



PIONEER
Pioneer Energy Services

MICRORESISTIVITY LOG

Company JOHN O FARMER, INC.
Well MCALLISTER UNIT #1
Field WALDO NORTHWEST
County RUSSELL
State KANSAS

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Location: API #: 15-167-24084-00-00

125' FNL & 2750' FWL

SEC 17 TWP 12S RGE 13W

Permanent Datum GROUND LEVEL Elevation 1757'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Other Services
CNL/CDL
DIL
Elevation
K.B. 1765'
D.F. N/A
G.L. 1757'

Date	11/12/2018		
Run Number	ONE		
Depth Driller	3155'		
Depth Logger	3155'		
Bottom Logged Interval	3154'		
Top Log Interval	2600'		
Casing Driller	8.625" @ 221'		
Casing Logger	223'		
Bit Size	7.875"		
Type Fluid in Hole	CHEMICAL		
Salinity, ppm CL	6000		
Density / Viscosity	9.0 47		
pH / Fluid Loss	9.5 9.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.45 @ 55		
Rmt @ Meas. Temp	.34 @ 55		
Rmc @ Meas. Temp	.61 @ 55		
Source of Rmt / Rmc	CHARTS		
Rm @ BHT	.23 @ 108		
Operating Rig Time	3 HOURS		
Max Rec. Temp. F	108 DEGF		
Equipment Number	108		
Location	HAYS		
Recorded By	J. HENRICKSON		
Witnessed By	JASON ALM		

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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.

RUSSELL KANSAS
SOUTH TO LAND ROAD, NORTH AND EAST TO BEATTY ROAD,
3/4 EAST, SOUTH INTO

Log Measured From: KELLY BUSHING 8 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: JASON ALM
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 108	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 -30	degF 27	Off	ft 3155

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	37.48			CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	36.73						
LSD DCAL SSD	28.43 28.42 27.93			CDL-M&W (817-947)	8.50	4.00	250.00
ML-PSI STKBL ML (PSI-01) Stackable Microlog Tools	7.58				7.58	4.00	65.00
MCAL	19.83						
MI	19.83						
MN	19.83						
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: john_o_farmer_mcallister_unit_1.db: field/well/stack/pass3.1
Total length: 43.08 ft
Total weight: 685.00 lb
O.D.: 4.00 in

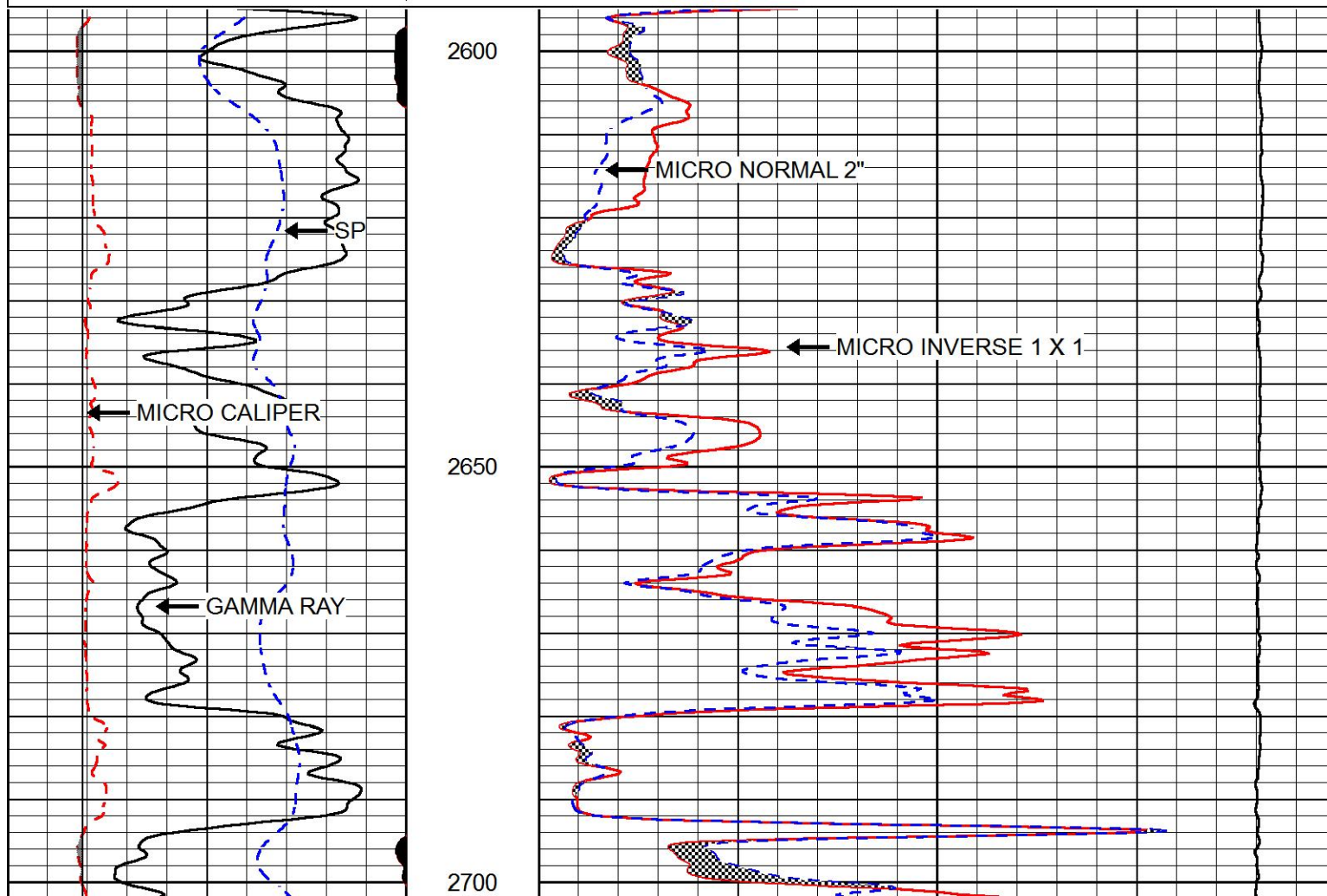


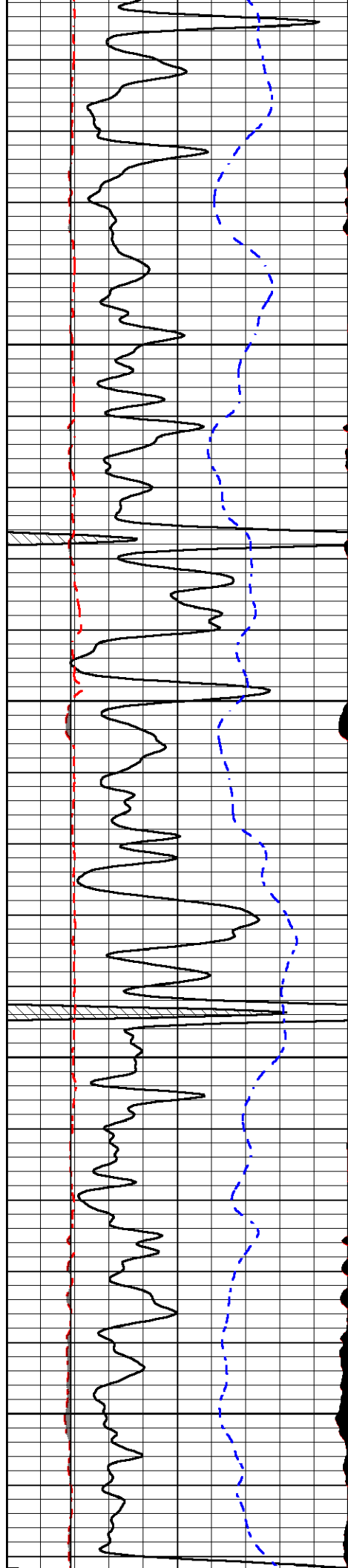
MAIN PASS

Database File john_o_farmer_mcallister_unit_1.db
Dataset Pathname stack/pass3.1
Presentation Format micro
Dataset Creation Mon Nov 12 02:56:33 2018
Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0



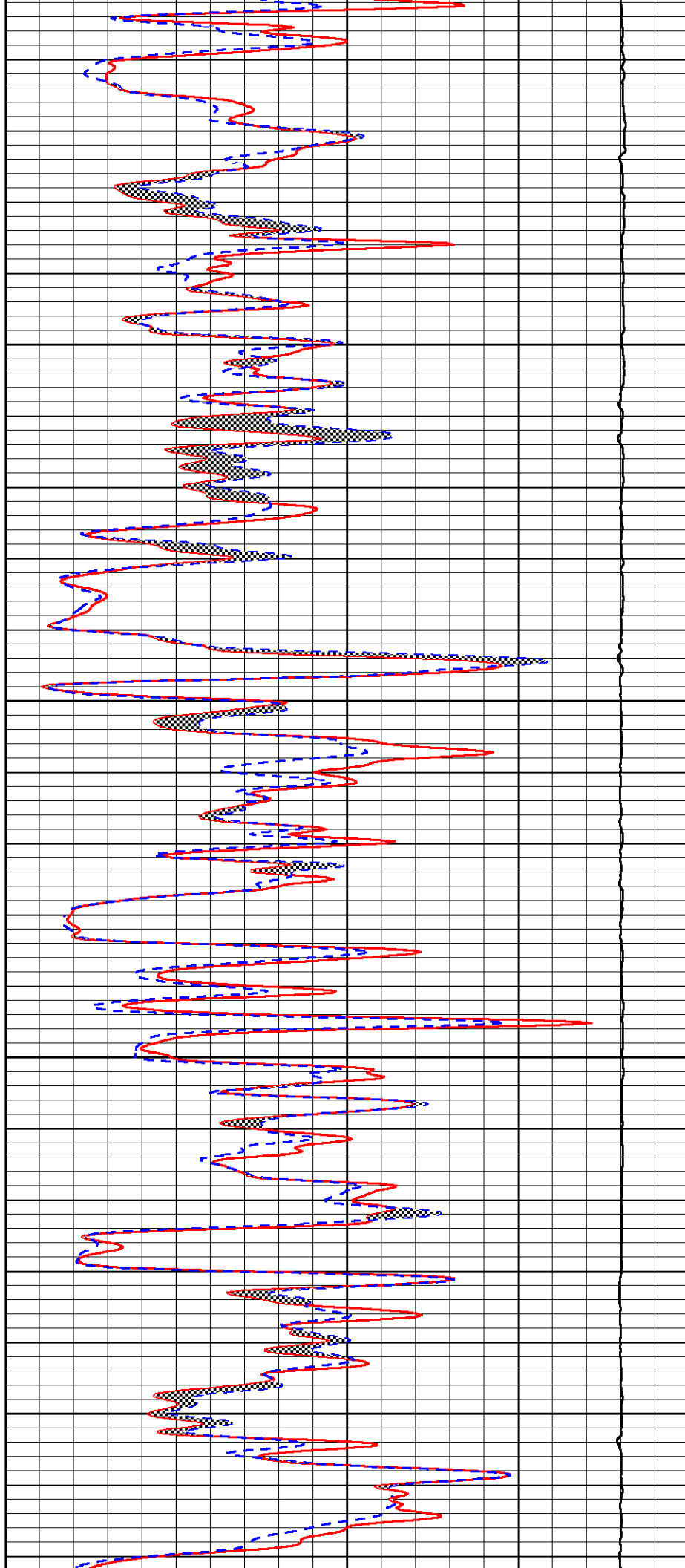


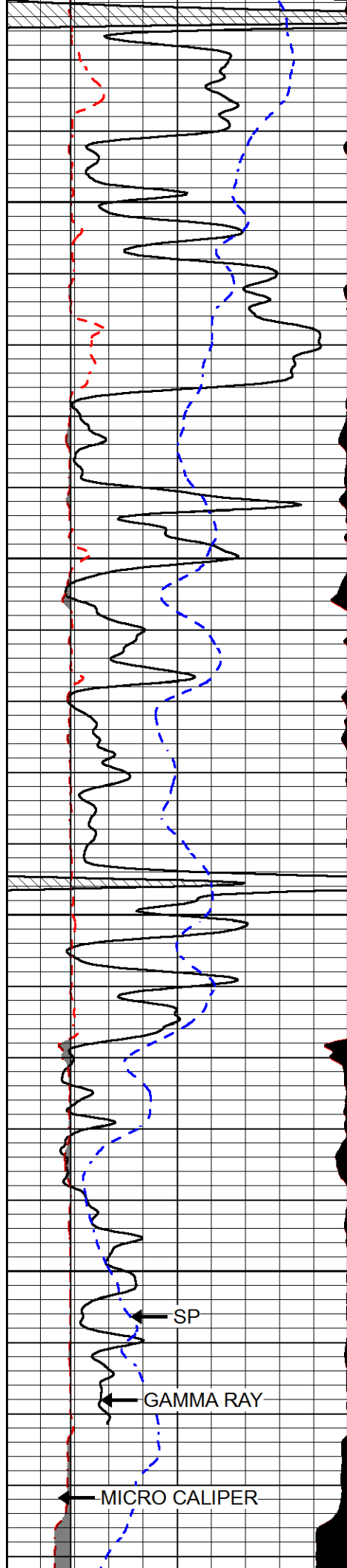
2750

2800

2850

2900





2950

3000

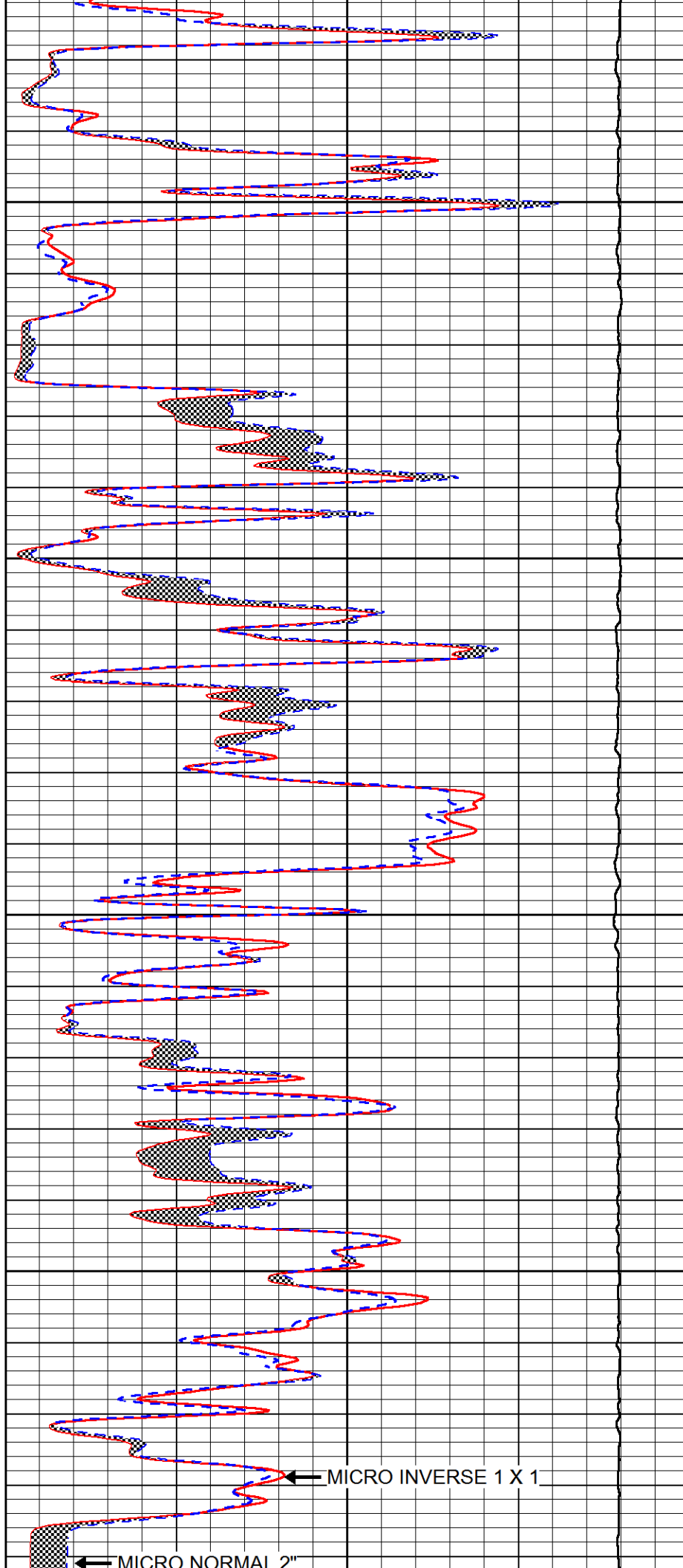
3050

3100

SP

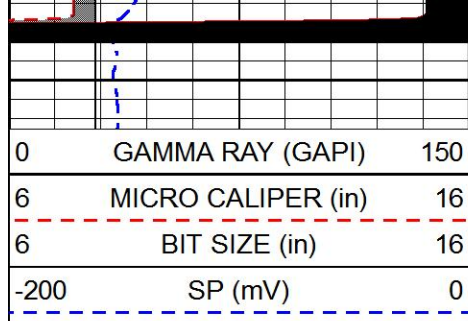
GAMMA RAY

MICRO CALIPER

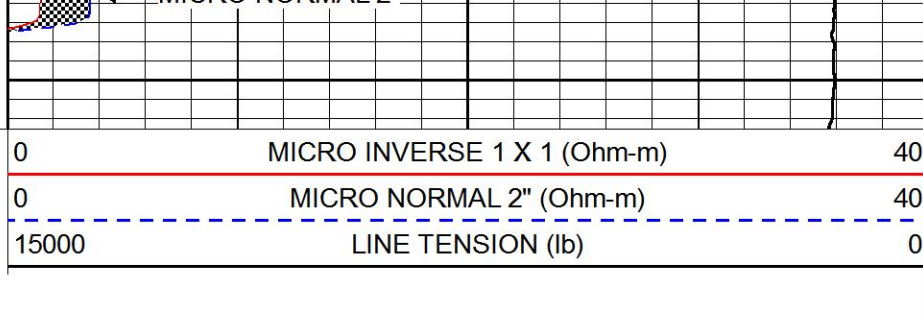


MICRO INVERSE 1 X 1

MICRO NORMAL 2"

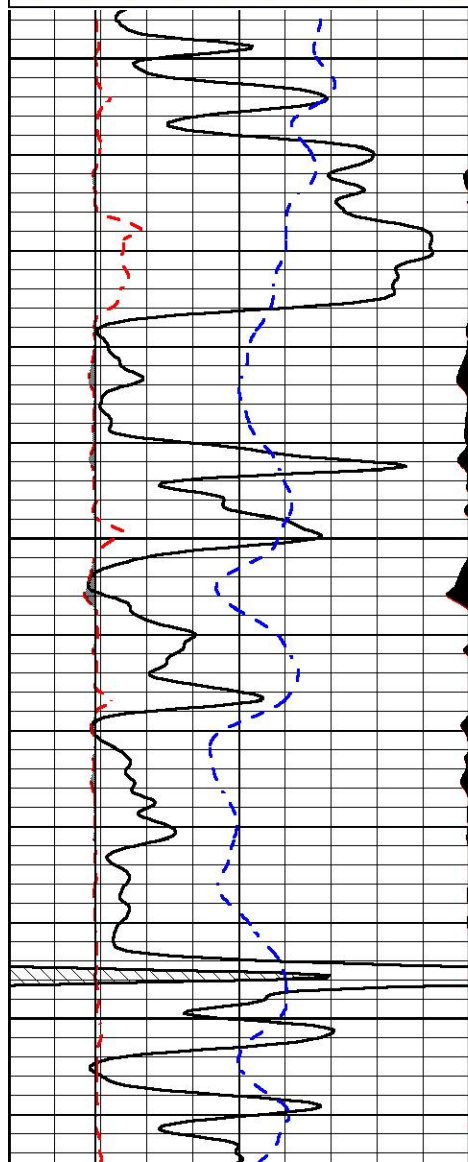
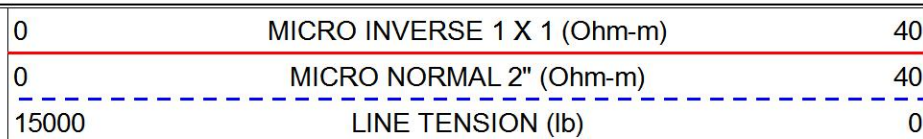
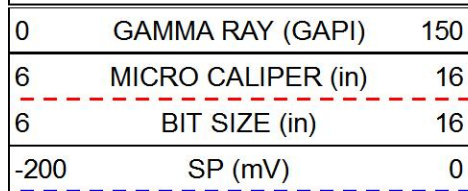


3150



REPEAT SECTION

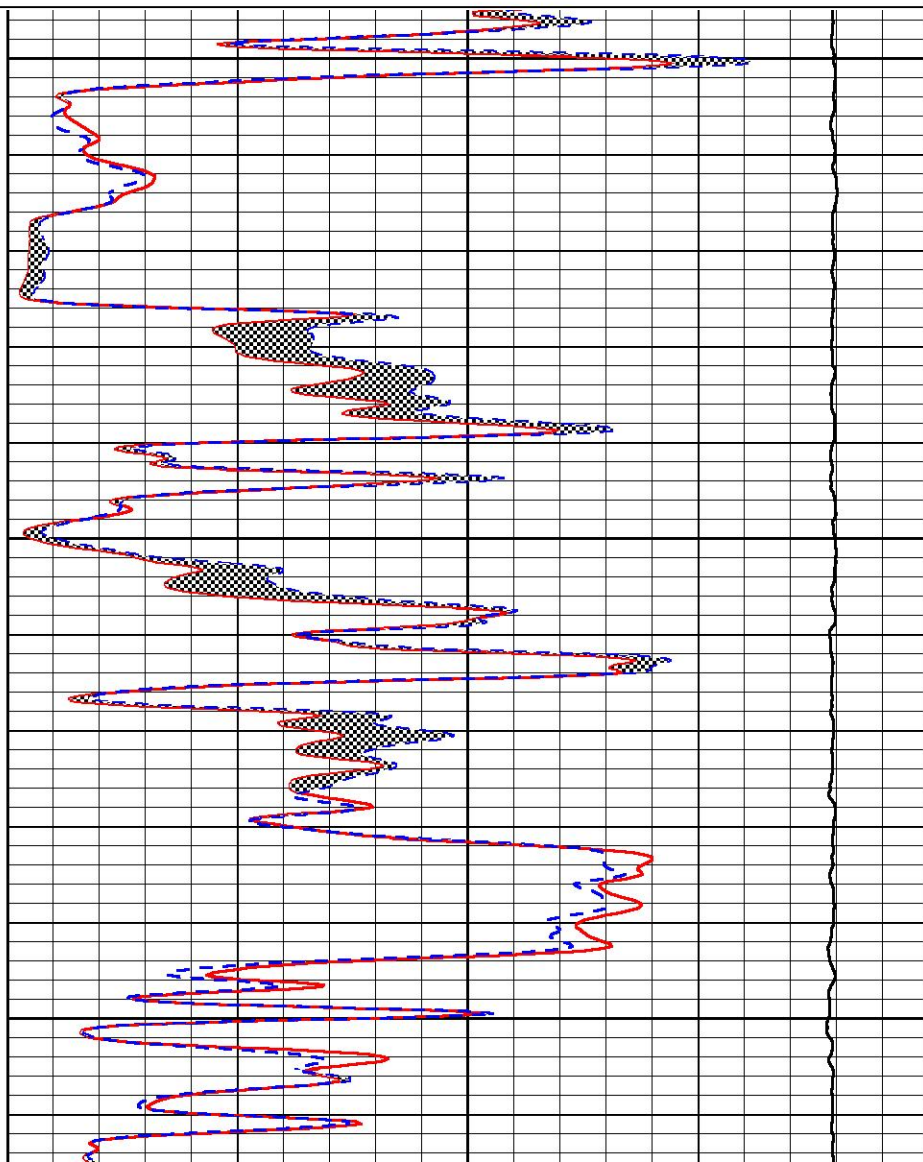
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 Presentation Format micro
 Dataset Creation Mon Nov 12 02:56:44 2018
 Charted by Depth in Feet scaled 1:240

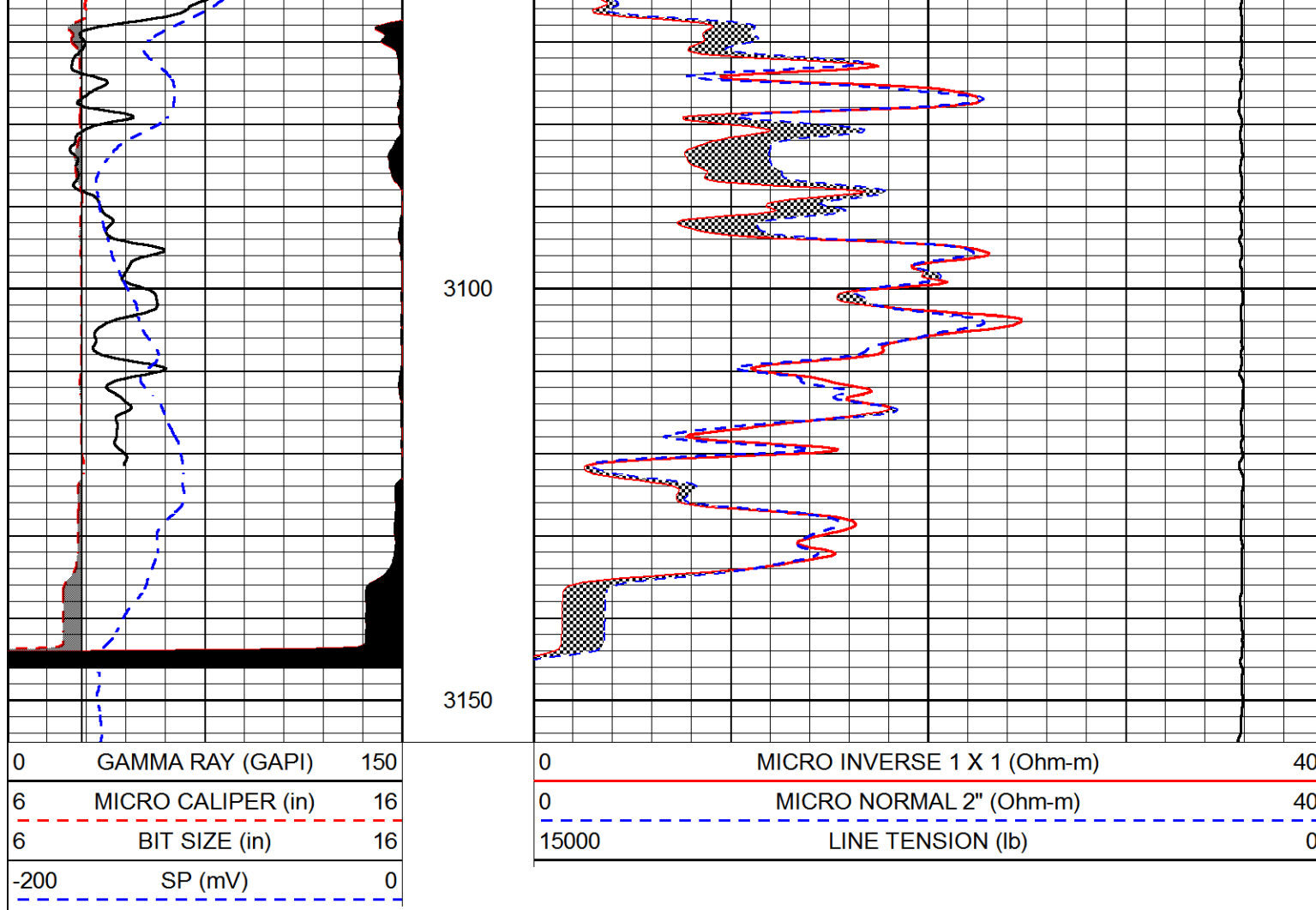


2950

3000

3050





Calibration Report							
Database File	john_o_farmer_mcallister_unit_1.db						
Dataset Pathname	stack/pass3.1						
Dataset Creation	Mon Nov 12 02:56:33 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	Gain	Offset
Deep	178.615	710.235		0.000	255.800	mmho/m	0.550
Medium	161.982	1441.110		0.000	255.800	mmho/m	-36.500
						0.400	-110.500
Microlog Calibration Report							
Serial-Model:				PSI-01-PSI STKBL ML			
Performed:				Thu Mar 31 18:14:32 2016			
		Readings		References		Results	
	Zero	Cal		Zero	Cal	m	b
Normal	0.0000	1.0000		0.0000	1.0000	Ohm-m	33500.0000
Inverse	0.0000	1.0000		0.0000	1.0000	Ohm-m	31500.0000
Caliper	1.0001	1.1397		6.5000	18.5000	in	86.0000
							-82.4800

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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