



PIONEER

Pioneer Energy Services

DUAL COMP POROSITY LOG

Company CANYON OPERATING, LLC

Well B BAR B NO. 25-1

Field WC

County GRAHAM

State KANSAS

Location: API #: 15-065-24158-00-00

Other Services

SEC 25 TWP 8S RGE 23W

Permanent Datum GROUND LEVEL Elevation 2233'

Log Measured From KELLY BUSHING

Elevation
K.B. 2238'
D.F. N/A
G.L. 2233'

Date 11/9/2018

Run Number ONE

Type Log CNL/CDL

Depth Driller 3820'

Depth Logger 3820'

Bottom Logged Interval 3799'

Top Logged Interval 3200'

Type Fluid In Hole CHEMICAL

Salinity, PPM CL 2000

Density 9.0

Level FULL

Max. Rec. Temp. F 114 DEG/F

Operating Rig Time 4 HOURS

Equipment -- Location 108 HAYS

Recorded By J. HENRICKSON

Witnessed By BRUCE ARD

Borehole Record

Casing Record

Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	12.25"	0	217'	8.625"	23#	0	217'
TWO	7.875"	217'	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.
HILL CITY KANSAS
3 SOUTH TO NORTH TERRACE, 1 EAST, SOUTH 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

Engineer: J. HENRICKSON
Operator:
Operator:
Operator:

This Log Record Was Witnessed By

Primary Witness: BRUCE ARD
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 20	mmho/m 0	mV 120	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 20.83 20.35			CDL-M&W (817-947)	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: canyon_b_bar_b_25_1.db: field/well/stack/pass3.1
Total length: 35.50 ft
Total weight: 620.00 lb
O.D.: 4.00 in

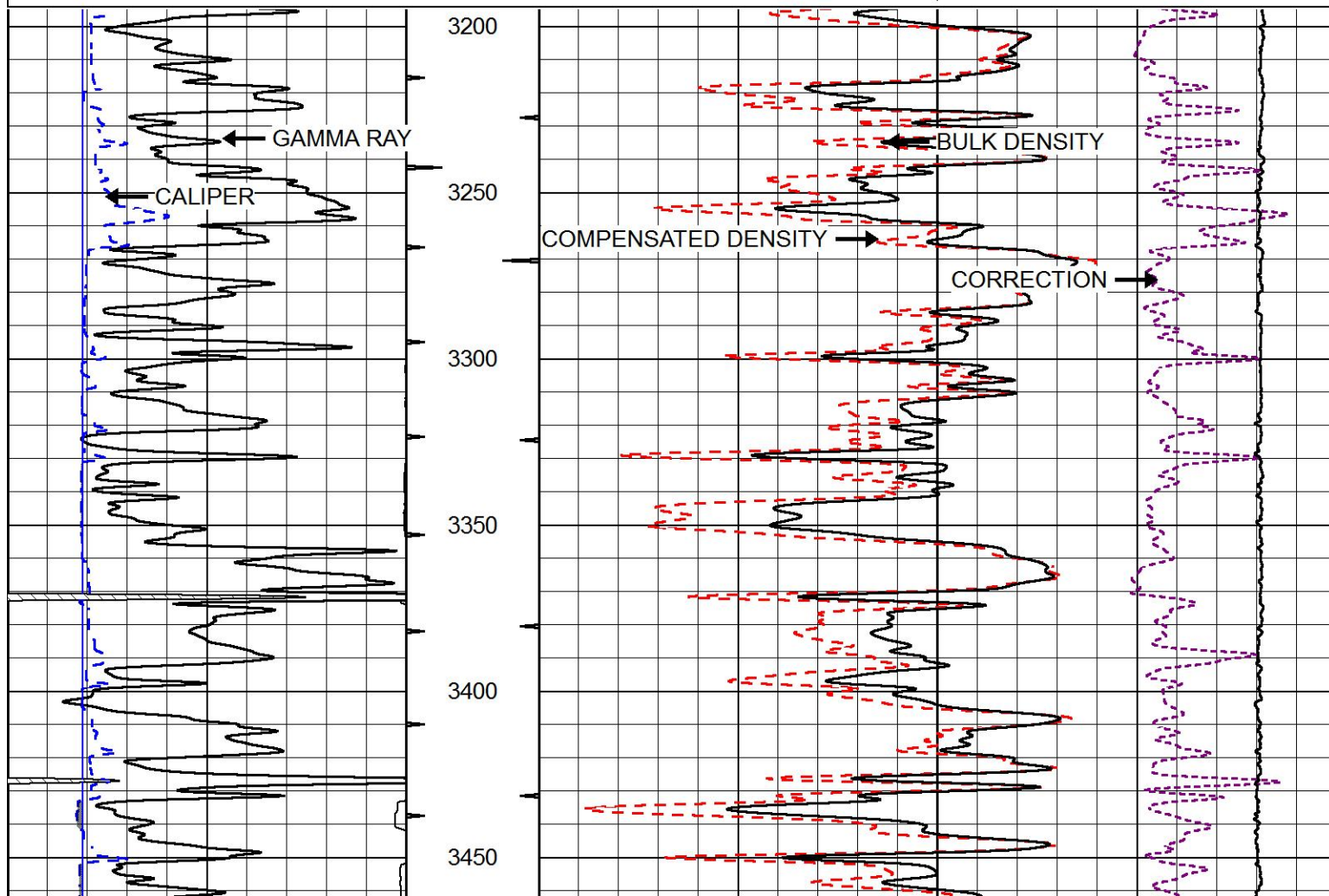


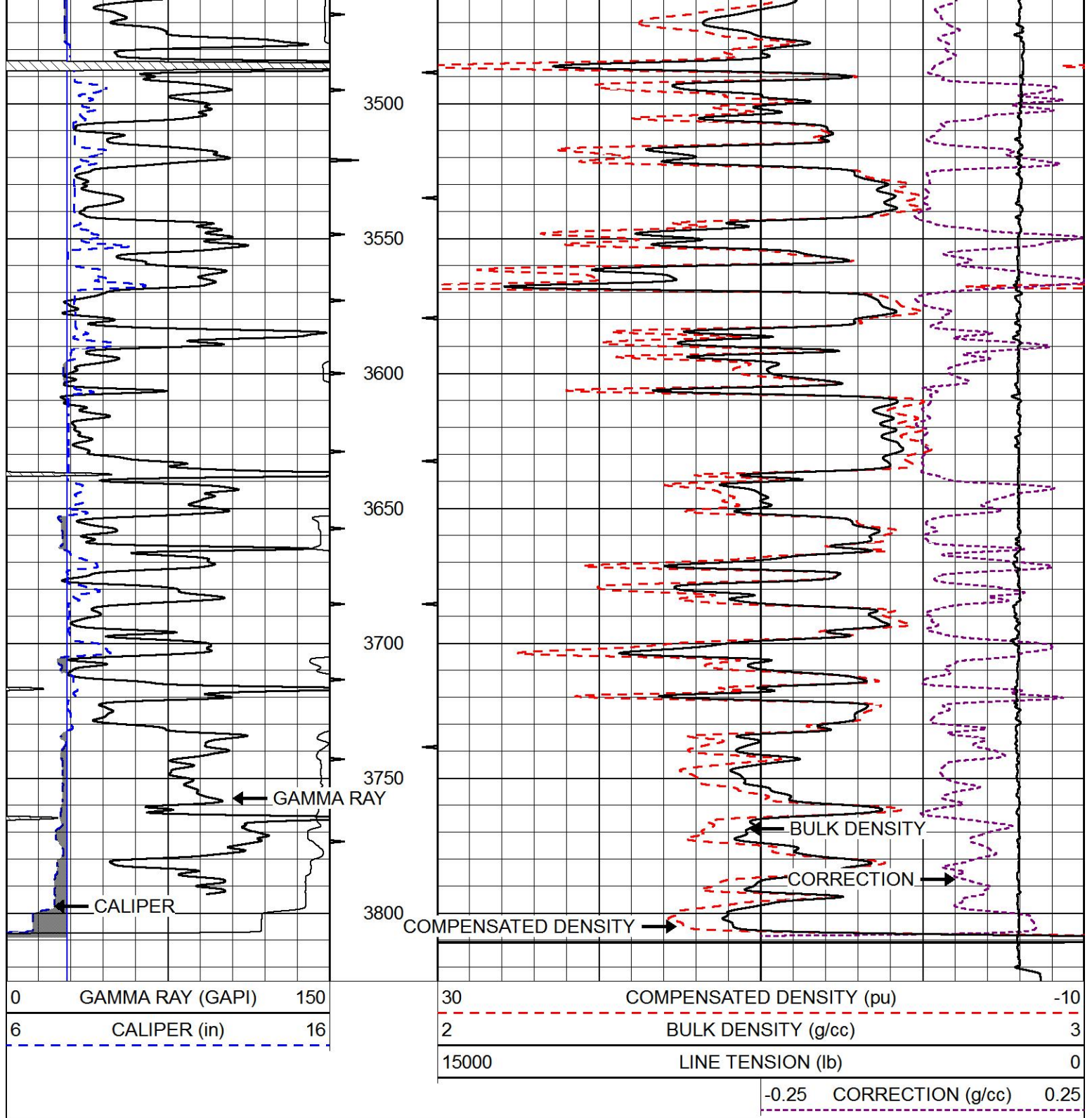
MAIN PASS

Database File canyon_b_bar_b_25_1.db
Dataset Pathname stack/pass3.1
Presentation Format cdl
Dataset Creation Fri Nov 09 10:05:32 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





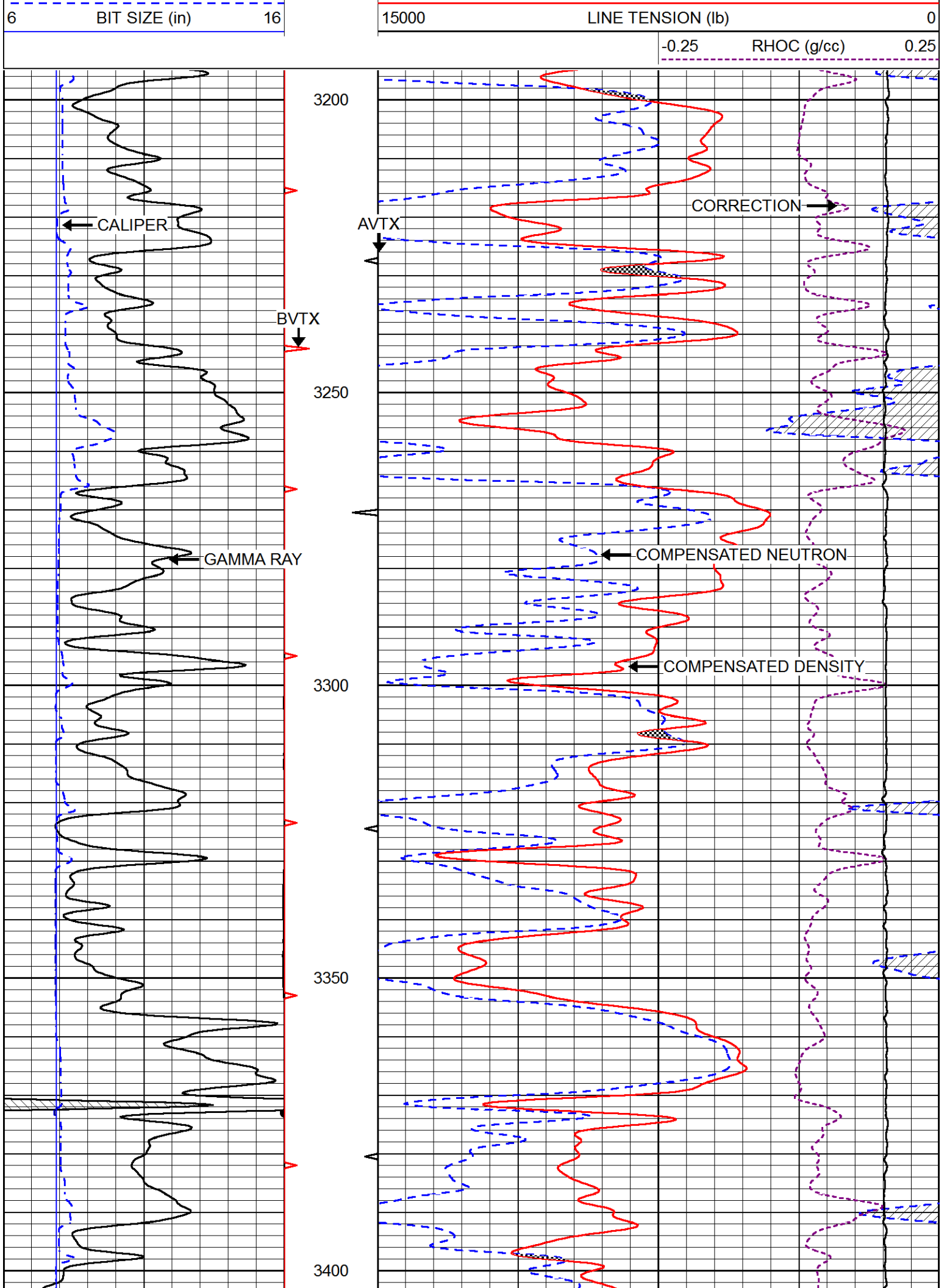


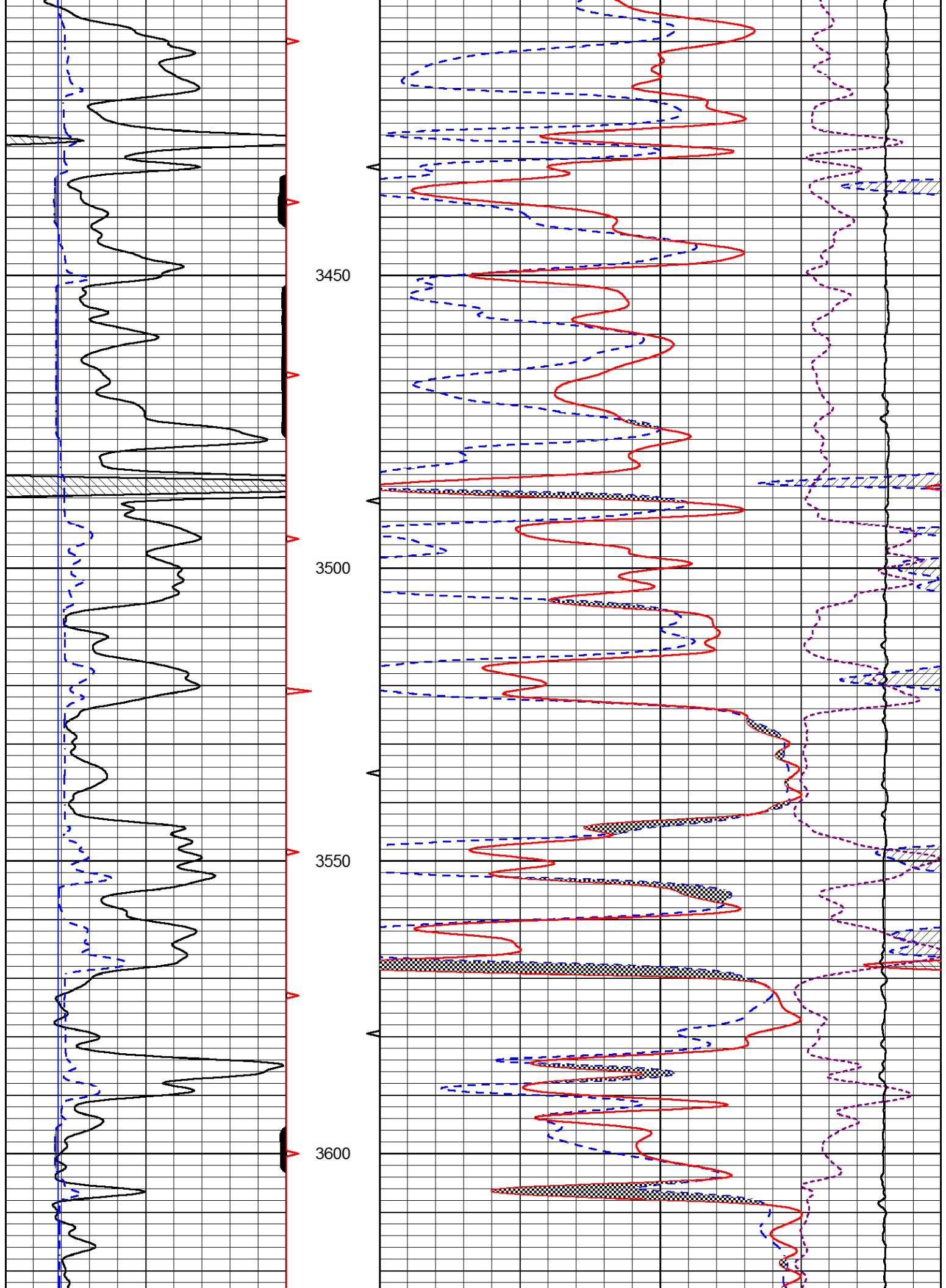
PIONEER
Pioneer Energy Services

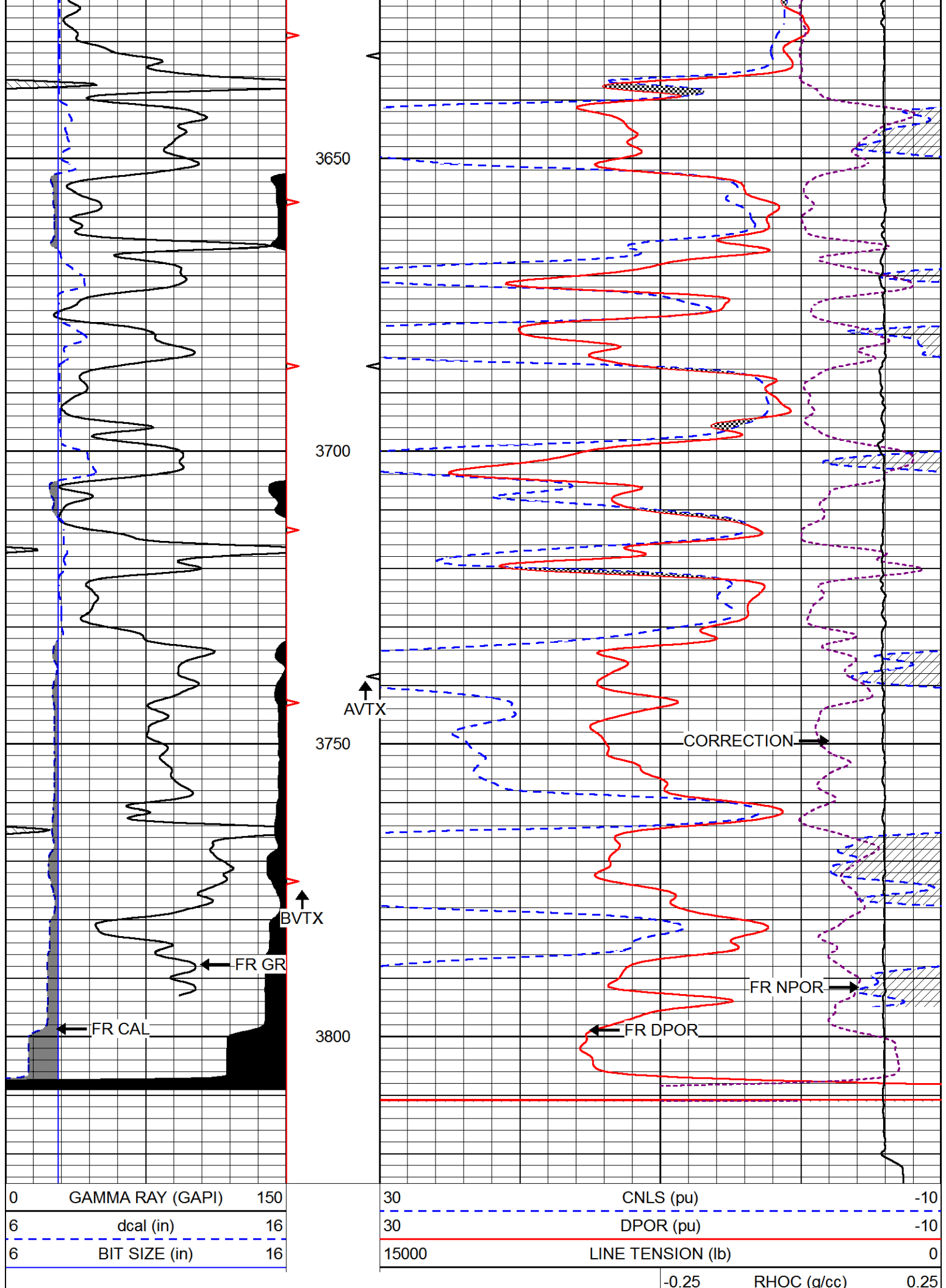
MAIN PASS

Database File		canyon_b_bar_b_25_1.db	
Dataset Pathname		stack/pass3.1	
Presentation Format		cndlspec	
Dataset Creation		Fri Nov 09 10:05:32 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





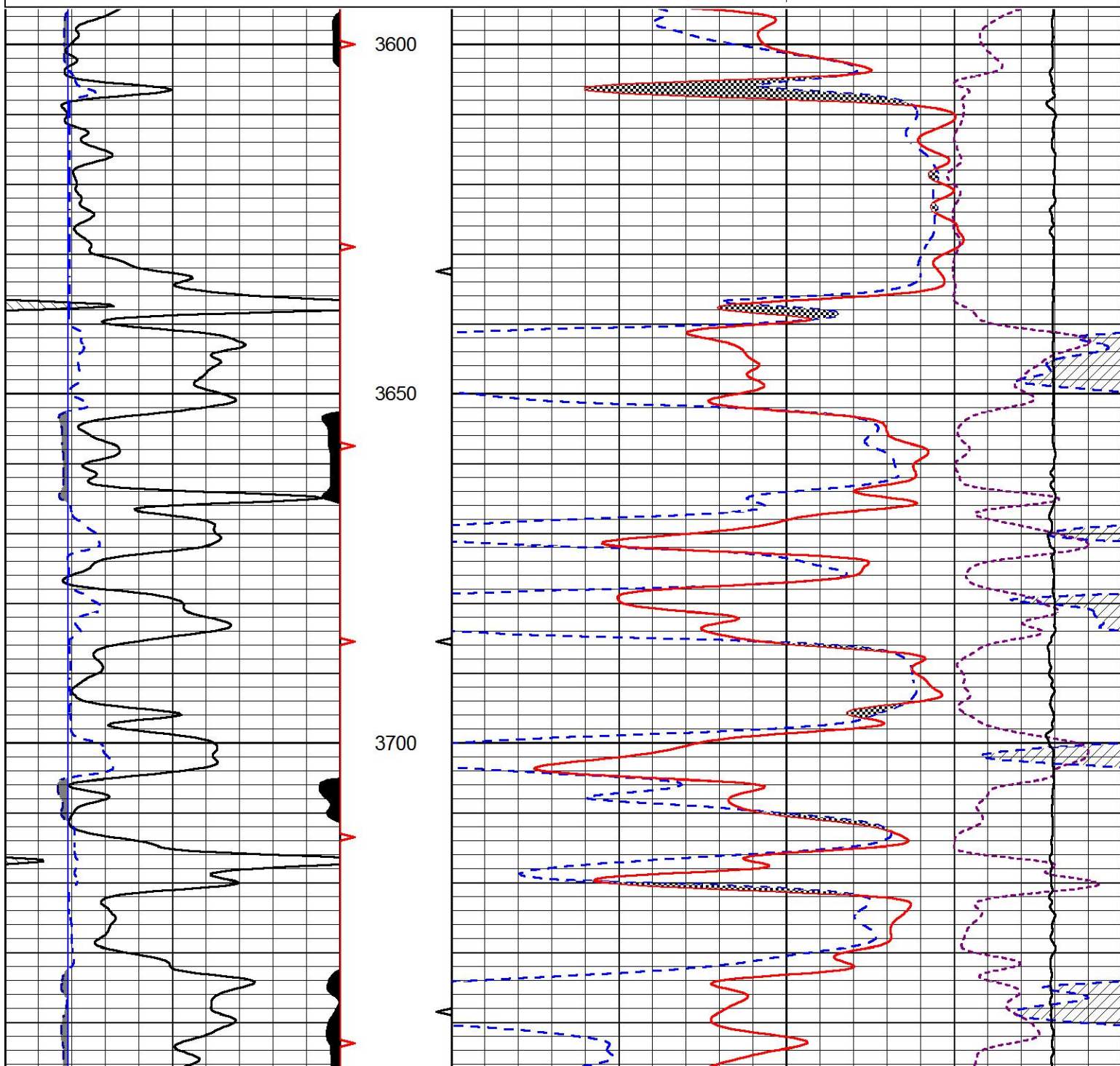


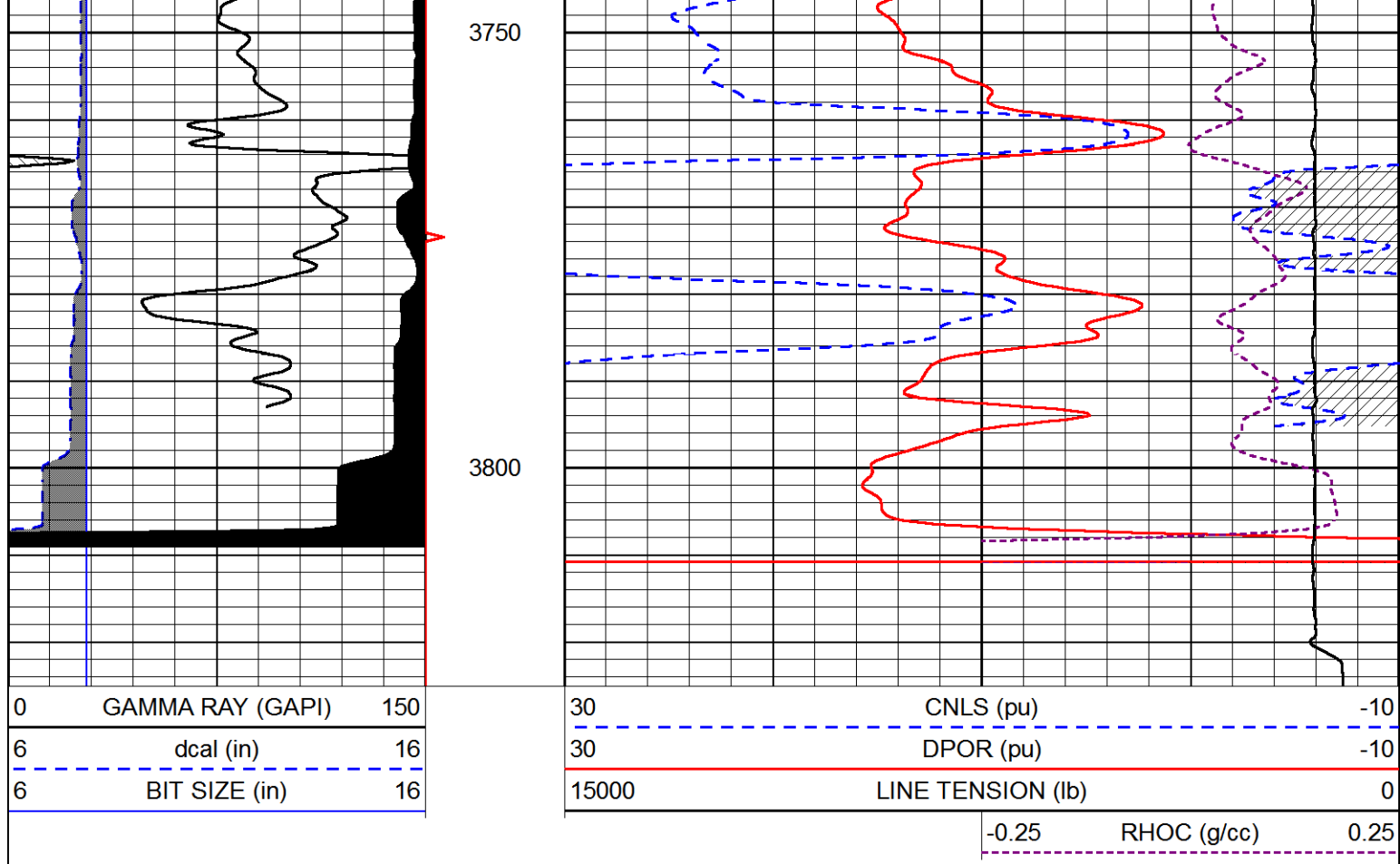
REPEAT SECTION

Database File canyon_b_bar_b_25_1.db
Dataset Pathname stack/pass2.1
Presentation Format cndlspec
Dataset Creation Fri Nov 09 10:05:42 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	canyon_b_bar_b_25_1.db	
Dataset Pathname	stack/pass3.1	
Dataset Creation	Fri Nov 09 10:05:32 2018	

Dual Induction Calibration Report							
Serial-Model:				1987-M&W			
Calibration Performed:				Thu Aug 09 22:42:18 2018			
Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.520	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.400	-110.500

Compensated Density Calibration Report		
Serial-Model:		817-947-M&W
Source / Verifier:		/
Master Calibration Performed:		Thu Nov 08 10:59:41 2018

Master Calibration						
	Density		Far Detector	Near Detector		
Magnesium	1.755	g/cc	5524.90	5328.23	cps	
Aluminum	2.675	g/cc	1020.59	3369.54	cps	
Spine Angle = 74.82			Density/Spine Ratio = 0.526			

	Size		Reading
Small Ring	4.00	in	1.02
Large Ring	14.00	in	1.15

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

	Company	CANYON OPERATING, LLC
	Well	B BAR B NO. 25-1
	Field	WC
	County	GRAHAM
	State	KANSAS