



PIONEER

Pioneer Energy Services

DUAL COMP POROSITY LOG

Company MURFIN DRILLING COMPANY, INC.
Well POPP NO. 1-14
Field GENIE
County SHERIDAN
State KANSAS

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Location: API #: 15-197-21447-00-00
1160' FNL & 1365' FEL
SEC 14 TWP 9S RGE 26W
Permanent Datum GROUND LEVEL Elevation 2597'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING
Other Services DIL MEL/BHCS
Elevation K.B. 2602'
D.F. N/A
G.L. 2597'

Date	4/18/2018
Run Number	ONE
Type Log	CNL/CDL
Depth Driller	4183'
Depth Logger	4183'
Bottom Logged Interval	4154'
Top Logged Interval	3500'
Type Fluid In Hole	CHEMICAL
Salinity, PPM CL	2400
Density	9.2
Level	FULL
Max. Rec. Temp. F	118 DEGF
Operating Rig Time	4 HOURS
Equipment -- Location	108 HAYS
Recorded By	J. HENRICKSON
Witnessed By	ROBERT HENDRIX

Borehole Record		Casing Record					
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0	219'	8.625"	23#	0	219'
TWO	7.875"	219'					

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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.
QUINTER KANSAS
NORTH TO 70 ROAD, 3 WEST, 1/2 NORTH, WEST INTO

Log Measured From: KELLY BUSHING 5 Ft. Above Permanent Datum

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

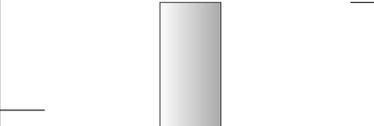
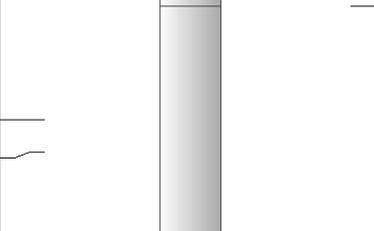
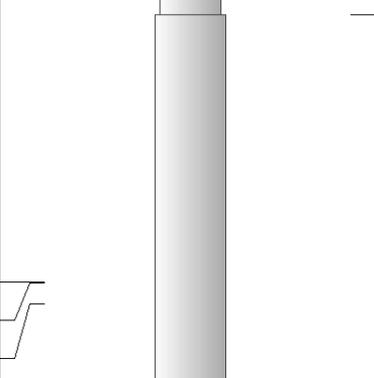
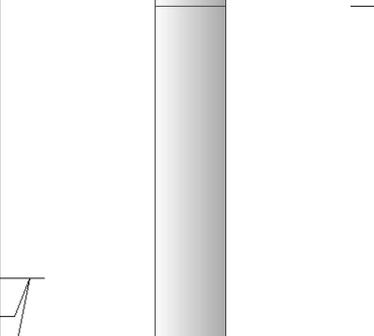
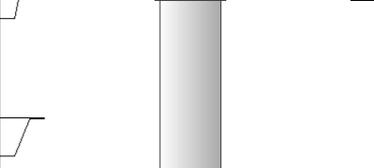
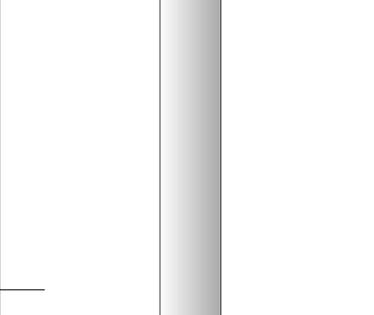
Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: J. HENRICKSON	Primary Witness: ROBERT HENDRIX
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\murfin_popp_1_14.db
Dataset field/well/stackml/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	100	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	-180	0	Off	0

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 (168-986)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSI STKBL ML (PSI-02) Stackable Microlog Tools	7.58	4.00	65.00
RLL3 RLL3F	15.80 15.79					
CILD	8.00		DIL-M&W (PSI 978)	18.50	3.50	220.00

CILM 4.70

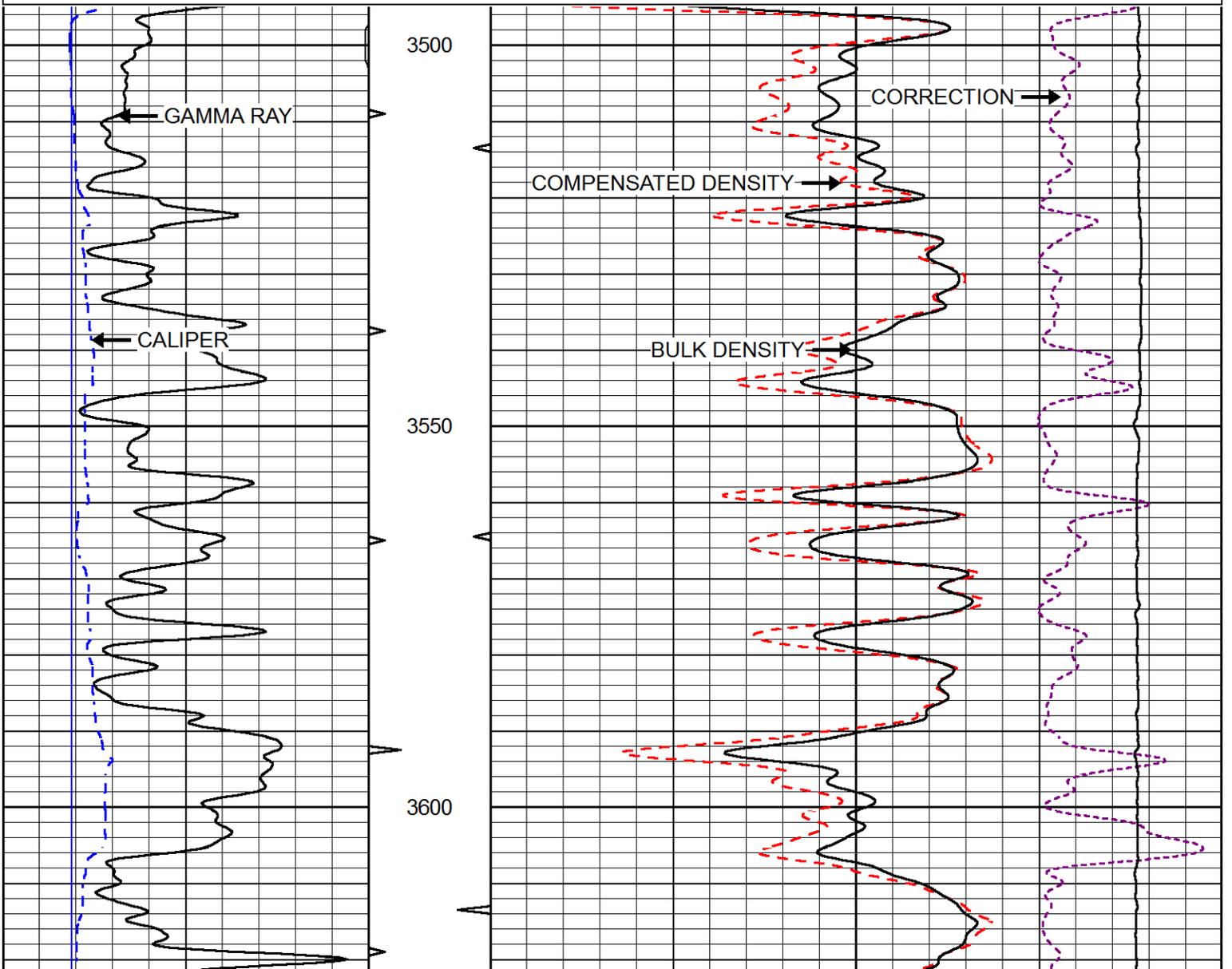
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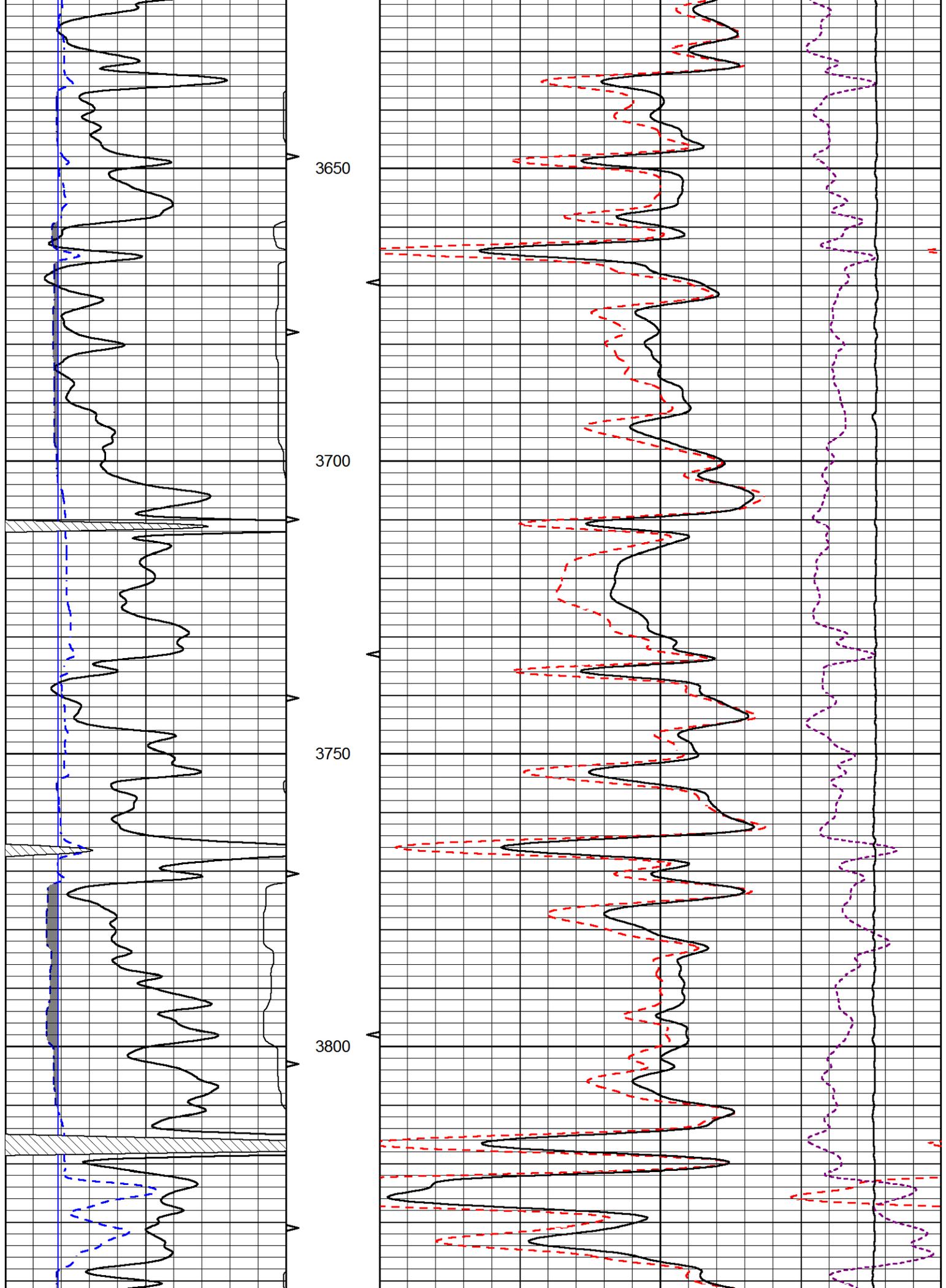
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 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

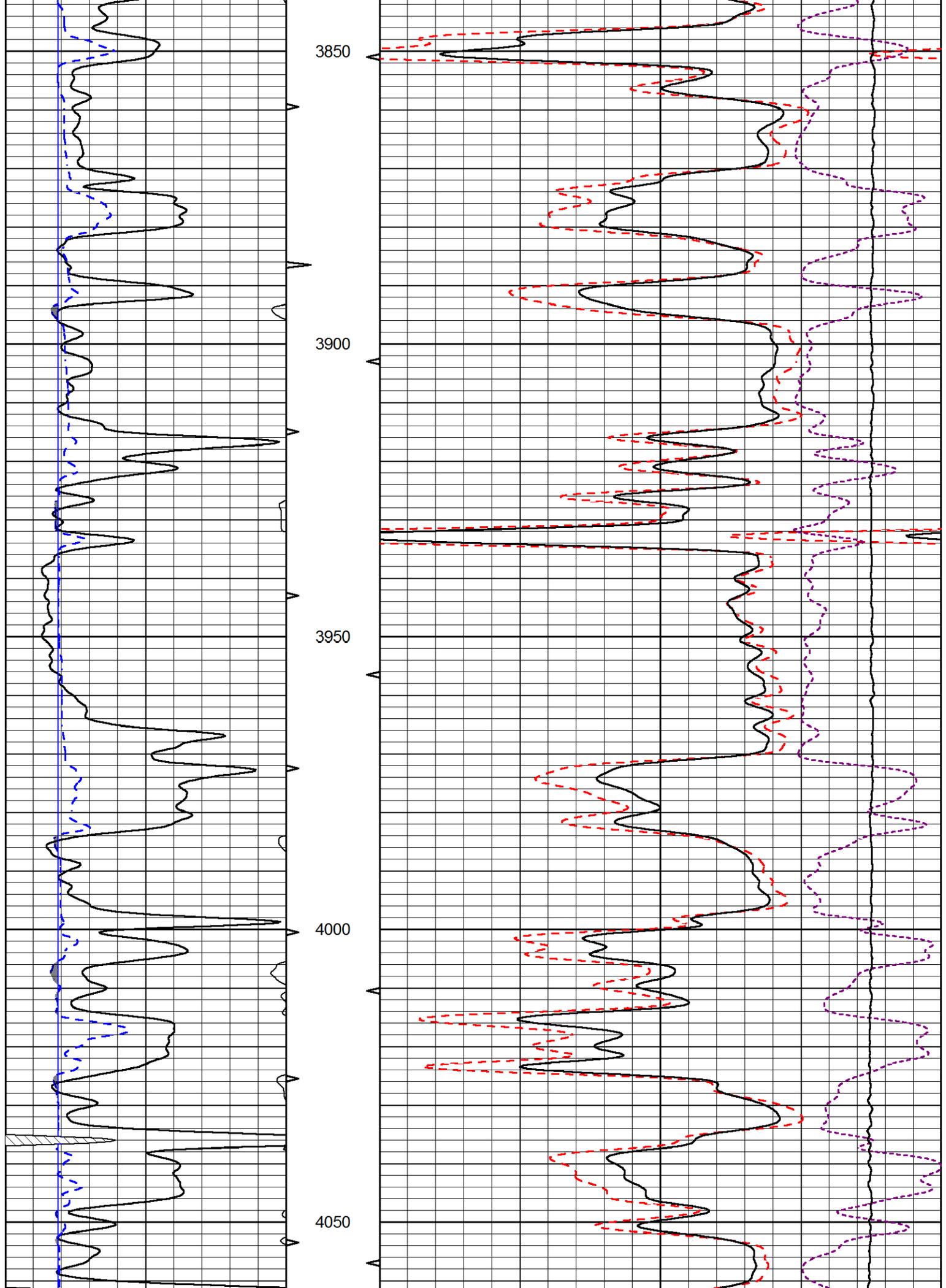
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 Dataset Pathname stackml/pass3.1
 Presentation Format cdl
 Dataset Creation Wed Apr 18 15:19:52 2018
 Charted by Depth in Feet scaled 1:240

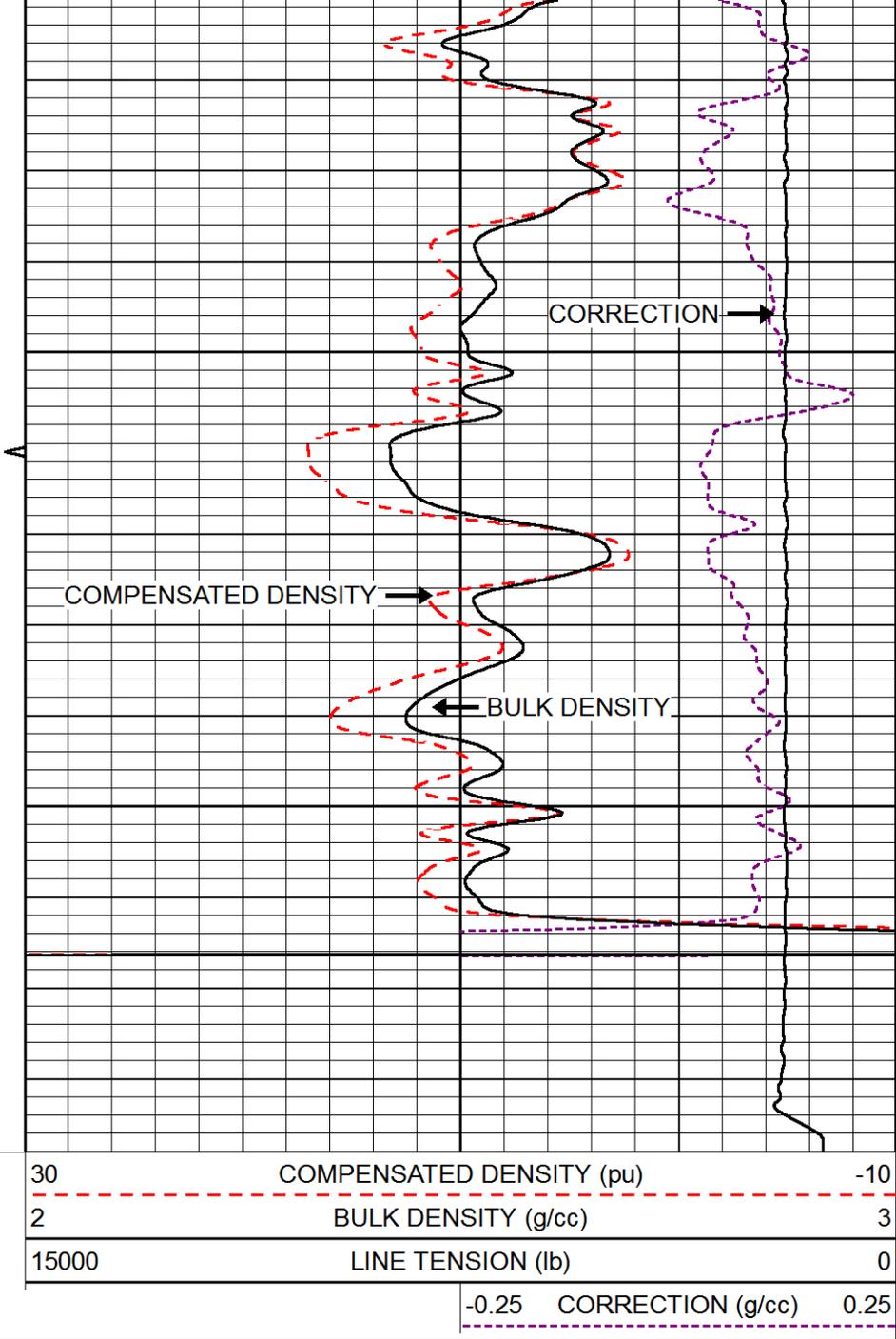
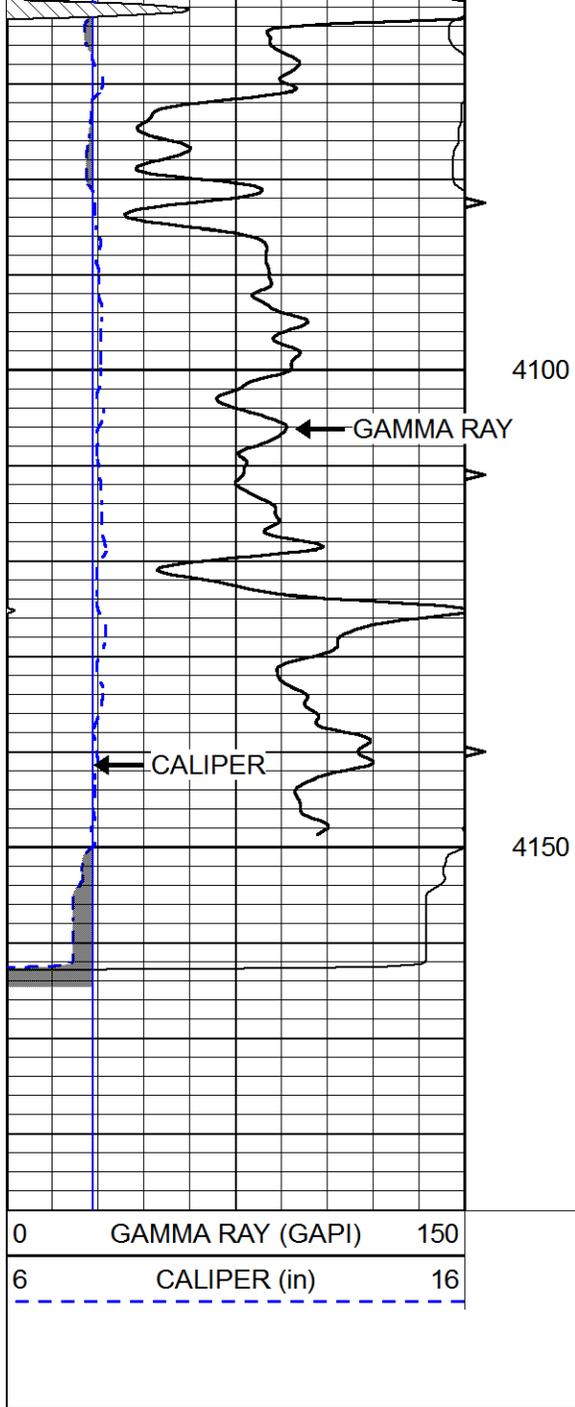
0	GAMMA RAY (GAPI)	150
6	CALIPER (in)	16

30	COMPENSATED DENSITY (pu)	-10
2	BULK DENSITY (g/cc)	3
15000	LINE TENSION (lb)	0
-0.25	CORRECTION (g/cc)	0.25







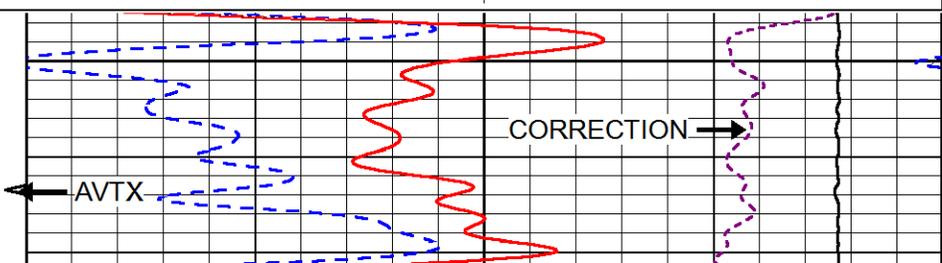
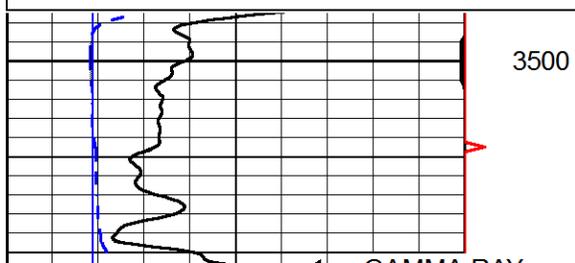


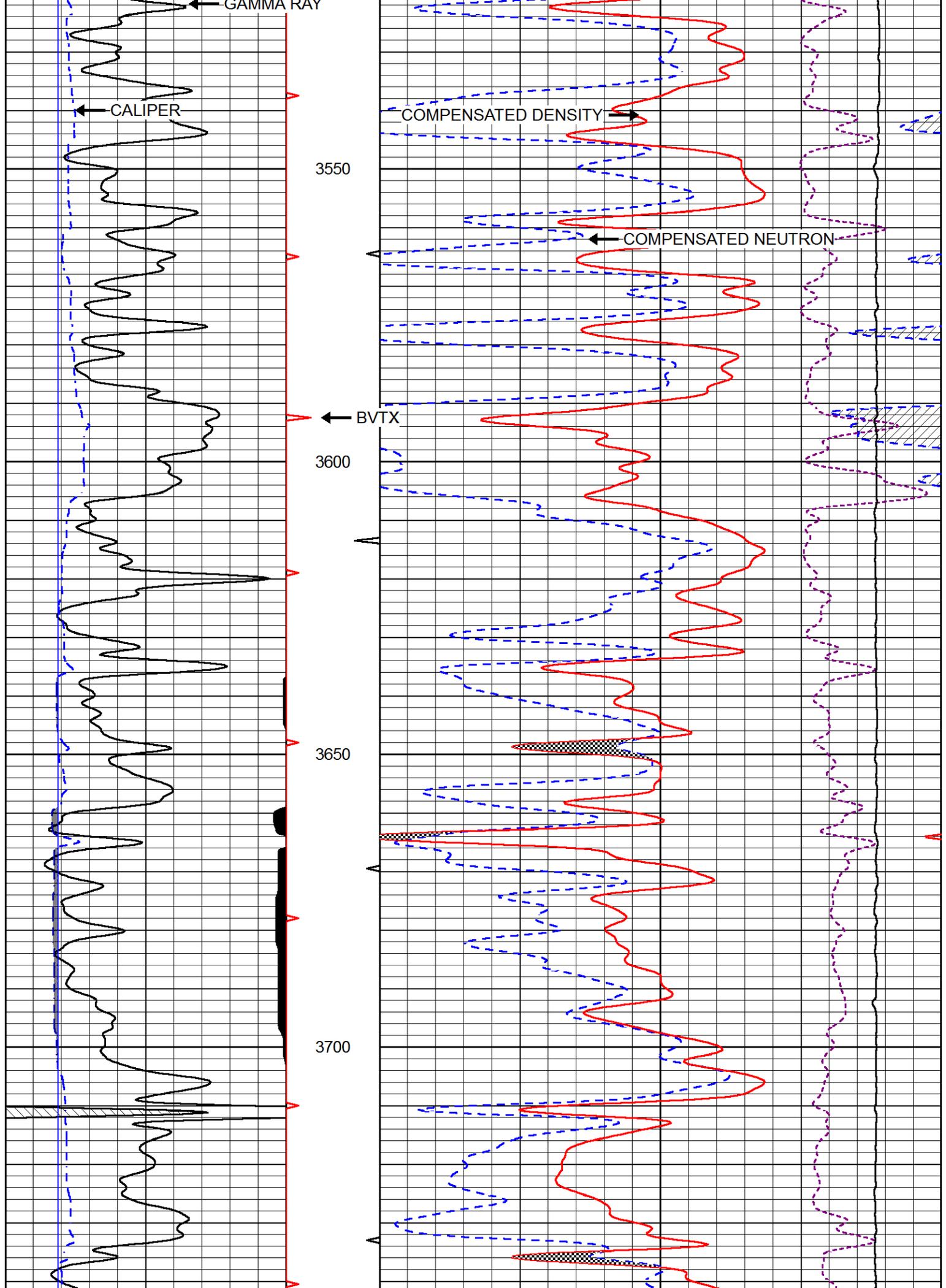
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 Presentation Format cndlspec
 Dataset Creation Wed Apr 18 15:19:52 2018
 Charted by Depth in Feet scaled 1:240

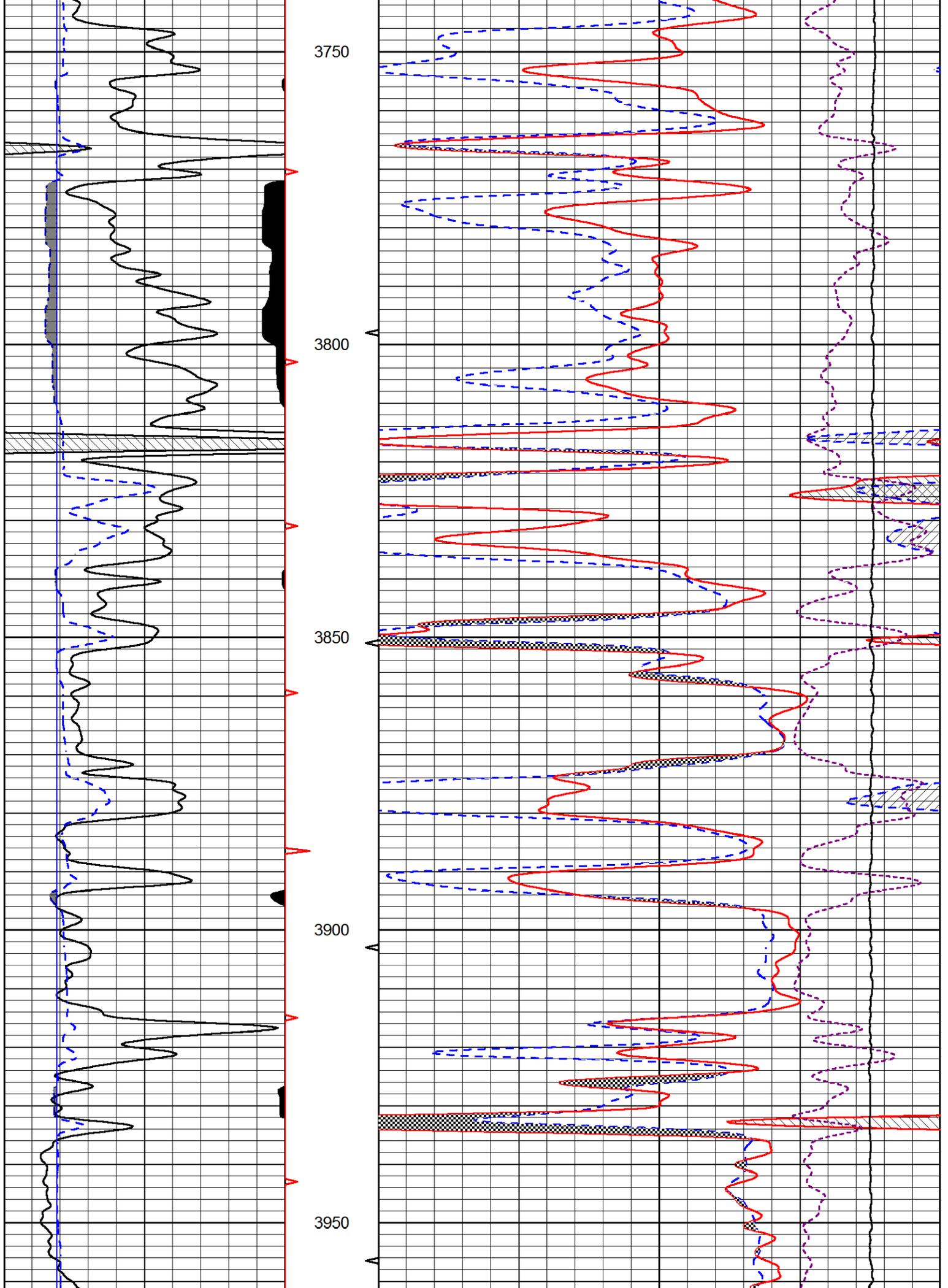
0	GAMMA RAY (GAPI)	150
6	dcal (in)	16
6	BIT SIZE (in)	16

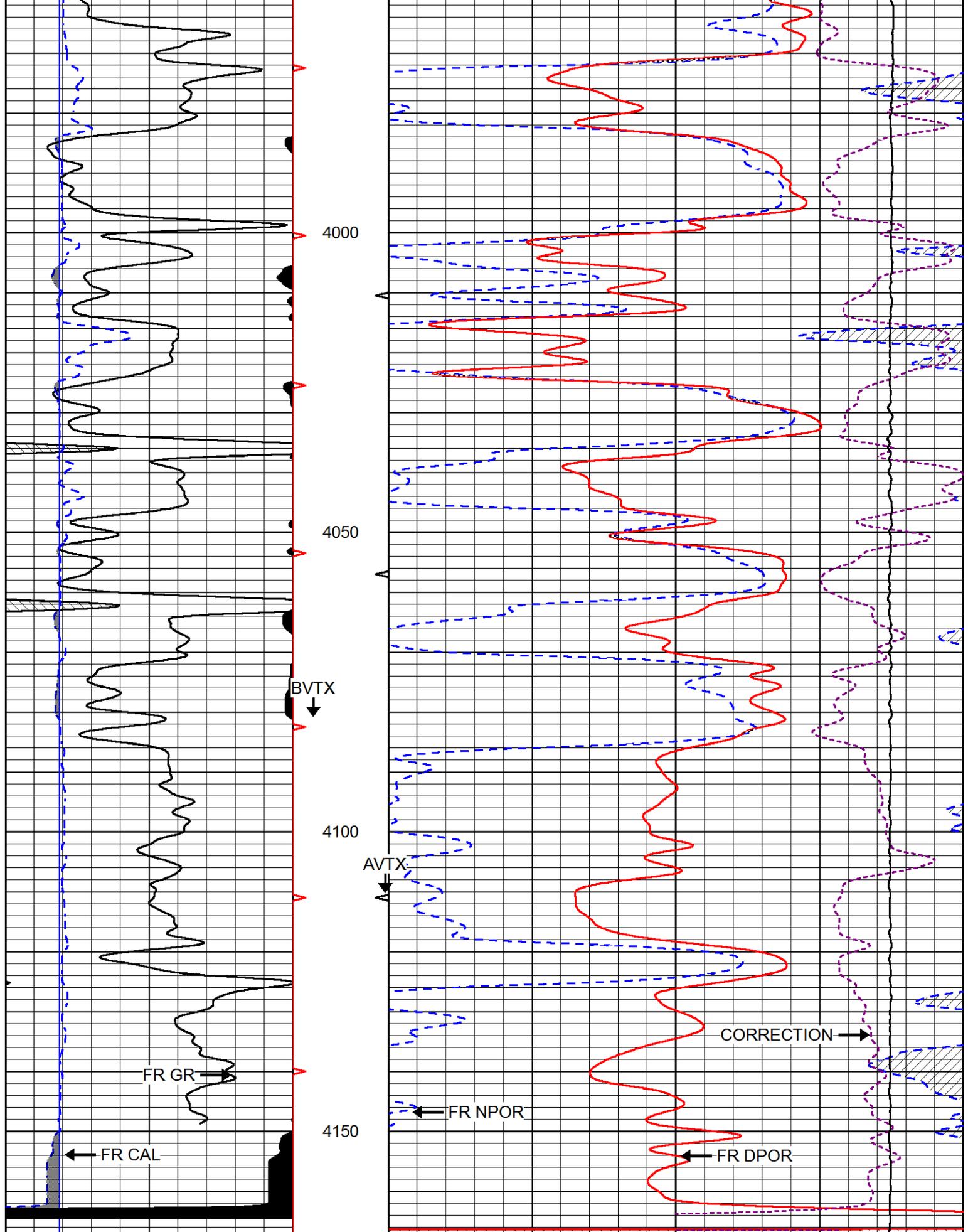
30	CNLS (pu)	-10
30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
15000	LINE TENSION (lb)	0

-0.25 CORRECTION (g/cc) 0.25









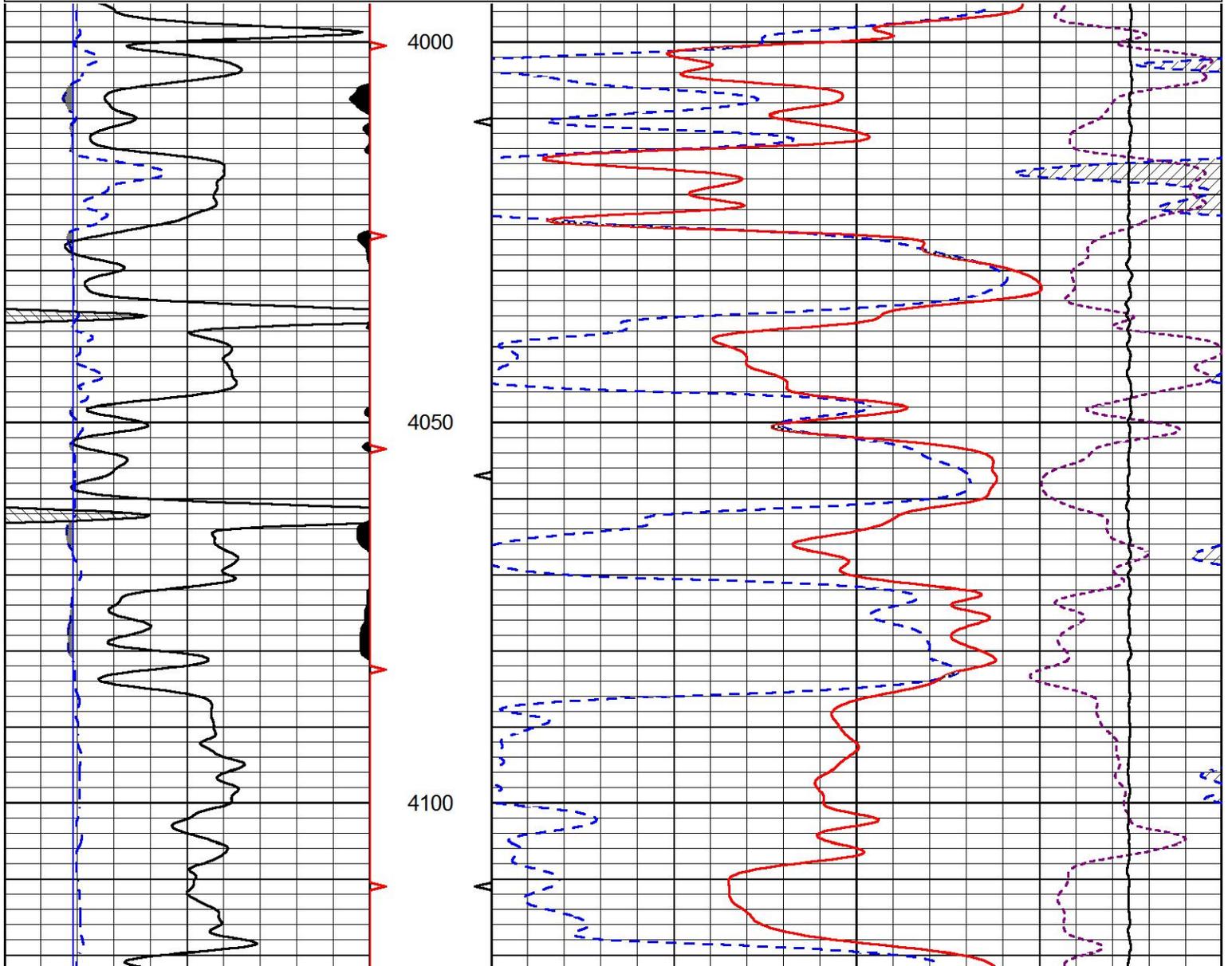
0	GAMMA RAY (GAPI)	150	30	CNLS (pu)	-10
6	dcal (in)	16	30	COMPENSATED DENSITY (2.71 ma) (pu)	-10
6	BIT SIZE (in)	16	15000	LINE TENSION (lb)	0
				-0.25 CORRECTION (g/cc)	0.25

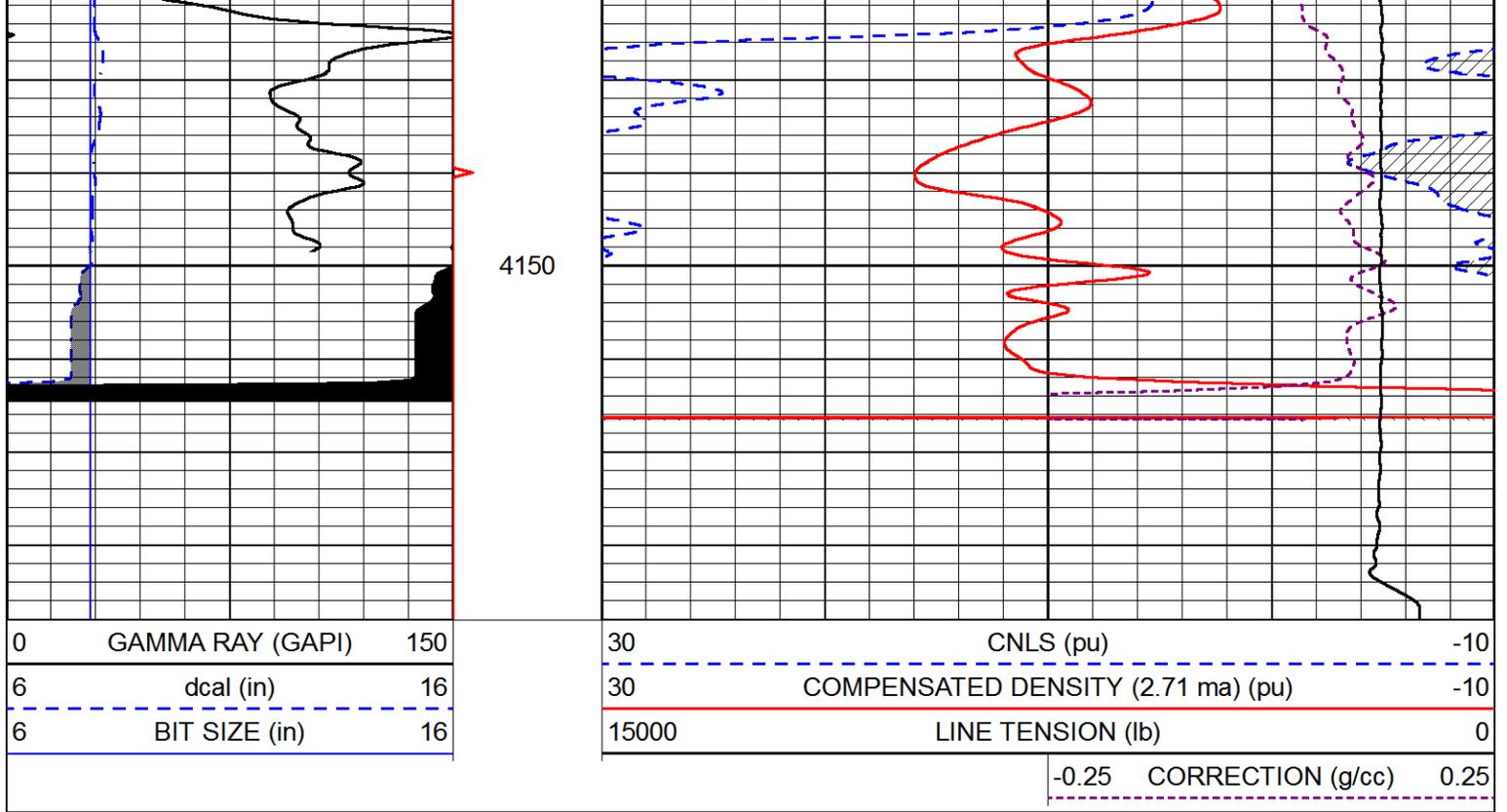


REPEAT SECTION

Database File	murfin_popp_1_14.db
Dataset Pathname	stackml/pass2.1
Presentation Format	cnlspec
Dataset Creation	Wed Apr 18 15:22:06 2018
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	30	CNLS (pu)	-10
6	dcal (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





Calibration Report

Database File murfin_popp_1_14.db
 Dataset Pathname stackml/pass3.1
 Dataset Creation Wed Apr 18 15:19:52 2018

Dual Induction Calibration Report

Serial-Model: PSI 978-M&W
 Calibration Performed: Sun Feb 04 11:50:02 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.570	-40.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.400	-37.000

Microlog Calibration Report

Serial-Model: PSI-02-PSI STKBL ML
 Performed: Sat Apr 07 12:01:20 2018

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0031	0.0043	0.0000	10.0000	Ohm-m	20000.0000	-1.0000
Inverse	0.0000	0.0013	0.0000	10.0000	Ohm-m	18000.0000	0.0000
Caliper	1.0020	1.0834	5.5000	16.5000	in	135.1560	-131.7000

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	2.690	g/cc	859.57	3020.22	cps
Spine Angle = 74.61			Density/Spine Ratio = 0.531		
	Size		Reading		
Small Ring	4.00	in	1.00		
Large Ring	14.00	in	1.20		

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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