



DUAL COMP POROSITY LOG

Company AMERICAN WARRIOR, INC.
 Well LEE A #7-28
 Field LAKIN
 County KEARNY
 State KANSAS

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 Well LEE A #7-28
 Field LAKIN
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Location: 2225' FSL & 1307' FWL
 SEC 28 TWP 25S RGE 36W
 Permanent Datum GROUND LEVEL Elevation 3050'
 Log Measured From KELLY BUSHING
 Drilling Measured From KELLY BUSHING
 Other Services DIL/MEL
 K.B. 3061'
 D.F. N/A
 G.L. 3050'

Date	2/6/2018						
Run Number	ONE						
Type Log	CNL/CDL						
Depth Driller	5070'						
Depth Logger	5068'						
Bottom Logged Interval	5039'						
Top Logged Interval	3500'						
Type Fluid In Hole	CHEMICAL						
Salinity, PPM CL	1200						
Density	9.4						
Level	FULL						
Max. Rec. Temp. F	127						
Operating Rig Time	3 HOURS						
Equipment -- Location	91 HAYS						
Recorded By	D. SCHMIDT						
Witnessed By	LUKE THOMPSON						
Borehole Record		Casing Record					
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0'	1831'	8.625"	23#	0'	1831'
TWO	7.875"	1831'					

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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.

LAKIN,
 SOUTH ON HWY 25 TO R RD, 1/4 SOUTH,
 EAST INTO AT TB

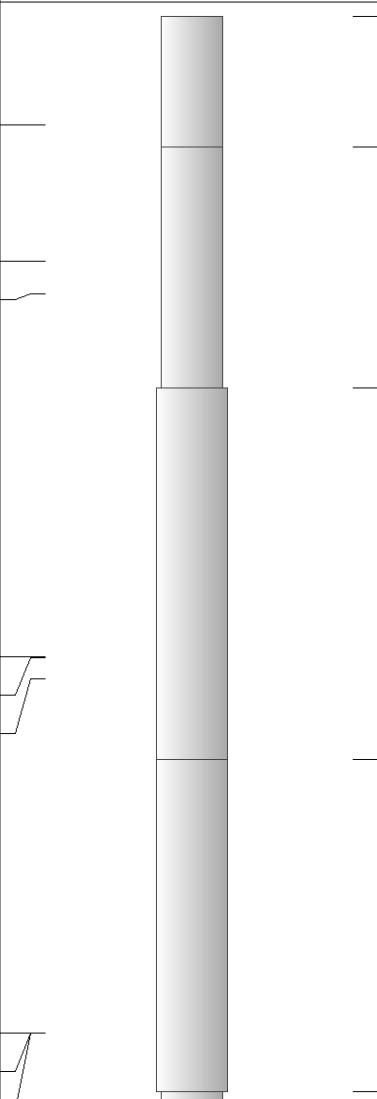
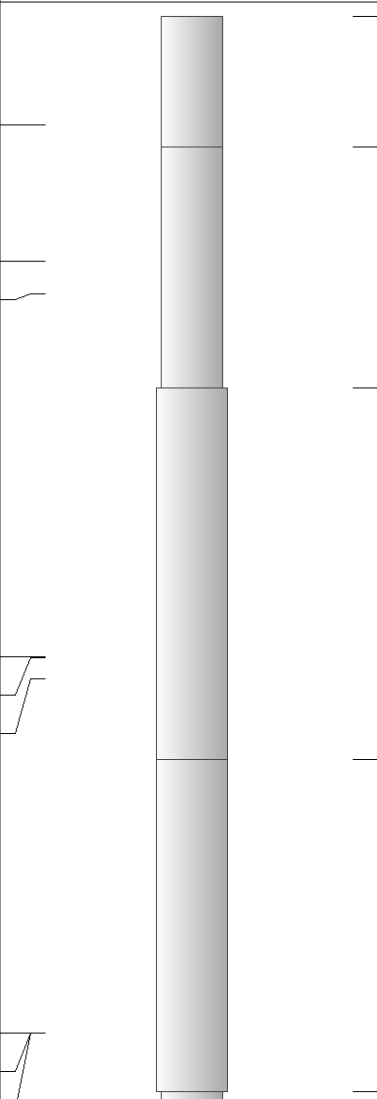
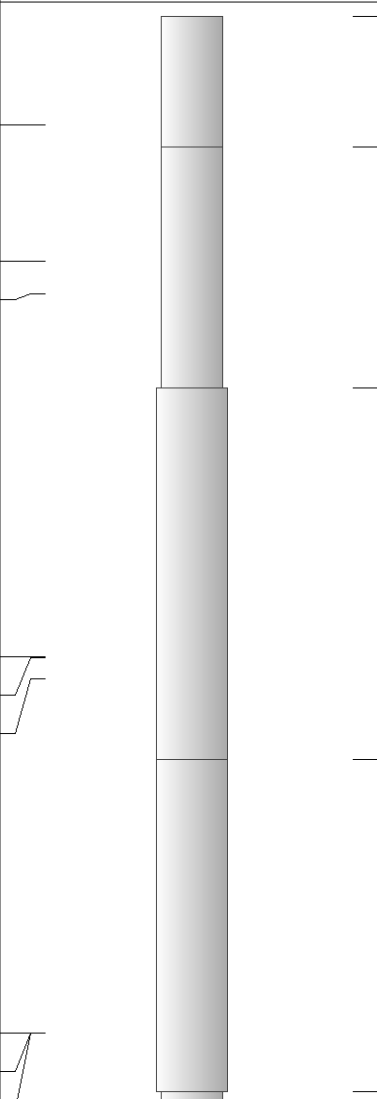
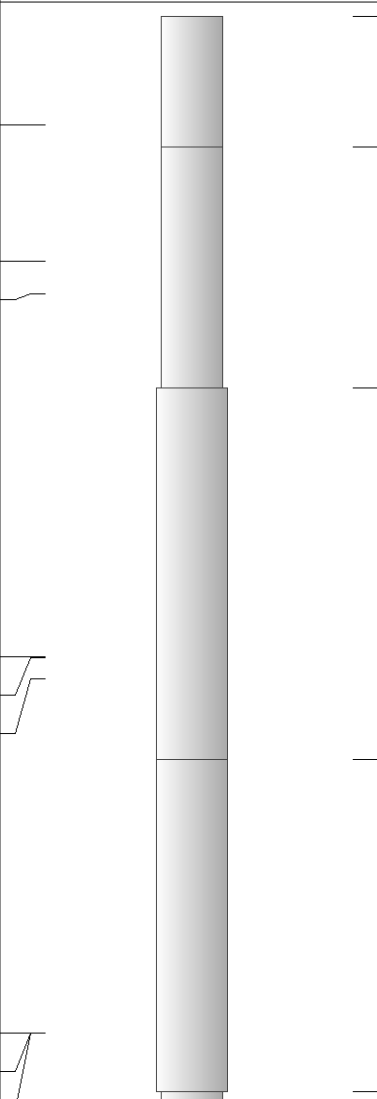
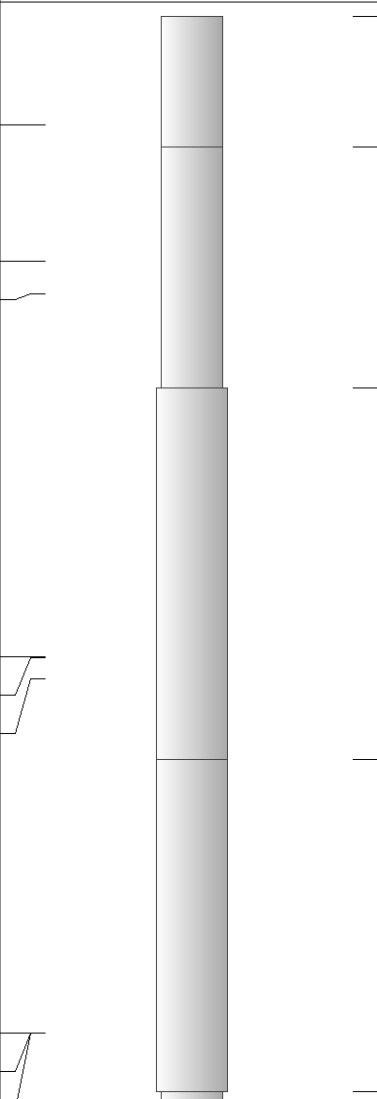
Log Measured From: KELLY BUSHING 11 Ft. Above Permanent Datum

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: D. SCHMIDT	Operator:	Primary Witness: LUKE THOMPSON	Secondary Witness:
Operator:	Operator:	Secondary Witness:	Secondary Witness:
Operator:		Secondary Witness:	

Top - Bottom

M	A	SPSHIFT mV	SNDERRM mmho/m	SNDERR mmho/m	SZCOR	NPORSEL	FLUIDDEN g/cc
2	1	-113	0	0	Off	Limestone	1
MATRXDEN g/cc	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
2.71	40	0	5.5	0	5068	127	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 (227-771)	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 (933 (HT))

18.50

3.50

220.00

Dataset: american warrior_lea a 7-28.db: field/well/STKML/pass3.4
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in



MAIN PASS

Database File american warrior_lea a 7-28.db
 Dataset Pathname STKML/pass3.1
 Presentation Format cdl
 Dataset Creation Tue Feb 06 09:00:54 2018
 Charted by Depth in Feet scaled 1:600

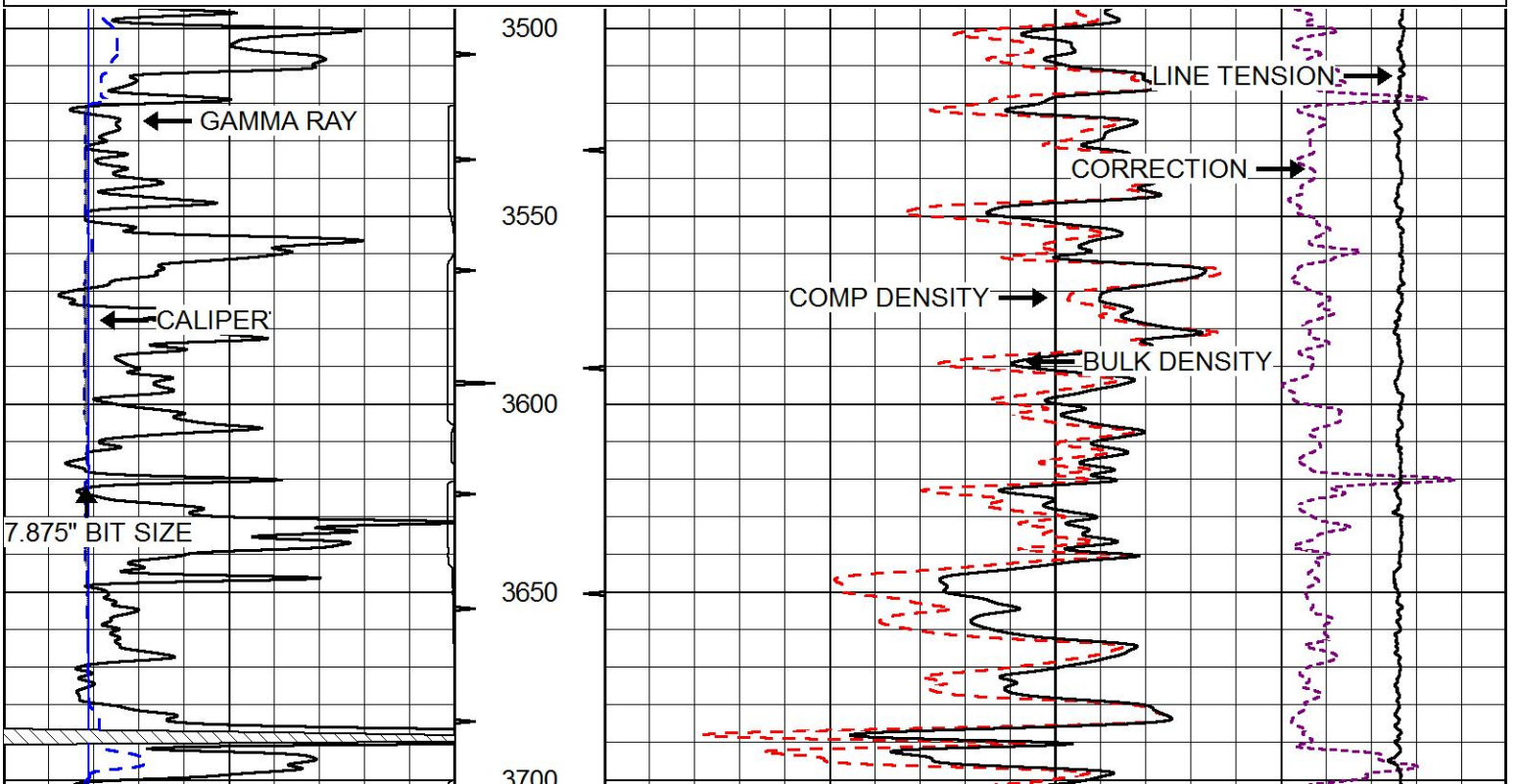
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

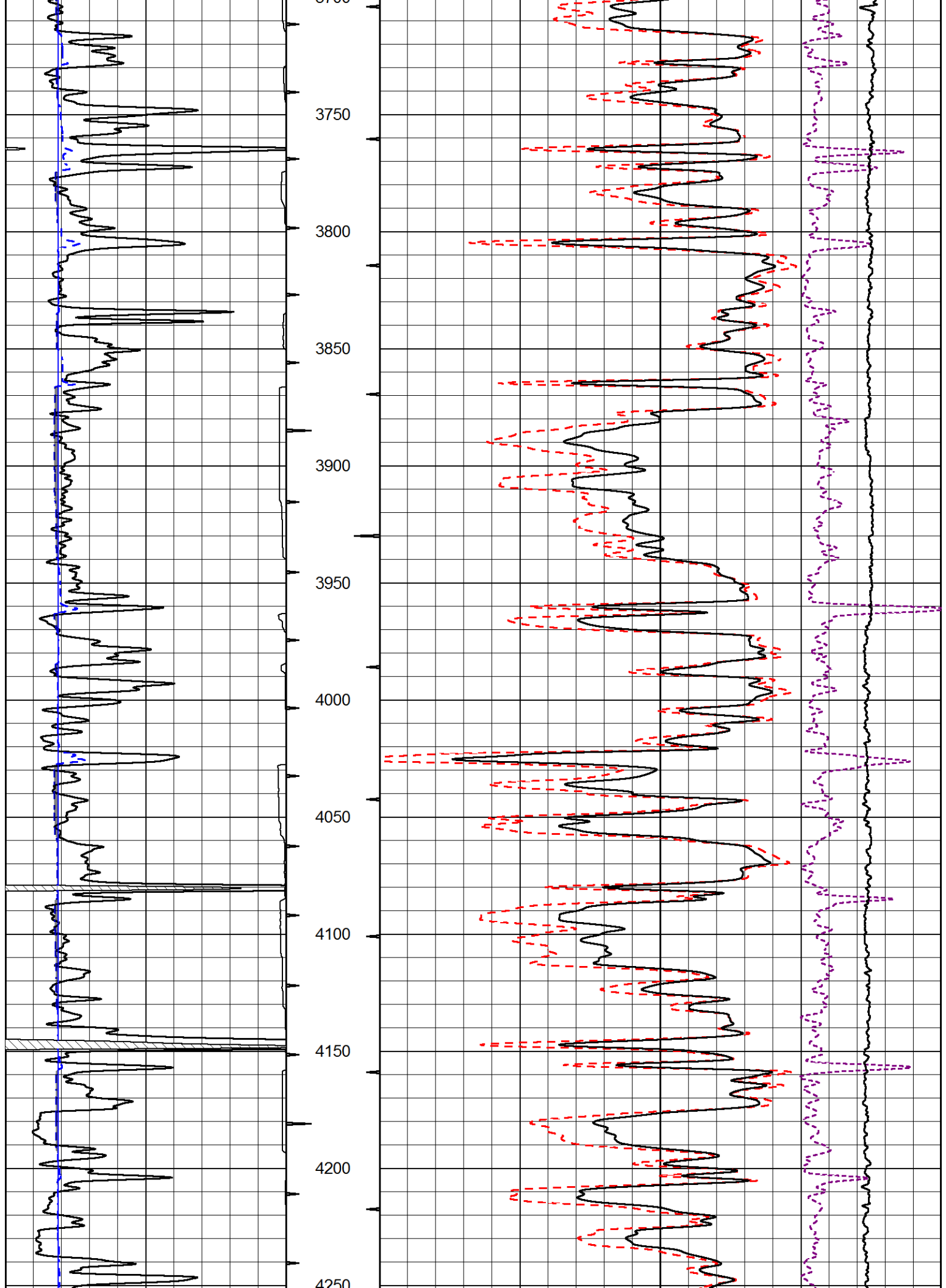
Compensated Density (2.71 MA)	
30	(pu) -10

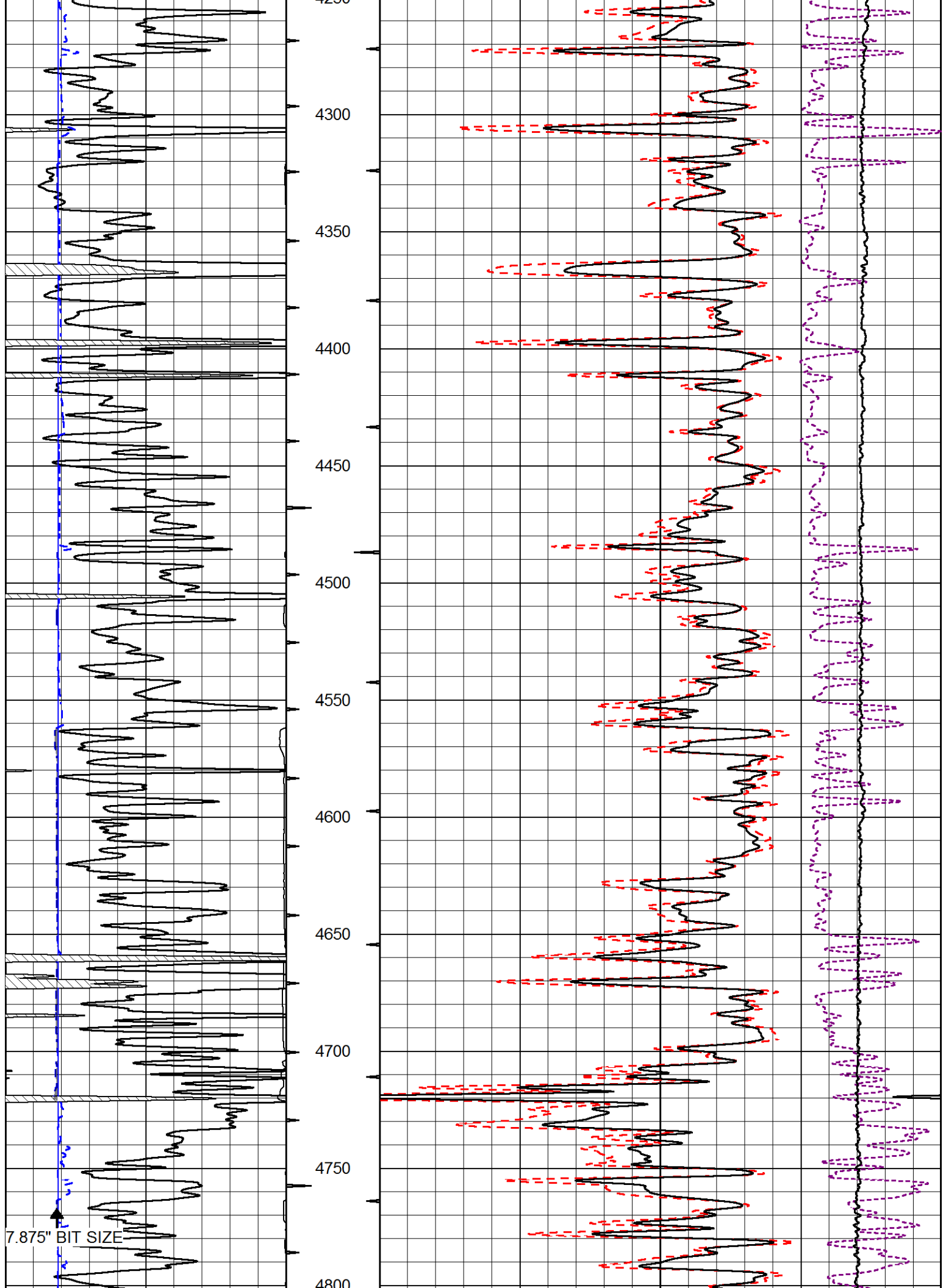
2	Bulk Density (g/cc) 3

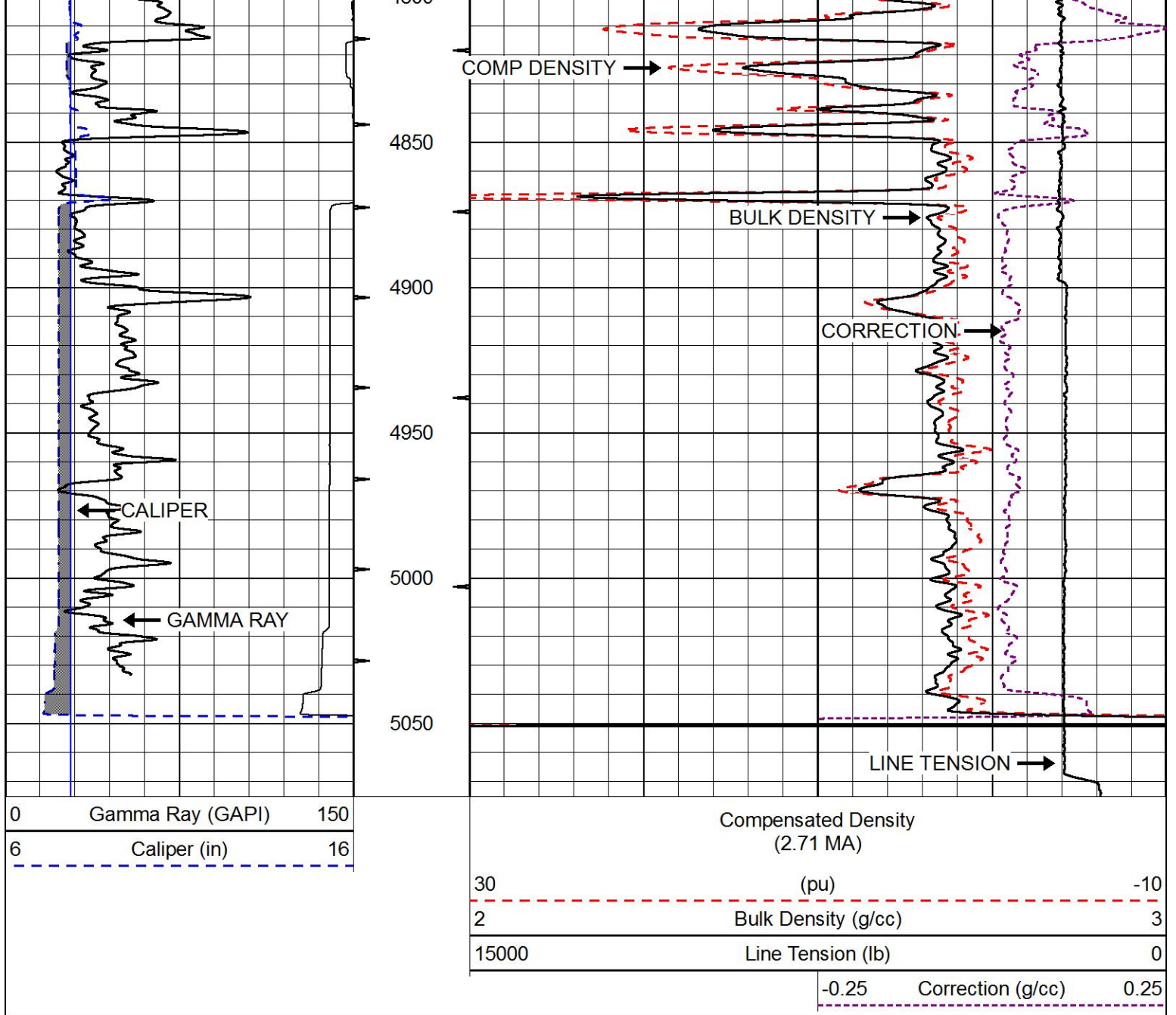
15000	Line Tension (lb) 0

-0.25	Correction (g/cc) 0.25





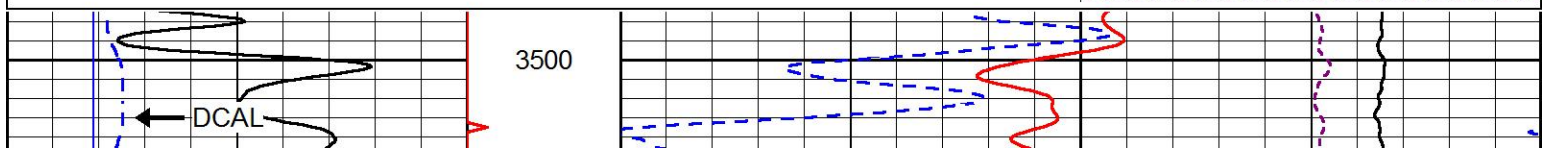


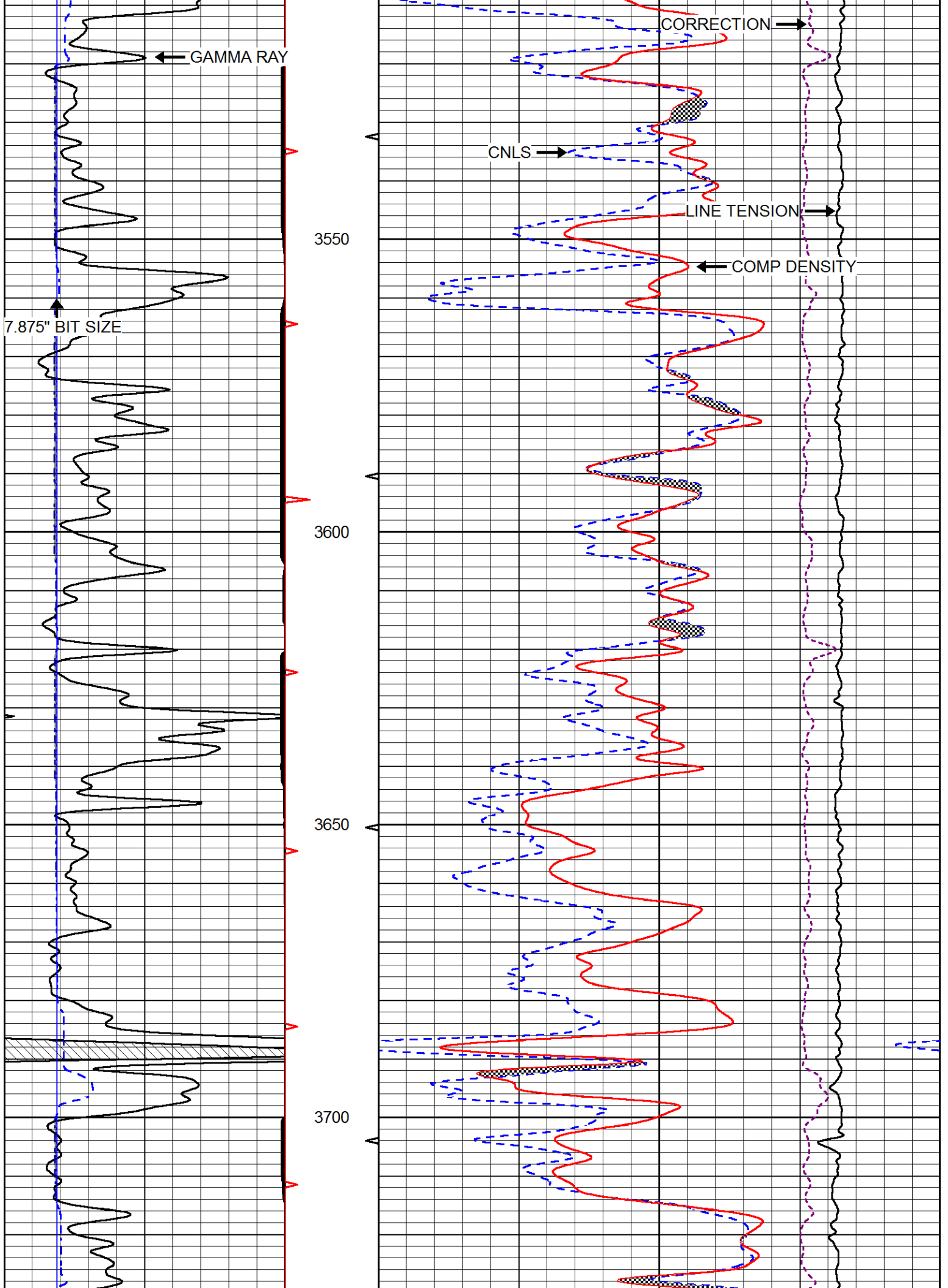


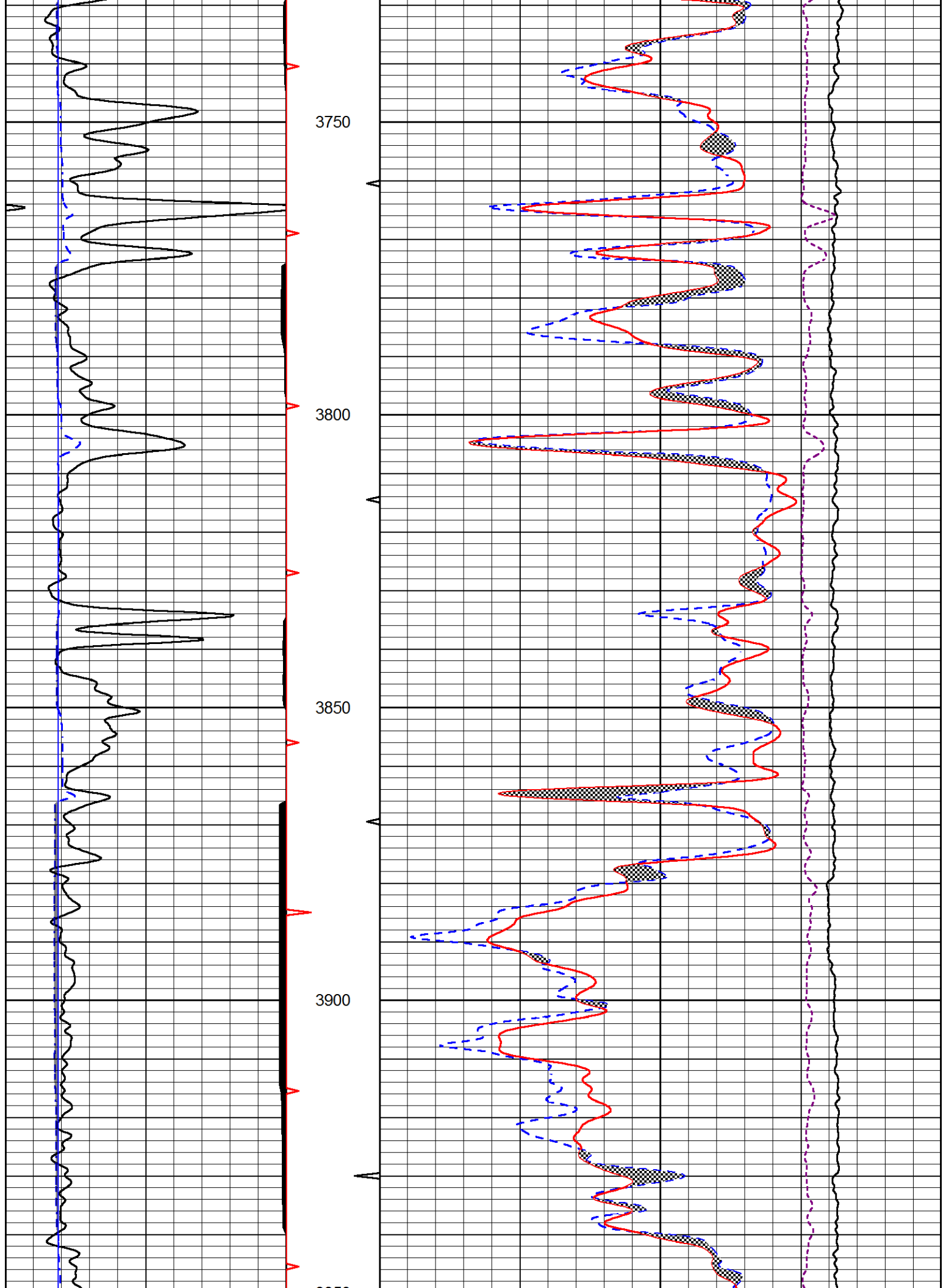
MAIN PASS

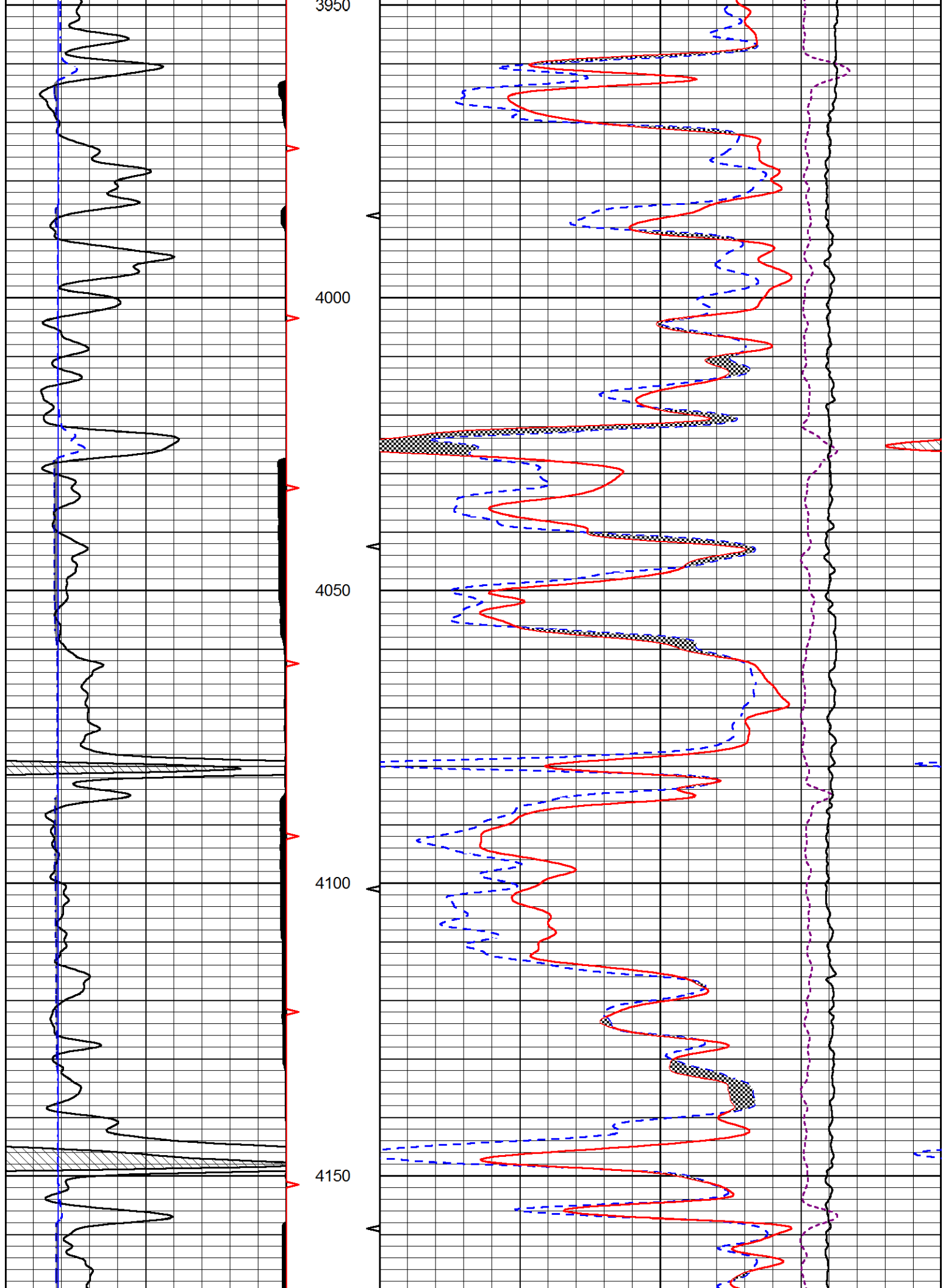
Database File: american_warrior_lea a 7-28.db
 Dataset Pathname: STKML/pass3.1
 Presentation Format: cndlspec
 Dataset Creation: Tue Feb 06 09:00:54 2018
 Charted by: Depth in Feet scaled 1:240

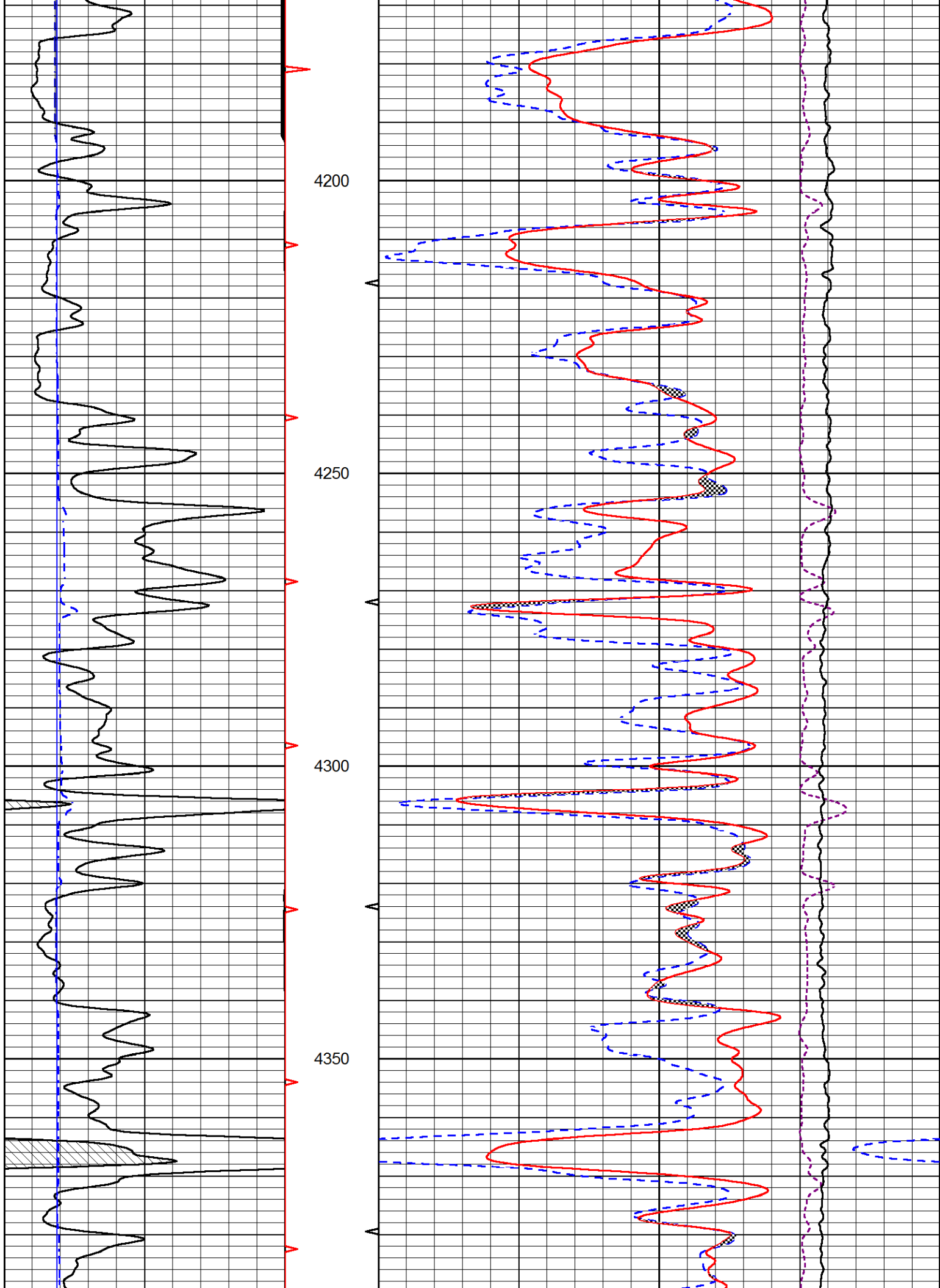
0	Gamma Ray (GAPI)	150	30	CNLS (pu)	-10
6	DCAL (in)	16	30	Compensated Density 2.71 g/cc (pu)	-10
			10000	Line Tension (lb)	0
			-0.75	Correction (g/cc)	0.75

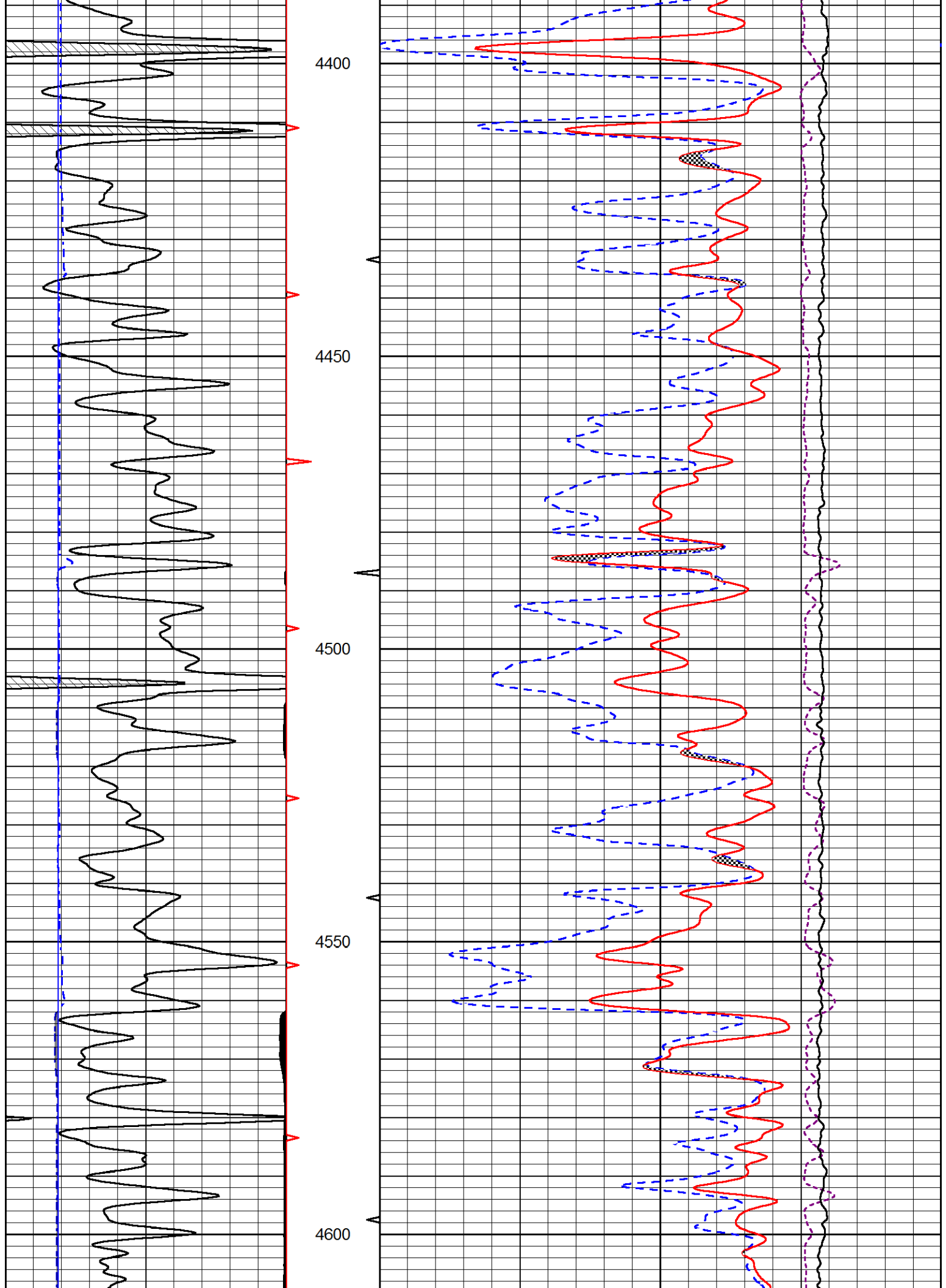


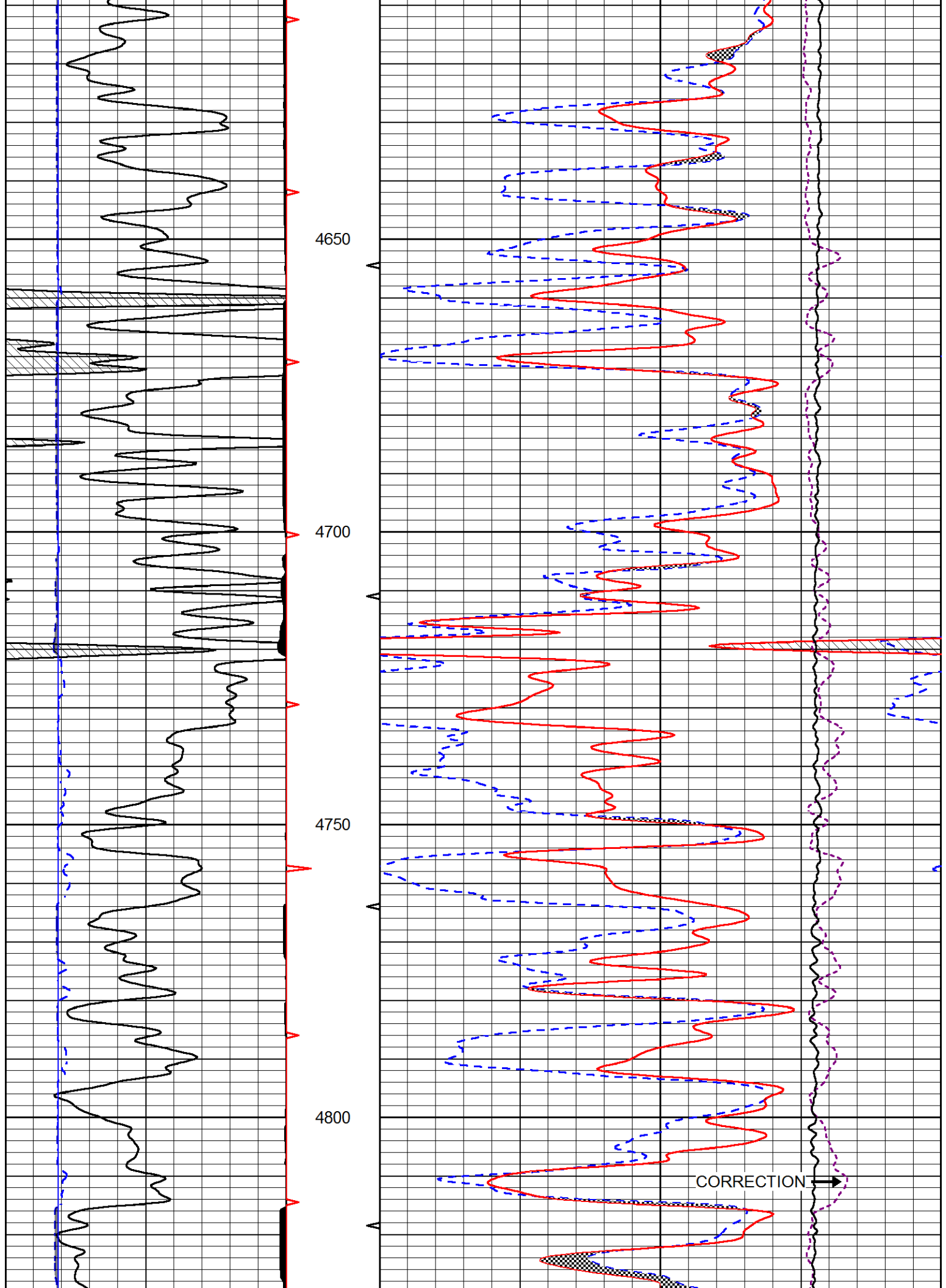












7.875" BIT SIZE

4850

4900

4950

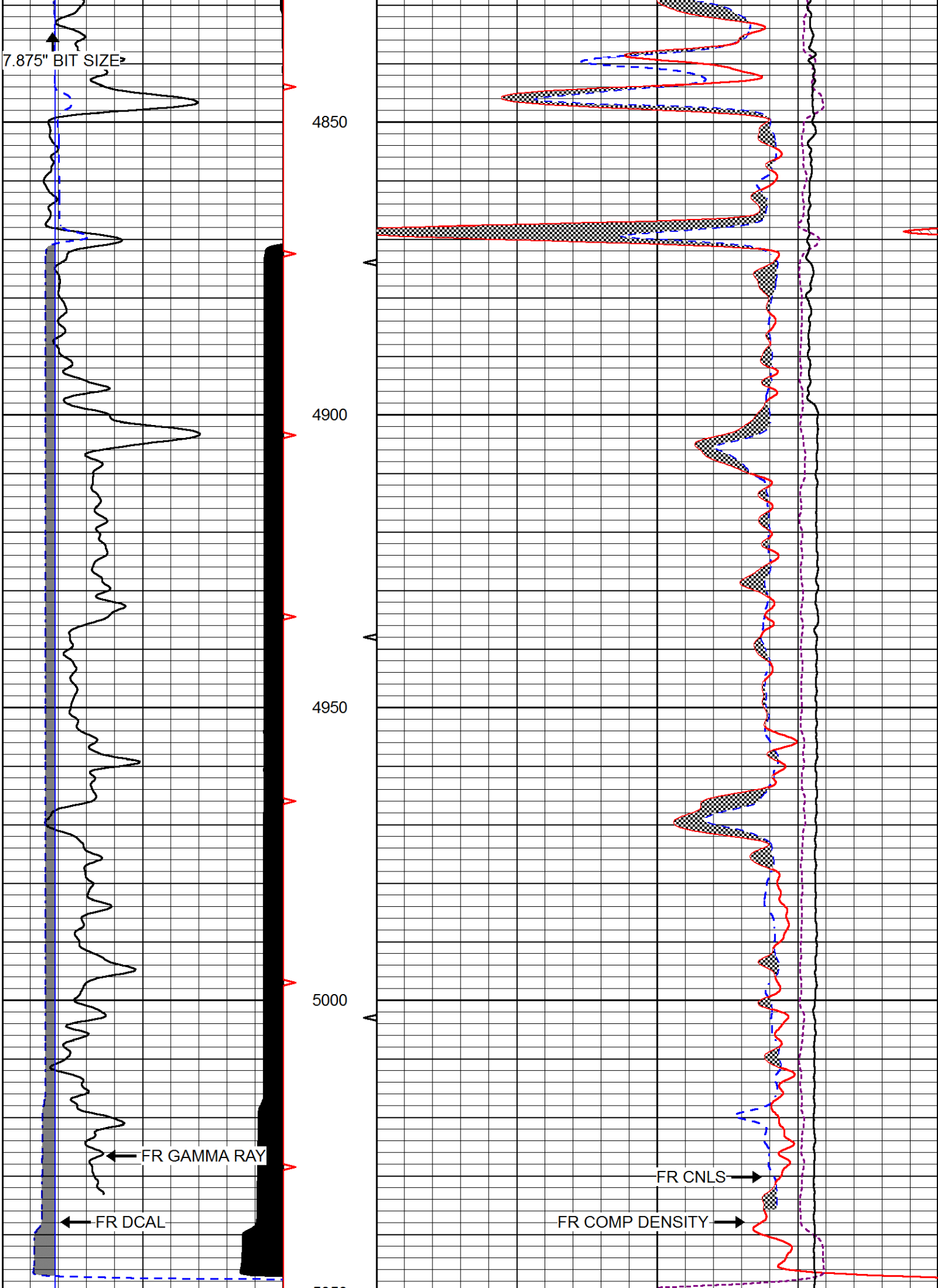
5000

FR GAMMA RAY

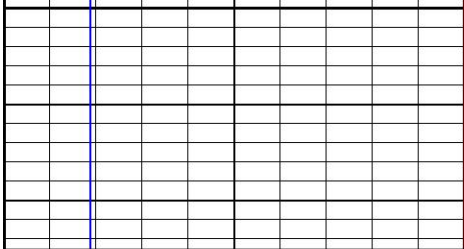
FR DCAL

FR CNLS

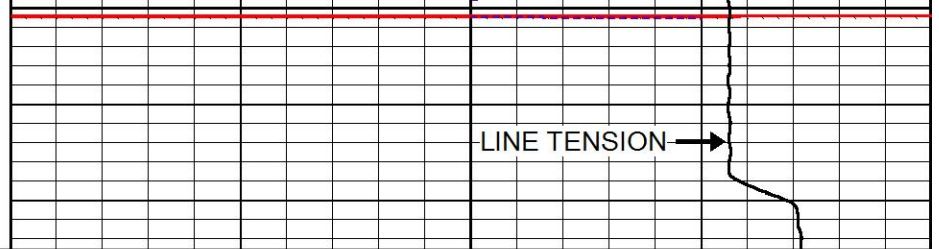
FR COMP DENSITY



5050



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

LINE TENSION →

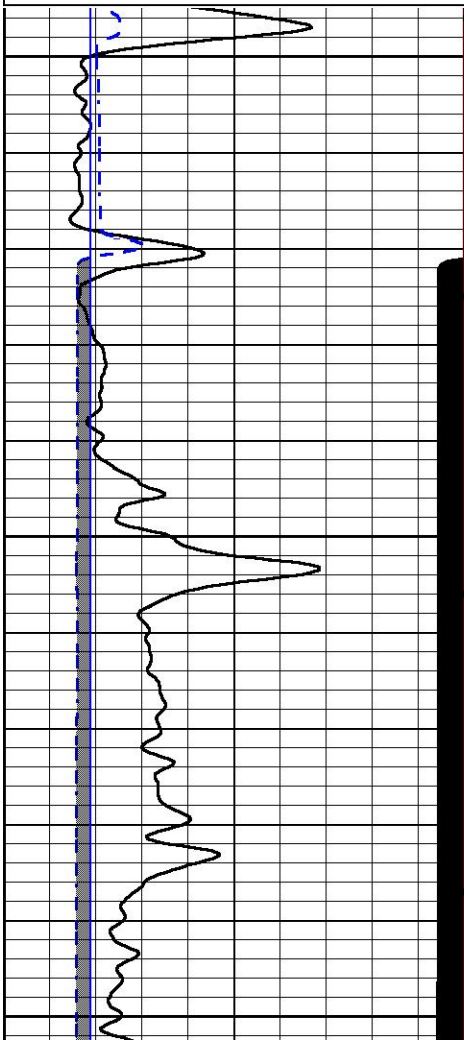


REPEAT SECTION

Database File american warrior_lea a 7-28.db
 Dataset Pathname STKML/pass2.1
 Presentation Format cndspec
 Dataset Creation Tue Feb 06 08:33:58 2018
 Charted by Depth in Feet scaled 1:240

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

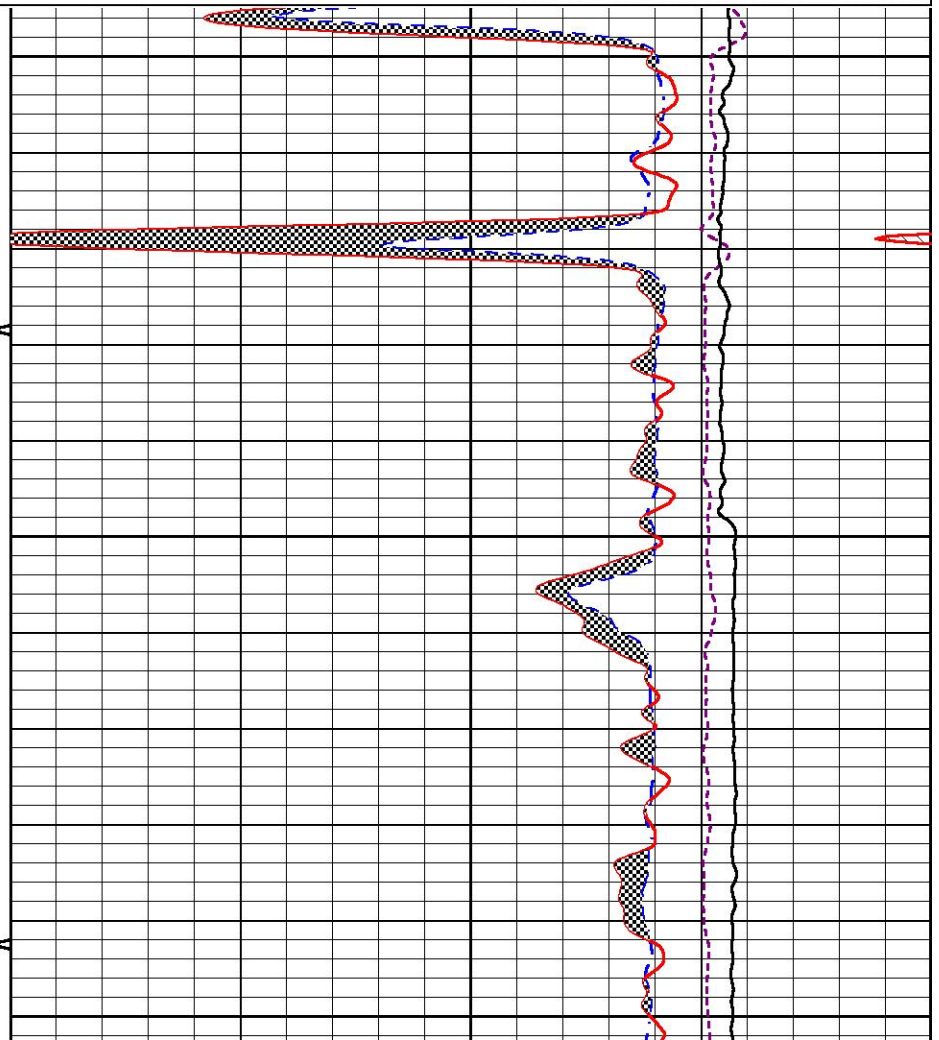
30	CNLS (pu)	-10
30	Compensated Density 2.71 g/cc (pu)	-10
10000	Line Tension (lb)	0
-0.75	Correction (g/cc)	0.75

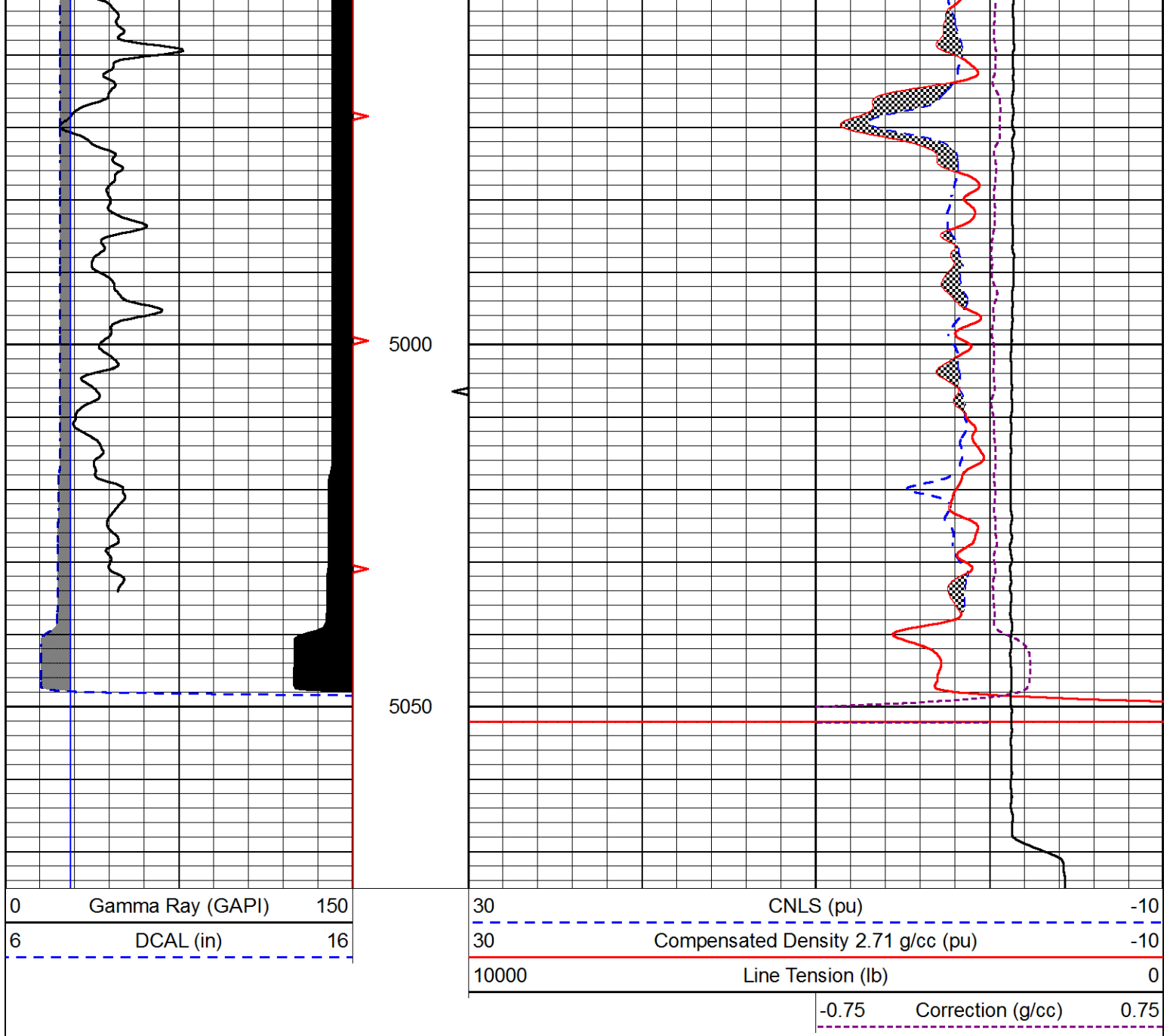


4850

4900

4950





Calibration Report

Database File american_warrior_lea a 7-28.db
 Dataset Pathname STKML/pass3.4
 Dataset Creation Tue Feb 06 08:32:05 2018

Dual Induction Calibration Report

Serial-Model: 933 (HT)-PSI HIGH TEMP
 Calibration Performed: Sun Jan 28 18:12:06 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop	mmho/m	Gain	Offset
Deep	167.000	835.000	0.000	255.000	mmho/m	0.720	-18.400
Medium	142.000	1349.000	0.000	255.000	mmho/m	0.560	-61.300

Microlog Calibration Report

Serial-Model: PSL01-PSIMI

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	12500.0000	-0.5000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	13500.0000	-0.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	100.0000	-97.3800

Compensated Density Calibration Report

Serial-Model: 227-771-M&W
 Source / Verifier: 16955B / 2ci
 Master Calibration Performed: Sat Jan 27 18:11:20 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4919.18	6345.34	cps
Aluminum	2.665	g/cc	911.94	4081.94	cps
Spine Angle = 75.33		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: MON JAN 15 10:30:30 2018

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: Mon Jan 15 11:20:44 2018

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



PIONEER

Company AMERICAN WARRIOR, INC.
 Well LEE A #7-28
 Field LAKIN
 County KEARNY
 State KANSAS

PIONEER ENERGY SERVICES

MADE WITH