



# DUAL COMP POROSITY LOG

Company RITCHIE EXPLORATION INC.  
 Well WHITHAM-SMITH TRUST #1  
 Field WILDCAT  
 County WICHITA  
 State KANSAS

Company RITCHIE EXPLORATION INC.  
 Well WHITHAM-SMITH TRUST #1  
 Field WILDCAT  
 County WICHITA  
 State KANSAS

Location: API #: 15-203-20342-00-00  
 2432' & 976' FWL  
 SEC 35 TWP 16S RGE 37W  
 Permanent Datum GROUND LEVEL Elevation 3344  
 Log Measured From KELLY BUSHING  
 Drilling Measured From KELLY BUSHING  
 Other Services  
 DIL/MEL  
 BHCS  
 Elevation  
 K.B. 3352'  
 D.F. N/A  
 G.L. 3344'

Date	9/7/2018						
Run Number	ONE						
Type Log	CNL/CDL						
Depth Driller	4960'						
Depth Logger	4958'						
Bottom Logged Interval	4937'						
Top Logged Interval	3550'						
Type Fluid In Hole	CHEMICAL						
Salinity, PPM CL	7800						
Density	9.4						
Level	FULL						
Max. Rec. Temp. F	126						
Operating Rig Time	4 HOURS						
Equipment -- Location	91 HAYS						
Recorded By	IAN MABB						
Witnessed By	JOHN GOLDSMITH						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0'	263'	8.625"	23#	0'	221'
TWO	7.875"	263'	TD				
Casing Record							

<<< 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.  
 RUSSEL SPRINGS, KS.  
 SOUTH TO COUNTY LINE, AND 6 MILES SOUTH TO G RD,  
 1 MILE WEST , 1/2 NORTH, & EAST INTO

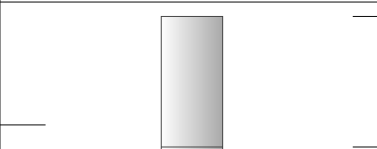
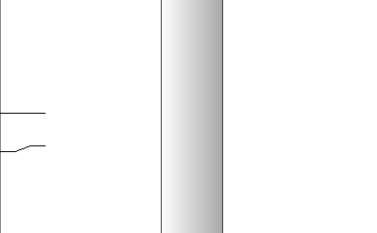
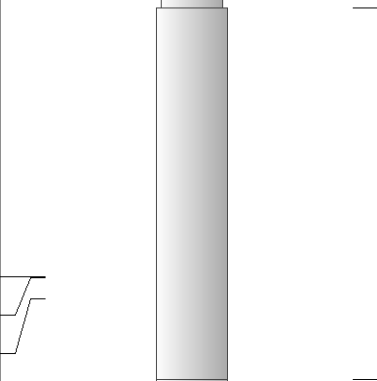
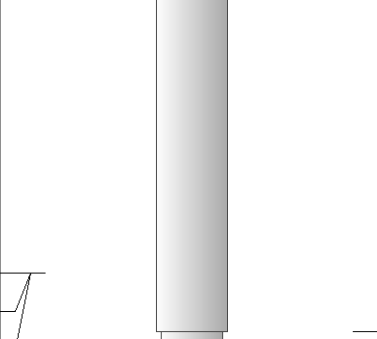
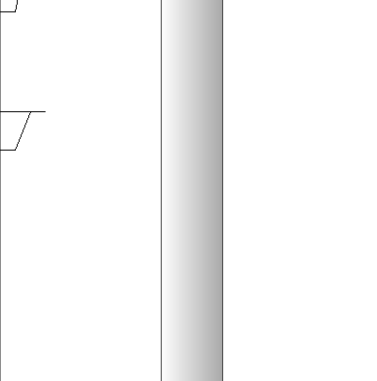
Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES  
[www.pioneerenergy.com](http://www.pioneerenergy.com) 785-625-3858

Your Pioneer Energy Services Crew		This Log Record Was Witnessed By	
Engineer: IAN MABB	Operator:	Primary Witness: JOHN GOLDSMITH	Secondary Witness:
Operator:	Operator:	Secondary Witness:	Secondary Witness:
Operator:		Secondary Witness:	

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	498	2
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
10	0	0	5.5	0	4948	121	7.875

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 (144-84)	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	
CILM	4.70	
SP	0.20	

DIL-PSI HIGH TEMP (967 (HT)) 18.50 3.50 220.00

Dataset: ritchi\_exploration\_whitham-smith\_trust\_1.db: field/well/stackmel/pass3.1  
 Total length: 43.08 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in

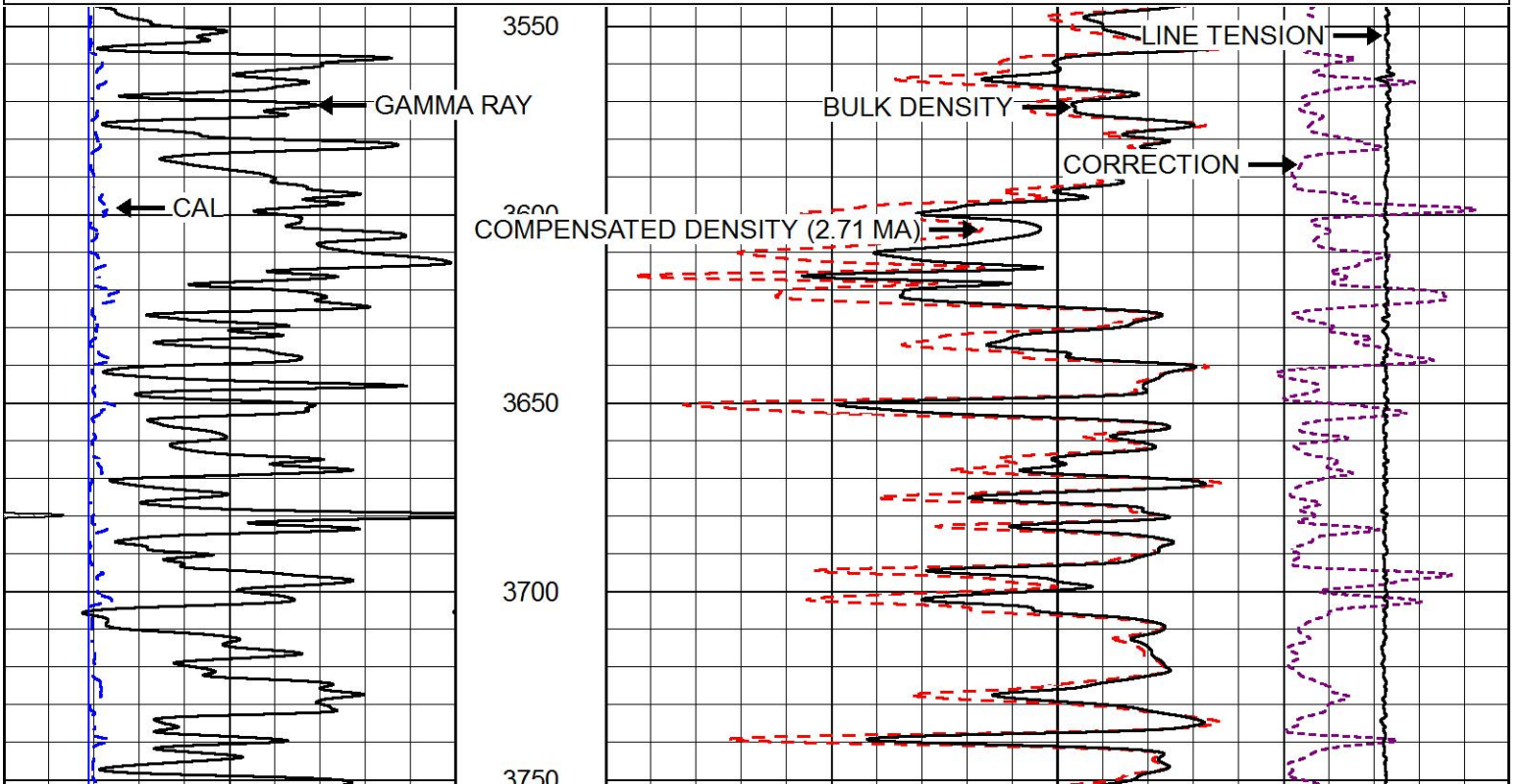


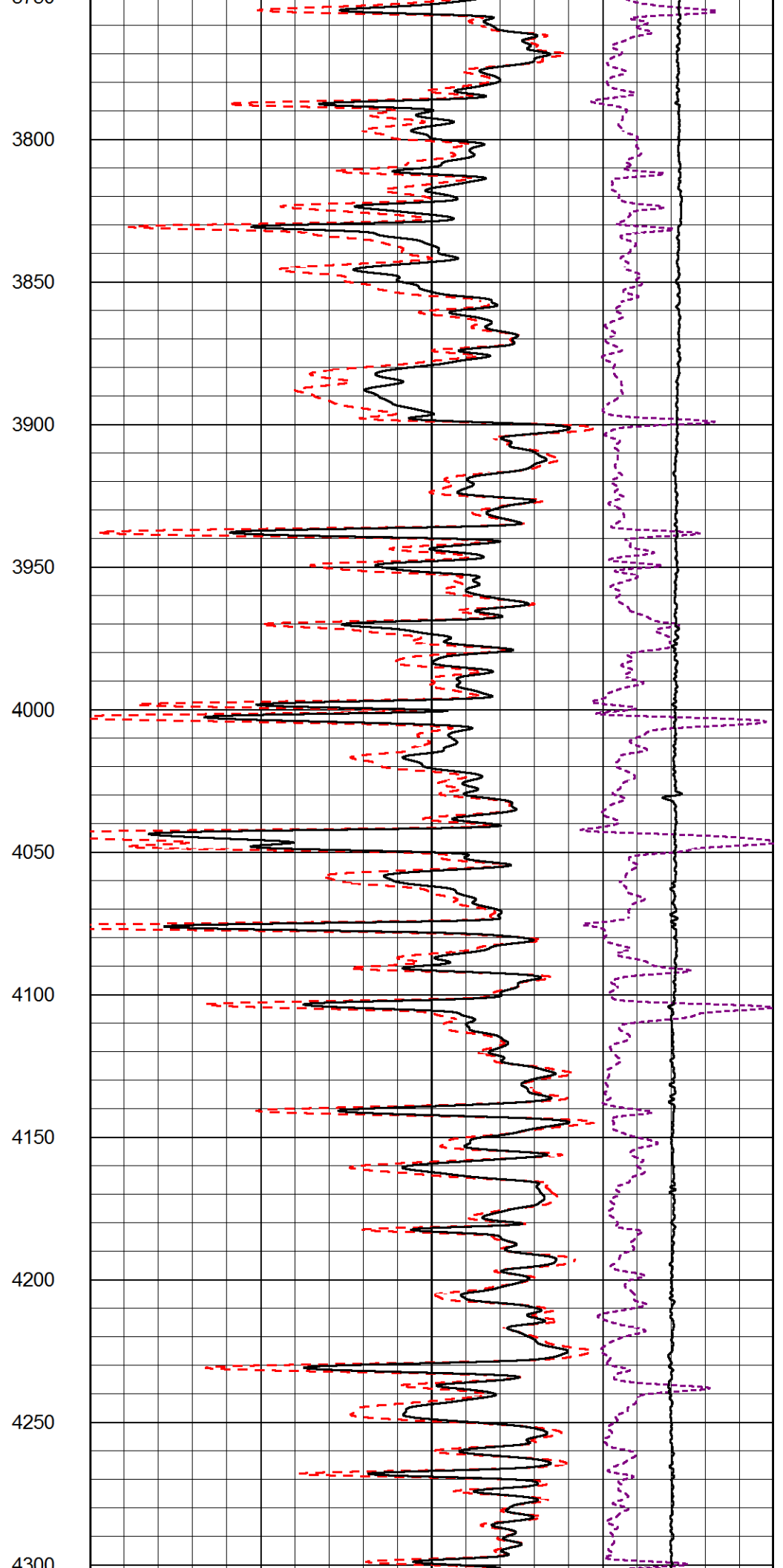
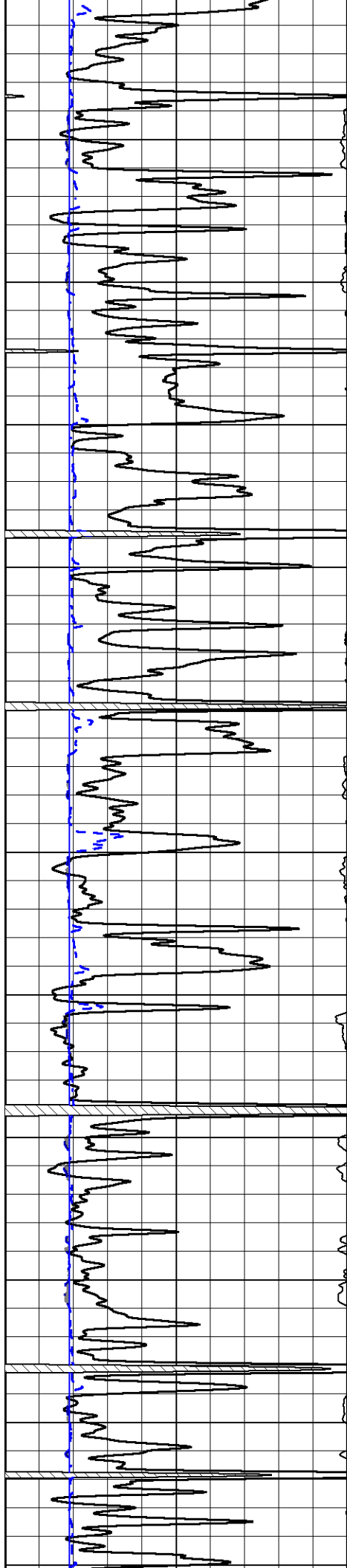
# MAIN PASS

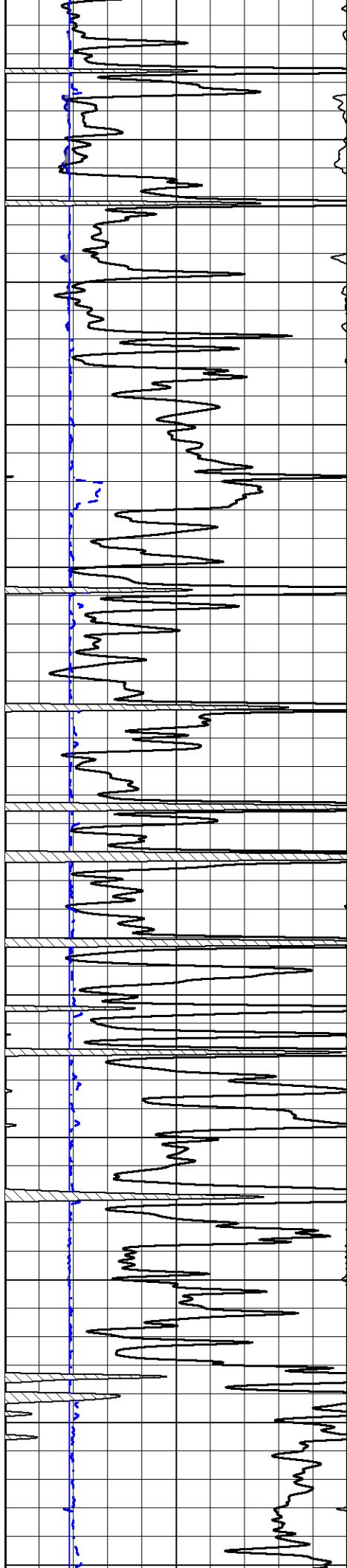
Database File ritchi\_exploration\_whitham-smith\_trust\_1.db  
 Dataset Pathname stackmel/pass3.1  
 Presentation Format cdl  
 Dataset Creation Fri Sep 07 21:21:32 2018  
 Charted by Depth in Feet scaled 1:600

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

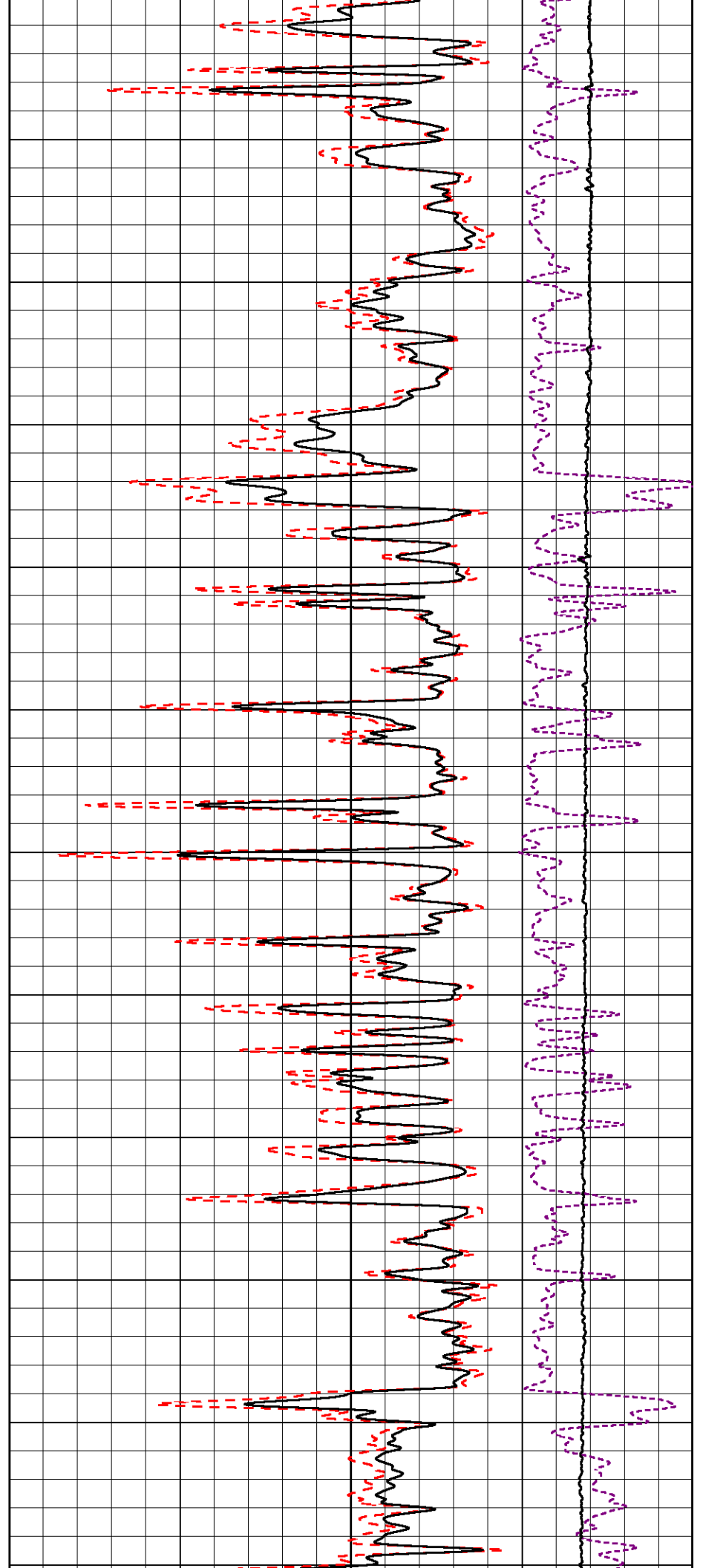
COMPENSATED DENSITY (2.71 MA)	
30	(pu) -10
2	BULK DENSITY (g/cc) 3
15000	LINE TENSION (lb) 0
-0.25	CORRECTION (g/cc) 0.25

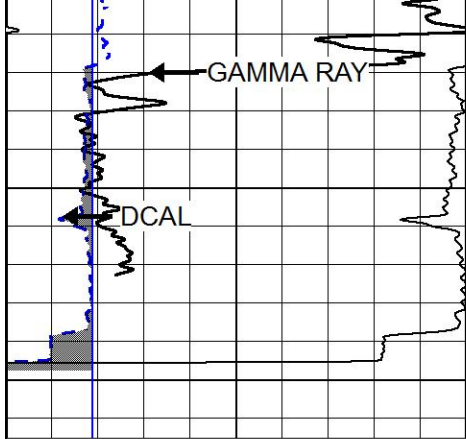




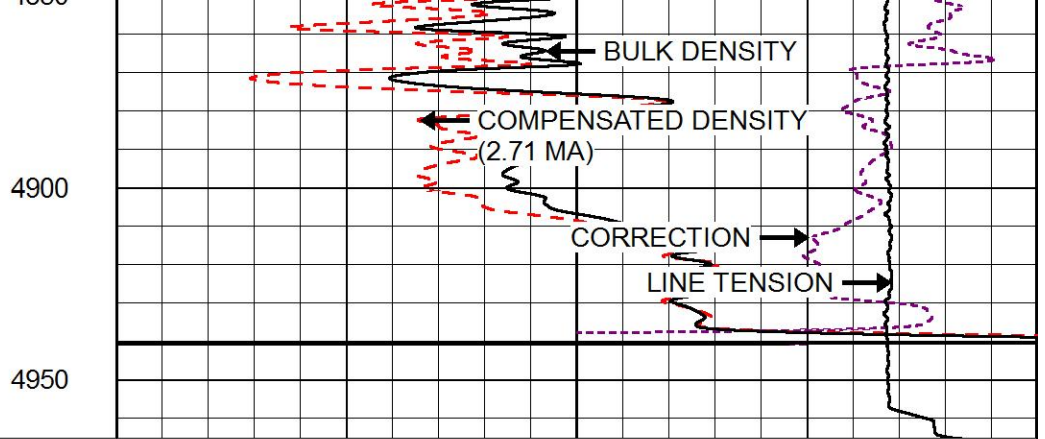


4350  
4400  
4450  
4500  
4550  
4600  
4650  
4700  
4750  
4800  
4850





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



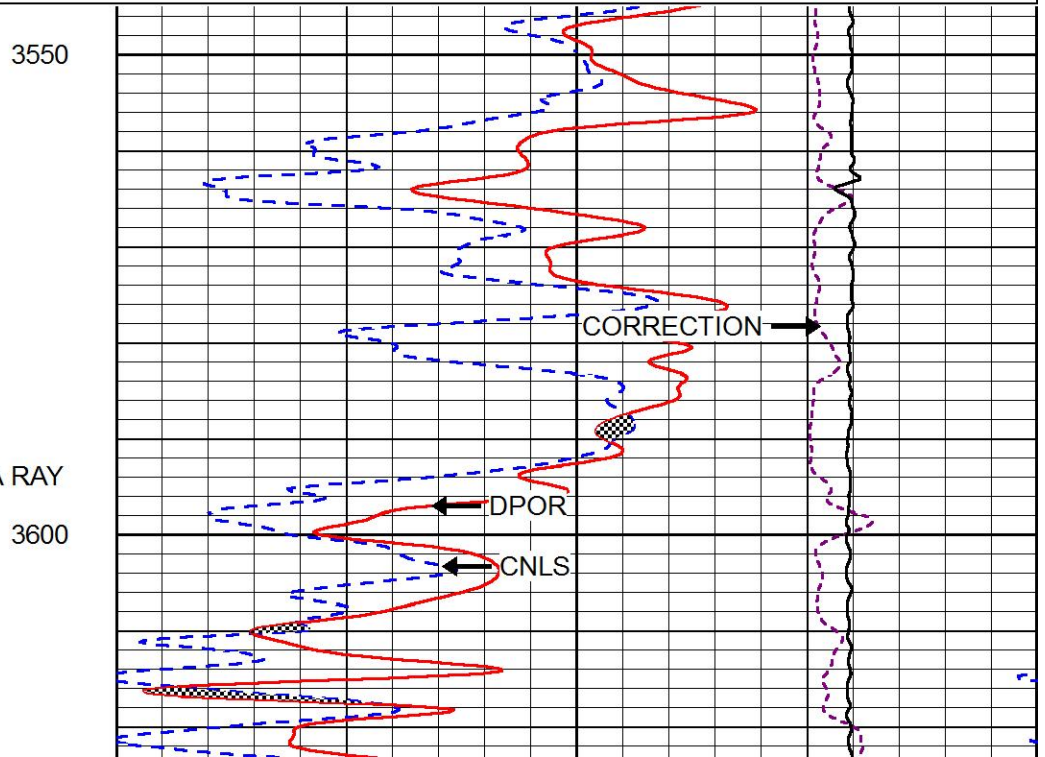
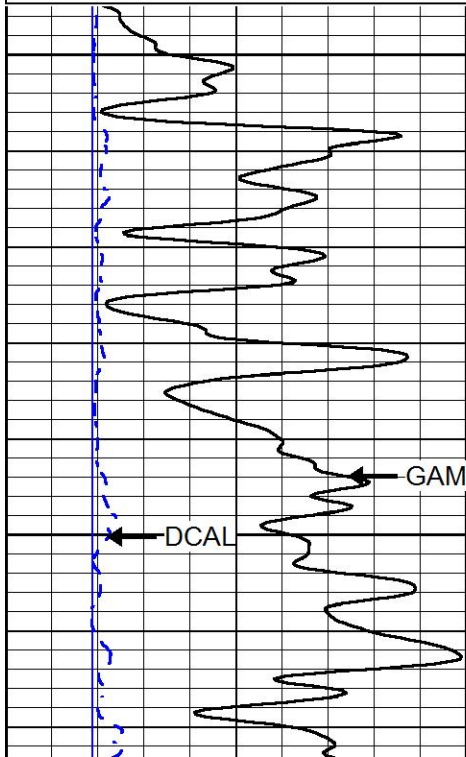
30	(pu)	-10
2	BULK DENSITY (g/cc)	3
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25

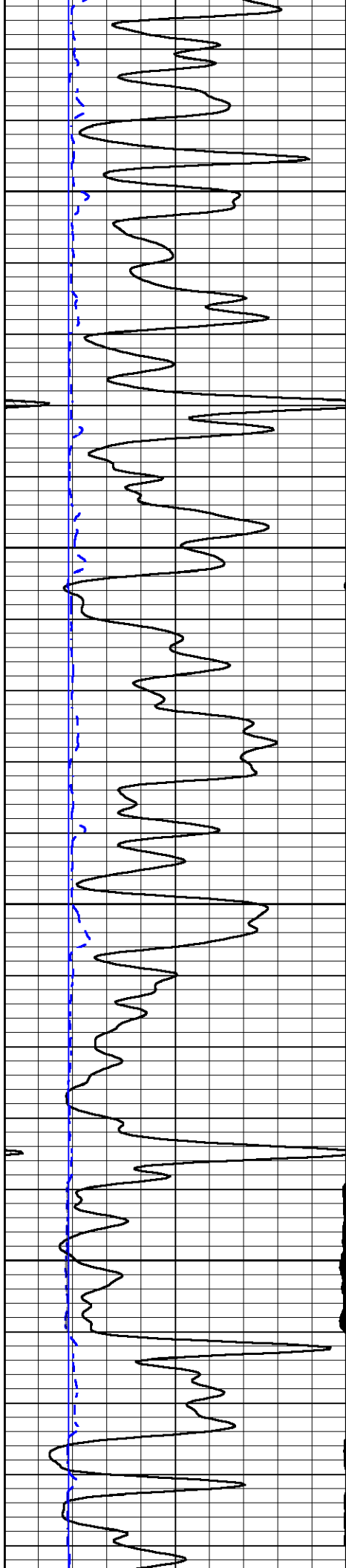


# MAIN PASS

Database File: ritchi\_exploration\_whitham-smith\_trust\_1.db  
 Dataset Pathname: stackmel/pass3.1  
 Presentation Format: cndlspec  
 Dataset Creation: Fri Sep 07 21:21:32 2018  
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	(ft3)	30	CNLS (pu)	-10
6	DCAL (in)	16	(ft3)	30	DPOR (pu)	-10
				10000	LINE TENSION (lb)	0
				-0.75	CORRECTION (g/cc)	0.75



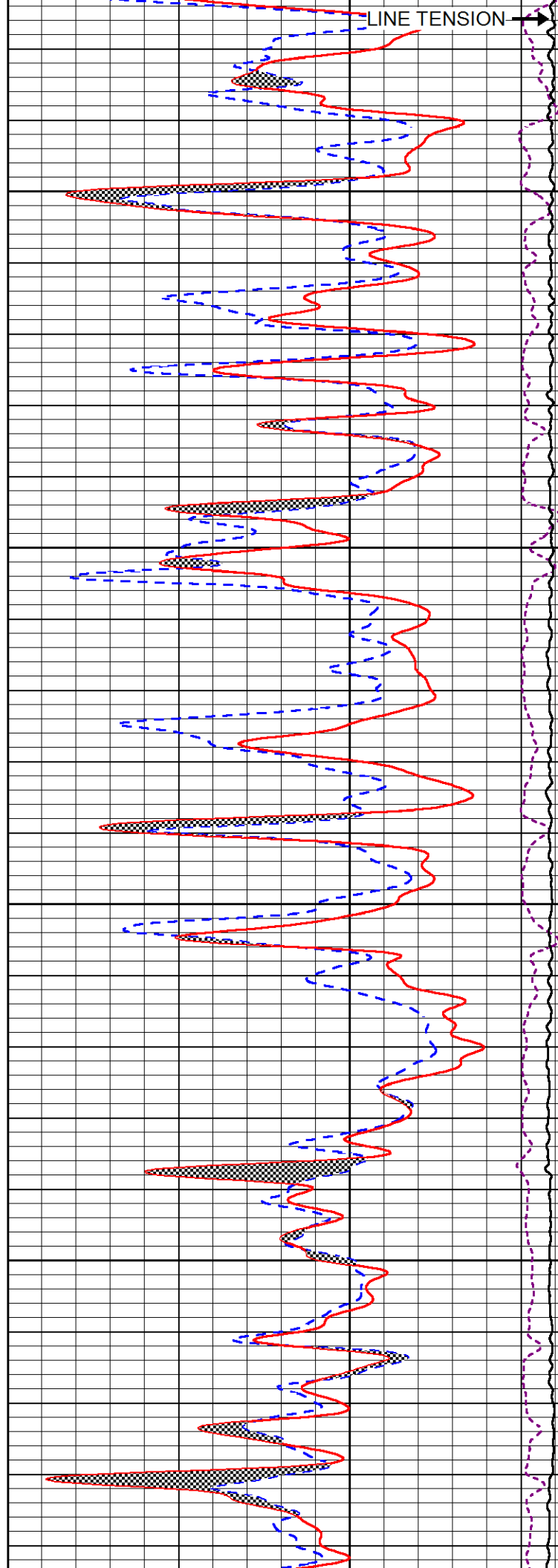


3650

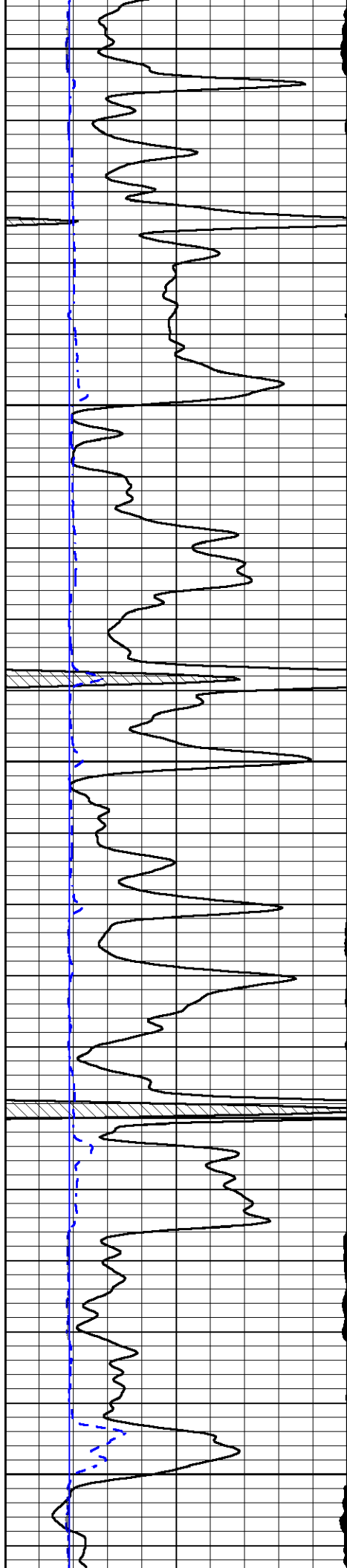
3700

3750

3800



LINE TENSION



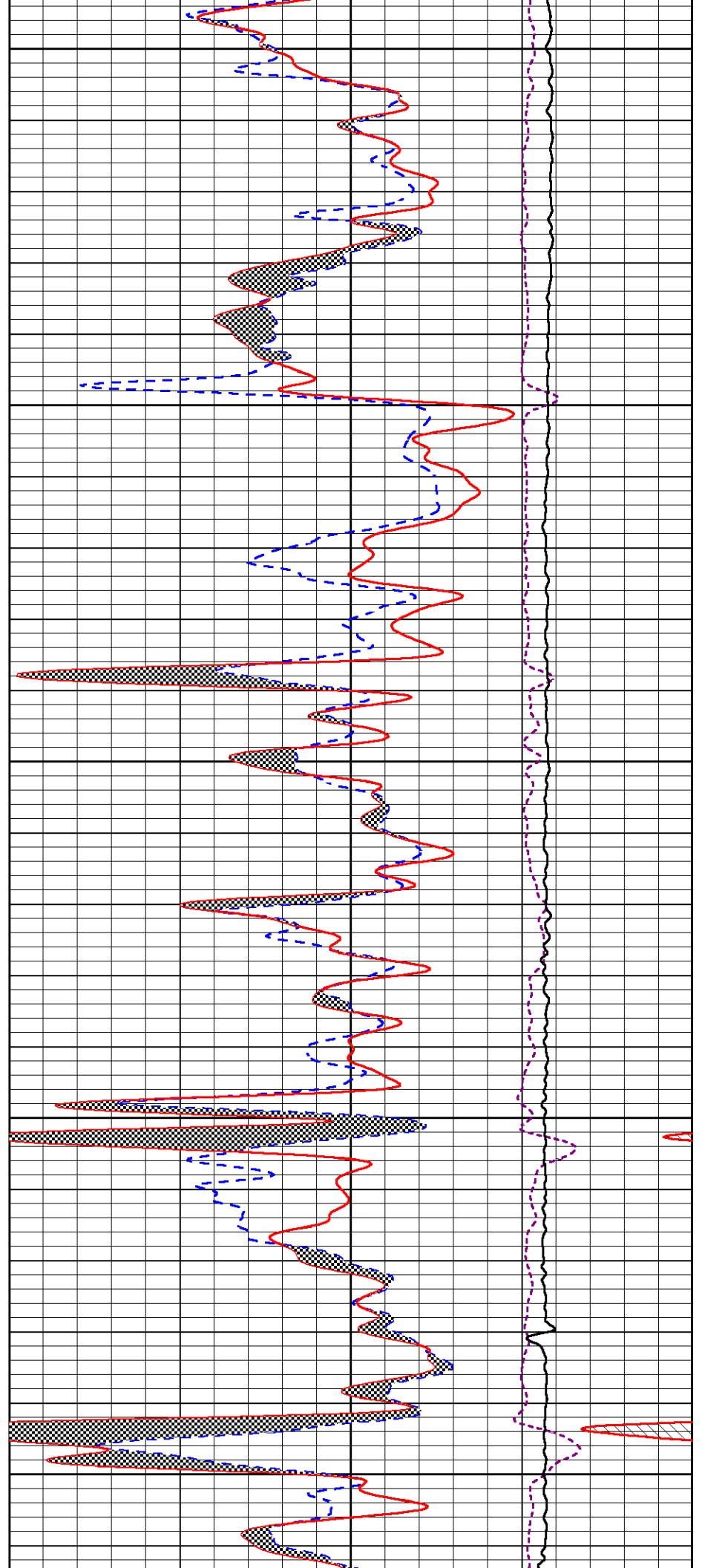
3850

3900

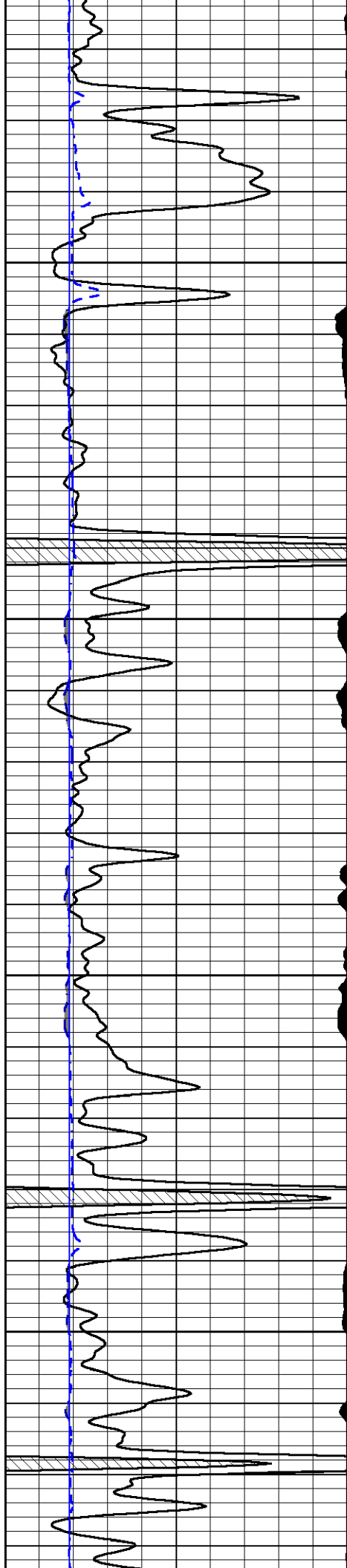
3950

4000

4050





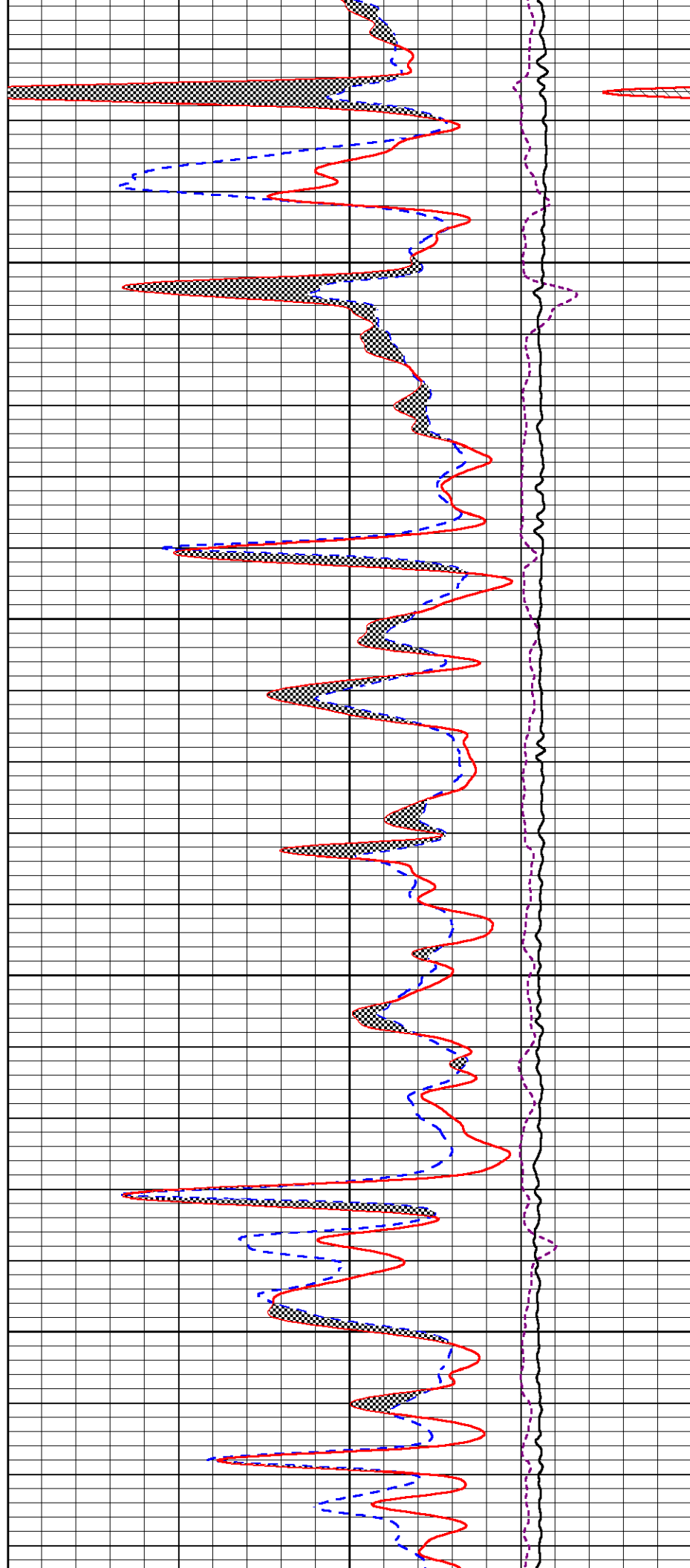


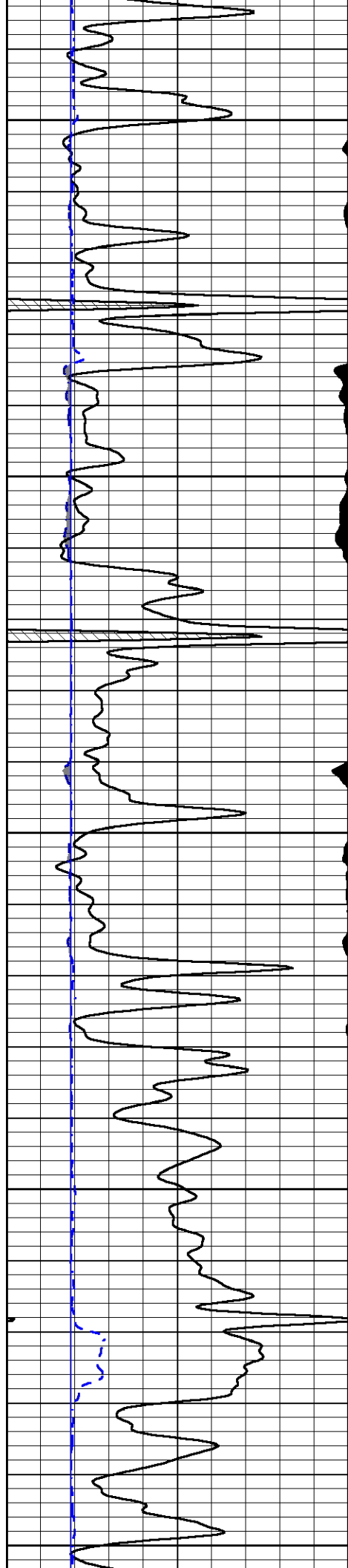
4100

4150

4200

4250





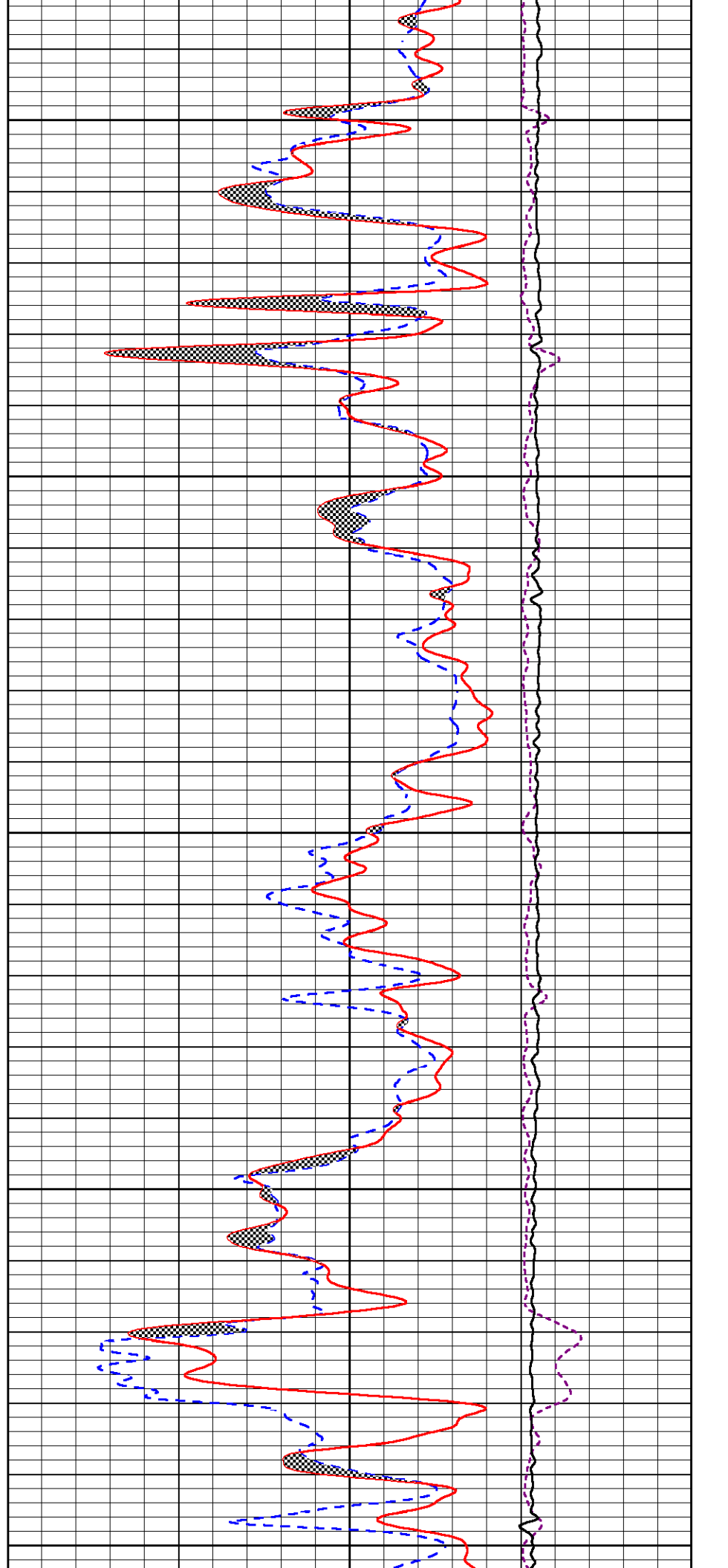
4300

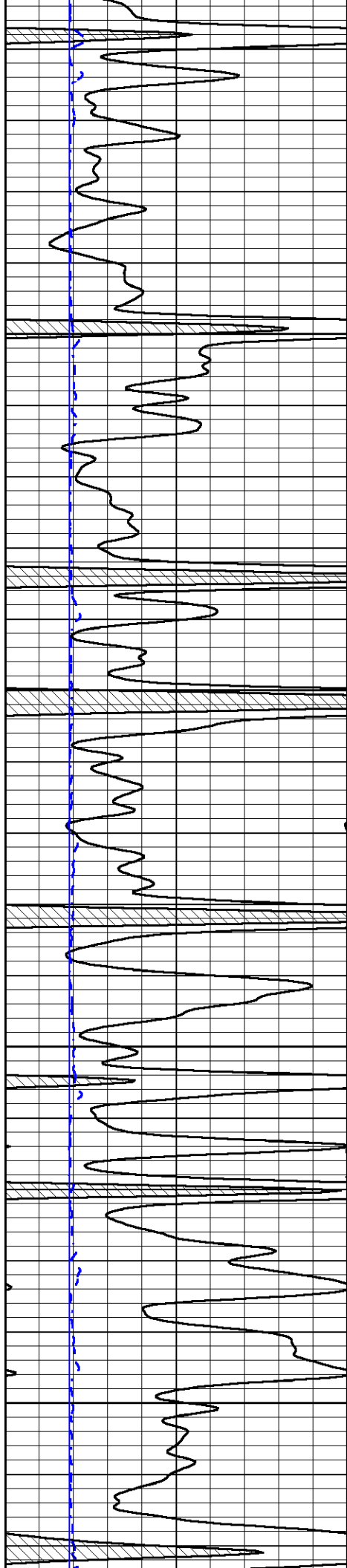
4350

4400

4450

4500



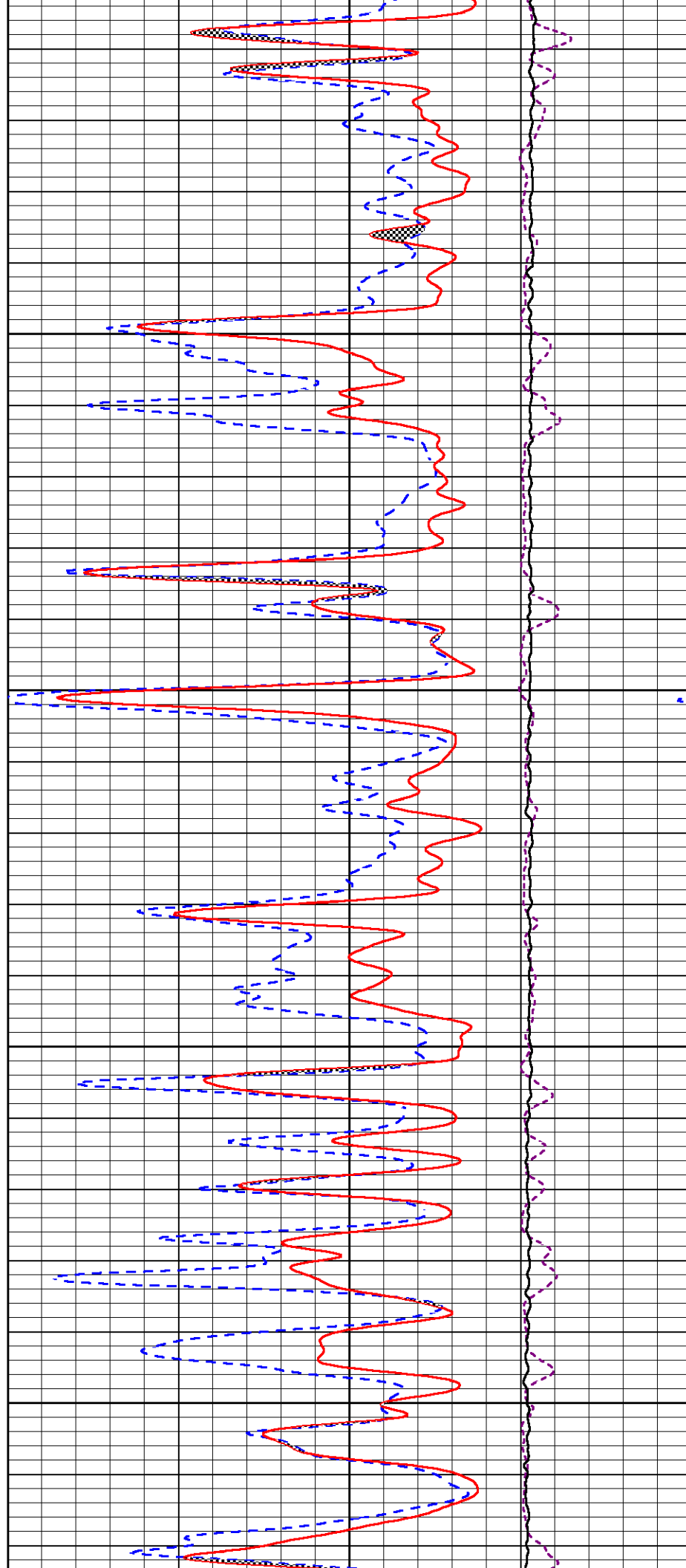


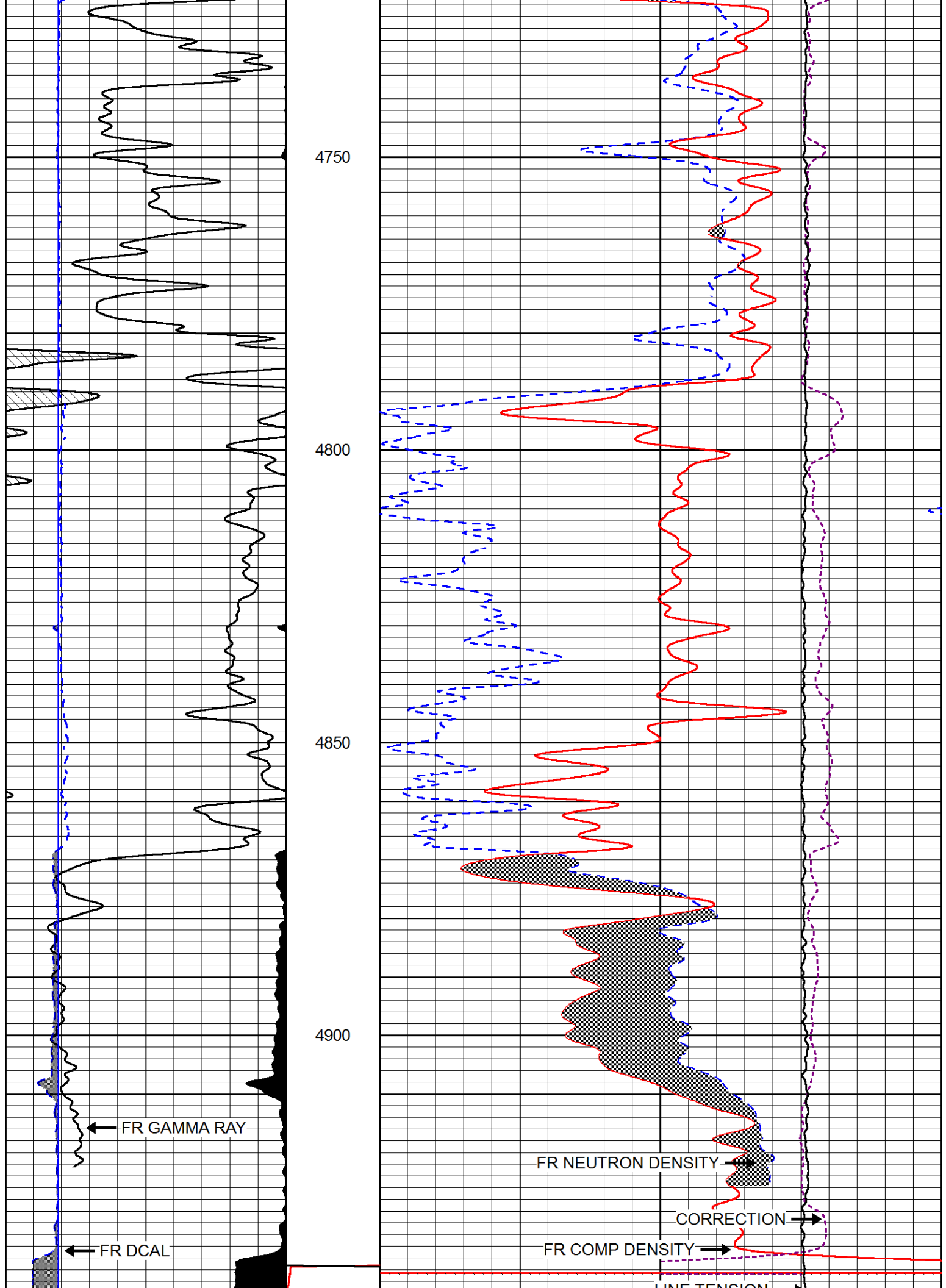
4550

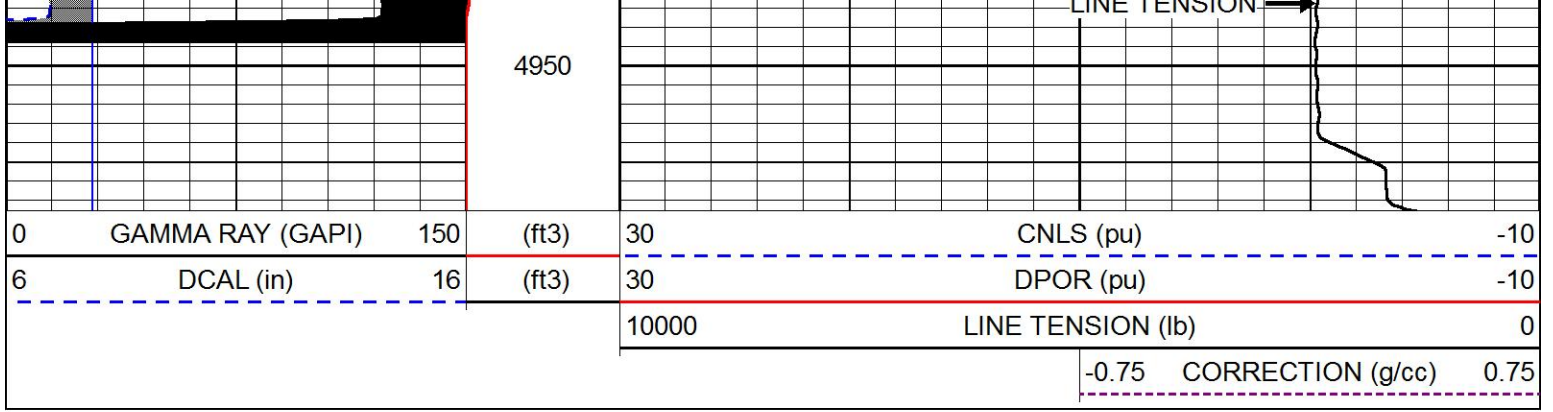
4600

4650

4700

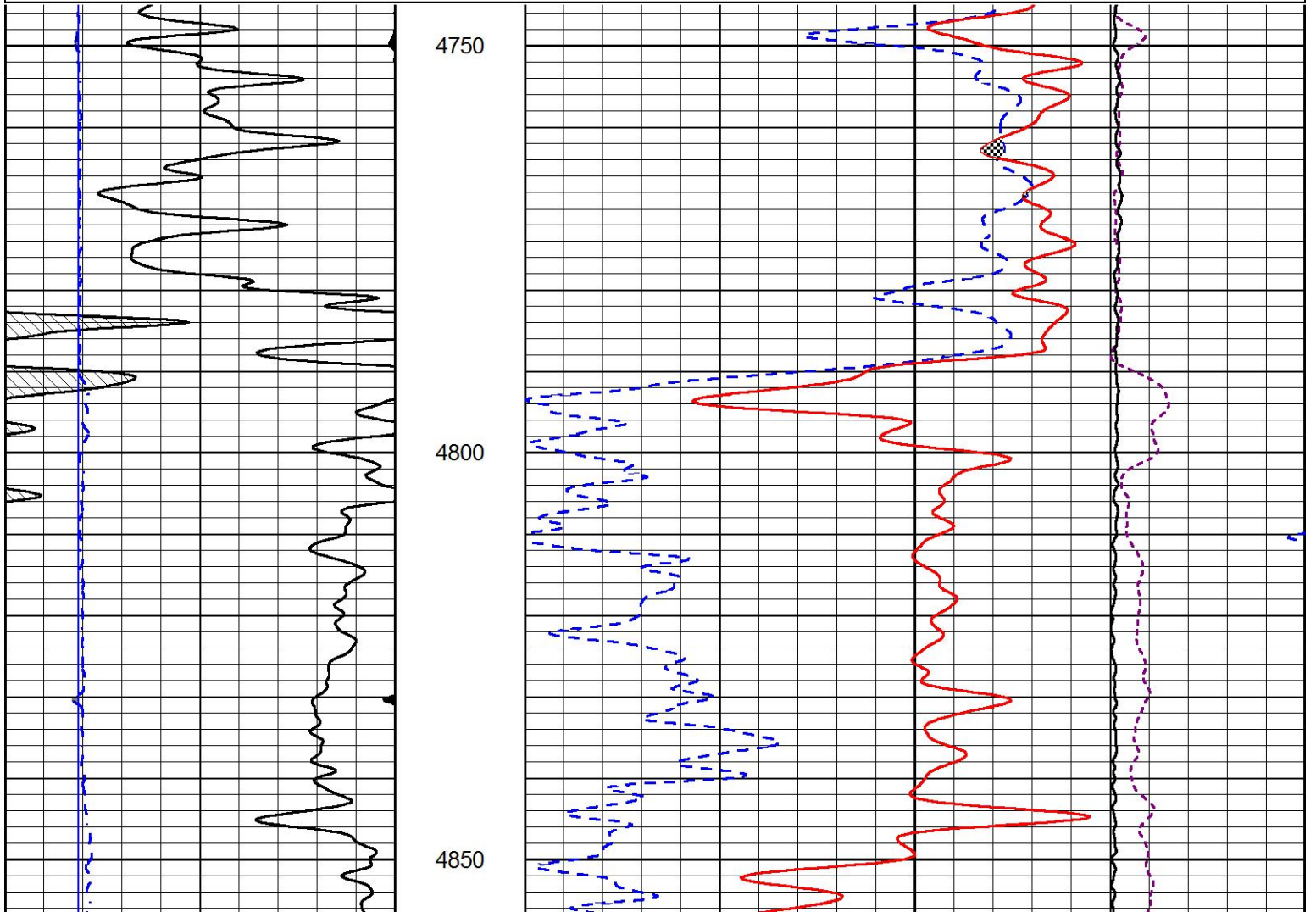
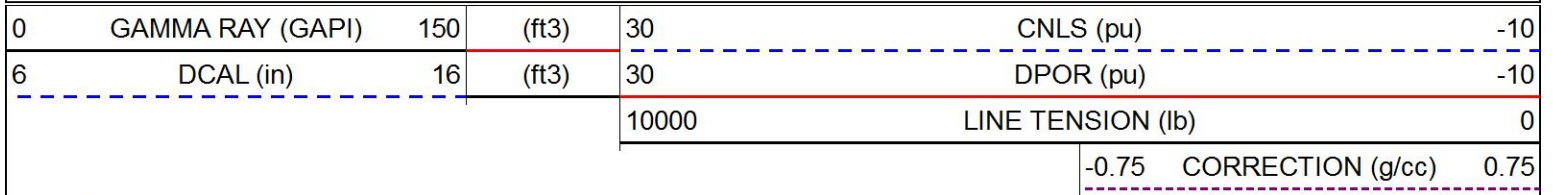


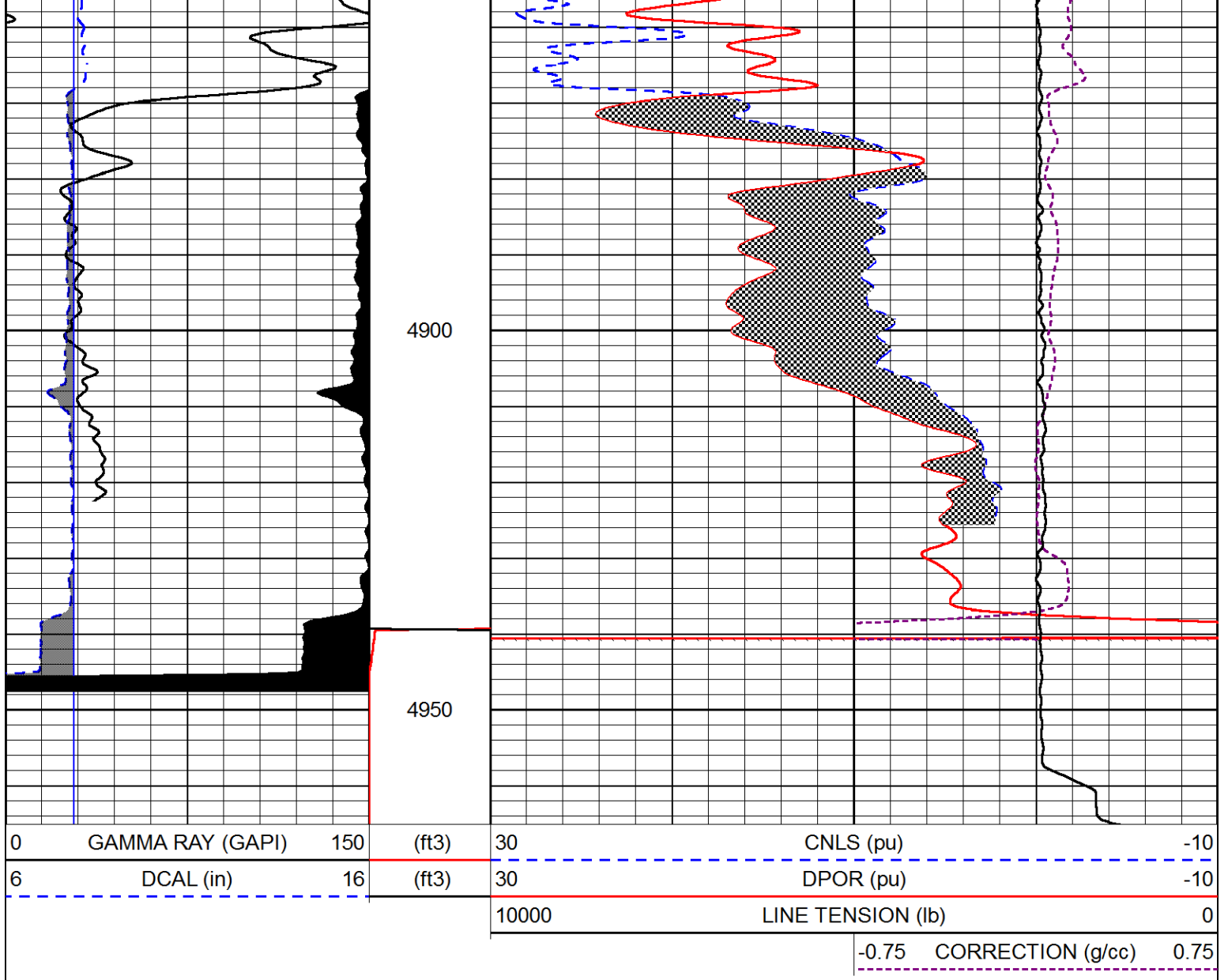




# REPEAT SECTION

Database File      ritchi\_exploration\_whitham-smith\_trust\_1.db  
 Dataset Pathname    stackmel/pass2.1  
 Presentation Format    cndlspec  
 Dataset Creation      Fri Sep 07 21:25:38 2018  
 Charted by             Depth in Feet scaled 1:240





### Calibration Report

Database File     ritchi\_exploration\_whitham-smith\_trust\_1.db  
 Dataset Pathname     stackmel/pass3.1  
 Dataset Creation     Fri Sep 07 21:21:32 2018

### Dual Induction Calibration Report

Serial-Model:                     967 (HT)-PSI HIGH TEMP  
 Calibration Performed:         Sun Aug 26 00:41:13 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop	mmho/m	Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.565	-20.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.390	-40.000

### Microlog Calibration Report

Serial-Model:                     PSI-01-PSIML  
 Performed:                        Thu Aug 30 10:35:41 2018

Readings	References	Results
----------	------------	---------

	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	23000.0000	-0.8000
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	70.0000	-65.9500

**Compensated Density Calibration Report**

Serial-Model: 144-84-M&W  
Source / Verifier: 16955B / 2ci  
Master Calibration Performed: Thu Aug 30 10:10:19 2018

**Master Calibration**

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4867.47	6031.92	cps
Aluminum	2.650	g/cc	906.23	3806.99	cps
Spine Angle = 74.69			Density/Spine Ratio = 0.514		
	Size		Reading		
Small Ring	5.00	in	1.09		
Large Ring	15.00	in	1.03		

**Compensated Neutron Calibration Report**

Serial Number: 207-MW  
Tool Model: M&W  
Calibration Performed: FRI AUG 24 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: Fri Aug 24 11:16:10 2018

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



Company RITCHIE EXPLORATION INC.  
Well WHITHAM-SMITH TRUST #1  
Field WILDCAT  
County WICHITA  
State KANSAS