



DUAL COMP POROSITY LOG

Company: SAPPHIRE RESOURCE, LLC
 Well: TRACY NO.1 OWWO DEEPENING
 Field: GROENDYCKE SOUTH
 County: BARBER
 State: KANSAS

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Location: API #: 15-007-22153-00-01
 4950' FSL & 1650' FEL
 SEC 11 TWP 34S RGE 12W
 Permanent Datum: GROUND LEVEL Elevation 1502'
 Log Measured From: KELLY BUSHING
 Drilling Measured From: KELLY BUSHING
 Other Services: MEL/BHCS
 Elevation: K.B. 1515', D.F. N/A, G.L. 1502'

Date	2/03/2020						
Run Number	ONE						
Type Log	CNL/CDL						
Depth Driller	5386'						
Depth Logger	5390'						
Bottom Logged Interval	5358'						
Top Logged Interval	3900'						
Type Fluid In Hole	CHEMICAL						
Salinity, PPM CL	4000						
Density	9.2						
Level	FULL						
Max. Rec. Temp. F	130 DEG. F.						
Operating Rig Time	5 HOURS						
Equipment -- Location	P-108 HAYS						
Recorded By	M. HISS						
Witnessed By	RICK D. BRISCOE						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	00'	303'	8.625"	24#	00'	303'
TWO	7.875"	303'	TD				
Casing Record							

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All interpretations are opinions based on inferences from electrical or other measurements and Pioneer Wireline Services, LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Pioneer Wireline Services, 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.
 MEDICINE LODGE
 SOUTH TO SCOTT CANYON RD, 1 WEST, 1 NORTH,
 1/2 WEST, SOUTH INTO.

Log Measured From: KELLY BUSHING 13 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerenergy.com 785-625-3858

Your Pioneer Energy Services Crew		This Log Record Was Witnessed By	
Engineer: M. HISS	Operator:	Primary Witness: RICK D. BRISCOE	Secondary Witness:
Operator:	Operator:	Secondary Witness:	Secondary Witness:
Operator:		Secondary Witness:	

Log Variables

DatabaseC:\ProgramData\Warrior\Data\sapphire_tracy_#1_owwo.db
 Dataset field/well/STACKML/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	130	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	240	50	Off	5390

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)	
GR	44.50		GR-M&W (89-M&W)	3.00	3.50	50.00	
CNLSC CNSSC	41.40 40.65		CNT-M&W (tk10-MW)	5.50	3.50	100.00	
LSD DCAL SSD	32.35 32.33 31.85		CDL-M&W (934-229)	8.50	4.00	250.00	
ML-PSI UDM ML (UDM-01) Stackable Microlog Tools			11.50	4.00	215.00		
MCAL MI MN	20.87 20.87 20.87						
RLL3 RLL3F	15.80 15.79						
CILD	8.00			DIL-M&W (55-222)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: sapphire_tracy_#1_owwo.db: field/well/STACKML/pass3.1
 Total length: 47.00 ft
 Total weight: 835.00 lb
 O.D.: 4.00 in

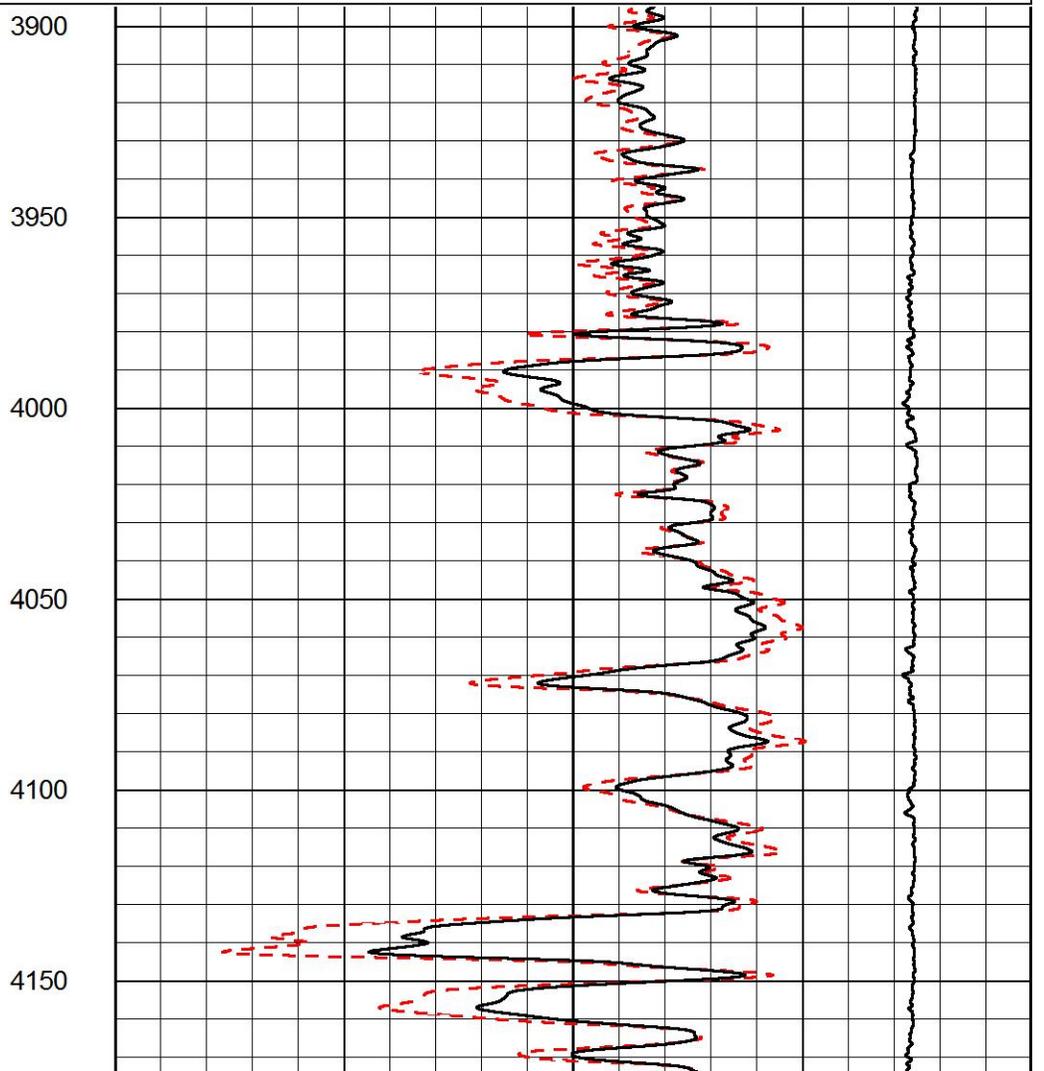
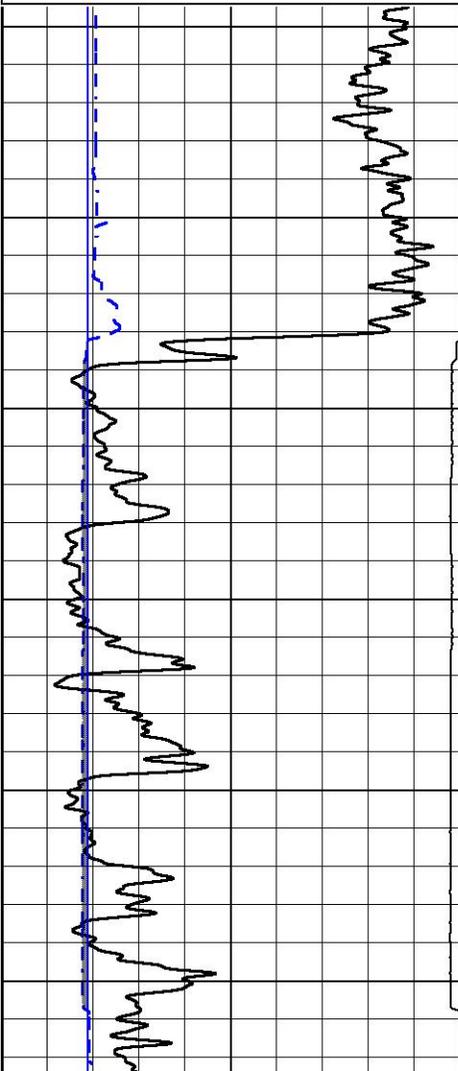


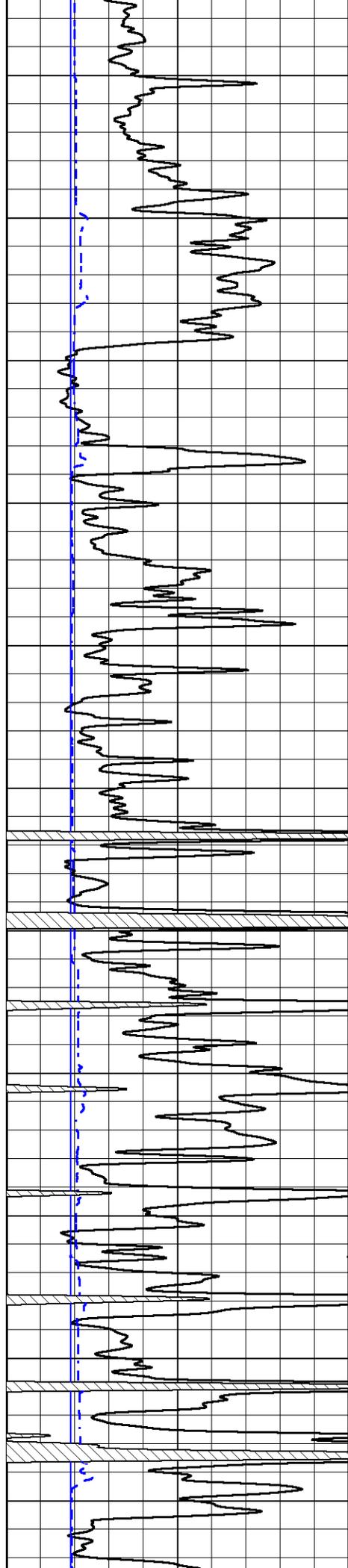
MAIN PASS

Database File sapphire_tracy_#1_owwo.db
 Dataset Pathname STACKML/pass3.1
 Presentation Format cdl
 Dataset Creation Tue Feb 04 01:13:56 2020
 Charted by Depth in Feet scaled 1:600

0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16

30	COMPENSATED DENSITY (pu)	-10
2	BULK DENSITY (g/cc)	3
15000	LINE TENSION (lb)	0





4200

4250

4300

4350

4400

4450

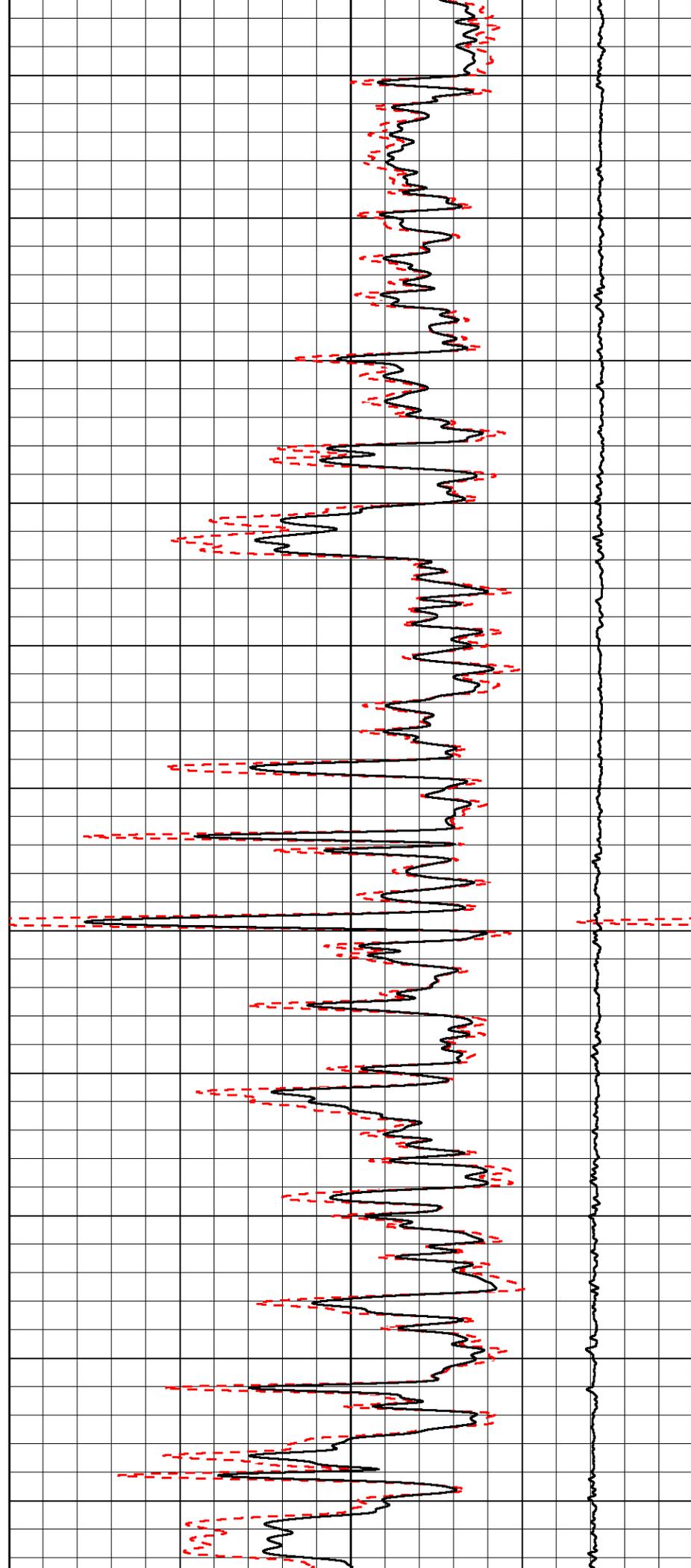
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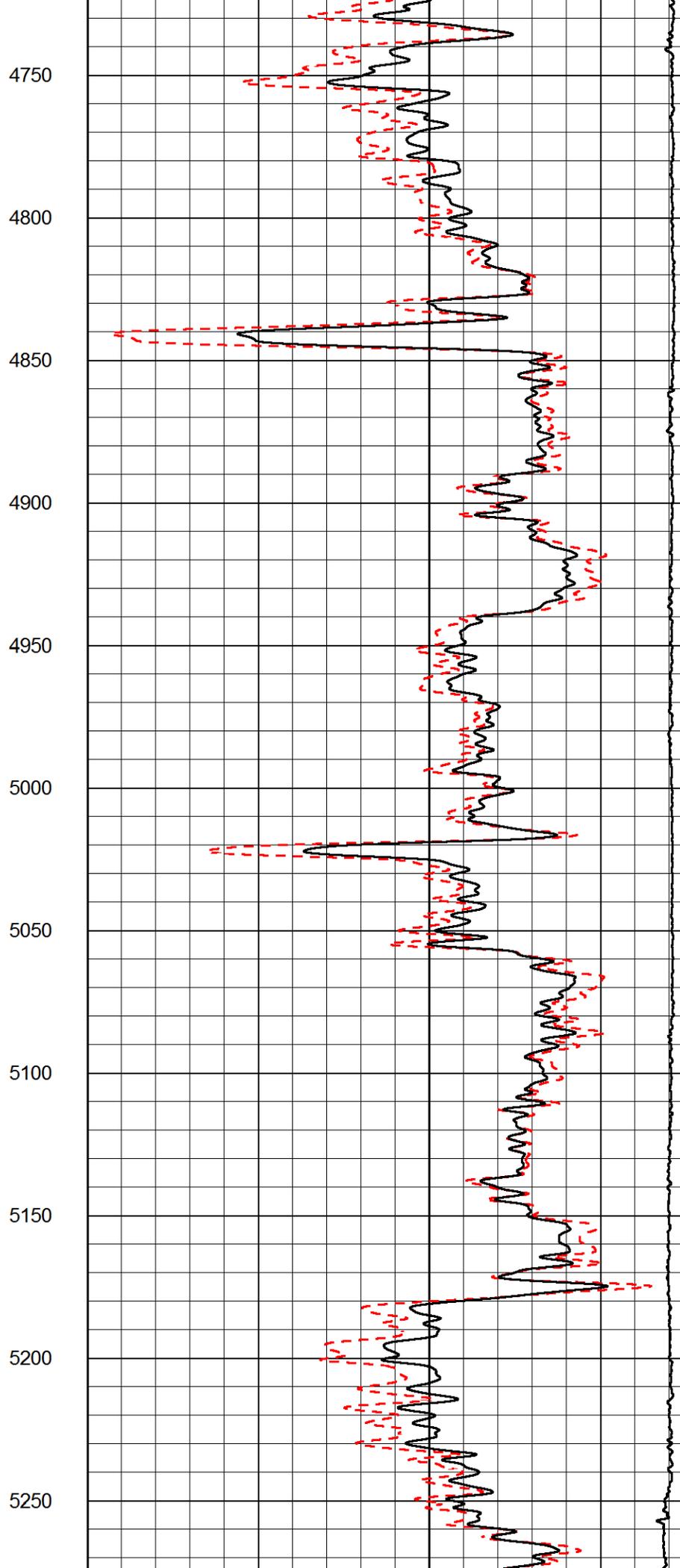
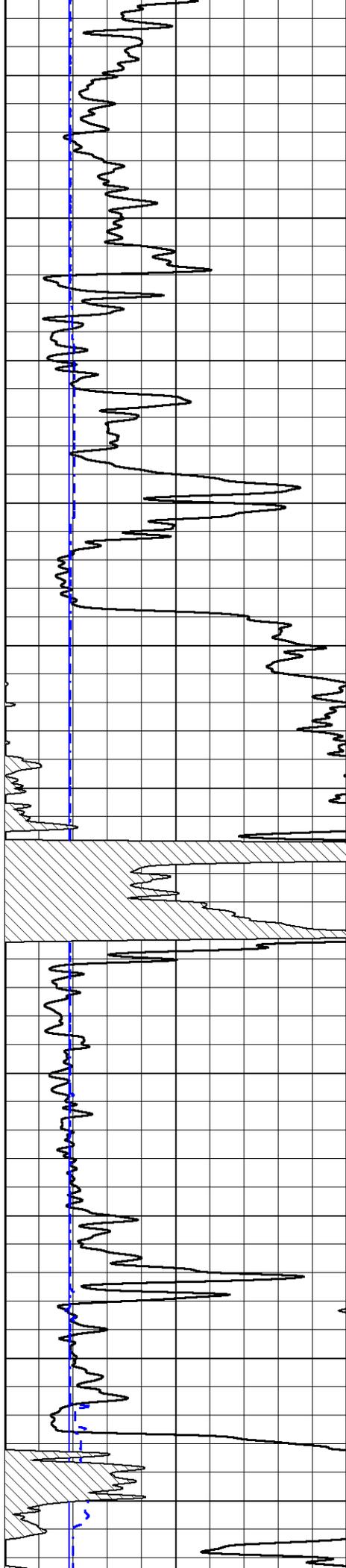
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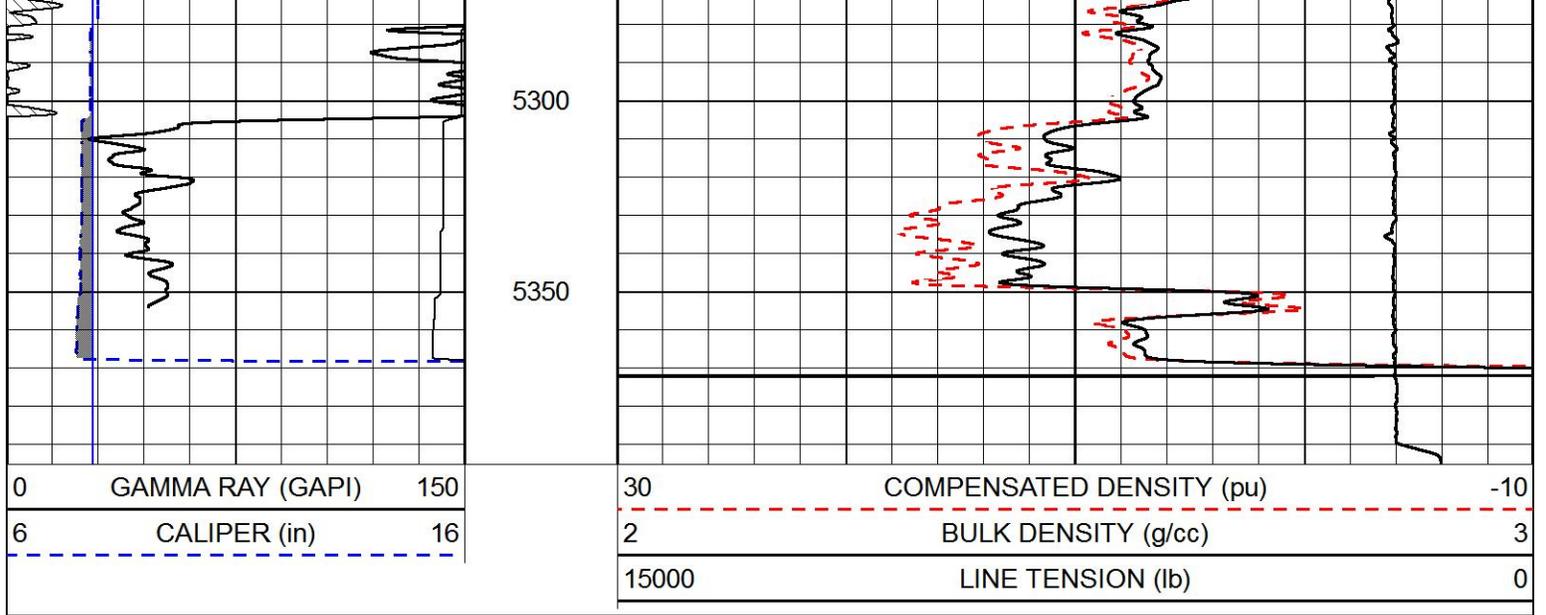
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4650

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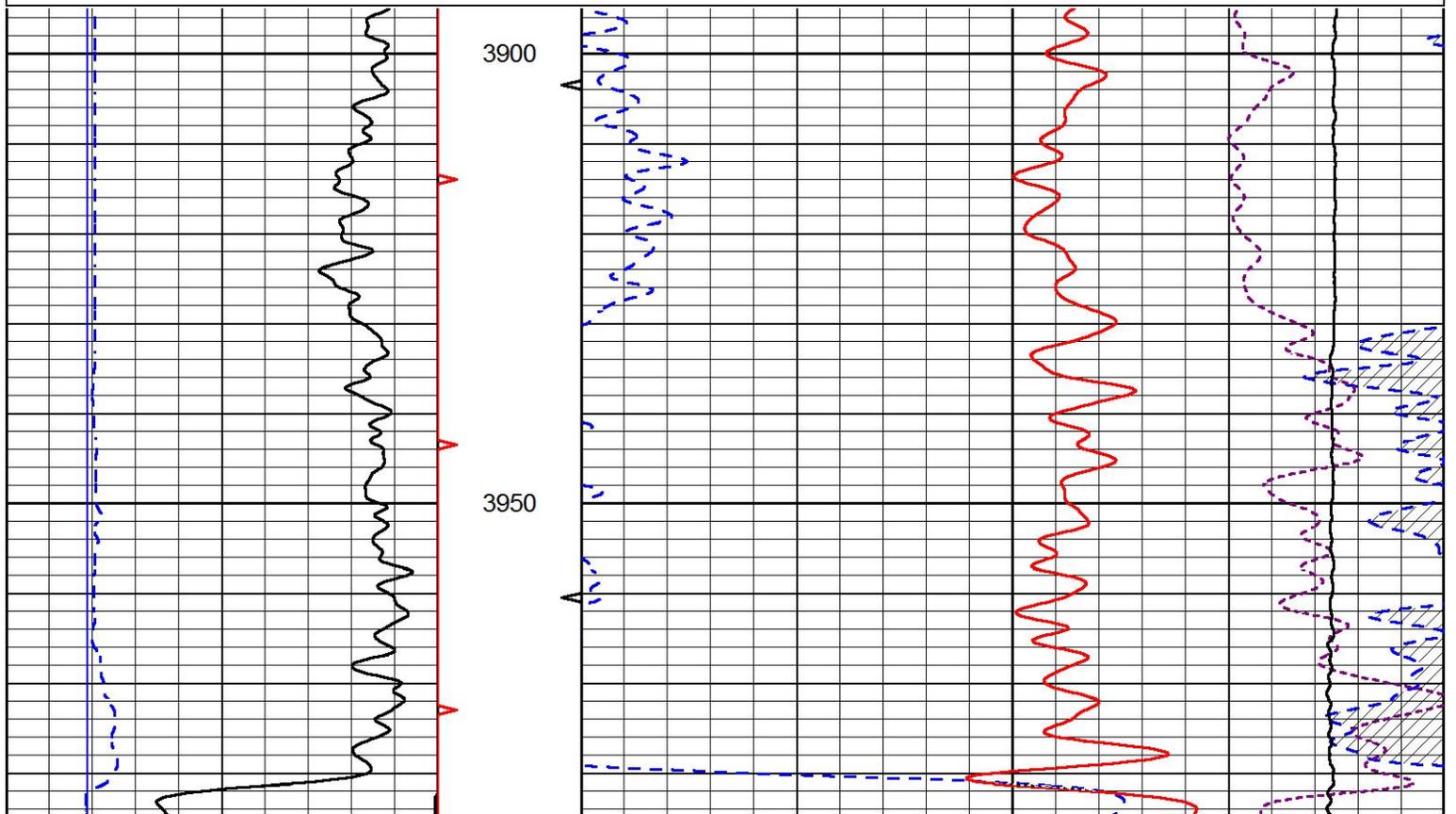
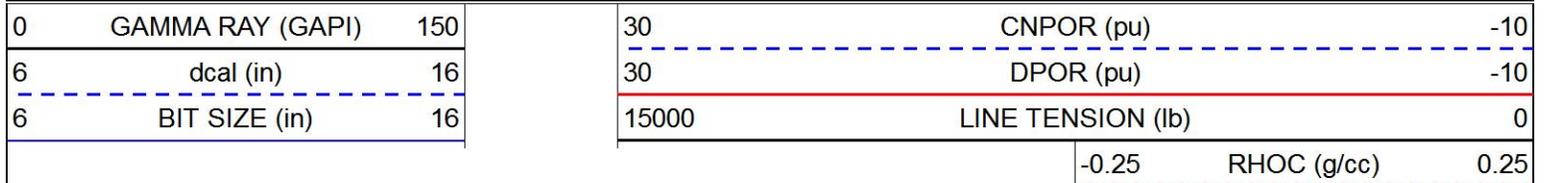


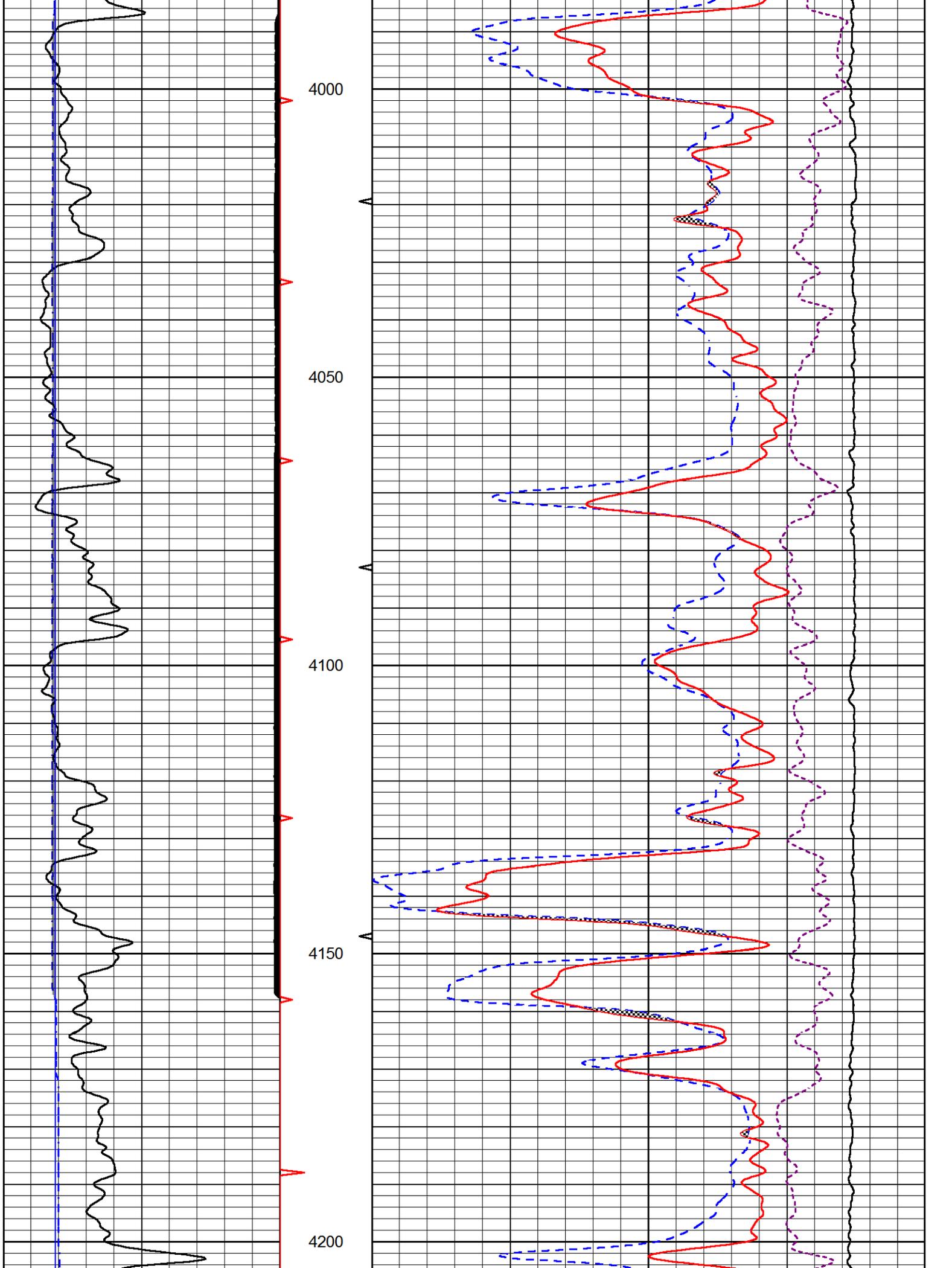


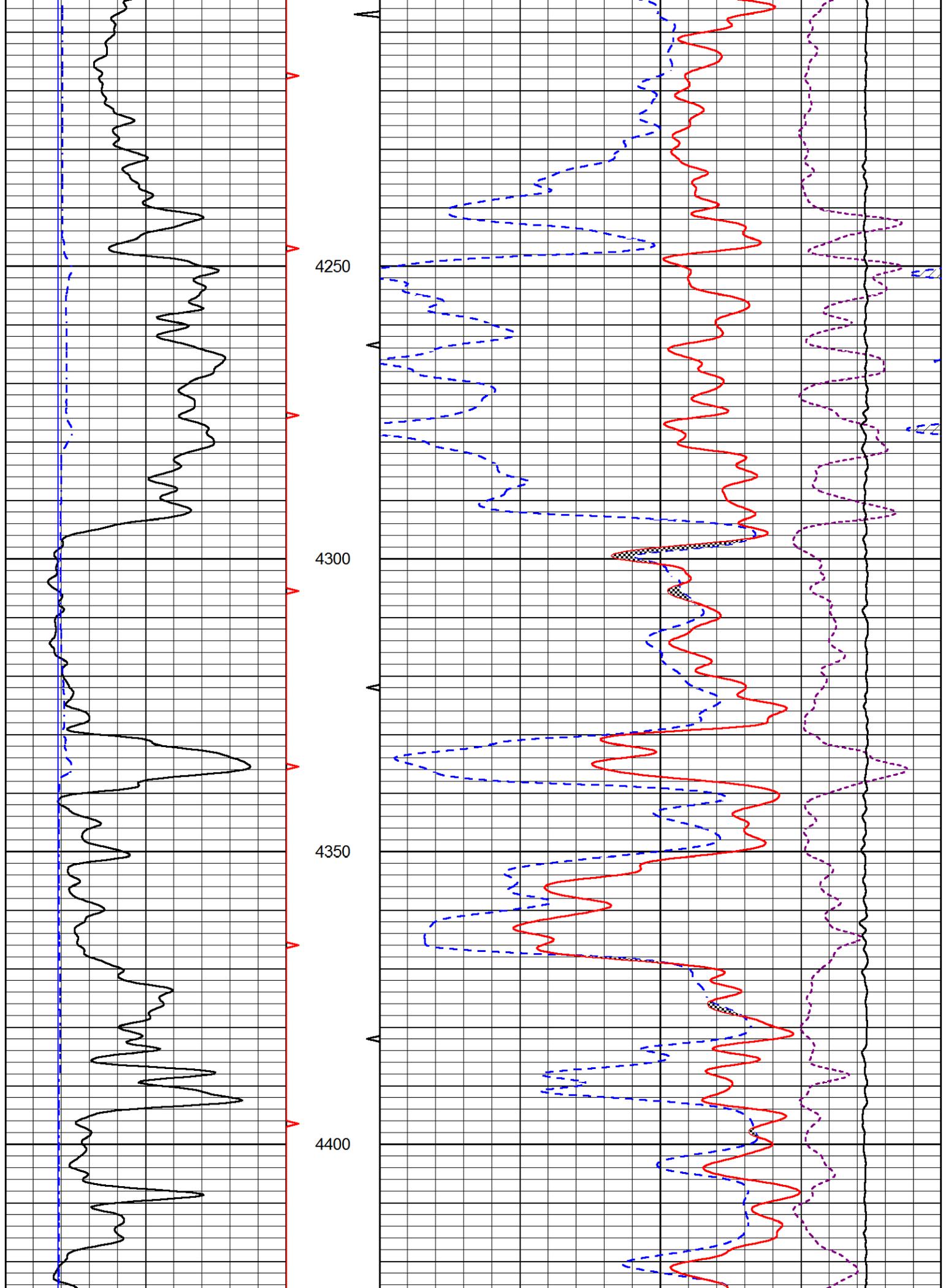


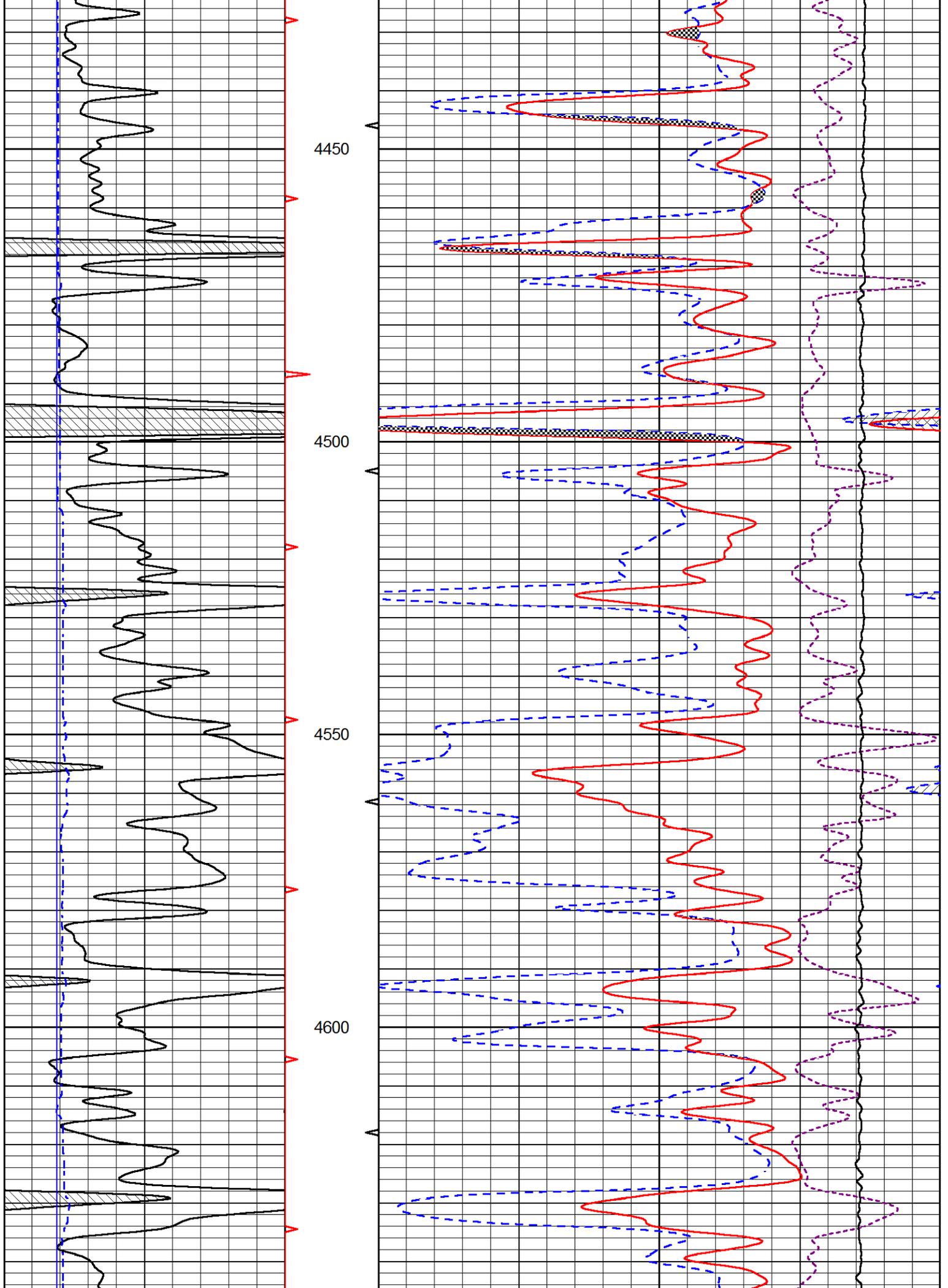
MAIN PASS

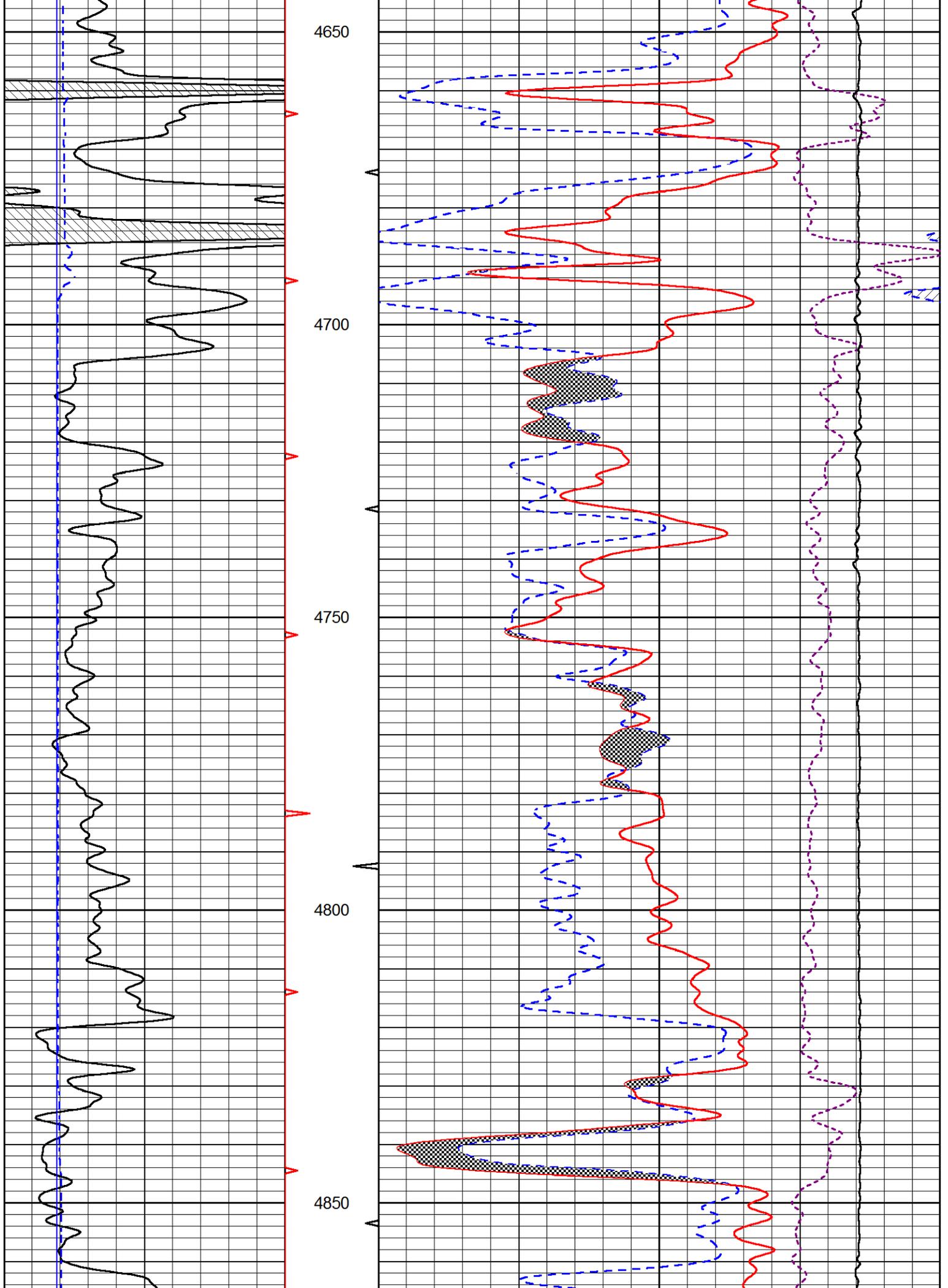
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 Presentation Format cndlspec
 Dataset Creation Tue Feb 04 01:13:56 2020
 Charted by Depth in Feet scaled 1:240

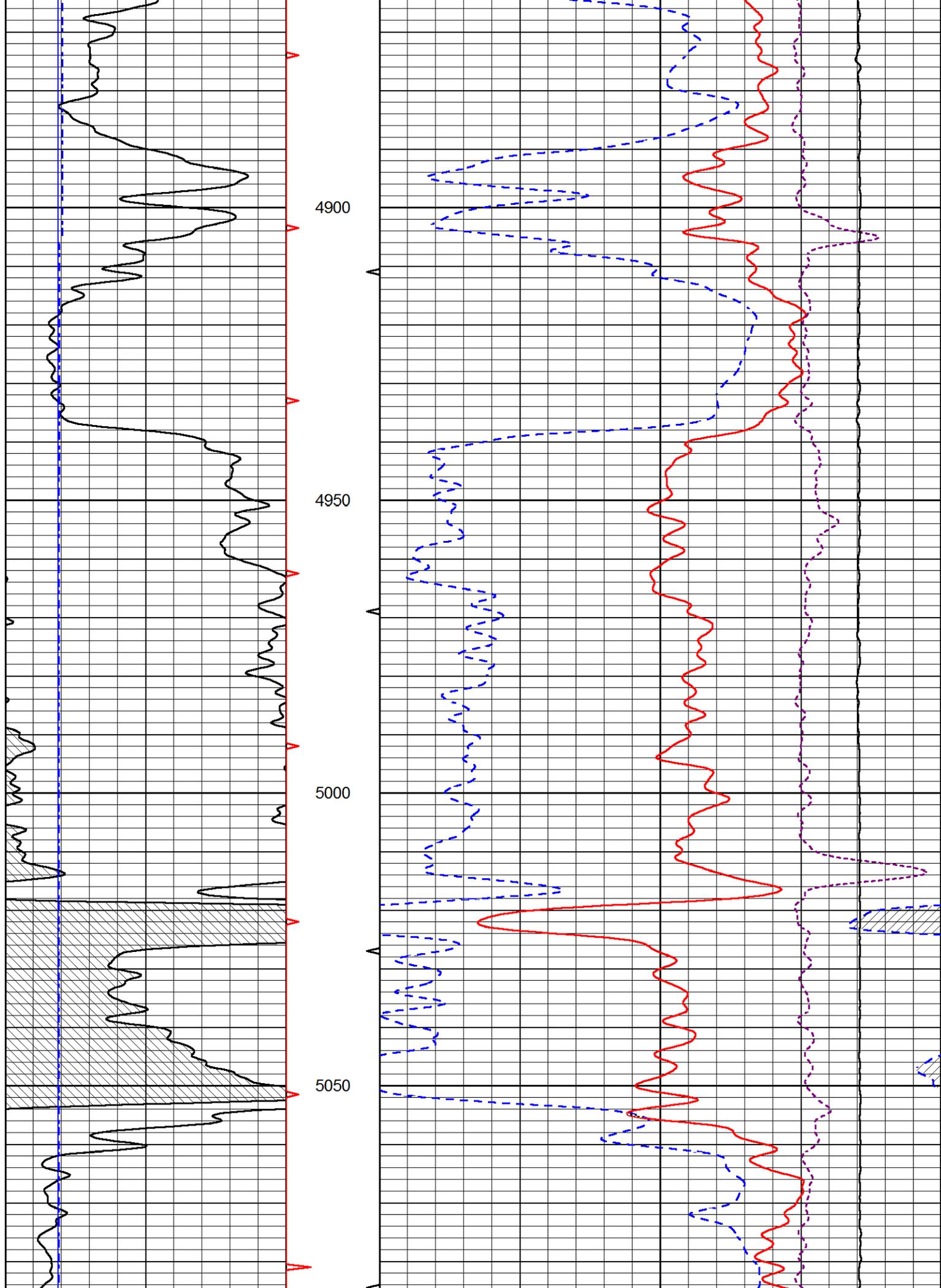


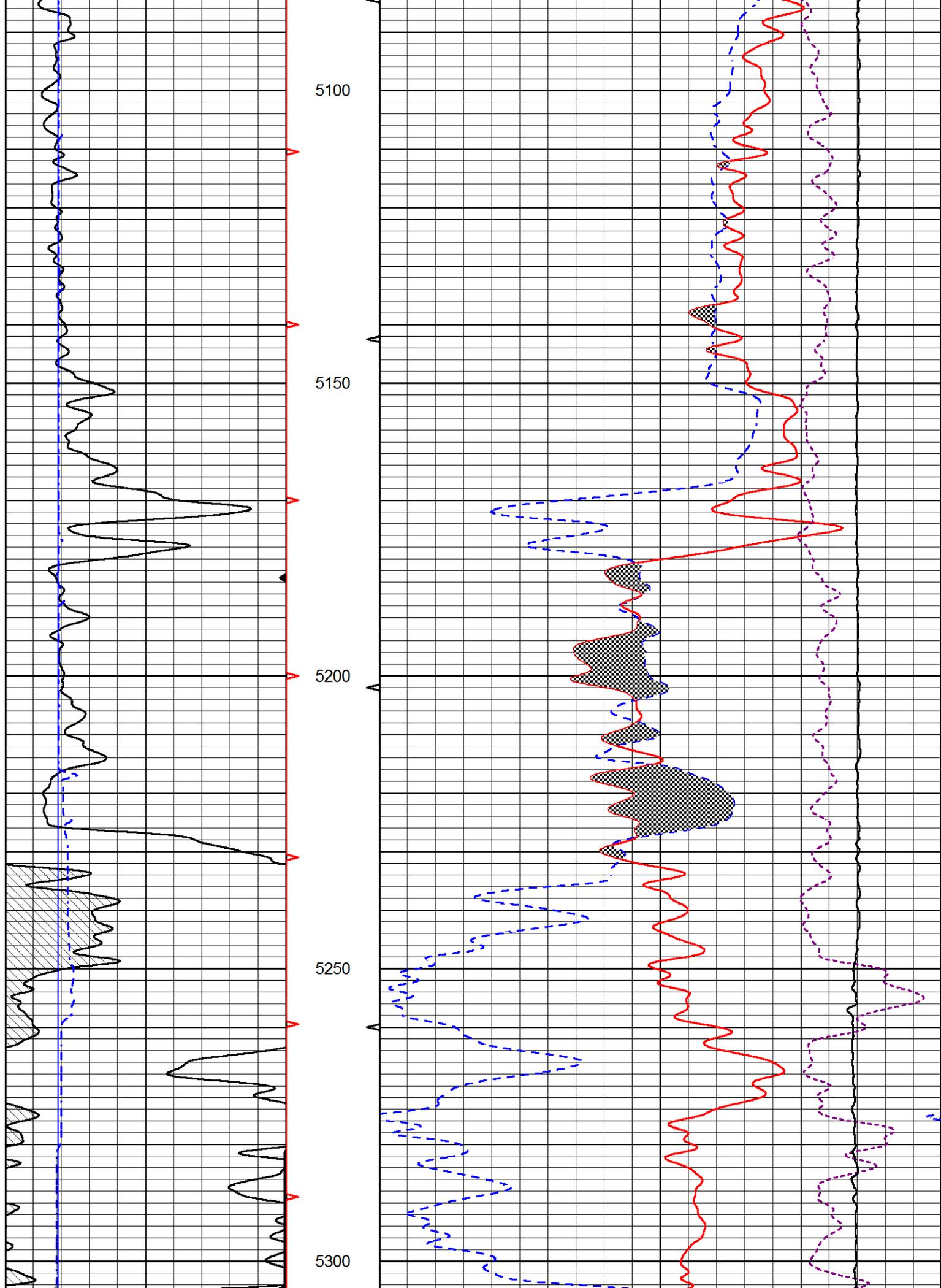


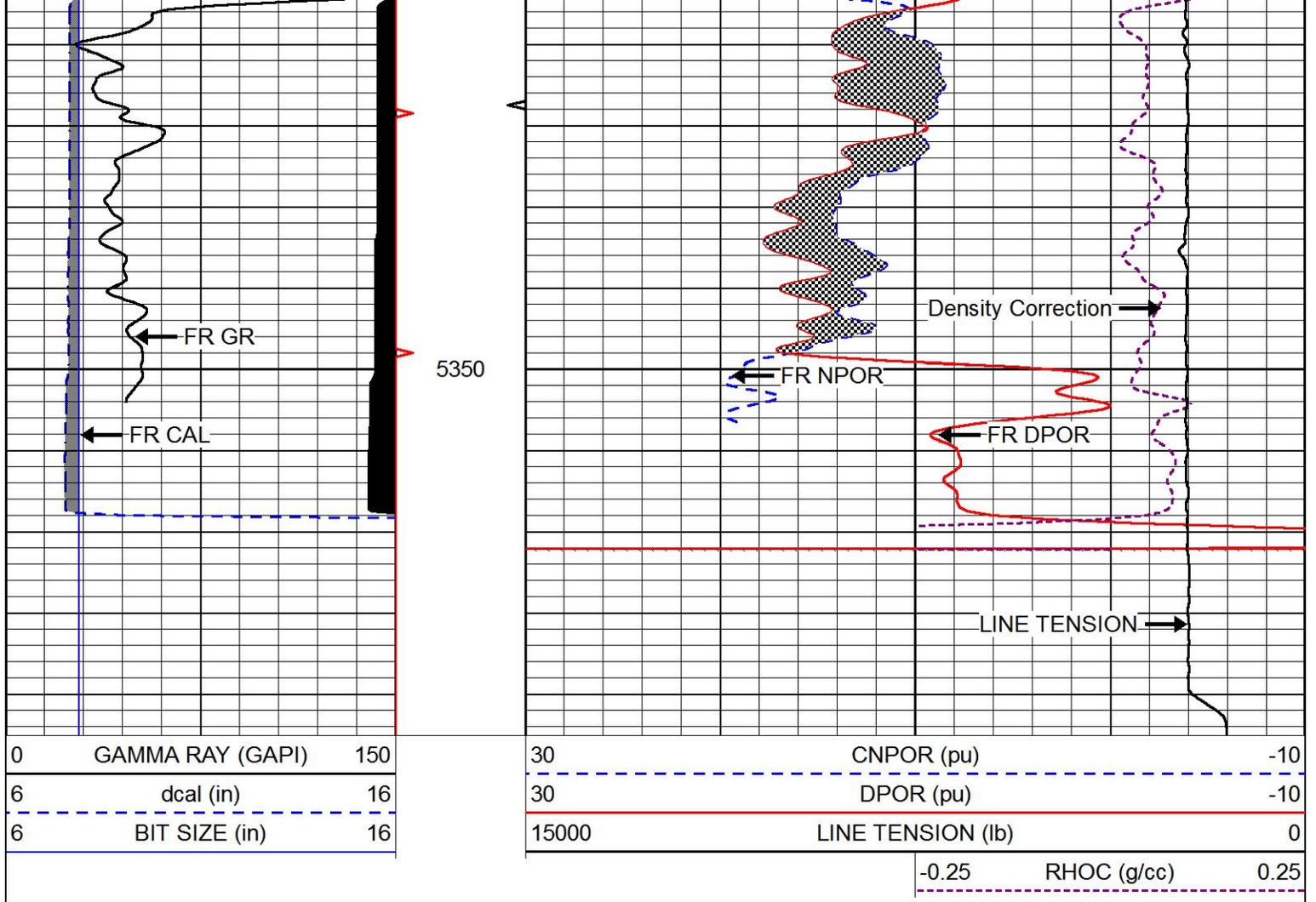








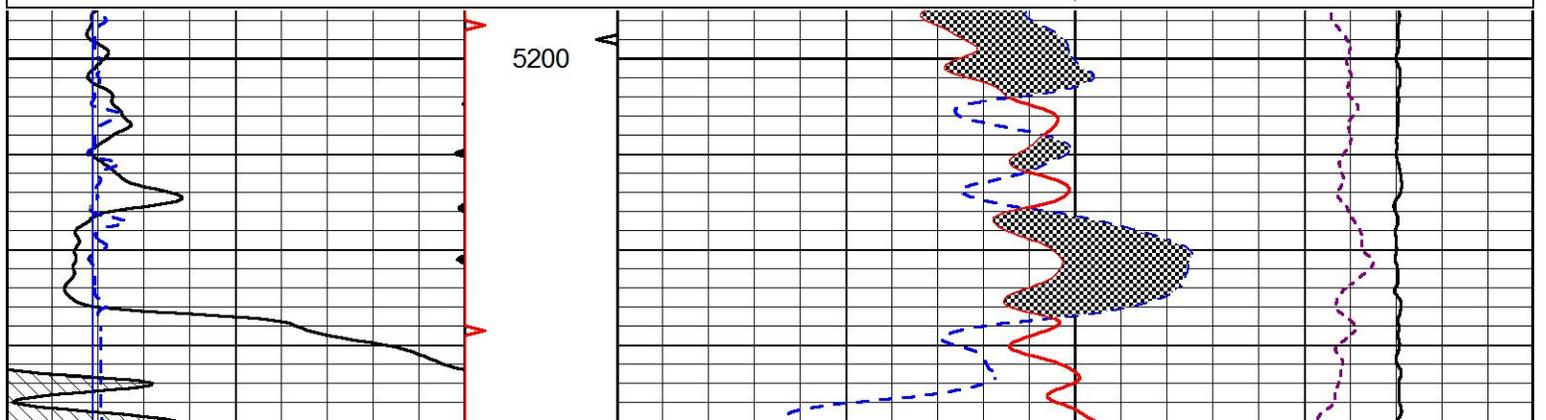


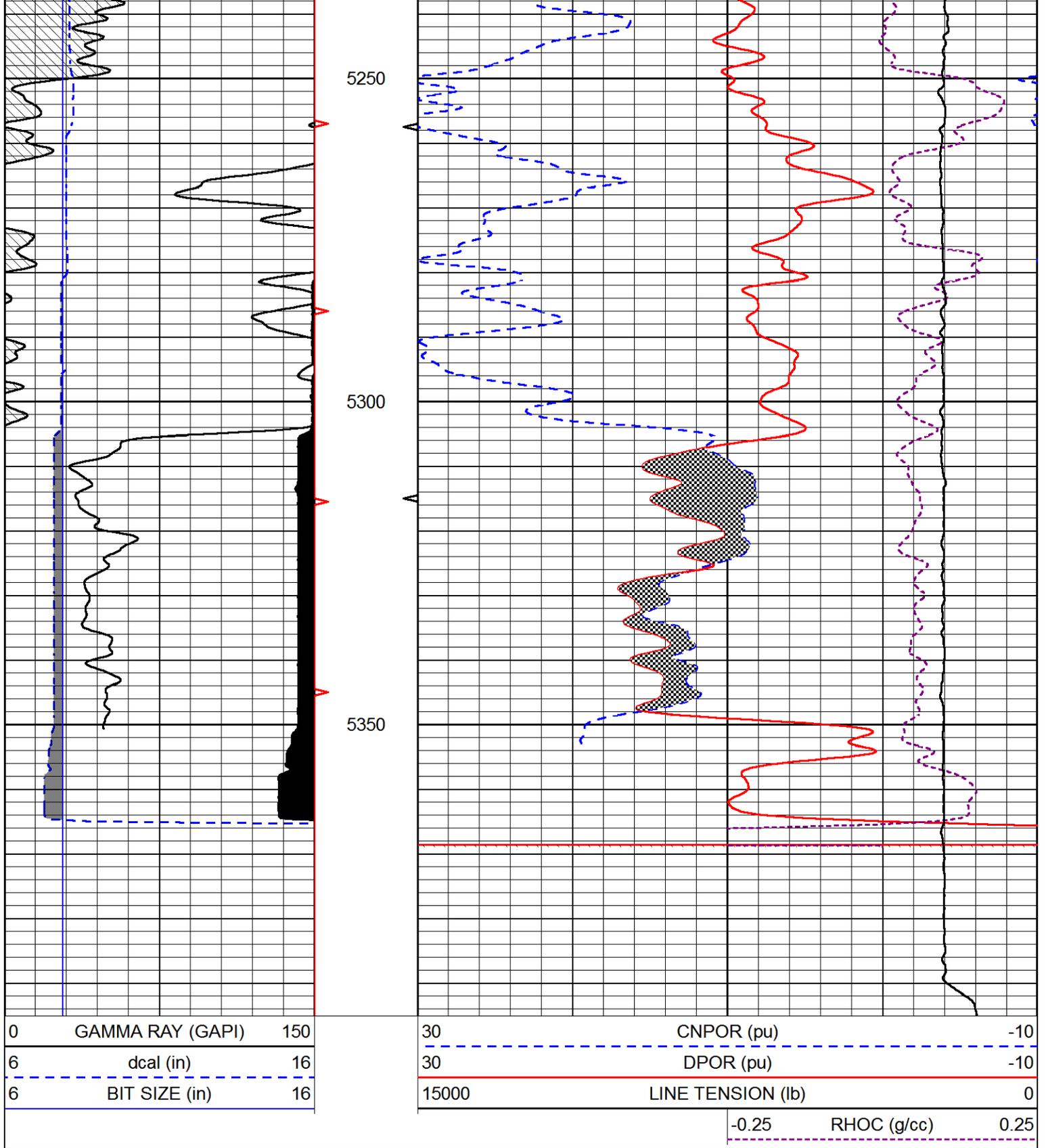


REPEAT SECTION

Database File sapphire_tracy_#1_owwo.db
 Dataset Pathname STACKML/pass2.1
 Presentation Format cndlspec
 Dataset Creation Tue Feb 04 00:24:17 2020
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	30	CNPOR (pu)	-10
6	dcal (in)	16	30	DPOR (pu)	-10
6	BIT SIZE (in)	16	15000	LINE TENSION (lb)	0
			-0.25	RHOC (g/cc)	0.25





Calibration Report

Database File sapphire_tracy_#1_owwo.db
 Dataset Pathname STACKML/pass3.1
 Dataset Creation Tue Feb 04 01:13:56 2020

Dual Induction Calibration Report

Serial-Model: 55-222-M&W
 Calibration Performed: Tue Dec 10 05:11:10 2019

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.500	-41.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.370	-15.000

Microlog Calibration Report

Serial-Model: UDM-01-PSI UDM ML
 Performed: Fri May 31 06:10:42 2019

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	19000.0000	-1.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	23000.0000	-1.0000
Caliper	1.0019	1.2642	8.0000	22.0000	in	53.3774	-47.6000

Compensated Density Calibration Report

Serial-Model: 934-229-M&W
 Source / Verifier: 21170B /
 Master Calibration Performed: Thu Dec 19 15:46:53 2019

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	3391.68	2392.26	cps
Aluminum	2.670	g/cc	645.86	1568.99	cps

Spine Angle = 75.73 Density/Spine Ratio = 0.535

	Size		Reading
Small Ring	4.00	in	1.39
Large Ring	14.00	in	1.04

Compensated Neutron Calibration Report

Serial Number: tk10-MW
 Tool Model: M&W
 Calibration Performed: Wed Nov 16 11:21:36 2016

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: 89-M&W
 Tool Model: M&W
 Calibration Performed: Tue Dec 10 05:11:34 2019

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 6.2 cps



PIONEER

Pioneer Energy Services

Company	SAPPHIRE RESOURCE, LLC
Well	TRACY NO.1 OWWO DEEPENING
Field	GROENDYCKE SOUTH
County	BARBER
State	KANSAS