



PIONEER

Pioneer Energy Services

DUAL COMP POROSITY LOG

Company **ENERSTAR RESOURCES O&G,LLC**
Well **GRABER #2**
Field **WILDCAT**
County **RENO** State **KANSAS**

Location: API #: 15-155-21762-00-00

Other Services

SEC 18 TWP 26S RGE 6W
2350' FSL & 330' FWL

DIL/MEL

Permanent Datum **GROUND LEVEL** Elevation **1568'**
Log Measured From **KELLY BUSHING**
Drilling Measured From **KELLY BUSHING**

Elevation
K.B. 1573'
D.F. N/A
G.L. 1568'

Date **2/22/2019**

Run Number **ONE**

Type Log **CNL/CDL**

Depth Driller **4083'**

Depth Logger **4085'**

Bottom Logged Interval **4084'**

Top Logged Interval **300'**

Type Fluid In Hole **CHEMICAL**

Salinity, PPM CL **6000**

Density **9.3**

Level **FULL**

Max. Rec. Temp. F **117**

Operating Rig Time **2 HOURS**

Equipment -- Location **P-24 HAYS**

Recorded By **IAN MABB**

Witnessed By **KEITH REAVIS**

Borehole Record

Casing Record

Run No.

Bit

From

To

Size

Wgt.

From

To

ONE 12.25" 0' 338' 8.625 23# 00' 338'

TWO 7.875" 338' 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.

PRETTY PRAIRE, KS.
NORTH WEST SIDE OF TOWN, EAST 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

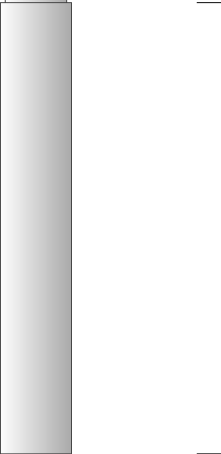
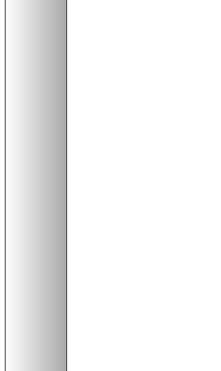
Engineer: **IAN MABB**
Operator:
Operator:
Operator:

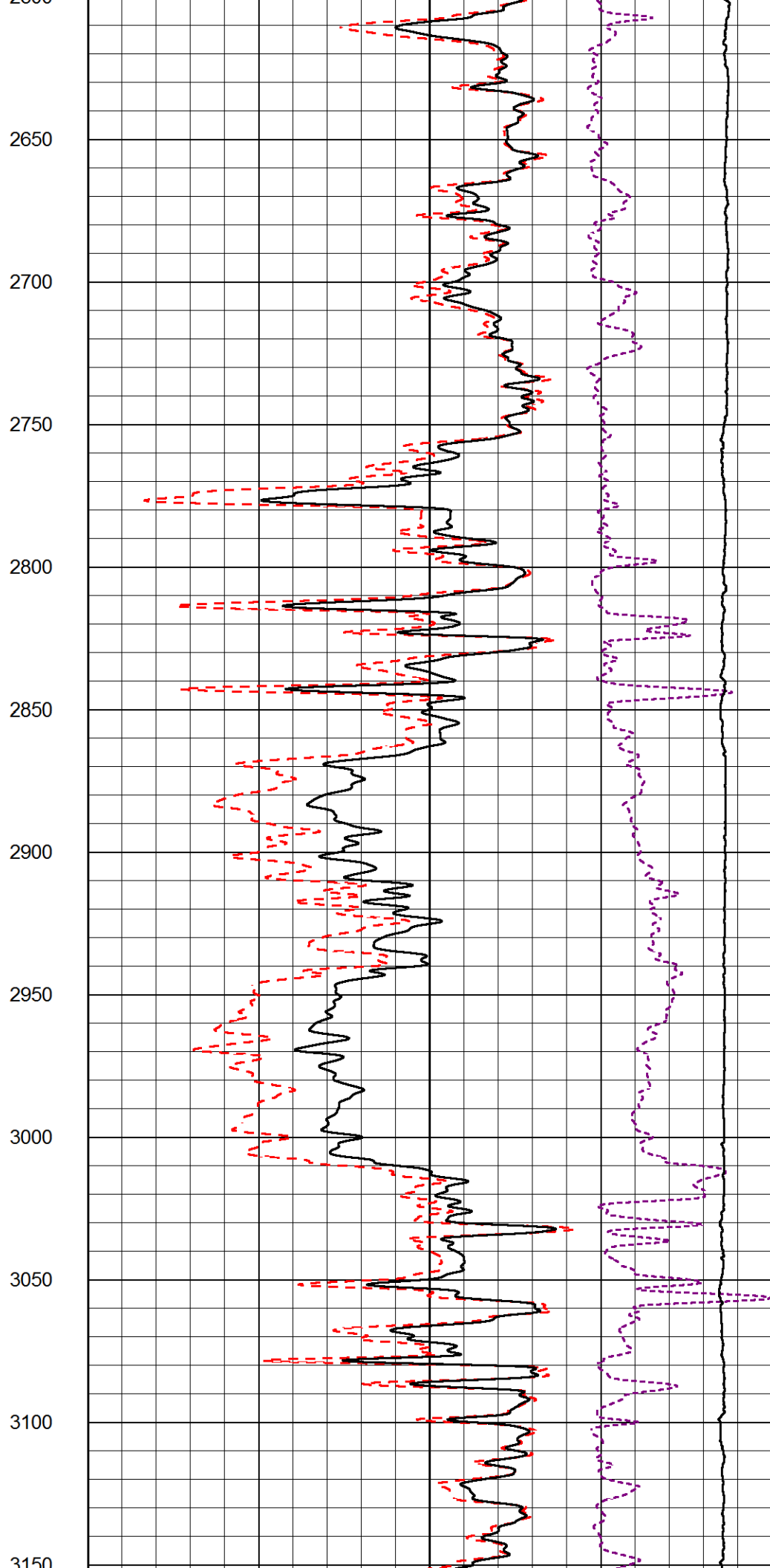
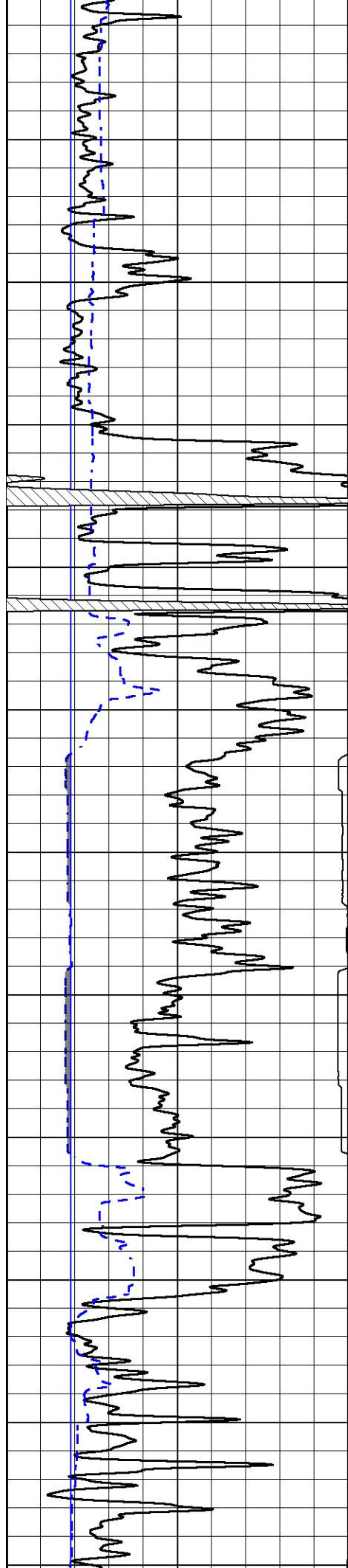
This Log Record Was Witnessed By

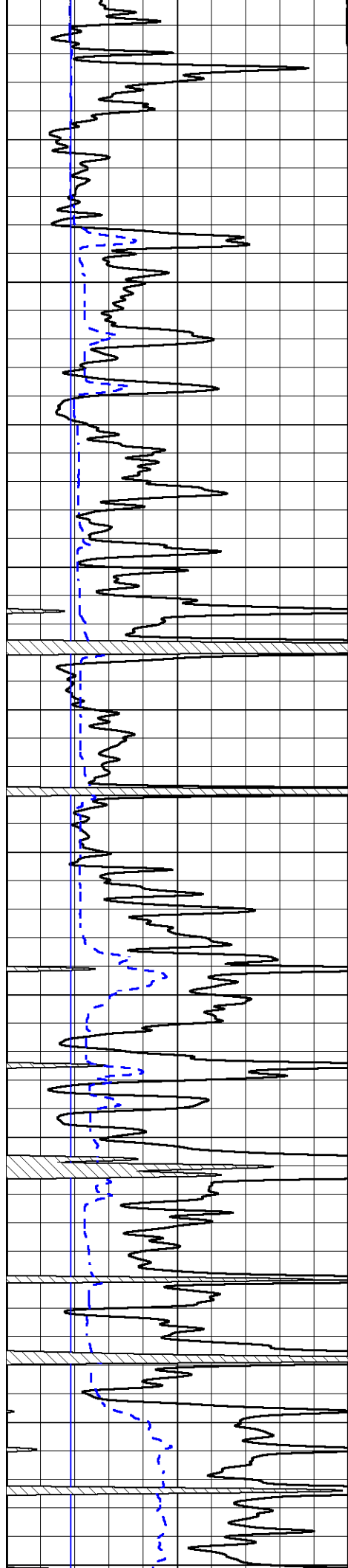
Primary Witness: **KEITH REAVIS**
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

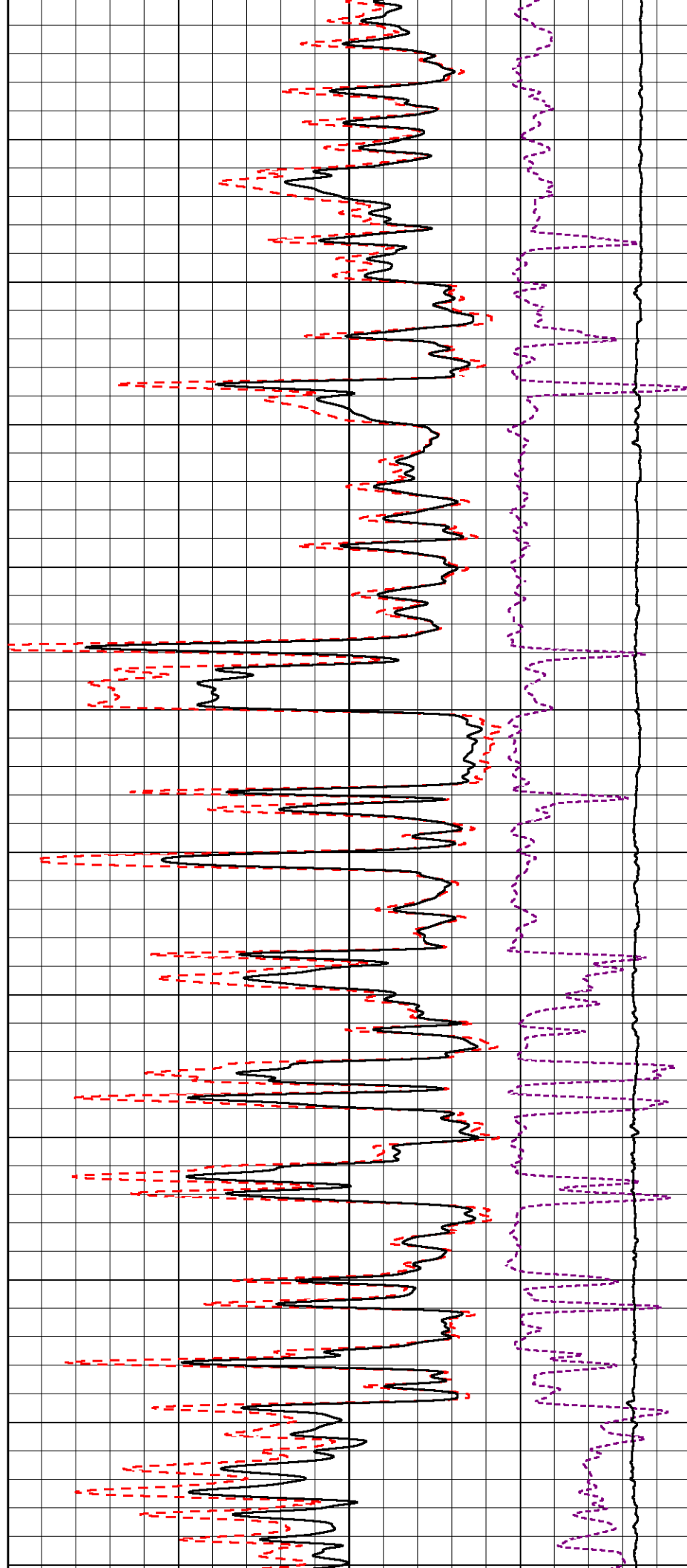
M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	218	-2
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
3	0	0	5.5	0	4085	117	7.875

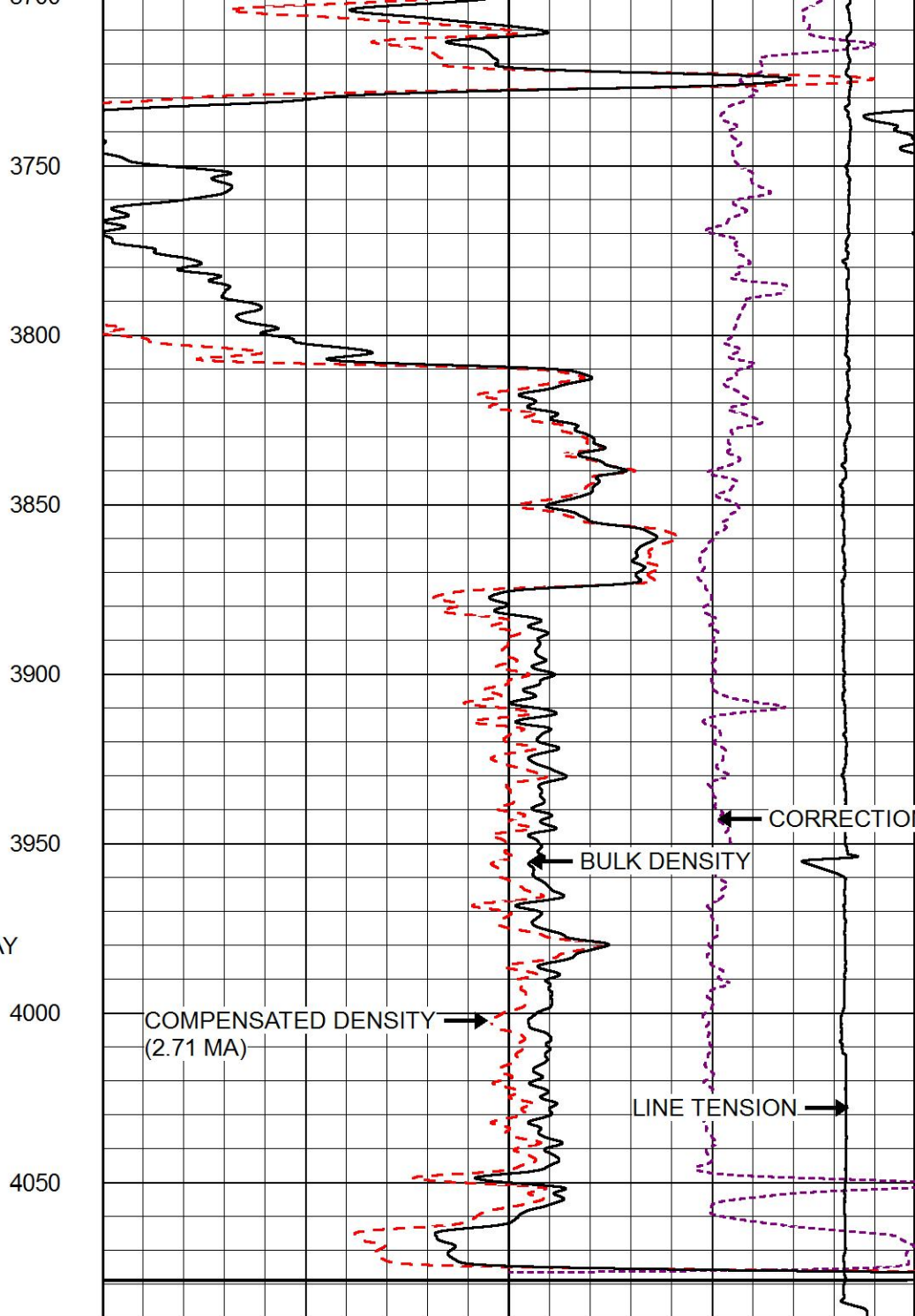
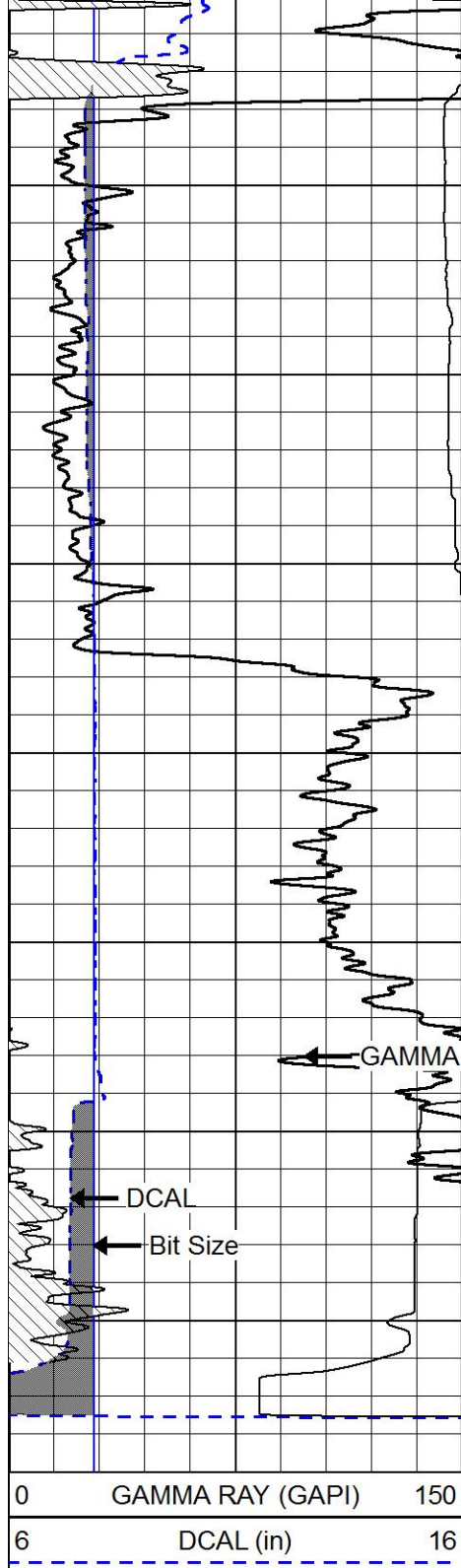
Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	33.00		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	29.90 29.15		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	20.85 20.83 20.35		CDL-M&W (126-186)	8.50	4.00	250.00
RLL3F RLL3	15.80 15.80					
CILD	8.00		DIL-PSI HIGH TEMP (967 (HT))	18.50	3.50	220.00





3150
3200
3250
3300
3350
3400
3450
3500
3550
3600
3650
3700



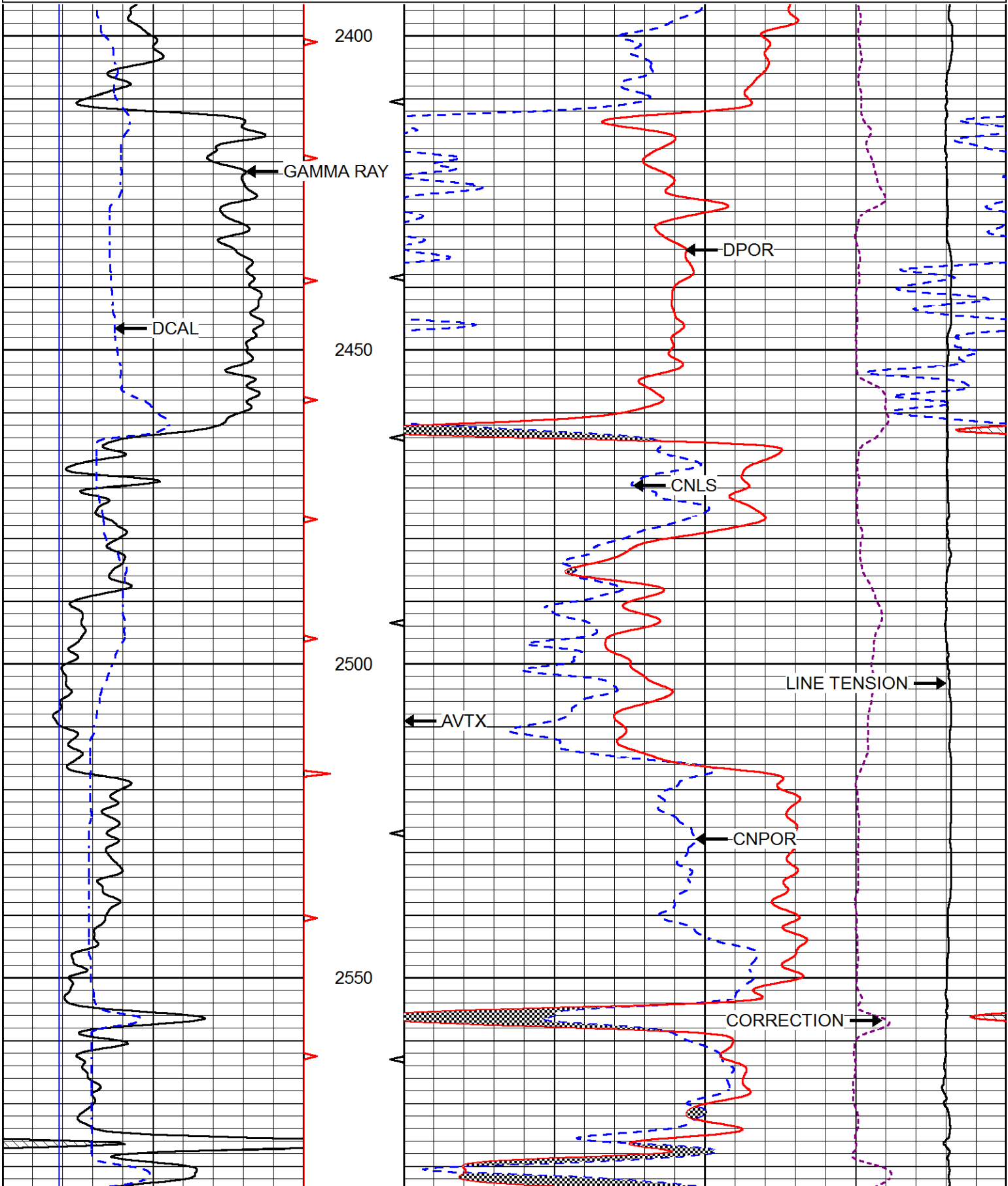


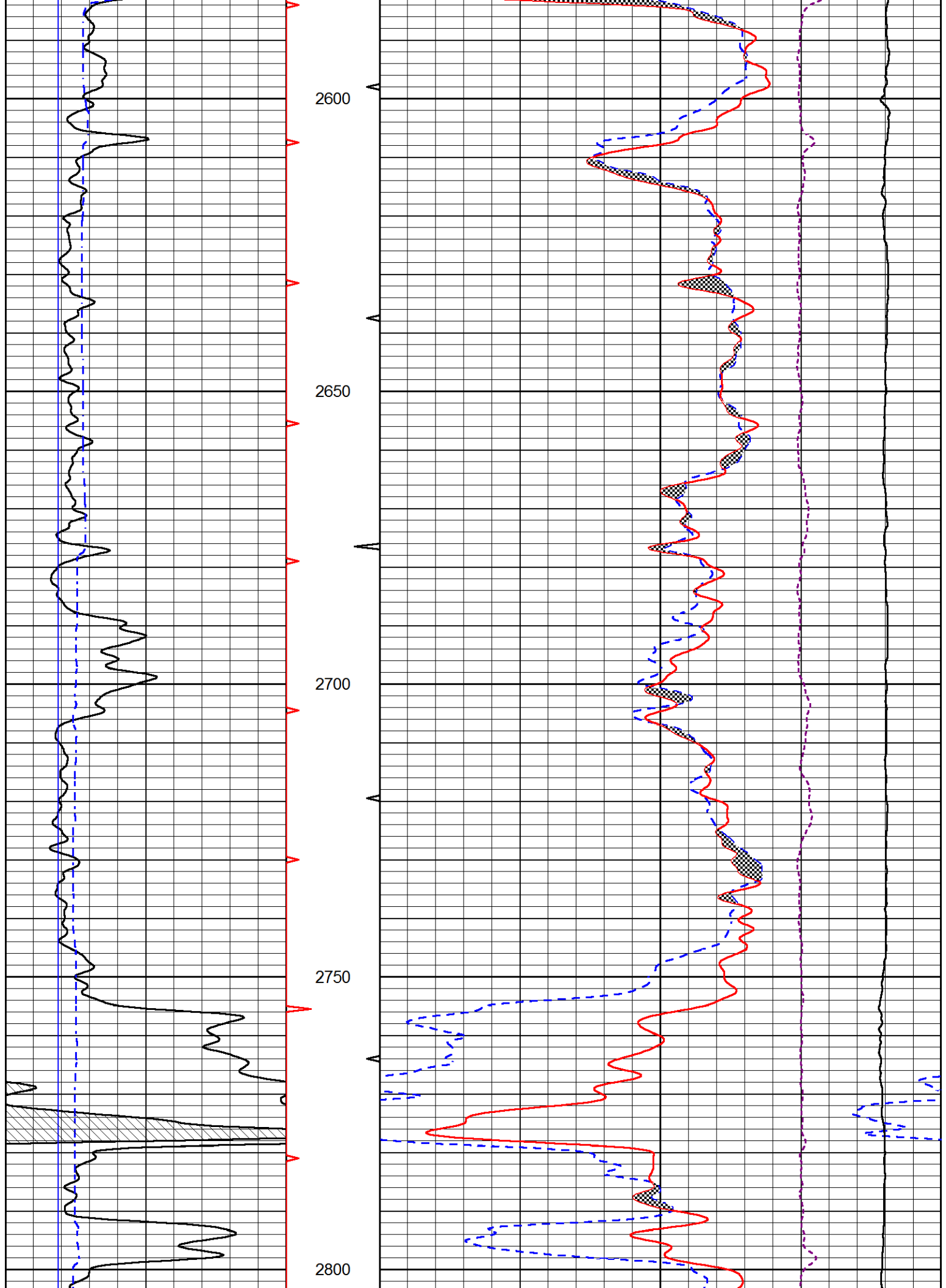
30	(pu)	-10
2	BULK DENSITY (g/cc)	3
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25

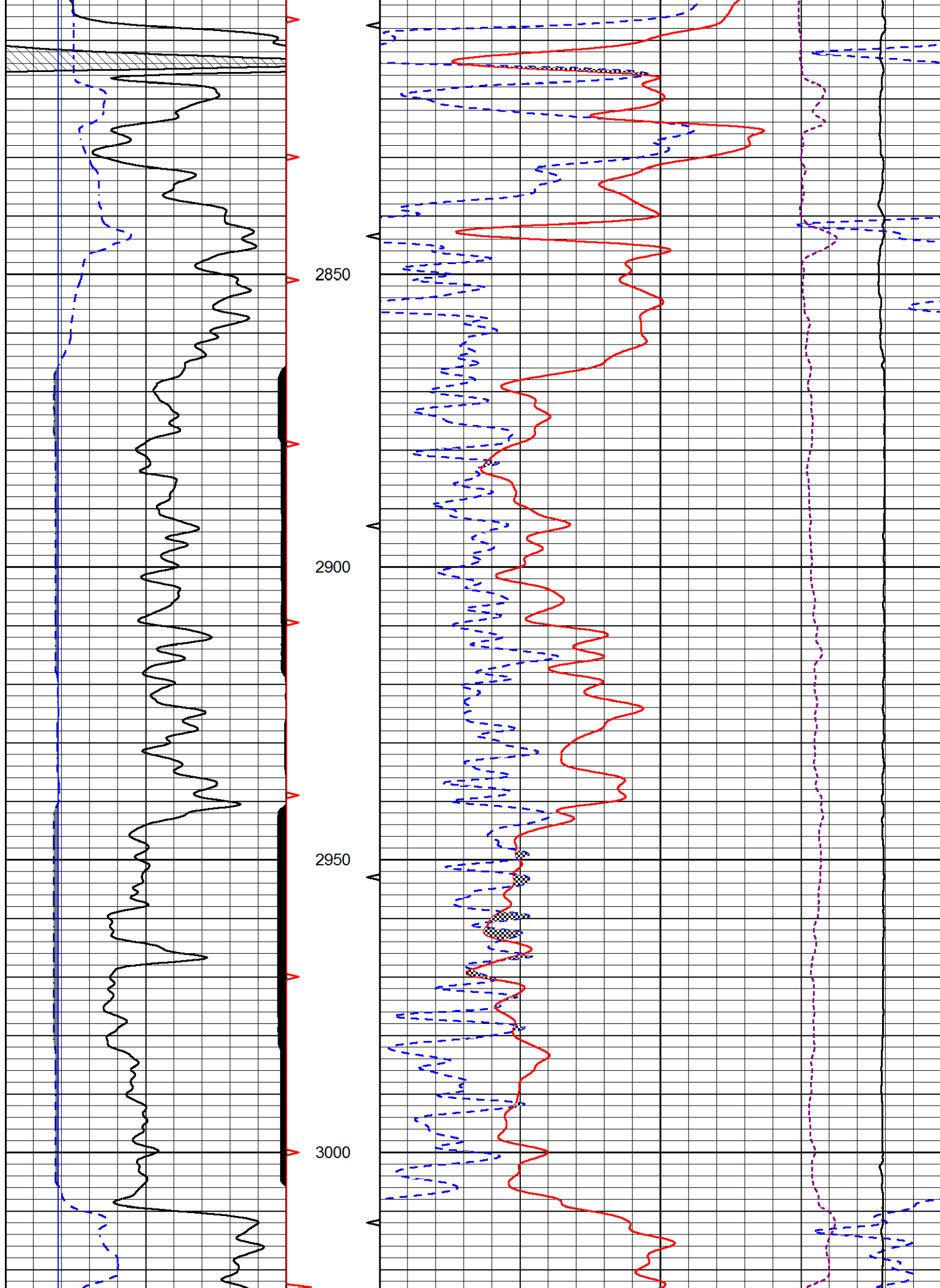


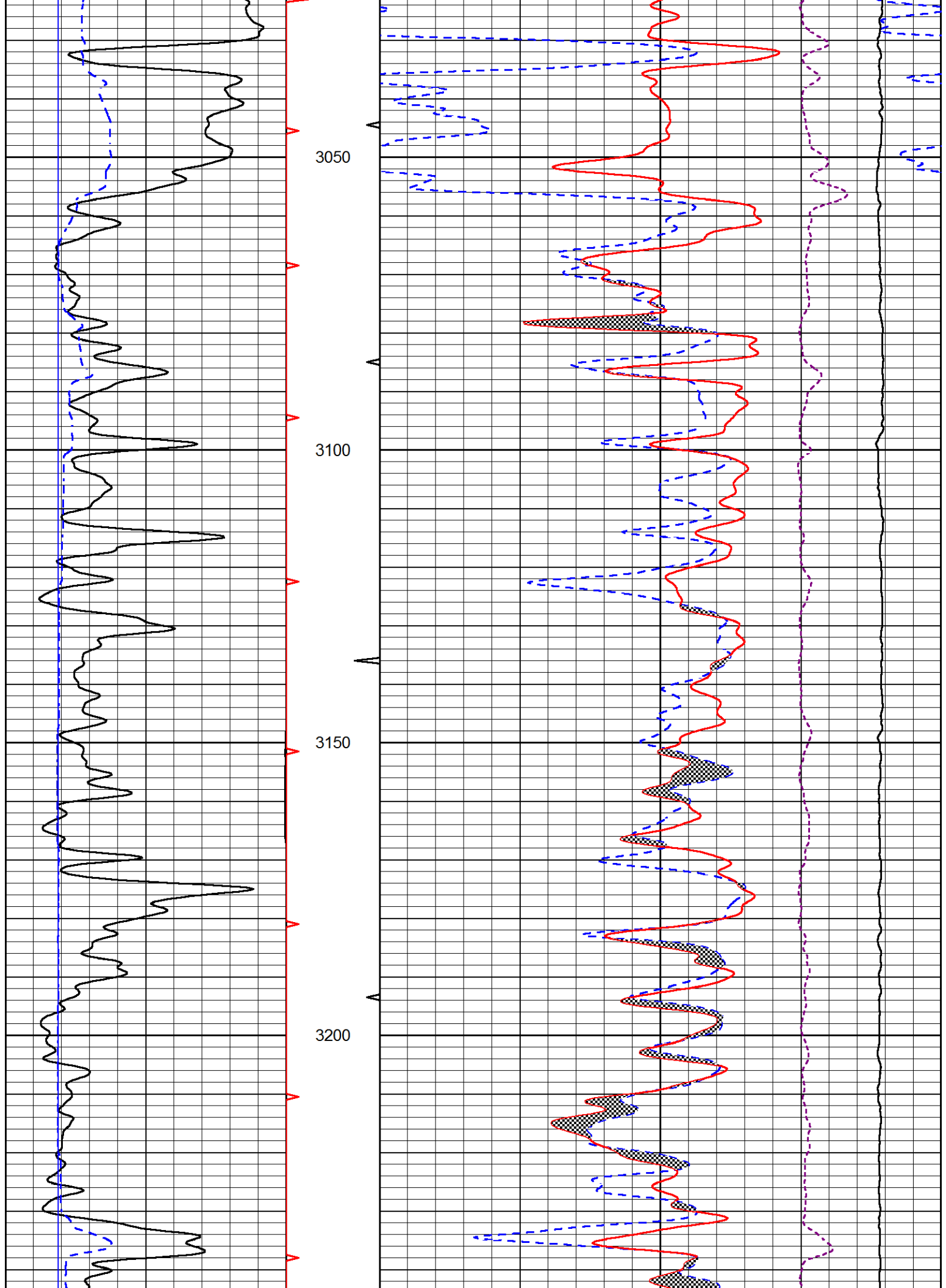
MAIN PASS

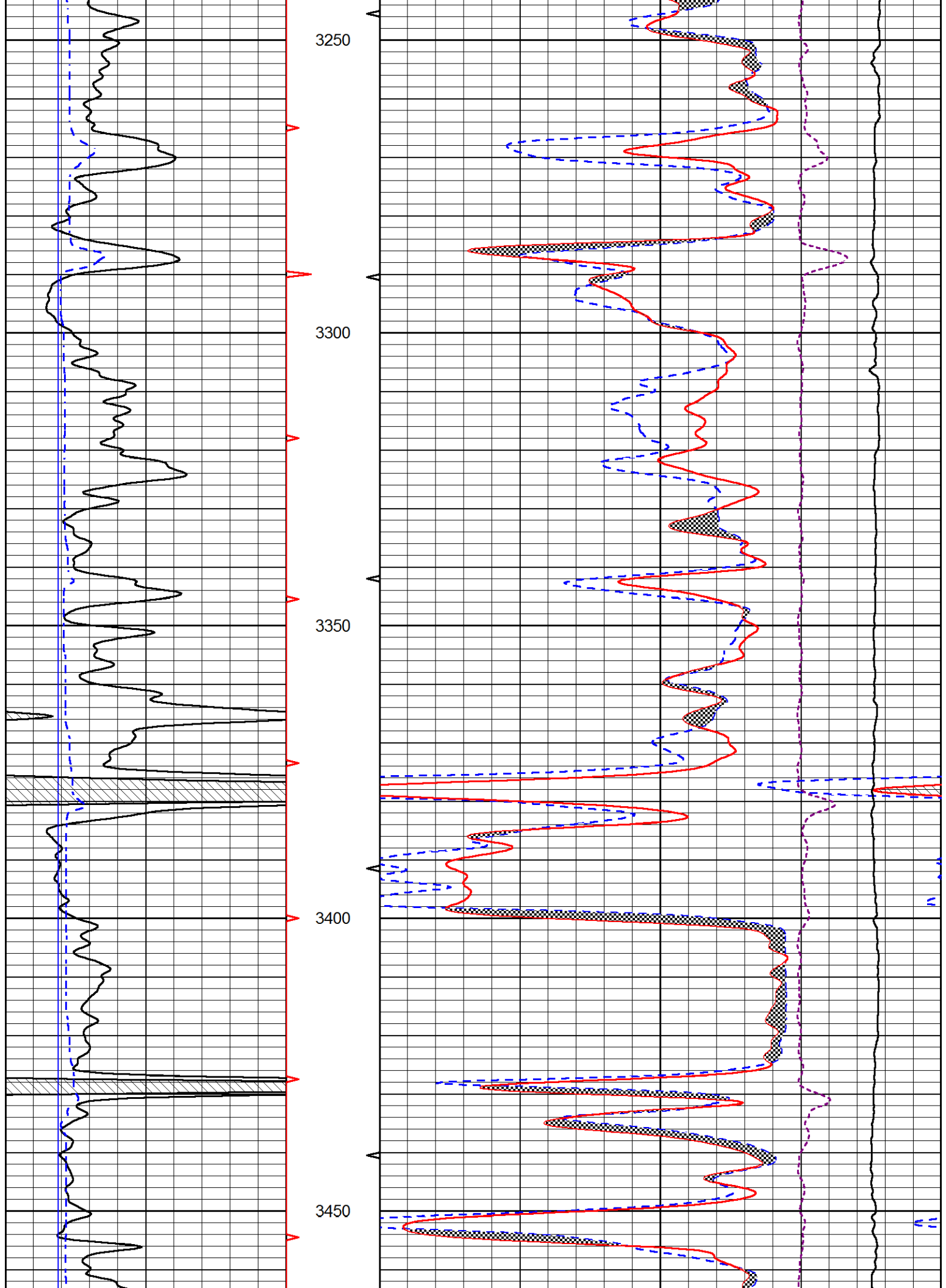
0	GAMMA RAY (GAPI)	150	30	CNLS (pu)	-10
6	DCAL (in)	16	30	DPOR (pu)	-10
			10000	LINE TENSION (lb)	0
				-0.75	CORRECTION (g/cc) 0.75

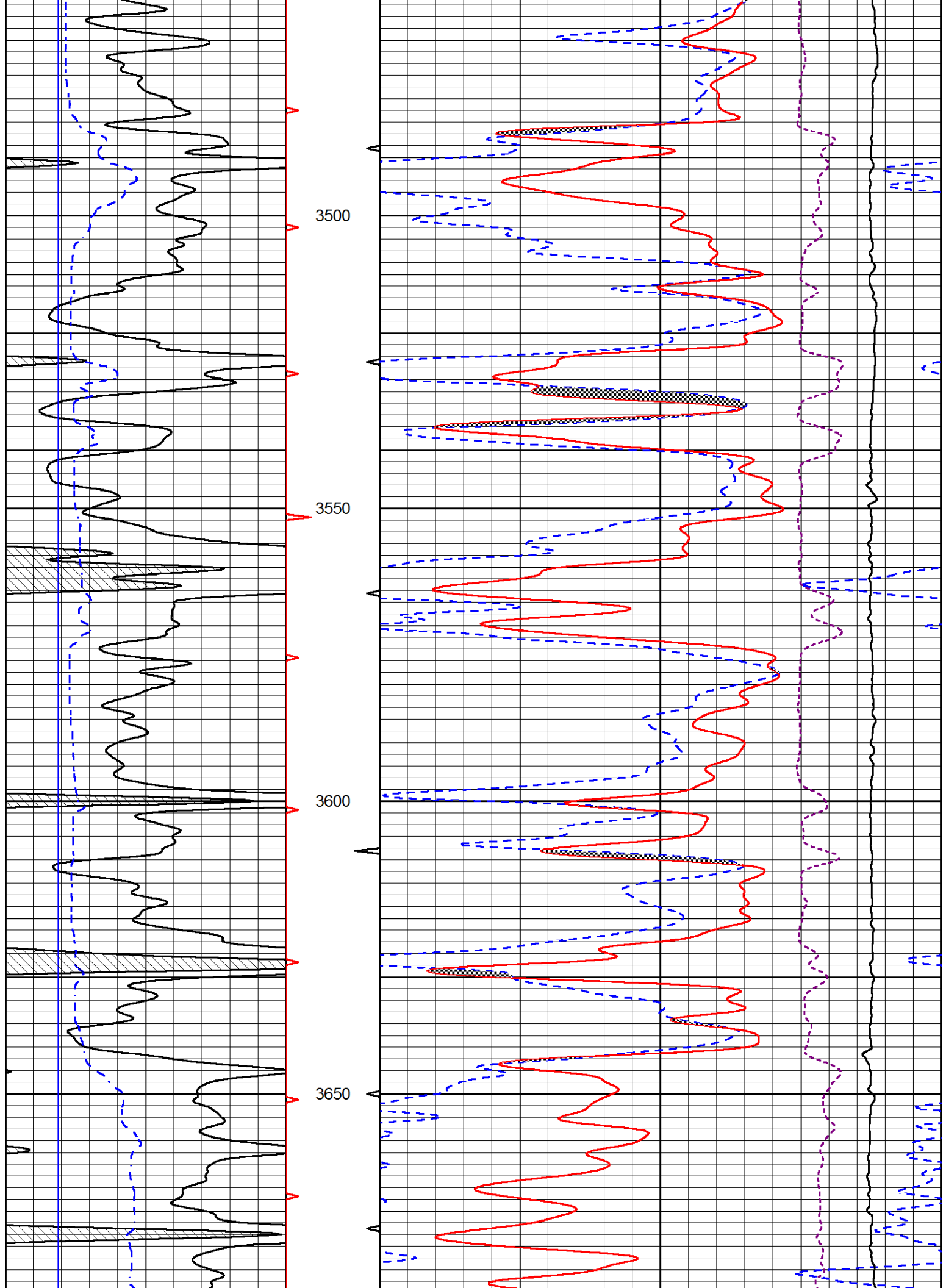


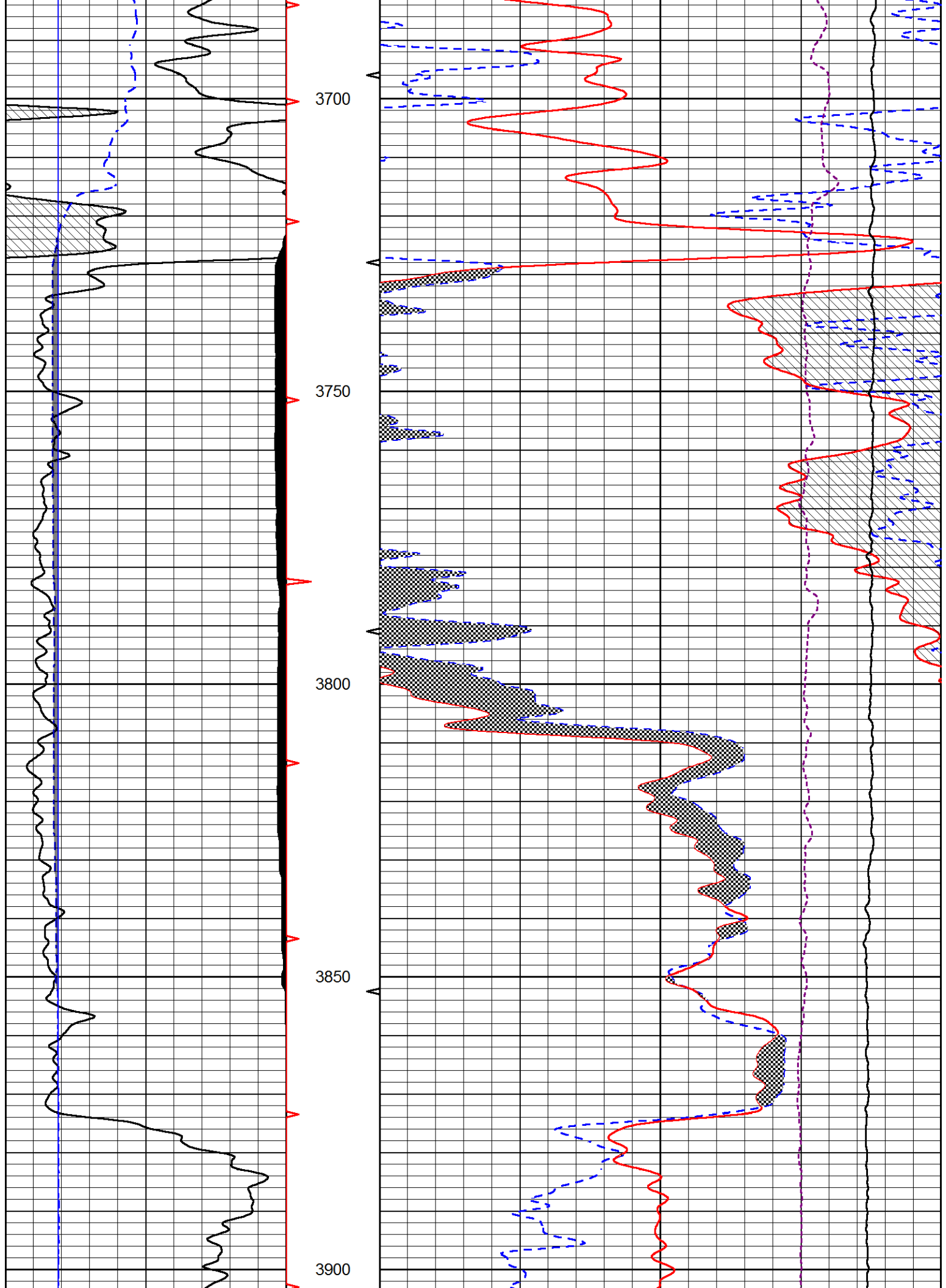


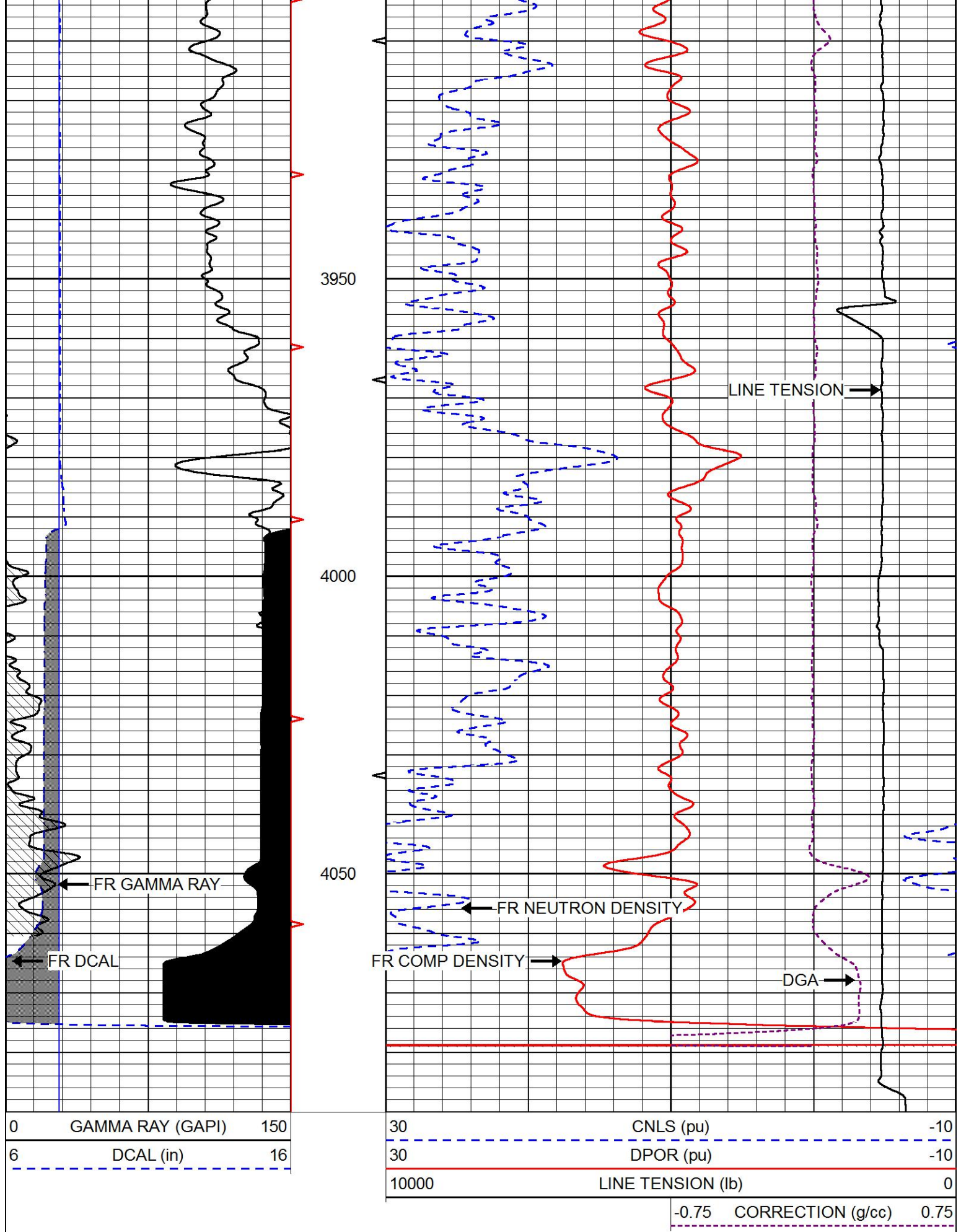








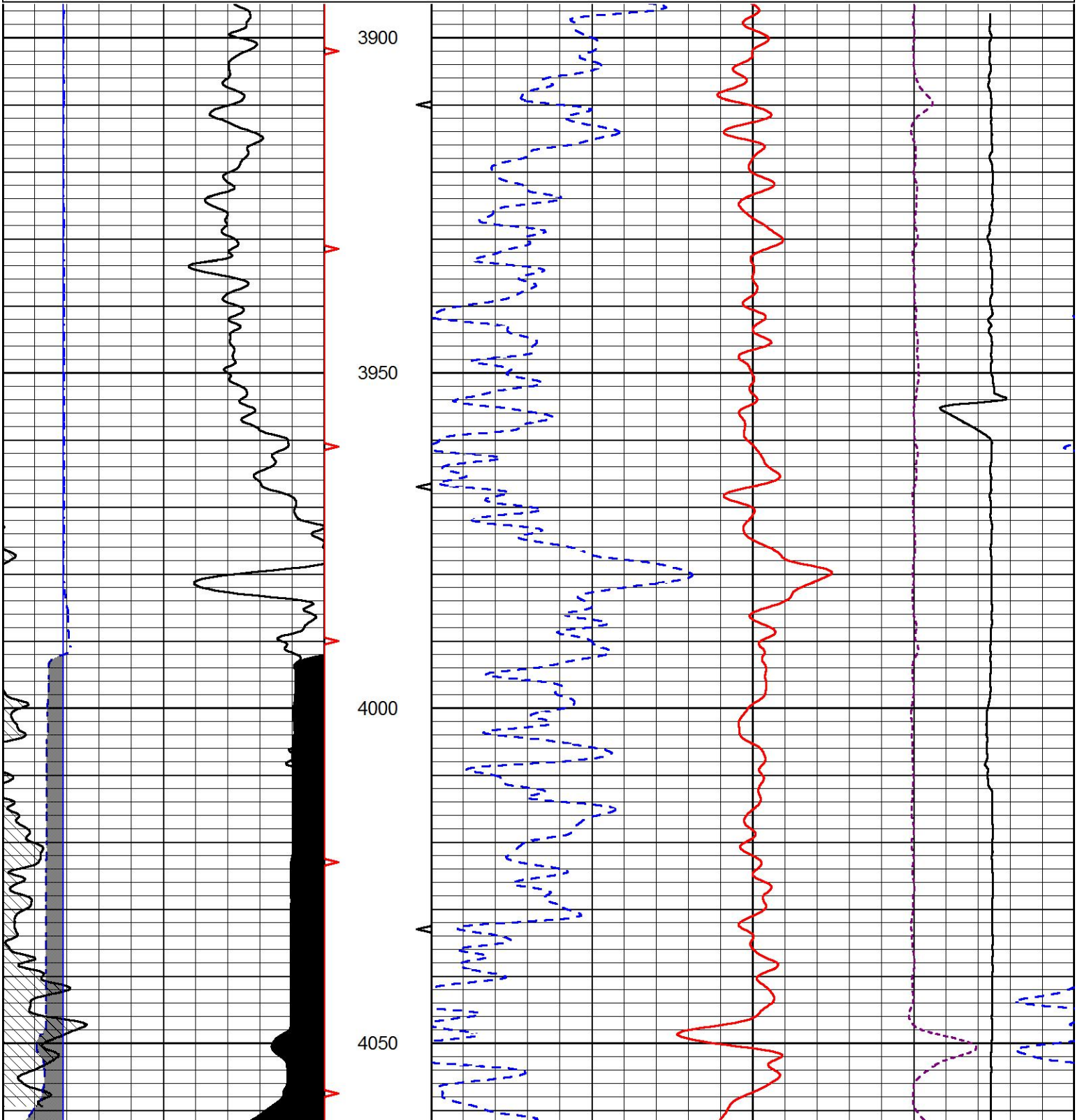


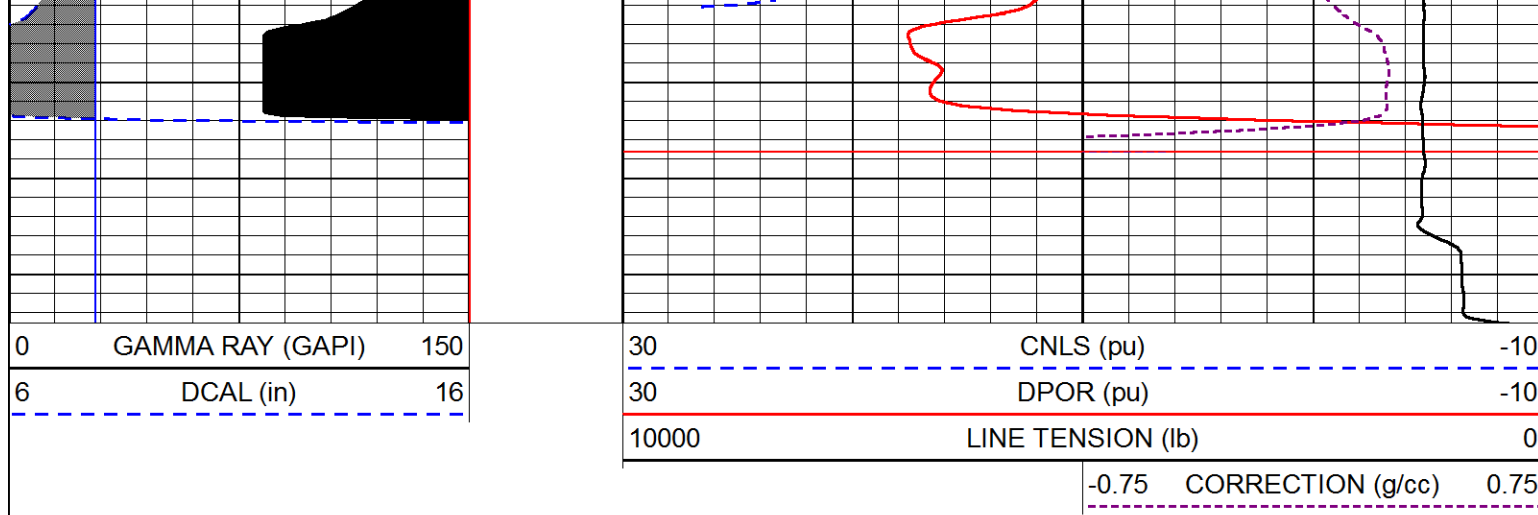


Database File enerstar_graber_2.db
 Dataset Pathname stack/pass2.1
 Presentation Format cndlspec
 Dataset Creation Fri Feb 22 05:20:31 2019
 Charted by Depth in Feet scaled 1:240

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

30	CNLS (pu)	-10
30	DPOR (pu)	-10
10000	LINE TENSION (lb)	0
-0.75	CORRECTION (g/cc)	0.75





Calibration Report

Database File	enerstar_graber_2.db
Dataset Pathname	stack/pass3.1
Dataset Creation	Fri Feb 22 05:19:39 2019

Dual Induction Calibration Report							
Serial-Model:				967 (HT)-PSI HIGH TEMP			
Calibration Performed:				Sun Oct 07 19:24:22 2018			
Loop:	Readings		References			Results	
	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

Compensated Density Calibration Report

Serial-Model:	126-186-M&W
Source / Verifier:	16955B / 2ci
Master Calibration Performed:	Tue Feb 12 14:50:39 2019

Master Calibration					
	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4753.97	6898.87	cps
Aluminum	2.668	g/cc	896.28	4374.48	cps
Spine Angle = 74.73			Density/Spine Ratio = 0.528		
	Size		Reading		
Small Ring	4.00	in	2.58		
Large Ring	14.00	in	1.66		

Compensated Neutron Calibration Report

Serial Number:	207-MW
Tool Model:	M&W
Calibration Performed:	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:	89	
Tool Model:	M&W	
Calibration Performed:	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

 PIONEER Pioneer Energy Services	Company	ENERSTAR RESOURCES O&G,LLC
	Well	GRABER #2
	Field	WILDCAT
	County	RENO
	State	KANSAS