



MIDWEST WIRELINE

DUAL COMP POROSITY LOG

Company Darrah Oil Company, LLC
Well Knopp #9-13
Field Bridges Northeast
County Logan State Kansas

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County Logan
State Kansas

Location: API #: 15-109-21636-00-00
SW SW NW NE
1155 FNL & 2475 FEL
SEC 13 TWP 14S RGE 32W
Permanent Datum Ground Level Elevation 2815
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing
Other Services
DIL/MEL
K.B. 2824
D.F.
G.L. 2815

Date 7/19/2022

Run Number	One
Type Log	CNL/CDL
Depth Driller	4665
Depth Logger	4674
Bottom Logged Interval	4653
Top Logged Interval	3400
Type Fluid In Hole	Chemical
Salinity, PPM CL	3000
Density	9.0
Level	Full
Max. Rec. Temp. F	123
Operating Rig Time	3 Hours
Equipment -- Location	P-108 HAYS
Recorded By	D. Schmidt
Witnessed By	Macklin Armstrong

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
One	12.25	0	232	8.625	23	0	232
Two	7.875	232	TD				

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and Midwest Wireline LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Midwest Wireline 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.

Oakley,
South to Jayhawk Rd, 1 East, 3/4 North,
East and South into

Log Measured From: Kelly Bushing 9 Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC
785-625-3858

Your Midwest Wireline Crew

Engineer: D. Schmidt
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: Macklin Armstrong
Secondary Witness:
Secondary Witness:
Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\darrah_knopp 9-13.db
Dataset field/well/stack/pass2.2/_vars_

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 100	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 375	degF 80	Off	ft 4674

Variable Description

A : Cement Factor (a)
BOREID : Borehole I.D.
BOTTEMP : Bottom Hole Temperature
CASEOD : Casing O.D.
CASETHCK : Casing Thickness
FLUIDDEN : Fluid Density
M : Cement Exp (m)
MATRXDEN : Matrix Density

NPORSEL : Neutron Porosity Curve Select
PERFS : Perforation Flag
SNDERR : Deep Sonde Error Correction
SNDERRM : Medium Sonde Error Correction
SPSHIFT : S.P. Baseline Offset
SRFTEMP : Surface Temperature
SZCOR : CN Size Cor. ?
TDEPTH : Total Depth



MIDWEST WIRELINE

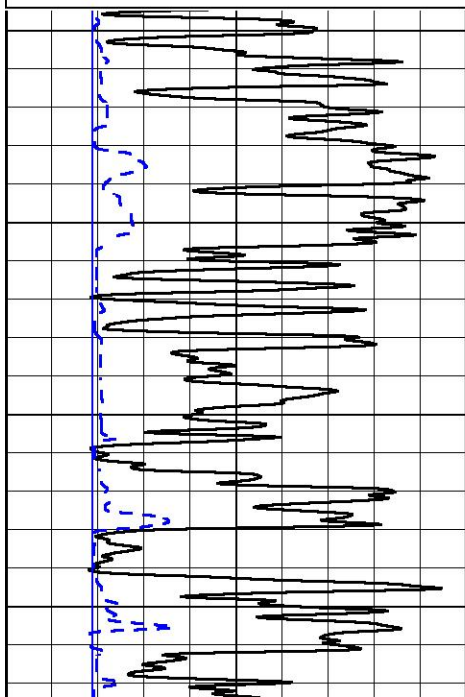
2" SCALE BULK DENSITY

MAIN PASS

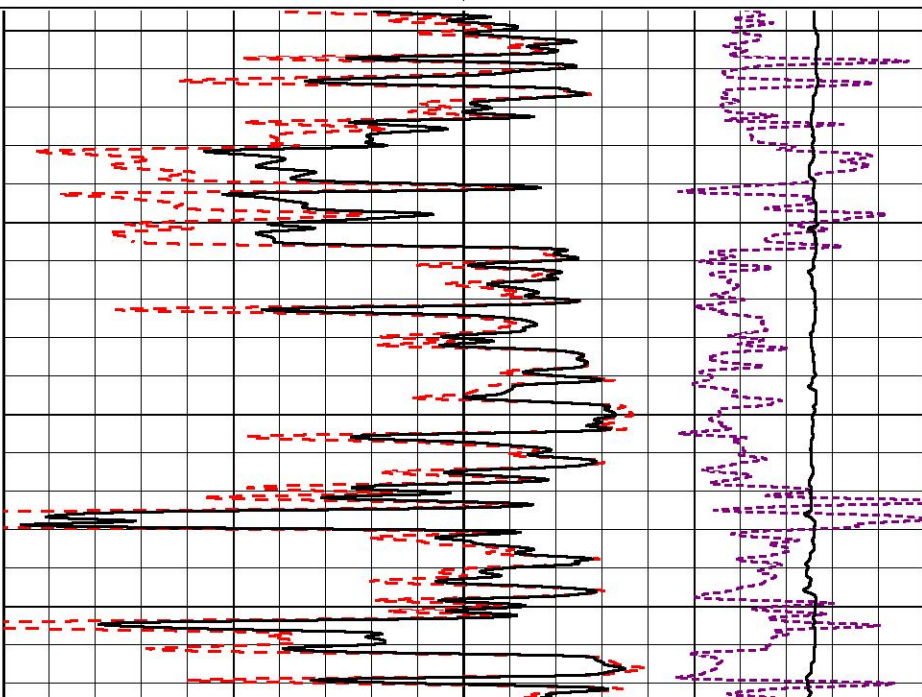
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Dataset Pathname stack/pass3.2
Presentation Format _cdl
Dataset Creation Tue Jul 19 08:15:44 2022
Charted by Depth in Feet scaled 1:600

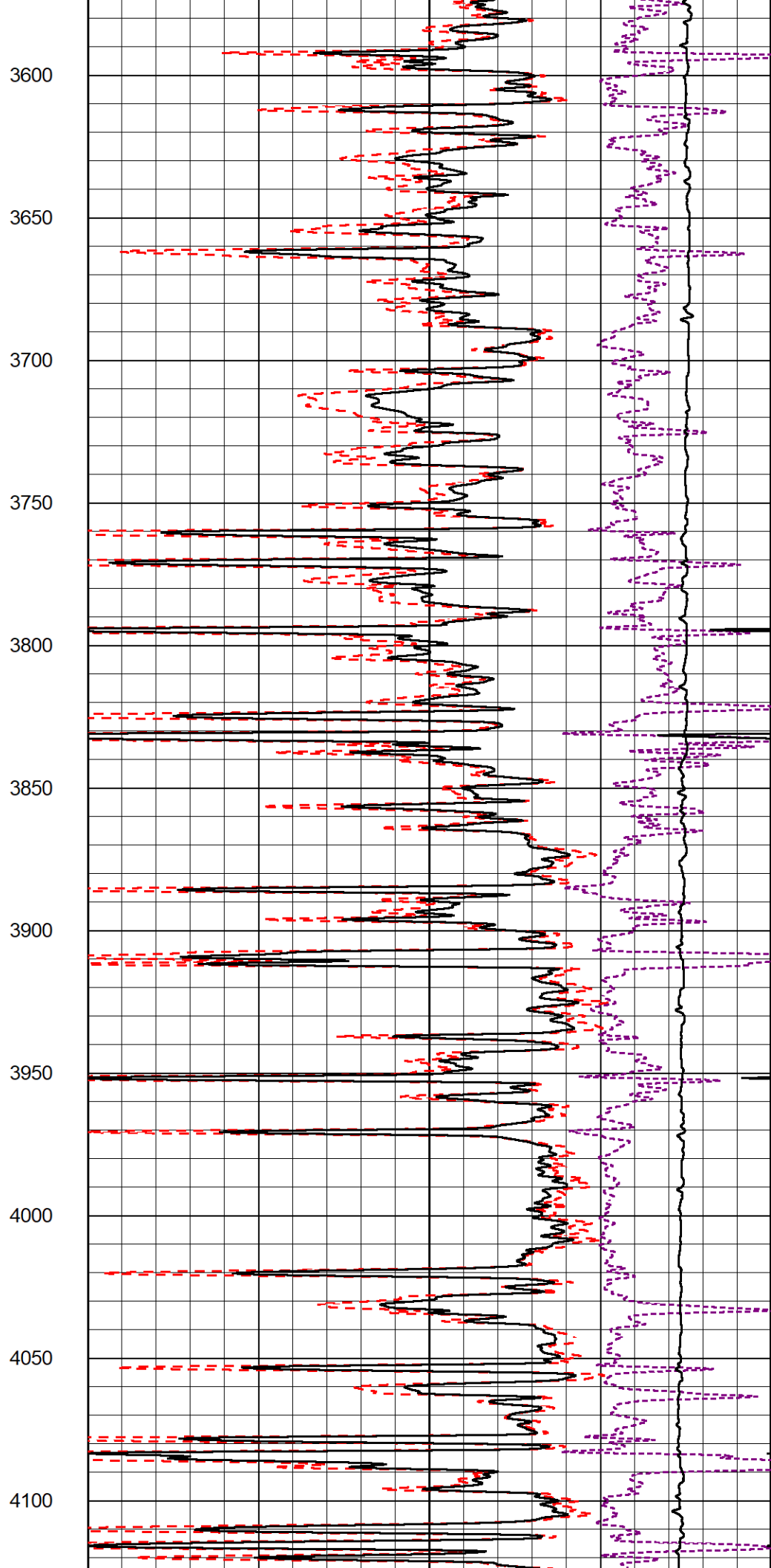
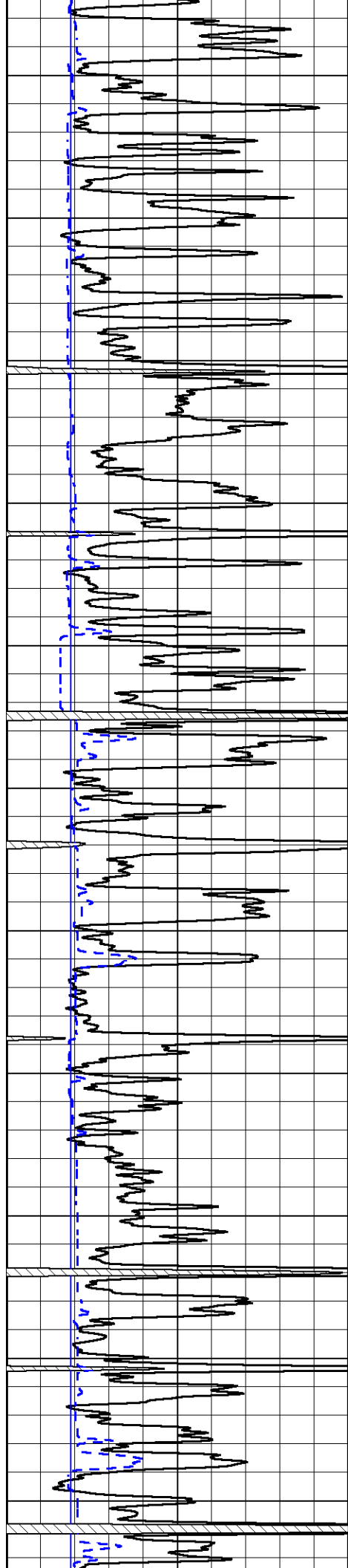
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

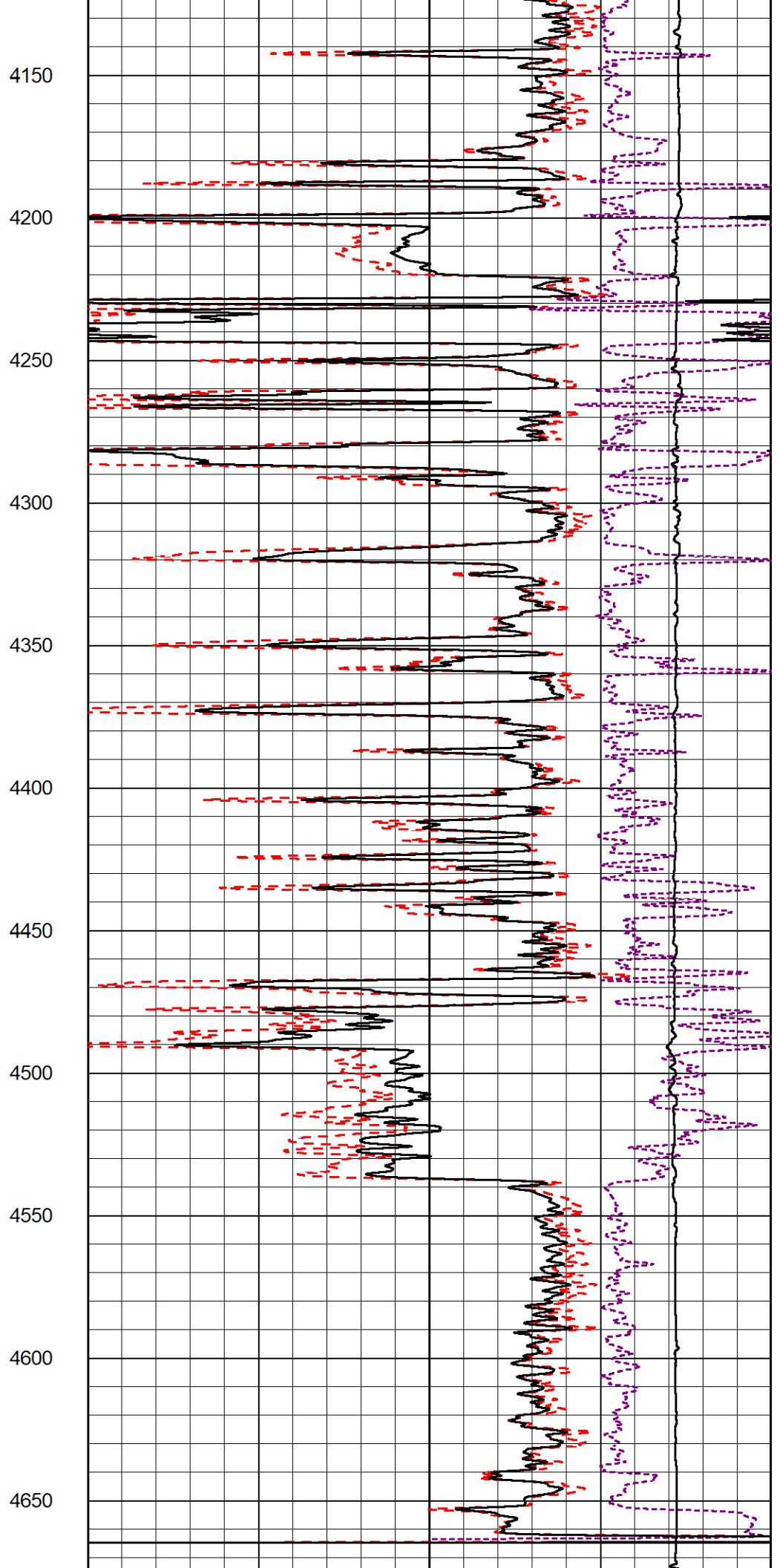
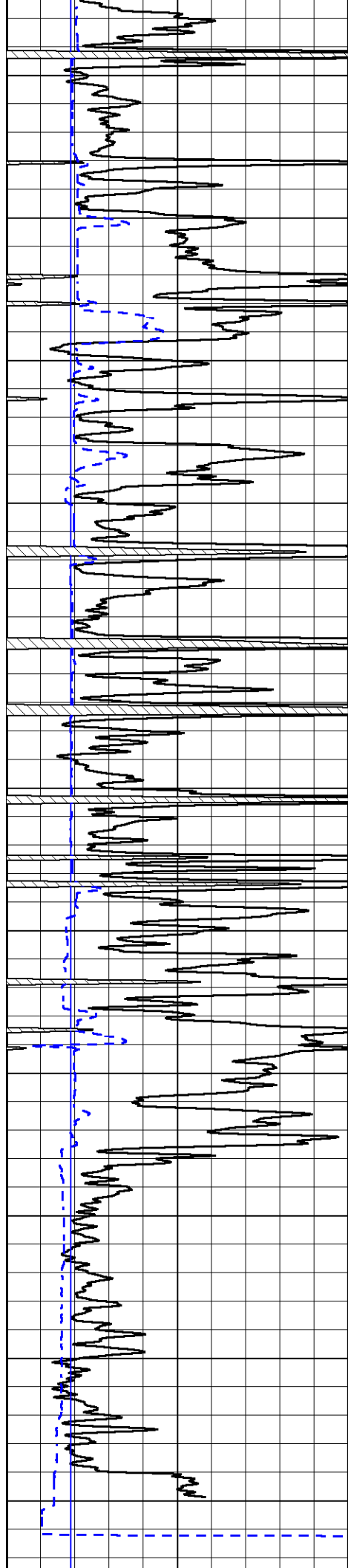
30	Compensated Density (pu)	-10
2	Bulk Density (g/cc)	3
15000	Line Tension (lb)	0
-0.25	Correction (g/cc)	0.25



3400
3450
3500
3550







0	Gamma Ray (GAPI)	150	30	Compensated Density (pu)	-10
6	Caliper (in)	16	2	Bulk Density (g/cc)	3
			15000	Line Tension (lb)	0
				-0.25	Correction (g/cc) 0.25



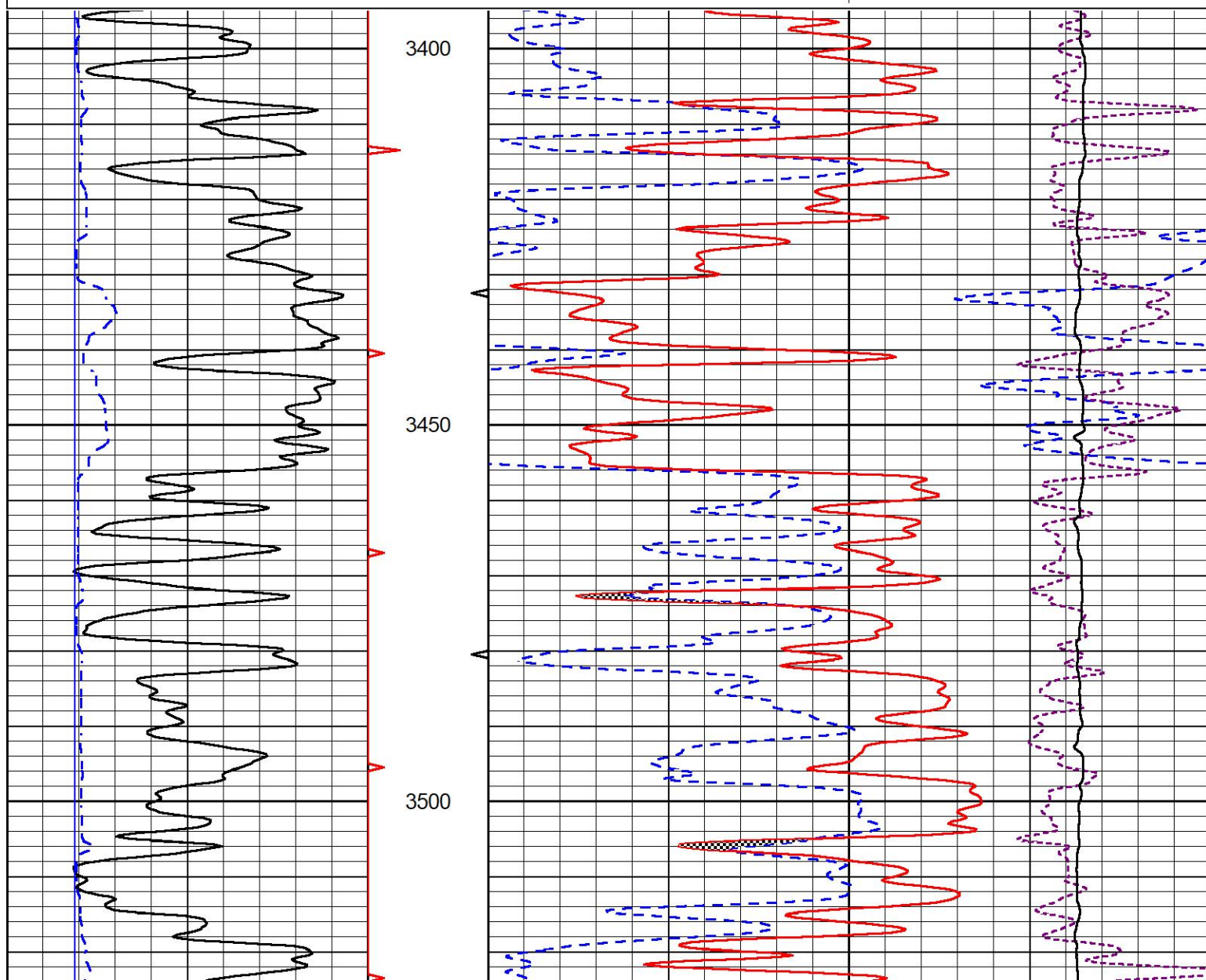
MIDWEST WIRELINE

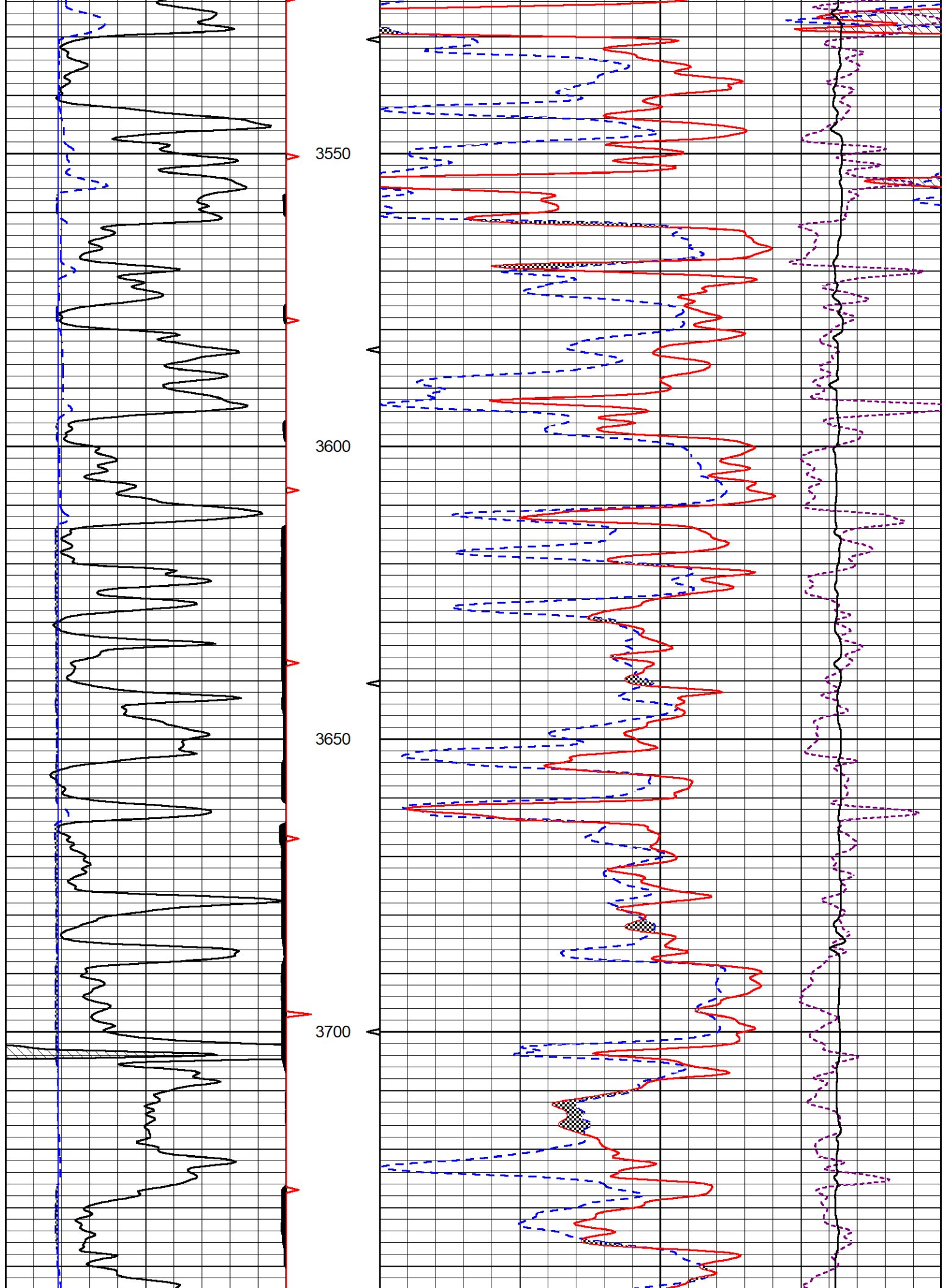
DETAIL SECTION

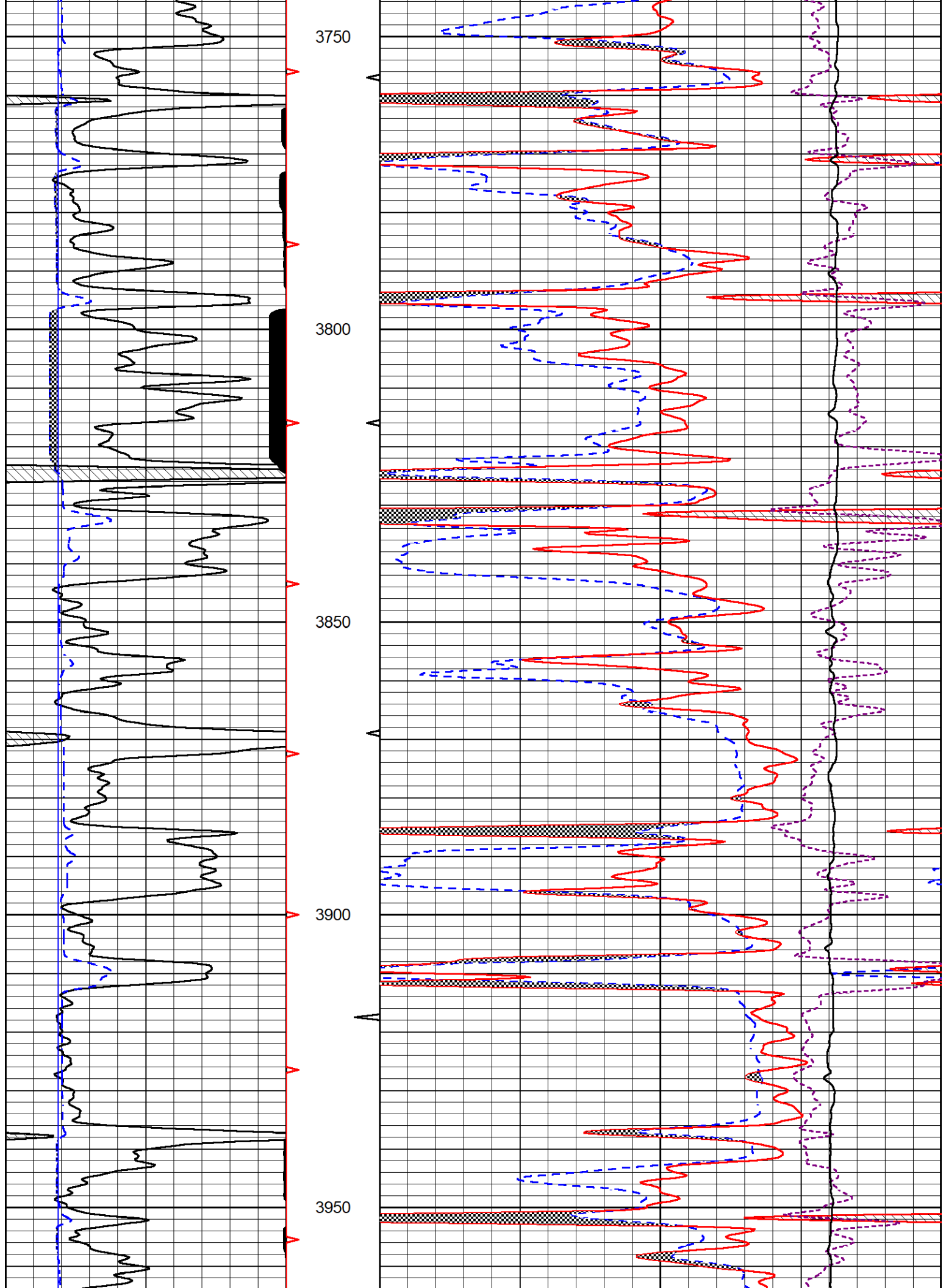
MAIN PASS

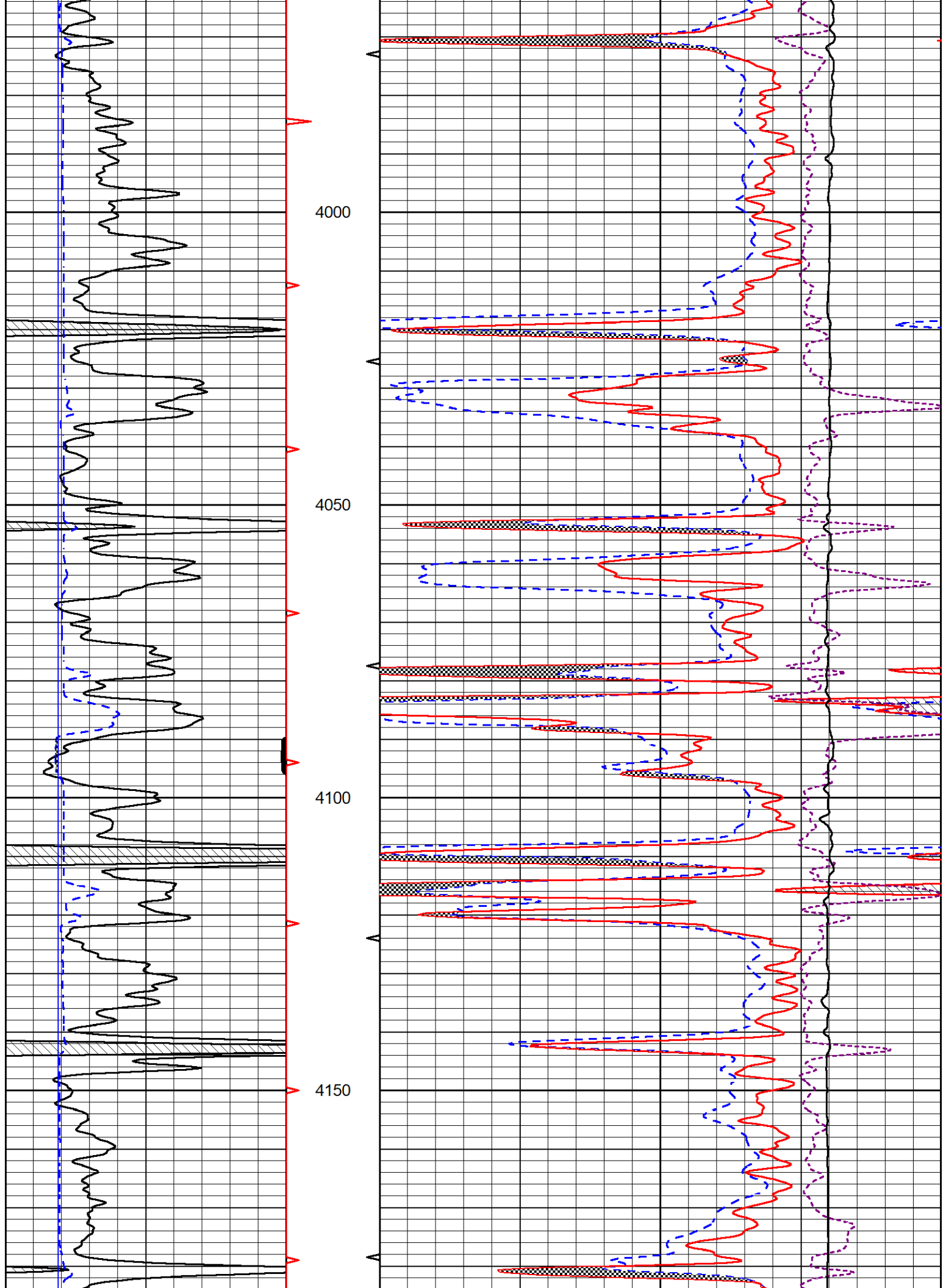
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 Dataset Pathname stack/pass3.1
 Presentation Format _CNDLS~1
 Dataset Creation Tue Jul 19 08:15:34 2022
 Charted by Depth in Feet scaled 1:240

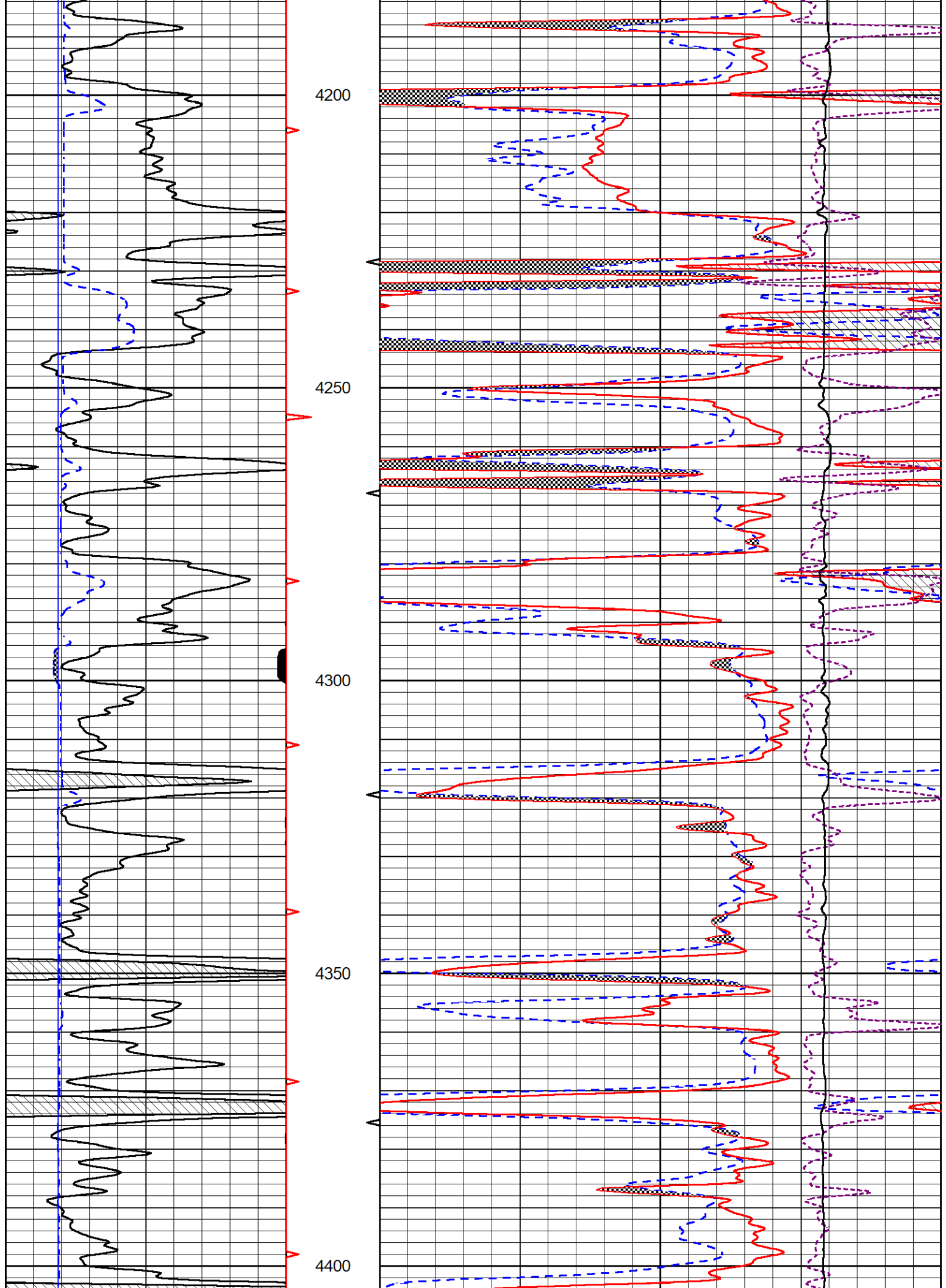
0	GR (GAPI)	150	30	Compensated Neutron (pu)	-10
6	DCAL (in)	16	30	Compensated Density (pu)	-10
			10000	Line Tension (lb)	0
				-0.25	Correction (g/cc) 0.25

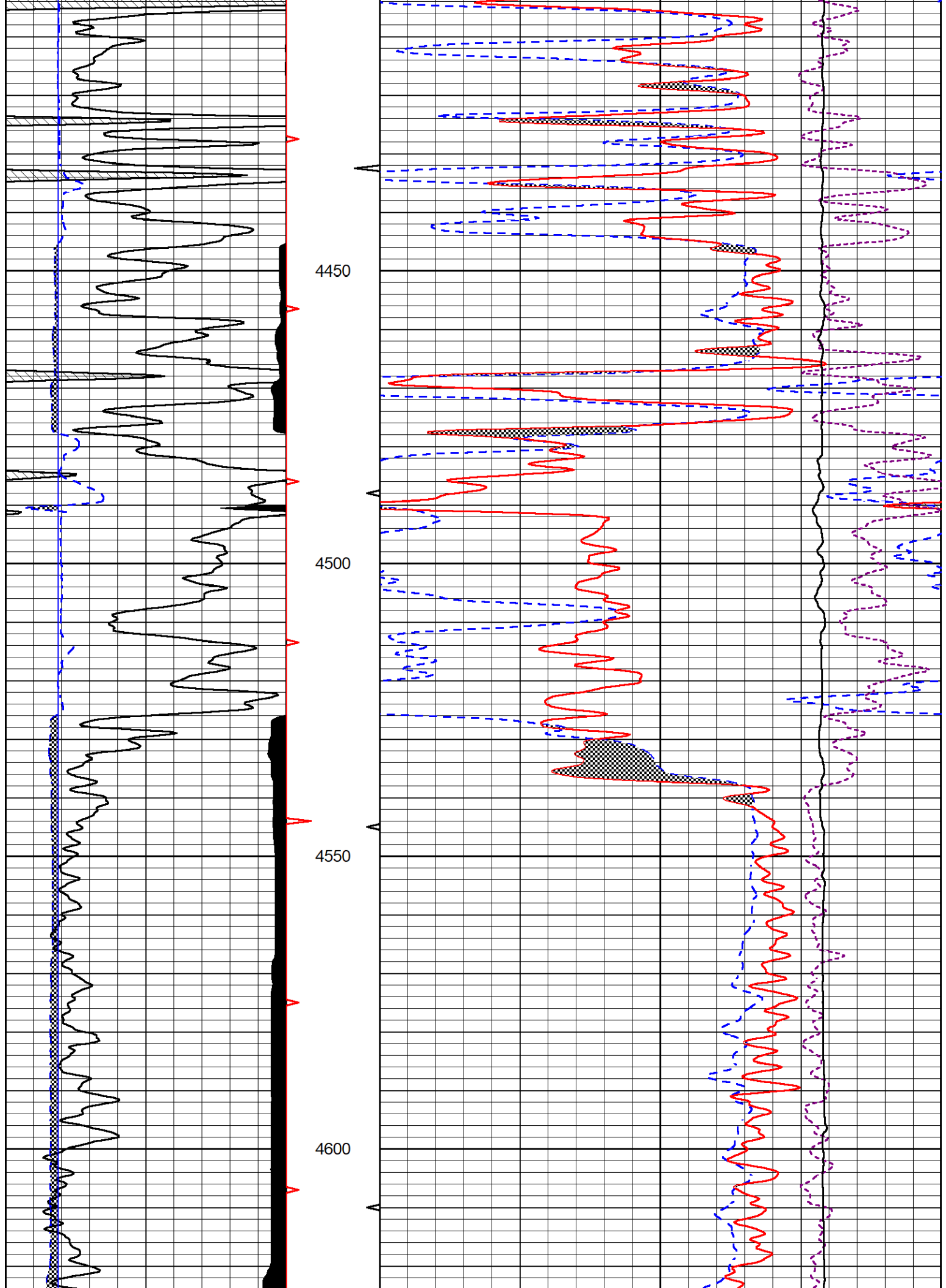


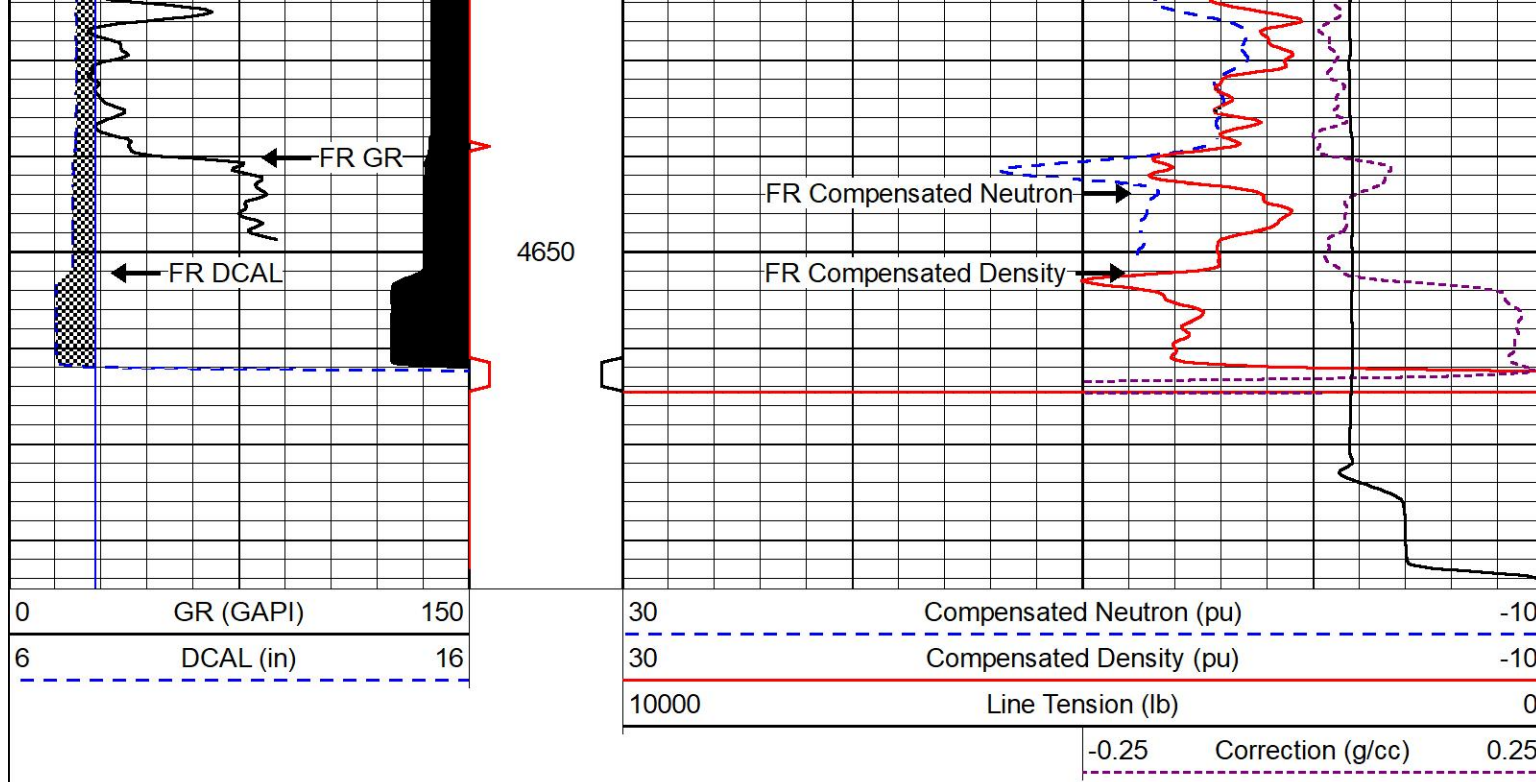










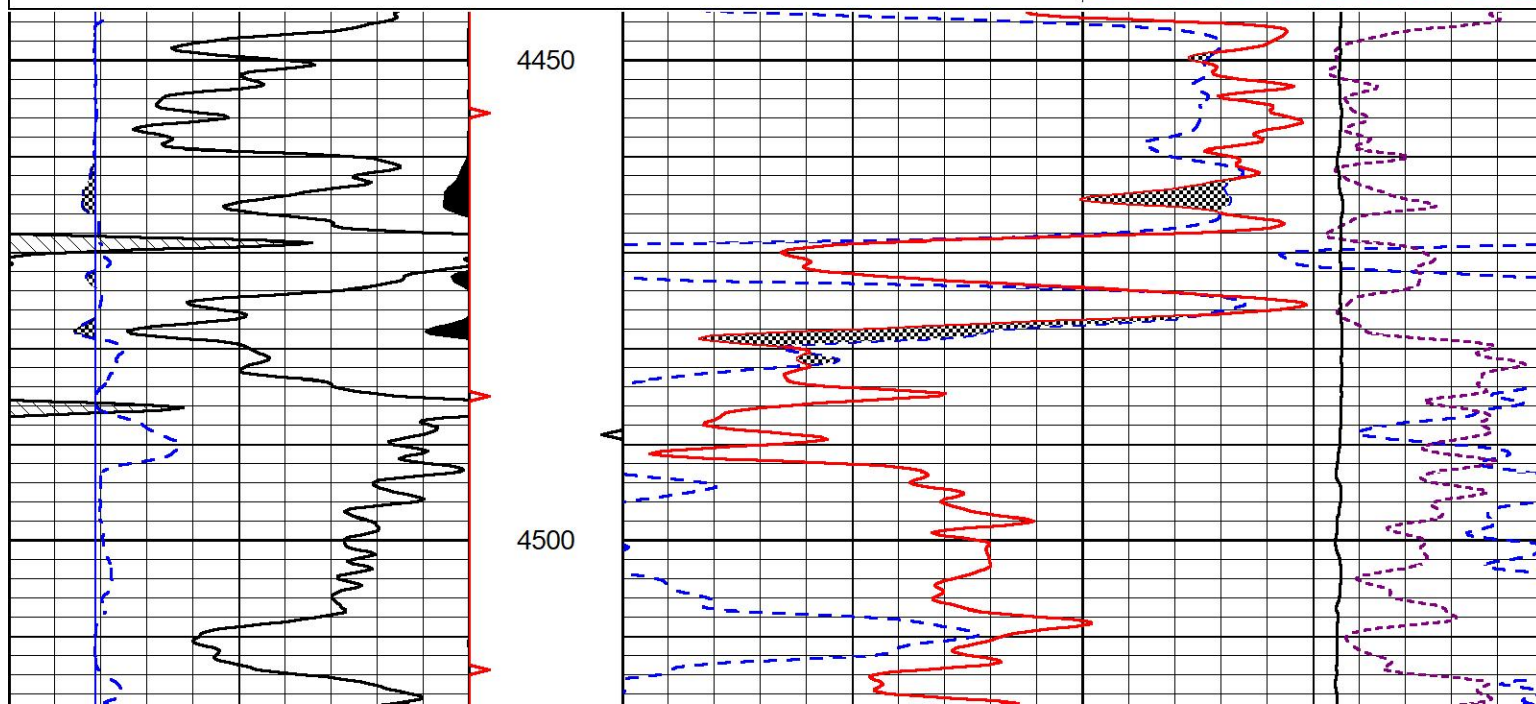
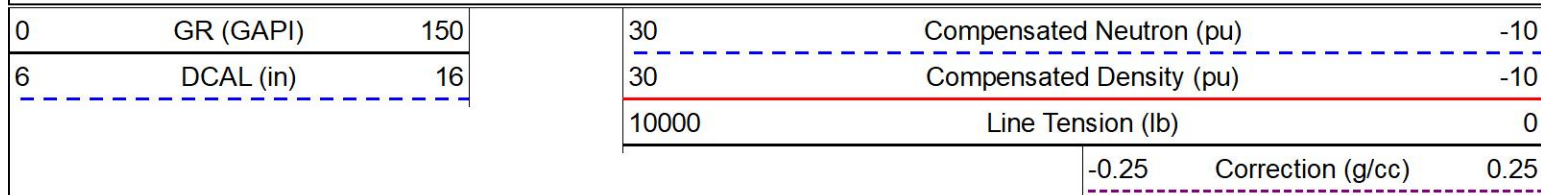


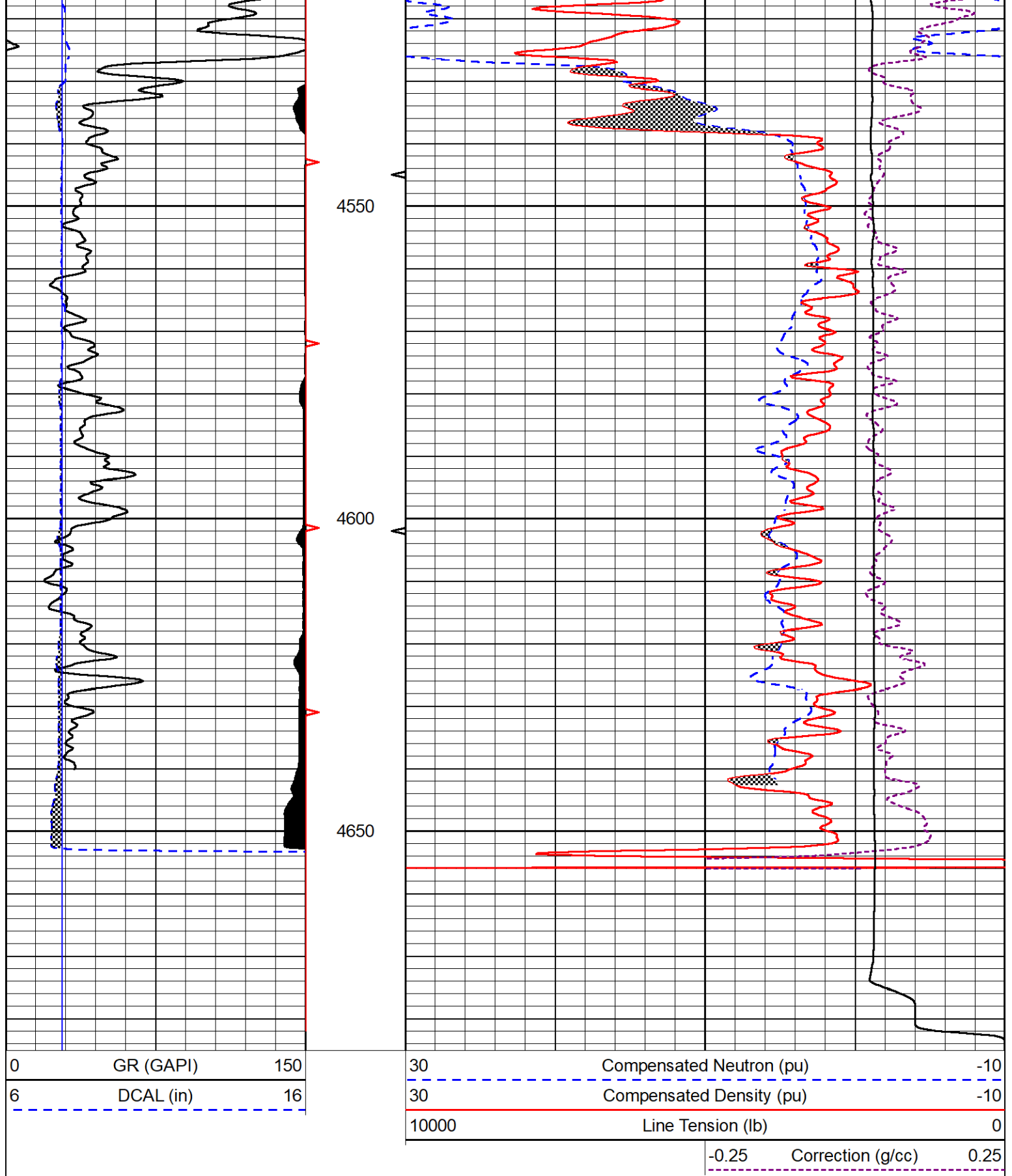
MIDWEST WIRELINE

REPEAT SECTION

REPEAT PASS

Database File darrah_knopp 9-13.db
 Dataset Pathname stkml/pass2.1
 Presentation Format _CNDLS~1
 Dataset Creation Tue Jul 19 07:28:29 2022
 Charted by Depth in Feet scaled 1:240





Calibration Report

Database File darrah_knopp 9-13.db
Dataset Pathname stack/pass2.2
Dataset Creation Tue Jul 19 07:23:54 2022

Dual Induction Calibration Report

Serial Model:

504 HT M&W

		Readings		References		Results	
Loop:	Air	Loop	Air	Loop		m	b
Deep	178.615	710.235	0.000	255.800	mmho/m	0.650	-16.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.450	-45.000

Compensated Density Calibration Report

Serial-Model: 304-04-M&W
Source #: 21170B
Master Calibration Performed: Sun May 29 09:31:45 2022

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	6392.84	8538.69	cps
Aluminum	2.685	g/cc	1184.69	5433.63	cps
Spine Angle = 74.99			Density/Spine Ratio = 0.533		
	Size		Reading		
Small Ring	4.00	in	1.15		
Large Ring	14.00	in	1.02		

Compensated Neutron Calibration Report

Serial-Model: 210-M&W
Source #: N-1238
Master Calibration Performed: Fri Dec 3 09:16:24 2021

Master Calibration

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: 103
Tool Model: M&W
Performed: Fri Dec 3 12:13:24 2021

Calibrator Value: 500.0 GAPI

Background Reading: 28.0 cps
Calibrator Reading: 986.0 cps

Sensitivity: 0.5700 GAPI/cps



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Well Knopp #9-13
Field Bridges Northeast



County
State

Logan
Kansas