



PIONEER

Pioneer Energy Services

DUAL COMP POROSITY LOG

Company **AMERICAN WARRIOR, INC.**
Well **CHARVAT NO. 1-25**
Field **WILDCAT**
County **RUSSELL** State **KANSAS**

Location: API #: 15-167-24047-00-00

Other Services

480' FNL & 1,636' FEL
SEC 25 TWP 15S RGE 11W

DIL
MEL

Permanent Datum **GROUND LEVEL** Elevation **1775'**
Log Measured From **KELLY BUSHING**
Drilling Measured From **KELLY BUSHING**

Elevation
K.B. 1783'
D.F. N/A
G.L. 1775'

Date **6/26/2016**

Run Number **ONE**

Type Log **CNL/CDL**

Depth Driller **3385'**

Depth Logger **3385'**

Bottom Logged Interval **3357'**

Top Logged Interval **2500'**

Type Fluid In Hole **CHEMICAL**

Salinity, PPM CL **4700**

Density **9.35**

Level **FULL**

Max. Rec. Temp. F **110**

Operating Rig Time **2 HOURS**

Equipment -- Location **108 COLBY**

Recorded By **J. LONG**

Witnessed By **JASON ALM**

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	00'	489'	8.625"	23#	00'	489'
TWO	7.875"	489'	TD				

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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.
WILSON, 7 SOUTH TO STICKNEY ROAD, 1/3 WEST, SOUTH INTO

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

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

Your Pioneer Energy Services Crew

Engineer: **J. LONG**
Operator: **T. MARTIN**
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: **JASON ALM**
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 110	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 -347	degF 84	Off	ft 3385

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	37.48			CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	36.73						
LSD	28.43			CDL-M&W (168-986)	8.50	4.00	250.00
DCAL	28.42			ML-PSI STKBL ML (PSI-02) Stackable Microlog Tools	7.58	4.00	65.00
SSD	27.93						
MCAL	19.83			ML-PSI STKBL ML (PSI-02) Stackable Microlog Tools	7.58	4.00	65.00
MI	19.83			ML-PSI STKBL ML (PSI-02) Stackable Microlog Tools	7.58	4.00	65.00
MN	19.83						
RLL3	15.80			DIL-M&W (1987)	18.50	3.50	220.00
RLL3F	15.79			DIL-M&W (1987)	18.50	3.50	220.00
CILD	8.00						

CILM

4.70

SP

0.20

Dataset: amwarrior_charvat_1-25.db: field/well/stack/pass3.1
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in



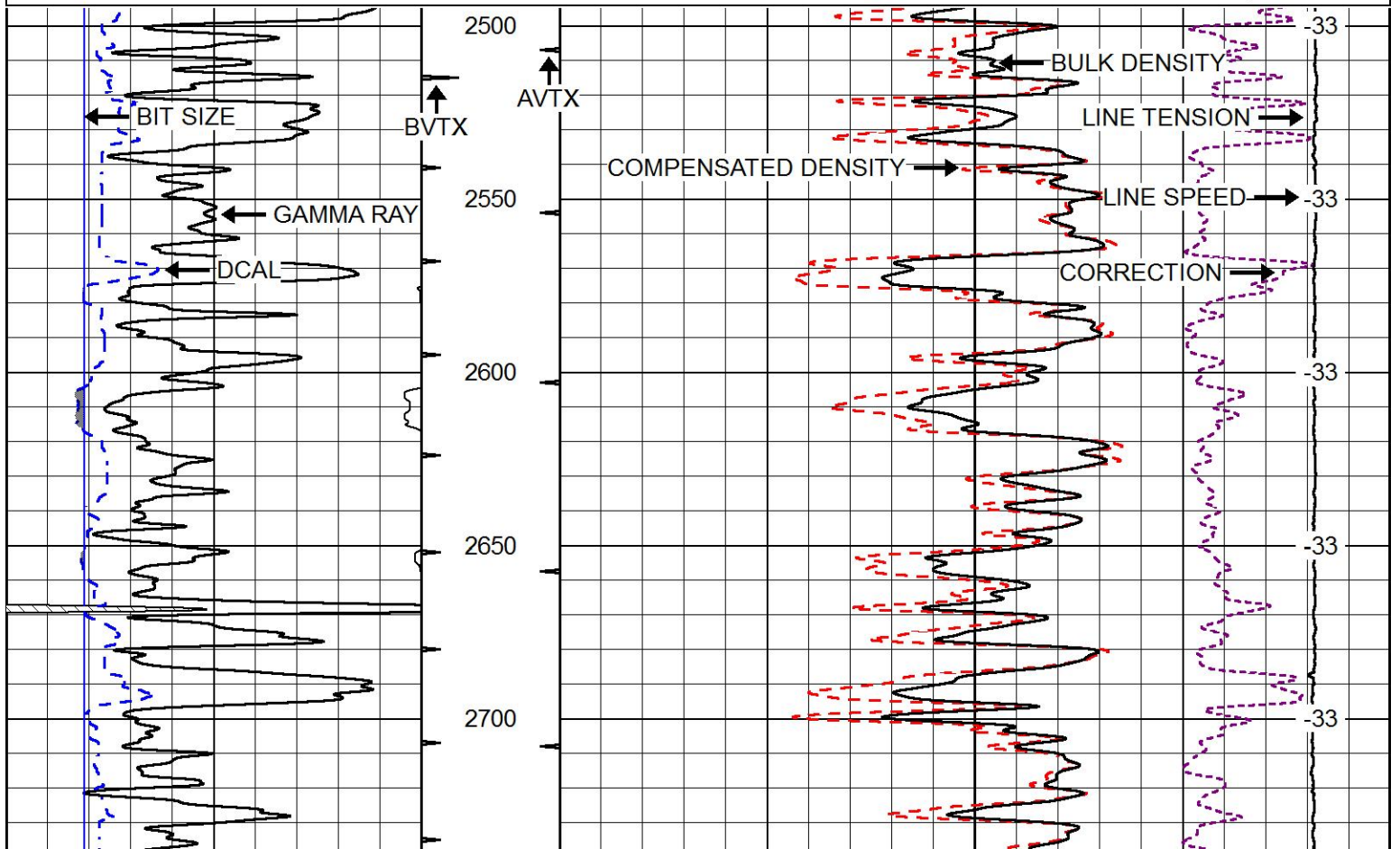
MAIN PASS

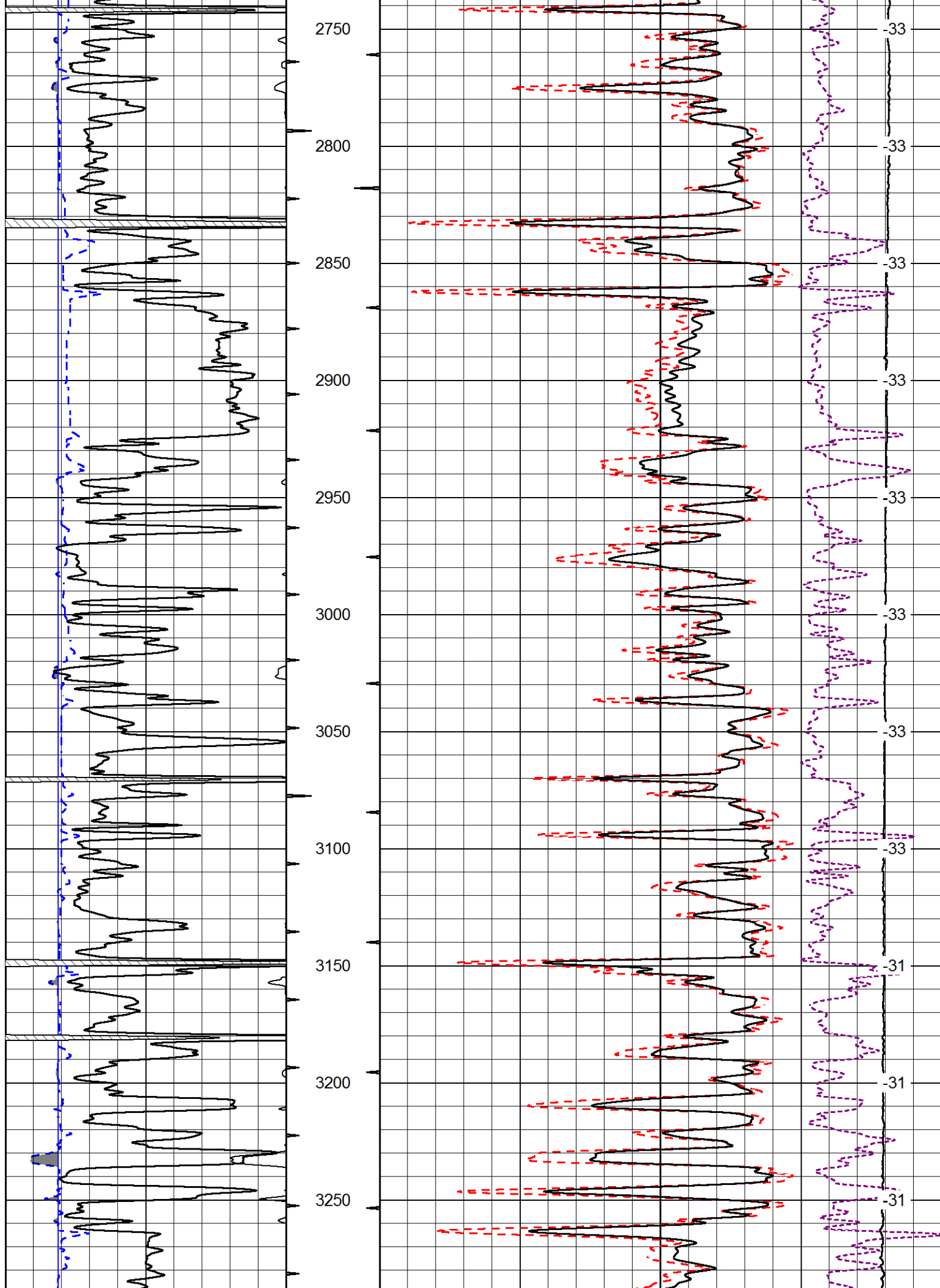
2" SCALE BULK DENSITY

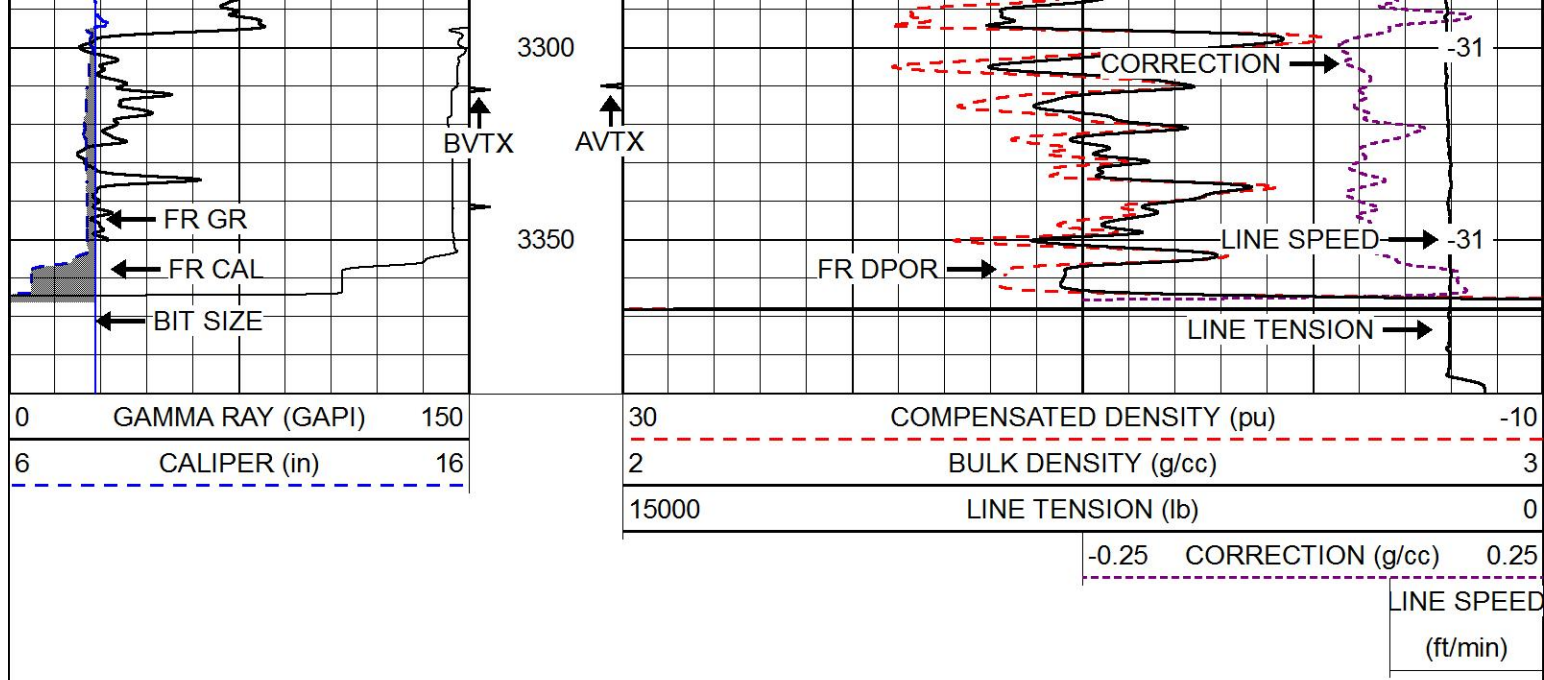
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Dataset Pathname stack/pass3.3
Presentation Format cdl
Dataset Creation Thu Jun 23 15:23:59 2016
Charted by Depth in Feet scaled 1:600

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
LINE SPEED
(ft/min)

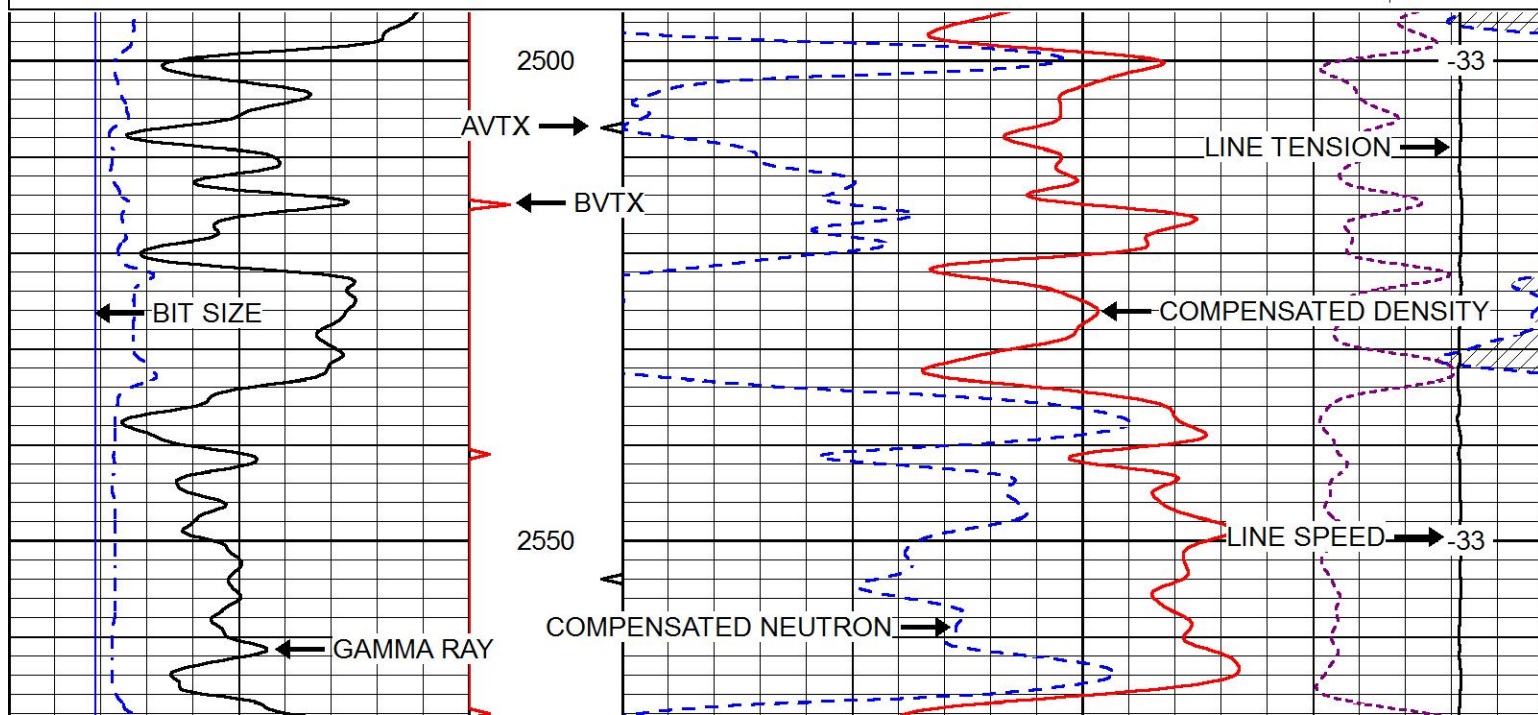
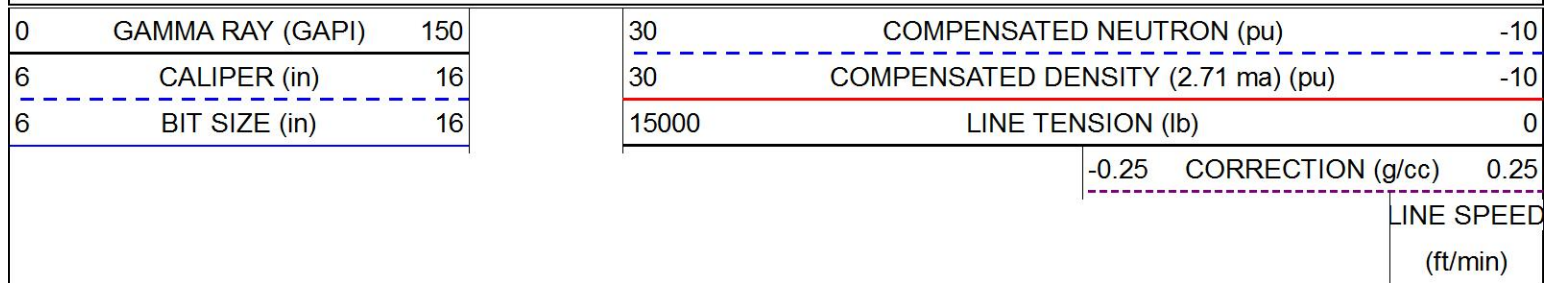


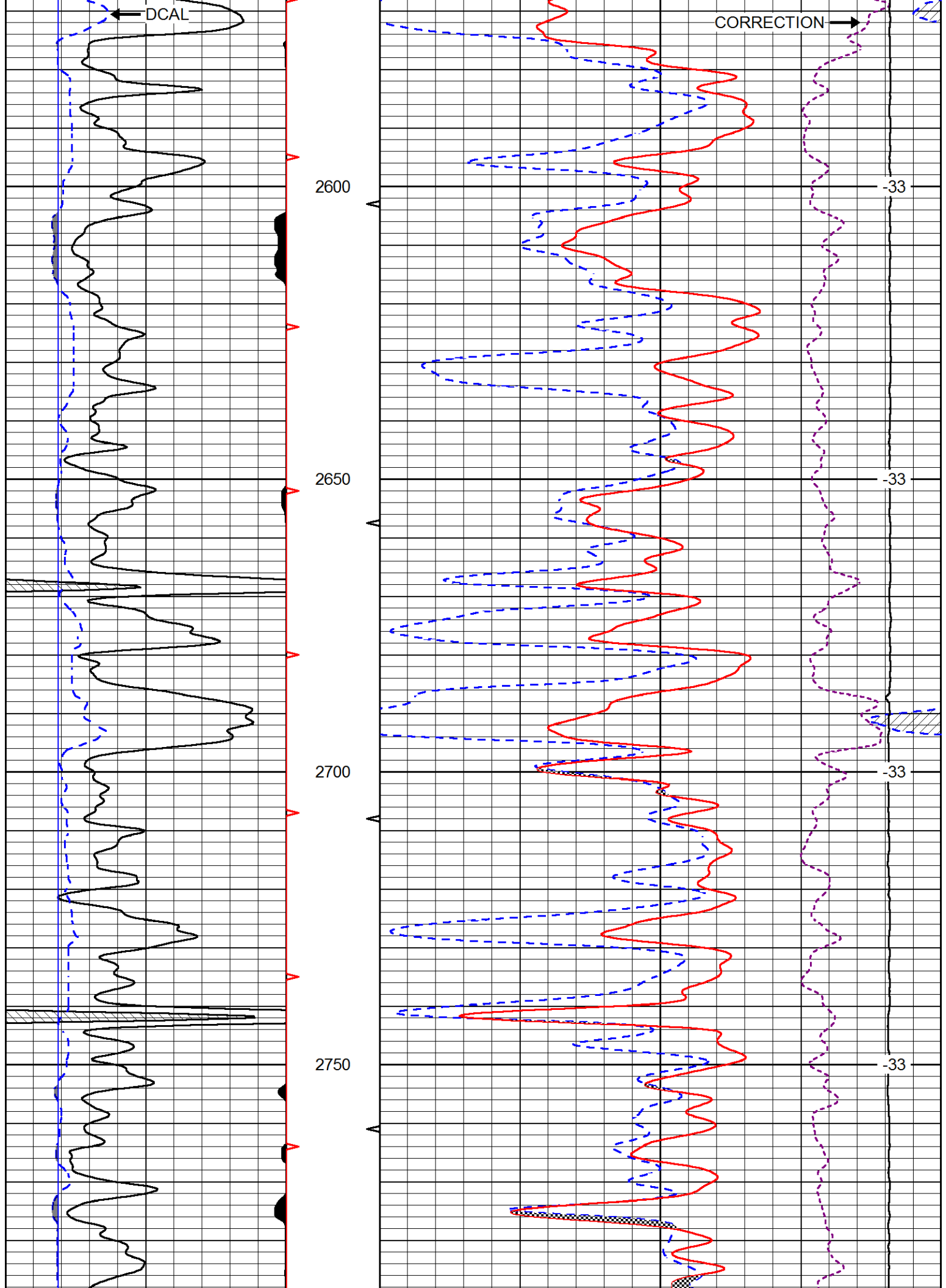


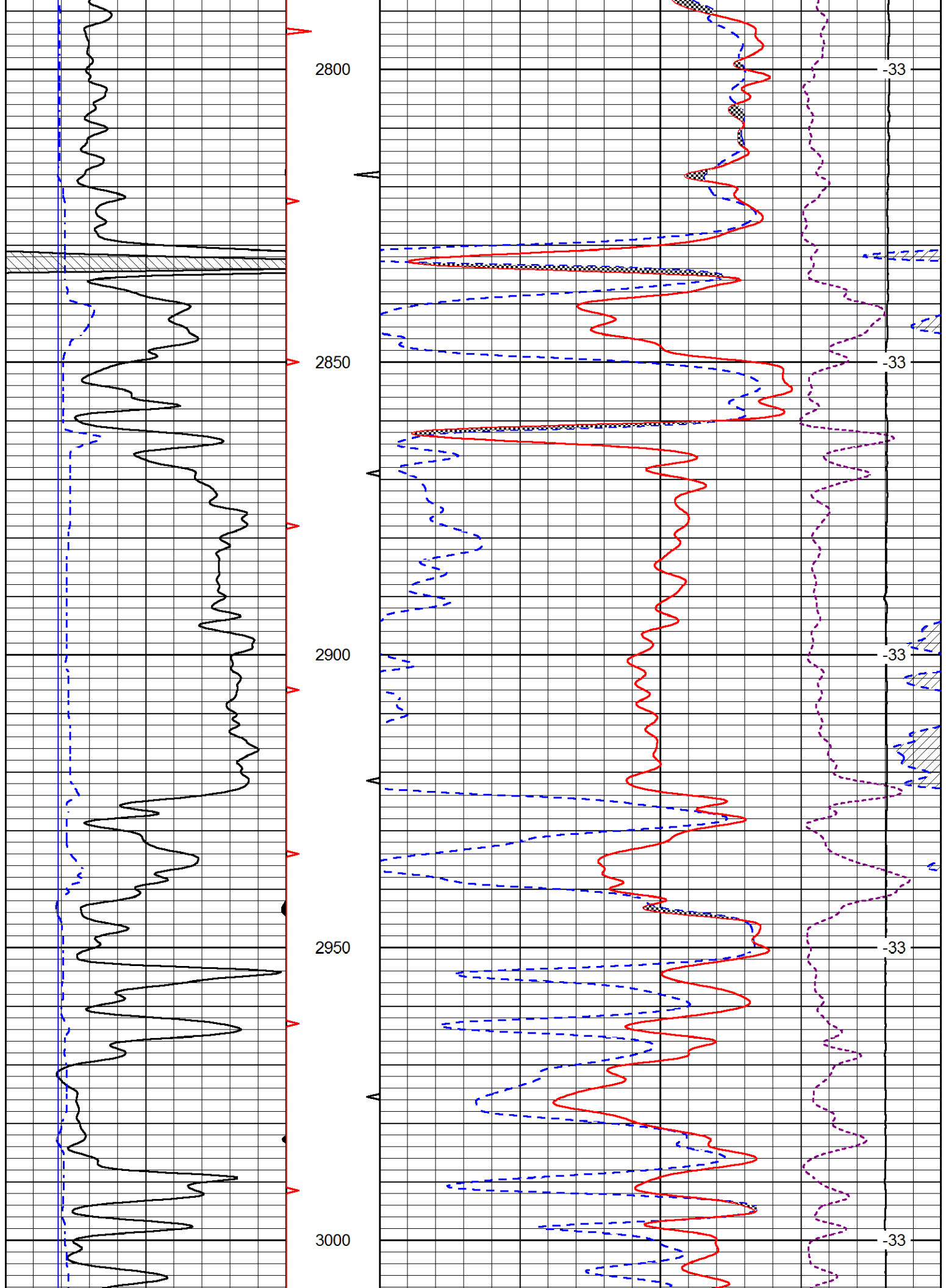


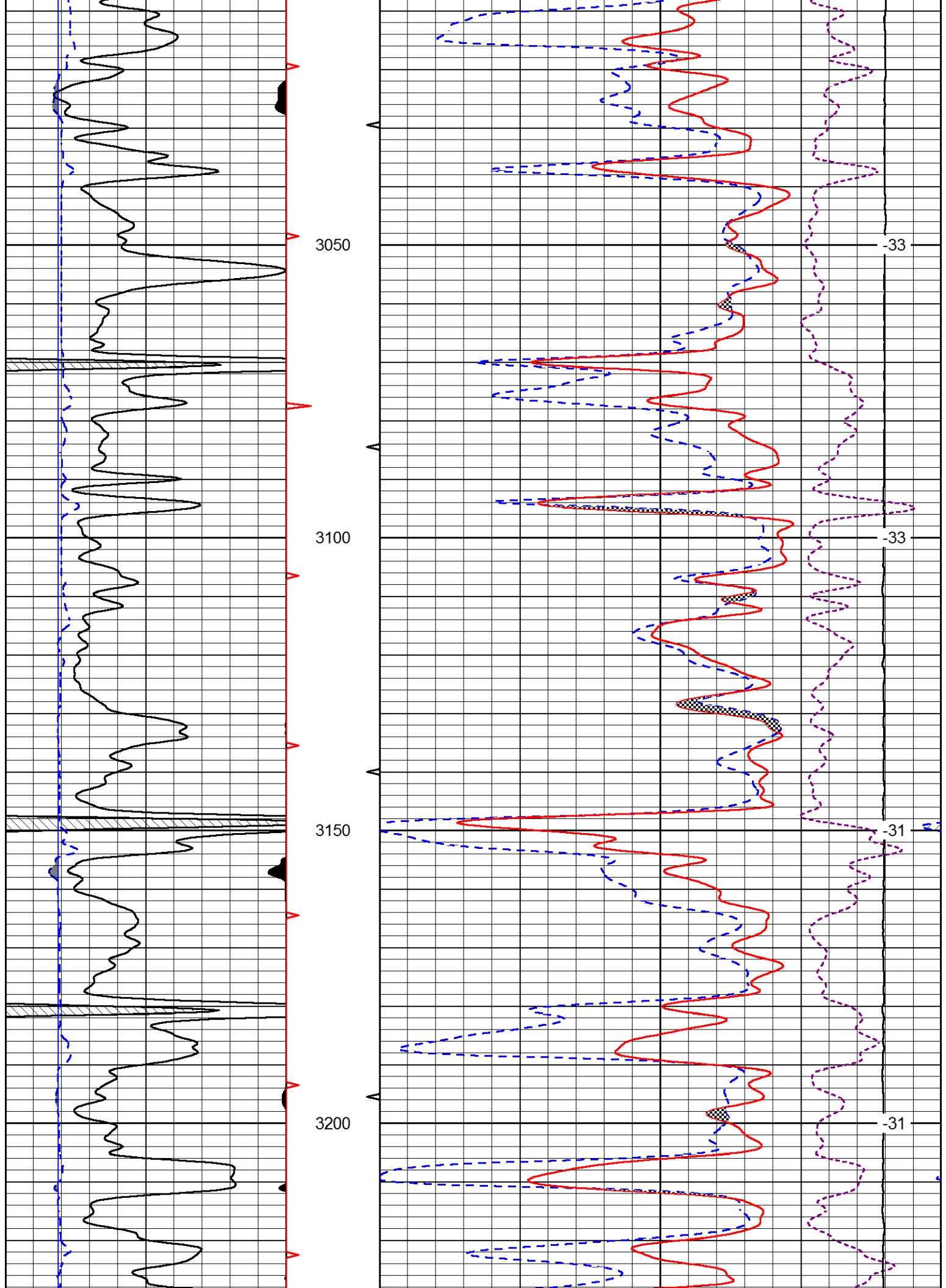
MAIN PASS

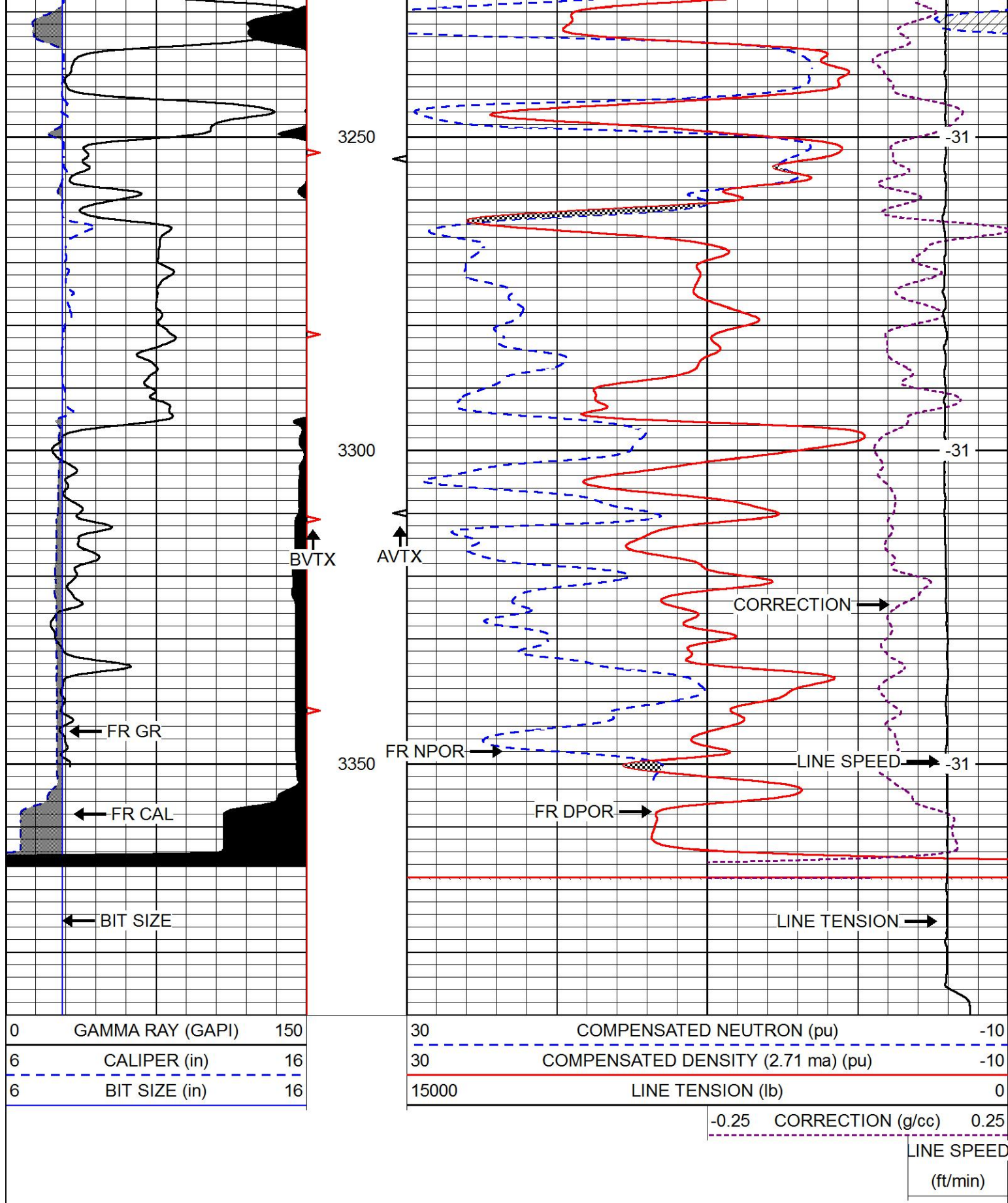
Database File amwarrior_charvat_1-25.db
 Dataset Pathname stack/pass3.1
 Presentation Format cndlspec
 Dataset Creation Thu Jun 23 15:22:57 2016
 Charted by Depth in Feet scaled 1:240





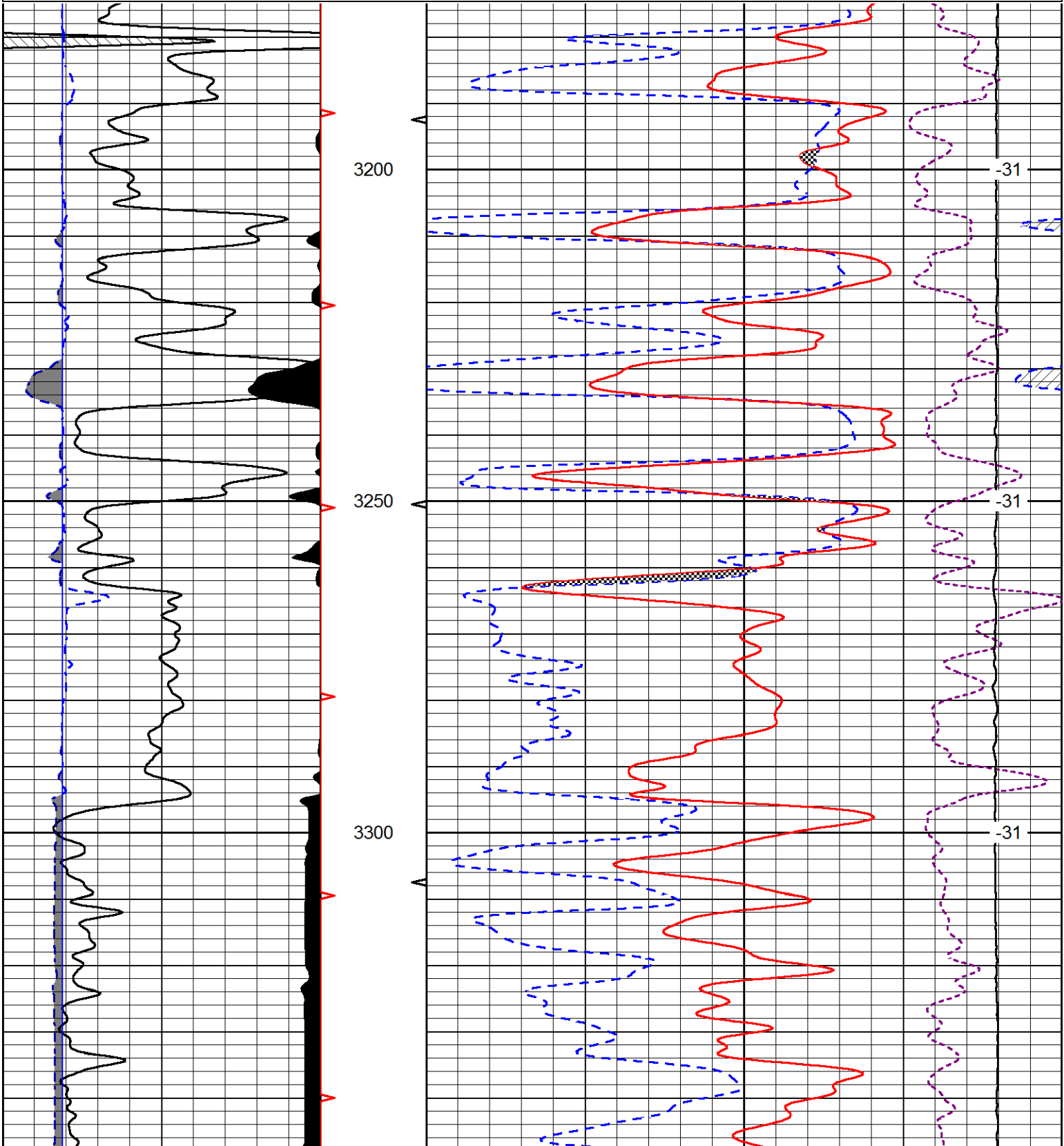


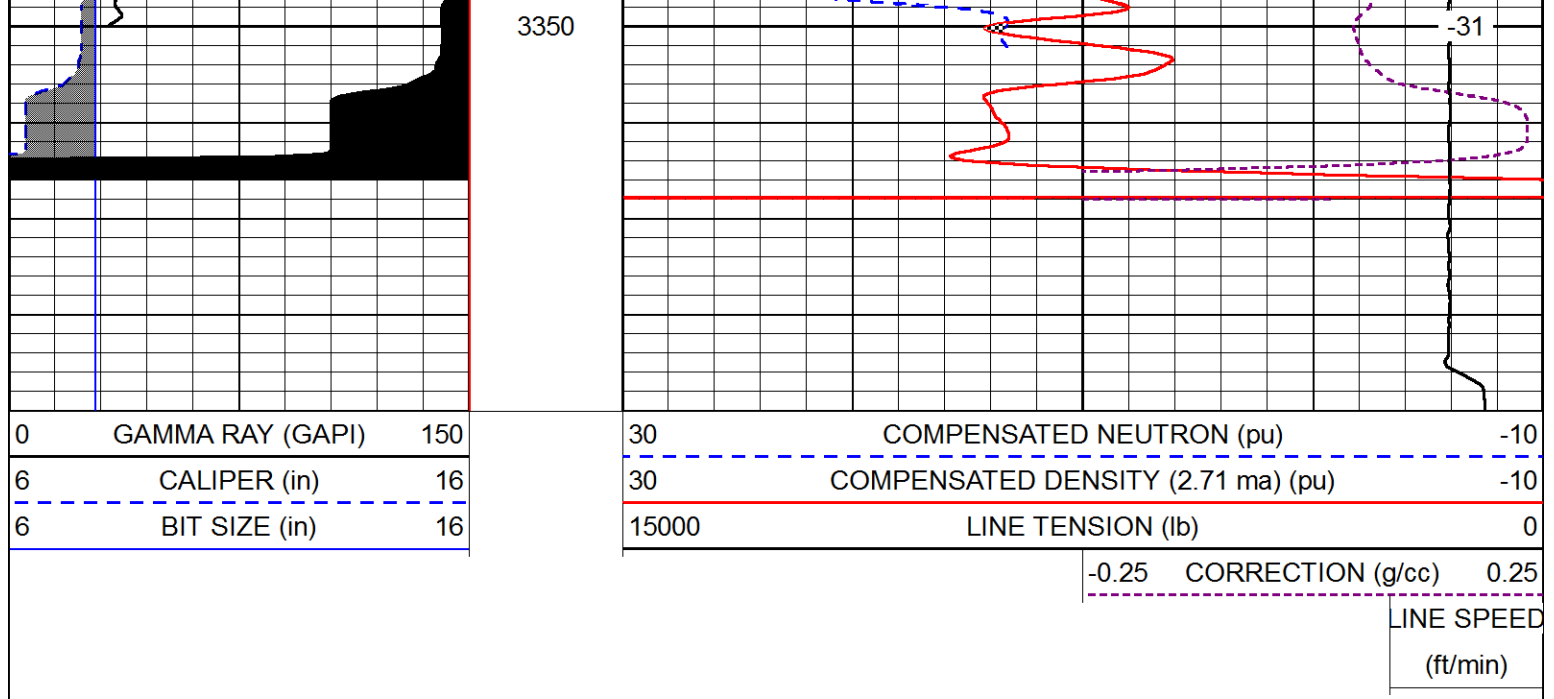




Database File	amwarrior_charvat_1-25.db
Dataset Pathname	stack/pass2.1
Presentation Format	cndlspec
Dataset Creation	Thu Jun 23 15:07:45 2016
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	30	COMPENSATED NEUTRON (pu)	-10
6	CALIPER (in)	16	30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
6	BIT SIZE (in)	16	15000	LINE TENSION (lb)	0
			-0.25	CORRECTION (g/cc)	0.25
			LINE SPEED		
			(ft/min)		





Calibration Report									
Database File		amwarrior_charvat_1-25.db							
Dataset Pathname		stack/pass3.1							
Dataset Creation		Thu Jun 23 15:22:57 2016							
Dual Induction Calibration Report									
Serial-Model:		1987-M&W							
Calibration Performed:		Thu May 05 13:07:05 2016							
Loop:	Readings		References				Results		
	Air	Loop	Air	Loop		Gain	Offset		
	Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-37.000	
	Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-109.000	
Microlog Calibration Report									
Serial-Model:		PSI-02-PSI STKBL ML							
Performed:		Sun May 22 04:14:29 2016							
	Readings		References				Results		
	Zero	Cal	Zero	Cal		m	b		
	Normal	0.0031	0.0043	0.0000	10.0000	Ohm-m	8808.9400	-0.2000	
	Inverse	0.0000	0.0013	0.0000	10.0000	Ohm-m	7967.2700	-0.0096	
Caliper	1.0020	1.0834	5.5000	16.5000	in	135.1560	-131.2800		
Compensated Density Calibration Report									
Serial-Model:		168-986-M&W							
Source / Verifier:		/							
Master Calibration Performed:		Thu Mar 31 16:31:00 2016							
Master Calibration									

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4691.86	4818.19	cps
Aluminum	2.690	g/cc	859.57	3020.22	cps
Spine Angle = 74.61			Density/Spine Ratio = 0.531		
	Size		Reading		
Small Ring	4.00	in	1.03		
Large Ring	14.00	in	1.23		

Compensated Neutron Calibration Report

Serial Number:	tk10-MW
Tool Model:	M&W
Calibration Performed:	Wed May 4 11:04:05 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:	Sun May 22 04:14:23 2016	
Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps

	Company	AMERICAN WARRIOR, INC.
	Well	CHARVAT NO. 1-25
	Field	WILDCAT
	County	RUSSELL
	State	KANSAS