



DUAL COMP POROSITY LOG

Company CARMEN SCHMITT, INC.
 Well HORACEK A NO.2
 Field HORACEK
 County HODGEMAN
 State KANSAS

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Location: API #: 15-083-21950-00-00
 1695' FNL & 330' FWL
 SEC 13 TWP 23S RGE 21W
 Permanent Datum GROUND LEVEL Elevation 2321'
 Log Measured From KELLY BUSHING
 Drilling Measured From KELLY BUSHING
 Other Services
 DIL
 MEL
 Elevation
 K.B. 2331'
 D.F. N/A
 G.L. 2321'

Date	6/29/2018	
Run Number	ONE	
Type Log	CNL/CDL	
Depth Driller	4594'	
Depth Logger	4590'	
Bottom Logged Interval	4561'	
Top Logged Interval	3800'	
Type Fluid In Hole	CHEMICAL	
Salinity, PPM CL	8700	
Density	9.3	
Level	FULL	
Max. Rec. Temp. F	122 DEG/F	
Operating Rig Time	3 HOURS	
Equipment -- Location	108 HAYS	
Recorded By	J. HENRICKSON	
Witnessed By	BRAD RINE	

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0	223'	8.625"	23#	0	223'
TWO	7.875"	223'	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.
 ROZEL KANSAS
 WEST TO 340 RD, 10 SOUTH, 4 WEST, 1/2 NORTH, EAST INTO

Log Measured From: KELLY BUSHING 10 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: J. HENRICKSON	Primary Witness: BRAD RINE
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\carmen_schmitt_horacek_a_2.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	122	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	25	-4	0	99	Off	4590

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (tk10-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (979-229)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSI STKBL ML (PSI-01) Stackable Microlog Tools	7.58	4.00	65.00
RLL3 RLL3F	15.80 15.79					
CILD	8.00		DIL-M&W (1987)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: carmen_schmitt_horacek_a_2.db: field/well/stackml/pass3.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

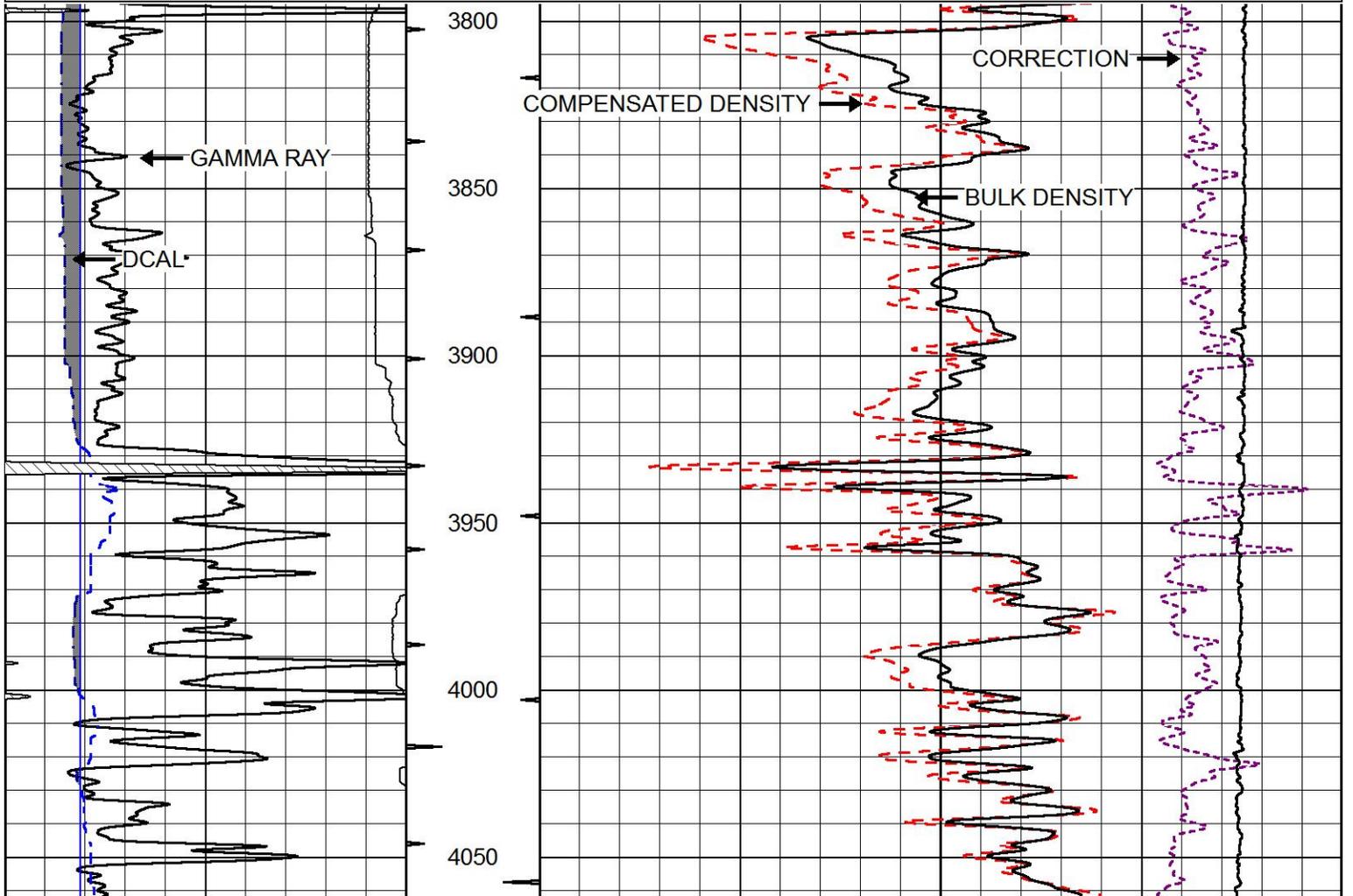


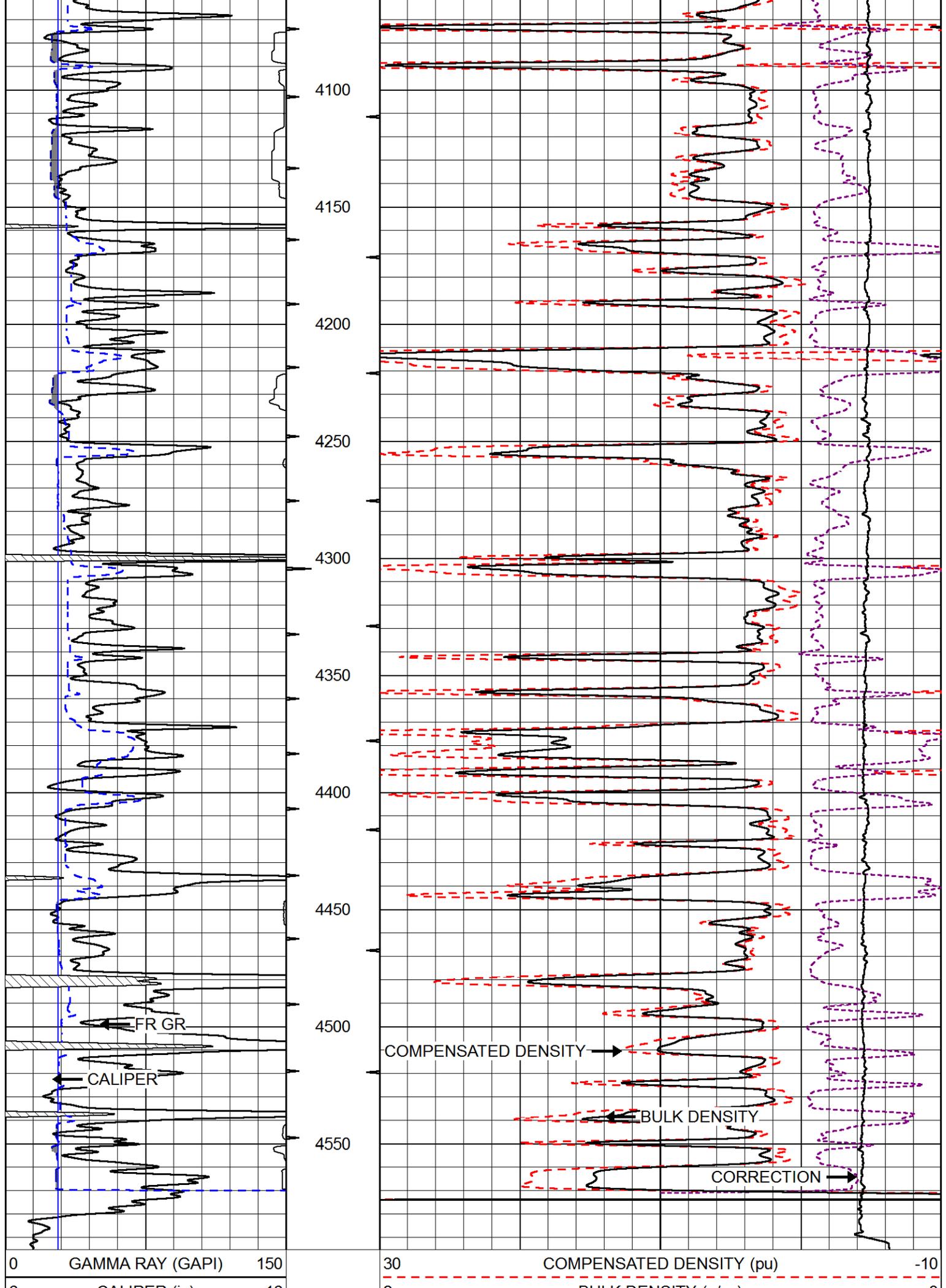
MAIN PASS

Database File carmen_schmitt_horacek_a_2.db
 Dataset Pathname stackml/pass3.1
 Presentation Format cdl
 Dataset Creation Fri Jun 29 12:49:41 2018
 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
-0.25	CORRECTION (g/cc)	0.25





CALIPER (in) 16

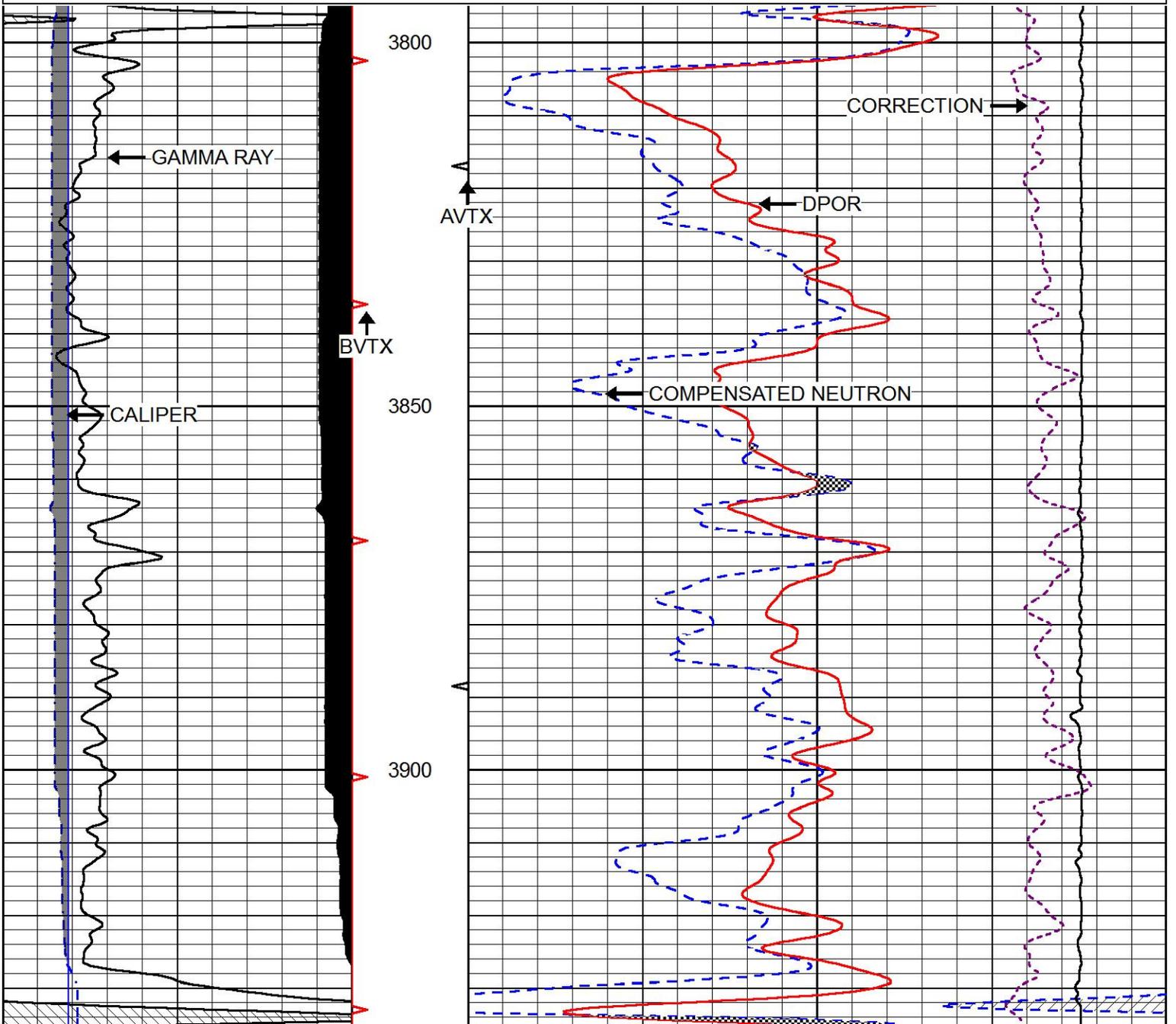
2	BULK DENSITY (g/cc)	3
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25

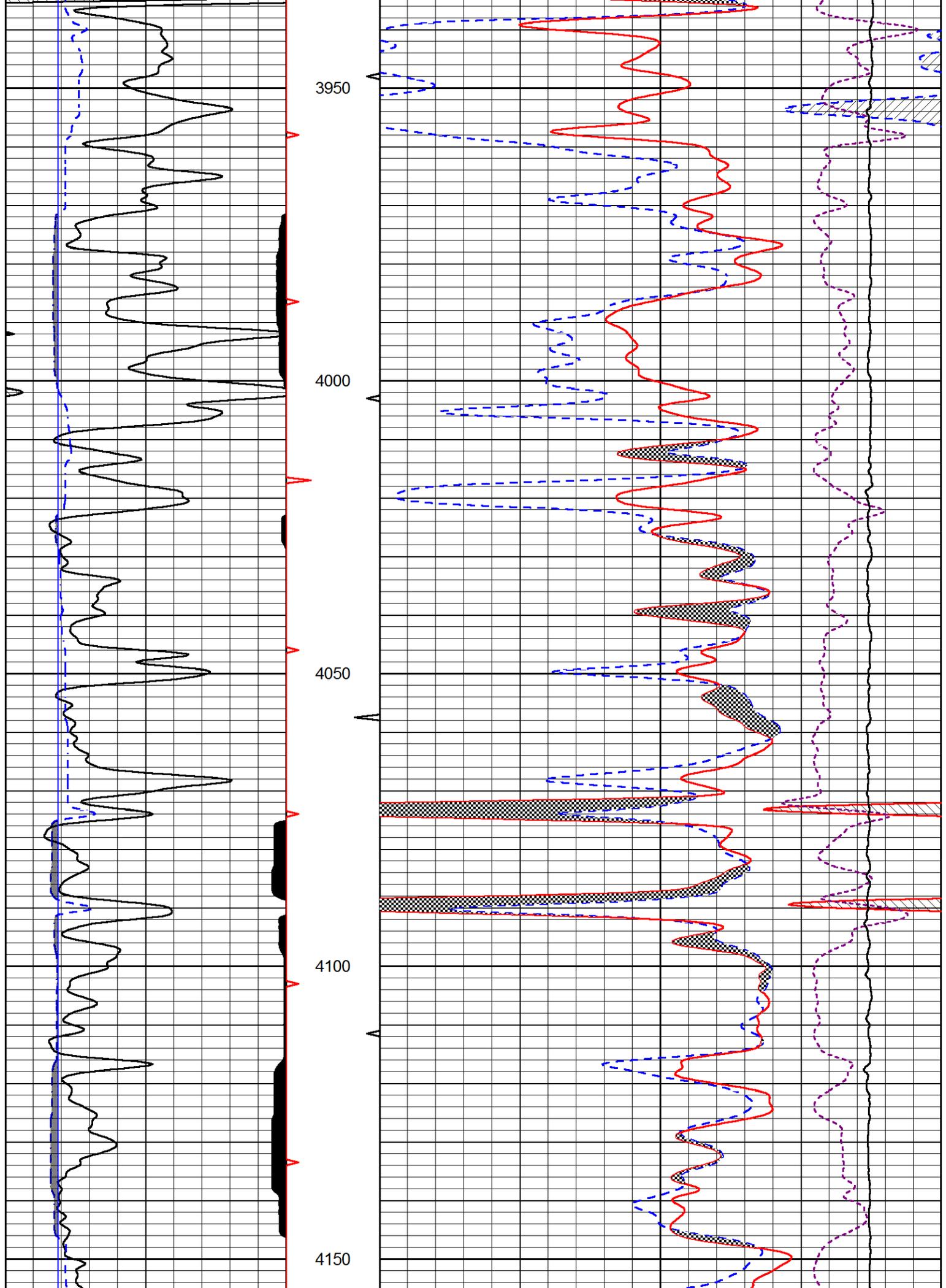


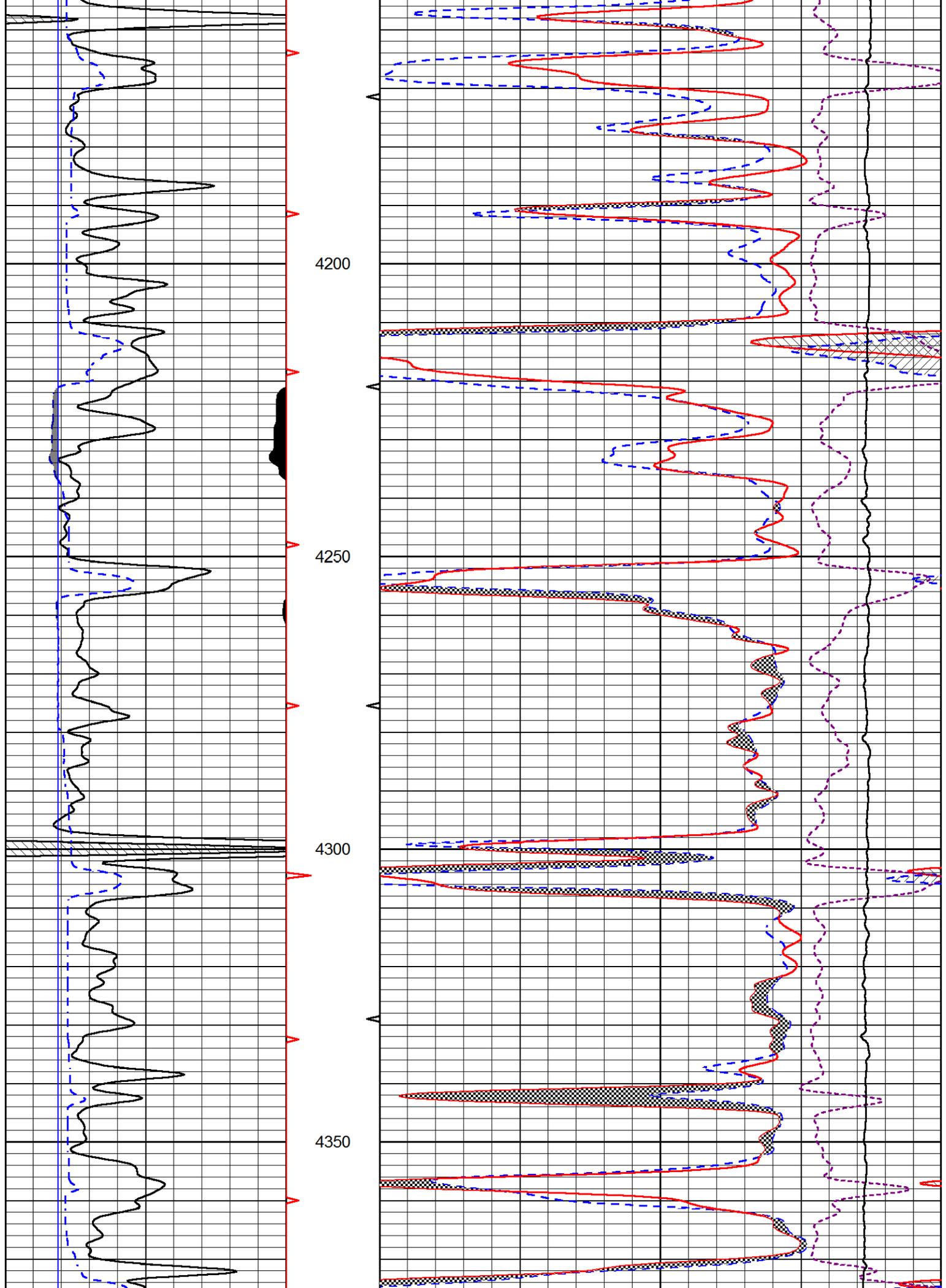
MAIN PASS

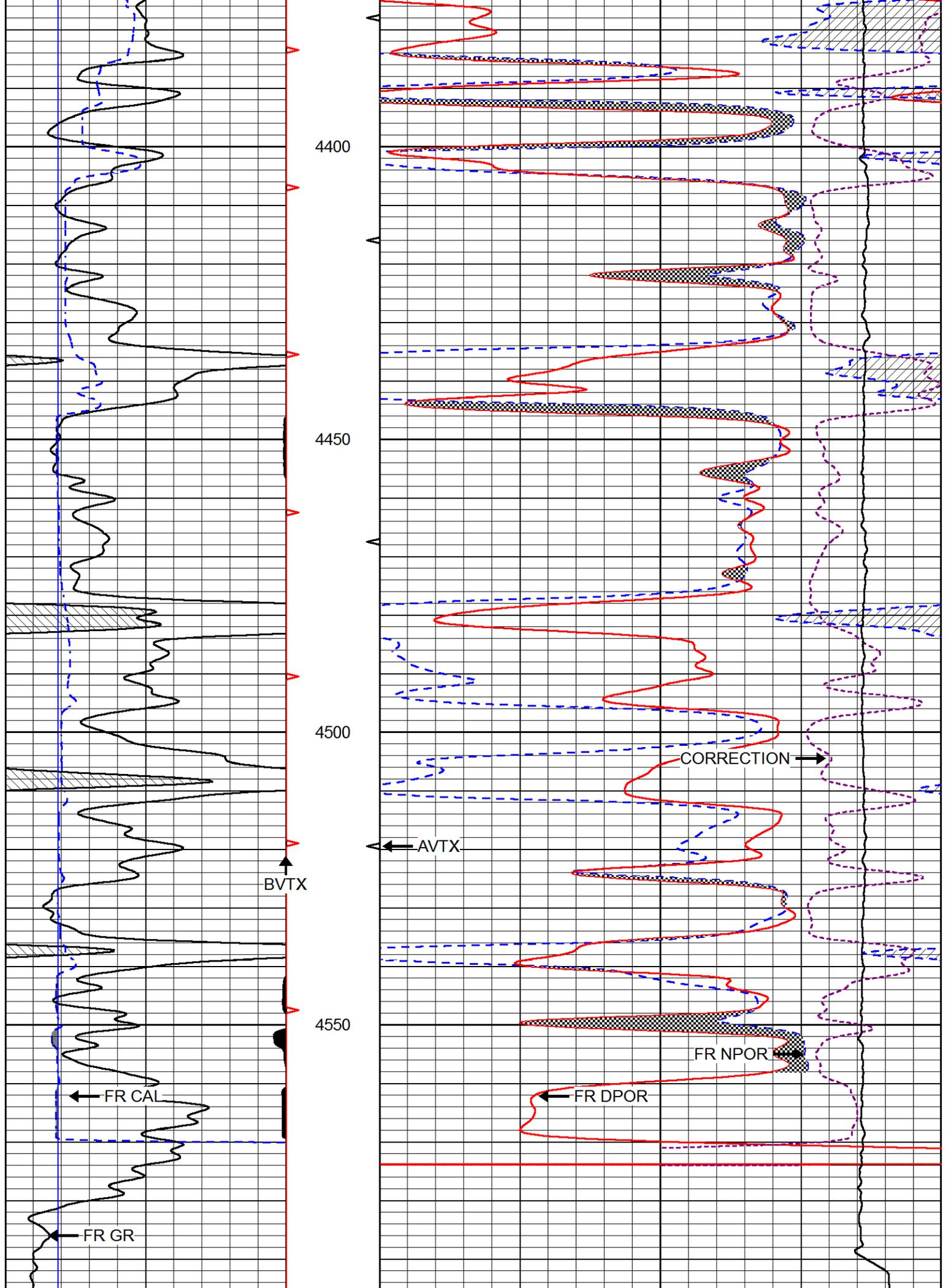
Database File carmen_schmitt_horacek_a_2.db
 Dataset Pathname stackml/pass3.1
 Presentation Format cndlspec
 Dataset Creation Fri Jun 29 12:49:41 2018
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	30	CNLS (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









0	GAMMA RAY (GAPI)	150
6	dcal (in)	16
6	BIT SIZE (in)	16

30	CNLS (pu)	-10
30	DPOR (pu)	-10
15000	LINE TENSION (lb)	0
-0.25	RHOC (g/cc)	0.25

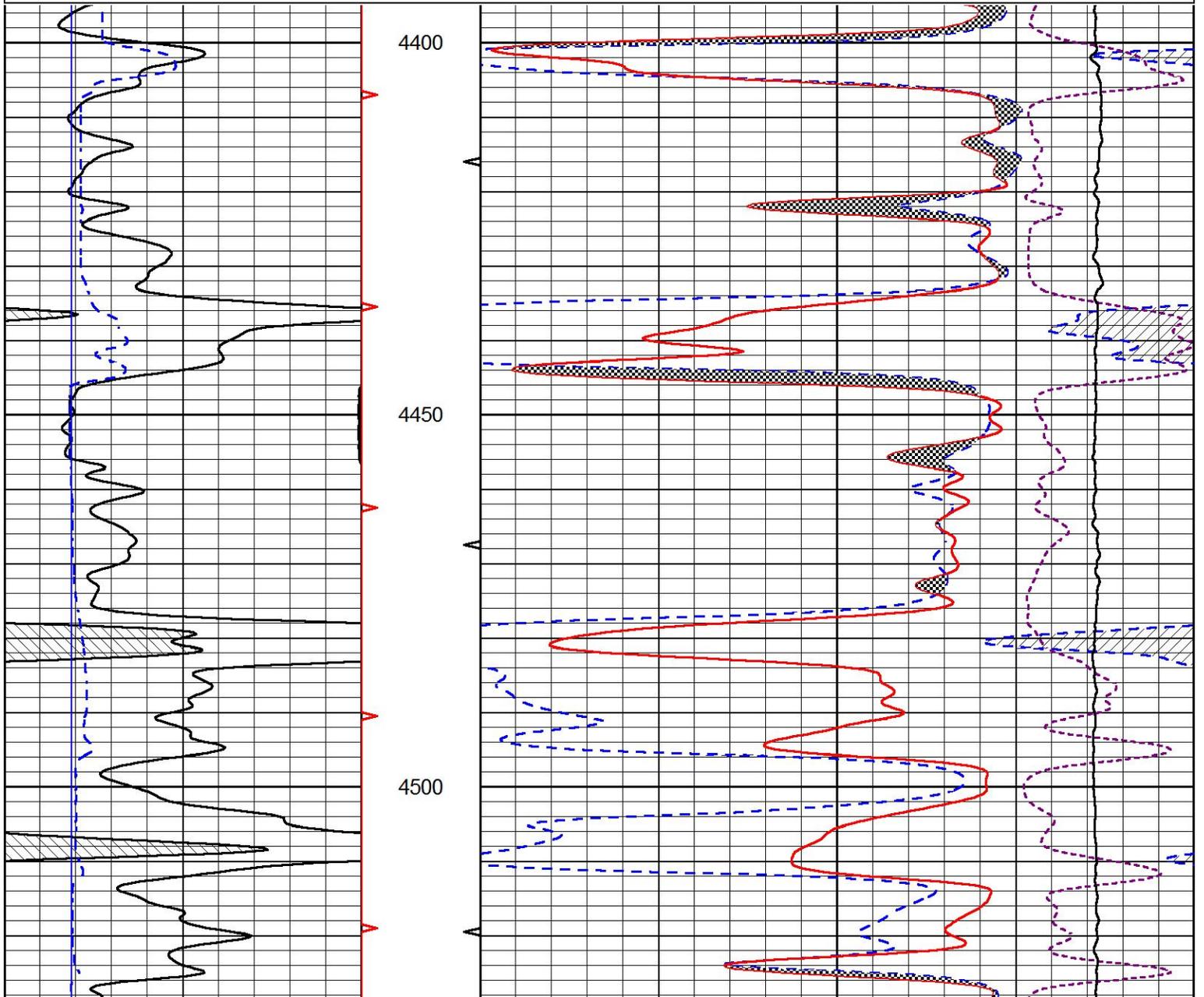


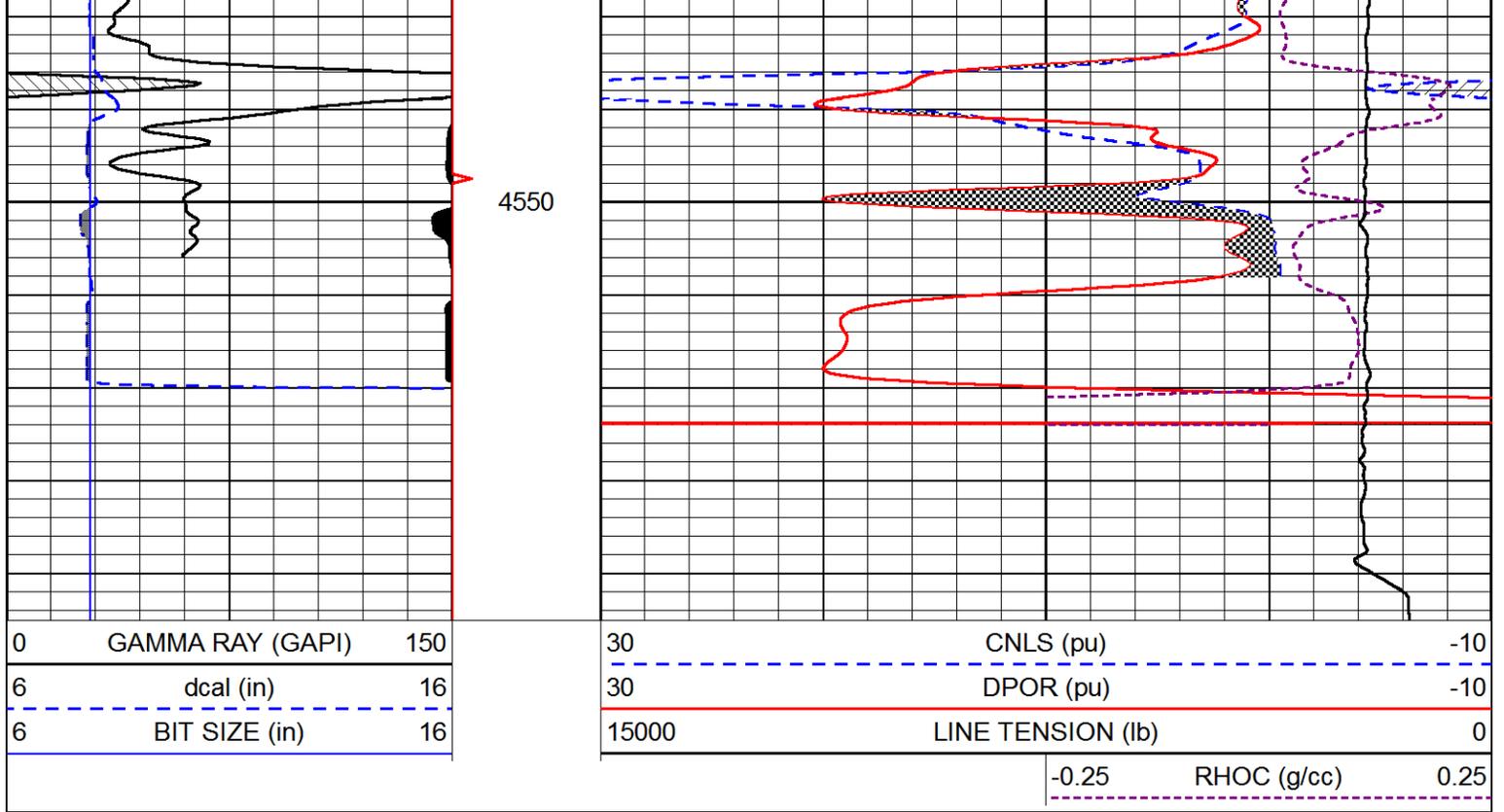
REPEAT SECTION

Database File carmen_schmitt_horacek_a_2.db
 Dataset Pathname stackml/pass2.1
 Presentation Format cndlspec
 Dataset Creation Fri Jun 29 12:49:53 2018
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	dcal (in)	16
6	BIT SIZE (in)	16

30	CNLS (pu)	-10
30	DPOR (pu)	-10
15000	LINE TENSION (lb)	0
-0.25	RHOC (g/cc)	0.25





Calibration Report

Database File carmen_schmitt_horacek_a_2.db
 Dataset Pathname stackml/pass3.1
 Dataset Creation Fri Jun 29 12:49:41 2018

Dual Induction Calibration Report

Serial-Model: 1987-M&W
 Calibration Performed: Tue Apr 11 17:07:38 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500

Microlog Calibration Report

Serial-Model: PSI-01-PSI STKBL ML
 Performed: Thu Mar 31 18:14:32 2016

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	52500.0000	0.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	62500.0000	0.0000
Caliper	1.0001	1.1397	6.5000	18.5000	in	86.0000	-82.9000

Compensated Density Calibration Report

Serial-Model: 979-229-M&W
 Source / Verifier: 21170B /
 Master Calibration Performed: Tue Jun 26 07:59:32 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	7726.98	9910.47	cps
Aluminum	2.675	g/cc	1442.93	6391.03	cps
Spine Angle = 75.35			Density/Spine Ratio = 0.530		
	Size		Reading		
Small Ring	4.00	in	1.16		
Large Ring	16.00	in	1.03		

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 Apr 11 17:08:01 2017

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 6.2 cps

Sensitivity: 0.5200 GAPI/cps



PIONEER
 Pioneer Energy Services

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