



PIONEER

Pioneer Energy Services

DUAL COMP POROSITY LOG

Company LANDMARK RESOURCES, INC.
Well GERSTBERGER UNIT #1-20
Field WILDCAT
County WICHITA
State KANSAS

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Location: API #: 15-203-20355-00-00

Other Services

SEC 20 TWP 17S RGE 36W
246' FNL & 215' FEL

DIL/MEL
BHCS

Permanent Datum GROUND LEVEL Elevation 3220'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 3231'
D.F. N/A
G.L. 3220'

Date 3/29/2019

Run Number ONE

Type Log CNL/CDL

Depth Driller 4795'

Depth Logger 4800'

Bottom Logged Interval 4771'

Top Logged Interval 3500'

Type Fluid In Hole CHEMICAL

Salinity, PPM CL 7500

Density 9.1

Level FULL

Max. Rec. Temp. F 124

Operating Rig Time 5 HOURS

Equipment -- Location P-24 HAYS

Recorded By IAN MABB

Witnessed By TERRY MCLEOD

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0'	296'	8.625"	23#	0'	296'
TWO	7.875"	296'	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.

LEOTI, KS.
2 MILES EAST TO RD 15,
NORTH 6 1/2 MILES,
WEST INTO

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

Engineer: IAN MABB
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: TERRY MCLEOD
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 124	in 5.5	in 0	g/cc 1	2	g/cc 2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	0	mmho/m 4	mmho/m 2	mV 426	degF 41	Off	ft 4800

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	37.48			CNT-M&W (207-MW)	5.50	3.50	100.00
CNSSC	36.73						
LSD	28.43			CDL-M&W (96-916)	8.50	4.00	250.00
DCAL	28.42			ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
SSD	27.93						
MCAL	19.83						
MI	19.83						
MN	19.83						
RLL3F	15.80						
RLL3	15.80						
CILD	8.00			DIL-PSI HIGH TEMP (967 (HT))	18.50	3.50	220.00

CILM

4.70

SP

0.20

Dataset: landmark_gerstberger_unit_1_20.db: field/well/stackmel/pass4.1
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in



MAIN PASS

Database File landmark_gerstberger_unit_1_20.db
Dataset Pathname stackmel/pass4.1
Presentation Format _cdl
Dataset Creation Fri Mar 29 04:53:19 2019
Charted by Depth in Feet scaled 1:600

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

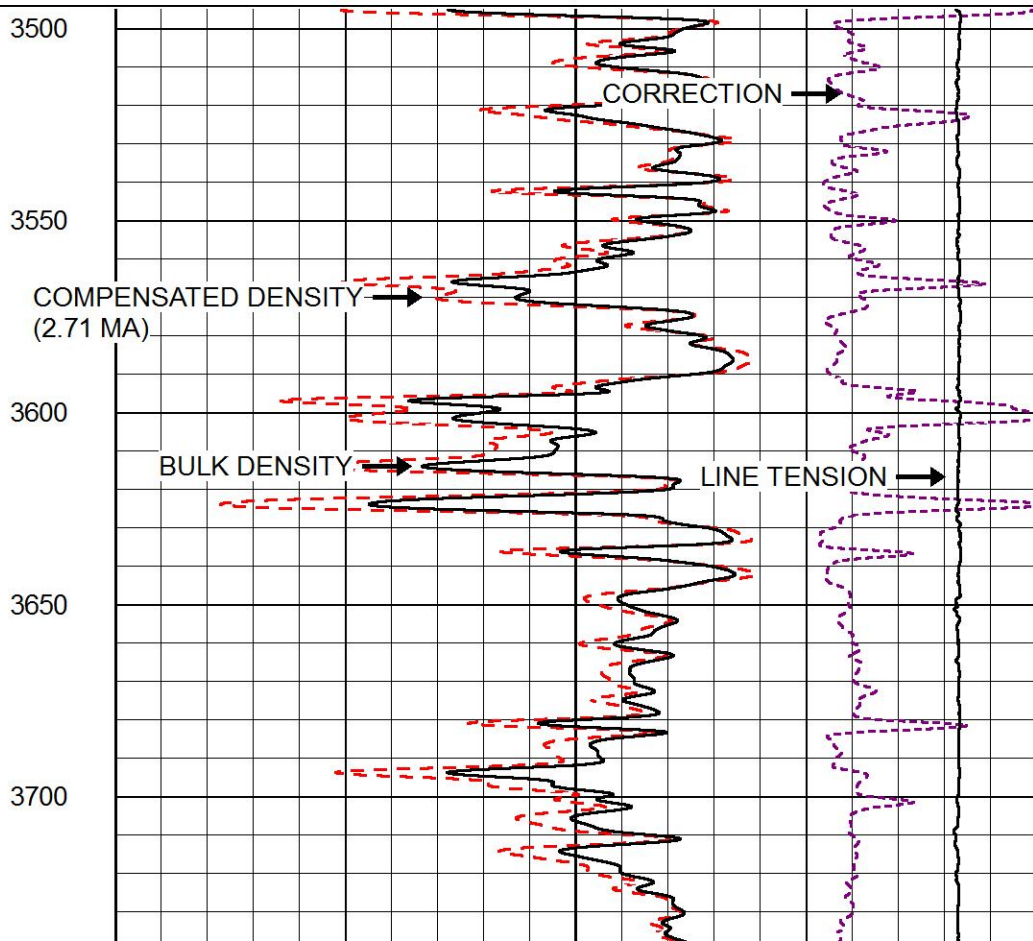
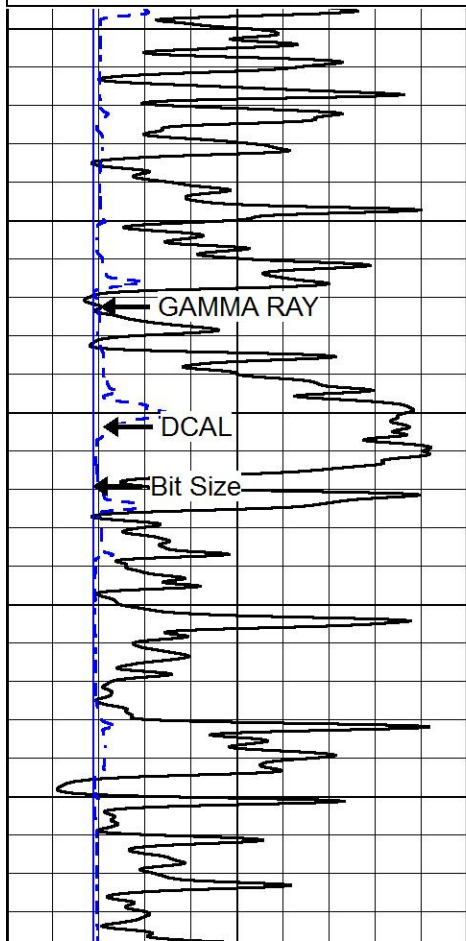
COMPENSATED DENSITY
(2.71 MA)

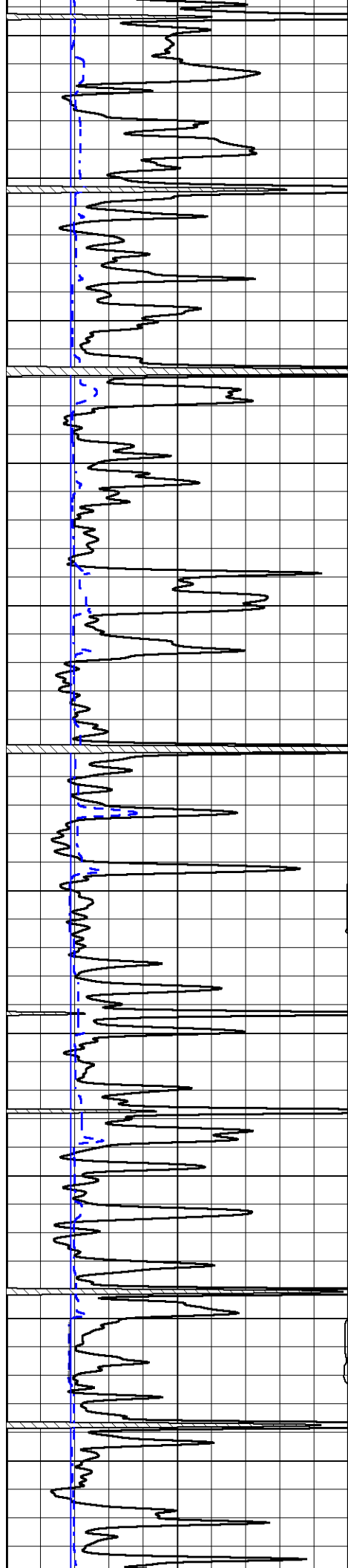
30 (pu) -10

2 BULK DENSITY (g/cc) 3

15000 LINE TENSION (lb) 0

-0.25 CORRECTION (g/cc) 0.25





3750

3800

3850

3900

3950

4000

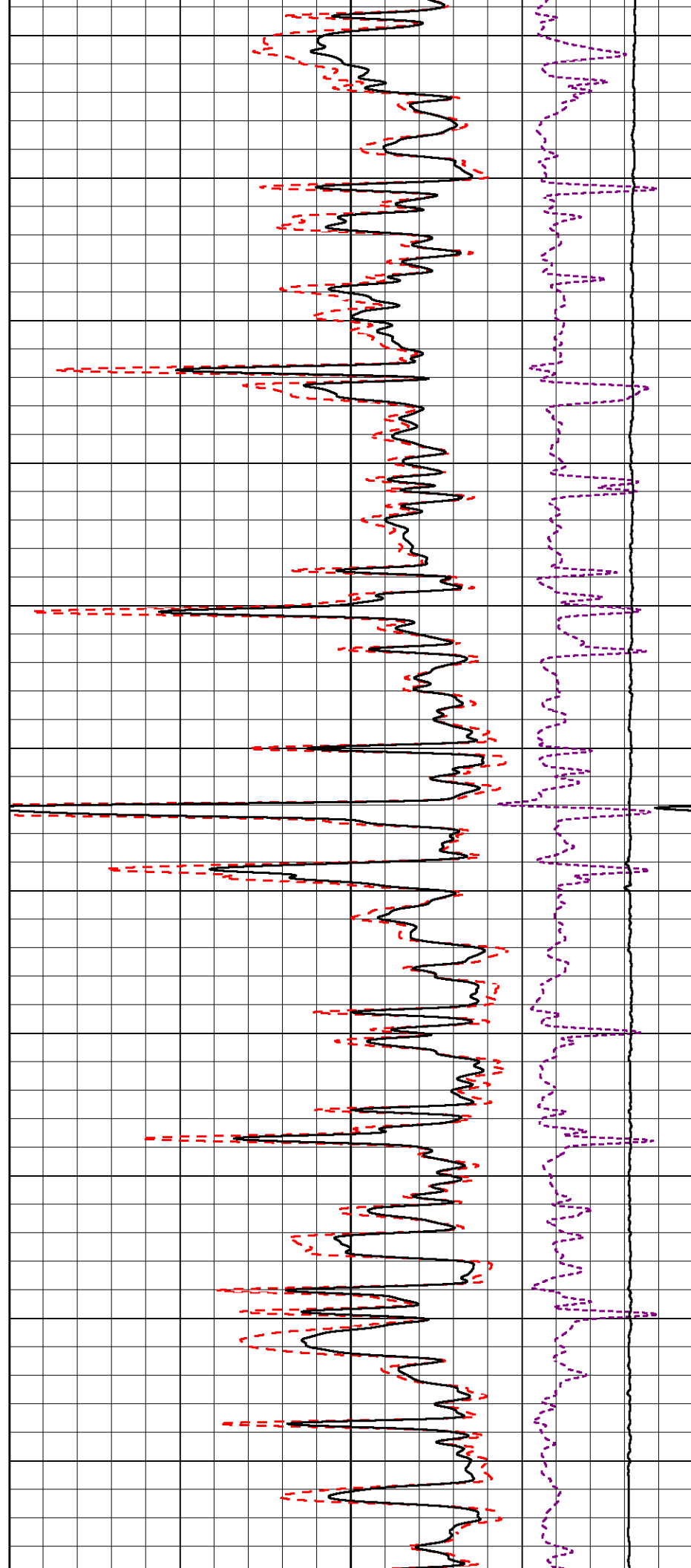
4050

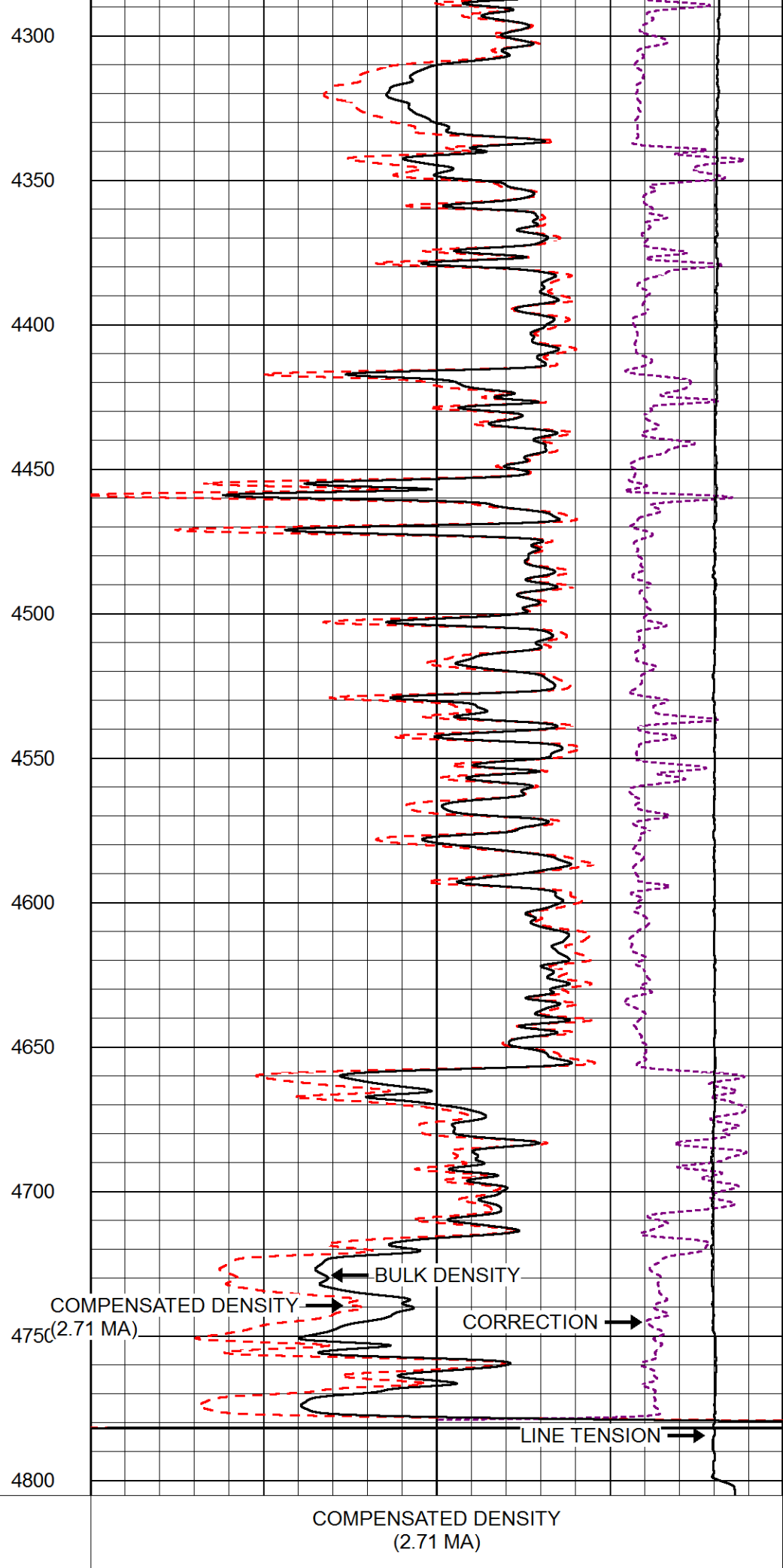
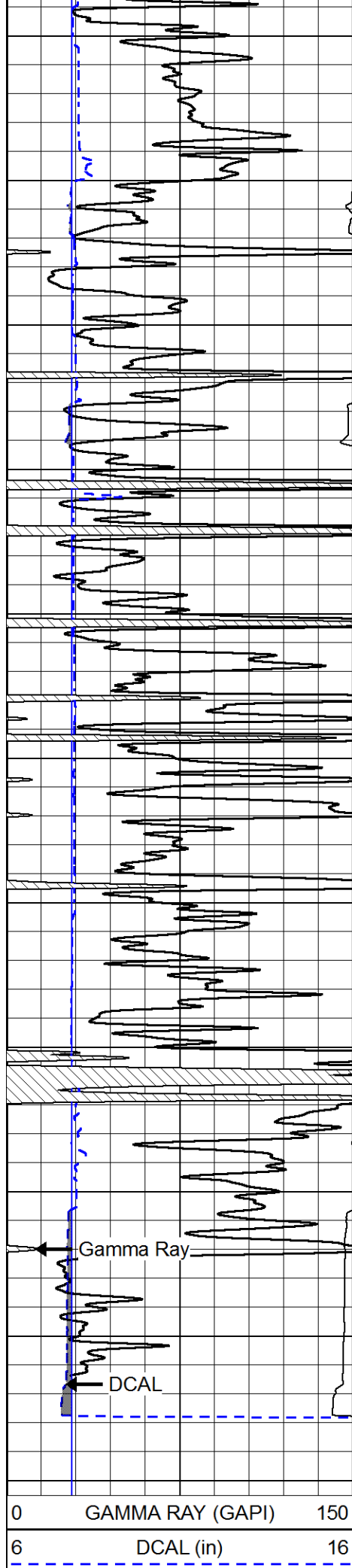
4100

4150

4200

4250





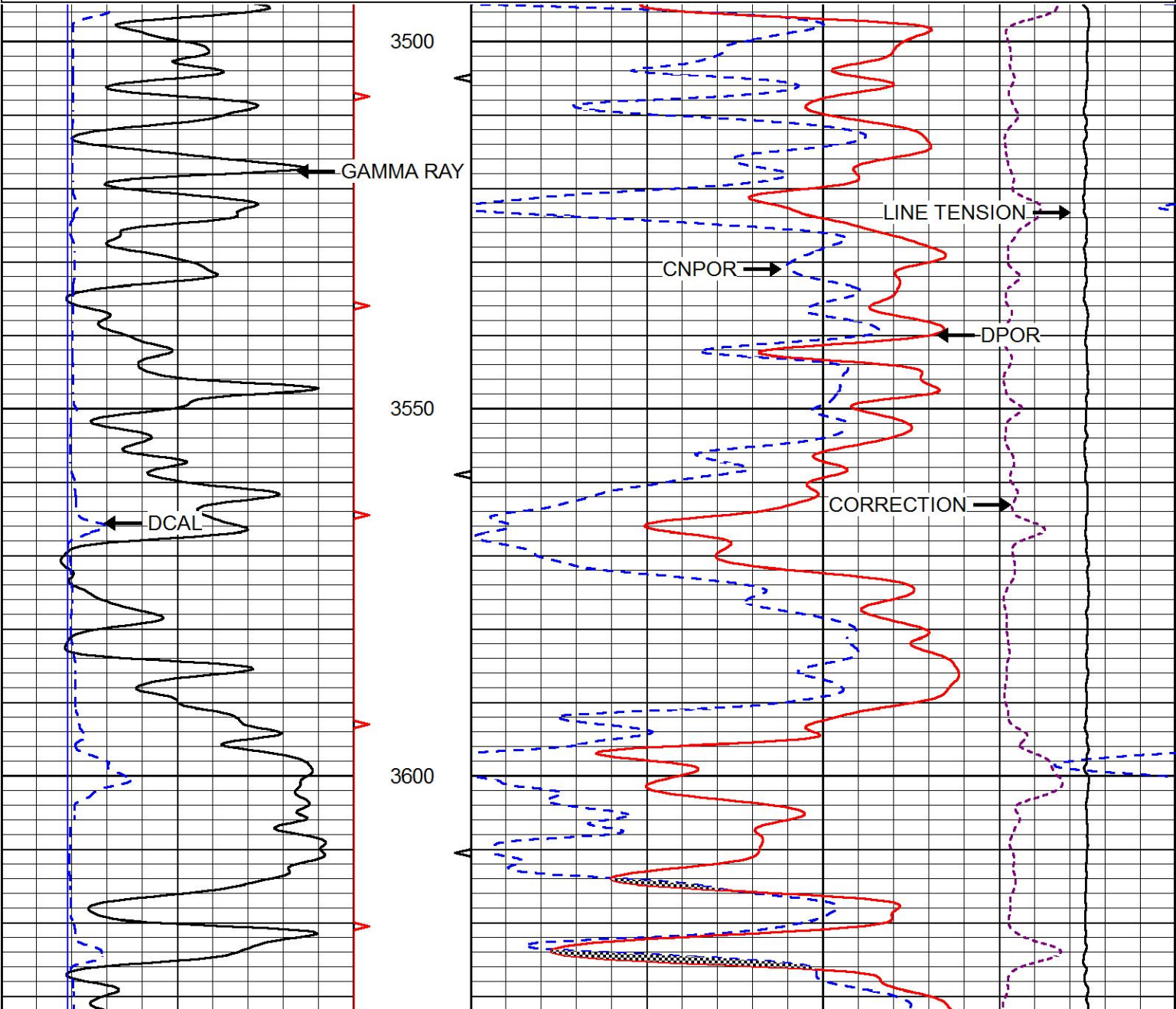
2	BULK DENSITY (g/cc)	3
15000	LINE TENSION (lb)	0
	-0.25 CORRECTION (g/cc)	0.25

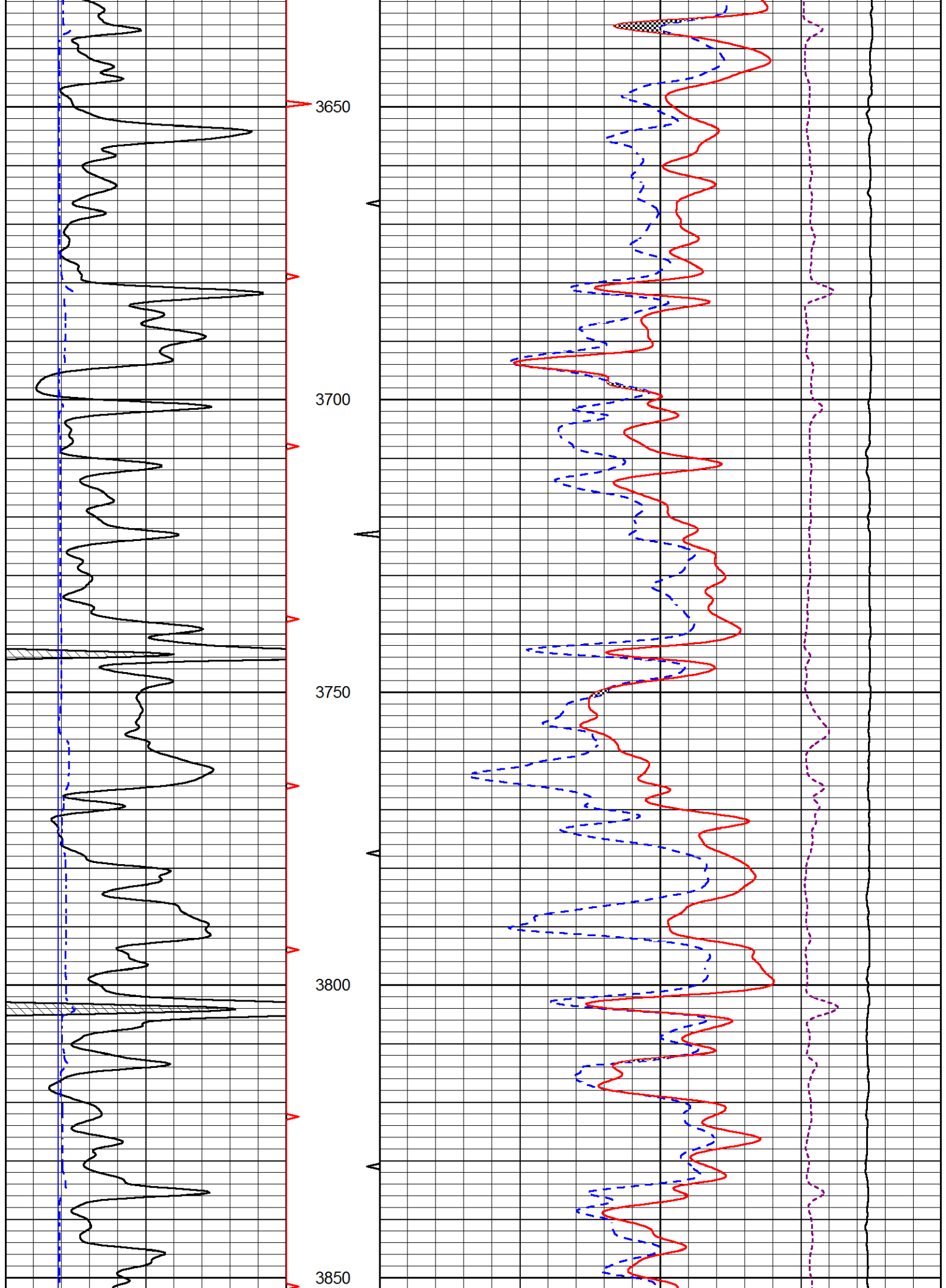


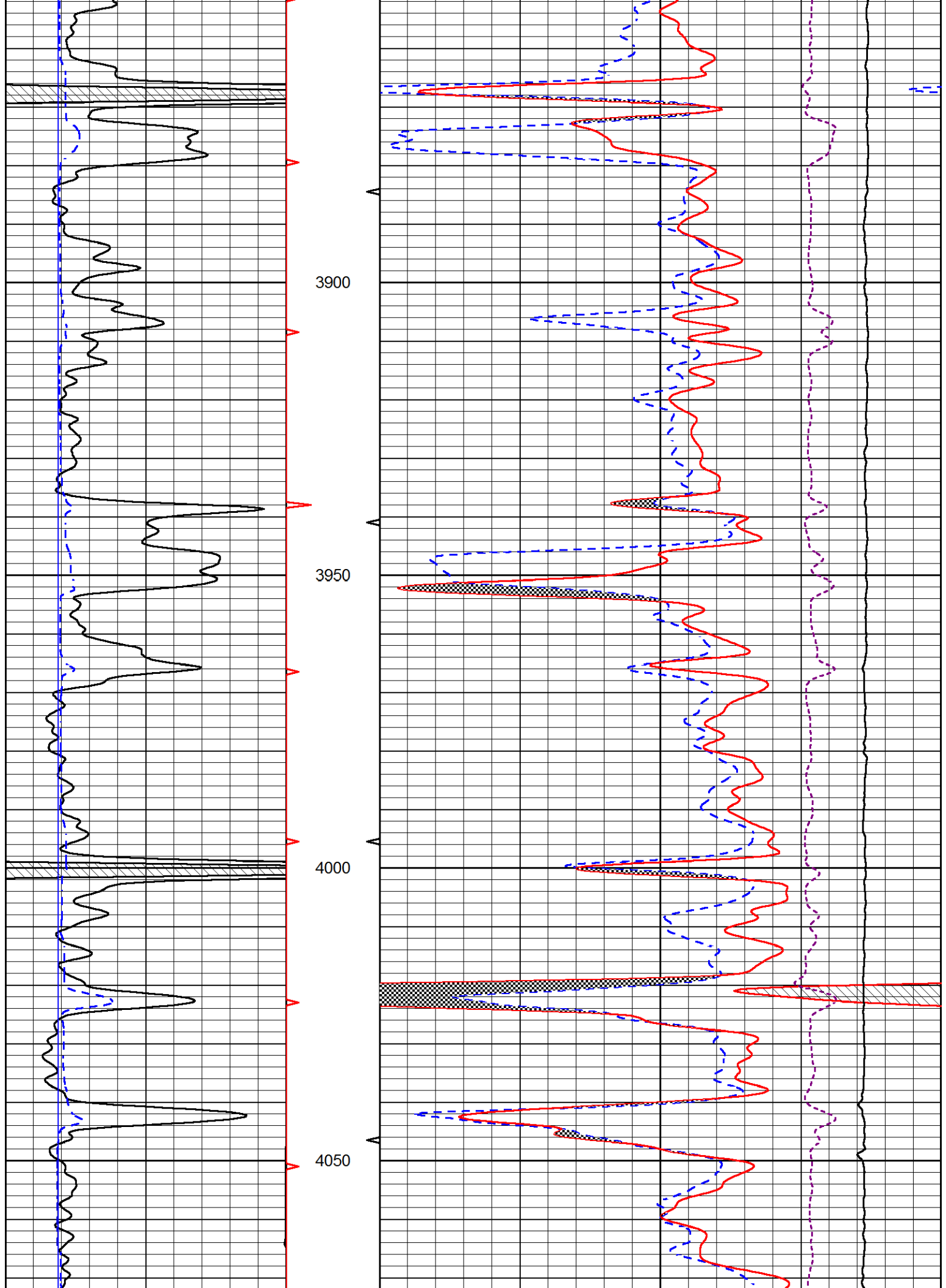
MAIN PASS

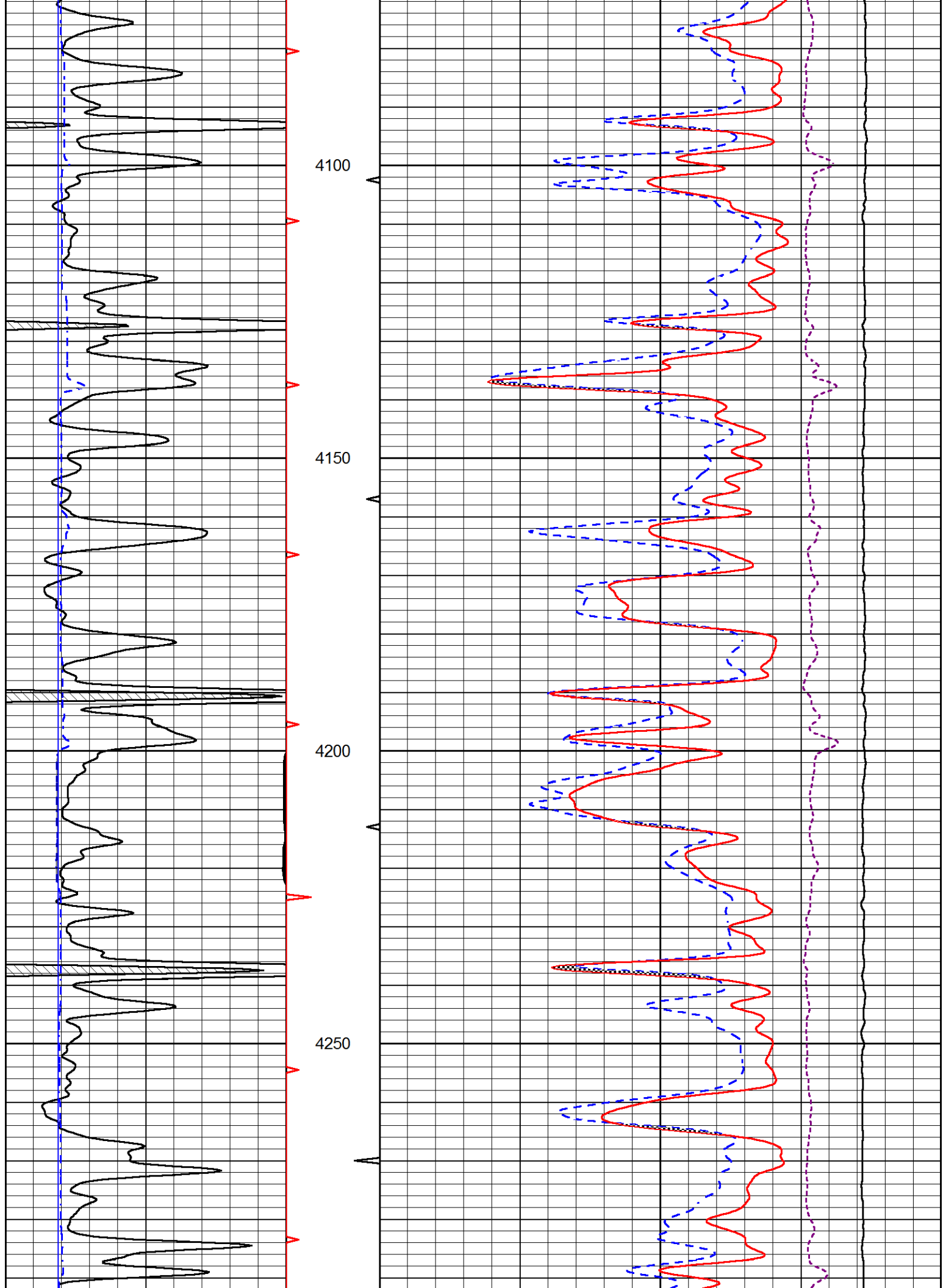
Database File	landmark_gerstberger_unit_1_20.db
Dataset Pathname	stackmel/pass4.1
Presentation Format	_CNDLS~1
Dataset Creation	Fri Mar 29 04:53:19 2019
Charted by	Depth in Feet scaled 1:240

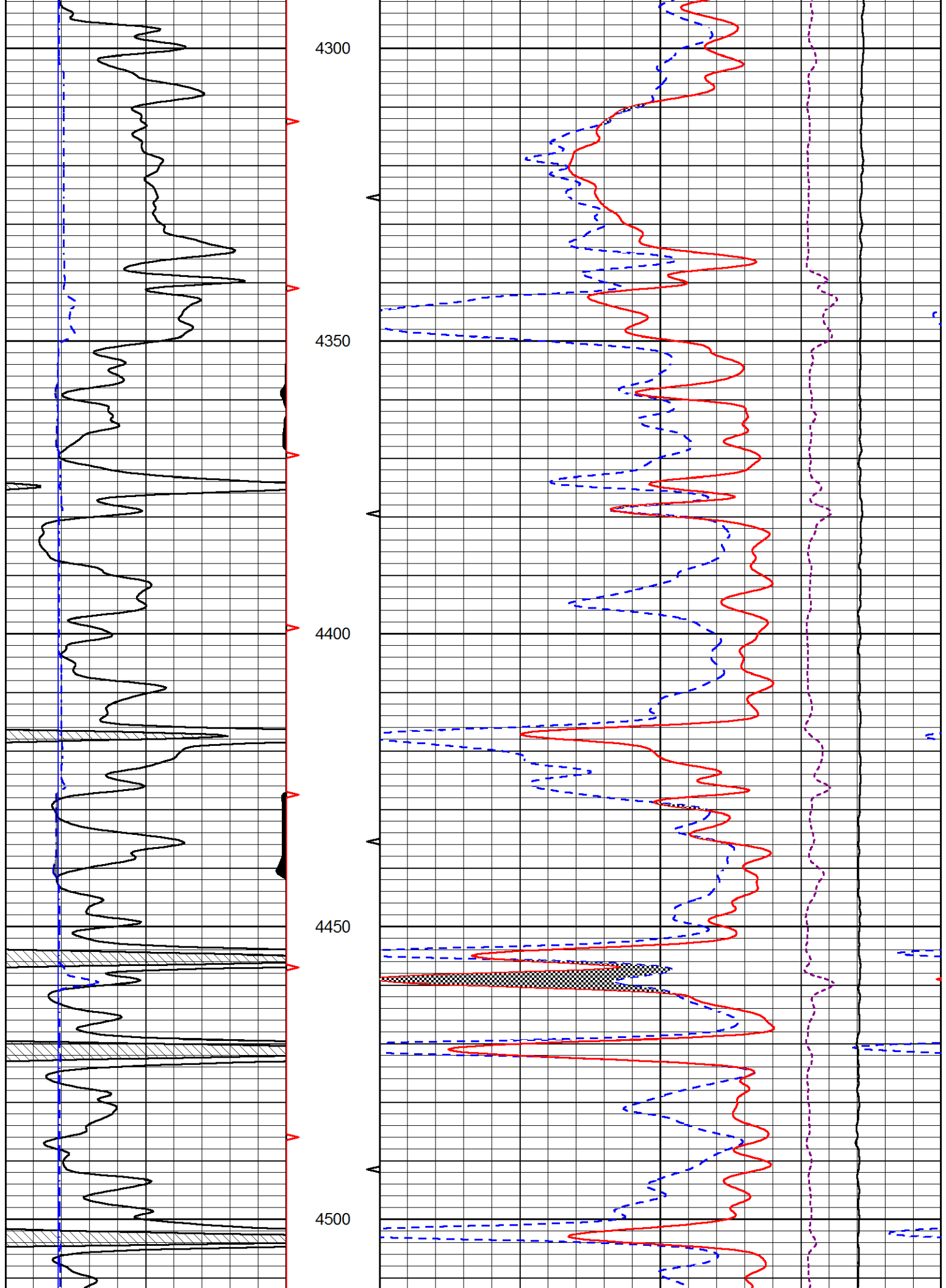
0	GAMMA RAY (GAPI)	150	30	CNLS (pu)	-10
6	DCAL (in)	16	30	DPOR (pu)	-10
			10000	LINE TENSION (lb)	0
				-0.75 CORRECTION (g/cc)	0.75

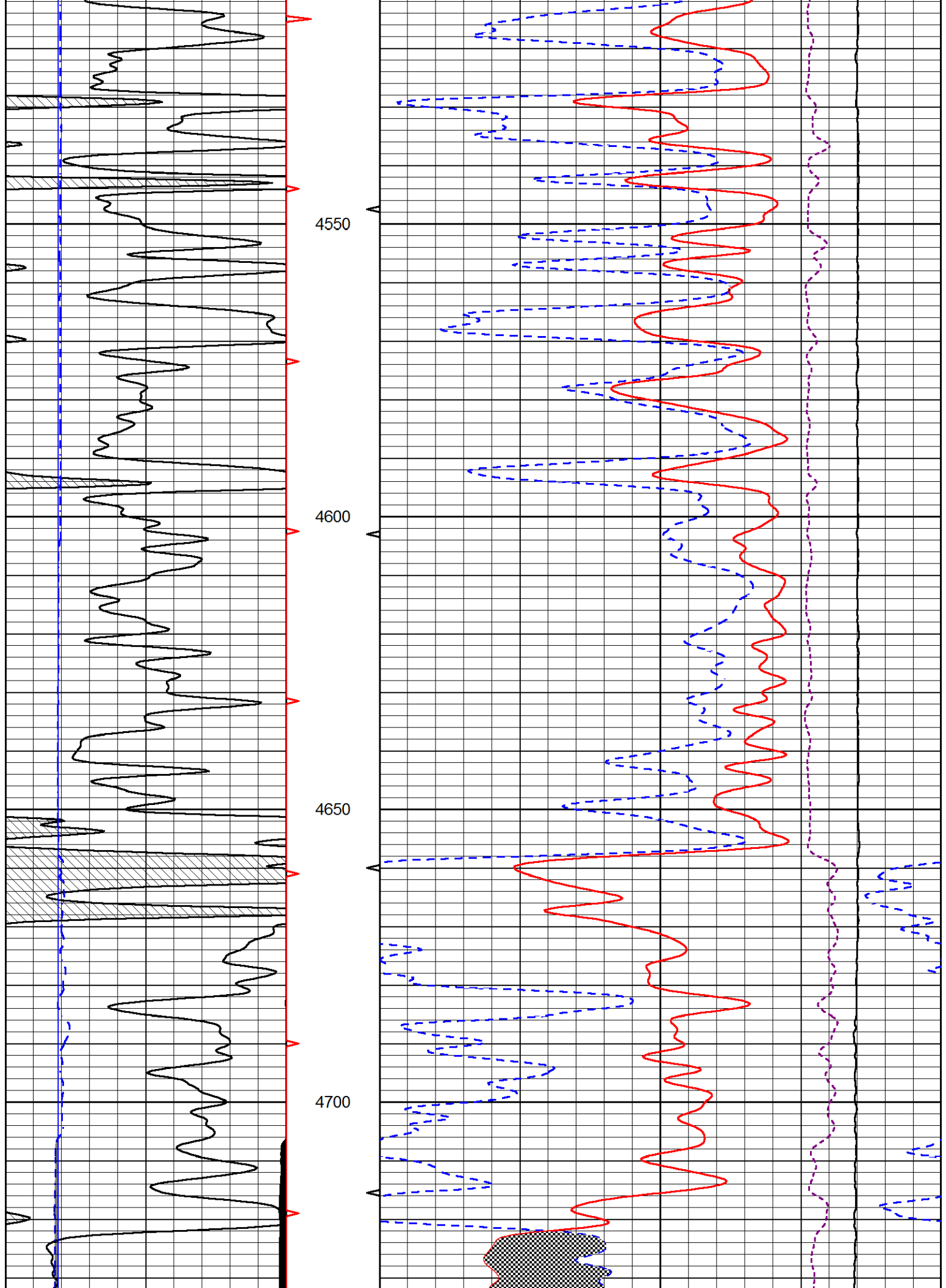


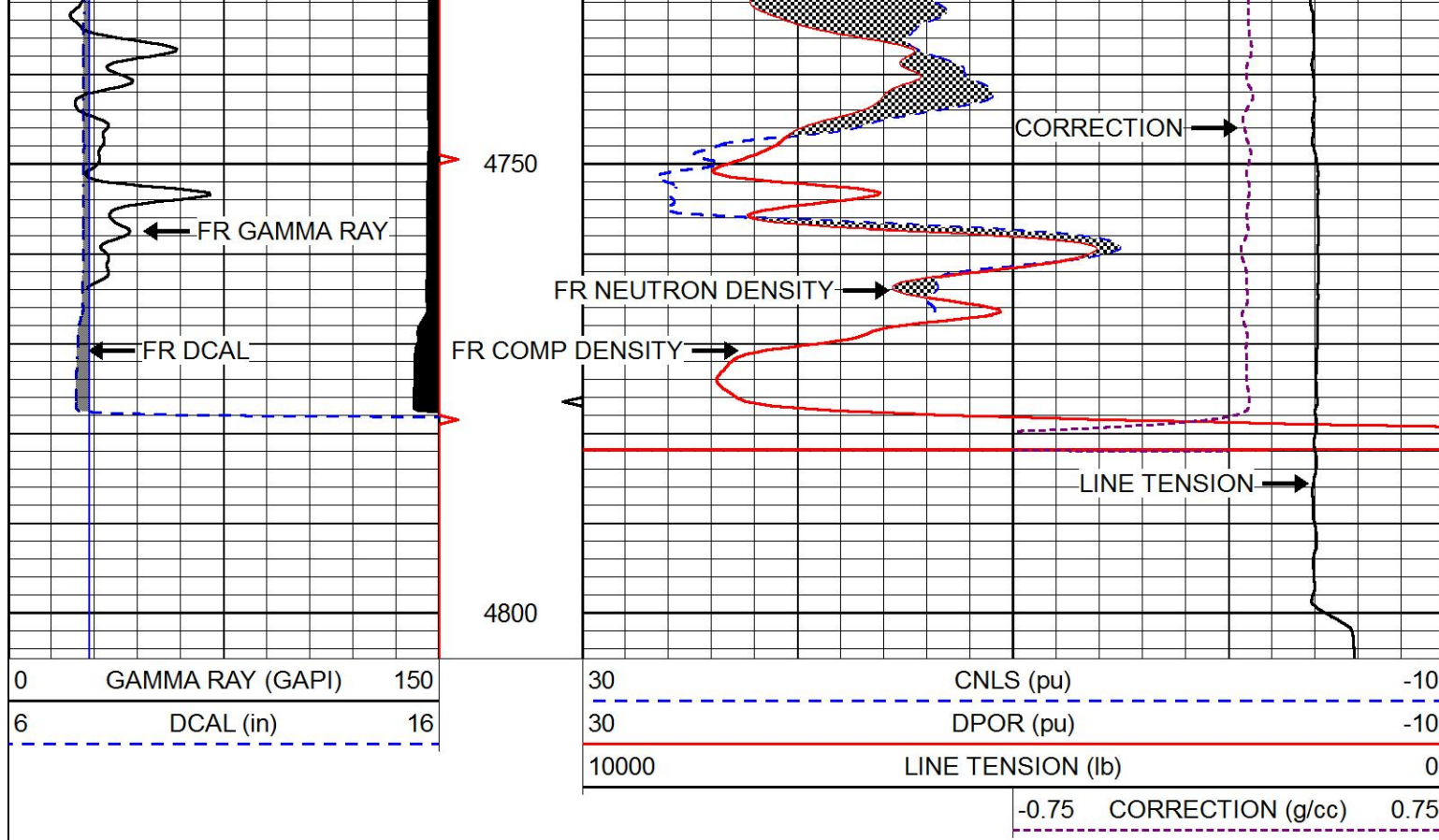






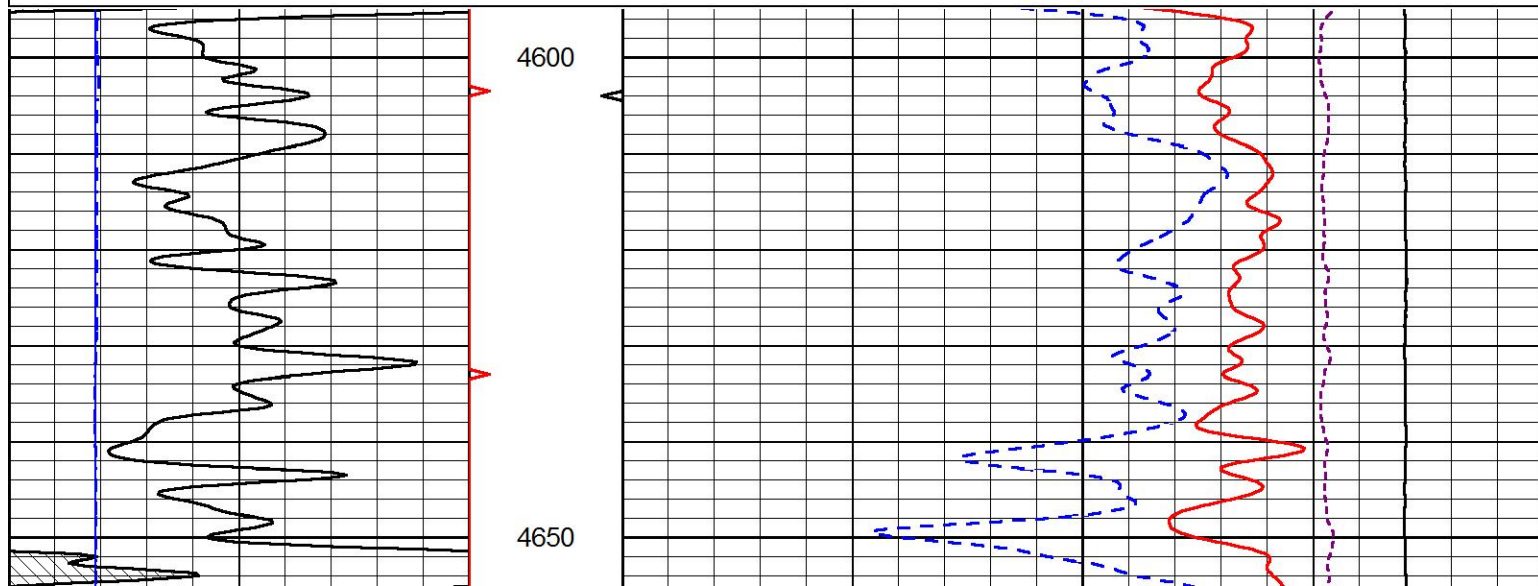
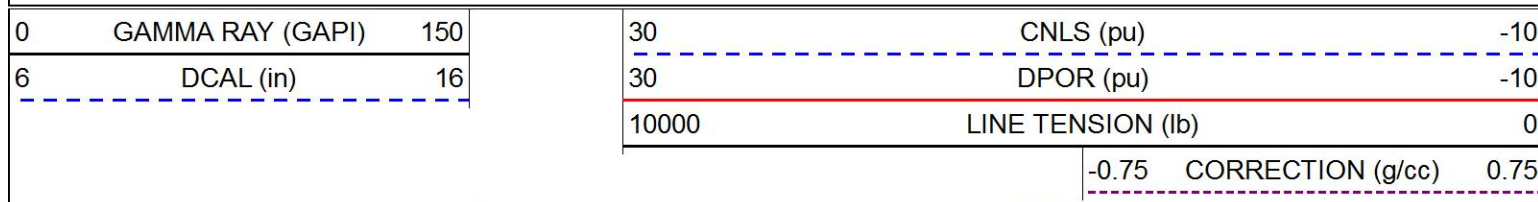


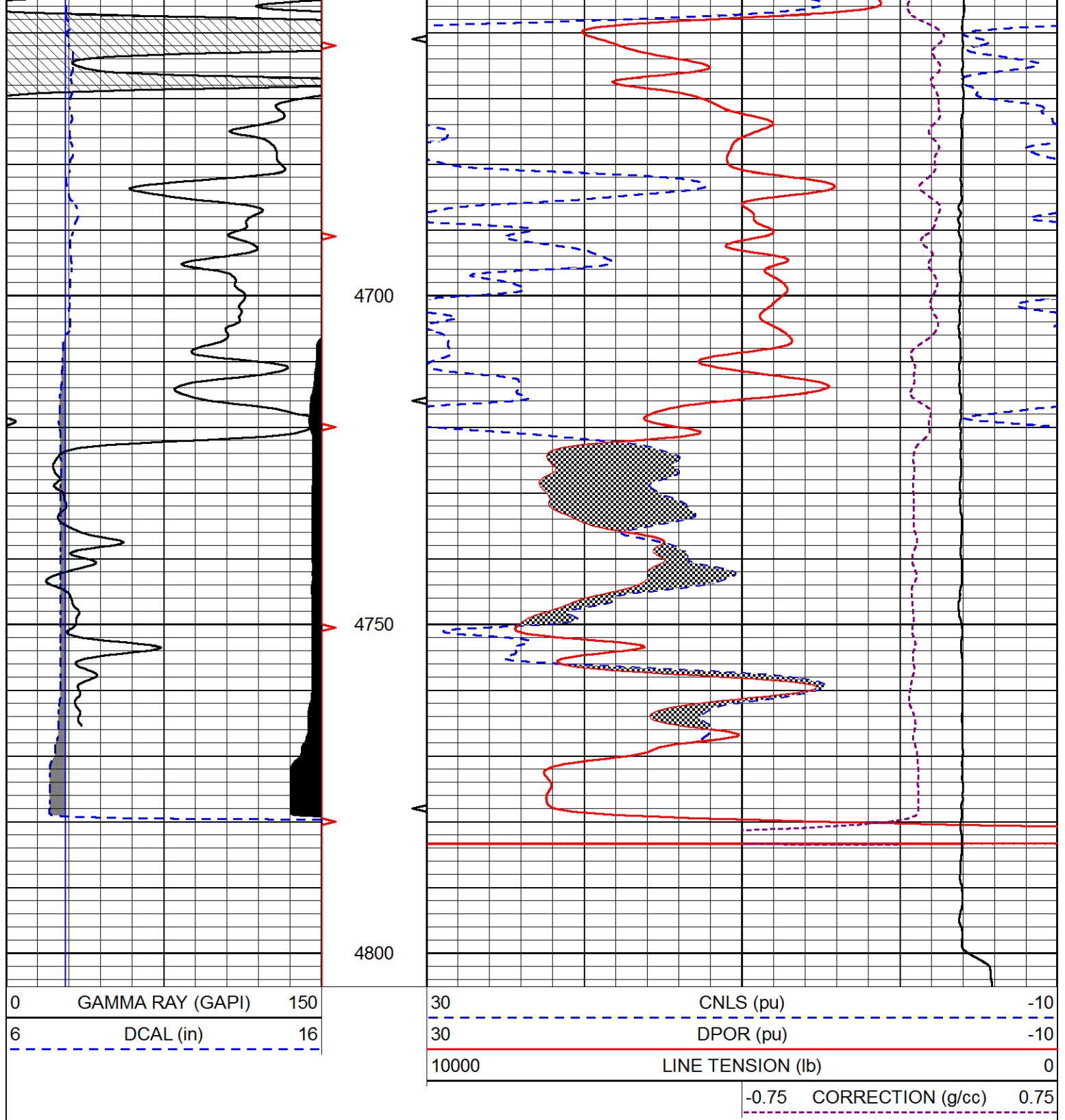




REPEAT SECTION

Database File	landmark_gerstberger_unit_1_20.db
Dataset Pathname	stackmel/pass3.1
Presentation Format	_cndlspec
Dataset Creation	Fri Mar 29 04:23:37 2019
Charted by	Depth in Feet scaled 1:240





Calibration Report

Database File landmark_gerstberger_unit_1_20.db
Dataset Pathname stackmel/pass4.1
Dataset Creation Fri Mar 29 04:53:19 2019

Dual Induction Calibration Report

Serial-Model: 967 (HT)-PSI HIGH TEMP
Calibration Performed: Sun Oct 07 19:24:22 2018

Readings

References

Results

Loop:	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.565	-17.500
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.390	-40.000
Microlog Calibration Report							
Serial-Model: Performed:			PSI-01-PSIML Sun Feb 24 09:53:40 2019				
Readings		References			Results		
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	21000.0000	-0.7000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	25000.0000	-0.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-65.8000
Compensated Density Calibration Report							
Serial-Model: Source / Verifier: Master Calibration Performed:			96-916-M&W 16955B / 2ci Wed Mar 27 11:00:53 2019				
Master Calibration							
	Density		Far Detector		Near Detector		
Magnesium	1.755	g/cc	8943.64		10054.60	cps	
Aluminum	2.655	g/cc	1595.61		6242.82	cps	
Spine Angle = 74.54			Density/Spine Ratio = 0.503				
	Size		Reading				
Small Ring	6.00	in	1.75				
Large Ring	16.00	in	1.46				
Compensated Neutron Calibration Report							
Serial Number: Tool Model: Calibration Performed:			207-MW M&W WED FEB 13 10:30:30 2019				
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: Tool Model: Calibration Performed:		89 M&W Fri Aug 24 11:16:10 2018					
Calibrator Value:		1.0		GAPI			
Background Reading:		0.0		cps			
Calibrator Reading:		1.0		cps			
Sensitivity:		0.6000		GAPI/cps			



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