



PIONEER

Pioneer Energy Services NC.

DUAL COMP POROSITY LOG

Company PICKRELL DRILLING COMPANY, INC.
Well STARRETT B #5
Field START
County NESS
State KANSAS

Company PICKRELL DRILLING COMPANY, INC.
Well STARRETT B #5
Field START
County NESS
State KANSAS

Location: API #: 15-135-26044-00-00
1760' FNL & 2310' FEL
SEC 12 TWP 17S RGE 21W
Permanent Datum GROUND LEVEL Elevation 2168'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING
Other Services
DIL
MEL
Elevation
K.B. 2175'
D.F. N/A
G.L. 2168'

Date 1/26/2019

Run Number	ONE
Type Log	CNL/CDL
Depth Driller	4150'
Depth Logger	4120'
Bottom Logged Interval	4091'
Top Logged Interval	3200'
Type Fluid In Hole	CHEMICAL
Salinity, PPM CL	7000
Density	8.6
Level	FULL
Max. Rec. Temp. F	118 DEG/F
Operating Rig Time	2 HOURS
Equipment -- Location	108 HAYS
Recorded By	J. HENRICKSON
Witnessed By	AARON YOUNG

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0	430'	8.625"	23#	0	430'
TWO	7.875"	430'	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.
MCCRACKEN KANSAS
1 WEST ON ASH, 1/4 NORTH, 1/2 WEST, NORTH INTO

Log Measured From: KELLY BUSHING 7 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: AARON YOUNG
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 118	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 0	mmho/m 0	mV 110	degF 43	Off	ft 4120

Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58			GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC	37.48			CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	36.73						
LSD DCAL SSD	28.43 28.42 27.93			CDL-M&W (144-84)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83			ML-PSI STKBL ML (PSI-01) Stackable Microlog Tools	7.58	4.00	65.00
RLL3 RLL3F	15.80 15.79						
CILD	8.00			DIL-M&W (PSI 988)	18.50	3.50	220.00

CILM

4.70

SP

0.20

Dataset: pickrell_starrett_b_5.db: field/well/stackml/pass2.1
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in

**PIONEER**

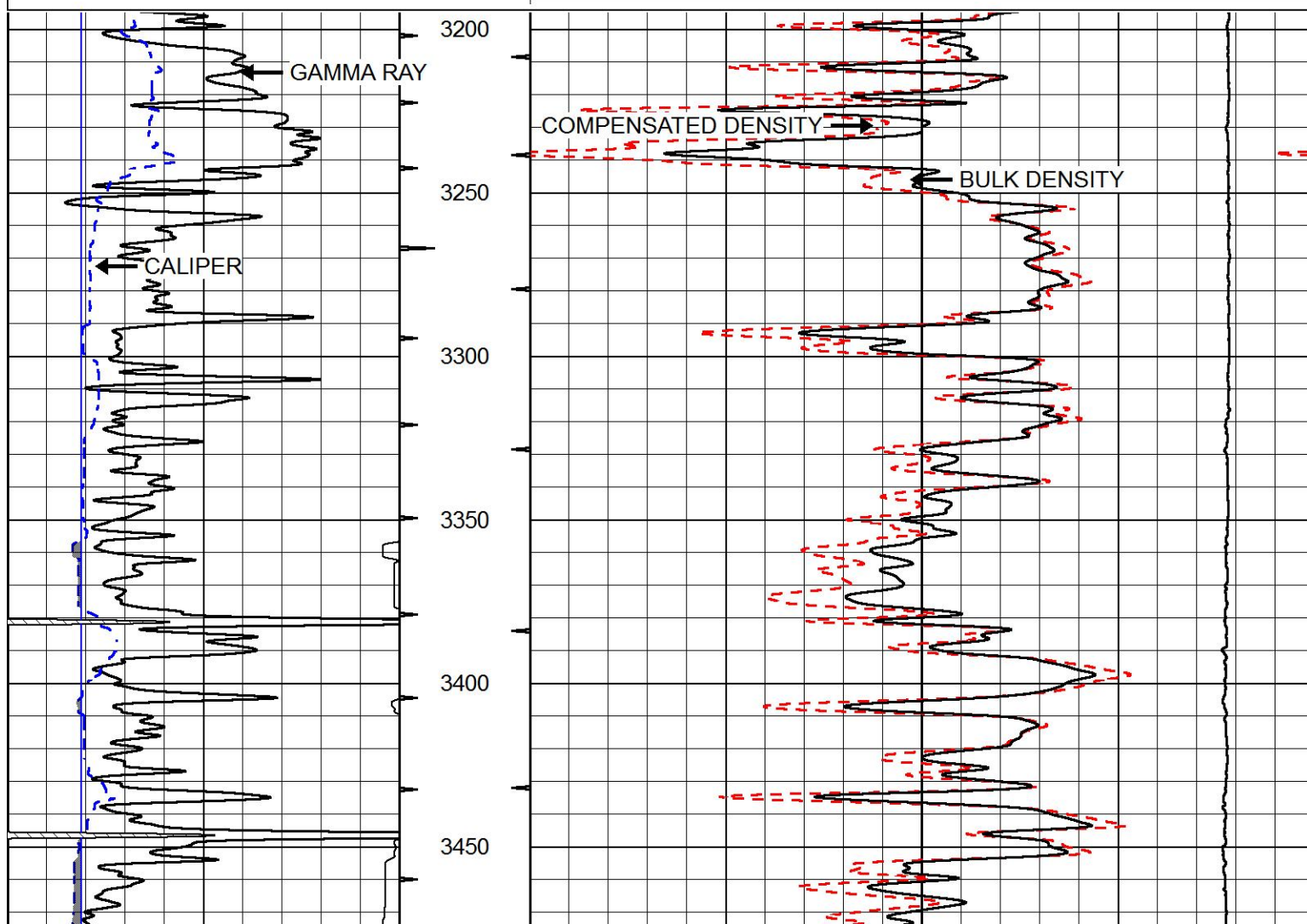
Pioneer Energy Services

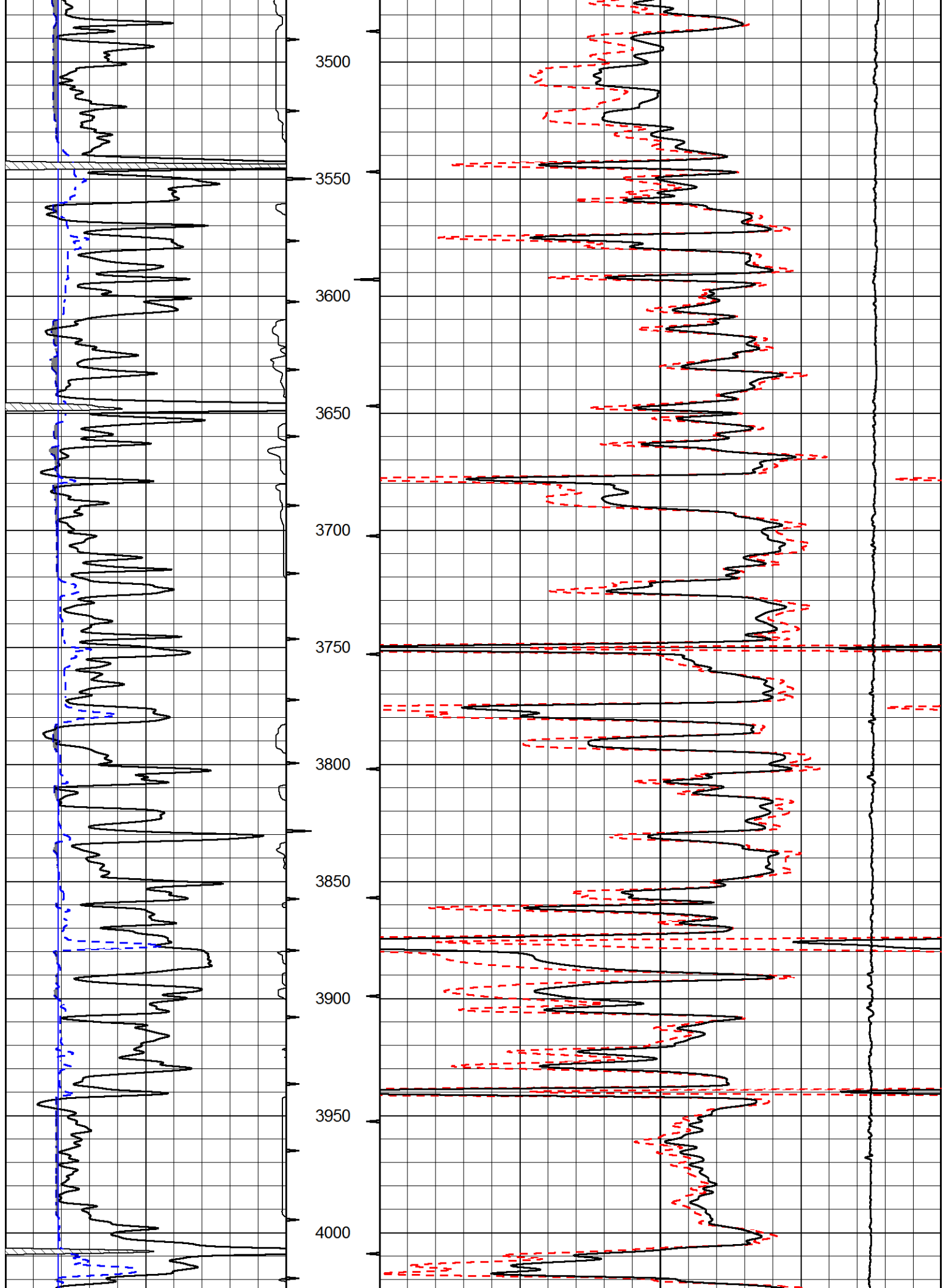
MAIN PASS

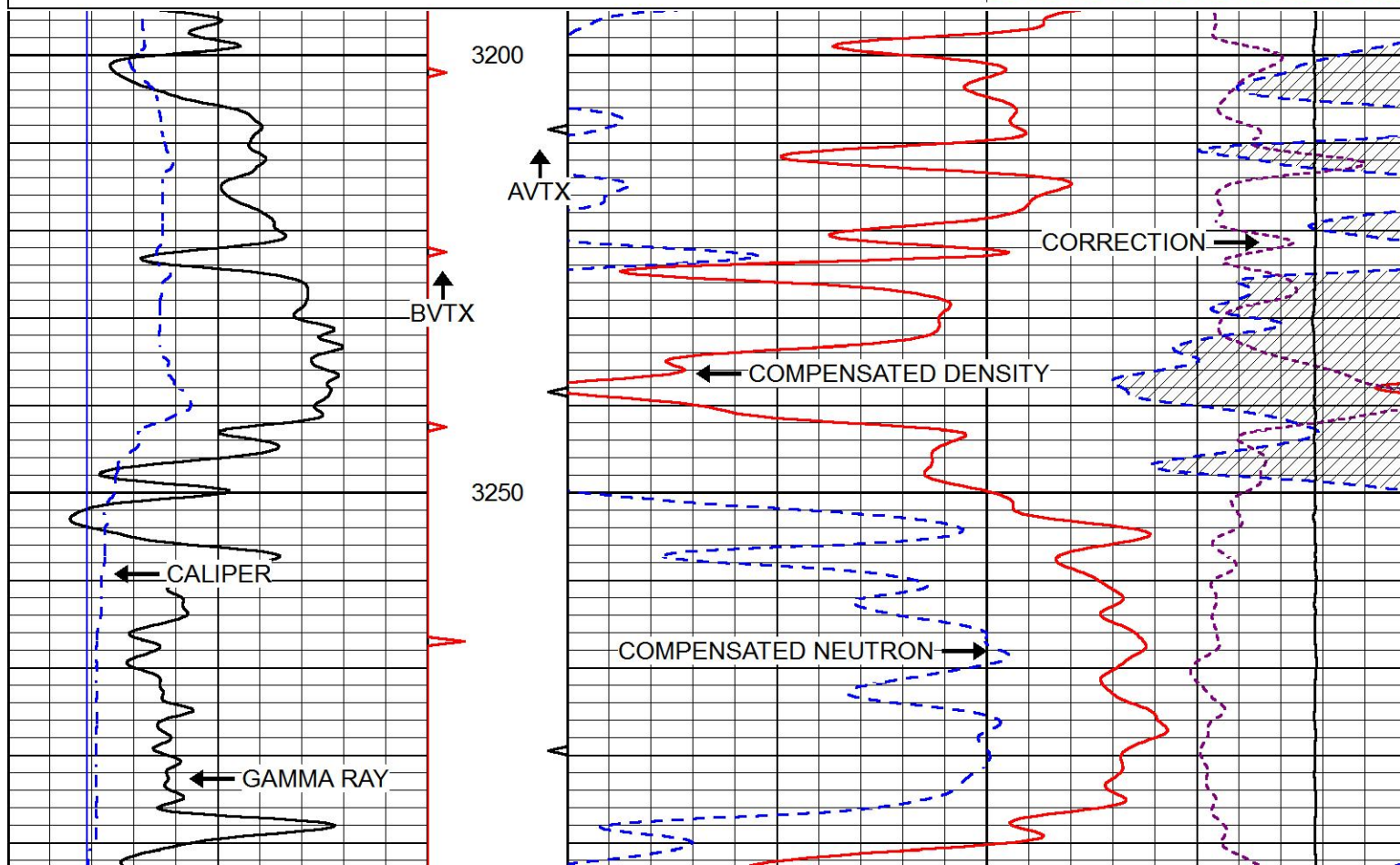
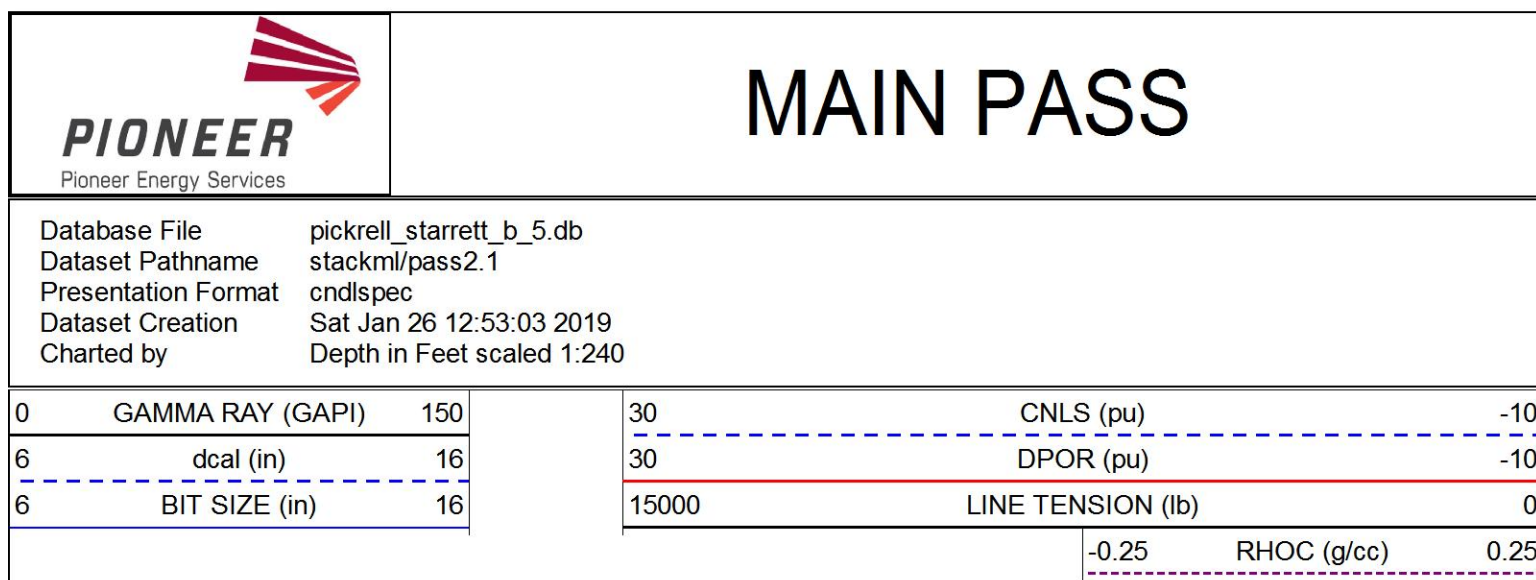
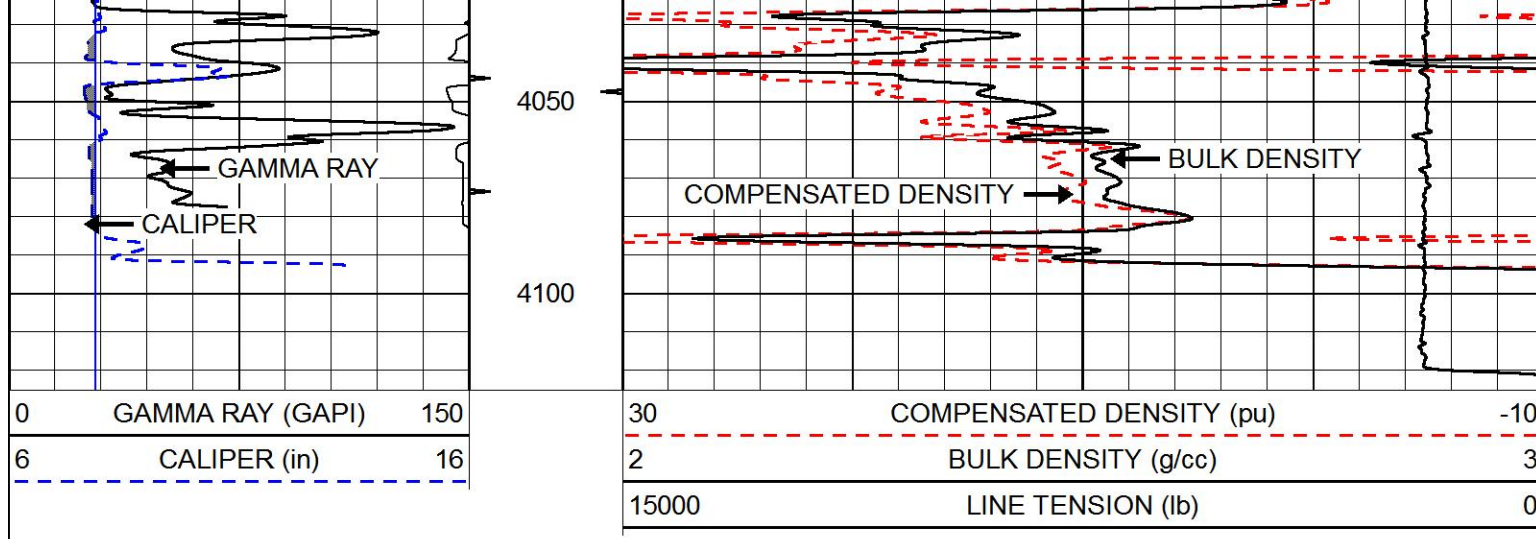
Database File pickrell_starrett_b_5.db
Dataset Pathname stackml/pass2.1
Presentation Format cdl
Dataset Creation Sat Jan 26 12:53:03 2019
Charted by Depth in Feet scaled 1:600

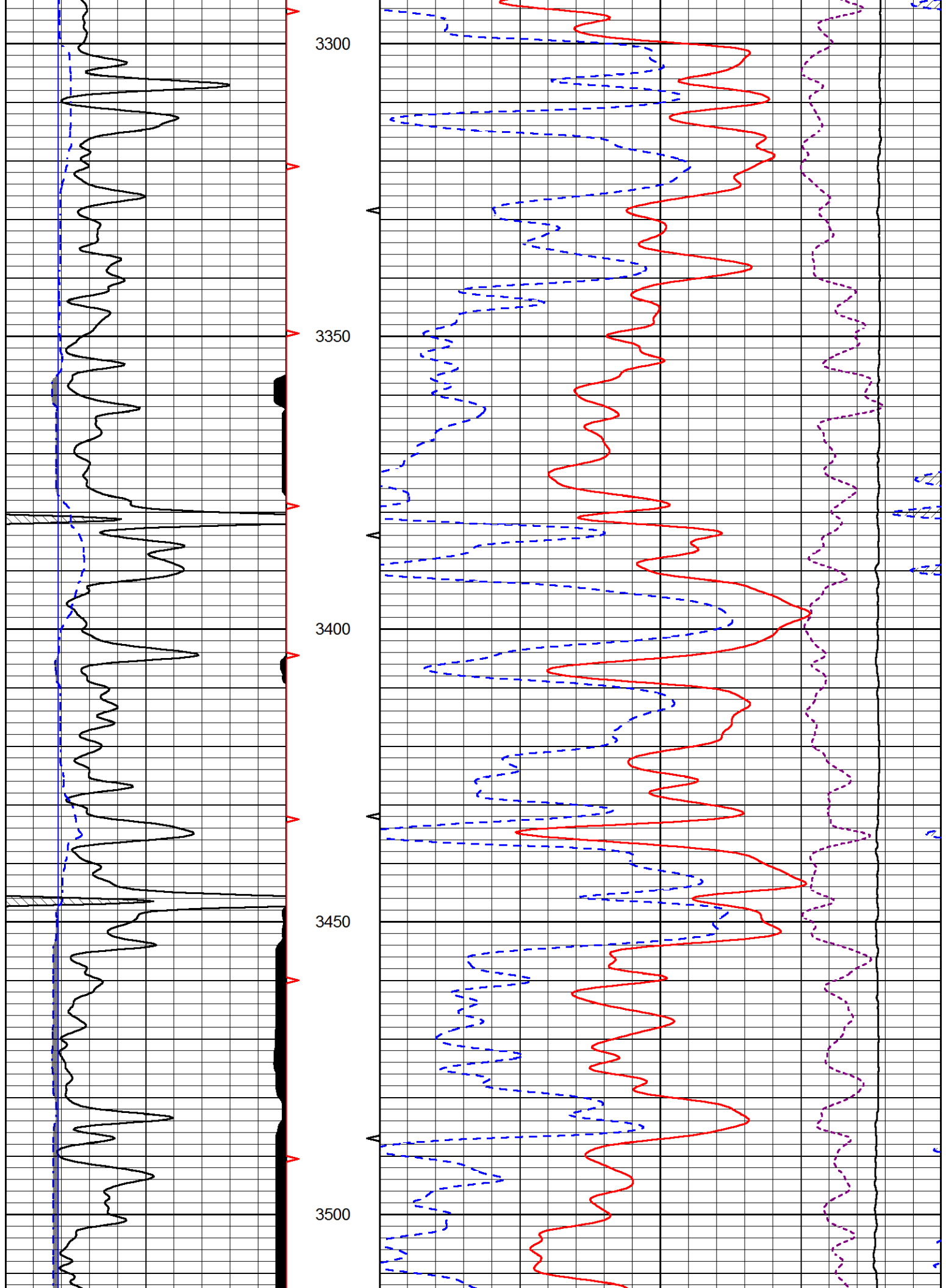
0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16

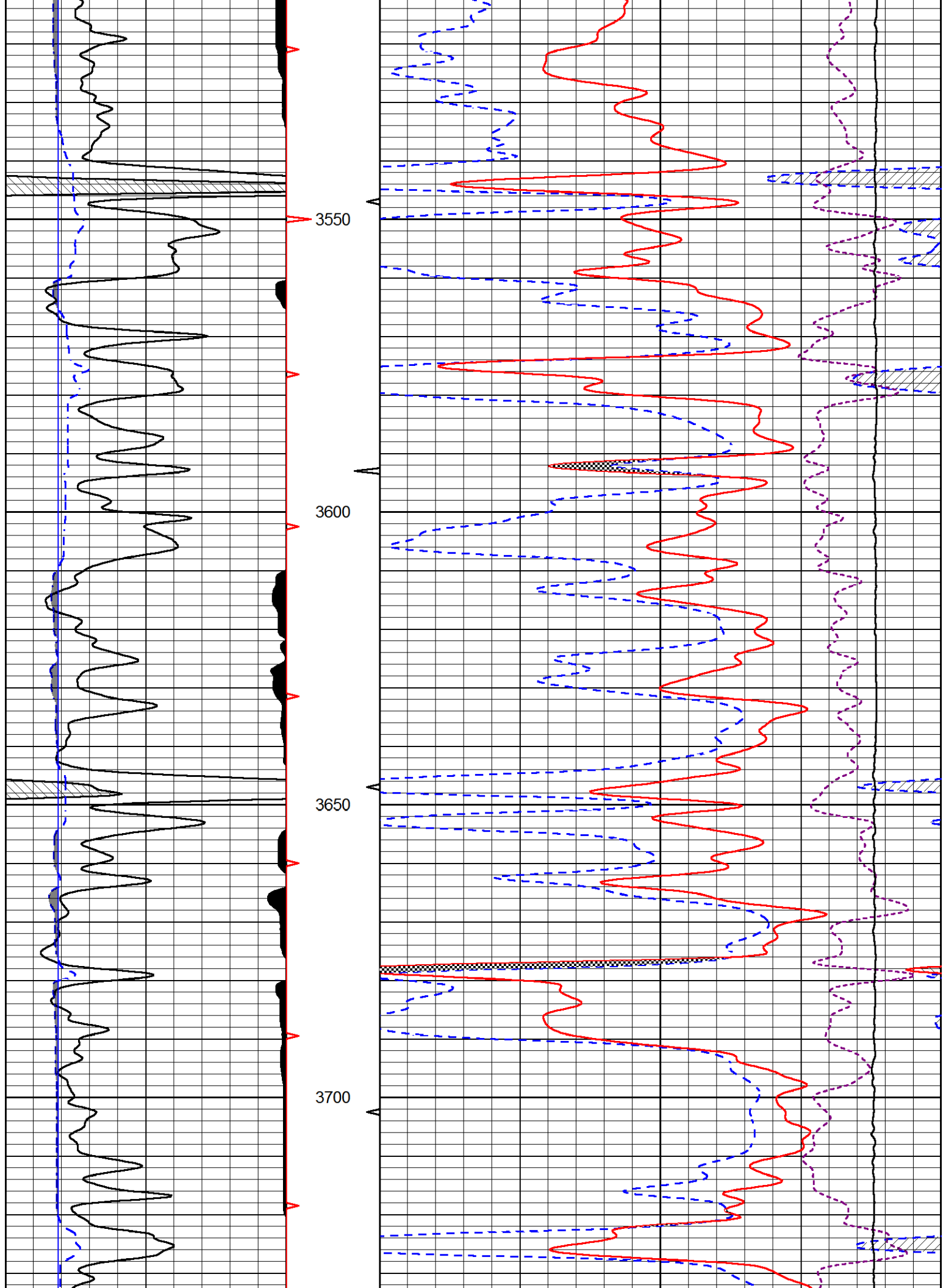
30	COMPENSATED DENSITY (pu)	-10
2	BULK DENSITY (g/cc)	3
15000	LINE TENSION (lb)	0

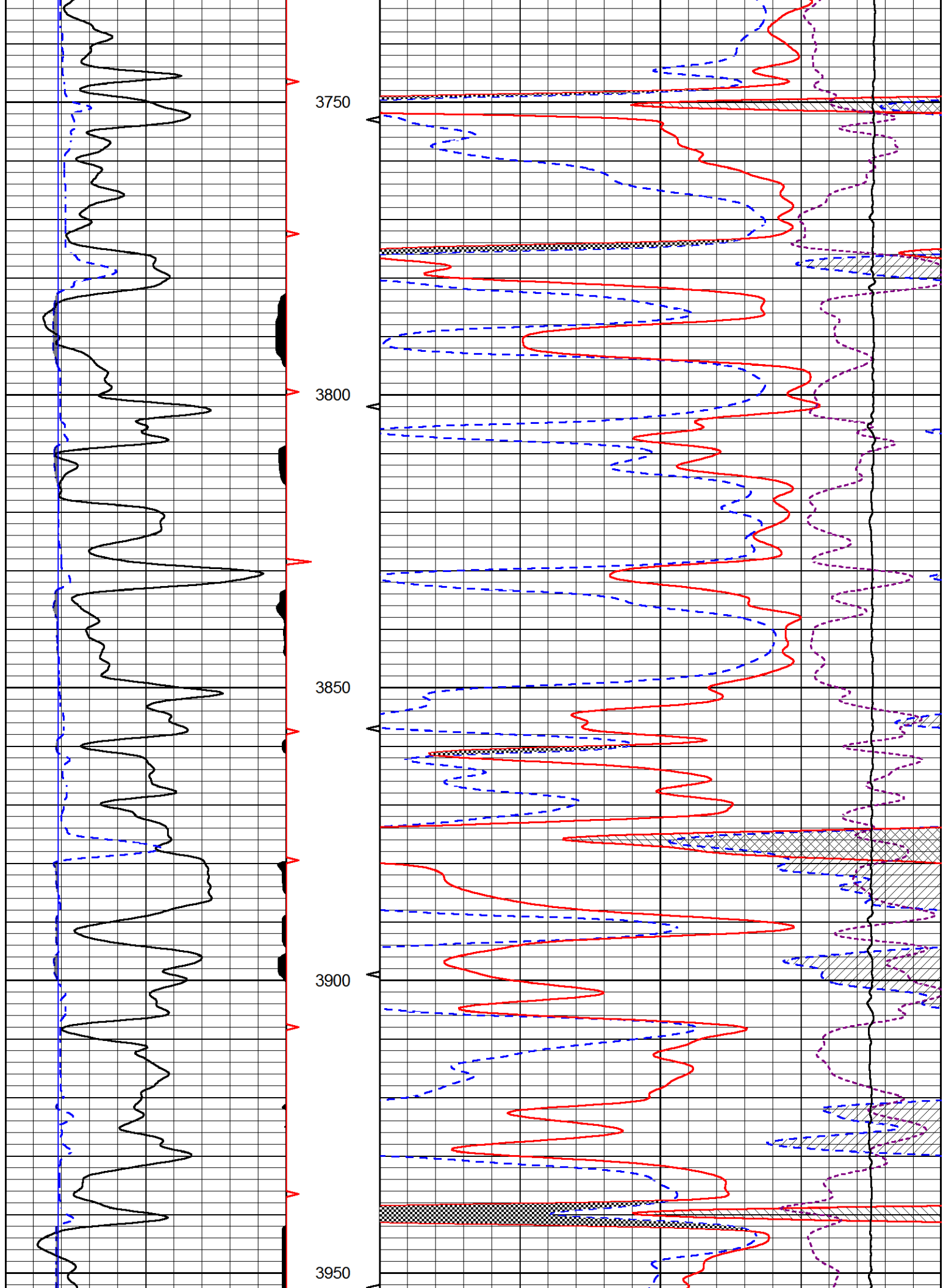


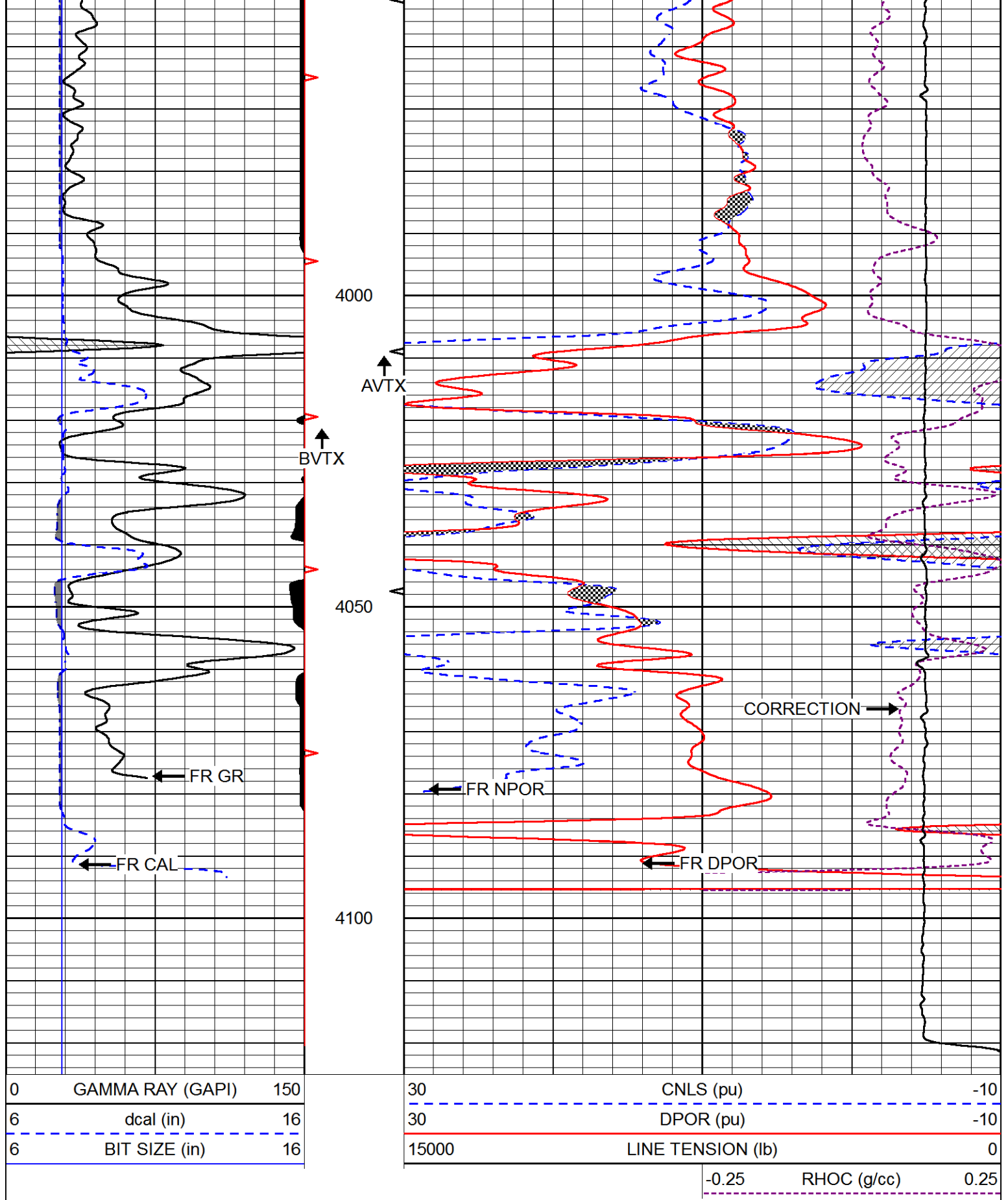












Calibration Report

Database File pickrell_starrett_b_5.db
Dataset Pathname stackml/pass2.1
Dataset Creation Sat Jan 26 12:53:03 2019

Serial-Model:
Calibration Performed:

PSI 988-M&W
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	-44.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.380	-17.000

Microlog Calibration Report

Serial-Model:
Performed:

PSI-01-PSI STKBL ML
Thu Mar 31 18:14:32 2016

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	20500.0000	-1.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	23500.0000	-0.7000
Caliper	1.0001	1.1397	6.5000	18.5000	in	86.0000	-82.6000

Compensated Density Calibration Report

Serial-Model:
Source / Verifier:
Master Calibration Performed:

144-84-M&W
/
Mon Jan 07 15:00:31 2019

Master Calibration

	Density			Far Detector	Near Detector	
Magnesium	1.755	g/cc		4315.49	5309.89	cps
Aluminum	2.675	g/cc		825.26	3443.46	cps
Spine Angle = 75.33			Density/Spine Ratio = 0.538			
	Size			Reading		
Small Ring	4.00	in		0.69		
Large Ring	14.00	in		0.04		

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 CAPL

Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps



Company	PICKRELL DRILLING COMPANY, INC.
Well	STARRETT B #5
Field	START
County	NESS
State	KANSAS