



PIONEER

Pioneer Energy Services

DUAL COMP POROSITY LOG

Company **COBALT ENERGY LLC**
Well **BINNS A #1-32**
Field **WILDCAT**
County **LOGAN** State **KANSAS**

Location: API #: 15-109-21454-00-00

1067' FSL & 1032' FWL

SEC 32 TWP 15S RGE 33W

Permanent Datum **GROUND LEVEL** Elevation **3040'**
Log Measured From **KELLY BUSHING**
Drilling Measured From **KELLY BUSHING**

Other Services
DIL
MEL/BHCS
Elevation
K.B. 3051'
D.F. N/A
G.L. 3040'

Date **8/27/2016**

Run Number **ONE**

Type Log **CNL/CDL**

Depth Driller **4799'**

Depth Logger **4794'**

Bottom Logged Interval **4773'**

Top Logged Interval **3800'**

Type Fluid In Hole **CHEMICAL**

Salinity, PPM CL **5000**

Density **9.3**

Level **FULL**

Max. Rec. Temp. F **124**

Operating Rig Time **4 HOURS**

Equipment -- Location **108 COLBY**

Recorded By **T. MARTIN**

Witnessed By **COREY N. BAKER**

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	00'	221'	8.625"	23#	00'	221'
TWO	7.875"	221'	TD				

<<< Fold Here >>>

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.

SCOTT LAKE, HWY 95 AND 270 RD, 5 W TO GRANT RD,
3 N, W INTO AT SHED, THRU GATE

Log Measured From: **KELLY BUSHING** 11 Ft. Above Permanent Datum

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

Your Pioneer Energy Services Crew

Engineer: **T. MARTIN**
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: **COREY N. BAKER**
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 124	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 -460	degF 82	Off	ft 4794

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 20.83 20.35			CDL-M&W (71-914)	8.50	4.00	250.00
RLL3 RLL3F	15.80			DIL-M&W (1987)	18.50	3.50	220.00
	15.79						
CILD	8.00						

CILM 4.70

SP 0.20

Dataset: cobalt_binns a_#1-32.db: field/well/stack/pass3.1
Total length: 35.50 ft
Total weight: 620.00 lb
O.D.: 4.00 in



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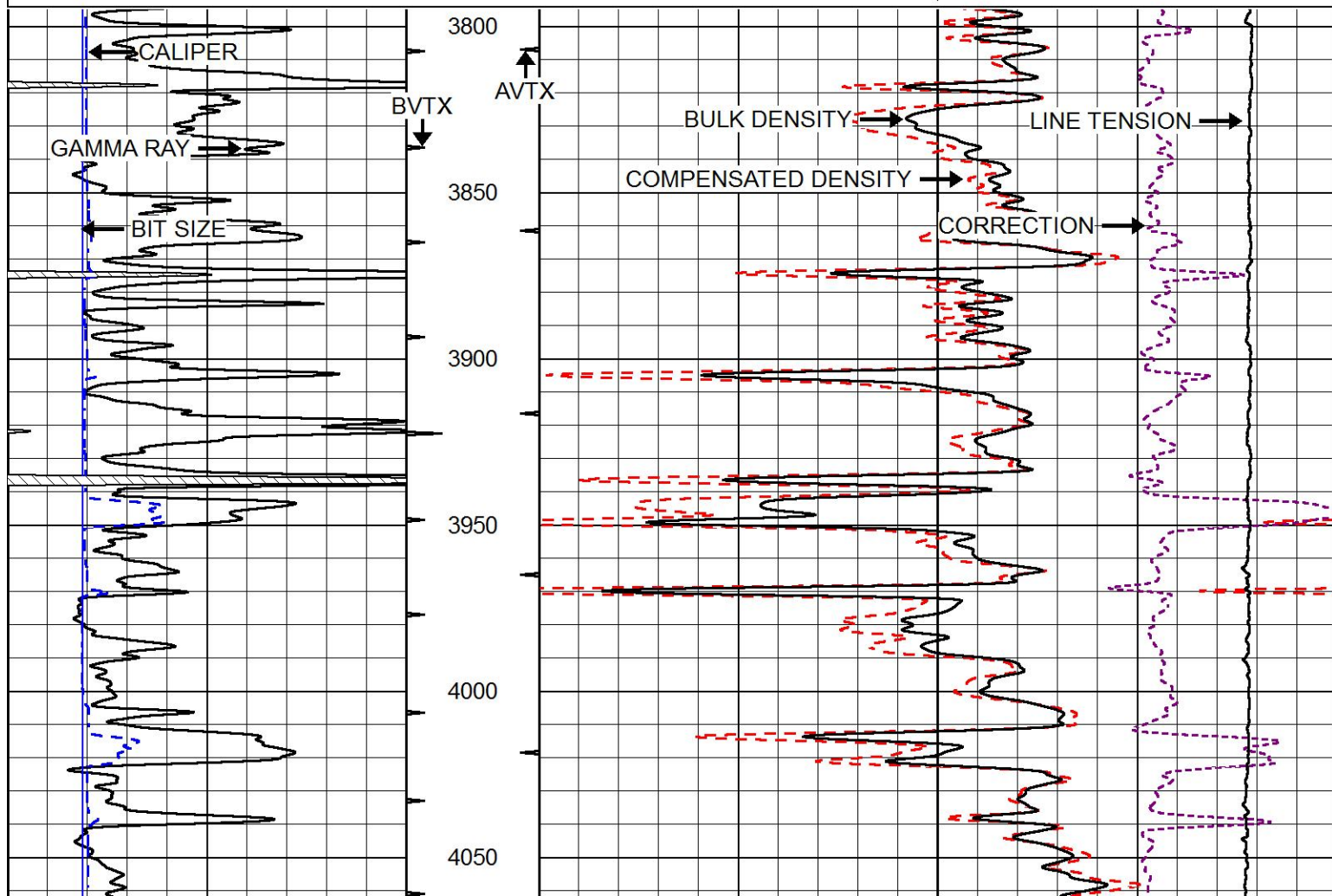
2" SCALE BULK DENSITY

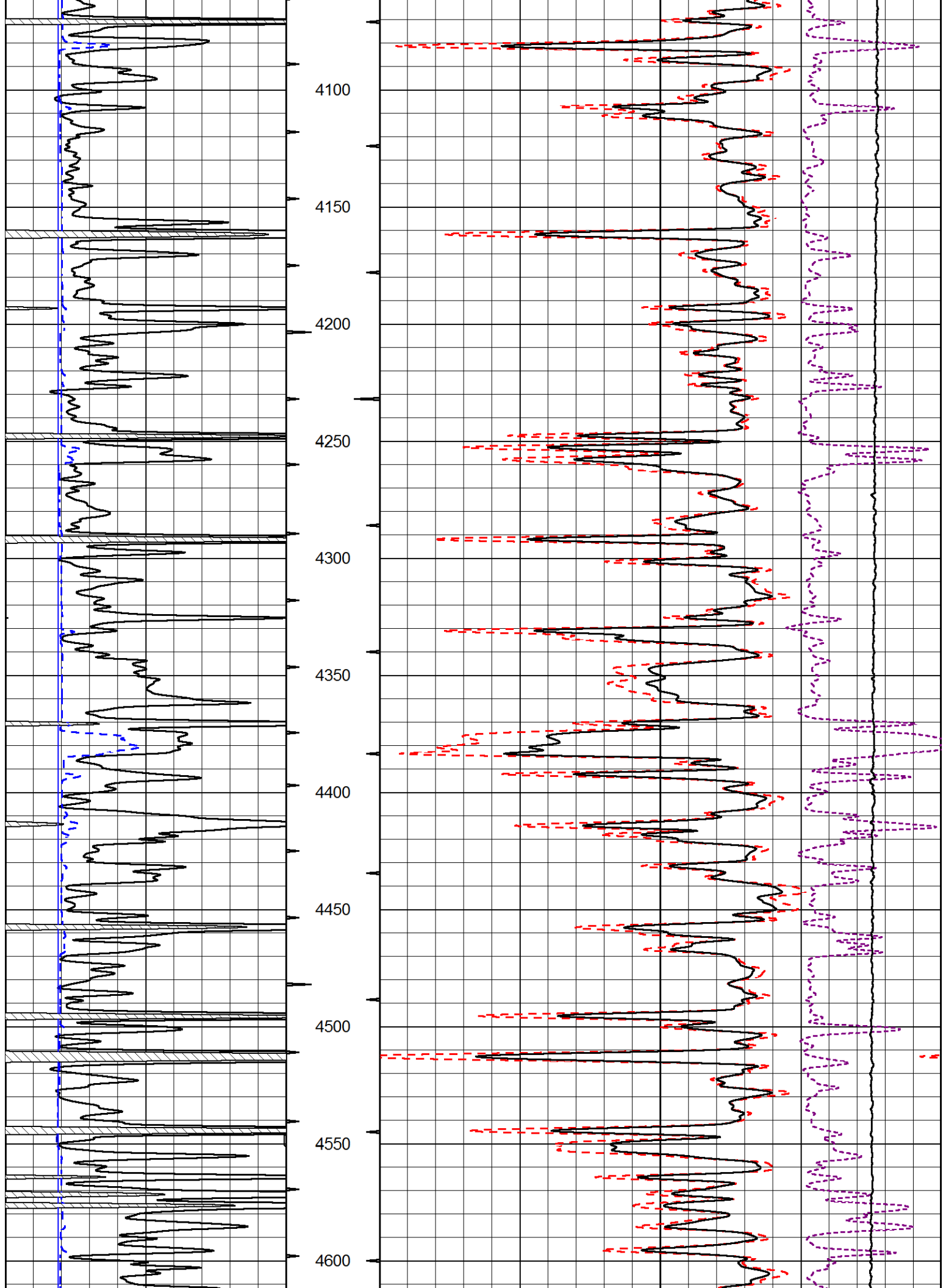
MAIN PASS

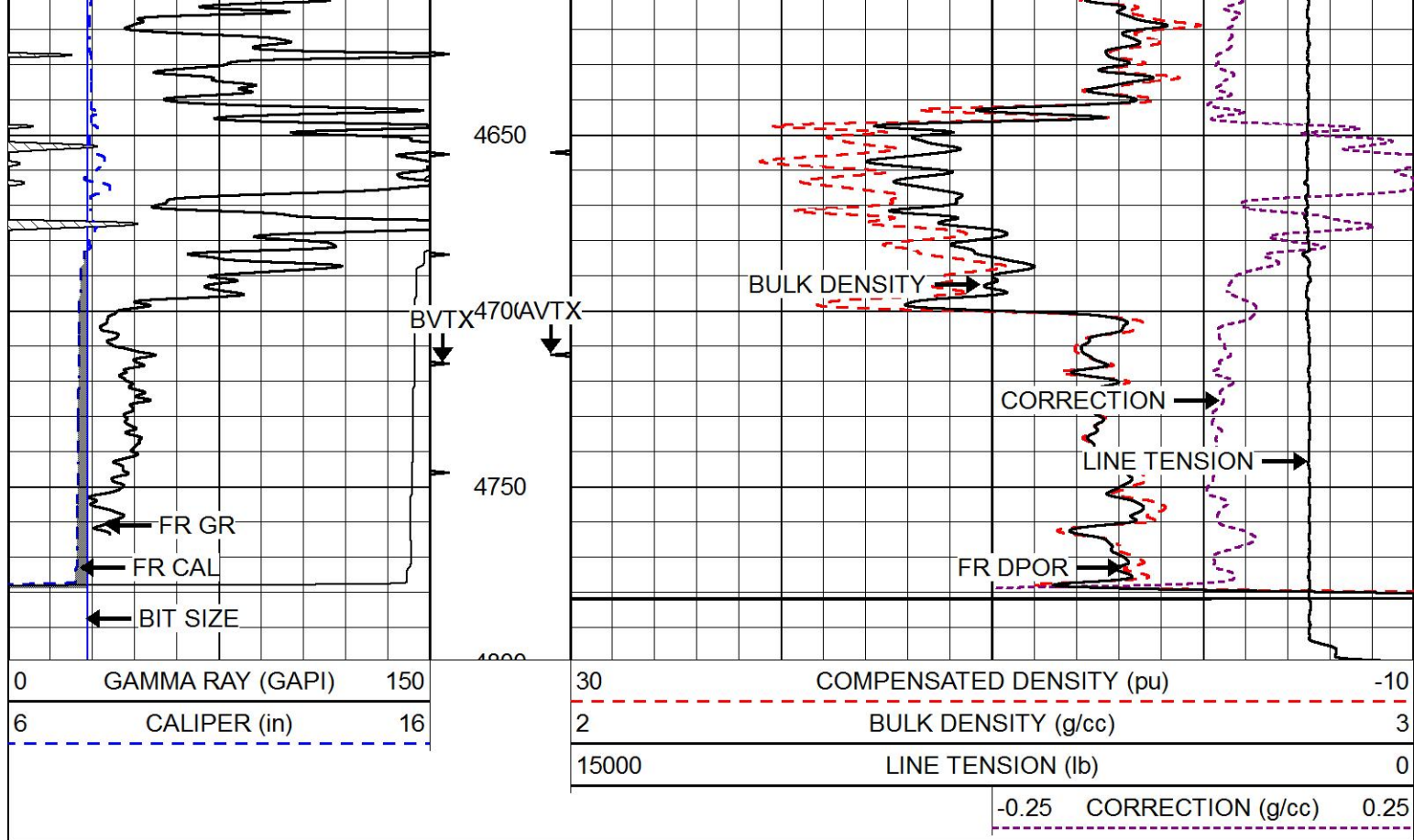
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Dataset Pathname stack/pass3.3
Presentation Format cdl
Dataset Creation Sat Aug 27 19:26:30 2016
Charted by Depth in Feet scaled 1:600

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





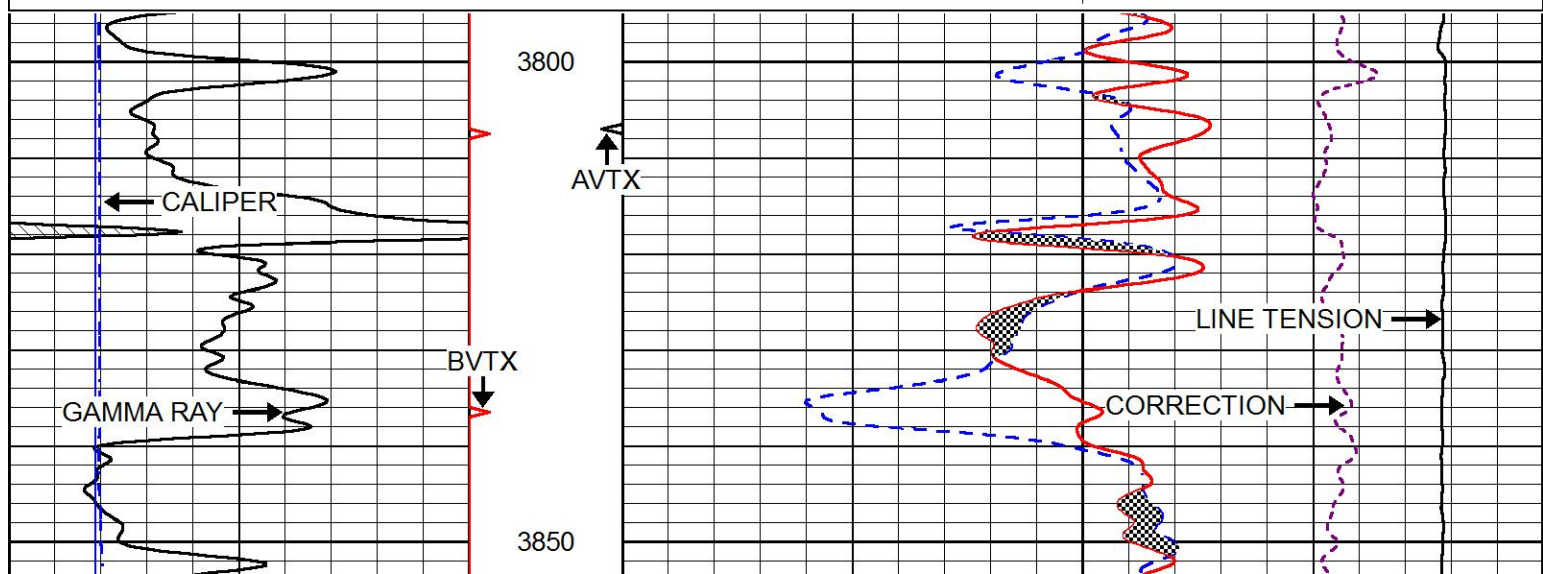
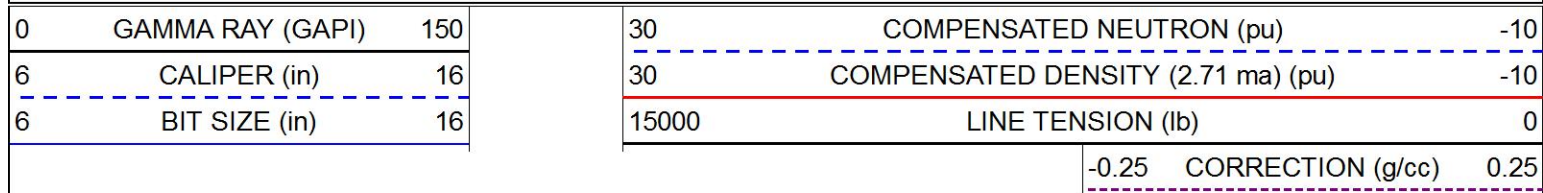


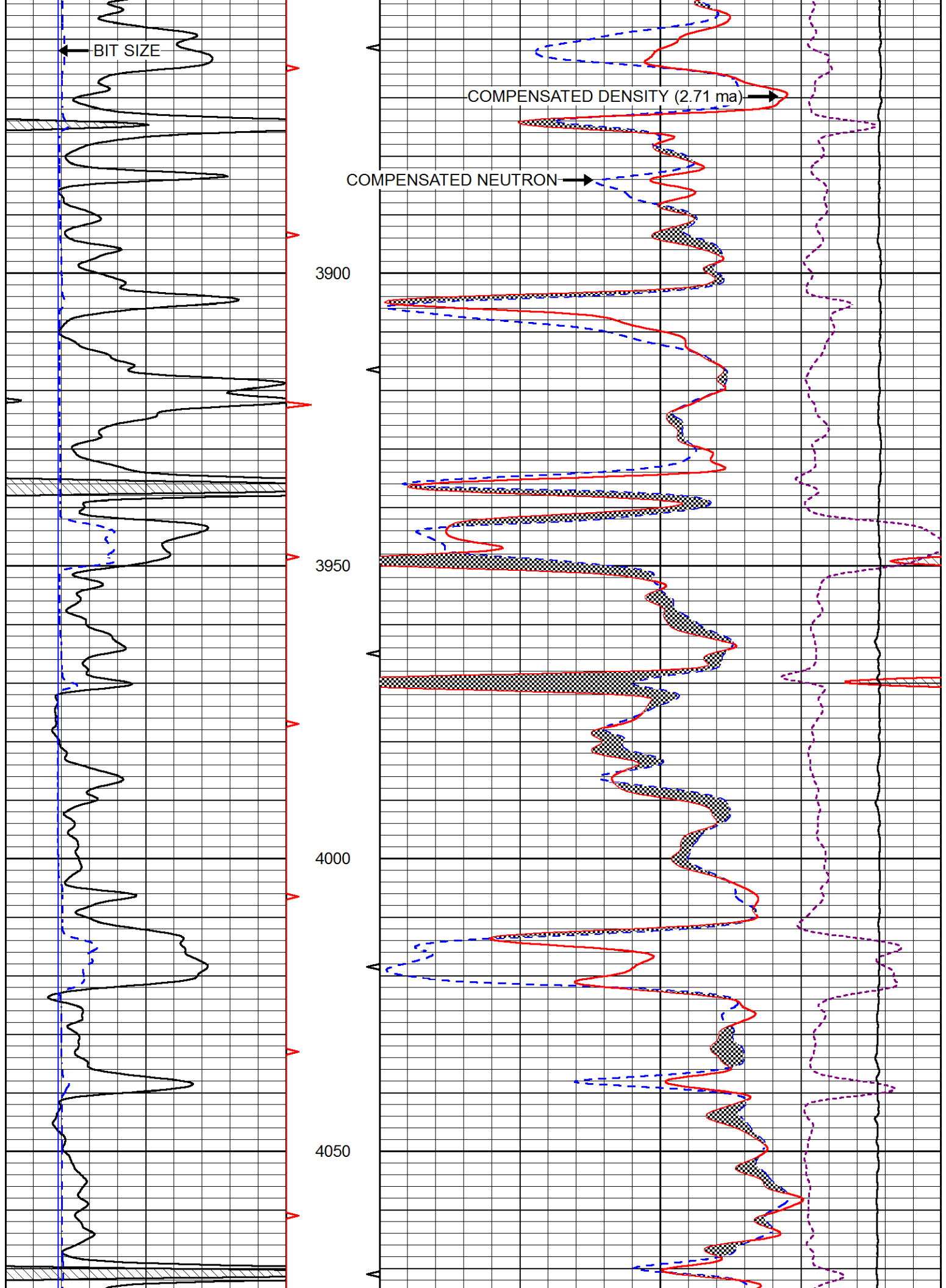


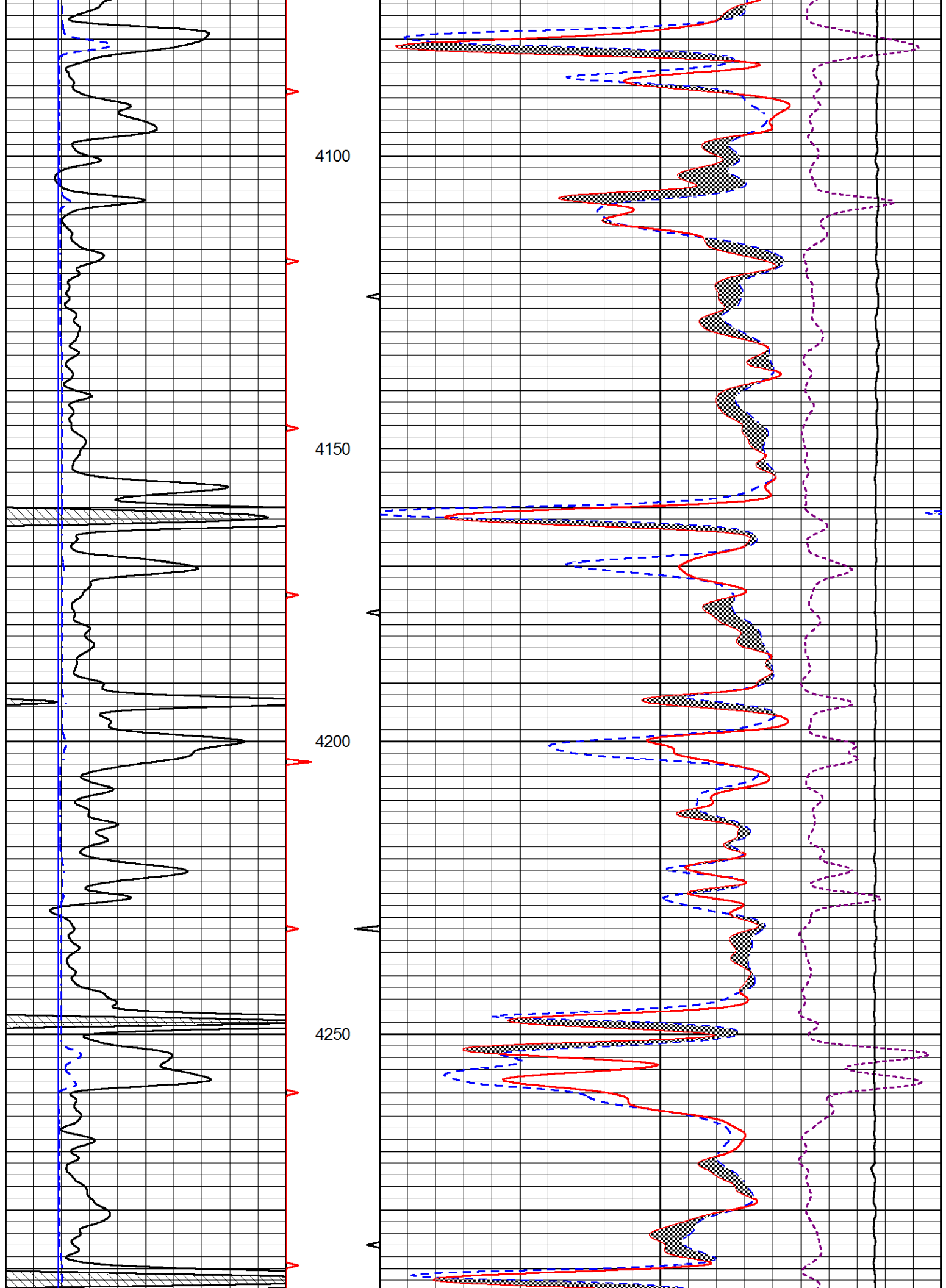
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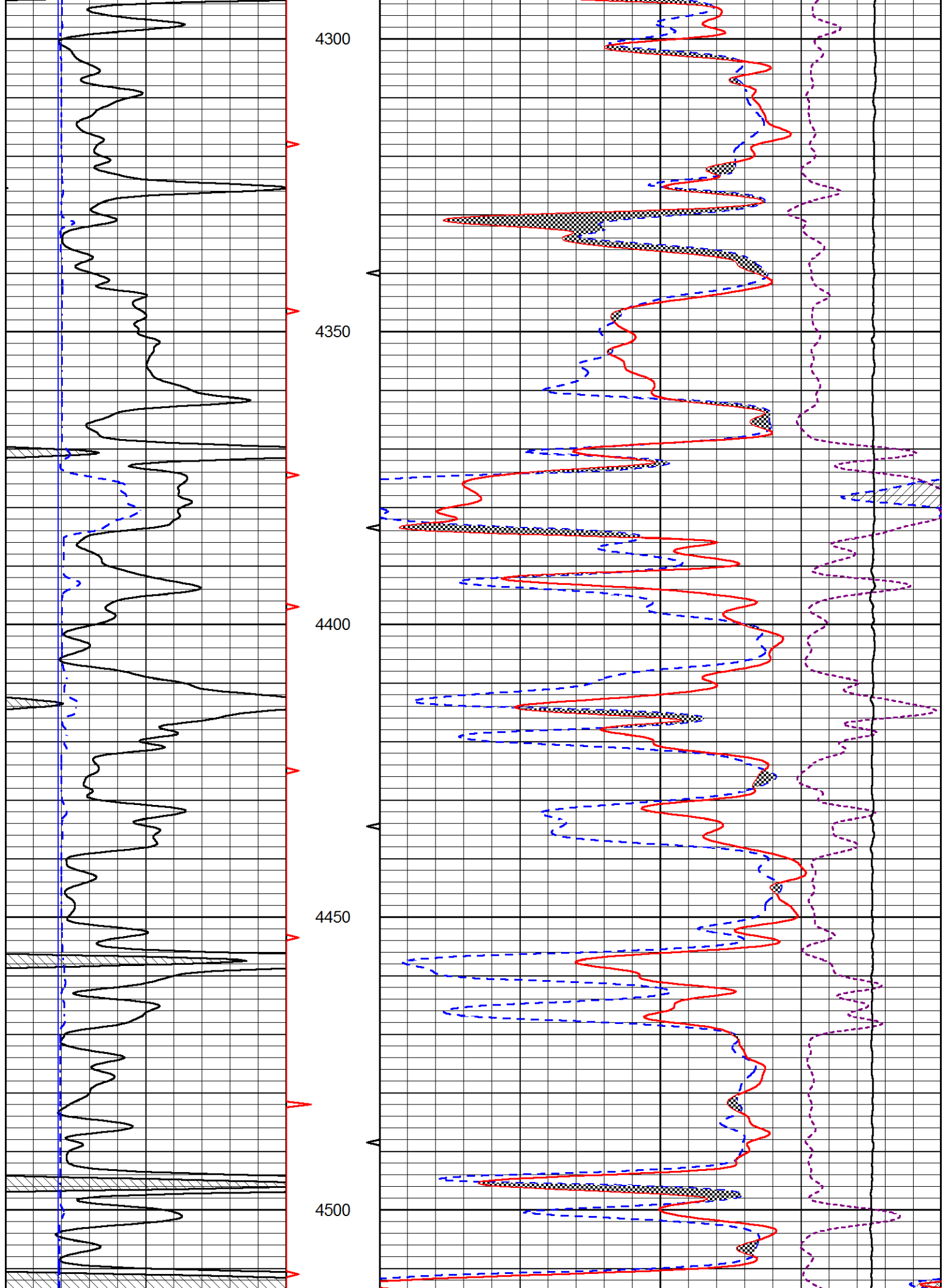
MAIN PASS

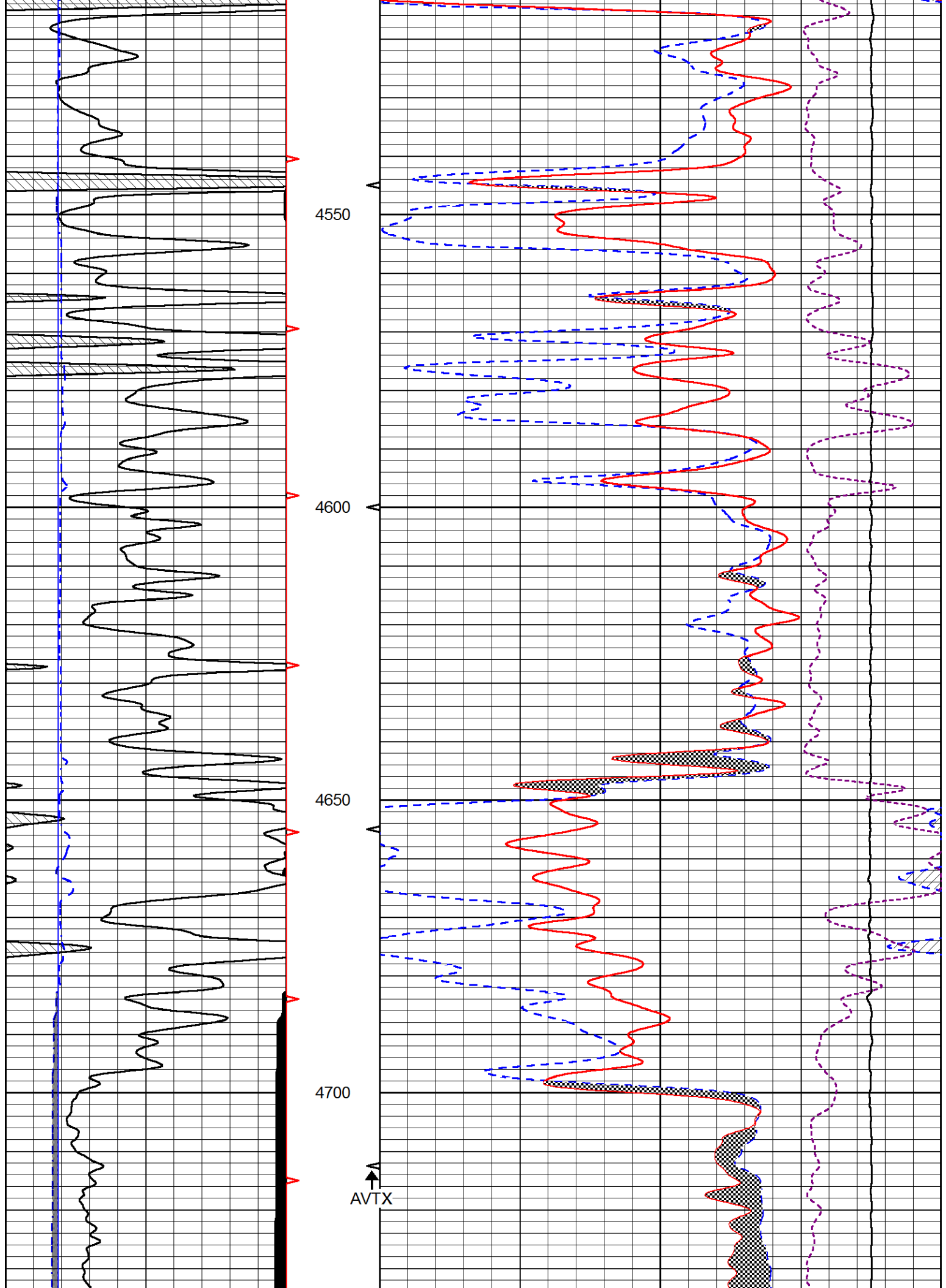
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 Dataset Pathname stack/pass3.1
 Presentation Format cndlspec
 Dataset Creation Sat Aug 27 20:08:49 2016
 Charted by Depth in Feet scaled 1:240

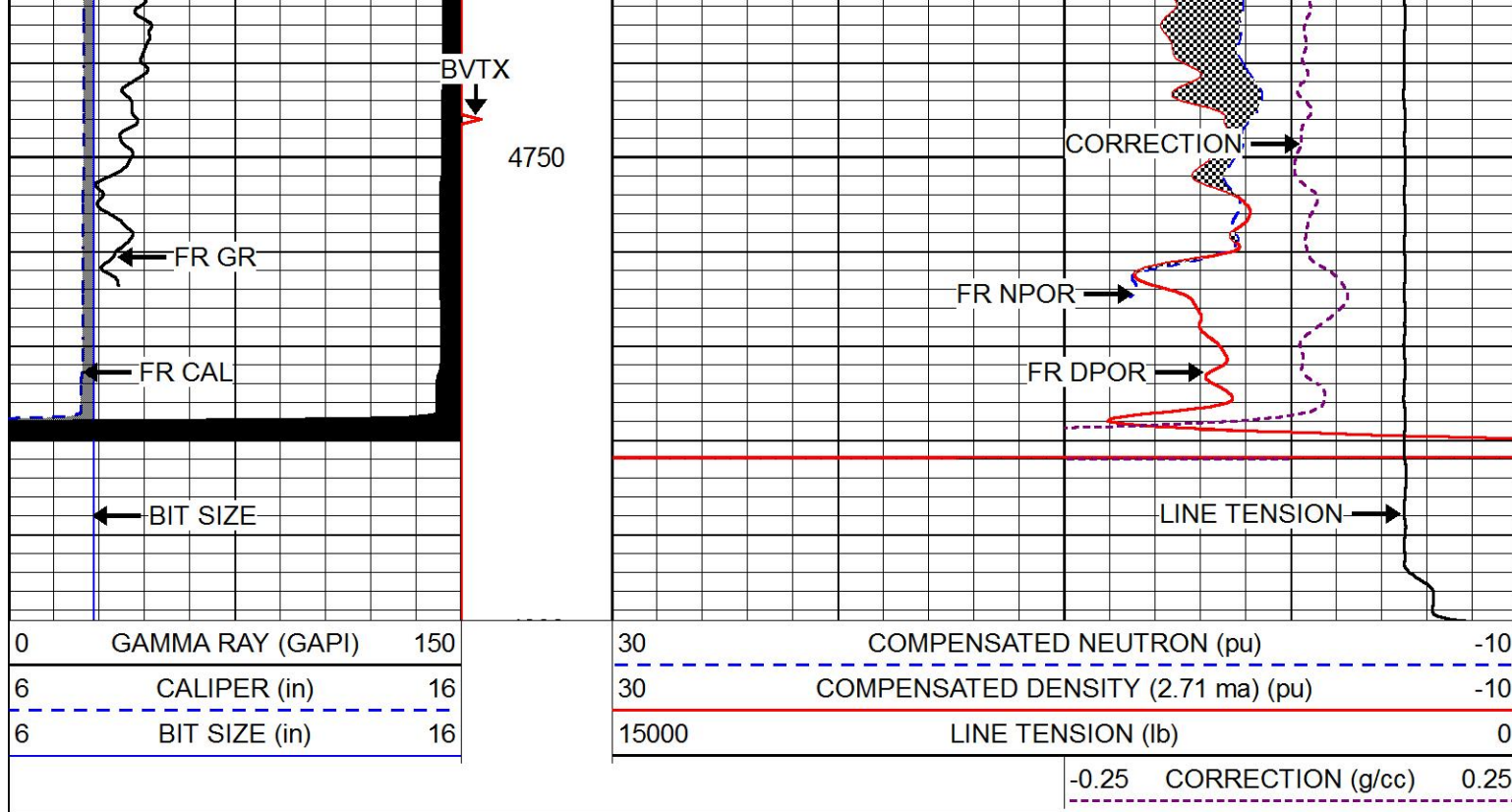














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REPEAT SECTION

Database File cobalt_binns a_#1-32.db

Dataset Pathname stack/pass2.1

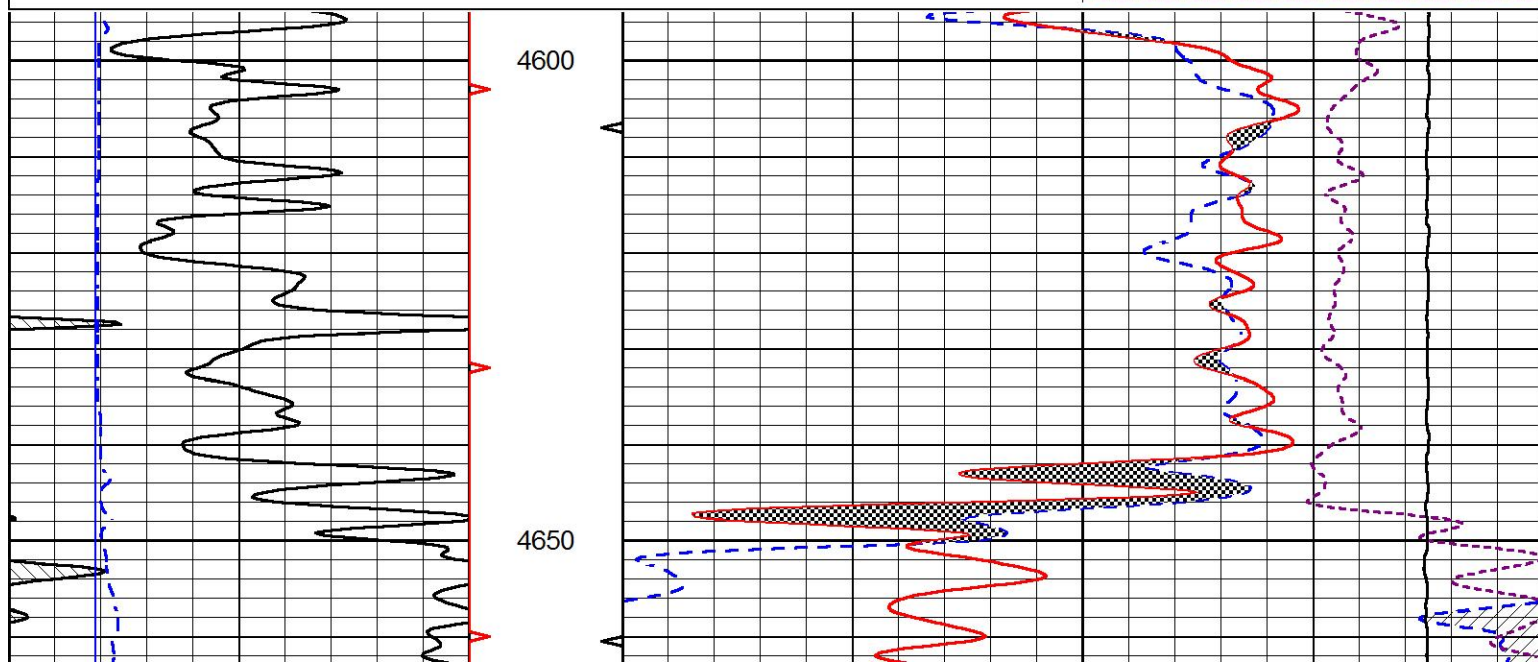
Presentation Format cndlspec

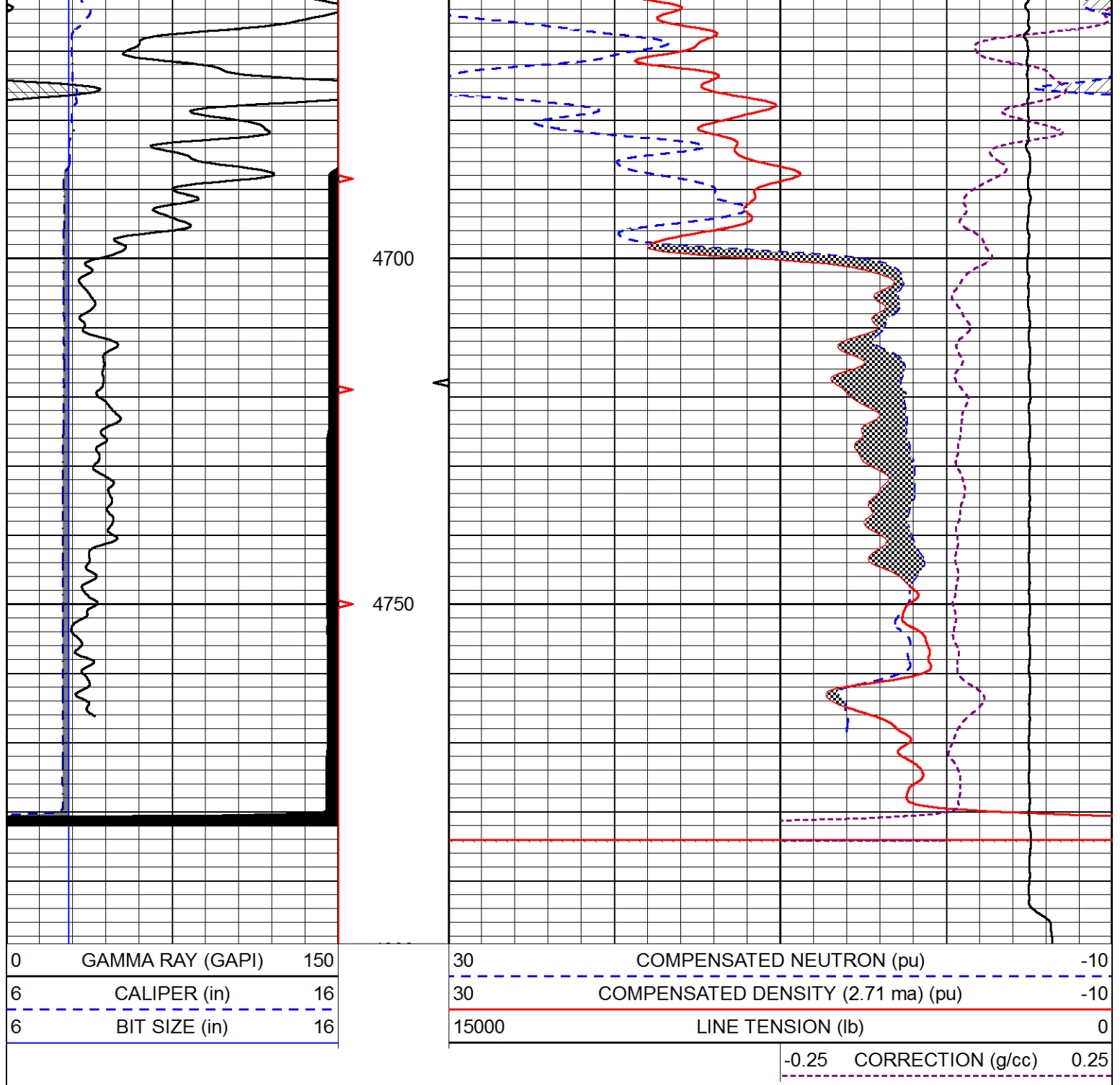
Dataset Creation Sat Aug 27 19:13:15 2016

Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	CALIPER (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





Calibration Report

Database File cobalt_binns a_#1-32.db
Dataset Pathname stack/pass3.1
Dataset Creation Sat Aug 27 20:08:49 2016

Dual Induction Calibration Report

Serial-Model: 1987-M&W
Calibration Performed: Fri Jul 22 02:17:58 2016

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.530	-38.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-113.000

Compensated Density Calibration Report

Serial-Model:	71-914-M&W
Source / Verifier:	/
Master Calibration Performed:	Thu Jul 28 15:08:02 2016

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4314.49	5307.52	cps
Aluminum	2.670	g/cc	822.19	3456.36	cps
Spine Angle = 75.49			Density/Spine Ratio = 0.534		
	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 July 20 08:04:05 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 Jul 17 19:05:06 2016	
Calibrator Value:	1000.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	6.2	cps
Sensitivity:	0.5200	GAPI/cps



Company	COBALT ENERGY LLC
Well	BINNS A #1-32
Field	WILDCAT
County	LOGAN
State	KANSAS