



PIONEER

Pioneer Energy Services

DUAL COMP POROSITY LOG

Company **CASINO PETROLEUM, LLC**
Well **HERTER NO. 4**
Field **CHASE-SILICA**
County **BARTON** State **KANSAS**

Location: API #: 15-009-26224-00-00

Other Services

SEC 8 TWP 20S RGE 11W
330' FSL & 1320' FEL

DIL
MEL/BHCS

Permanent Datum **GROUND LEVEL** Elevation **1772'**
Log Measured From **KELLY BUSHING**
Drilling Measured From **KELLY BUSHING**

Elevation
K.B. 1782'
D.F. N/A
G.L. 1772'

Date **7/23/2018**

Run Number **ONE**

Type Log **CNL/CDL**

Depth Driller **3400'**

Depth Logger **3393'**

Bottom Logged Interval **3372'**

Top Logged Interval **2700'**

Type Fluid In Hole **CHEMICAL**

Salinity, PPM CL **12800**

Density **9.3**

Level **FULL**

Max. Rec. Temp. F **110 DEG/F**

Operating Rig Time **3 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	275'	8.625"	23#	0	275'
TWO	7.875"	275'	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.

ELLINWOOD KANSAS
SOUTH TO 30 RD, 1 1/2 EAST, NORTH INTO

Log Measured From: KELLY BUSHING 10 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 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 -8	mV 0	degF 97	Off	ft 3393

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 (979-229)	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

CILM 4.70

SP 0.20

Dataset: casino_herter_4.db: field/well/stack/pass3.1
Total length: 35.50 ft
Total weight: 620.00 lb
O.D.: 4.00 in

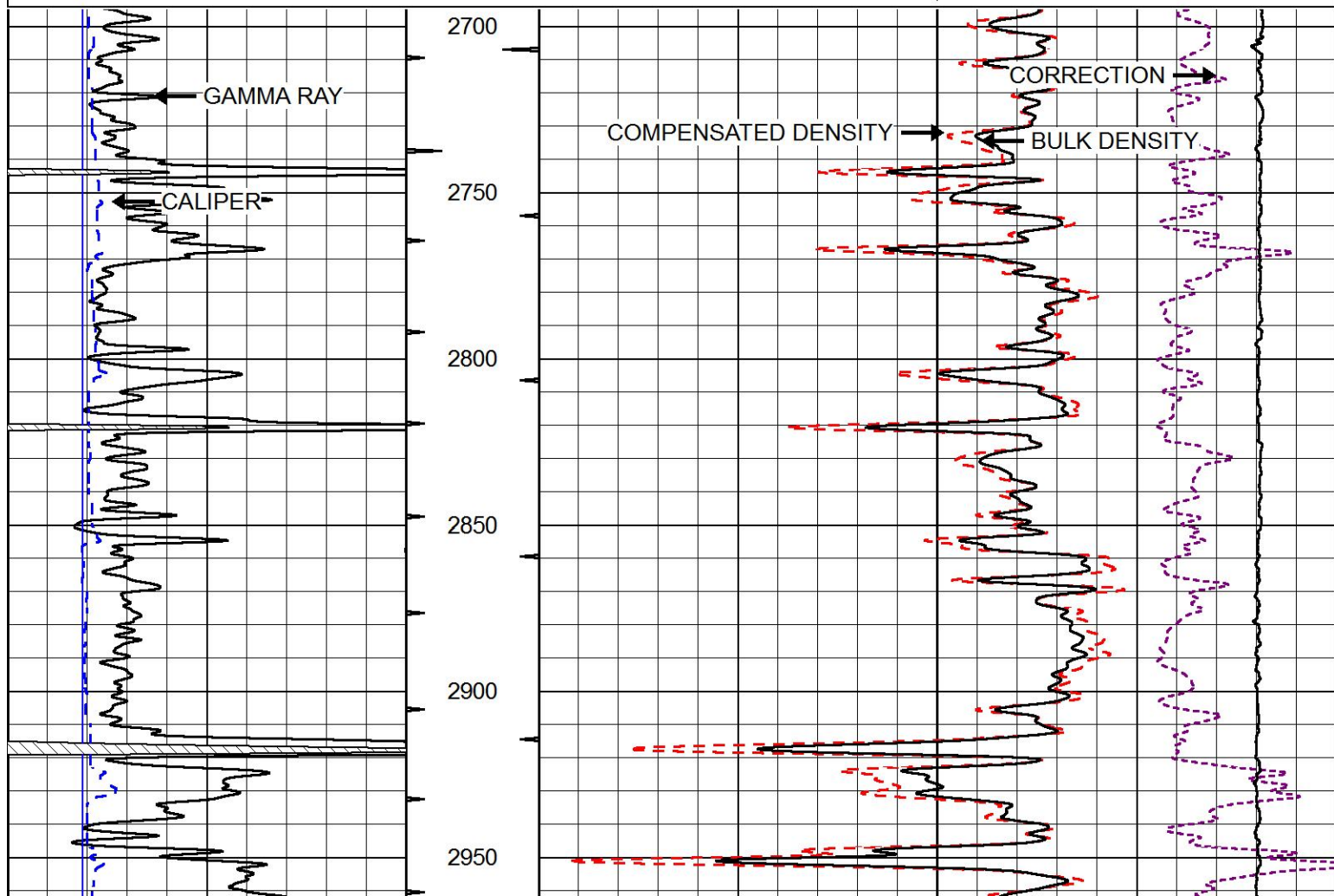


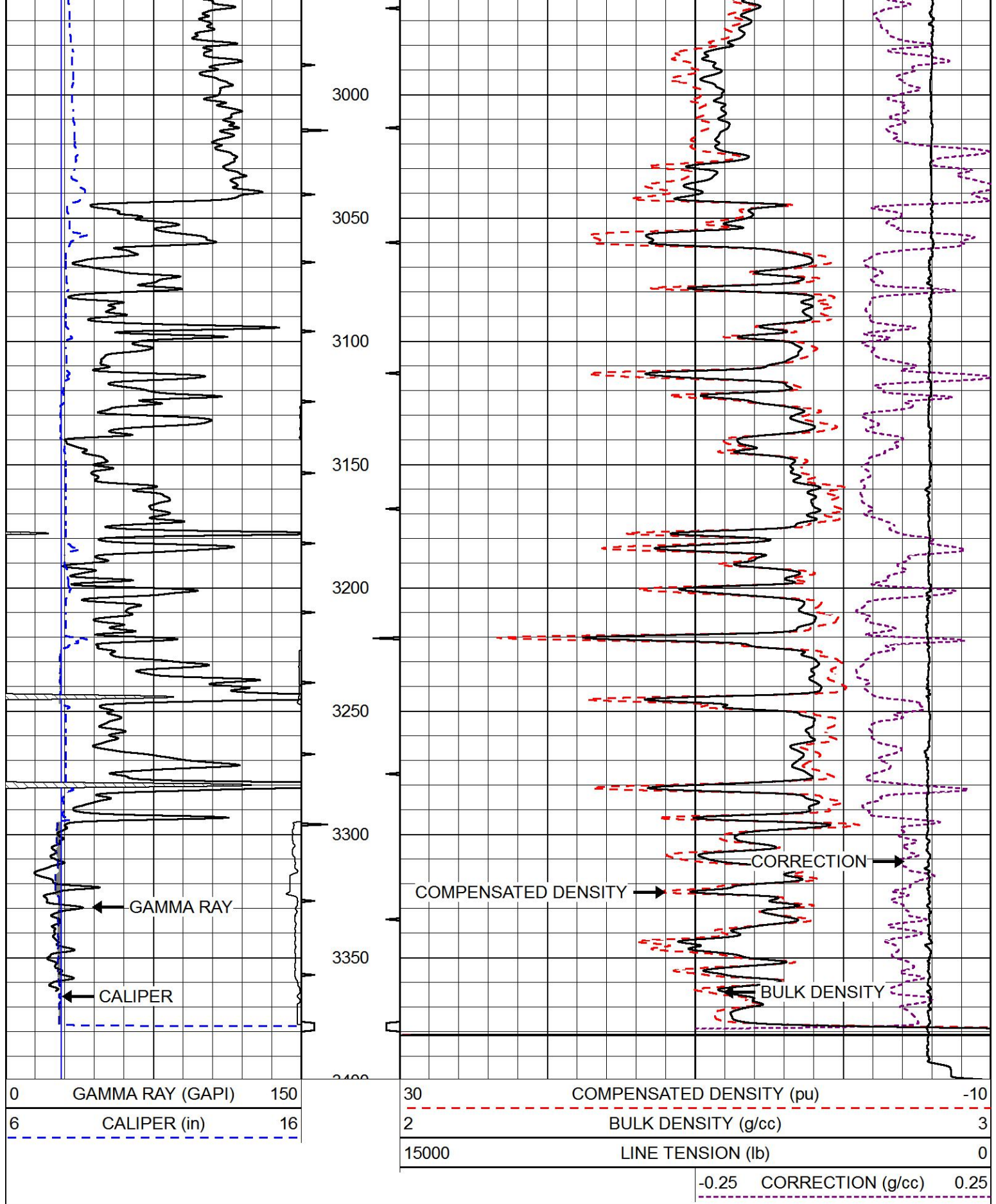
MAIN PASS

Database File casino_herter_4.db
Dataset Pathname stack/pass3.1
Presentation Format cdl
Dataset Creation Mon Jul 23 17:44:39 2018
Charted by Depth in Feet scaled 1:600

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

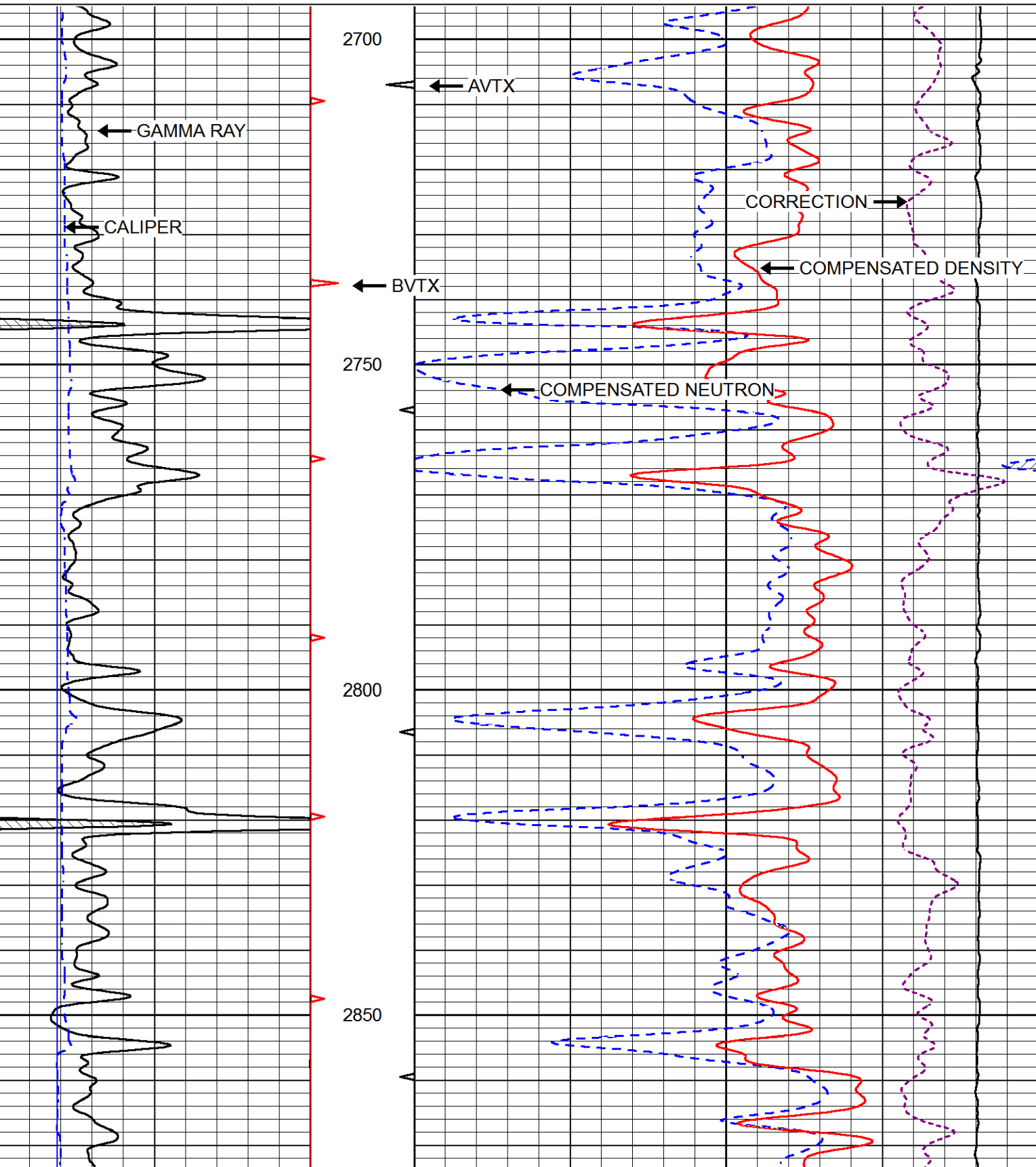
30 COMPENSATED DENSITY (pu) -10
2 BULK DENSITY (g/cc) 3
15000 LINE TENSION (lb) 0
-0.25 CORRECTION (g/cc) 0.25

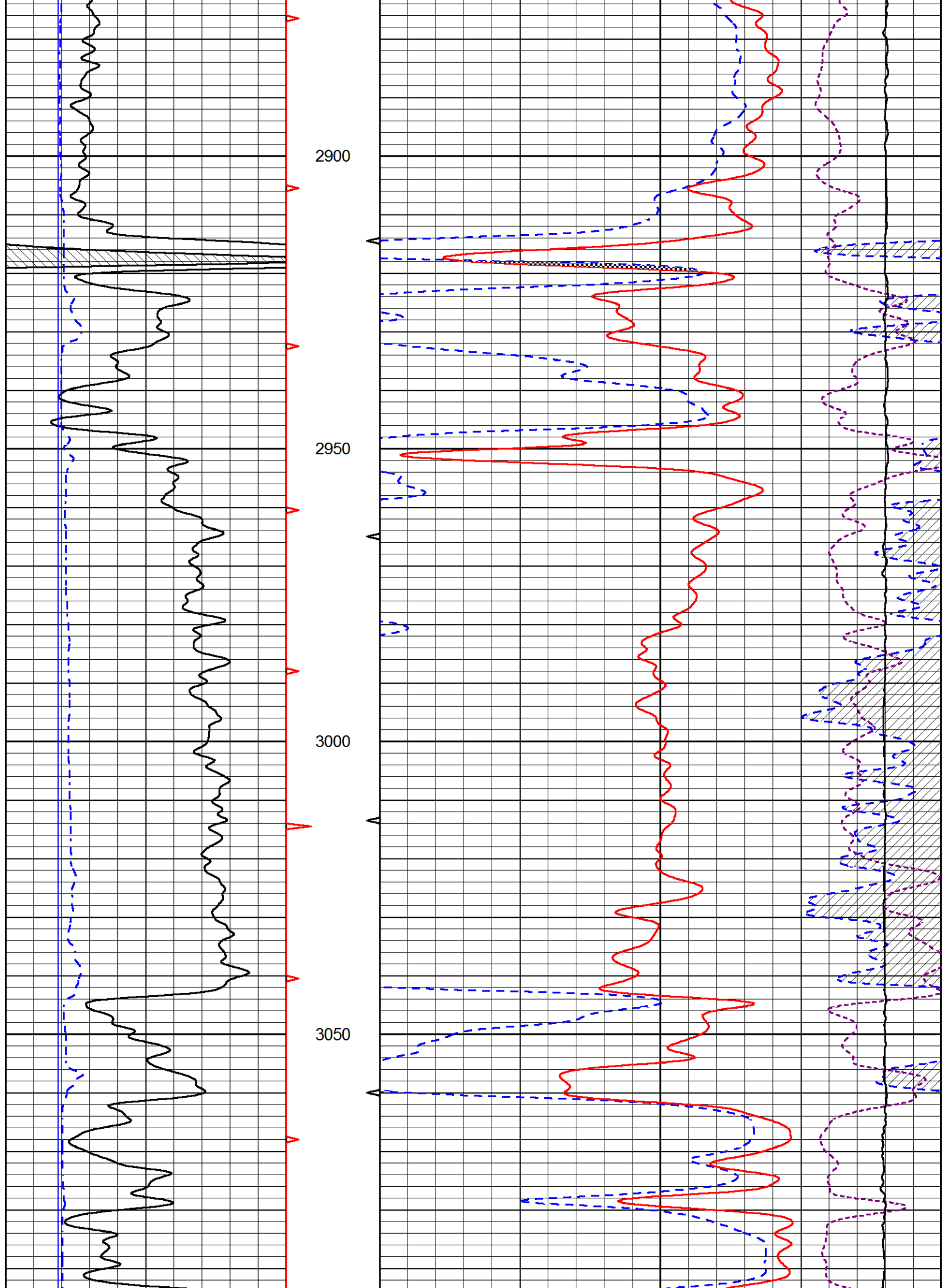


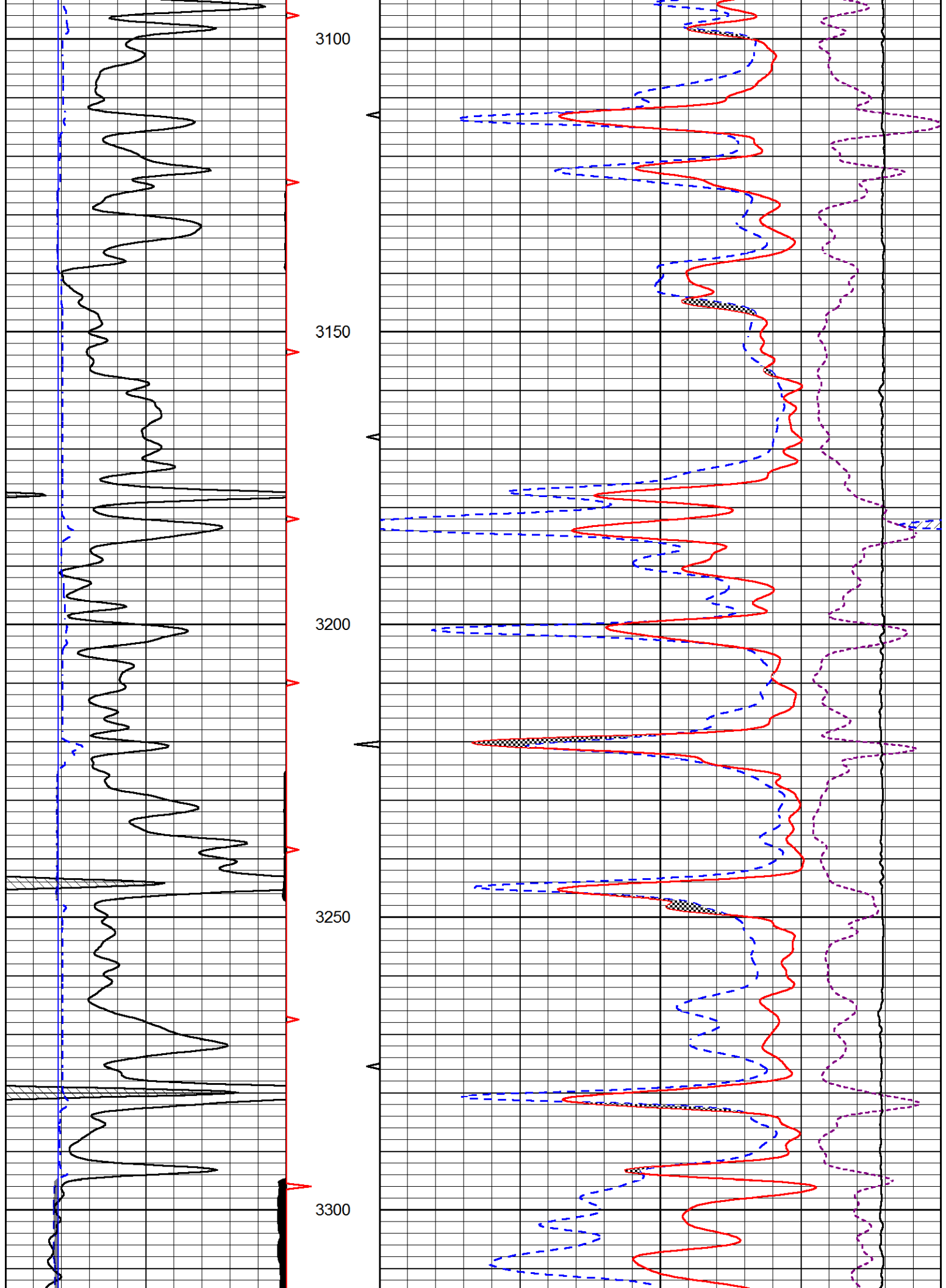


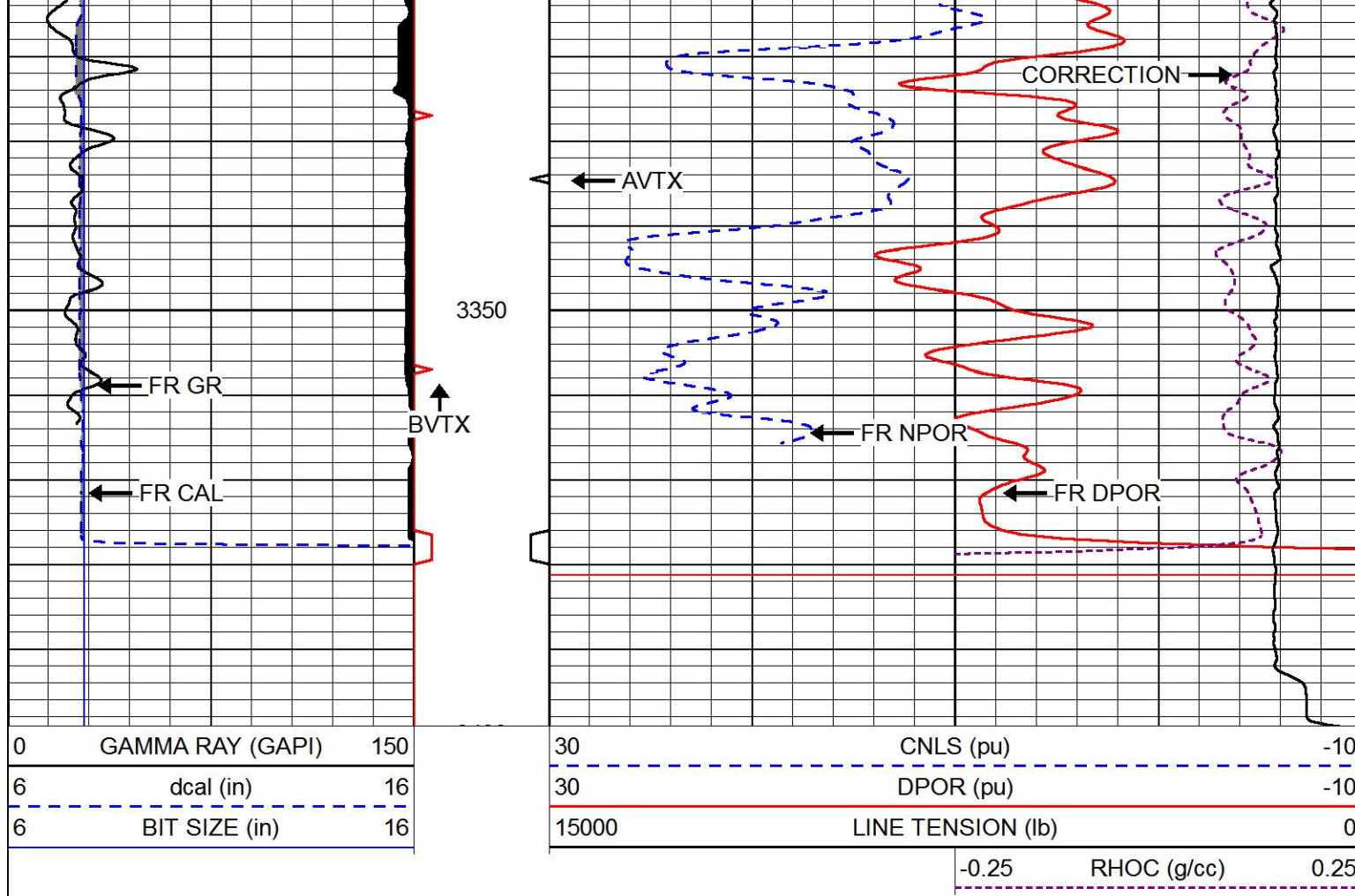
Database File casino_herter_4.db
Dataset Pathname stack/pass3.1
Presentation Format cndlspec
Dataset Creation Mon Jul 23 17:44:39 2018
Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	30	CNLS (pu)	-10
6	dcal (in)	16	30	DPOR (pu)	-10
6	BIT SIZE (in)	16	15000	LINE TENSION (lb)	0
			-0.25 RHOC (g/cc) 0.25		











PIONEER
Pioneer Energy Services

REPEAT SECTION

Database File: casino_herter_4.db

Dataset Pathname: stack/pass2.1

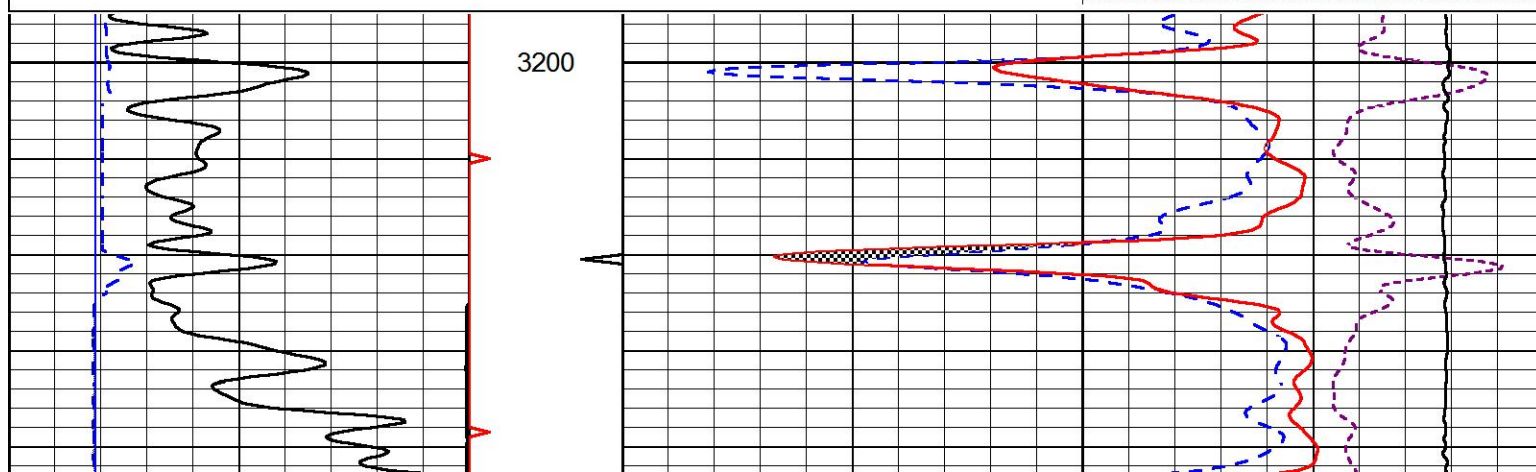
Presentation Format: cndlspec

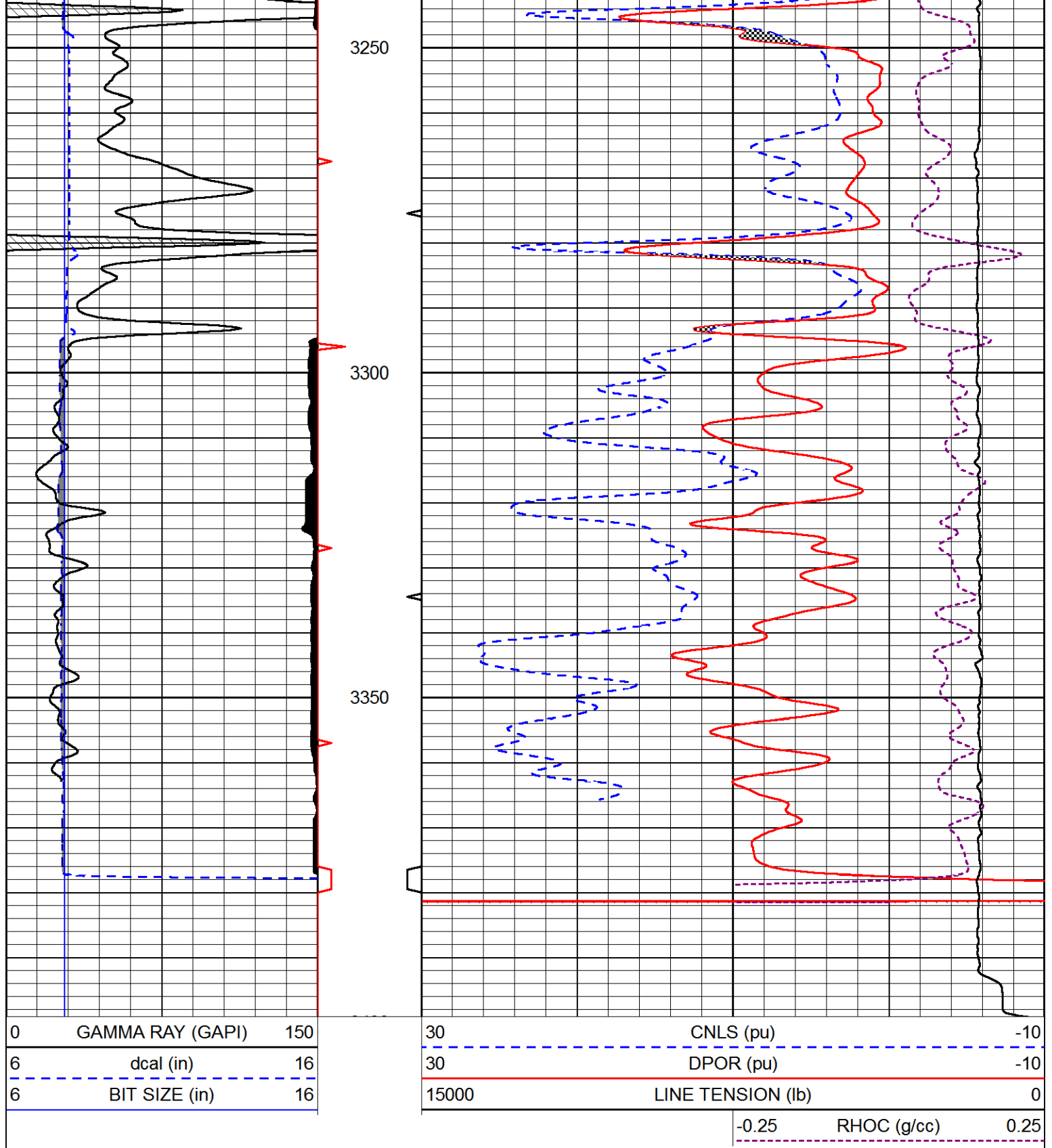
Dataset Creation: Mon Jul 23 17:45:33 2018

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	DPOR (pu)	-10
15000	LINE TENSION (lb)	0
-0.25	RHOC (g/cc)	0.25





Calibration Report

Database File casino_herter_4.db
Dataset Pathname stack/pass3.1
Dataset Creation Mon Jul 23 17:44:39 2018

Dual Induction Calibration Report

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

Readings			References			Results	
Loop:	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: 979-229-M&W
 Source / Verifier: 21170B /
 Master Calibration Performed: Tue Jun 26 07:59:32 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	7726.98	9910.47	cps
Aluminum	2.680	g/cc	1442.93	6391.03	cps
Spine Angle = 75.35			Density/Spine Ratio = 0.533		
	Size		Reading		
Small Ring	4.00	in	1.16		
Large Ring	16.00	in	1.03		

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



PIONEER
 Pioneer Energy Services

Company CASINO PETROLEUM, LLC
 Well HERTER NO. 4
 Field CHASE-SILICA
 County BARTON
 State KANSAS