



PIONEER

Pioneer Energy Services

DUAL COMP POROSITY LOG

Company IGWT, INC.
Well BENJAMIN PEEFLY #1
Field PIERCE
County BUTLER State KANSAS

Location: API #: 15-015-24090-00-00

SEC 28 TWP 25S RGE 4E

330' FSL & 560' FWL

DIL/MEL

Permanent Datum GROUND LEVEL Elevation 1341'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1347'
D.F. N/A
G.L. 1341'

Company IGWT, INC.
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Field PIERCE
County BUTLER
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Date 10/12/2017

Run Number ONE

Type Log CNL/CDL

Depth Driller 2672'

Depth Logger 2671'

Bottom Logged Interval 2642'

Top Logged Interval 200'

Type Fluid In Hole CHEMICAL

Salinity, PPM CL 1150

Density 9.3

Level FULL

Max. Rec. Temp. F 103

Operating Rig Time 3 HOURS

Equipment -- Location 91 HAYS

Recorded By D. SCHMIDT

Witnessed By KENT HUPP

Witnessed By DAN JOHNSON

Borehole Record

Casing Record

Run No. Bit From To Size Wgt. From To

ONE 12.25" 0' 207' 8.625" 23# 0' 207'

TWO 7.875" 207' 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.

POTWIN,
6 1/2 SOUTH TO 10 RD, 1 1/4 EAST,
NORTH INTO

Log Measured From: KELLY BUSHING 6 Ft. Above Permanent Datum

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

Your Pioneer Energy Services Crew

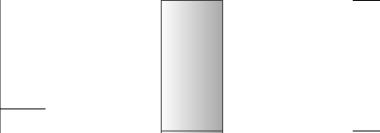
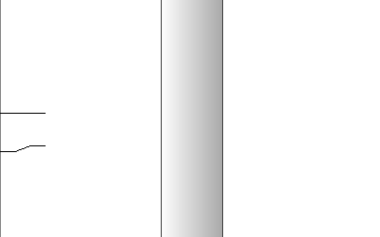
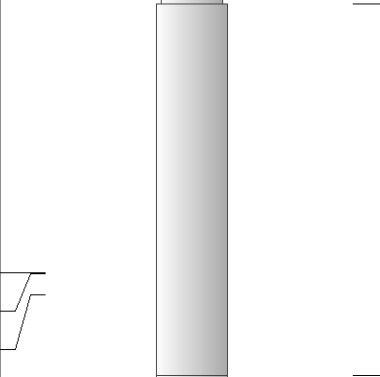
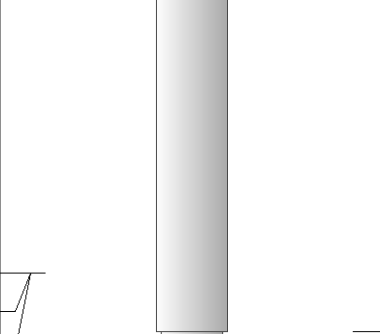
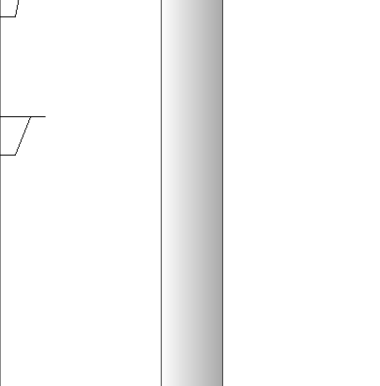
Engineer: D. SCHMIDT
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: KENT HUPP
Secondary Witness: DAN JOHNSON
Secondary Witness:
Secondary Witness:

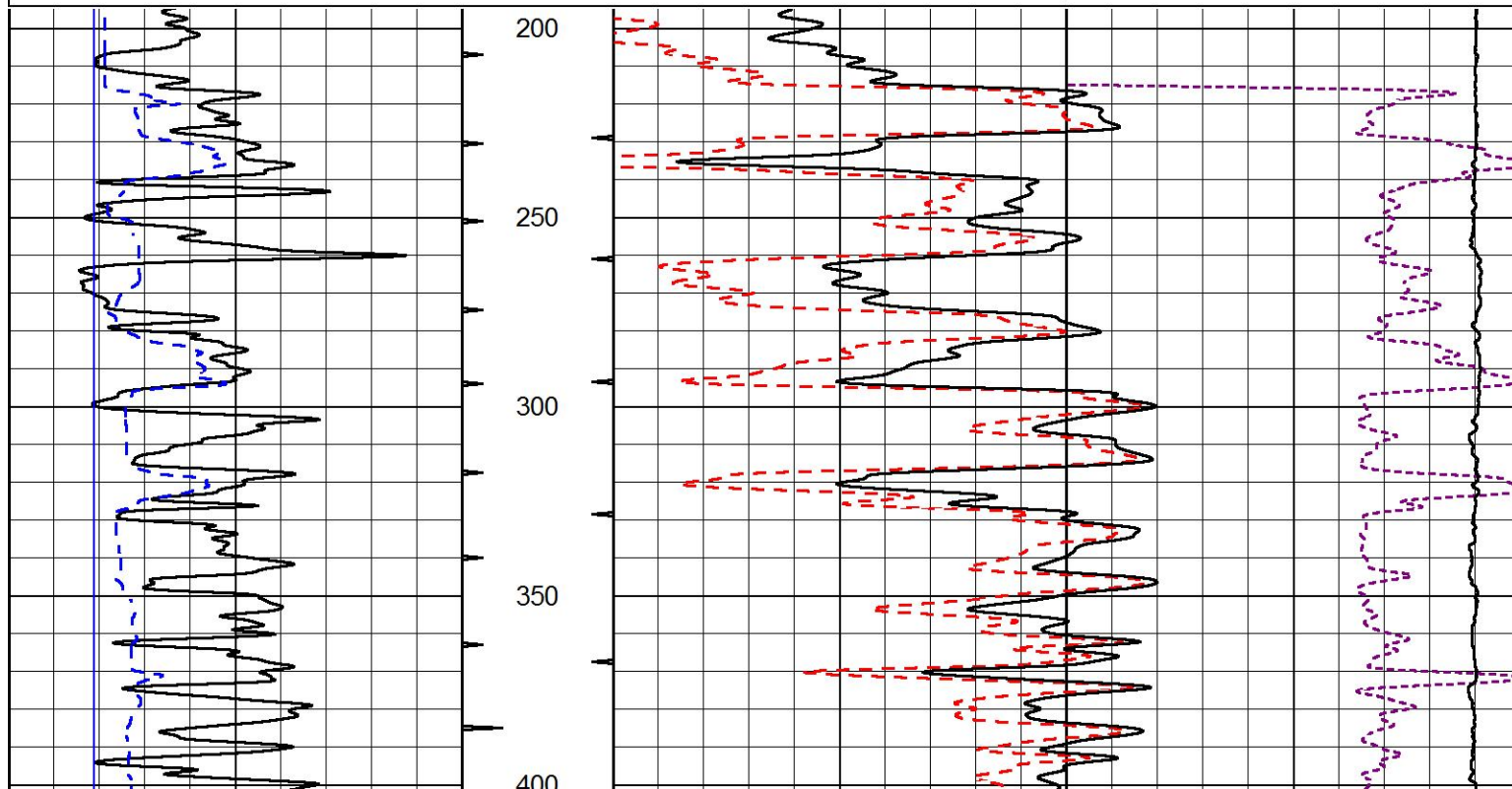
Top - Bottom

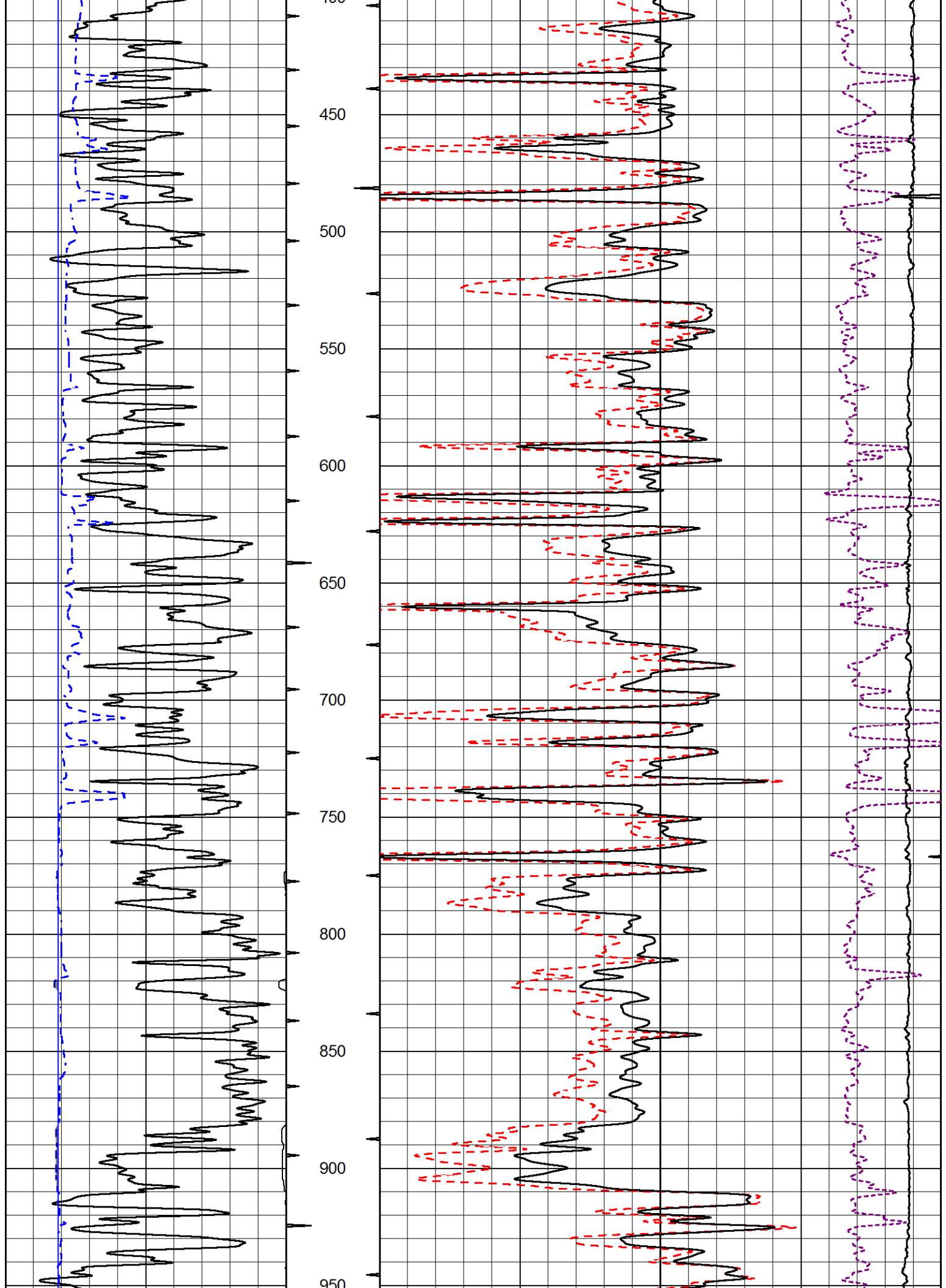
M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	-257	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	80	0	5.5	0	2671	103	7.875

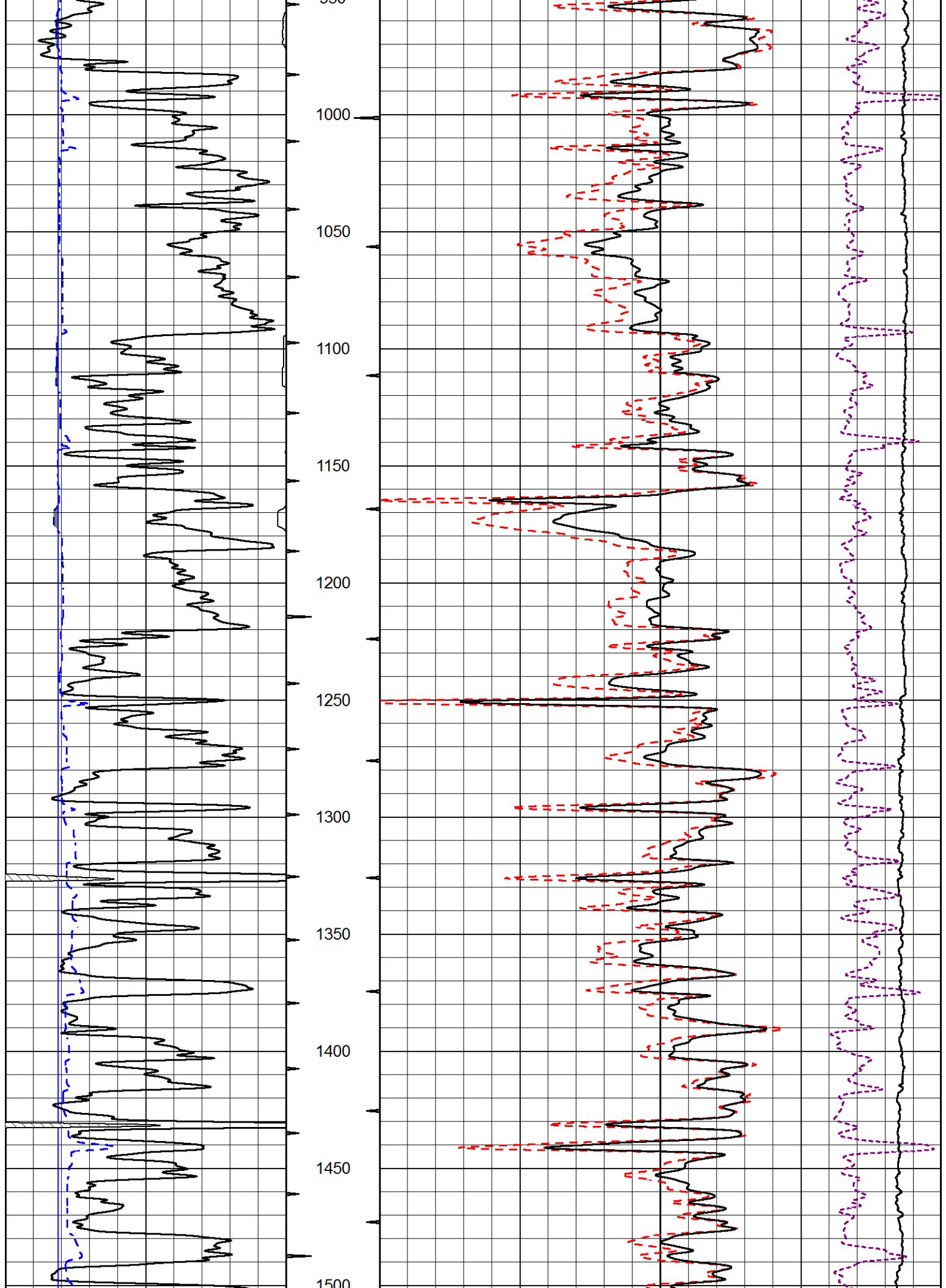
Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (90-1031)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					

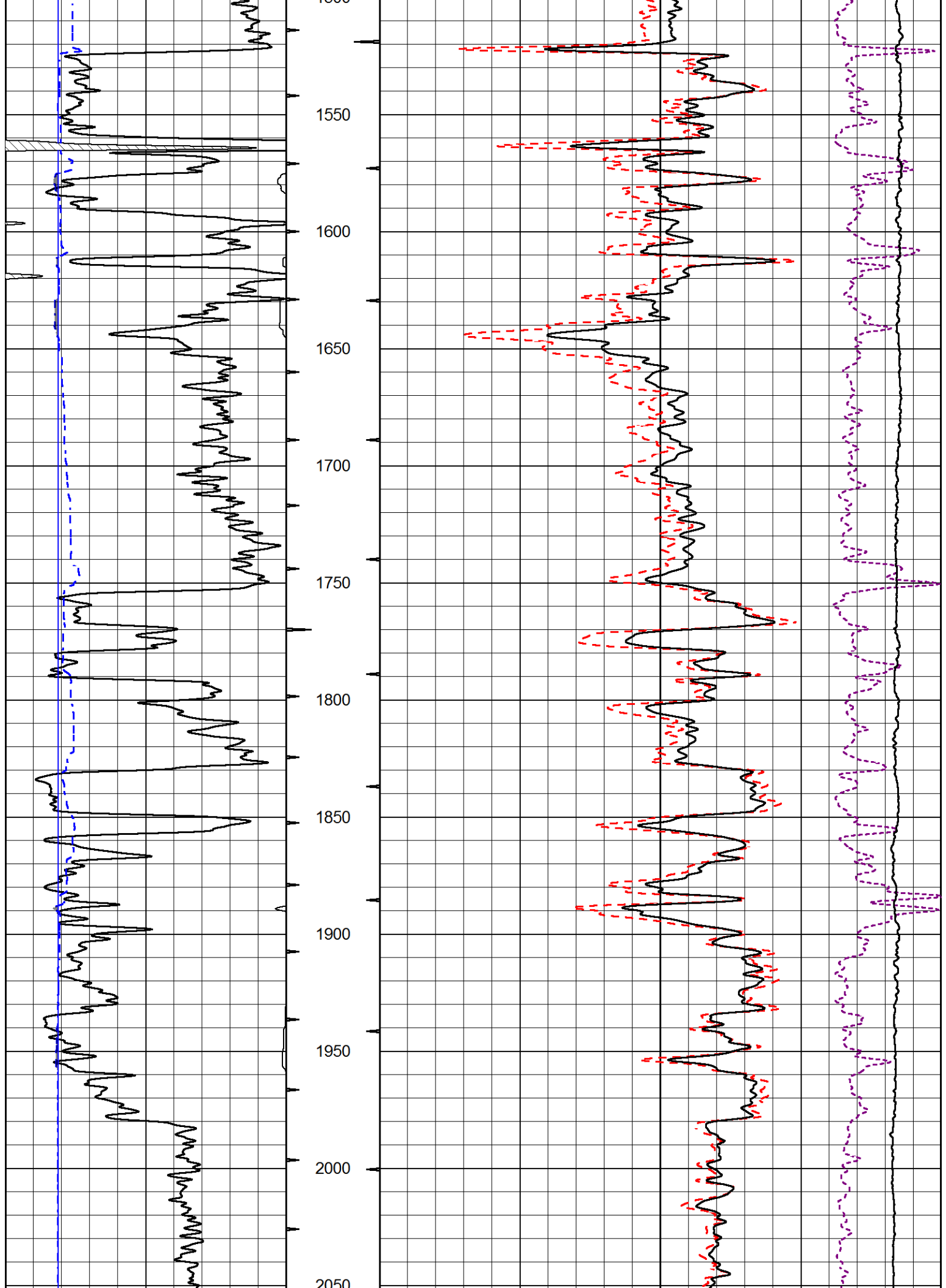
			DIL-M&W (PSI 91)	18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					
Dataset: igwt_benjamin peffly_1.db: field/well/STKML/pass3.3 Total length: 43.08 ft Total weight: 685.00 lb O.D.: 4.00 in						

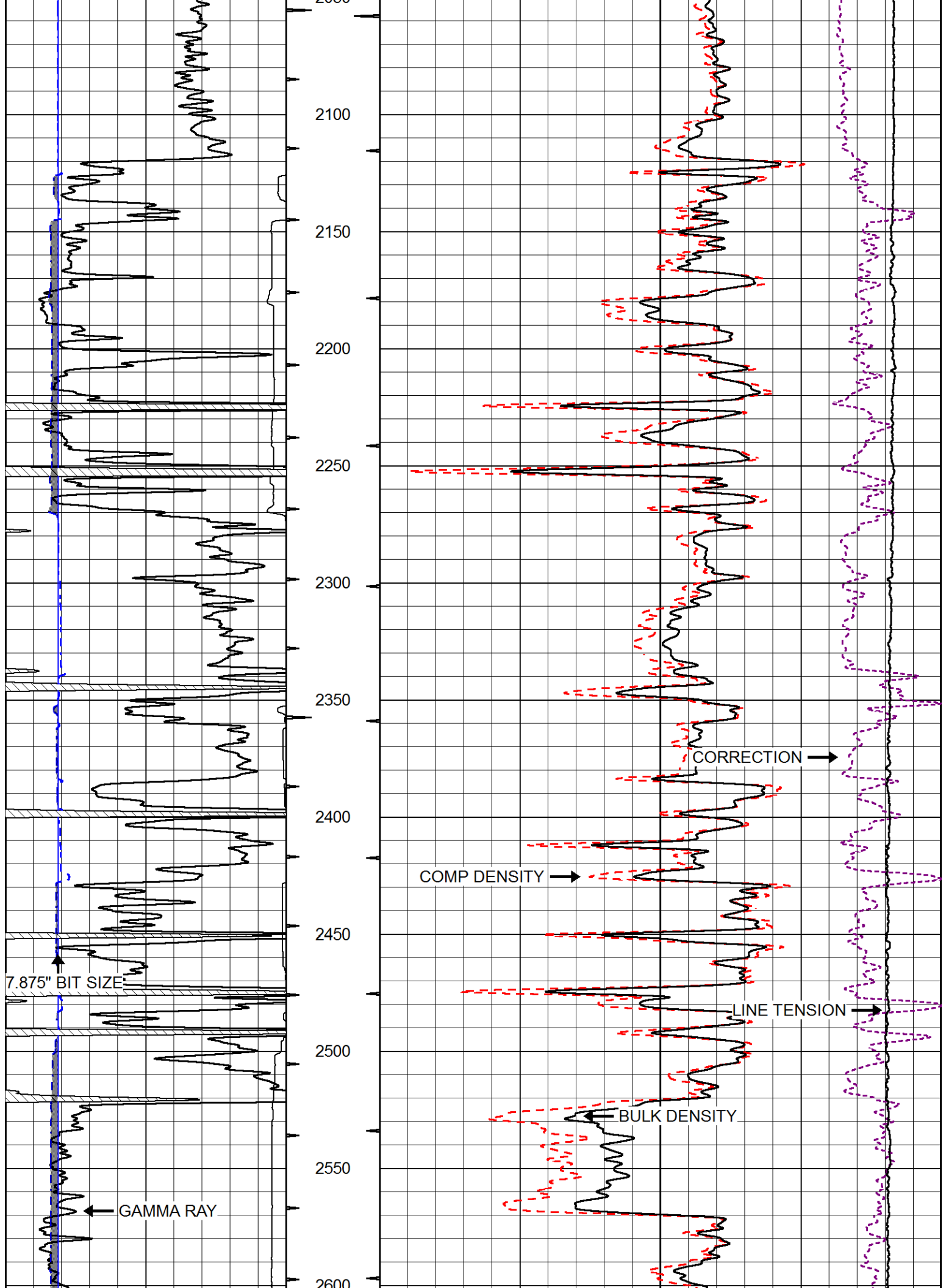
			MAIN PASS			
Database File igwt_benjamin peffly_1.db Dataset Pathname STKML/pass3.1 Presentation Format cdl Dataset Creation Thu Oct 12 07:03:05 2017 Charted by Depth in Feet scaled 1:600						
0	Gamma Ray (GAPI)	150	Compensated Density (2.71 MA)			
6	Caliper (in)	16				
			30	(pu)	-10	
			2	Bulk Density (g/cc)	3	
			15000	Line Tension (lb)	0	
				-0.25	Correction (g/cc)	0.25

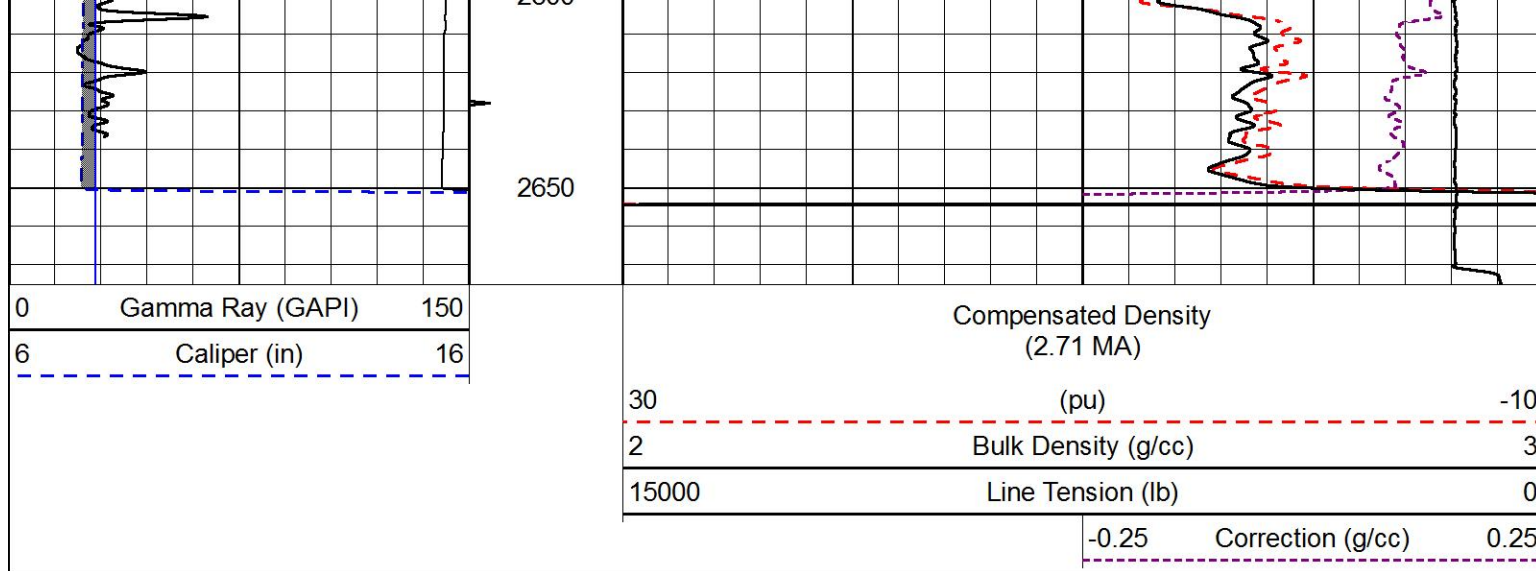






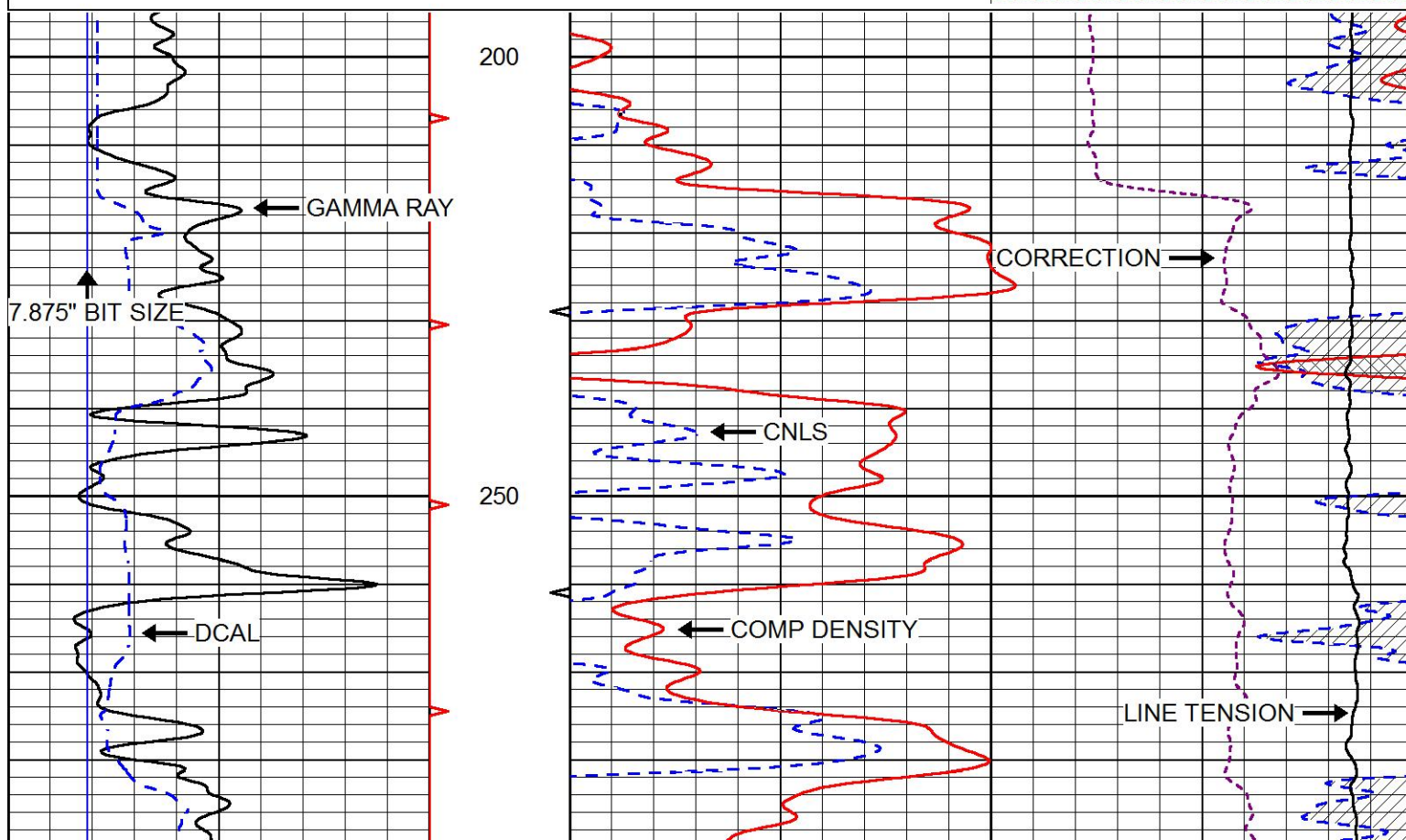
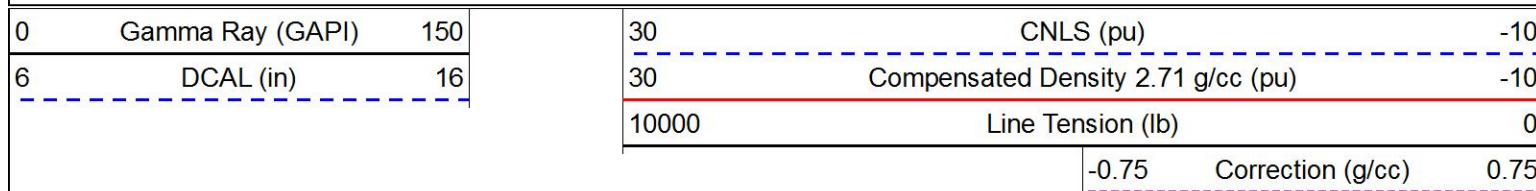


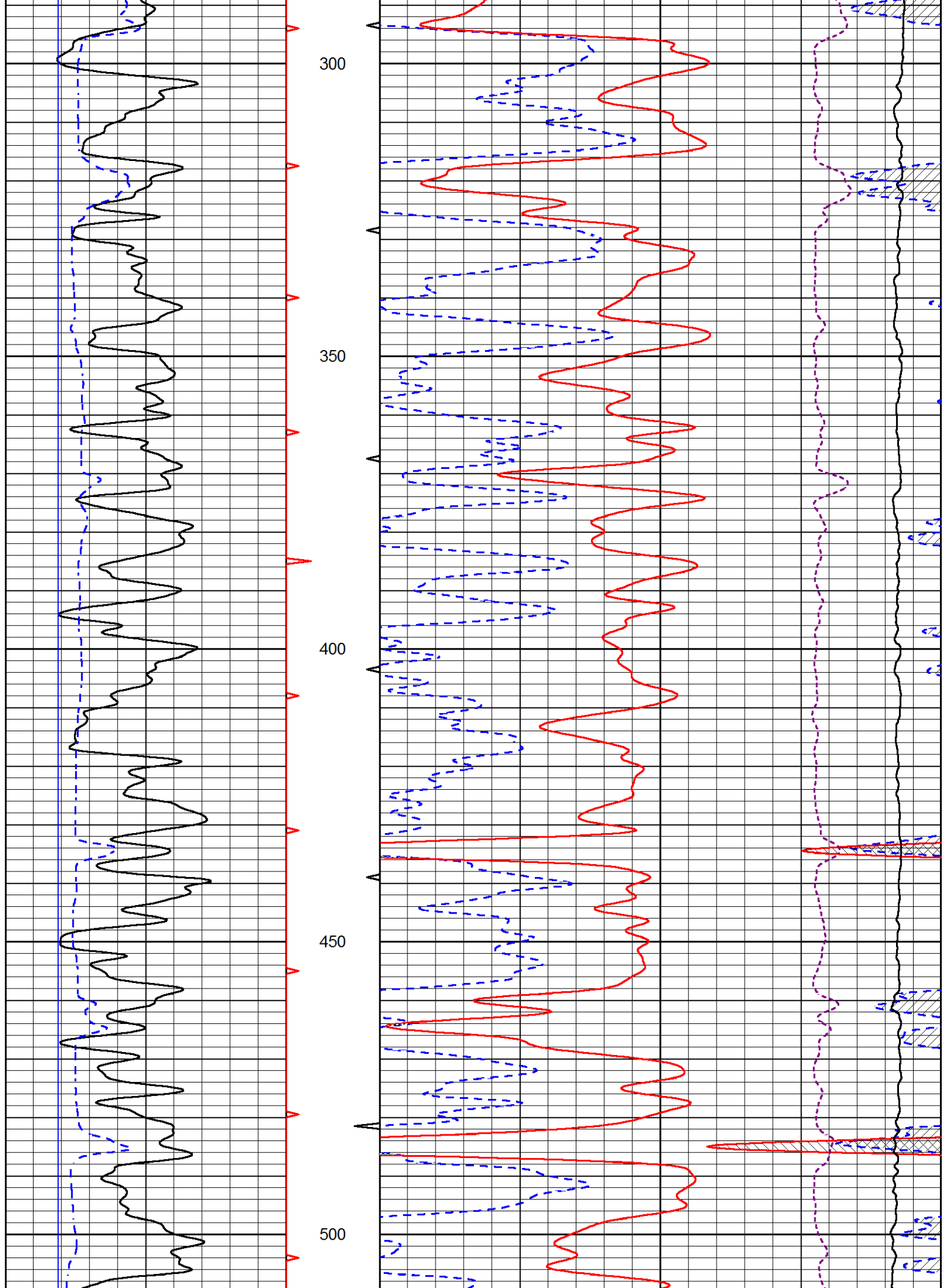


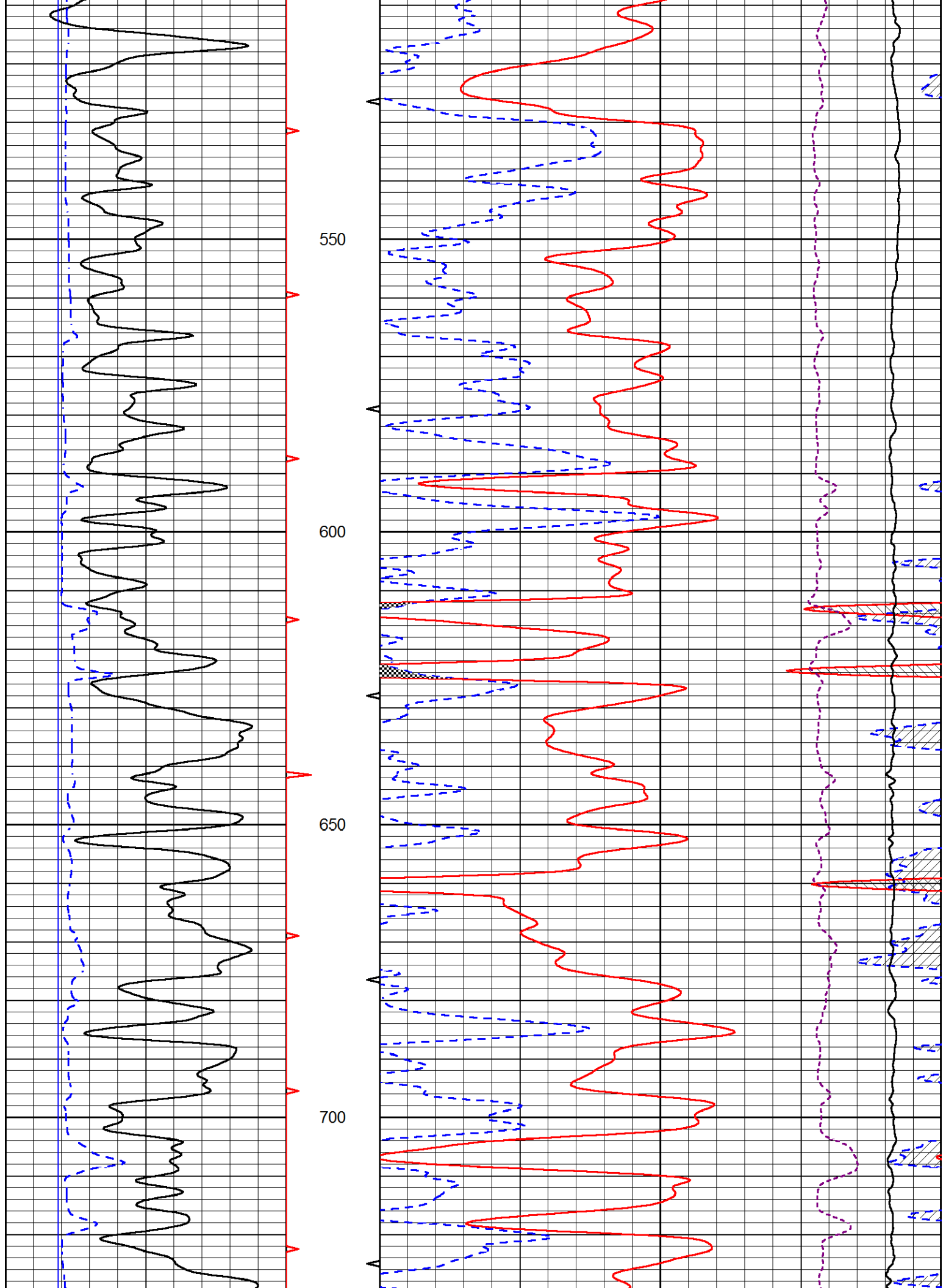


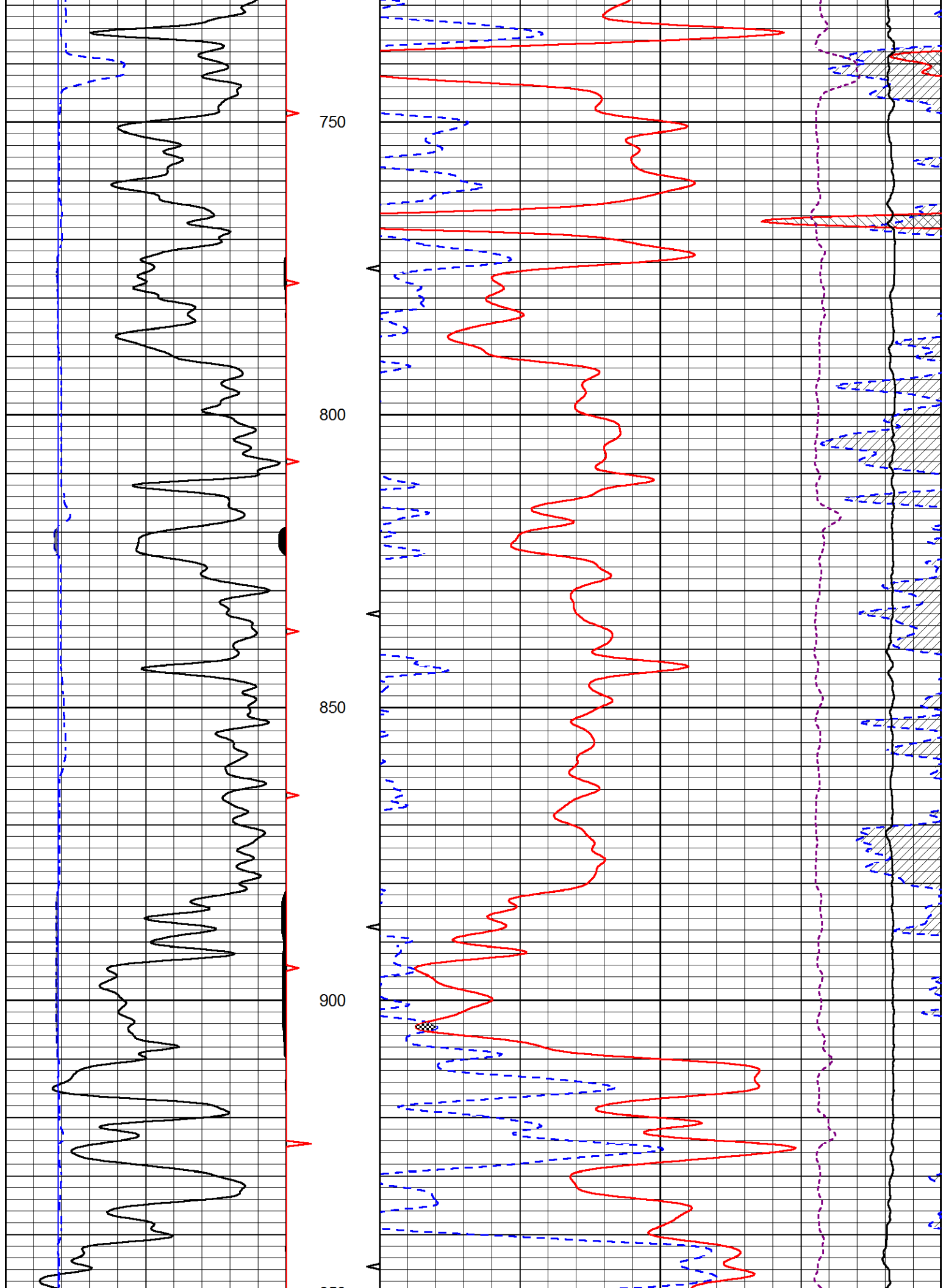
MAIN PASS

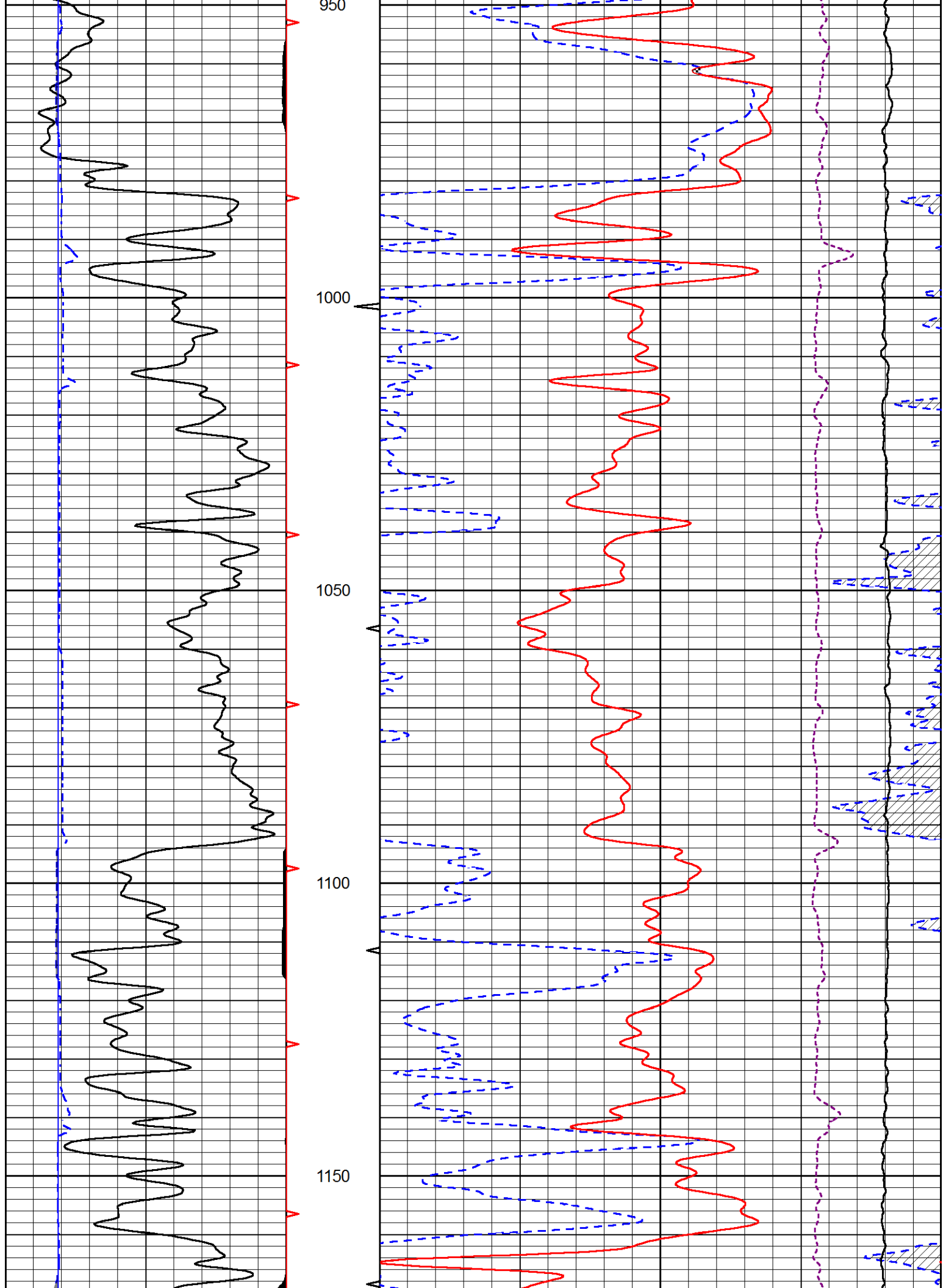
Database File igwt_benjamin peffly_1.db
Dataset Pathname STKML/pass3.1
Presentation Format cndlspec
Dataset Creation Thu Oct 12 07:03:05 2017
Charted by Depth in Feet scaled 1:240

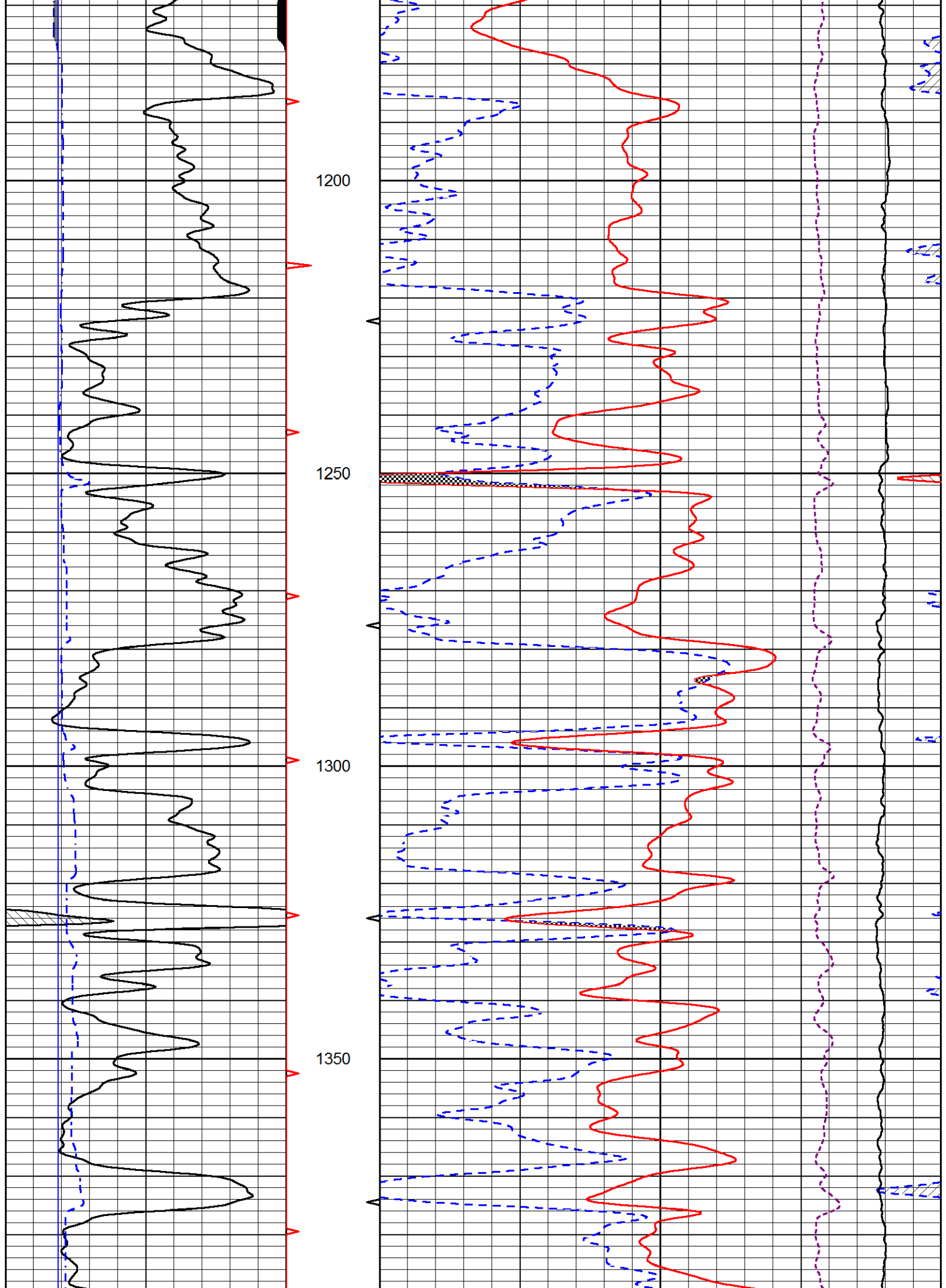


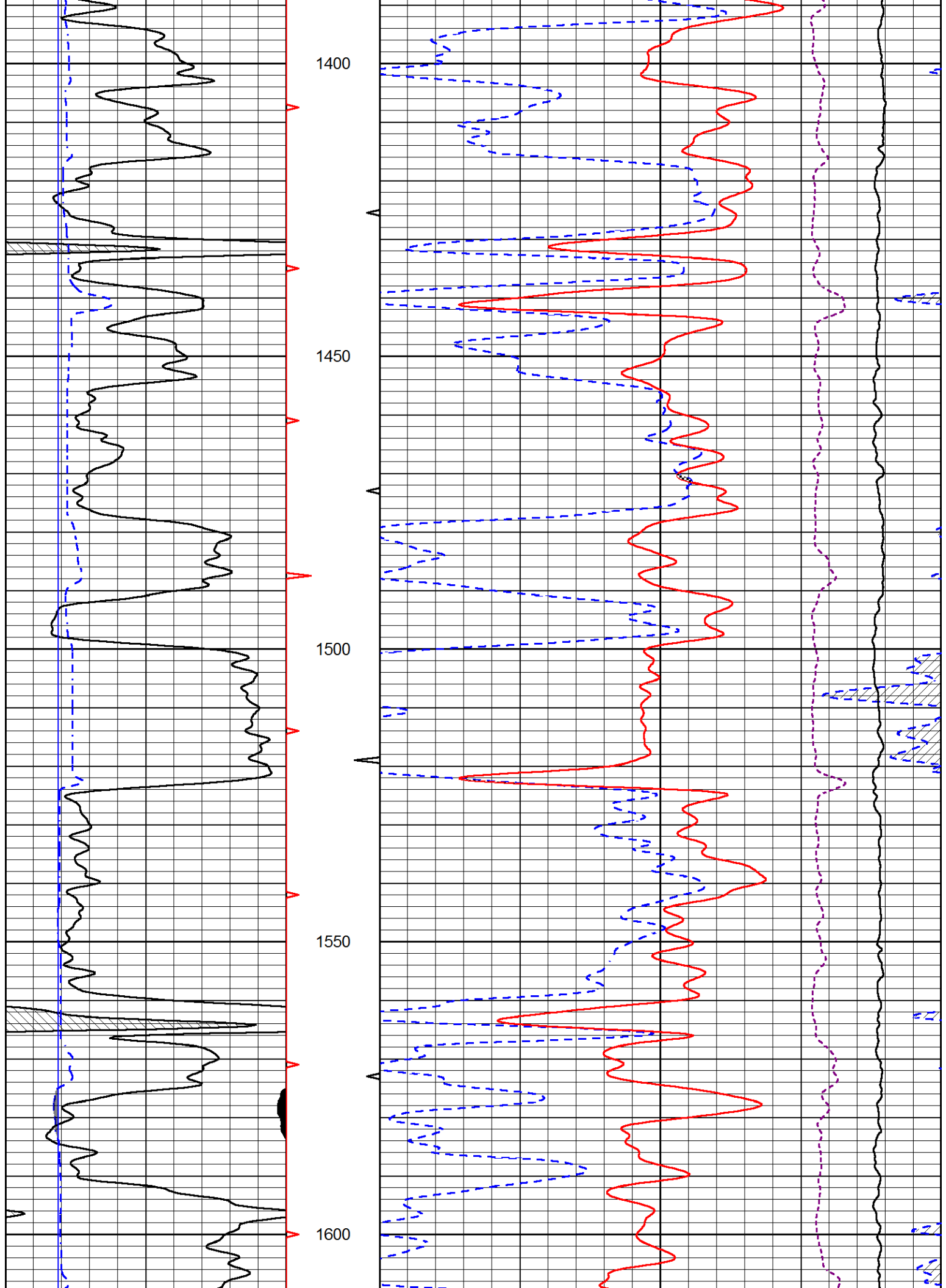


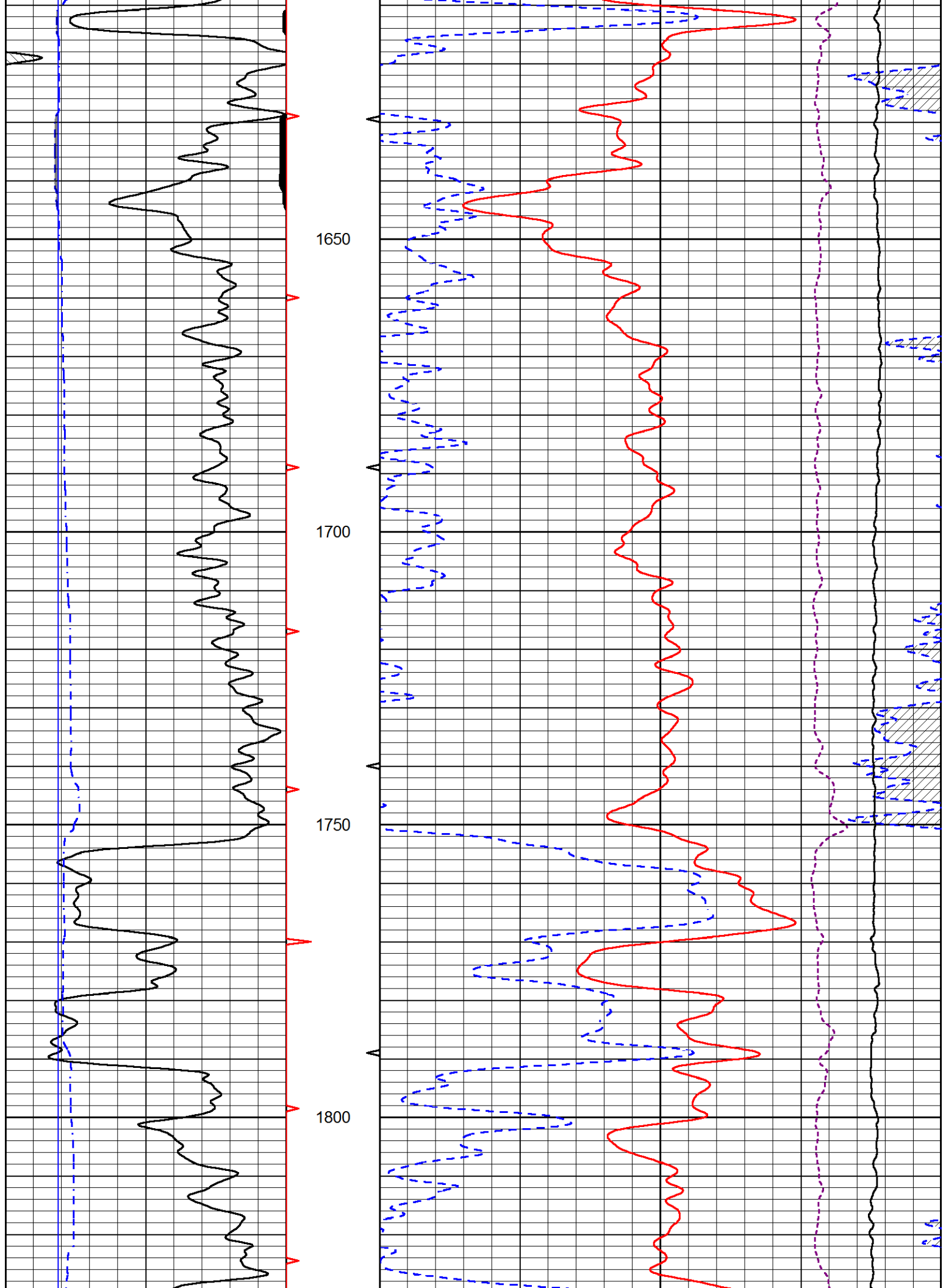


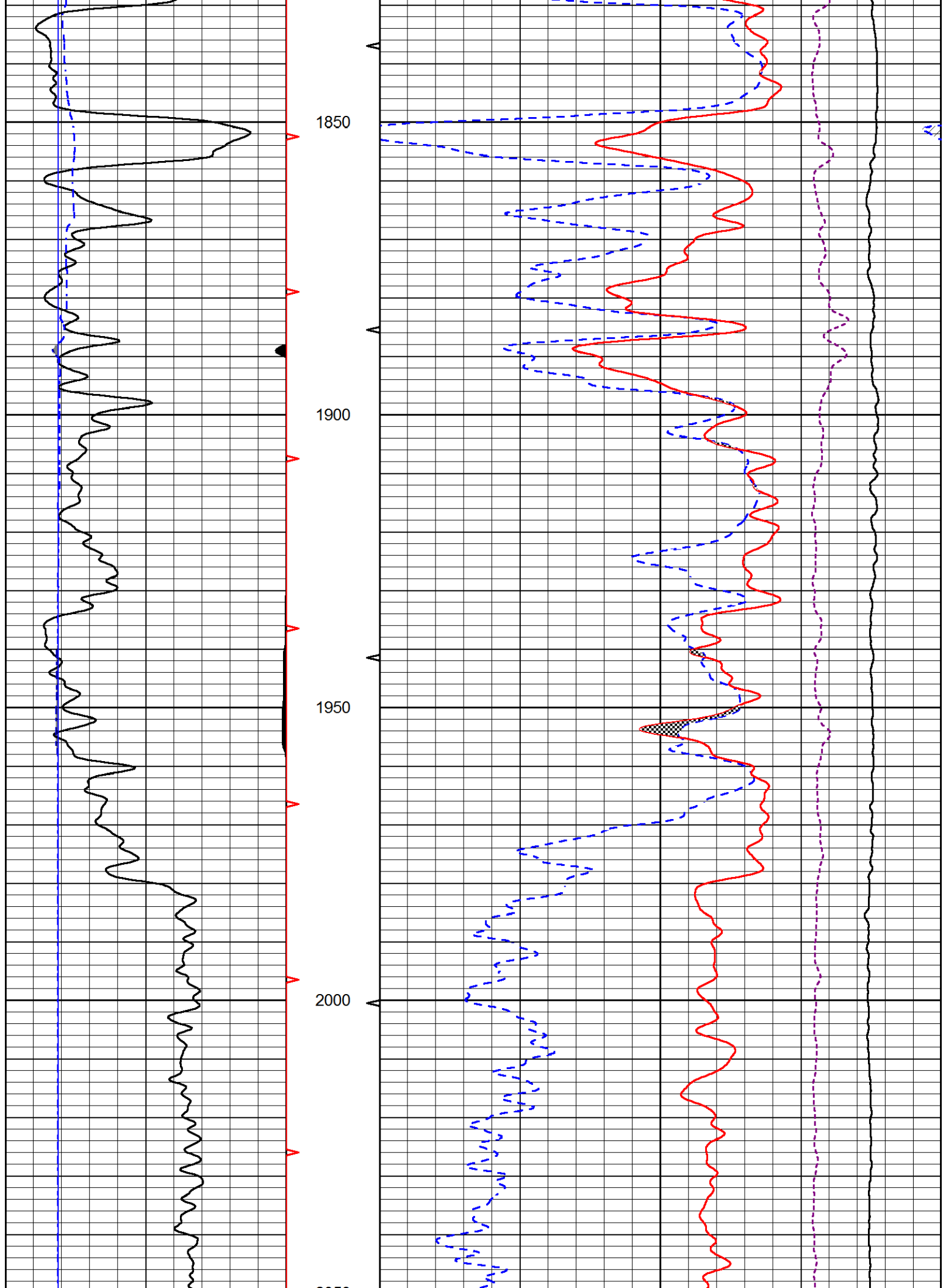


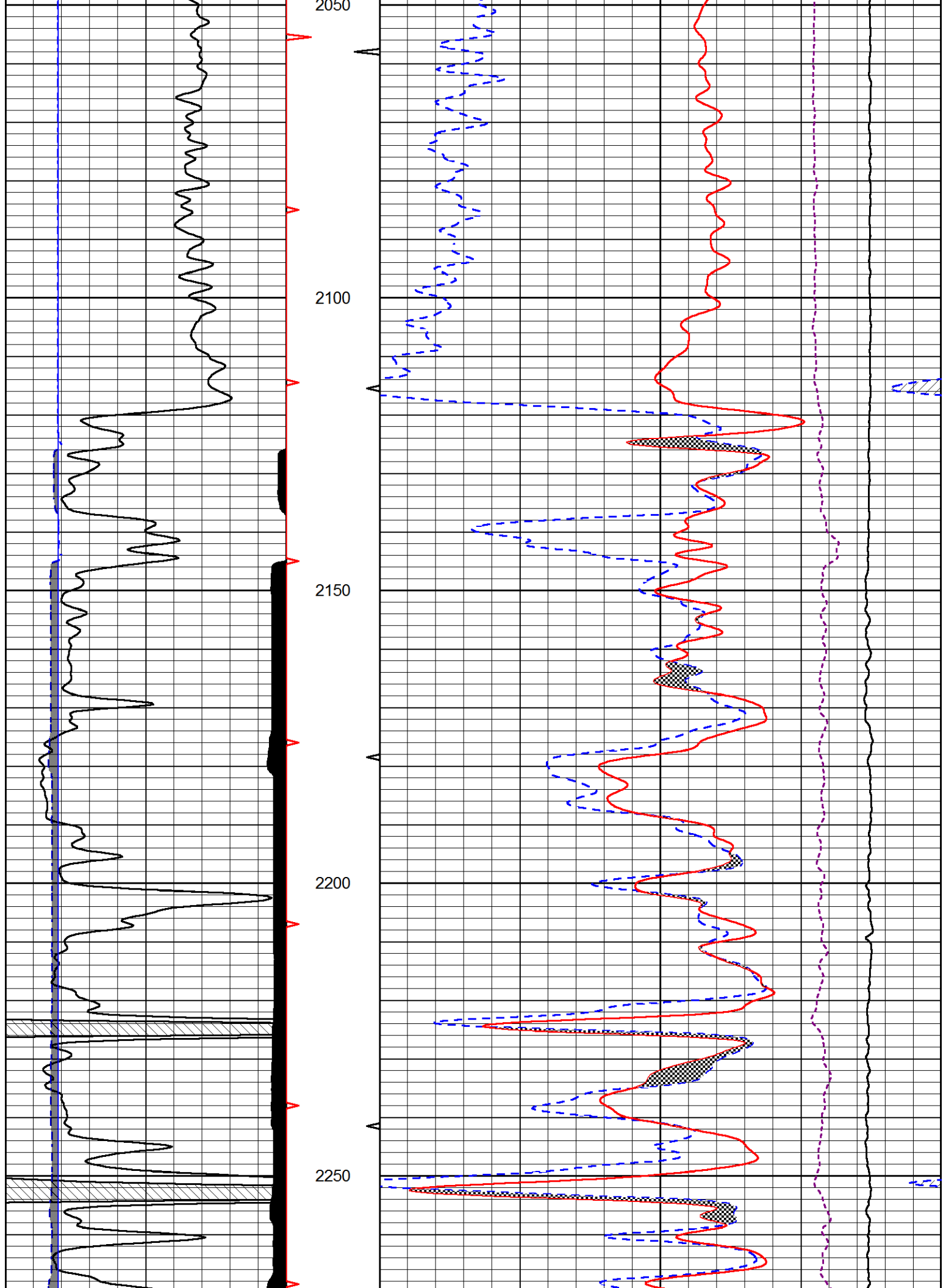


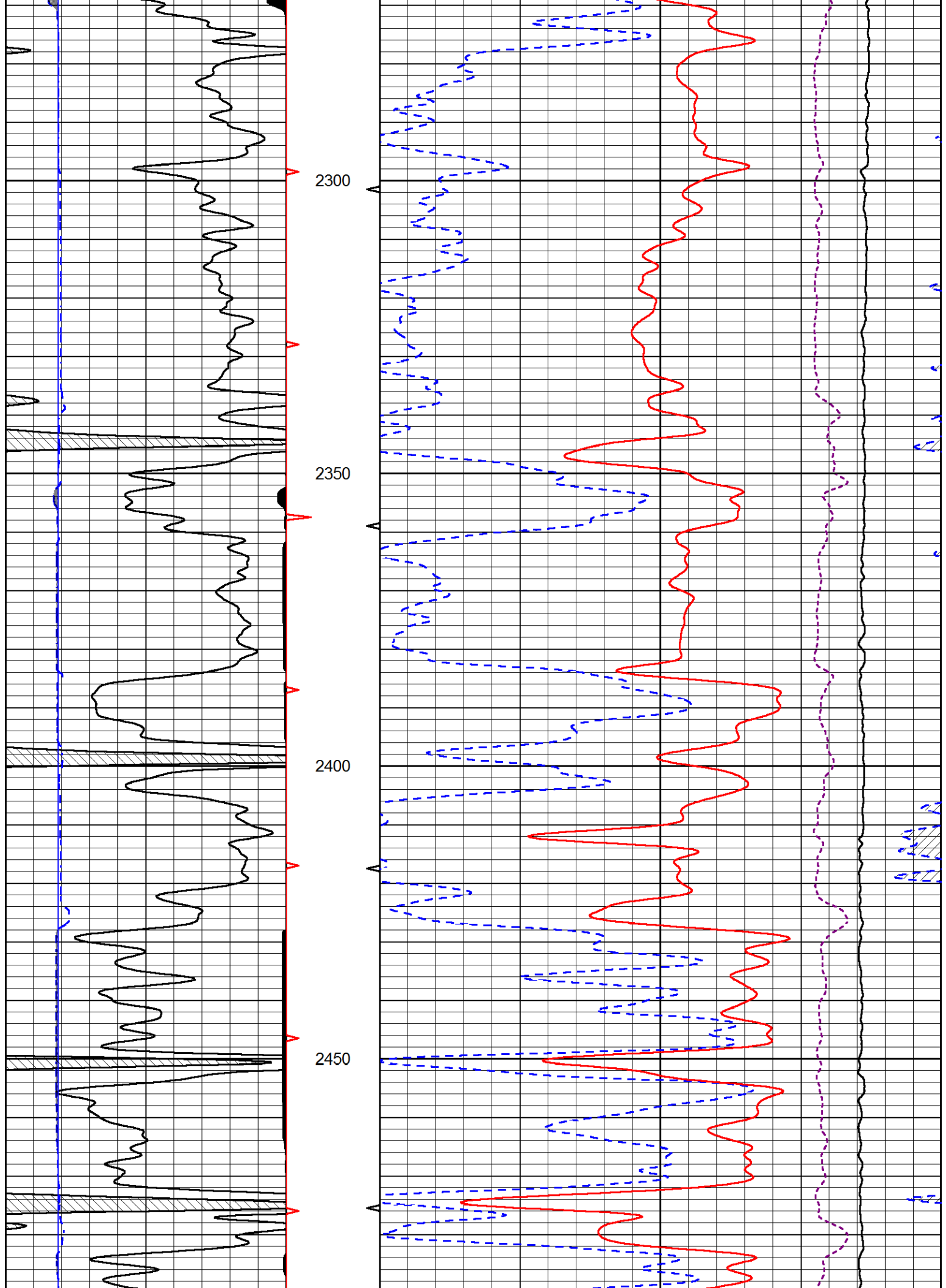


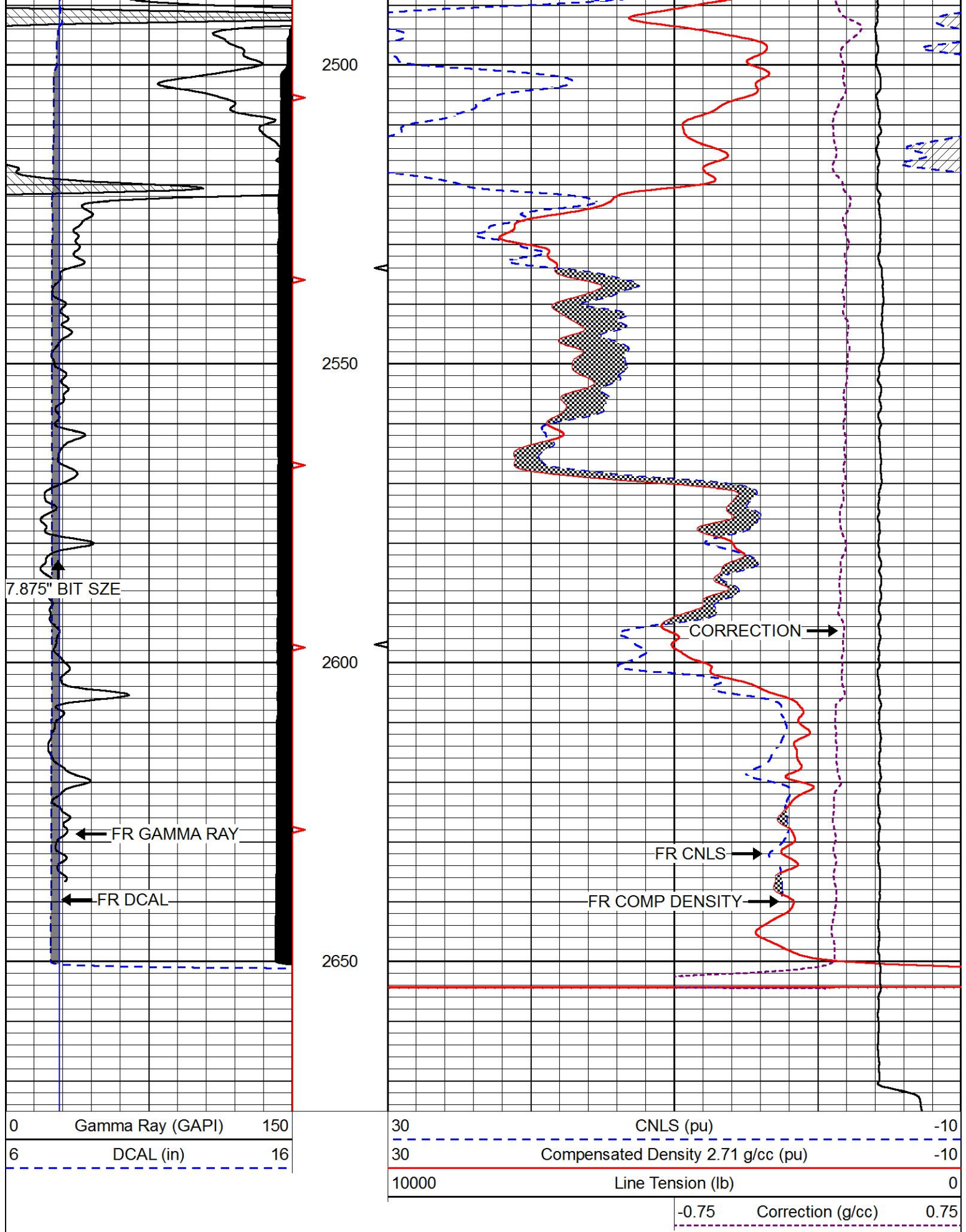










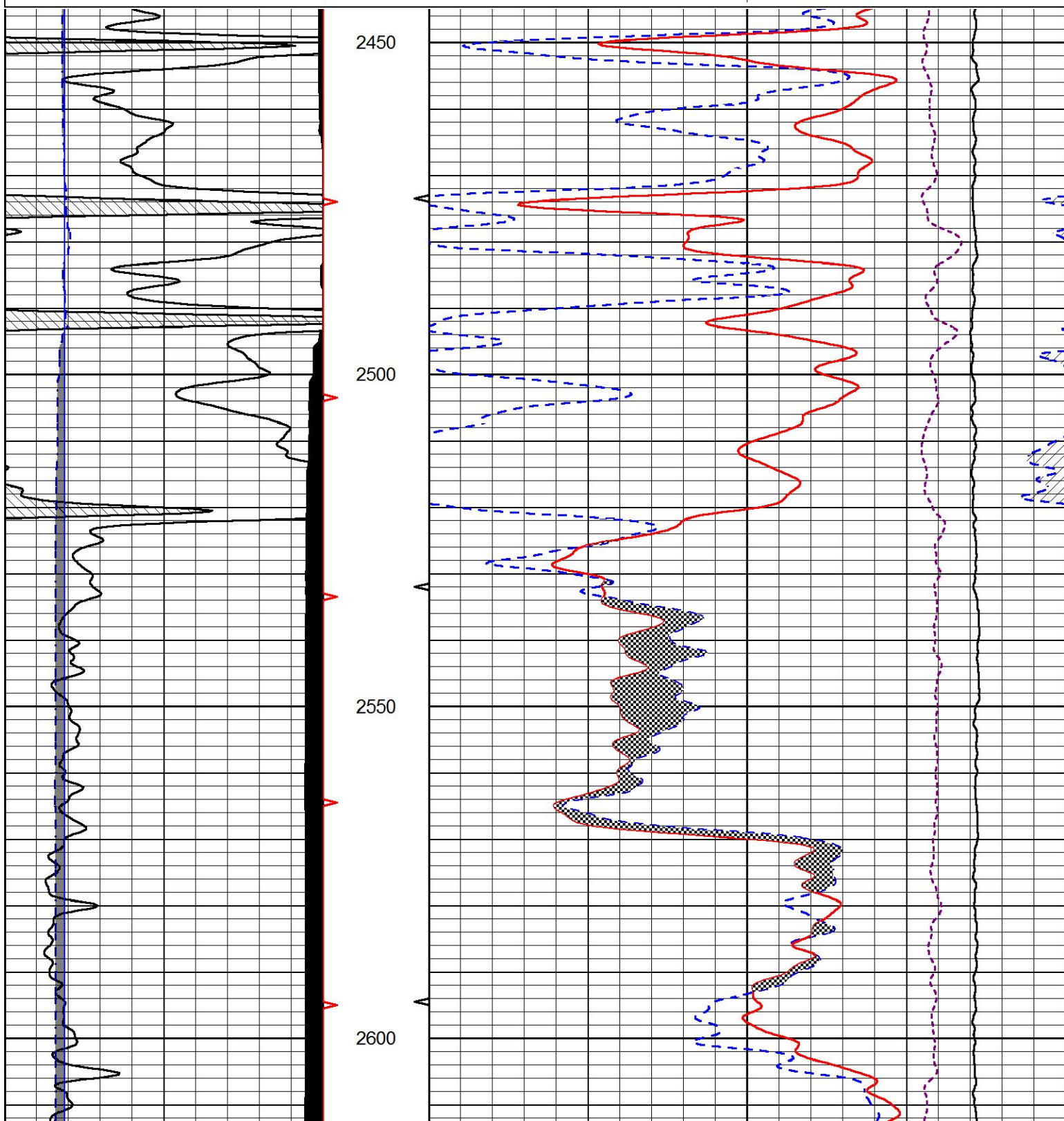


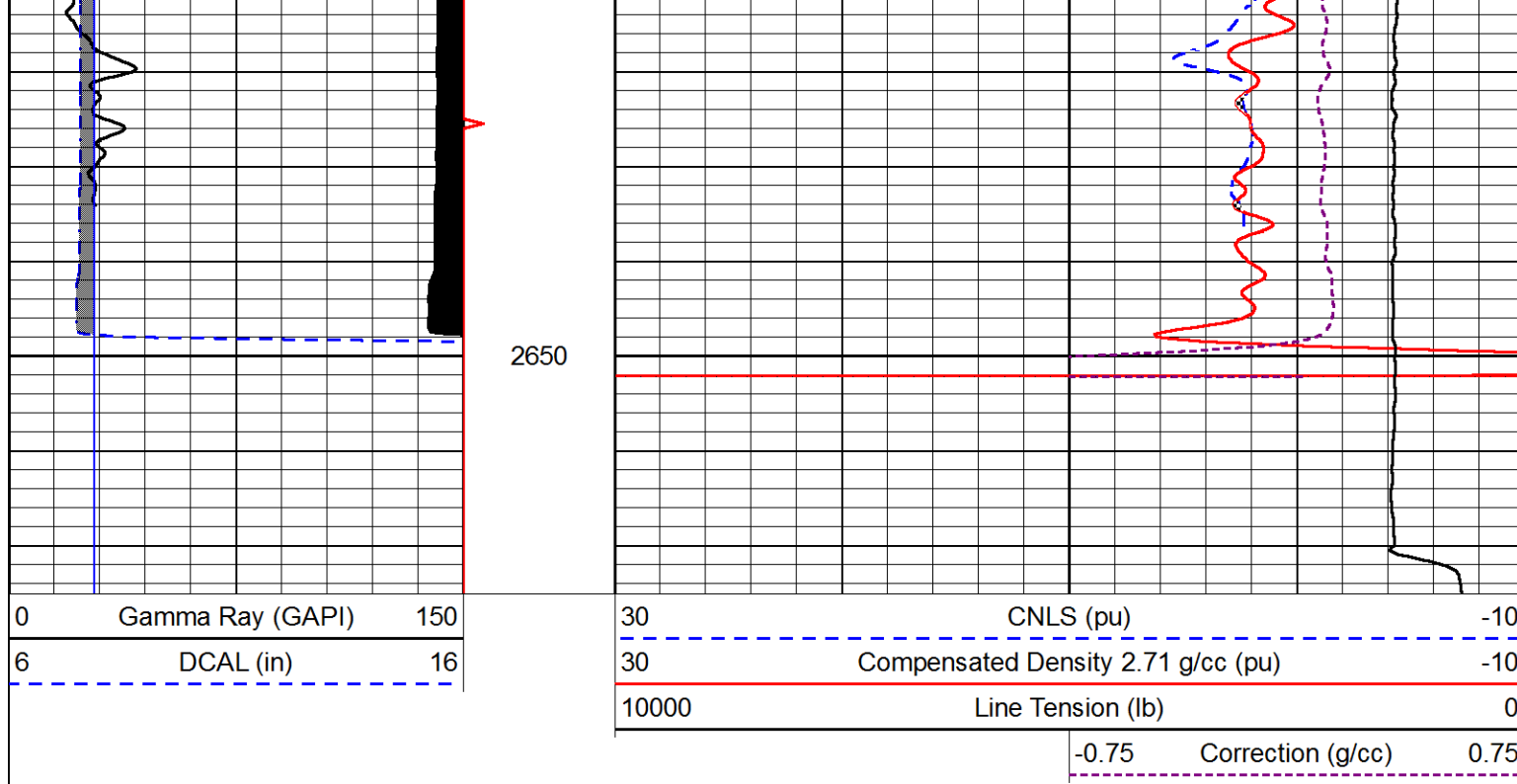
REPEAT SECTION

Database File igwt_benjamin peffly_1.db
 Dataset Pathname STKML/pass2.1
 Presentation Format cndlspec
 Dataset Creation Thu Oct 12 06:11:40 2017
 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





Calibration Report

Database File igwt_benjamin peffly_1.db
 Dataset Pathname STKML/pass3.3
 Dataset Creation Thu Oct 12 06:05:08 2017

Dual Induction Calibration Report

Serial-Model: PSI 91-M&W
 Calibration Performed: Wed Sep 13 22:23:16 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	166.796	835.089	0.000	255.800	mmho/m	0.430	-31.000
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.360	-31.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
 Performed: Wed Sep 06 19:50:56 2017

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	12000.0000	-1.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	13150.0000	-0.3000
Caliper	1.0001	1.1397	6.5000	18.5000	in	100.0000	-97.4350

Compensated Density Calibration Report

Serial-Model: 90-1031-M&W
 Source / Verifier: 16955B / 2ci
 Master Calibration Performed: Wed Sep 06 19:51:03 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4903.44	6153.79	cps
Aluminum	2.640	g/cc	934.50	4021.31	cps
Spine Angle = 75.61			Density/Spine Ratio = 0.517		
	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: WED SEP 6 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: Wed Sep 06 19:51:14 2017

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



Company IGWT, INC.
Well BENJAMIN PEFFLY #1
Field PIERCE
County BUTLER
State KANSAS