



DUAL COMP POROSITY LOG

Pioneer Energy Services

Company HARTMAN OIL CO., INC.
 Well DAMME #50
 Field DAMME
 County FINNEY
 State KANSAS

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 Well DAMME #50
 Field DAMME
 County FINNEY
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Location: 2258' FNL & 1225' FEL
 API #: 15-055-22477-00-00
 SEC 21 TWP 22S RGE 33W
 Permanent Datum GROUND LEVEL Elevation 2885'
 Log Measured From KELLY BUSHING
 Drilling Measured From KELLY BUSHING
 Other Services DIL/MEL
 Elevation K.B. 2893', D.F. N/A, G.L. 2885'

Date	02/12/2018						
Run Number	ONE						
Type Log	CNL/CDL						
Depth Driller	4825'						
Depth Logger	4822'						
Bottom Logged Interval	4793'						
Top Logged Interval	3700'						
Type Fluid In Hole	CHEMICAL						
Salinity, PPM CL	7100						
Density	9.2						
Level	FULL						
Max. Rec. Temp. F	124						
Operating Rig Time	3 HOURS						
Equipment -- Location	91 HAYS						
Recorded By	D. SCHMIDT						
Witnessed By	KIT NOAH						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0'	1800'	8.625"	23#	0'	1800'
TWO	7.875"	1800'	TD				
Casing Record							

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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.
 GARDEN CITY,
 NORTH TO BARLOW ROAD, 3 1/2 WEST
 SOUTH AND EAST INTO

Log Measured From: KELLY BUSHING 8 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: KIT NOAH Secondary Witness: Secondary Witness: Secondary Witness:
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Log Variables

Database C:\ProgramData\Warrior\Data\hartmanoil_damme#50.db
 Dataset field/well/STKML/pass4.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	124	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	-117	40	Off	4822

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	37.48		CNT-M&W (207-MW)	5.50	3.50	100.00
CNSSC	36.73					
LSD	28.43		CDL-M&W (182-152)	8.50	4.00	250.00
DCAL	28.42					
SSD	27.93					
ML-PSIML (PSI-01)			ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
MCAL	19.83					
MI	19.83					
MN	19.83					
RLL3F	15.80					
RLL3	15.80					

CILD 8.00

CILM 4.70

SP 0.20

DIL-PSI HIGH TEMP (933 (HT))

18.50

3.50

220.00

Dataset: hartmanoil_damme#50.db: field/well/STKML/pass4.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

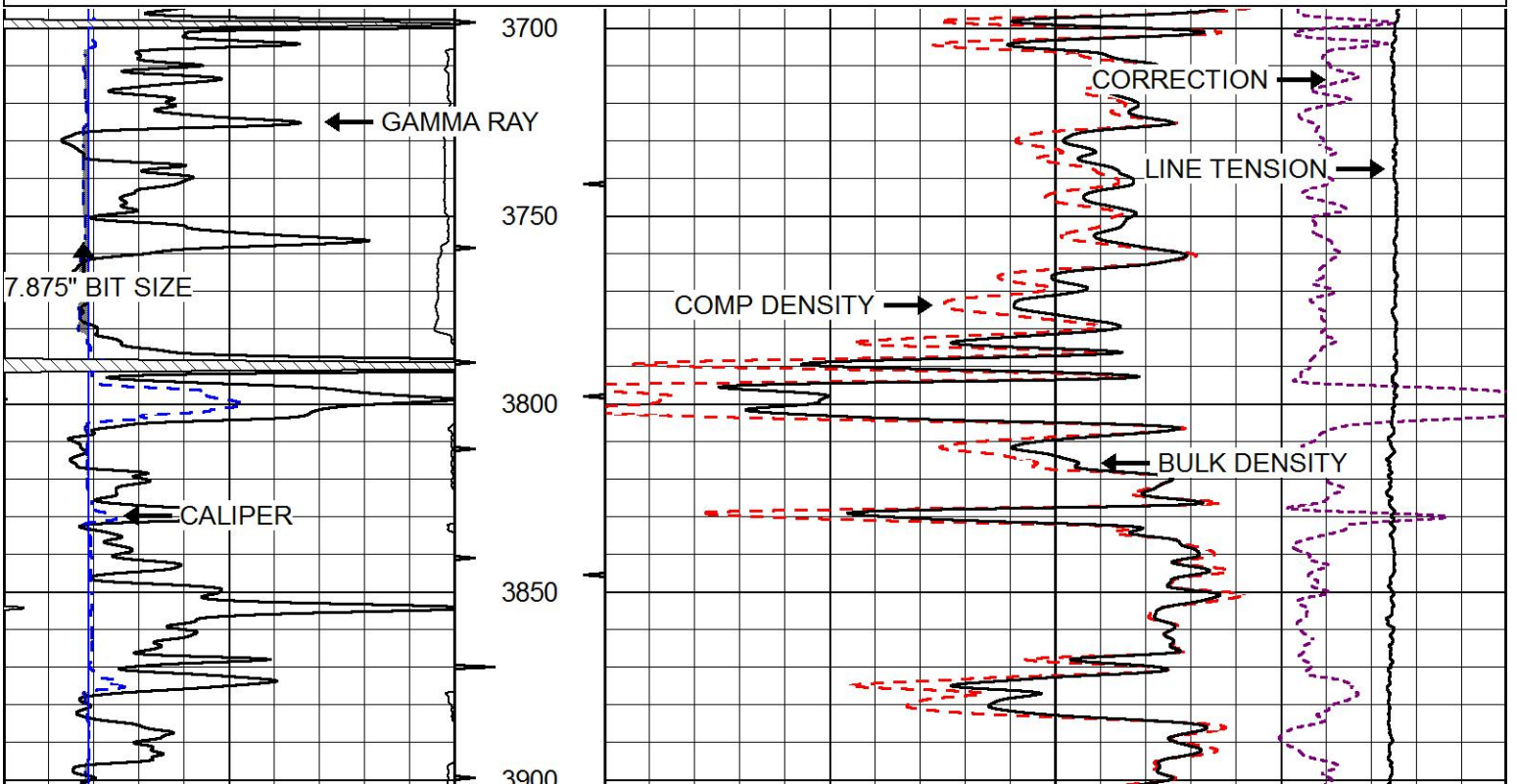


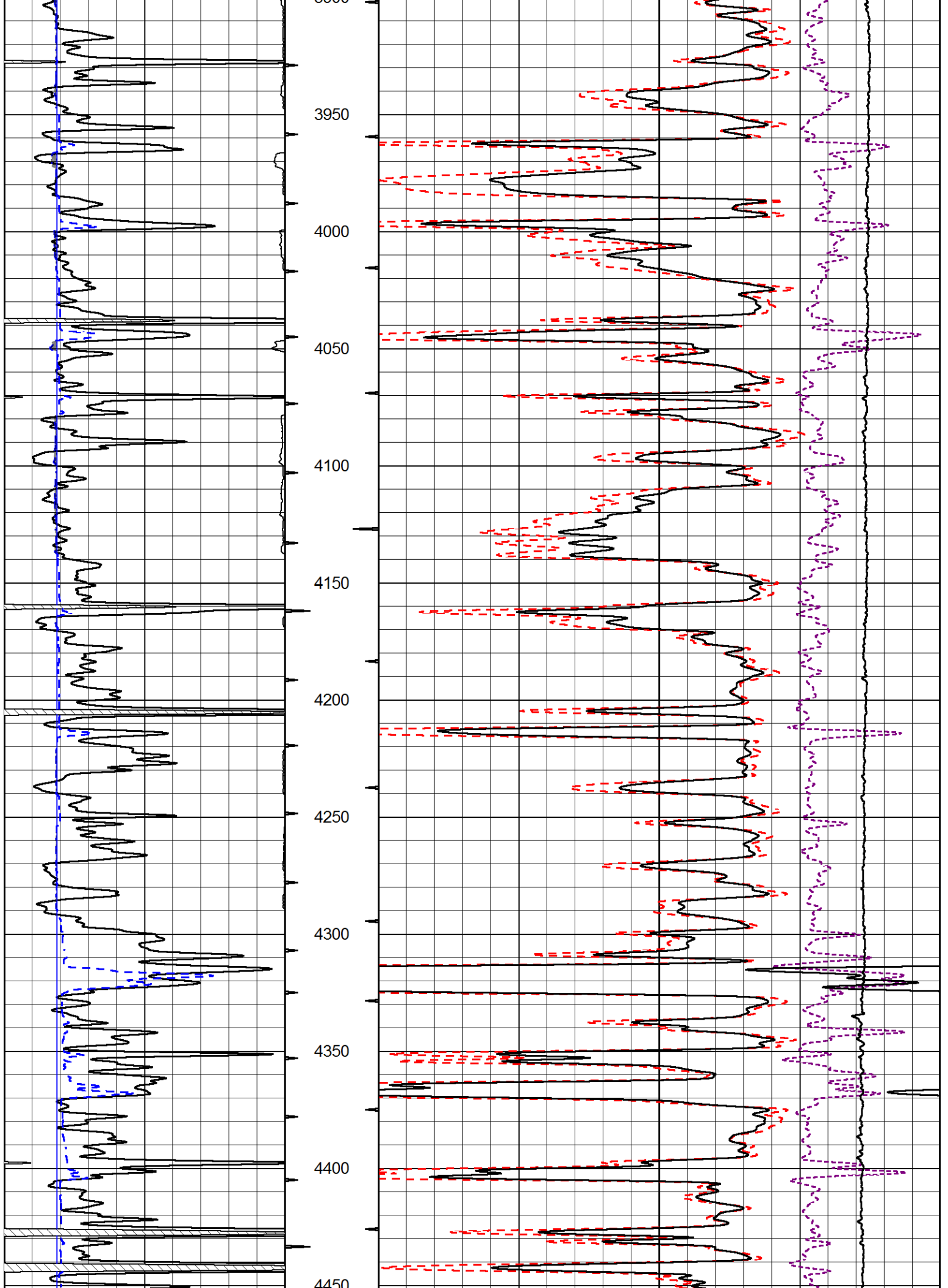
MAIN PASS

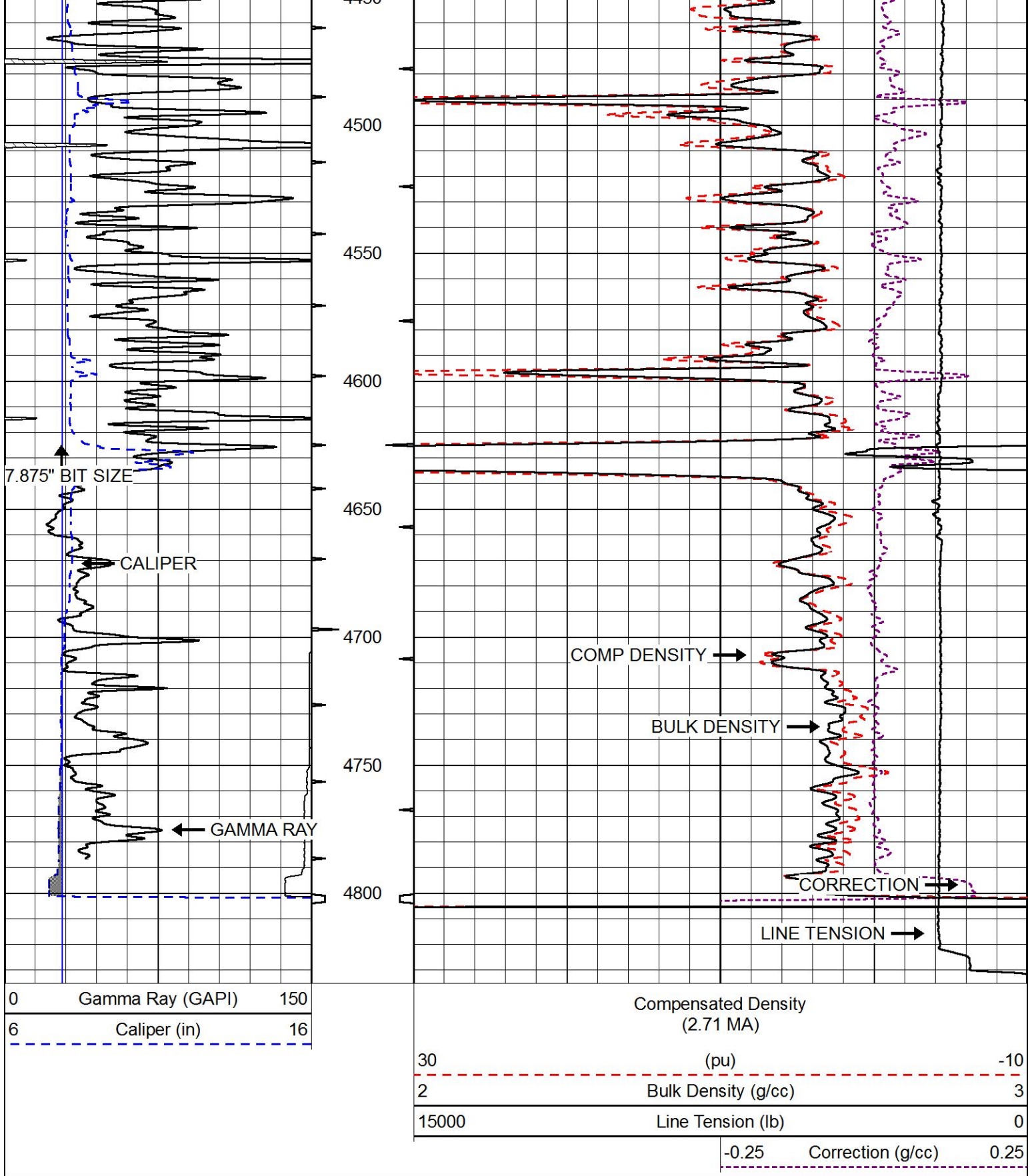
Database File hartmanoil_damme#50.db
 Dataset Pathname STKML/pass4.1
 Presentation Format cdl
 Dataset Creation Mon Feb 12 18:47:59 2018
 Charted by Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

Compensated Density (2.71 MA)		
30	(pu)	-10
Bulk Density (g/cc)		3
Line Tension (lb)		0
-0.25	Correction (g/cc)	0.25



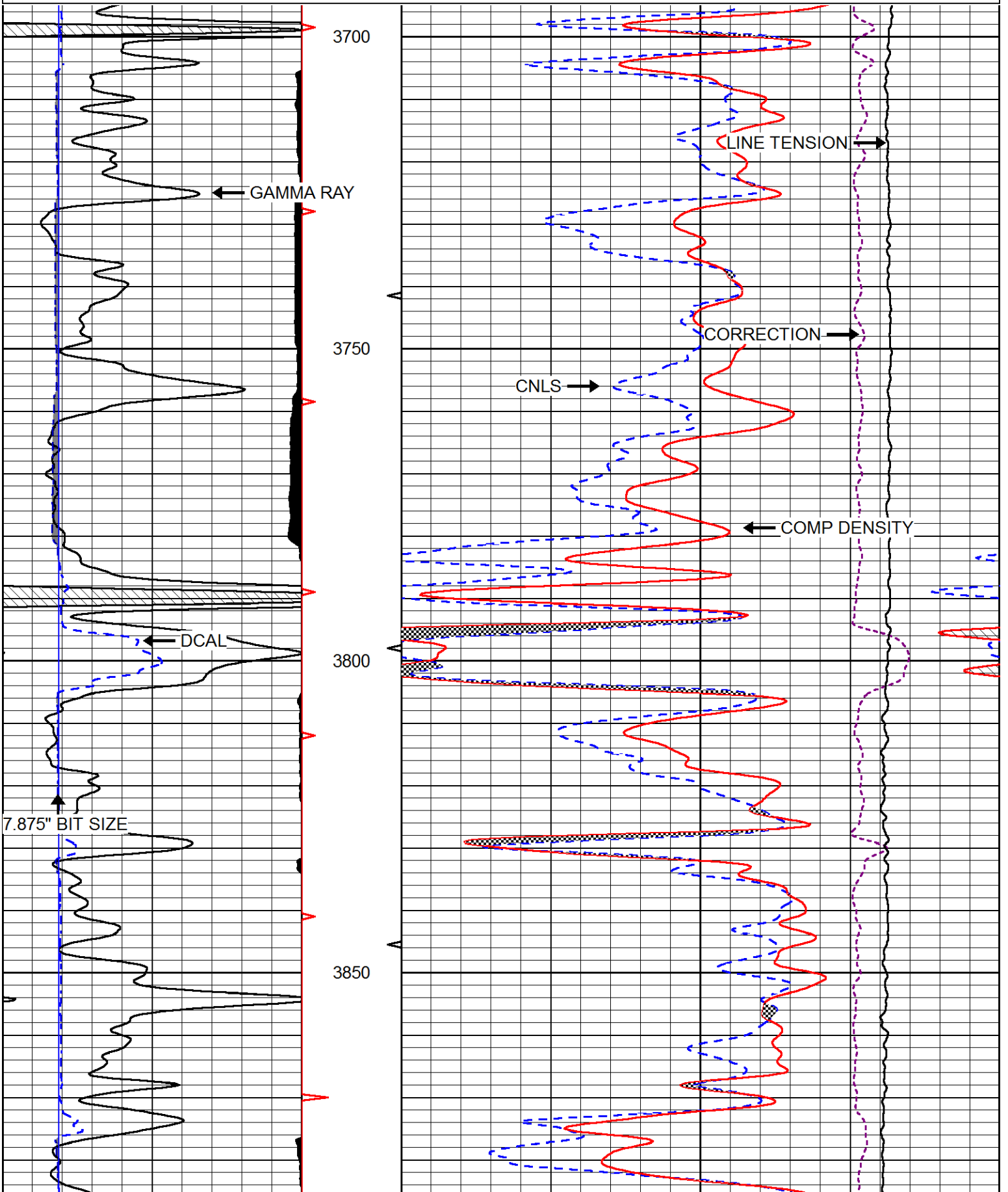


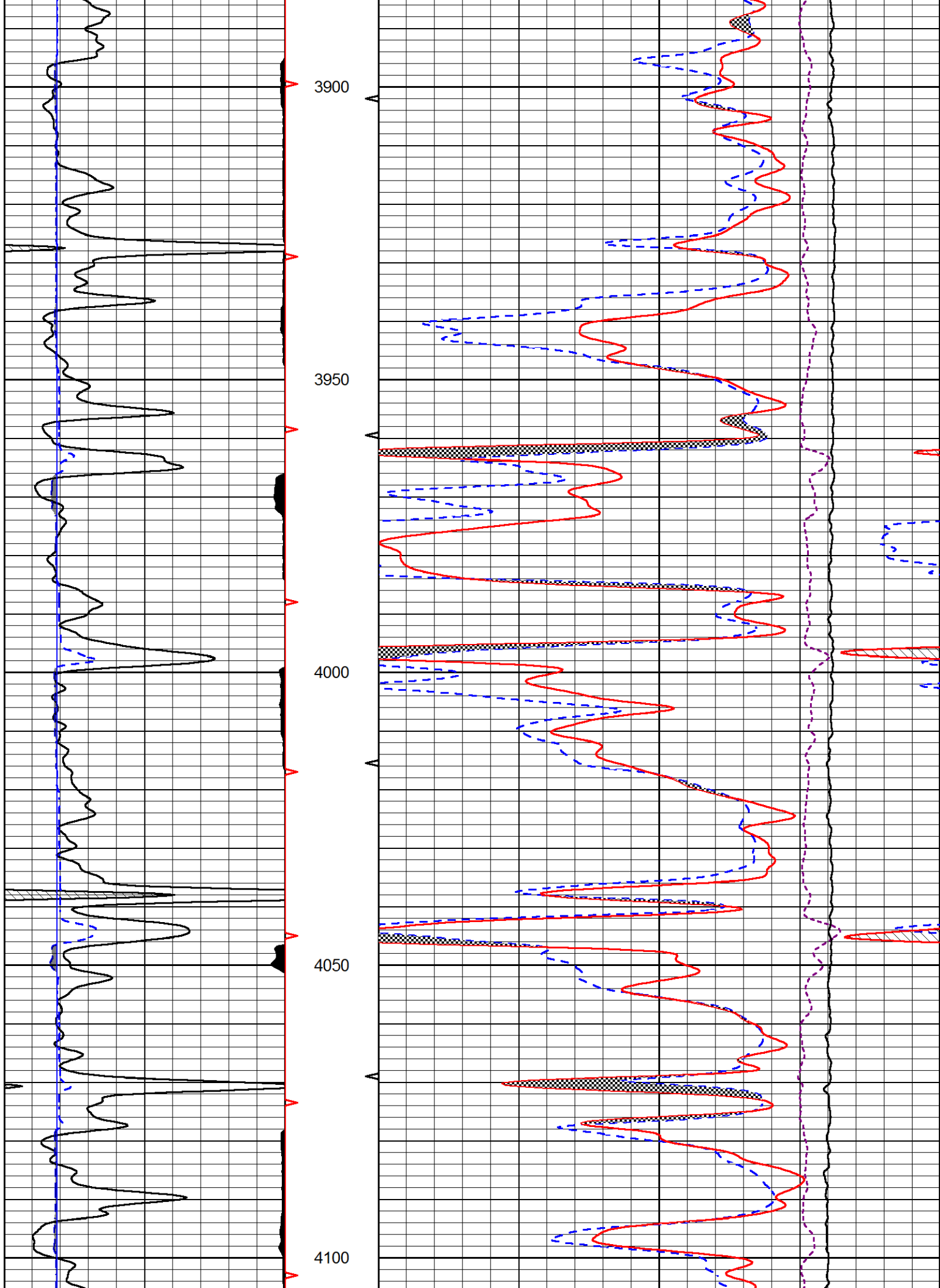


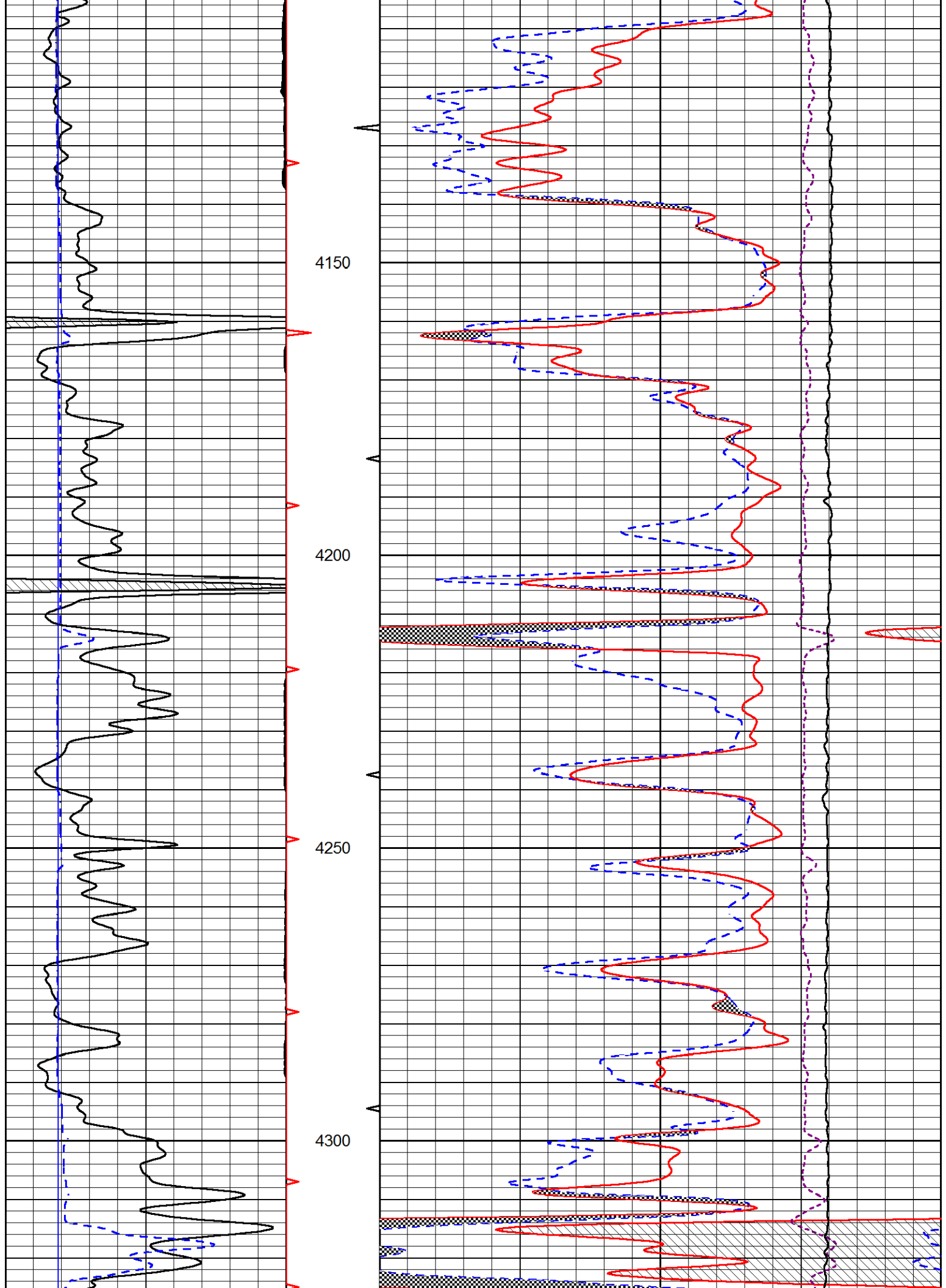
MAIN PASS

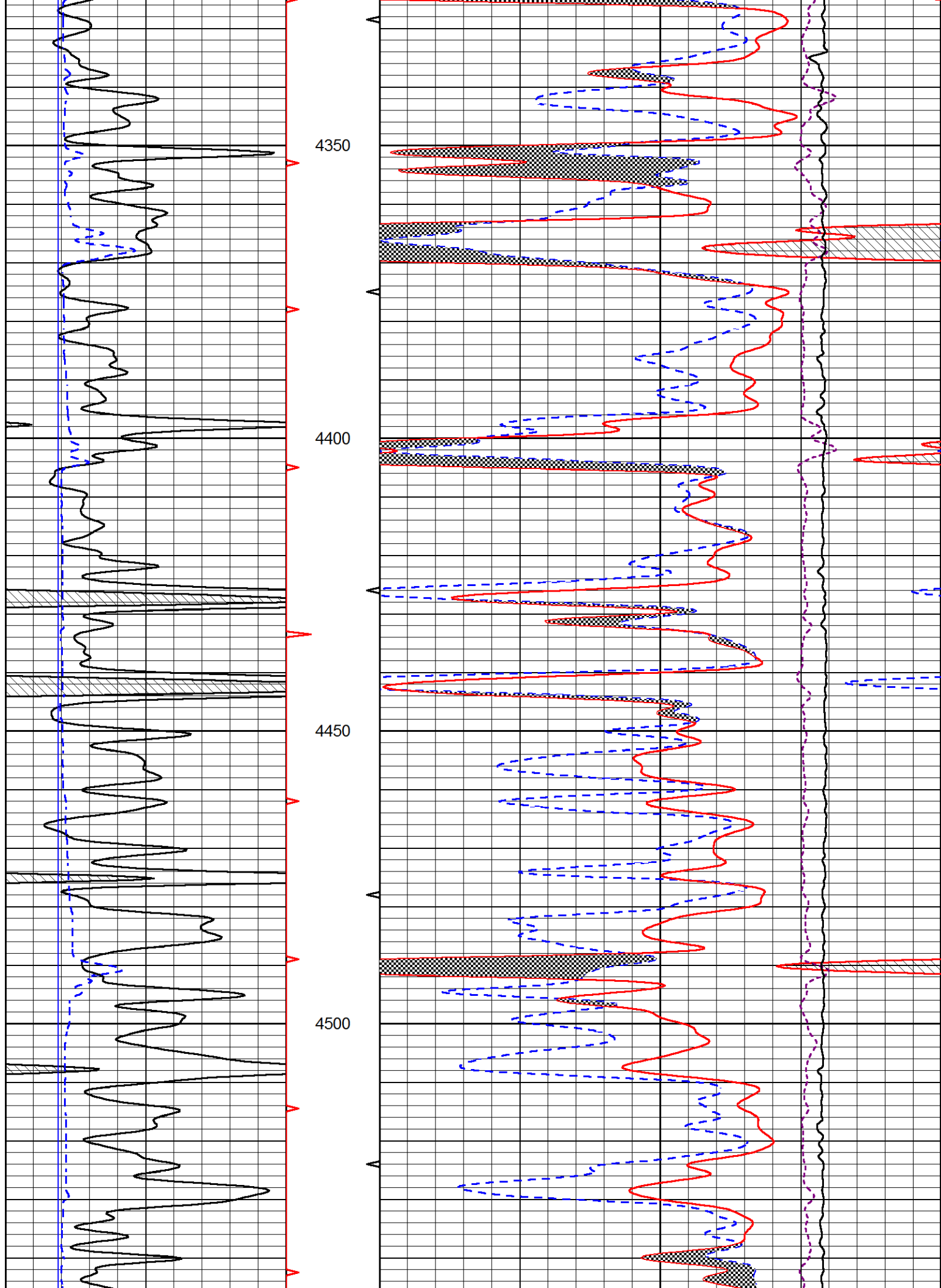
Database File hartmanoil_damme#50.db
 Dataset Pathname STKML/pass4.1
 Presentation Format cndlspec

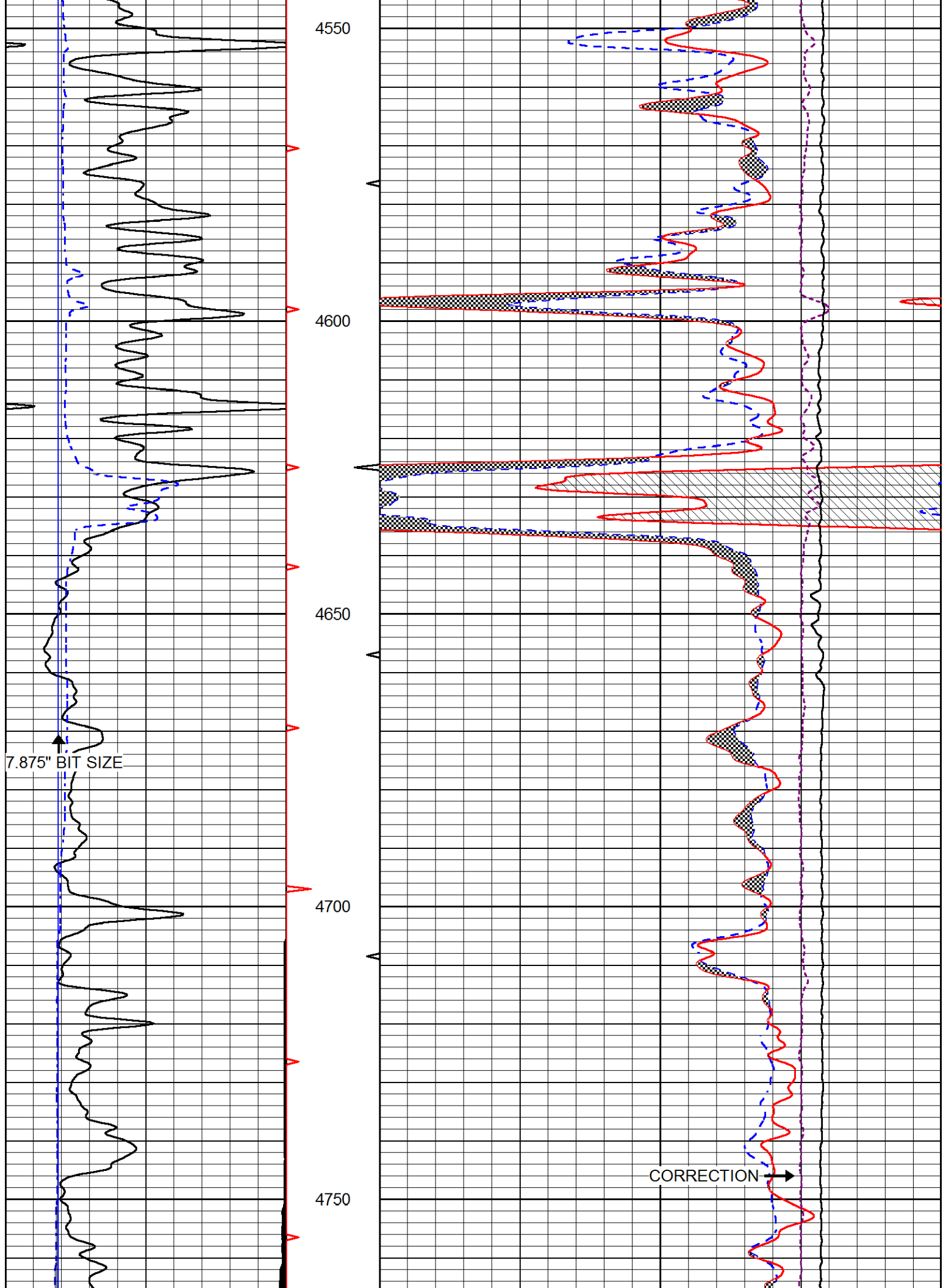
0	Gamma Ray (GAPI)	150	30	CNLS (pu)	-10	
6	DCAL (in)	16	30	Compensated Density 2.71 g/cc (pu)	-10	
			10000	Line Tension (lb)	0	
				-0.75	Correction (g/cc)	0.75

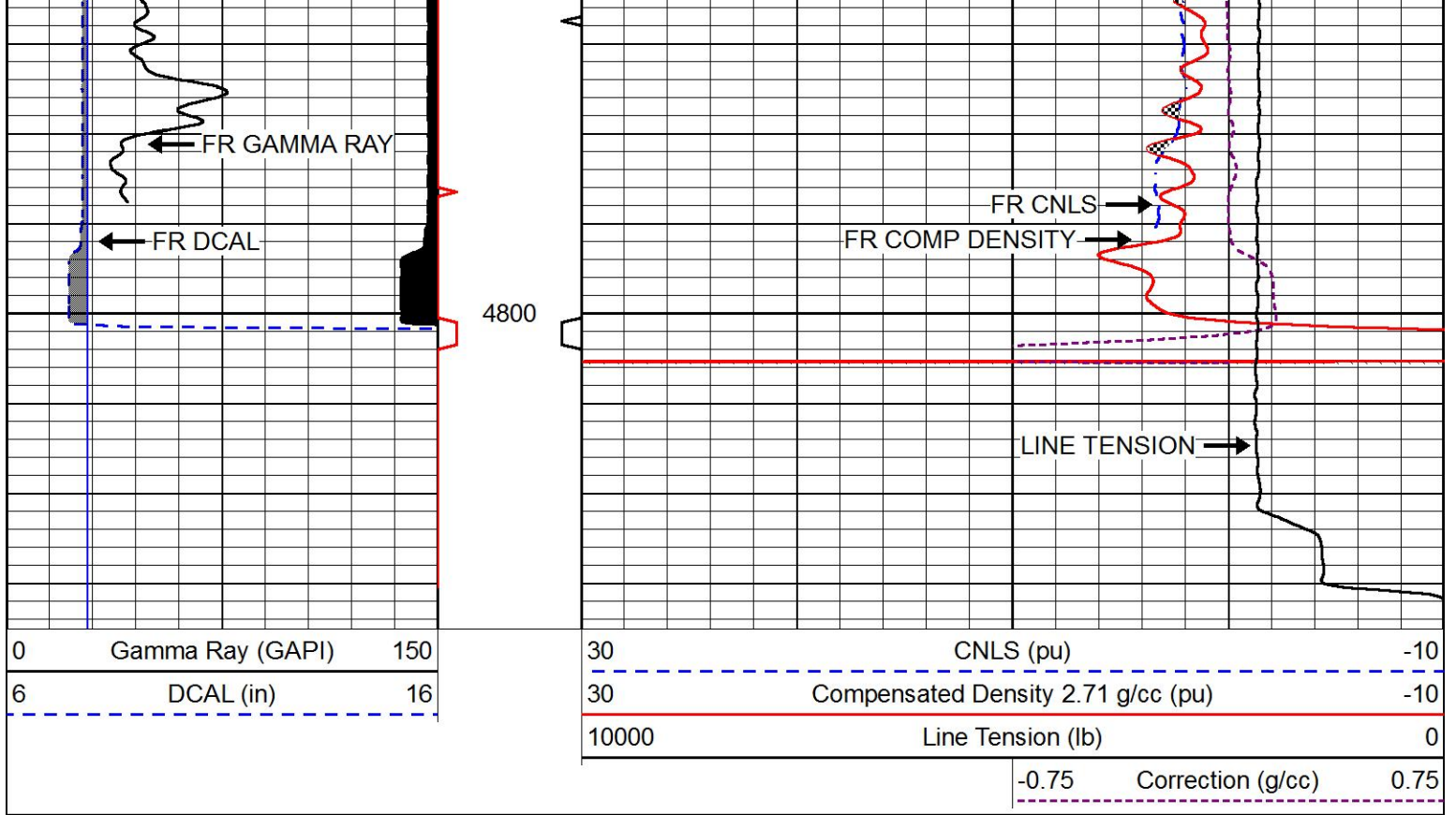






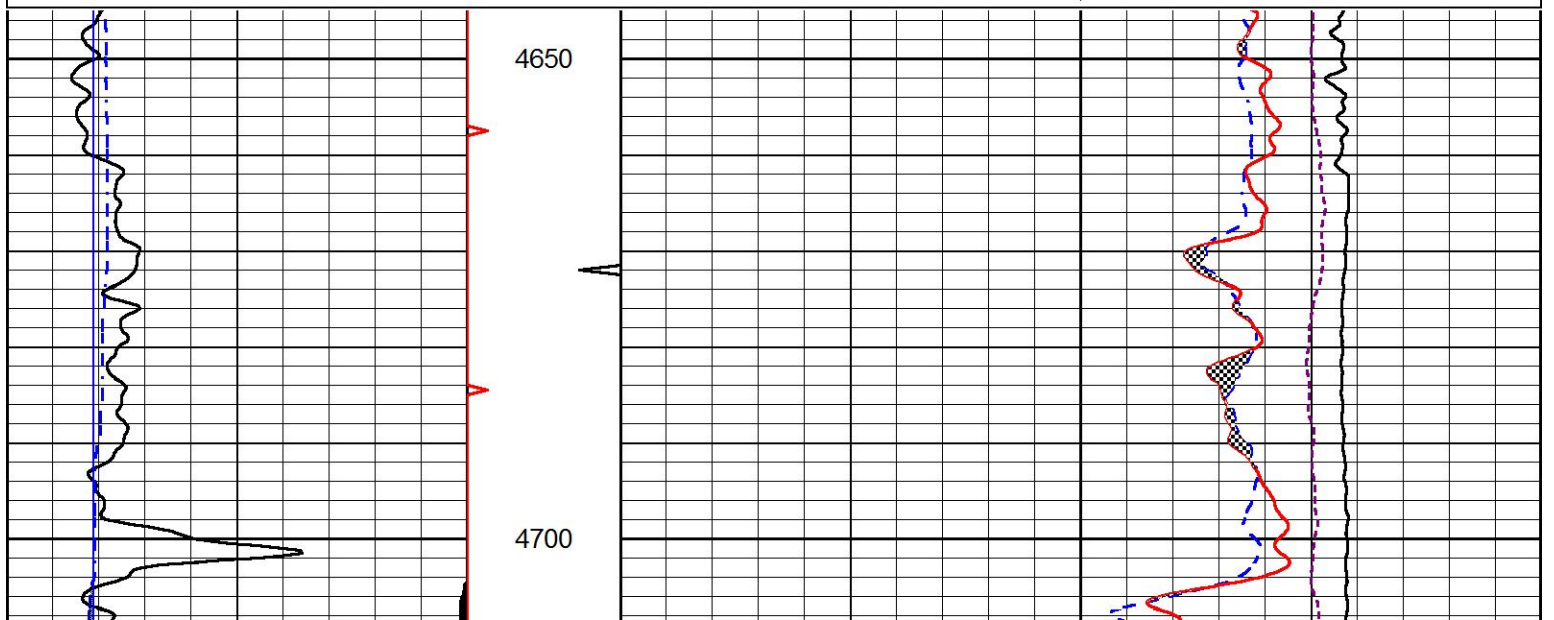
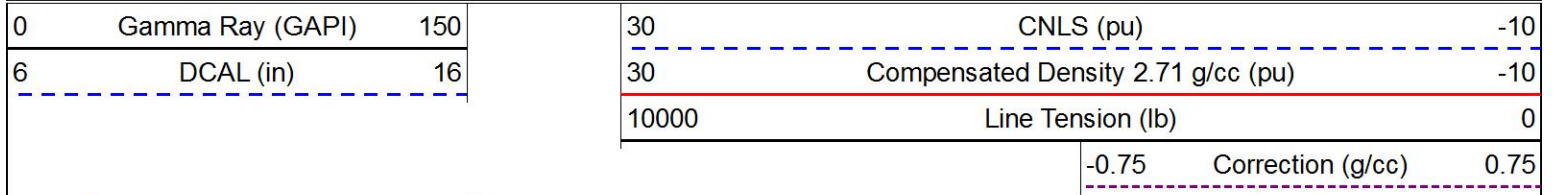


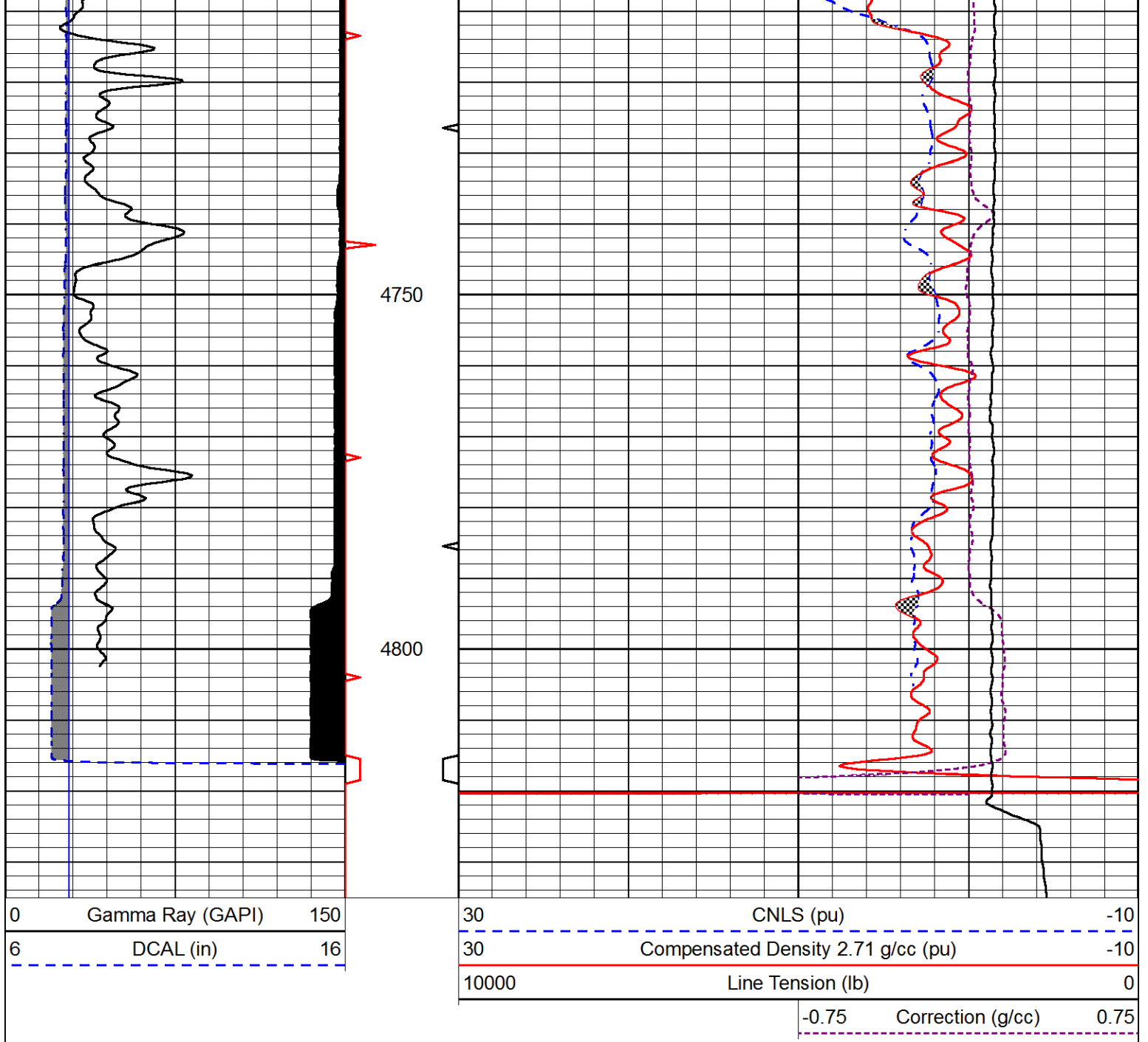




REPEAT SECTION

Database File hartmanoil_damme#50.db
 Dataset Pathname STKML/pass3.1
 Presentation Format cndlspec
 Dataset Creation Mon Feb 12 18:52:50 2018
 Charted by Depth in Feet scaled 1:240





Calibration Report

Database File hartmanoil_damme#50.db
 Dataset Pathname STKML/pass4.1
 Dataset Creation Mon Feb 12 18:47:59 2018

Dual Induction Calibration Report

Serial-Model: 933 (HT)-PSI HIGH TEMP
 Calibration Performed: Mon Feb 12 17:16:25 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.000	mmho/m	0.720	-18.750
Medium	142.000	1349.000	0.000	255.000	mmho/m	0.560	-61.000

Microlog Calibration Report

Serial-Model:
Performed:

PSI-01-PSIML
Mon Jan 15 11:19:55 2018

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	28000.0000	-1.5000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	31000.0000	-0.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	100.0000	-97.3500

Compensated Density Calibration Report

Serial-Model: 182-152-M&W
Source / Verifier: 16955B / 2ci
Master Calibration Performed: Mon Feb 12 16:20:26 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4992.81	6098.44	cps
Aluminum	2.675	g/cc	945.67	3945.60	cps
Spine Angle = 75.33		Density/Spine Ratio = 0.535			
	Size		Reading		
Small Ring	4.50	in	1.09		
Large Ring	15.00	in	1.03		

Compensated Neutron Calibration Report

Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: MON JAN 15 10:30:30 2018

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: Mon Jan 15 11:20:44 2018

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



PIONEER

Company HARTMAN OIL CO., INC.
Well DAMME #50
Field DAMME
County FINNEY

PIONEER
Pioneer Energy Services

County

State

State

KANSAS