



DUAL COMP POROSITY LOG

Company AMERICAN WARRIOR, INC.
 Well GLEN MARCELLUS B #5-36
 Field SHUCK NORTHWEST
 County STEVENS
 State KANSAS

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 County STEVENS State KANSAS

Location: API #: 15-189-22,842-00-00
 SE SW NE NE
 1250' FNL & 800' FEL
 SEC 36 TWP 32S RGE 35W
 Permanent Datum GROUND LEVEL Elevation 2932'
 Log Measured From KELLY BUSHING
 Drilling Measured From KELLY BUSHING
 Other Services DIL/MEL
 K.B. Elevation 2944'
 D.F.
 G.L. 2932'

Date	5/13/2016
Run Number	ONE
Type Log	CNL/CDL
Depth Driller	6350'
Depth Logger	6352'
Bottom Logged Interval	6323'
Top Logged Interval	4100'
Type Fluid In Hole	CHEMICAL
Salinity, PPM CL	3,000
Density	9.55
Level	FULL
Max. Rec. Temp. F	140
Operating Rig Time	5 HOURS
Equipment -- Location	91 COLBY
Recorded By	T. MARTIN
Witnessed By	KEVIN TIMSON

Borehole Record		Casing Record					
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	00'	1744'	8.625"	23#	00'	1744'
TWO	7.875"	1744'	TD				

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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.
 HUGOTON, 15.5 E TO A RD,
 4 N, W INTO

Log Measured From: KELLY BUSHING 12 Ft. Above Permanent Datum

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www.pioneerenergy.com 785-625-3858

Your Pioneer Energy Services Crew

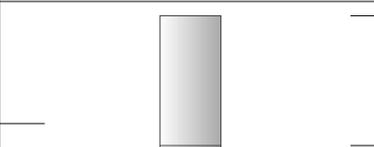
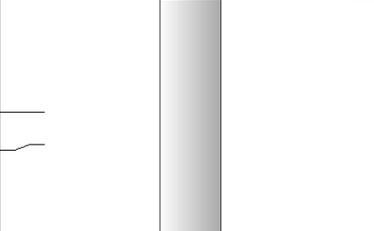
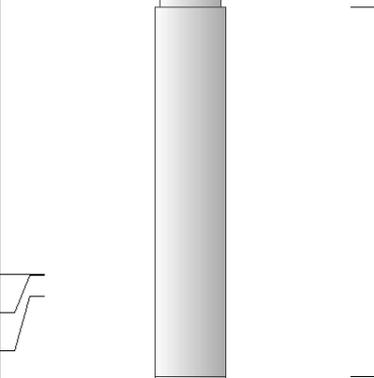
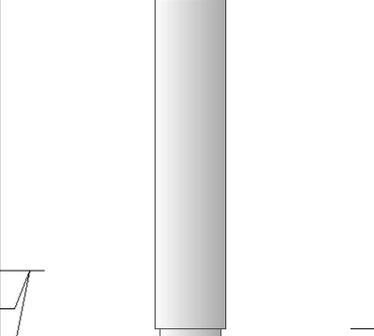
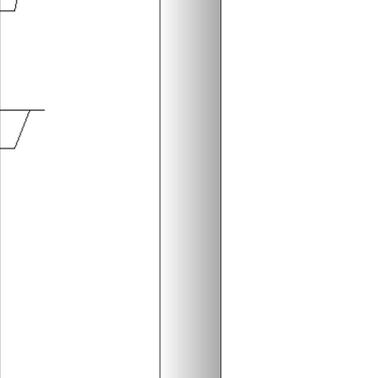
Engineer: T. MARTIN
 Operator:
 Operator:
 Operator:

This Log Record Was Witnessed By

Primary Witness: KEVIN TIMSON
 Secondary Witness:
 Secondary Witness:
 Secondary Witness:

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	-240	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	70	0	5.5	0	6352	140	7.875

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (90-1031)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					

CILD 8.00

CILM 4.70

SP 0.20

DIL-PSI HIGH TEMP (PSI 216 HT)

18.50

3.50

220.00

Dataset: amwar_glenmarcellusb_#5-36.db: field/well/stack/pass3.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in



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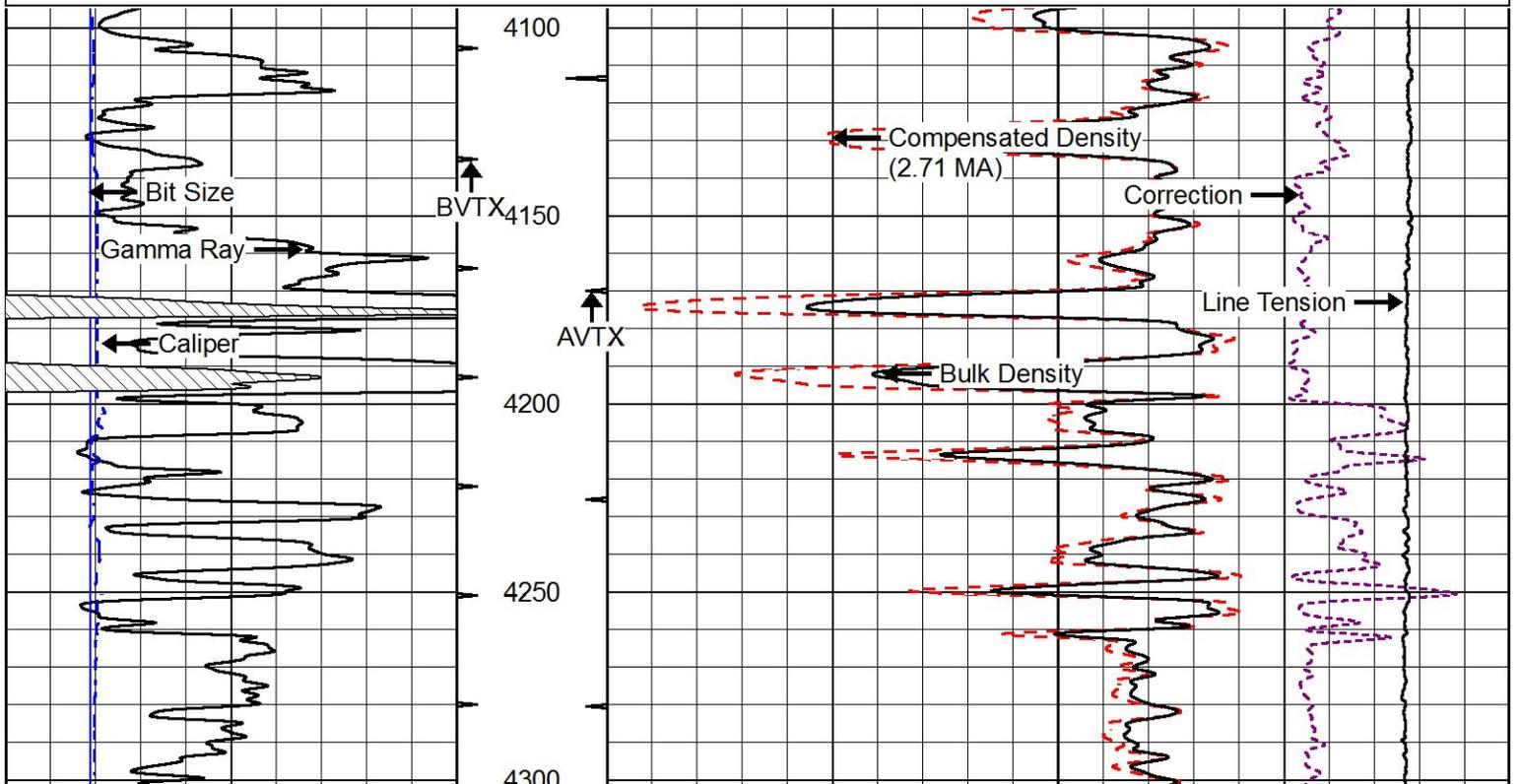
2IN BULK DENSITY

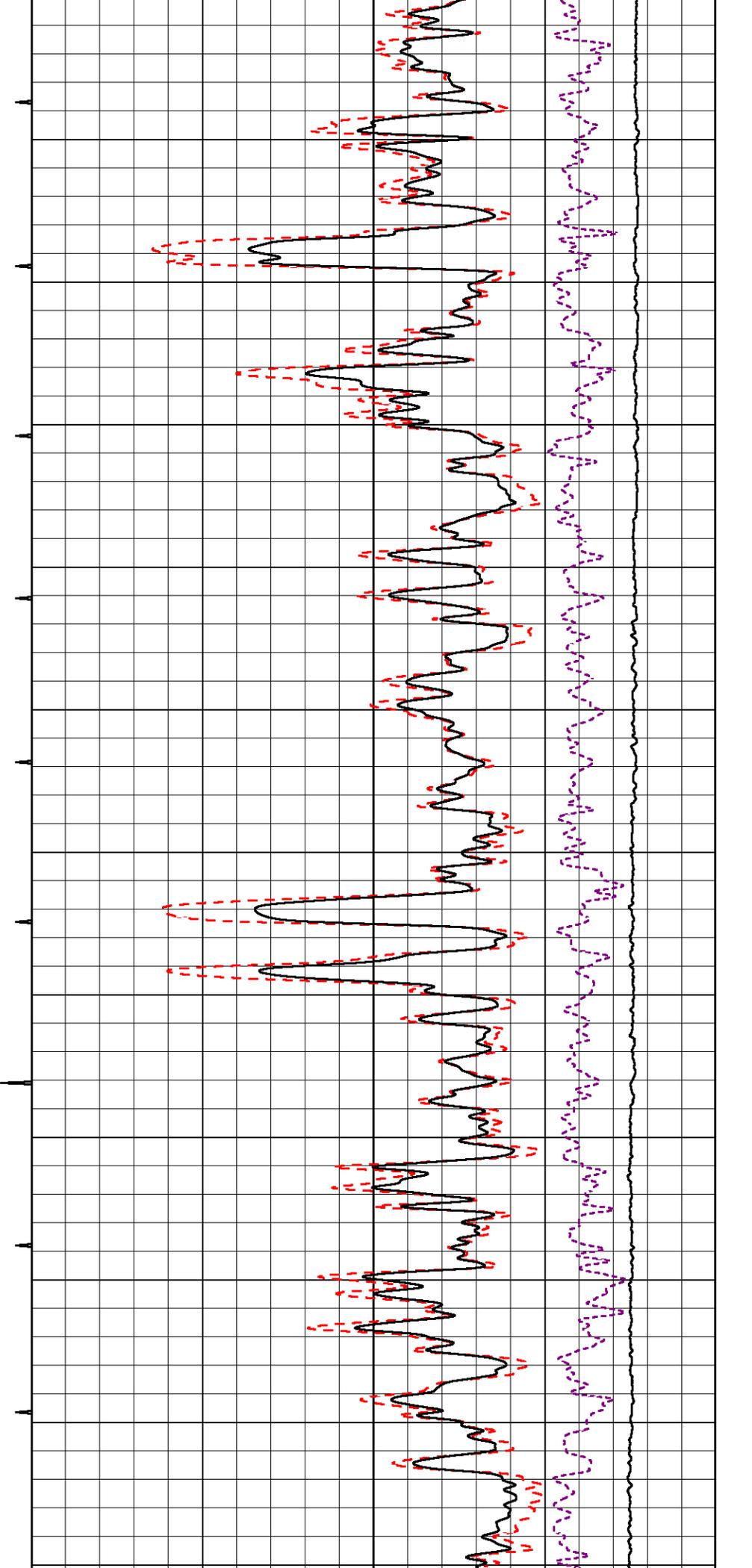
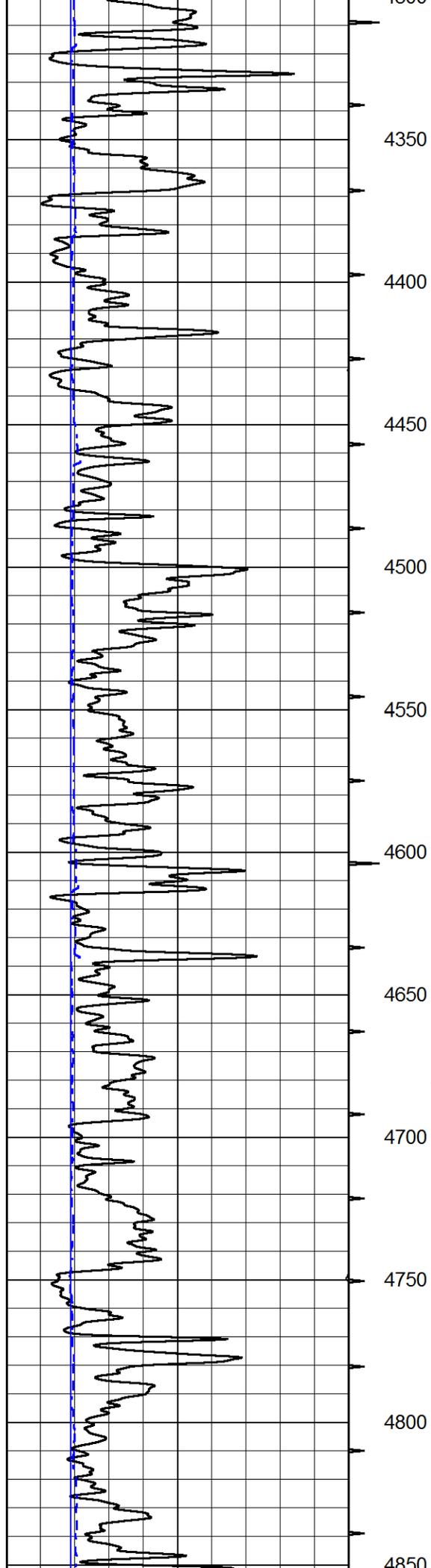
MAIN PASS

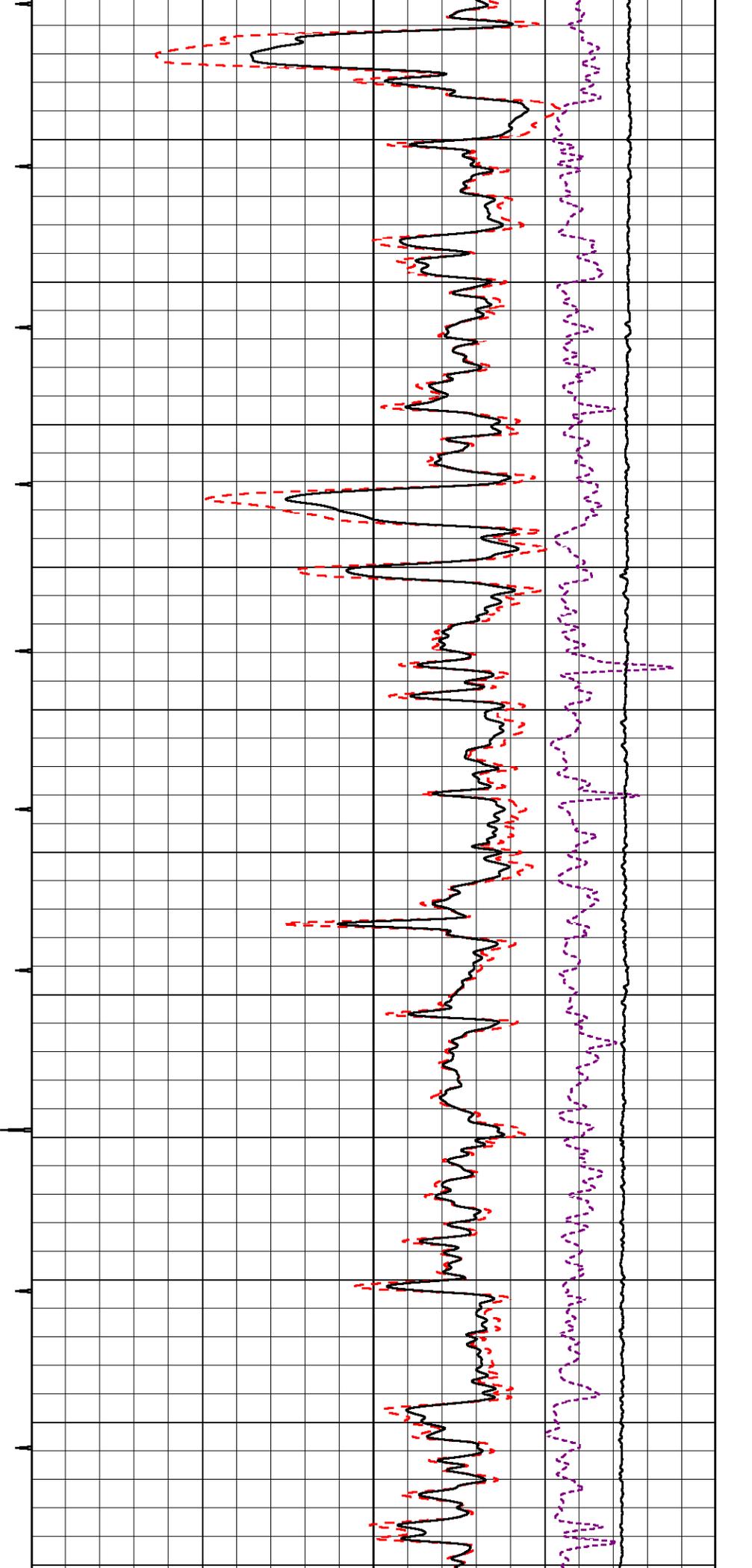
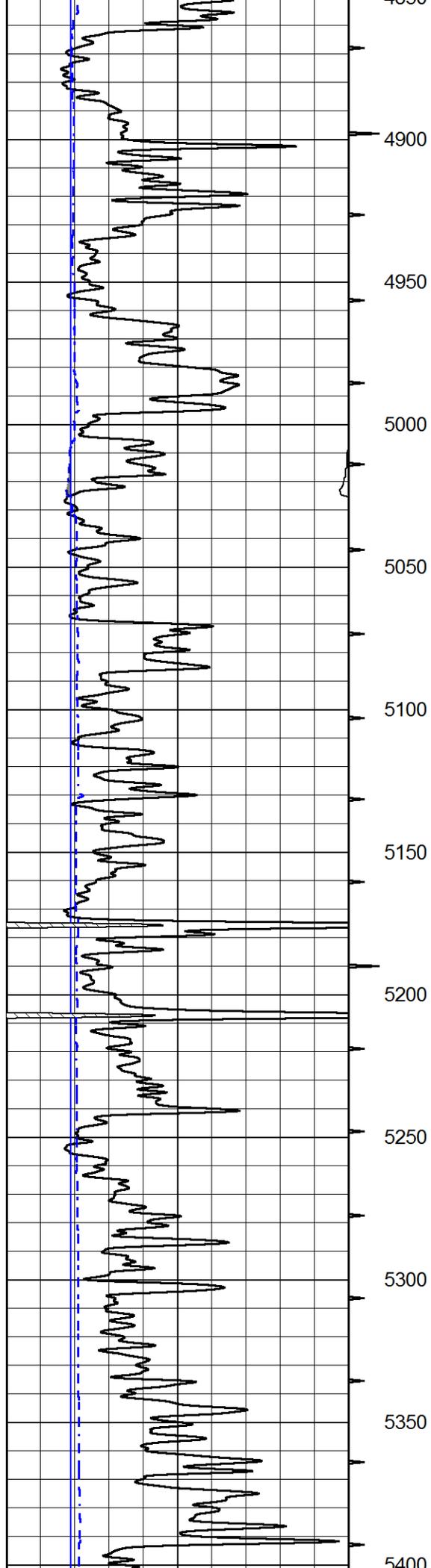
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 Dataset Pathname stack/pass3.3
 Presentation Format cdl
 Dataset Creation Fri May 13 02:11:04 2016
 Charted by Depth in Feet scaled 1:600

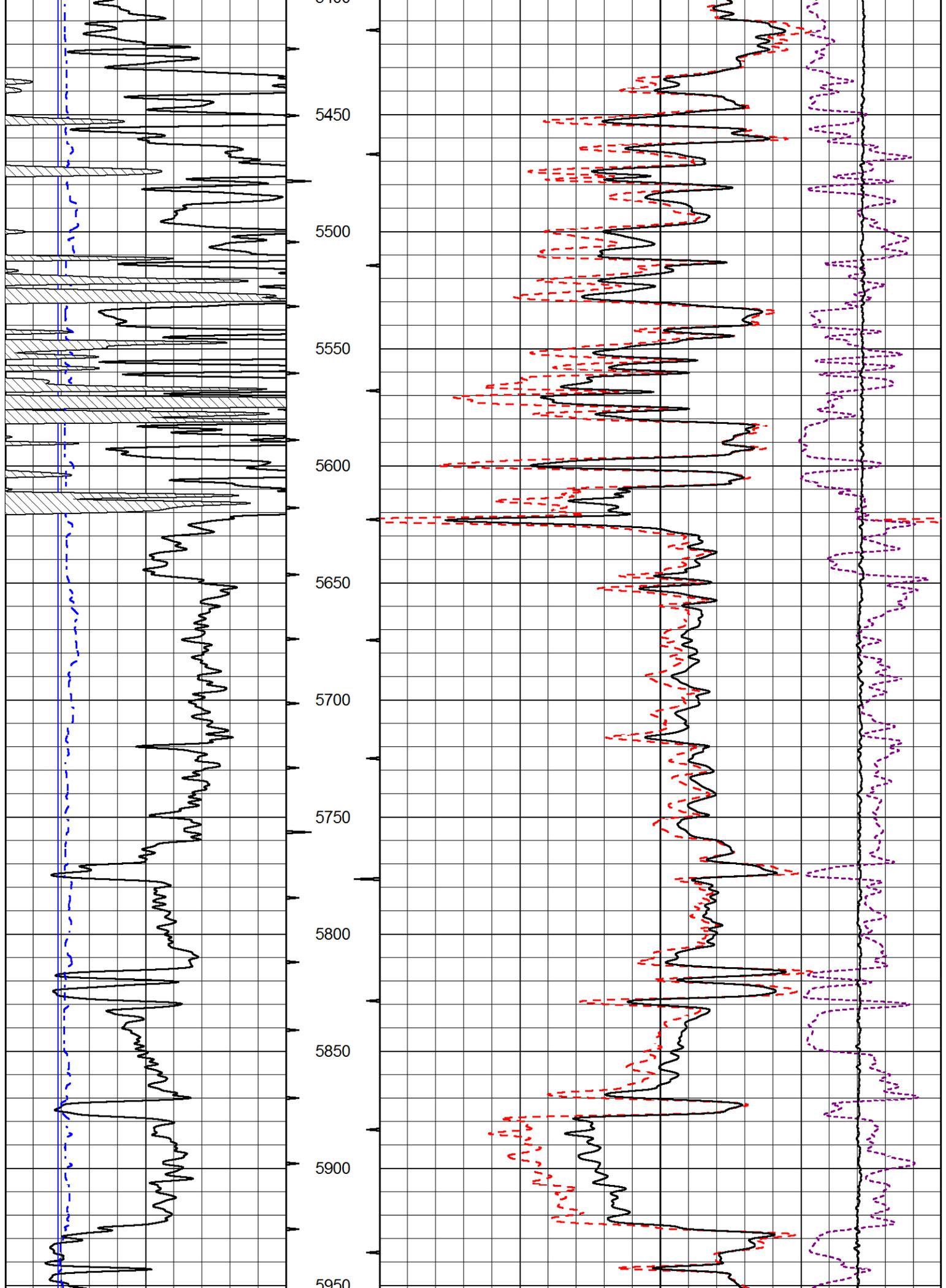
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

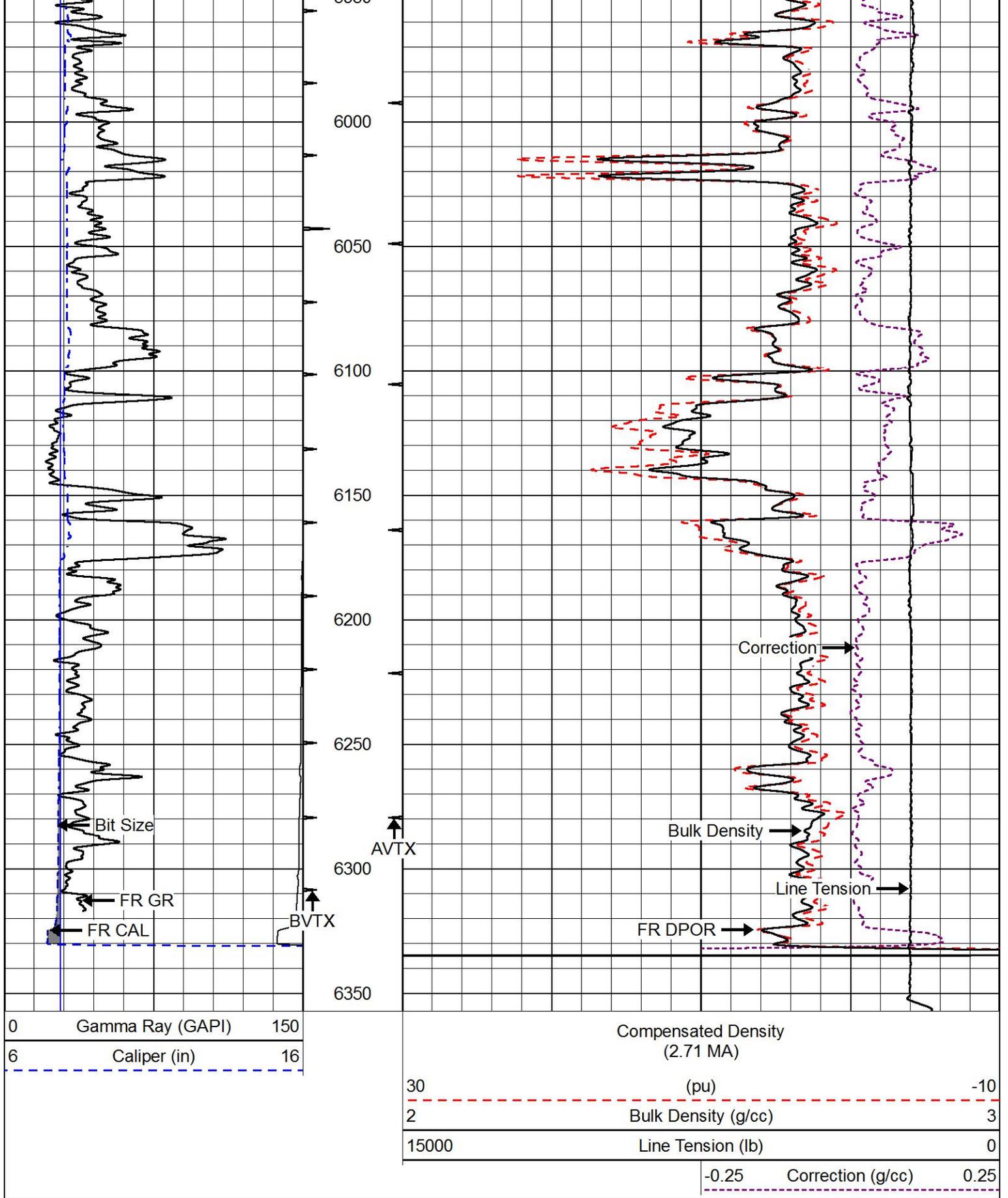
Compensated Density (2.71 MA)		
30	(pu)	-10
Bulk Density (g/cc)		3
Line Tension (lb)		0
-0.25	Correction (g/cc)	0.25









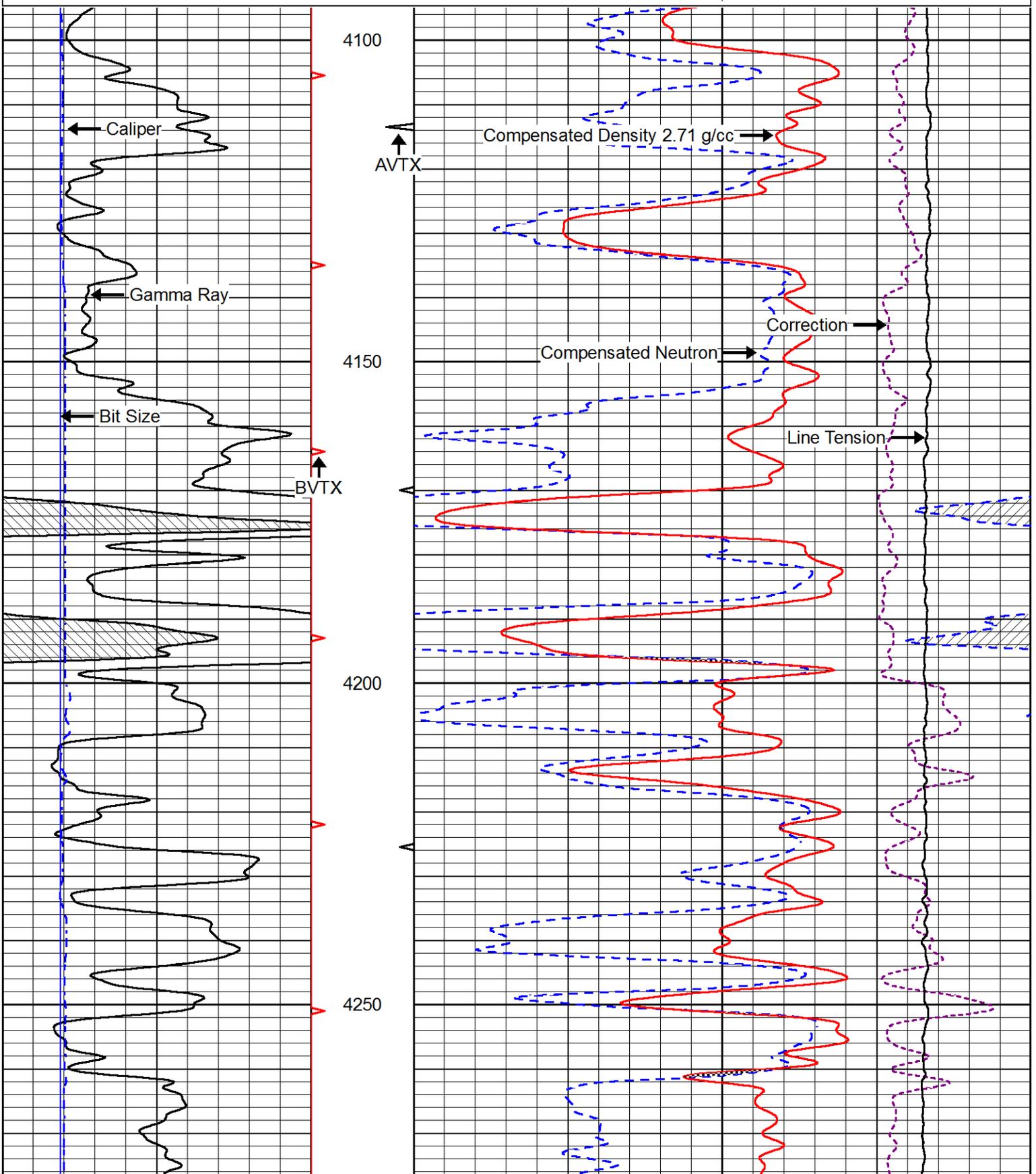


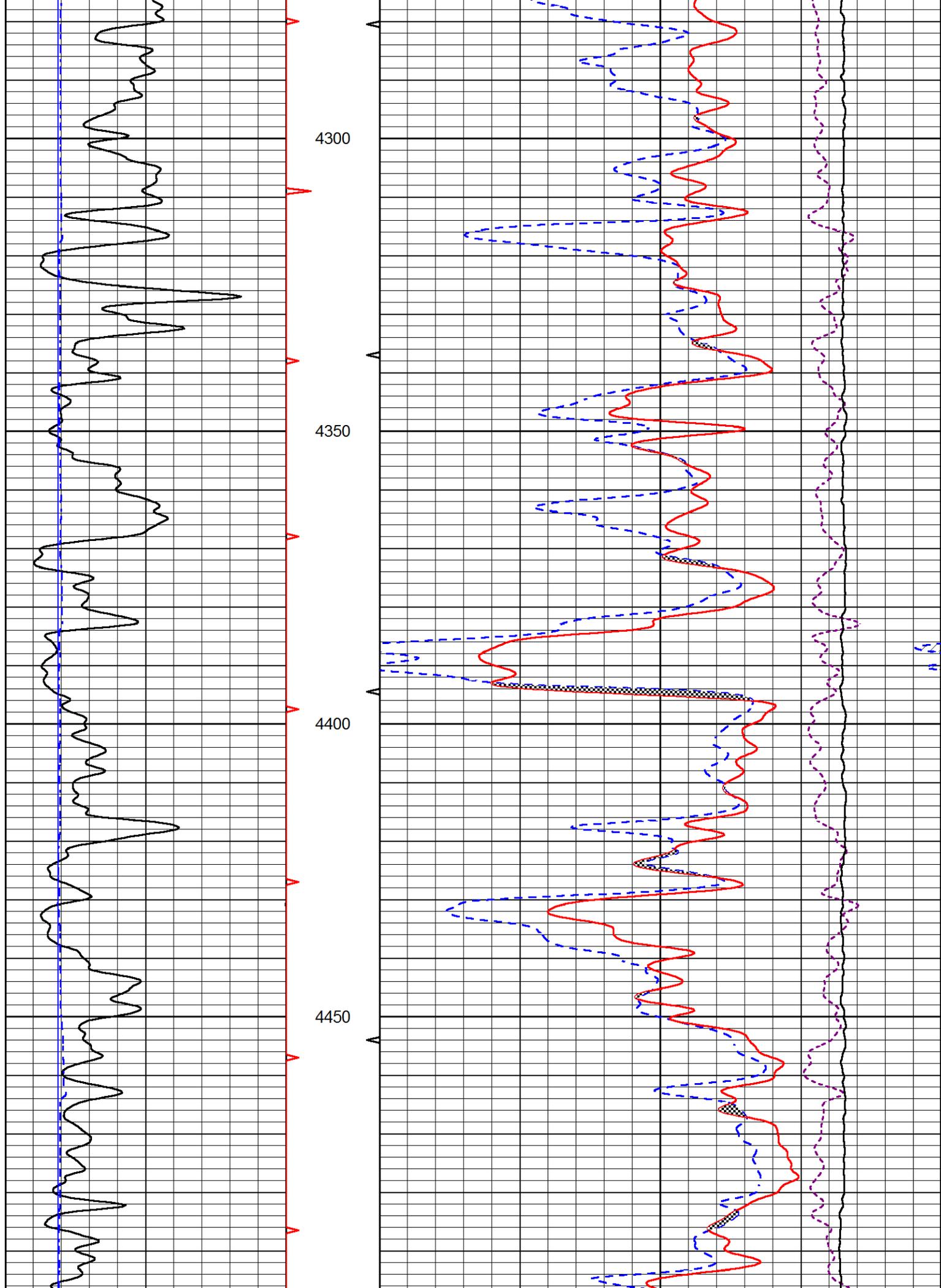
MAIN PASS

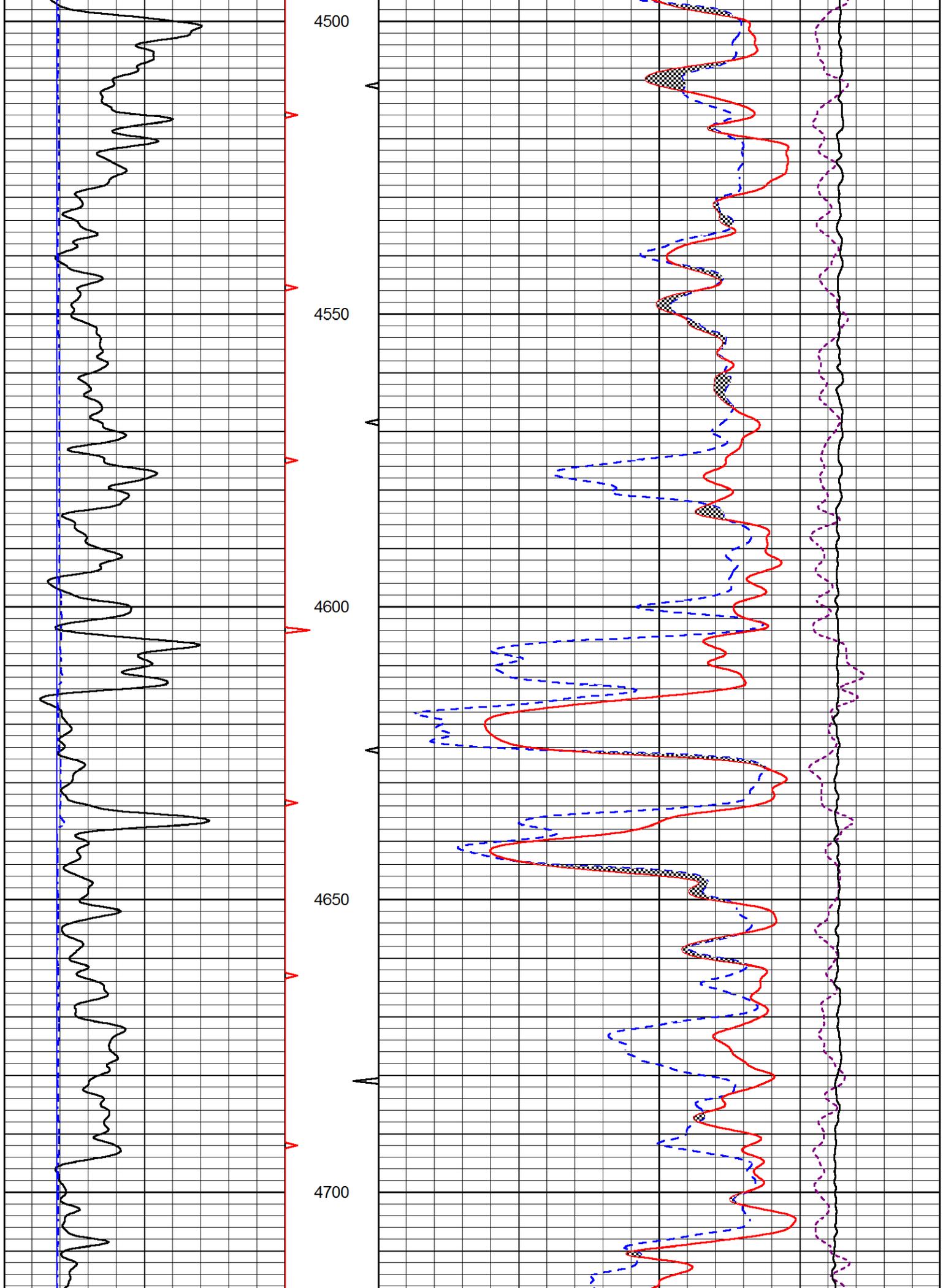
Database File amwar_glenmarcellusb_#5-36.db
 Dataset Pathname stack/pass3.1
 Presentation Format cndlspec
 Dataset Creation Fri May 13 02:35:53 2016
 Charted by Depth in Feet scaled 1:240

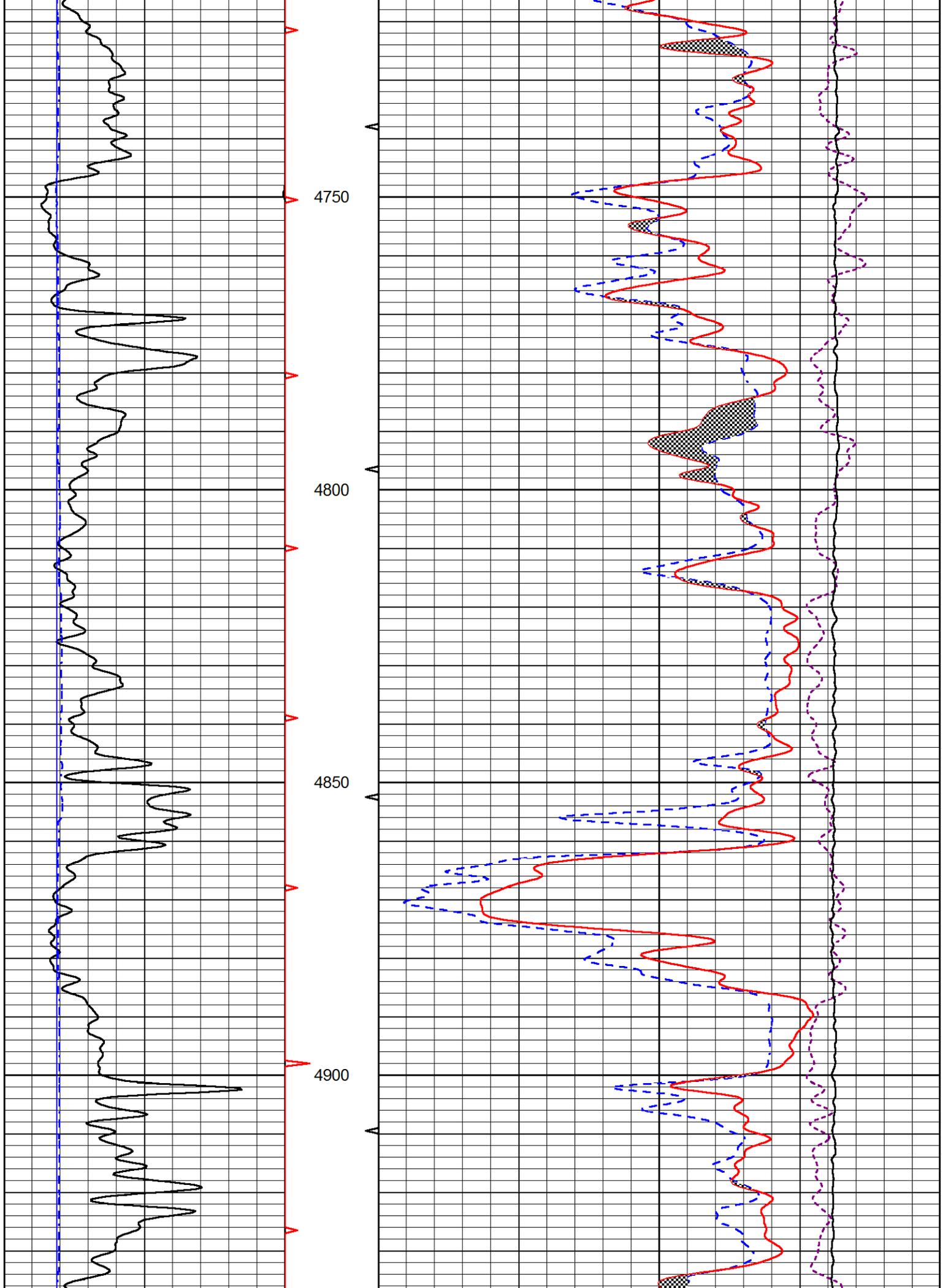
0	Gamma Ray (GAPI)	150
6	DCAL (in)	16

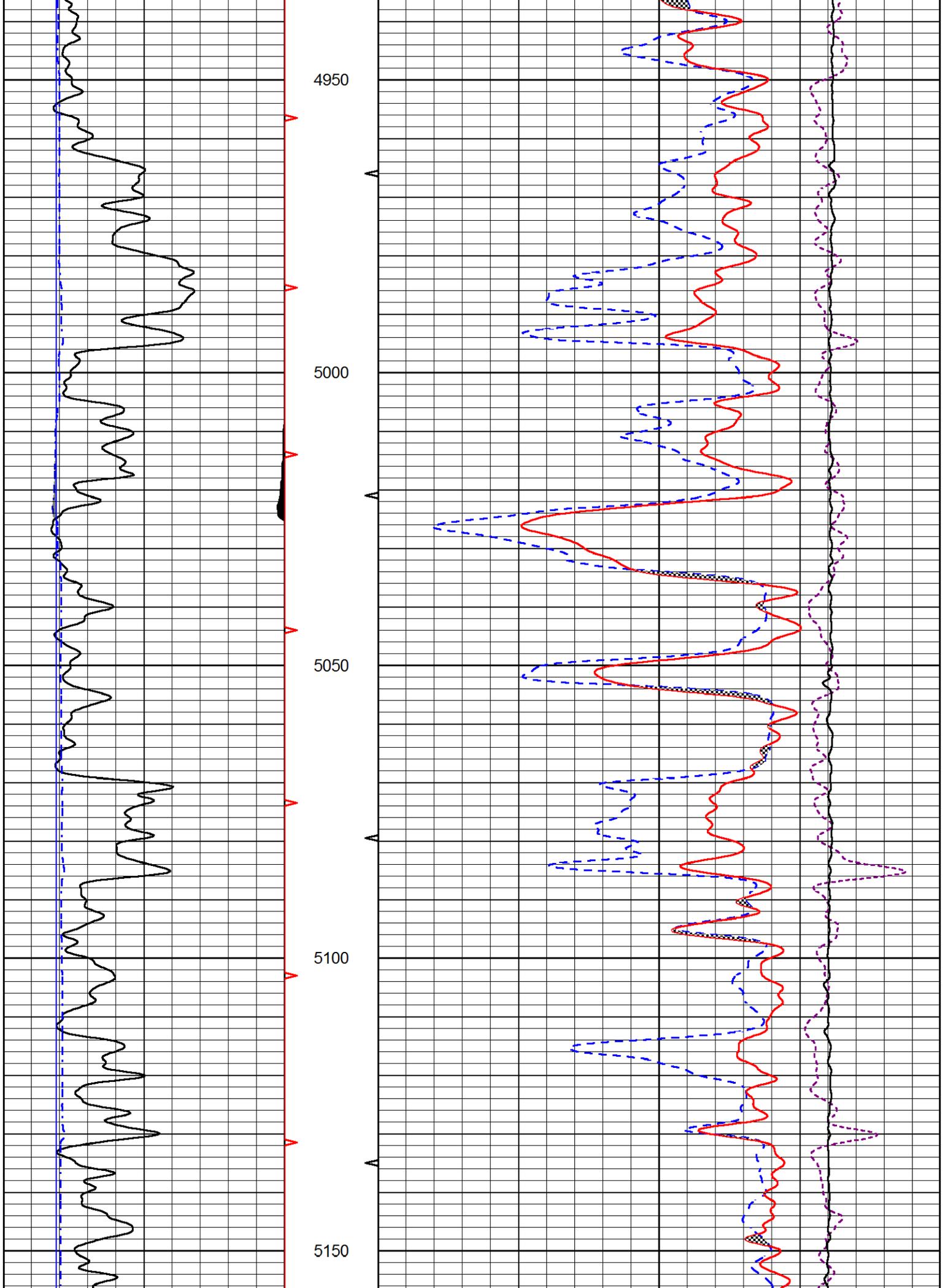
30	CNLS (pu)	-10
30	Compensated Density 2.71 g/cc (pu)	-10
10000	Line Tension (lb)	0
-0.25	Correction (g/cc)	0.25

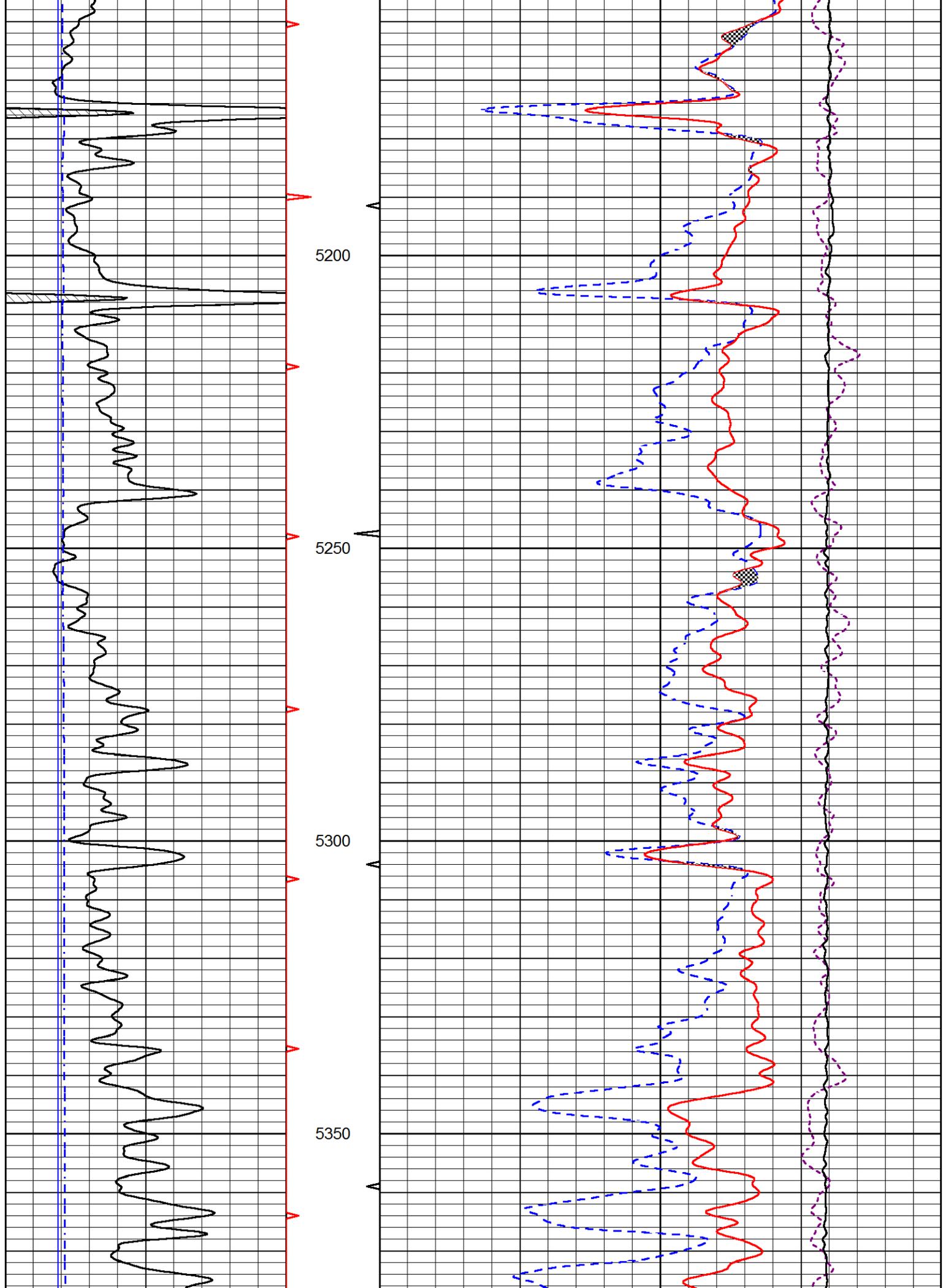


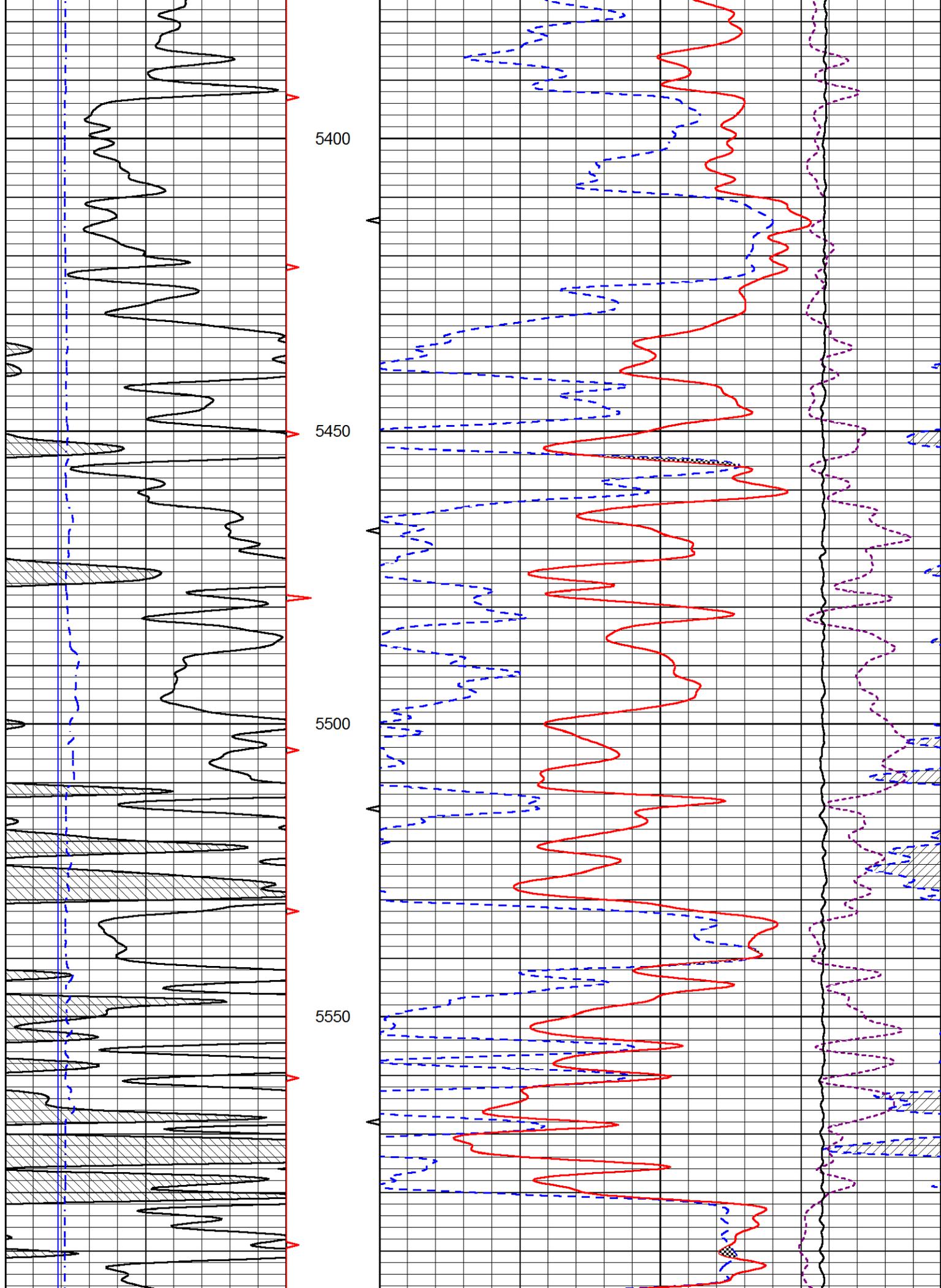


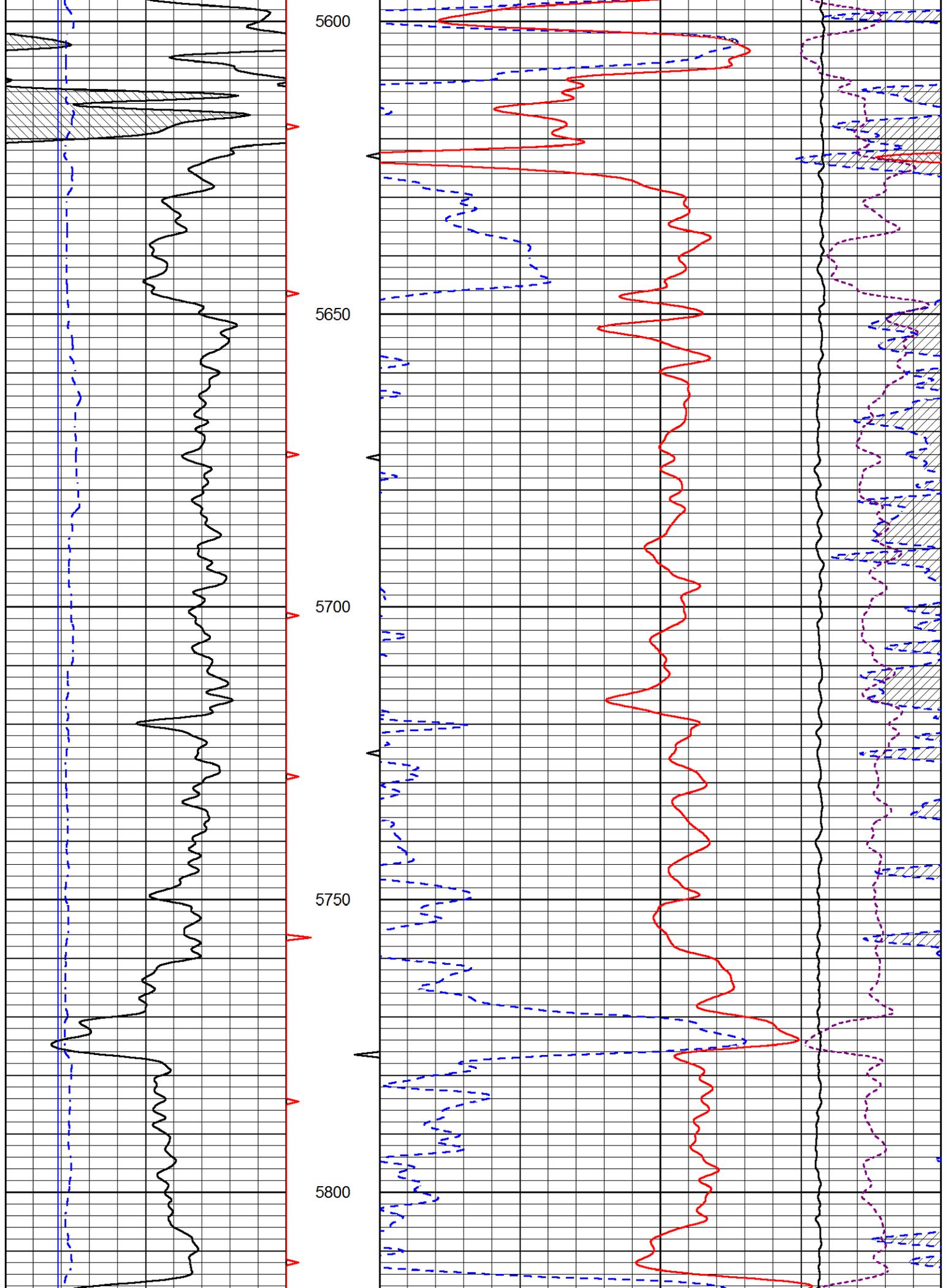


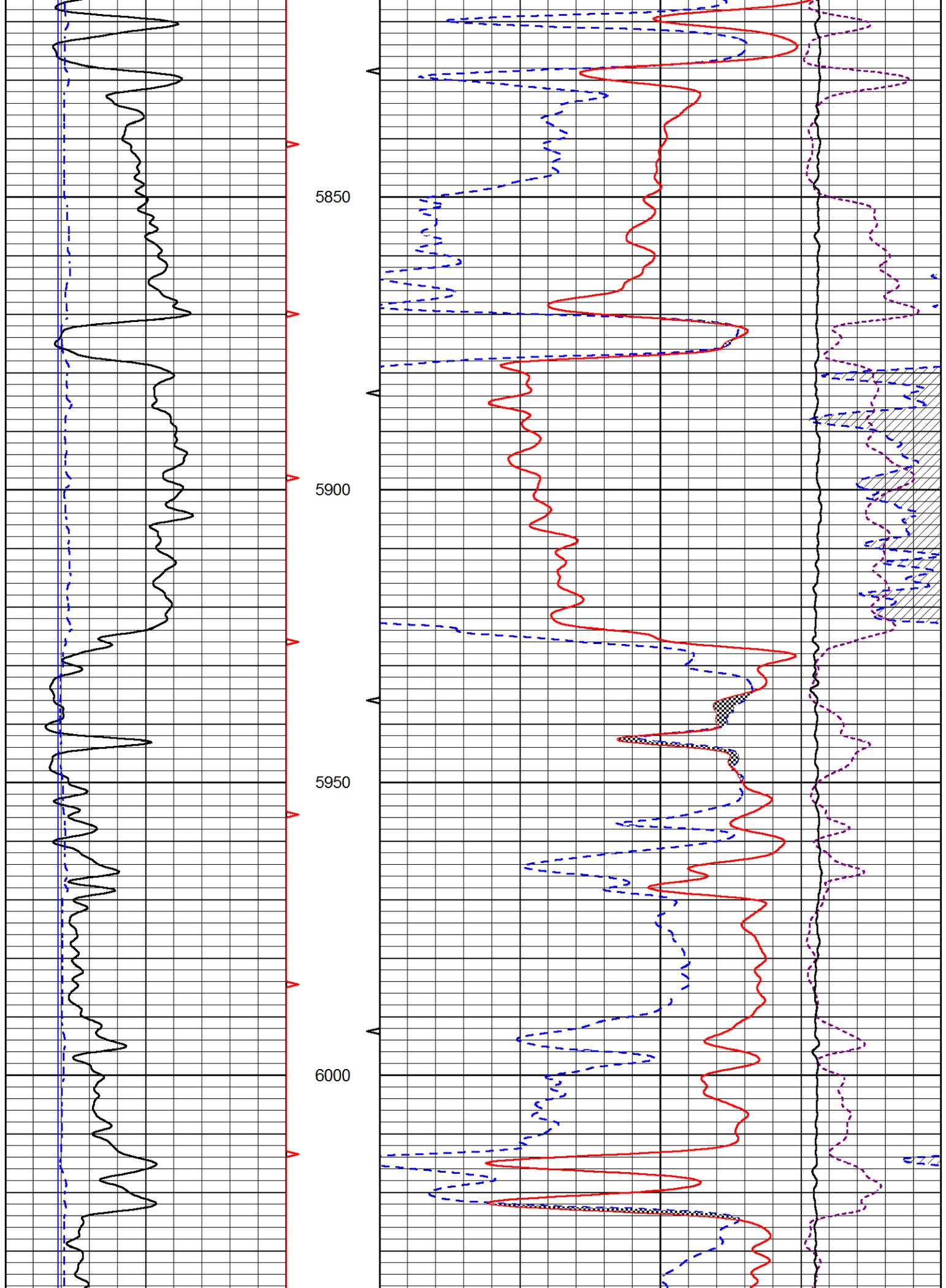


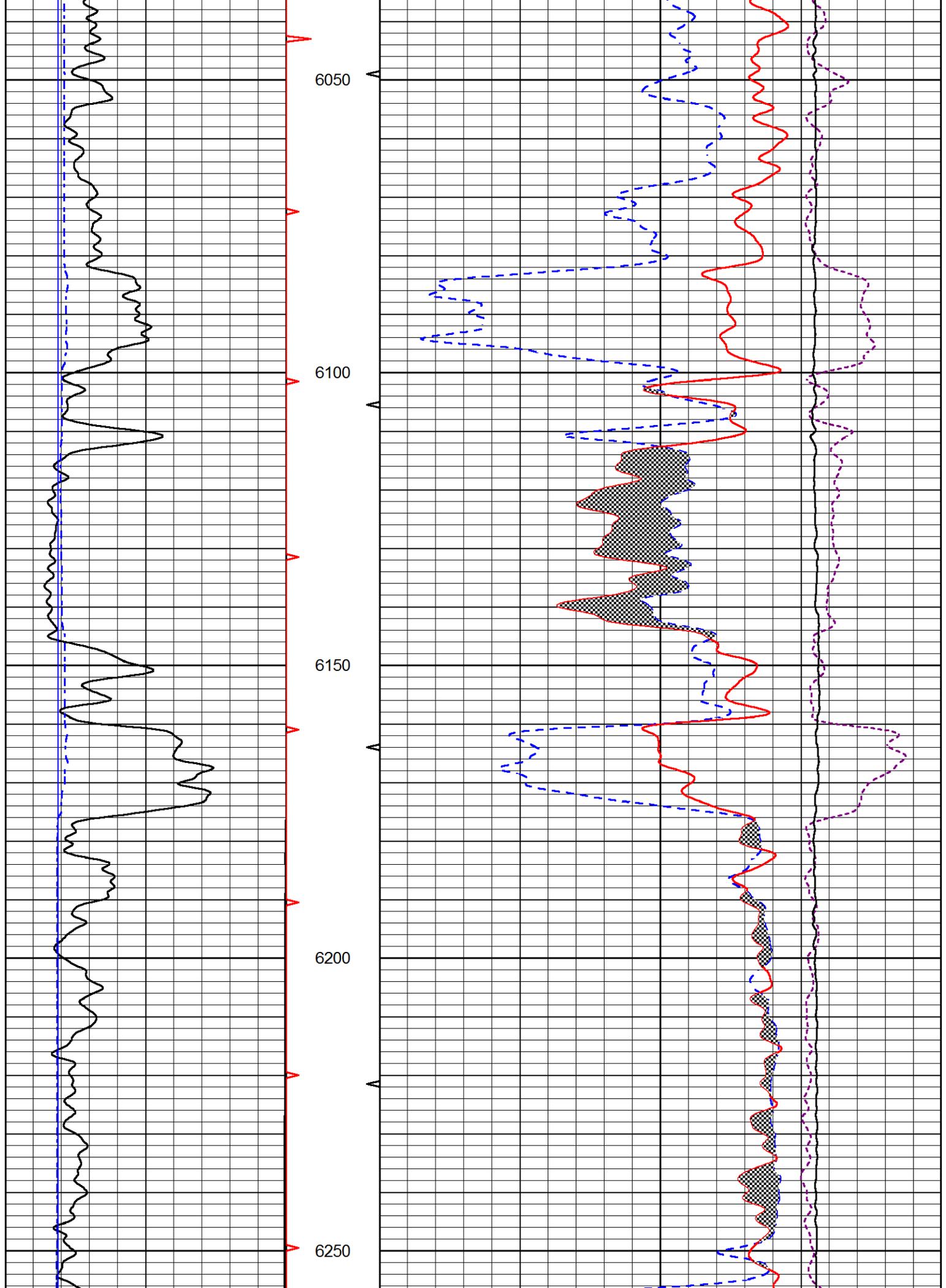


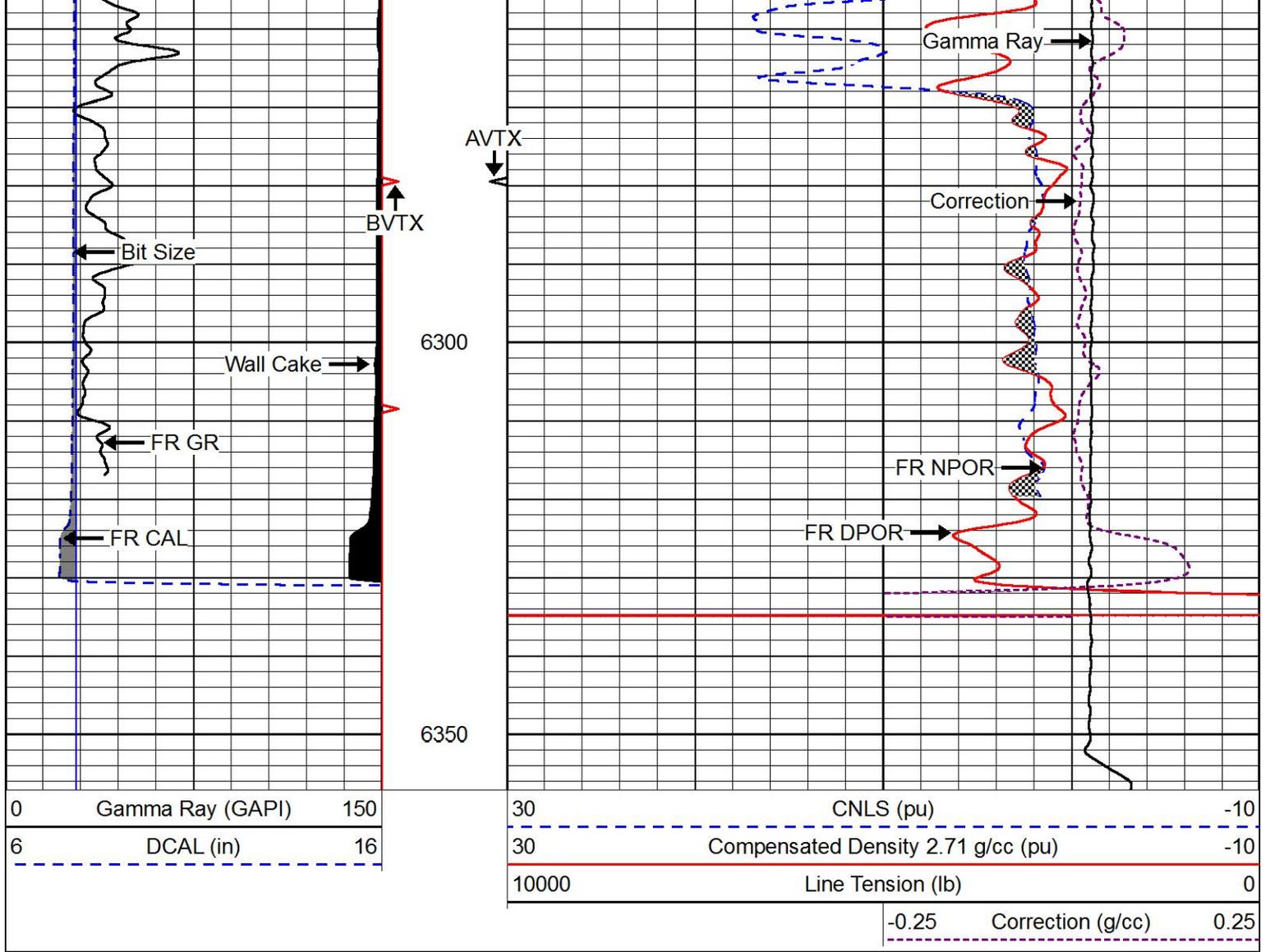






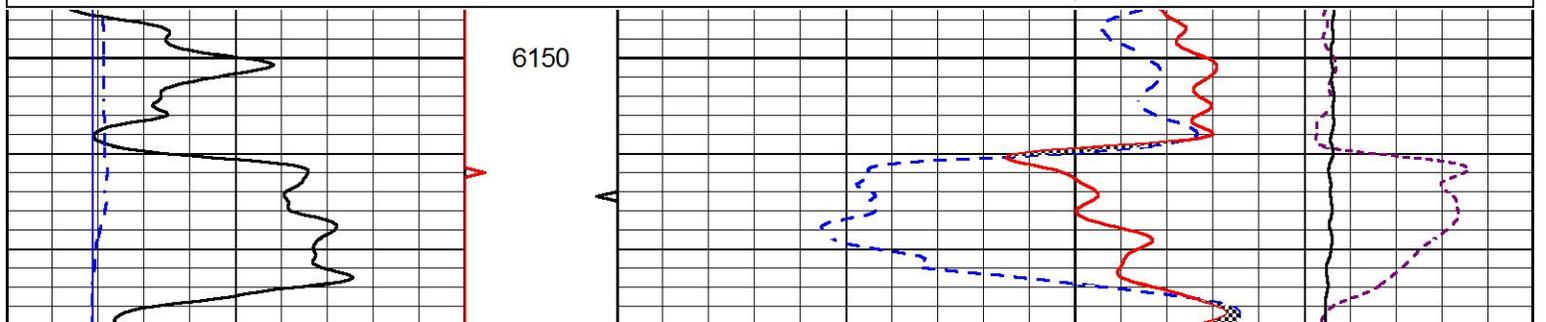
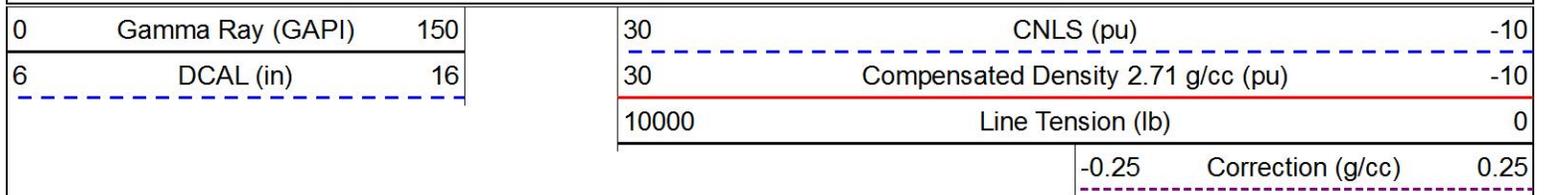


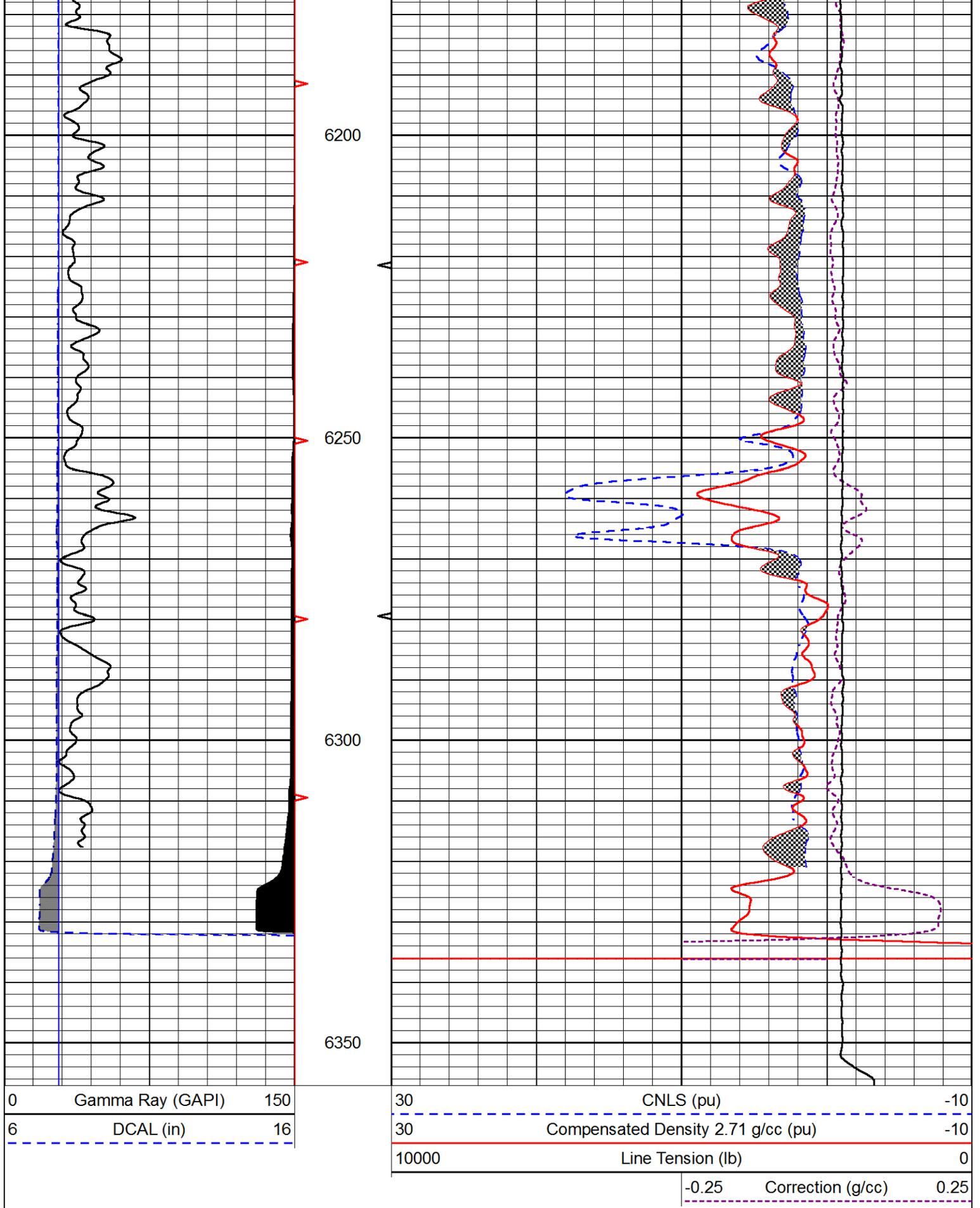




REPEAT SECTION

Database File amwar_glenmarcellusb_#5-36.db
 Dataset Pathname stack/pass2.1
 Presentation Format cndlspec
 Dataset Creation Fri May 13 01:57:31 2016
 Charted by Depth in Feet scaled 1:240





Calibration Report

Database File amwar_glenmarcellusb_#5-36.db
 Dataset Pathname stack/pass3.3
 Dataset Creation Fri May 13 02:11:04 2016

Dual Induction Calibration Report

Serial-Model: PSI 216 HT-PSI HIGH TEMP
 Calibration Performed: Tue May 03 16:59:30 2016

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	75.411	495.929	4.000	250.000	mmho/m	0.580	-42.000
Medium	75.269	470.661	10.000	100.000	mmho/m	0.600	-13.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
 Performed: Tue May 03 16:59:46 2016

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	24000.0000	-0.5000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	29500.0000	-0.5000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-65.7000

Compensated Density Calibration Report

Serial-Model: 90-1031-M&W
 Source / Verifier: 16955B / 2ci
 Master Calibration Performed: Sun Apr 17 04:30:15 2016

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	5174.18	6425.27	cps
Aluminum	2.665	g/cc	963.17	4037.42	cps
Spine Angle = 74.55			Density/Spine Ratio = 0.522		
	Size		Reading		
Small Ring	4.00	in	1.82		
Large Ring	14.00	in	1.44		

Compensated Neutron Calibration Report

Serial Number: 207-MW
 Tool Model: M&W
 Calibration Performed: Sat Apr 16 10:30:30 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
 Tool Model: M&W
 Calibration Performed: Wed May 19 09:07:49 2016

Calibration Performed:

Wed Apr 13 09:27:46 2016

Calibrator Value:

1.0

GAPI

Background Reading:

0.0

cps

Calibrator Reading:

1.0

cps

Sensitivity:

0.6000

GAPI/cps



PIONEER

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Company AMERICAN WARRIOR, INC.

Well GLEN MARCELLUS B #5-36

Field SHUCK NORTHWEST

County STEVENS

State KANSAS