



DUAL COMP POROSITY LOG

Pioneer Energy Services

Company CFA OIL COMPANY
 Well RUDOLPH NO.1
 Field WILDCAT
 County RILEY
 State KANSAS

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 Field WILDCAT
 County RILEY State KANSAS

Location: API #: 15-161-20082-00-00
 330' FNL & 989' FEL
 E2-NW-NE-NE
 SEC 14 TWP 11S RGE 8E
 Permanent Datum GROUND LEVEL Elevation 1169'
 Log Measured From KELLY BUSHING
 Drilling Measured From KELLY BUSHING
 Other Services DIL
 Elevation
 K.B. 1178'
 D.F. N/A
 G.L. 1169'

Date 12/30/2018

Run Number	ONE
Type Log	CNL/CDL
Depth Driller	2173'
Depth Logger	2165'
Bottom Logged Interval	2144'
Top Logged Interval	300'
Type Fluid In Hole	CHEMICAL
Salinity, PPM CL	800
Density	9.7
Level	FULL
Max. Rec. Temp. F	98 DEG/F
Operating Rig Time	3 HR
Equipment -- Location	108 HAYS
Recorded By	M. HISS
Witnessed By	DON CLARK KEVIN BAILEY

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	00'	350'	8.625"	23#	00'	350'
TWO	7.875"	350'	TD				

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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.
 I-70 EXIT 316 (DEEP CREEK RD)
 2.5 NORTH 1/2 EAST INTO

Log Measured From: KELLY BUSHING 9' Ft. Above Permanent Datum

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

Your Pioneer Energy Services Crew

Engineer: M. HISS
 Operator:
 Operator:
 Operator:

This Log Record Was Witnessed By

Primary Witness: DON CLARK
 Secondary Witness: KEVIN BAILEY
 Secondary Witness:
 Secondary Witness:

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 29.15		CNT-M&W (tk10-MW)	5.50	3.50	100.00
LSD DCAL SSD	20.85 20.83 20.35		CDL-M&W (934-5002)	8.50	4.00	250.00
RLL3 RLL3F	15.80 15.79		DIL-M&W (PSI 988)	18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					

Dataset: cfa_rudolph_1_2nd.db: field/well/STACK/pass1.5
 Total length: 35.50 ft
 Total weight: 620.00 lb
 O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\cfa_rudolph_1_2nd.db
 Dataset field/well/STACK/pass1.5/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	98	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	262	40	Off	2165

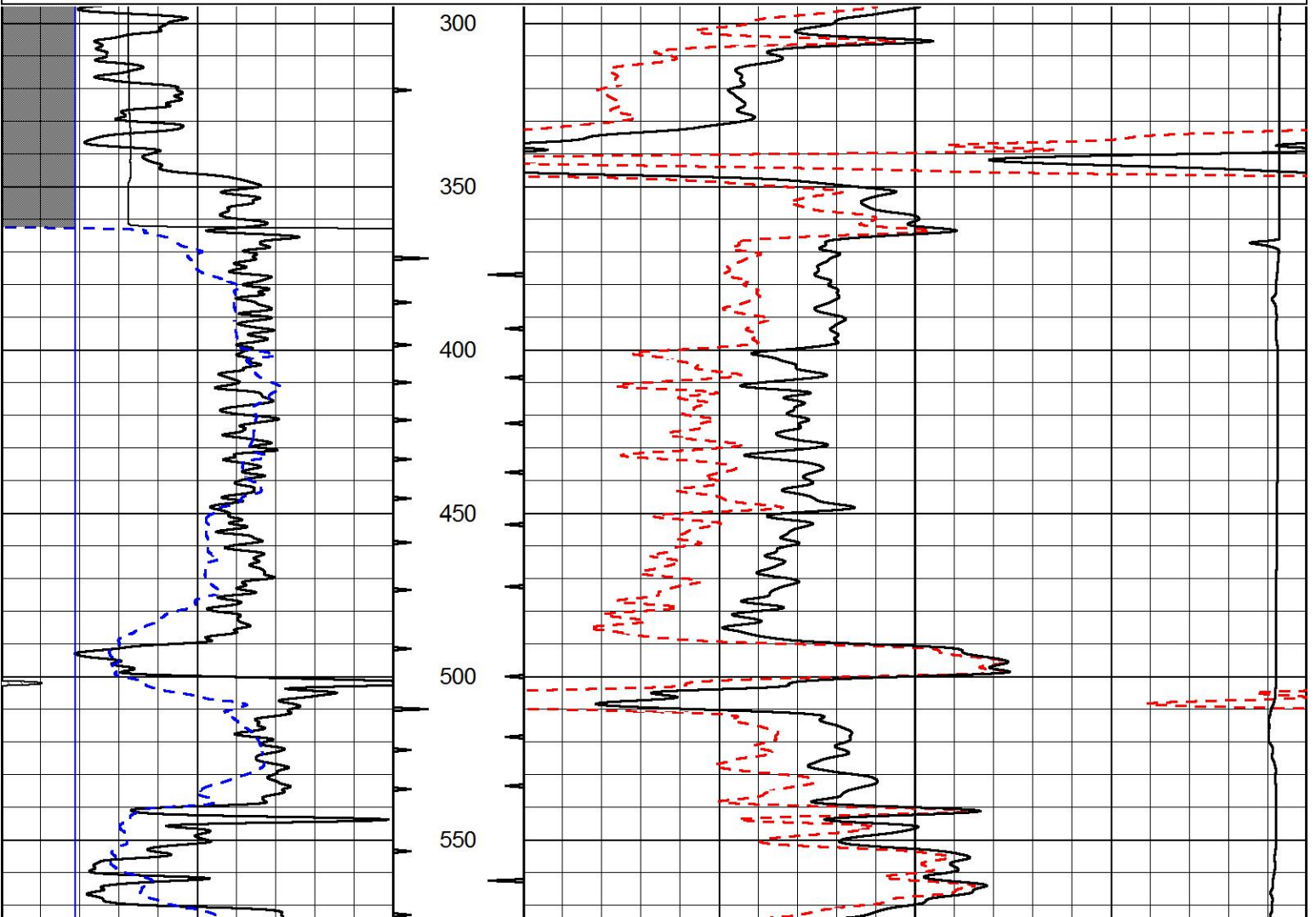


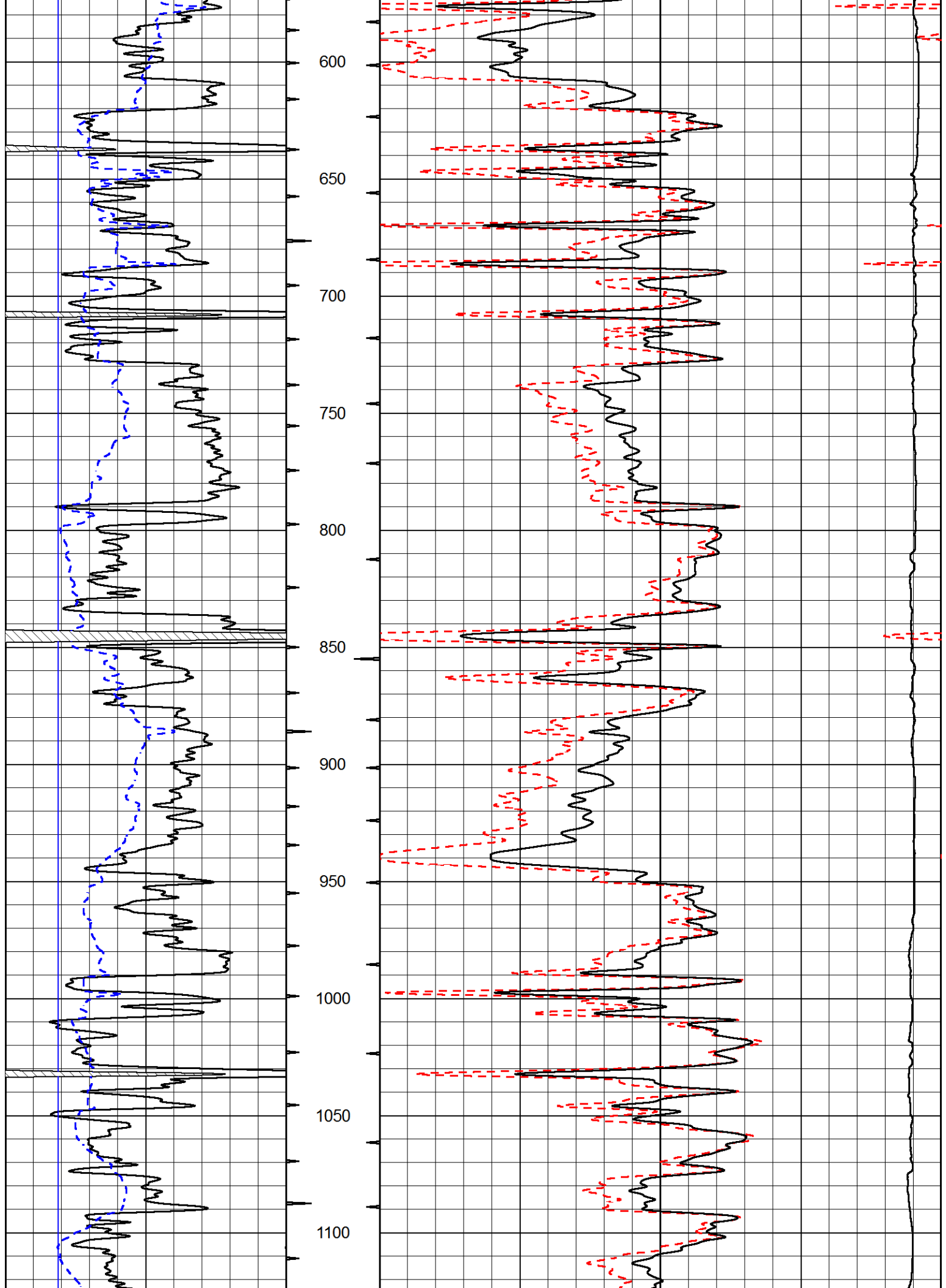
MAIN PASS

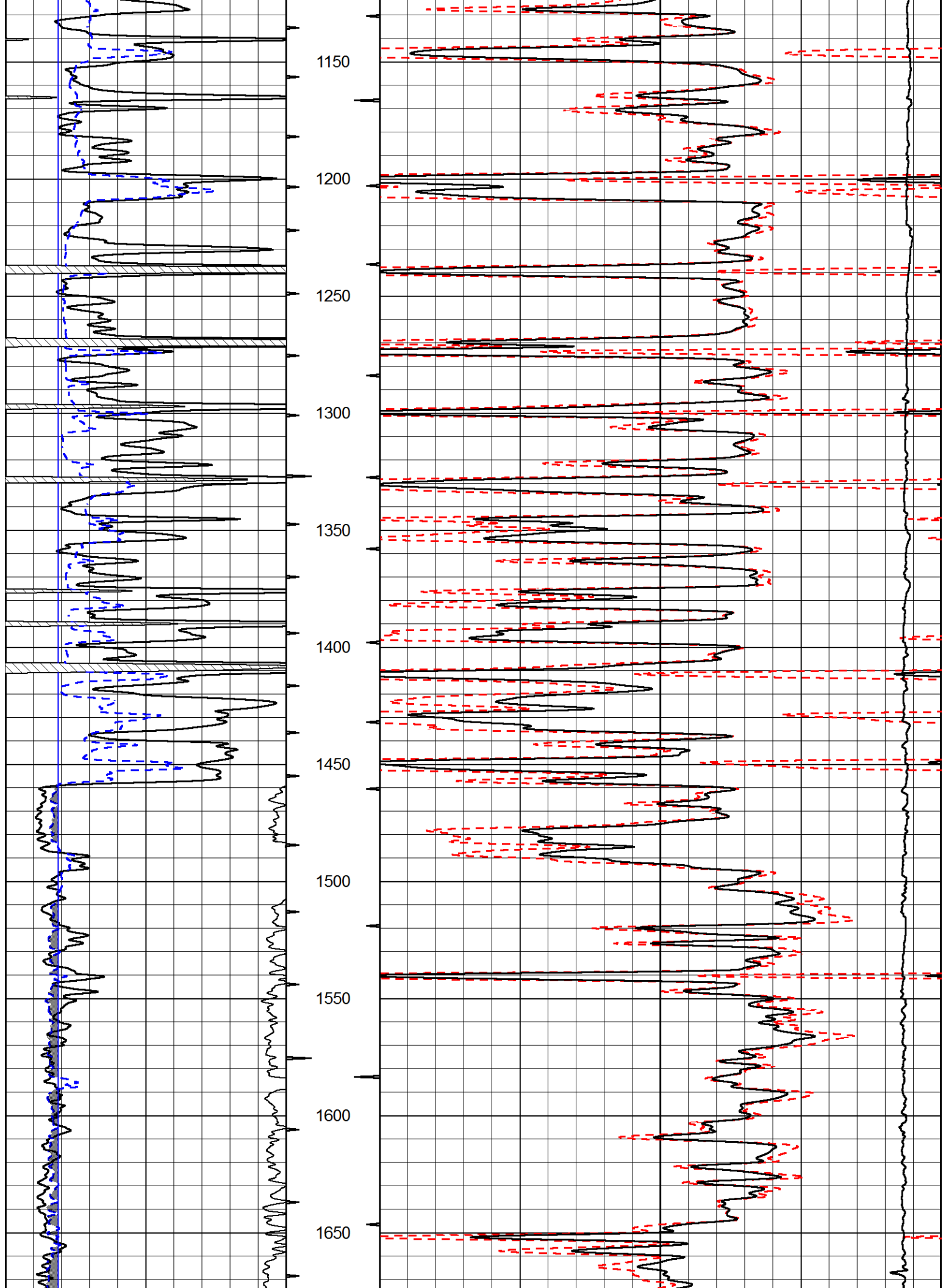
Database File cfa_rudolph_1_2nd.db
 Dataset Pathname STACK/pass1.1
 Presentation Format cdl
 Dataset Creation Sun Dec 30 21:03:44 2018
 Charted by Depth in Feet scaled 1:600

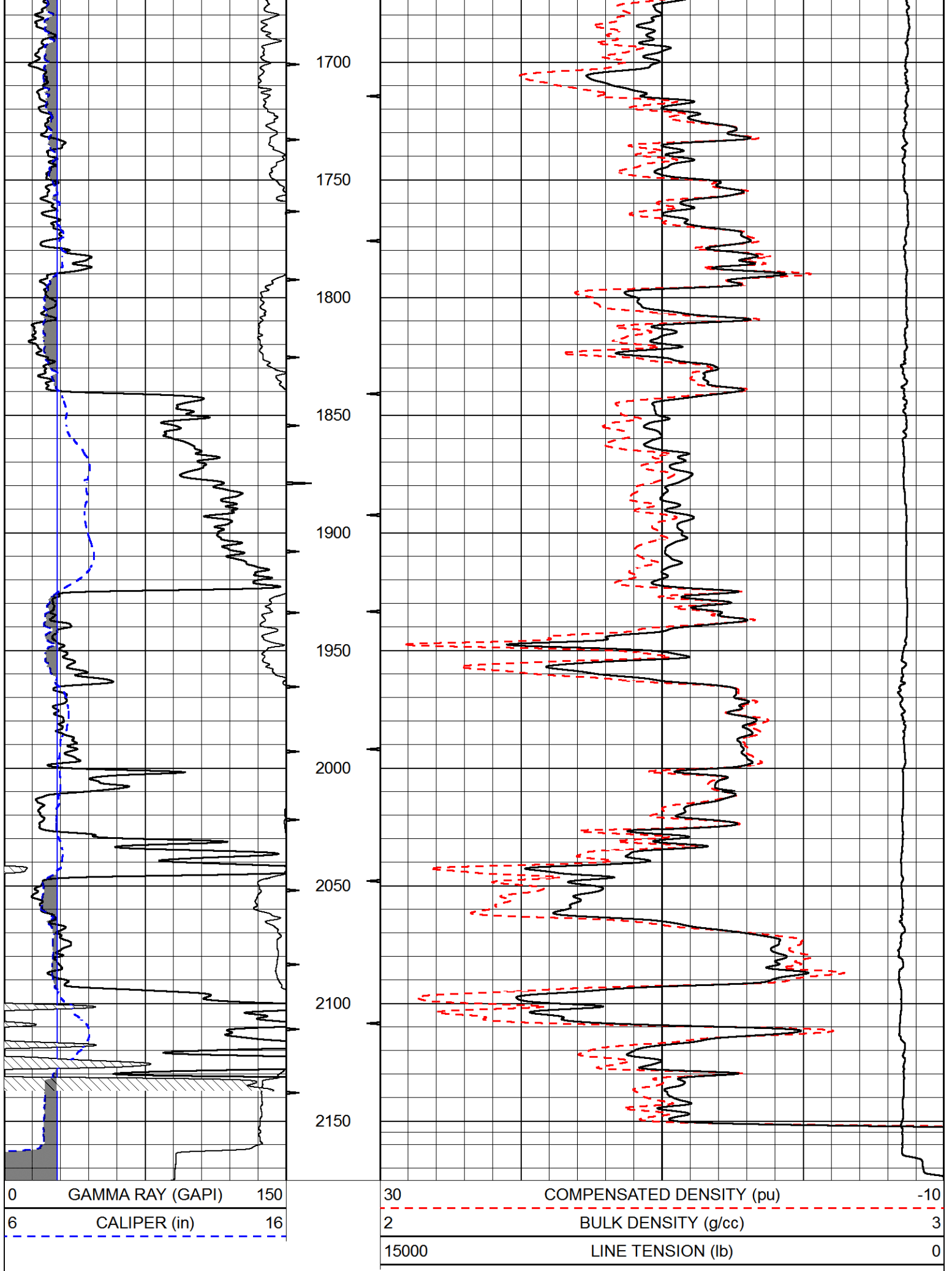
0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16

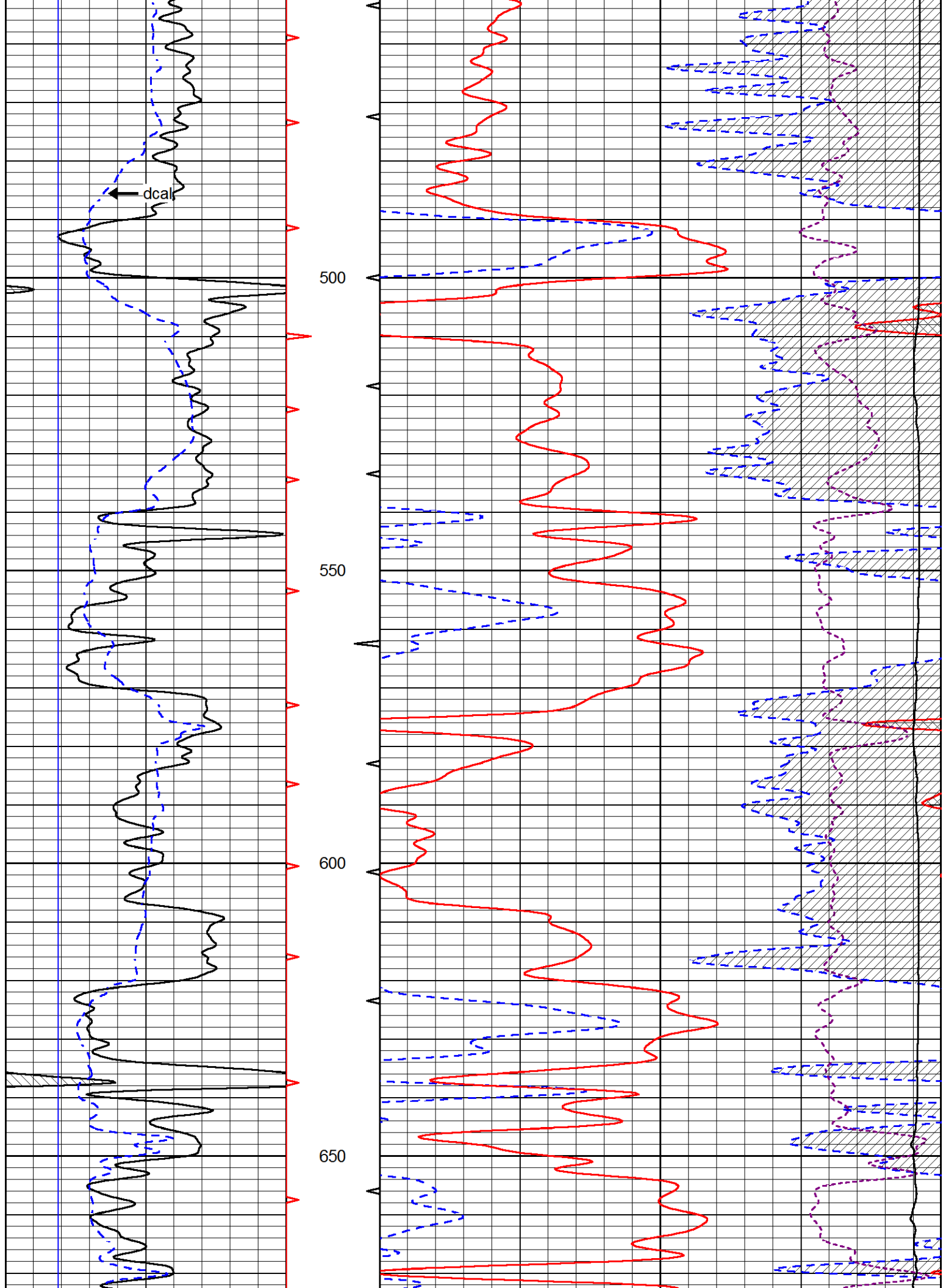
30	COMPENSATED DENSITY (pu)	-10
2	BULK DENSITY (g/cc)	3
15000	LINE TENSION (lb)	0

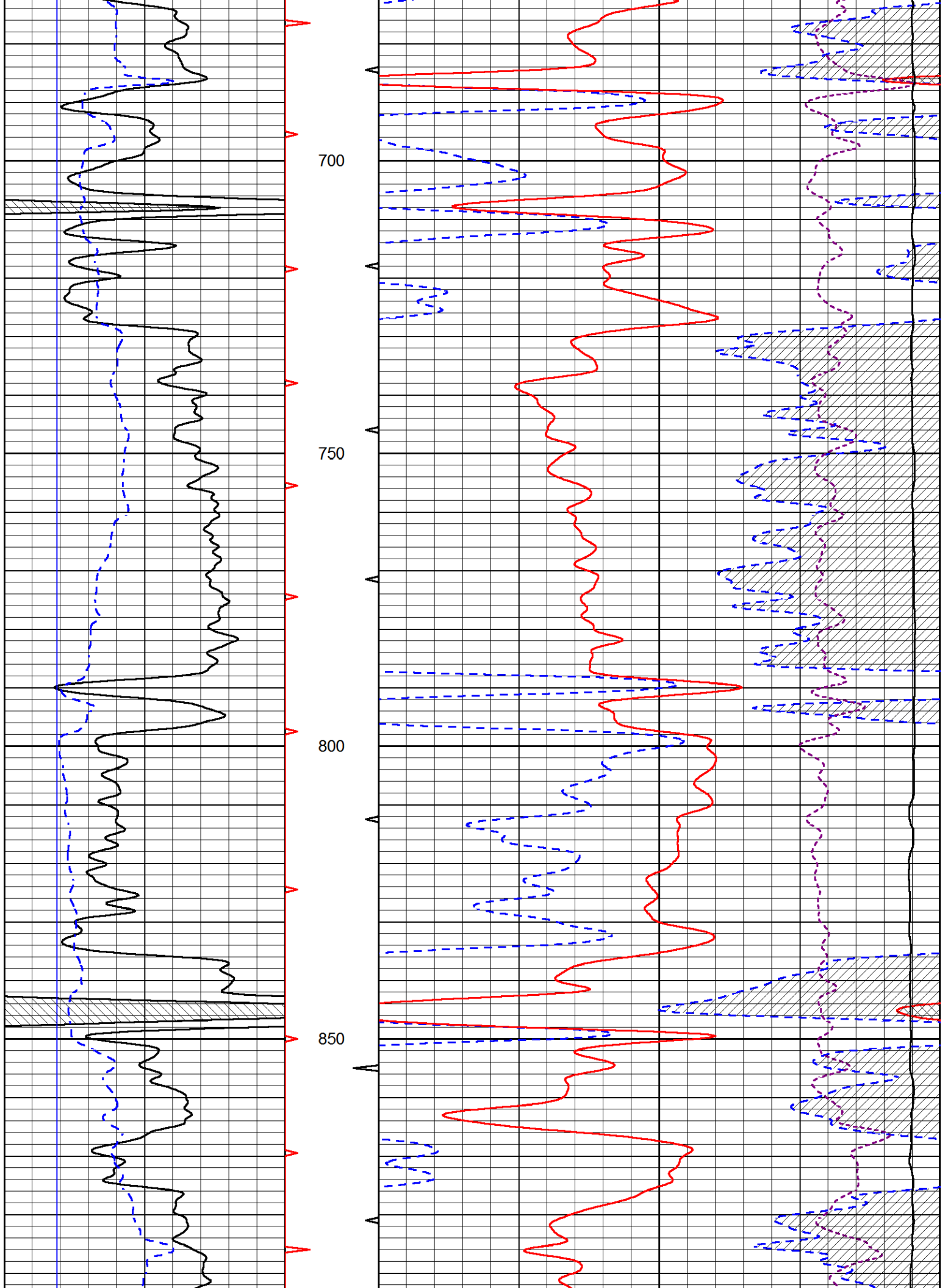


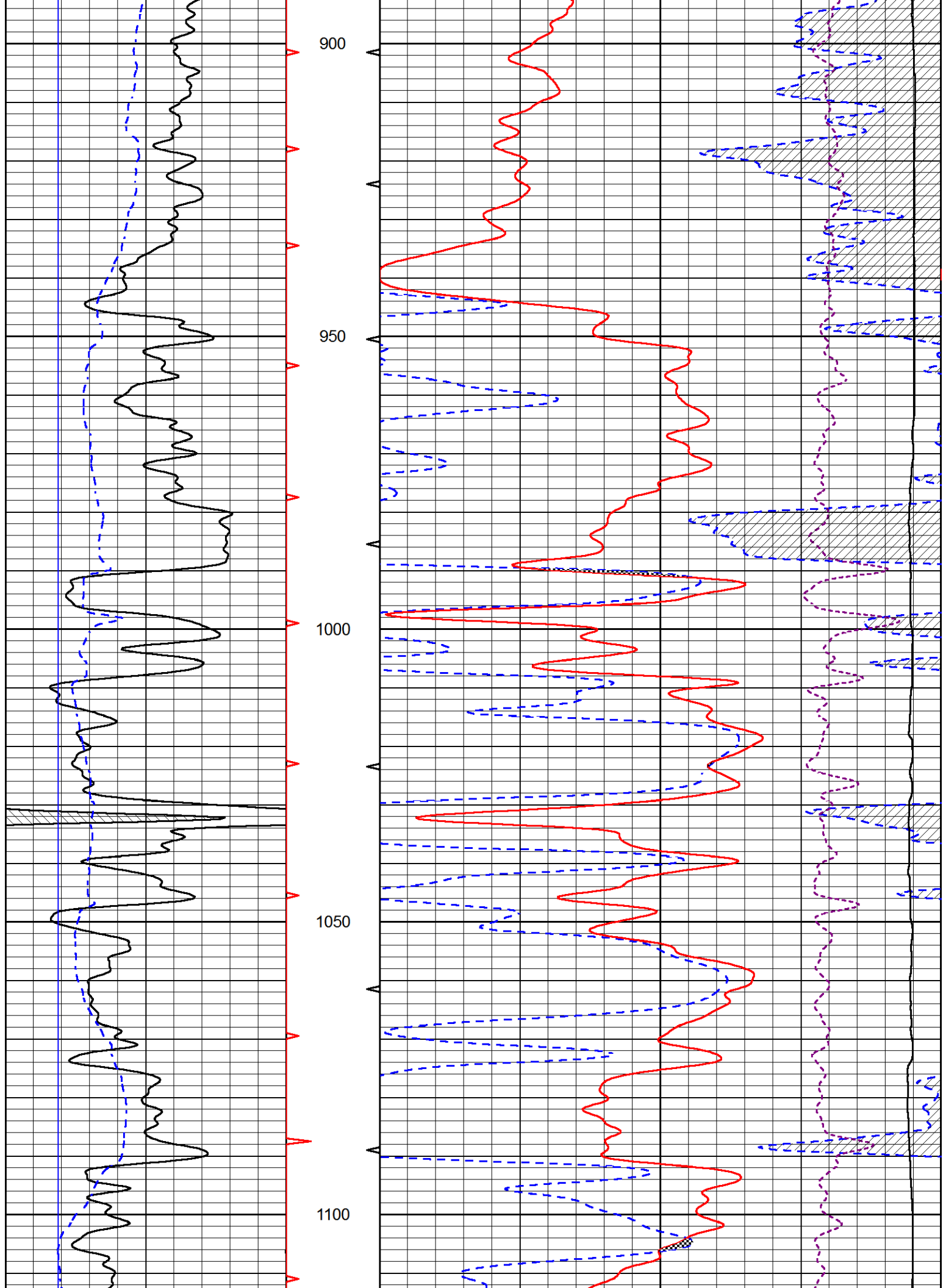


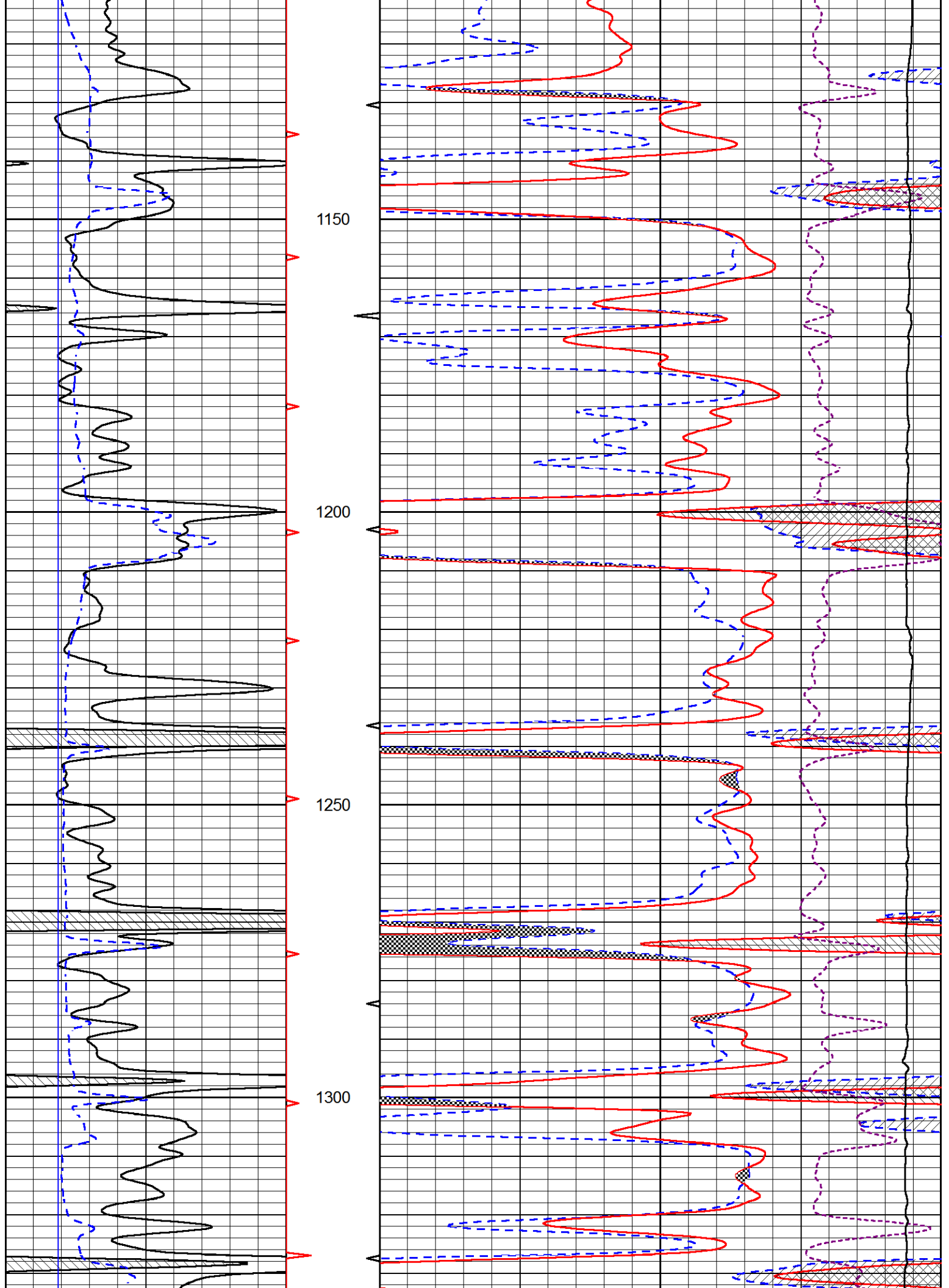


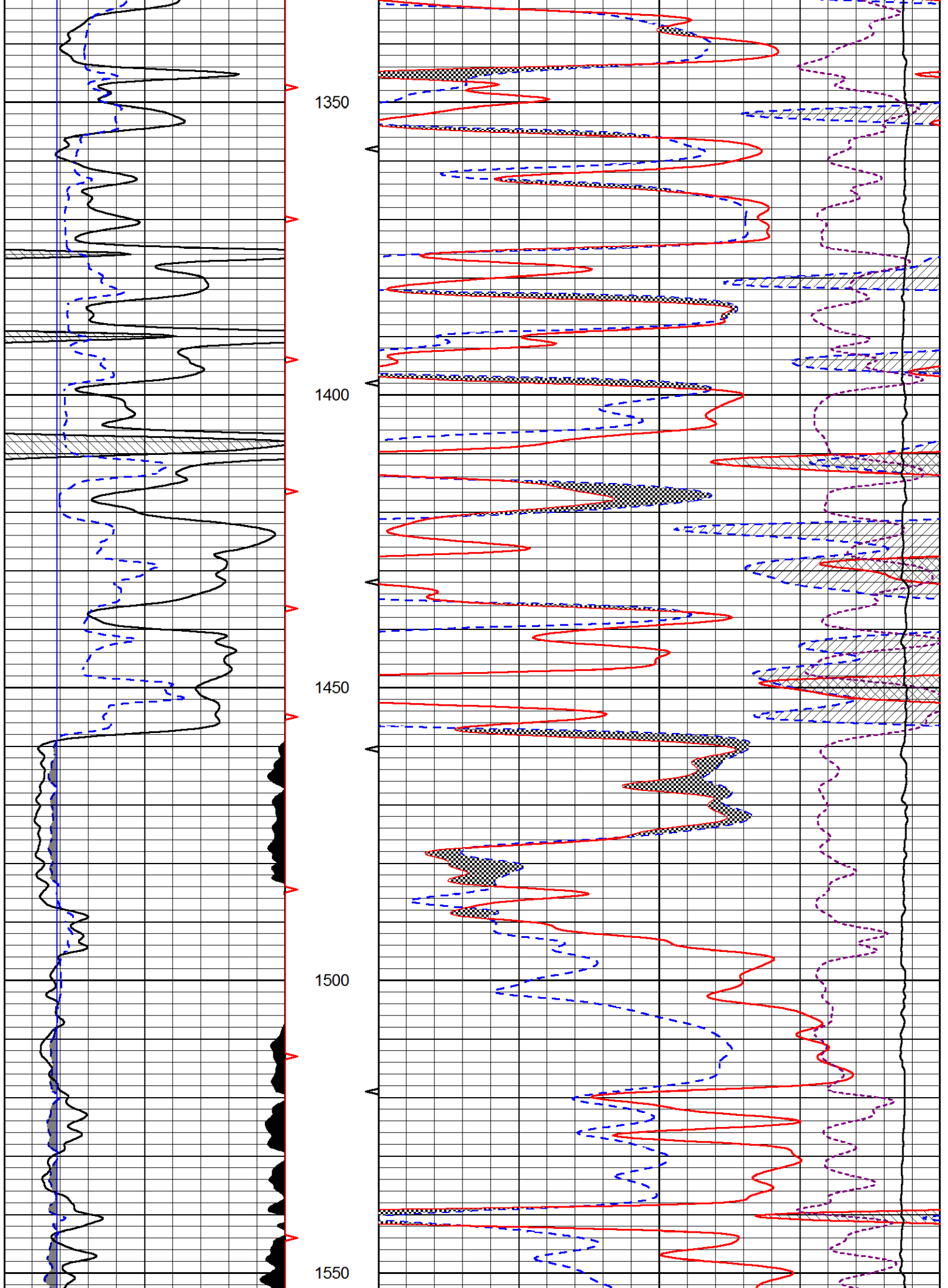


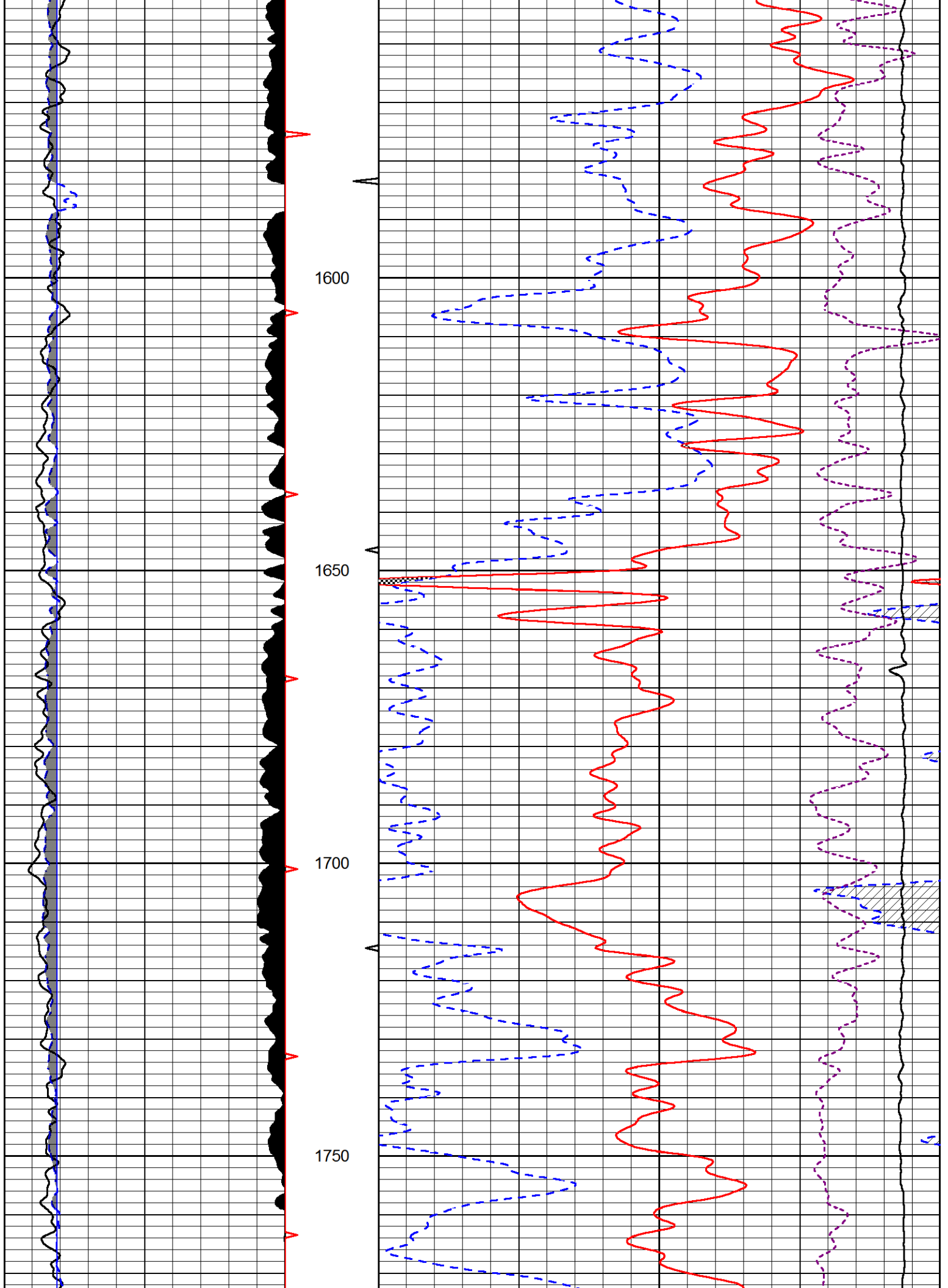


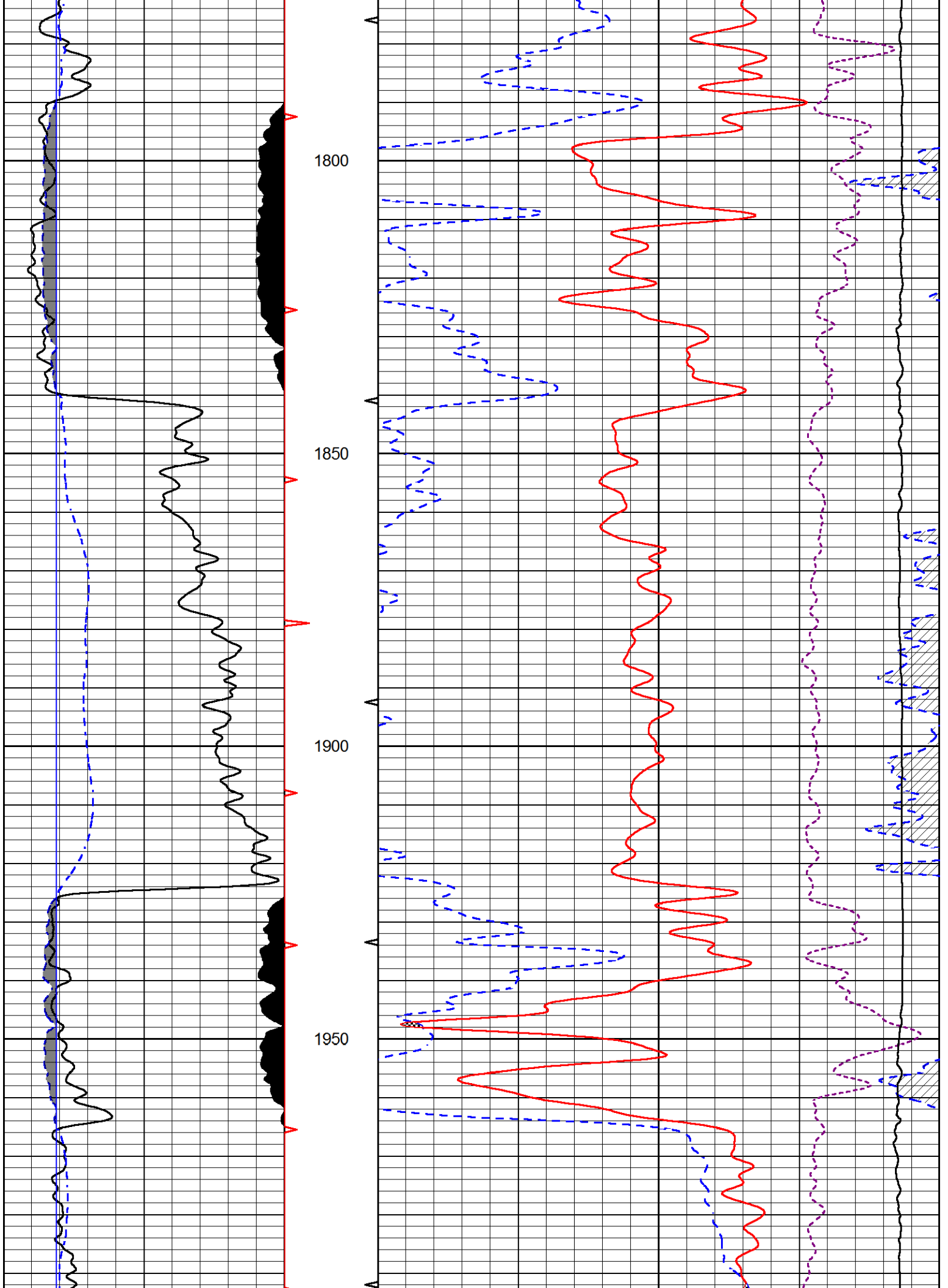


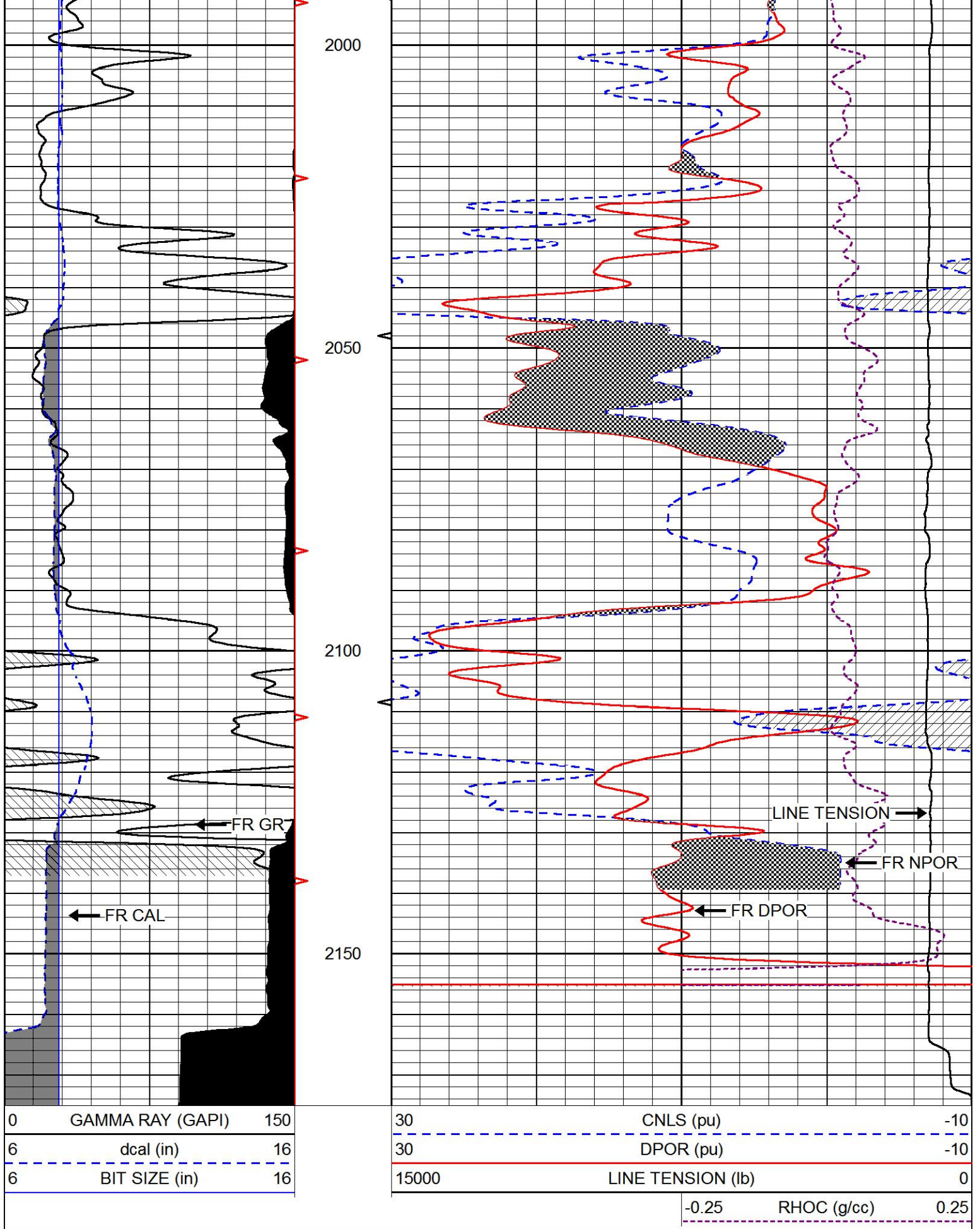










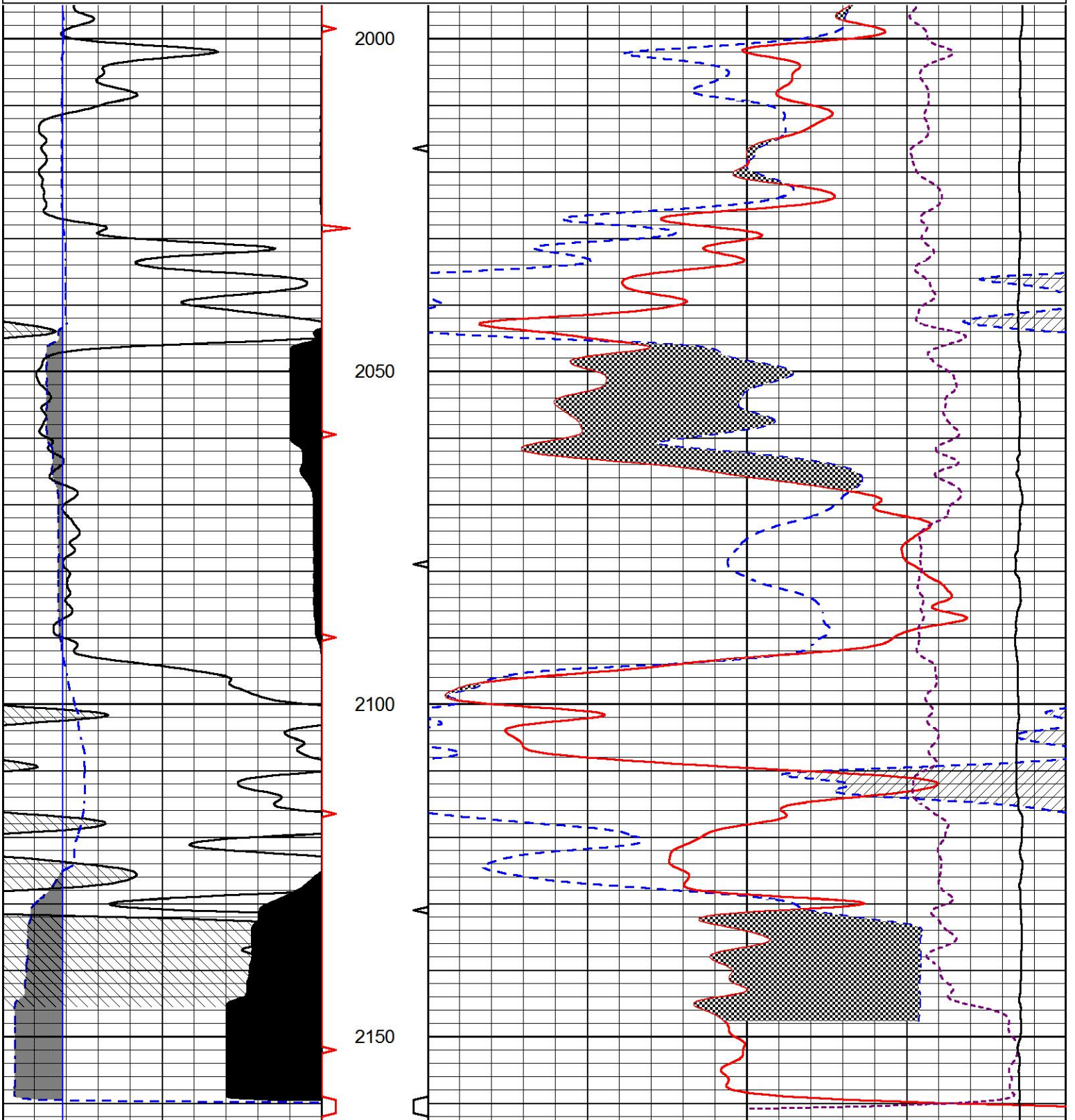


REPEAT SECTION

Database File cfa_rudolph_1.db
 Dataset Pathname STACK/pass2.3
 Presentation Format cndlspec
 Dataset Creation Sun Dec 30 20:12:11 2018
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	dcal (in)	16
6	BIT SIZE (in)	16

30	CNLS (pu)	-10
30	DPOR (pu)	-10
15000	LINE TENSION (lb)	0
	RHOC (g/cc)	-0.25 0.25



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

Calibration Report

Database File cfa_rudolph_1_2nd.db
 Dataset Pathname STACK/pass1.5
 Dataset Creation Sun Dec 30 20:06:41 2018

Dual Induction Calibration Report

Serial-Model: PSI 988-M&W
 Calibration Performed: Tue Nov 20 10:50:19 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.525	-43.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.380	-20.500

Compensated Density Calibration Report

Serial-Model: 934-5002-M&W
 Source / Verifier: /
 Master Calibration Performed: Wed Aug 29 11:03:55 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	3720.16	2661.79	cps
Aluminum	2.675	g/cc	696.57	1725.83	cps
Spine Angle = 75.50			Density/Spine Ratio = 0.532		
	Size		Reading		
Small Ring	4.00	in	1.16		
Large Ring	16.00	in	1.01		

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

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Field	WILDCAT
County	RILEY
State	KANSAS