



PIONEER

Pioneer Energy Services

DUAL COMP POROSITY LOG

Company IGWT, INC.
Well VARNER FARMS NO. 2-28
Field PIERCE
County BUTLER State KANSAS

Location: API #: 15-015-24107-00-00

Other Services

SEC 28 TWP 25S RGE 4E
2310' FSL & 1980' FEL

DIL

Permanent Datum GROUND LEVEL Elevation 1373'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1379'
D.F. N/A
G.L. 1373'

Date 11/5/2018

Run Number ONE

Type Log CNL/CDL

Depth Driller 3670'

Depth Logger 3670'

Bottom Logged Interval 3649'

Top Logged Interval 200'

Type Fluid In Hole CHEMICAL

Salinity, PPM CL 1200

Density 9.5

Level FULL

Max. Rec. Temp. F 113 DEG/F

Operating Rig Time 2 HOURS

Equipment -- Location 108 HAYS

Recorded By J. HENRICKSON

Witnessed By KENTON HUPP

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0	212'	8.625"	23#	0	212'
TWO	7.875"	212'	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 KANSAS

SOUTH TO 10TH STREET, 1 3/4 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: J. HENRICKSON

Operator:

Operator:

Operator:

This Log Record Was Witnessed By

Primary Witness: KENTON HUPP

Secondary Witness:

Secondary Witness:

Secondary Witness:

Top - Bottom

A 1	BOREID in 7.875	BOTTEMP degF 112	CASEOD in 5.5	CASETHCK in 0	FLUIDDEN g/cc 1	M 2	MATRXDEN g/cc 2.71
NPORSEL Limestone	PERFS 0	SNDERR mmho/m 25	SNDERRM mmho/m 0	SPSHIFT mV 45	SRFTEMP degF 54	SZCOR Off	TDEPTH ft 3670

Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	33.00			GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC CNSSC	29.90			CNT-M&W (tk10-MW)	5.50	3.50	100.00
	29.15						
LSD DCAL SSD	20.85			CDL-M&W (168-130)	8.50	4.00	250.00
	20.83						
	20.35						
RLL3 RLL3F	15.80 15.79			DIL-M&W (1987)	18.50	3.50	220.00
CILD	8.00						

CILM 4.70

SP 0.20

Dataset: igwt_varner_farms_2_28.db: field/well/stack/pass3.1
Total length: 35.50 ft
Total weight: 620.00 lb
O.D.: 4.00 in

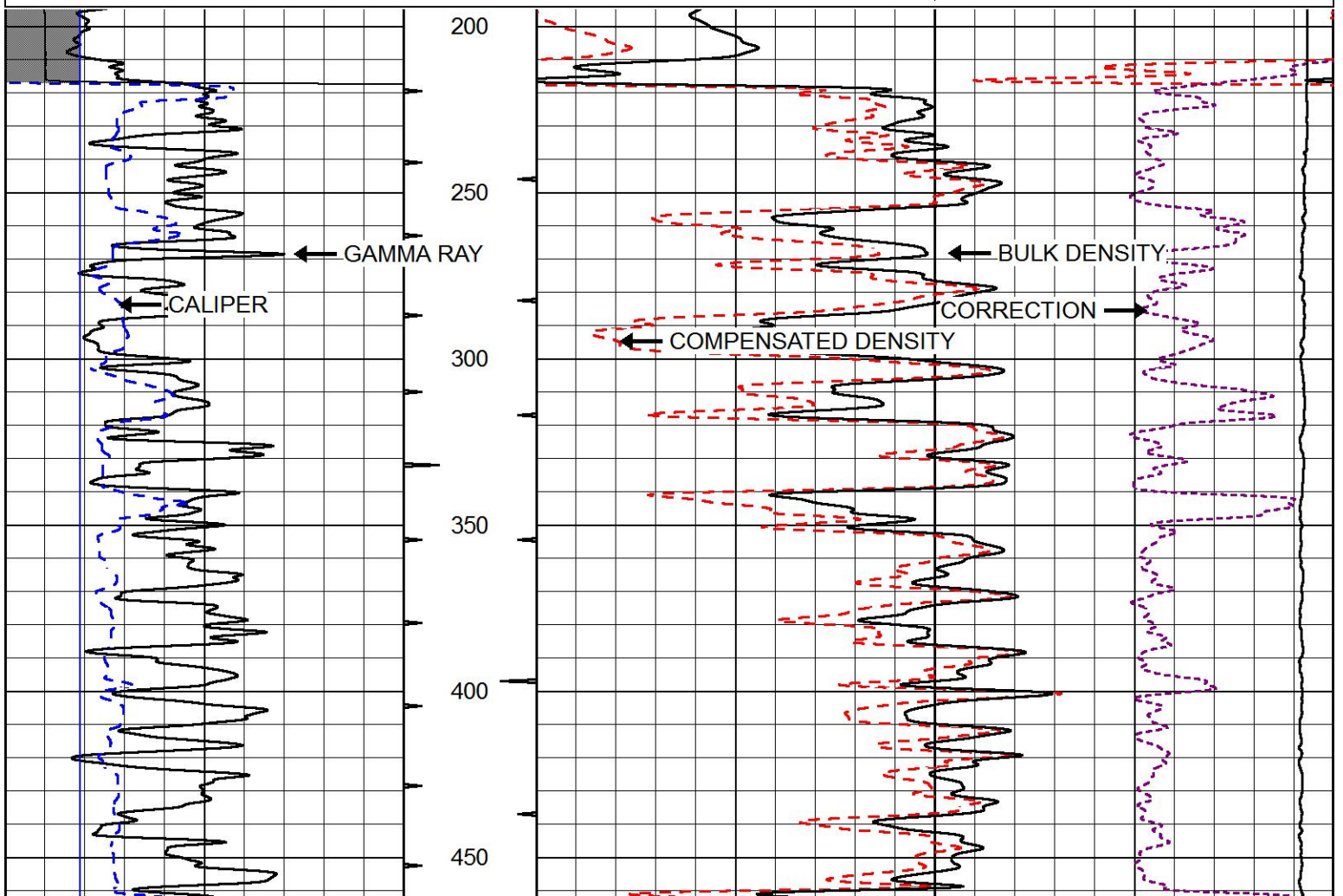


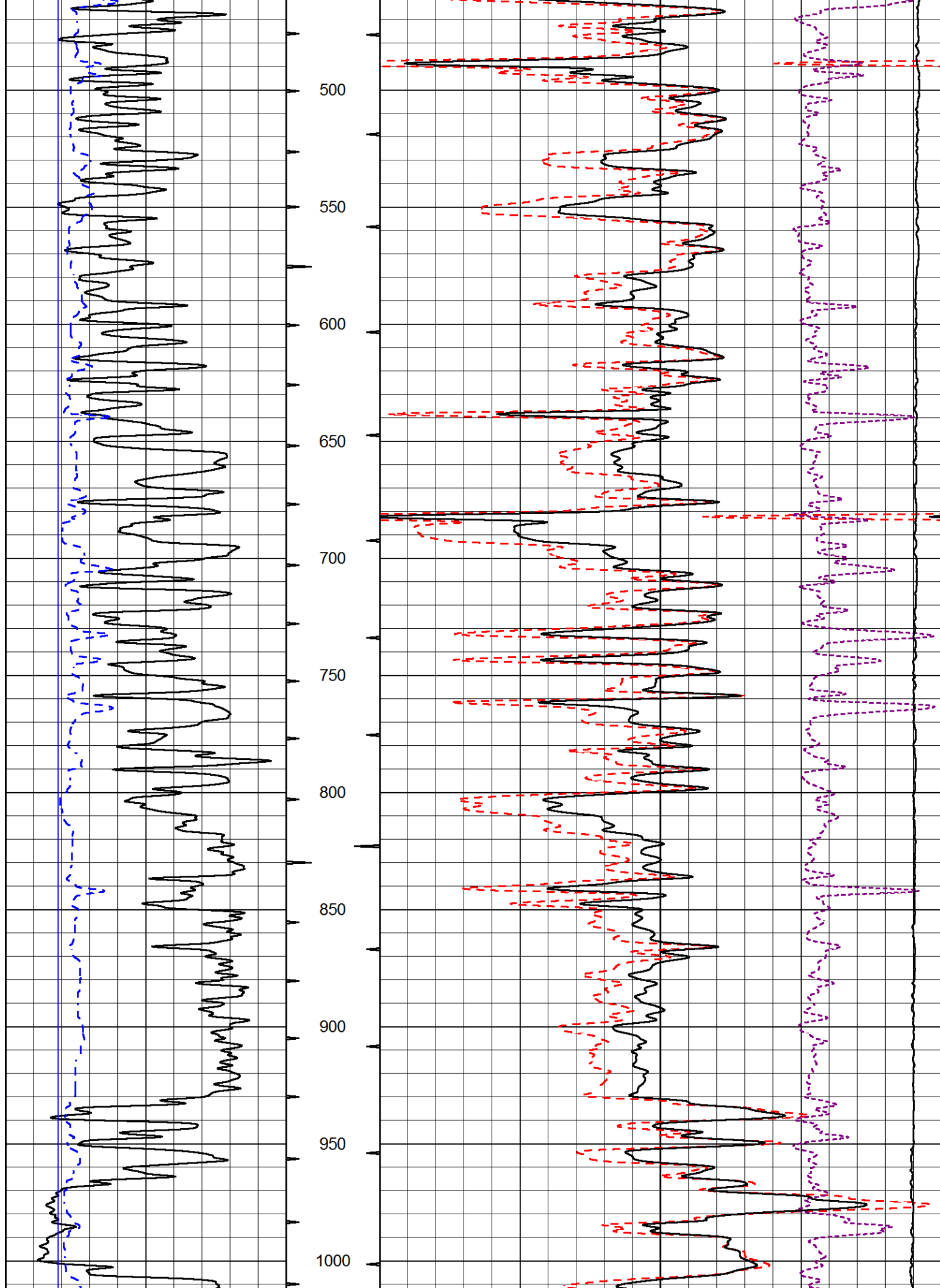
MAIN PASS

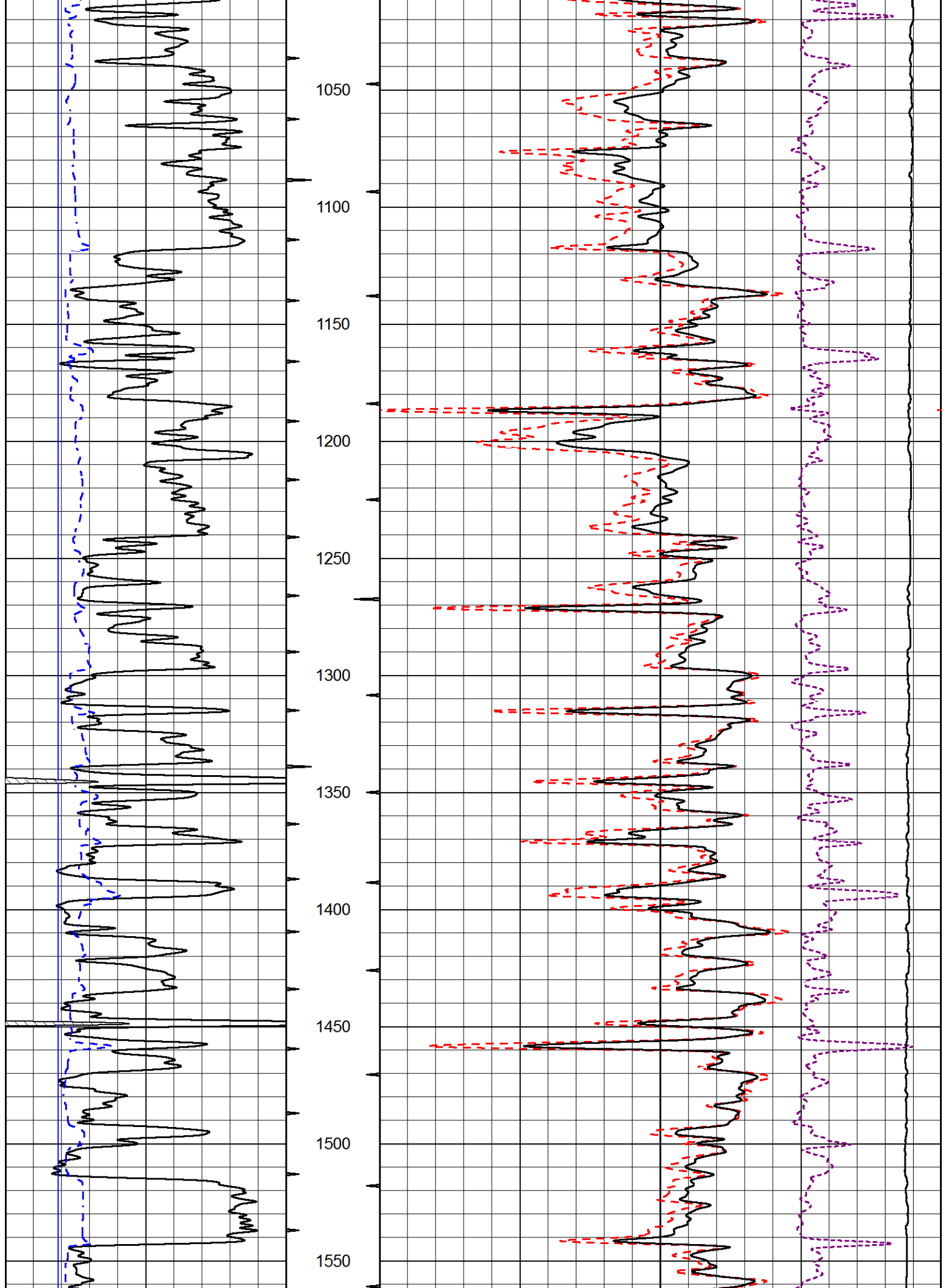
Database File igwt_varner_farms_2_28.db
Dataset Pathname stack/pass3.1
Presentation Format cdl
Dataset Creation Mon Nov 05 10:17:47 2018
Charted by Depth in Feet scaled 1:600

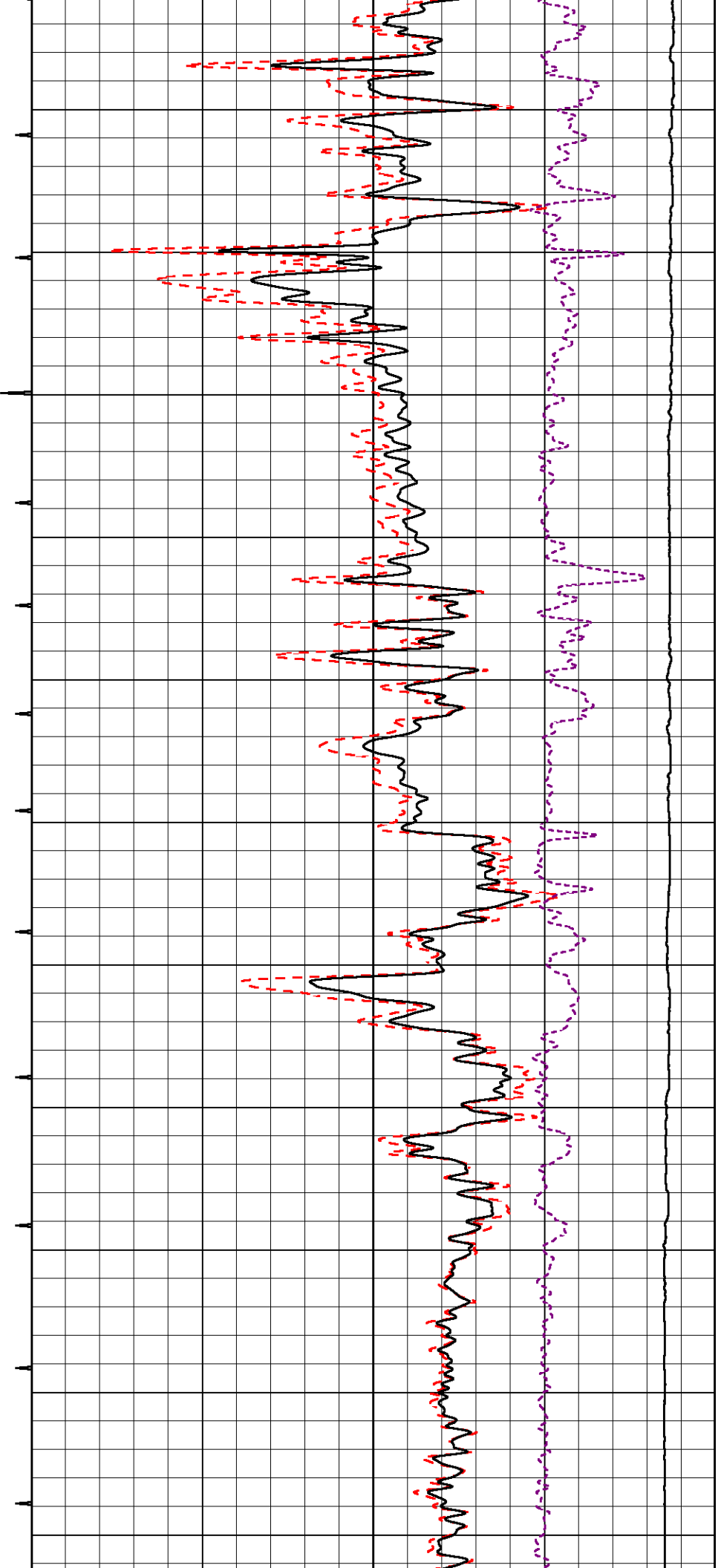
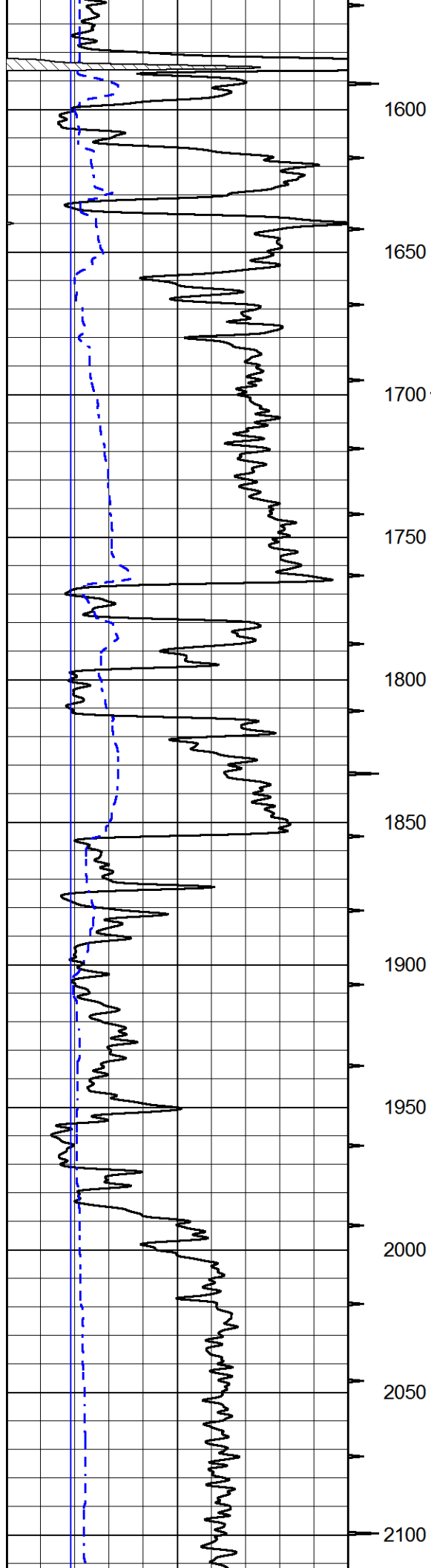
0 GAMMA RAY (GAPI) 150
6 CALIPER (in) 16

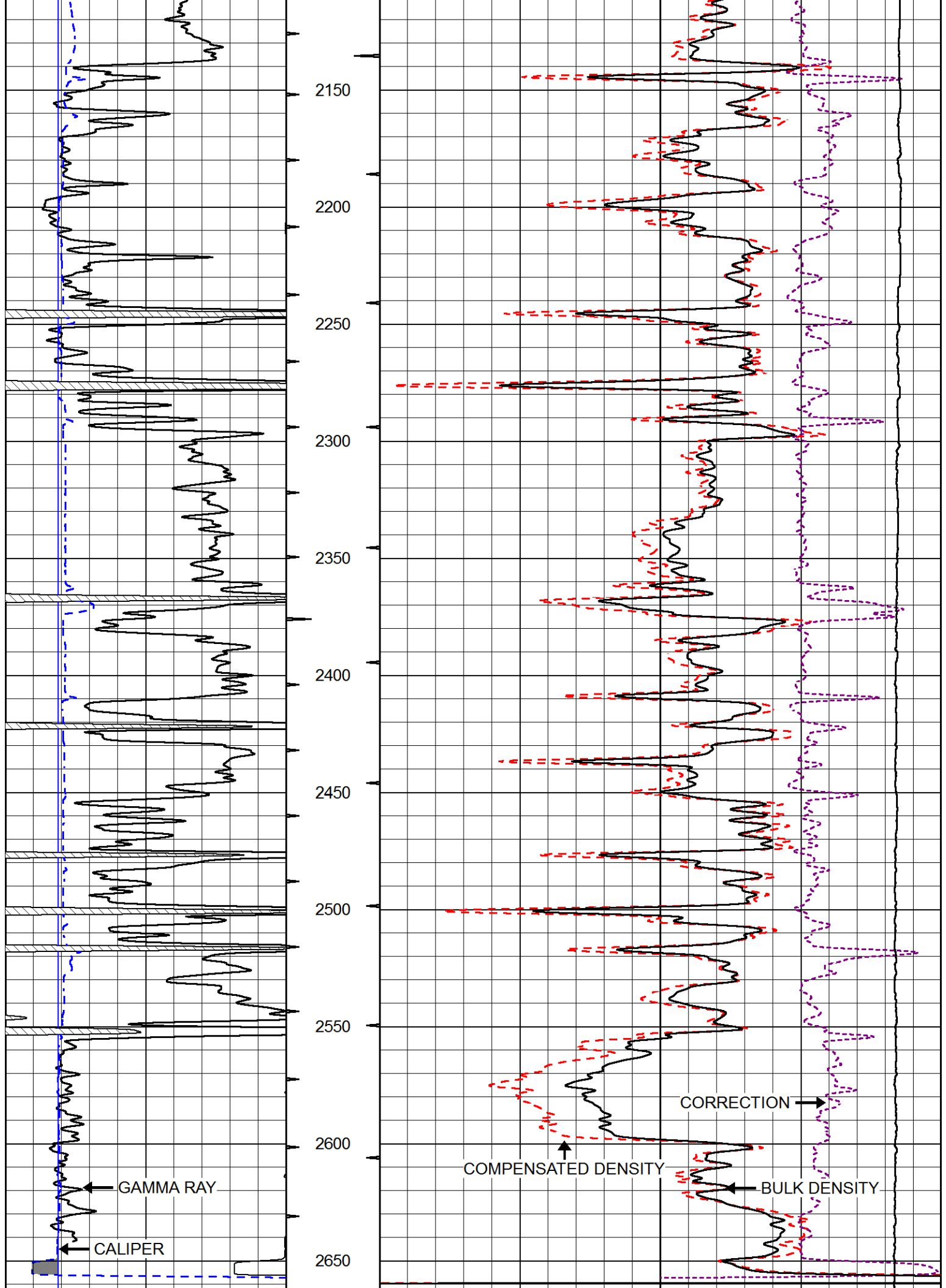
30 COMPENSATED DENSITY (pu) -10
2 BULK DENSITY (g/cc) 3
15000 LINE TENSION (lb) 0
-0.25 CORRECTION (g/cc) 0.25











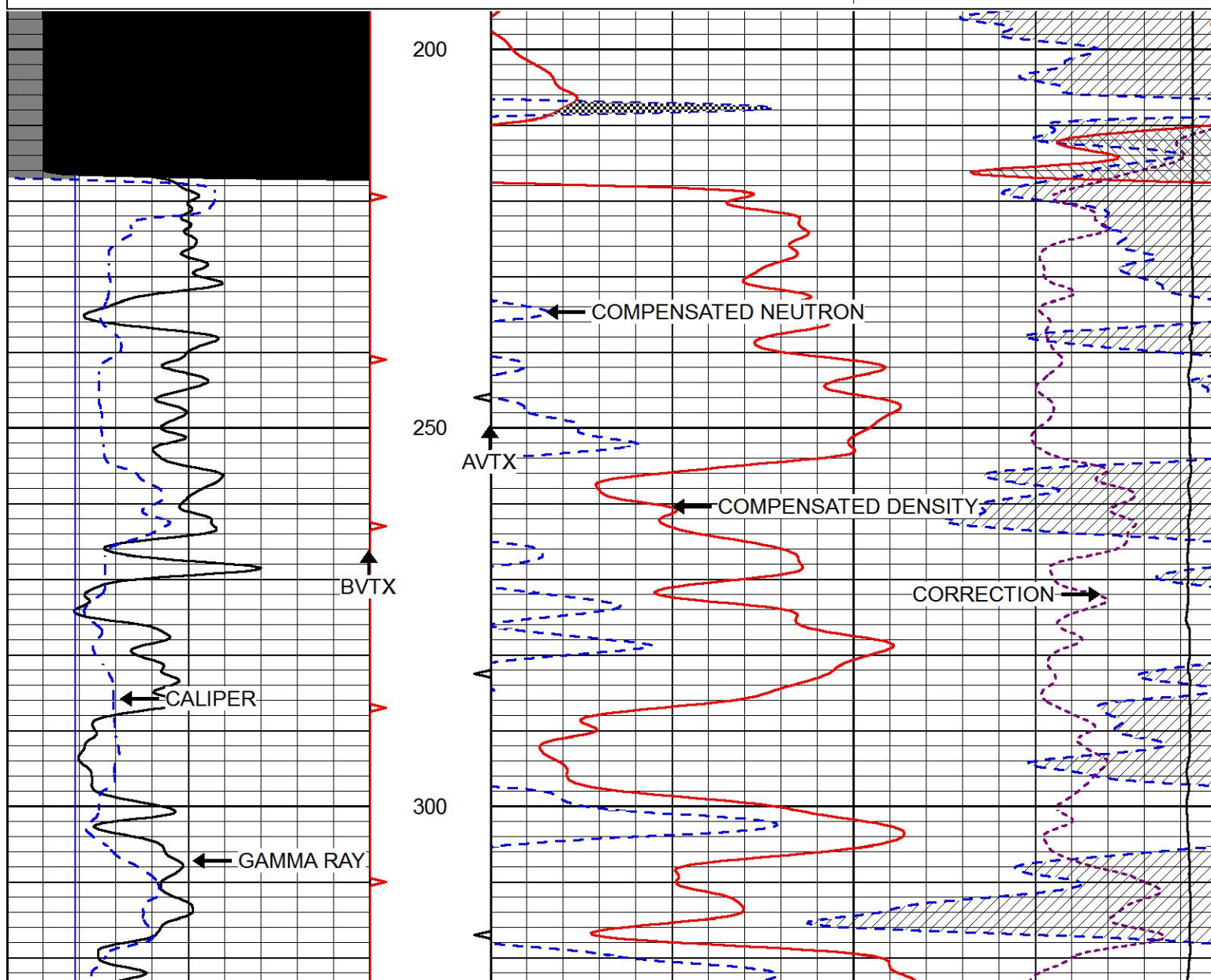
0	GAMMA RAY (GAPI)	150	30	COMPENSATED DENSITY (pu)	-10
6	CALIPER (in)	16	2	BULK DENSITY (g/cc)	3
			15000	LINE TENSION (lb)	0
			-0.25 CORRECTION (g/cc) 0.25		

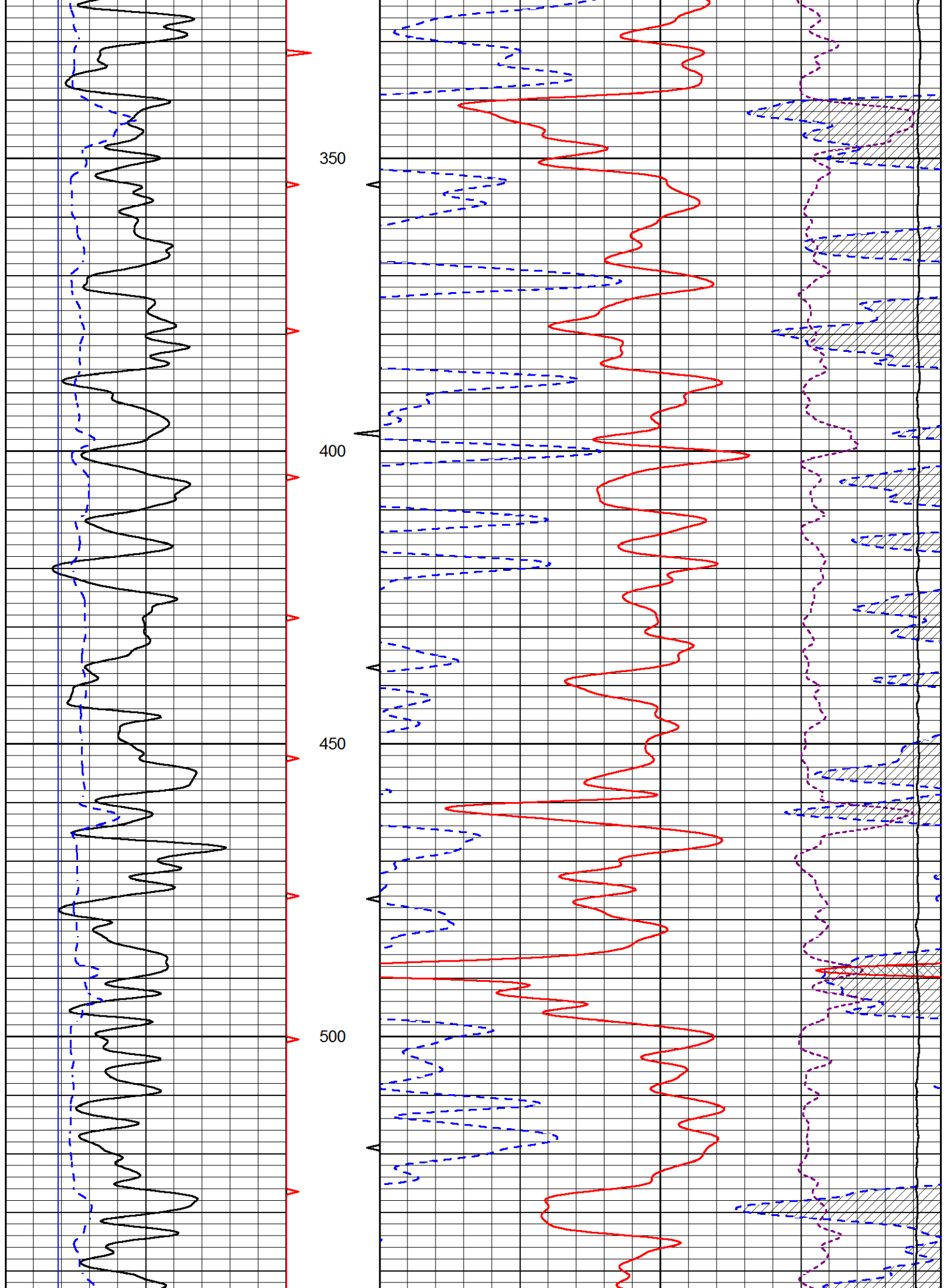


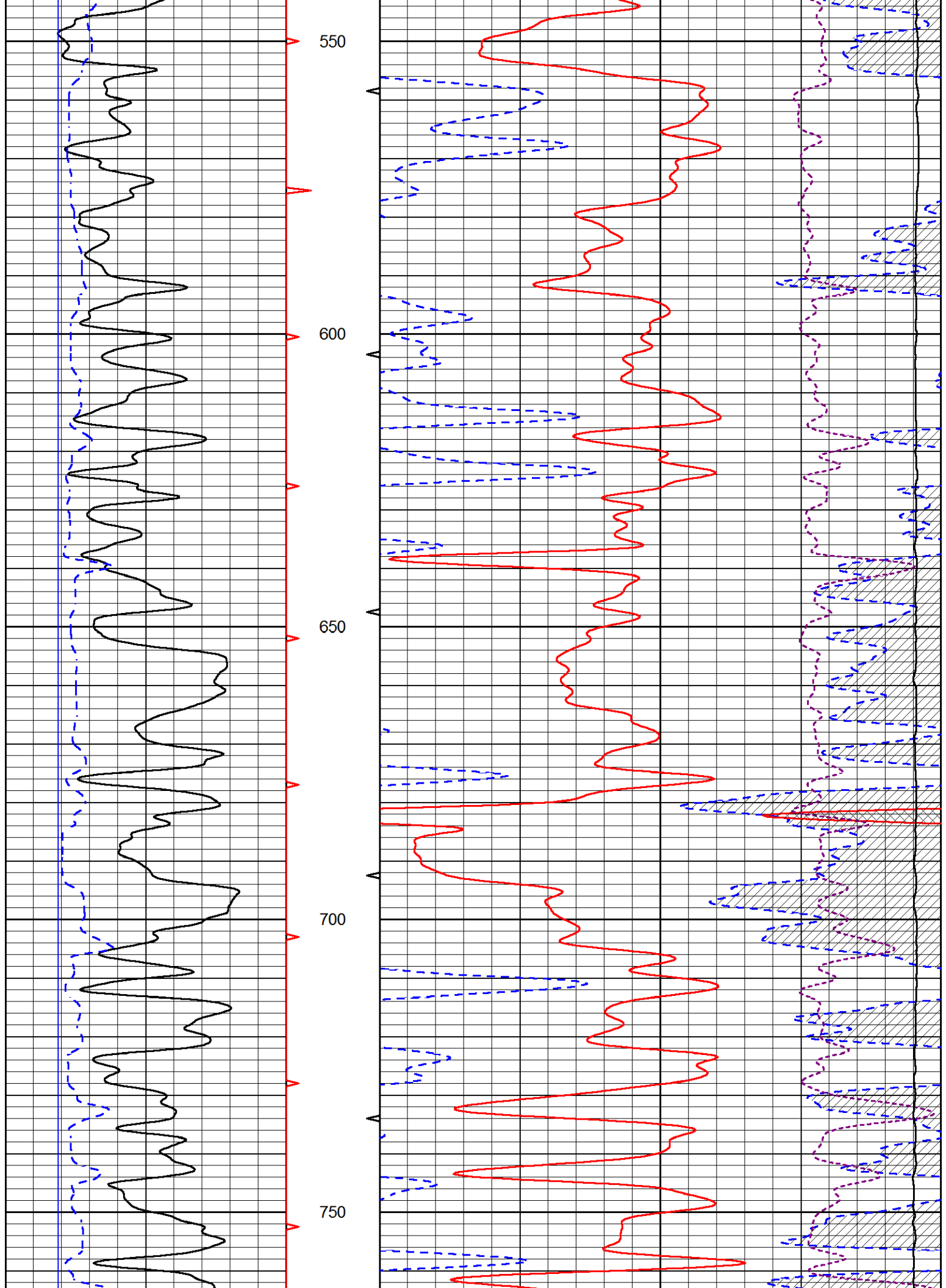
MAIN PASS

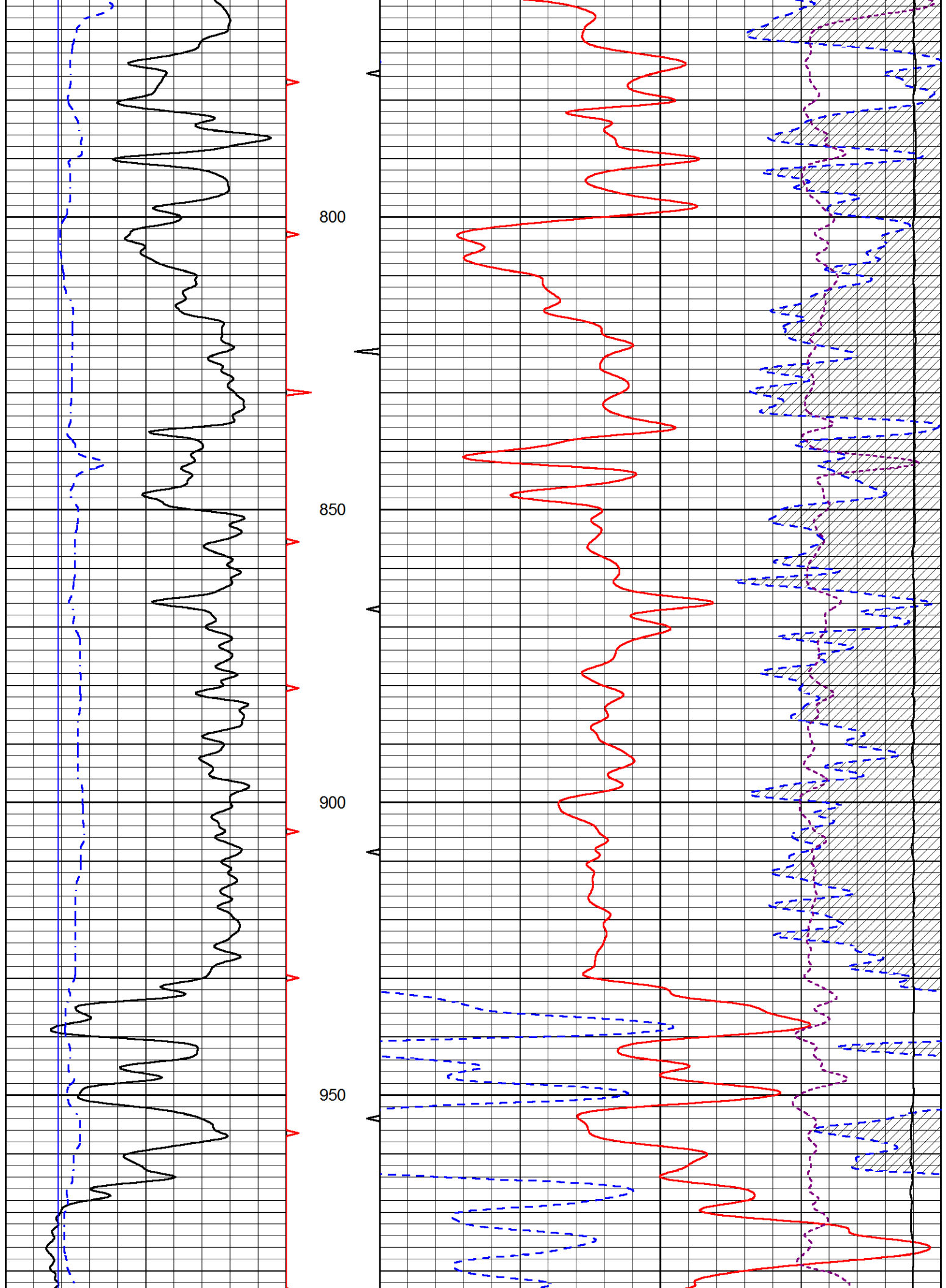
Database File igwt_varner_farms_2_28.db
Dataset Pathname stack/pass3.1
Presentation Format cndlspec
Dataset Creation Mon Nov 05 10:17:47 2018
Charted by Depth in Feet scaled 1:240

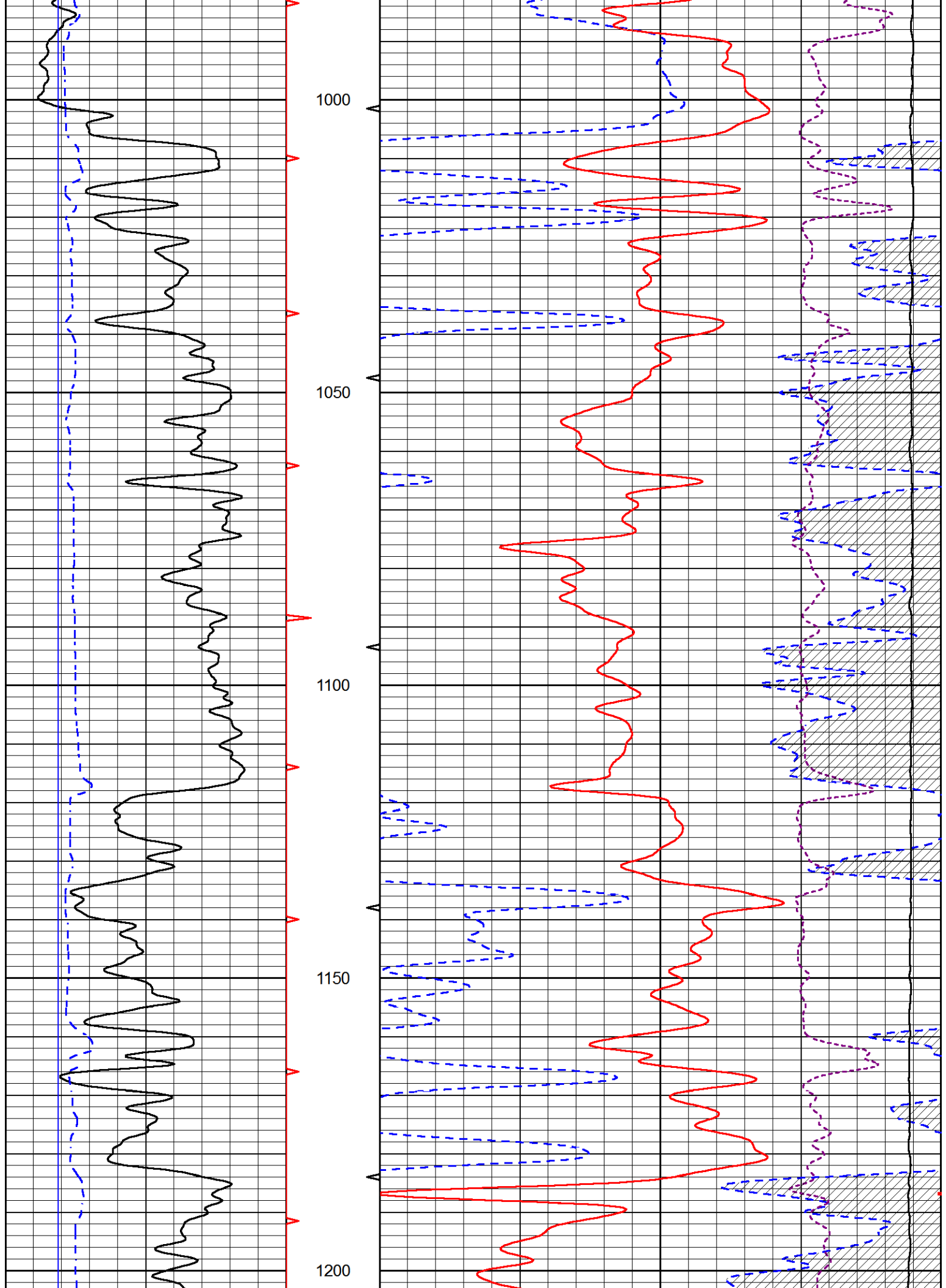
0	GAMMA RAY (GAPI)	150	30	CNLS (pu)	-10
6	dcal (in)	16	30	DPOR (pu)	-10
6	BIT SIZE (in)	16	15000	LINE TENSION (lb)	0
			-0.25 RHOC (g/cc) 0.25		

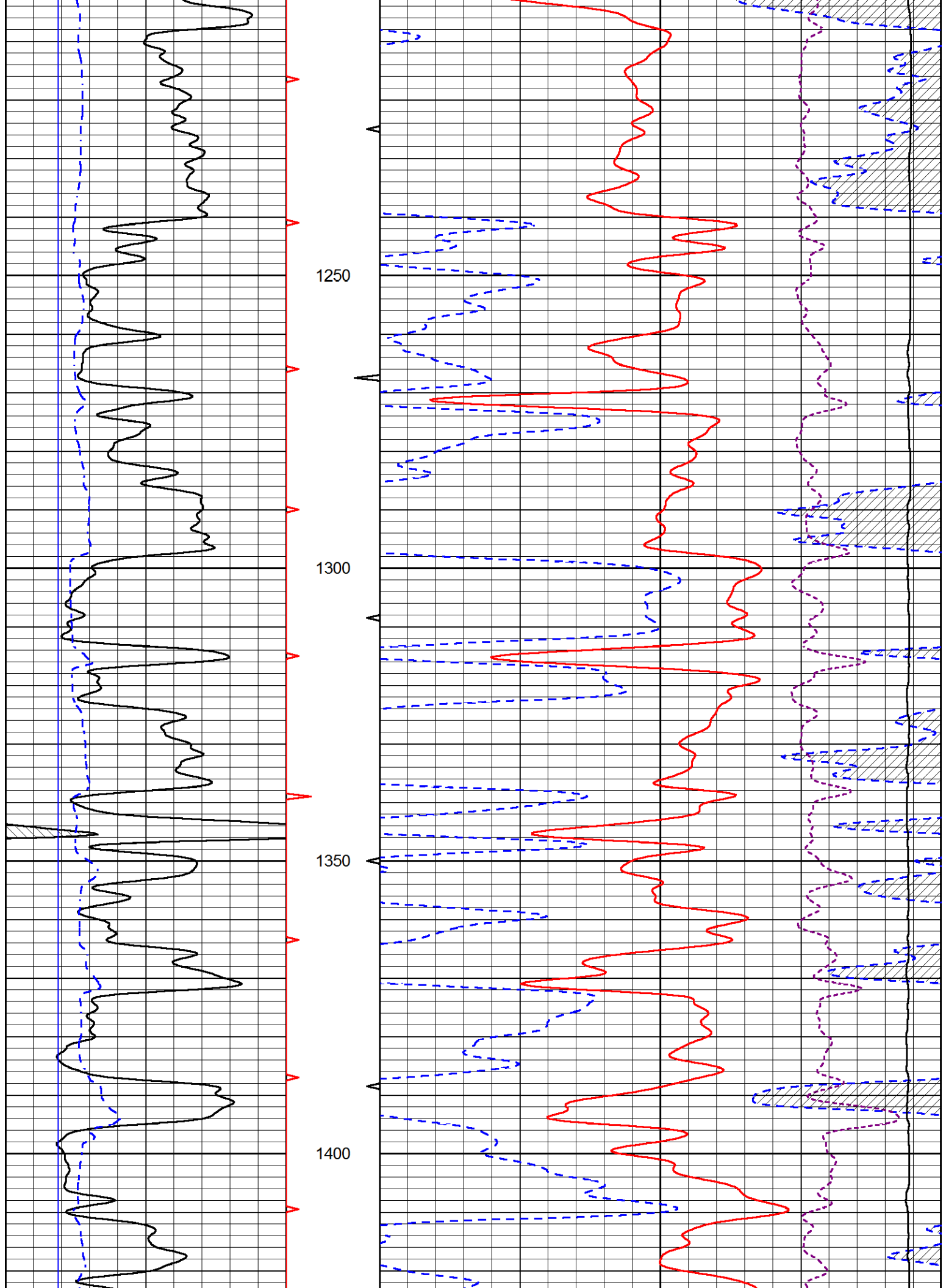


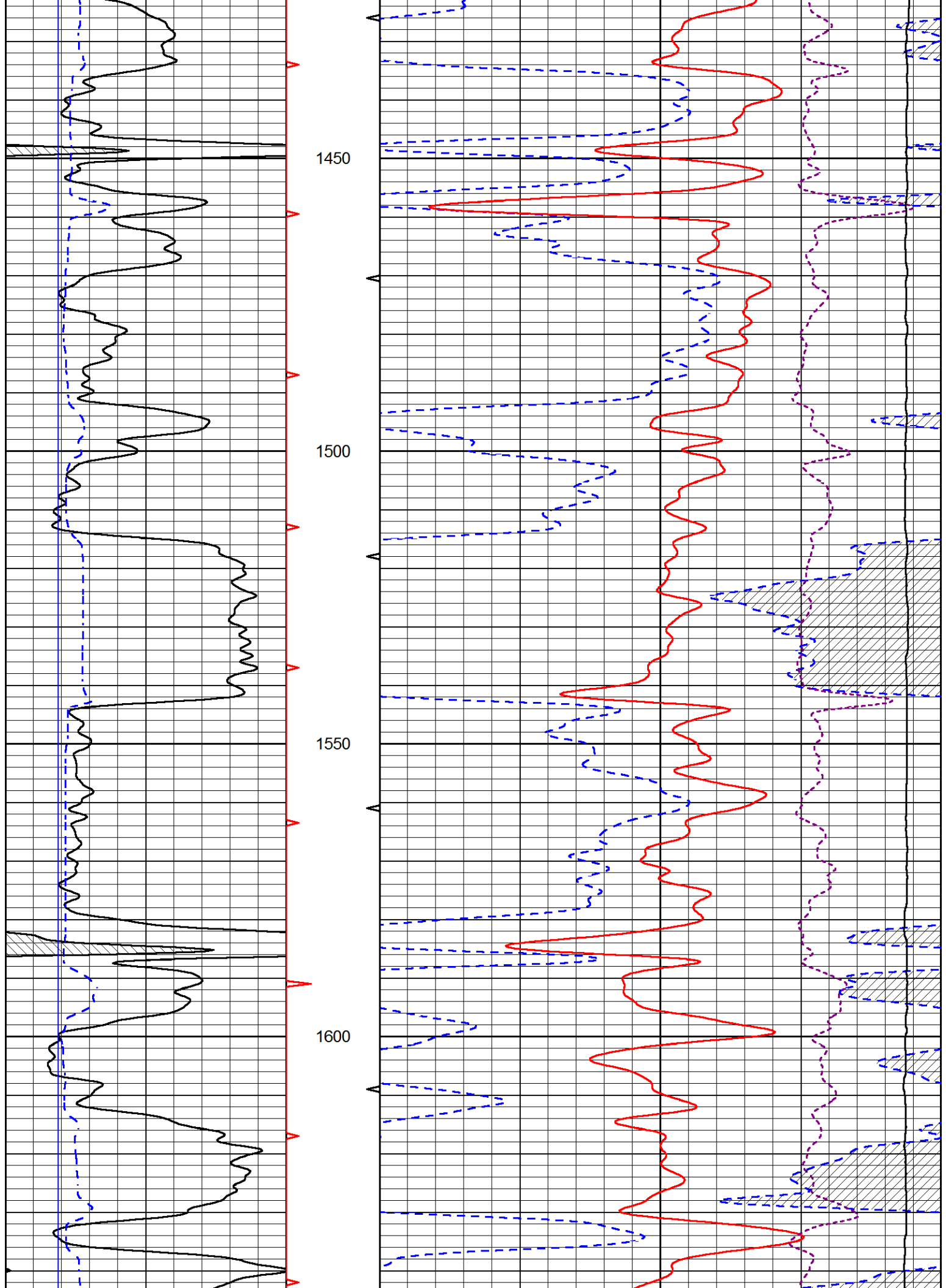


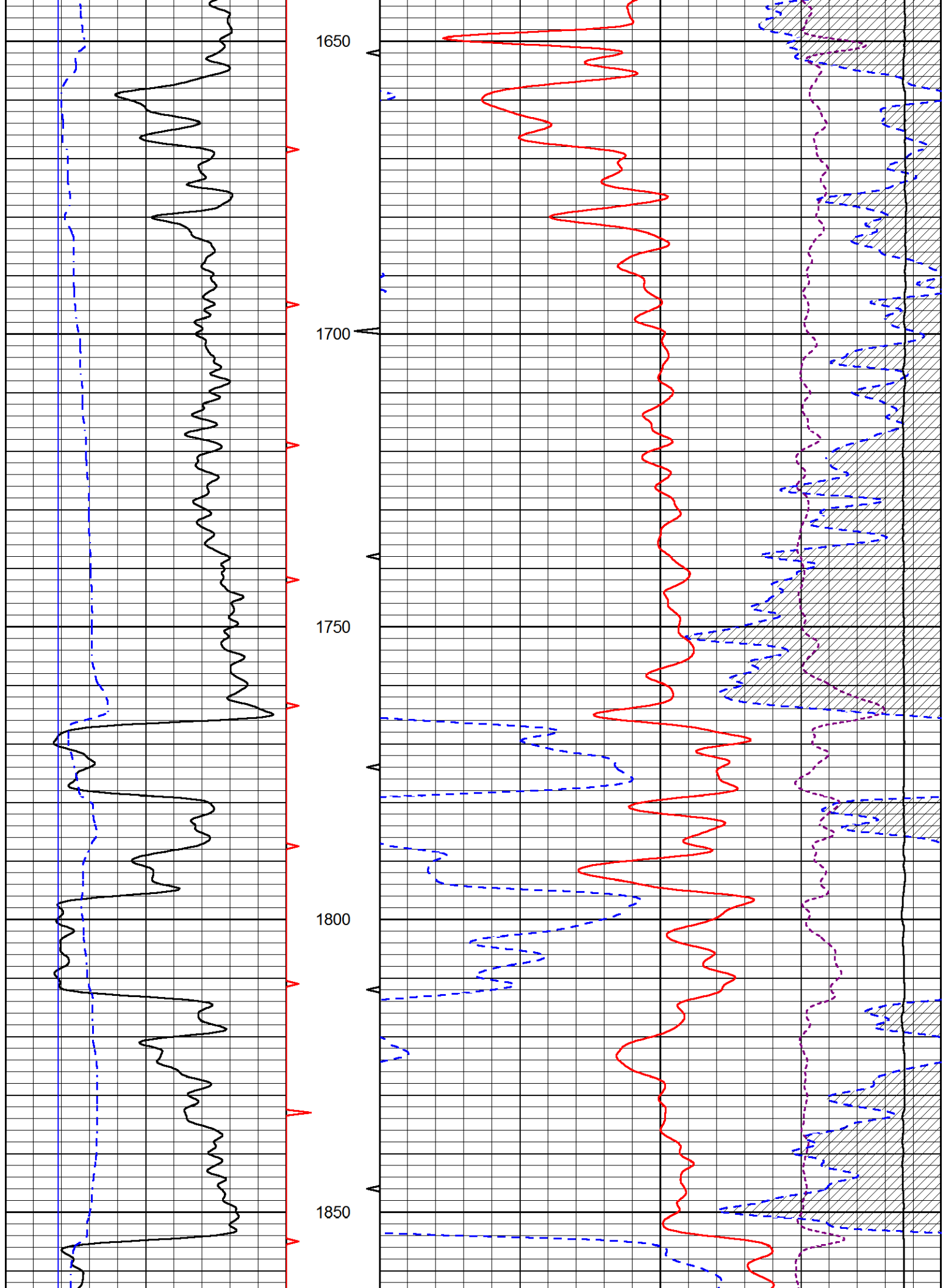


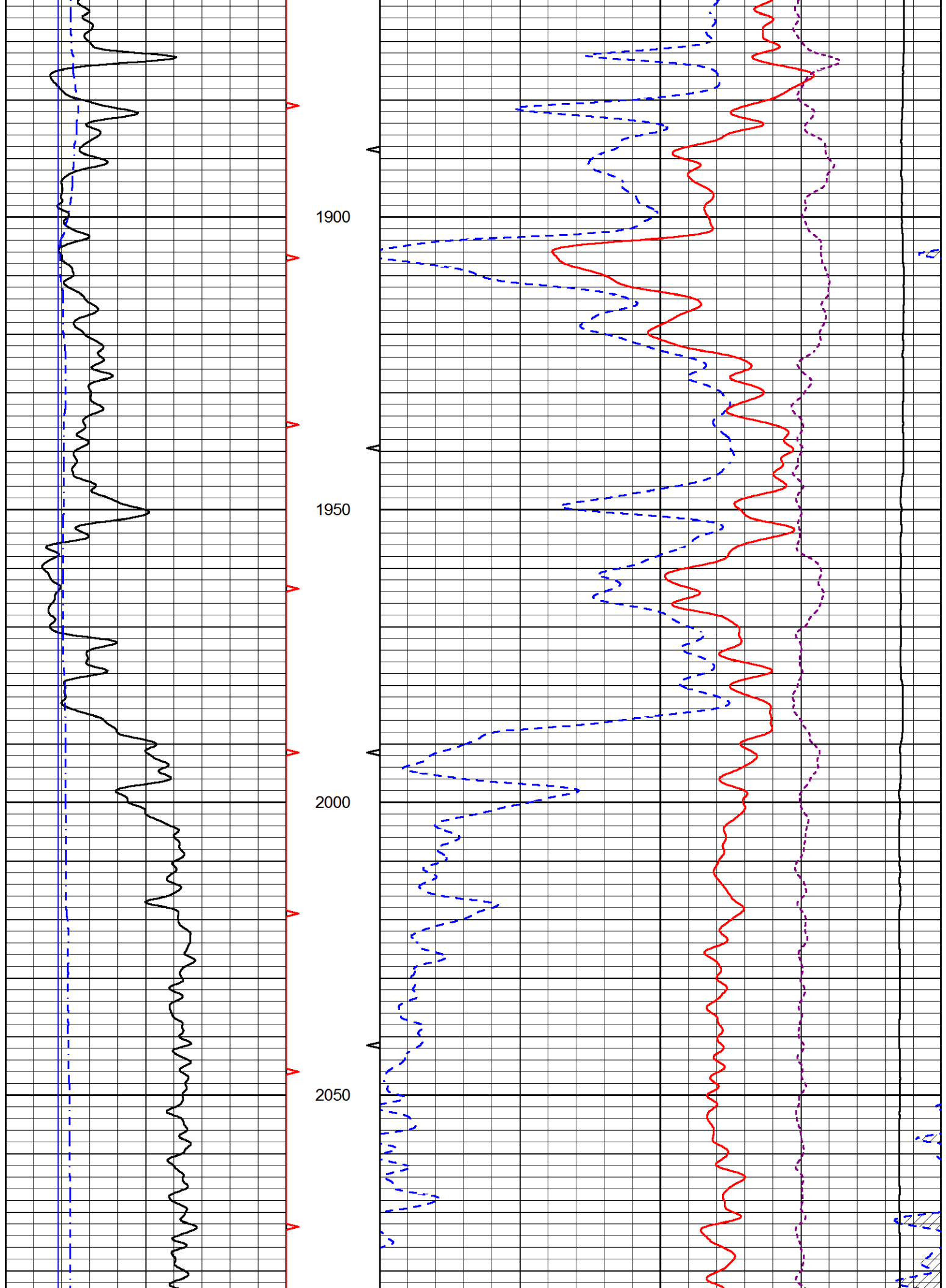


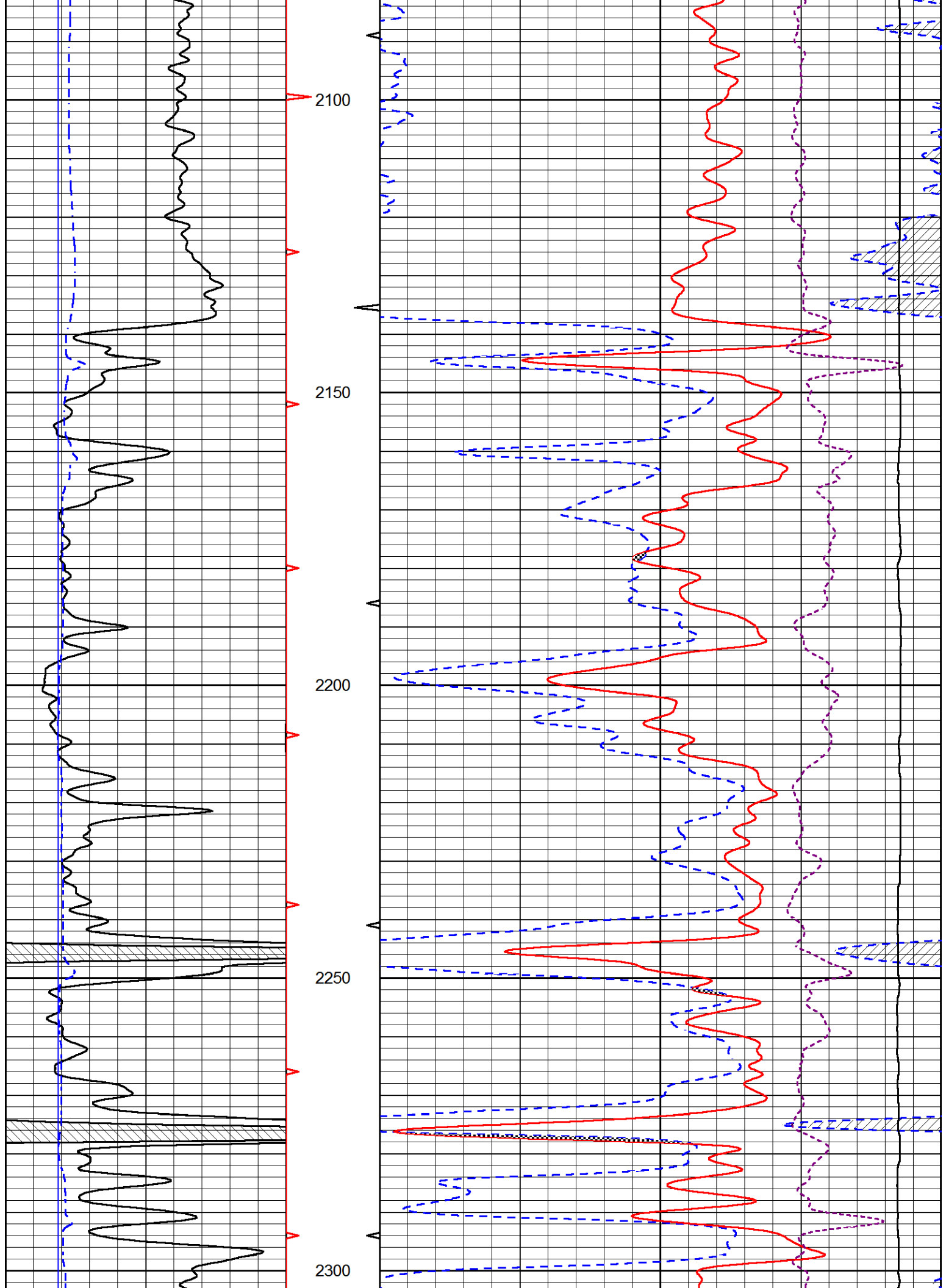


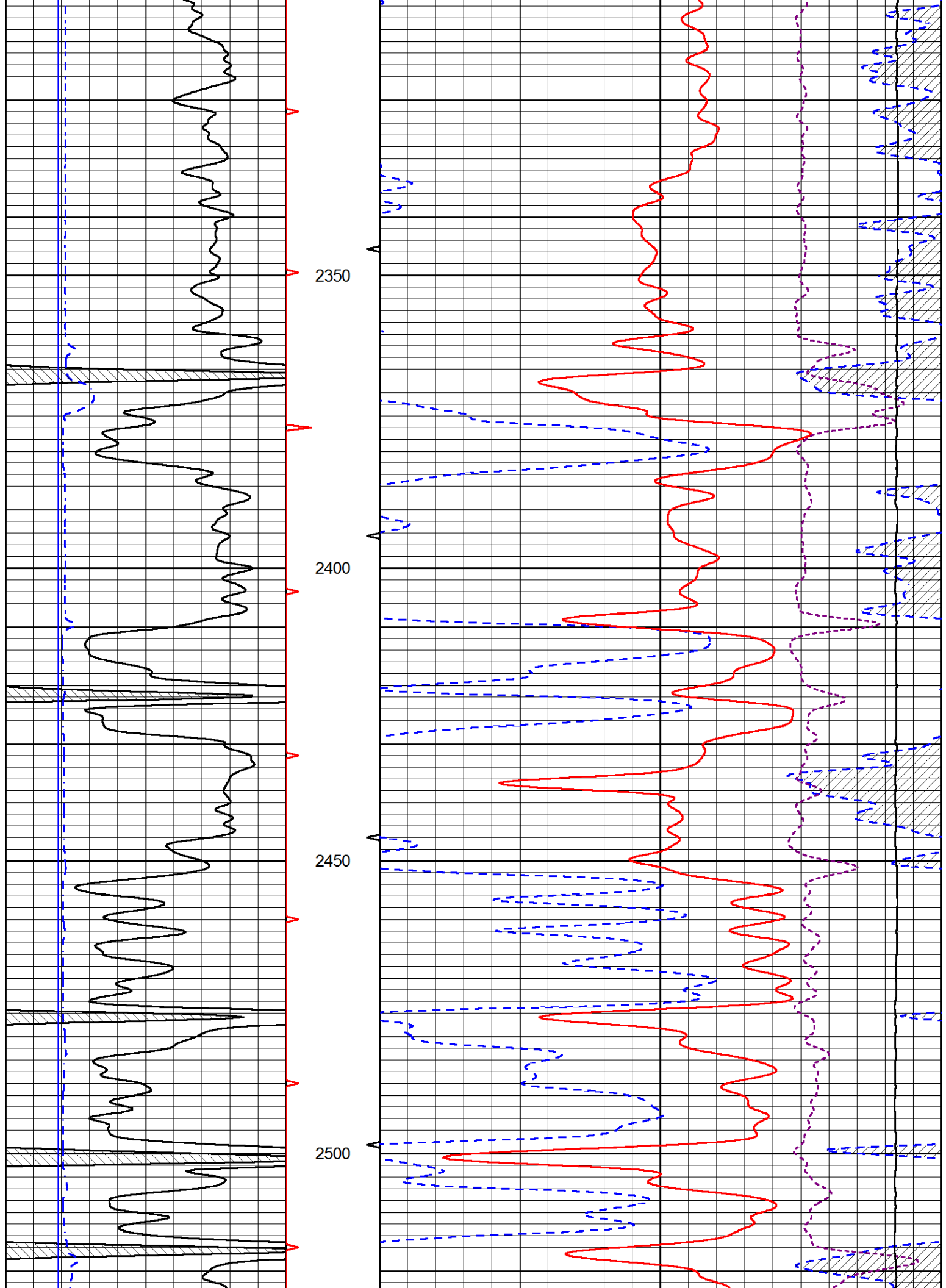


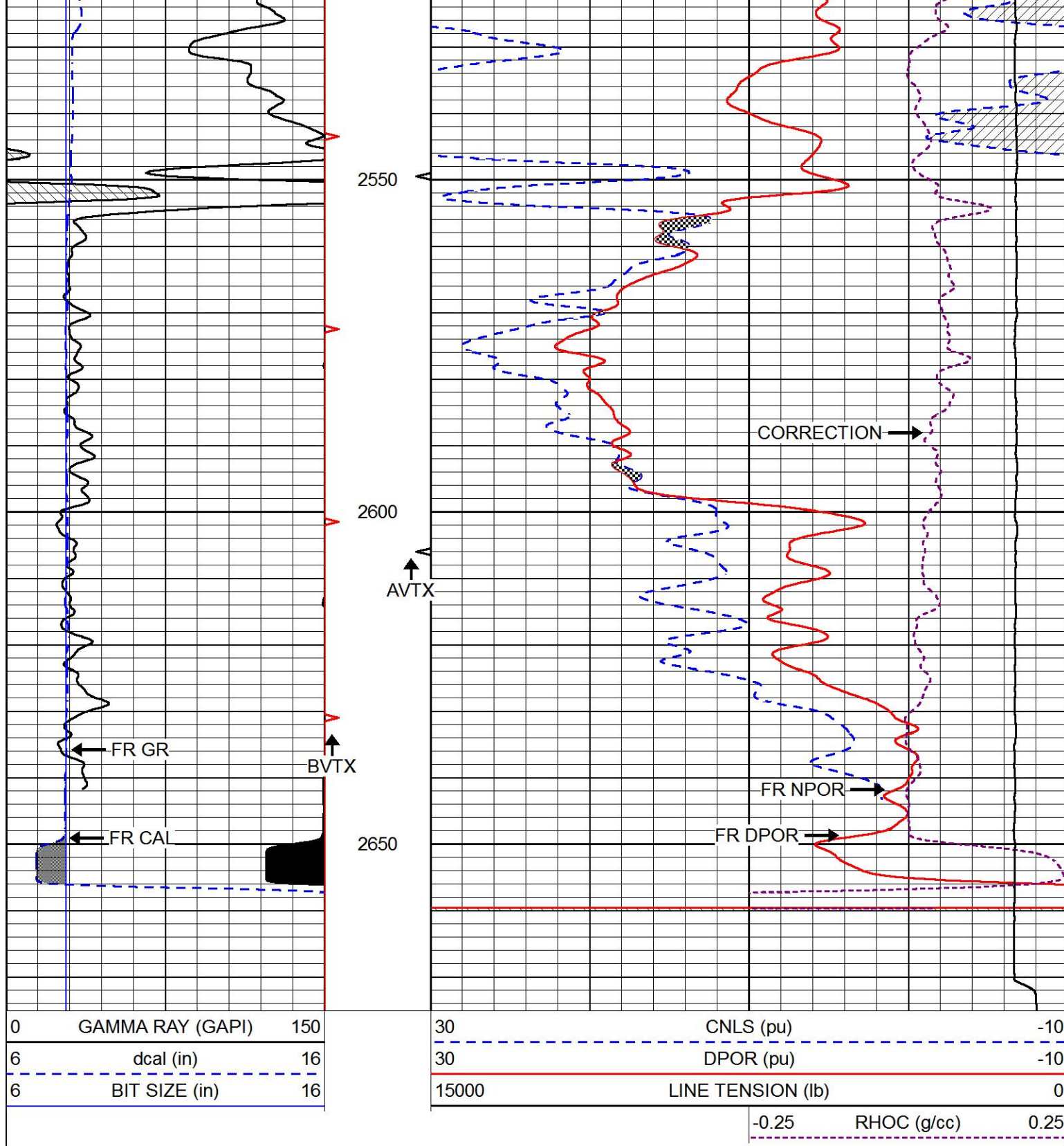












REPEAT SECTION

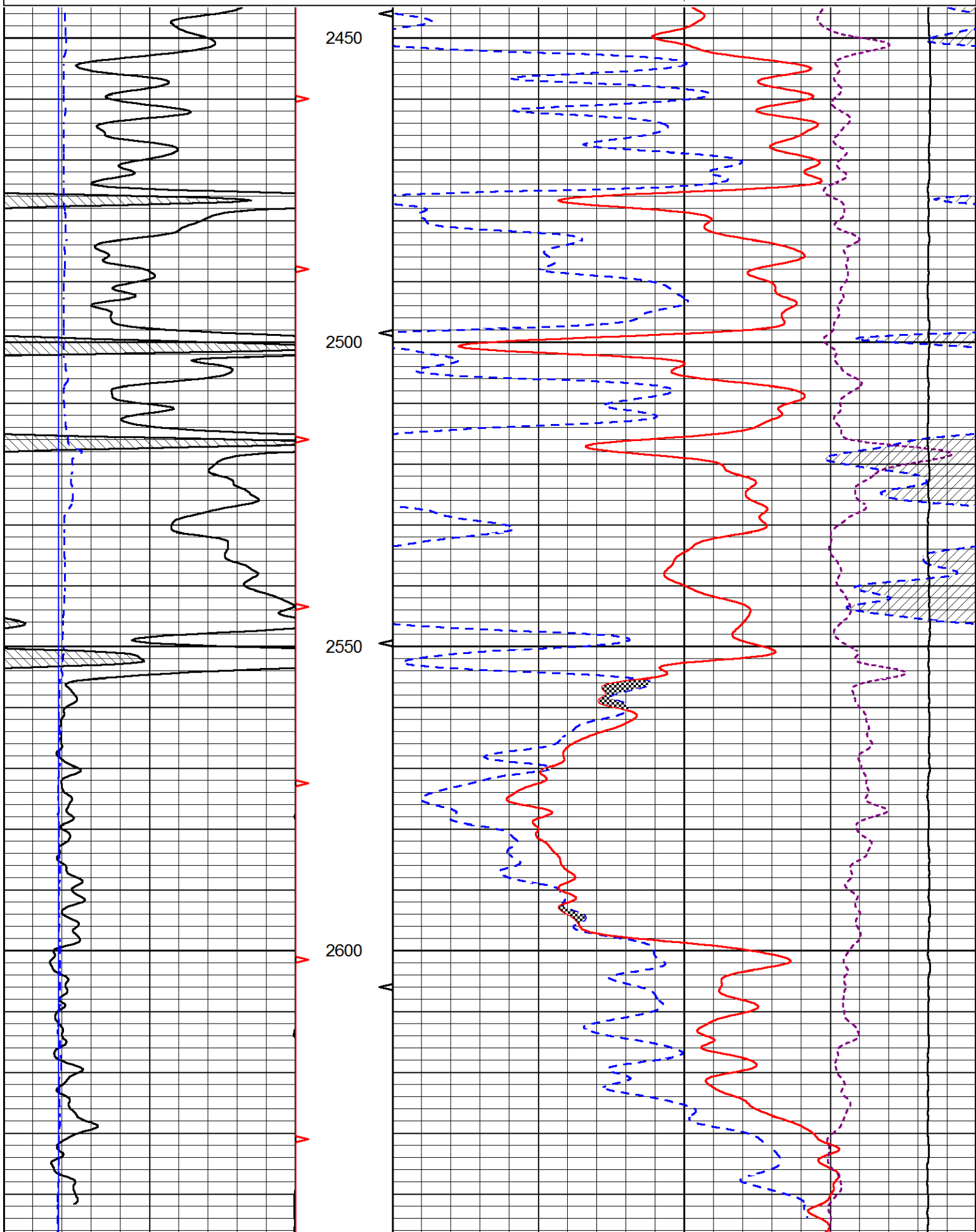
Database File igwt_varner_farms_2_28.db
 Dataset Pathname stack/pass2.1
 Presentation Format cndlspec
 Dataset Creation Mon Nov 05 10:18:24 2018
 Charted by Depth in Feet scaled 1:240

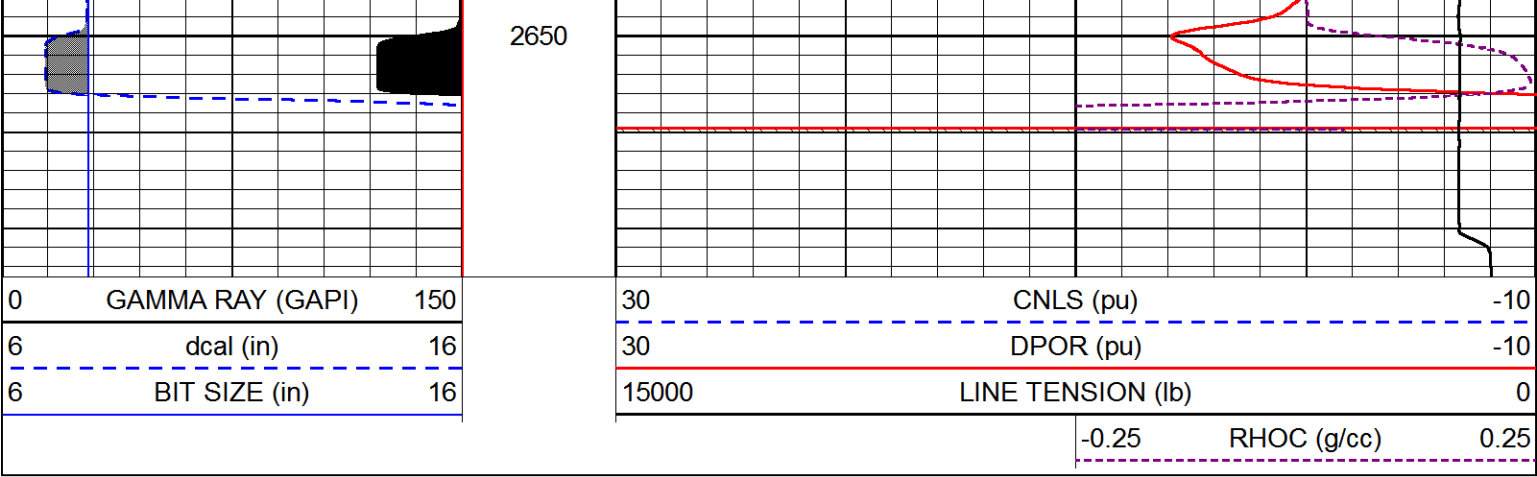


	GAMMA RAY (GAPI)	130
6	dcal (in)	16
6	BIT SIZE (in)	16

50	CNLS (pu)	-10
30	DPOR (pu)	-10
15000	LINE TENSION (lb)	0

-0.25	RHOC (g/cc)	0.25
-------	-------------	------





Calibration Report

Database File igwt_varner_farms_2_28.db
Dataset Pathname stack/pass3.1
Dataset Creation Mon Nov 05 10:17:47 2018

Dual Induction Calibration Report

Serial-Model: 1987-M&W
Calibration Performed: Thu Aug 09 22:42:18 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.550	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500

Compensated Density Calibration Report

Serial-Model: 168-130-M&W
Source / Verifier: /
Master Calibration Performed: Thu Aug 09 22:42:28 2018

Master Calibration							
	Density			Far Detector		Near Detector	
Magnesium	1.755	g/cc		4659.47		5064.14	cps
Aluminum	2.700	g/cc		853.93		3180.74	cps
Spine Angle = 74.67				Density/Spine Ratio = 0.537			
	Size			Reading			
Small Ring	4.00	in		0.90			
Large Ring	14.00	in		0.21			

Compensated Neutron Calibration Report

Serial Number: tk10-MW
Tool Model: M&W
Calibration Performed: Wed Nov 16 11:21:36 2016

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-M&W	
Tool Model:	M&W	
Calibration Performed:	Tue Apr 11 17:08:01 2017	
Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps

 PIONEER Pioneer Energy Services	Company	IGWT, INC.
	Well	VARNER FARMS NO. 2-28
	Field	PIERCE
	County	BUTLER
	State	KANSAS