



DUAL COMP POROSITY LOG

Company AMERICAN WARRIOR, INC.
 Well WEBER NO. 2-7
 Field WILDCAT
 County ELLIS
 State KANSAS

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Location: API #: 15-051-26855-00-00
 1,425' FNL & 335' FWL
 SEC 7 TWP 13S RGE 19W
 Permanent Datum GROUND LEVEL Elevation 2144'
 Log Measured From KELLY BUSHING
 Drilling Measured From KELLY BUSHING
 Other Services
 DIL
 MEL
 Elevation
 K.B. 2152'
 D.F. N/A
 G.L. 2144'

Date	12/18/2016						
Run Number	ONE						
Type Log	CNL/CDL						
Depth Driller	3910'						
Depth Logger	3910'						
Bottom Logged Interval	3882'						
Top Logged Interval	3100'						
Type Fluid In Hole	CHEMICAL						
Salinity, PPM CL	1500						
Density	8.8						
Level	FULL						
Max. Rec. Temp. F	115 DEG.F.						
Operating Rig Time	2 1/2 HOURS						
Equipment -- Location	108 COLBY						
Recorded By	J. LONG						
Witnessed By	JASON T. ALM						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	00'	230'	8.625"	23#	00'	230'
TWO	7.875"	230'	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.
 ELLIS, NORTH TO EMMERAM ROAD, 4 EAST TO 160TH AVENUE, 1 1/4 SOUTH,
 EAST INTO (JUST NORTH OF INTERSTATE)

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

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerenergy.com 785-625-3858

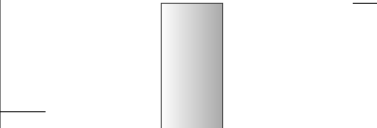
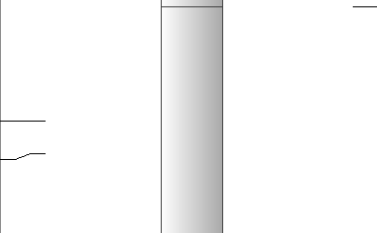
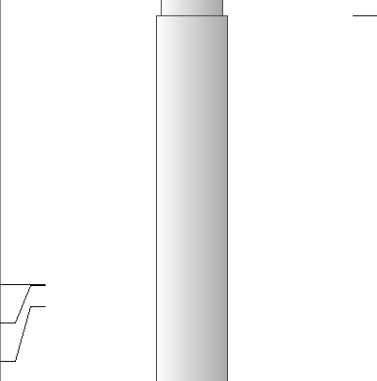
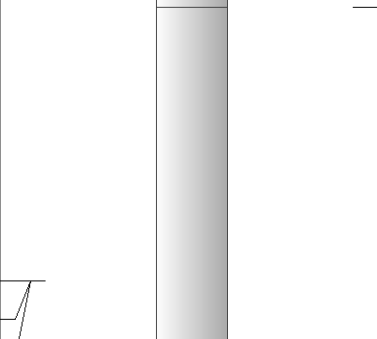
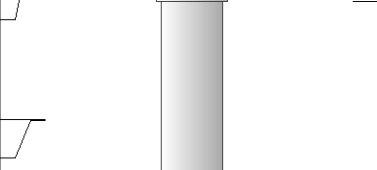
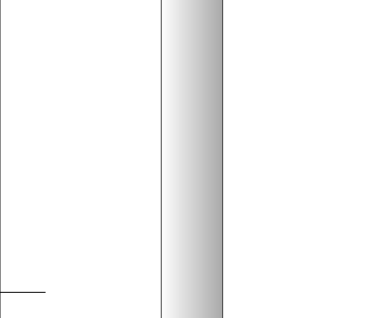
<p>Your Pioneer Energy Services Crew</p> <p>Engineer: J. LONG Operator: C. PFEIFER Operator: Operator:</p>	<p>This Log Record Was Witnessed By</p> <p>Primary Witness: JASON T. ALM Secondary Witness: Secondary Witness: Secondary Witness:</p>
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Log Variables

DatabaseC:\ProgramData\Warrior\Data\Americanwarrior_weber_2-7.db
Dataset field/well/stackmel/pass4.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	115	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	-150	-7	Off	3910

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (tk10-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (71-914)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSI STKBL ML (PSI-01) Stackable Microlog Tools	7.58	4.00	65.00
RLL3 RLL3F	15.80 15.79					
CILD	8.00		DIL-M&W (1987)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: americanwarrior_weber_2-7.db: field/well/stackmel/pass1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

PIONEER

Pioneer Energy Services

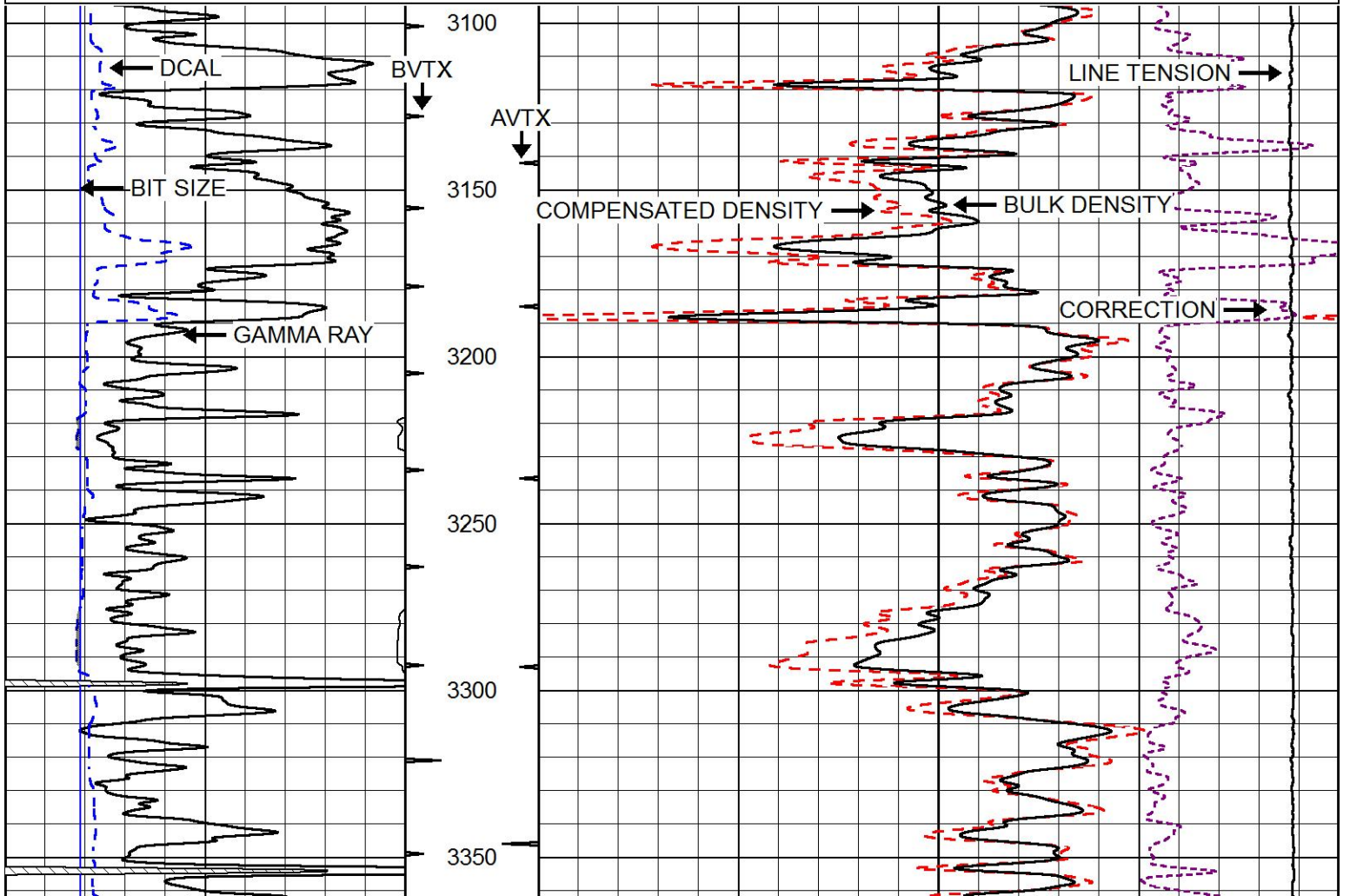
2" SCALE BULK DENSITY

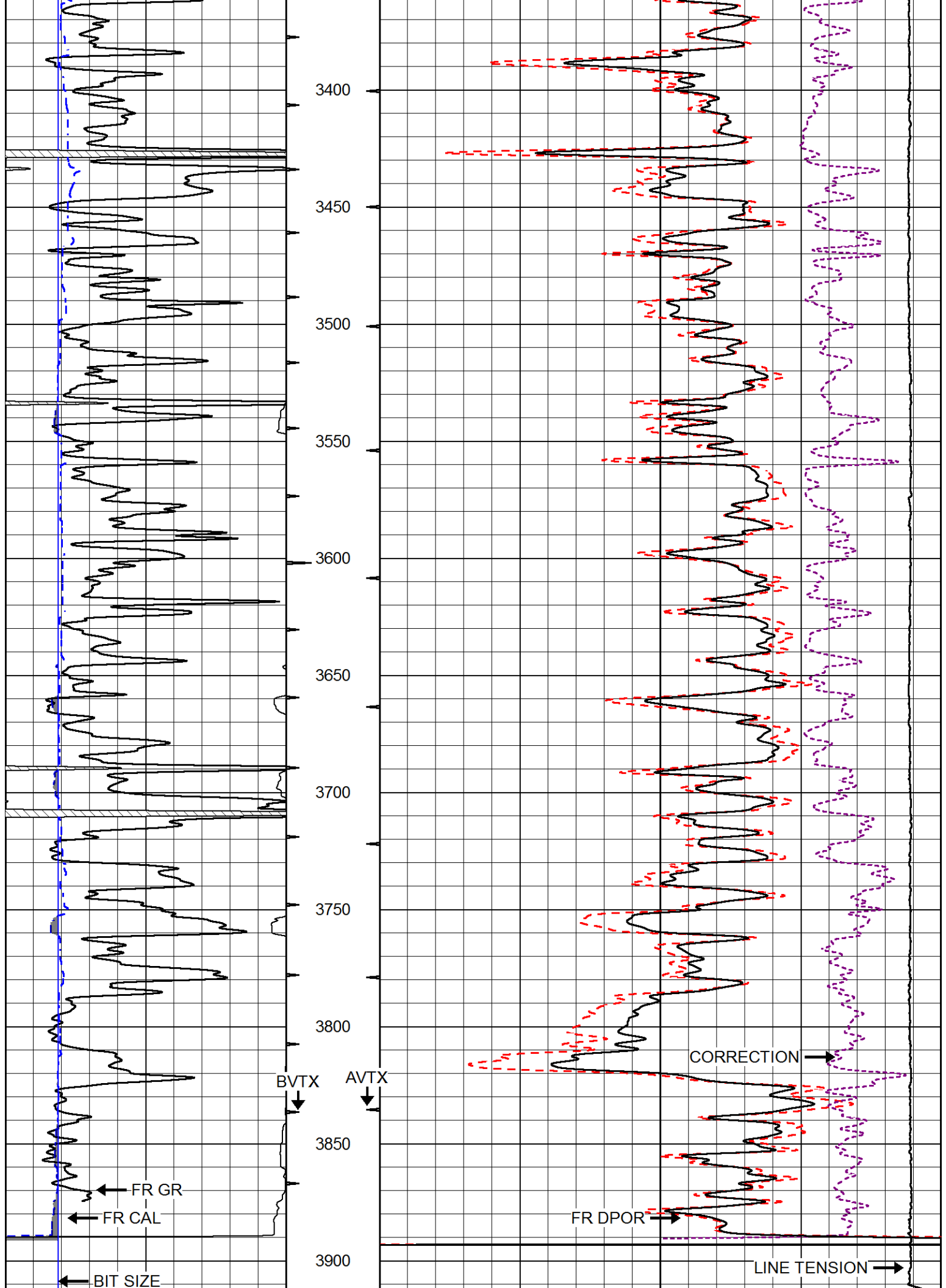
MAIN PASS

Database File americanwarrior_weber_2-7.db
 Dataset Pathname stackmel/pass4.3
 Presentation Format cdl
 Dataset Creation Sun Dec 18 10:47:31 2016
 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

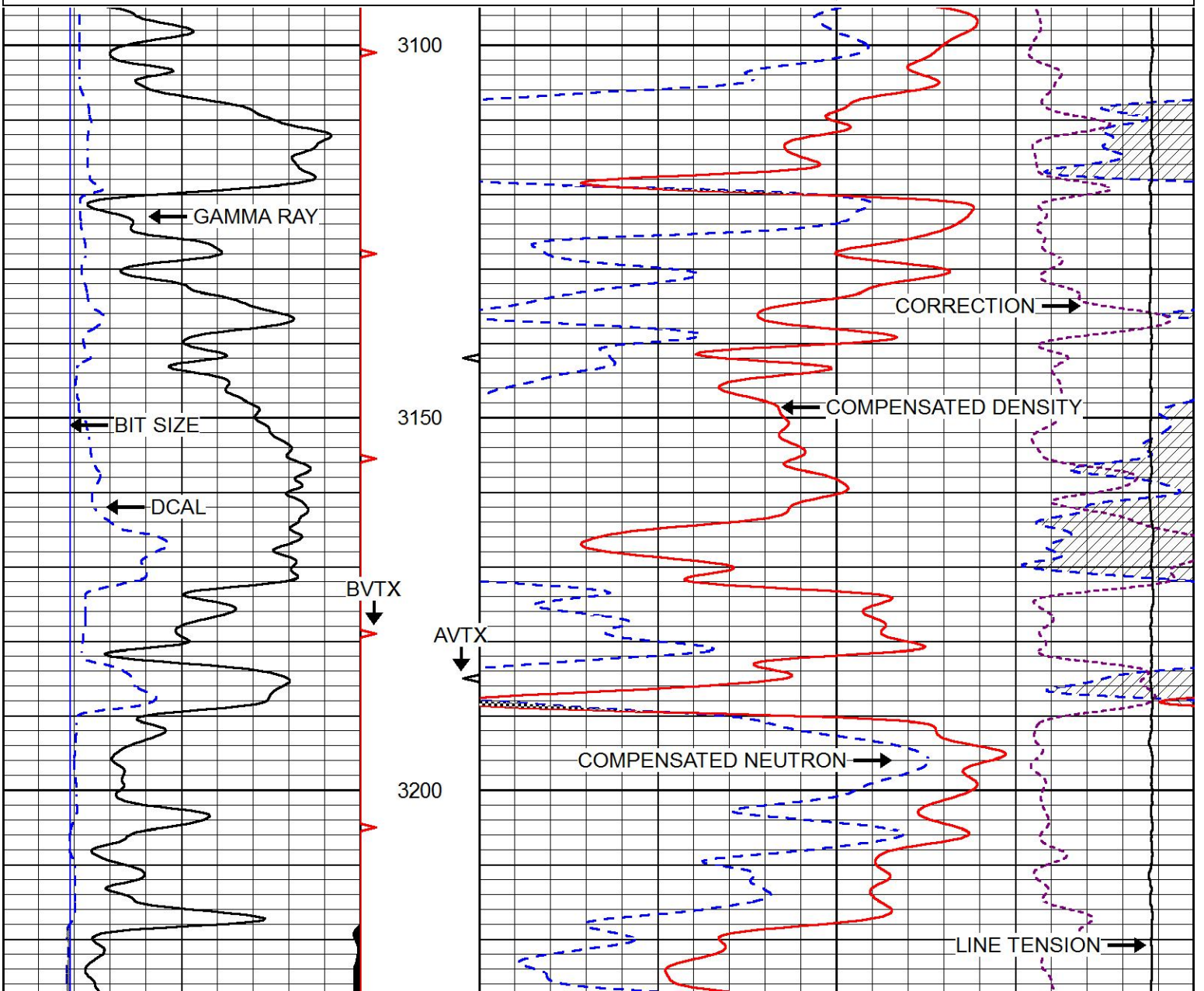


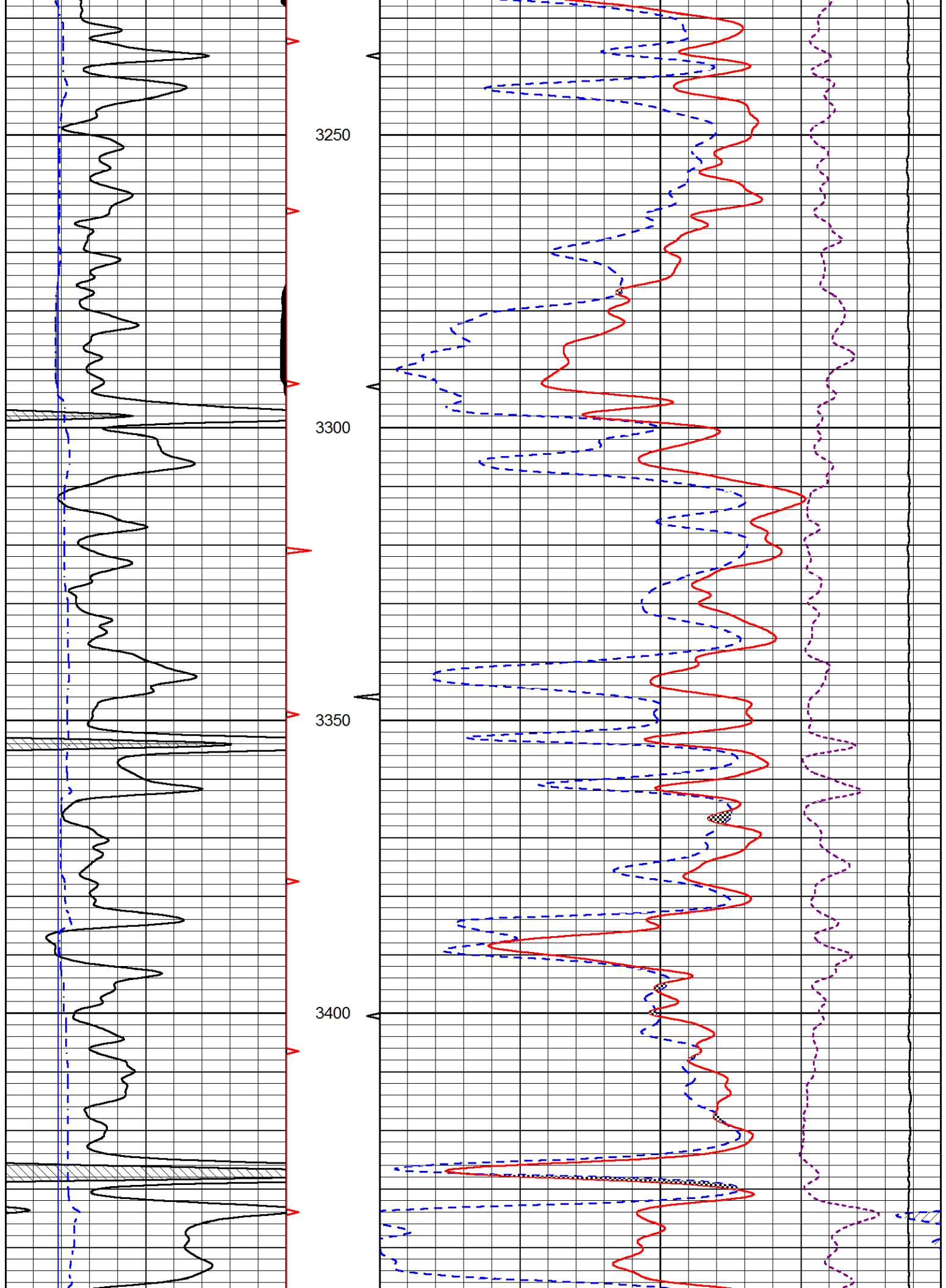
MAIN PASS

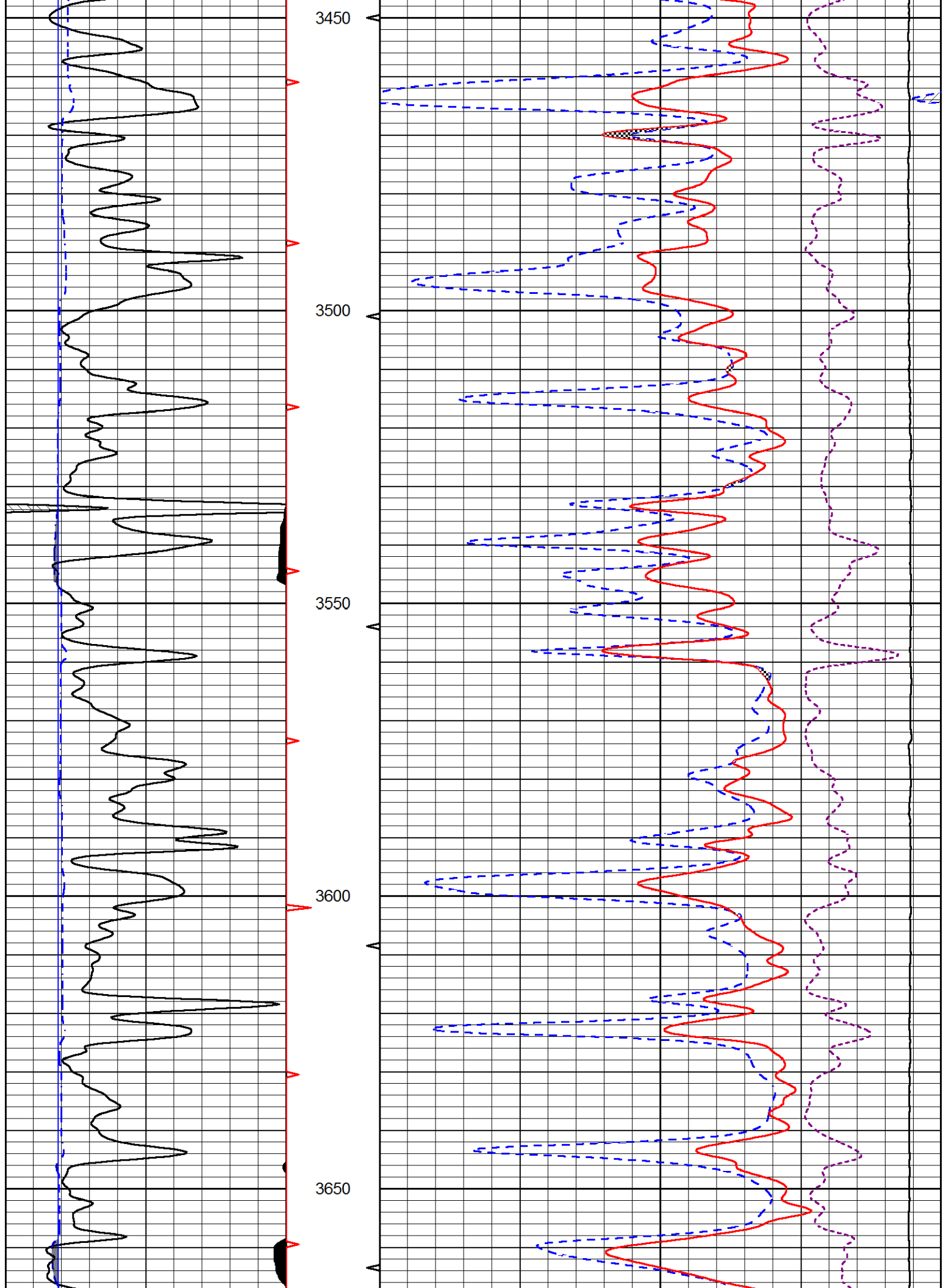
Database File americanwarrior_weber_2-7.db
 Dataset Pathname stackmel/pass4.1
 Presentation Format cndlspec
 Dataset Creation Sun Dec 18 10:47:09 2016
 Charted by Depth in Feet scaled 1:240

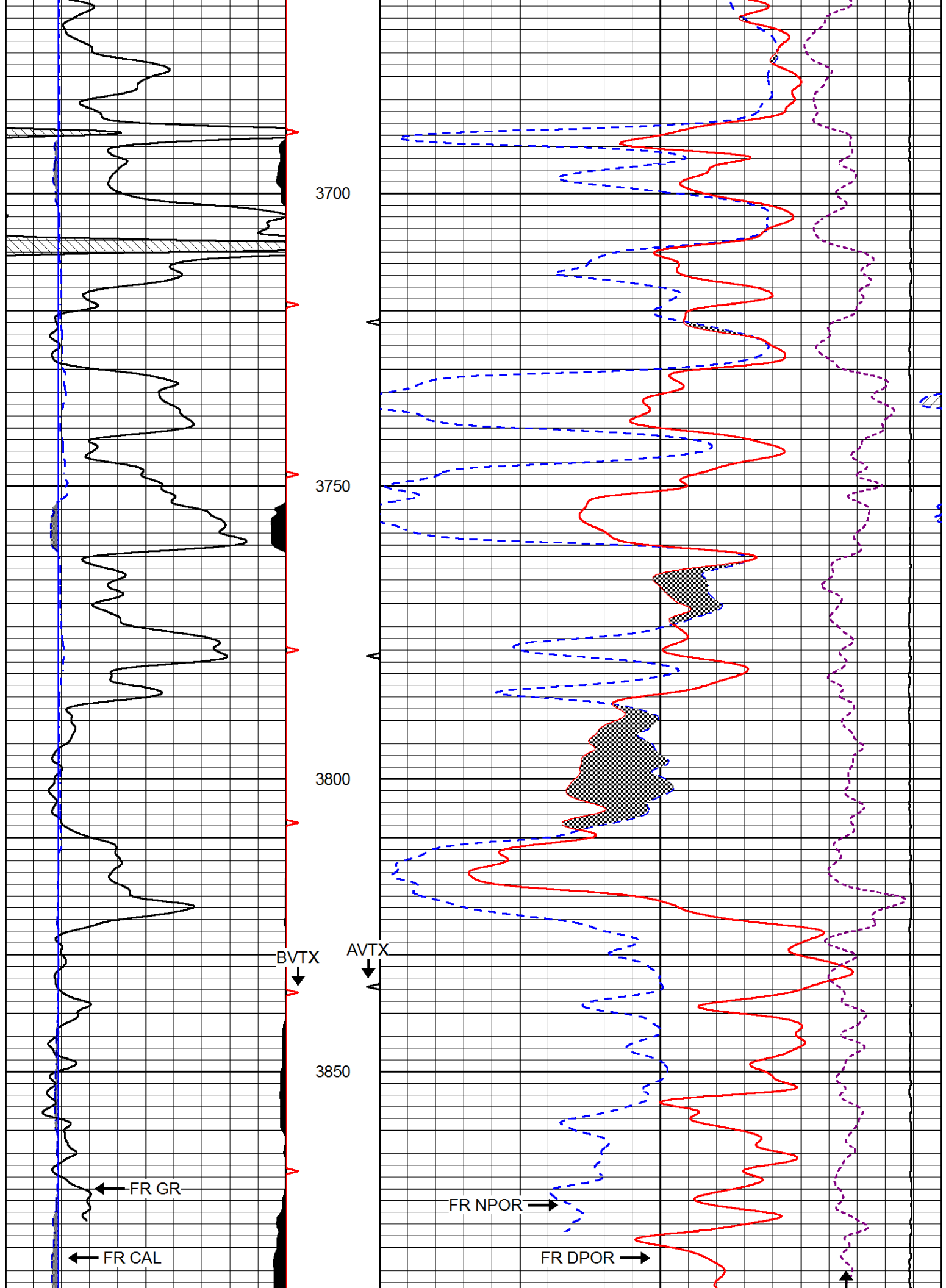
0	GAMMA RAY (GAPI)	150
6	dcal (in)	16
6	BIT SIZE (in)	16

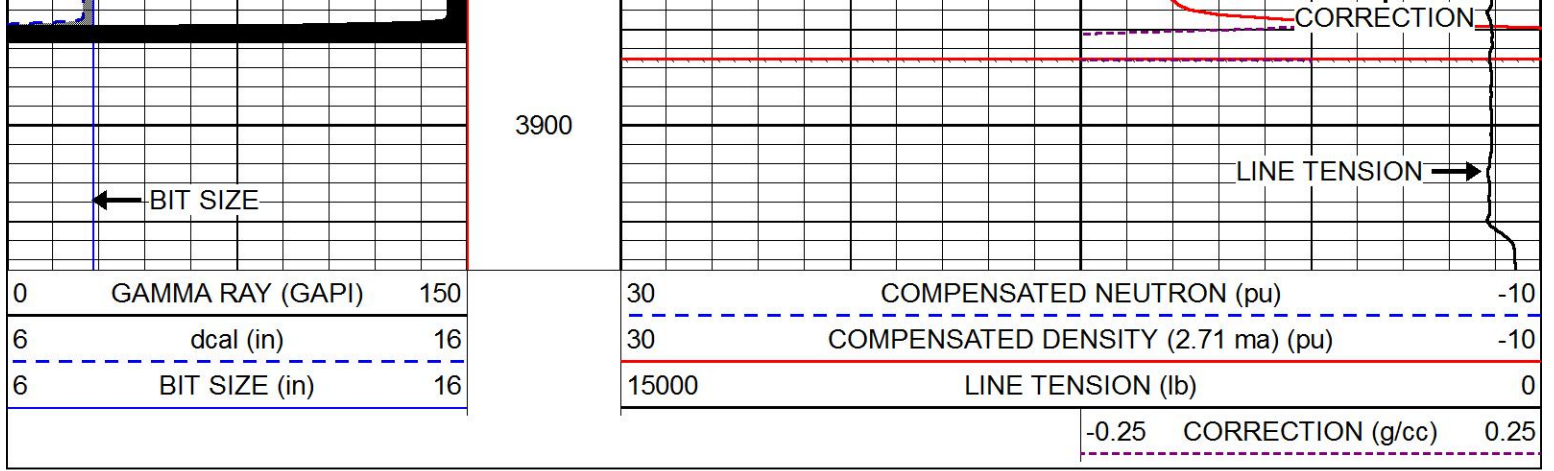
30	COMPENSATED NEUTRON (pu)	-10
30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
15000	LINE TENSION (lb)	0
	-0.25 CORRECTION (g/cc)	0.25





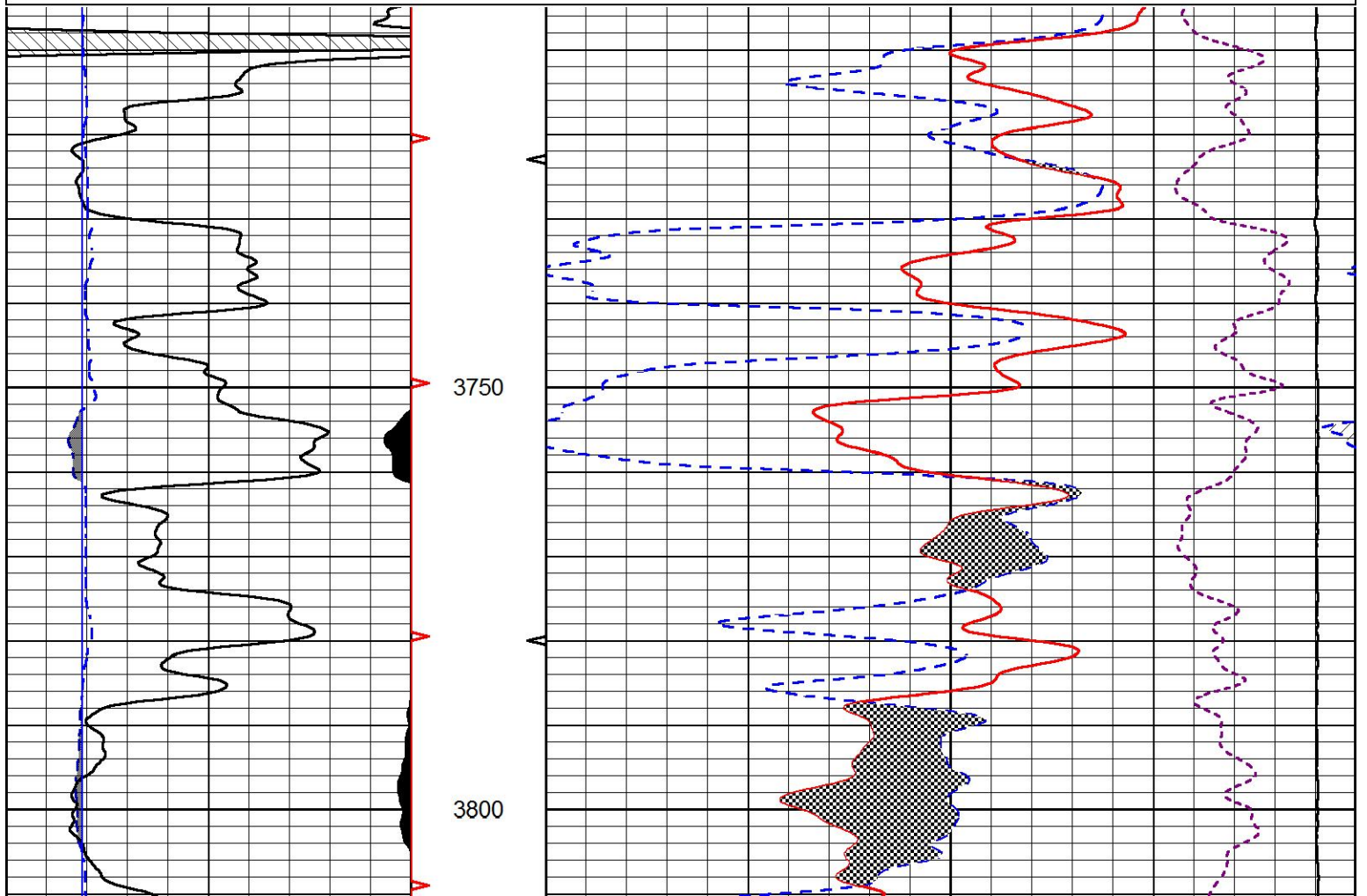
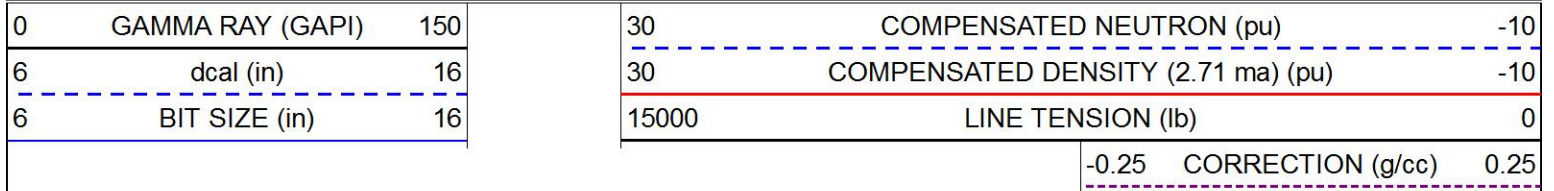


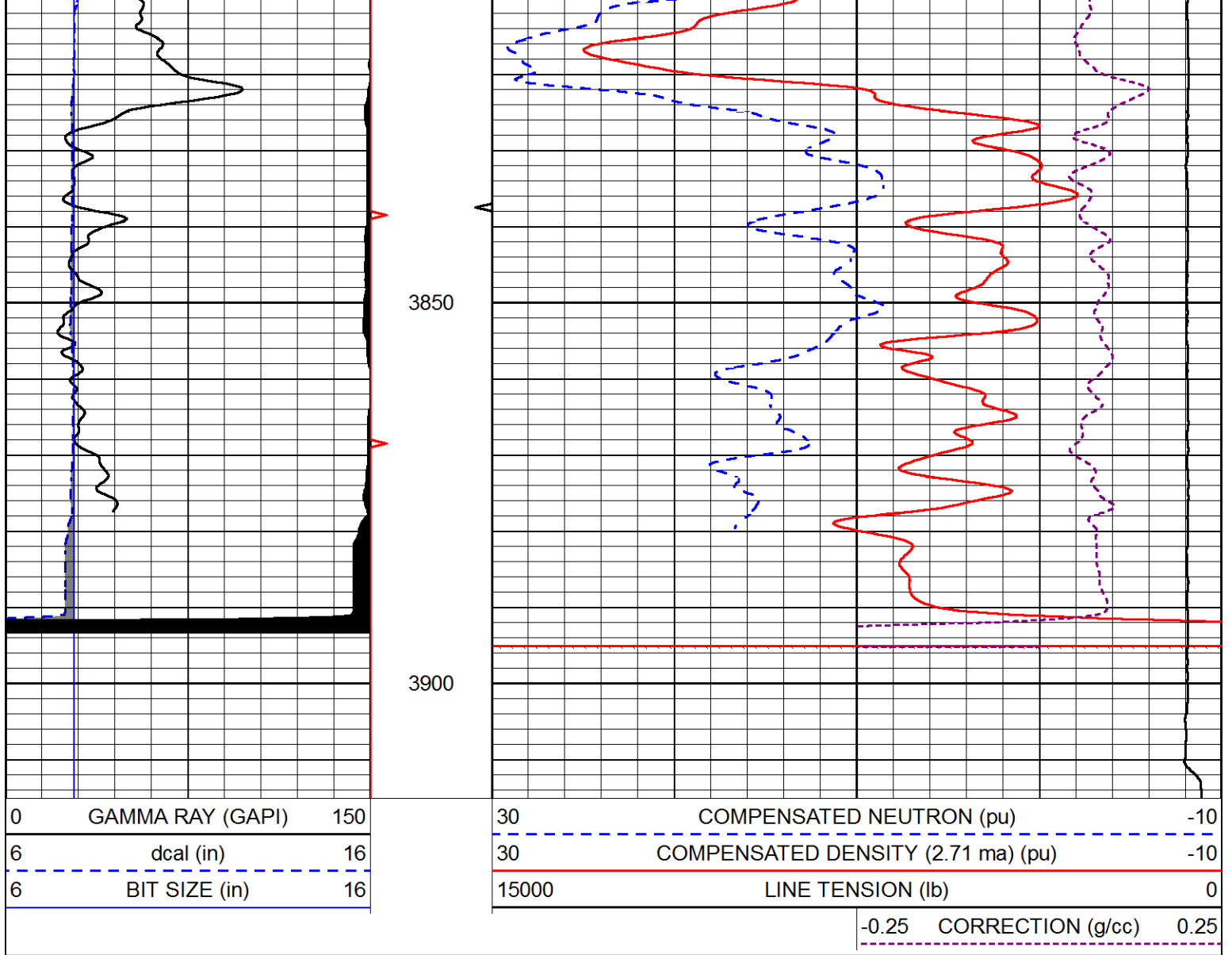




REPEAT SECTION

Database File americanwarrior_weber_2-7.db
 Dataset Pathname stackmel/pass3.1
 Presentation Format cndlspec
 Dataset Creation Sun Dec 18 10:51:09 2016
 Charted by Depth in Feet scaled 1:240





Calibration Report

Database File americanwarrior_weber_2-7.db
 Dataset Pathname stackmel/pass1
 Dataset Creation Sun Dec 18 08:00:03 2016

Dual Induction Calibration Report

Serial-Model: 1987-M&W
 Calibration Performed: Thu Nov 17 20:52:56 2016

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop	mmho/m	Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500

Compensated Density Calibration Report

Serial-Model: 71-914-M&W
 Source / Verifier: /
 Master Calibration Performed: Thu Nov 17 21:42:33 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
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: Thu Nov 17 21:13:32 2016

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 6.2 cps

Sensitivity: 0.5200 GAPI/cps



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