



MIDWEST WIRELINE

DUAL COMP POROSITY LOG

Company Pioneer Oil Company, Inc.
 Well Bretz Community Unit #1-4
 Field Freda
 County Sheridan
 State Kansas

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Location: API #: 15-179-21481-00-00
 265 FNL & 1496 FEL
 SEC 4 TWP 9S RGE 28W
 Permanent Datum Ground Level Elevation 2670
 Log Measured From Kelly Bushing
 Drilling Measured From Kelly Bushing
 Other Services
 DIL/MEL
 BHCS
 Elevation
 K.B. 2678
 D.F.
 G.L. 2670

Date	4/20/2022						
Run Number	One						
Type Log	CNL/CDL						
Depth Driller	4125						
Depth Logger	4128						
Bottom Logged Interval	4099						
Top Logged Interval	3200						
Type Fluid In Hole	Chemical						
Salinity, PPM CL	3000						
Density	9.3						
Level	Full						
Max. Rec. Temp. F	117						
Operating Rig Time	4 Hours						
Equipment -- Location	P-24 Hays						
Recorded By	D. Schmidt						
Witnessed By	Jim Musgrove						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
One	12.25	0	225	8.625	23	0	225
Two	7.875	225	TD				
Casing Record							

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

Hoxie,
 3 South to 40 S Rd, 300' West,
 South and West to location

Log Measured From: Kelly Bushing 8 Ft. Above Permanent Datum

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

Your Midwest Wireline Crew		This Log Record Was Witnessed By	
Engineer: D. Schmidt	Operator:	Primary Witness: Jim Musgrove	Secondary Witness:
Operator:	Operator:	Secondary Witness:	Secondary Witness:
Operator:		Secondary Witness:	

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.33		GR-M&W (101)	3.00	3.50	50.00
CNLSC CNSSC	37.23 36.48		CNT-M&W (207-MW)	5.00	3.50	100.00
LSD DCAL SSD	28.18 28.17 27.68		CDL-M&W (305-05)	8.50	4.00	250.00
ML-PSIML (402)			ML-PSIML (402)	7.58	4.00	65.00
MCAL MI MN	19.58 19.58 19.58					
RLL3F RLL3	15.50 15.50					
DIL-M&W (502 HT)			DIL-M&W (502 HT)	18.25	3.50	220.00
CILD	8.33					
CILM	4.50					
SP	0.20					

Dataset: pioneer oil_bretz community unit 1-4.db: field/well/stkml/pass5.17
 Total length: 42.33 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\pioneer oil_bretz community unit 1-4.db
 Dataset field/well/stkml/pass5.17/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	117	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	-270	70	Off	4128

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

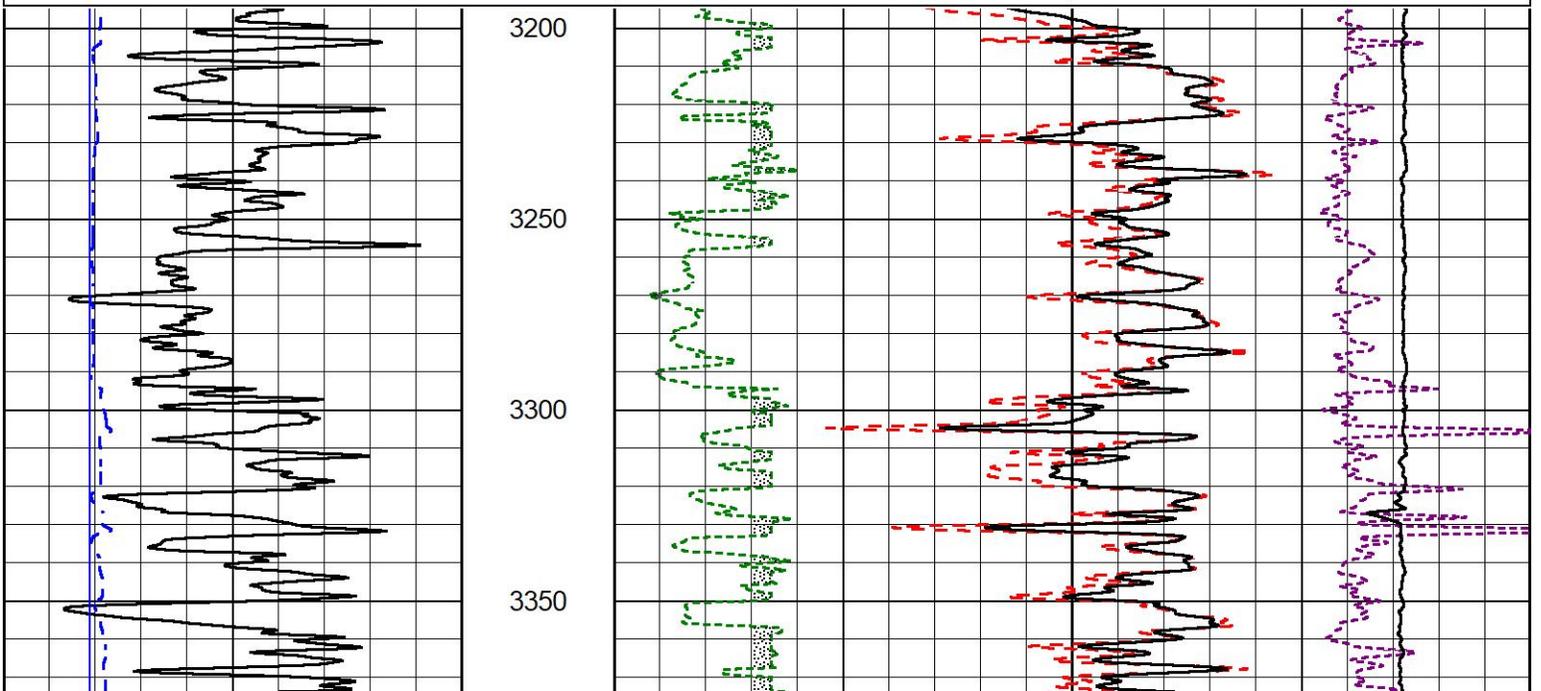


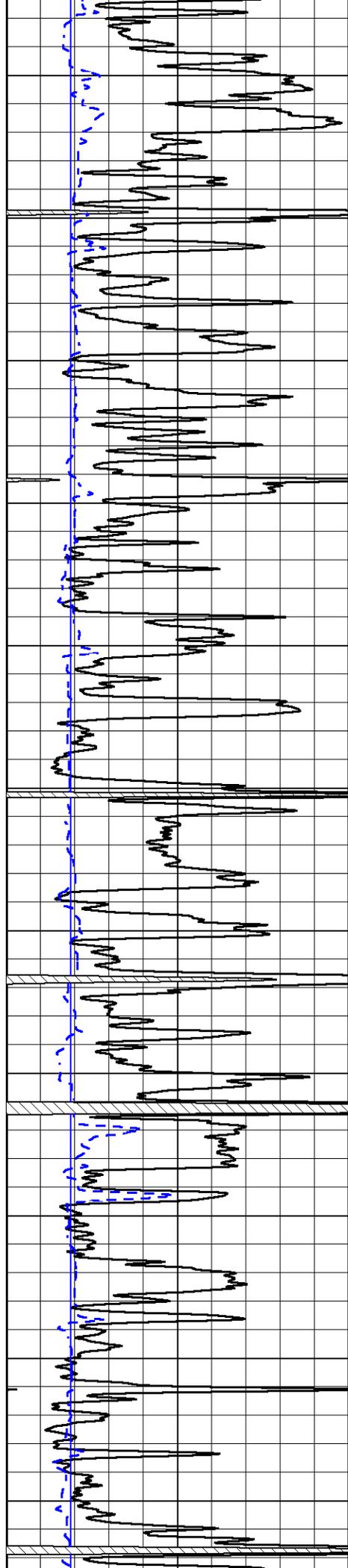
2" SCALE BULK DENSITY

MAIN PASS

Database File pioneer oil_bretz community unit 1-4.db
 Dataset Pathname stkml/pass5.2
 Presentation Format _cdl
 Dataset Creation Wed Apr 20 15:05:04 2022
 Charted by Depth in Feet scaled 1:600

0	Gamma Ray (GAPI)	150	30	Compensated Density (pu)	-10
6	Caliper (in)	16	2	Bulk Density (g/cc)	3
			10000	Line Tension (lb)	0
			2.625	DGA (g/cc)	3.425
			-0.25	Correction (g/cc)	0.25





3400

3450

3500

3550

3600

3650

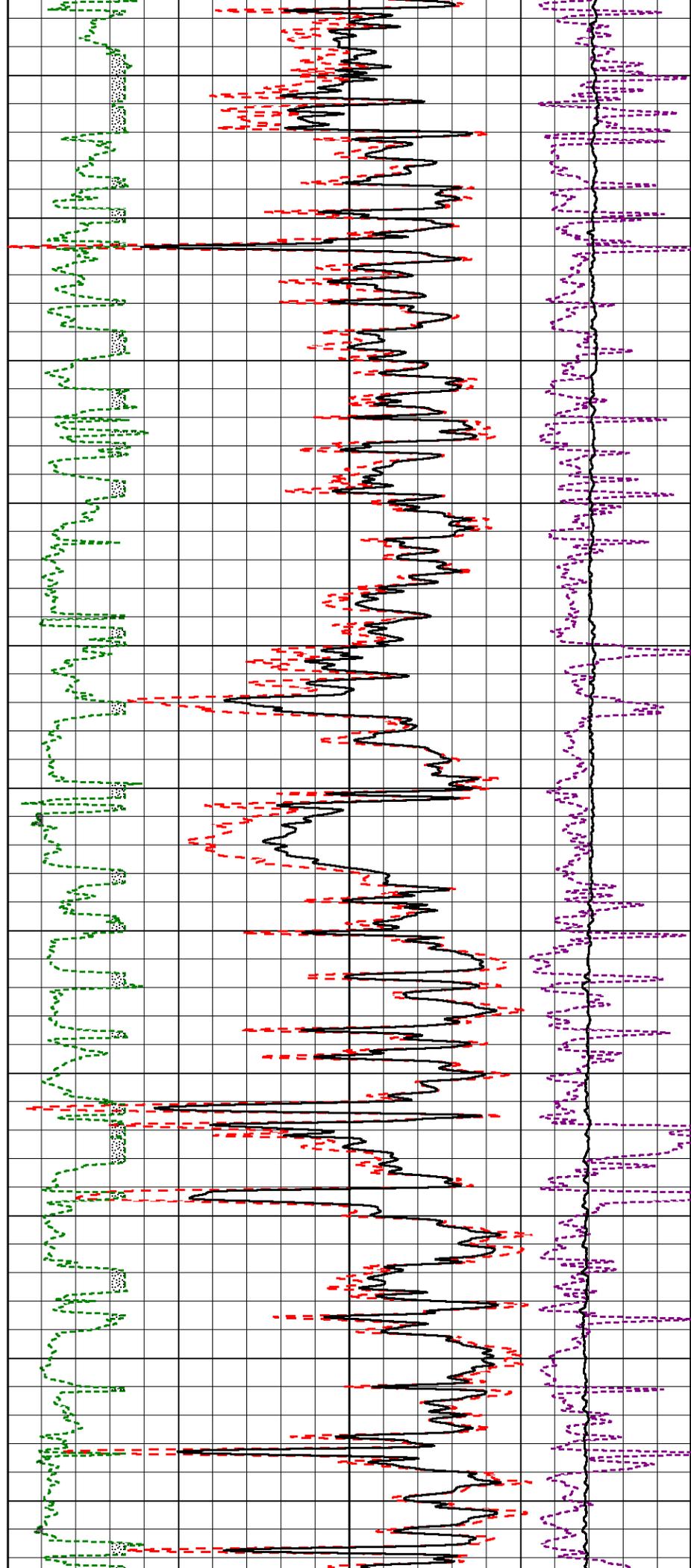
3700

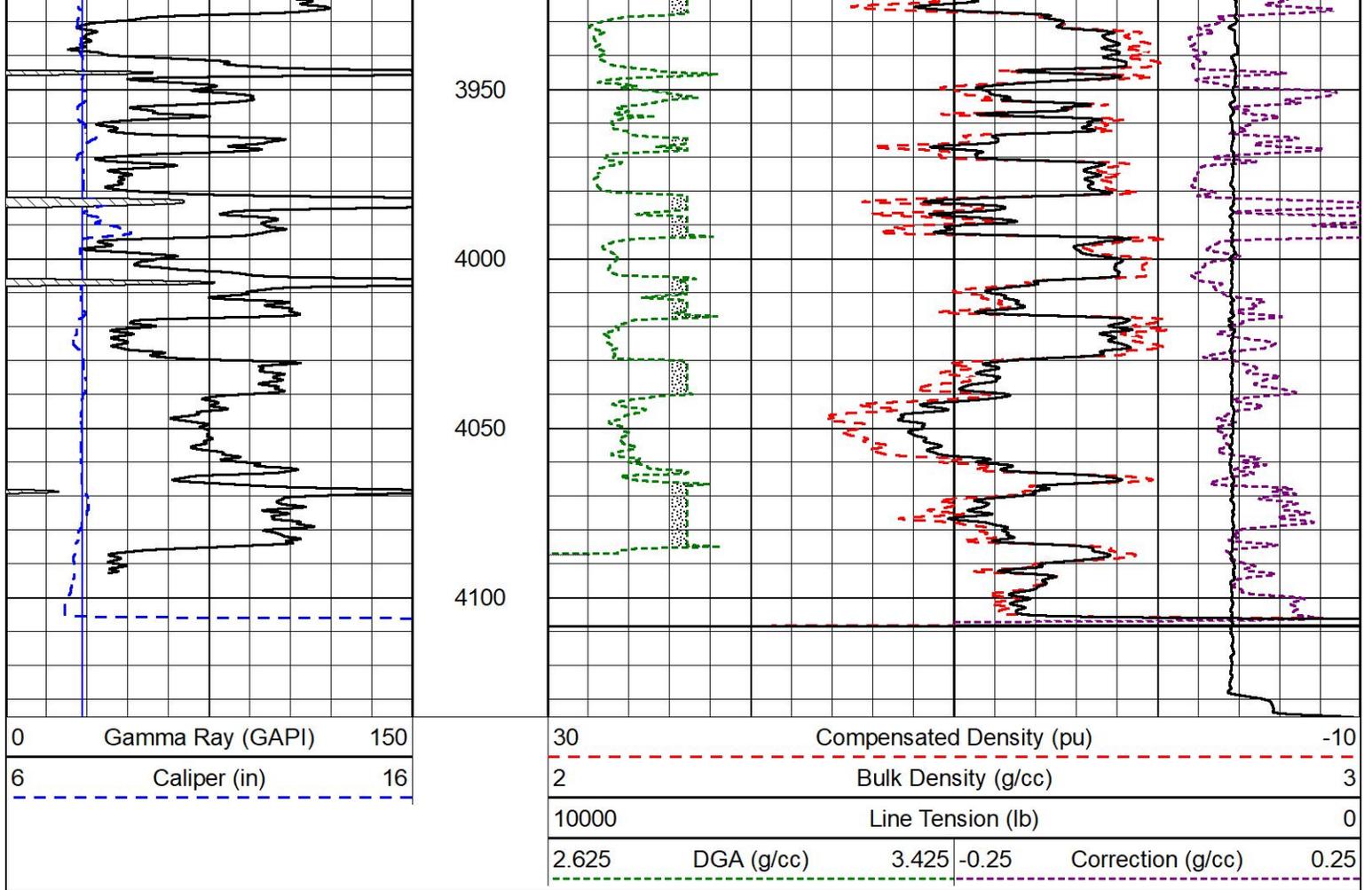
3750

3800

3850

3900

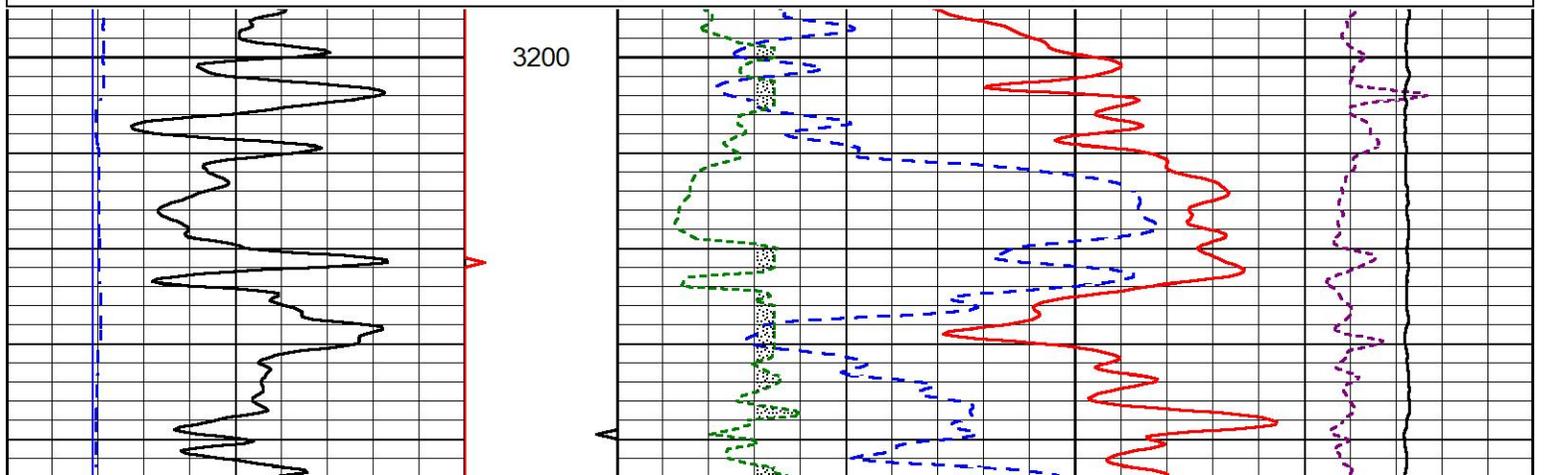
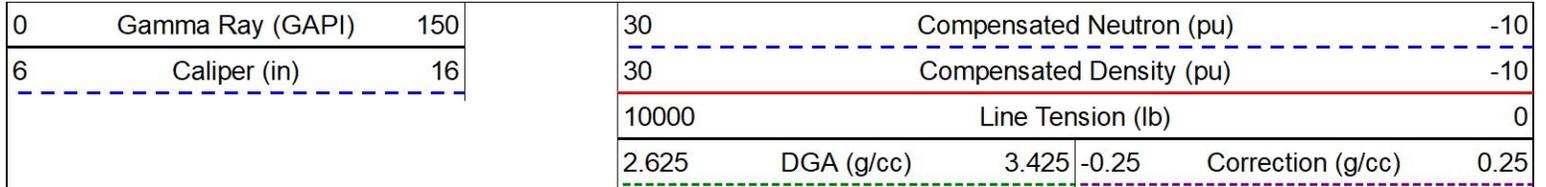


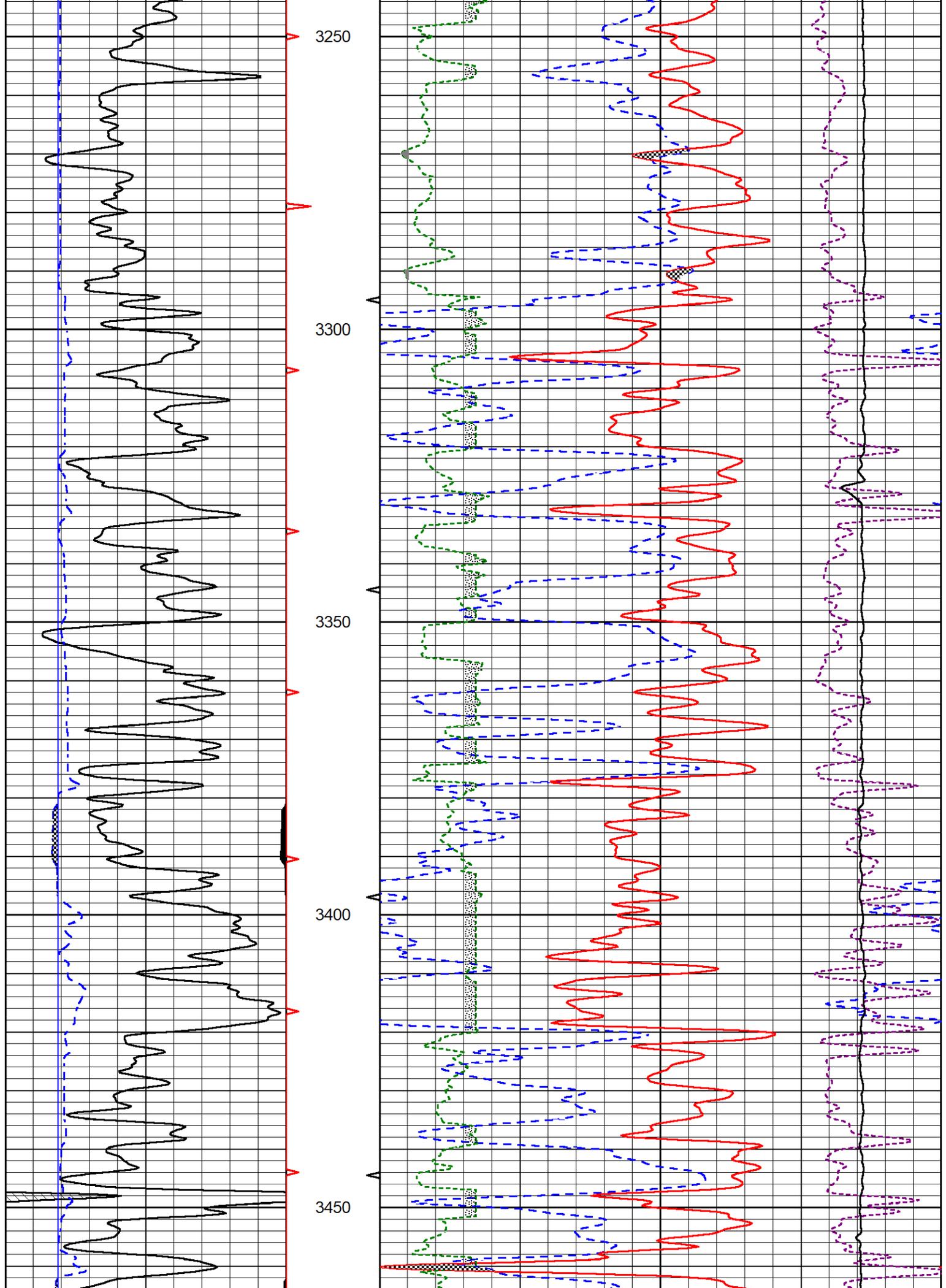


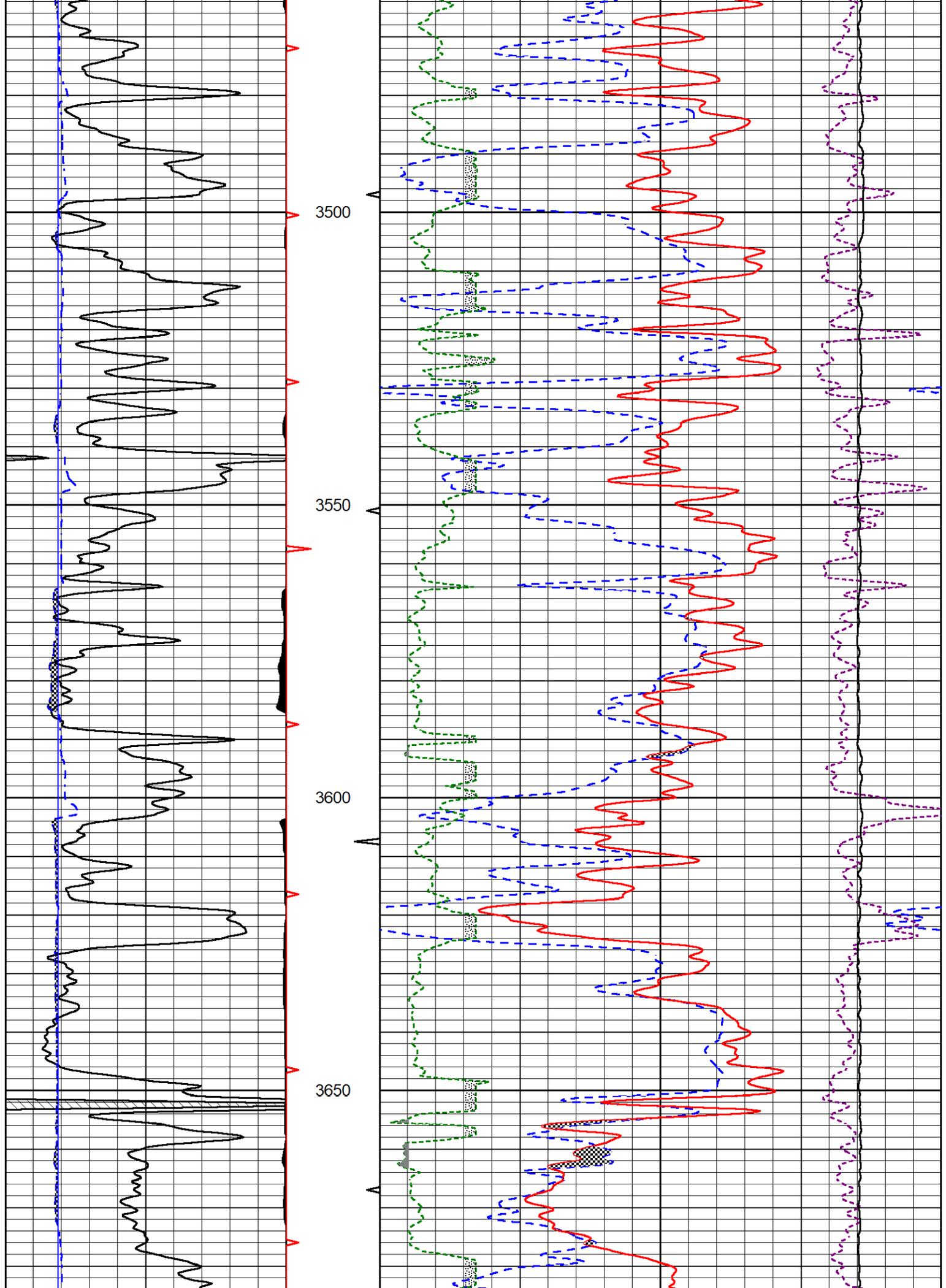
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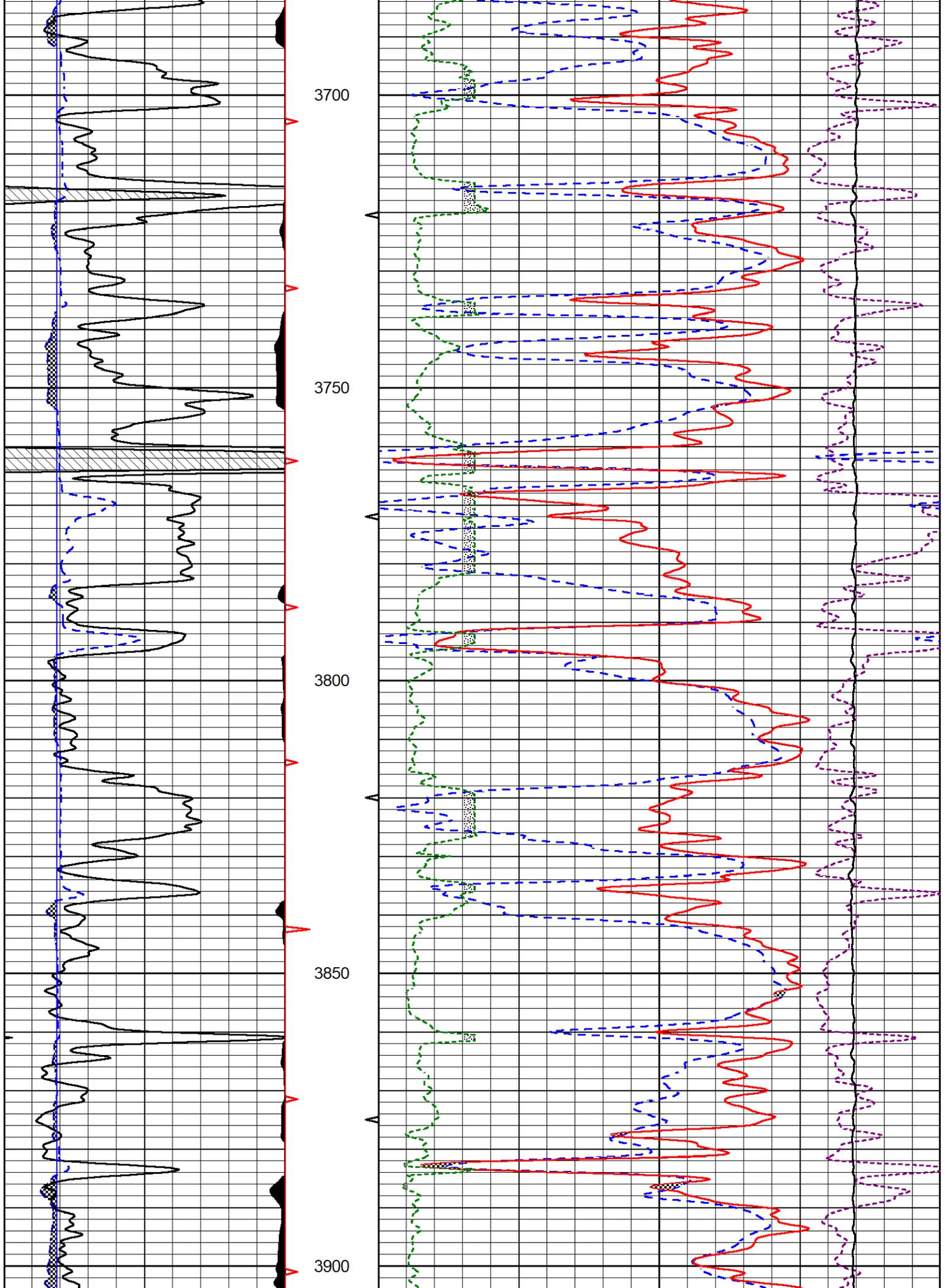
MAIN PASS

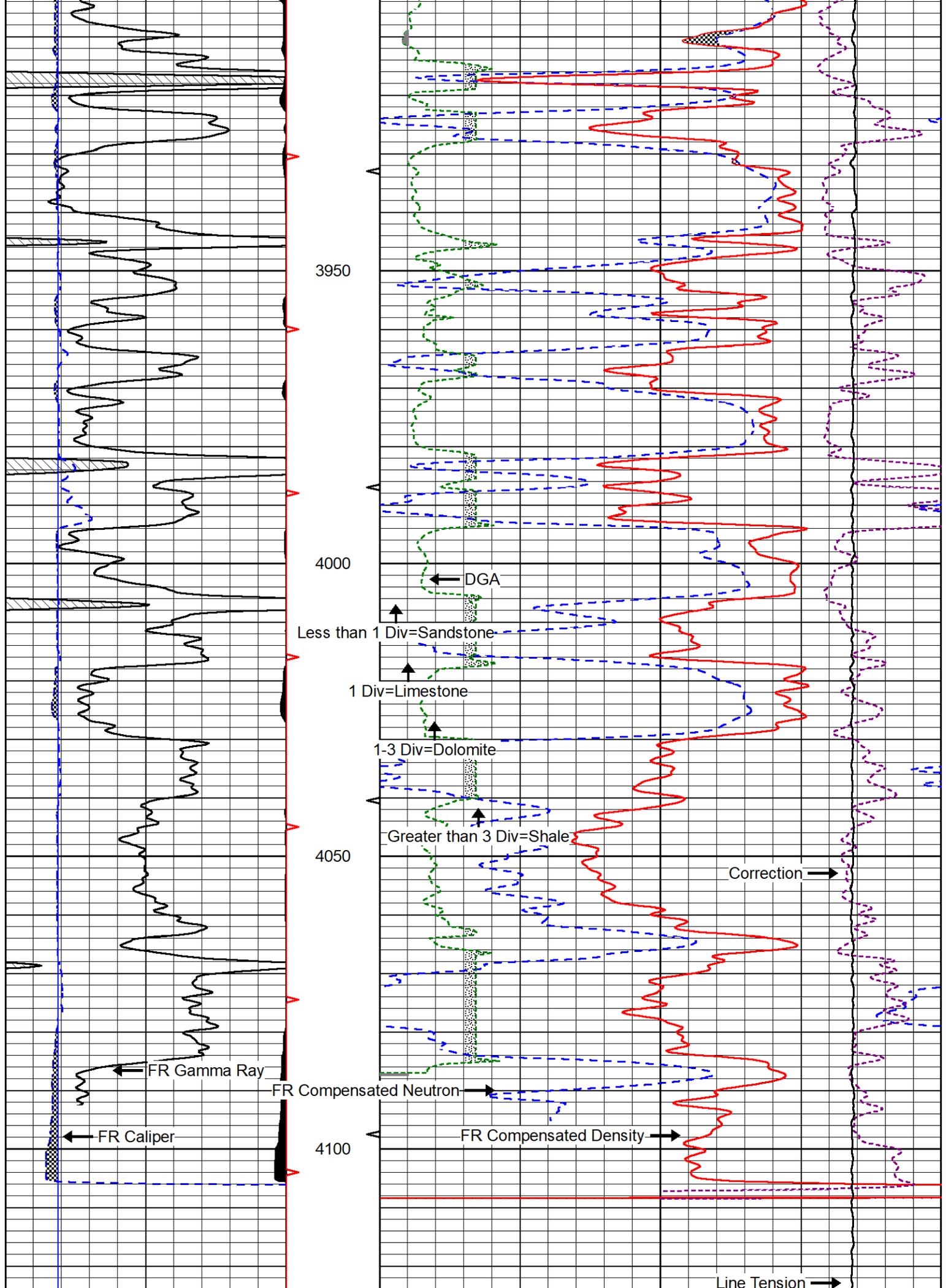
Database File: pioneer oil_bretz community unit 1-4.db
 Dataset Pathname: stkml/pass5.1
 Presentation Format: _CNDLS~1
 Dataset Creation: Wed Apr 20 14:57:20 2022
 Charted by: Depth in Feet scaled 1:240











0	Gamma Ray (GAPI)	150	30	Compensated Neutron (pu)	-10
6	Caliper (in)	16	30	Compensated Density (pu)	-10
			10000	Line Tension (lb)	0
2.625	DGA (g/cc)	3.425	-0.25	Correction (g/cc)	0.25

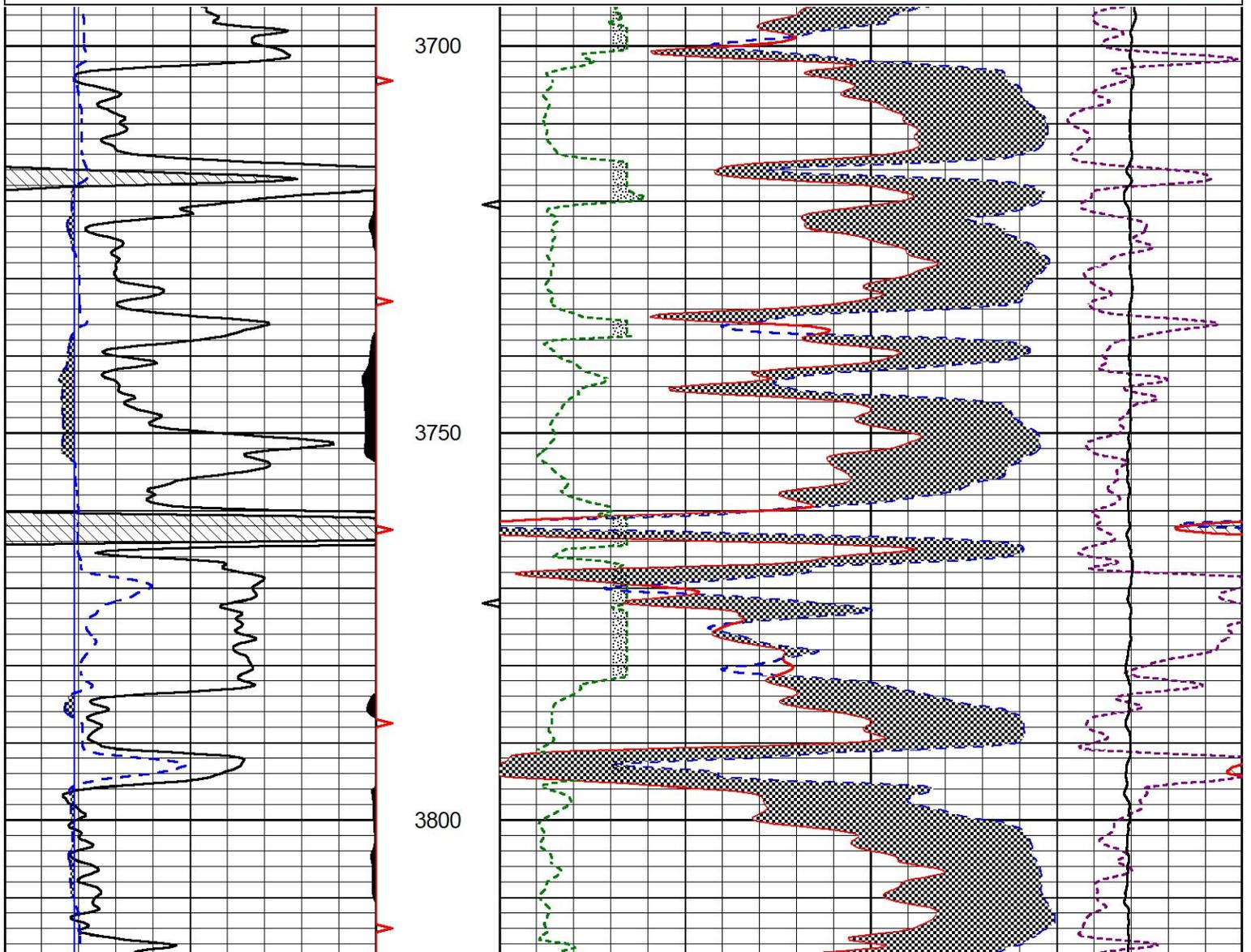


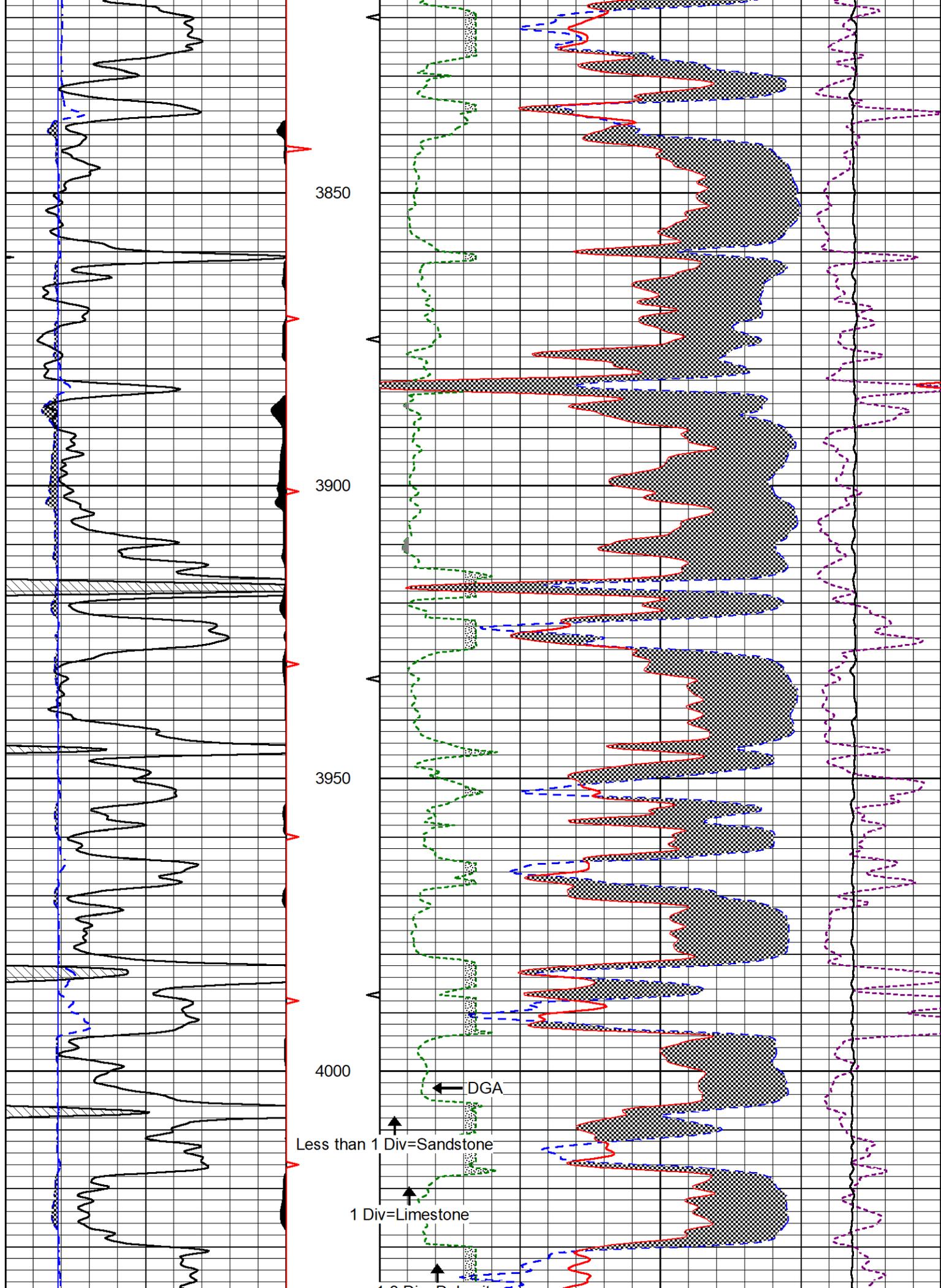
DOLOMITE MATRIX (2.83 g/cc)

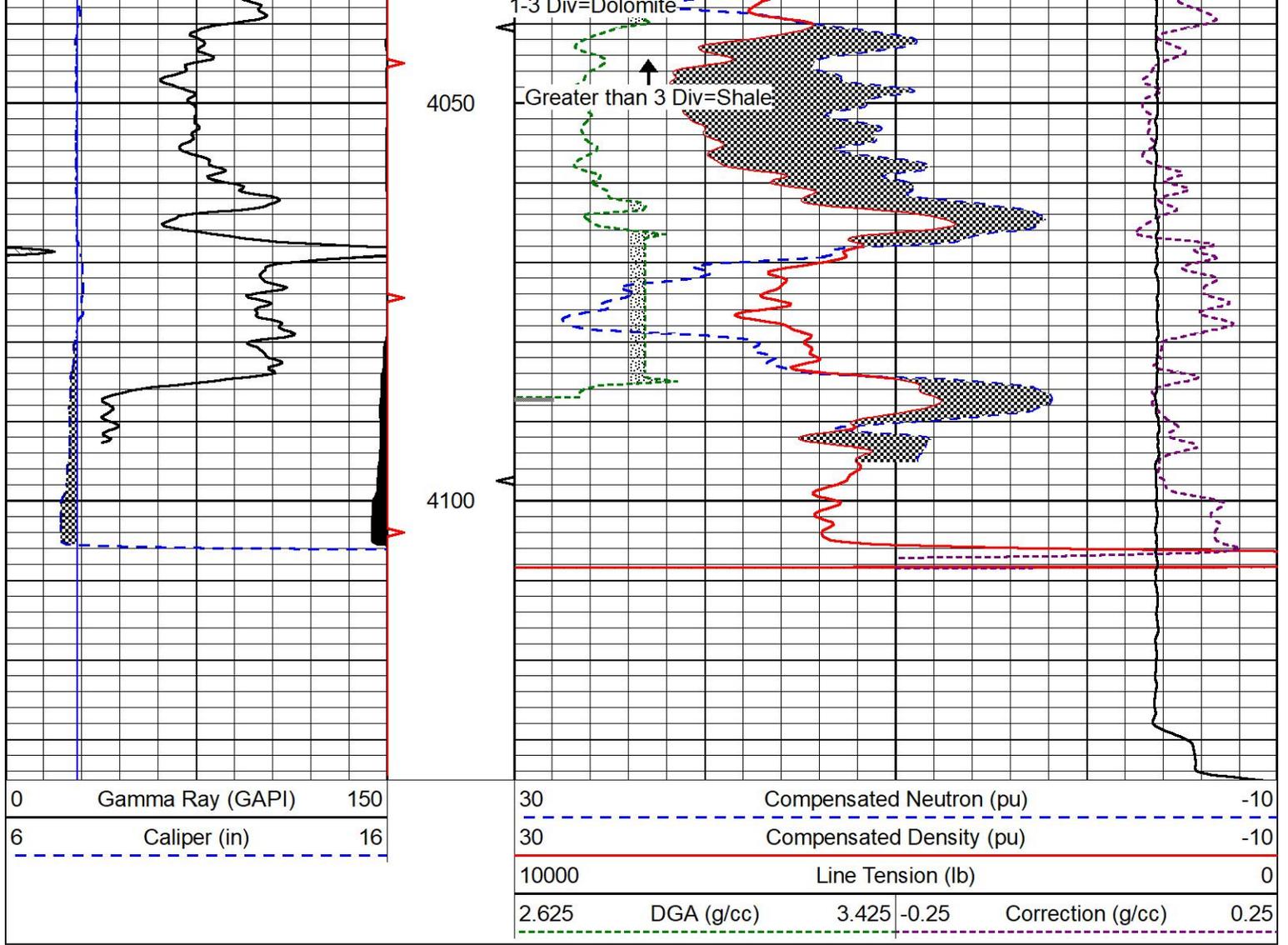
MAIN PASS

Database File: pioneer oil_bretz community unit 1-4.db
 Dataset Pathname: stkml/pass5.19
 Presentation Format: _CNDLS~1
 Dataset Creation: Wed Apr 20 16:45:35 2022
 Charted by: Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150	30	Compensated Neutron (pu)	-10
6	Caliper (in)	16	30	Compensated Density (pu)	-10
			10000	Line Tension (lb)	0
2.625	DGA (g/cc)	3.425	-0.25	Correction (g/cc)	0.25





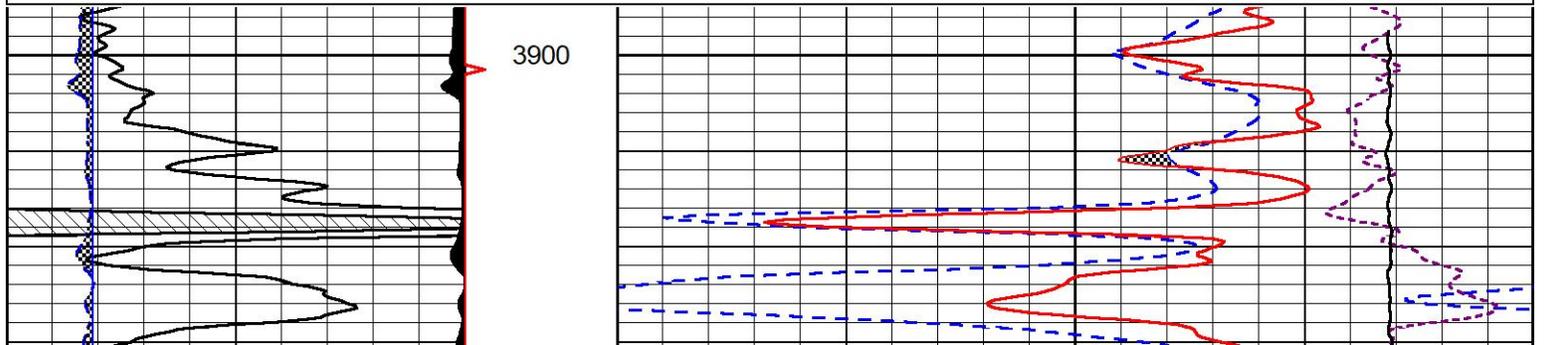


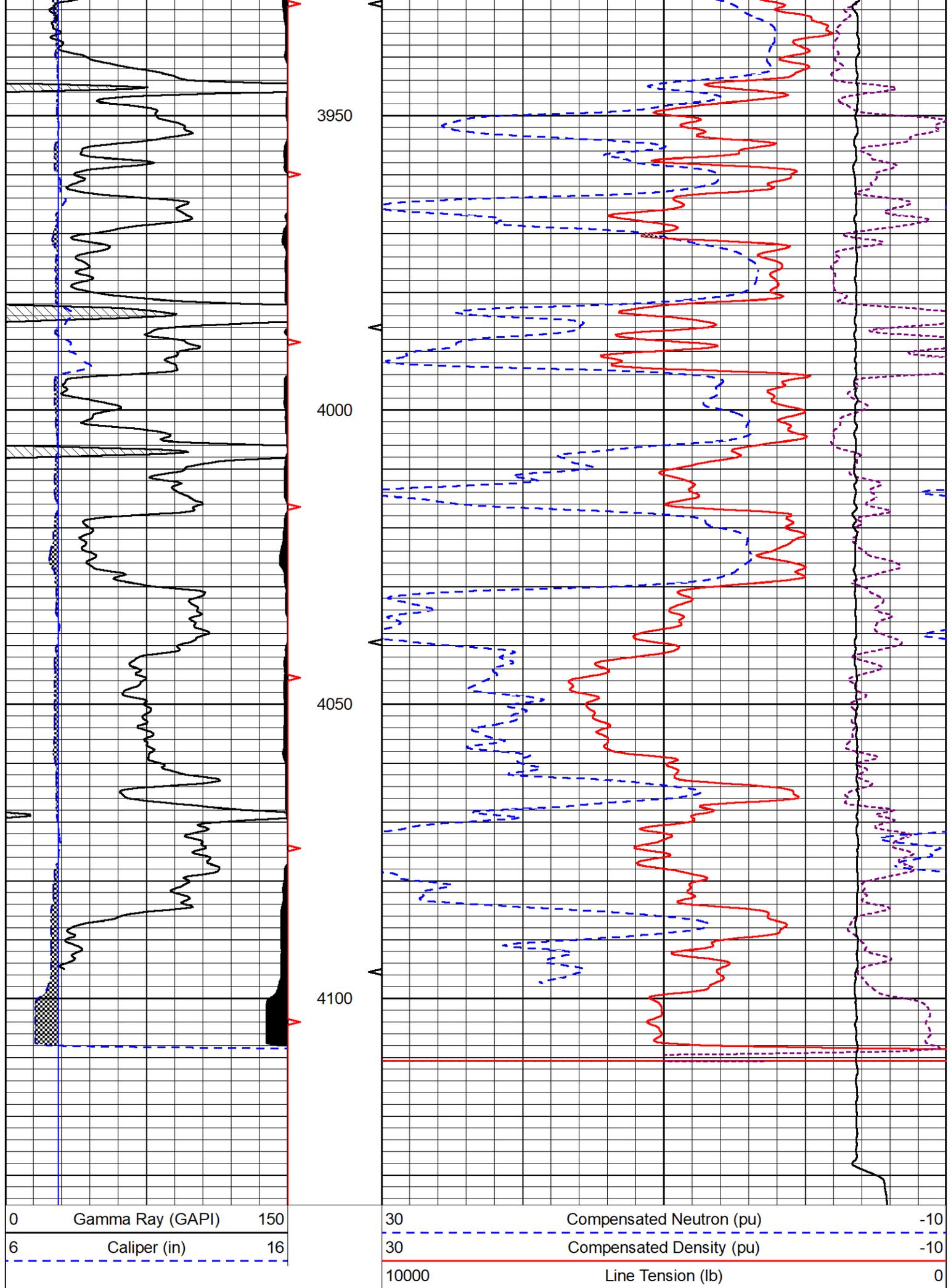
REPEAT SECTION

REPEAT PASS

Database File: pioneer oil_bretz community unit 1-4.db
 Dataset Pathname: stkml/pass4.1
 Presentation Format: _CNDLS~1
 Dataset Creation: Wed Apr 20 14:31:00 2022
 Charted by: Depth in Feet scaled 1:240

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





Calibration Report

Database File pioneer oil_bretz community unit 1-4.db
 Dataset Pathname stkml/pass5.17
 Dataset Creation Wed Apr 20 14:18:54 2022

Dual Induction Calibration Report

Serial-Model: 502 HT-M&W
 Surface Cal Performed: Wed Feb 9 17:39:00 2022

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		m	b
Deep	83.639	487.104	0.000	183.000	mmho/m	0.454	-34.500
Medium	113.335	1585.690	0.000	442.000	mmho/m	0.350	-10.000

Microlog Calibration Report

Serial-Model: 402-PSIML
 Performed: Mon Jan 24 20:31:16 2022

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	26500.0000	-1.5000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	25000.0000	-1.0000
Caliper	1.0052	1.0858	5.0000	16.5000	in	125.0000	-121.9000

Compensated Density Calibration Report

Serial-Model: 305-05-M&W
 Source #: 20762B
 Master Calibration Performed: Mon Mar 28 23:57:02 2022

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	8862.47	9339.96	cps
Aluminum	2.600	g/cc	1556.73	5707.29	cps
Spine Angle = 74.19			Density/Spine Ratio = 0.467		
	Size		Reading		
Small Ring	4.00	in	1.74		
Large Ring	14.00	in	1.38		

Compensated Neutron Calibration Report

Serial-Model: 207-MW-M&W
 Source #: 100046B
 Master Calibration Performed: Mon Nov 29 15:06:24 2021

Master Calibration

Detector	Readings	Target	Normalization
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Short Space
Long Space

6240.00 cps
460.00 cps

1000.00 cps
1000.00 cps

1.6025
1.9500

Gamma Ray Calibration Report

Serial Number: 101
Tool Model: M&W
Performed: Mon Jan 24 19:14:46 2022

Calibrator Value: 500.0 GAPI

Background Reading: 24.0 cps
Calibrator Reading: 637.0 cps

Sensitivity: 0.5500 GAPI/cps



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Well Bretz Community Unit #1-4
Field Freda
County Sheridan
State Kansas