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DUAL COMP POROSITY LOG

Company MURFIN DRILLING COMPANY, INC.
Well MEARS B #1-11
Field WILDCAT
County CHEYENNE State KANSAS
Location: API #: 15-023-21468-00-00
N2 SE NE SE
1800' FSL & 330' FEL
SEC 11 TWP 2S RGE 37W

Other Services: DIL, MEL/BHCS

Elevation: K.B. 3396', D.F. N/A, G.L. 3391'

Permanent Datum: GROUND LEVEL Elevation 3391'
Log Measured From: KELLY BUSHING
Drilling Measured From: KELLY BUSHING

Date	7/29/2017
Run Number	ONE
Type Log	CNL/CDL
Depth Driller	4900'
Depth Logger	4900'
Bottom Logged Interval	4879'
Top Logged Interval	3900'
Type Fluid In Hole	CHEMICAL
Salinity, PPM CL	800
Density	9.1
Level	FULL
Max. Rec. Temp. F	125 DEG F
Operating Rig Time	4 1/2 HOURS
Equipment -- Location	108 HAYS
Recorded By	T. MARTIN
Witnessed By	STEVE MILLER

Company MURFIN DRILLING COMPANY, INC.
Well MEARS B #1-11
Field WILDCAT
County CHEYENNE
State KANSAS

Borehole Record

Run No.	Bit	From	To
ONE	12.25"	00'	346'
TWO	7.875"	346'	TD

Casing Record

Size	Wgt.	From	To
8.625"	23#	00'	346'

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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.

MCDONALD, 2 W TO CO LINE,
7.6 N TO RD W, 1 W, 1/4 N, W INTO

Log Measured From: KELLY BUSHING 5 Ft. Above Permanent Datum

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

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: T. MARTIN	Primary Witness: STEVE MILLER
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-M&W (89-M&W)	3.00	3.50	50.00
GR	33.00					
CNLSC	29.90		CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	29.15					
			CDL-M&W (168-986)	8.50	4.00	250.00
LSD	20.85					
DCAL	20.83					
SSD	20.35					
RLL3	15.80					
RLL3F	15.79					
			DIL-M&W (1987)	18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					

Dataset: murfin_mears b_#1-11.db: field/well/stack/pass3.1
Total length: 35.50 ft
Total weight: 620.00 lb
O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\murfin_mears b_#1-11.db
Dataset field/well/stack/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	125	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	-520	80	Off	4900

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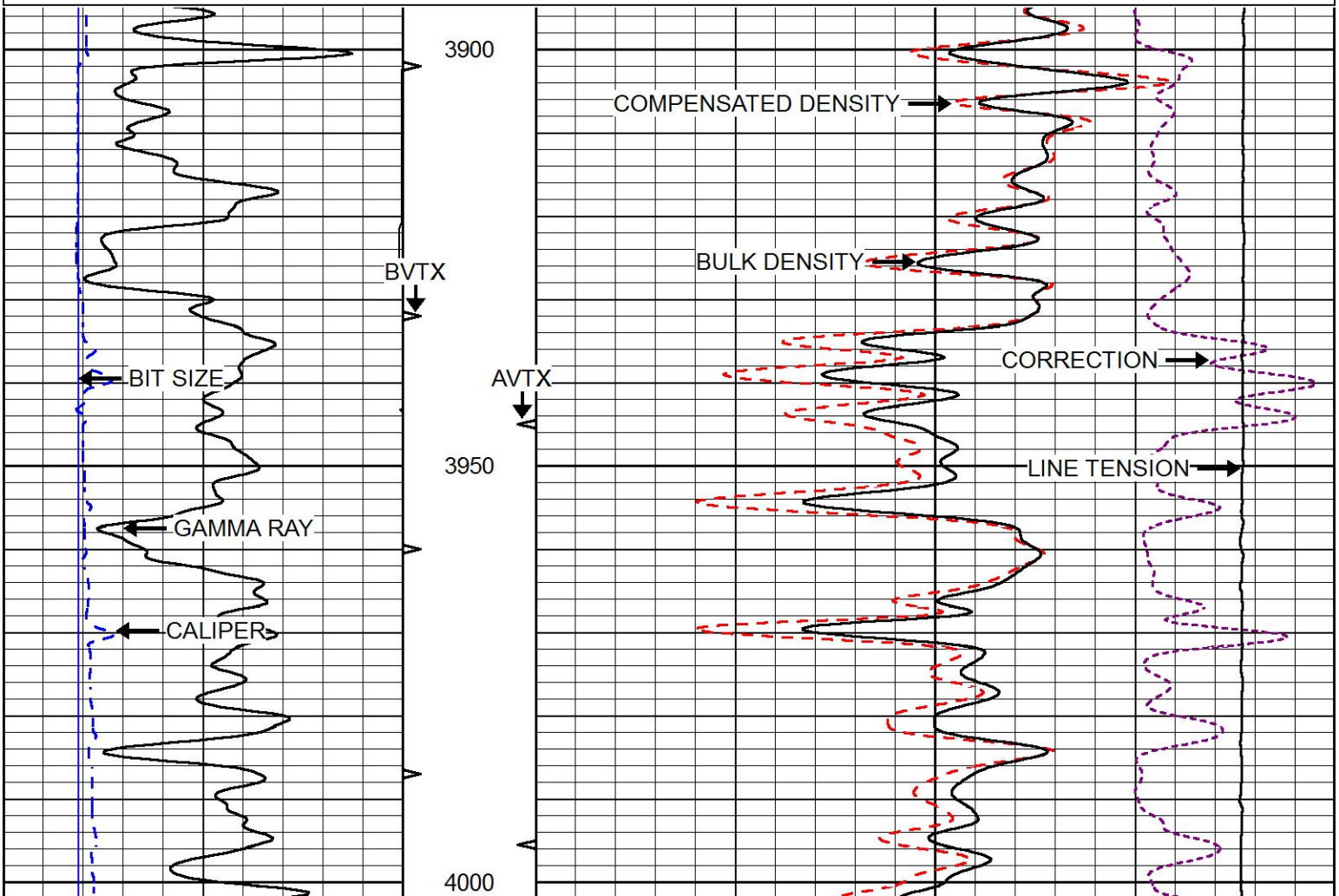
2" SCALE BULK DENSITY

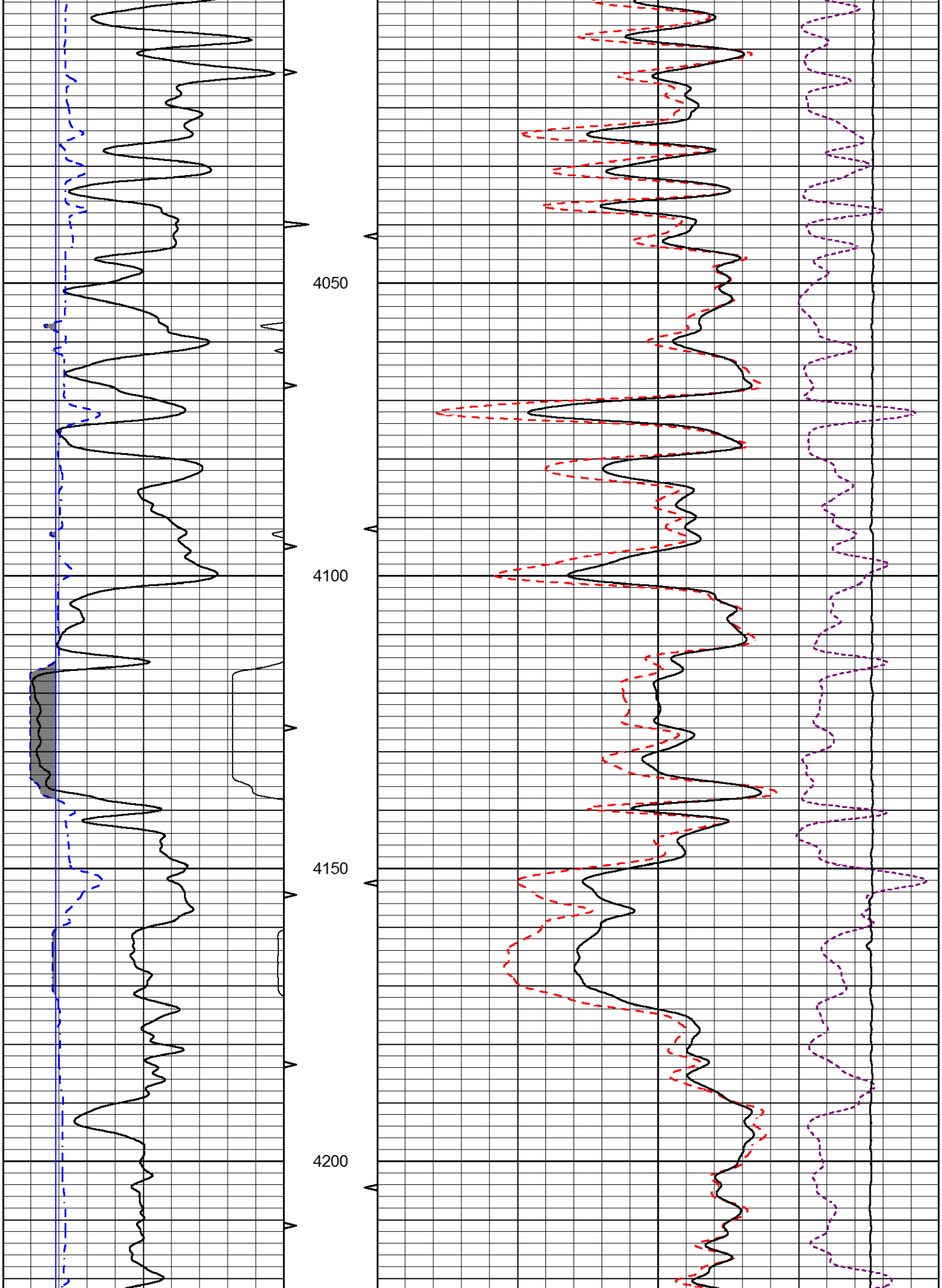
MAIN PASS

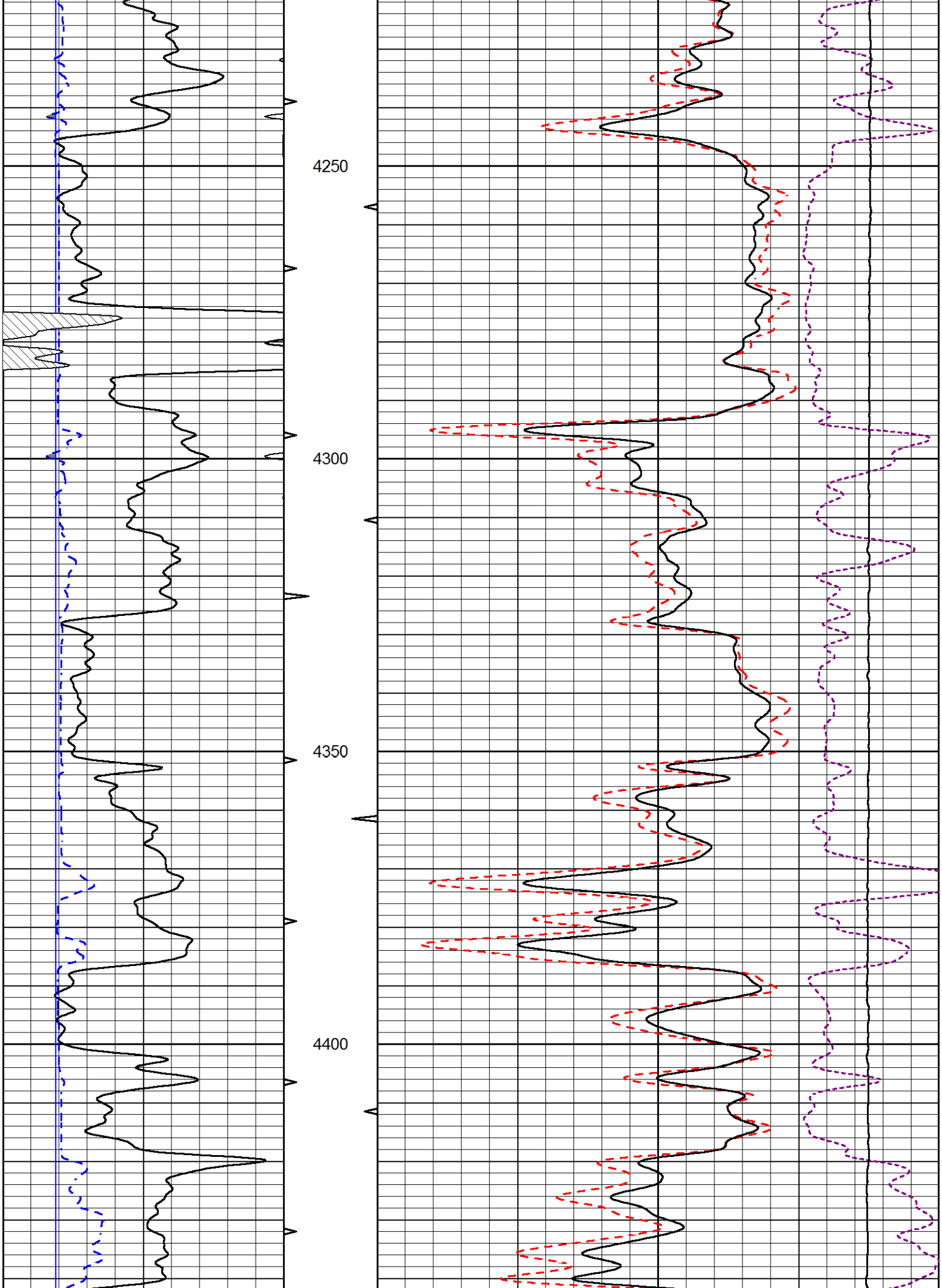
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Dataset Pathname	stack/pass3.3
Presentation Format	cdl
Dataset Creation	Sat Jul 29 03:35:06 2017
Charted by	Depth in Feet scaled 1:240

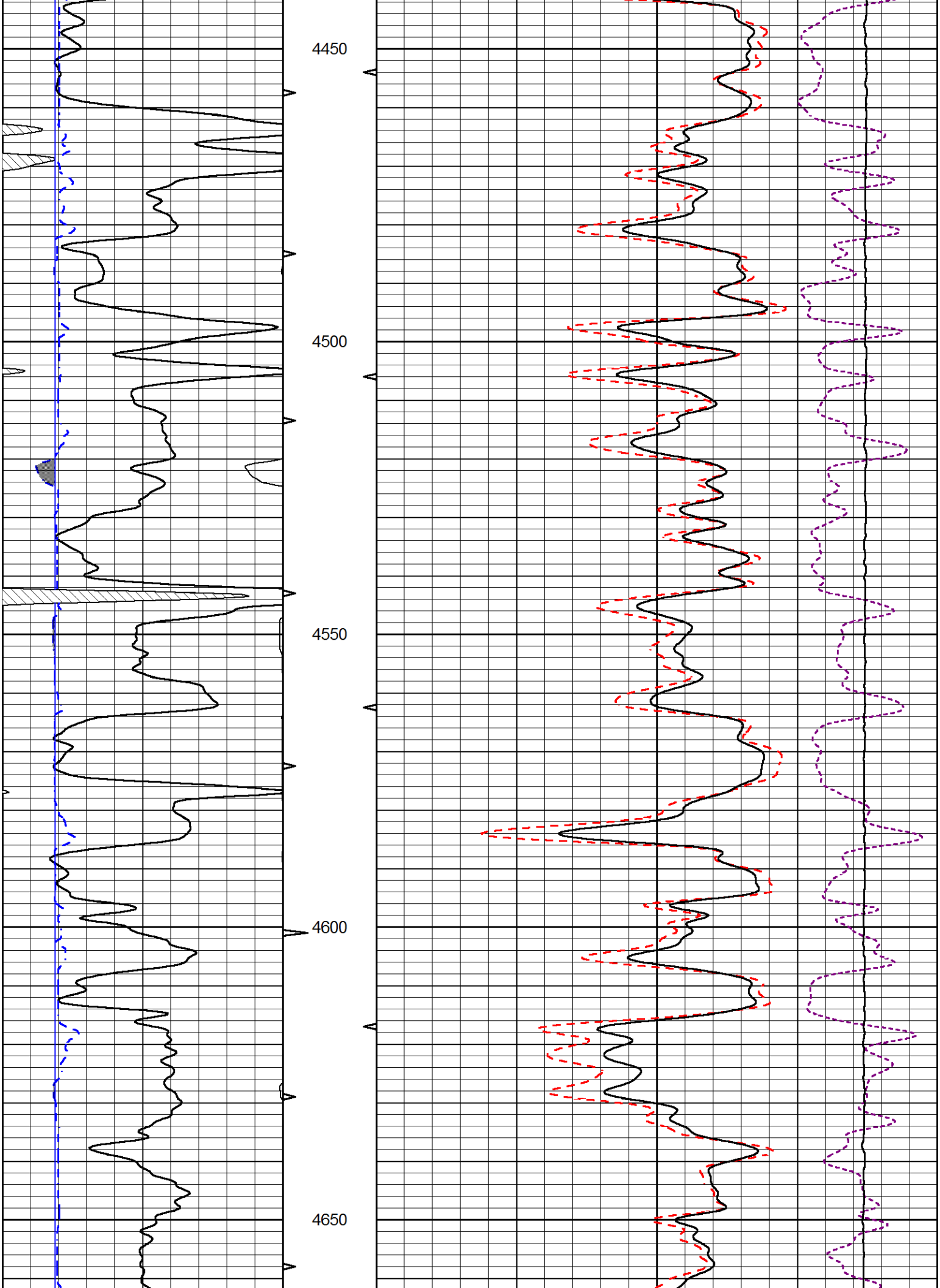
0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16

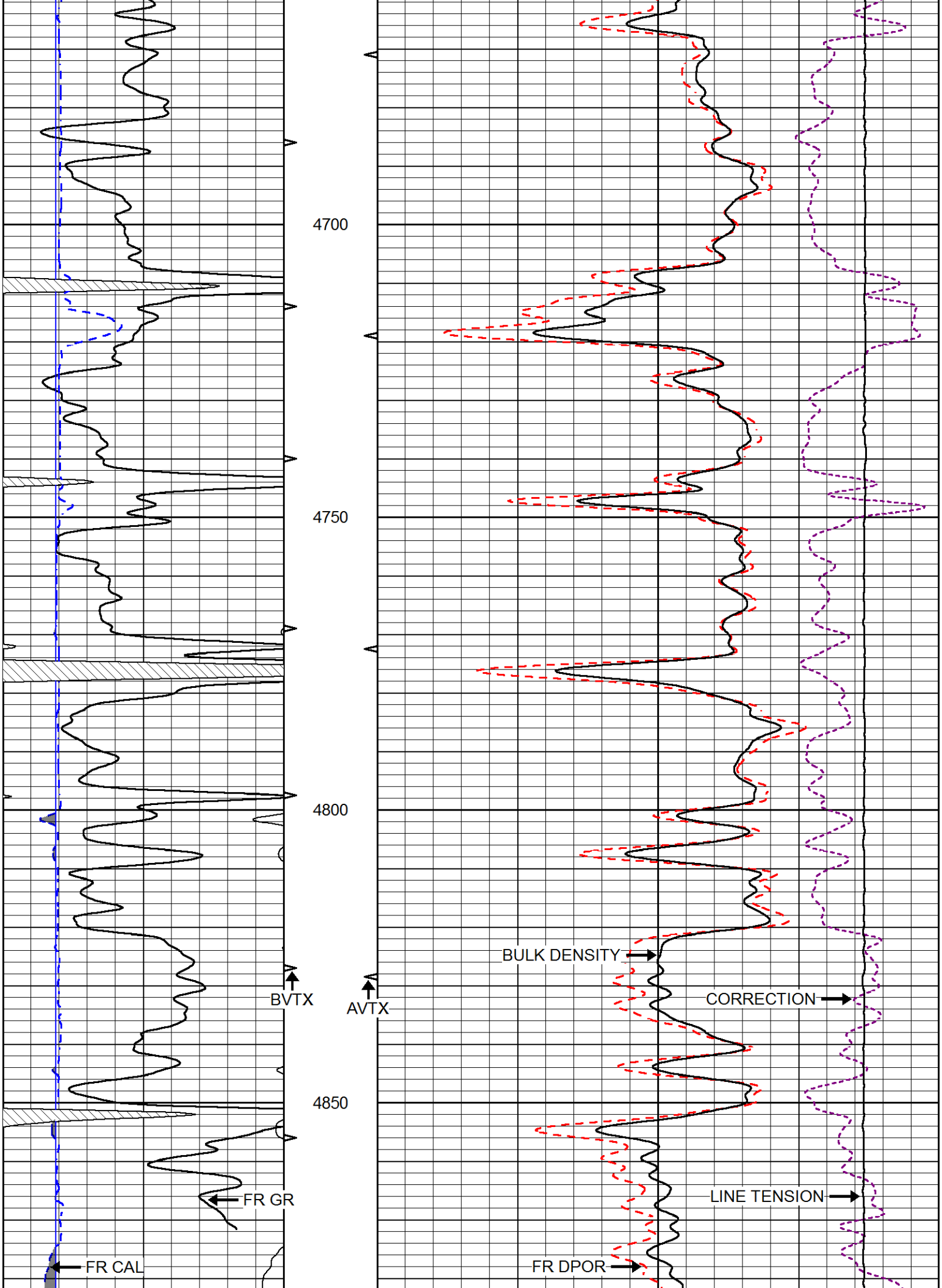
30	COMPENSATED DENSITY (pu)	-10
2	BULK DENSITY (g/cc)	3
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25

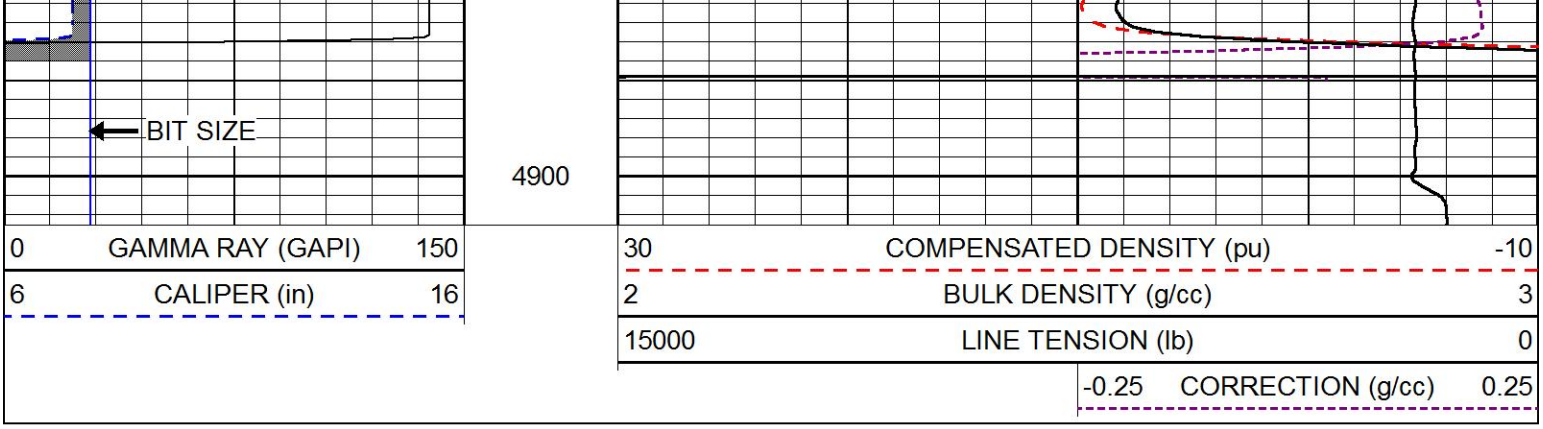



4050
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4150
4200


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4400


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4600
4650

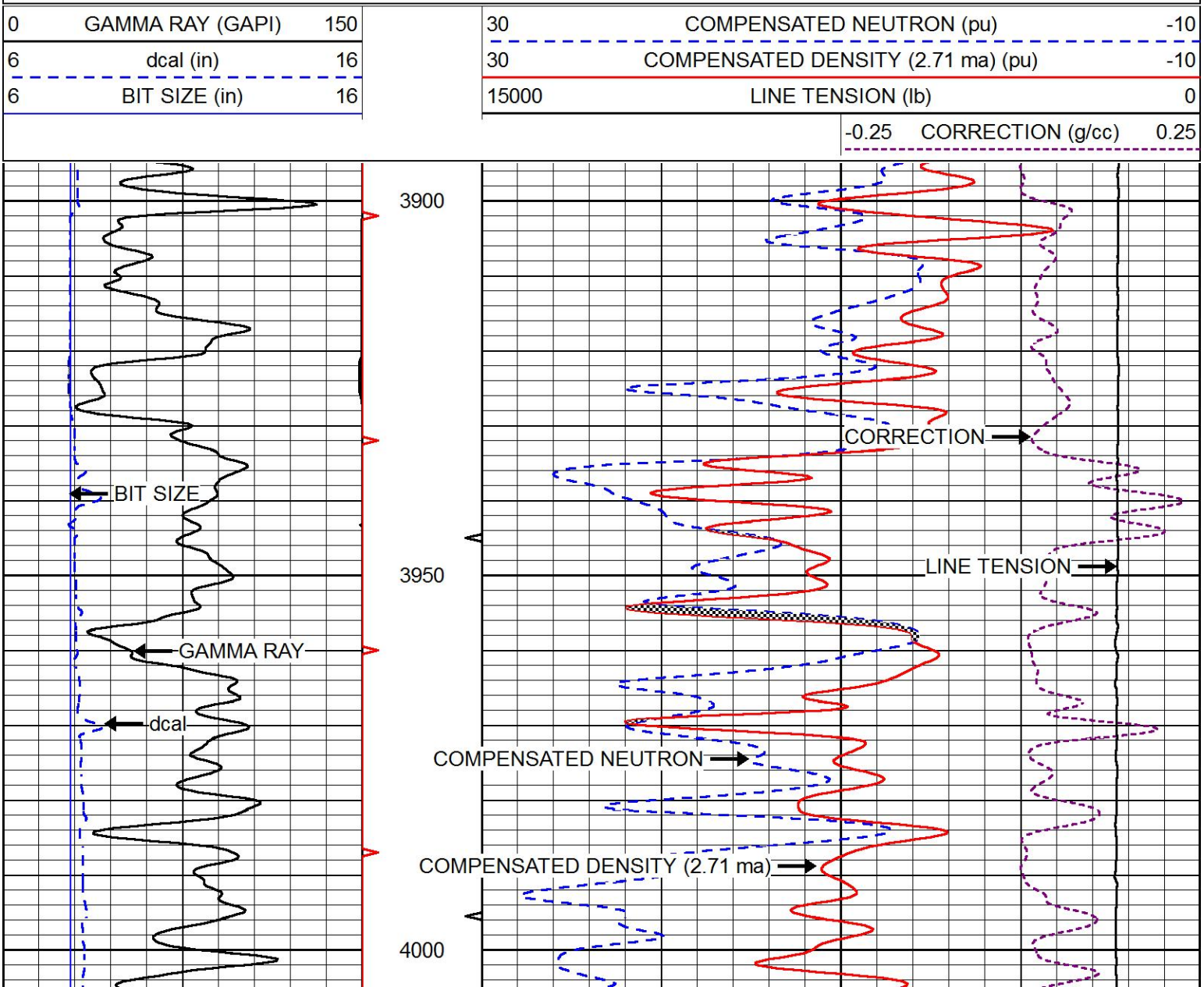

4700
4750
4800
4850
BVTX
AVTX
BULK DENSITY
CORRECTION
LINE TENSION
FR GR
FR CAL
FR DPOR

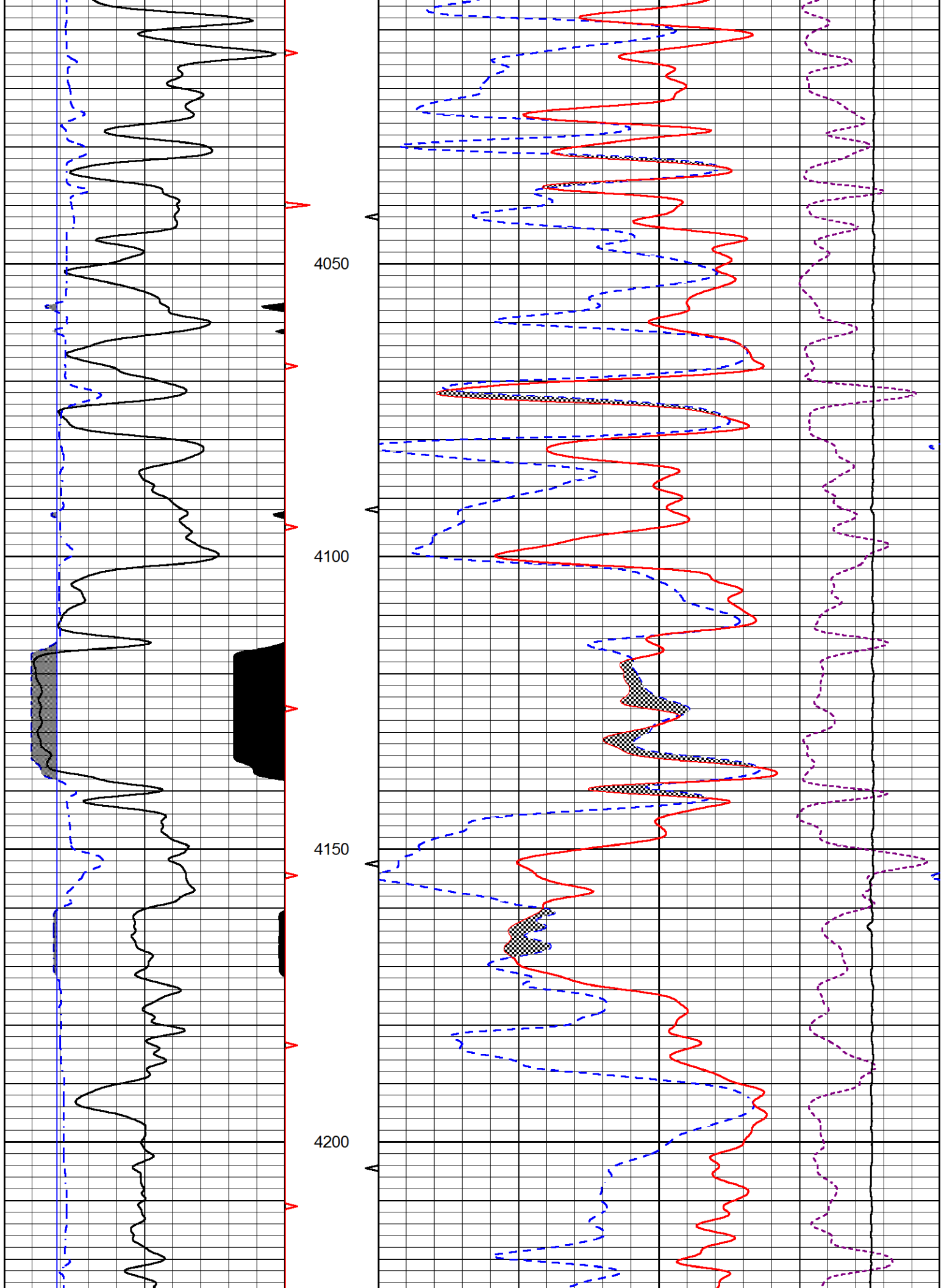


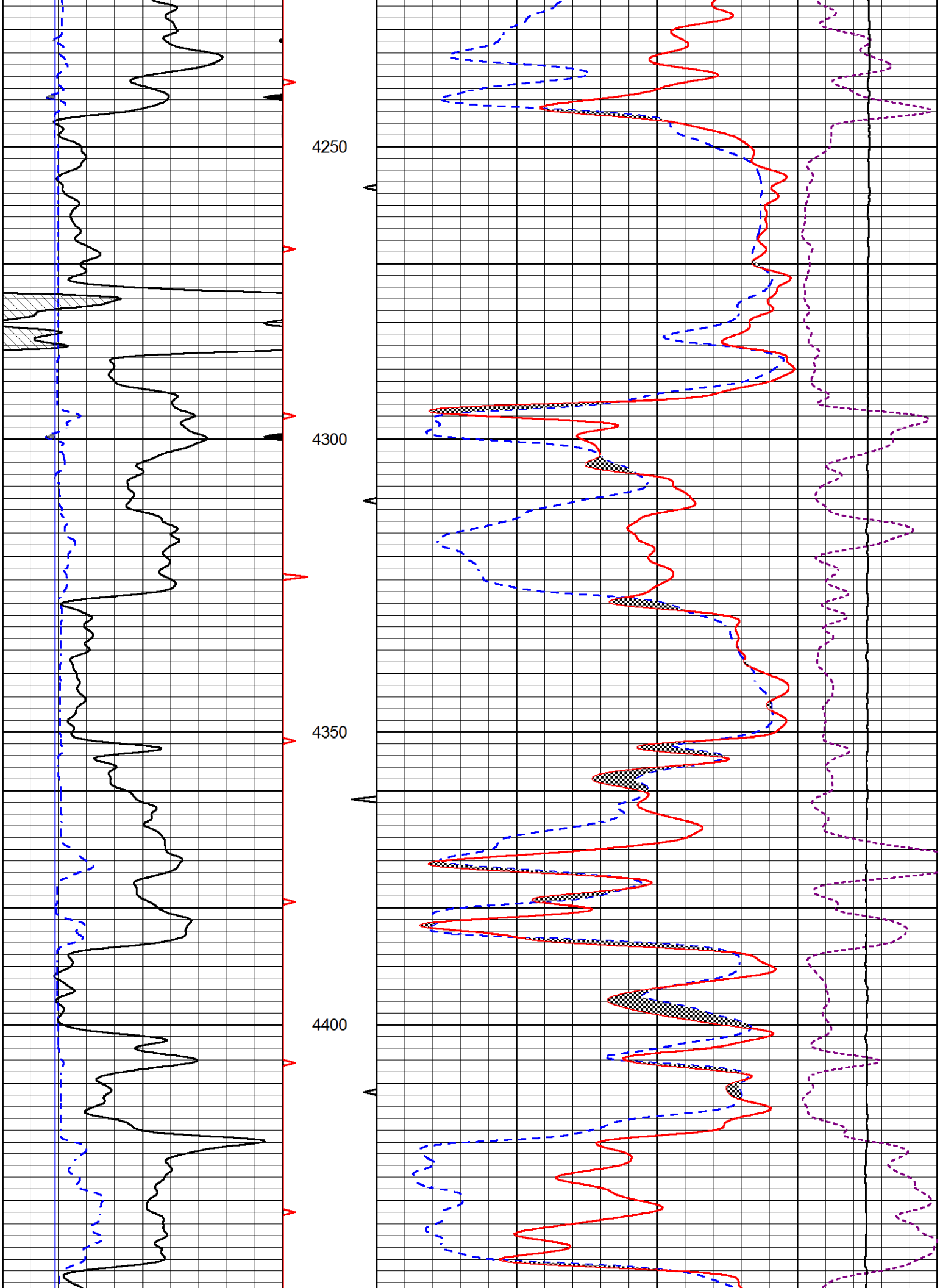
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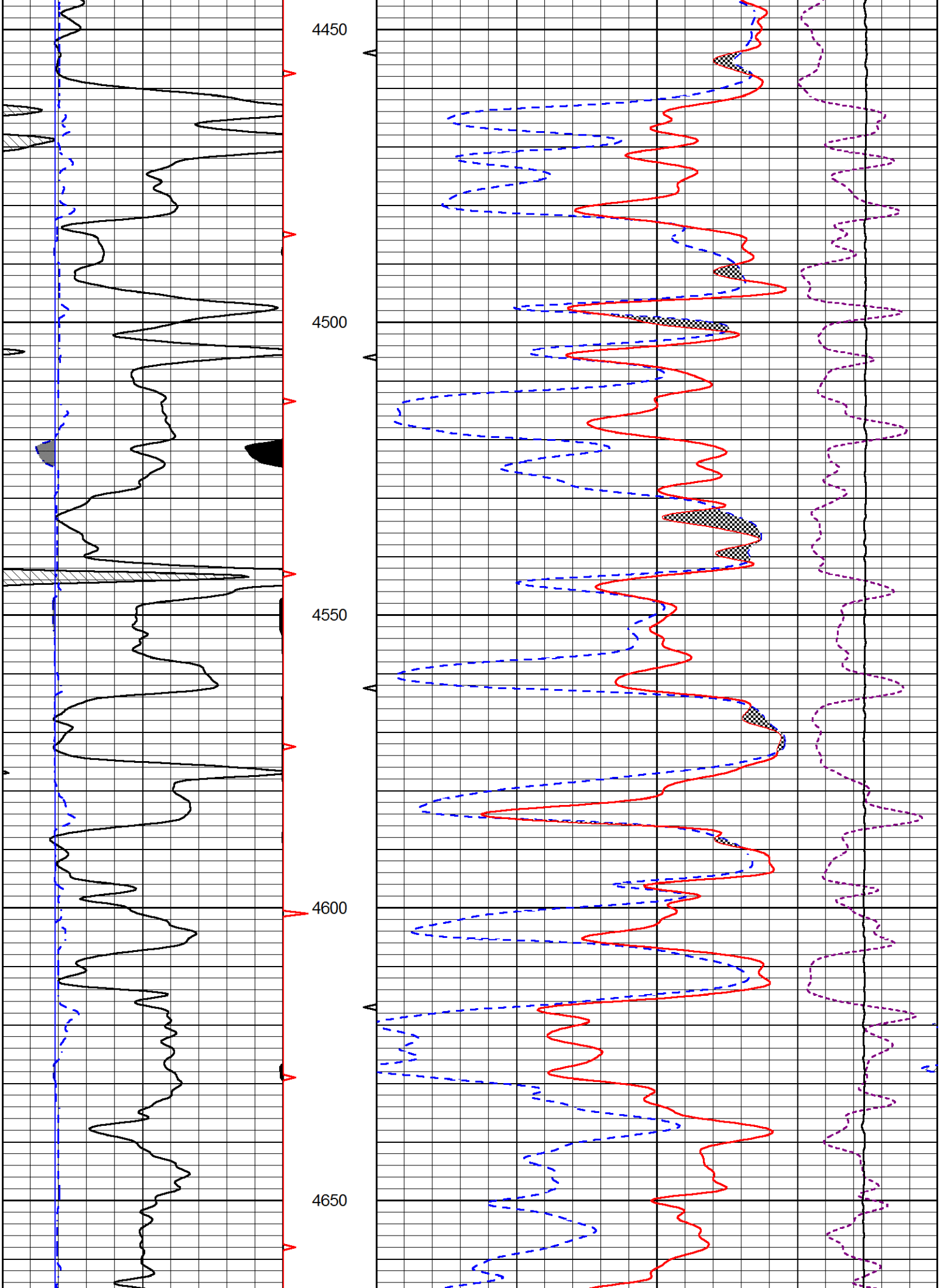
MAIN PASS

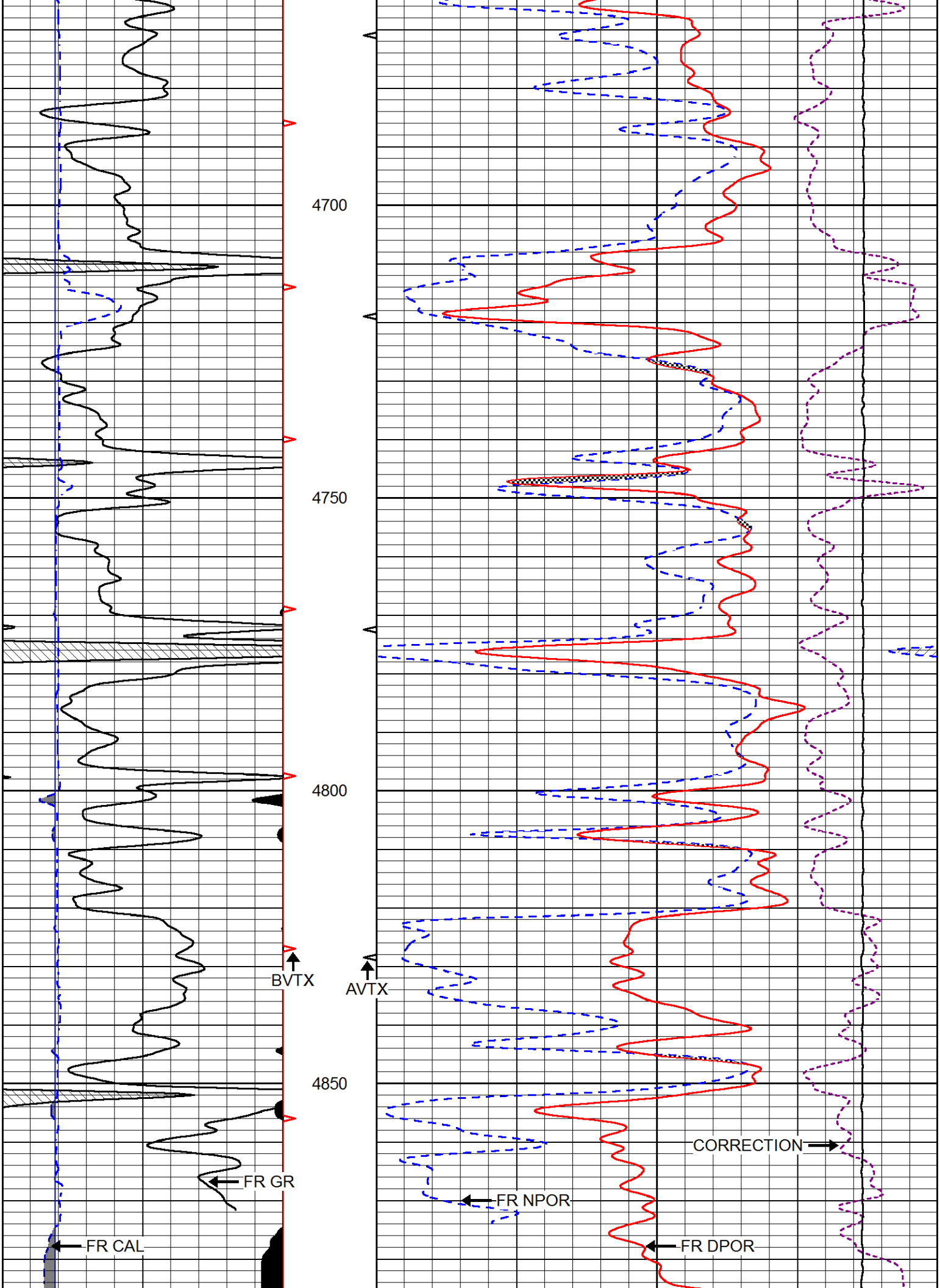
Database File	murfin_mears b_#1-11.db
Dataset Pathname	stack/pass3.1
Presentation Format	cndlspec
Dataset Creation	Sat Jul 29 04:12:39 2017
Charted by	Depth in Feet scaled 1:240

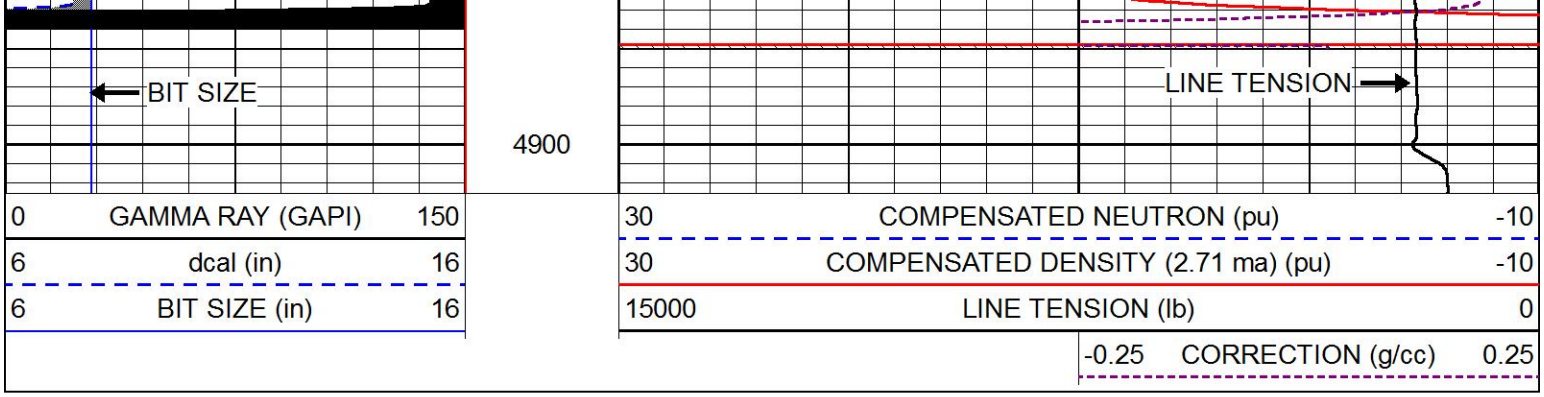



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4850
BVTX
AVTX
FR GR
FR CAL
FR NPOR
FR DPOR
CORRECTION



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

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

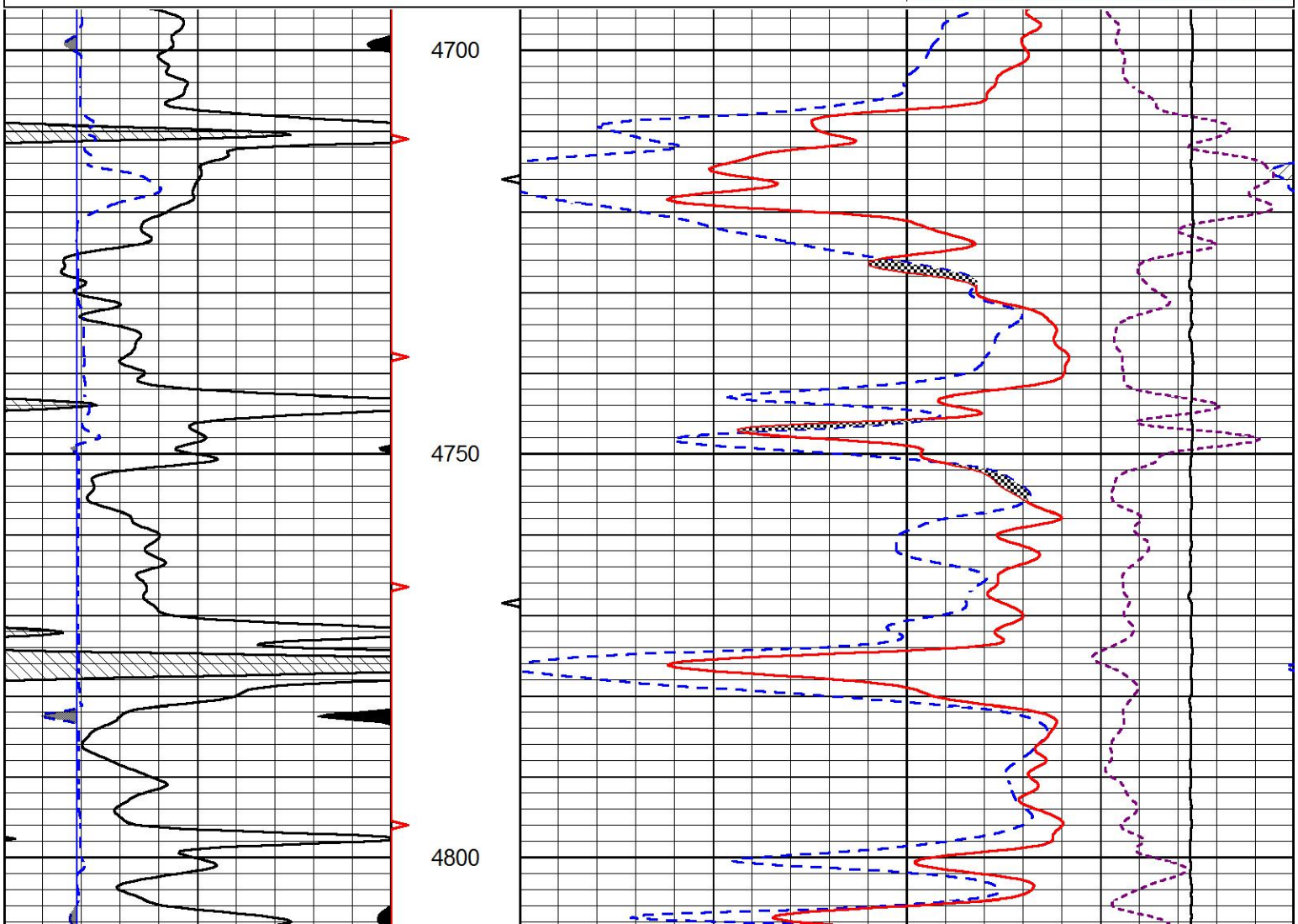
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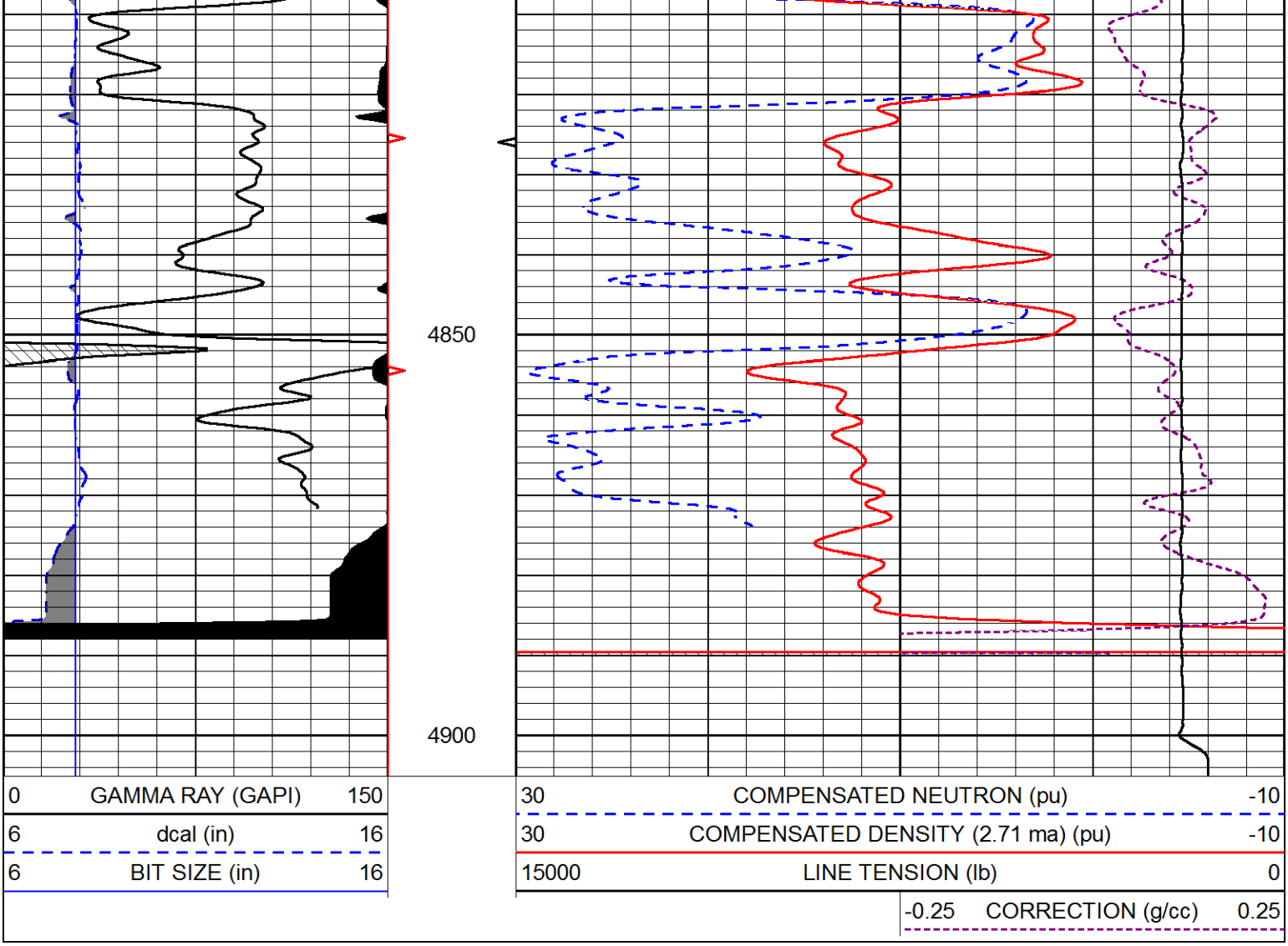
REPEAT SECTION

Database File	murfin_mears b_#1-11.db
Dataset Pathname	stack/pass2.1
Presentation Format	cndlspec
Dataset Creation	Sat Jul 29 03:32:54 2017
Charted by	Depth in Feet scaled 1:240

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

30	COMPENSATED NEUTRON (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	murfin_mears b_#1-11.db
Dataset Pathname	stack/pass3.1
Dataset Creation	Sat Jul 29 04:12:39 2017

Dual Induction Calibration Report

Serial-Model:	1987-M&W
Calibration Performed:	Tue Apr 11 16:07:38 2017

	Readings		References			Results	
Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-38.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-108.500

Compensated Density Calibration Report

Serial-Model:	168-986-M&W
Source / Verifier:	/
Master Calibration Performed:	Tue Apr 11 16:07:47 2017

Master Calibration

	Density	Far Detector	Near Detector

	Density		Far Detector	Near Detector	
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

	Size		Reading
Small Ring	4.00	in	1.03
Large Ring	14.00	in	1.23

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 16:08:01 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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Company	MURFIN DRILLING COMPANY, INC.
Well	MEARS B #1-11
Field	WILDCAT
County	CHEYENNE
State	KANSAS