



PIONEER

Pioneer Energy Services

DUAL COMP POROSITY LOG

Company **RJM OIL COMPANY**
Well **RIEDL NO. 4**
Field **LARKIN**
County **BARTON** State **KANSAS**

Location: API #: 15-009-26190-00-00

Other Services

SEC 10 TWP 17S RGE 14W
1980' FNL & 330' FEL

DIL
MEL/BHCS

Permanent Datum **GROUND LEVEL** Elevation **1978'**
Log Measured From **KELLY BUSHING**
Drilling Measured From **KELLY BUSHING**

Elevation
K.B. 1986'
D.F. N/A
G.L. 1978'

Date **11/21/2017**

Run Number **ONE**

Type Log **CNL/CDL**

Depth Driller **3550'**

Depth Logger **3552'**

Bottom Logged Interval **3531'**

Top Logged Interval **2900'**

Type Fluid In Hole **CHEMICAL**

Salinity, PPM CL **8000**

Density **9.2**

Level **FULL**

Max. Rec. Temp. F **112 DEG/F**

Operating Rig Time **4 HOURS**

Equipment -- Location **108 HAYS**

Recorded By **J. HENRICKSON**

Witnessed By **JIM MUSGROVE**

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0	558'	8.625"	23#	0	558'
TWO	7.875"	558'	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.

RUSSELL KANSAS
25 SOUTH, WEST INTO
(3 NORTH OF HWY 4)

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. HENRICKSON**
Operator:
Operator:
Operator:

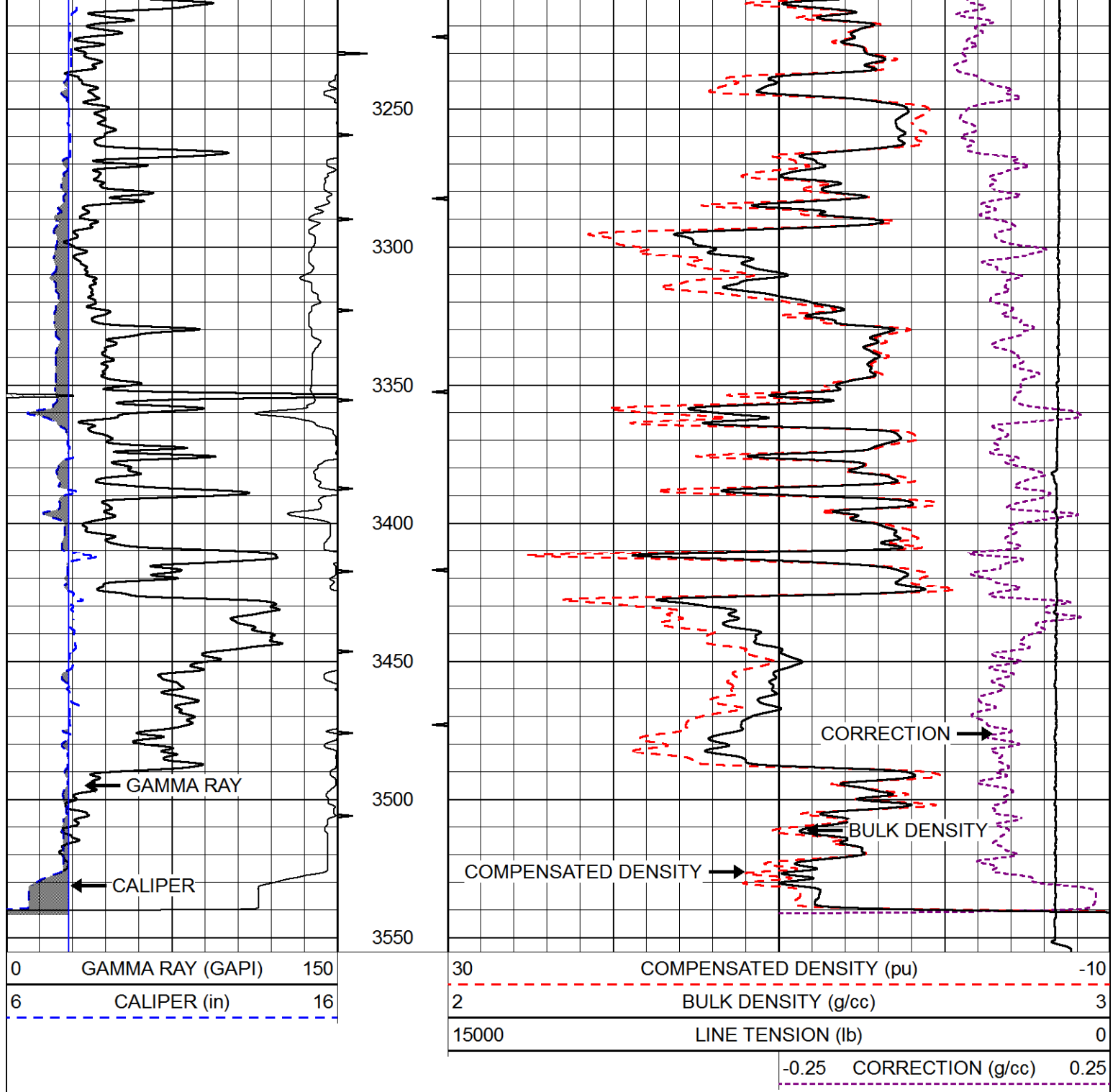
This Log Record Was Witnessed By

Primary Witness: **JIM MUSGROVE**
Secondary Witness:
Secondary Witness:
Secondary Witness:

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 0	degF 0	Off	ft 0

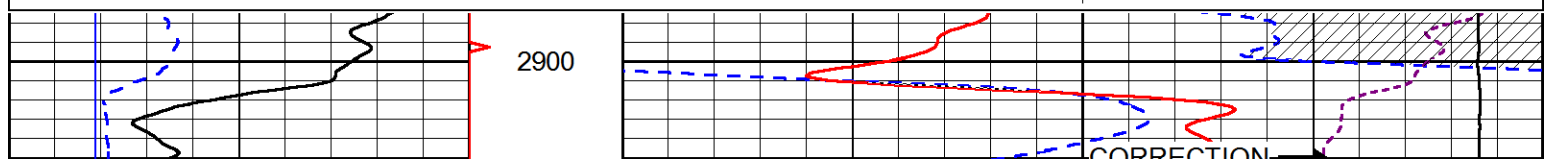
Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	33.00			GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC CNSSC	29.90			CNT-M&W (tk10-MW)	5.50	3.50	100.00
	29.15						
LSD DCAL SSD	20.85			CDL-M&W (168-986)	8.50	4.00	250.00
	20.83						
	20.35						
RLL3 RLL3F	15.80						
	15.79						
CILD	8.00			DIL-M&W (1987)	18.50	3.50	220.00

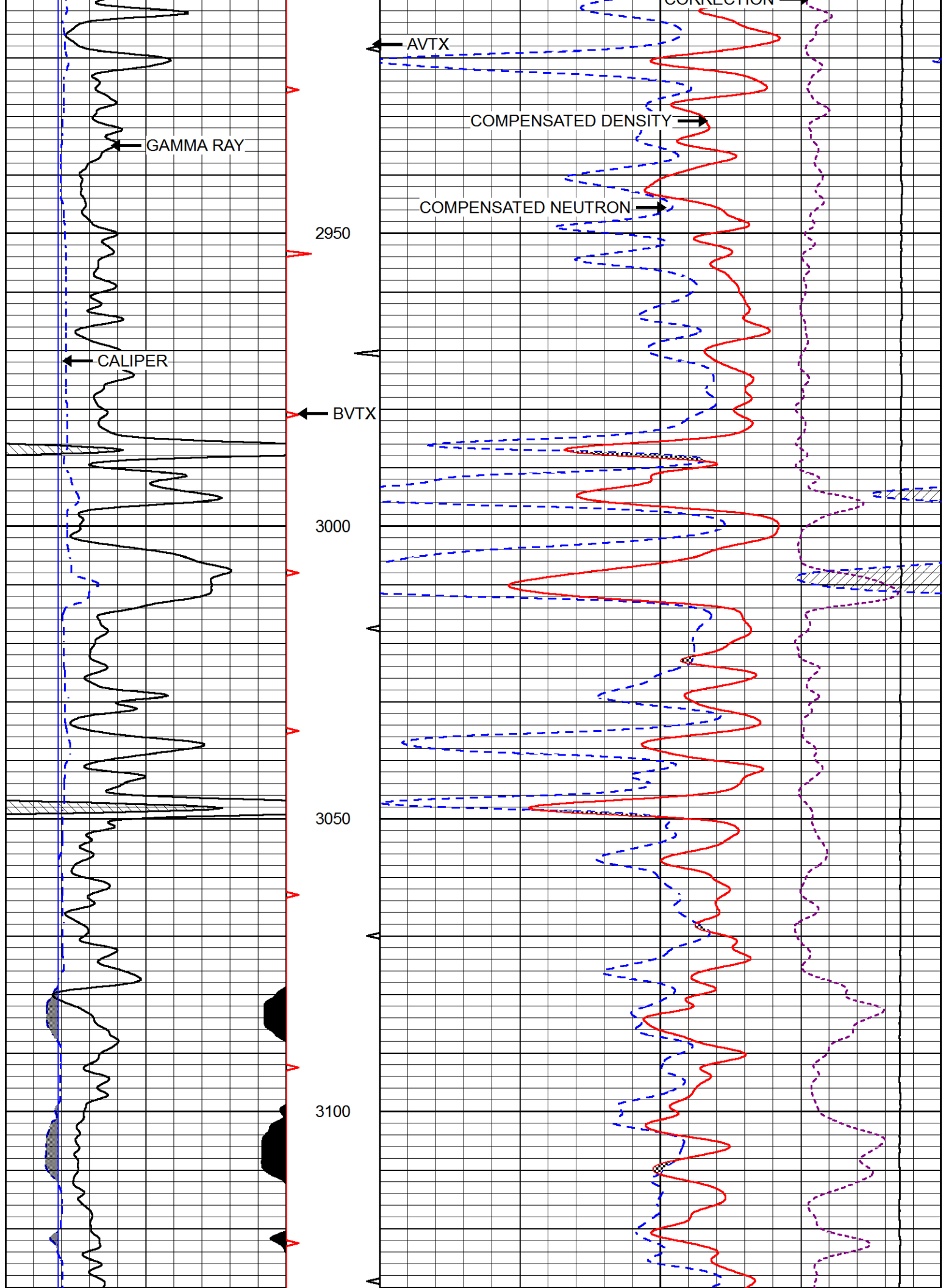


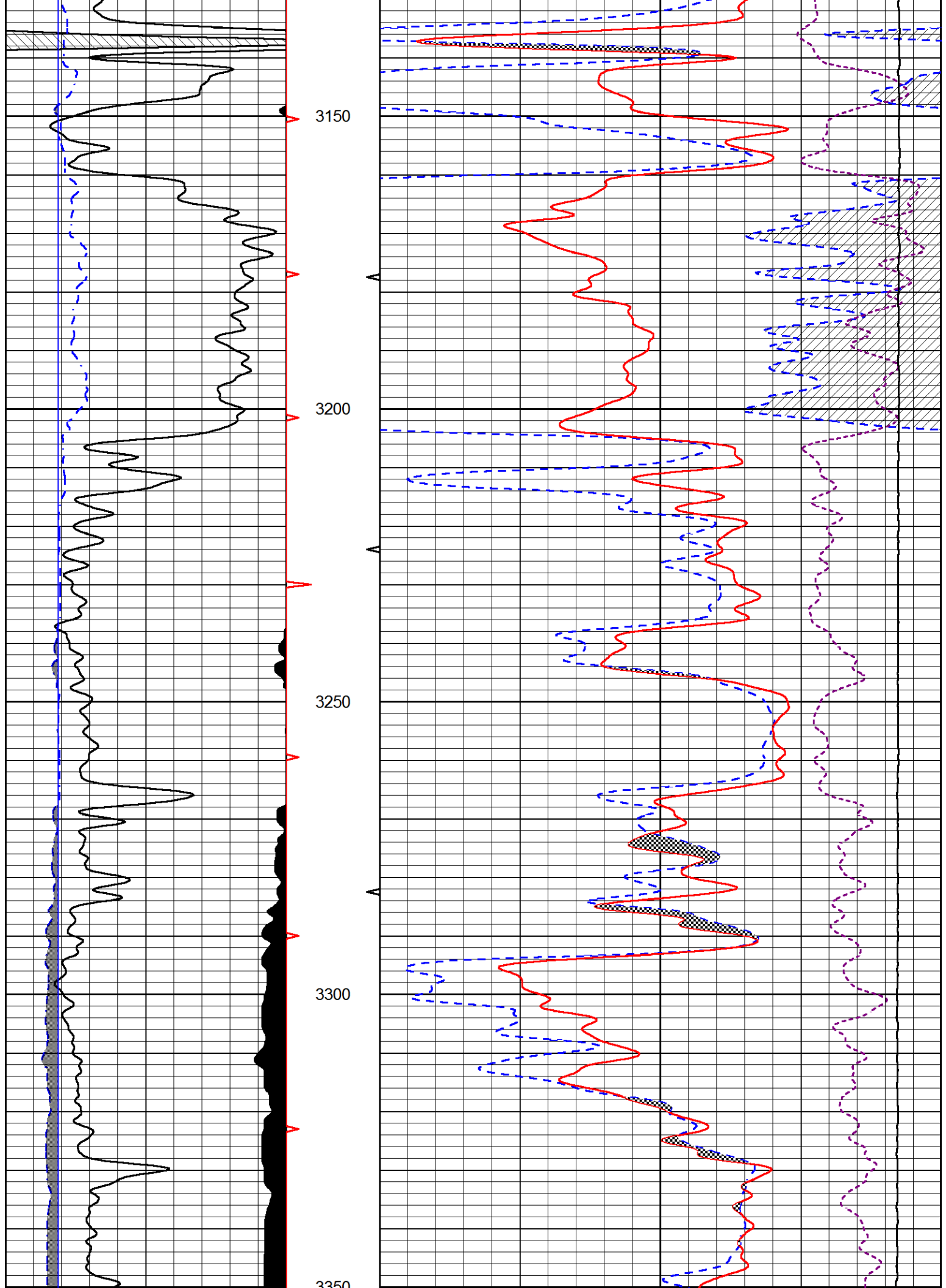
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Dataset Pathname	stack/pass3.1
Presentation Format	cndlspec
Dataset Creation	Tue Nov 21 09:14:41 2017
Charted by	Depth in Feet scaled 1:240

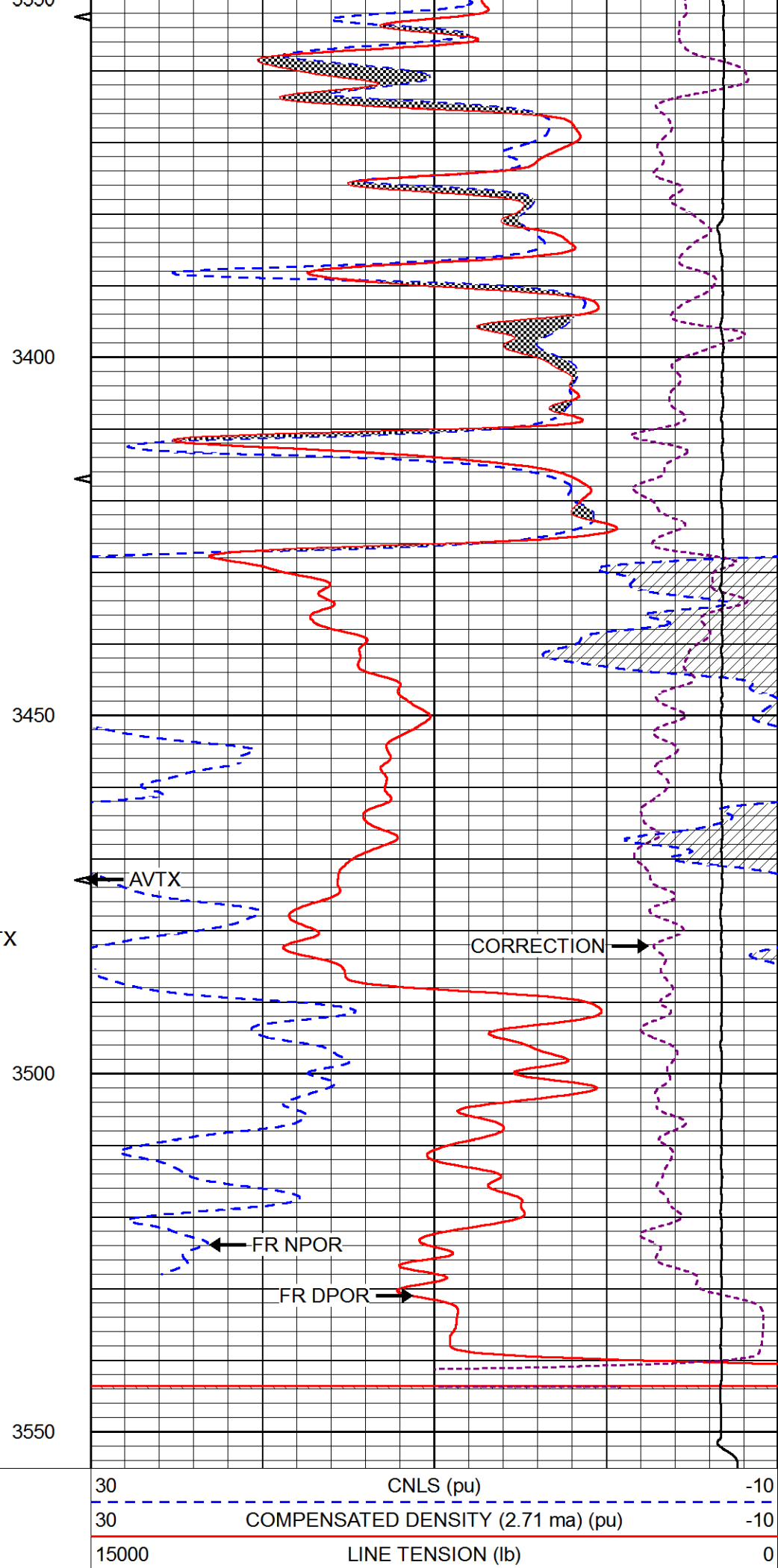
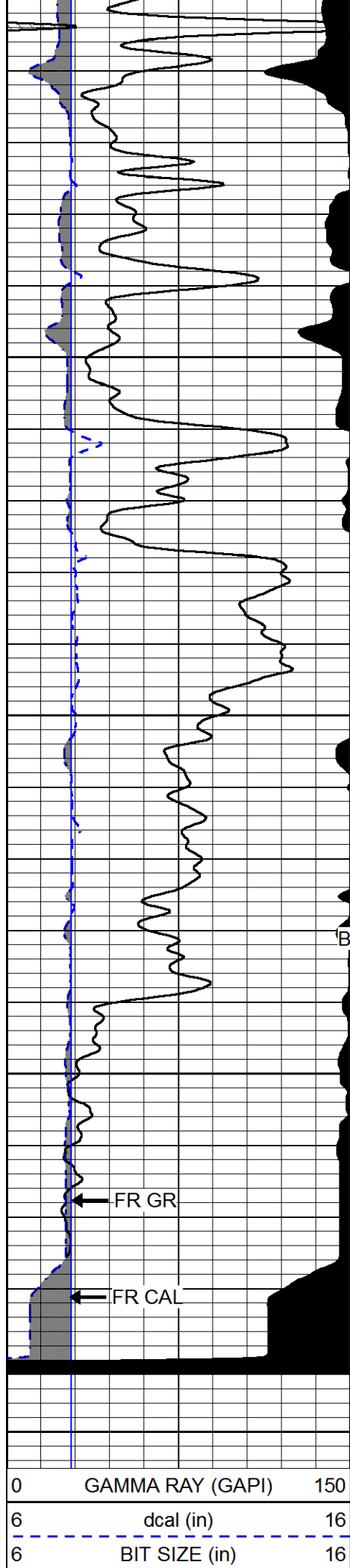
0	GAMMA RAY (GAPI)	150
6	dcal (in)	16
6	BIT SIZE (in)	16

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









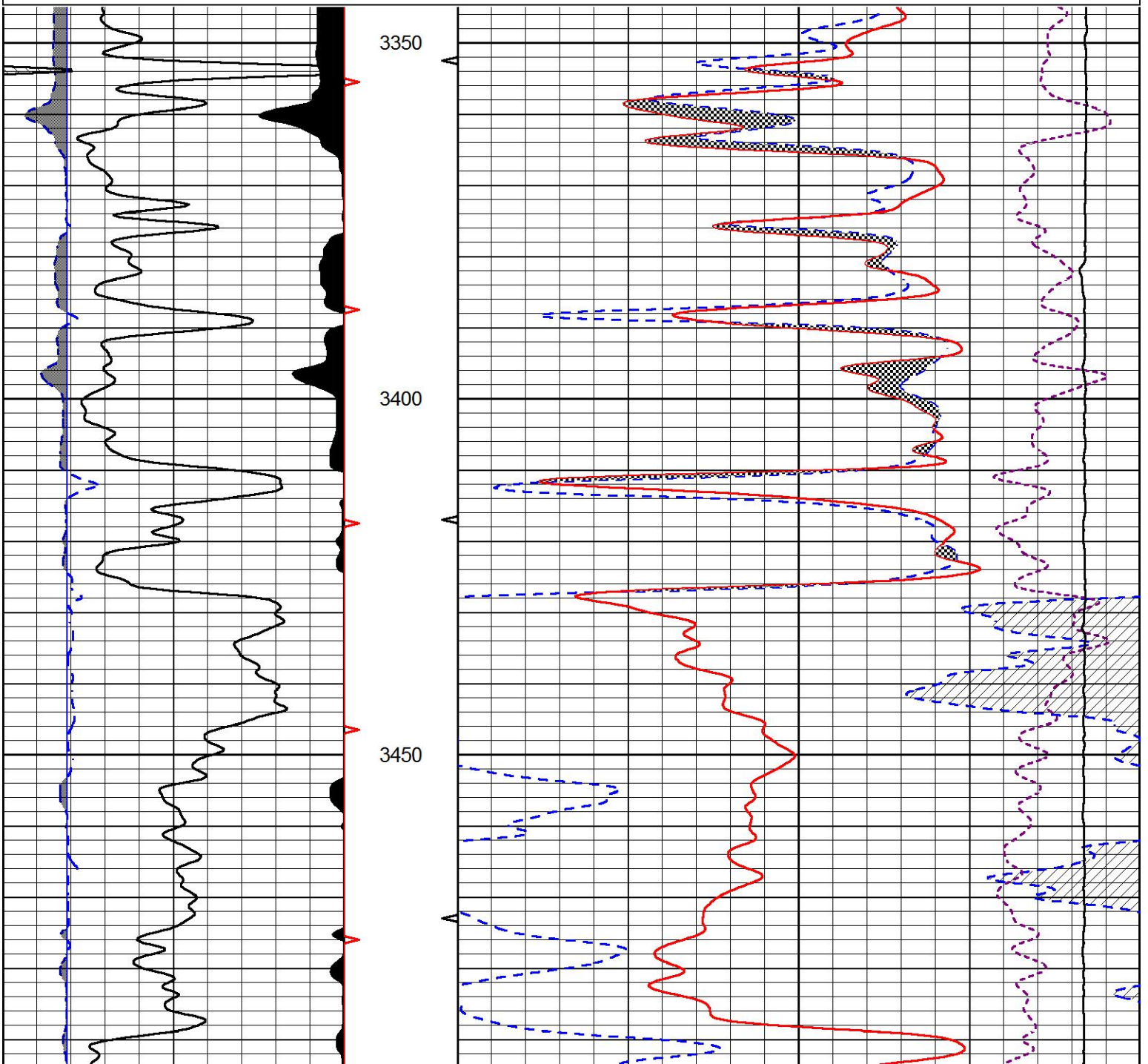


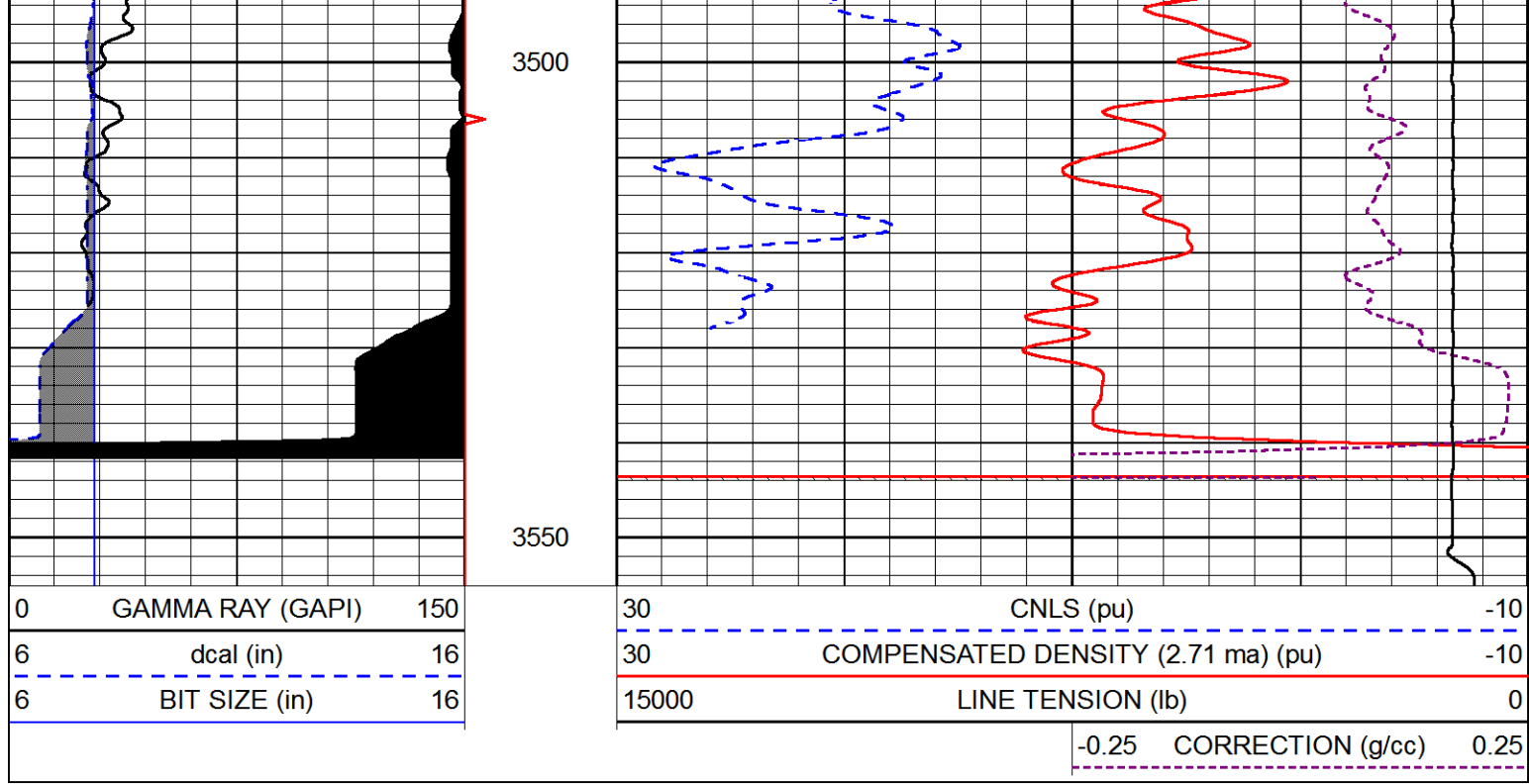
REPEAT SECTION

Database File rjm_riedl_4.db
 Dataset Pathname stack/pass2.1
 Presentation Format cndlspec
 Dataset Creation Tue Nov 21 09:14:54 2017
 Charted by Depth in Feet scaled 1:240

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

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





Calibration Report

Database File rjm_riedl_4.db
Dataset Pathname stack/pass3.1
Dataset Creation Tue Nov 21 09:14:41 2017

Dual Induction Calibration Report

Serial-Model: 1987-M&W
Calibration Performed: Tue Apr 11 17:07:38 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		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: 168-986-M&W
Source / Verifier: /
Master Calibration Performed: Tue Apr 11 17:07:47 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4691.86	4818.19	cps
Aluminum	2.695	g/cc	859.57	3020.22	cps
Spine Angle = 74.61			Density/Spine Ratio = 0.534		
	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 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: Tue Apr 11 17:08:01 2017

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 6.2 cps

Sensitivity: 0.5200 GAPI/cps



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