



PIONEER

Pioneer Energy Services

DUAL COMP POROSITY LOG

Company MURFIN DRILLING COMPANY, INC.

Well KEN NO. 3-17
Field WILDCAT
County RAWLINS
State KANSAS

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Location: API #: 15-153-21193-00-00

Other Services

1270' FNL & 2060' FWL
SEC 17 TWP 1S RGE 35W

Permanent Datum GROUND LEVEL Elevation 3176'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 3181'
D.F. N/A
G.L. 3176'

Date 7/14/2017

Run Number ONE

Type Log CNL/CDL

Depth Driller 4470'

Depth Logger 4470'

Bottom Logged Interval 4449'

Top Logged Interval 3500'

Type Fluid In Hole CHEMICAL

Salinity, PPM CL 600

Density 9.0

Level FULL

Max. Rec. Temp. F 121 DEG/F

Operating Rig Time 4 HOURS

Equipment -- Location 108 HAYS

Recorded By J. HENRICKSON

Witnessed By CLAYTON ERICKSON

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0	261'	8.625"	23#	0	261'
TWO	7.875"	261'	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.

BEARDSLEY KANSAS
NORTH TO AA ROAD, WEST TO 7 ROAD, NORTH TO CC ROAD,
3/4 EAST, SOUTH 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: J. HENRICKSON
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: CLAYTON ERICKSON
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 121	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 -470	degF 84	Off	ft 4470

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	29.90			CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	29.15						
LSD DCAL SSD	20.85			CDL-M&W (168-986)	8.50	4.00	250.00
	20.83						
	20.35						
RLL3	15.80						
RLL3F	15.79						
CILD	8.00			DIL-M&W (1987)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: murfin_ken_3_17.db: field/well/stack/pass3.1
Total length: 35.50 ft
Total weight: 620.00 lb
O.D.: 4.00 in

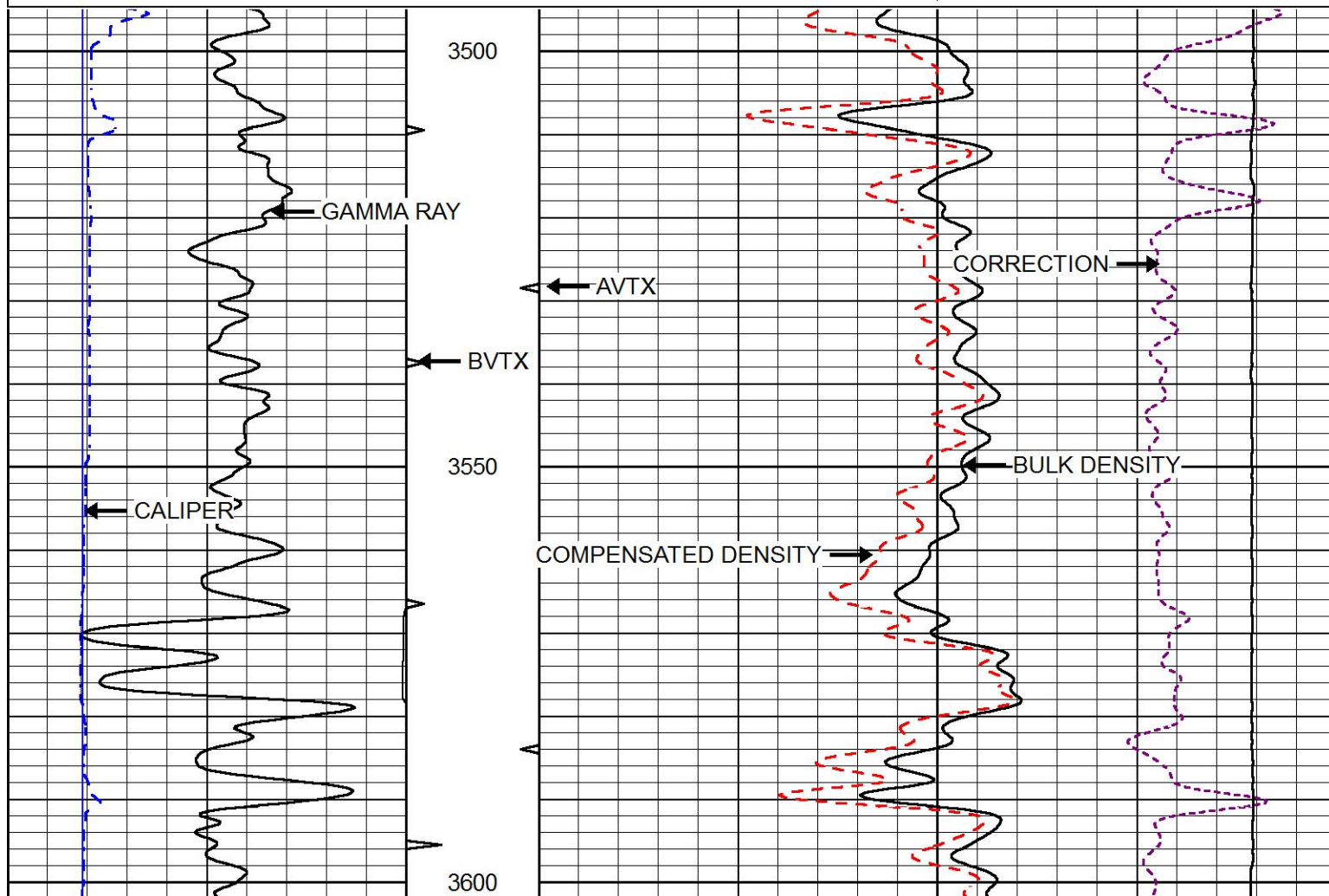


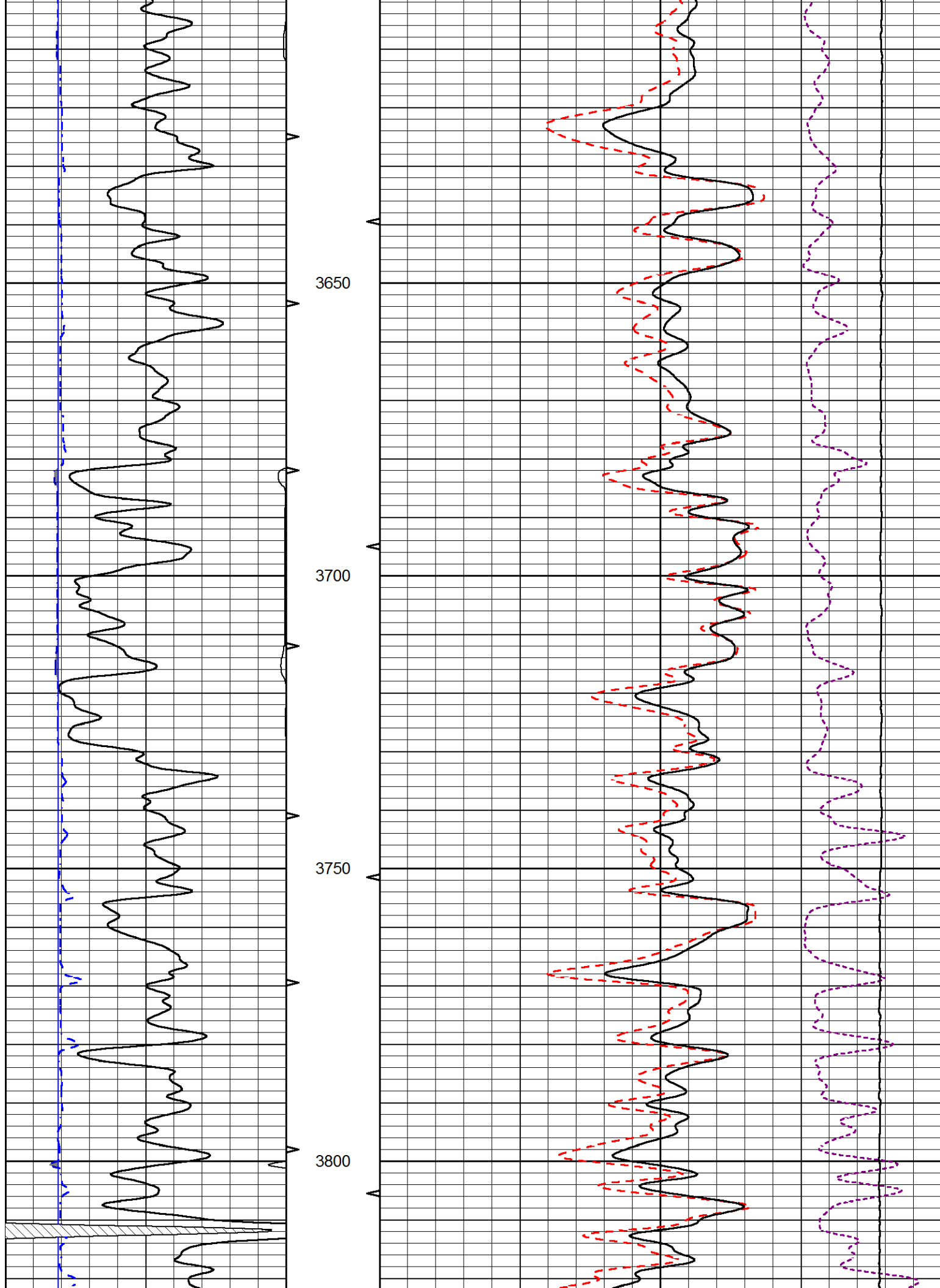
MAIN PASS

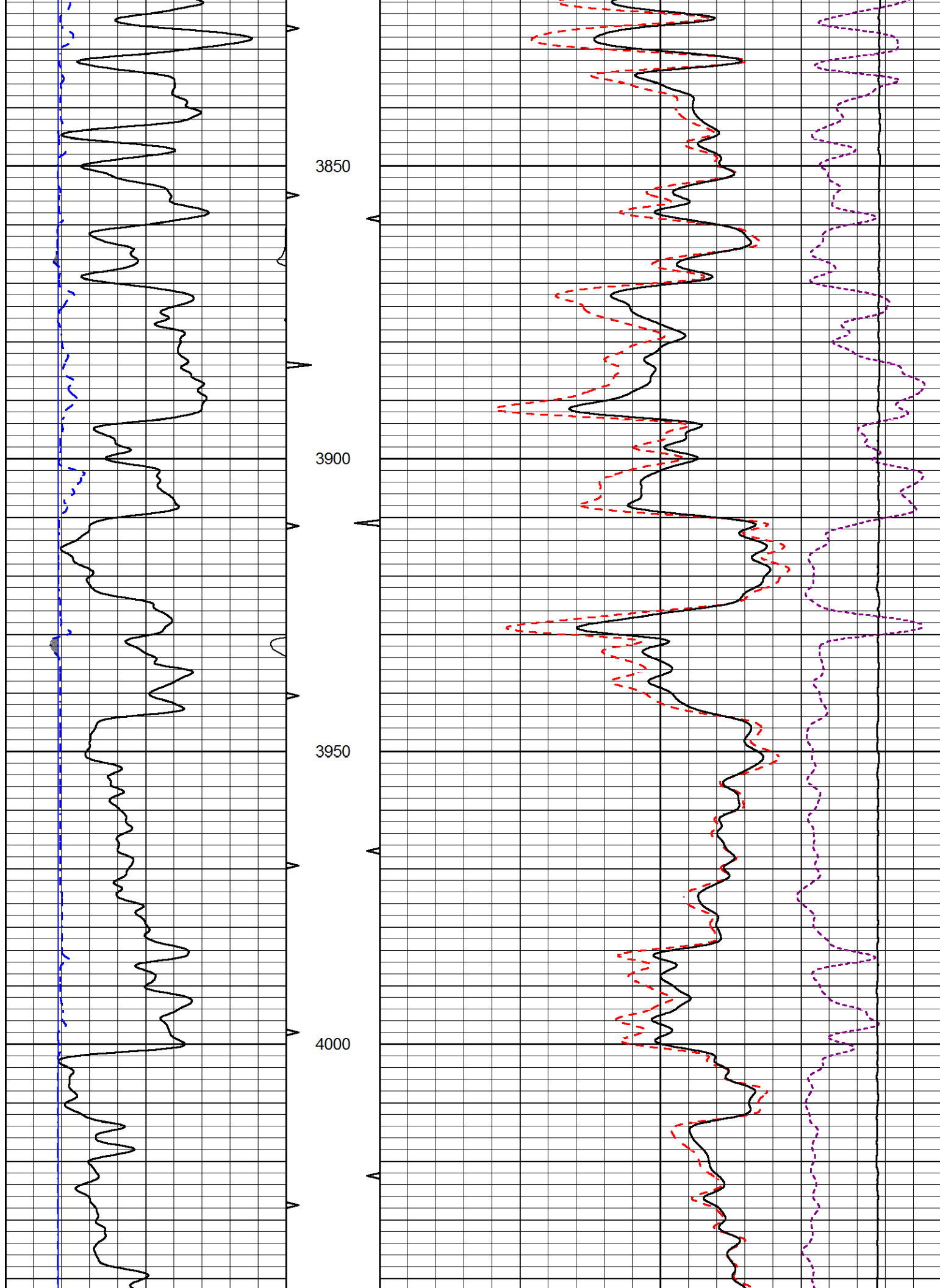
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Dataset Pathname stack/pass3.1
Presentation Format cdl
Dataset Creation Fri Jul 14 15:35:11 2017
Charted by Depth in Feet scaled 1:240

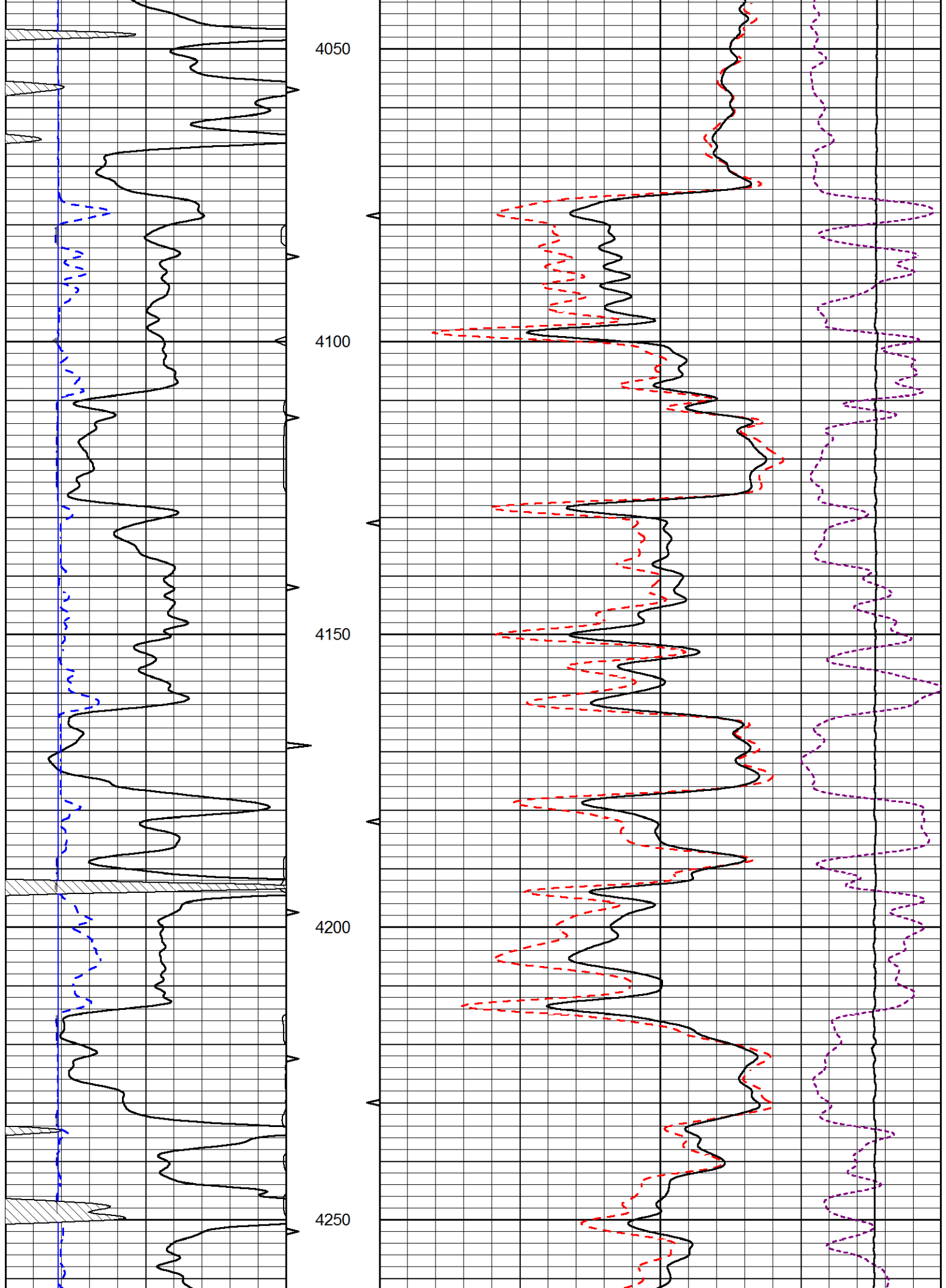
0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16

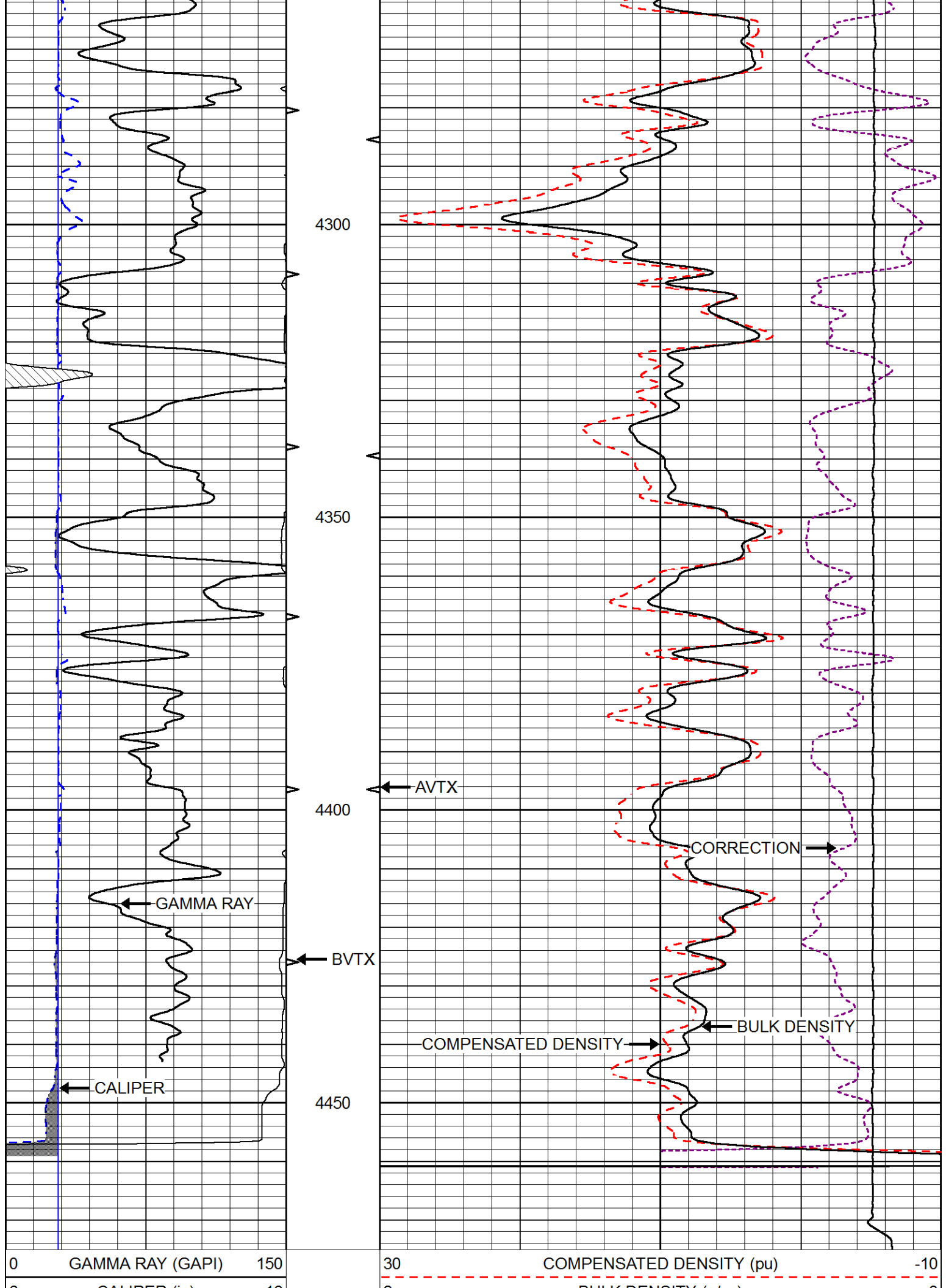
30	COMPENSATED DENSITY (pu)	-10
2	BULK DENSITY (g/cc)	3
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25











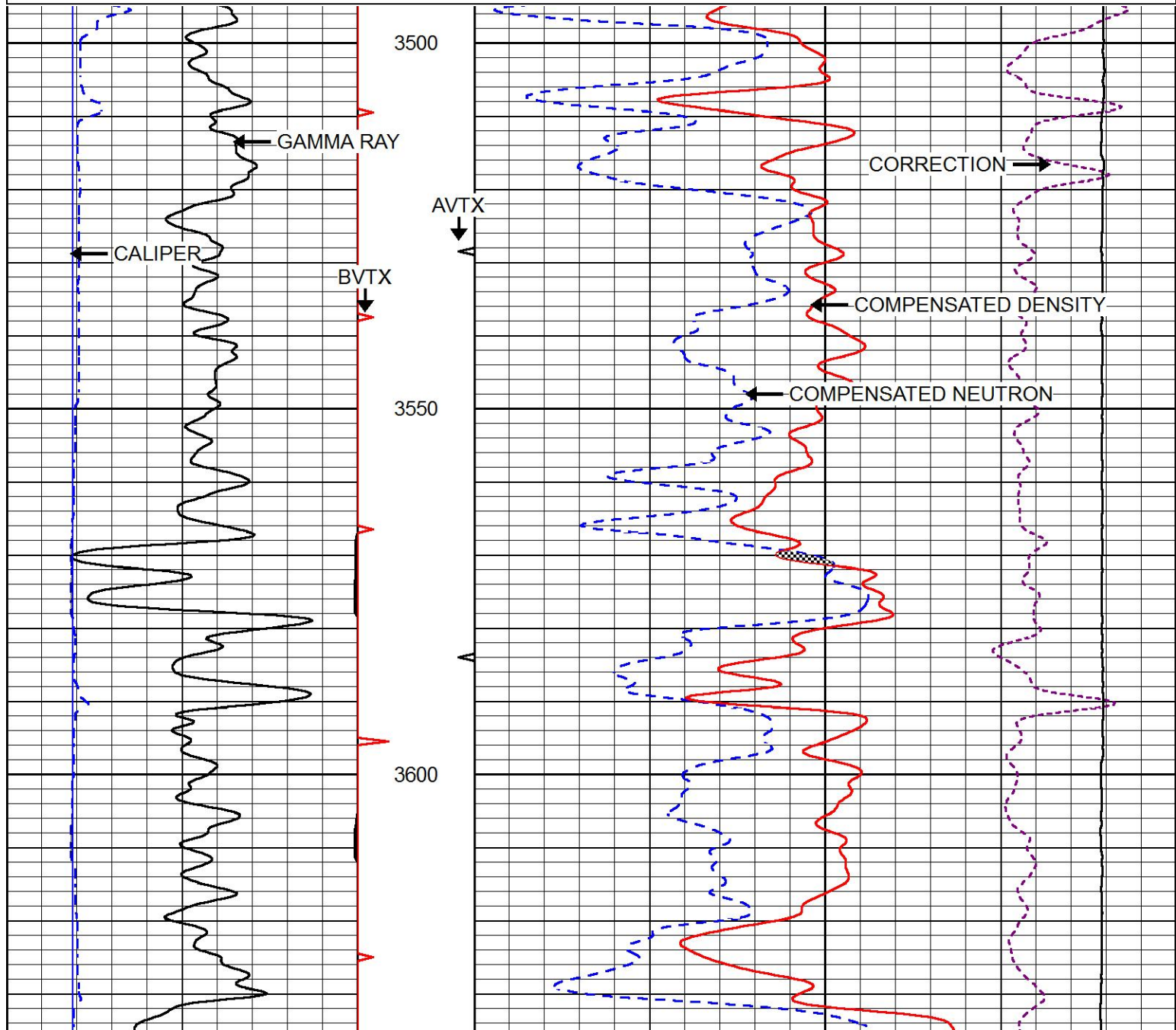
6	CALIPER (in)	16	2	BULK DENSITY (g/cc)	3
			15000	LINE TENSION (lb)	0
				-0.25 CORRECTION (g/cc)	0.25

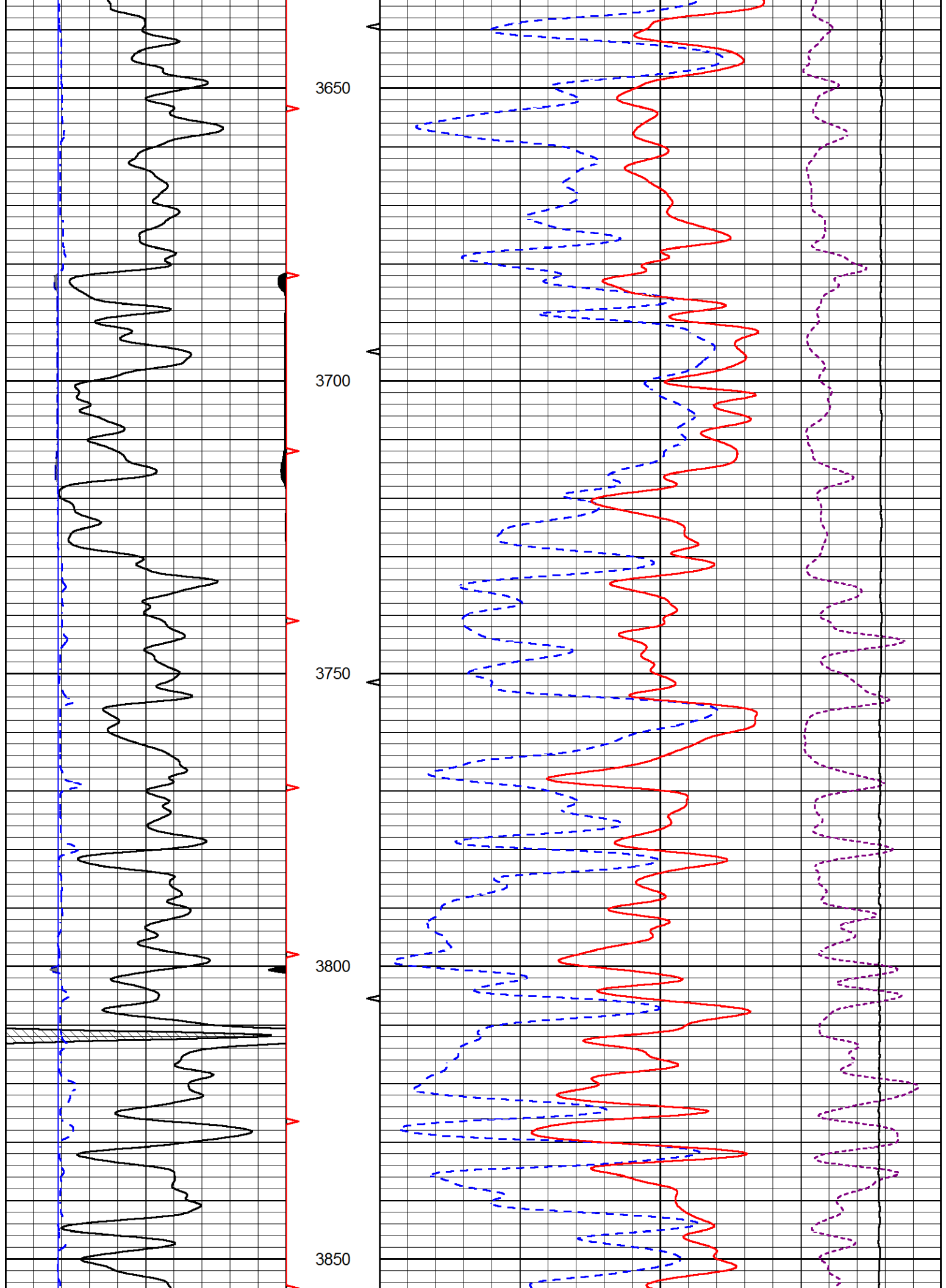


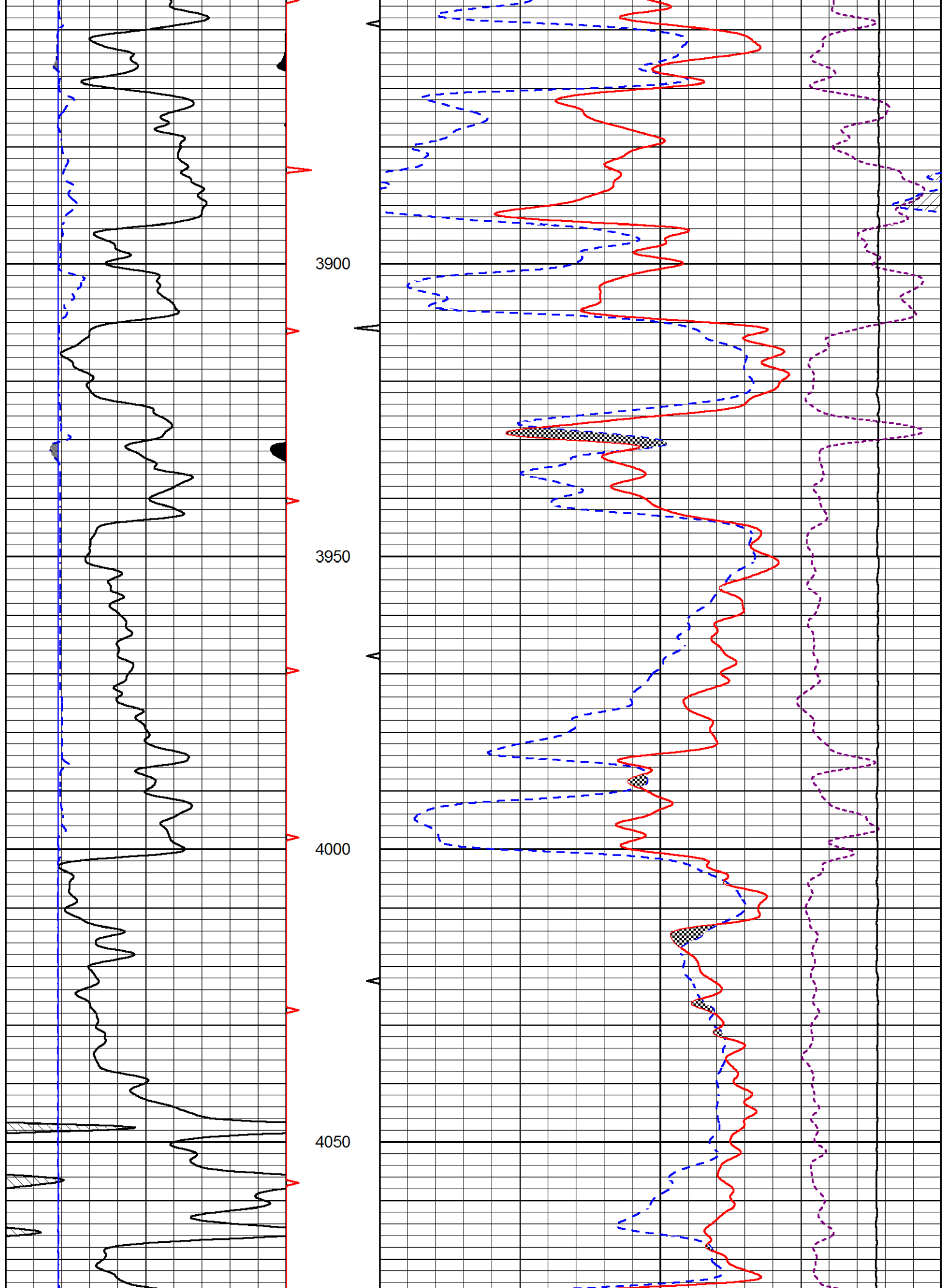
MAIN PASS

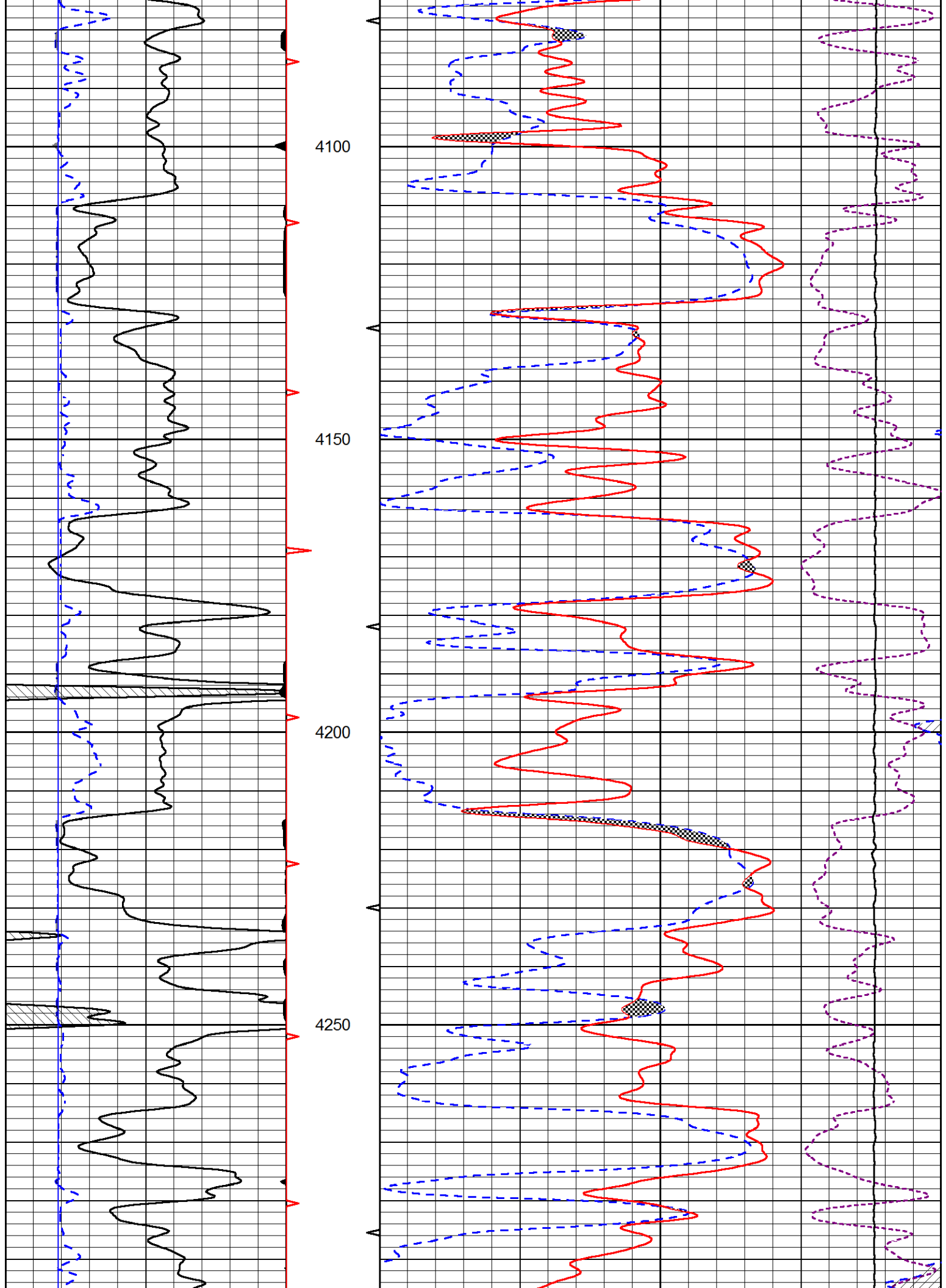
Database File	murfin_ken_3_17.db				
Dataset Pathname	stack/pass3.1				
Presentation Format	cndlspec				
Dataset Creation	Fri Jul 14 15:35:11 2017				
Charted by	Depth in Feet scaled 1:240				

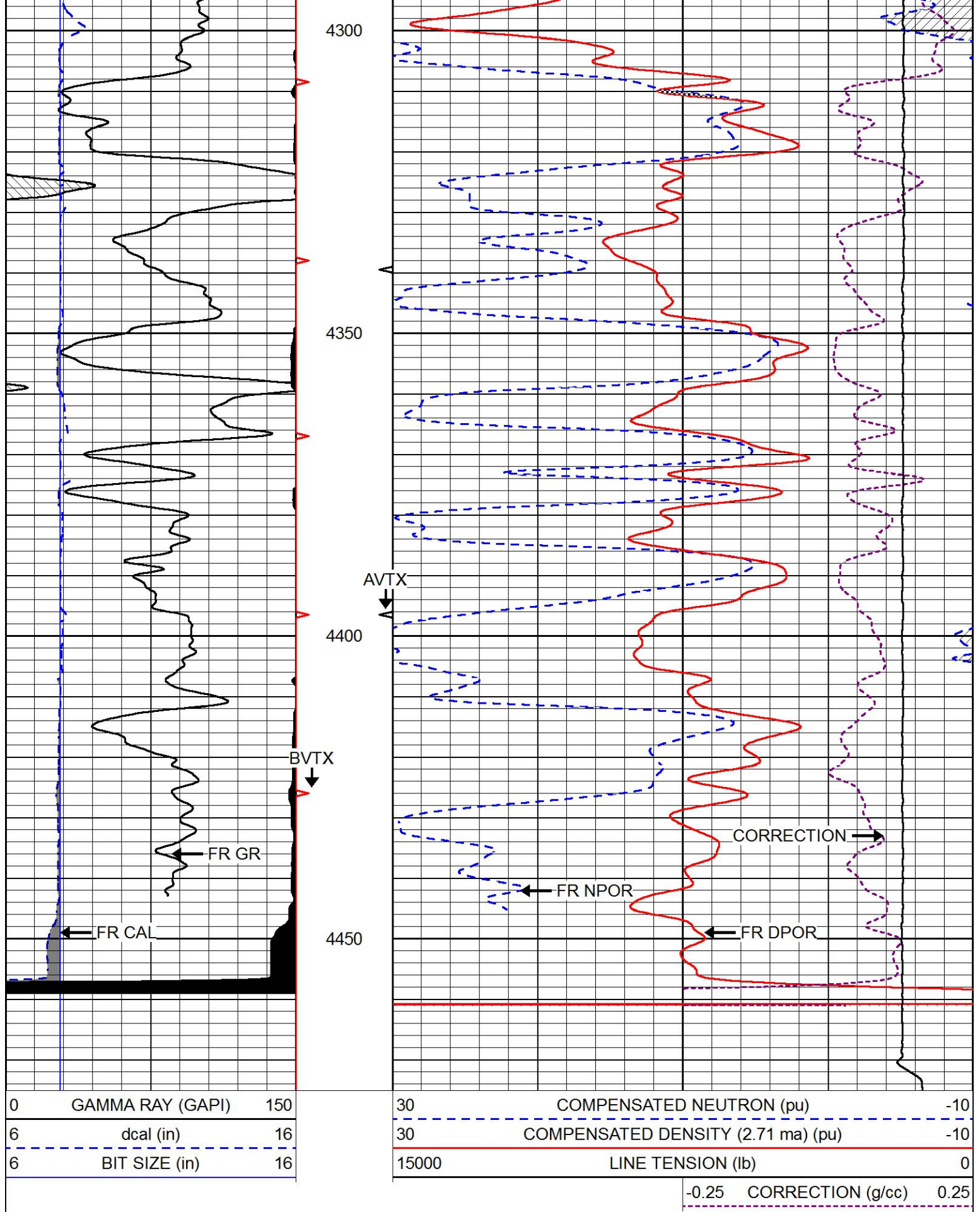
0	GAMMA RAY (GAPI)	150	30	COMPENSATED NEUTRON (pu)	-10
6	dcal (in)	16	30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
6	BIT SIZE (in)	16	15000	LINE TENSION (lb)	0
				-0.25 CORRECTION (g/cc)	0.25









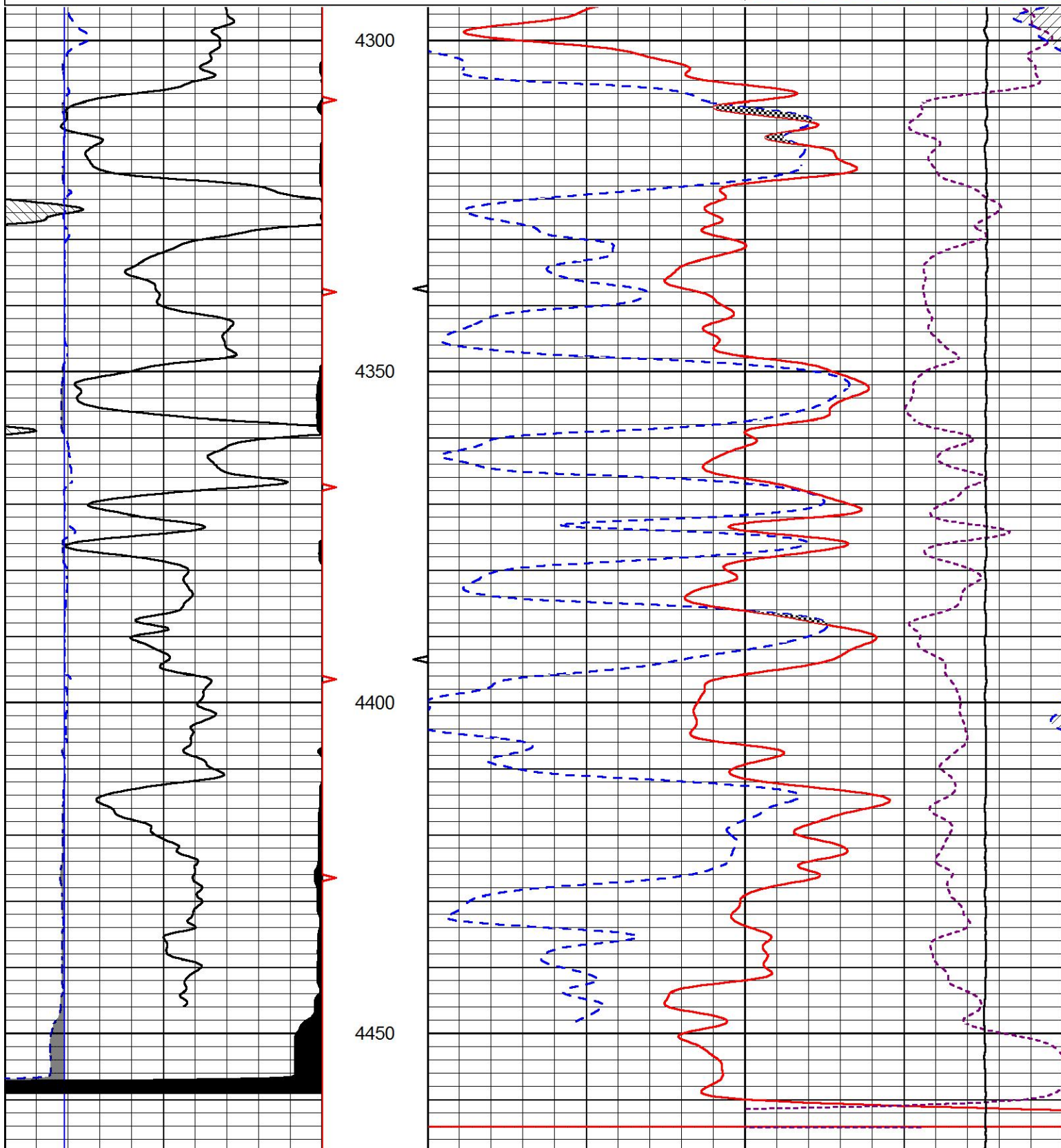


REPEAT SECTION

Database File murfin_ken_3_17.db
 Dataset Pathname stack/pass2.1
 Presentation Format cndlspec
 Dataset Creation Fri Jul 14 14:32:37 2017
 Charted by Depth in Feet scaled 1:240

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

30	COMPENSATED NEUTRON (pu)	-10
30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25



0	GAMMA RAY (GAPI)	150	30	COMPENSATED NEUTRON (pu)	-10
6	dcal (in)	16	30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
6	BIT SIZE (in)	16	15000	LINE TENSION (lb)	0
				-0.25	CORRECTION (g/cc) 0.25

Database File		murfin_ken_3_17.db		Calibration Report	
Dataset Pathname		stack/pass3.1			
Dataset Creation		Fri Jul 14 15:35:11 2017			

Dual Induction Calibration Report					
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Serial-Model:		1987-M&W			
Calibration Performed:		Tue Apr 11 16:07:38 2017			

		Readings		References		Results	
Loop:		Air	Loop	Air	Loop	Gain	Offset
Deep		178.615	710.235	0.000	255.800 mmho/m	0.530	-36.500
Medium		161.982	1441.110	0.000	255.800 mmho/m	0.440	-110.500

Compensated Density Calibration Report					
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Serial-Model:		168-986-M&W			
Source / Verifier:		/			
Master Calibration Performed:		Tue Apr 11 16:07:47 2017			

Master Calibration					
		Density		Far Detector	Near Detector
Magnesium		1.755	g/cc	4691.86	4818.19 cps
Aluminum		2.675	g/cc	859.57	3020.22 cps
Spine Angle = 74.61			Density/Spine Ratio = 0.523		
		Size		Reading	
Small Ring		4.00	in	1.03	
Large Ring		14.00	in	1.23	

Compensated Neutron Calibration Report					
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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					
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Serial Number:		89-M&W			
Tool Model:		M&W			

Tool Model:

Calibration Performed:

M&V

Tue Apr 11 16:08:01 2017

Calibrator Value:

1000.0

GAPI

Background Reading:

0.0

cps

Calibrator Reading:

6.2

cps

Sensitivity:

0.5200

GAPI/cps



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