



PIONEER
Pioneer Energy Services

MICRORESISTIVITY LOG

Company **THOMAS GARNER, INC.**
Well **DENNIS NO. 1**
Field **LEISS NORTHWEST**
County **STAFFORD** State **KANSAS**

Location: API #: 15-185-24005-00-00

Other Services

416' FSL & 1733' FEL
SEC 15 TWP 25S RGE 13W

CNL/CDL
DIL/BHCS

Permanent Datum GROUND LEVEL Elevation 1927'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1940'
D.F. N/A
G.L. 1927'

Date	12/1/2017		
Run Number	TWO		
Depth Driller	4282'		
Depth Logger	4274'		
Bottom Logged Interval	4273'		
Top Log Interval	3300'		
Casing Driller	8.625" @ 321'		
Casing Logger	318'		
Bit Size	7.875"		
Type Fluid in Hole	CHEMICAL		
Salinity, ppm CL	8800		
Density / Viscosity	9.1 73		
pH / Fluid Loss	10.0 10.4		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	.35 @ 66		
Rmt @ Meas. Temp	.26 @ 66		
Rmc @ Meas. Temp	.47 @ 66		
Source of Rmt / Rmc	CHARTS		
Rm @ BHT	.19 @ 119		
Operating Rig Time	4 HOURS		
Max Rec. Temp. F	119 DEGF		
Equipment Number	108		
Location	HAYS		
Recorded By	J. HENRICKSON		
Witnessed By	TOM GARNER	BRYCE GARNER	

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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.

ST. JOHN KANSAS

SOUTH TO HWY 50, 6 SOUTH, 1/2 EAST, NORTH INTO

Log Measured From: KELLY BUSHING

13 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: TOM GARNER

Secondary Witness: BRYCE GARNER

Secondary Witness:

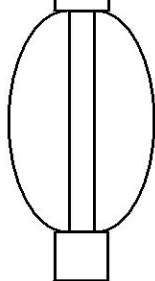
Secondary Witness:

DatabaseC:\ProgramData\Warrior\Data\garner_dennis_1.db
Dataset field/well/stack/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	100	5.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	-210	0	Off	0

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
MCAL MI MN	28.00		ML-Armadillo (Armadillo-4) Pengo micro log tool mandrel with Armadillo Electronics	5.00	3.50	100.00
	28.00		CENT-PENGO	5.50	3.00	70.00
	28.00					
WVF4 WVF1	13.50 13.50		SLT-PENGO (0001)	16.00	3.50	300.00
WVF3 WVF2	11.50 11.50					



CENT-PENGO

5.50

3.00

70.00

Dataset: garner_dennis_1.db: field/well/SONMEL/pass3
Total length: 32.00 ft
Total weight: 540.00 lb
O.D.: 3.50 in

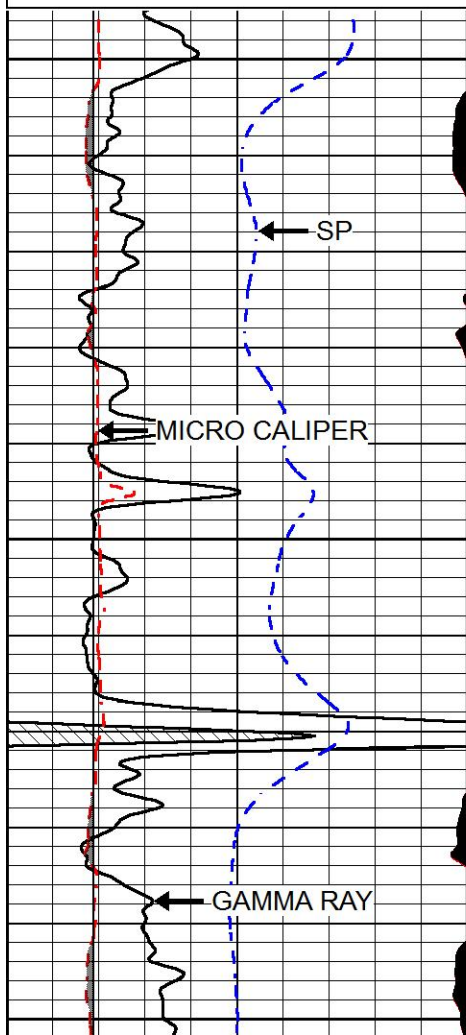


MAIN PASS

Database File: garner_dennis_1.db
Dataset Pathname: stack/pass3.1
Presentation Format: micro
Dataset Creation: Fri Dec 01 12:10:24 2017
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



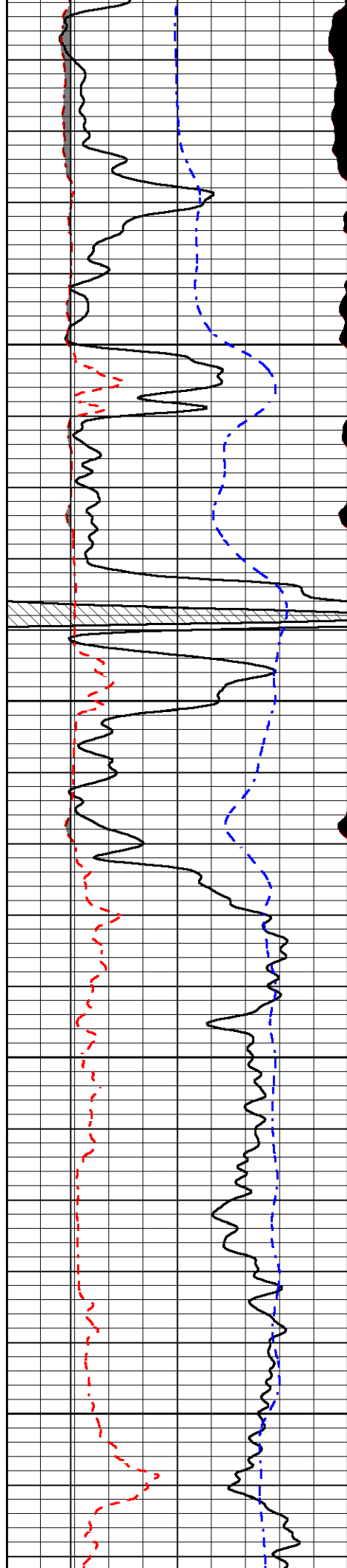
3300

MICRO INVERSE 1 X 1

3350

MICRO NORMAL 2"

3400

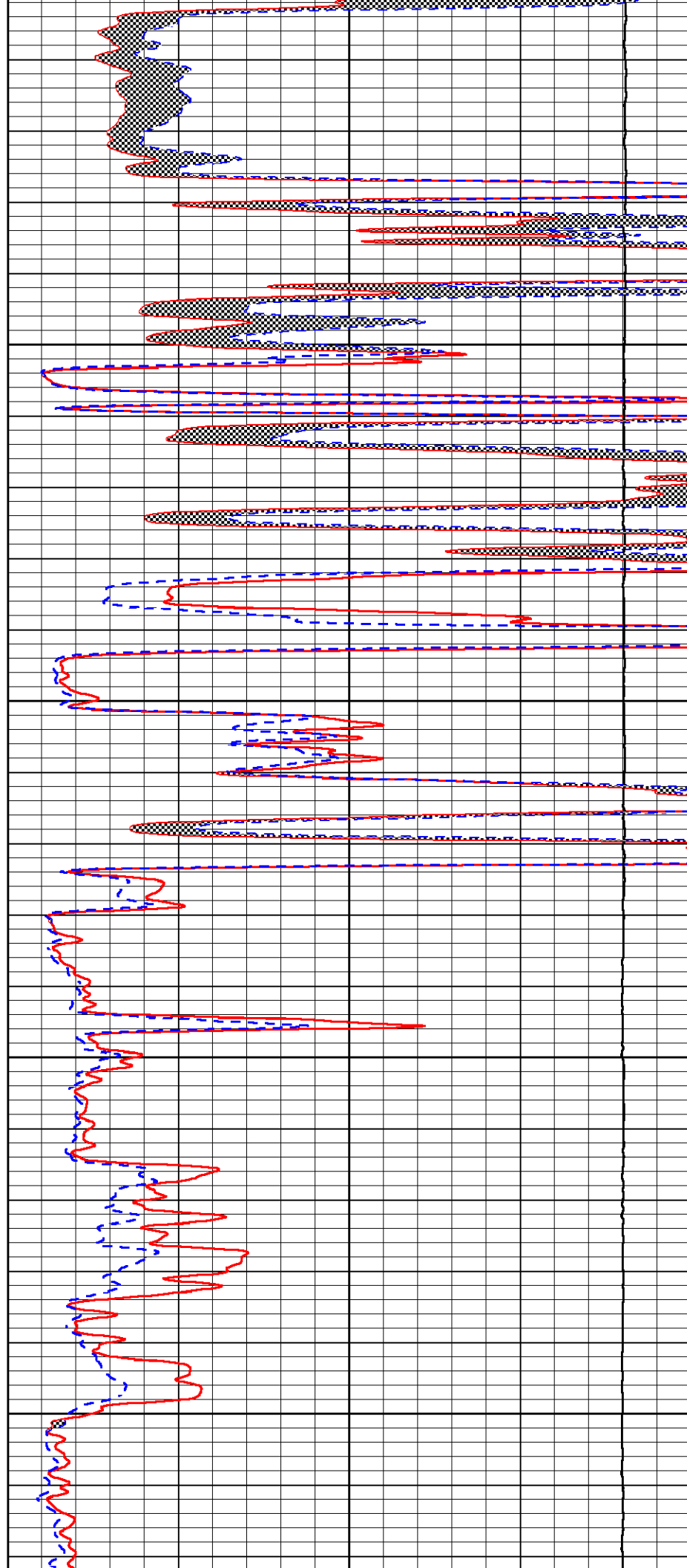


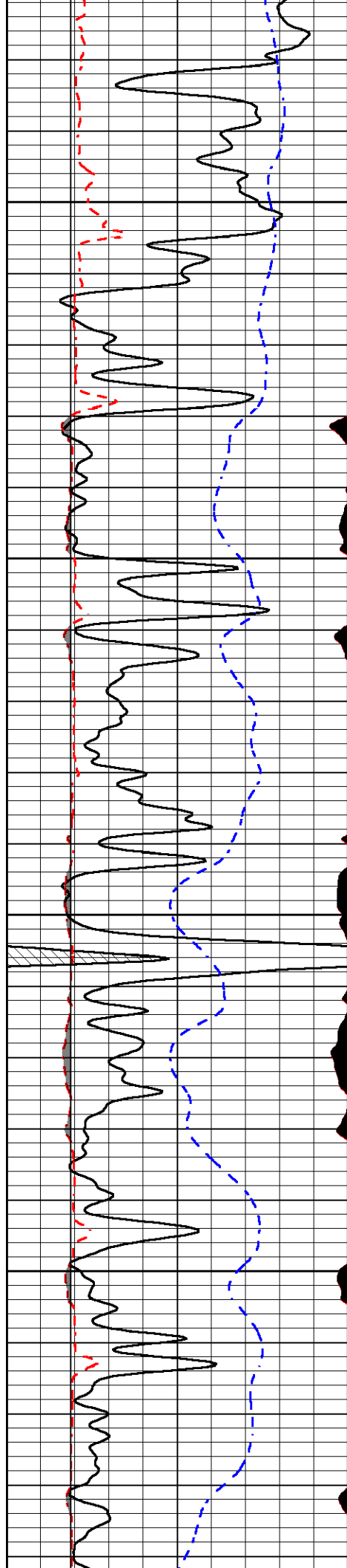
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3500

3550

3600



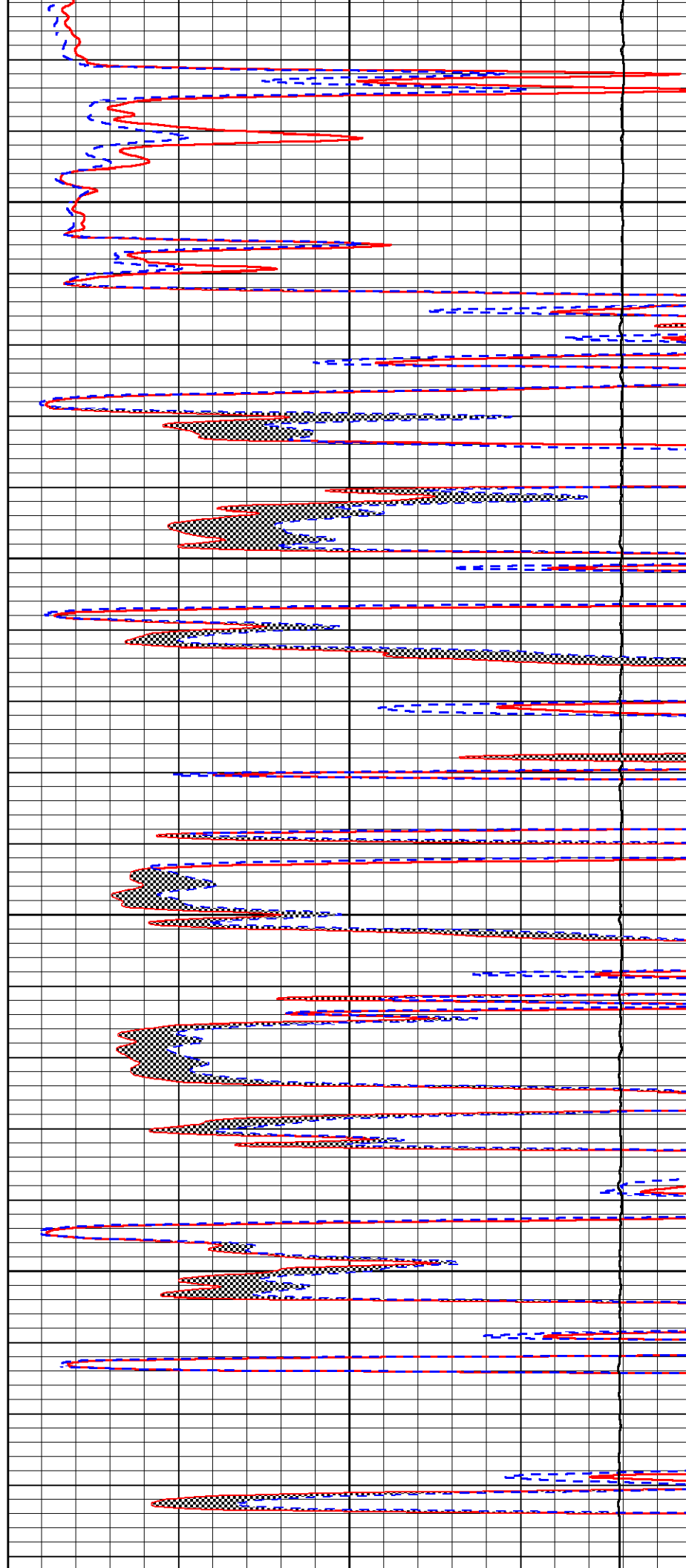


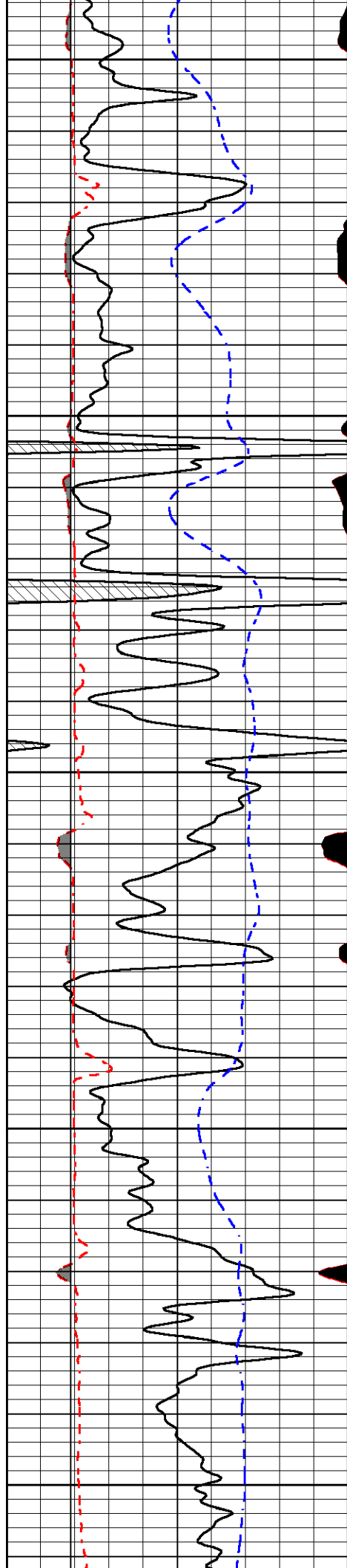
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3700

3750

3800





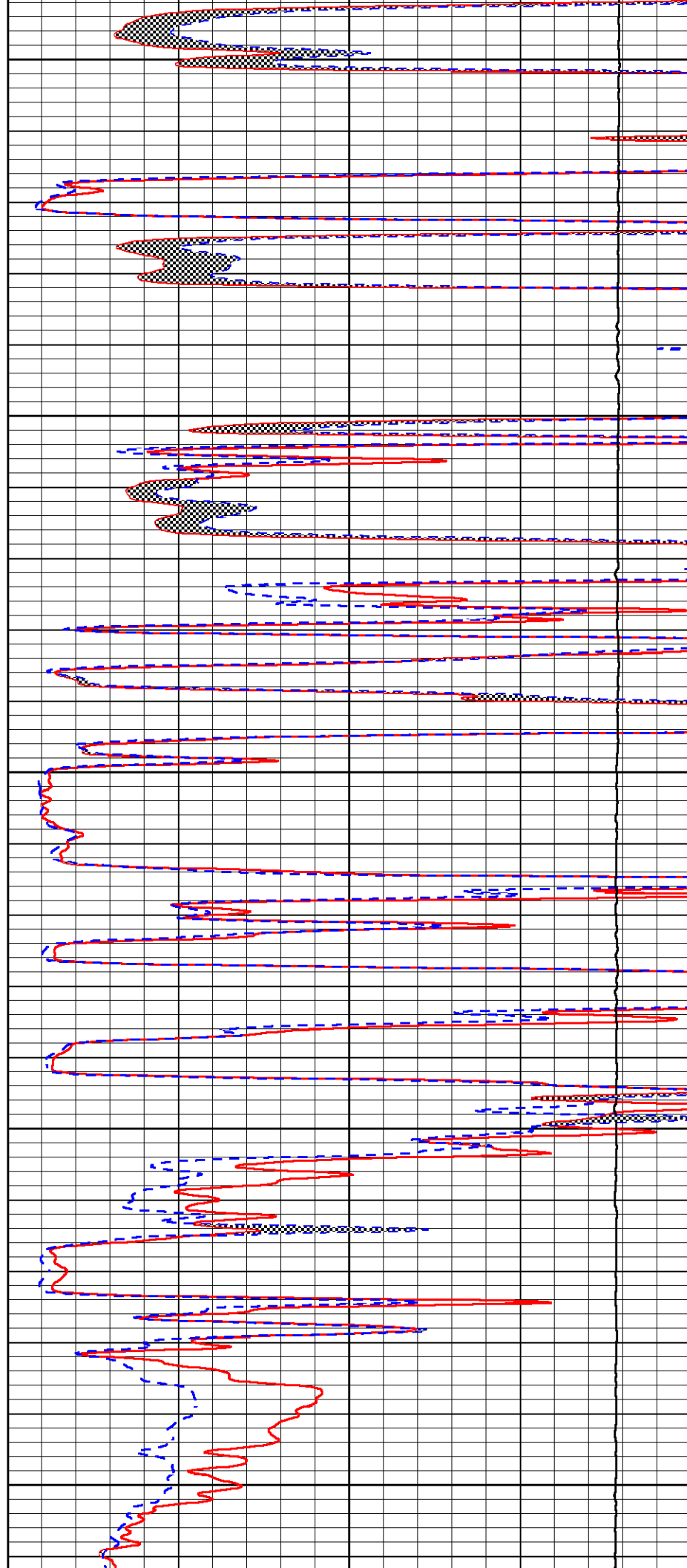
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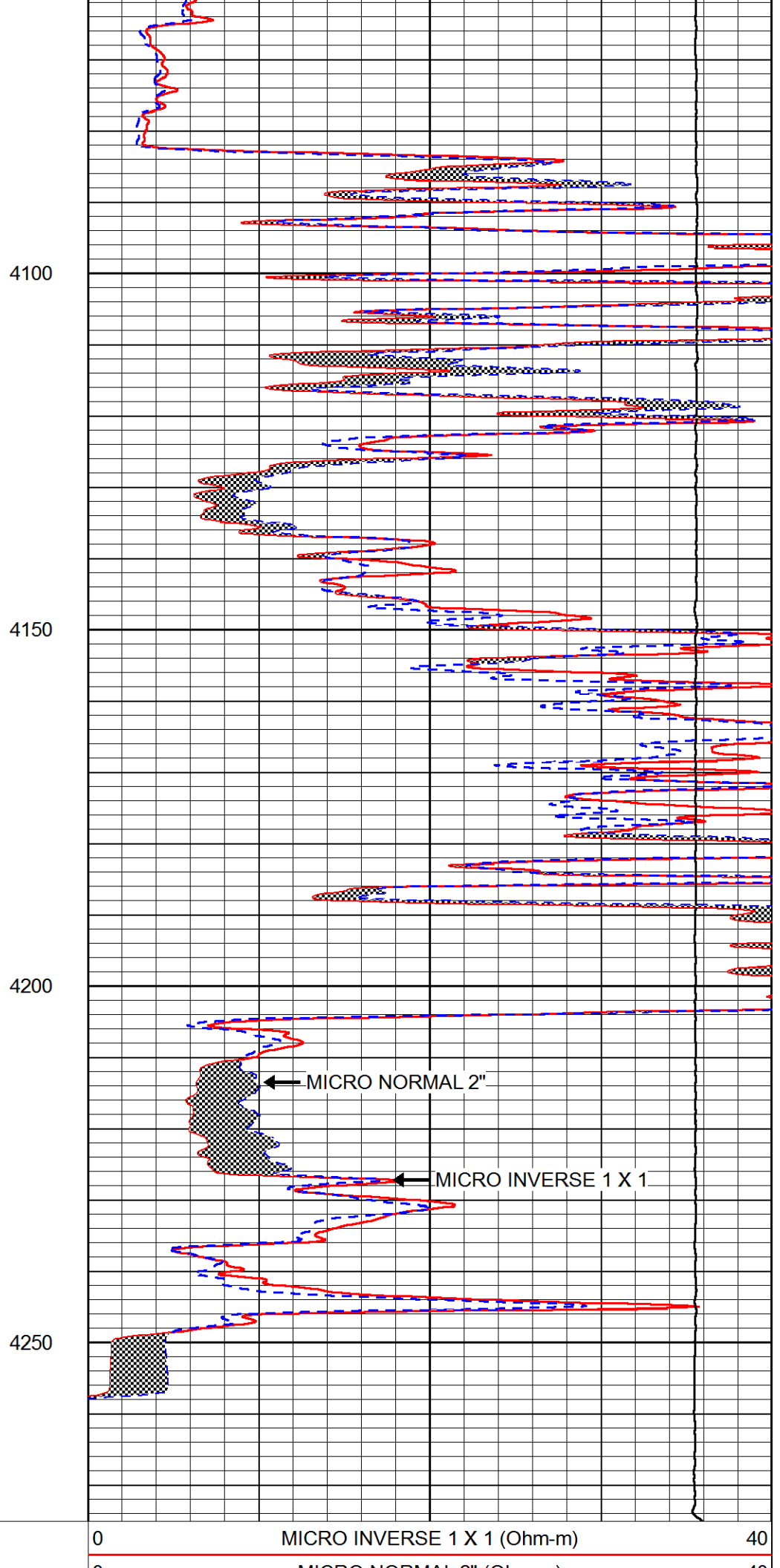
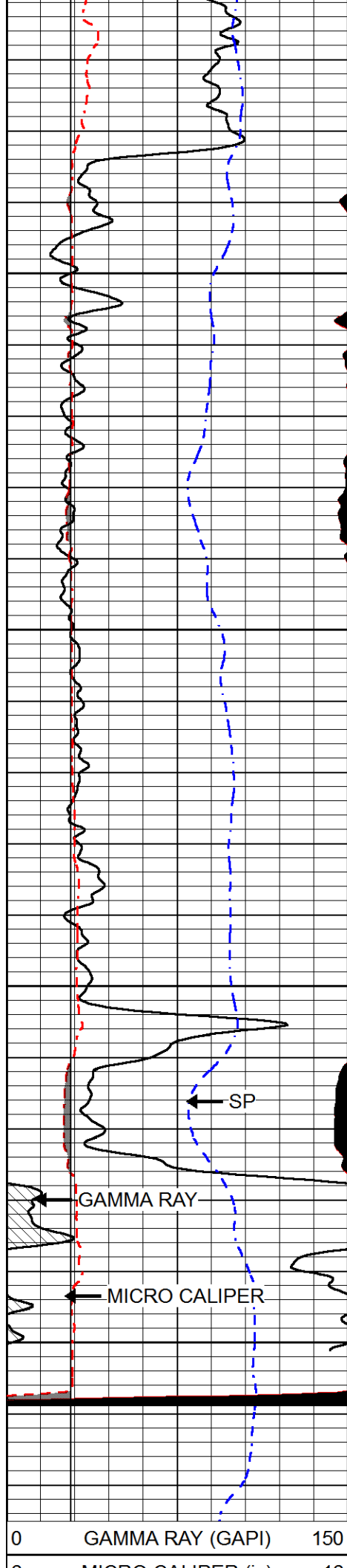
3900

3950

4000

4050





6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

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

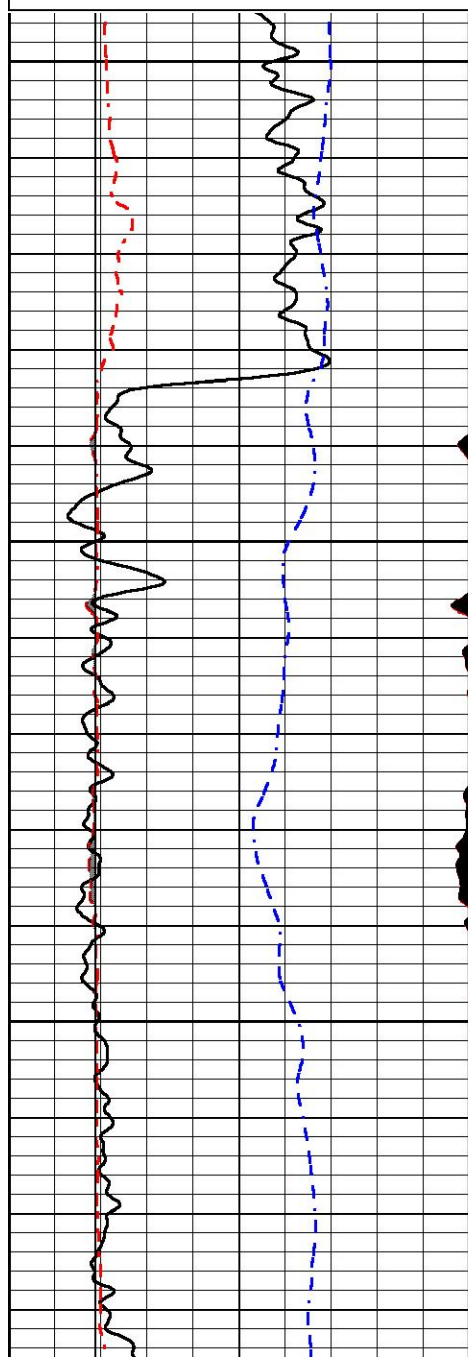


REPEAT SECTION

Database File garner_dennis_1.db
Dataset Pathname stack/pass2.1
Presentation Format micro
Dataset Creation Fri Dec 01 12:10:36 2017
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

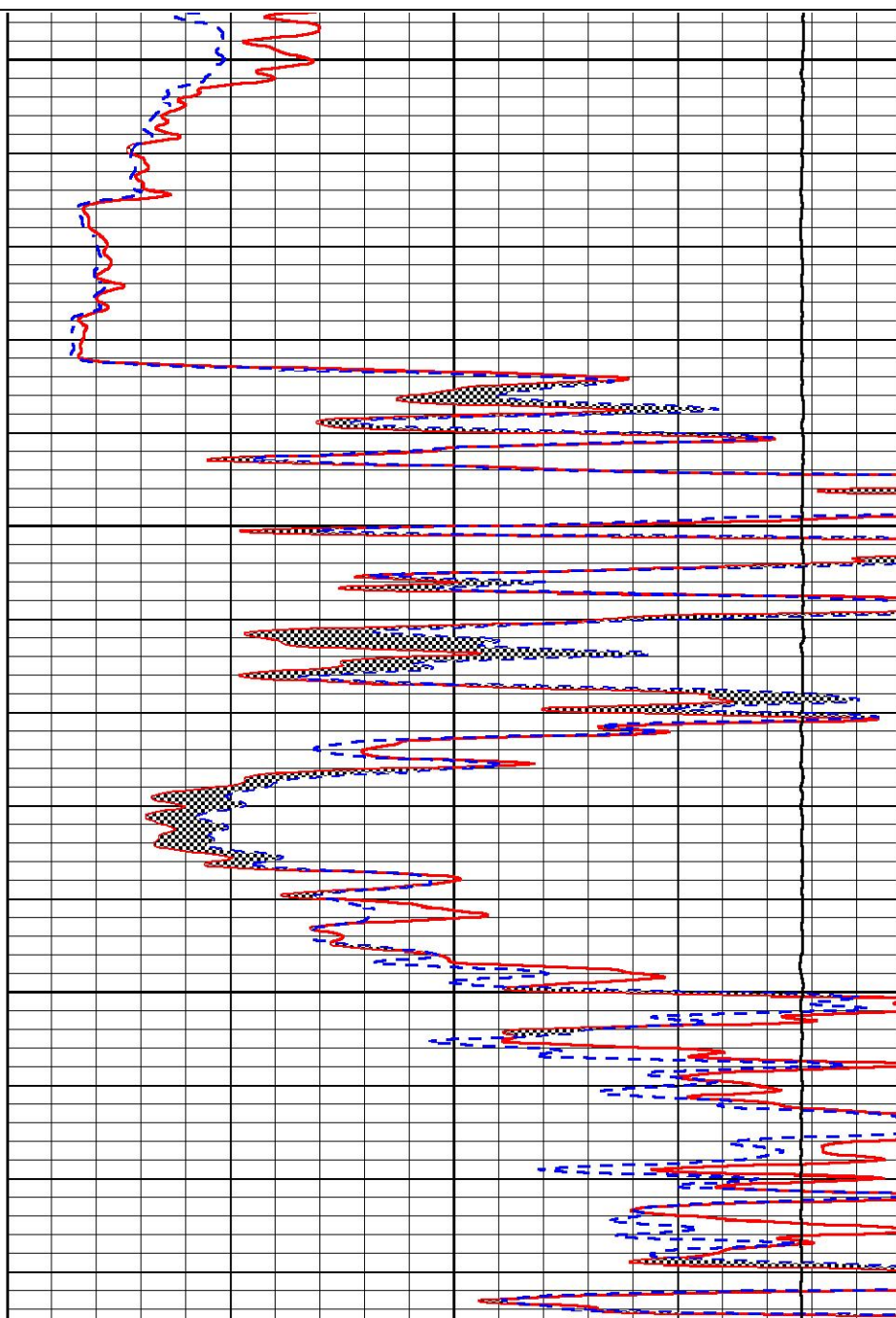
0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0

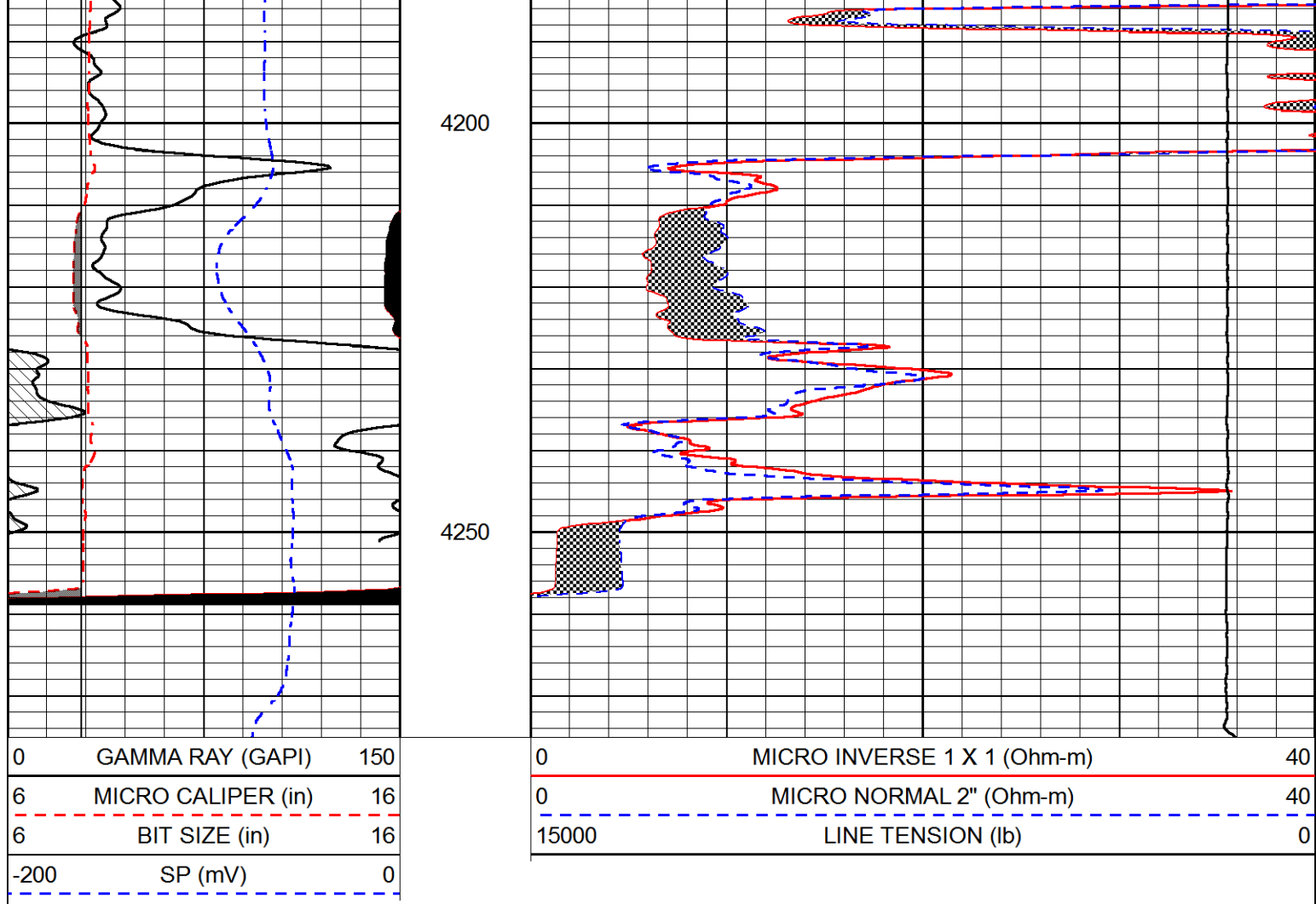


4050

4100

4150





Calibration Report							
Database File	garner_dennis_1.db						
Dataset Pathname	stack/pass3.1						
Dataset Creation	Fri Dec 01 12:10:24 2017						
Dual Induction Calibration Report							
Serial-Model:				1987-M&W			
Calibration Performed:				Tue Apr 11 17:07:38 2017			
Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
	Deep	178.615	710.235	0.000	255.800	mmho/m	0.560
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.440	-110.500
Compensated Density Calibration Report							
Serial-Model:				168-986-M&W			
Source / Verifier:				/			
Master Calibration Performed:				Tue Apr 11 17:07:47 2017			
Master Calibration							
	Density			Far Detector		Near Detector	
Magnesium	1.755	g/cc		4691.86		4818.19	cps

Magnesium 2.700 g/cc 859.57 3020.22 cps
Aluminum

Spine Angle = 74.61

Density/Spine Ratio = 0.537

	Size		Reading
Small Ring	4.00	in	1.03
Large Ring	14.00	in	1.23

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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