



PIONEER
Pioneer Energy Services

MICRORESISTIVITY LOG

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

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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
1380' FSL & 930' FEL

CNL/CDL
DIL/BHCS

Permanent Datum GROUND LEVEL Elevation 2233'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

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

Date 11/9/2018

Run Number TWO

Depth Driller 3820'

Depth Logger 3820'

Bottom Logged Interval 3819'

Top Log Interval 3200'

Casing Driller 8.625" @ 217'

Casing Logger 221'

Bit Size 7.875"

Type Fluid in Hole CHEMICAL

Salinity, ppm CL 2000

Density / Viscosity 9.0 49

pH / Fluid Loss 10.5 8.0

Source of Sample FLOWLINE

Rm @ Meas. Temp .80 @ 67

Rmt @ Meas. Temp .60 @ 67

Rmc @ Meas. Temp 1.08 @ 67

Source of Rmt / Rmc CHARTS

Rm @ BHT .47 @ 114

Operating Rig Time 4 HOURS

Max Rec. Temp. F 114 DEGF

Equipment Number 108

Location HAYS

Recorded By J. HENRICKSON

Witnessed By BRUCE ARD

<<< 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	29.90			CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	29.15						
LSD	20.85			CDL-M&W (817-947)	8.50	4.00	250.00
	20.83						
	20.35						
RLL3	15.80						
RLL3F	15.79						
CILD	8.00			DIL-M&W (1987)	18.50	3.50	220.00

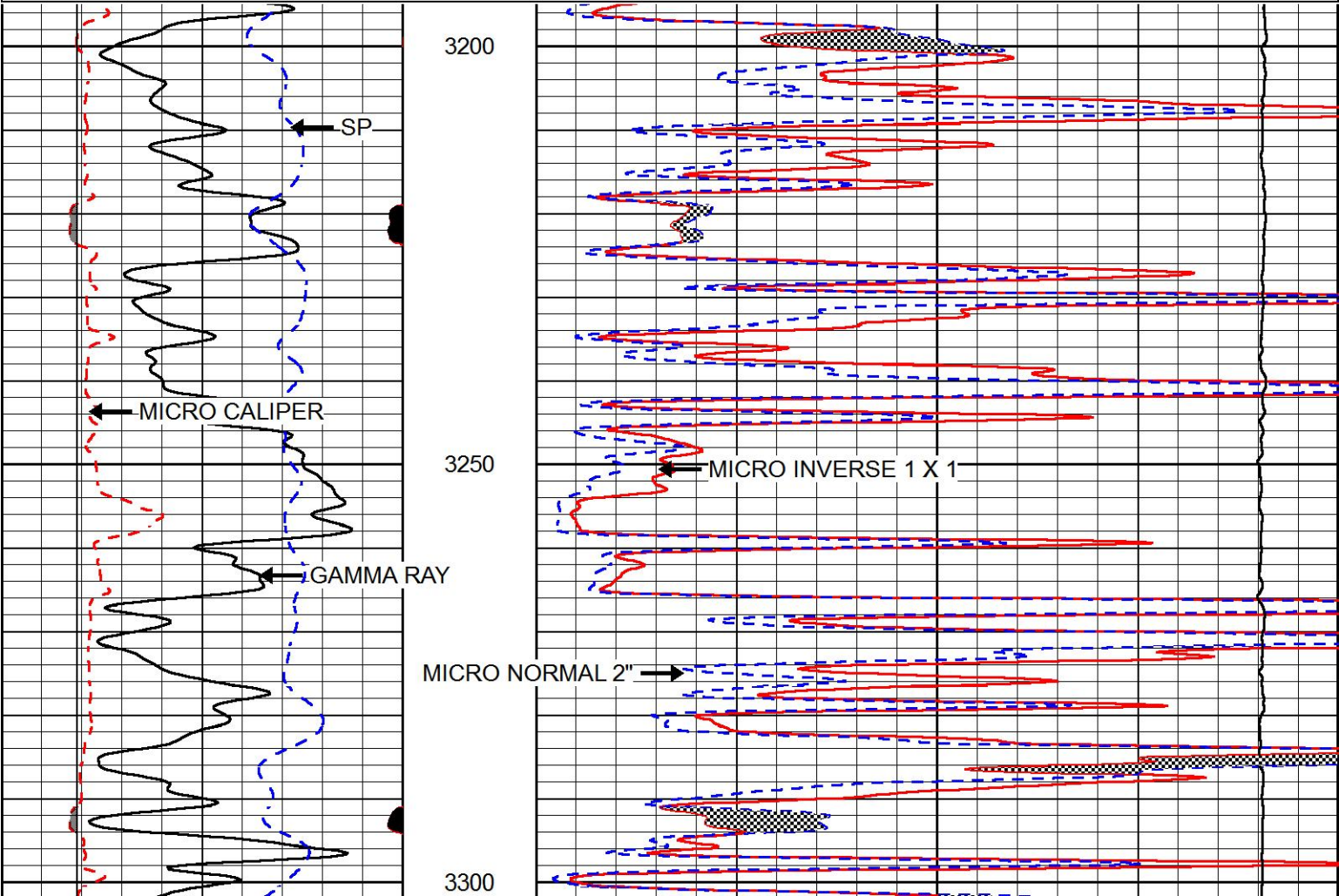
CILM	4.70								
SP	0.20								
Dataset: canyon_b_bar_b_25_1.db: field/well/stack/pass3.1 Total length: 35.50 ft Total weight: 620.00 lb O.D.: 4.00 in									

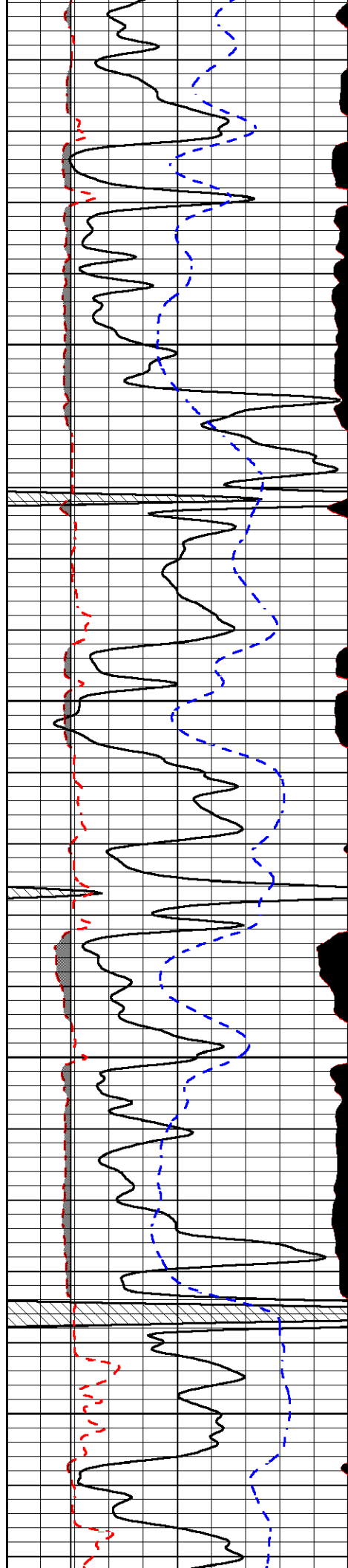


MAIN PASS

Database File	canyon_b_bar_b_25_1.db
Dataset Pathname	stack/pass3.1
Presentation Format	micro
Dataset Creation	Fri Nov 09 10:05:32 2018
Charted by	Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0	MICRO INVERSE 1 X 1 (Ohm-m)	40
6	MICRO CALIPER (in)	16	0	MICRO NORMAL 2" (Ohm-m)	40
6	BIT SIZE (in)	16	15000	LINE TENSION (lb)	0
-200	SP (mV)	0			



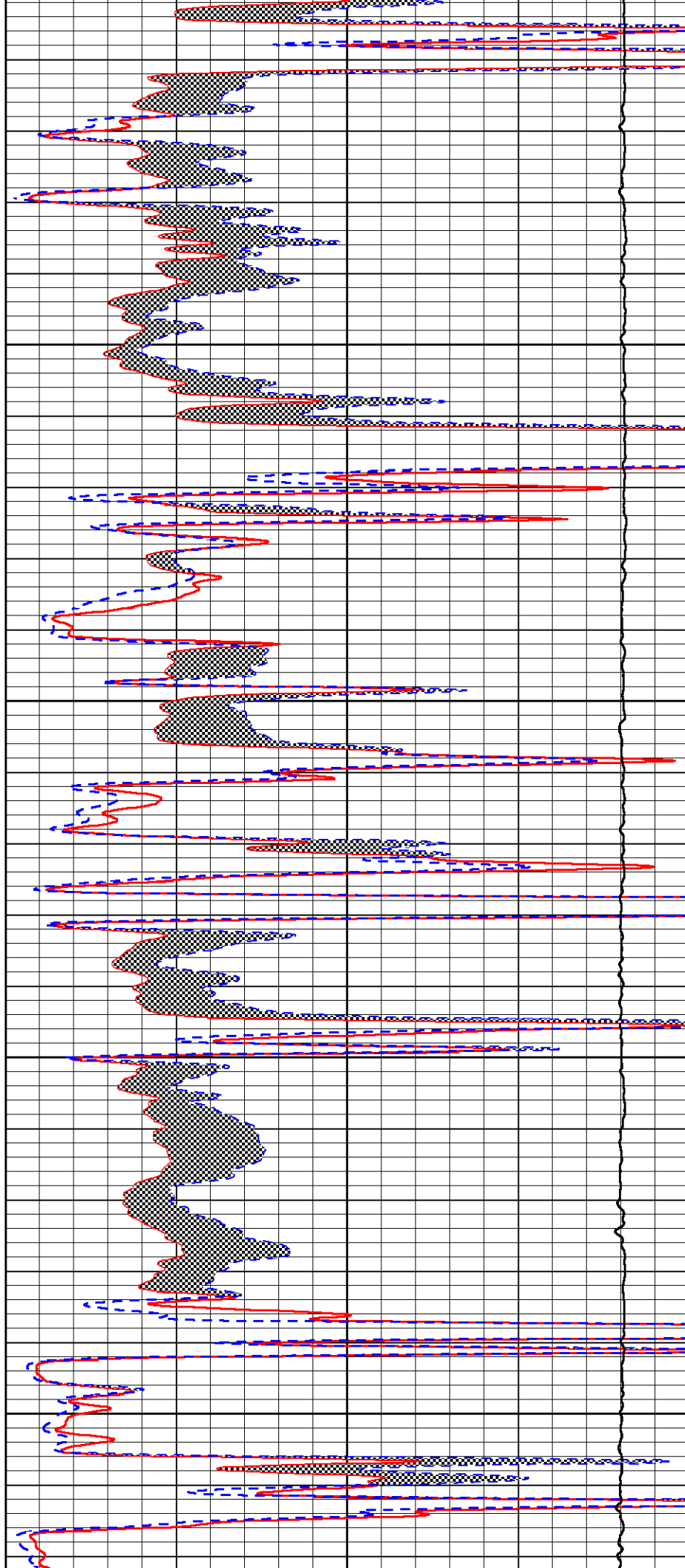


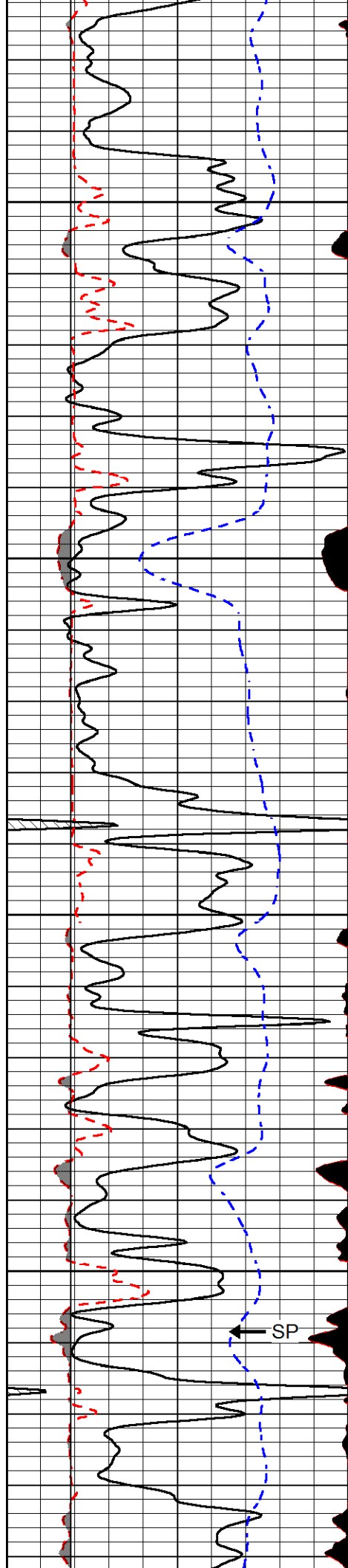
3350

3400

3450

3500





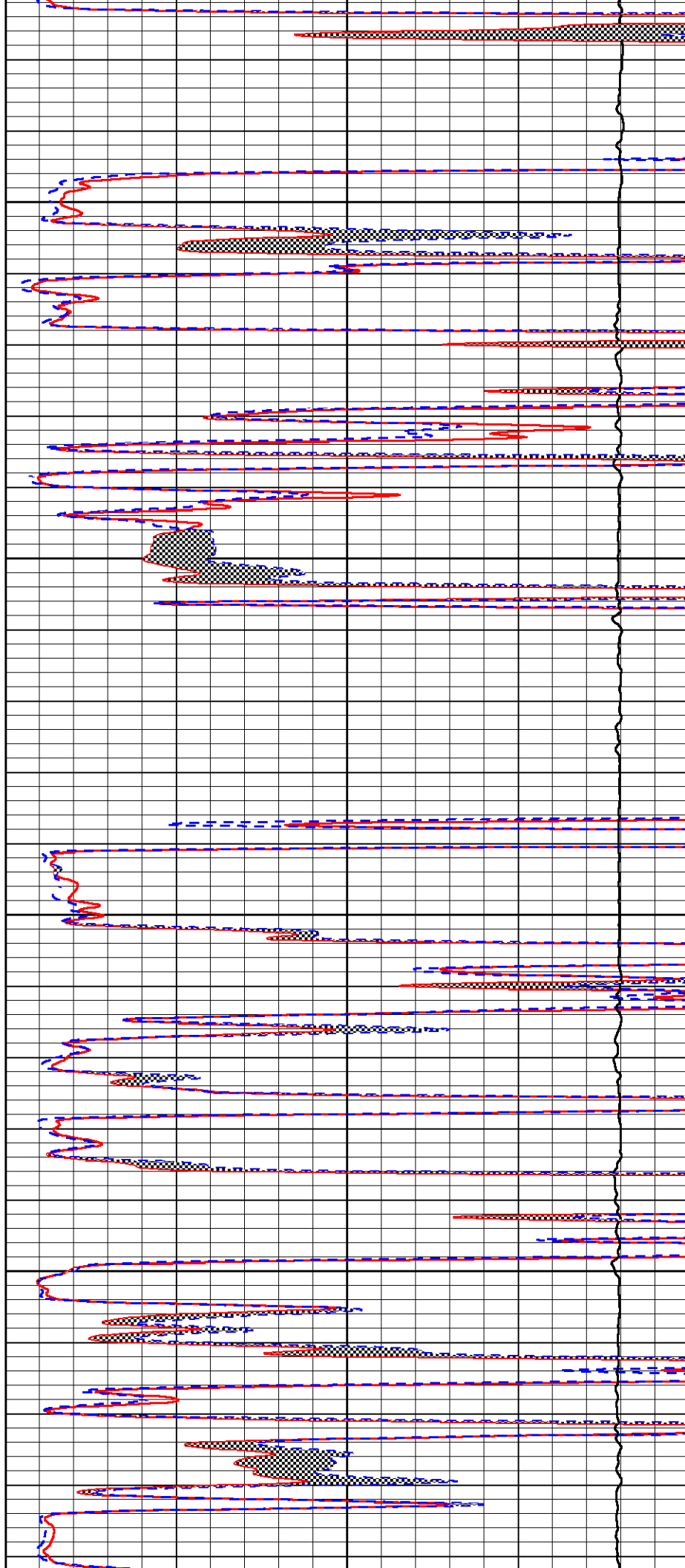
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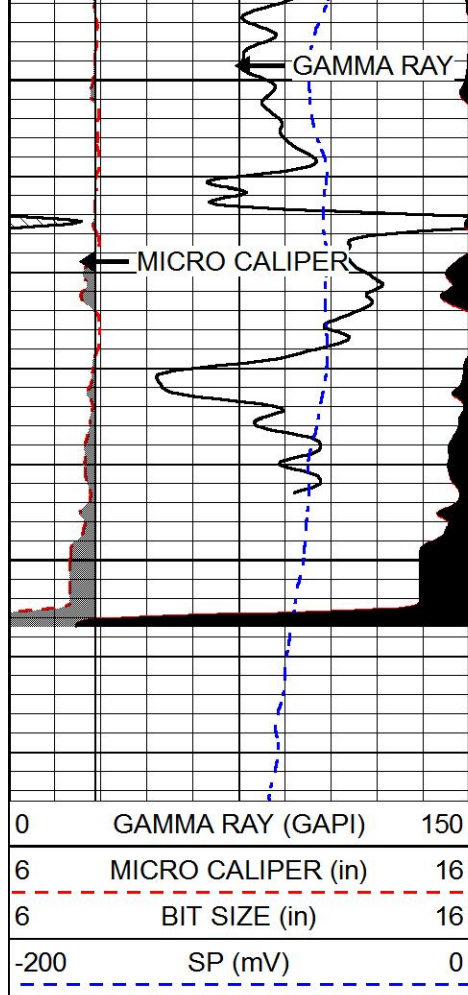
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3650

3700

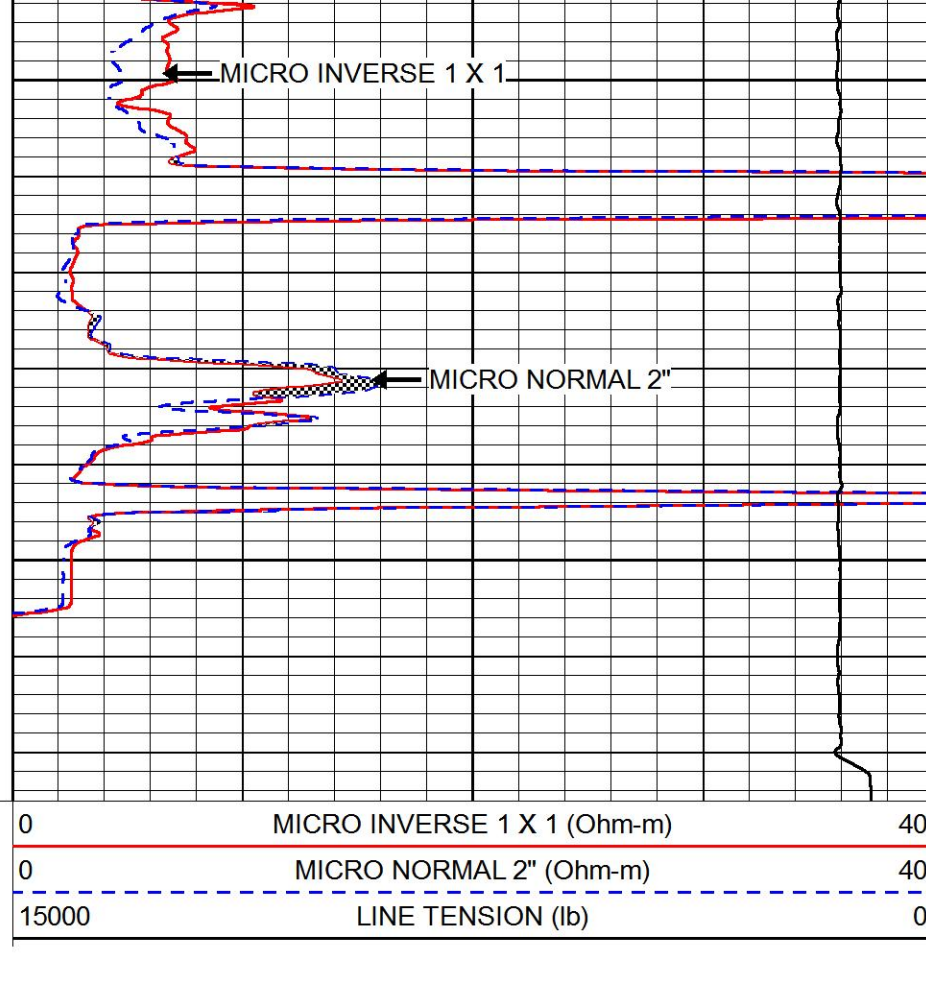
SP





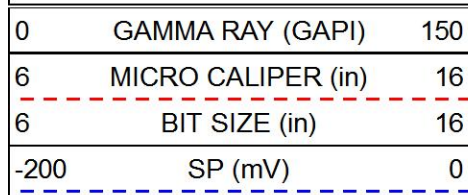
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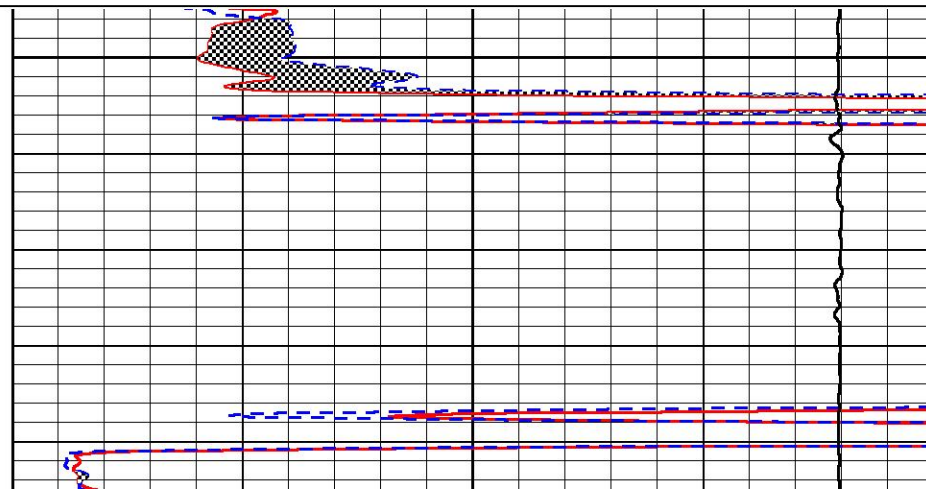
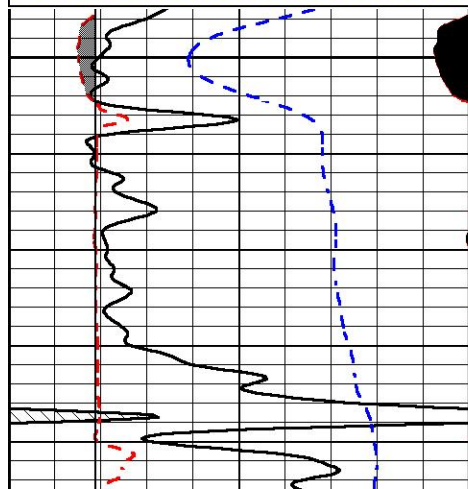
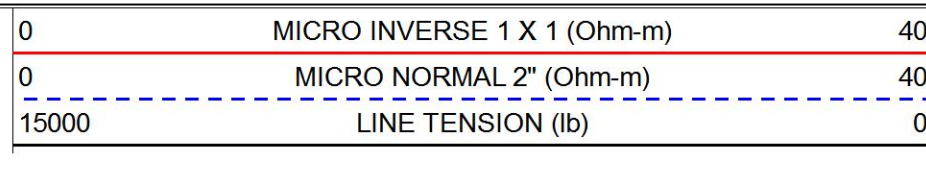


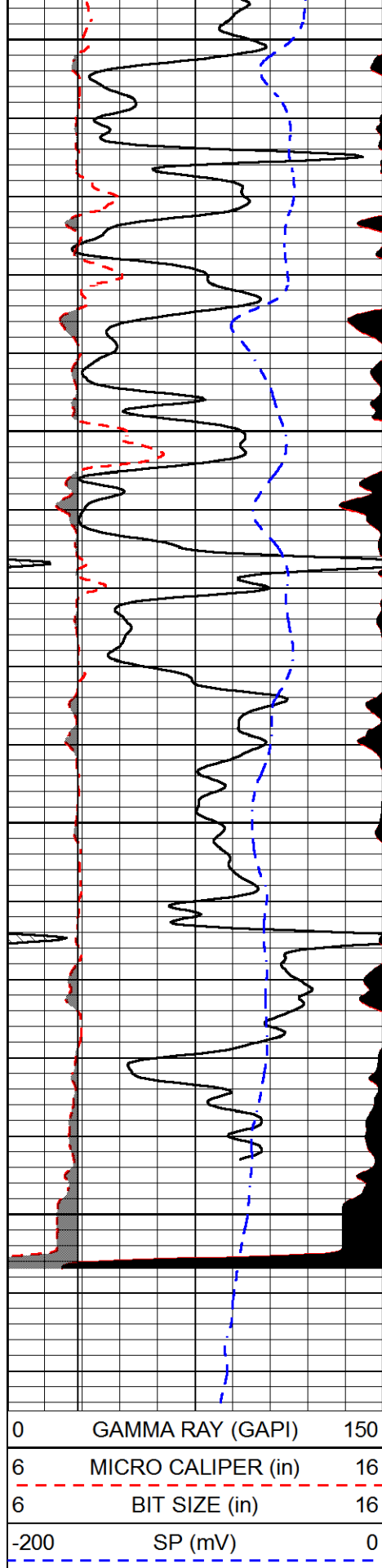
REPEAT SECTION

Database File canyon_b_bar_b_25_1.db
 Dataset Pathname stack/pass2.1
 Presentation Format micro
 Dataset Creation Fri Nov 09 10:05:42 2018
 Charted by Depth in Feet scaled 1:240



3600



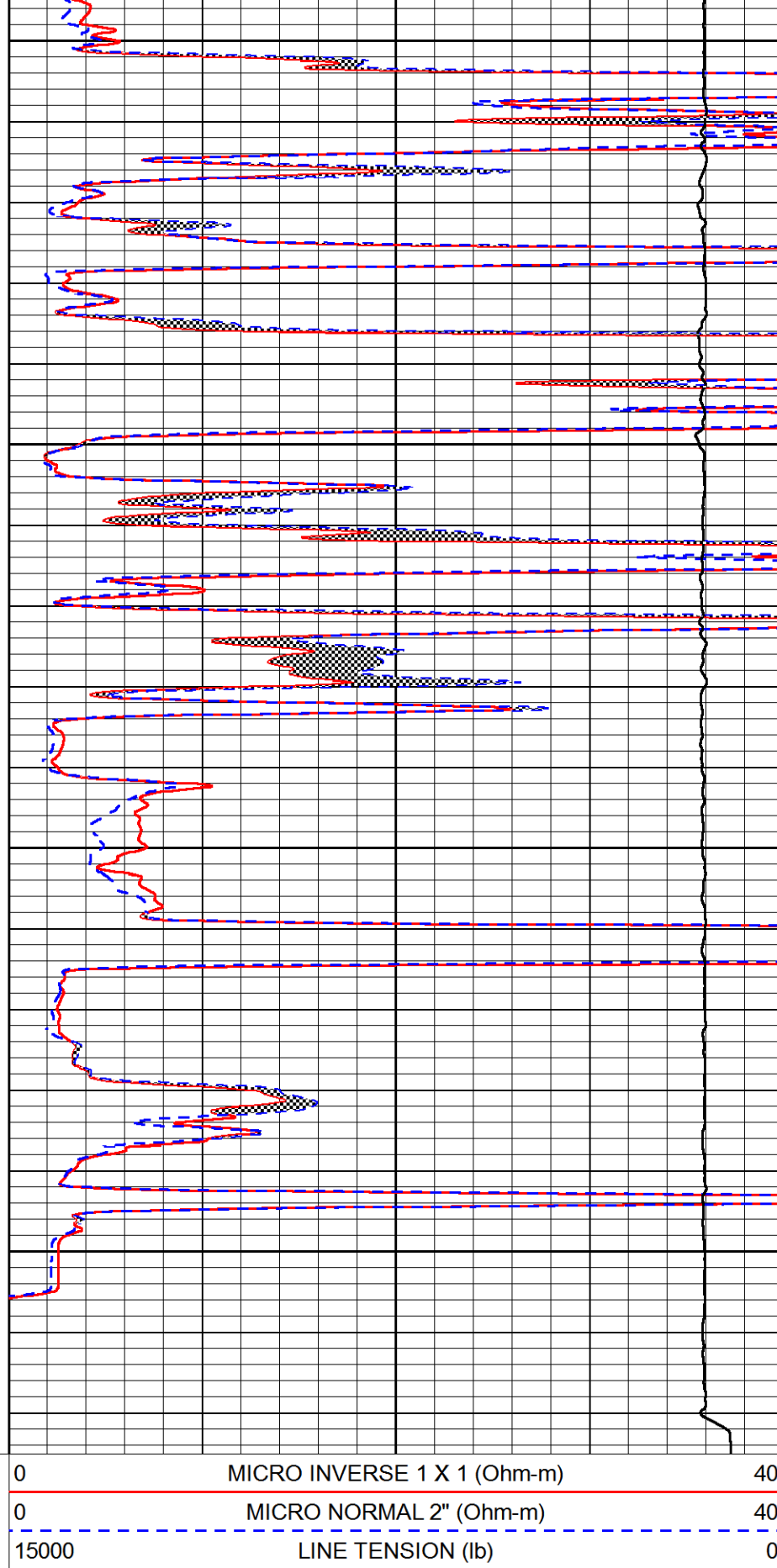


3650

3700

3750

3800



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

	Readings		References		Results	
Loop:	Air	Loop	Air	Loop		
Deep	178.615	710.235	0.000	255.800	mmho/m	0.520
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.400

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



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Field

WC

County

GRAHAM

State

KANSAS