



# DUAL COMP POROSITY LOG

Company CHIZUM OIL, LLC  
 Well GERTRUDE NO. 2-36  
 Field UNKNOWN  
 County SHERMAN  
 State KANSAS

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 Field UNKNOWN  
 County SHERMAN State KANSAS

Location: 2206' FNL & 1236' FEL  
 SEC 36 TWP 7S RGE 37W  
 Permanent Datum GROUND LEVEL Elevation 3441'  
 Log Measured From KELLY BUSHING  
 Drilling Measured From KELLY BUSHING  
 Other Services DIL MEL  
 Elevation K.B. 3449' D.F. N/A G.L. 3441'

Date	4/20/2018
Run Number	ONE
Type Log	CNL/CDL
Depth Driller	5010'
Depth Logger	5010'
Bottom Logged Interval	4981'
Top Logged Interval	3900'
Type Fluid In Hole	CHEMICAL
Salinity, PPM CL	6600
Density	9.4
Level	FULL
Max. Rec. Temp. F	126 DEG/F
Operating Rig Time	2 HOURS
Equipment -- Location	108 HAYS
Recorded By	J. HENRICKSON
Witnessed By	RICK SMITH

Run No.	Bit	Borehole Record			Casing Record		
		From	To	Size	Wgt.	From	To
ONE	12.25"	0	373'	8.625"	23#	0	373'
TWO	7.875"	373'		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.  
 BREWSTER KANSAS  
 NORTH TO T ROAD, 1 WEST, 1/2 SOUTH, WEST INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES  
[www.pioneerenergy.com](http://www.pioneerenergy.com) 785-625-3858

Your Pioneer Energy Services Crew

Engineer: J. HENRICKSON  
 Operator:  
 Operator:  
 Operator:

This Log Record Was Witnessed By

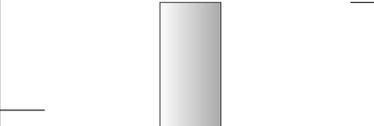
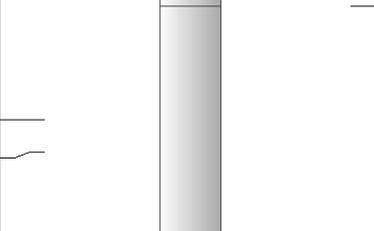
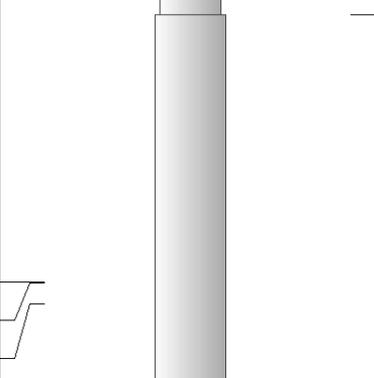
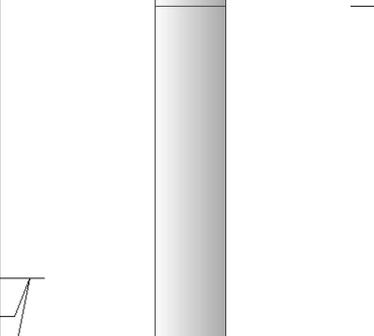
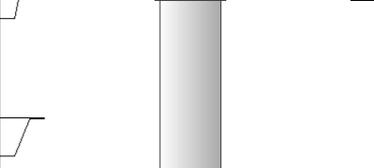
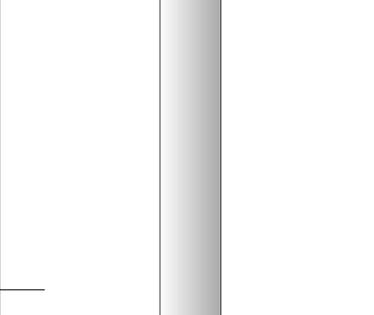
Primary Witness: RICK SMITH  
 Secondary Witness:  
 Secondary Witness:  
 Secondary Witness:

# Log Variables

DatabaseC:\ProgramData\Warrior\Data\chizum\_gertrude\_2\_36.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	126	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	2	3	-77	41	Off	5010

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 (168-986)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSI STKBL ML (PSI-02) Stackable Microlog Tools	7.58	4.00	65.00
RLL3 RLL3F	15.80 15.79					
CILD	8.00		DIL-M&W (PSI 978)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: chizum\_gertrude\_2\_36.db: field/well/stackml/pass3.1  
 Total length: 43.08 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in

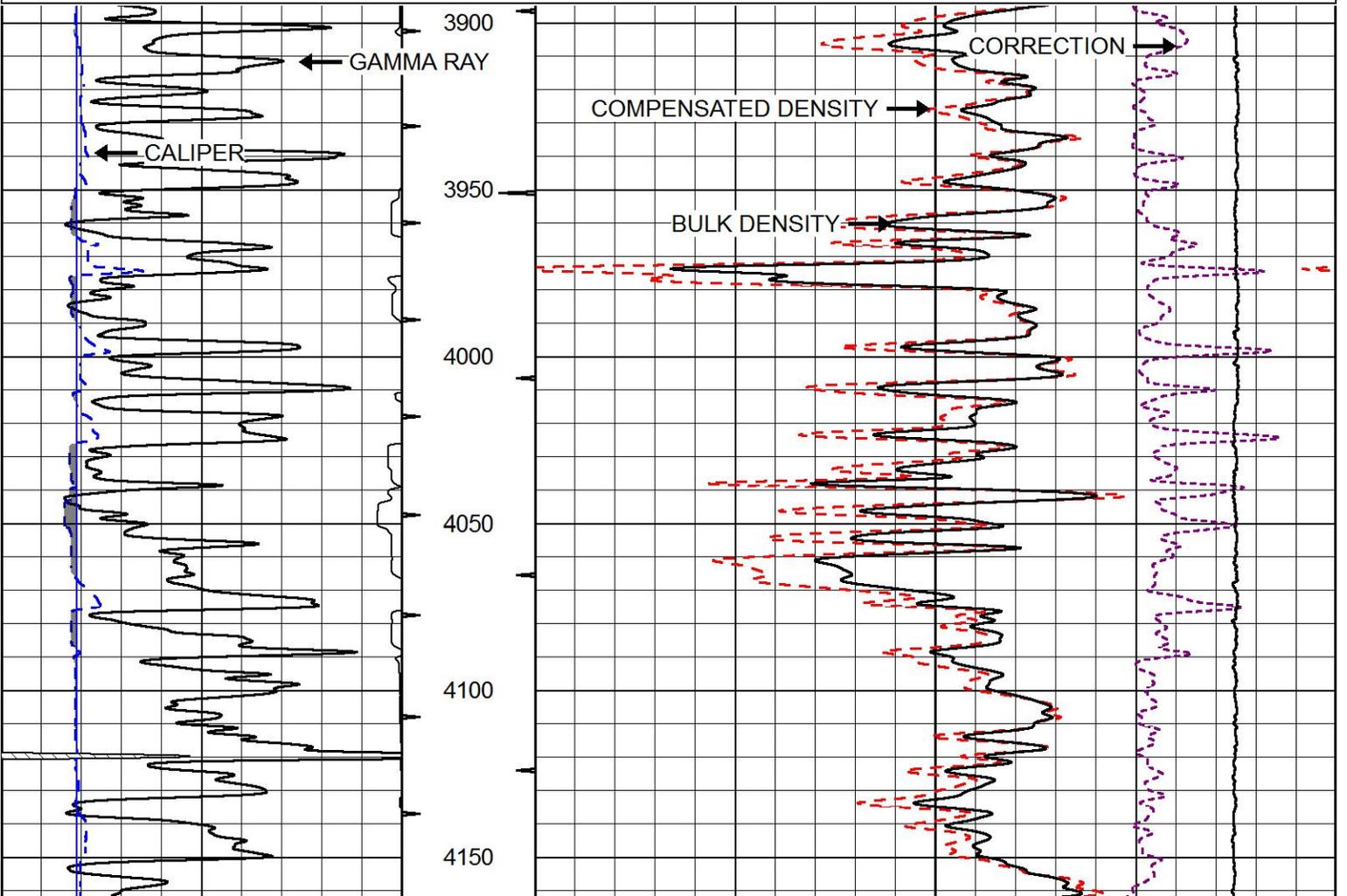


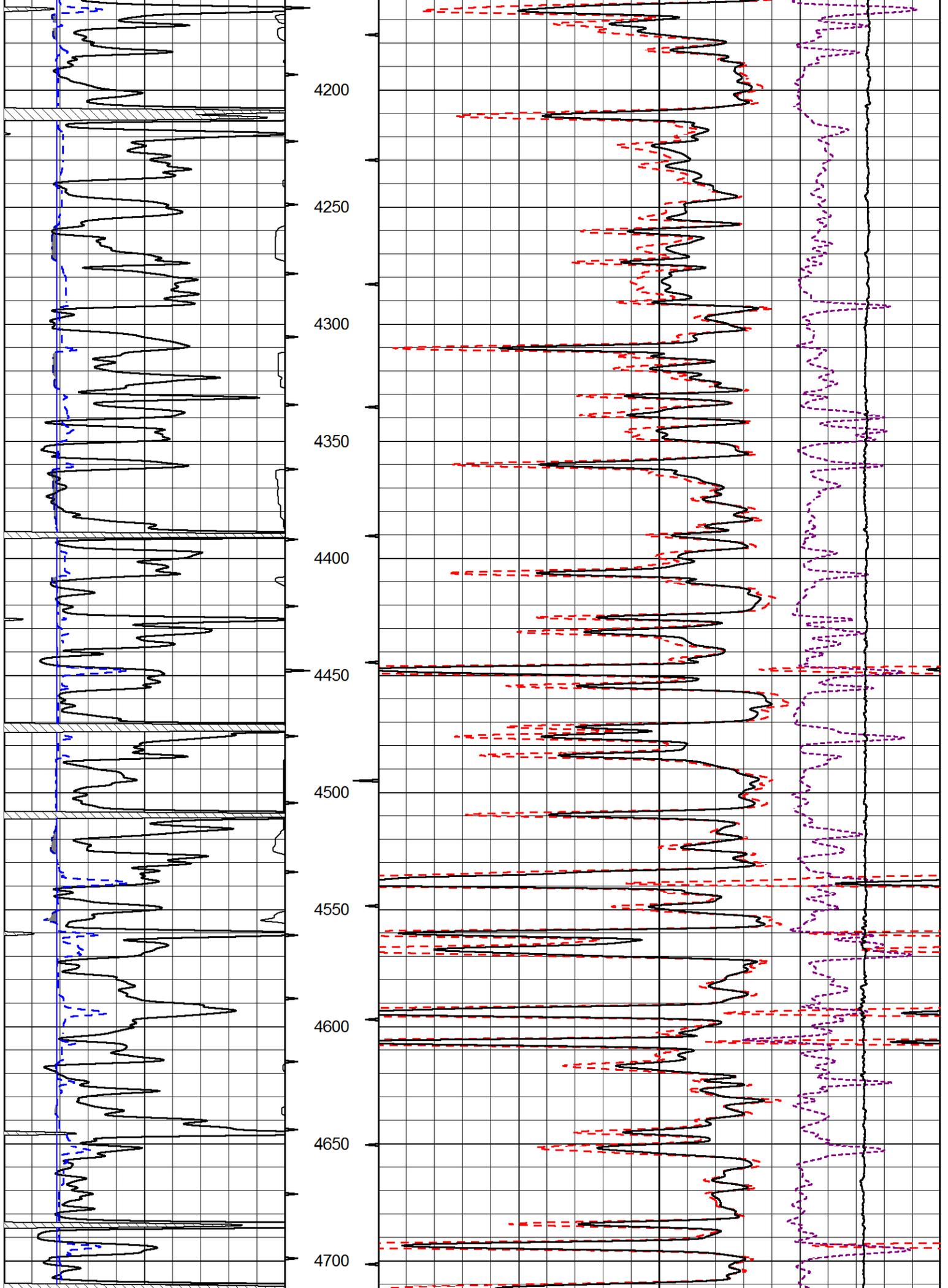
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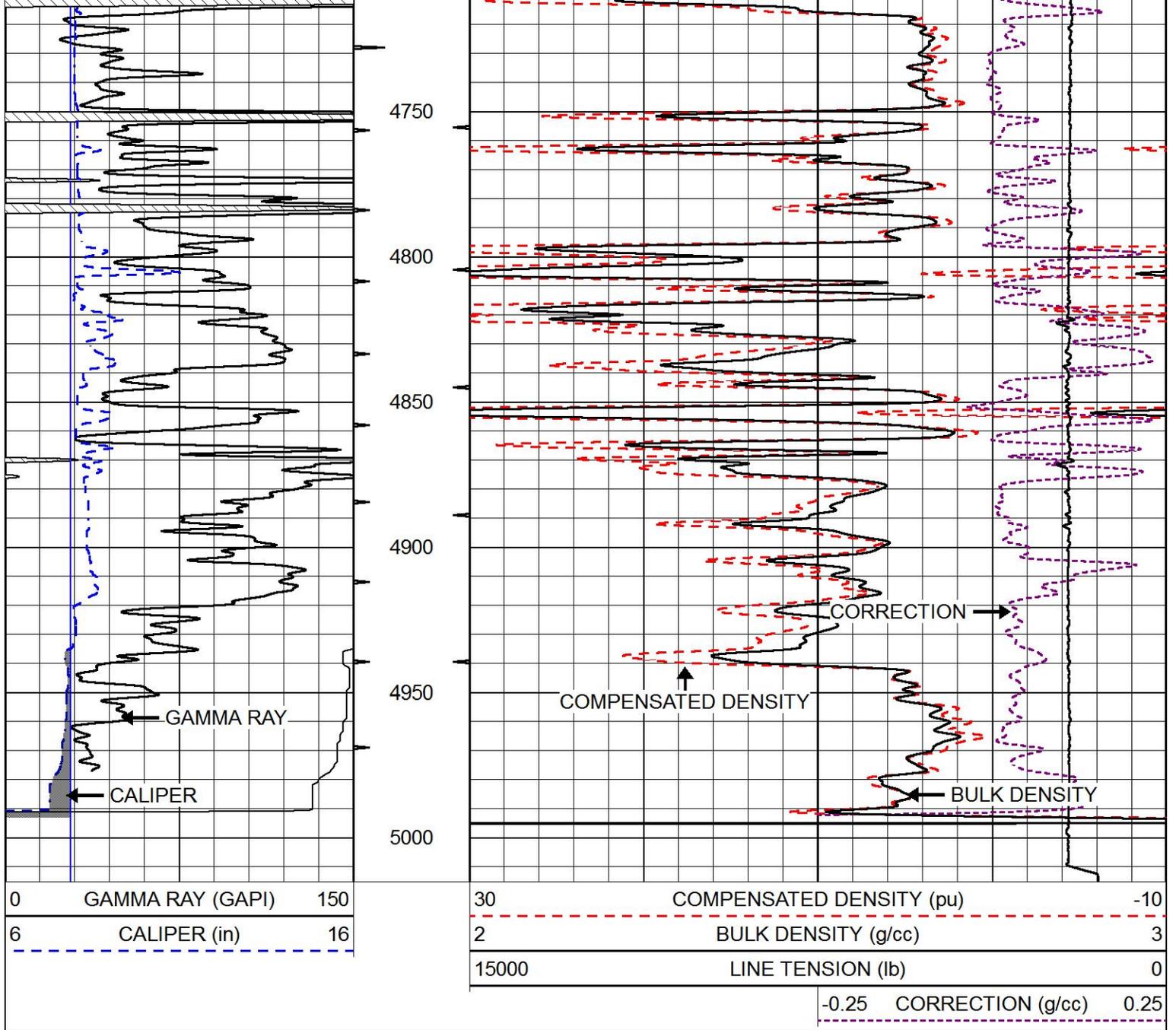
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 Dataset Pathname stackml/pass3.1  
 Presentation Format cdl  
 Dataset Creation Fri Apr 20 03:48:48 2018  
 Charted by Depth in Feet scaled 1:600

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



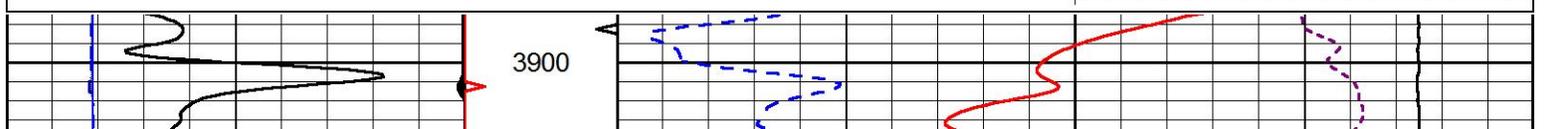


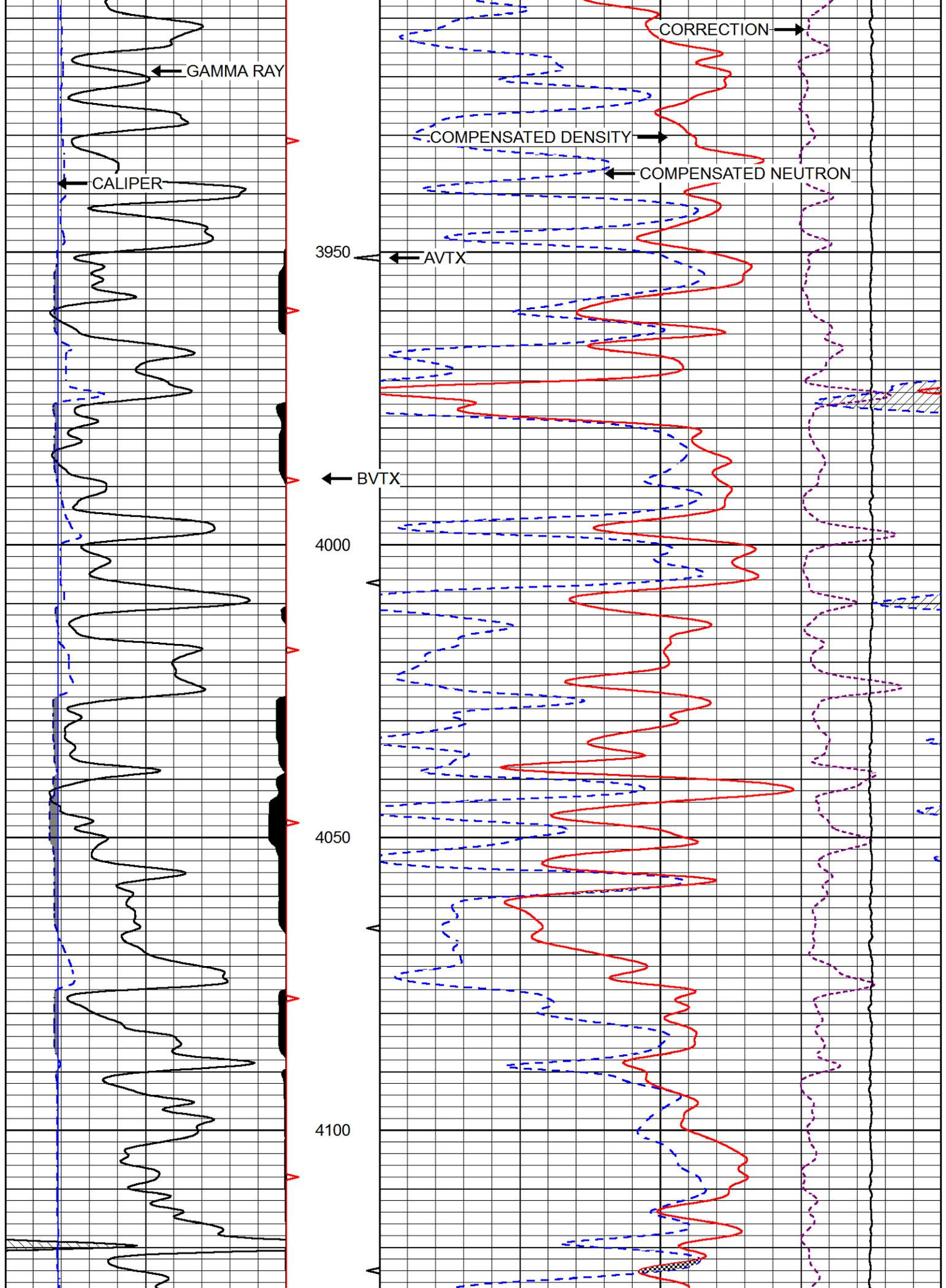


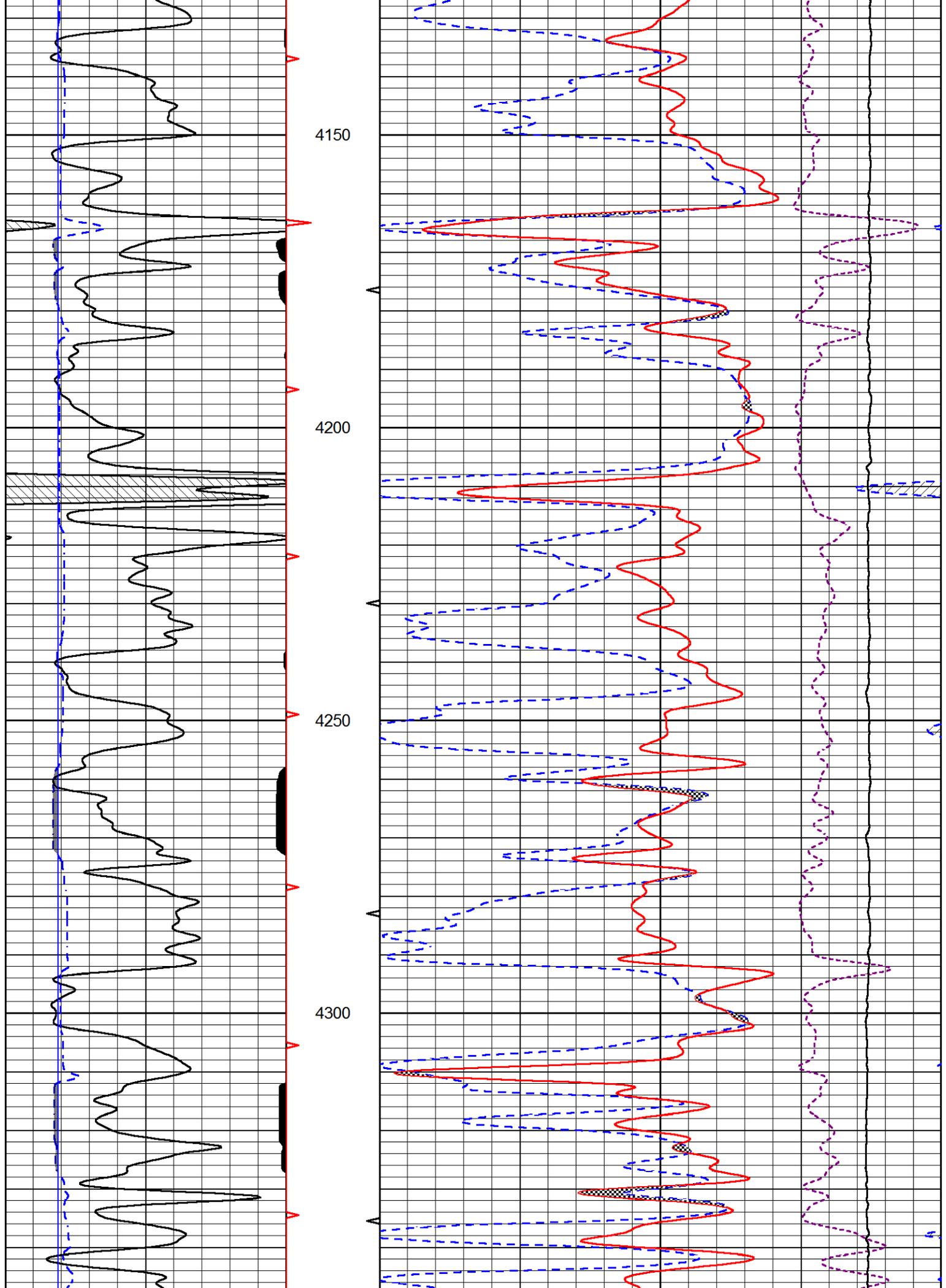
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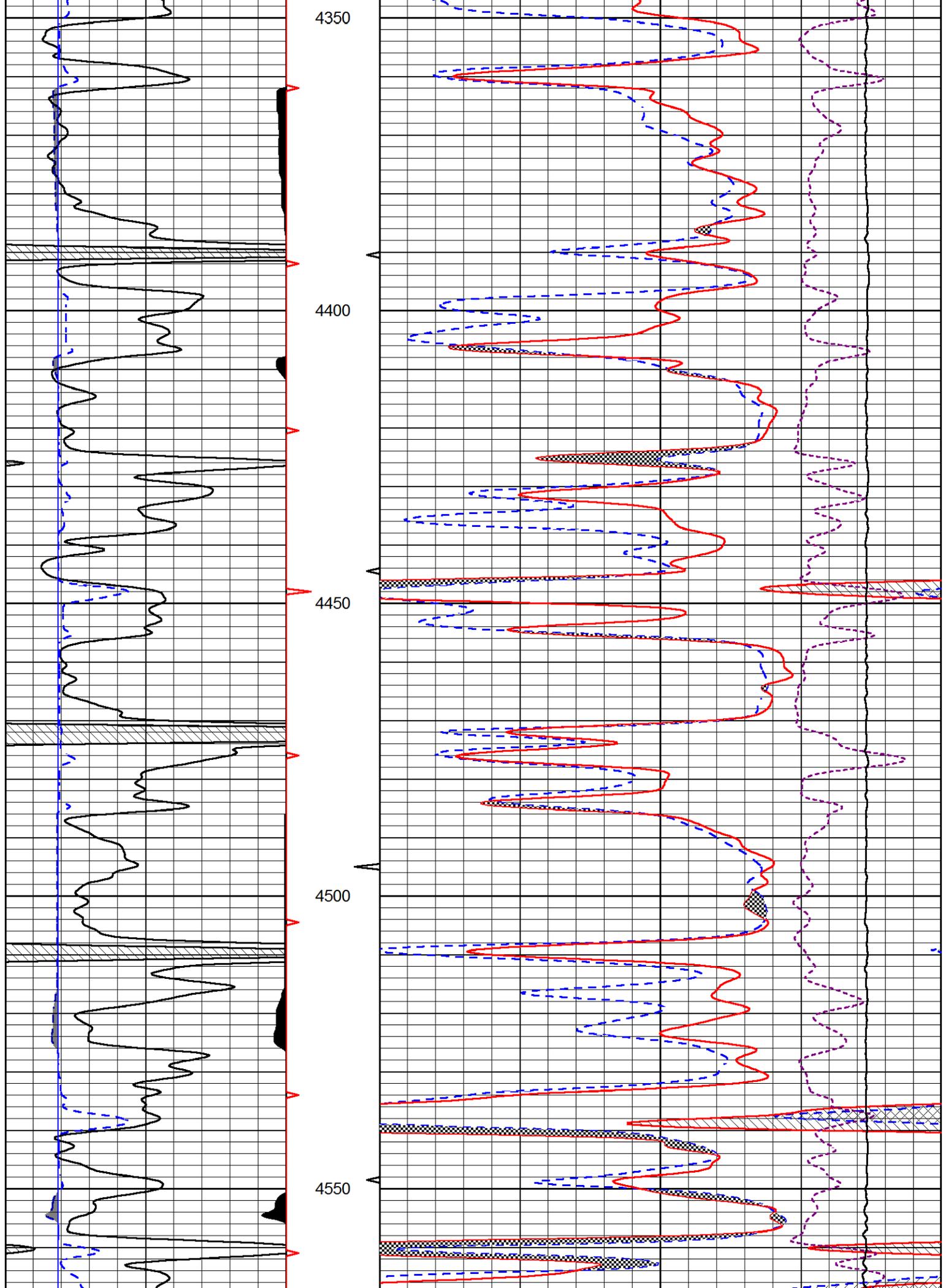
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 Dataset Pathname stackml/pass3.1  
 Presentation Format cndlspec  
 Dataset Creation Fri Apr 20 03:48:48 2018  
 Charted by Depth in Feet scaled 1:240

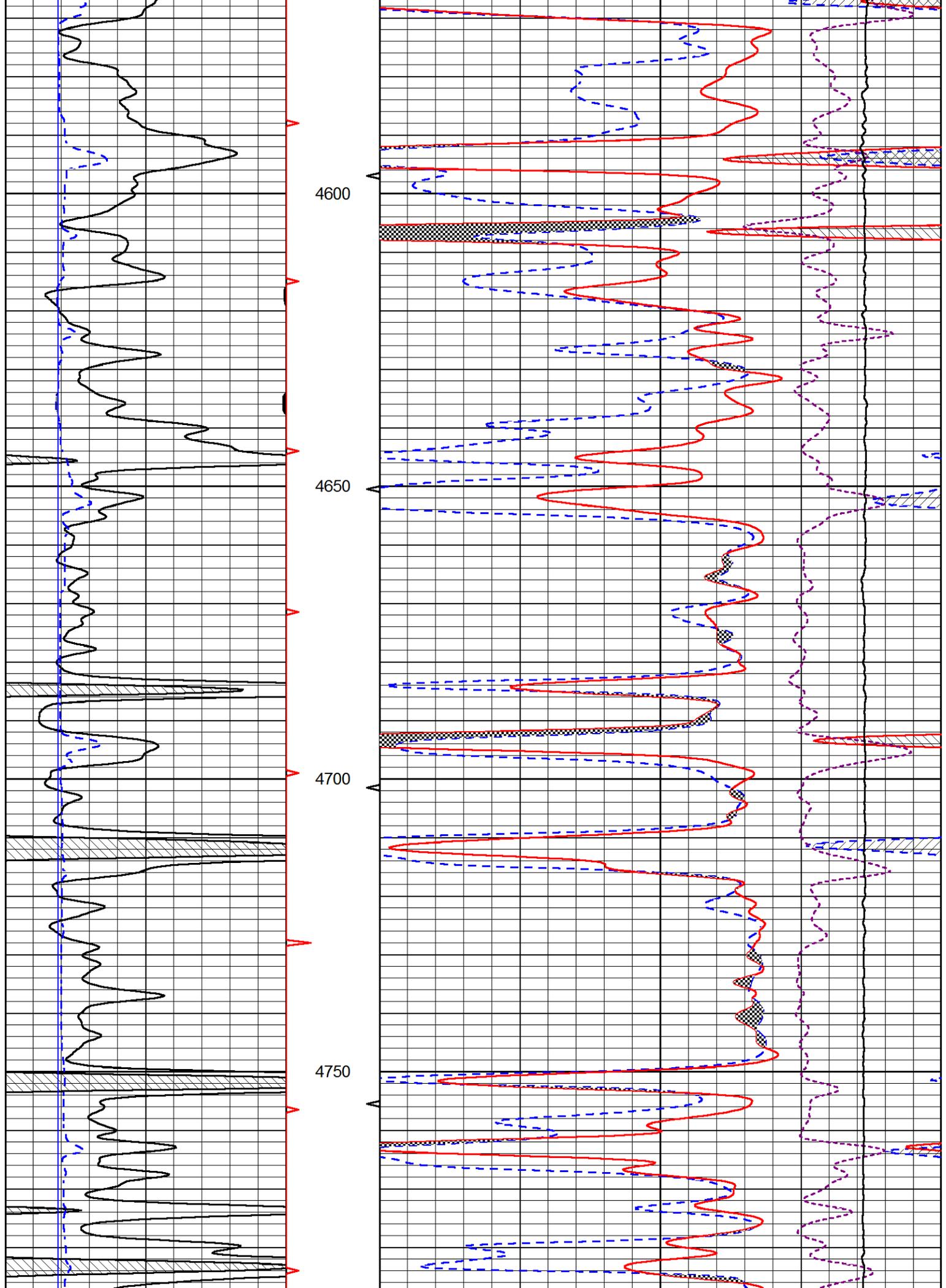
0	GAMMA RAY (GAPI)	150	30	CNLS (pu)	-10
6	dcal (in)	16	30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
6	BIT SIZE (in)	16	15000	LINE TENSION (lb)	0
			-0.25	CORRECTION (g/cc)	0.25

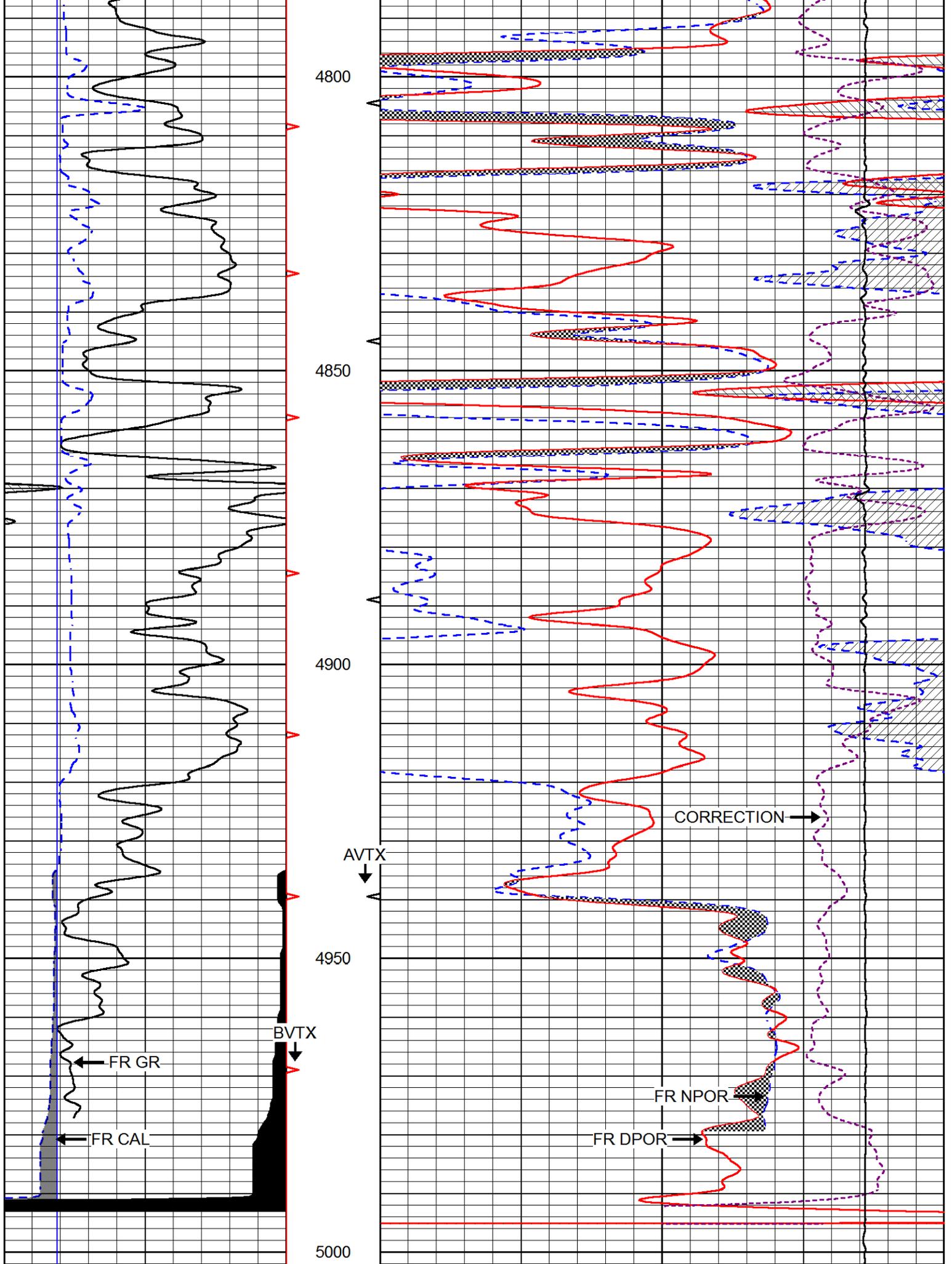












0	GAMMA RAY (GAPI)	150
6	dcal (in)	16
6	BIT SIZE (in)	16

30	CNLS (pu)	-10
30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25

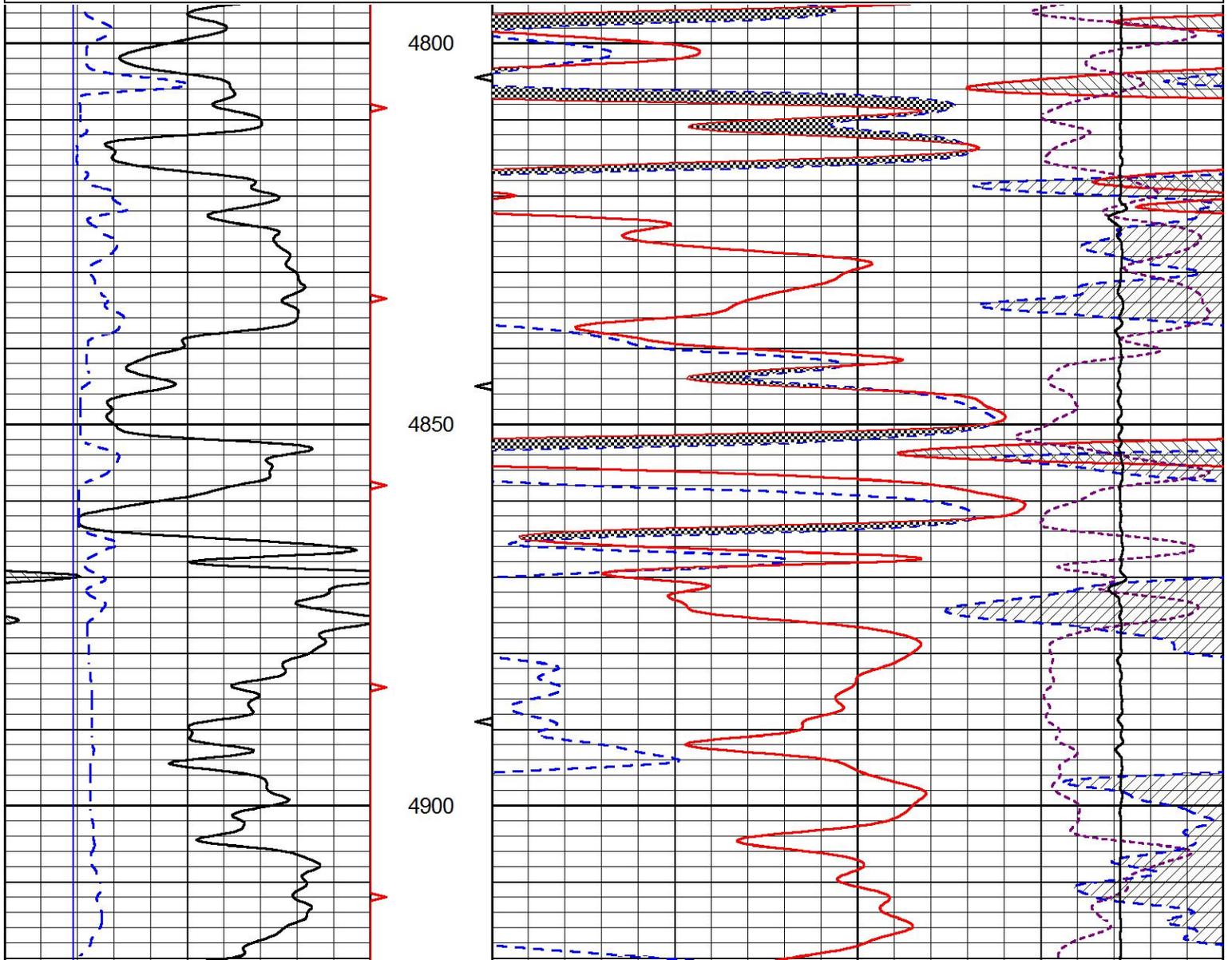


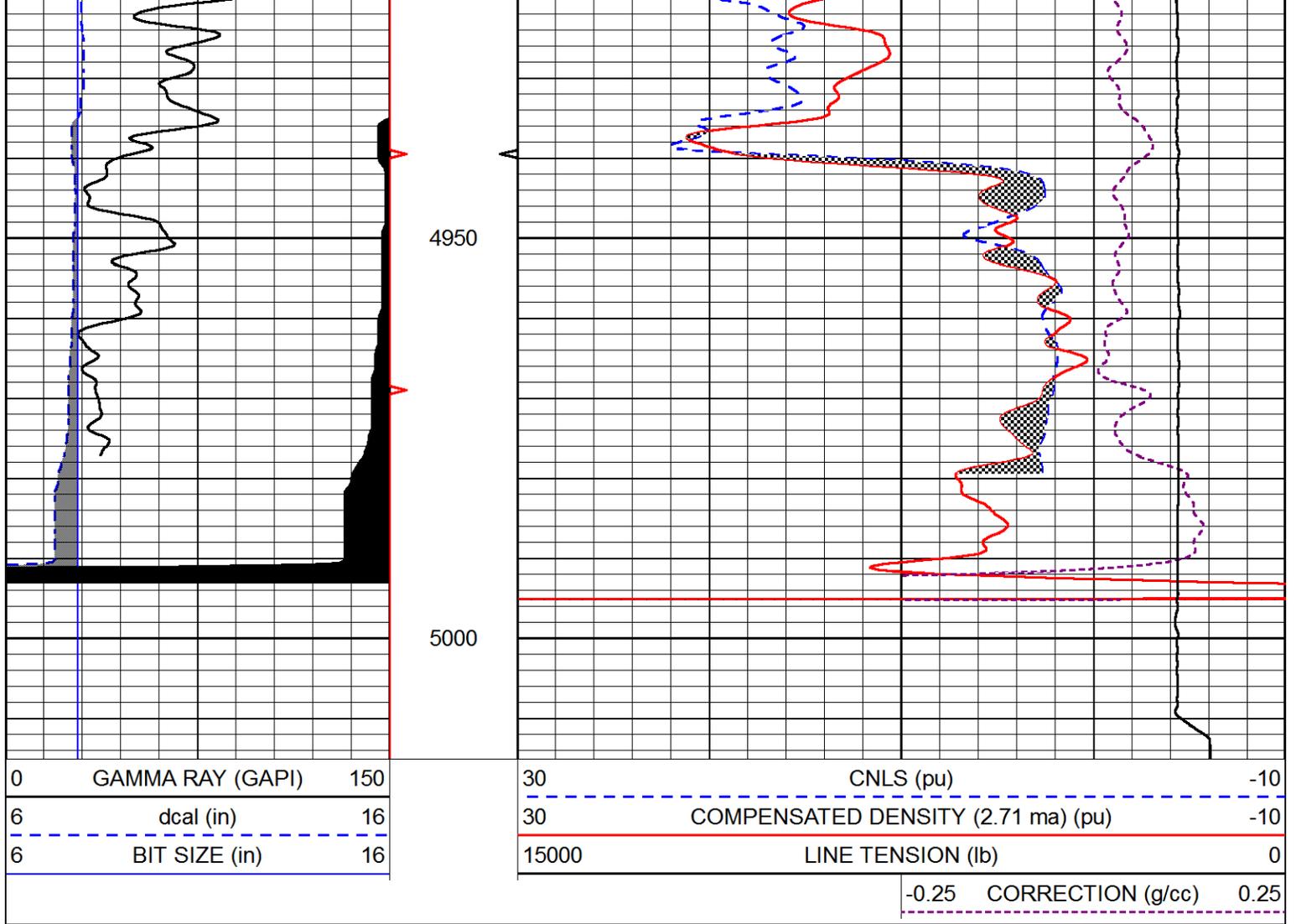
# REPEAT SECTION

Database File      chizum\_gertrude\_2\_36.db  
 Dataset Pathname    stackml/pass2.1  
 Presentation Format    cndlspec  
 Dataset Creation      Fri Apr 20 03:52:57 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	COMPENSATED DENSITY (2.71 ma) (pu)	-10
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25





### Calibration Report

Database File chizum\_gettrude\_2\_36.db  
 Dataset Pathname stackml/pass3.1  
 Dataset Creation Fri Apr 20 03:48:48 2018

### Dual Induction Calibration Report

Serial-Model: PSI 978-M&W  
 Calibration Performed: Sun Feb 04 11:50:02 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop	mmho/m	Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.570	-40.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.400	-37.000

### Microlog Calibration Report

Serial-Model: PSI-02-PSI STKBL ML  
 Performed: Sat Apr 07 12:01:20 2018

	Readings		References			Results	
	Zero	Cal	Zero	Cal	Ohm-m	m	b
Normal	0.0031	0.0043	0.0000	10.0000	Ohm-m	26000.0000	-1.0000
Inverse	0.0000	0.0013	0.0000	10.0000	Ohm-m	20000.0000	0.0000

**Compensated Density Calibration Report**

Serial-Model: 168-986-M&W  
 Source / Verifier: /  
 Master Calibration Performed: Tue Apr 11 17:07:47 2017

**Master Calibration**

	<u>Density</u>		<u>Far Detector</u>		<u>Near Detector</u>
Magnesium	1.755	g/cc	4691.86		4818.19 cps
Aluminum	2.675	g/cc	859.57		3020.22 cps
	Spine Angle = 74.61		Density/Spine Ratio = 0.523		
	<u>Size</u>		<u>Reading</u>		
Small Ring	4.00	in	1.00		
Large Ring	14.00	in	1.20		

**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



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