MIDWEST WIRELINE

DUAL INDUCTION LOG

Company EPOC LLC
Well T. Wiebe #31-10
Field Hazlett
County Butler
State Kansas

Company EPOC LLC
Well T. Wiebe #31-10
Field Hazlett
County Butler State Kansas

Location: API # : 15-015-24159-00-00
S2 S2 SE
330 FSL & 1320 FEL
SEC 31 TWP 23S RGE 5E

Other Services
CNL/CDL
MEL

Permanent Datum Ground Level Elevation 1483
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing

Elevation
K.B. 1489
D.F.
G.L. 1483

Date	2/20/2022		
Run Number	One		
Depth Driller	2639		
Depth Logger	2604		
Bottom Logged Interval	2603		
Top Log Interval	200		
Casing Driller	8.625 @ 237		
Casing Logger	244		
Bit Size	7.875		
Type Fluid in Hole	Chemical		
Salinity,ppm CL	1400		
Density / Viscosity	9.4 / 57		
pH / Fluid Loss	10.0 / 9.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.8 @ 70		
Rmf @ Meas. Temp	0.6 @ 70		
Rmc @ Meas. Temp	1.08 @ 70		
Source of Rmf / Rmc	CHARTS		
Rm @ BHT	0.55 @ 102		
Operating Rig Time	2 Hours		
Max Rec. Temp. F	102		
Equipment Number	P-24		
Location	Hays		
Recorded By	T. Martin		
Witnessed By	Ray Gilbert		

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Comments

N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

Newton, KS, E on 1st St ~22 mi to
Purity Springs Rd, 3 S, NW into

Log Measured From: Kelly Bushing 6 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: T. Martin	Primary Witness: Ray Gilbert
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	40.33		GR-M&W (101)	3.00	3.50	50.00
CNLSC	37.23		CNT-M&W (207-MW)	5.00	3.50	100.00
CNSSC	36.48					
			CDL-M&W (305-05)	8.50	4.00	250.00
LSD	28.18					
DCAL	28.17					
SSD	27.68					
			ML-PSIML (402)	7.58	4.00	65.00
MCAL	19.58					
MI	19.58					
MN	19.58					
RLL3F	15.50					
RLL3	15.50					
			DIL-M&W (501 HT)	18.25	3.50	220.00
CILD	8.33					
CILM	4.50					
SP	0.20					

Dataset: epoc_t wiebe #31-10.db: field/well/StkMl/pass3.1
Total length: 42.33 ft
Total weight: 685.00 lb
O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\epoc_t wiebe #31-10.db
Dataset field/well/StkMI/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	102	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	320	50	Off	2604

Variable Description

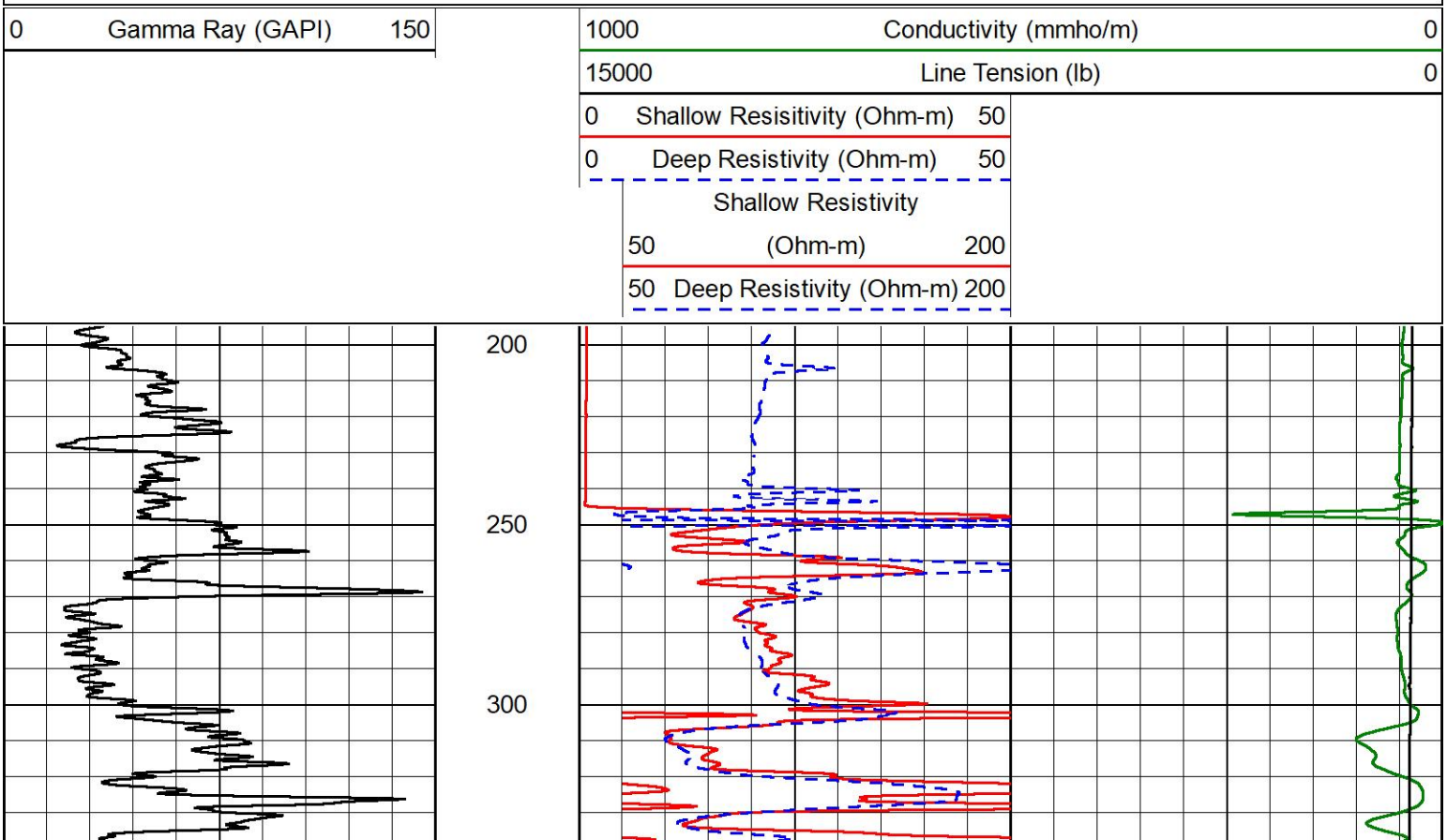
A : Cement Factor (a)
BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
FLUIDDEN : Fluid Density
M : Cement Exp (m)
MATRXDEN : Matrix Density
NPORSEL : Neutron Porosity Curve Select
PERFS : Perforation Flag
SNDERR : Deep Sonde Error Correction
SNDERRM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

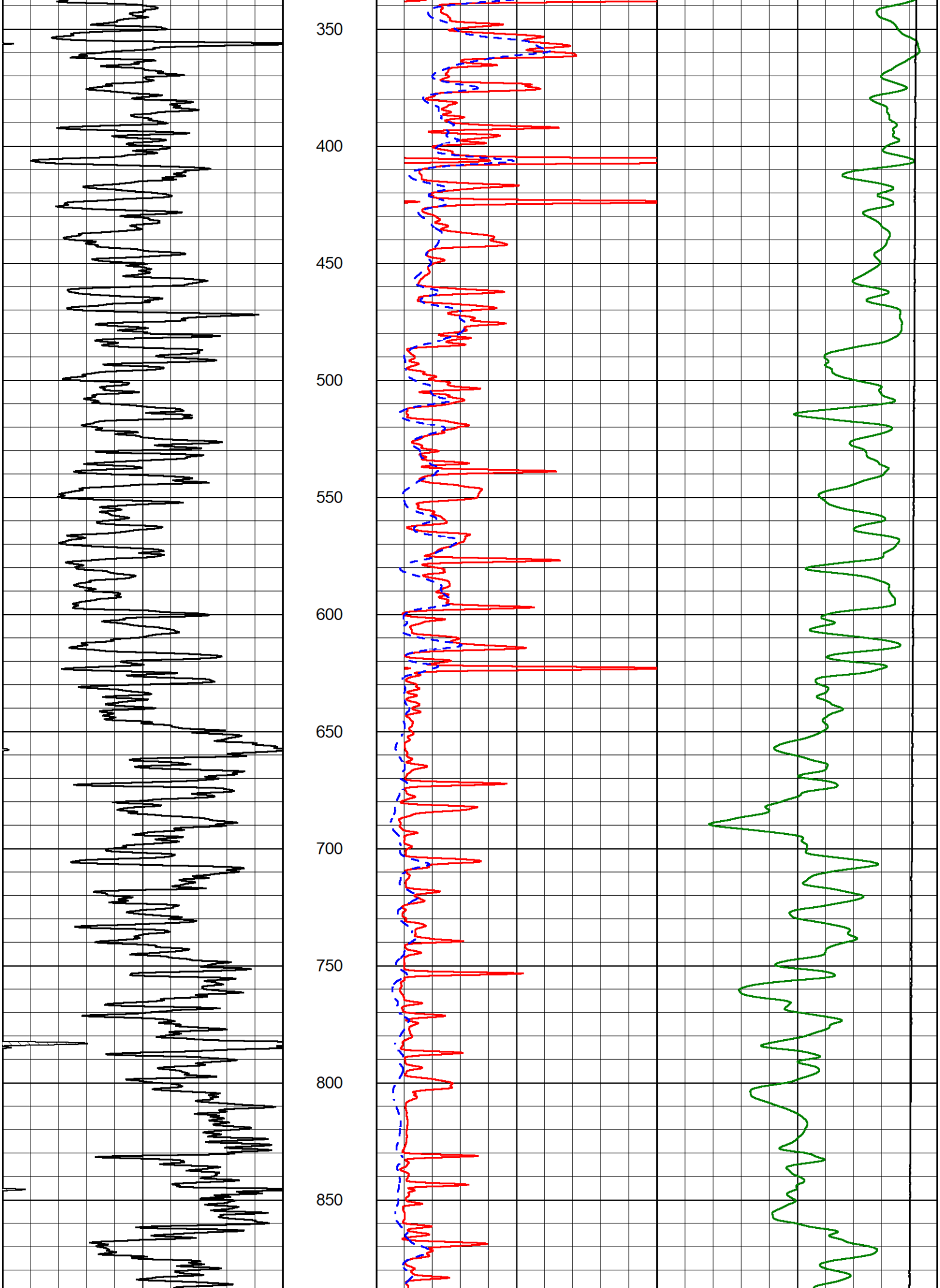
MIDWEST WIRELINE

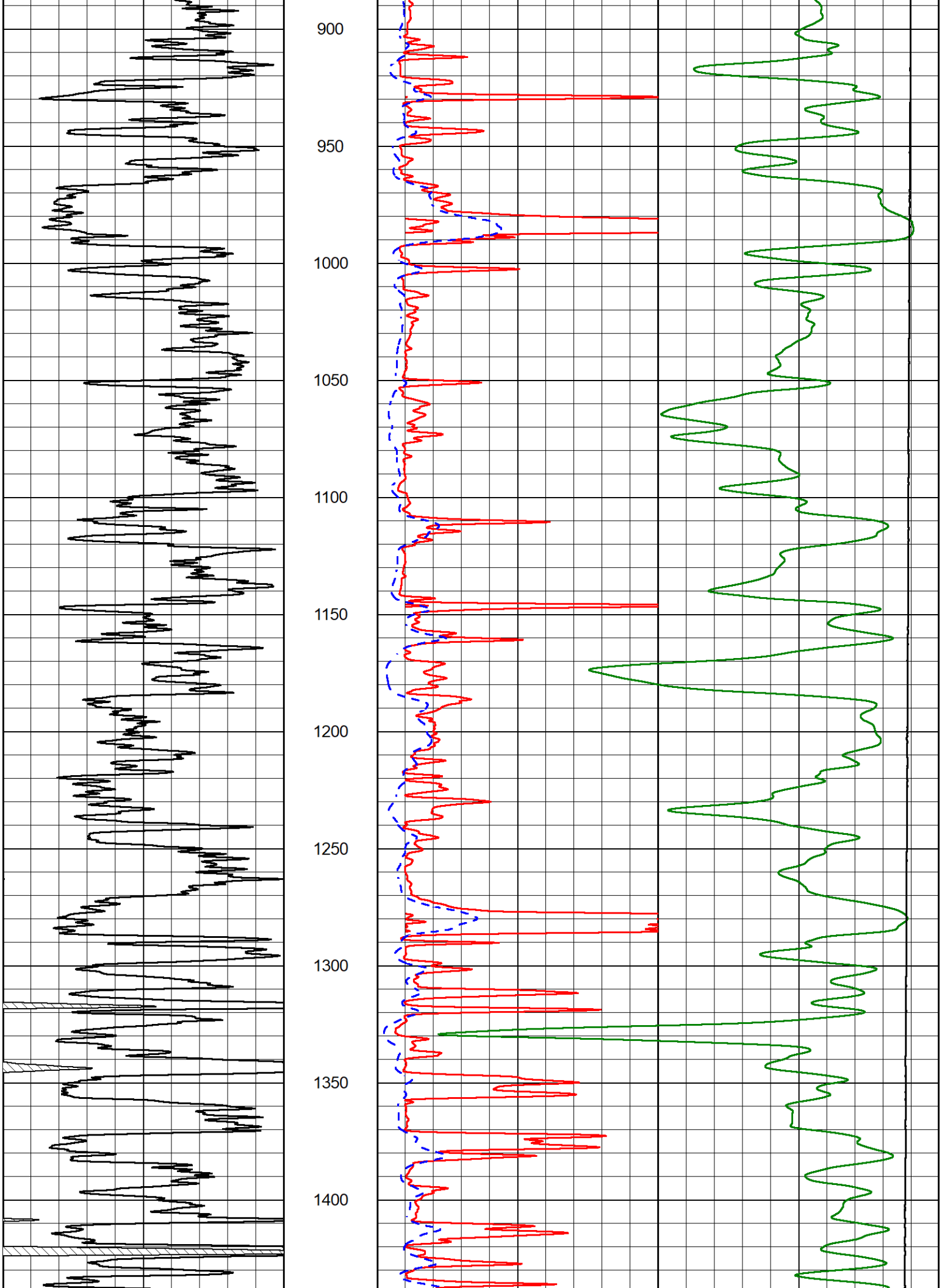
2" SCALE RESISTIVITY

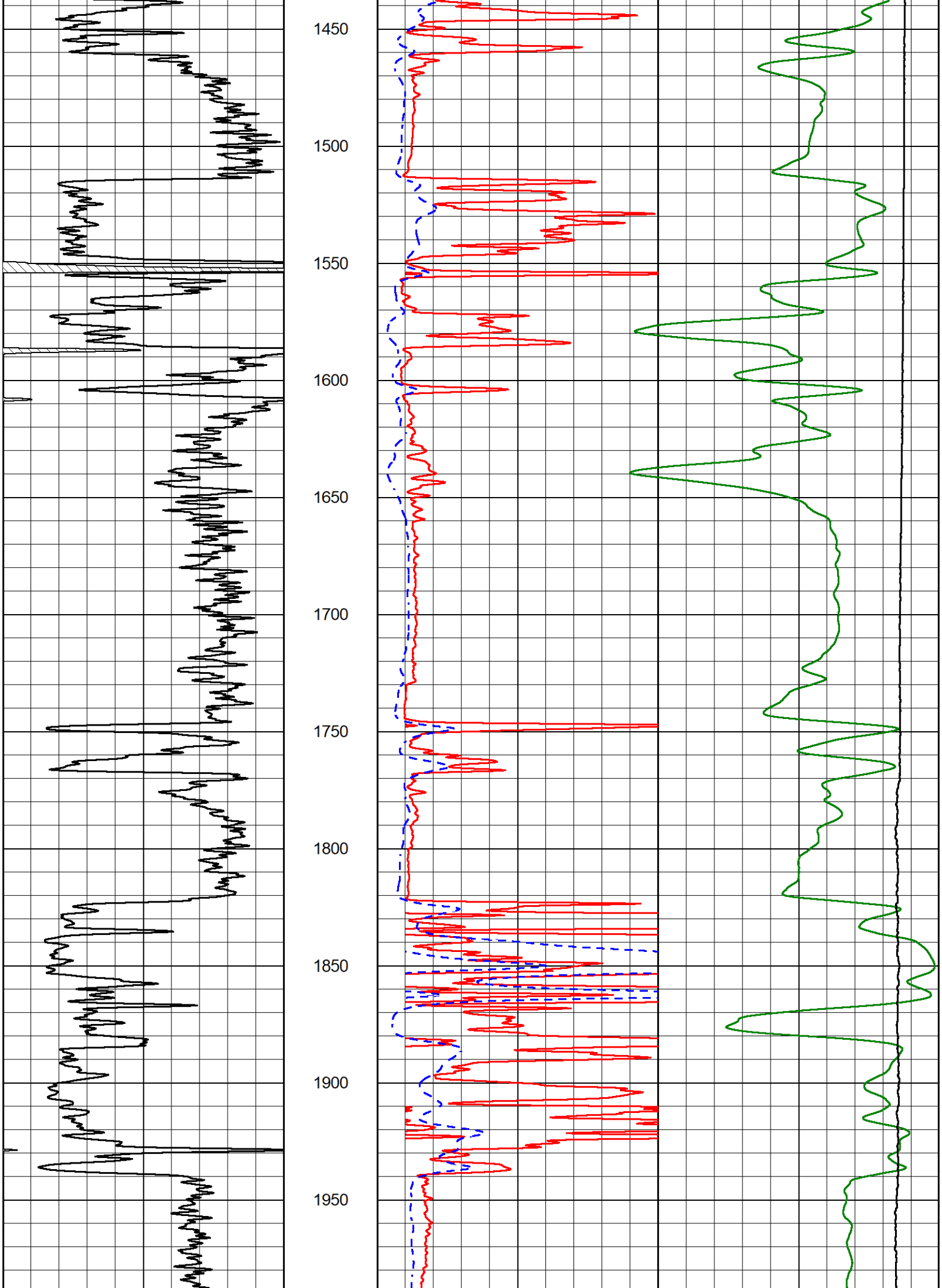
MAIN PASS

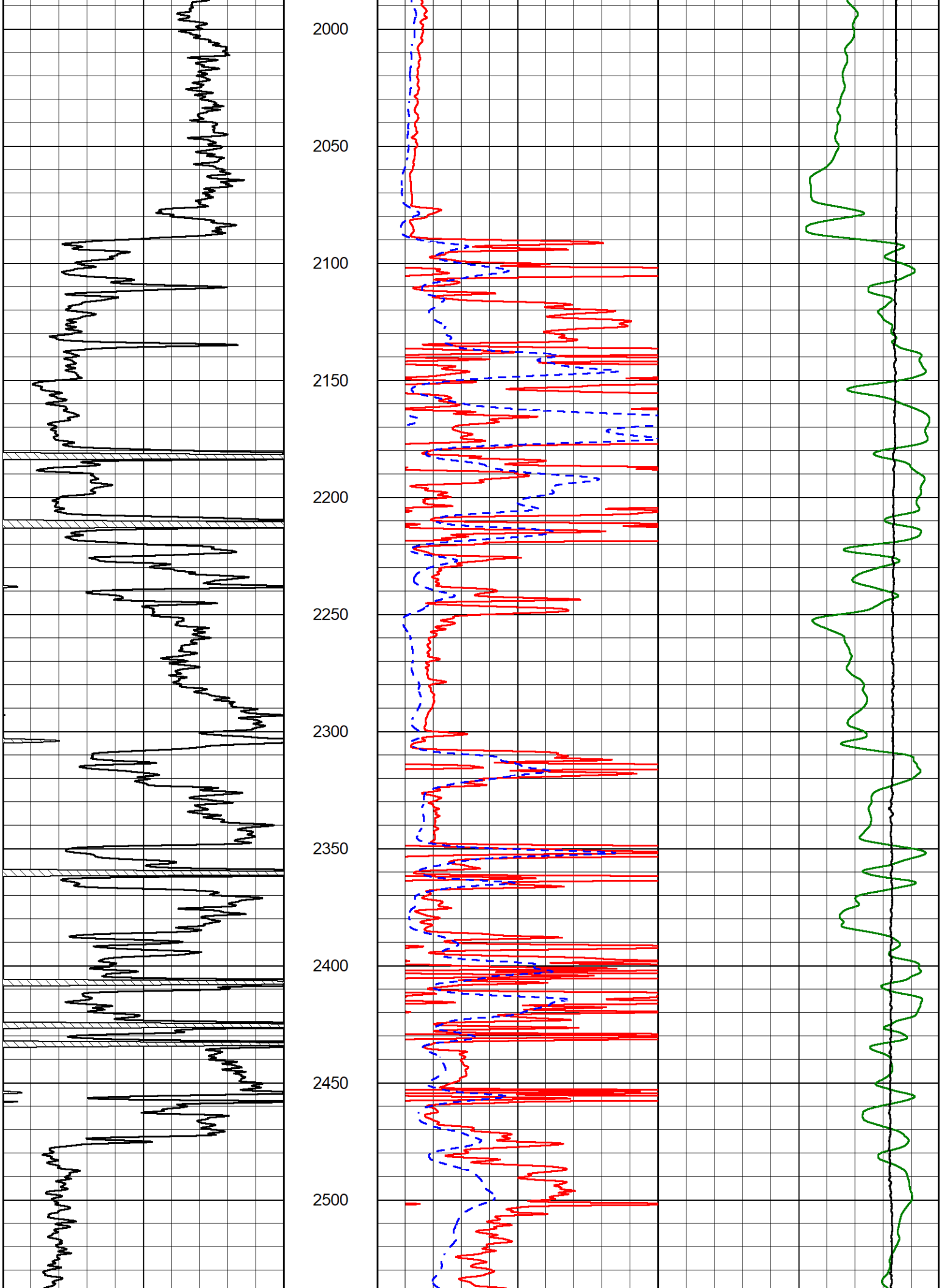
Database File	epoc_t wiebe #31-10.db
Dataset Pathname	StkMI/pass3.2
Presentation Format	_dil2in
Dataset Creation	Mon Feb 21 06:30:07 2022
Charted by	Depth in Feet scaled 1:600

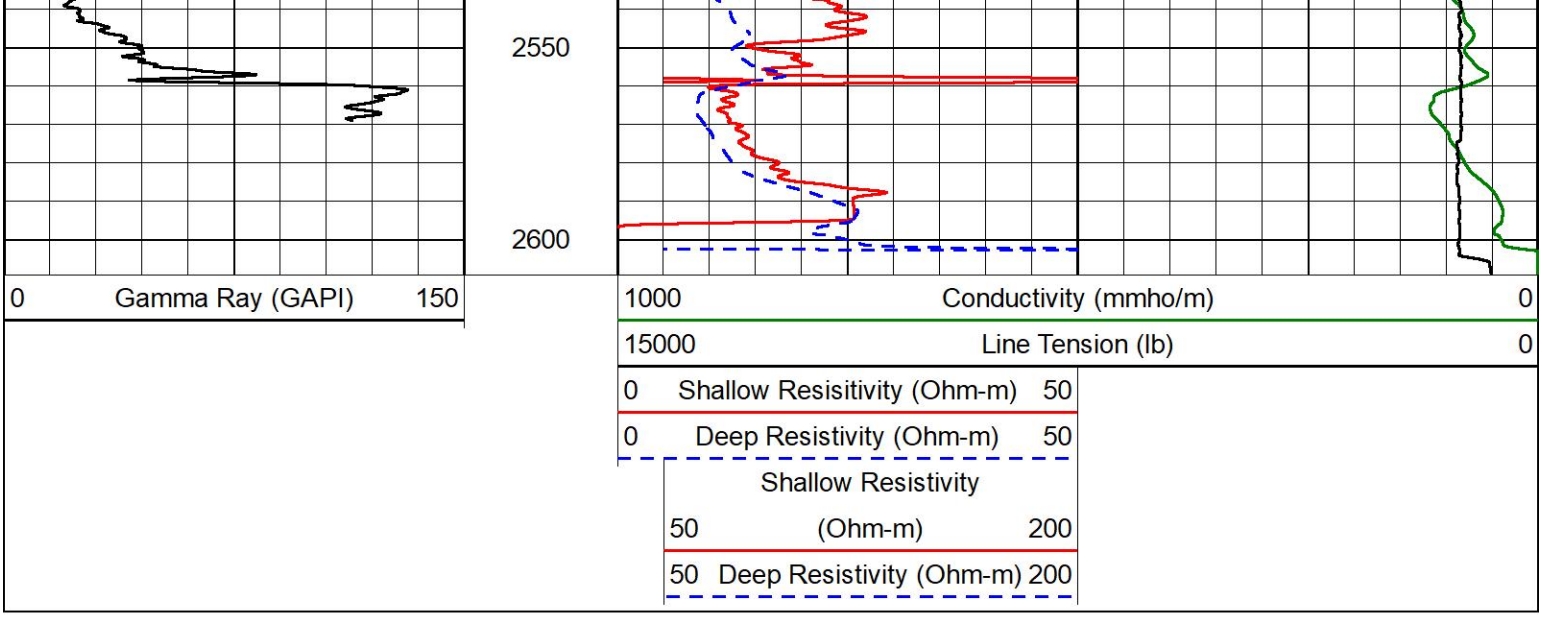



350
400
450
500
550
600
650
700
750
800
850


900
950
1000
1050
1100
1150
1200
1250
1300
1350
1400


1450
1500
1550
1600
1650
1700
1750
1800
1850
1900
1950


2000
2050
2100
2150
2200
2250
2300
2350
2400
2450
2500

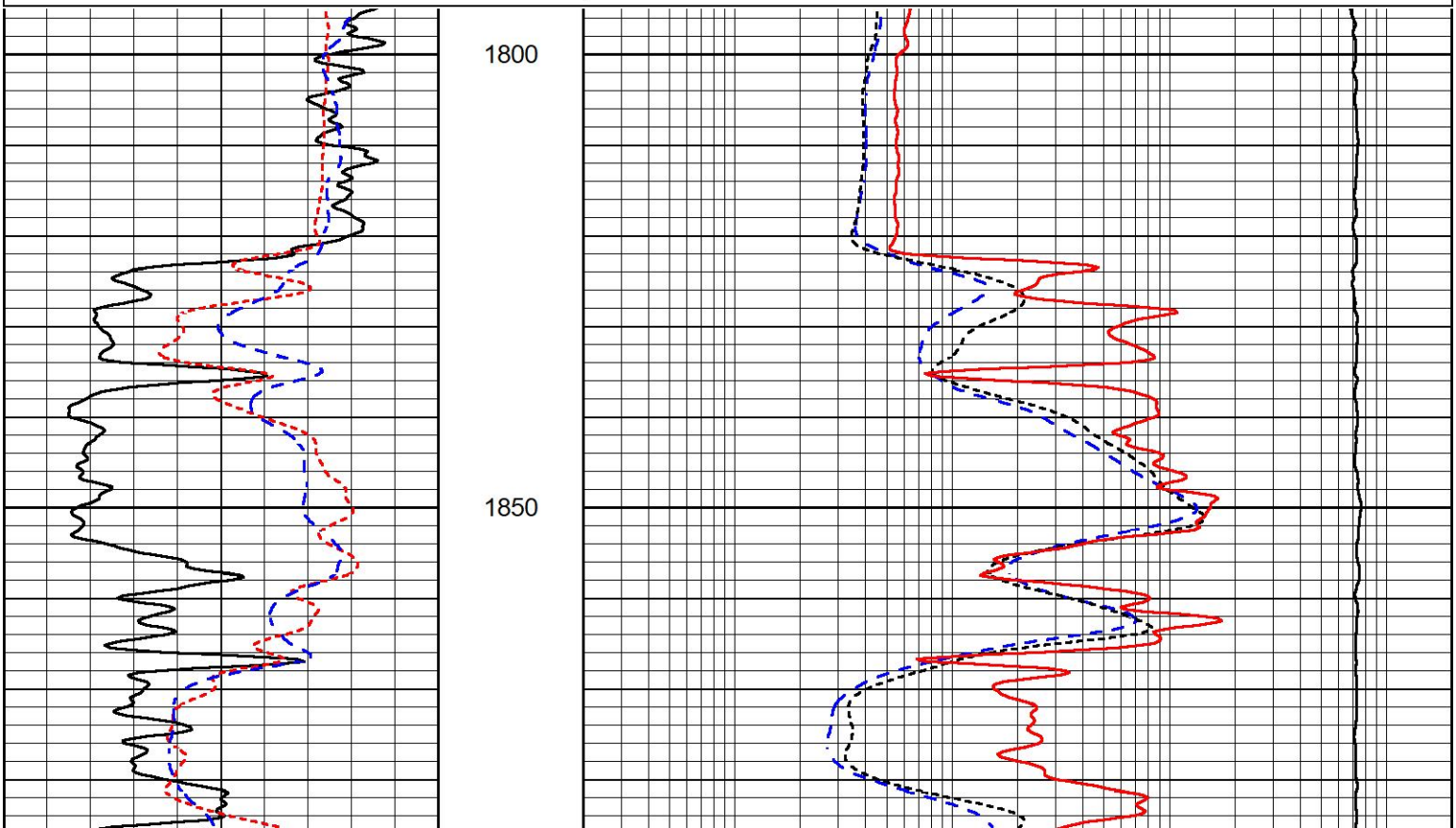


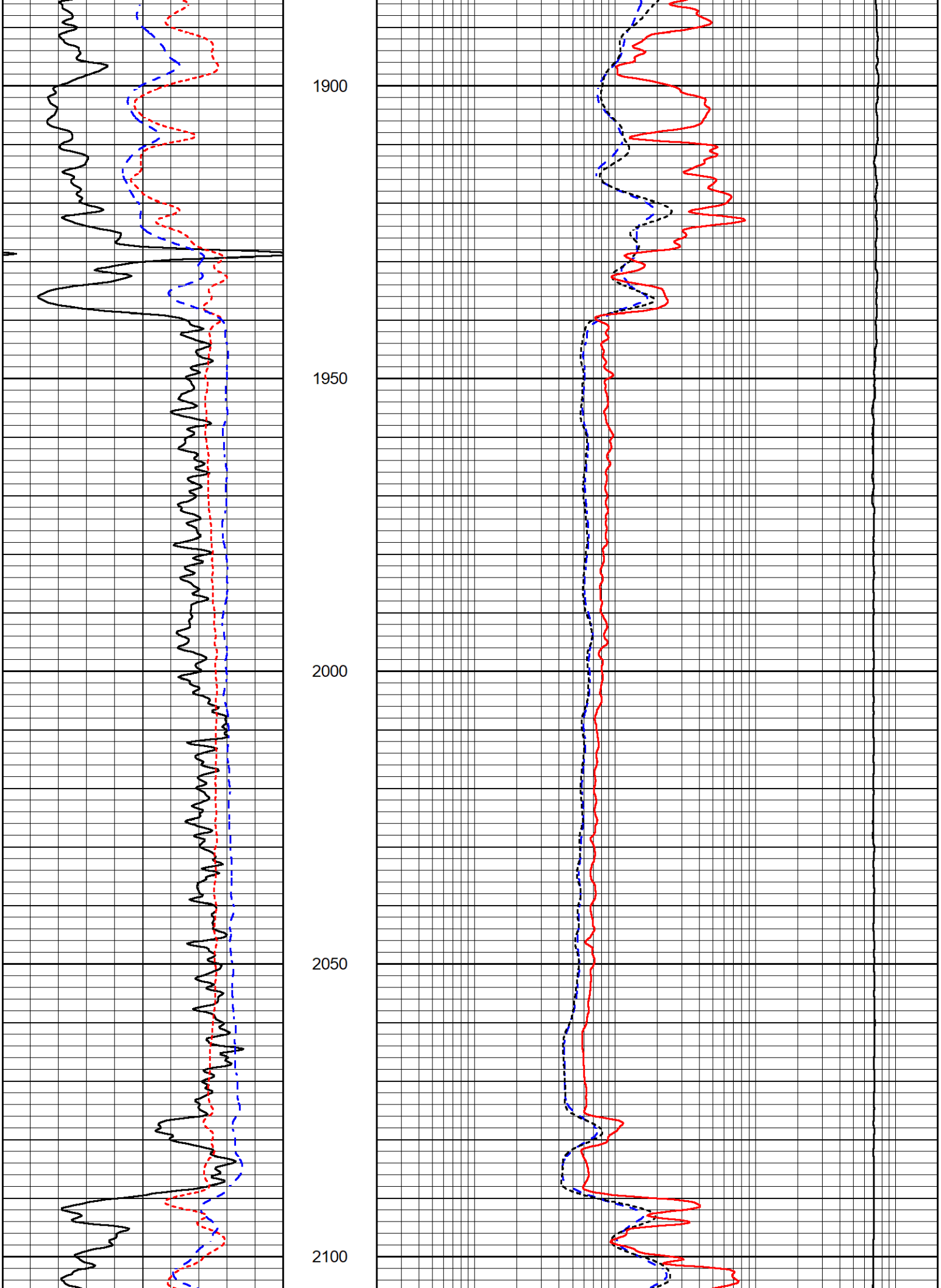
DETAIL SECTION

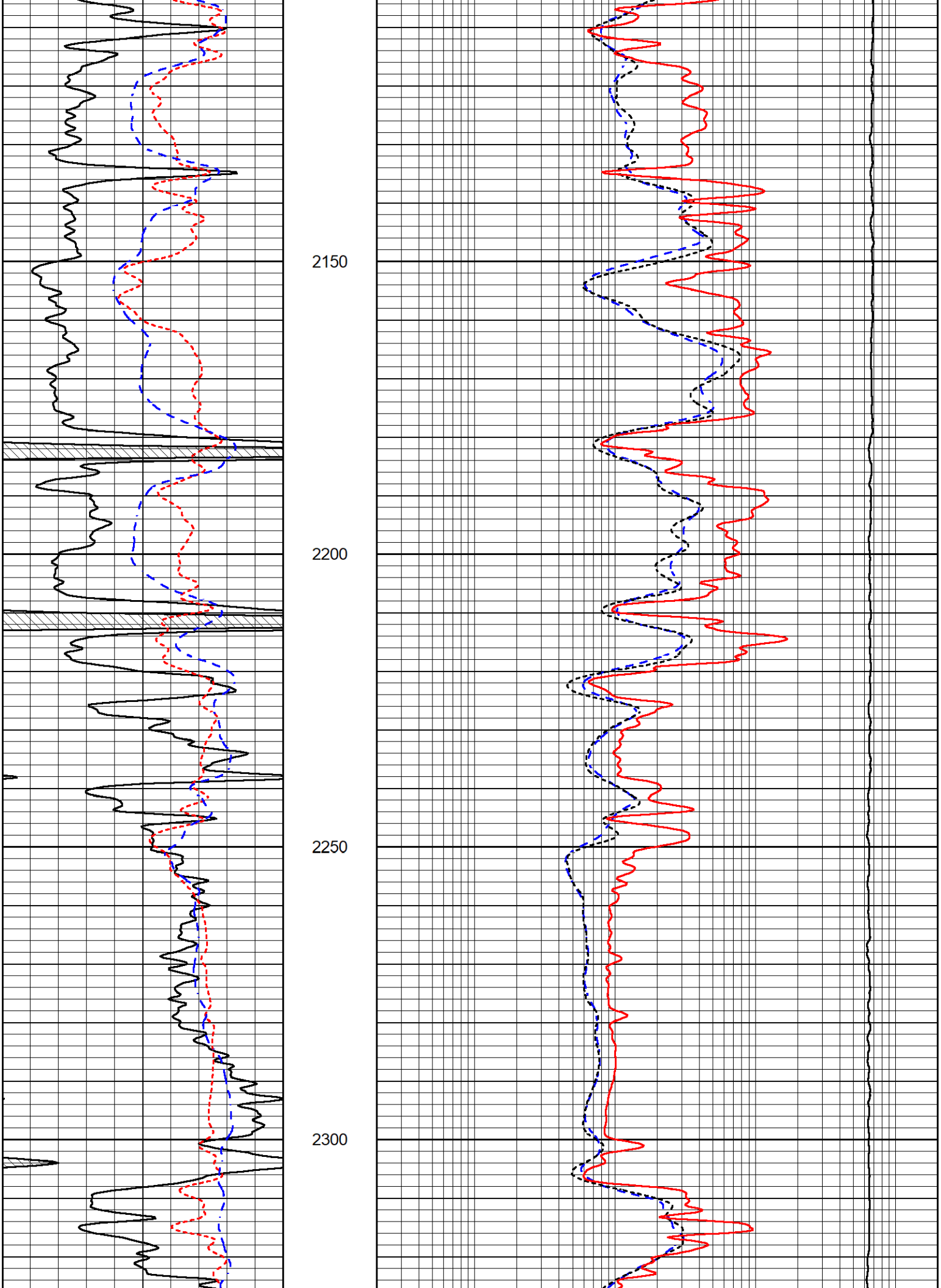
MAIN PASS

MIDWEST WIRELINE

Database File	epoc_t wiebe #31-10.db
Dataset Pathname	StkMI/pass3.1
Presentation Format	_dil
Dataset Creation	Mon Feb 21 06:30:23 2022
Charted by	Depth in Feet scaled 1:240




1900
1950
2000
2050
2100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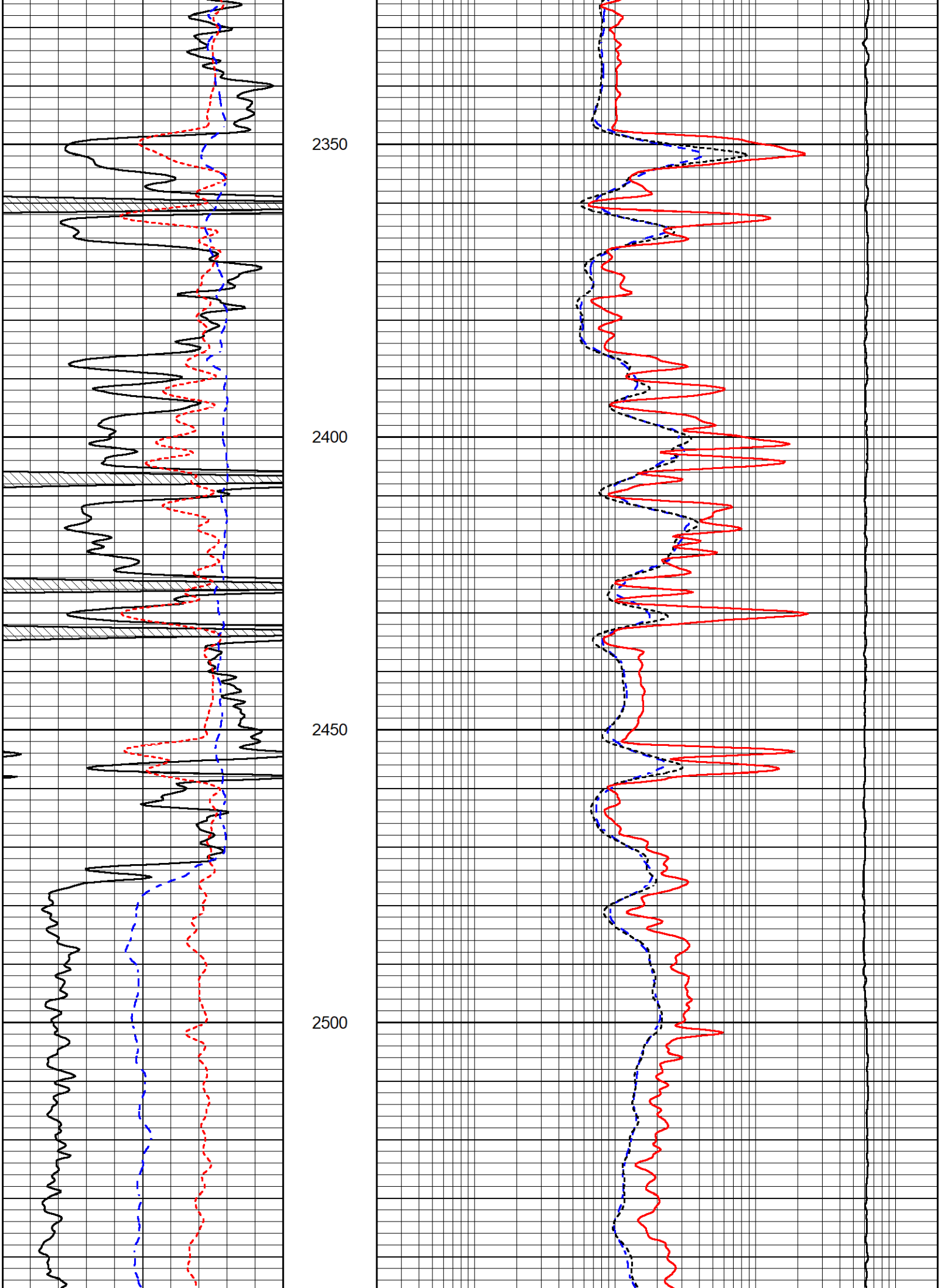
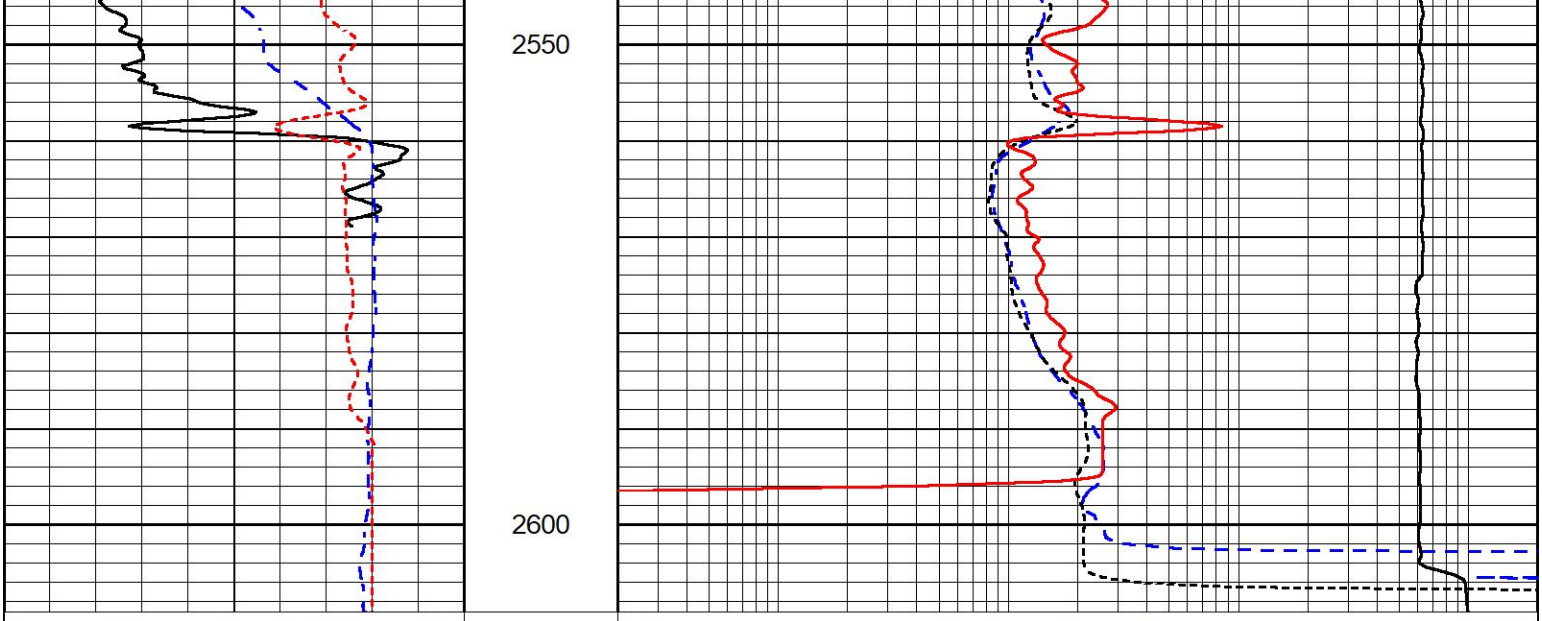
2200
2250
2300


2350
2400
2450
2500



0	Gamma Ray (GAPI)	150
-160	RXORT	40
-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

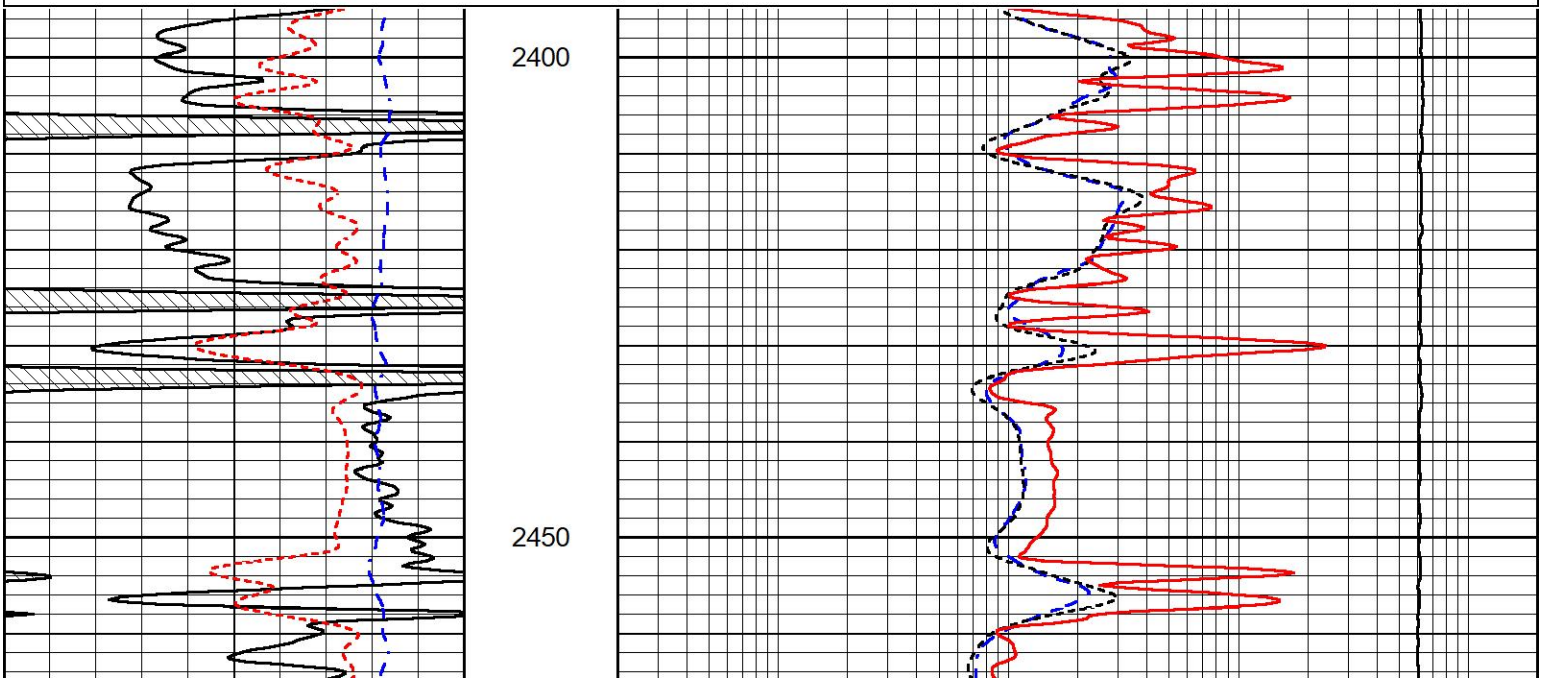
REPEAT SECTION

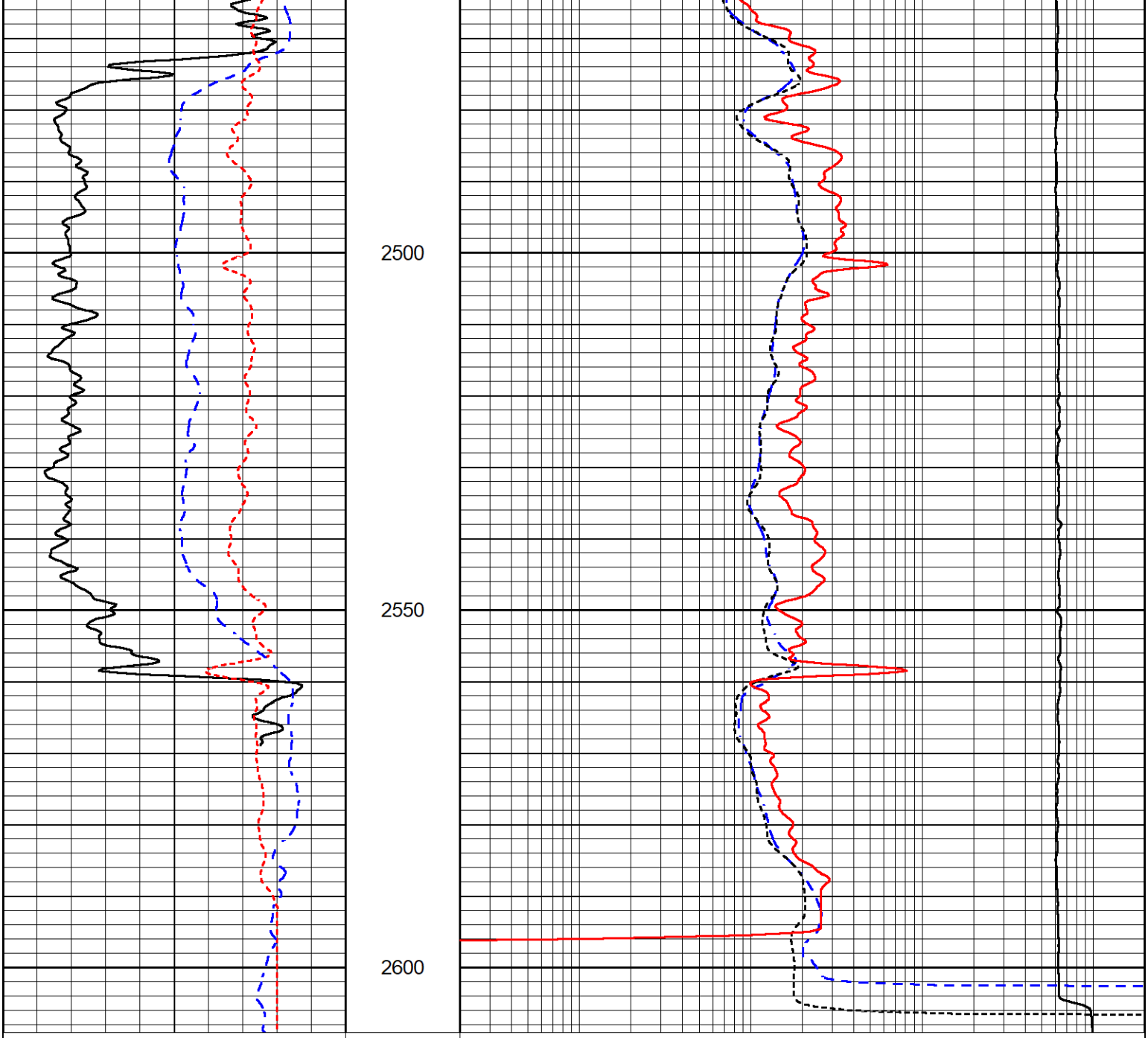
REPEAT PASS

Database File	epoc_t wiebe #31-10.db
Dataset Pathname	StkMl/pass2.1
Presentation Format	_dil
Dataset Creation	Mon Feb 21 06:18:28 2022
Charted by	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150
-160	RXORT	40
-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	epoc_t wiebe #31-10.db
Dataset Pathname	StkMl/pass3.1
Dataset Creation	Mon Feb 21 06:30:23 2022

Dual Induction Calibration Report

Serial-Model:	501 HT-M&W
Surface Cal Performed:	Mon Jan 24 19:13:55 2022

	Readings		References		Results	
Loop:	Air	Loop	Air	Loop	m	b

Deep	83.639	487.104		0.000	183.000	mmho/m	0.455	-41.500
Medium	113.335	1585.690		0.000	442.000	mmho/m	0.320	-35.000

Microlog Calibration Report

Serial-Model: 402-PSIML
Performed: Mon Jan 24 20:31:16 2022

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	21000.0000	-0.8000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	20000.0000	0.0000
Caliper	1.0052	1.0858	5.0000	16.5000	in	125.0000	-122.1500

Compensated Density Calibration Report

Serial-Model: 305-05-M&W
Source #: 20762B
Master Calibration Performed: Mon Jan 24 19:14:33 2022

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	8758.11	9709.36	cps
Aluminum	2.630	g/cc	1513.14	5652.54	cps

Spine Angle = 72.88 Density/Spine Ratio = 0.476

	Size		Reading
Small Ring	4.00	in	1.75
Large Ring	14.00	in	1.38

Compensated Neutron Calibration Report

Serial-Model: 207-MW-M&W
Source #: 100046B
Master Calibration Performed: Mon Nov 29 15:06:24 2021

Master 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: 101
Tool Model: M&W
Performed: Mon Jan 24 19:14:46 2022

Calibrator Value: 500.0 GAPI

Background Reading: 24.0 cps
Calibrator Reading: 637.0 cps

Sensitivity: 0.5500 GAPI/cps

Company	EPOC LLC
Well	T. Wiebe #31-10
Field	Hazlett
County	Butler
State	Kansas