



# DUAL COMP POROSITY LOG

Company SCHABEN OIL, LLC  
 Well KEN & TRAVIS SCHABEN NO. 1-31  
 Field SCHABEN  
 County NESS  
 State KANSAS

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Location: API #: 15-135-25945-00-00  
 471' FNL & 426' FWL  
 SEC 31 TWP 19S RGE 21W  
 Permanent Datum GROUND LEVEL Elevation 2295'  
 Log Measured From KELLY BUSHING  
 Drilling Measured From KELLY BUSHING  
 Other Services  
 Elevation  
 K.B. 2306'  
 D.F. N/A  
 G.L. 2295'

Date	3/14/17						
Run Number	ONE						
Type Log	CNL/CDL						
Depth Driller	4530'						
Depth Logger	4513'						
Bottom Logged Interval	4492'						
Top Logged Interval	3700'						
Type Fluid In Hole	CHEMICAL						
Salinity, PPM CL	3,800						
Density	9.3						
Level	FULL						
Max. Rec. Temp. F	121 DEG/F						
Operating Rig Time	2 HOURS						
Equipment -- Location	108 HAYS						
Recorded By	J. HENRICKSON						
Witnessed By	ANDREW STENZEL						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0	267'	8.625"	23#	0	267'
TWO	7.875"	267'		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.

BAZINE KANSAS  
 WEST EDGE OF TOWN, SOUTH TO 70 RD, 1/8 WEST, SOUTH INTO  
 NO REPEAT DUE TO HOLE CONDITONS

Log Measured From: KELLY BUSHING 11 Ft. Above Permanent Datum

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[www.pioneerenergy.com](http://www.pioneerenergy.com) 785-625-3858


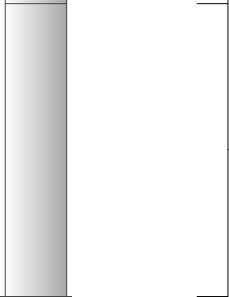
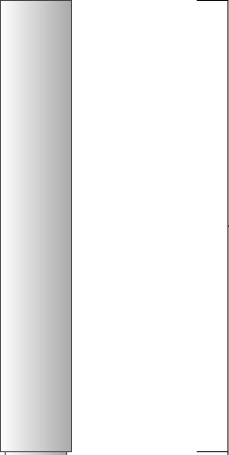

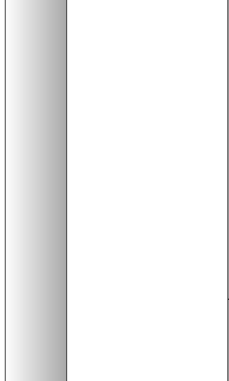
Your Pioneer Energy Services Crew Engineer: J. HENRICKSON Operator: C. PFEIFER Operator: Operator:	This Log Record Was Witnessed By Primary Witness: ANDREW STENZEL Secondary Witness: Secondary Witness: Secondary Witness:
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# Log Variables

DatabaseC:\ProgramData\Warrior\Data\schaben\_ken\_travis\_schaben\_1\_31.db  
 Dataset field/well/stack/pass3.1/\_vars\_

## Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	121	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	-130	32	Off	4513

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 (71-914)	8.50	4.00	250.00
RLL3F RLL3	15.80 15.80					
CILD	8.00		DIL-PSI HIGH TEMP (PSI 216 HT)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: schaben\_ken\_travis\_schaben\_1\_31.db: field/well/stack/pass3.1  
 Total length: 35.50 ft  
 Total weight: 620.00 lb  
 O.D.: 4.00 in

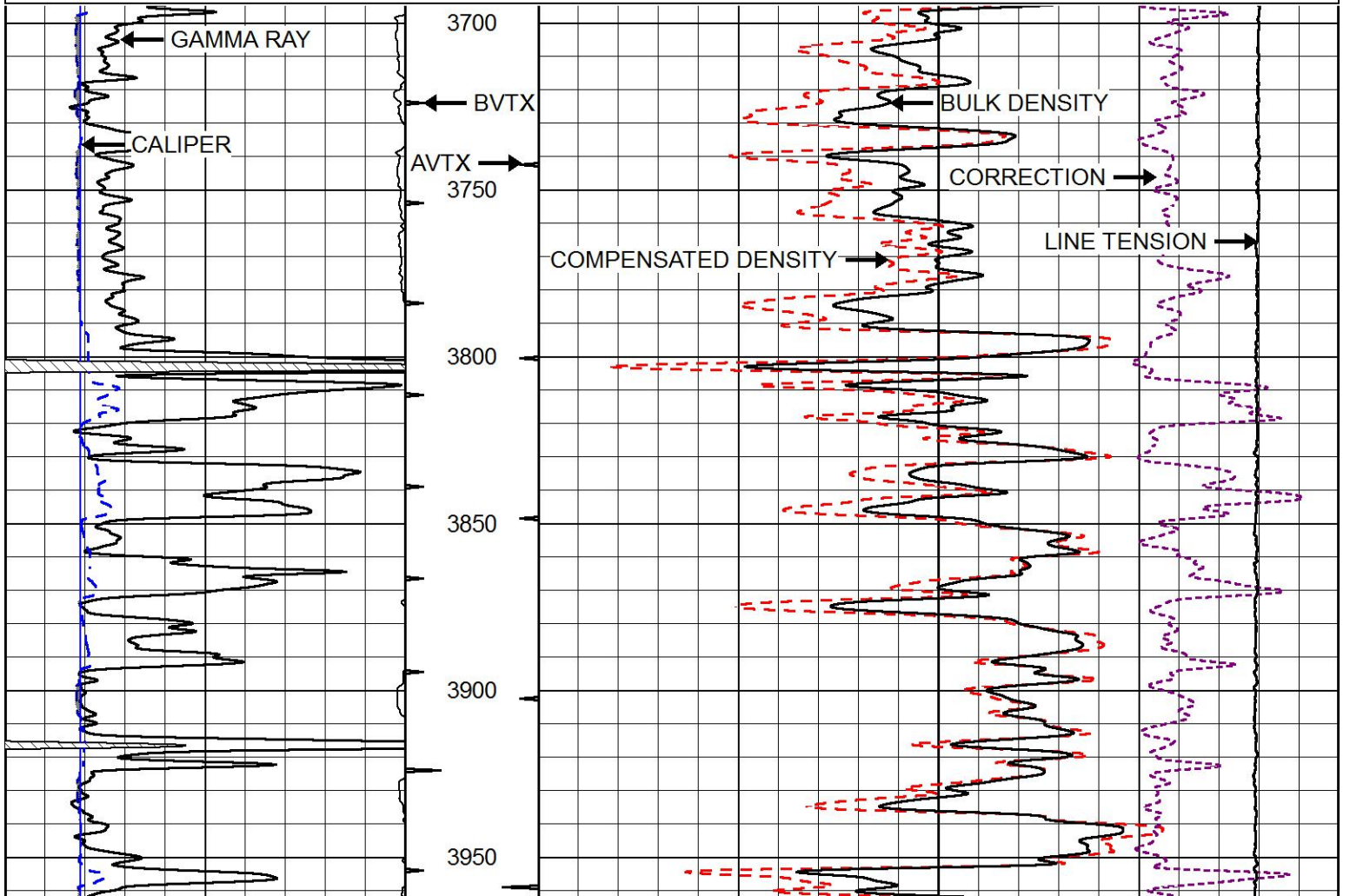


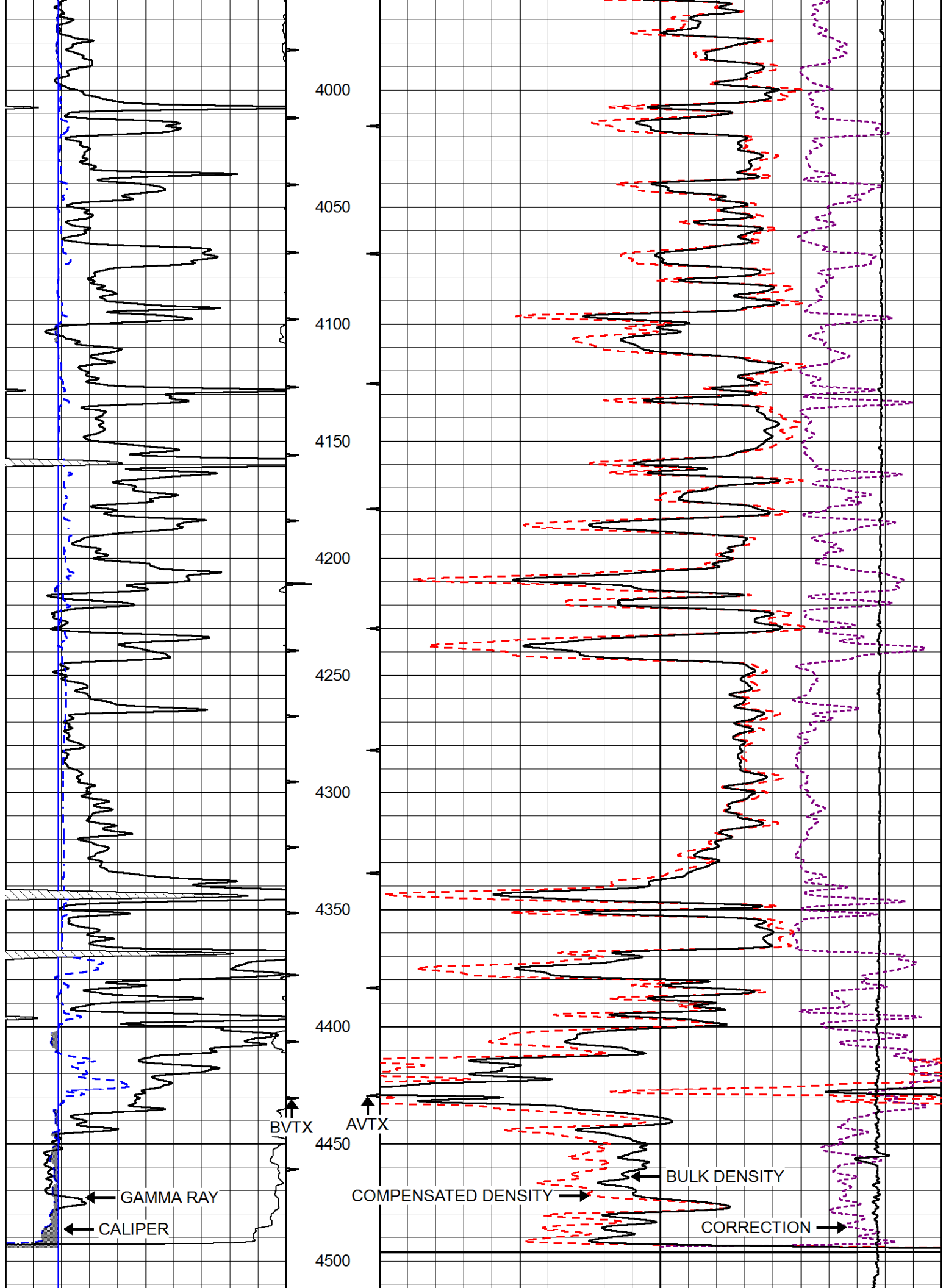
# MAIN PASS

Database File schaben\_ken\_travis\_schaben\_1\_31.db  
 Dataset Pathname stack/pass3.1  
 Presentation Format cdl  
 Dataset Creation Tue Mar 14 10:56:34 2017  
 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
-0.25	CORRECTION (g/cc)	0.25





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

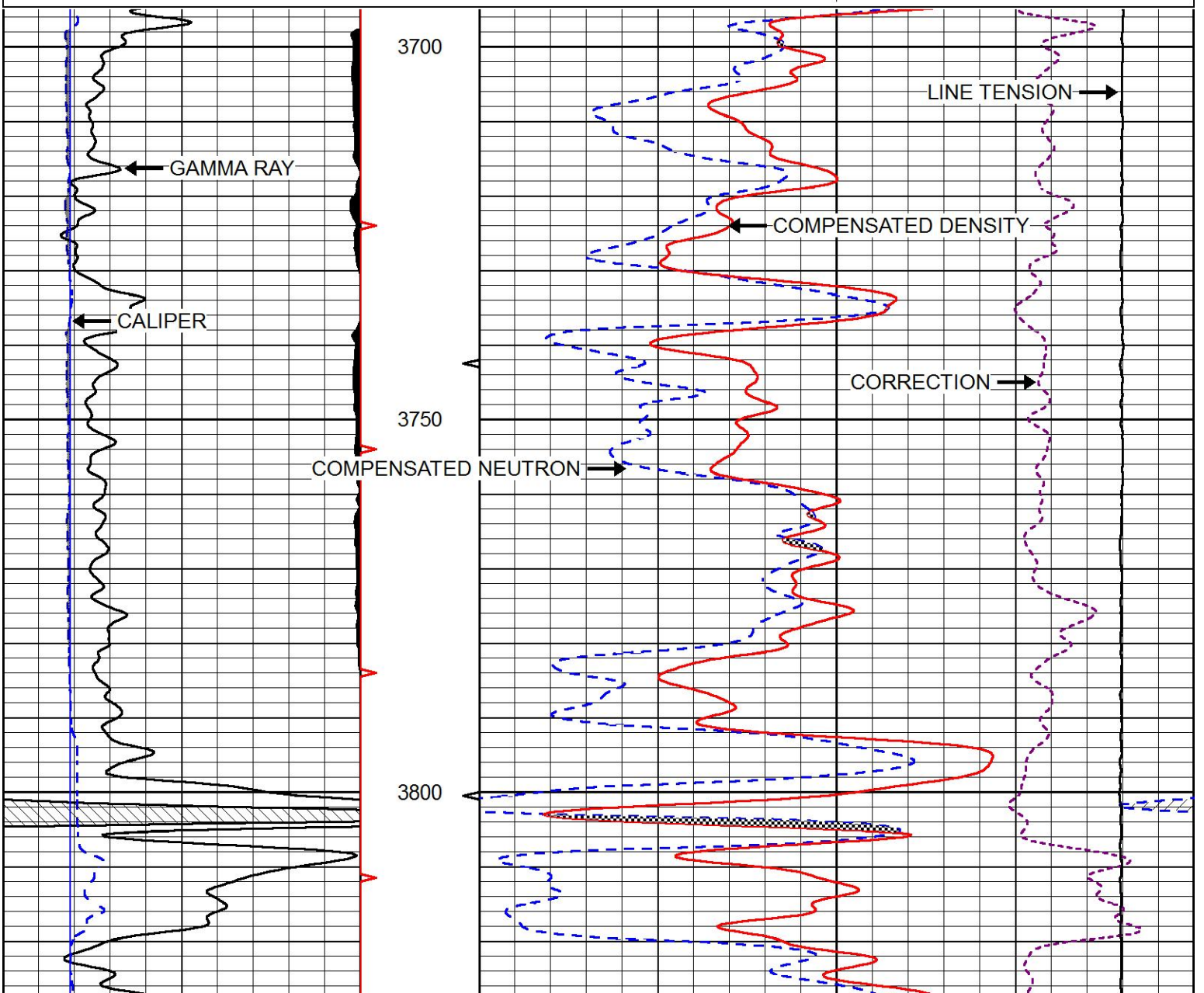


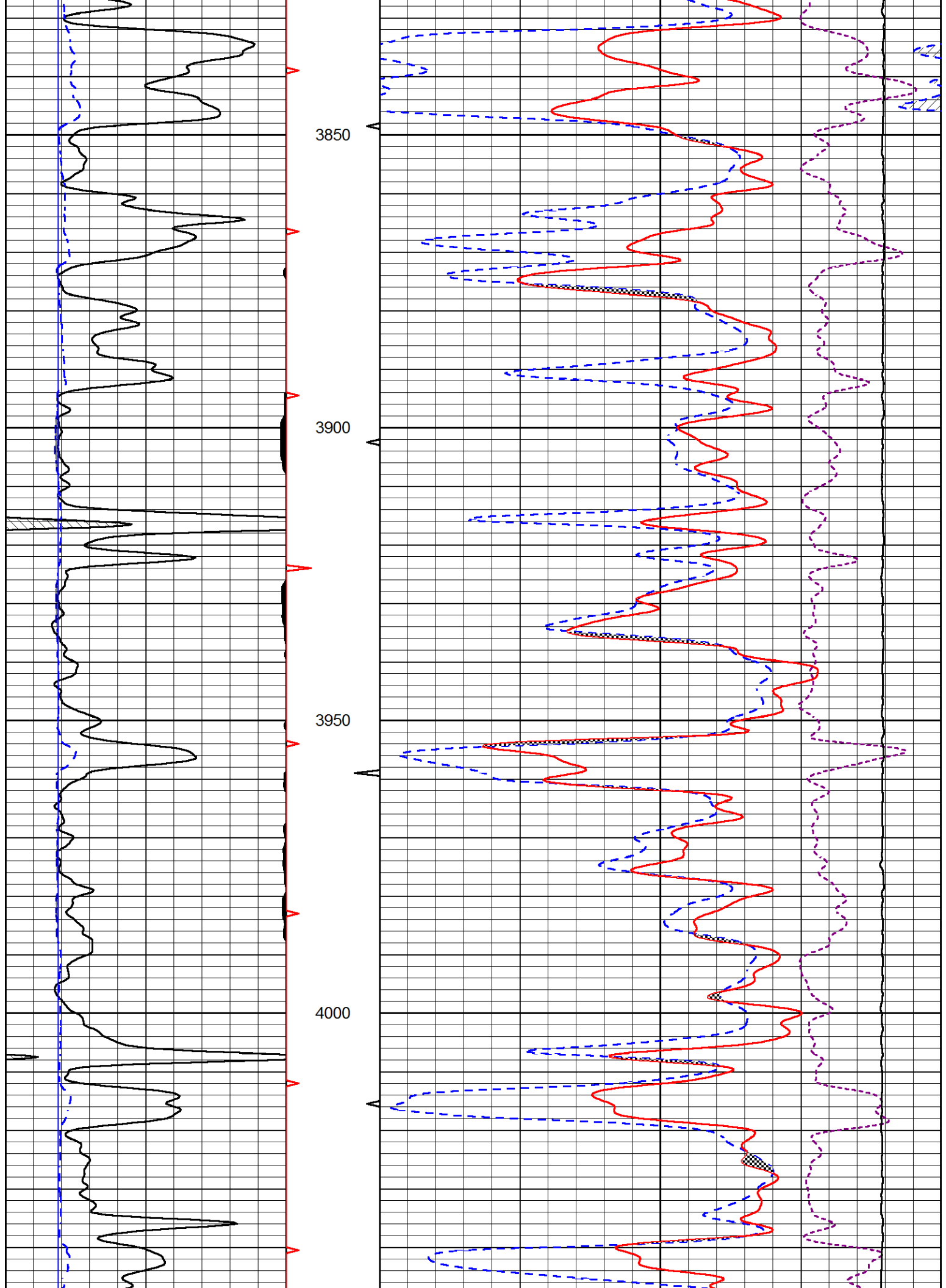
# MAIN PASS

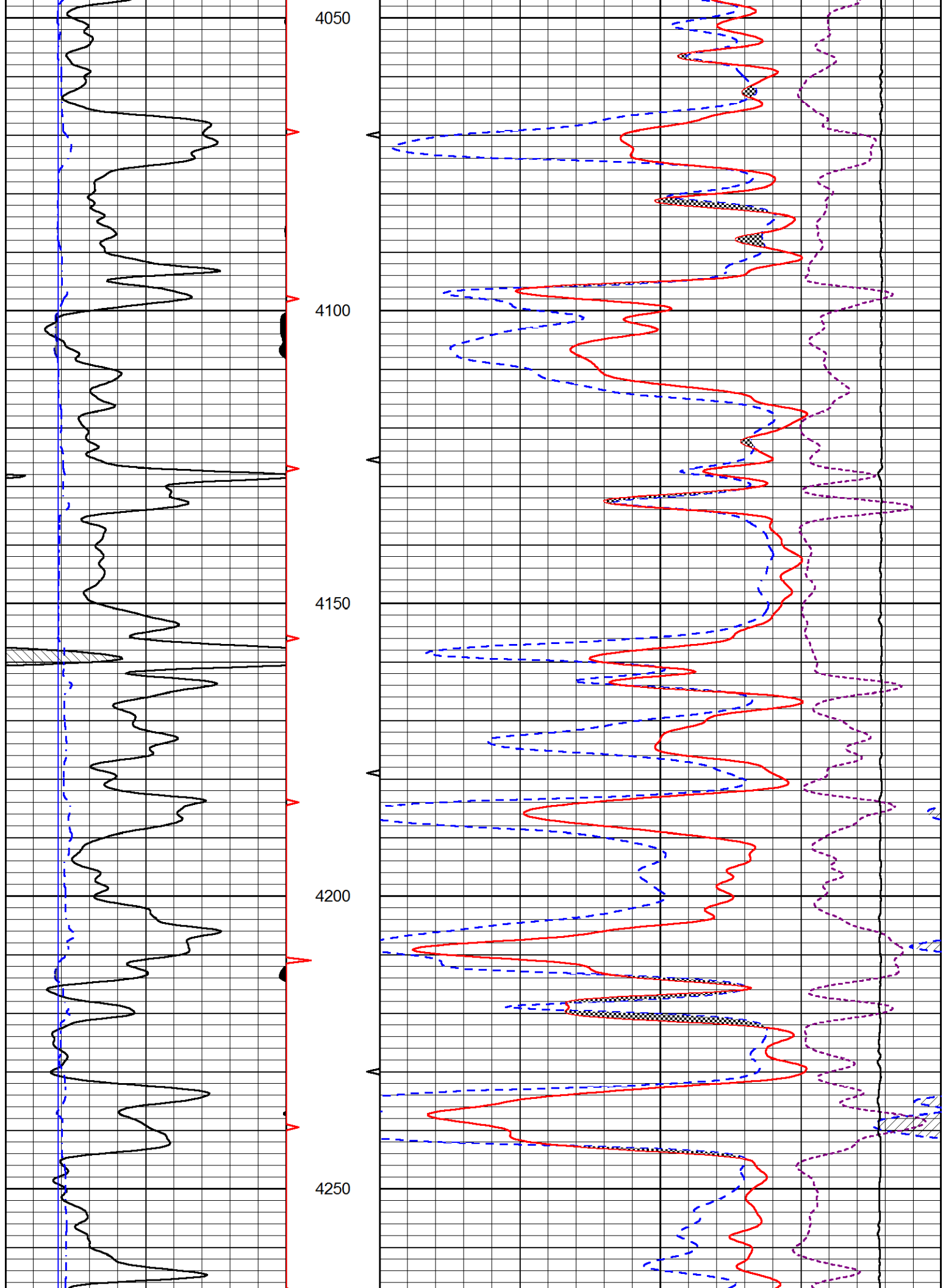
Database File	schaben_ken_travis_schaben_1_31.db
Dataset Pathname	stack/pass3.1
Presentation Format	cnclspec
Dataset Creation	Tue Mar 14 10:56:34 2017
Charted by	Depth in Feet scaled 1:240

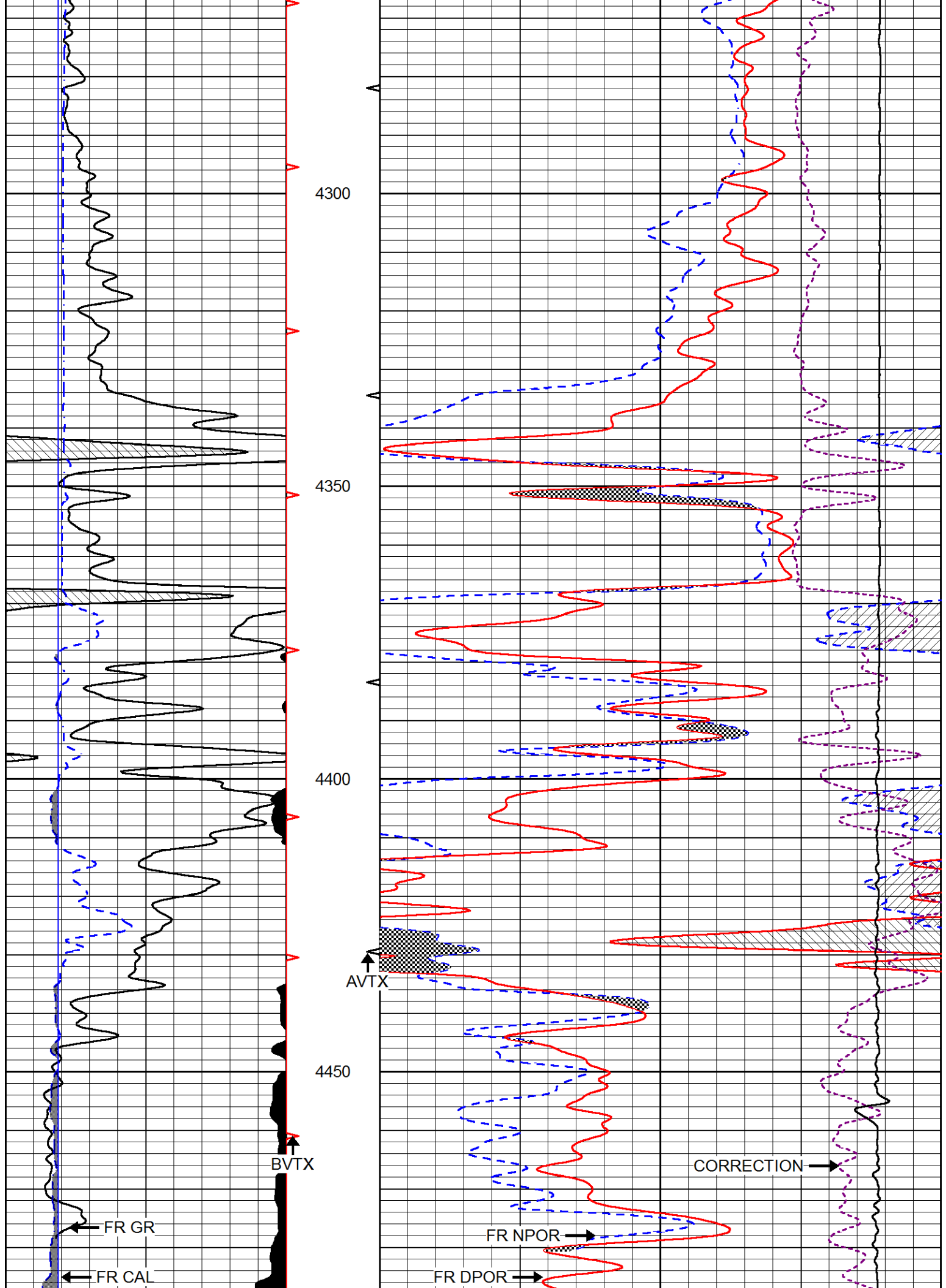
0	GAMMA RAY (GAPI)	150
6	dcal (in)	16
6	BIT SIZE (in)	16

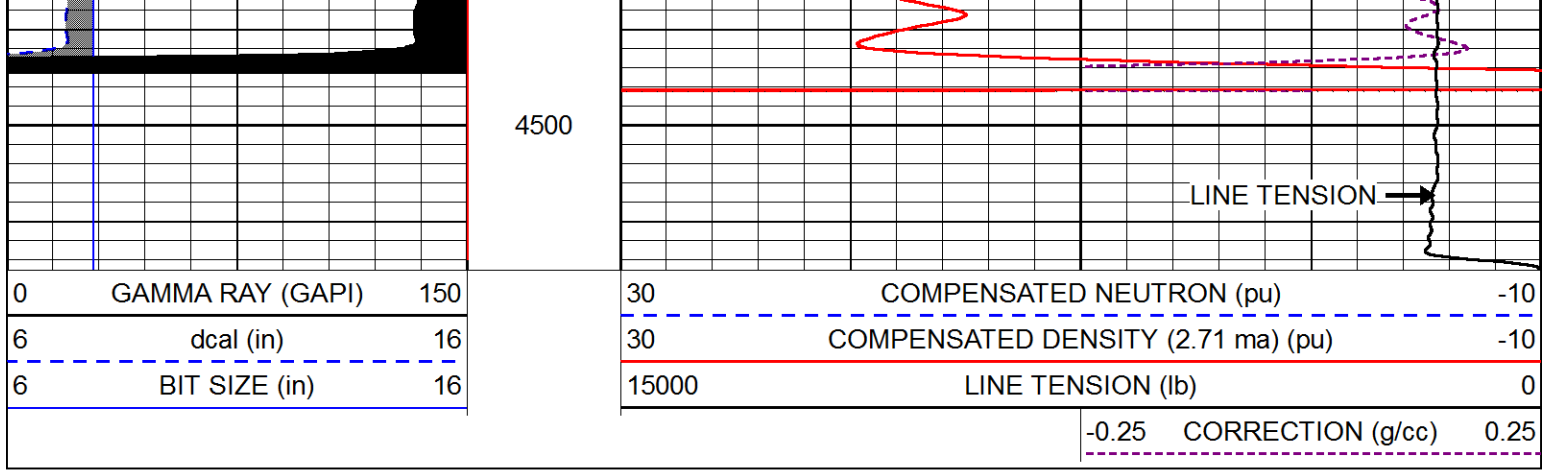
30	COMPENSATED NEUTRON (pu)	-10
30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
15000	LINE TENSION (lb)	0
	-0.25 CORRECTION (g/cc)	0.25











### Calibration Report

Database File schaben\_ken\_travis\_schaben\_1\_31.db  
 Dataset Pathname stack/pass3.11  
 Dataset Creation Tue Mar 14 09:57:24 2017

### Dual Induction Calibration Report

Serial-Model: PSI 216 HT-PSI HIGH TEMP  
 Calibration Performed: Thu Mar 31 15:54:48 2016

Loop:	Readings		References		Results	
	Air	Loop	Air	Loop	Gain	Offset
Deep	75.411	495.929	4.000	250.000 mmho/m	0.620	-40.115
Medium	75.269	470.661	10.000	100.000 mmho/m	0.628	-22.133

### Compensated Density Calibration Report

Serial-Model: 71-914-M&W  
 Source / Verifier: /  
 Master Calibration Performed: Fri Dec 23 14:42:24 2016

#### Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4314.49	5307.52	cps
Aluminum	2.675	g/cc	822.19	3456.36	cps
Spine Angle = 75.49			Density/Spine Ratio = 0.537		
	Size		Reading		
Small Ring	4.00	in	1.16		
Large Ring	14.00	in	1.57		

### 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
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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:	Fri Dec 23 14:43:38 2016	
Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps

 <p><b>PIONEER</b> Pioneer Energy Services</p>	Company	SCHABEN OIL, LLC
	Well	KEN & TRAVIS SCHABEN NO. 1-31
	Field	SCHABEN
	County	NESS
	State	KANSAS