



MIDWEST WIRELINE

DUAL COMP POROSITY LOG

Company Castle Resources, Inc.

Well Werth #1

Field

County Ellis

State Kansas

Location: API #: 15-051-27063-00-00

Other Services

NE SW
1980 FSL & 1980 FWL

DIL/MEL

SEC 3 TWP 13S RGE 18W

Permanent Datum Ground Level Elevation 2175
Log Measured From Kelly Bushing
Drilling Measured From Kelly Bushing

K.B. 2180
D.F.
G.L. 2175

Date 11/14/2022

Run Number One

Type Log CNL/CDL

Depth Driller 3785

Depth Logger 3784

Bottom Logged Interval 3755

Top Logged Interval 2900

Type Fluid In Hole Chemical

Salinity, PPM CL 7000

Density 8.9

Level Full

Max. Rec. Temp. F 114

Operating Rig Time 2.5 Hours

Equipment -- Location P-24 Hays

Recorded By T. Martin

Witnessed By Jerry Green

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
One	12.25	00	220	8.625	23	00	220
Two	7.875	220	TD				

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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.

Hays, KS, N to Feedlot Rd,
1/2 E, N into

Log Measured From: Kelly Bushing 5 Ft. Above Permanent Datum

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

Your Midwest Wireline Crew

Engineer: T. Martin
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: Jerry Green
Secondary Witness:
Secondary Witness:
Secondary Witness:

Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.33			GR-M&W (106)	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 (305-24)	8.50	4.00	250.00
				ML-PSIML (401)	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)	18.25	3.50	220.00
CILD	8.33						
CILM	4.50						
SP	0.20						
Dataset: castle_werth #1.db: field/well/StkMI/pass3.1 Total length: 42.33 ft Total weight: 685.00 lb O.D.: 4.00 in							

Log Variables

DatabaseC:\ProgramData\Warrior\Data\castle_werth #1.db
Dataset field/well/StkMI/pass3.1/_vars_

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 114	in 4.5	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 55	degF 40	Off	ft 3784

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



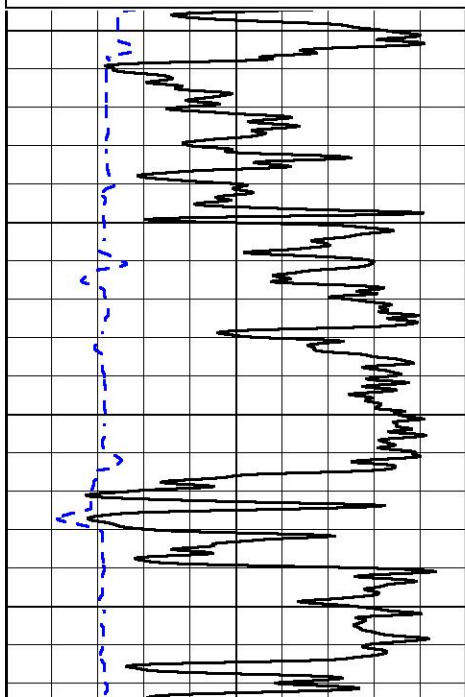
2" SCALE BULK DENSITY

MAIN PASS

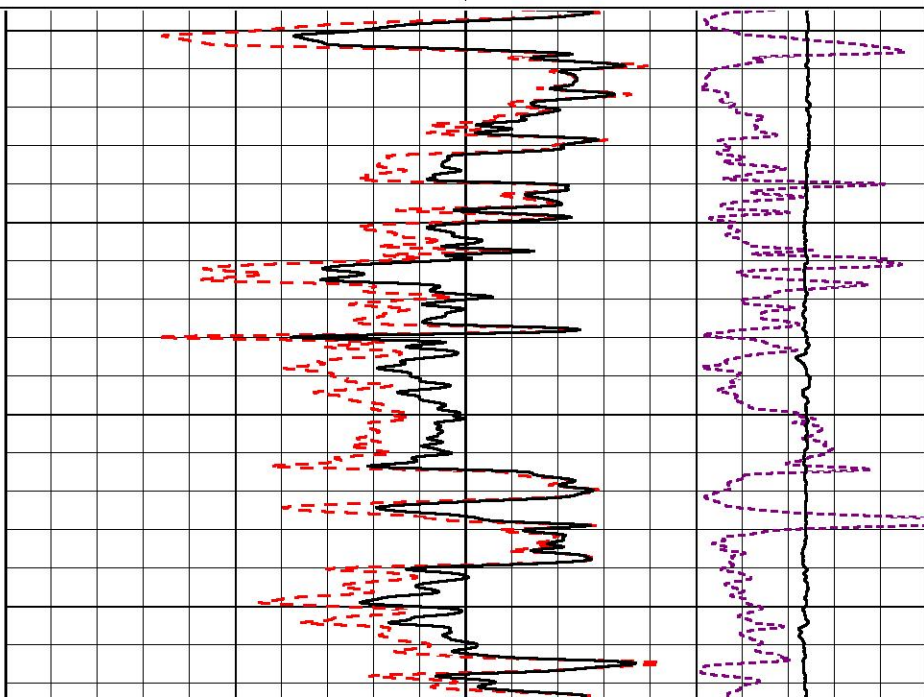
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Presentation Format _cdl
Dataset Creation Mon Nov 14 14:30:59 2022
Charted by Depth in Feet scaled 1:600

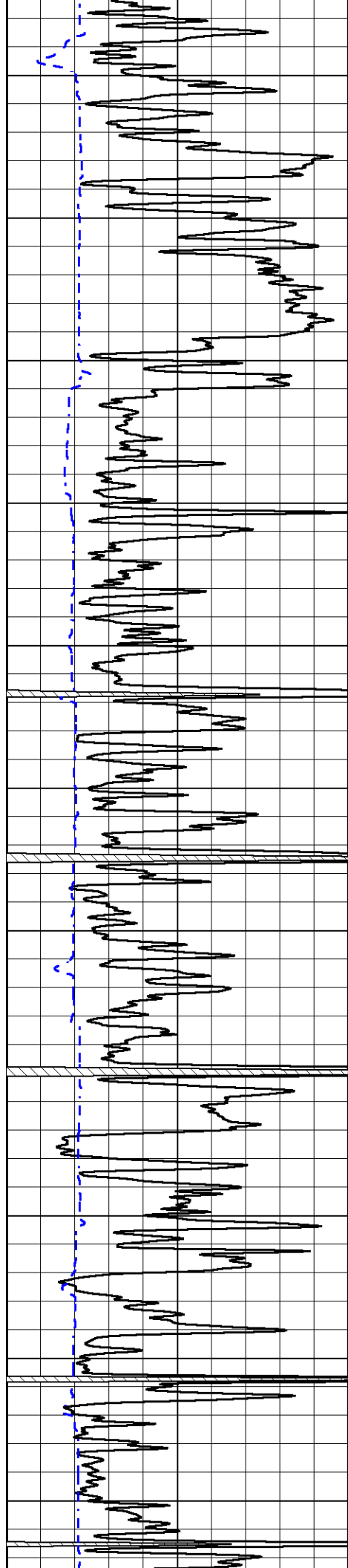
0	Gamma Ray (GAPI)	150
6	Caliper (in)	16

30	Compensated Density (pu)	-10
2	Bulk Density (g/cc)	3
10000	Line Tension (lb)	0
-0.25	Correction (g/cc)	0.25



2900
2950
3000
3050





3100

3150

3200

3250

3300

3350

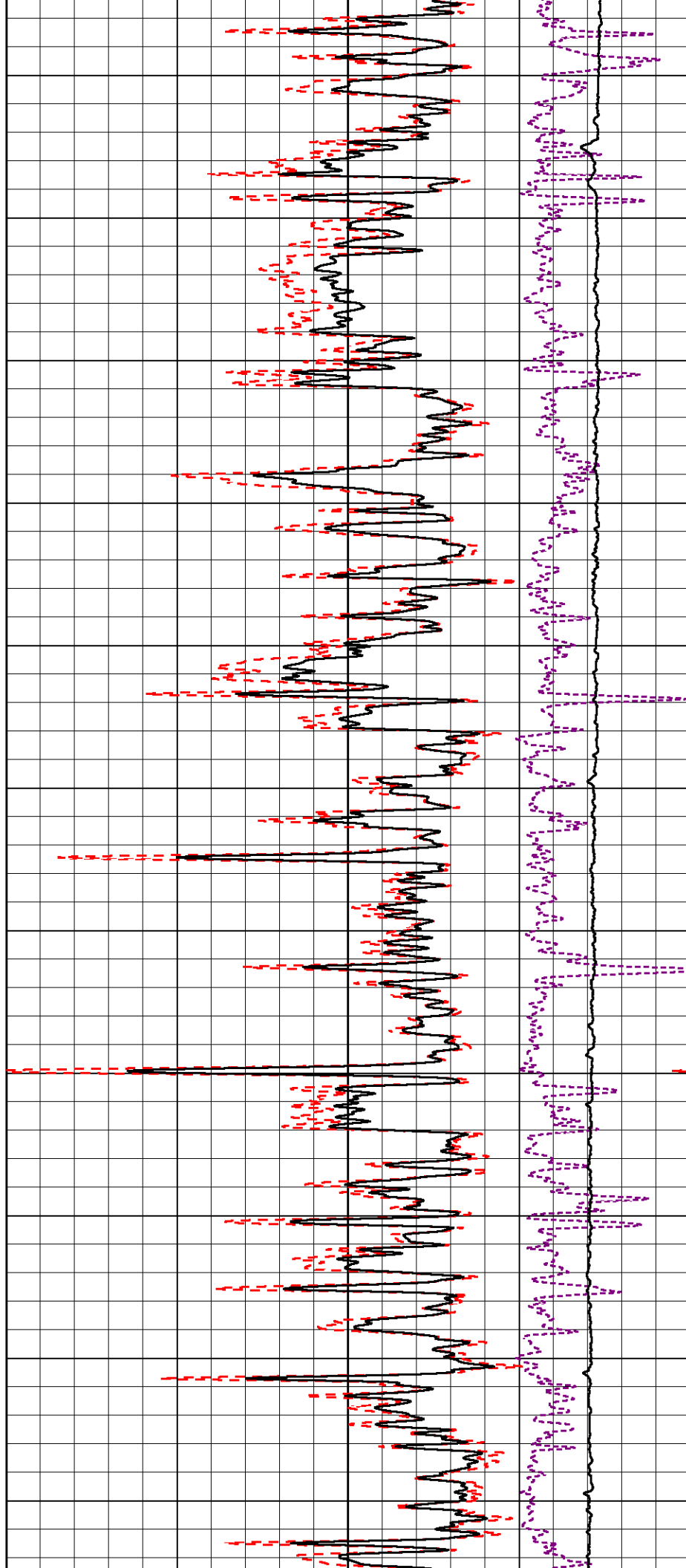
3400

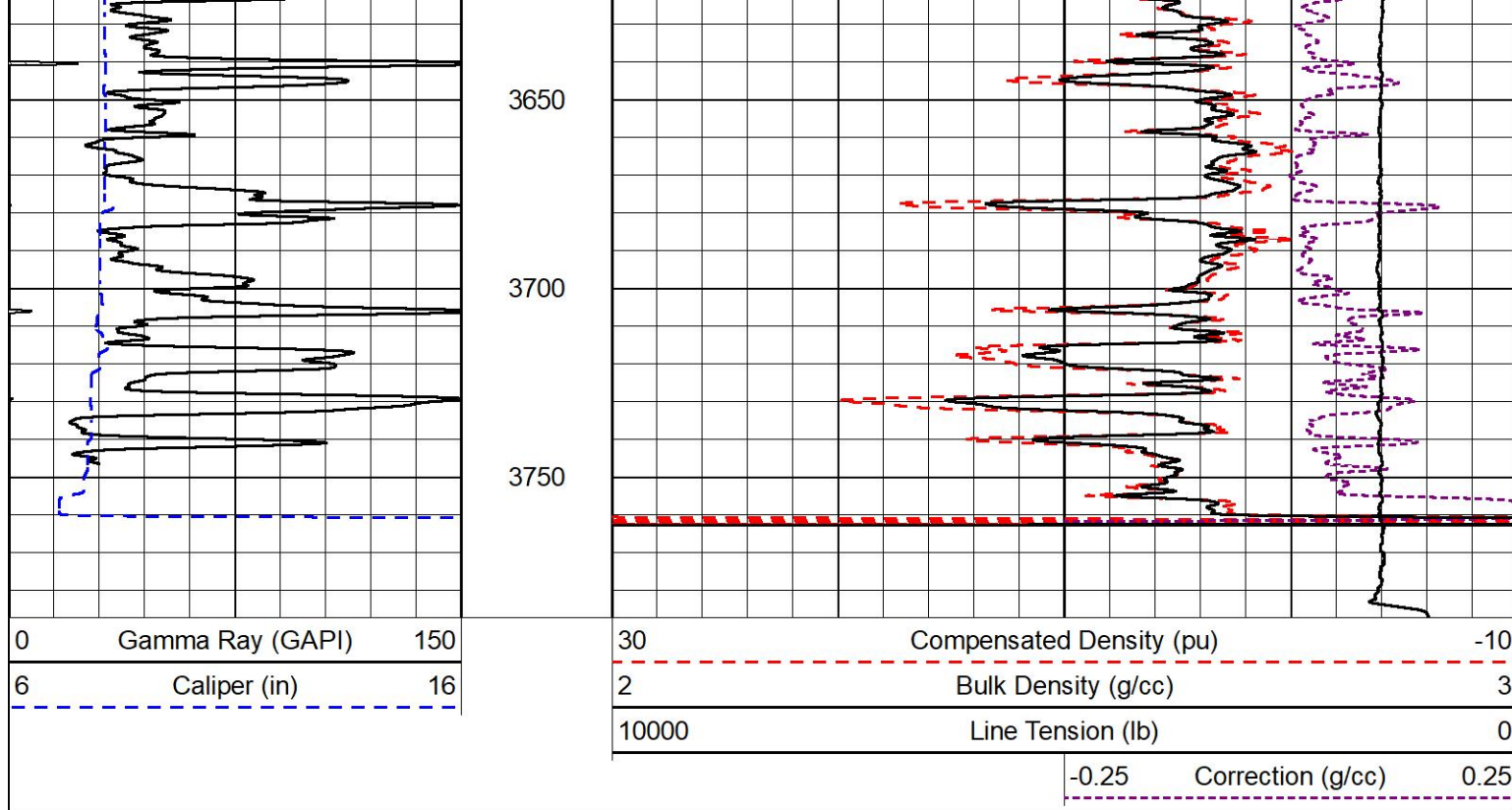
3450

3500

3550

3600





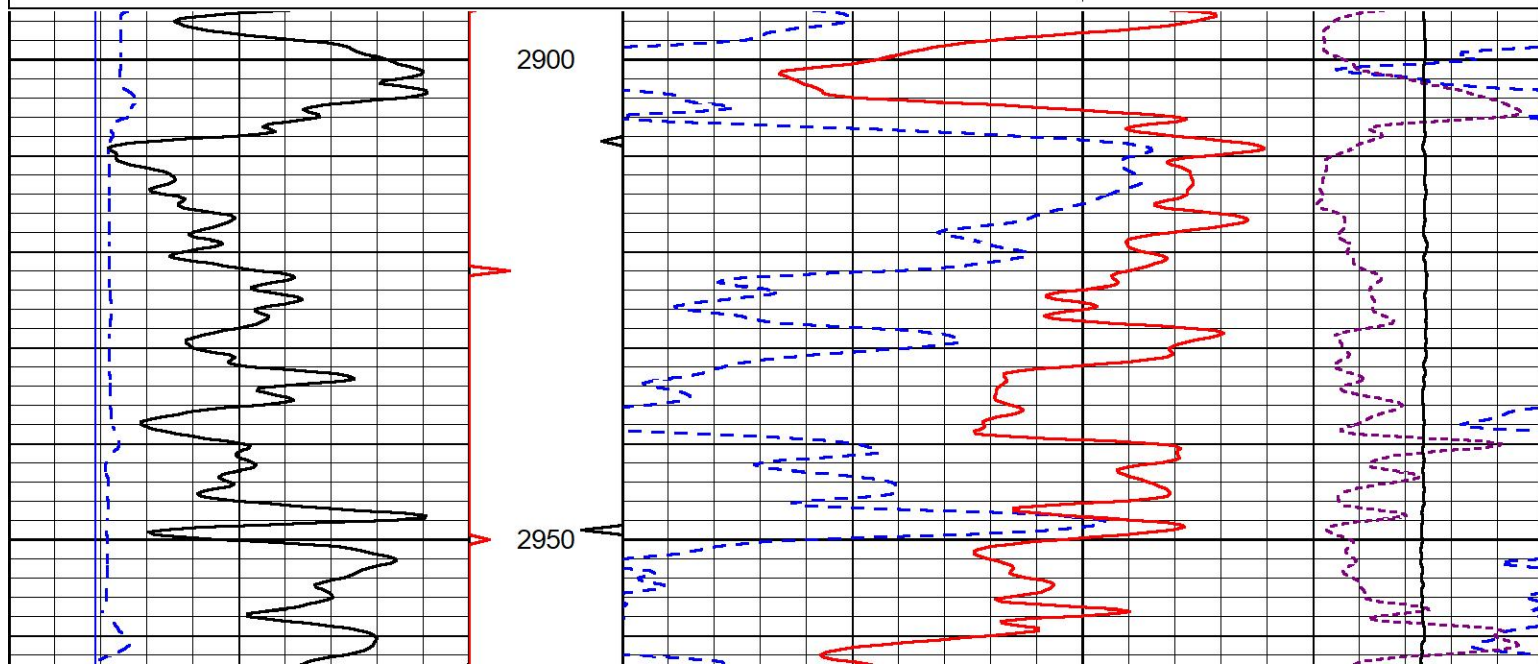
MIDWEST WIRELINE

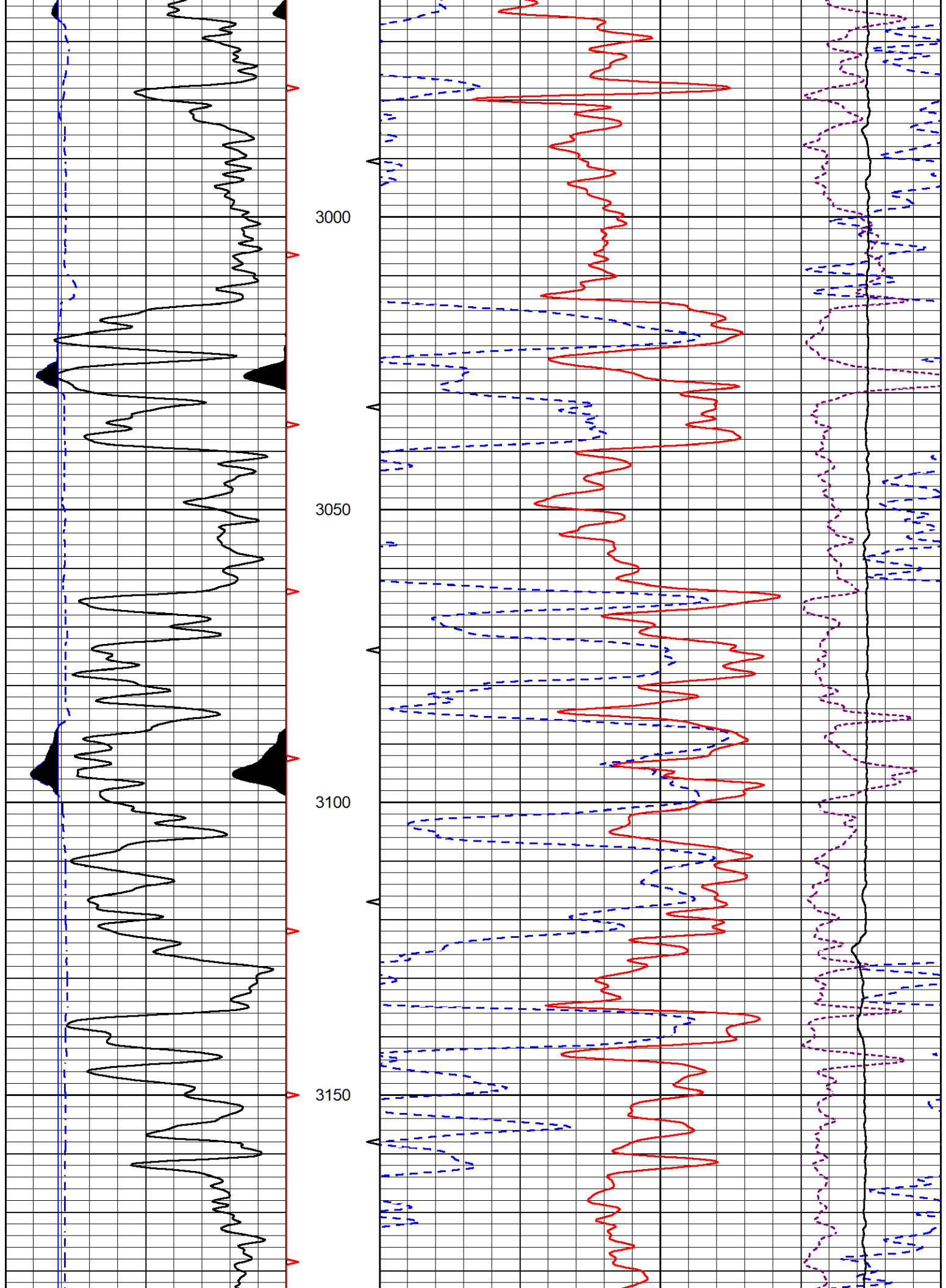
DETAIL SECTION

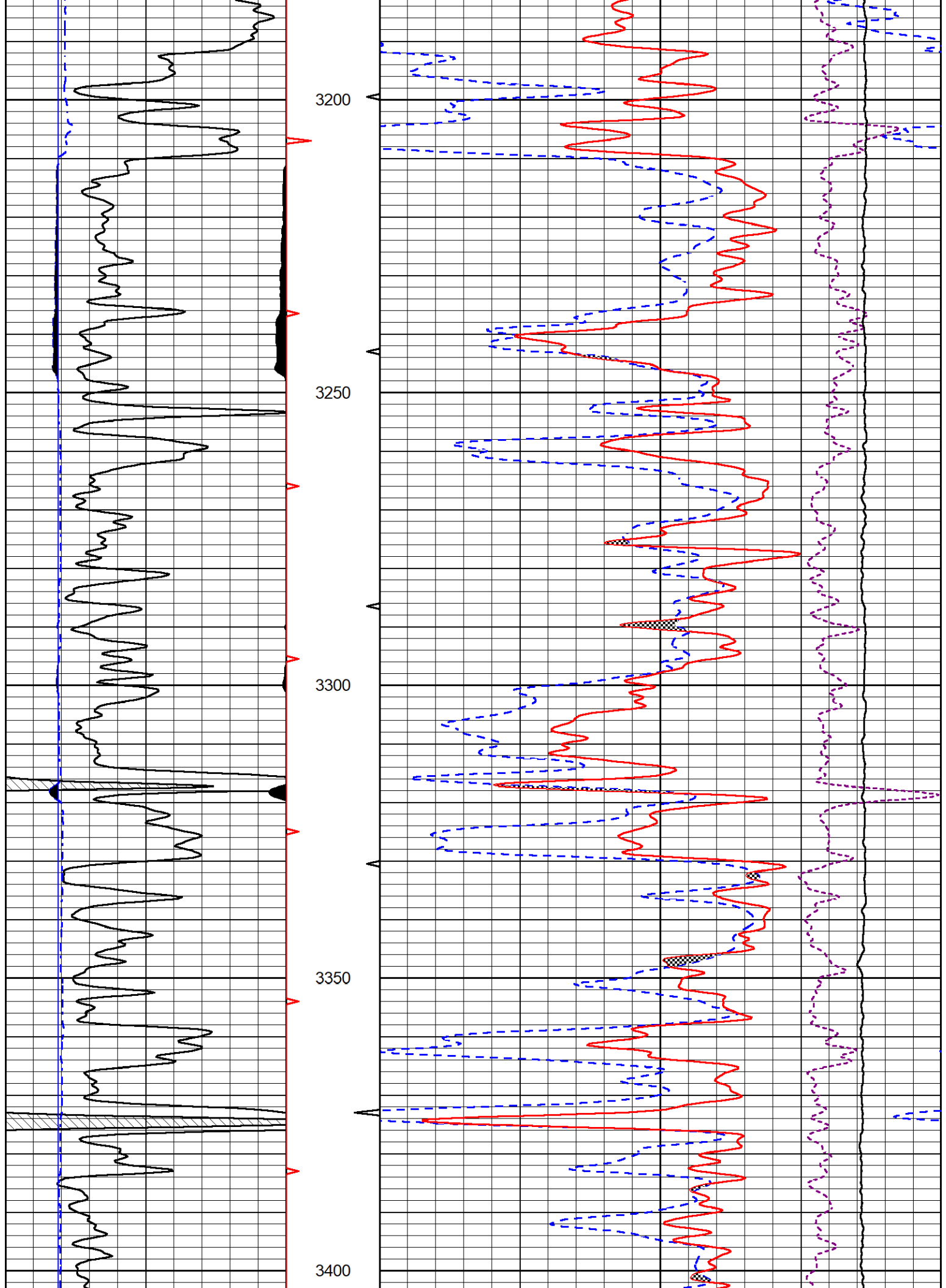
MAIN PASS

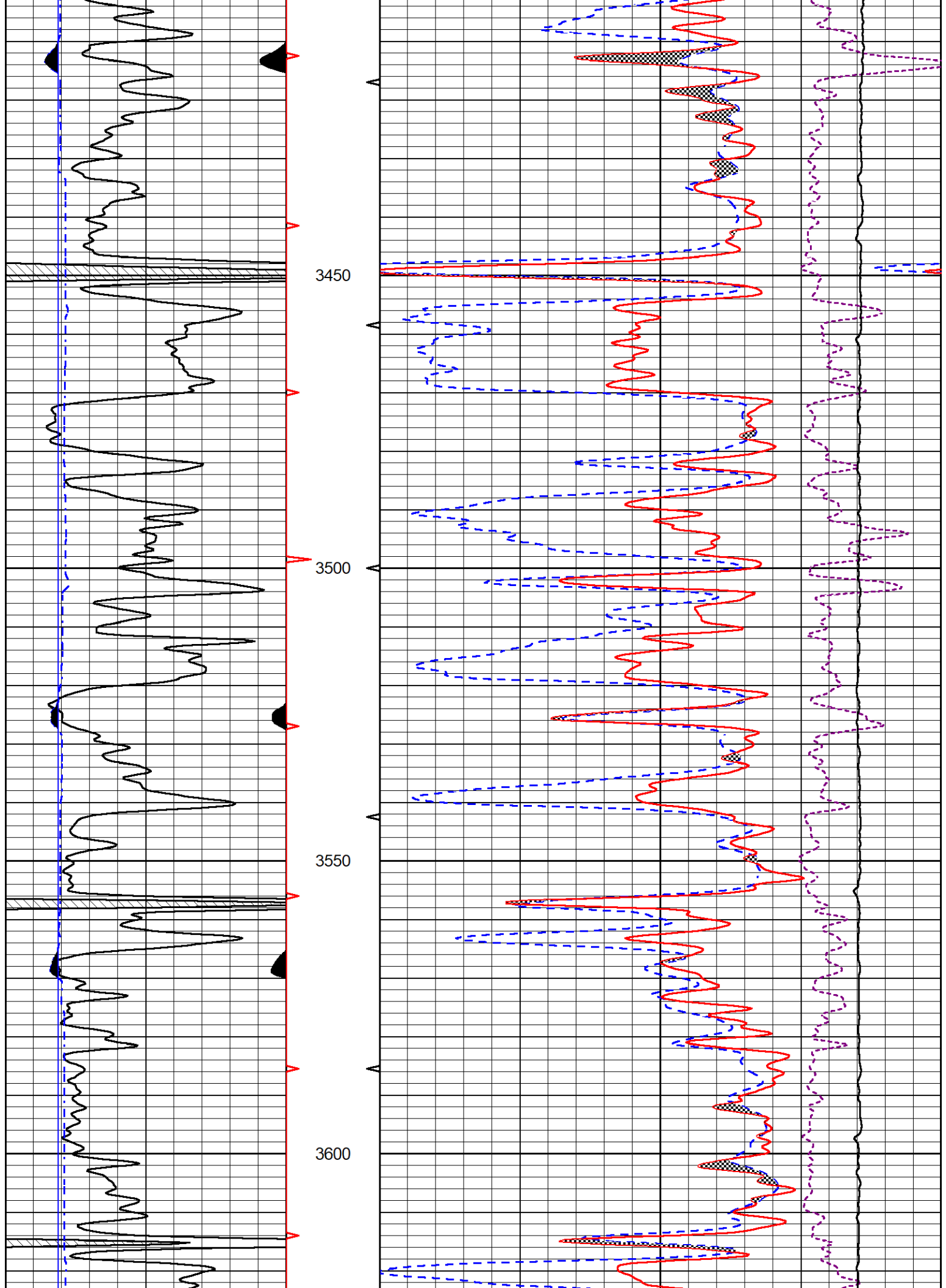
Database File castle_werth #1.db
 Dataset Pathname StkMI/pass3.1
 Presentation Format _CNDLS~1
 Dataset Creation Mon Nov 14 15:06:25 2022
 Charted by Depth in Feet scaled 1:240

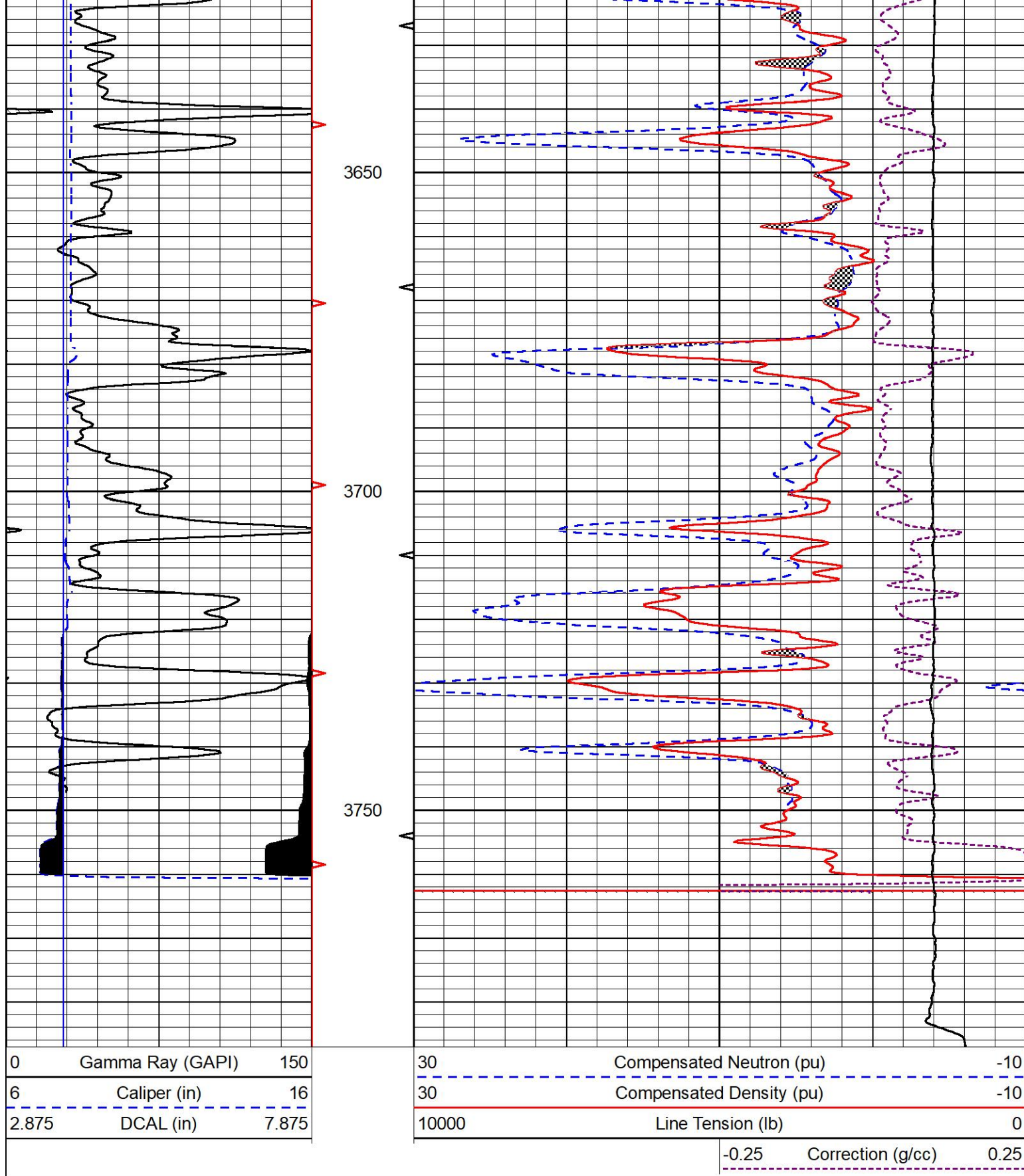
0	Gamma Ray (GAPI)	150	30	Compensated Neutron (pu)	-10
6	Caliper (in)	16	30	Compensated Density (pu)	-10
2.875	DCAL (in)	7.875	10000	Line Tension (lb)	0
				-0.25	Correction (g/cc) 0.25











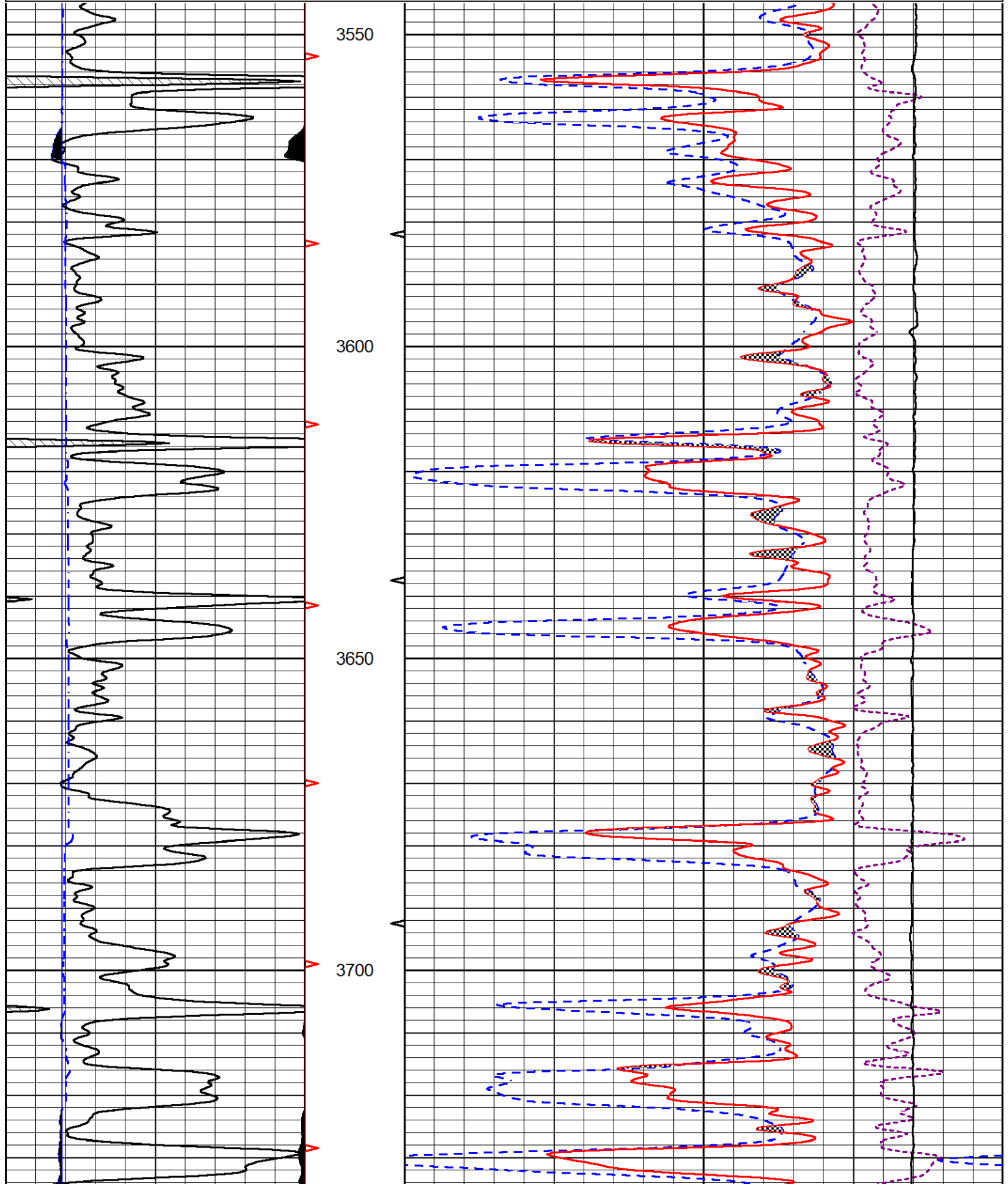
MIDWEST WIRELINE

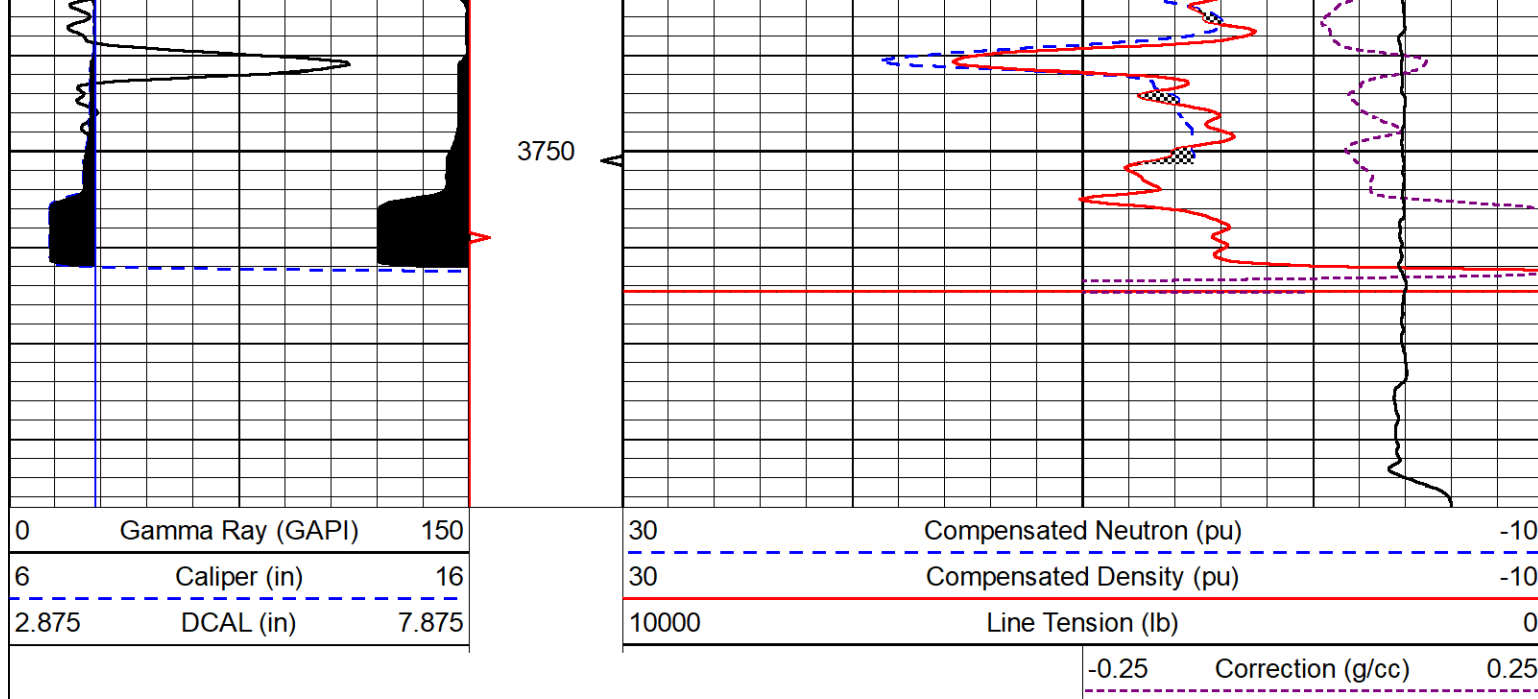
REPEAT SECTION

REPEAT PASS

Database File castle_werth #1.db
 Dataset Pathname StkMI/pass2.1
 Presentation Format CNDI S~1

Presentation Format			CNDES		
Dataset Creation			Mon Nov 14 14:20:39 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
2.875	DCAL (in)	7.875	10000	Line Tension (lb)	0
			-0.25 Correction (g/cc) 0.25		





Calibration Report		
Database File	castle_werth #1.db	
Dataset Pathname	StkMI/pass3.1	
Dataset Creation	Mon Nov 14 15:06:25 2022	

Dual Induction Calibration Report							
Serial-Model:				502 HT-M&W			
Surface Cal Performed:				Mon Nov 7 15:53:48 2022			
Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		m	b
Deep	83.639	487.104	0.000	255.800	mmho/m	0.454	-30.000
Medium	113.335	1585.690	0.000	255.800	mmho/m	0.350	-10.500

Microlog Calibration Report							
Serial-Model:				401-PSIML			
Performed:				Mon Nov 7 15:53:59 2022			
	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	21500.0000	0.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	19500.0000	0.0000
Caliper	1.0052	1.0858	5.0000	16.5000	in	98.0000	-93.1500

Compensated Density Calibration Report							
Serial-Model:				305-24-M&W			
Source #:				20762B			
Master Calibration Performed:				Mon Jun 20 16:54:11 2022			

Master Calibration			
Density	Far Detector	Near Detector	

Magnesium	1.755	g/cc	4771.35	5494.27	cps
Aluminum	2.650	g/cc	908.54	3539.54	cps
Spine Angle = 75.15			Density/Spine Ratio = 0.522		
	Size		Reading		
Small Ring	4.00	in	1.74		
Large Ring	14.00	in	1.38		

Compensated Neutron Calibration Report
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Serial Number:	207-MW
Tool Model:	M&W

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

PRE-SURVEY VERIFICATION					
Detector	Readings		Measured		Target
1) Short Space		cps			
Long Space		cps	pu		pu
2) Short Space		cps			
Long Space		cps	pu		
3) Short Space		cps			
Long Space		cps	pu		

POST-SURVEY VERIFICATION					
Detector	Readings		Measured		Target
1) Short Space		cps			
Long Space		cps	pu		pu
2) Short Space		cps			
Long Space		cps	pu		pu
3) Short Space		cps			
Long Space		cps	pu		pu

Gamma Ray Calibration Report

Serial Number:	106	
Tool Model:	M&W	
Performed:	Fri Dec 3 15:10:46 2021	
Calibrator Value:	500.0	GAPI
Background Reading:	24.0	cps
Calibrator Reading:	637.0	cps
Sensitivity:	0.5500	GAPI/cps



MIDWEST WIRELINE

Field

County

State

Ellis

Kansas