MIDWEST WIRELINE

DUAL INDUCTION LOG

Company Cobalt Energy, LLC
Well Braun Unit #1-21
Field
County Graham State Kansas

Location: API # : 15-065-24285-00-00
NW NW SW NW
1522 FNL & 259 FWL
SEC 21 TWP 10S RGE 22W

Other Services: CNL/CDL, MEL

Permanent Datum: Ground Level — Elevation: 2315
Log Measured From: Kelly Bushing
Drilling Measured From: Kelly Bushing

Elevation: K.B. 2320, D.F., G.L. 2315

Date	10/8/2023		
Run Number	One		
Depth Driller	3870		
Depth Logger	3868		
Bottom Logged Interval	3867		
Top Log Interval	200		
Casing Driller	8.625 @ 220		
Casing Logger	215		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity,ppm CL	1800		
Density / Viscosity	9.2 / 57		
pH / Fluid Loss	10.0 / 6.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.50 @ 85		
Rmf @ Meas. Temp	0.38 @ 85		
Rmc @ Meas. Temp	0.68 @ 85		
Source of Rmf / Rmc	CHARTS		
Rm @ BHT	0.34 @ 126		
Operating Rig Time	3 Hours		
Max Rec. Temp. F	126		
Equipment Number	P-108		
Location	HAYS		
Recorded By	D. Schmidt		
Witnessed By	Larry Nicholson		

<<< Fold Here >>>

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

Wakeeney,
North to D Rd (Graham County),
4 East, South into

39.171756859 -99.791031651

Log Measured From: Kelly Bushing 5 Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC
785-625-3858

Your Midwest Wireline Crew	This Log Record Was Witnessed By
Engineer: D. Schmidt	Primary Witness: Larry Nicholson
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
GR	40.23		GR-M&W (105)	3.00	3.50	50.00
CNLSC	37.13		CNT-M&W (210)	5.00	3.50	100.00
CNSSC	36.38					
			MWLith-STEP LITHO Short (701-01)	8.40	5.00	250.00
LCAL	28.21					
LLW8N	28.21					
LLW7N	28.21					
LLW6N	28.21					
LLW5N	28.21					
LLW4N	28.21					
LLW3N	28.21					
LLW2N	28.21		ML-PSI STKBL ML (402)	7.58	4.00	65.00
LLW1N	28.21					
LSLOCK	27.96					
LLLOCK	27.96					
PELTMPR	27.96					
LSHVNG	27.96					
LLHVNG	27.96					
LSW8N	27.71					
LSW7N	27.71					
LSW6N	27.71					
LSW5N	27.71					
LSW4N	27.71					
LSW3N	27.71					
LSW2N	27.71					
LSW1N	27.71					
MCAL	19.58		DIL-M&W (505 HT)	18.25	3.50	220.00
MI	19.58					
MN	19.58					
RLL3F	15.50					
RLL3	15.50					
CILD	8.33					
CILM	4.50					
SP	0.20					

Dataset: cobalt_braun unit 1-21.db: field/well/stkml/pass3.5
Total length: 42.23 ft
Total weight: 685.00 lb
O.D.: 5.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\cobalt_braun unit 1-21.db
Dataset field/well/stkml/pass3.5/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	126	5.5	0	1	2	2.71

NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	No	-13.6	-17	342	85	Off	3868

Variable Description

A : Cement Factor (a)
BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
FLUIDDEN : Fluid Density
M : Cement Exp (m)
MATRXDEN : Matrix Density
NPORSEL : Neutron Porosity Curve Select
PERFS : Perforation Flag
SNDERR : Deep Sonde Error Correction
SNDERRM : Medium Sonde Error Correction
SPSHIFT : S.P. Baseline Offset
SRFTEMP : Surface Temperature
SZCOR : CN Size Cor. ?
TDEPTH : Total Depth

MIDWEST WIRELINE

2" SCALE RESISTIVITY

MAIN PASS

Database File	cobalt_braun unit 1-21.db
Dataset Pathname	stkml/pass3.3
Presentation Format	_dil2in
Dataset Creation	Sun Oct 08 17:33:17 2023
Charted by	Depth in Feet scaled 1:600

0 Gamma Ray (GAPI) 300

1000 Conductivity (mmho/m) 0

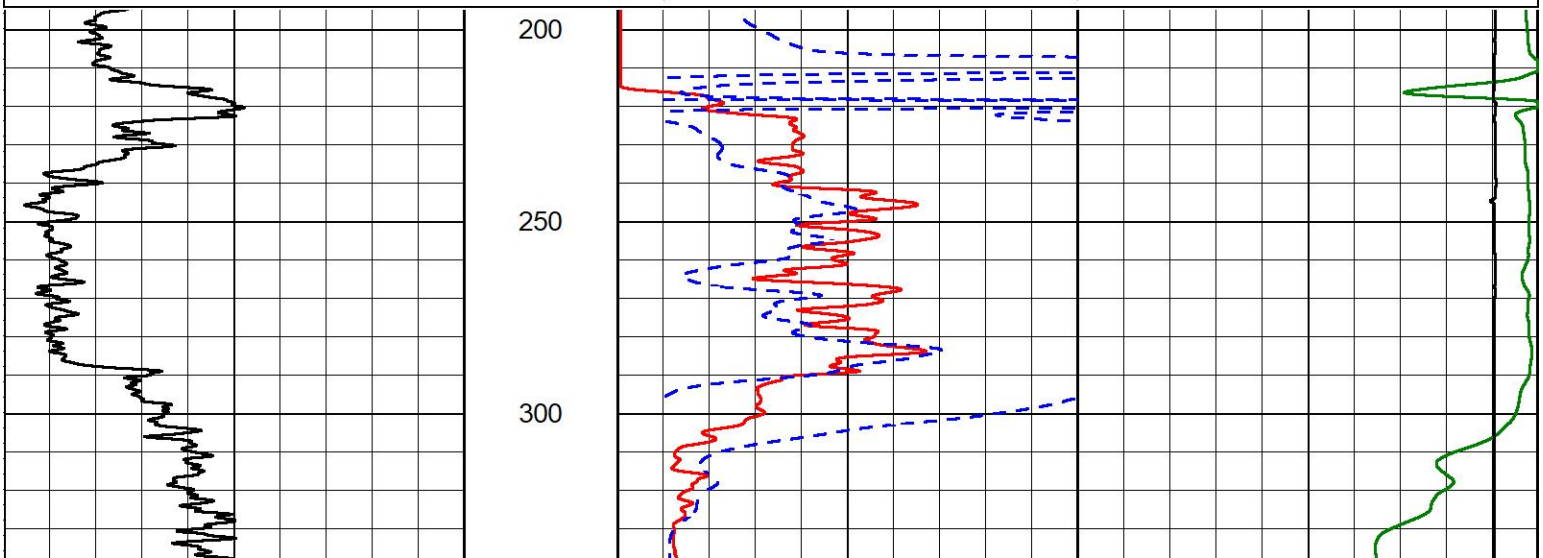
15000 Line Tension (lb) 0

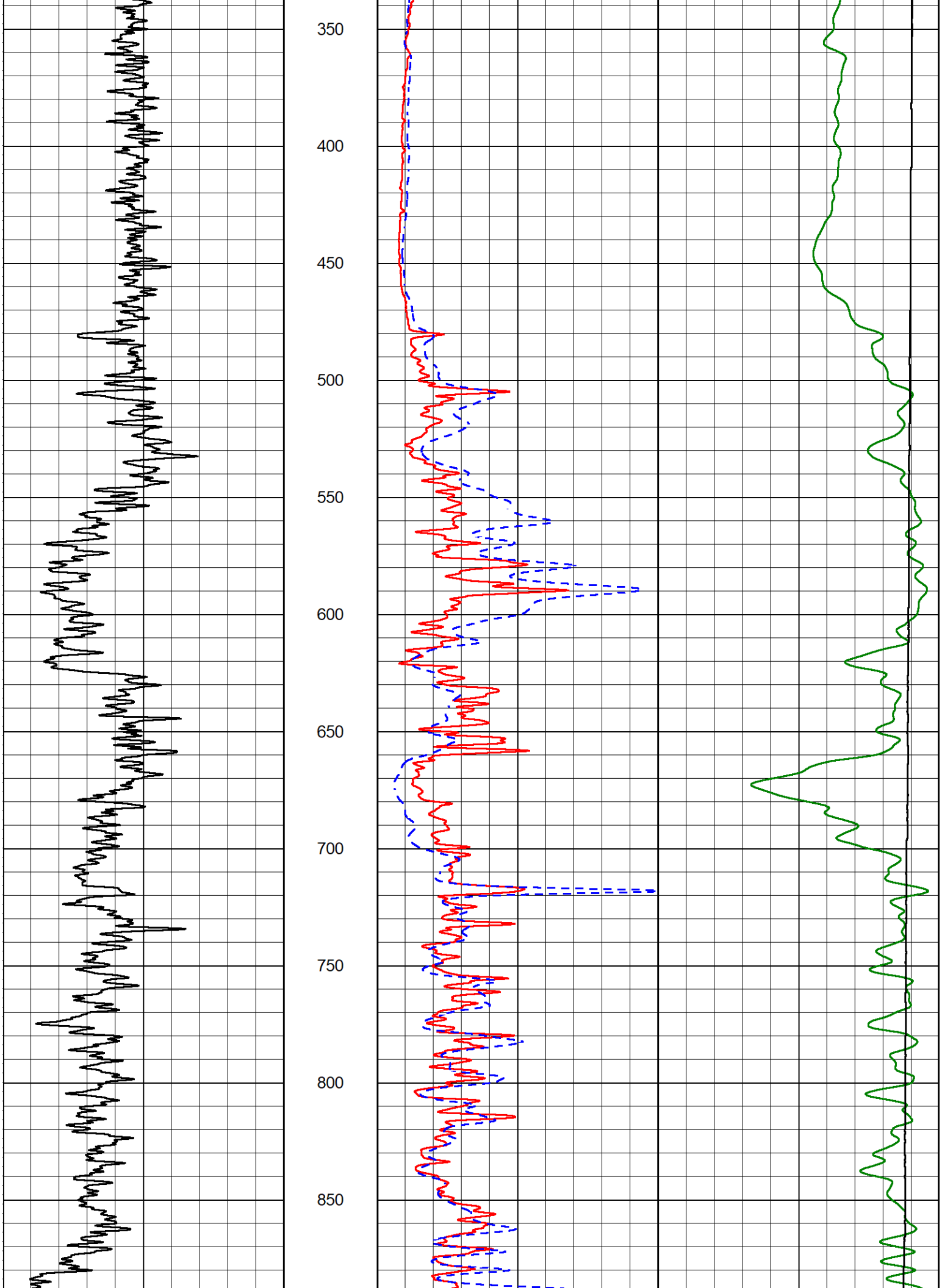
0 Shallow Resisitivity (Ohm-m) 50

0 Deep Resistivity (Ohm-m) 50

Shallow Resistivity
50 (Ohm-m) 200

50 Deep Resistivity (Ohm-m) 200

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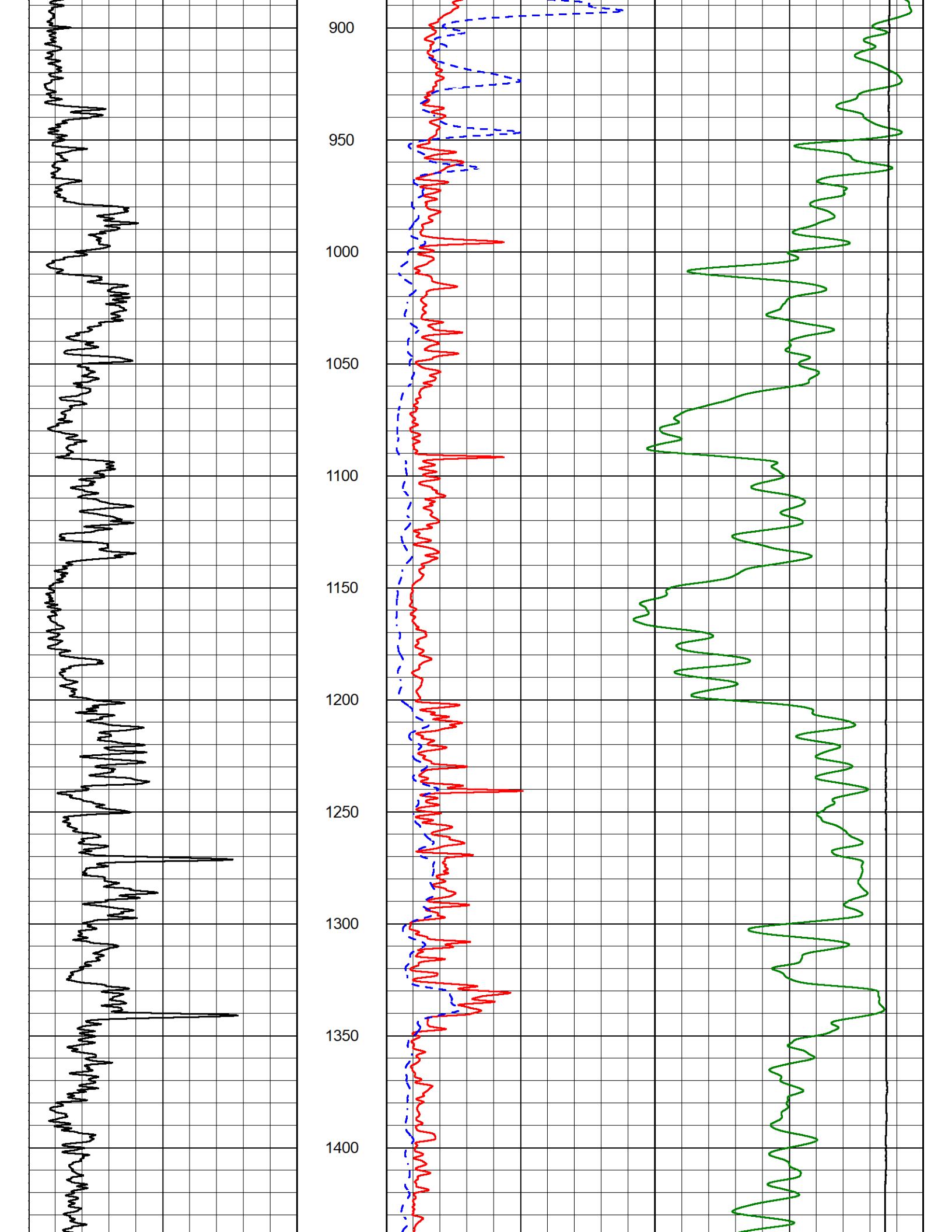
500
550
600
650
700
750
800
850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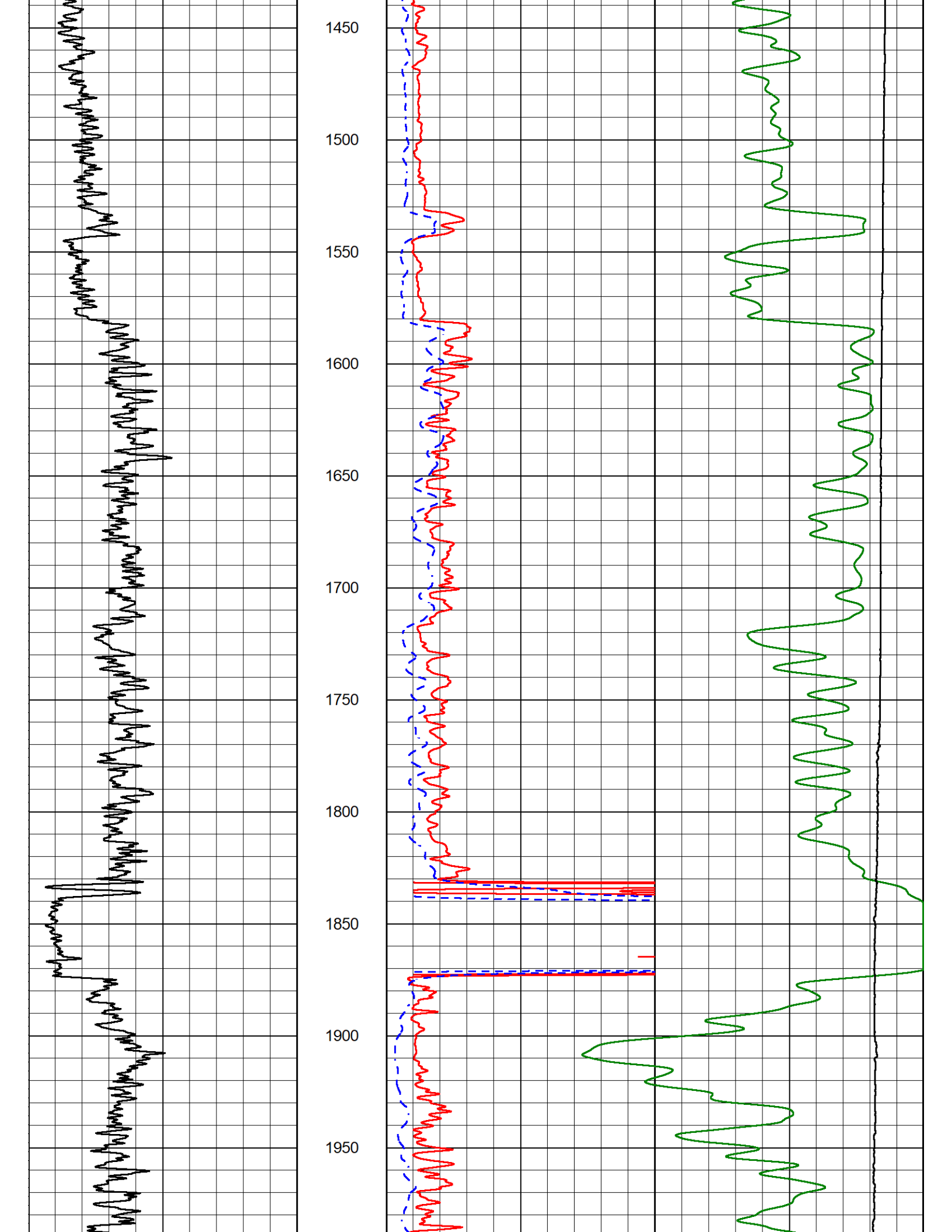
950
1000
1050
1100
1150
1200
1250
1300
1350
1400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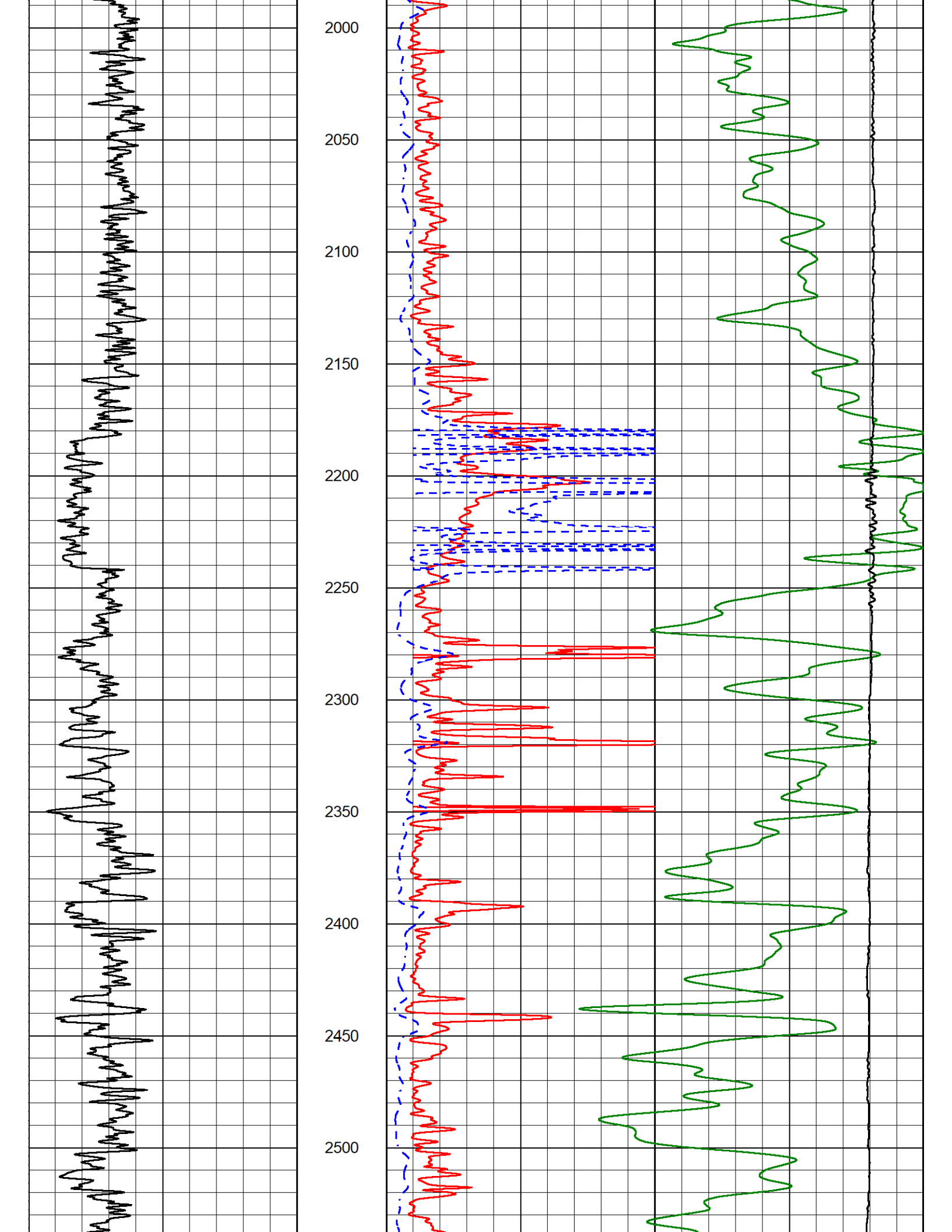
1500
1550
1600
1650
1700
1750
1800
1850
1900
1950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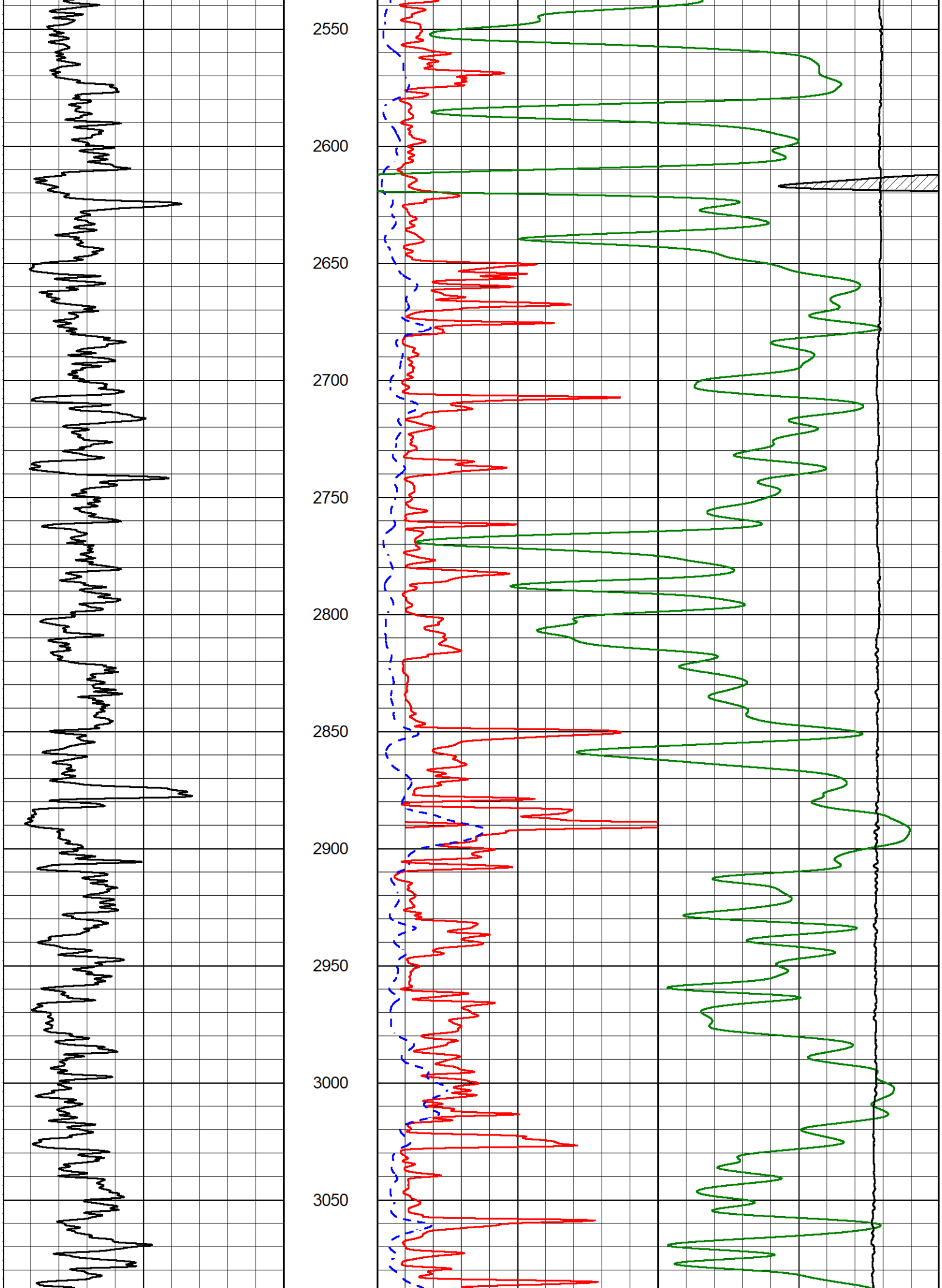
2050
2100
2150
2200
2250
2300
2350
2400
2450
2500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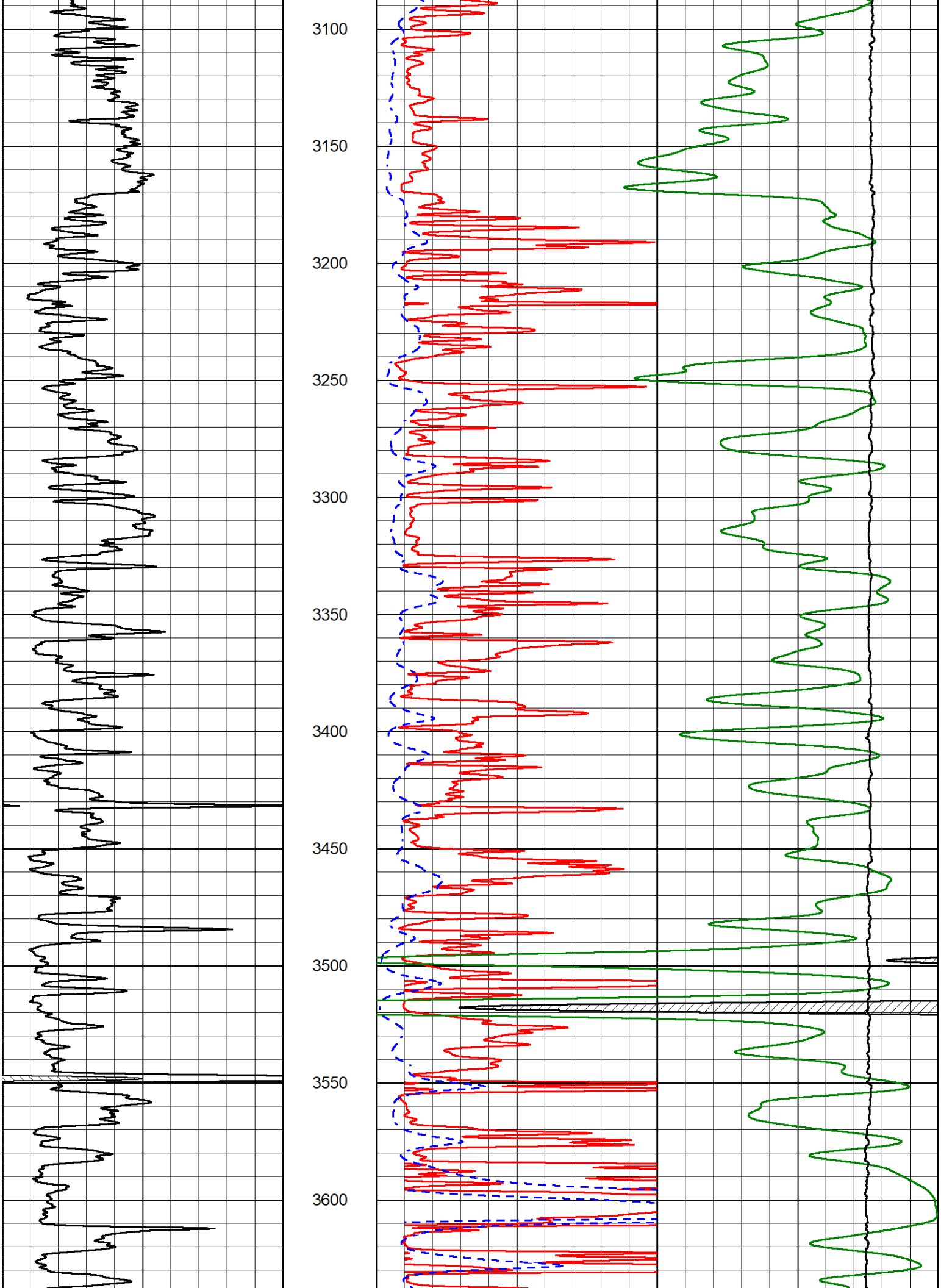
2650
2700
2750
2800
2850
2900
2950
3000
3050


3100
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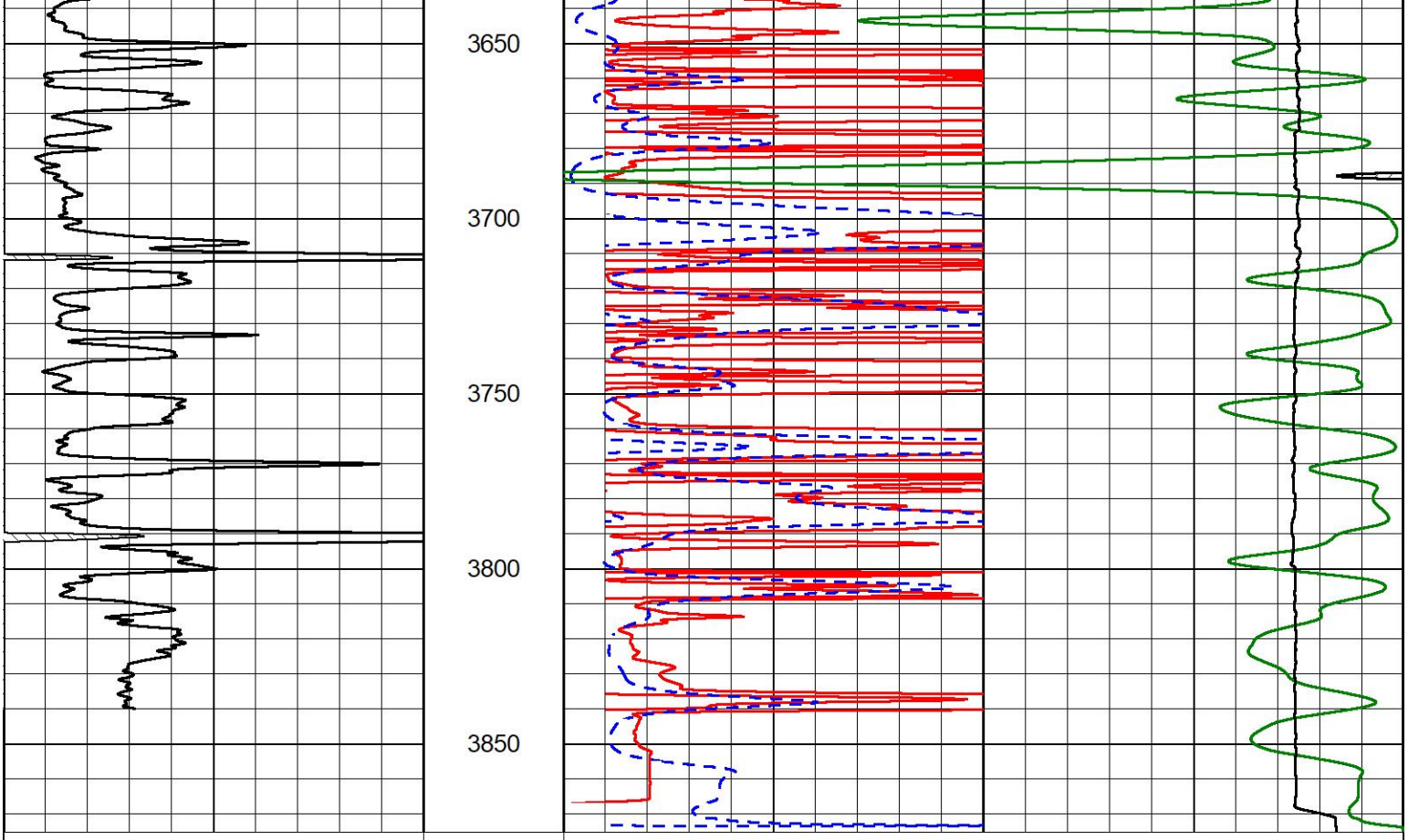
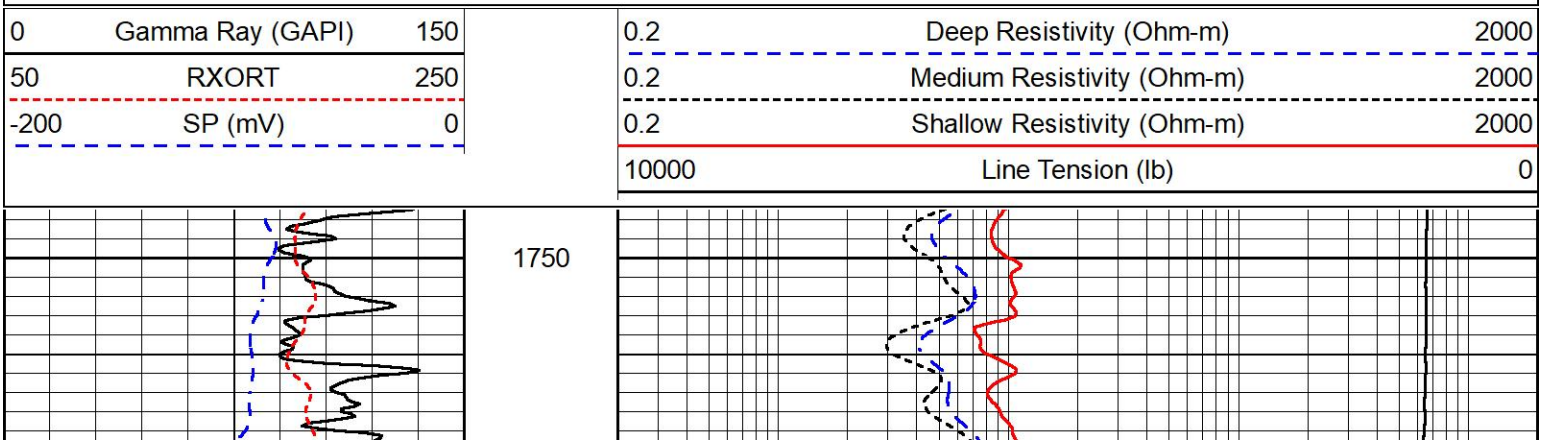
3250
3300
3350
3400
3450
3500
3550
3600

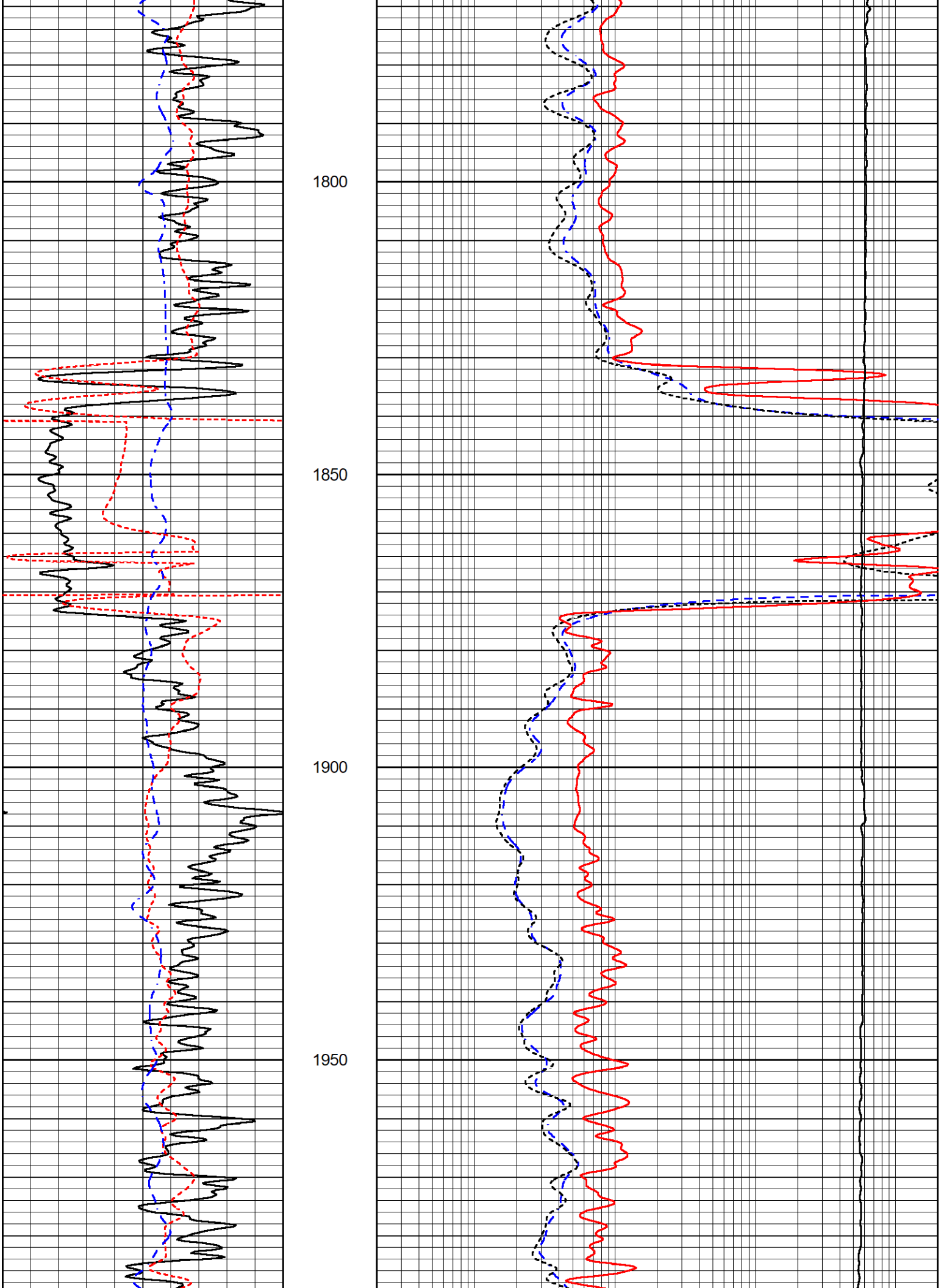


ANHYDRITE SECTION

MAIN PASS

Database File	cobalt_braun unit 1-21.db
Dataset Pathname	stkml/pass3.4
Presentation Format	_dil
Dataset Creation	Sun Oct 08 17:33:31 2023
Charted by	Depth in Feet scaled 1:240

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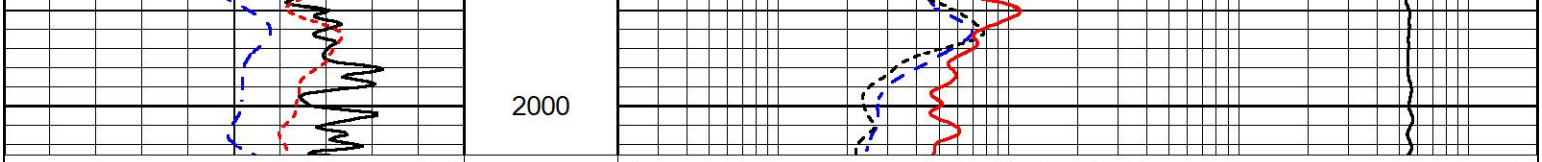
1850
1900
1950



0	Gamma Ray (GAPI)	150
50	RXORT	250
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

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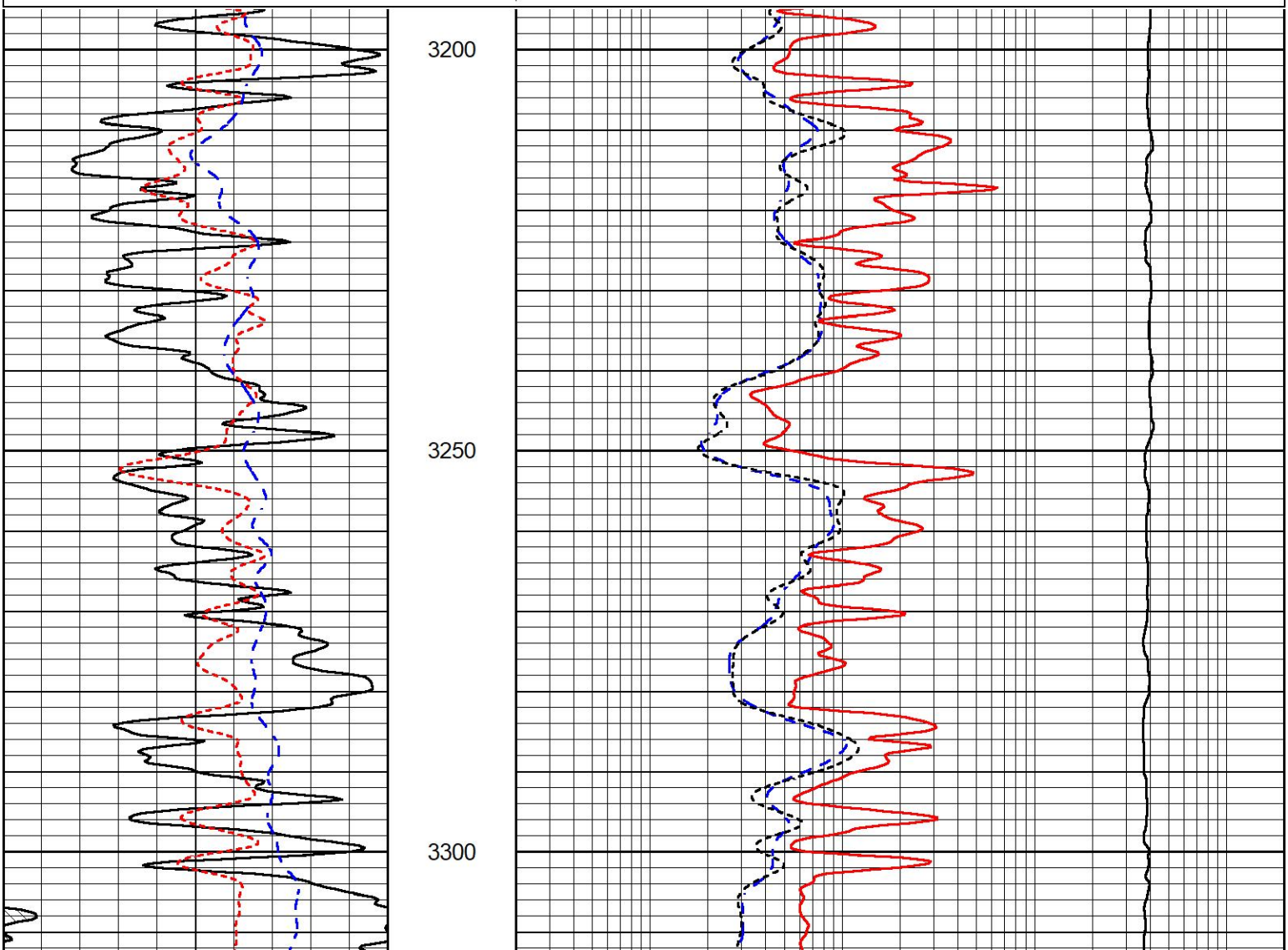
DETAIL SECTION

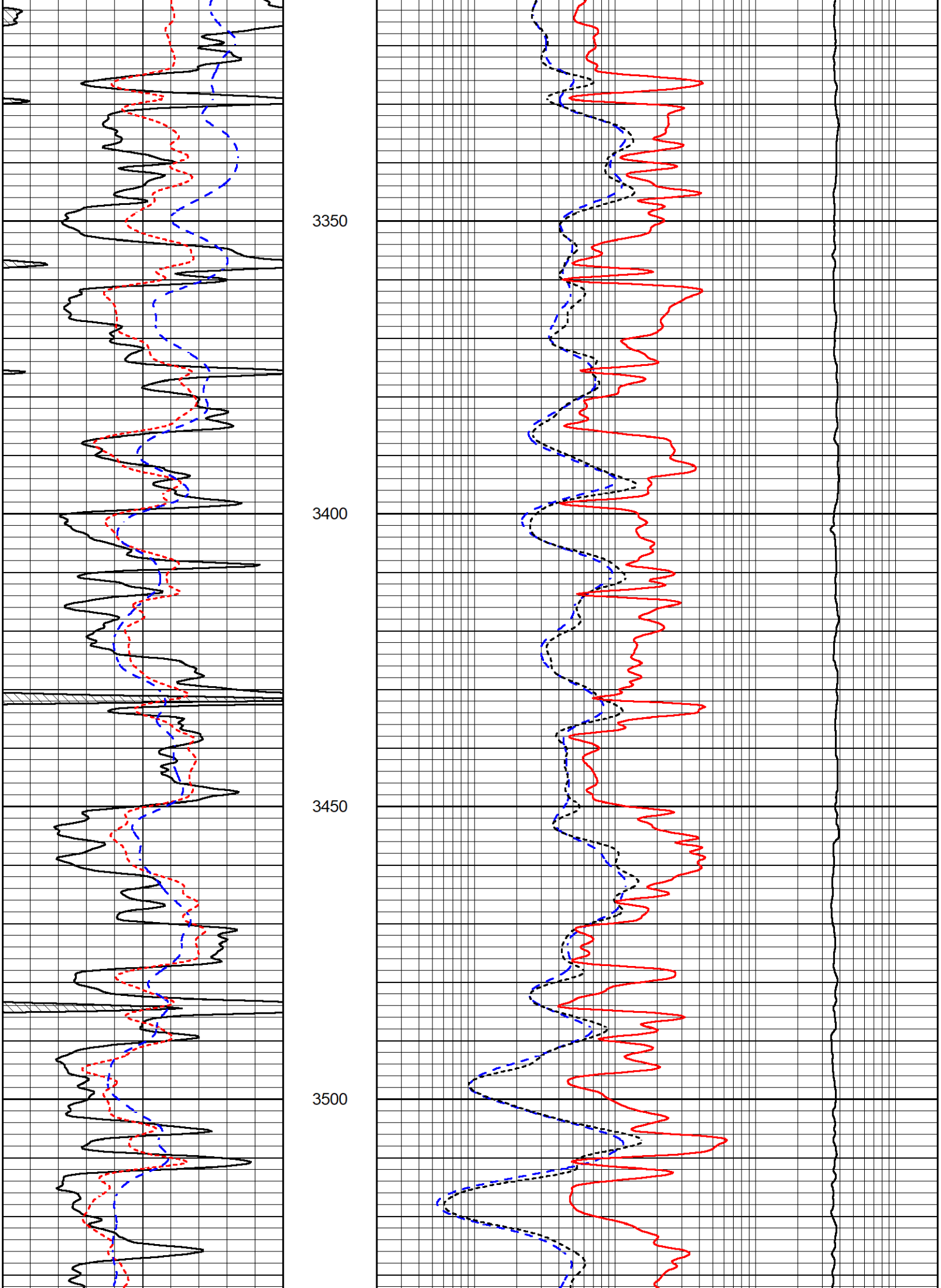
MAIN PASS

Database File	cobalt_braun unit 1-21.db
Dataset Pathname	stkml/pass3.1
Presentation Format	_dil
Dataset Creation	Sun Oct 08 17:33:03 2023
Charted by	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
50	RXORT	250
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

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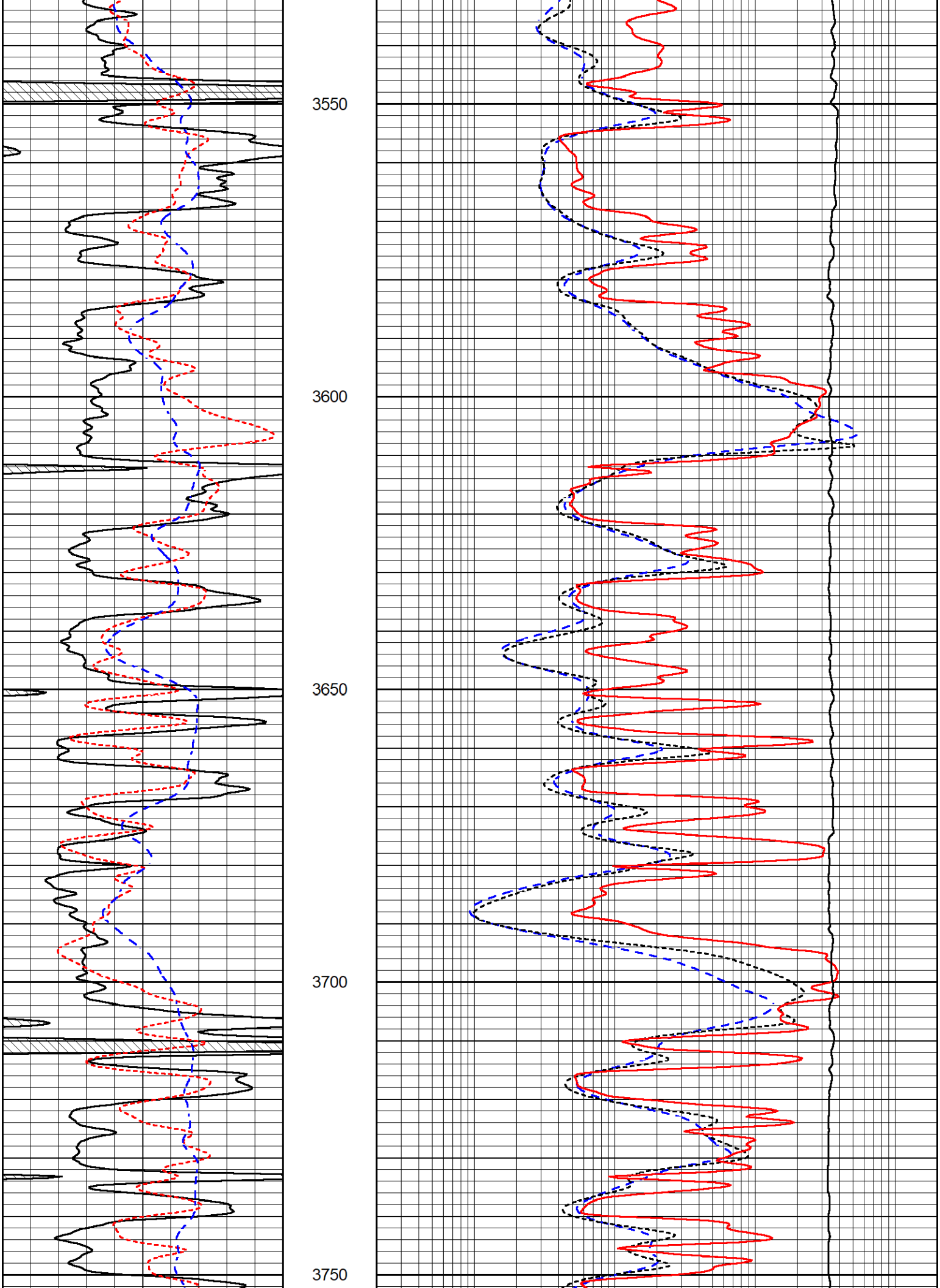
3500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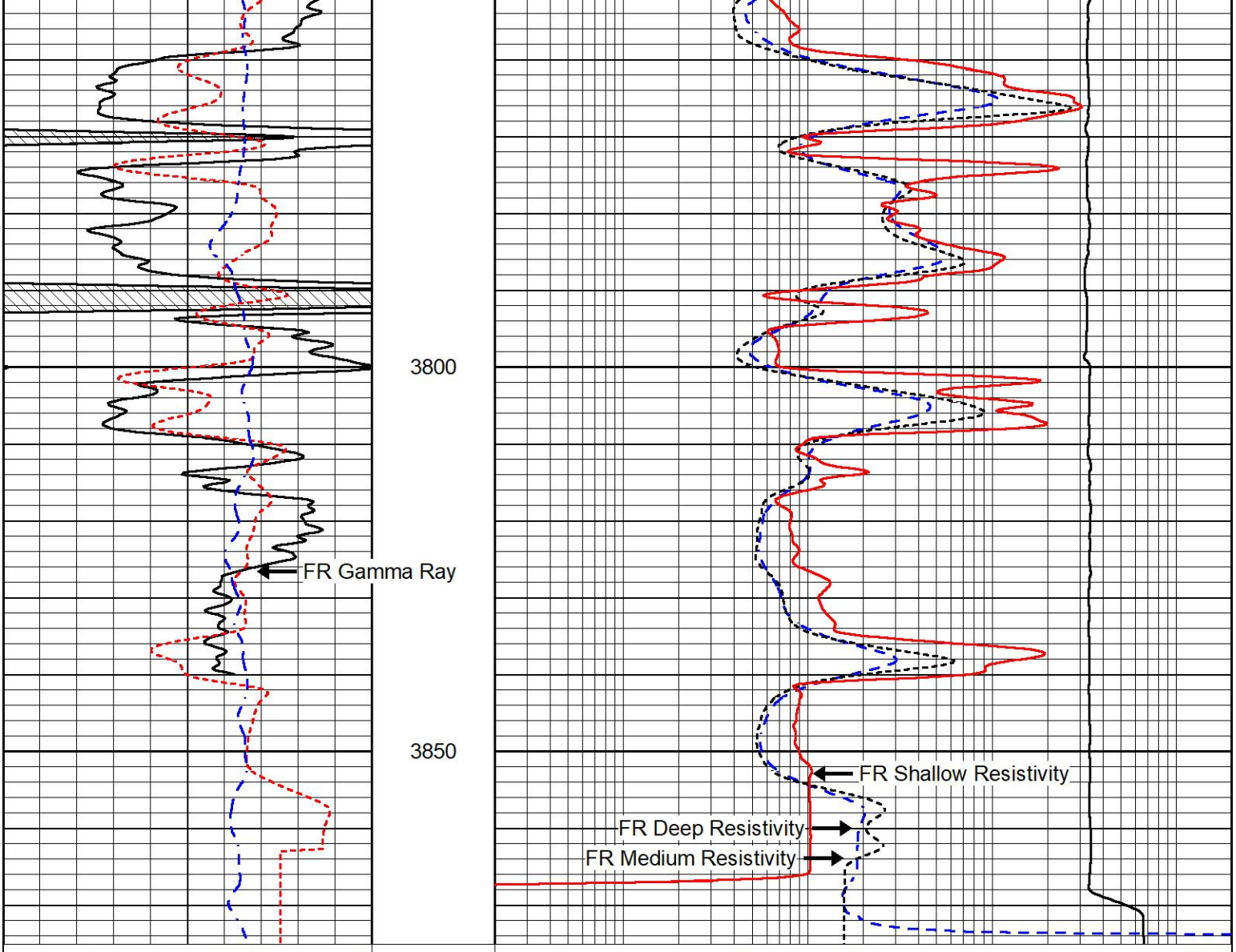


0	Gamma Ray (GAPI)	150
50	RXORT	250
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

MIDWEST WIRELINE

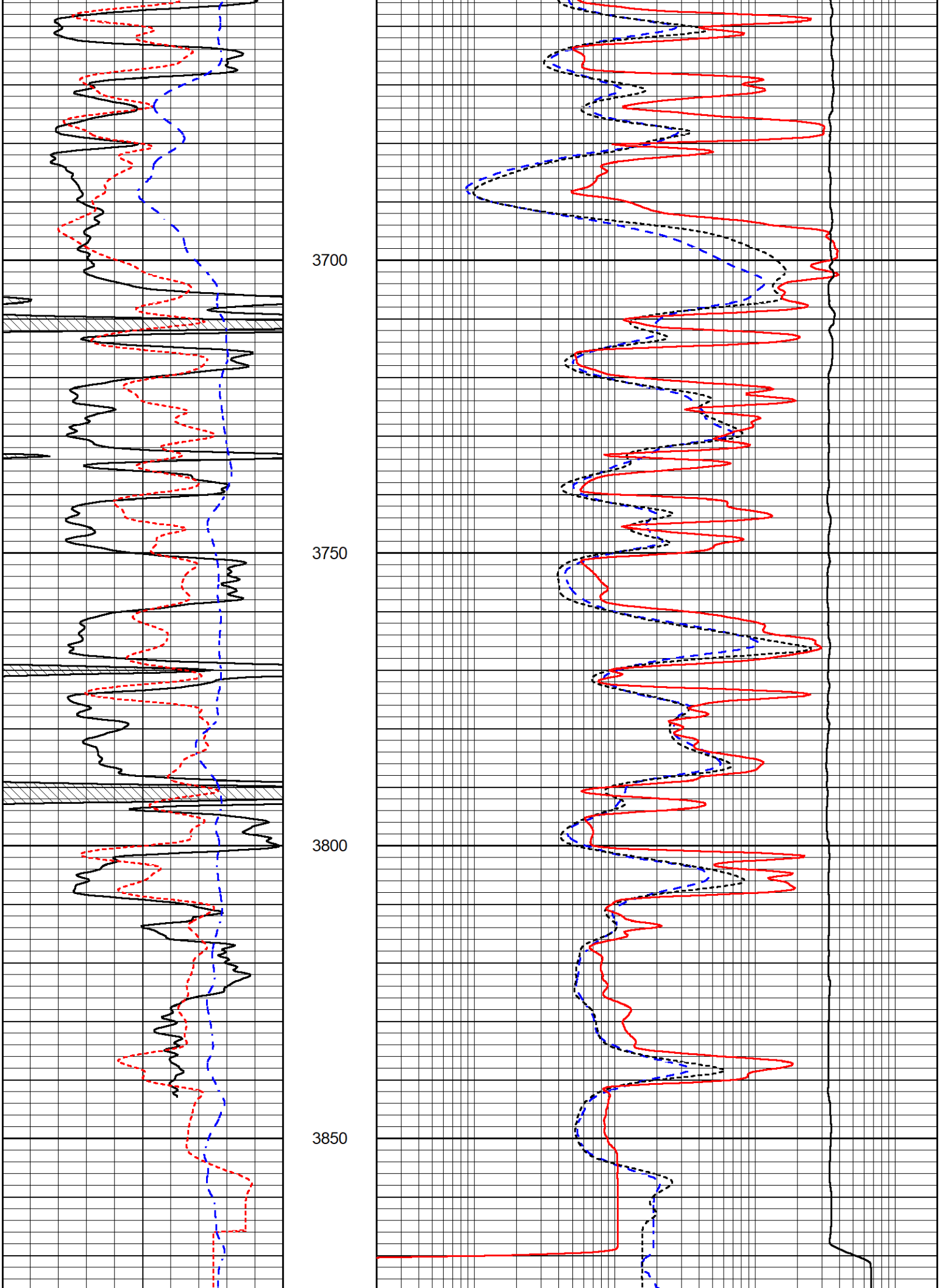
REPEAT SECTION

REPEAT PASS

Database File	cobalt_braun unit 1-21.db
Dataset Pathname	stkml/pass2.1
Presentation Format	_dil
Dataset Creation	Sun Oct 08 16:48:42 2023
Charted by	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
50	RXORT	250
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0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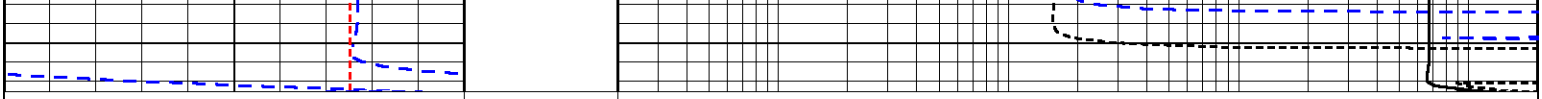
3850



0	Gamma Ray (GAPI)	150
50	RXORT	250
-200	SP (mV)	0

0.2	Deep Resistivity (Ohm-m)	2000
0.2	Medium Resistivity (Ohm-m)	2000
0.2	Shallow Resistivity (Ohm-m)	2000
10000	Line Tension (lb)	0

Calibration Report

Database File cobalt_braun unit 1-21.db
Dataset Pathname stkml/pass3.5
Dataset Creation Sun Oct 08 17:01:09 2023

Dual Induction Calibration Report

Serial-Model: 505 HT-M&W
Surface Cal Performed: Fri Aug 11 21:22:17 2023

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		m	b
Deep	167.000	835.000	0.000	255.800	mmho/m	0.480	-42.000
Medium	1348.000	1348.000	0.000	255.800	mmho/m	0.410	-40.000

Microlog Calibration Report

Serial-Model: 402-PSI STKBL ML
Performed: Sat Sep 23 14:09:43 2023

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0037	0.0043	0.0000	10.0000	Ohm-m	31000.0000	-0.5000
Inverse	0.1208	0.0013	0.0000	10.0000	Ohm-m	29000.0000	0.3000
Caliper	1.0046	1.1419	5.5000	20.0000	in	50.0000	-44.4400

LITHODENSITY Calibration Report

Serial Number: 701-01
Tool Model: STEP LITHO Short
Performed: Wed Aug 16 15:02:56 2023

Source:

	Win1	Win2	Win3	Win4	Win5	Win6	Win7	Win8	
Background:									
SS:	52	53	205	255	24	69	44	1	cps
LS:	81	85	334	425	46	135	88	2	cps
Aluminum:									
SS:	774	936	2171	1967	43	73	44	2	cps
LS:	847	1595	3011	1457	56	137	87	5	cps
Magnesium:									
SS:	1271	1508	3520	2831	46	71	45	3	cps
LS:	3600	6590	11760	4608	88	128	83	13	cps
Aluminum+Iron:									
SS:	492	651	1805	1706	40	72	44	2	cps
LS:	499	1107	2530	1299	53	134	86	4	cps

	Density Actual	Calibrated		PE Actual	Calibrated	Quality
Background:						
SS:						0.222
LS:						0.212
Aluminum:						
SS:	2.6000	2.6000	g/cc			0.248
LS:	2.6000	2.6000	g/cc			0.220
Magnesium:						
SS:	1.6800	1.6800	g/cc	2.5700	2.5700	0.222
LS:	1.6800	1.6800	g/cc	2.5700	2.5700	0.213
Aluminum+Iron:						
SS:					6.1800	0.239
LS:					6.1800	0.214

Caliper:	Reference:		Reading:
Small Ring:	6.0	in	100.0
Large Ring:	16.0	in	400.0
Gain:	18.000		
Offset:	0.100		

Compensated Neutron Calibration Report

Serial Number: 210
Tool Model: M&W

CALIBRATION

Detector	Readings		Target		Normalization
Short Space	6240.00	cps	1000.00	cps	1.6025
Long Space	460.00	cps	1000.00	cps	1.9500

Gamma Ray Calibration Report

Serial Number:	105	
Tool Model:	M&W	
Performed:	Wed Aug 30 12:31:03 2023	
Calibrator Value:	500.0	GAPI
Background Reading:	24.0	cps
Calibrator Reading:	637.0	cps
Sensitivity:	0.6500	GAPI/cps

MIDWEST WIRELINE

Company	Cobalt Energy, LLC
Well	Braun Unit #1-21
Field	
County	Graham
State	Kansas