MIDWEST WIRELINE

DUAL COMP POROSITY
MICRO & DUAL IND LOG

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

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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
None

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
Type Log	CNL/CDL/ML/DIL
Depth Driller	2639
Depth Logger	2604
Bottom Logged Interval	2603
Top Logged Interval	2000
Type Fluid In Hole	Chemical
Salinity, PPM CL	1400
Density	9.4
Level	Full
Max. Rec. Temp. F	102
Operating Rig Time	2 Hours
Equipment -- Location	P-24 | Hays
Recorded By	T. Martin
Witnessed By	Ray Gilbert

Borehole Record

Run No.	Bit	From	To
One	12.25	00	237
Two	7.875	237	TD

Casing Record

Size	Wgt.	From	To
8.625	23	00	237

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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

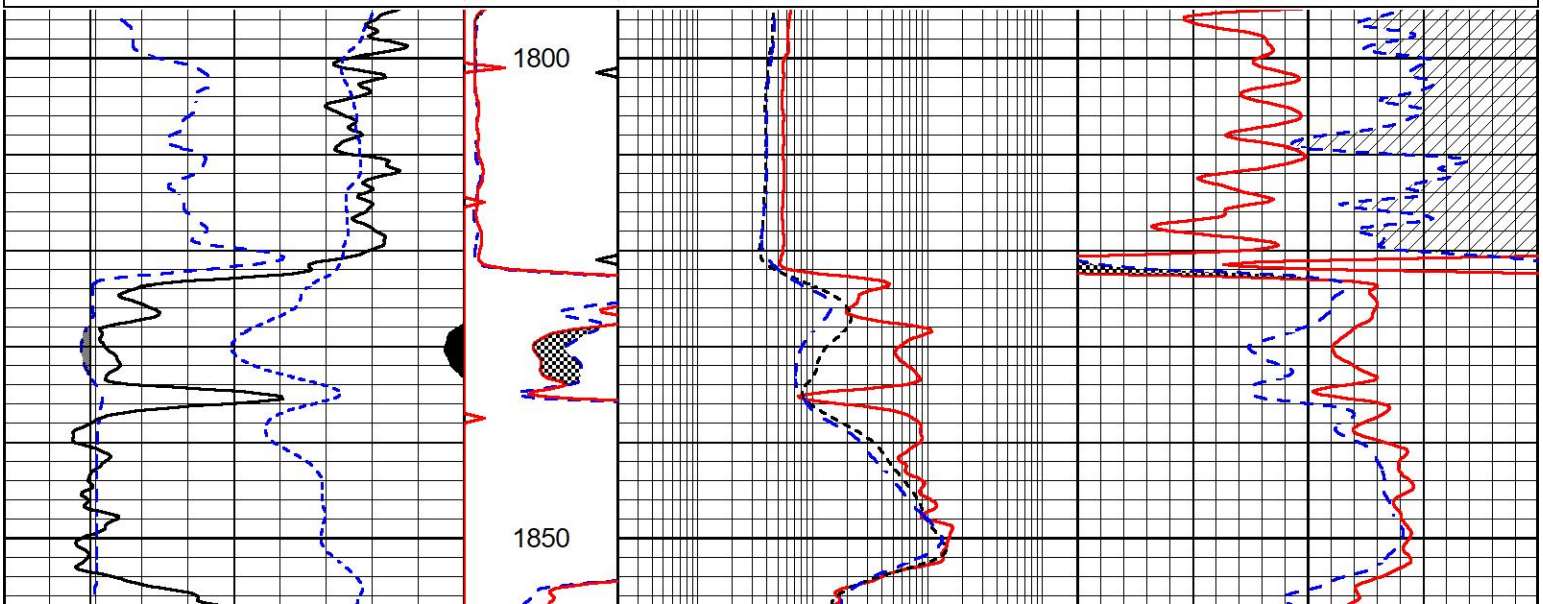
MIDWEST WIRELINE

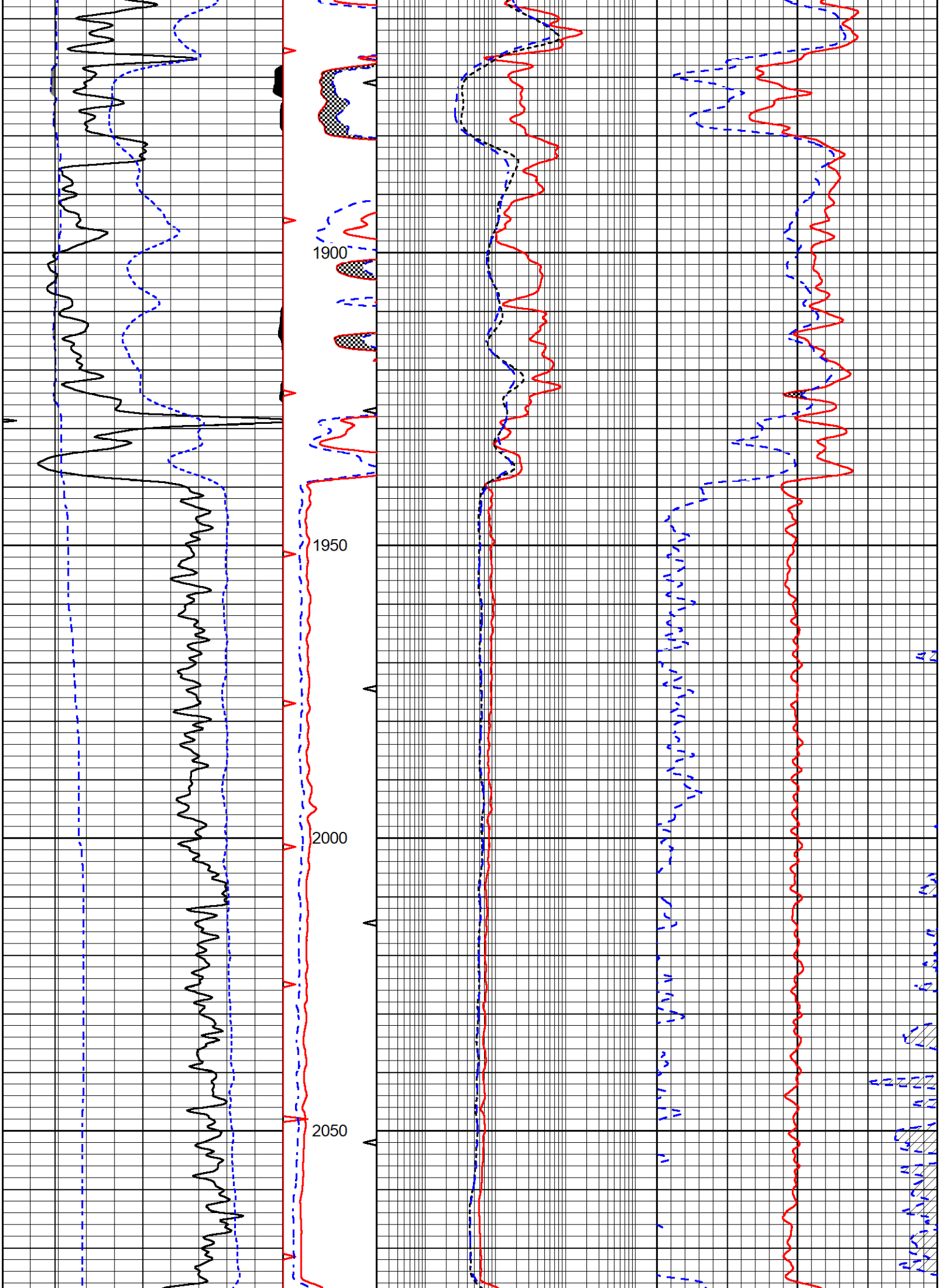
DETAIL SECTION

MAIN PASS

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

0	Gamma Ray (GAPI)	150	MN (Ohm-m) 0 20	0.2	Shallow Guard (Ohm-m)	2000	30	Density Porosity (pu) -10
6	Caliper (in)	16		0.2	Medium Induction (Ohm-m)	2000	30	Neutron Porosity (pu) -10
-200	SP (mV)	0		0.2	Deep Induction (Ohm-m)	2000		
6	Bit Size	16	MI (Ohm-m) 0 20					

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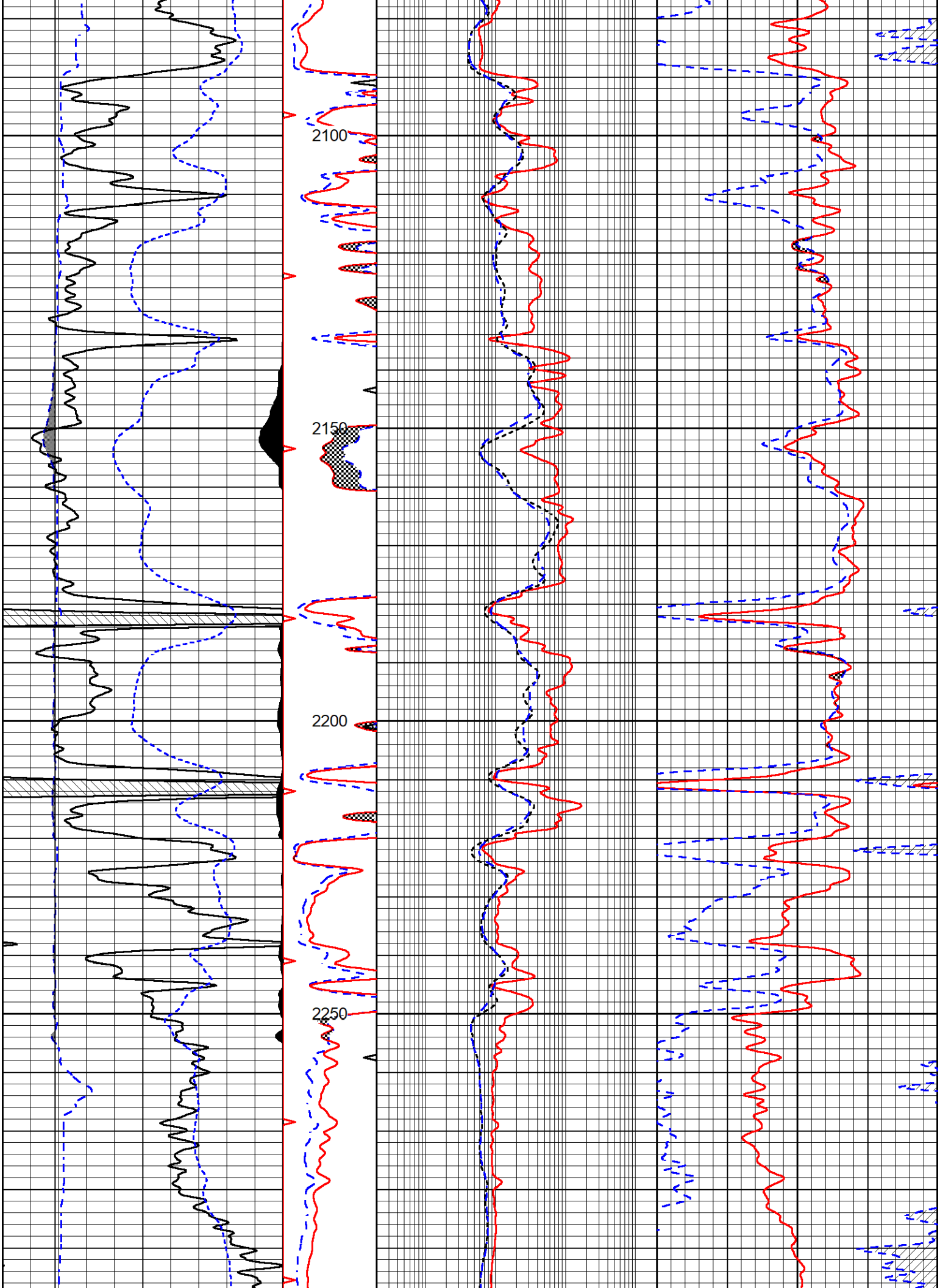
1950
2000
2050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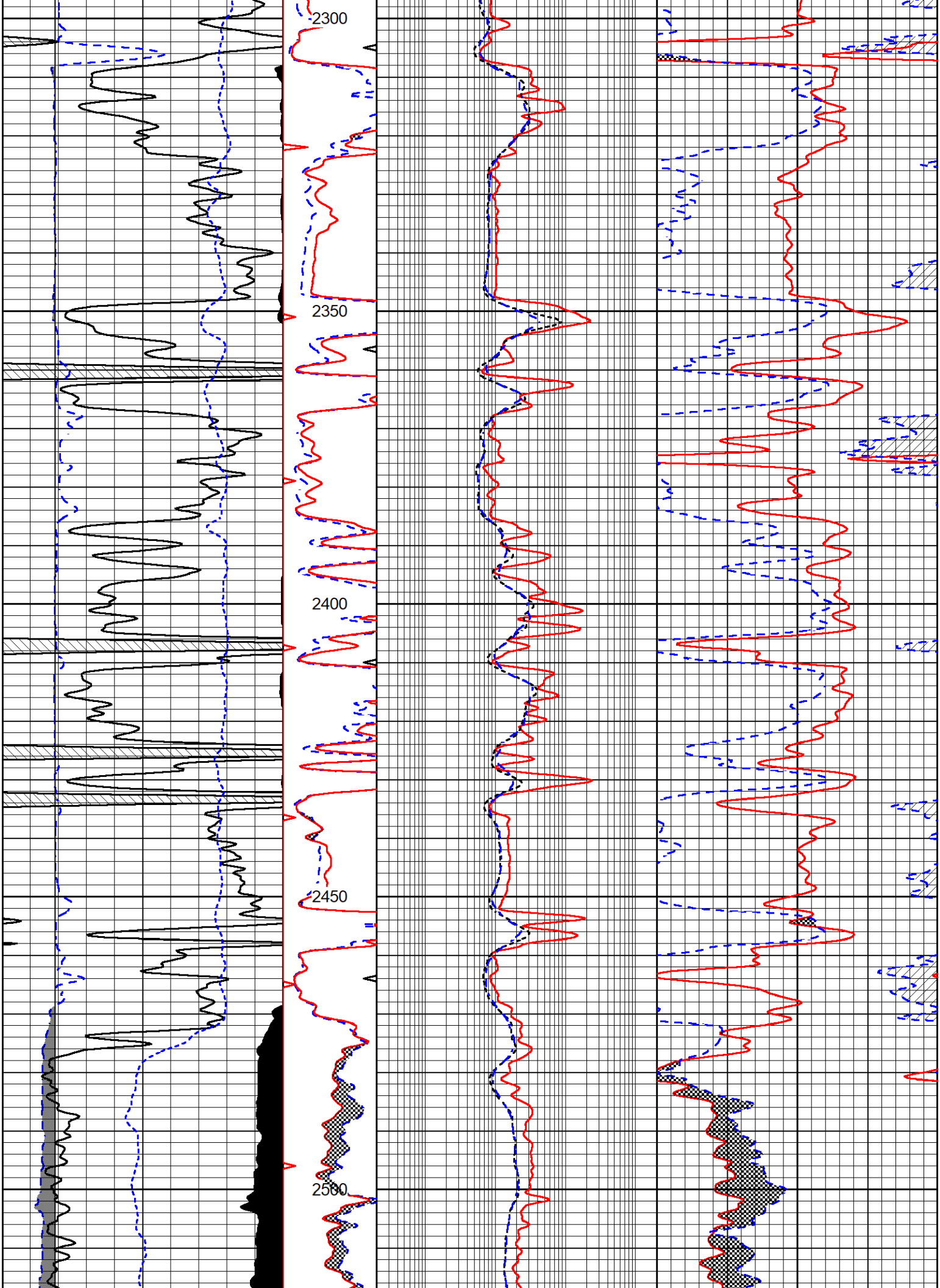
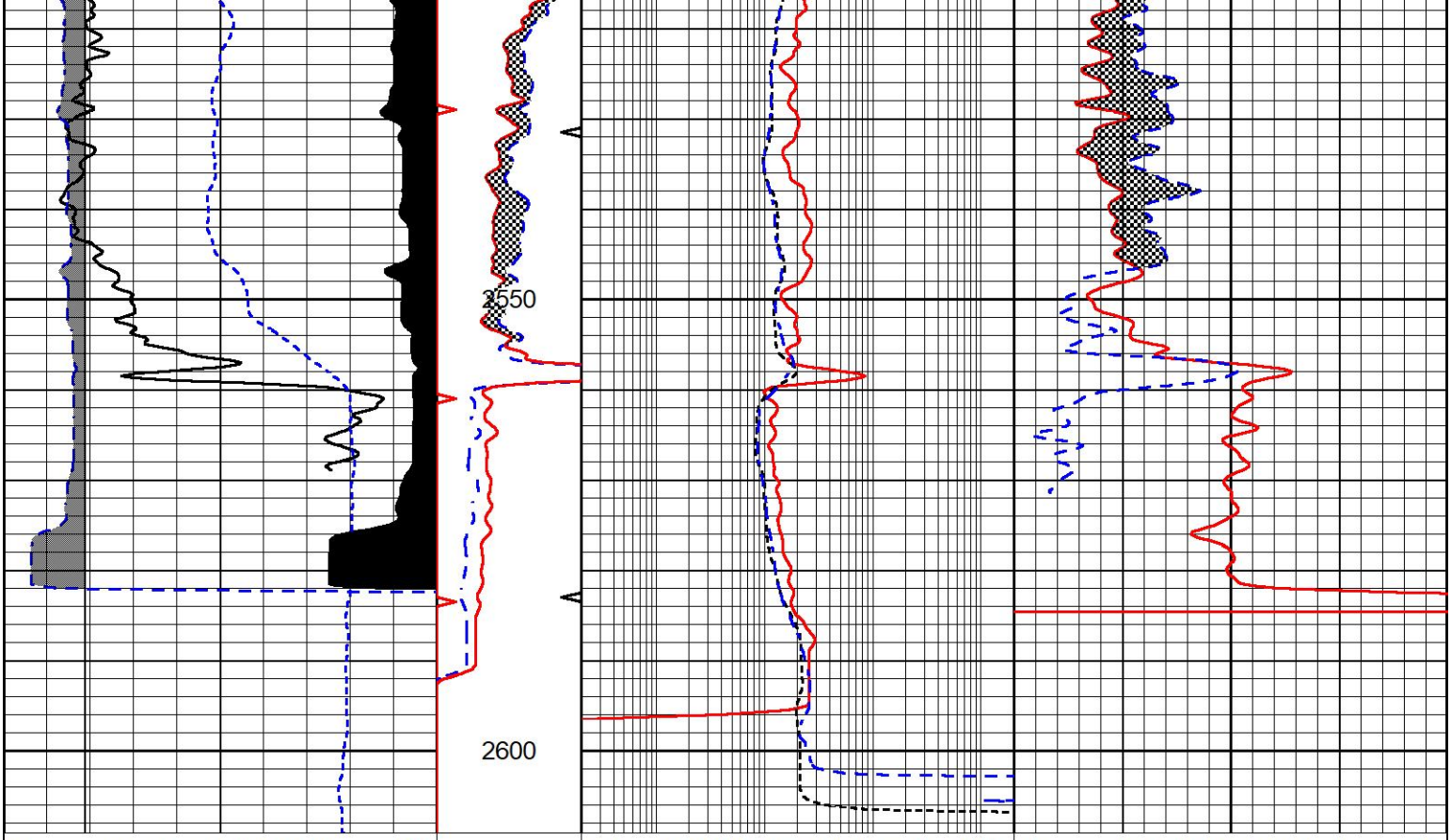
2150
2200
2250


2300
2350
2400
2450
2500



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6	Caliper (in)	16		0.2	Medium Induction (Ohm-m)	2000	30 Neutron Porosity (pu)	-10
-200	SP (mV)	0		0.2	Deep Induction (Ohm-m)	2000		
6	Bit Size	16	MI (Ohm-m) 0 20					

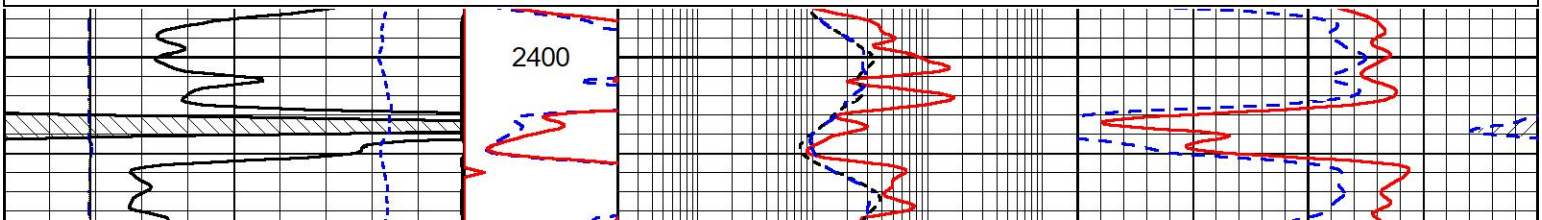
MIDWEST WIRELINE

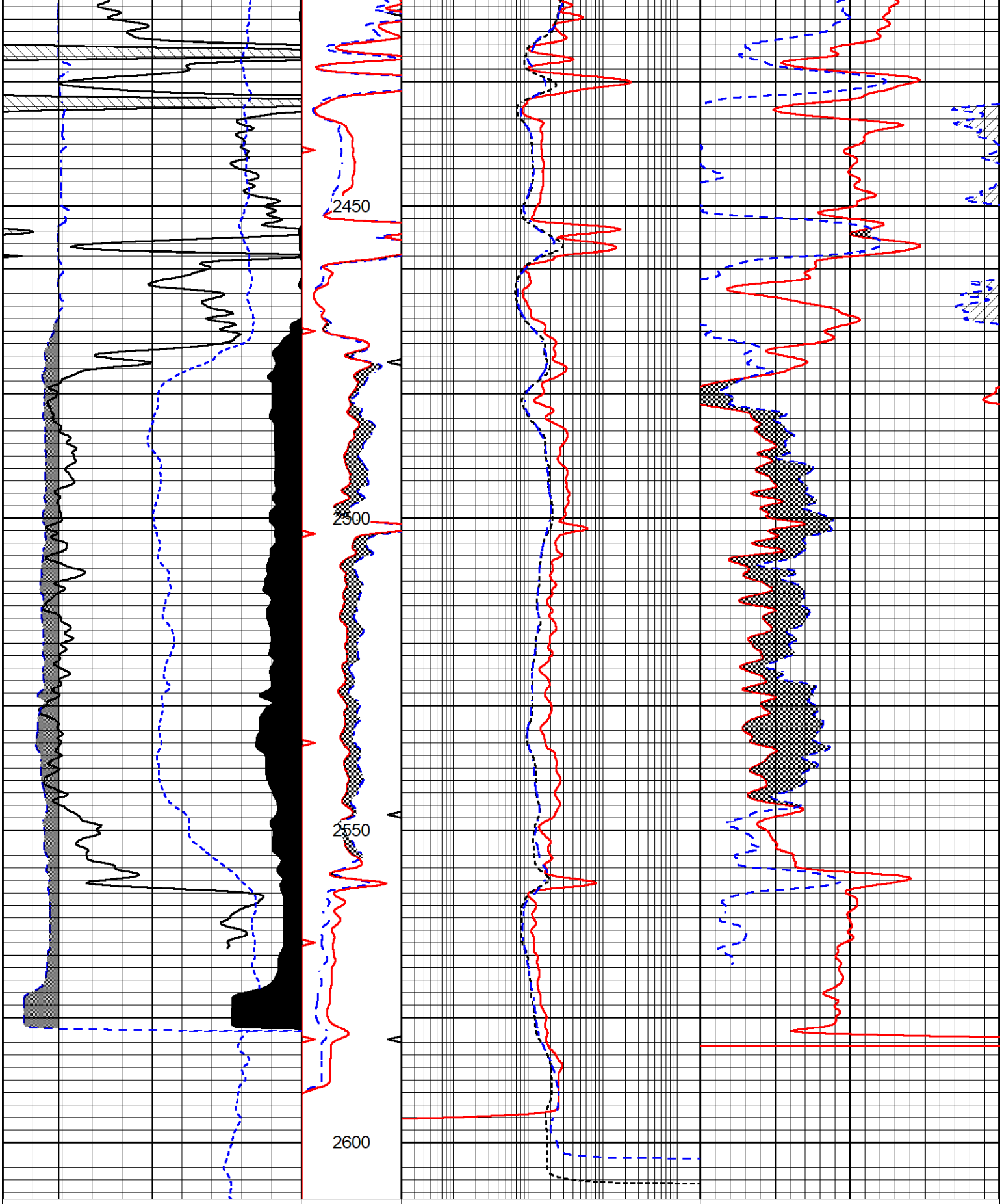
REPEAT SECTION

REPEAT PASS

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

0	Gamma Ray (GAPI)	150	MN (Ohm-m) 0 20	0.2	Shallow Guard (Ohm-m)	2000	30 Density Porosity (pu)	-10
6	Caliper (in)	16		0.2	Medium Induction (Ohm-m)	2000	30 Neutron Porosity (pu)	-10
-200	SP (mV)	0		0.2	Deep Induction (Ohm-m)	2000		
6	Bit Size	16	MI (Ohm-m) 0 20					





0	Gamma Ray (GAPI)	150	MN (Ohm-m)	0.2	Shallow Guard (Ohm-m)	2000	30 Density Porosity (pu) -10
6	Caliper (in)	16		0.2	Medium Induction (Ohm-m)	2000	30 Neutron Porosity (pu) -10
-200	SP (mV)	0	0 20	0.2	Deep Induction (Ohm-m)	2000	
6	Bit Size	16	MI (Ohm-m)				
			0 20				

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

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

MIDWEST WIRELINE

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