



# DUAL COMP POROSITY LOG

Company CHARLES N. GRIFFIN  
 Well WOOD #1  
 Field TROUSDALE NORTHEAST  
 County EDWARDS  
 State KANSAS

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Location: API #: 15-047-21655-00-00  
 SW NW SE  
 1650' FSL & 2310' FEL  
 SEC 22 TWP 26S RGE 16W  
 Permanent Datum GROUND LEVEL Elevation 2076'  
 Log Measured From KELLY BUSHING  
 Drilling Measured From KELLY BUSHING  
 Other Services DIL/MEL  
 K.B. 2081'  
 D.F. N/A  
 G.L. 2076'

Date	1/22/2017						
Run Number	ONE						
Type Log	CNL/CDL						
Depth Driller	4630'						
Depth Logger	4629'						
Bottom Logged Interval	4600'						
Top Logged Interval	3600'						
Type Fluid In Hole	CHEMICAL						
Salinity, PPM CL	6000						
Density	9.3						
Level	FULL						
Max. Rec. Temp. F	124 DEG F						
Operating Rig Time	2 1/2 HOURS						
Equipment -- Location	91 COLBY						
Recorded By	T. MARTIN						
Witnessed By	BRUCE REED						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	00'	405'	8.625"	23#	00'	405'
TWO	7.875"	405'	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.

TROUSDALE, KS, 1/2 S TO T RD, 2 E TO 290TH,  
 3 S, 1/2 W INTO ON S SIDE OF TREES, 1/4 N TO LOCATION

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		This Log Record Was Witnessed By	
Engineer: T. MARTIN	Operator:	Primary Witness: BRUCE REED	Secondary Witness: ELI FELTS
Operator:	Operator:	Secondary Witness:	Secondary Witness:

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 CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (90-1031)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					
CILD	8.00		DIL-M&W (PSI 13)	18.50	3.50	220.00
CILM	4.70					
SP	0.20					

Dataset: griffin\_wood\_#1.db: field/well/stckml/pass4.1  
 Total length: 43.08 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in

# Log Variables

DatabaseC:\ProgramData\Warrior\Data\griffin\_wood\_#1.db

Dataset field/well/stckml/pass4.1/\_vars\_

## Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	70	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	45	0	5.5	0	4629	124	7.875



**PIONEER**  
Pioneer Energy Services

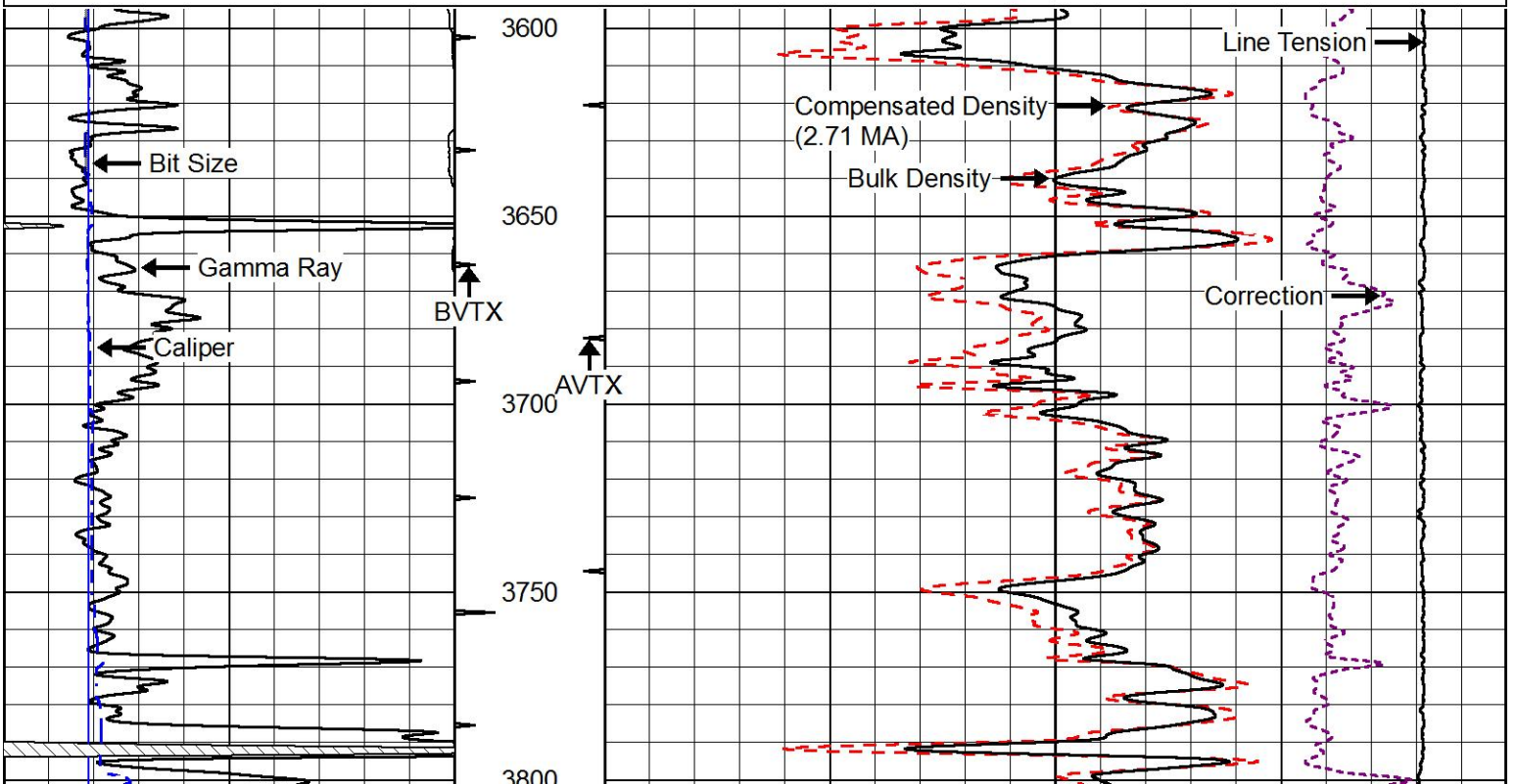
## 2" SCALE BULK DENSITY

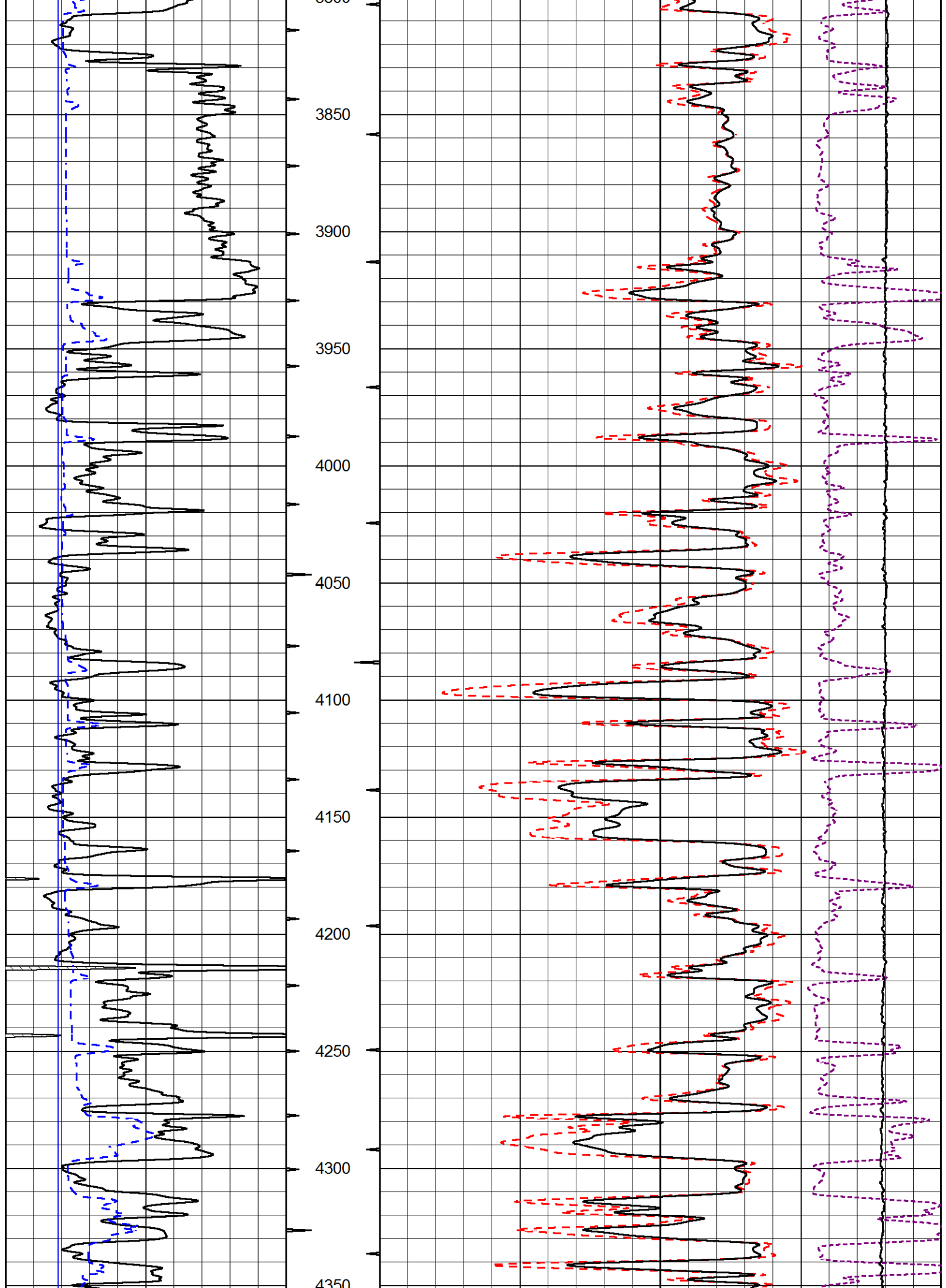
MAIN PASS

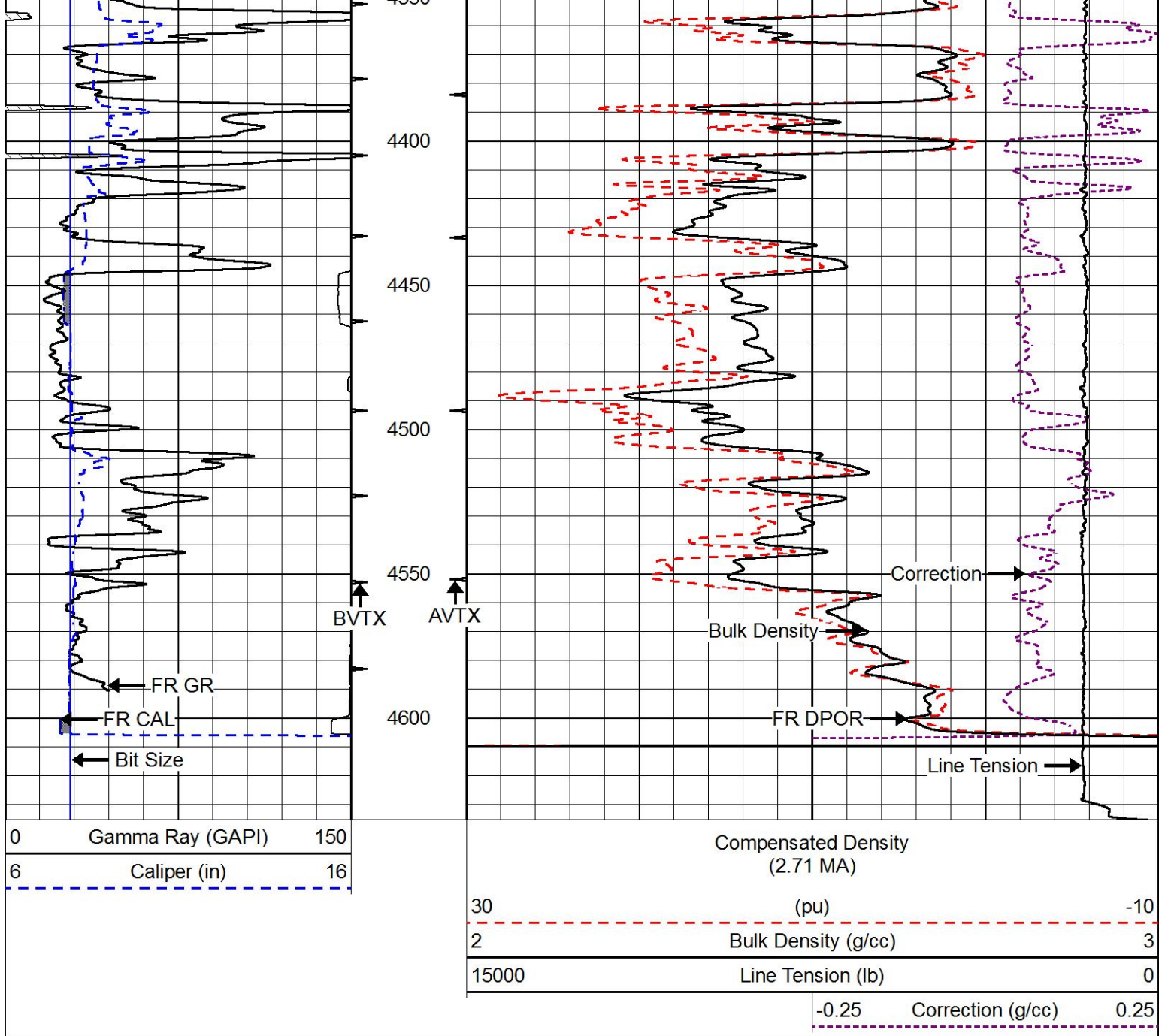
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 Dataset Pathname stckml/pass4.3  
 Presentation Format cdl  
 Dataset Creation Sun Jan 22 18:54:58 2017  
 Charted by Depth in Feet scaled 1:600

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

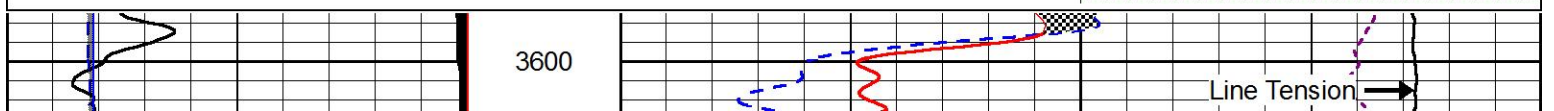
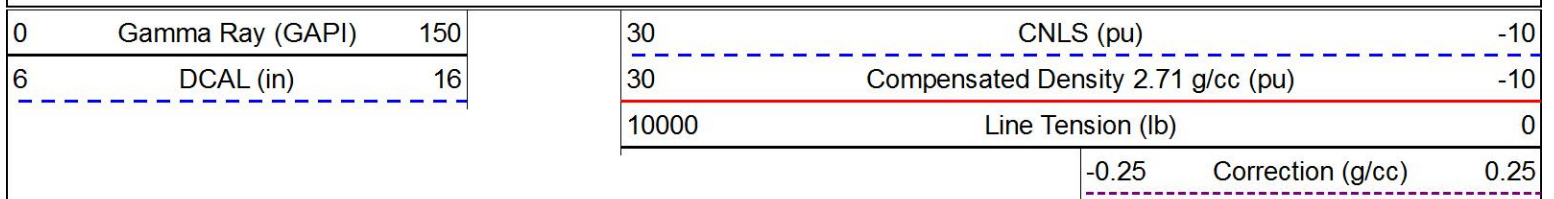


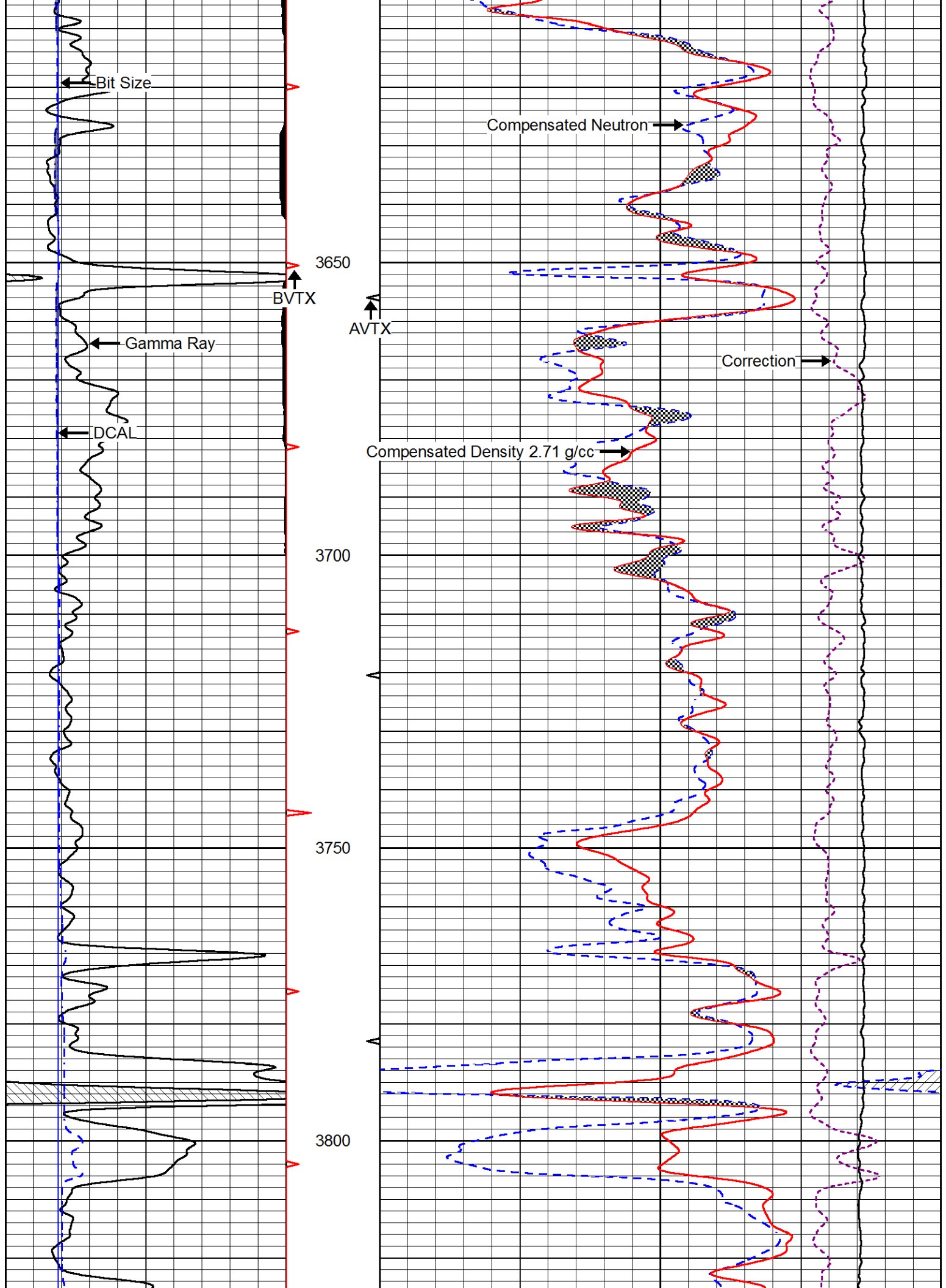


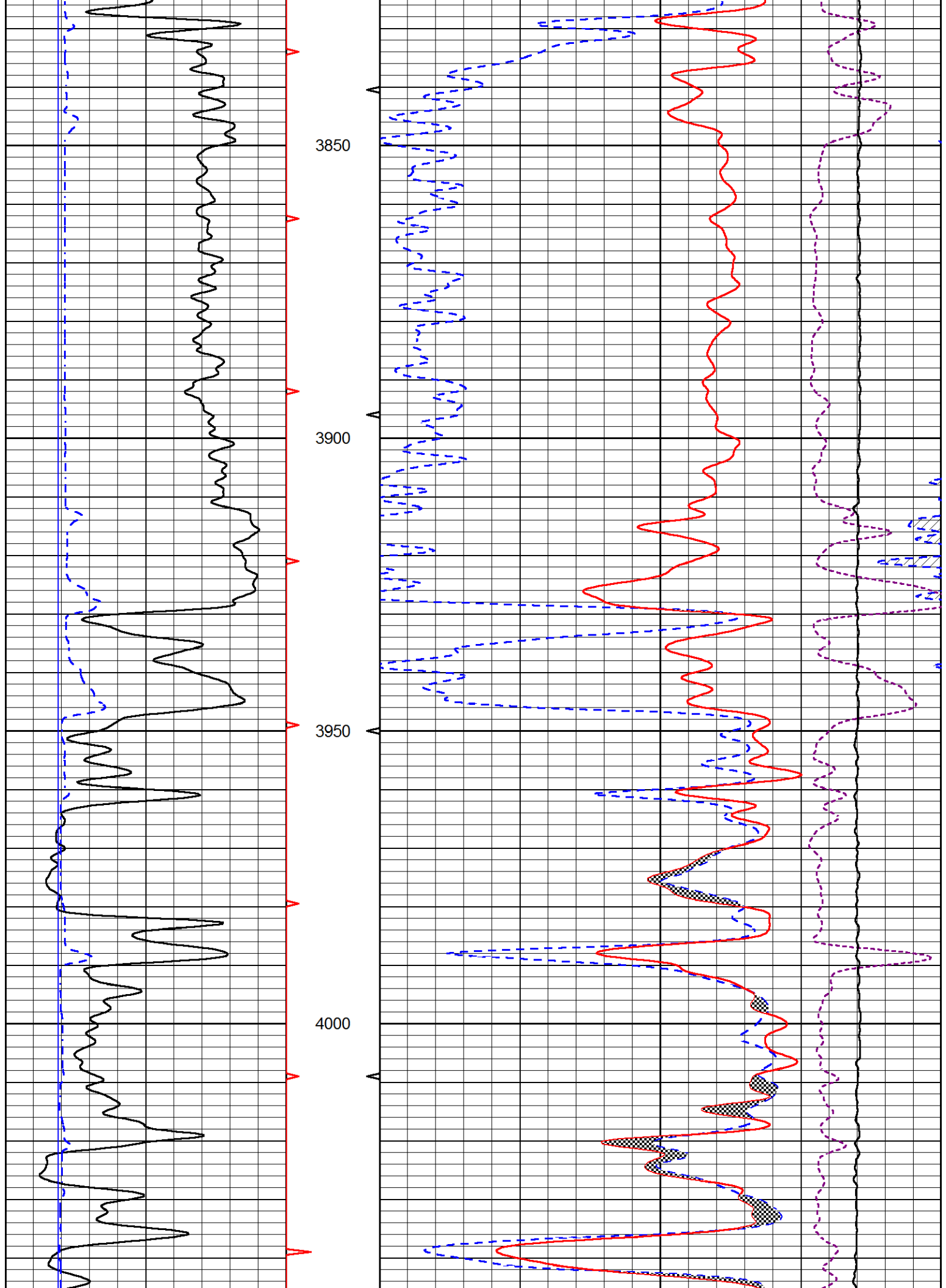


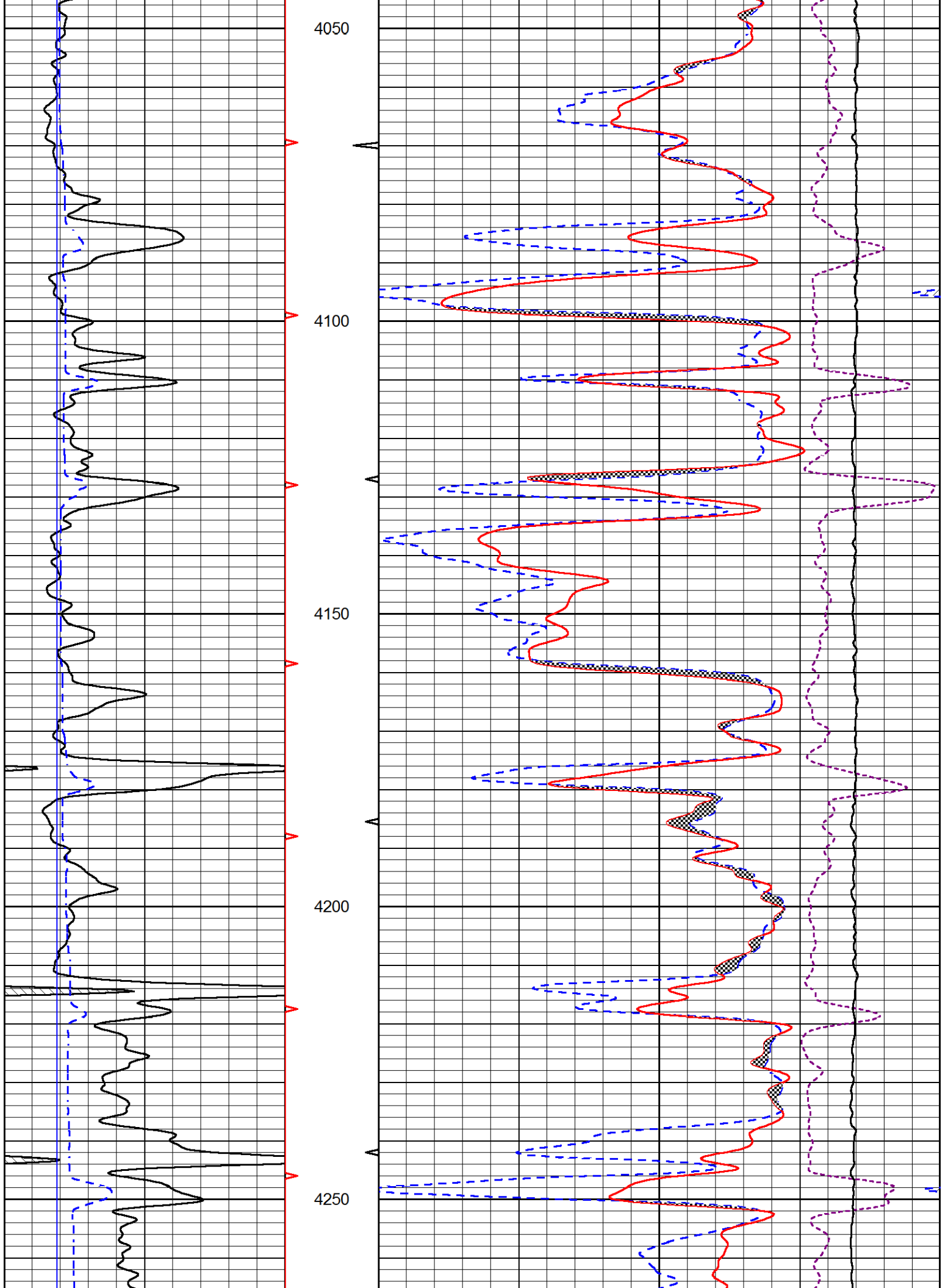
# MAIN PASS

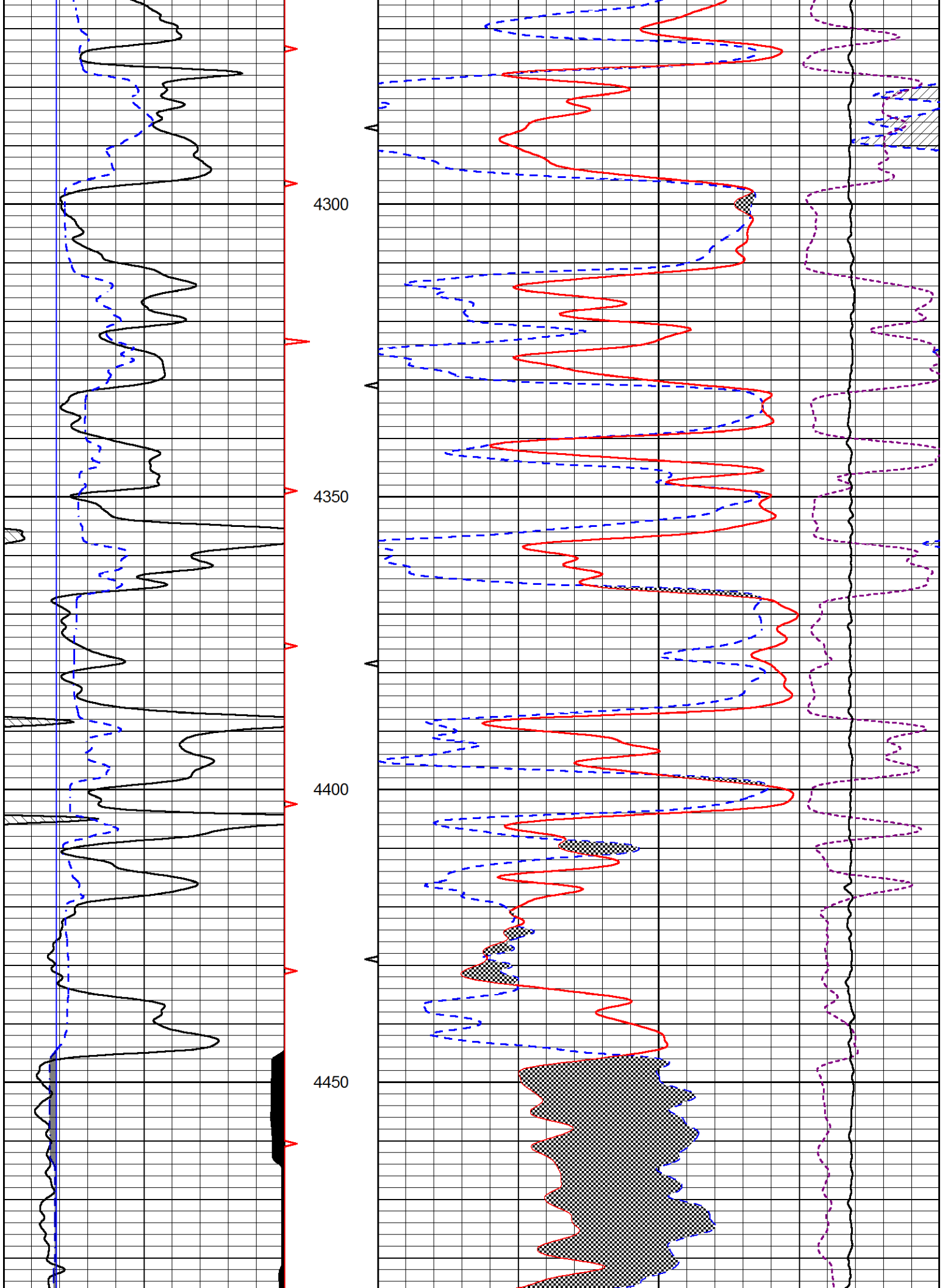
Database File griffin\_wood\_#1.db  
 Dataset Pathname stckml/pass4.1  
 Presentation Format cndlspec  
 Dataset Creation Sun Jan 22 19:25:51 2017  
 Charted by Depth in Feet scaled 1:240

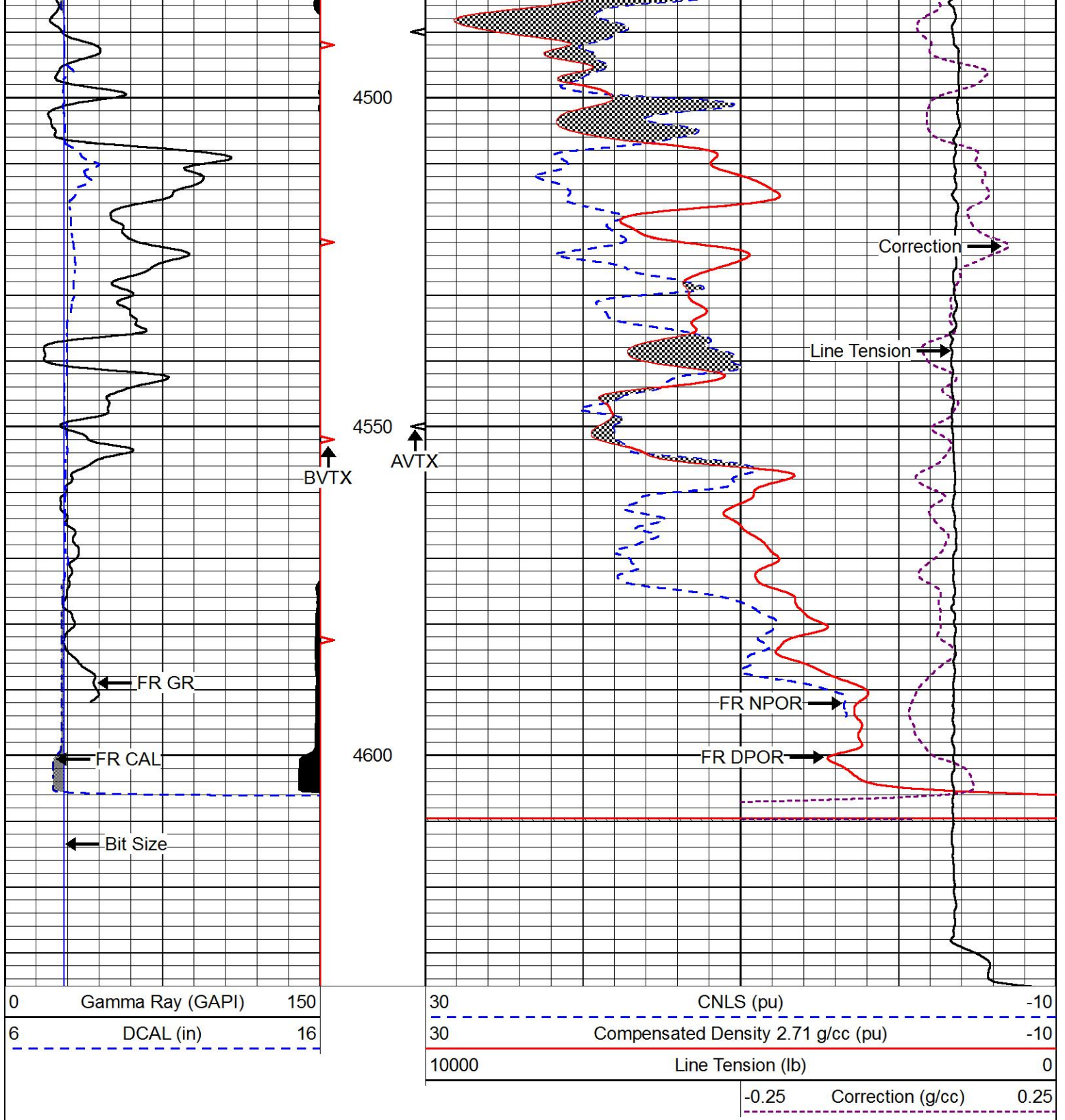












# REPEAT SECTION

Database File griffin\_wood\_#1.db  
 Dataset Pathname stckml/pass2.1  
 Presentation Format cndlspec  
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 Charted by Depth in Feet scaled 1:240

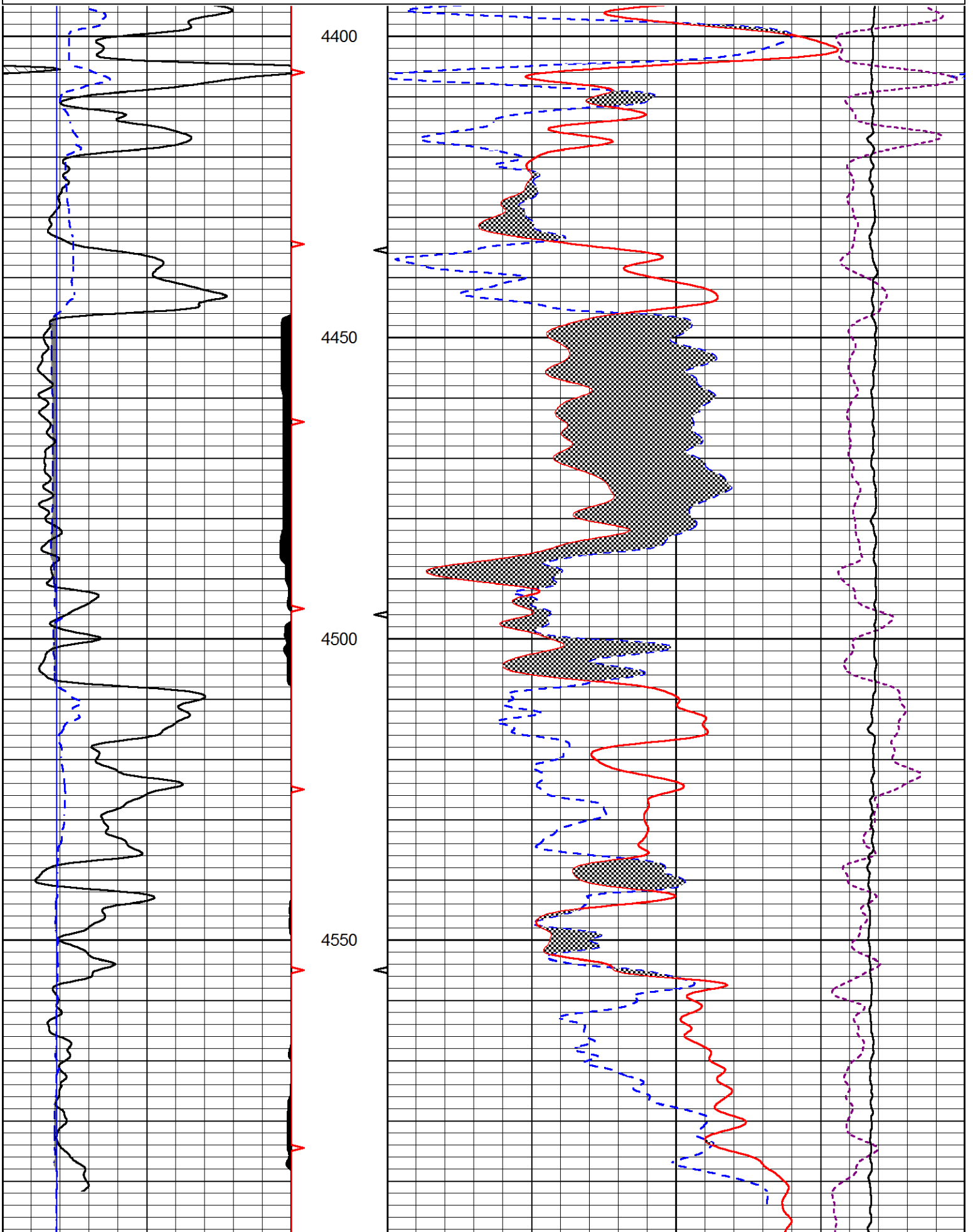


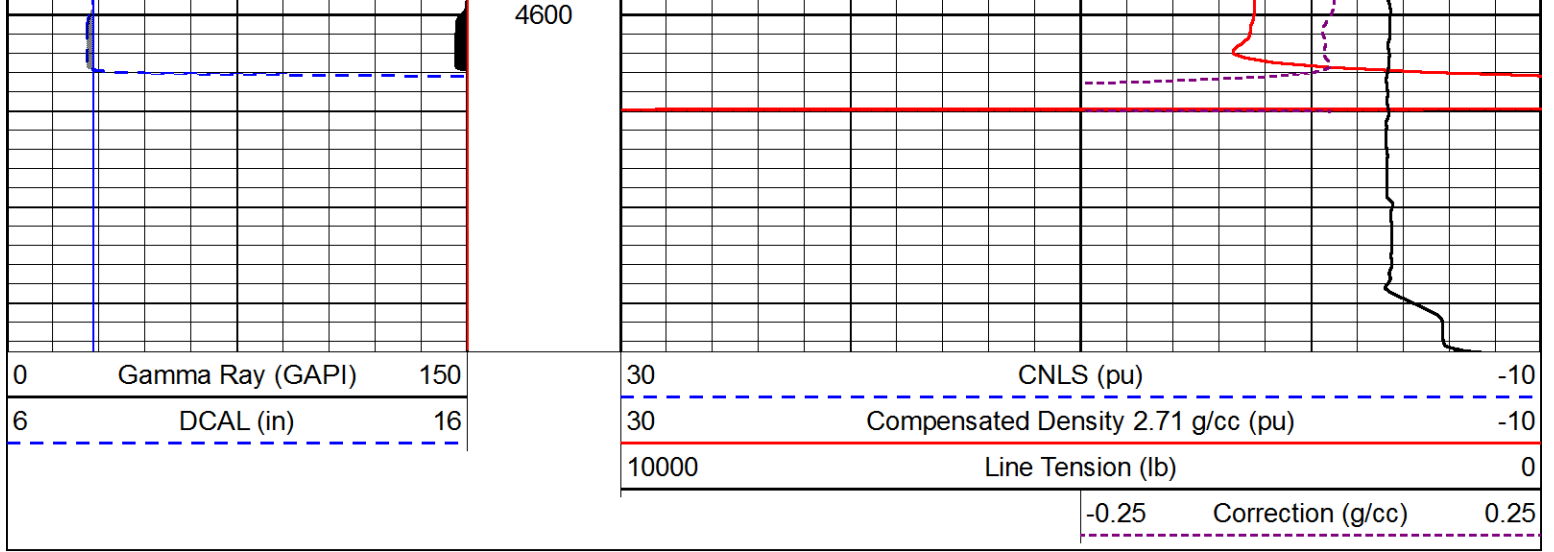
6 DCAL (in) 16

30 Compensated Density 2.71 g/cc (pu) -10

10000 Line Tension (lb) 0

-0.25 Correction (g/cc) 0.25





### Calibration Report

Database File      griffin\_wood\_#1.db  
 Dataset Pathname   stckml/pass4.1  
 Dataset Creation    Sun Jan 22 19:25:51 2017

### Dual Induction Calibration Report

Serial-Model:                      PSI 13-M&W  
 Calibration Performed:            Mon Jan 02 18:08:07 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	166.796	835.089	0.000	255.800	mmho/m	0.950	-38.000
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.830	-35.000

### Microlog Calibration Report

Serial-Model:                      PSI-01-PSIML  
 Performed:                            Mon Jan 02 18:08:17 2017

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	18000.0000	0.1000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	20000.0000	0.2000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-65.8500

### Compensated Density Calibration Report

Serial-Model:                      90-1031-M&W  
 Source / Verifier:                16955B / 2ci  
 Master Calibration Performed:    Mon Jan 02 18:08:22 2017

### Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	5174.18	6425.27	cps
Aluminum	2.670	g/cc	963.17	4037.42	cps

	Size		Reading
Small Ring	6.00	in	1.83
Large Ring	16.00	in	1.48

## Compensated Neutron Calibration Report

Serial Number: 207-MW  
 Tool Model: M&W  
 Calibration Performed: Mon Jan 2 10:30:30 2017

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 02 18:08:34 2017

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



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