MIDWEST WIRELINE

DUAL INDUCTION LOG

Company Ritchie Exploration, Inc.
Well #3 Wyrill 19A
Field Todd Northeast
County Rooks
State Kansas

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Field Todd Northeast
County Rooks State Kansas

Location: API # : 15-163-24446-00-00
63 S & 112 W of S2 NW NE
1053 FNL & 2092 FEL
SEC 19 TWP 6S RGE 20W

Other Services
CNL/CDL
MEL/BHCS

Permanent Datum Ground Level Elevation 2281
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing

Elevation
K.B. 2288
D.F.
G.L. 2281

Date	11/28/2021			
Run Number	One			
Depth Driller	3840			
Depth Logger	3838			
Bottom Logged Interval	3837			
Top Log Interval	200			
Casing Driller	8.625 @ 215			
Casing Logger	212			
Bit Size	7.875			
Type Fluid in Hole	Chemical			
Salinity,ppm CL	2000			
Density / Viscosity	9.3	56		
pH / Fluid Loss	10.0	6.0		
Source of Sample	FLOWLINE			
Rm @ Meas. Temp	0.85 @ 68			
Rmf @ Meas. Temp	0.64 @ 68			
Rmc @ Meas. Temp	1.15 @ 68			
Source of Rmf / Rmc	CHARTS			
Rm @ BHT	0.51 @ 114			
Operating Rig Time	4 Hours			
Max Rec. Temp. F	114			
Equipment Number	P-24			
Location	Hays			
Recorded By	T. Martin			
Witnessed By	Kent Matson			

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All interpretations are opinions based on inferences from electrical or other measurements and Midwest Wireline LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Midwest Wireline LLC will not 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.

Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

Stockton, KS, 5 N to Rd E,
15 W to Rd 3, 1 N, 1 W, S & W into

Log Measured From: Kelly Bushing 7 Ft. Above Permanent Datum

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

Your Midwest Wireline Crew

Engineer: T. Martin
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: Kent Matson
Secondary Witness:
Secondary Witness:
Secondary Witness:

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb
GR	32.75		GR-M&W (233-M&W)	3.00	3.50	50.00
CNLSC	29.65		CNT-M&W (207-MW)	5.00	3.50	100.00
CNSSC	28.90					
			CDL-M&W (934-226)	8.50	4.00	250.00
LSD	20.60					
DCAL	20.58					
SSD	20.10					
RLL3F	15.50					
RLL3	15.50					
			DIL-PSI HIGH TEMP (952-828)	18.25	3.50	220.00
CILD	8.33					
CILM	4.50					
SP	0.20					

Dataset: ritchie_#3 wyrill 19a.db: field/well/Stack/pass3.1
Total length: 34.75 ft
Total weight: 620.00 lb
O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\ritchie_#3 wyrill 19a.db
Dataset field/well/Stack/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	114	5.5	0	1	2	2.71
NPORSEL	**PERFS**	**SNDERR mmho/m**	**SNDERRM mmho/m**	**SPSHIFT mV**	**SRFTEMP degF**	**SZCOR**	**TDEPTH ft**
Limestone	0	0	0	145	50	Off	3838

Variable Description

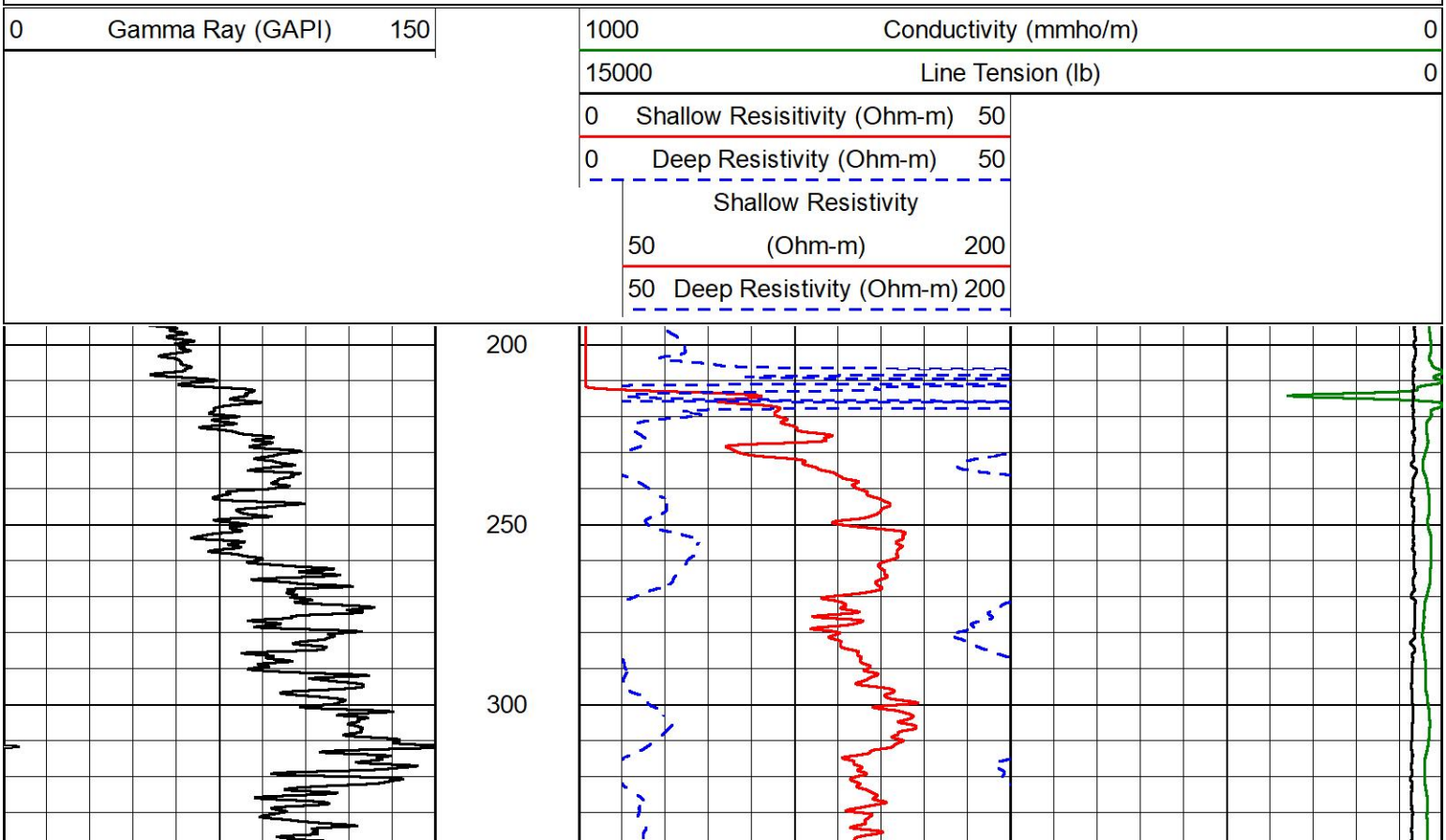
A : Cement Factor (a)
BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
FLUIDDEN : Fluid Density
M : Cement Exp (m)
MATRXDEN : Matrix Density
NPORSEL : Neutron Porosity Curve Select
PERFS : Perforation Flag
SNDERR : Deep Sonde Error Correction
SNDERRM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

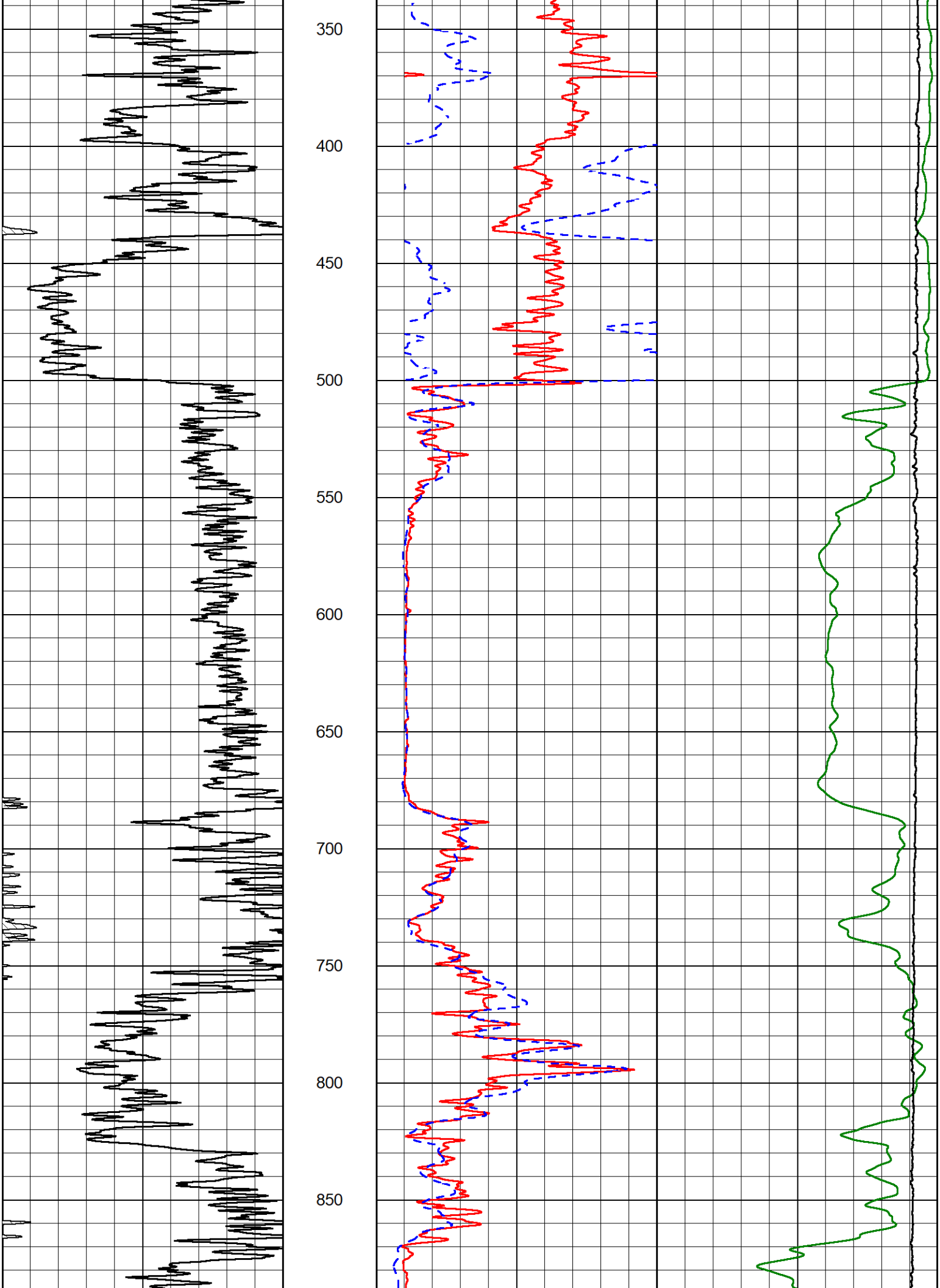
MIDWEST WIRELINE

2" SCALE RESISTIVITY

MAIN PASS

Database File	ritchie_#3 wyrill 19a.db
Dataset Pathname	Stack/pass3.2
Presentation Format	_dil2in
Dataset Creation	Sun Nov 28 12:33:17 2021
Charted by	Depth in Feet scaled 1:600

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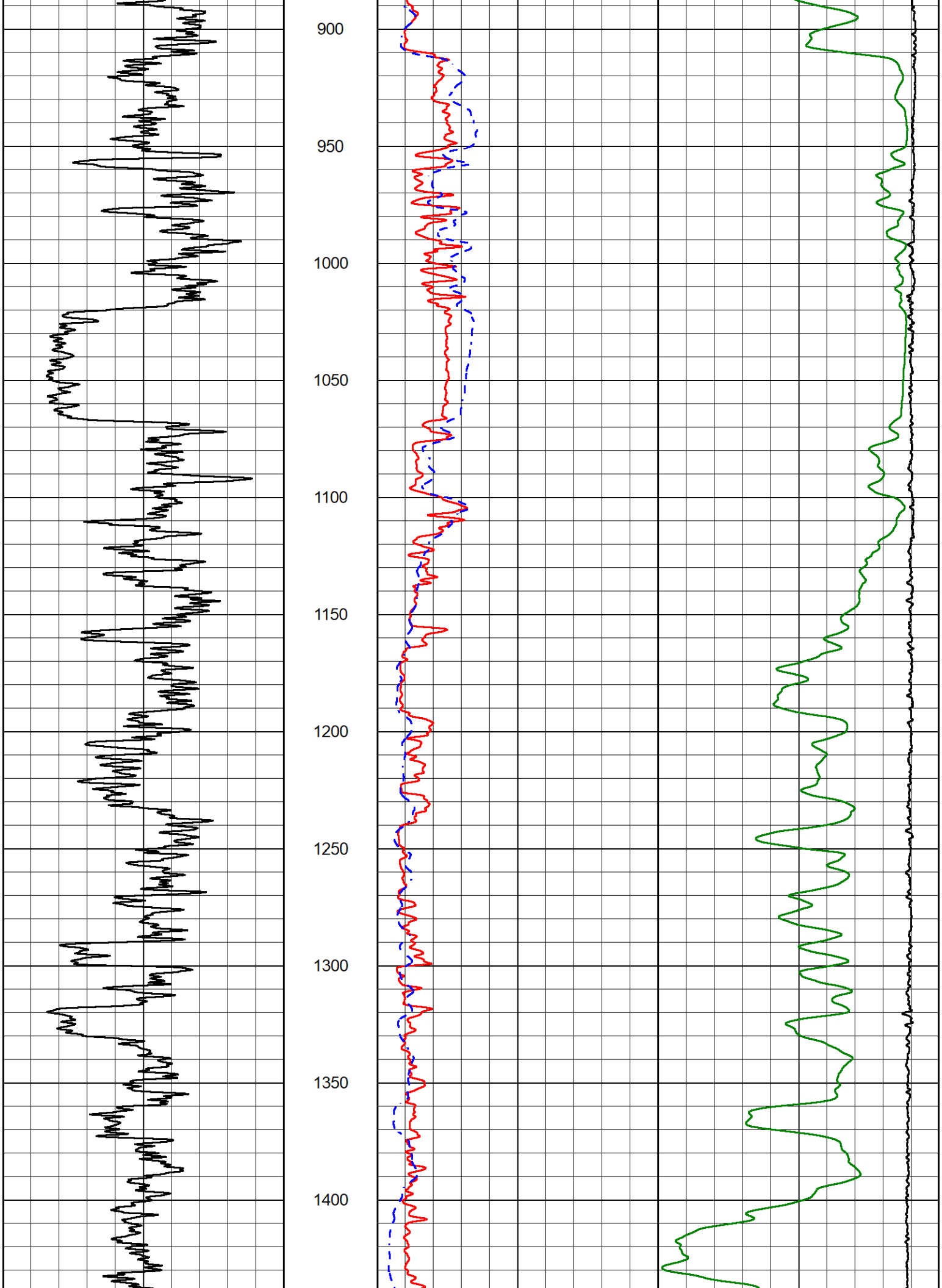
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1100
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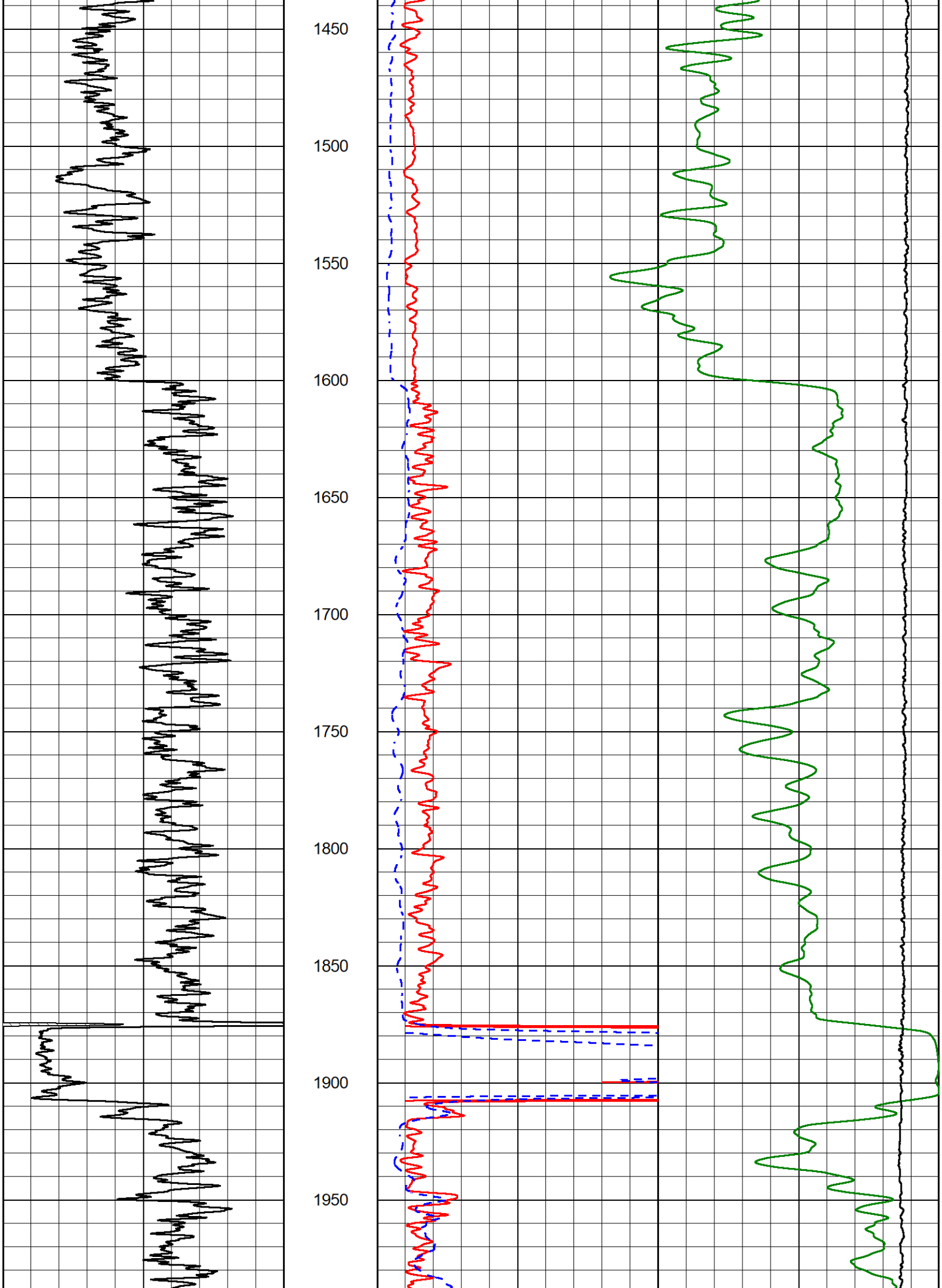
1200
1250
1300
1350
1400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1900
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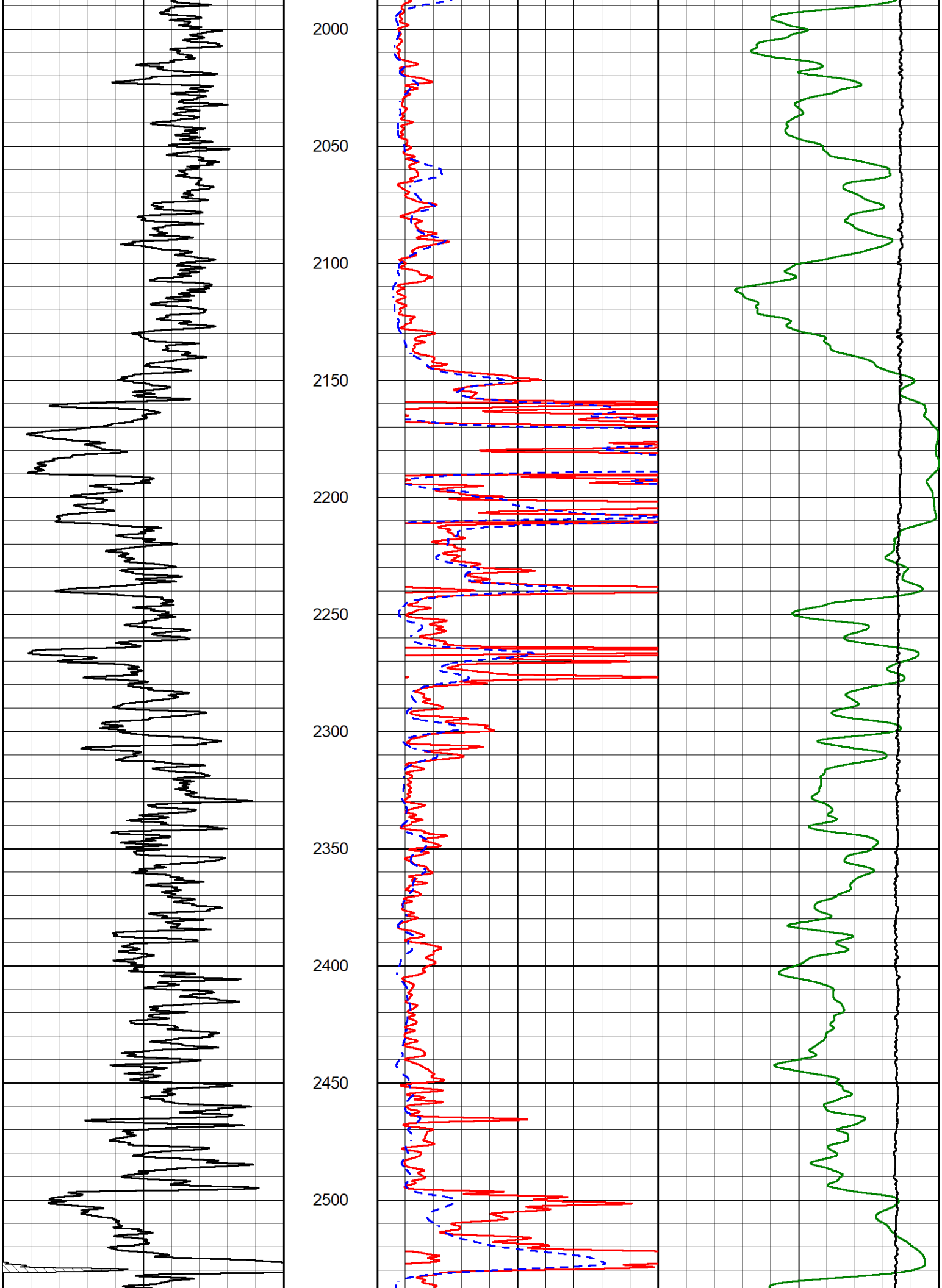
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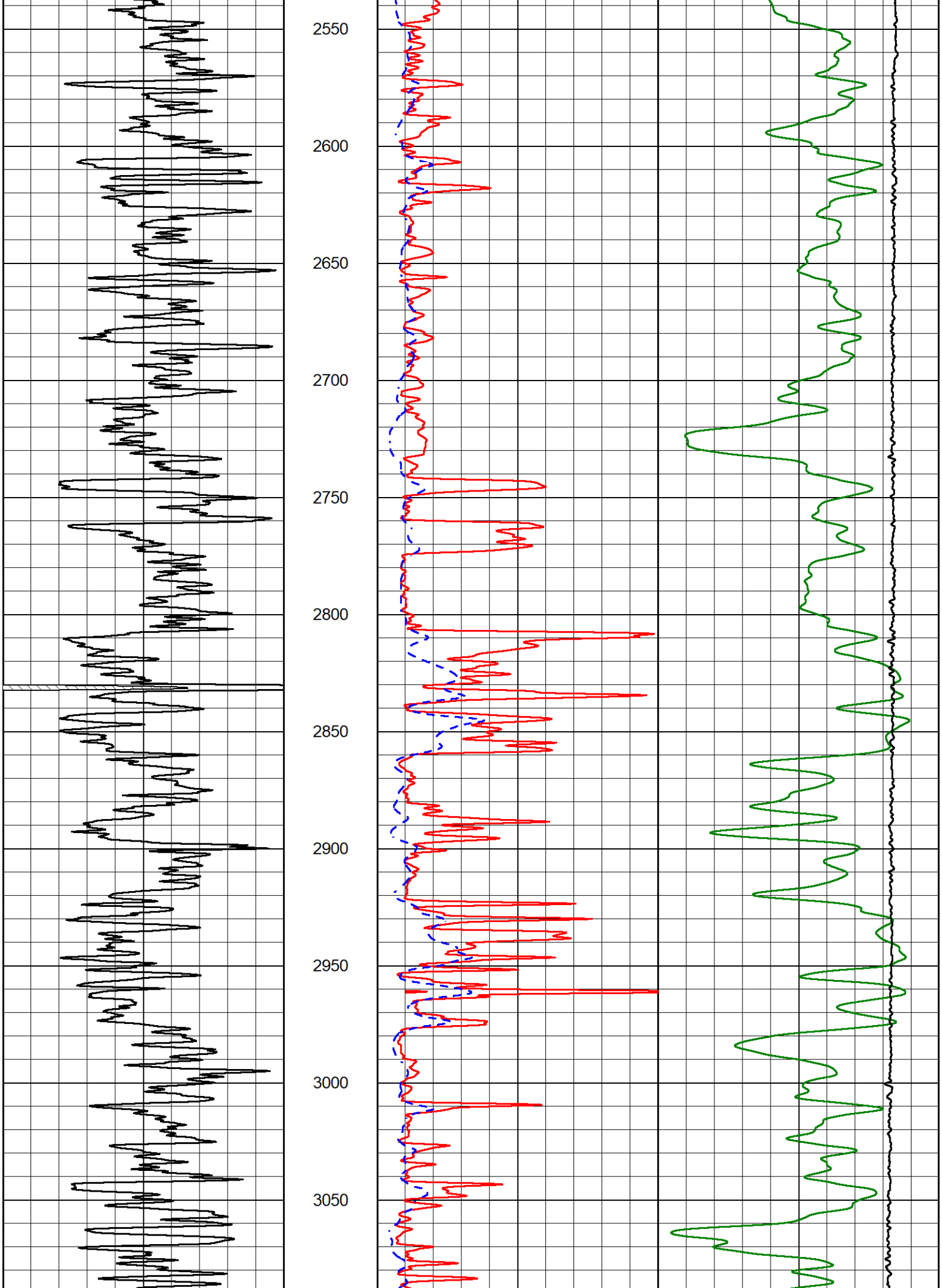
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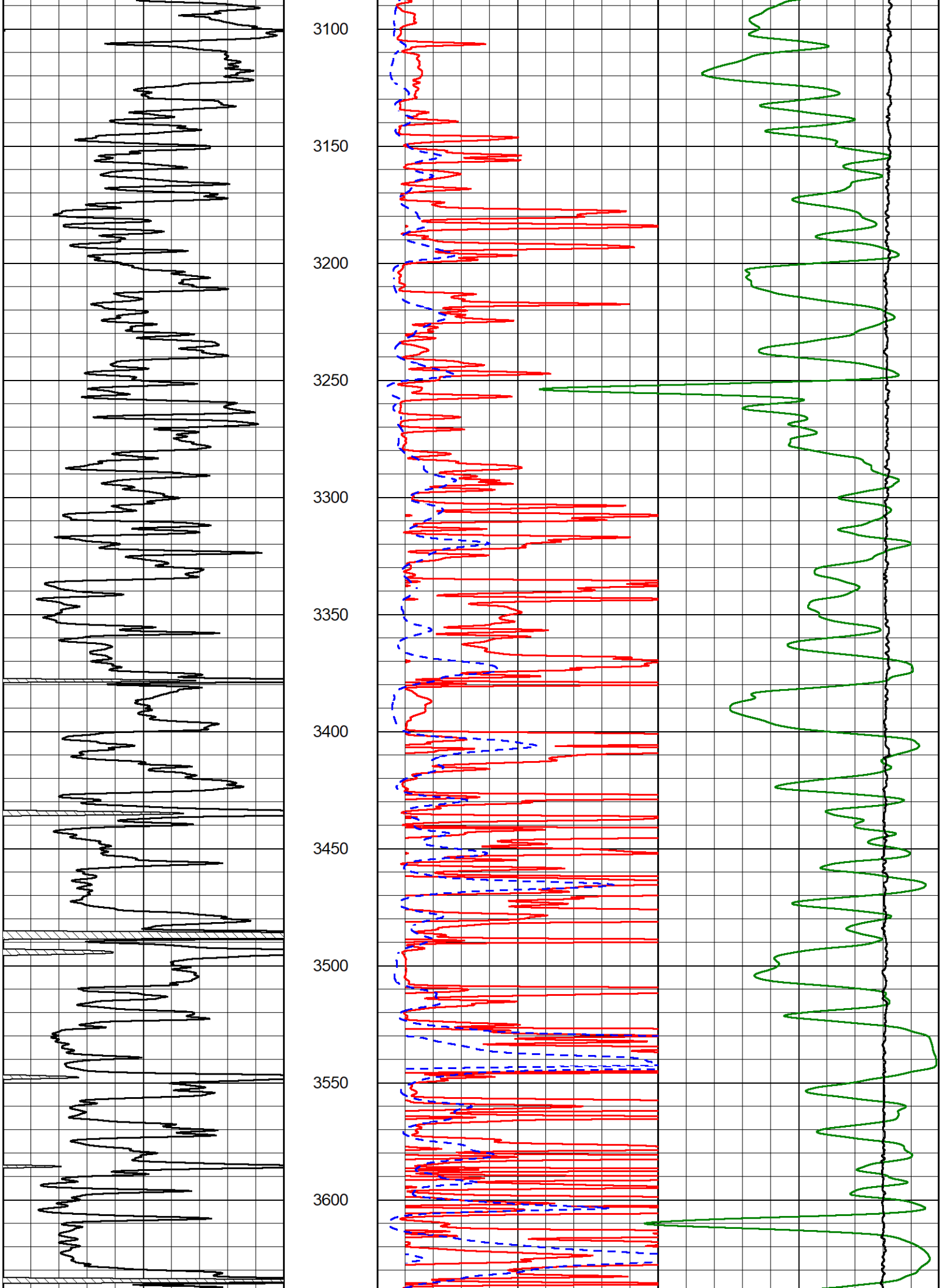
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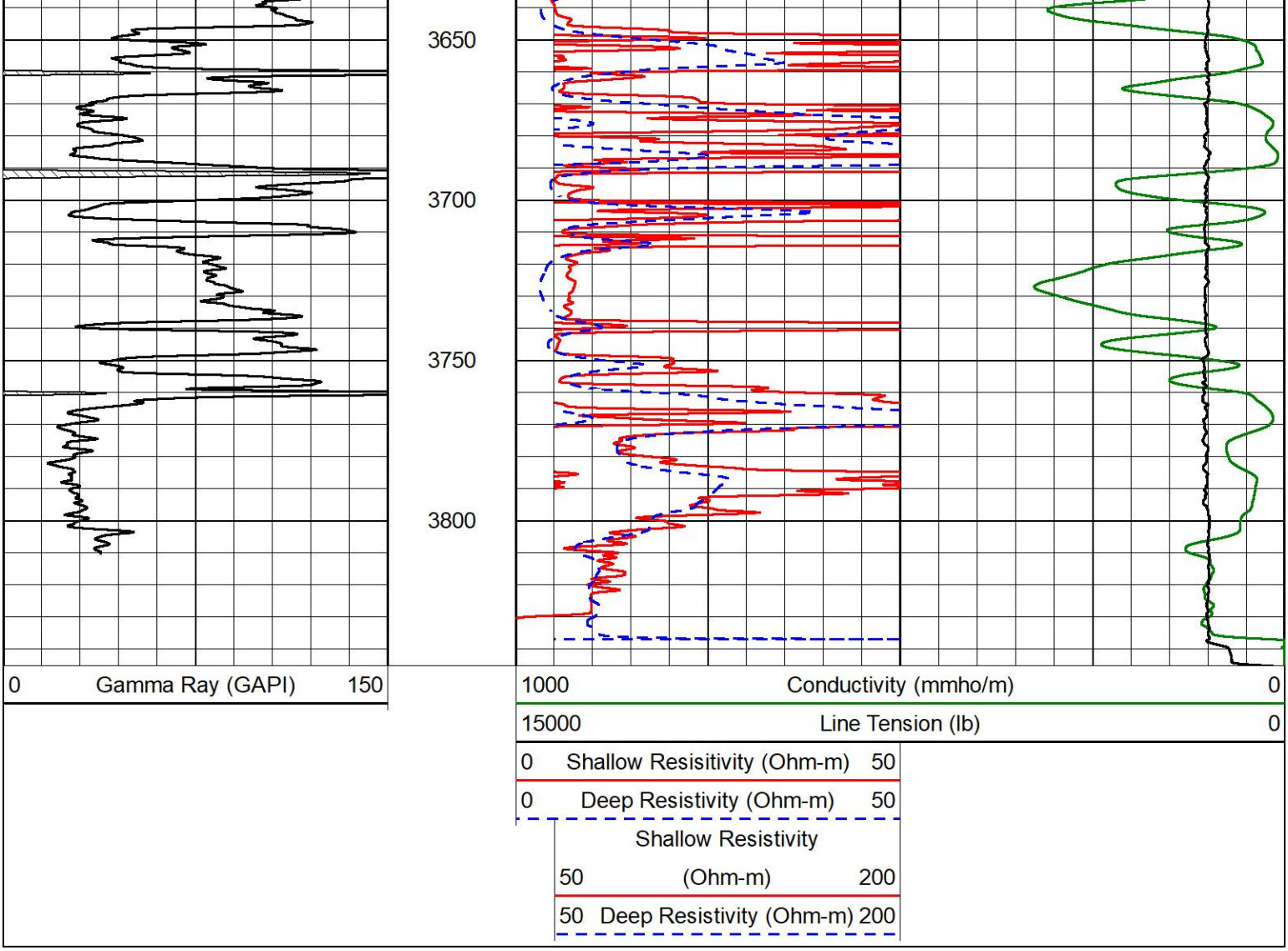
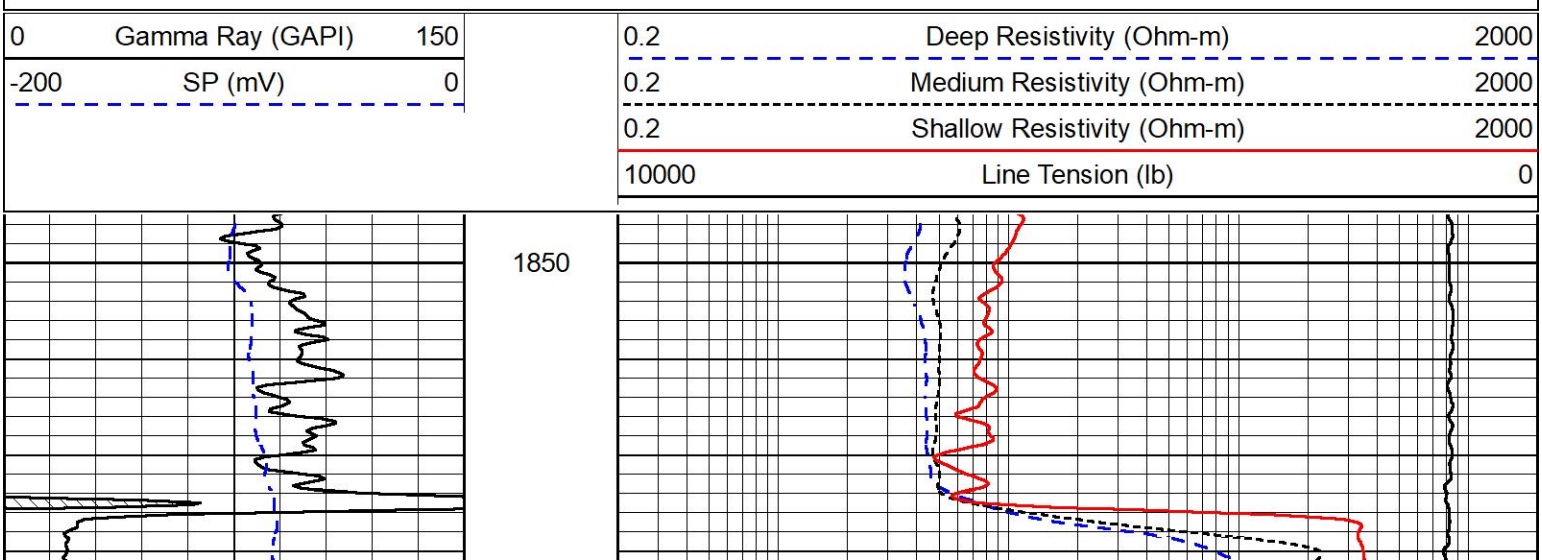
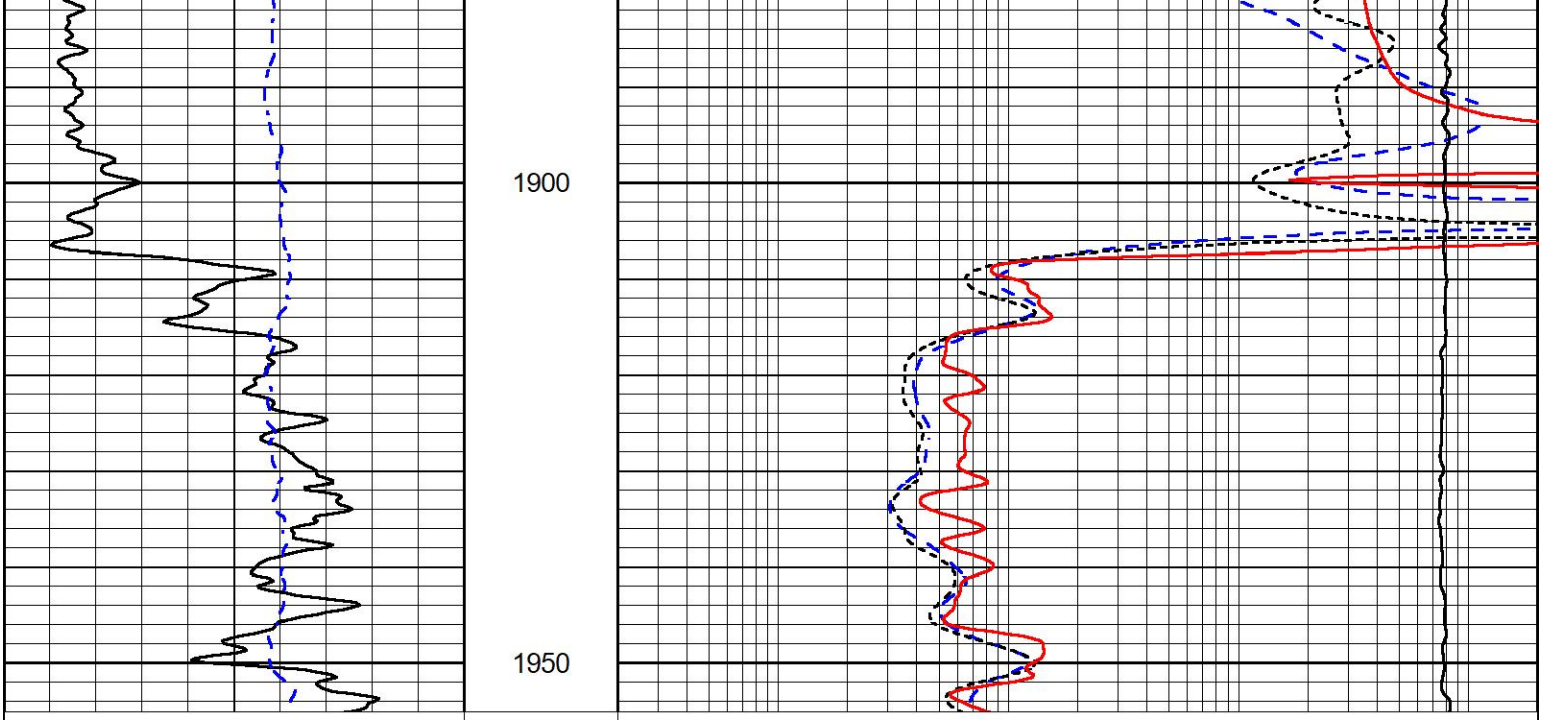


ANHYDRITE SECTION

MAIN PASS

Database File	ritchie_#3 wyrill 19a.db
Dataset Pathname	Stack/pass3.4
Presentation Format	_dil
Dataset Creation	Sun Nov 28 12:11:45 2021
Charted by	Depth in Feet scaled 1:240





0	Gamma Ray (GAPI)	150
-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

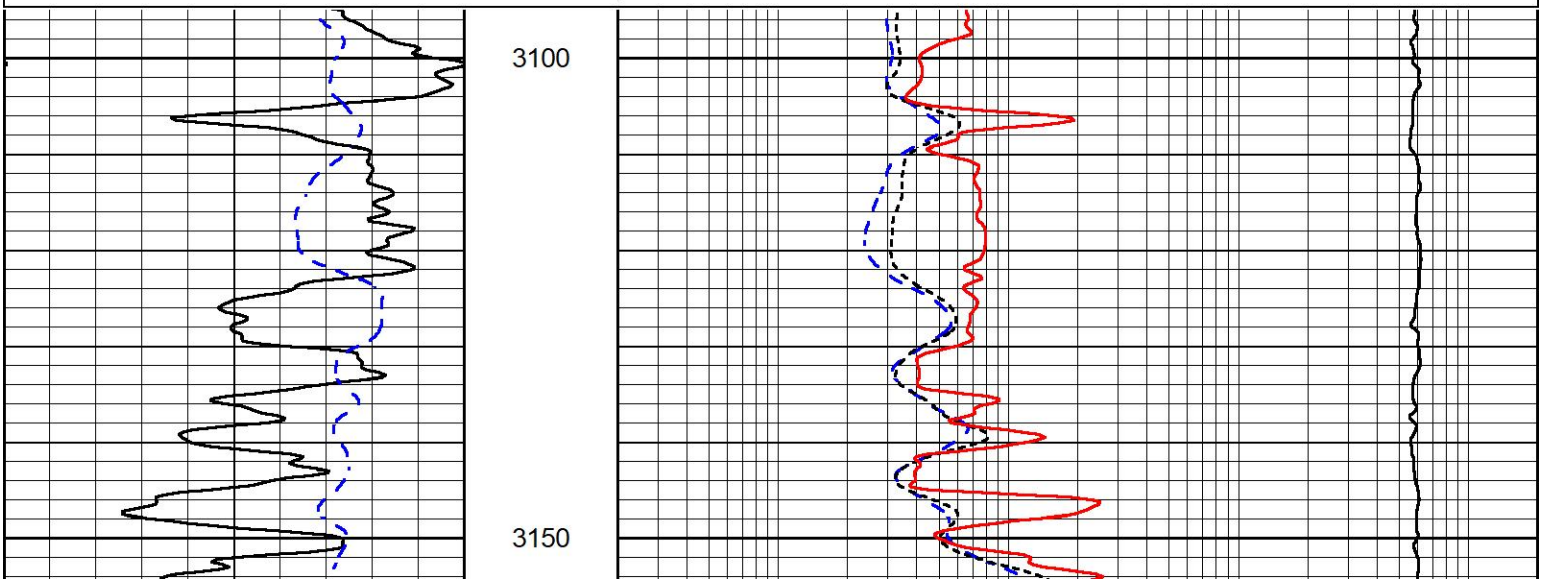
DETAIL SECTION

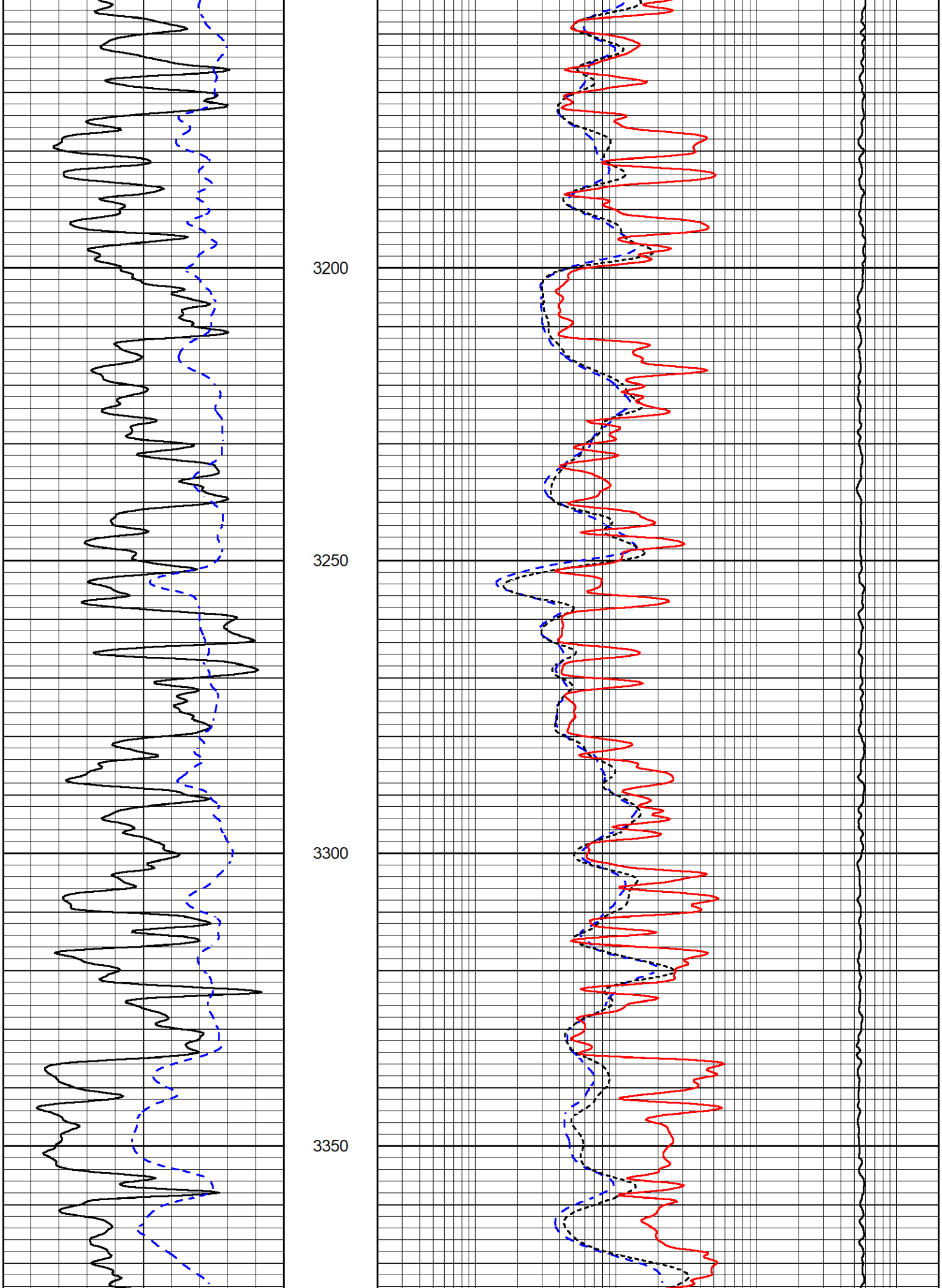
MAIN PASS

Database File	ritchie_#3 wyrill 19a.db
Dataset Pathname	Stack/pass3.1
Presentation Format	_dil
Dataset Creation	Sun Nov 28 12:34:00 2021
Charted by	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
-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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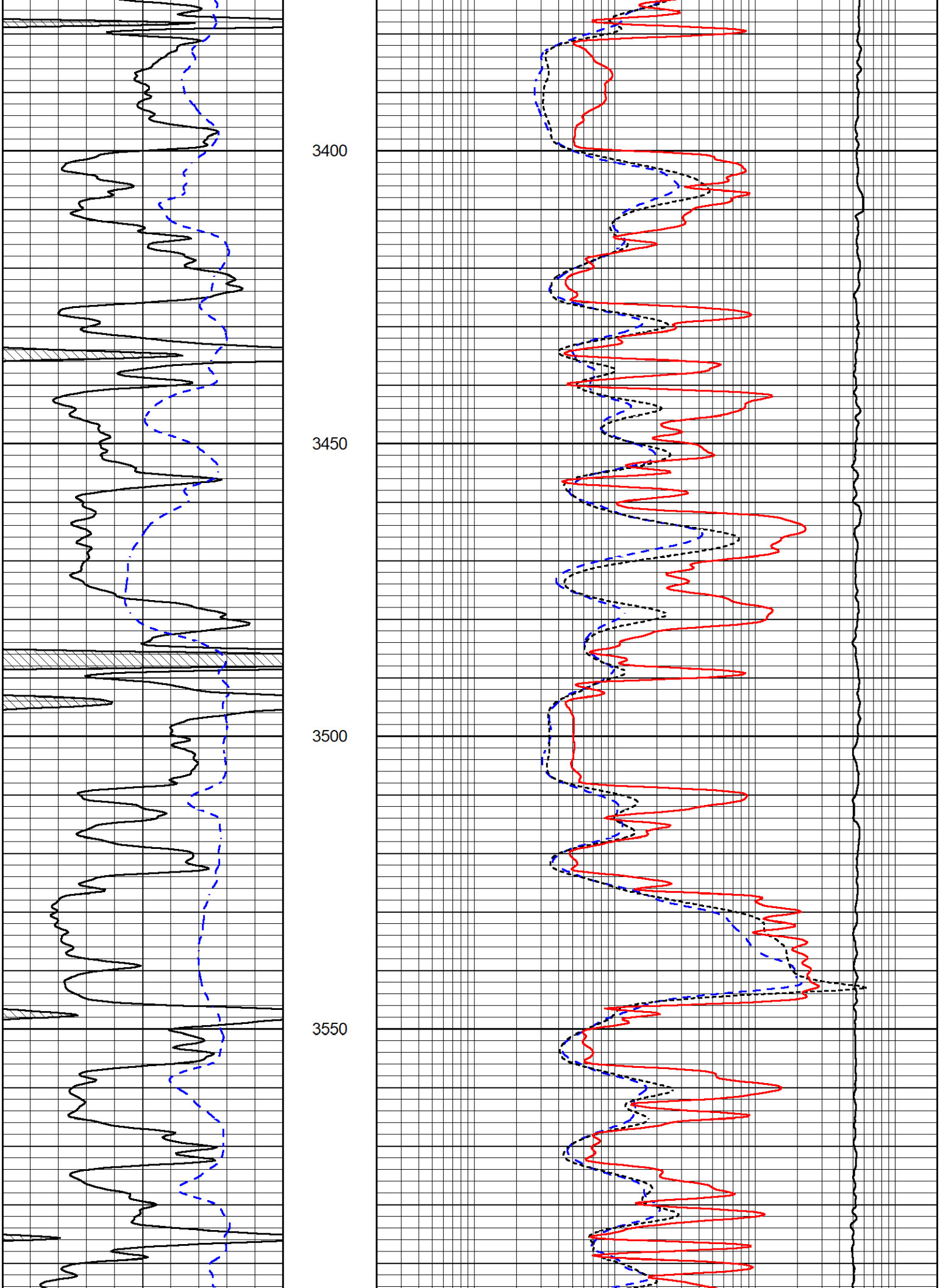
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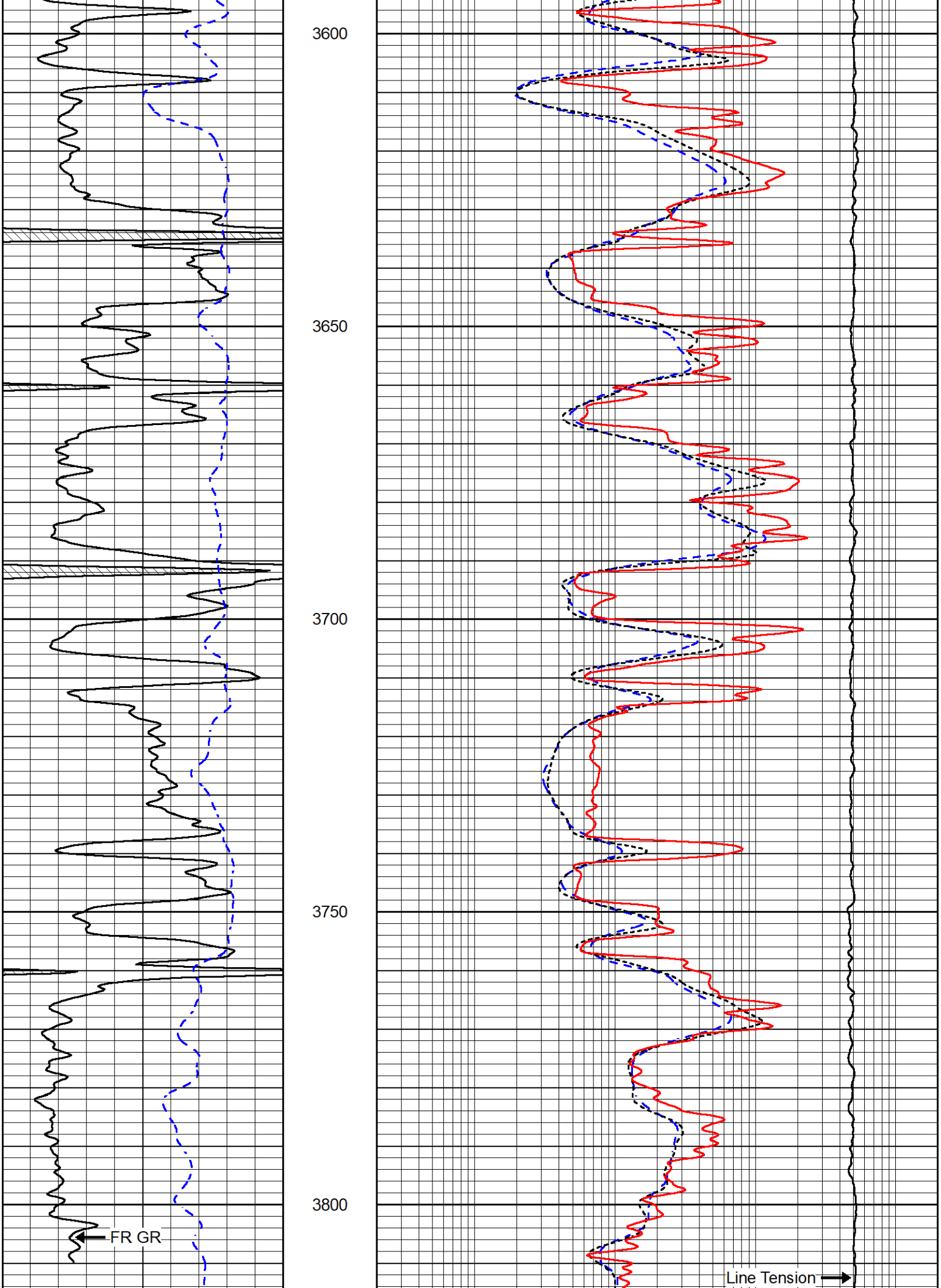
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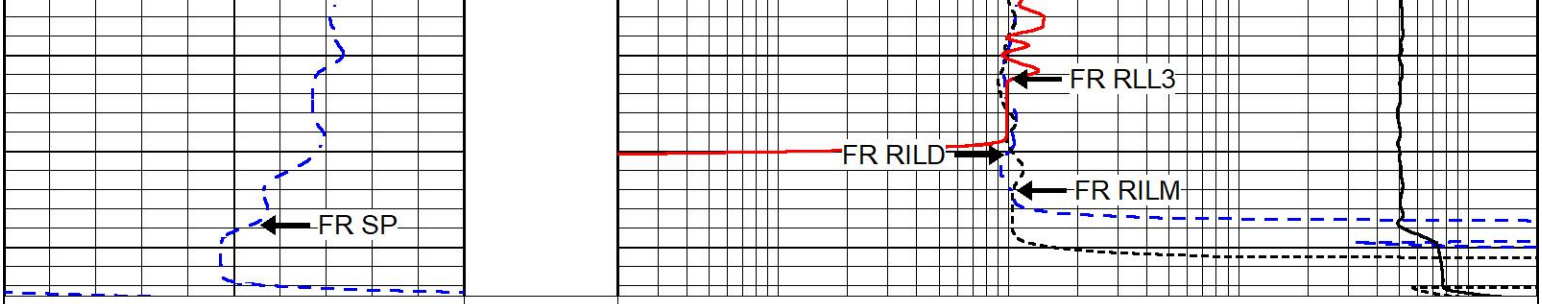
3750
3800
FR GR
Line Tension



0	Gamma Ray (GAPI)	150
-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

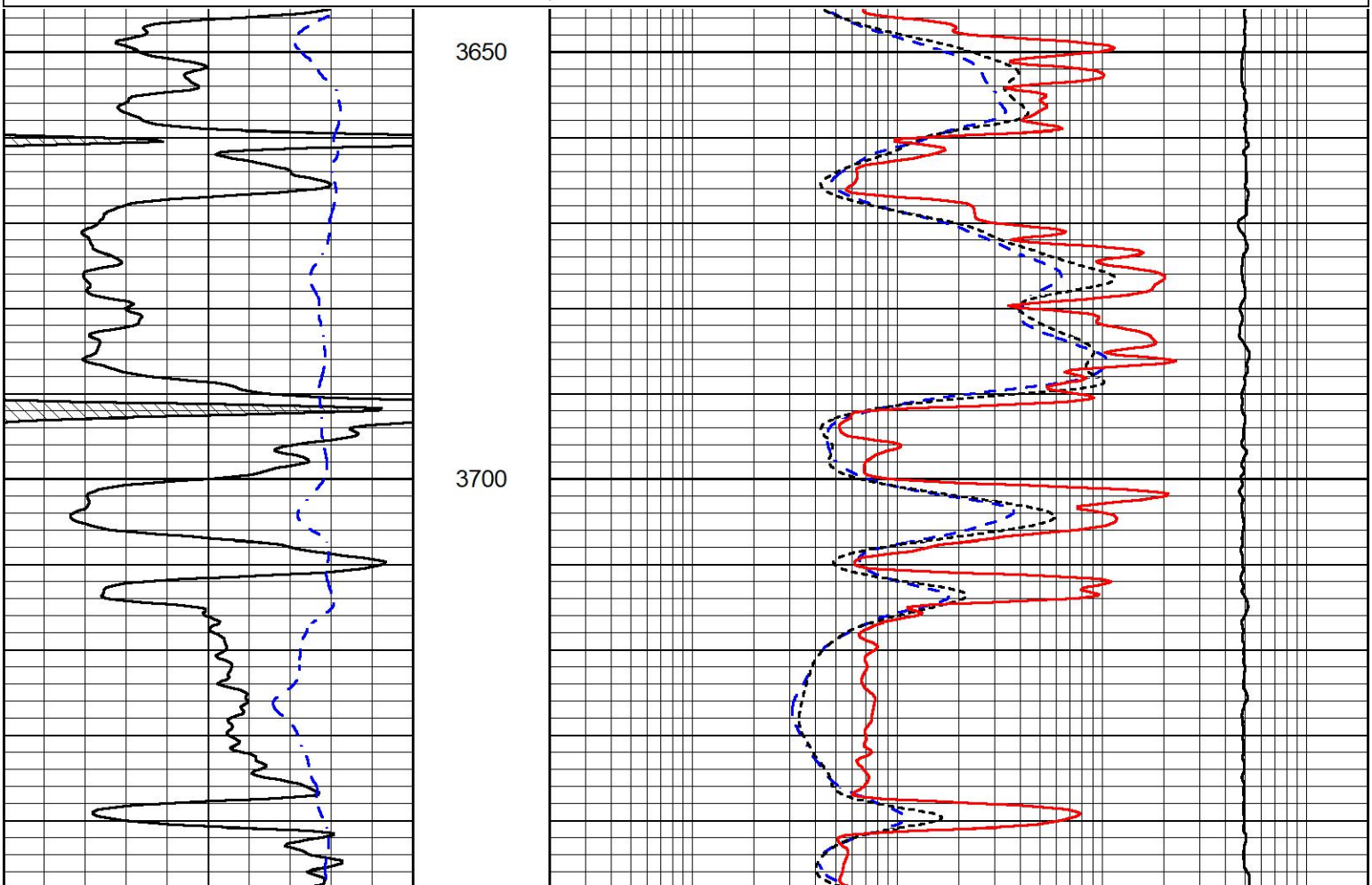
REPEAT SECTION

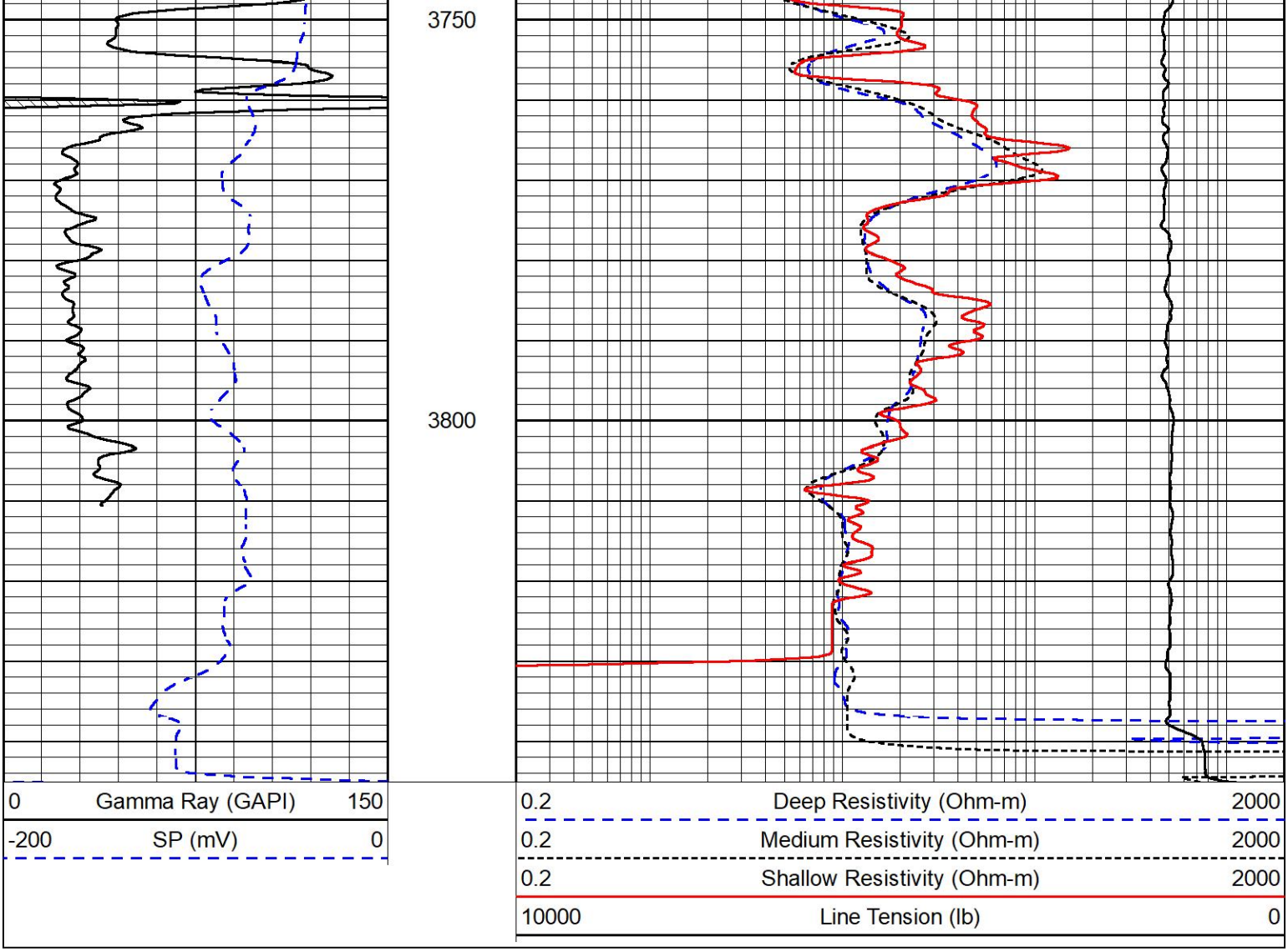
REPEAT PASS

Database File	ritchie_#3 wyrill 19a.db
Dataset Pathname	Stack/pass2.1
Presentation Format	_dil
Dataset Creation	Sun Nov 28 11:53:28 2021
Charted by	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
-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

Company	Ritchie Exploration, Inc.
Well	#3 Wyrill 19A
Field	Todd Northeast
County	Rooks
State	Kansas