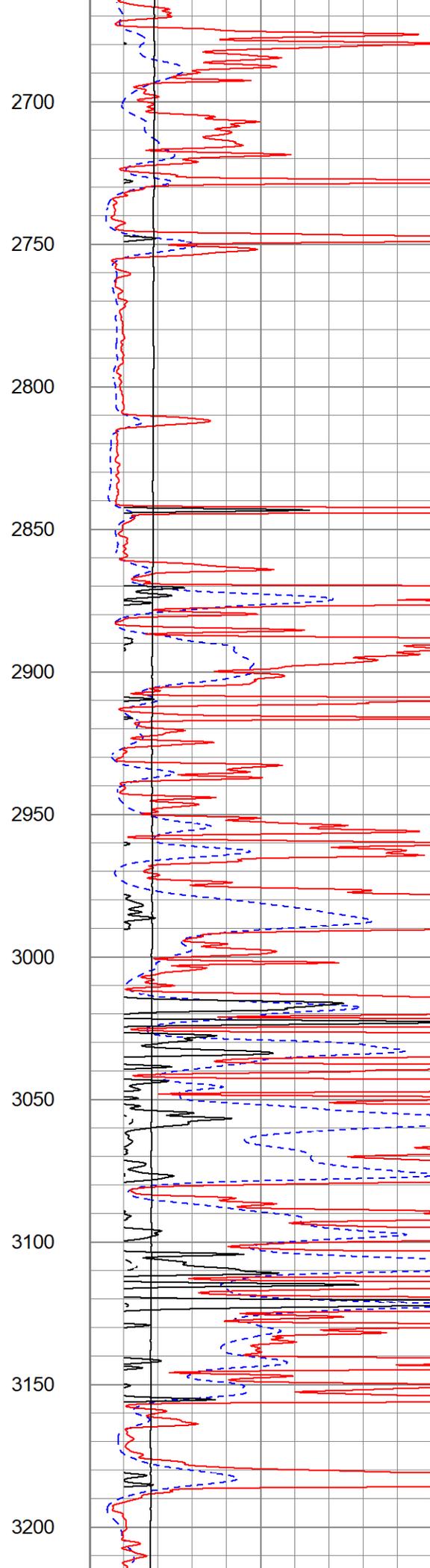
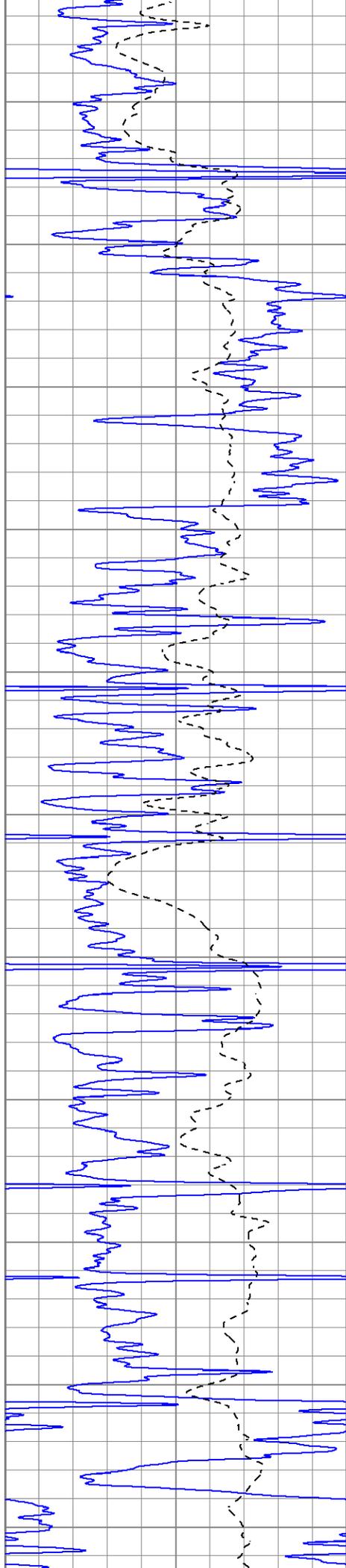
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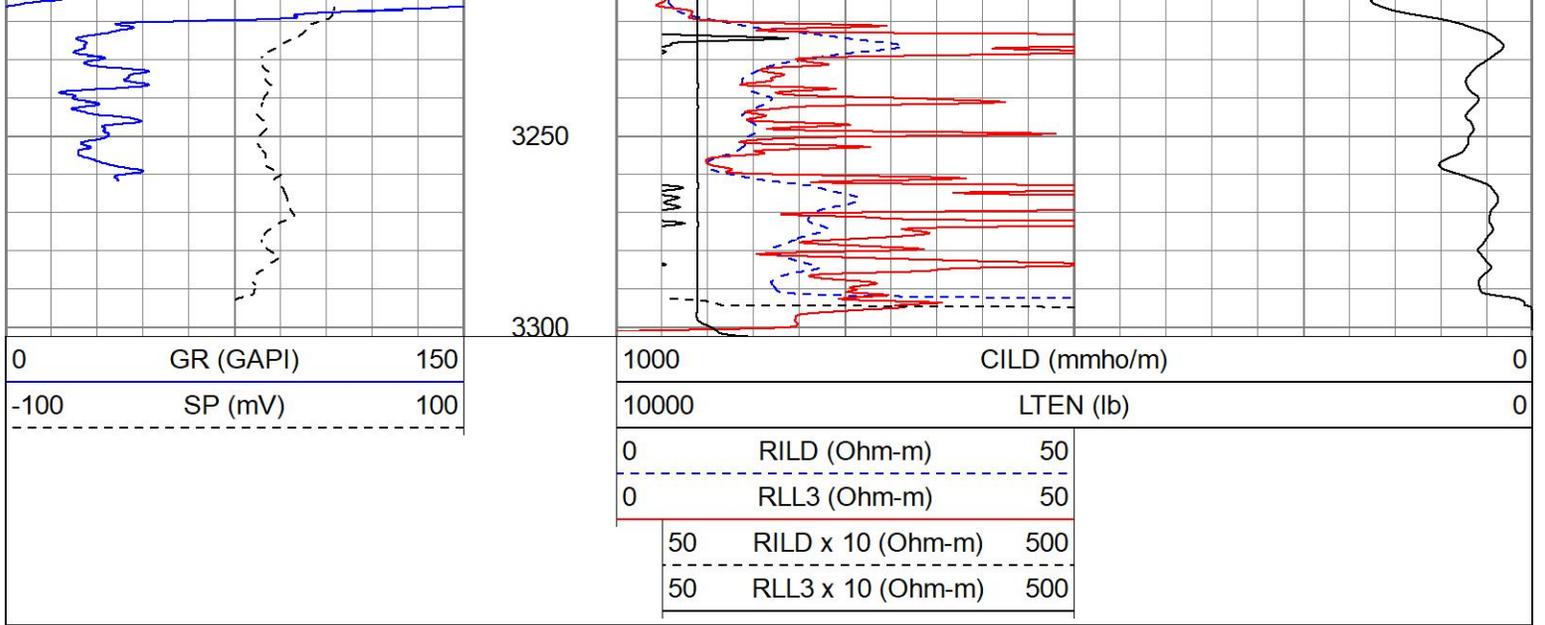
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2100





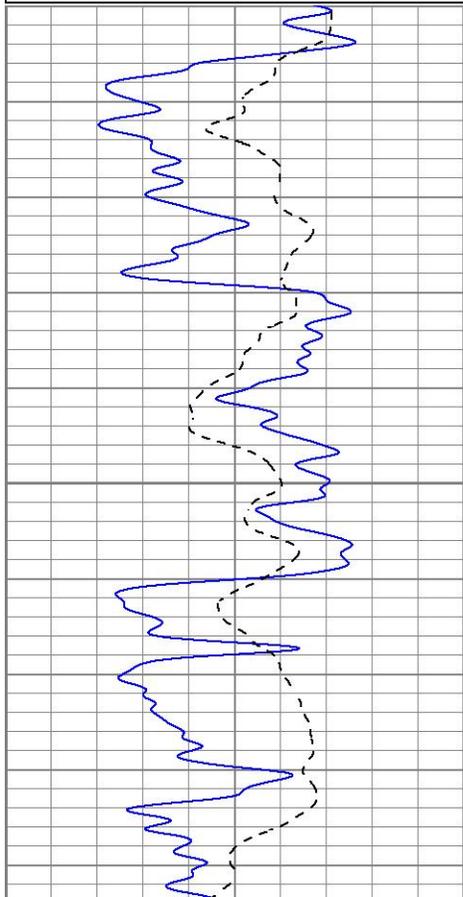




MAIN PASS

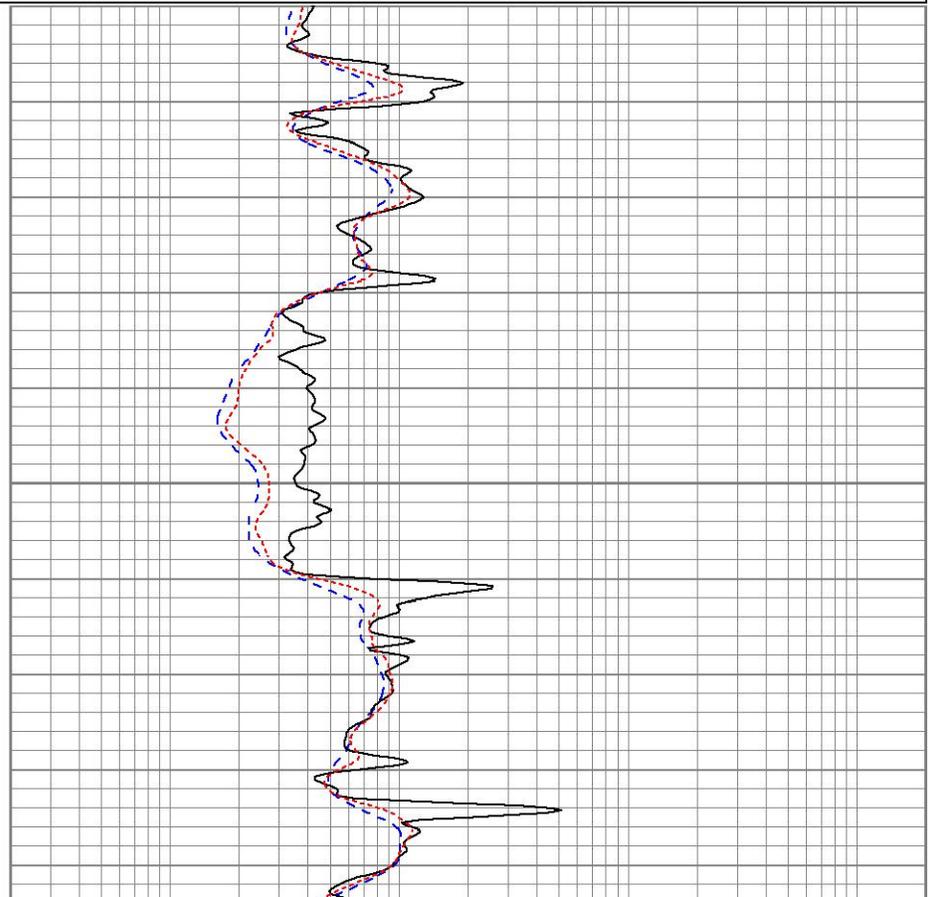
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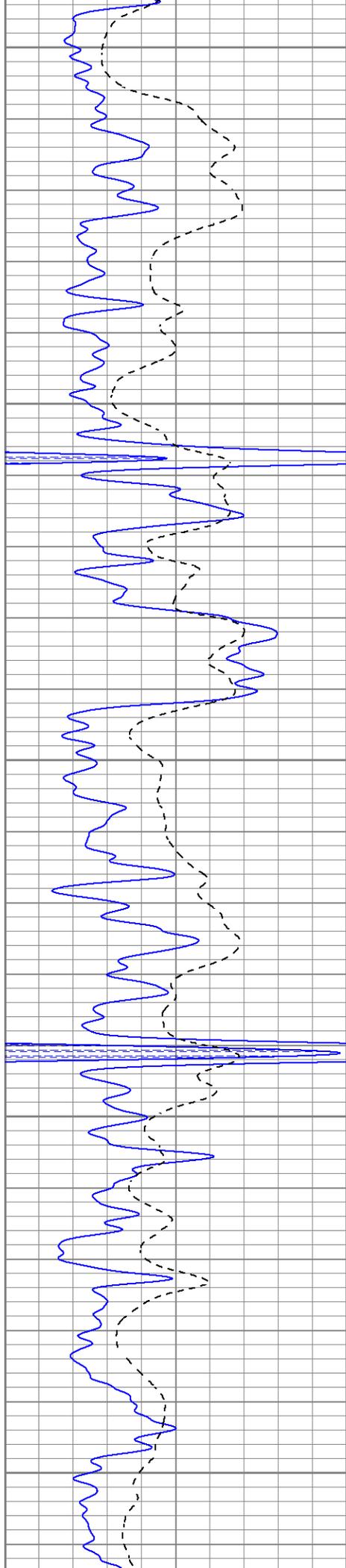
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-100	SP (mV)	100	0.2	RLL3 (Ohm-m)	2000
			0.2	RILM (Ohm-m)	2000



2400

2450





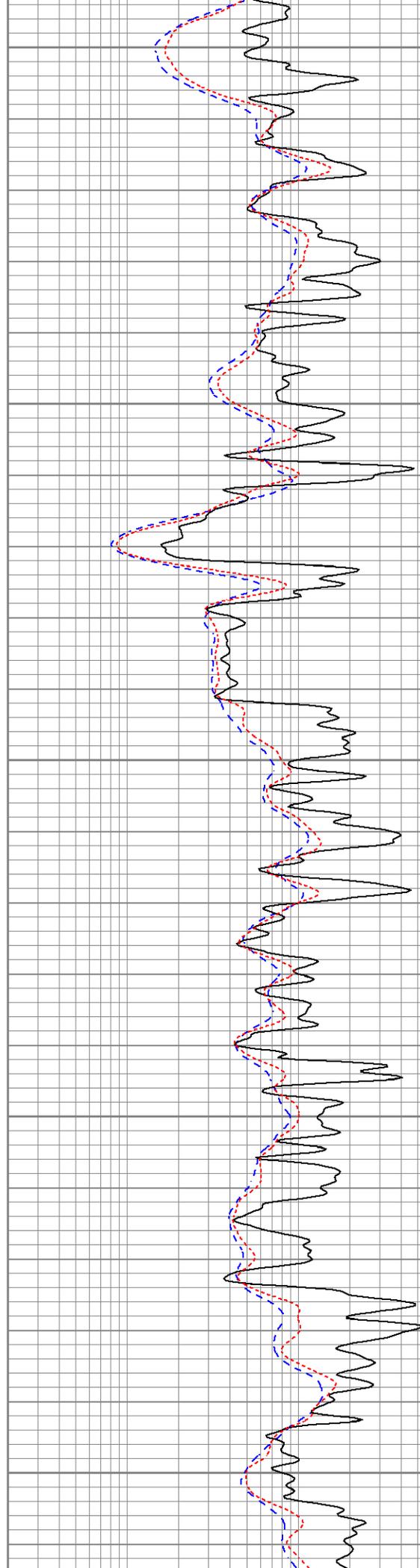
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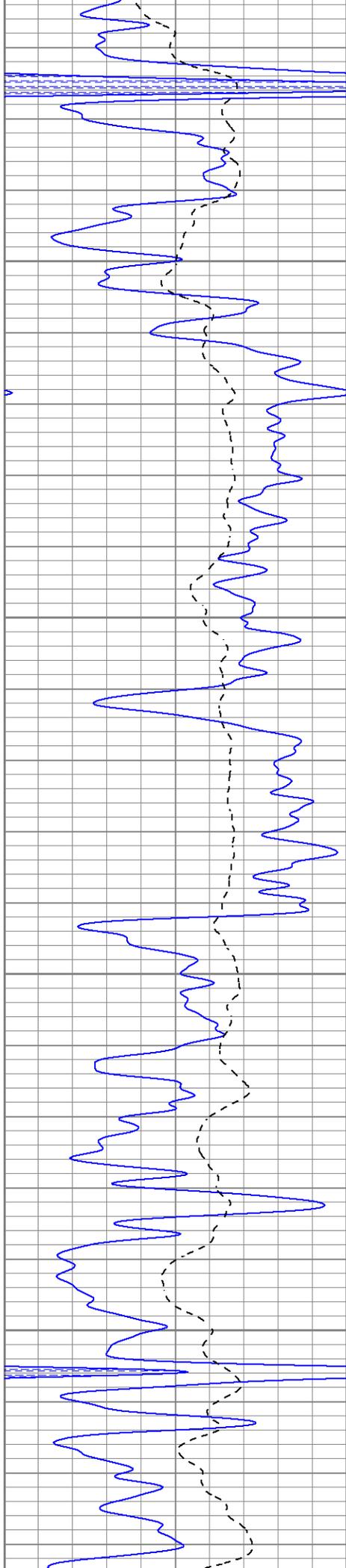
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2600

2650

2700



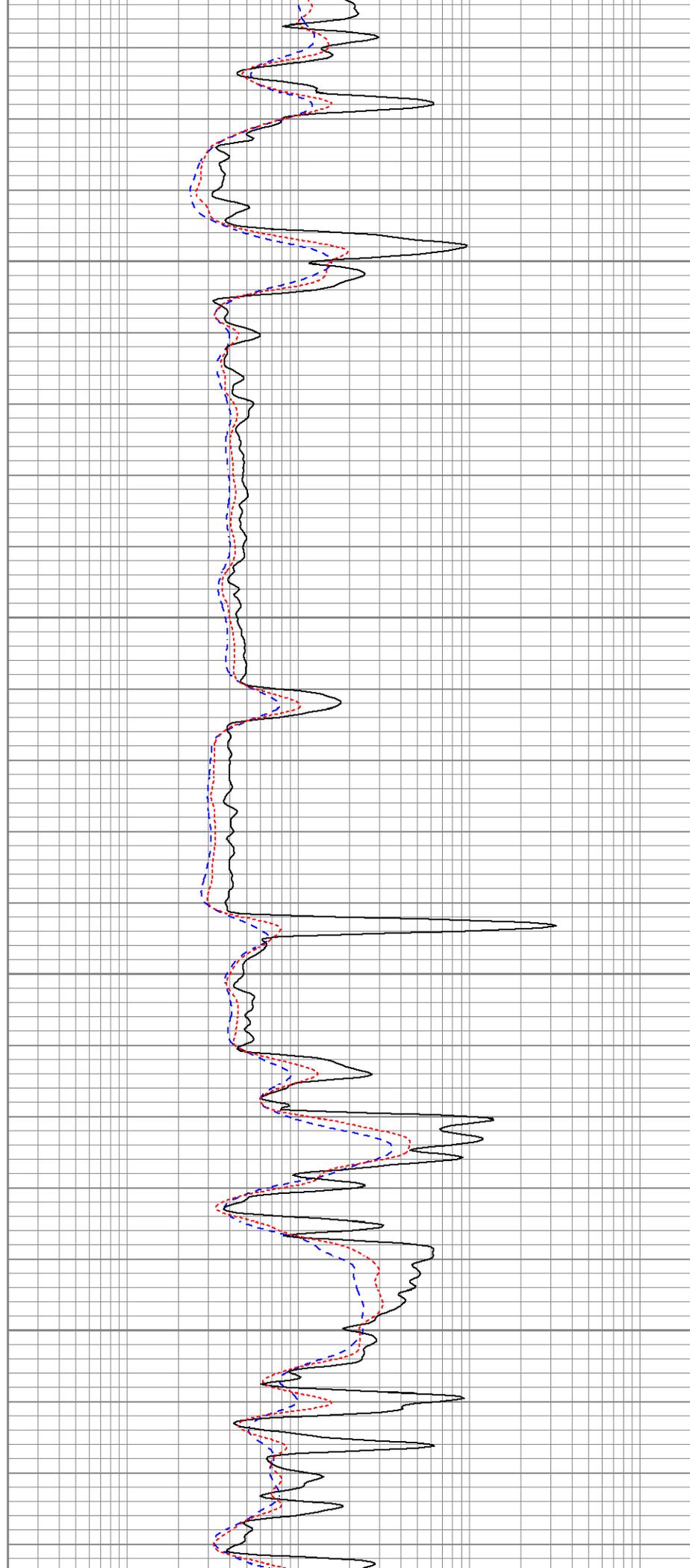


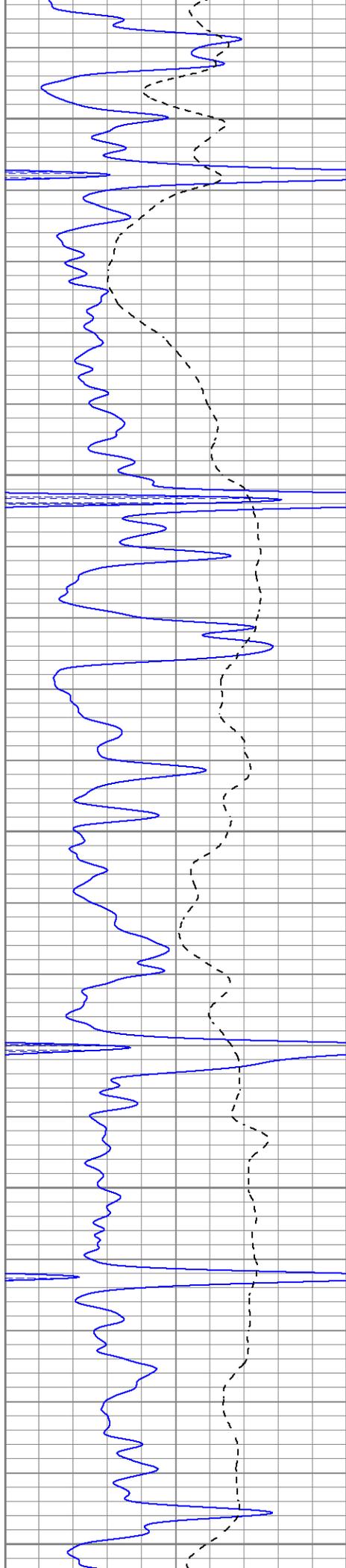
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2800

2850

2900





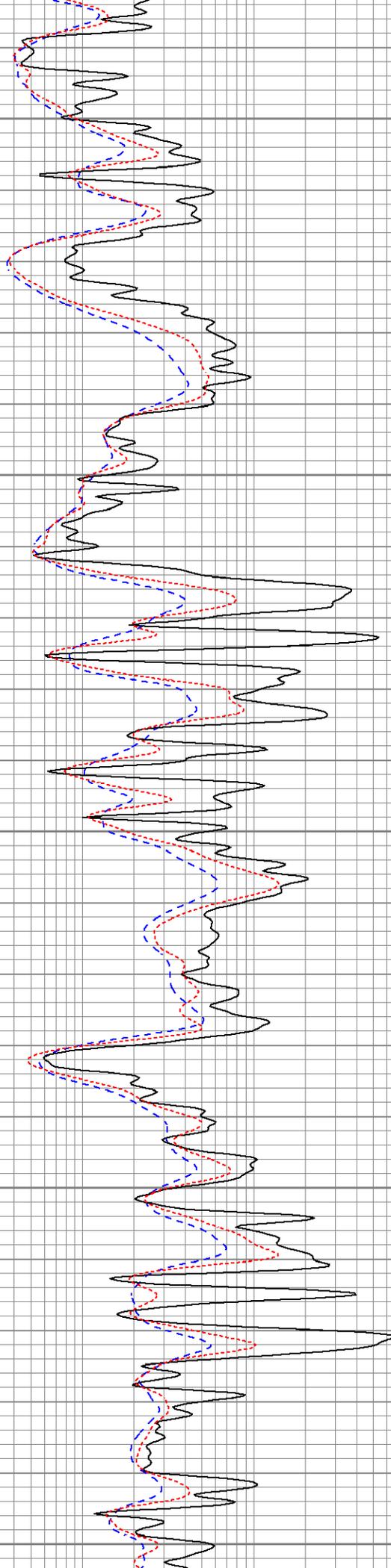
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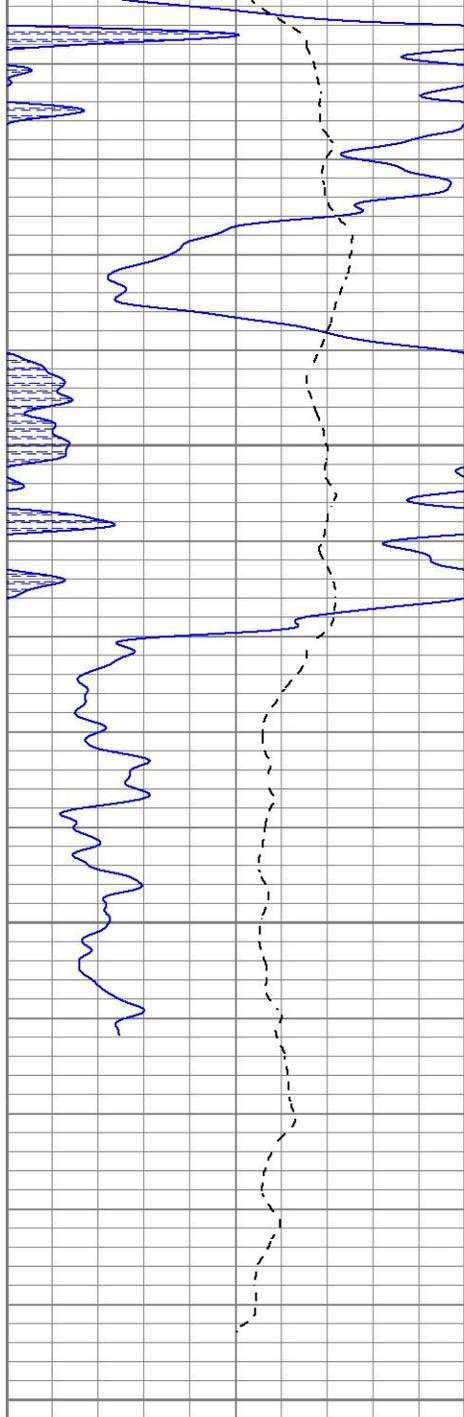
3000

3050

3100

3150



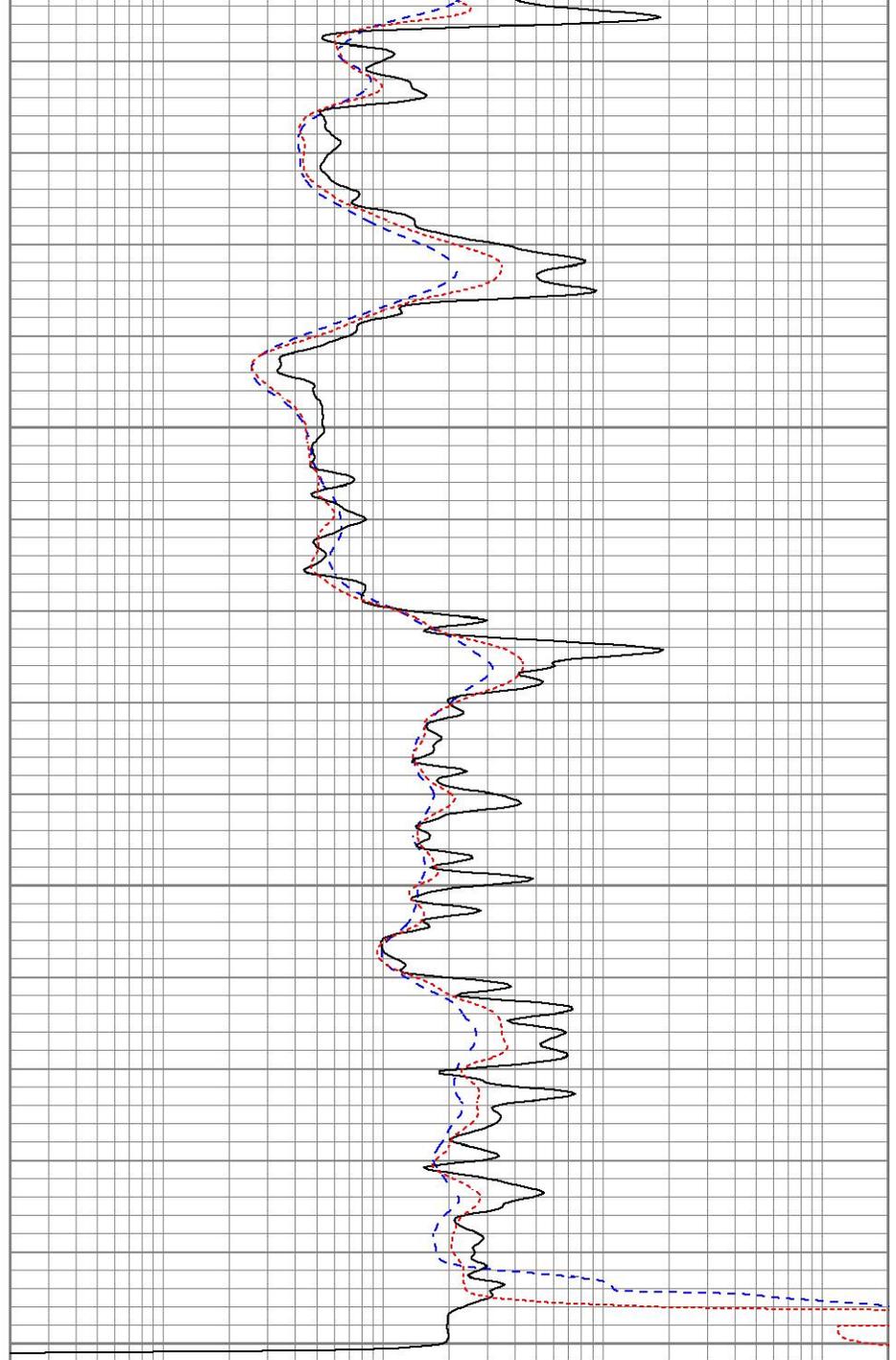


3200

3250

3300

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

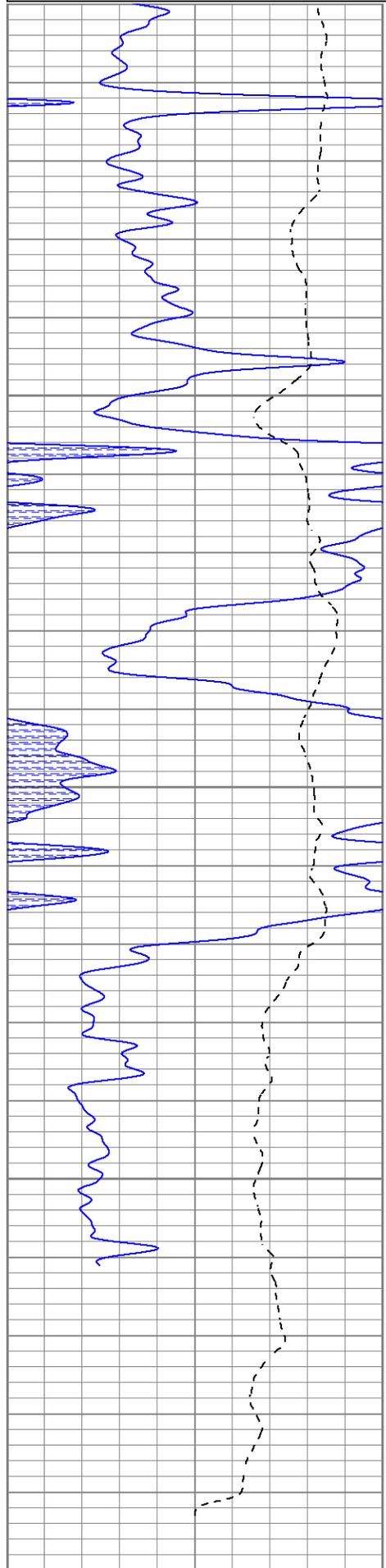


REPEAT SECTION

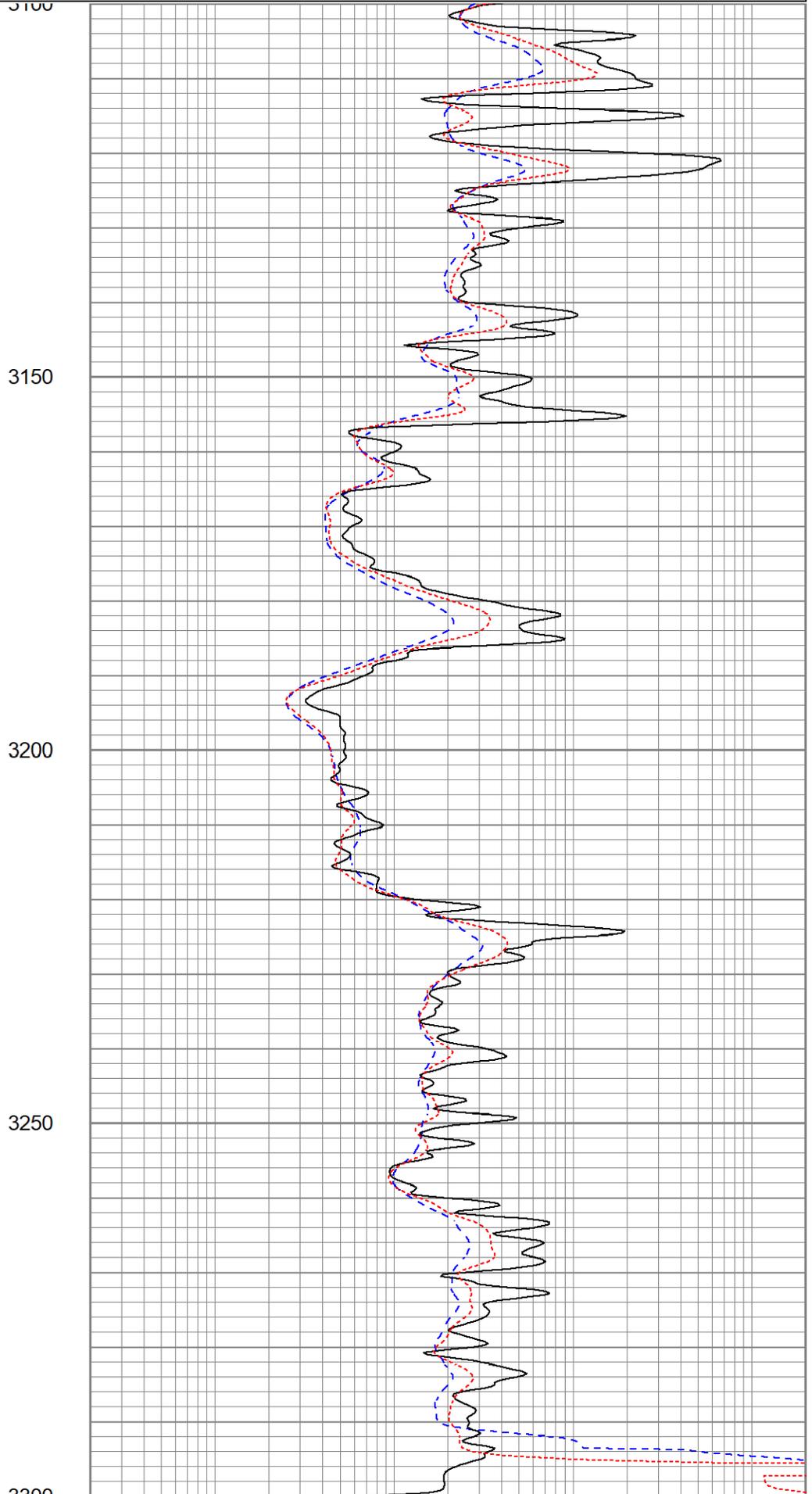
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-100	SP (mV)	100

0.2	RILD (Ohm-m)	2000
0.2	RLL3 (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

0.2

RILM (Ohm-m)

2000

3100

3150

3200

3250

3300

Calibration Report

Database File perolfs#1oh.db
 Dataset Pathname pass2.1
 Dataset Creation Sun Oct 22 09:08:00 2023

Dual Induction Calibration Report

Serial-Model: 1842-ADM
 Surface Cal Performed: Mon Sep 20 22:00:42 2021
 Downhole Cal Performed: Thu Sep 14 13:06:48 2023
 After Survey Verification Performed: Thu Sep 14 13:02:29 2023

Surface Calibration

Loop:	Readings			References			Results	
	Air	Loop		Air	Loop		m	b
Deep	0.018	0.672	V	0.000	350.000	mmho/m	535.475	-9.896
Medium	0.003	0.769	V	0.000	400.000	mmho/m	522.607	-1.745
Internal:	Zero	Cal		Zero	Cal		m	b
Deep	0.018	0.672	V	0.000	350.000	mmho/m	535.240	-9.549
Medium	0.003	0.768	V	0.000	550.000	mmho/m	718.637	-2.088

Downhole Calibration

Internal:	Readings			References			Results	
	Zero	Cal		Zero	Cal		m	b
Deep	-0.210	349.810	mmho/m	-0.343	349.810	mmho/m	1.000	-0.133
Medium	6.952	396.760	mmho/m	-0.226	399.745	mmho/m	1.026	-7.360
Shallow	2.495	0.026	V	500.000	2.000	Ohm-m	201.711	-3.319

After Survey Verification

Internal:	Readings			Targets			Results	
	Zero	Cal		Zero	Cal		m'	b'
Deep	0.000	0.000	mmho/m	32.030	5.643	mmho/m	1.000	-0.133
Medium	0.000	0.000	mmho/m	6.952	396.760	mmho/m	1.026	-7.360
Shallow	0.000	0.000	Ohm-m	500.000	2.000	Ohm-m	1.000	0.000

Admyr Lithodensity Calibration Report

Serial-Model: 2388LITHO_C-C
 Source:
 Master Calibration Performed: Wed Jun 14 10:24:55 2023

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.710	g/cc	5158.10	4098.81	cps
Aluminium	2.590	g/cc	1460.99	2839.08	cps
Aluminium+Sleeve	2.541	g/cc	1358.84	2495.91	cps

Spine Angle = 73.77

Density/Spine Ratio = 0.670

	PE		NLITH	NHARD	
Magnesium	2.000	barn	2520.00	1620.00	cps

Sensor	Onset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	38.31		CHD-STD	0.50	1.69	1.00
ACCY	37.15		ADT-WMC (WithMC) Admyr Telemetry With Mudcell	4.58	3.50	120.00
ACCX	37.15					
SSTAT	36.73					
PSTAT	35.90					
ASTAT	35.90					
GRD	35.06		NEU-ADMY5139 (AD5139) Admyr NEU DIGITAL	5.65	3.50	50.00
TEMP	35.06					
NEU	31.03					
LSTAT	21.88					
LS_HV	21.86					
LS8	21.86					
LS7	21.86		ADT1LITH-C (2388LITHO_C) Real Time Litho Tool	9.29	3.50	240.00
LS6	21.86					
LS5	21.86					
NHARD	21.86					
LSD	21.86					
LS2	21.86					
NLITH	21.86					
LSV	21.61					
DCAL	21.61					
SS_HV	21.27					
SSV	21.27					
SS8	21.27	DIL-ADM (1842) Dual Induction	19.71	4.00	300.00	
SS7	21.27					
SS6	21.27					
SS5	21.27					
SS4	21.27					
SSD	21.27					
SS2	21.27					
SS1	21.27					
SP	10.60					
CILD	10.60					
CILM	6.89	Dataset: perofls#1oh.db: field/well/run1/pass2.1				
RLL3	1.70	Total length: 39.73 ft				
TR_Mon	0.00	Total weight: 711.00 lb				
		O.D.: 4.00 in				