



PIONEER

Pioneer Energy Services

DUAL COMP POROSITY LOG

Company MURFIN DRILLING COMPANY, INC.

Well KOPRIVA #1-14

Field WILDCAT

County RAWLINS

State KANSAS

Company MURFIN DRILLING COMPANY, INC.

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County RAWLINS State KANSAS

Location: API #: 15-153-21191-00-00

SEC 14 TWP 2S RGE 35W

Permanent Datum GROUND LEVEL Elevation 3196'

Log Measured From KELLY BUSHING

Drilling Measured From KELLY BUSHING

Other Services

DIL/MEL
BHCS

Elevation
K.B. 3201'
D.F. N/A
G.L. 3196'

Date 6/18/2017

Run Number ONE

Type Log CNL/CDL

Depth Driller 4855'

Depth Logger 4856'

Bottom Logged Interval 4835'

Top Logged Interval 3750'

Type Fluid In Hole CHEMICAL

Salinity, PPM CL 1800

Density 9.0

Level FULL

Max. Rec. Temp. F 125

Operating Rig Time 5 HOURS

Equipment -- Location 91 HAYS

Recorded By D. SCHMIDT

Witnessed By ROCKY MILFORD

Borehole Record

Casing Record

Run No. Bit From To Size Wgt. From To

ONE 12.25" 0' 253' 8.625" 23# 0' 253'

TWO 7.875" 253' TD

<<< Fold Here >>>

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.

BEARDSLEY,
NORTH TO W RD, 1 1/2 EAST,
SOUTH INTO

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

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

Your Pioneer Energy Services Crew

Engineer: D. SCHMIDT

Operator:

Operator:

Operator:

This Log Record Was Witnessed By

Primary Witness: ROCKY MILFORD

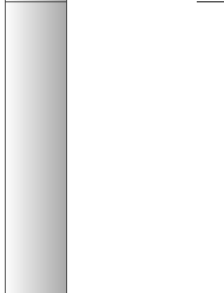
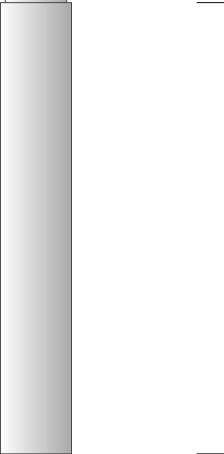
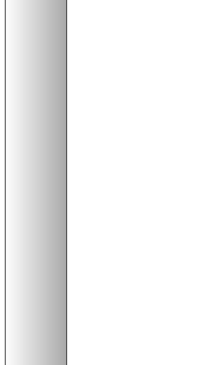
Secondary Witness:

Secondary Witness:

Secondary Witness:

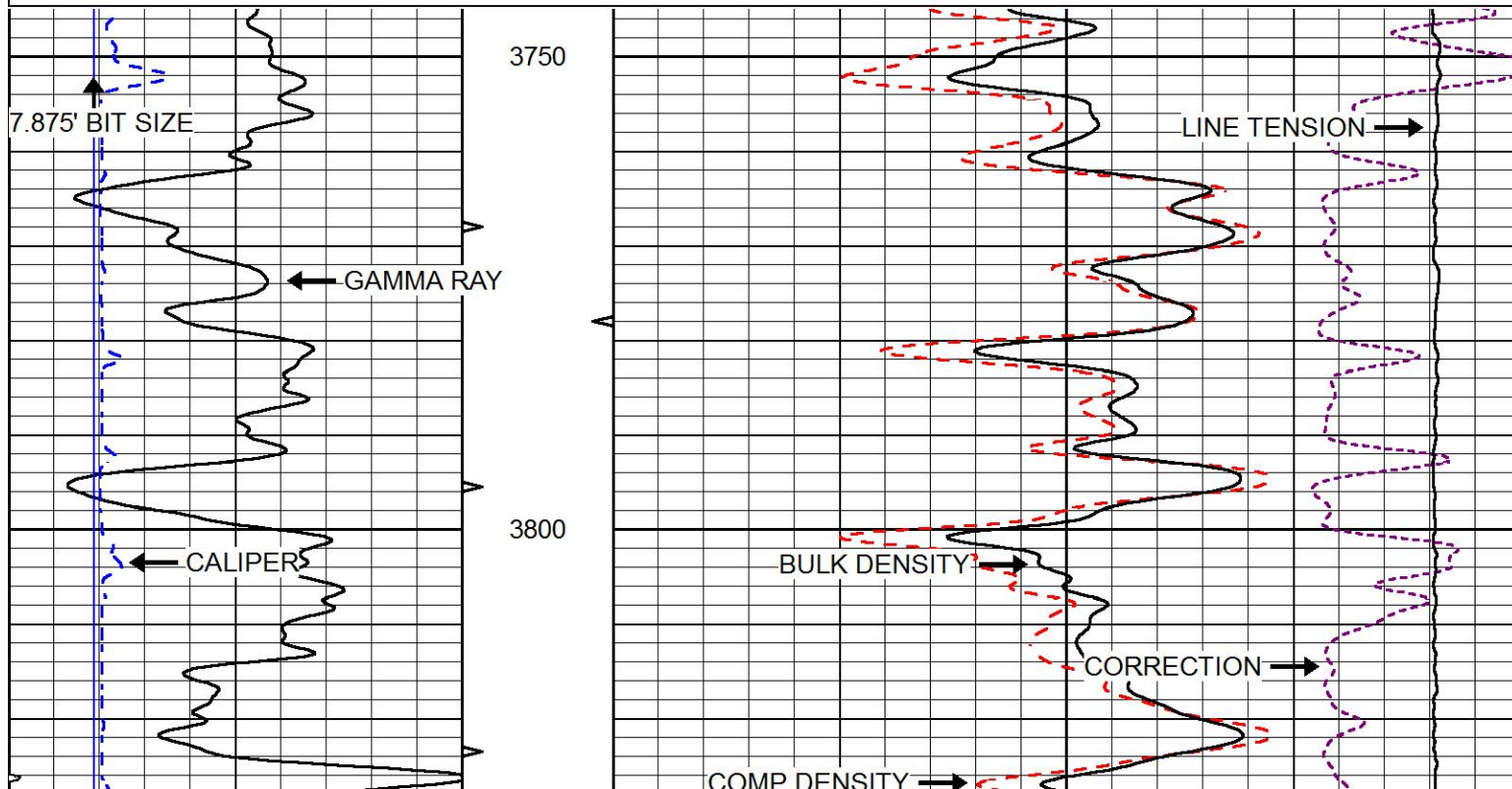
Top - Bottom

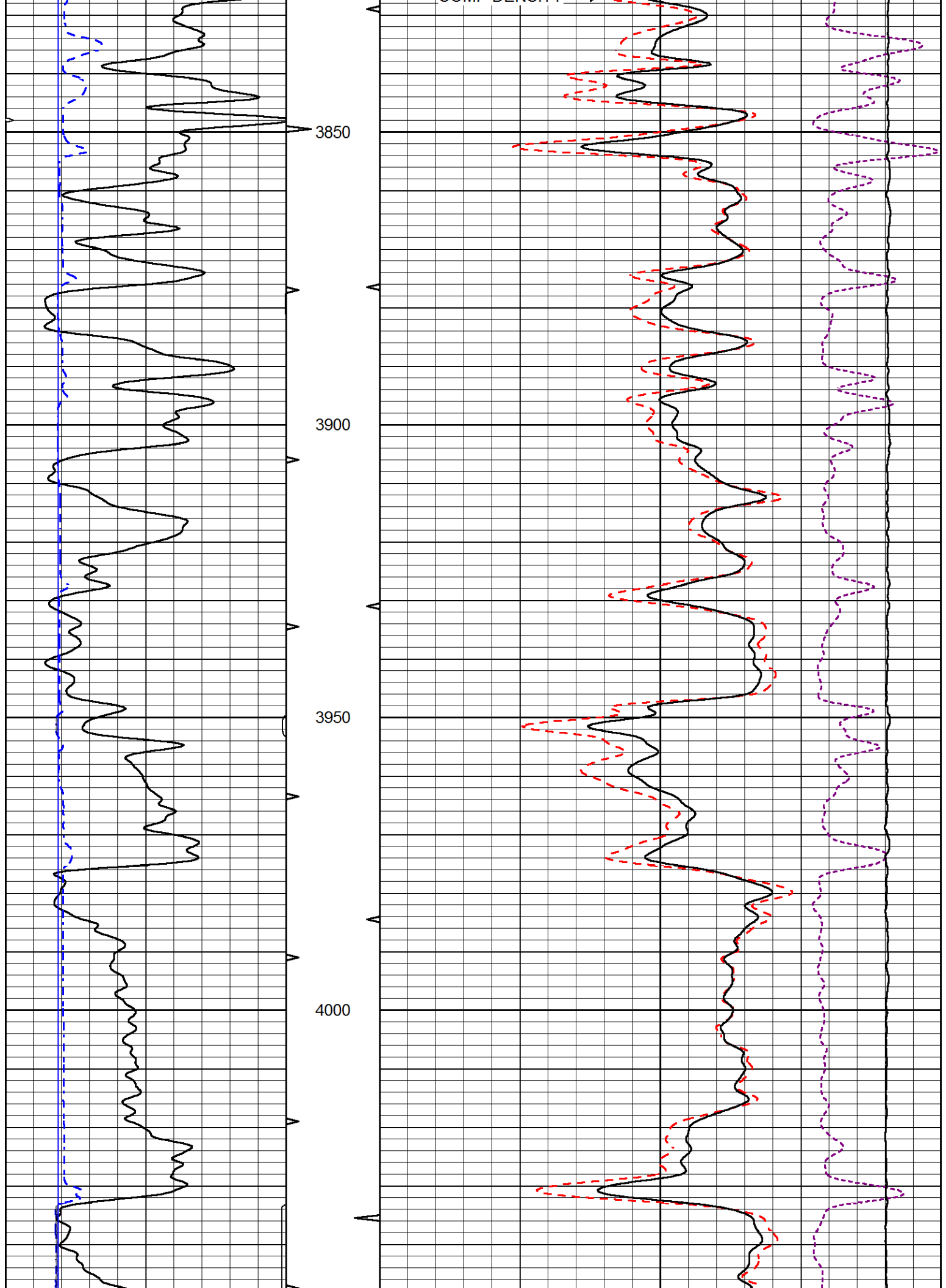
M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	155	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	80	0	5.5	0	0	125	7.875

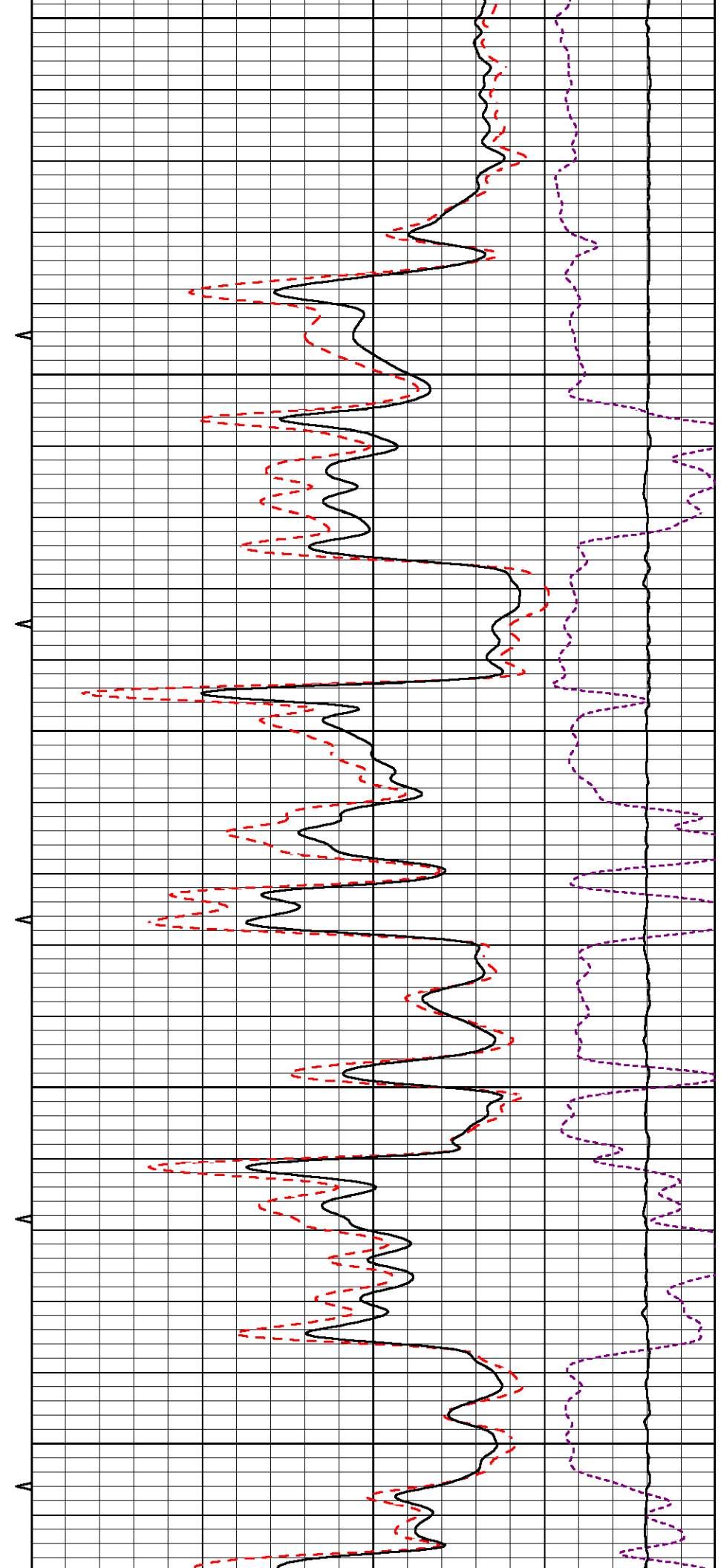
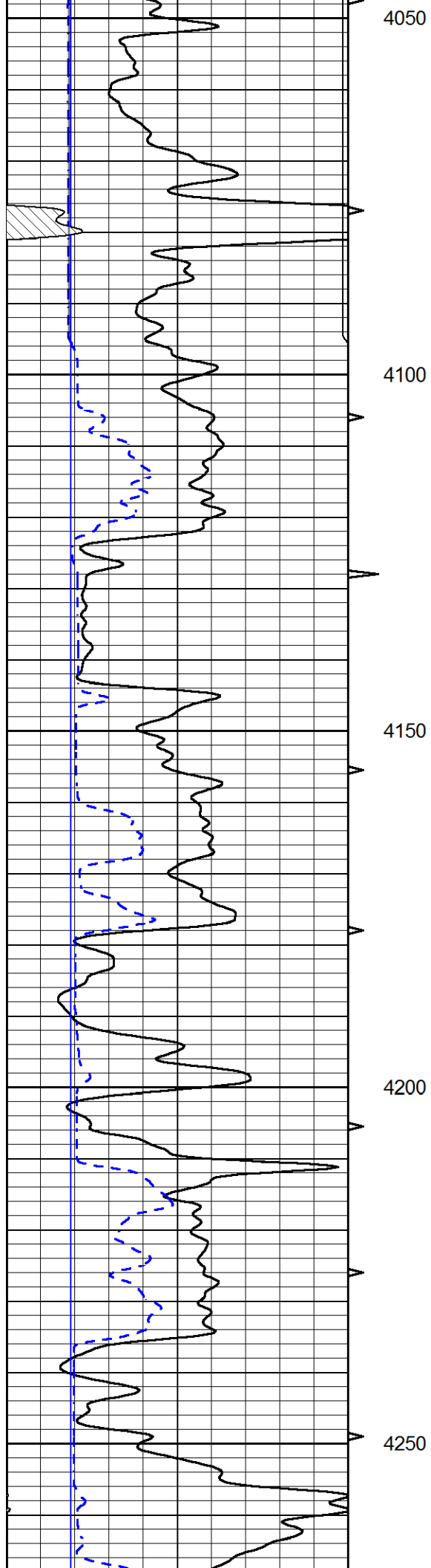
Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	33.00		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	29.90 29.15		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	20.85 20.83 20.35		CDL-M&W (90-1031)	8.50	4.00	250.00
RLL3F RLL3	15.80 15.80					
CILD	8.00		DIL-M&W (PSI 91)	18.50	3.50	220.00

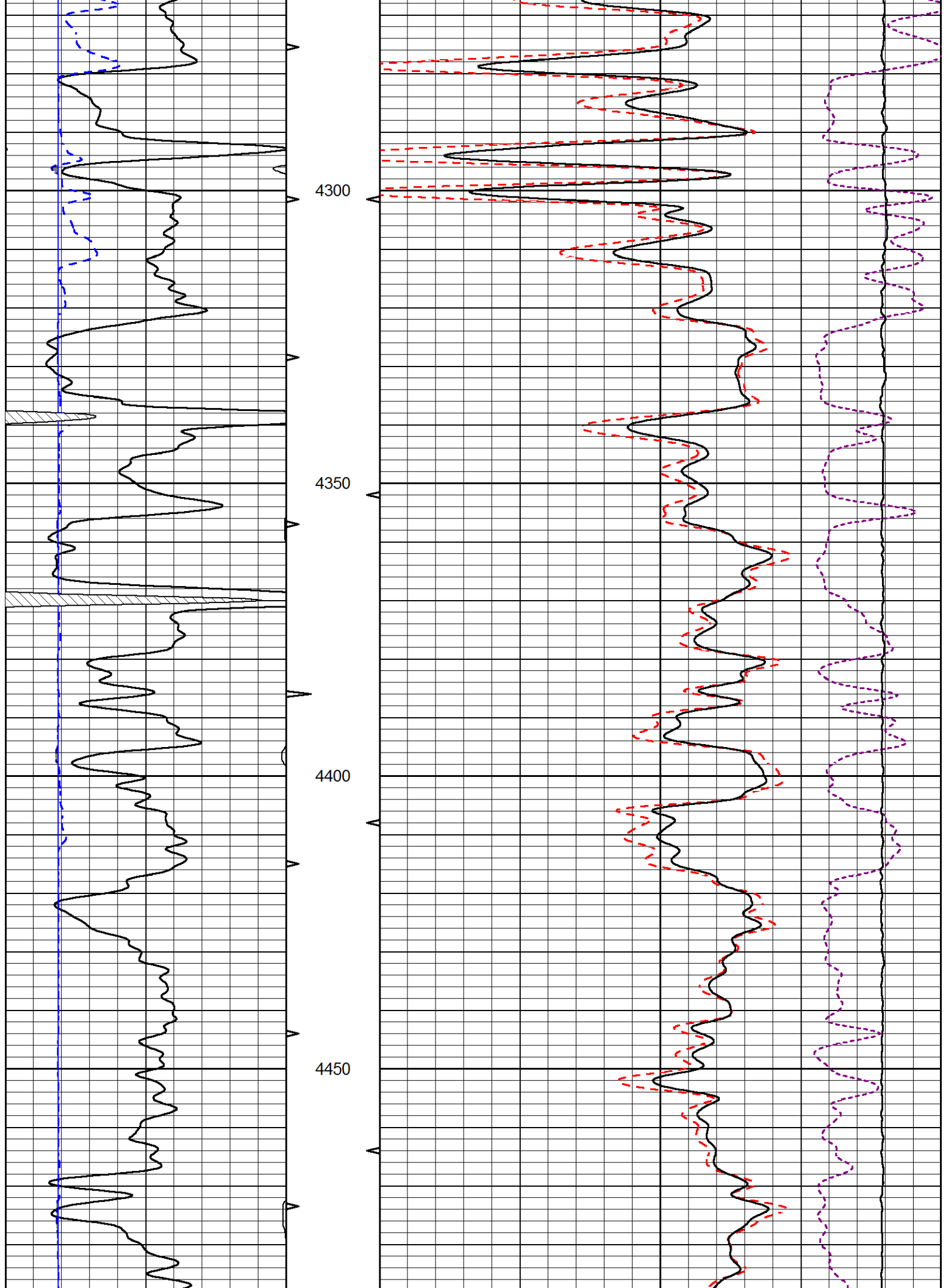
CILM	4.70								
SP	0.20								
Dataset: murfin_kopriva_1-14.db: field/well/STACK/pass4.5 Total length: 35.50 ft Total weight: 620.00 lb O.D.: 4.00 in									

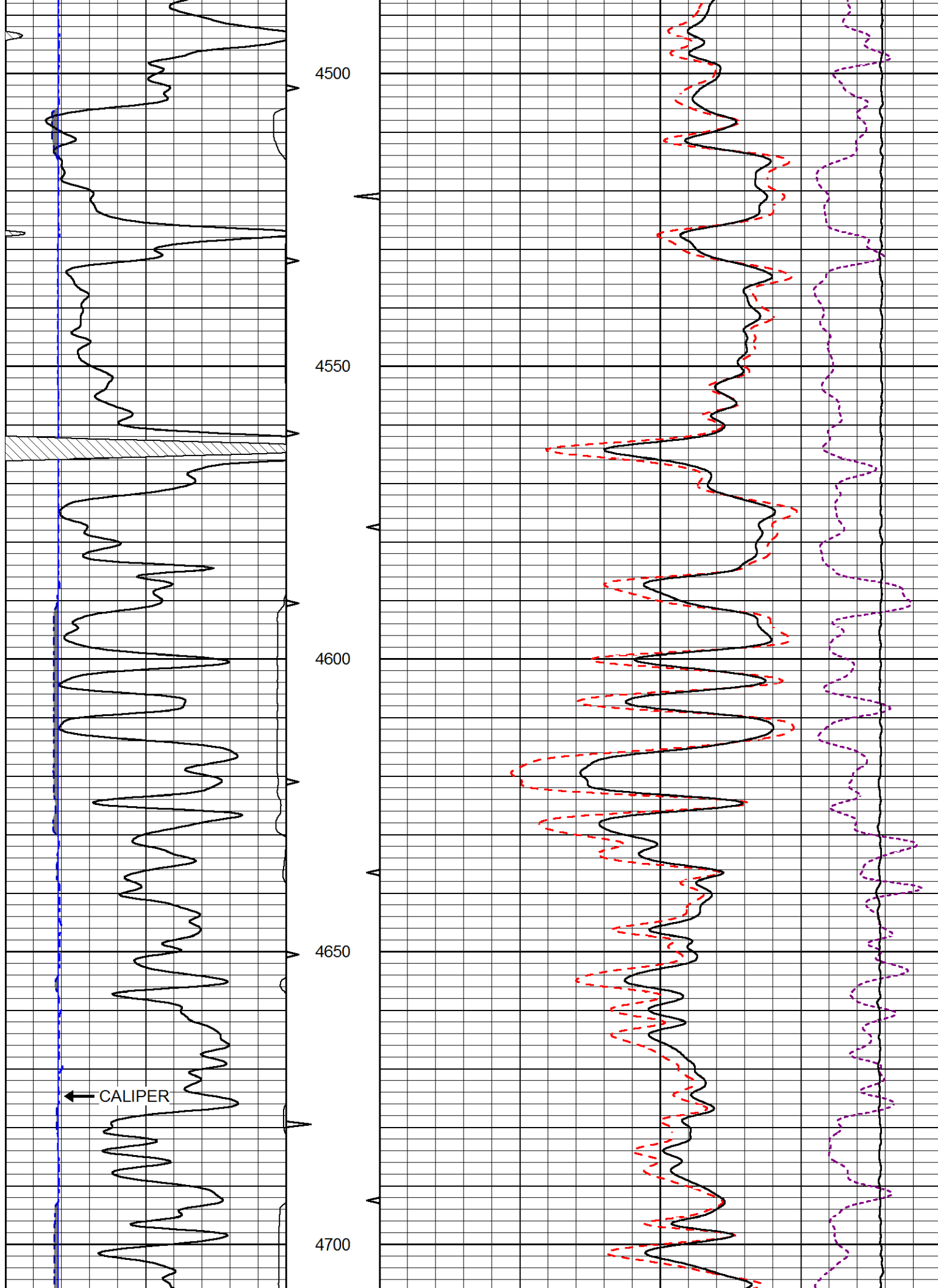
 PIONEER Pioneer Energy Services			MAIN PASS		
Database File		murfin_kopriva_1-14.db			
Dataset Pathname		STACK/pass4.1			
Presentation Format		cdl			
Dataset Creation		Mon Jun 19 01:23:02 2017			
Charted by		Depth in Feet scaled 1:240			
0	Gamma Ray (GAPI)	150	Compensated Density (2.71 MA) (pu) Bulk Density (g/cc) Line Tension (lb) Correction (g/cc)		
6	Caliper (in)	16			
			30		-10
			2		3
			15000		0
				-0.25	0.25

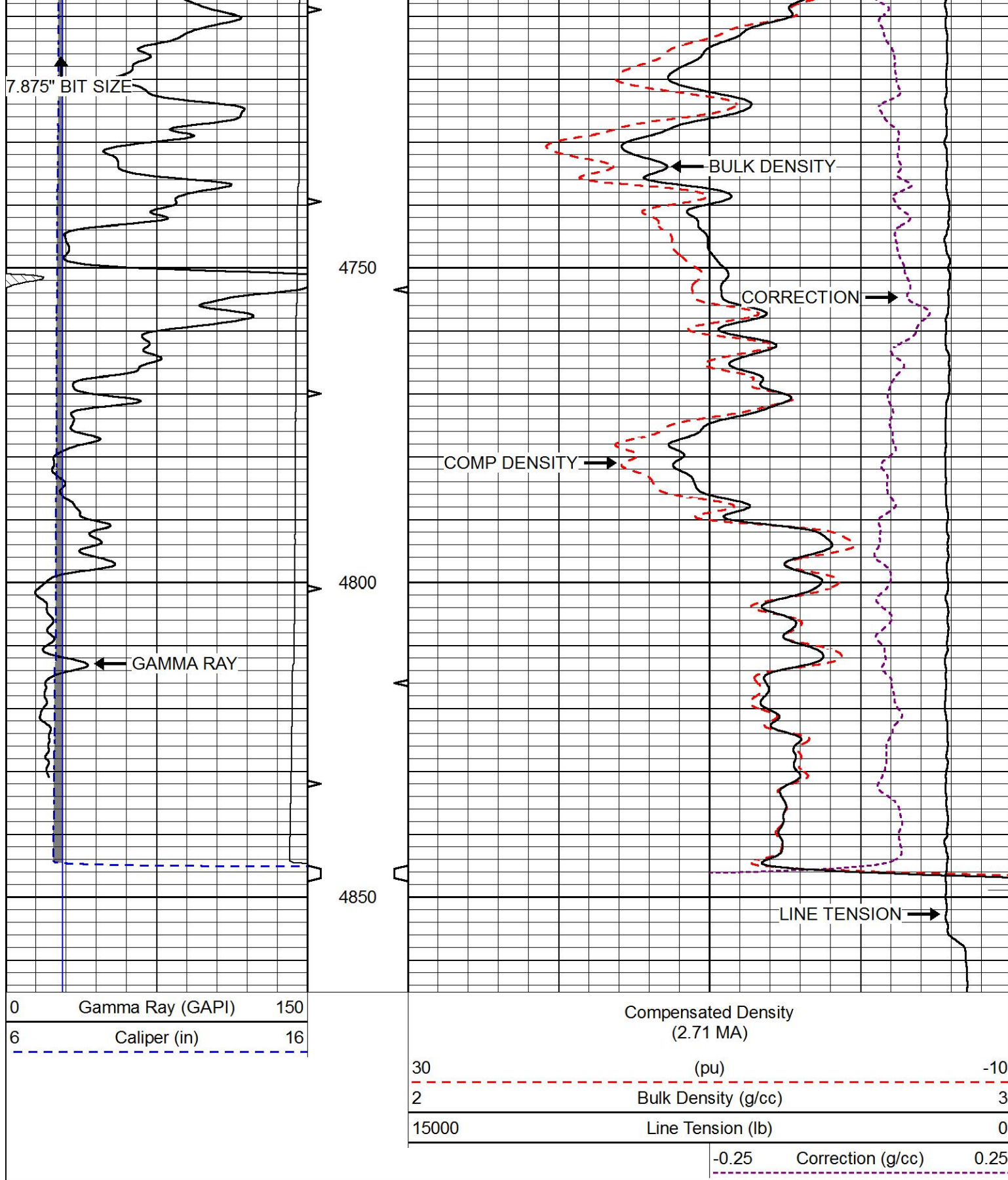








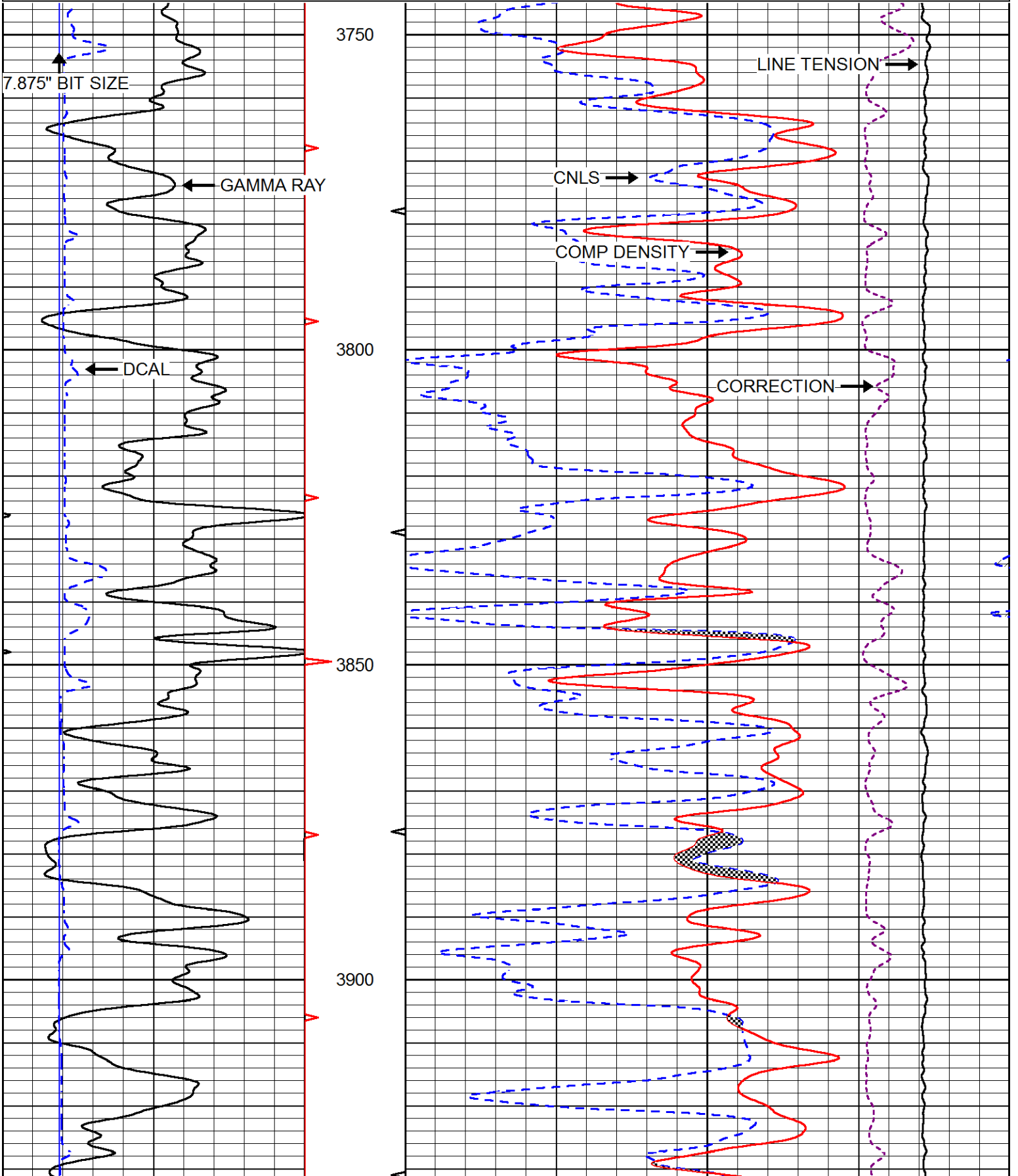


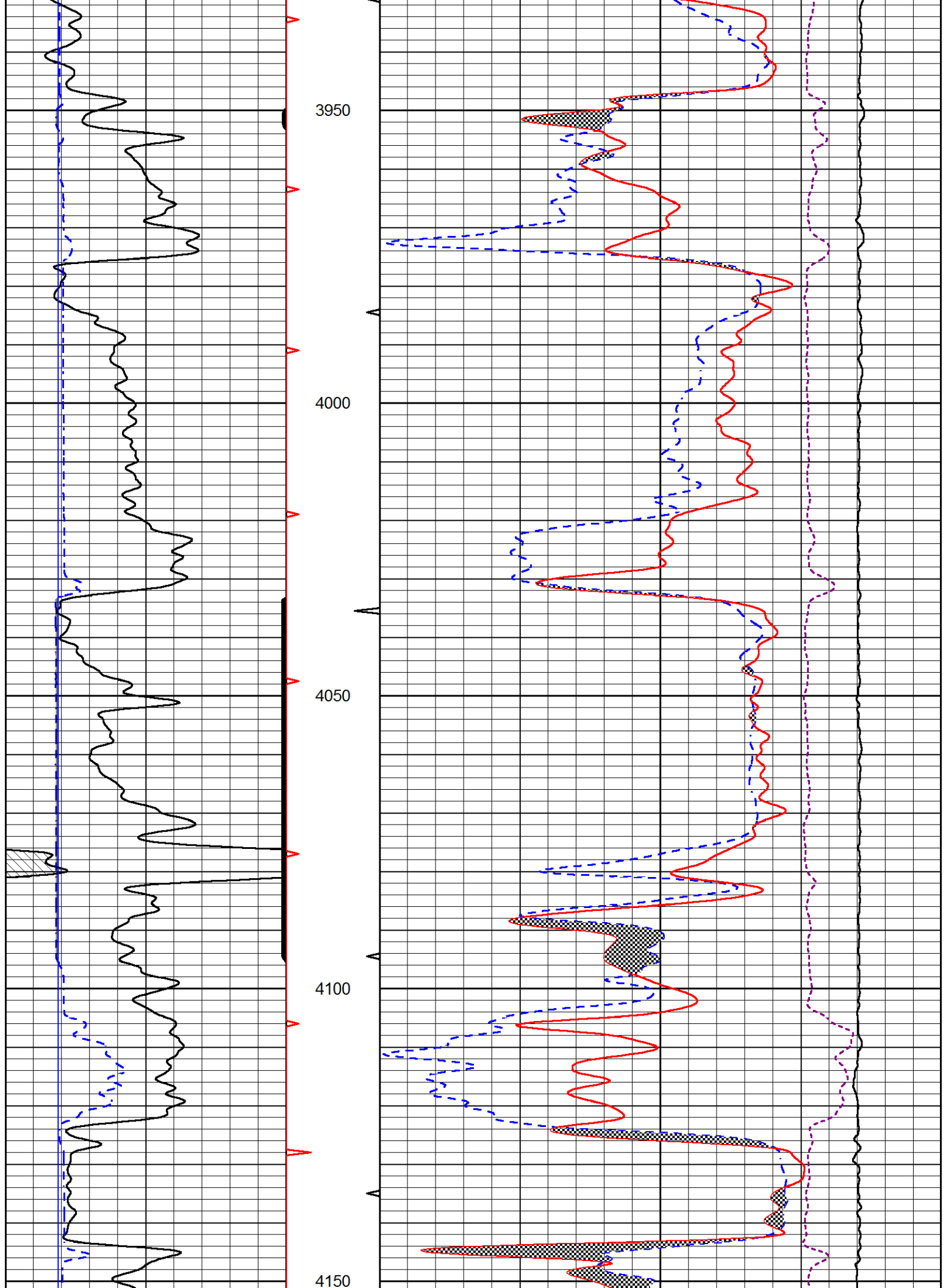


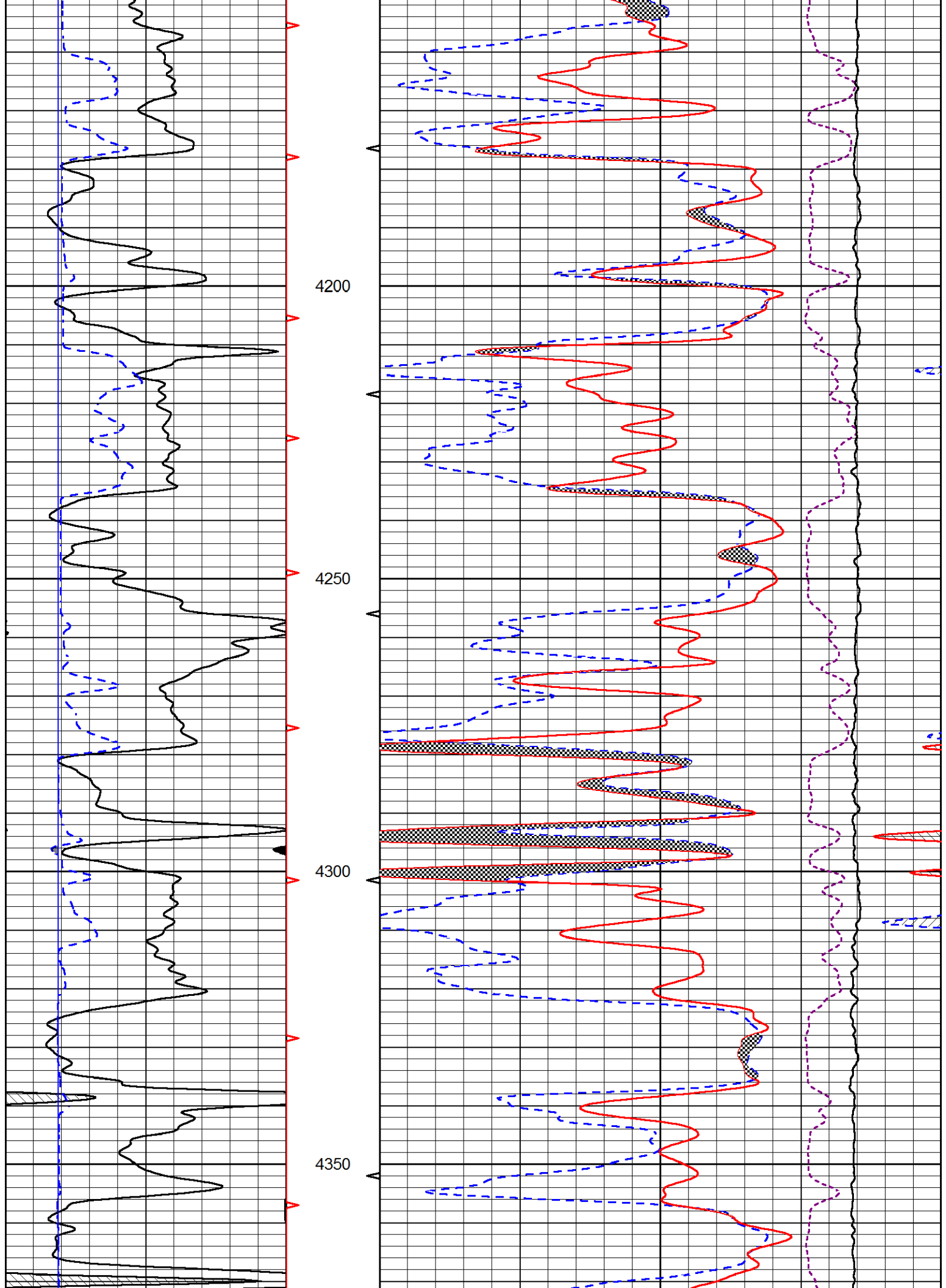
MAIN PASS

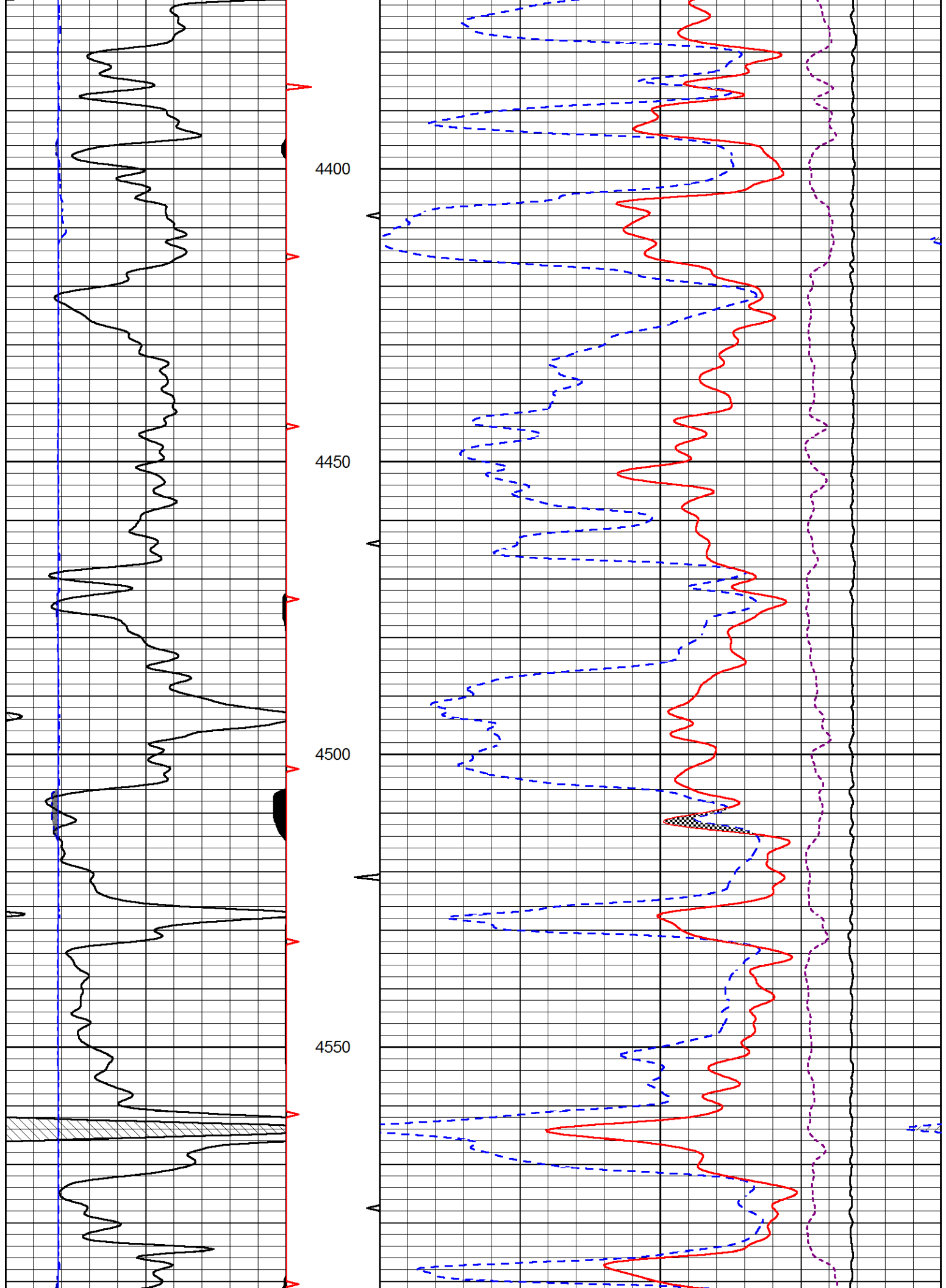
0	Gamma Ray (GAPI)	150
6	DCAL (in)	16

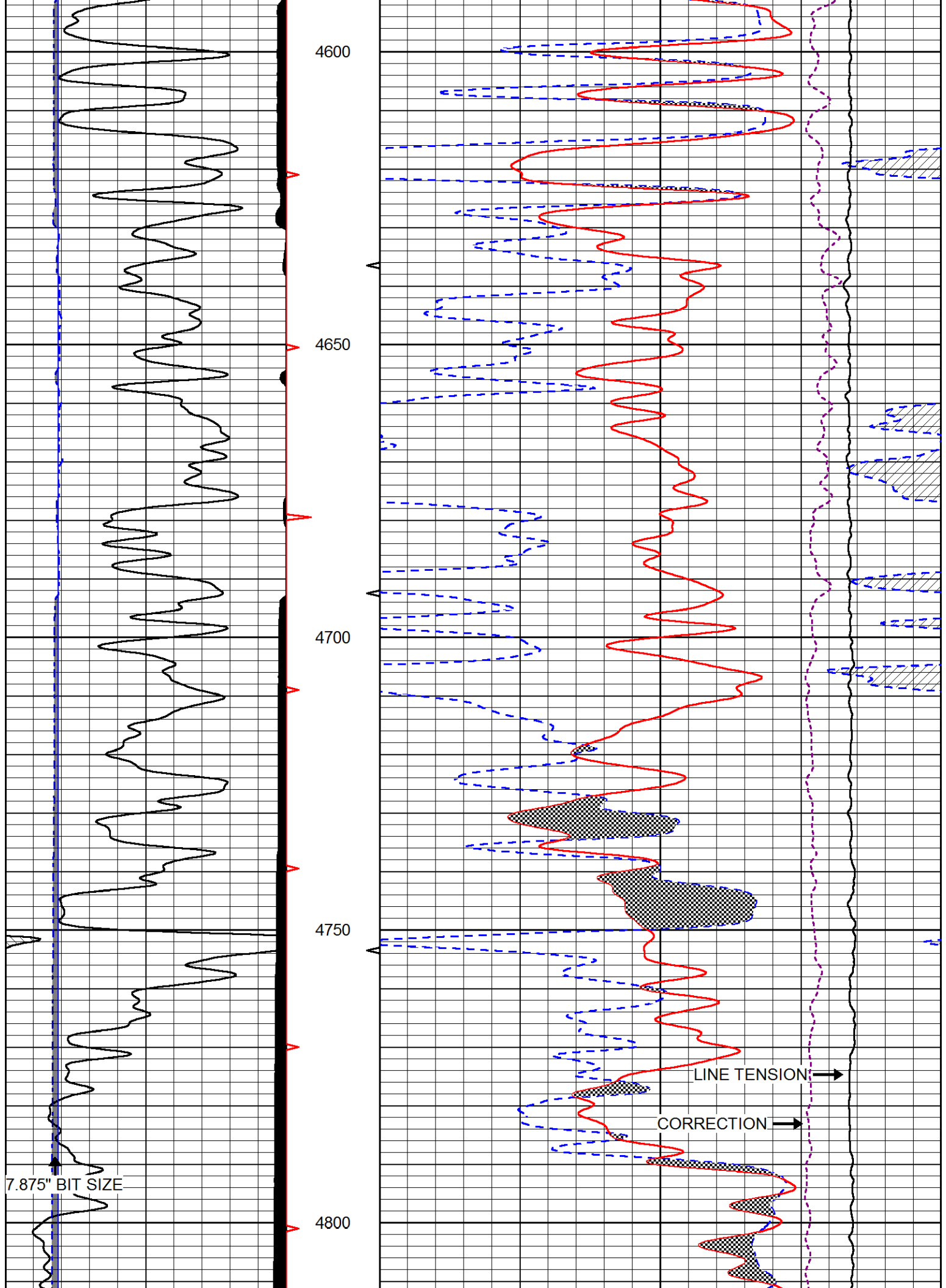
30	CNLS (pu)		-10
30	Compensated Density 2.71 g/cc (pu)		-10
10000	Line Tension (lb)		0
	-0.75	Correction (g/cc)	0.75

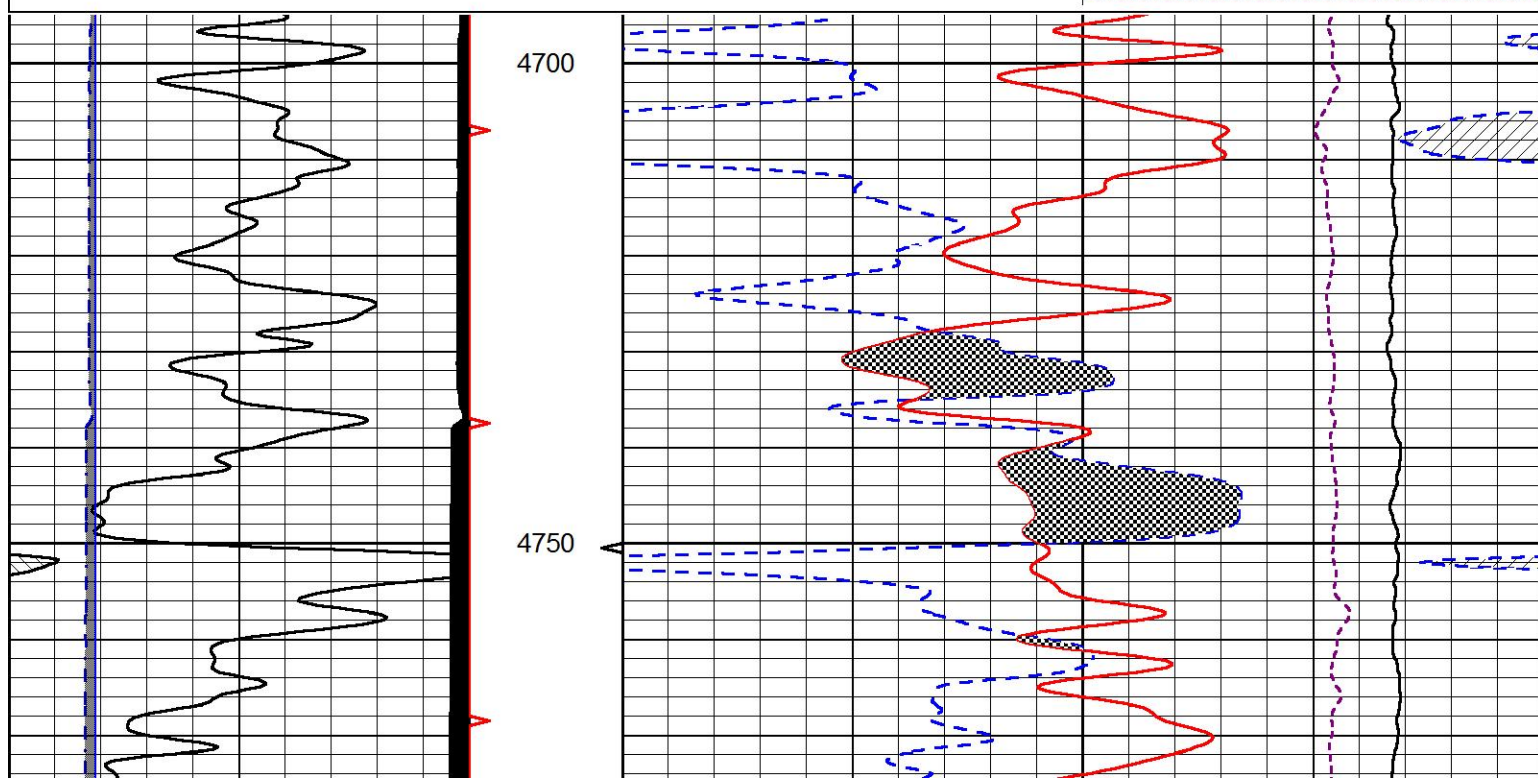
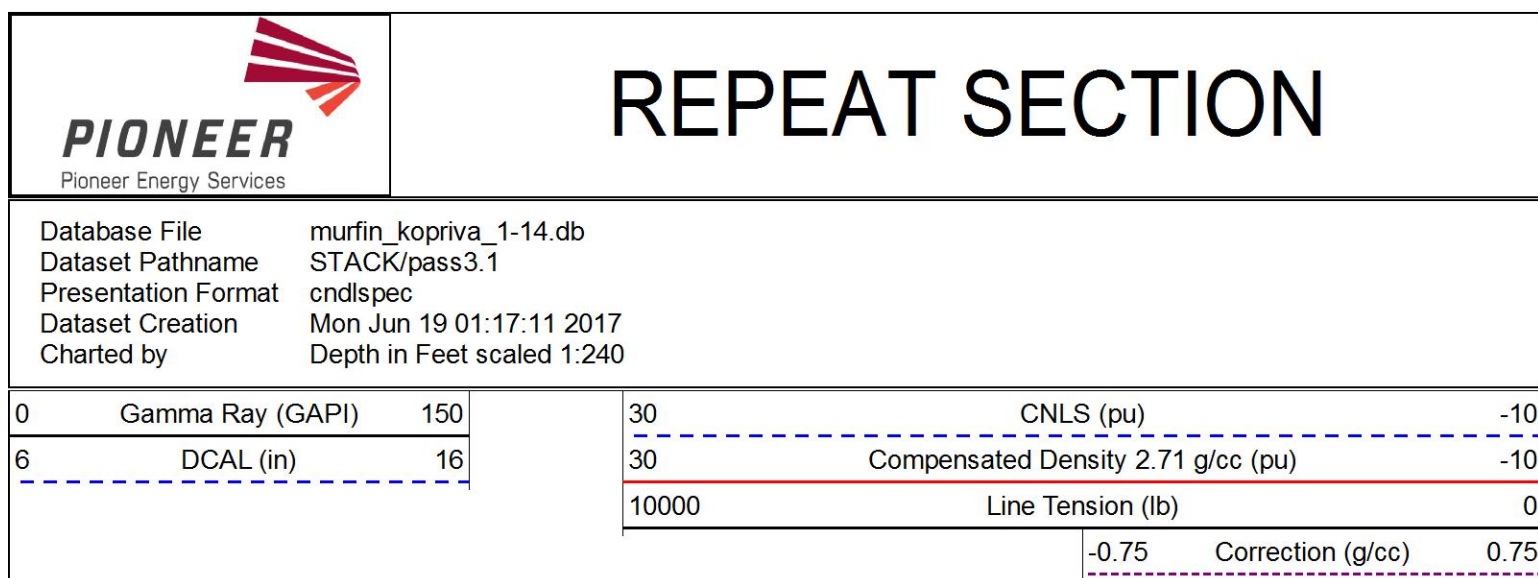
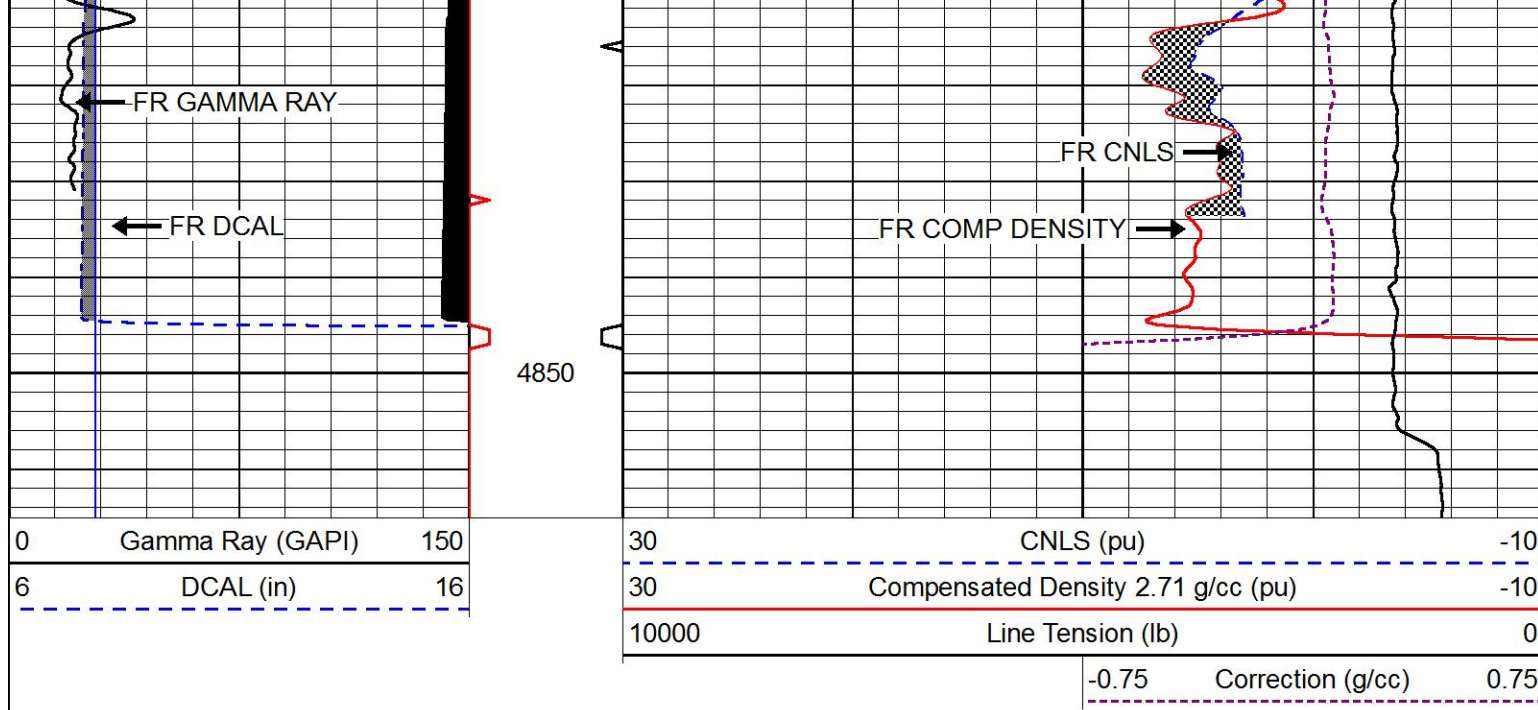


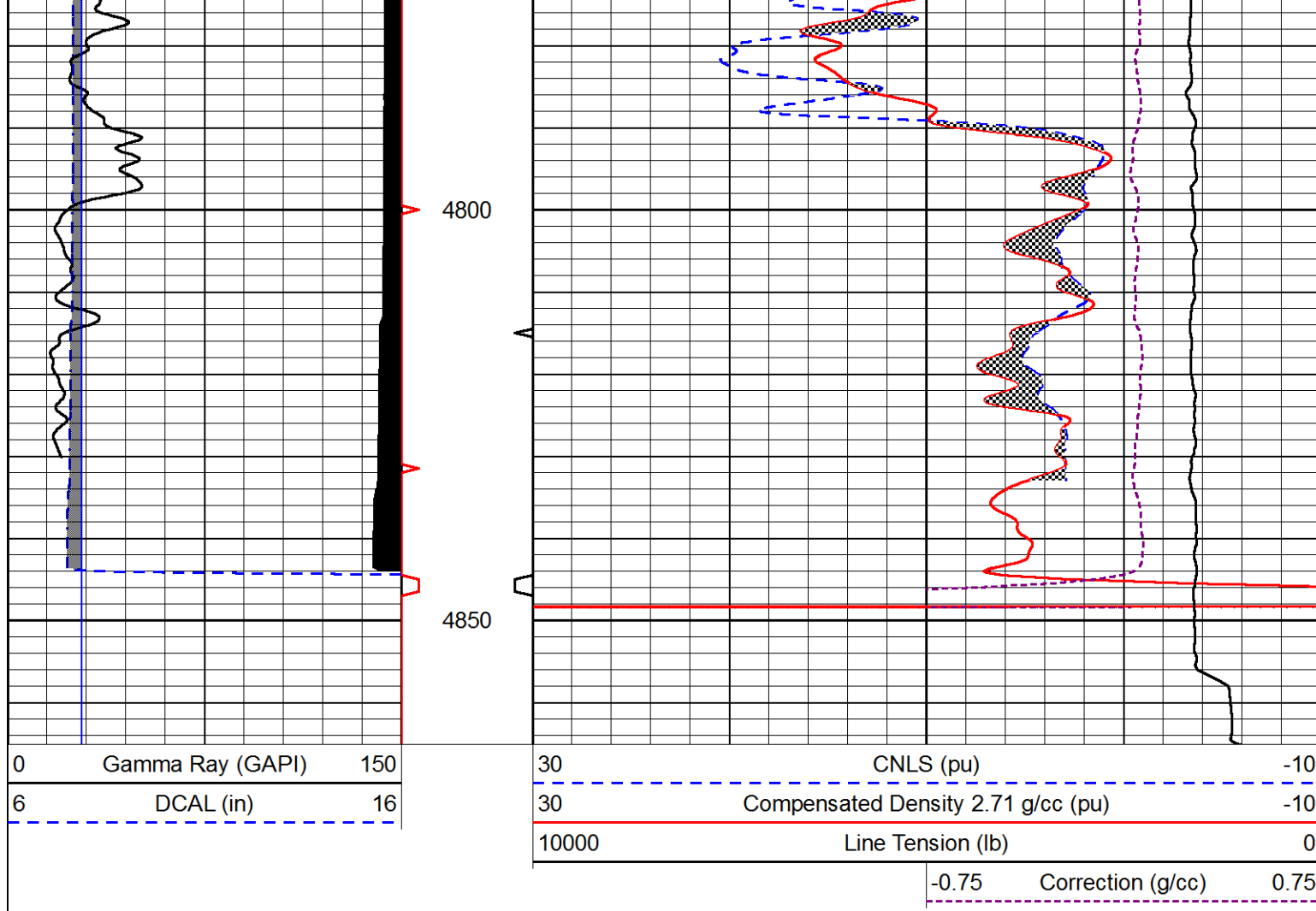












Calibration Report							
Database File	murfin_kopriva_1-14.db						
Dataset Pathname	STACK/pass4.5						
Dataset Creation	Mon Jun 19 01:14:52 2017						
Dual Induction Calibration Report							
Serial-Model:				PSI 91-M&W			
Calibration Performed:				Sat Jun 17 12:42:37 2017			
Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
	Deep	166.796	835.089	0.000	255.800	mmho/m	0.420
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.360	-31.000
Compensated Density Calibration Report							
Serial-Model:				90-1031-M&W			
Source / Verifier:				16955B / 2ci			
Master Calibration Performed:				Sat Jun 17 12:42:56 2017			
Master Calibration							
	Density			Far Detector		Near Detector	
Magnesium	1.755	g/cc		5174.18		6125.27	cps

Magnesium	1.735	g/cc	9174.18	0429.27	cps
Aluminum	2.665	g/cc	963.17	4037.42	cps

Spine Angle = 74.55

Density/Spine Ratio = 0.522

	Size		Reading
Small Ring	8.00	in	1.84
Large Ring	22.00	in	1.46

Compensated Neutron Calibration Report

Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: Sat Jun 17 10:30:30 2017

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: Sat Jun 17 12:44:49 2017

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



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