



MICRORESISTIVITY LOG

Pioneer Energy Services

Company BRITO OIL COMPANY, INC.
 Well METZGER NO. 1-18
 Field WILDCAT
 County SCOTT State KANSAS

Location: API #: 15-171-21212-00-00
 1478' FSL & 1304' FEL
 SEC 18 TWP 19S RGE 34W
 Permanent Datum GROUND LEVEL Elevation 3127'
 Log Measured From KELLY BUSHING
 Drilling Measured From KELLY BUSHING
 Other Services CNL/CDL DIL
 Elevation K.B. 3132', D.F. N/A, G.L. 3127'

Date	1/4/2018
Run Number	ONE
Depth Driller	4970'
Depth Logger	4965'
Bottom Logged Interval	4964'
Top Log Interval	3700'
Casing Driller	8.625" @ 301'
Casing Logger	299'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	6500
Density / Viscosity	9.5 67
pH / Fluid Loss	10.0 8.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.62 @ 53
Rmt @ Meas. Temp	.47 @ 53
Rmc @ Meas. Temp	.84 @ 53
Source of Rmf / Rmc	CHARTS
Rm @ BHT	.26 @ 126
Operating Rig Time	2 HOURS
Max Rec. Temp. F	126 DEGF
Equipment Number	108
Location	HAYS
Recorded By	J. HENRICKSON
Witnessed By	ROBERT HENDRIX

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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.

SCOTT CITY KANSAS
 11 WEST, 6 SOUTH, 3/4 EAST, NORTH INTO

Log Measured From: KELLY BUSHING 5 Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES
www.pioneerenergy.com 785-625-3858

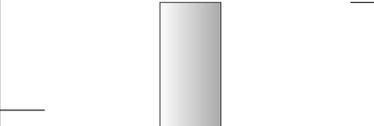
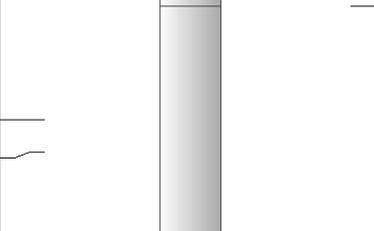
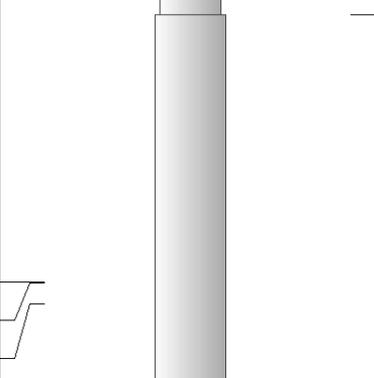
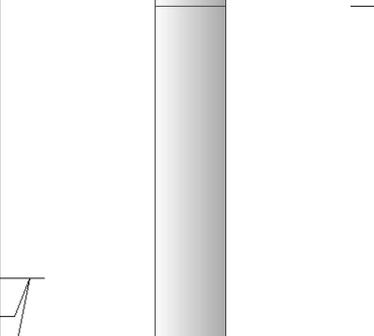
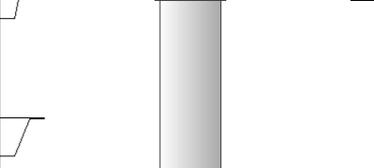
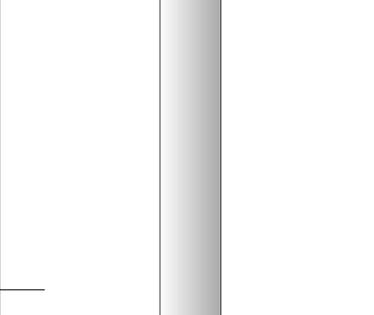
Your Pioneer Energy Services Crew Engineer: J. HENRICKSON Operator: Operator: Operator:	This Log Record Was Witnessed By Primary Witness: ROBERT HENDRIX Secondary Witness: Secondary Witness: Secondary Witness:
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Log Variables

DatabaseC:\ProgramData\Warrior\Data\brito_metzger_1_18.db
Dataset field/well/stackml/pass3.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	124	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	-400	24	Off	4966

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 CNSSC	37.48 36.73		CNT-M&W (tk10-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (168-986)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSI STKBL ML (PSI-01) Stackable Microlog Tools	7.58	4.00	65.00
RLL3 RLL3F	15.80 15.79					
CILD	8.00		DIL-M&W (PSI 978)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: brito_metzger_1_18.db: field/well/stackml/pass3.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

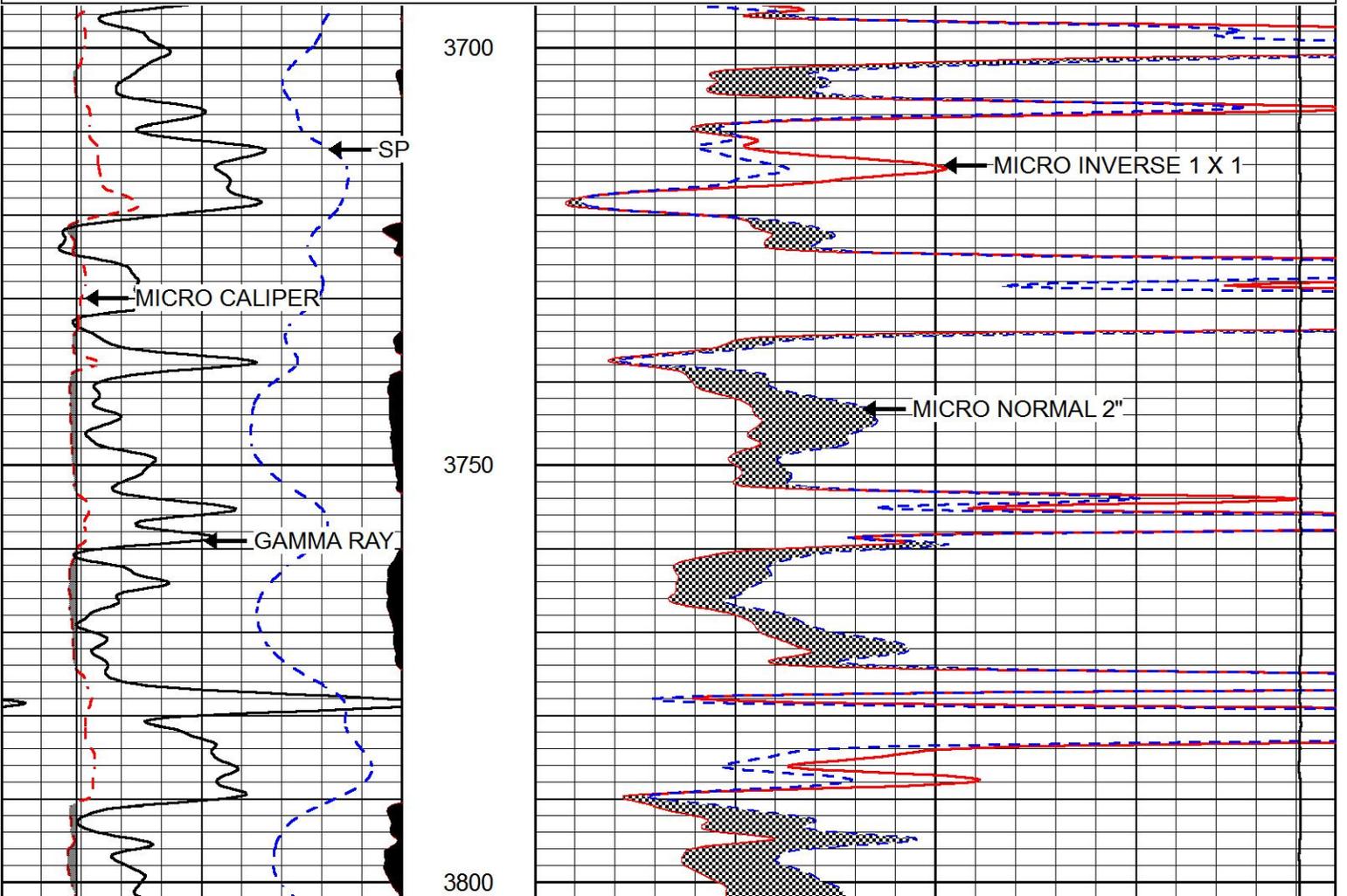


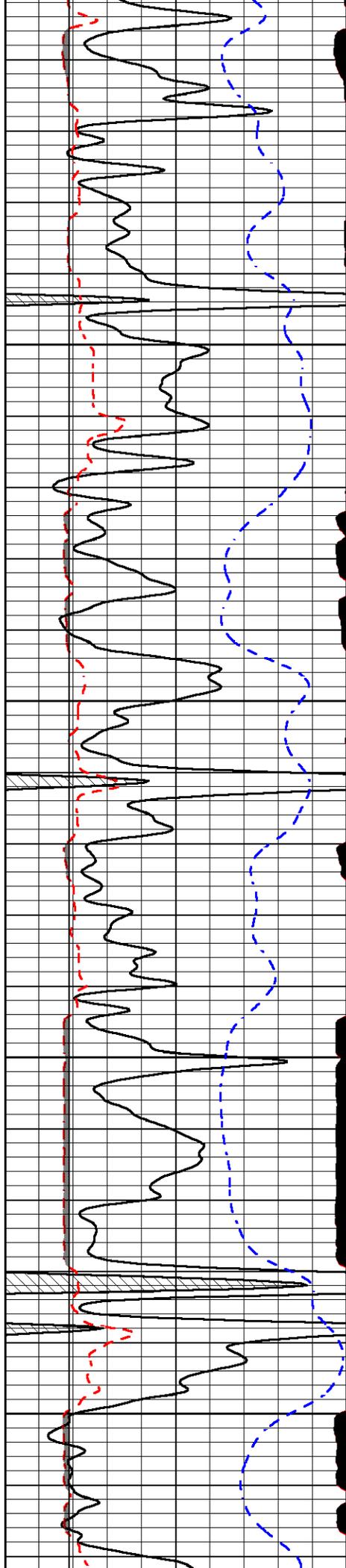
MAIN PASS

Database File: brito_metzger_1_18.db
 Dataset Pathname: stackml/pass3.1
 Presentation Format: micro
 Dataset Creation: Thu Jan 04 10:10:47 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



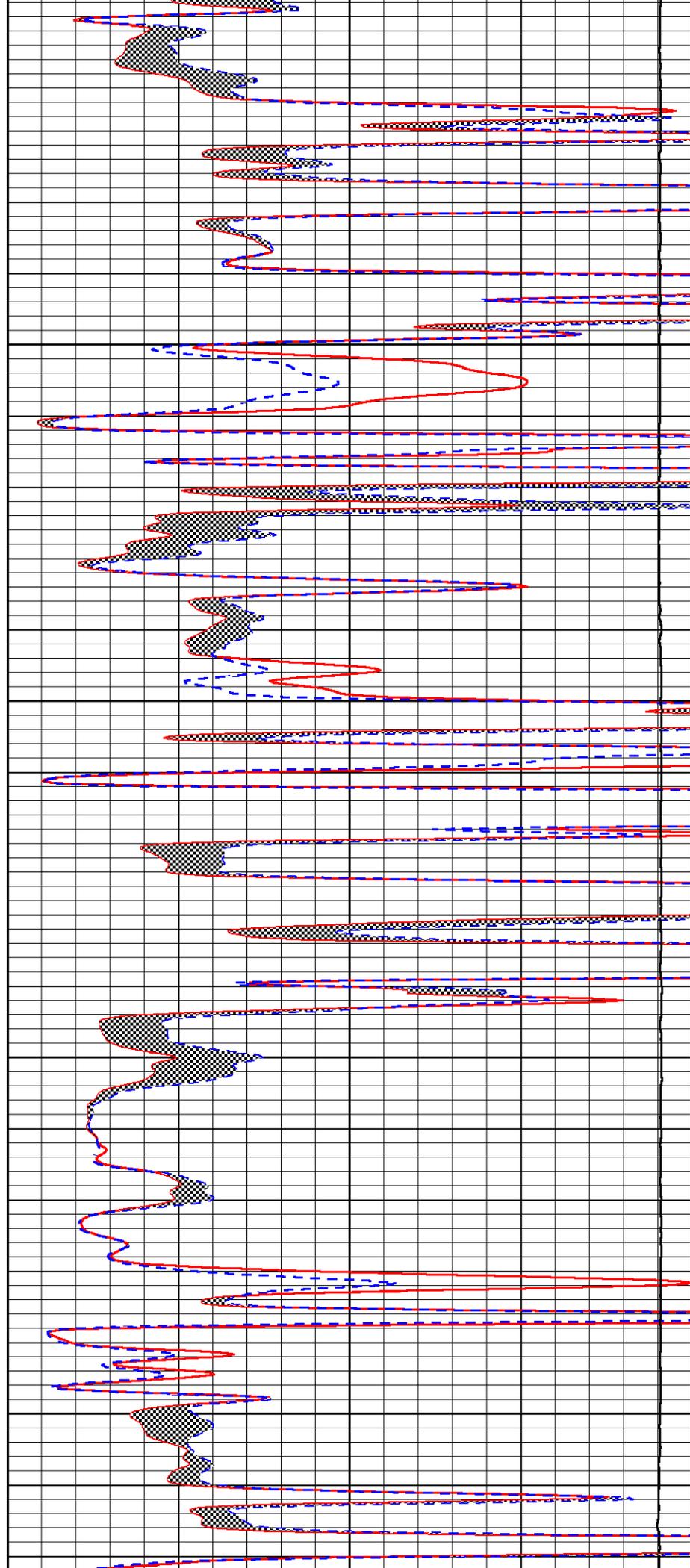


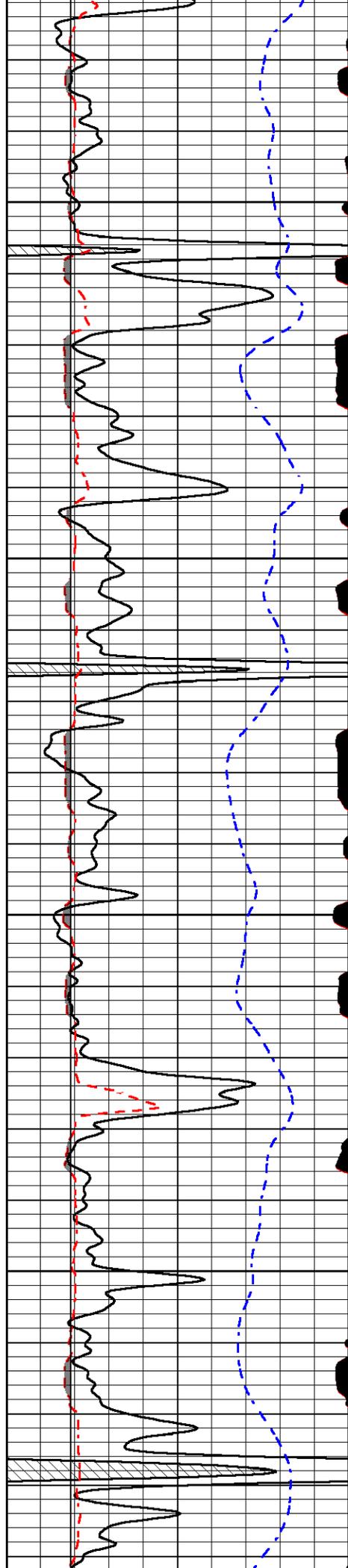
3850

3900

3950

4000



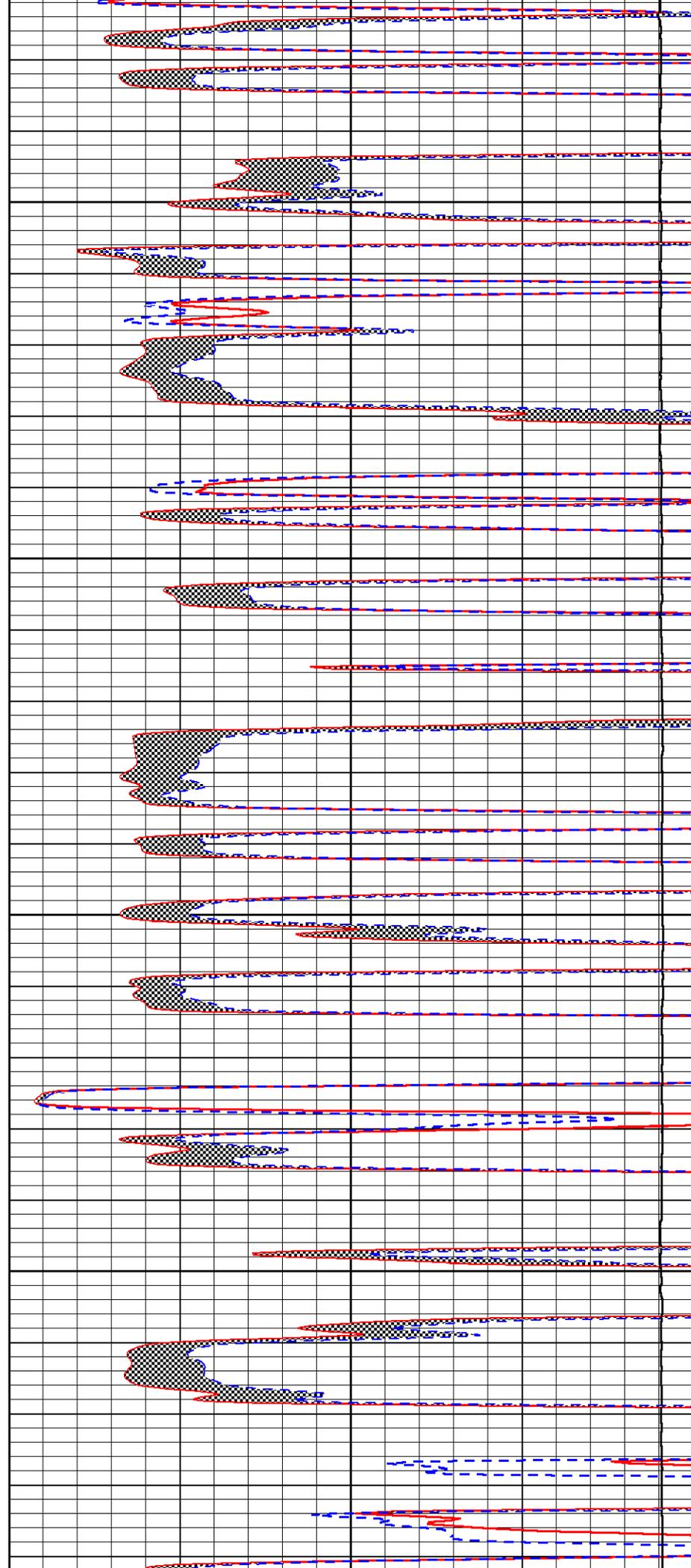


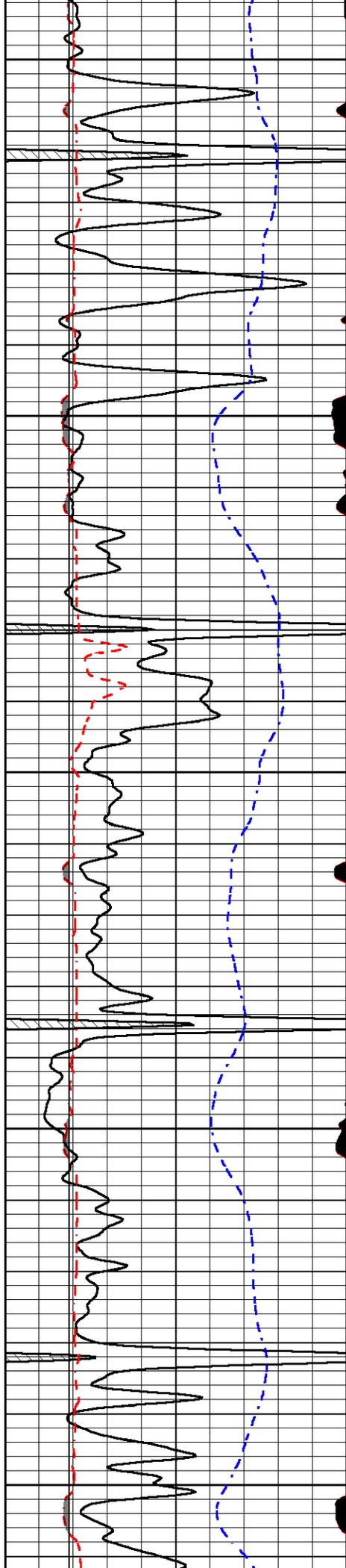
4050

4100

4150

4200





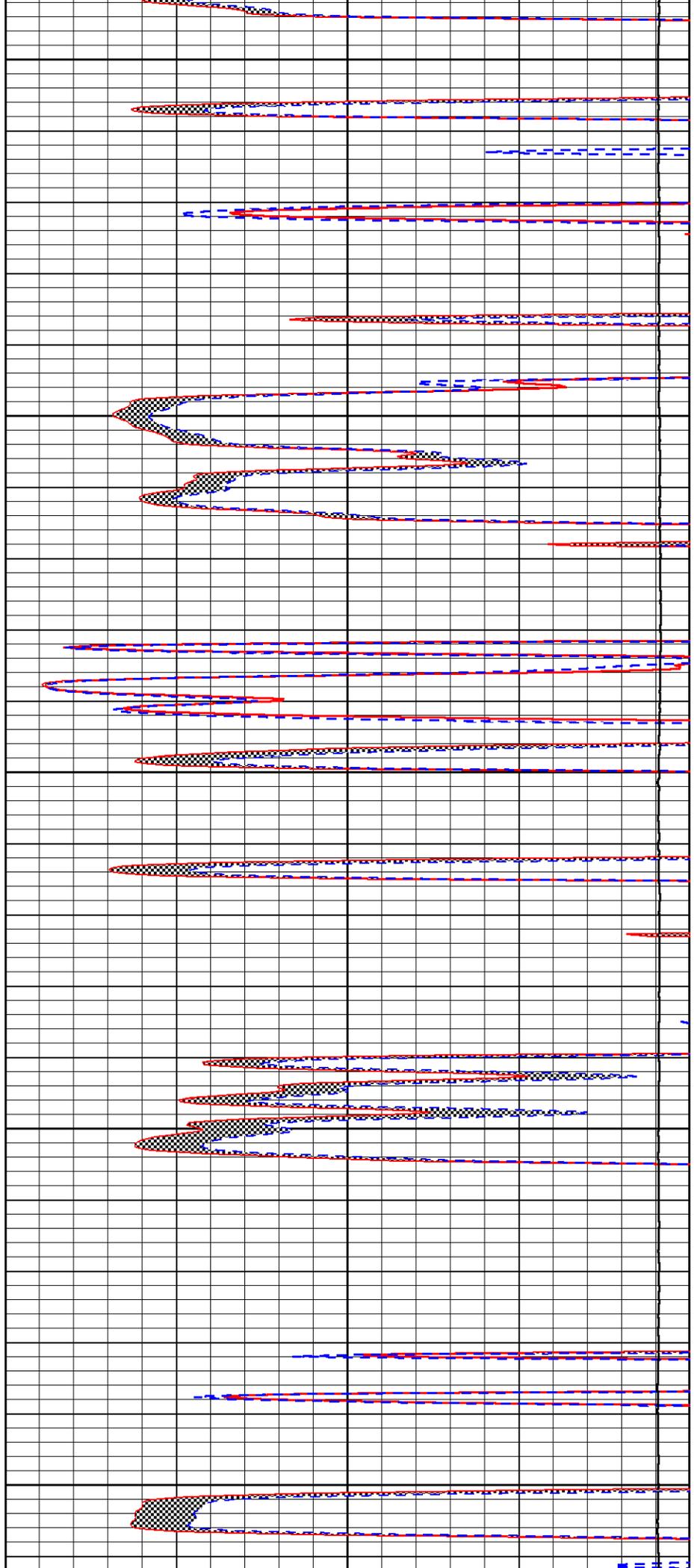
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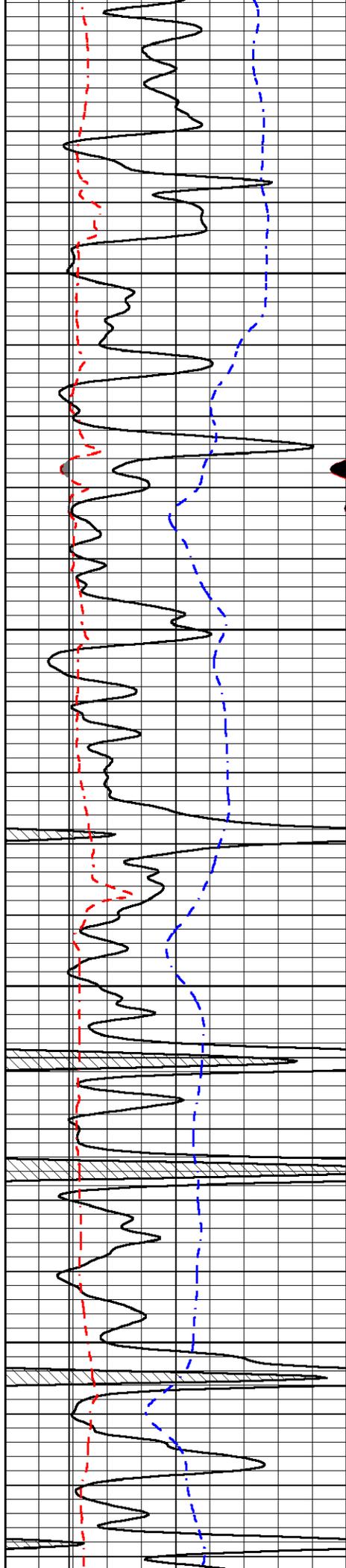
4300

4350

4400

4450



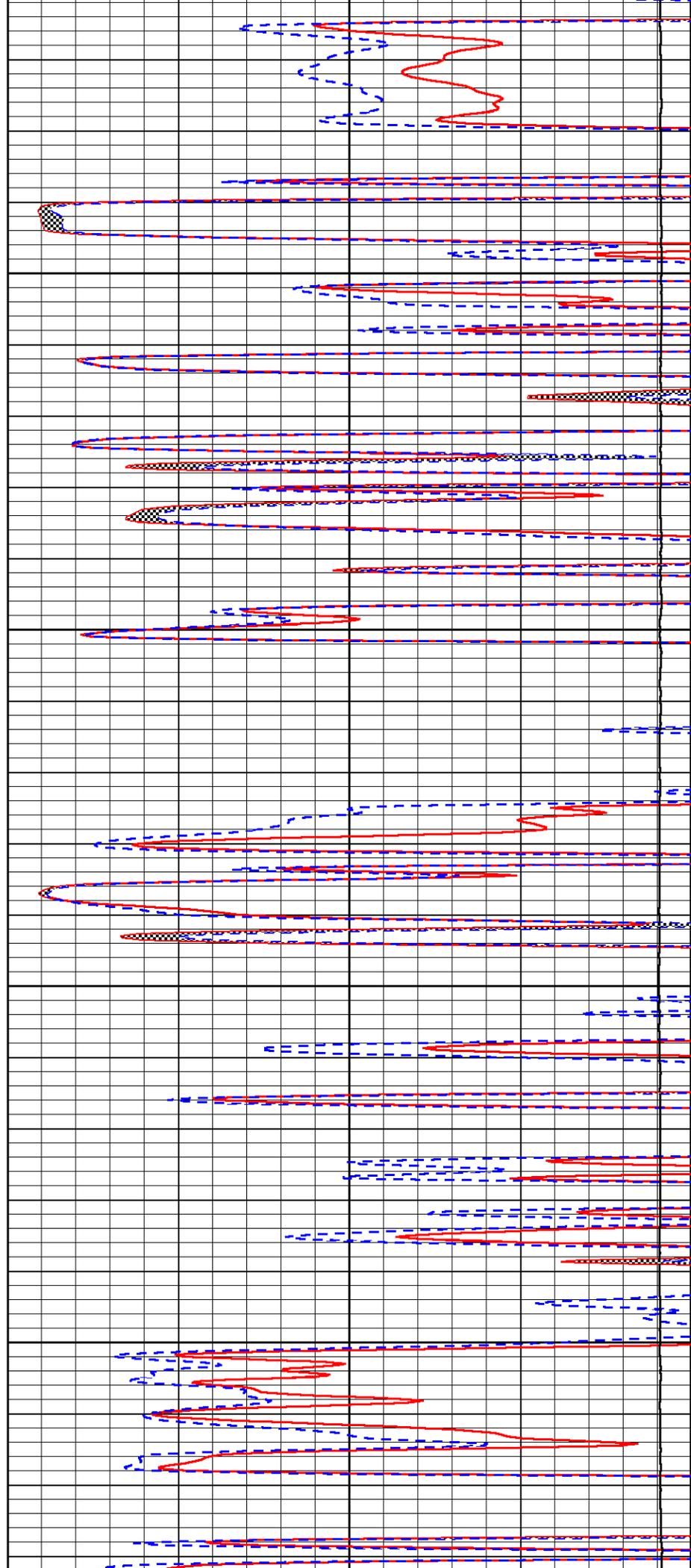


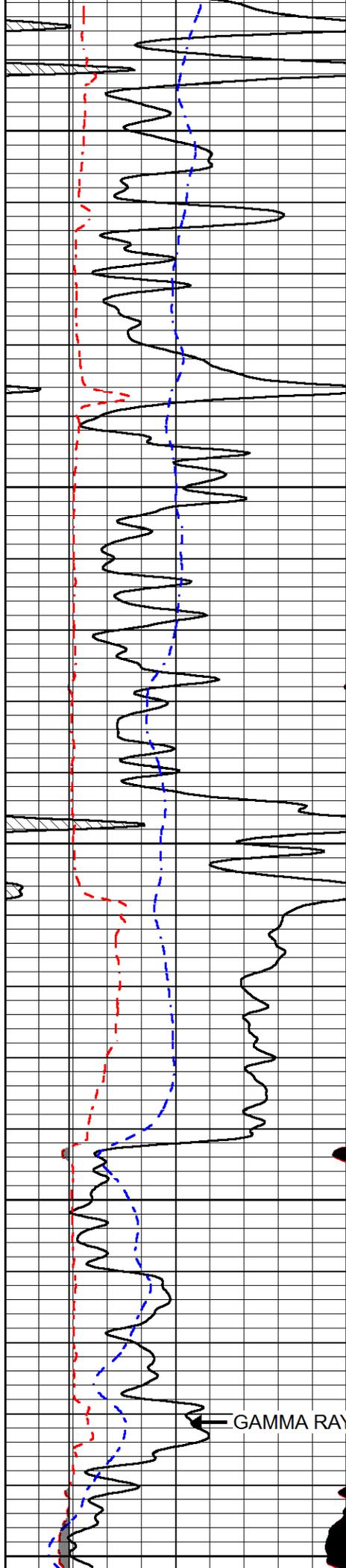
4500

4550

4600

4650





4700

4750

4800

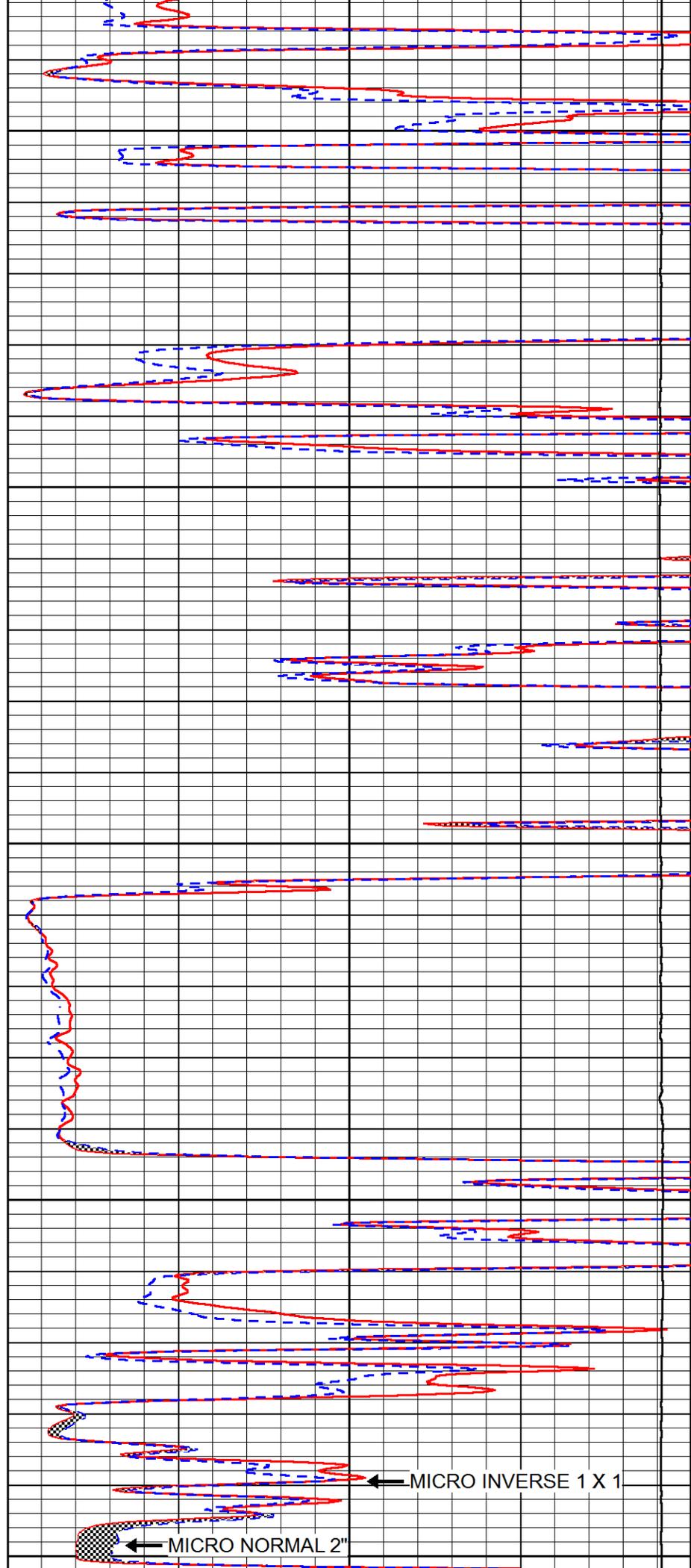
4850

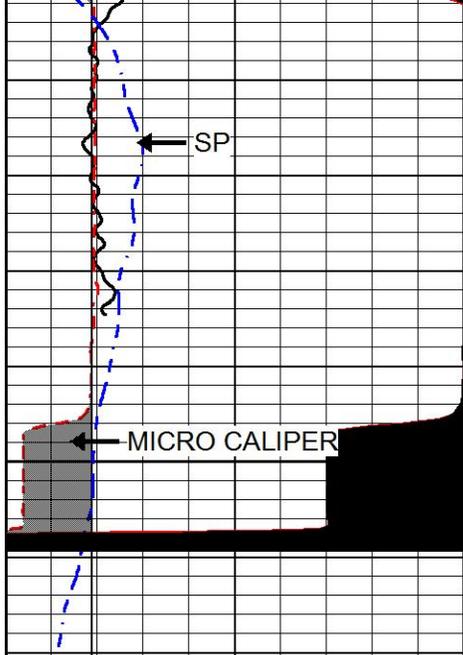
4900

GAMMA RAY

MICRO INVERSE 1 X 1

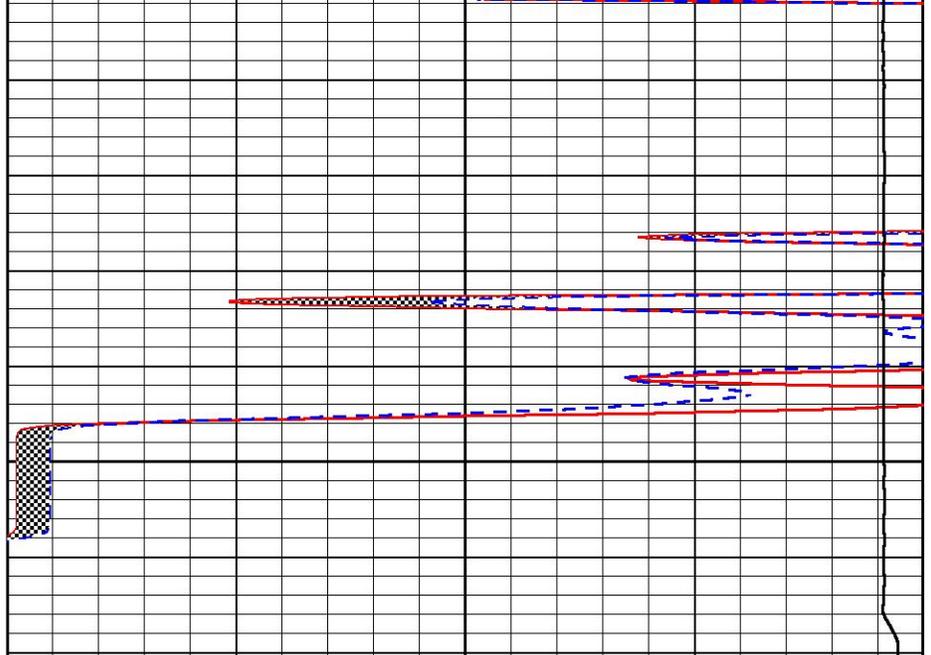
MICRO NORMAL 2''





4950

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

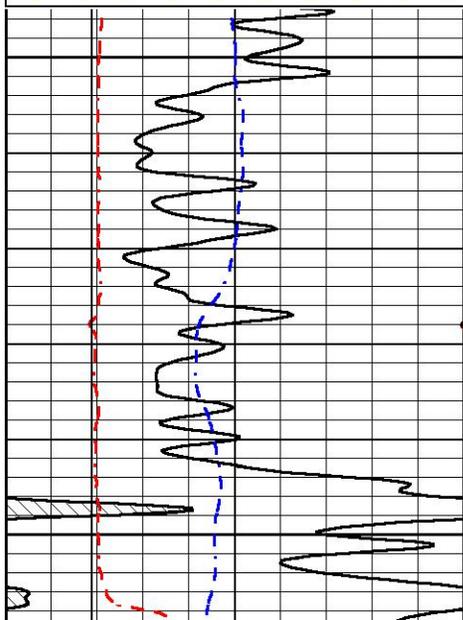


REPEAT SECTION

Database File brito_metzger_1_18.db
 Dataset Pathname stackml/pass2.1
 Presentation Format micro
 Dataset Creation Thu Jan 04 10:11:16 2018
 Charted by Depth in Feet scaled 1:240

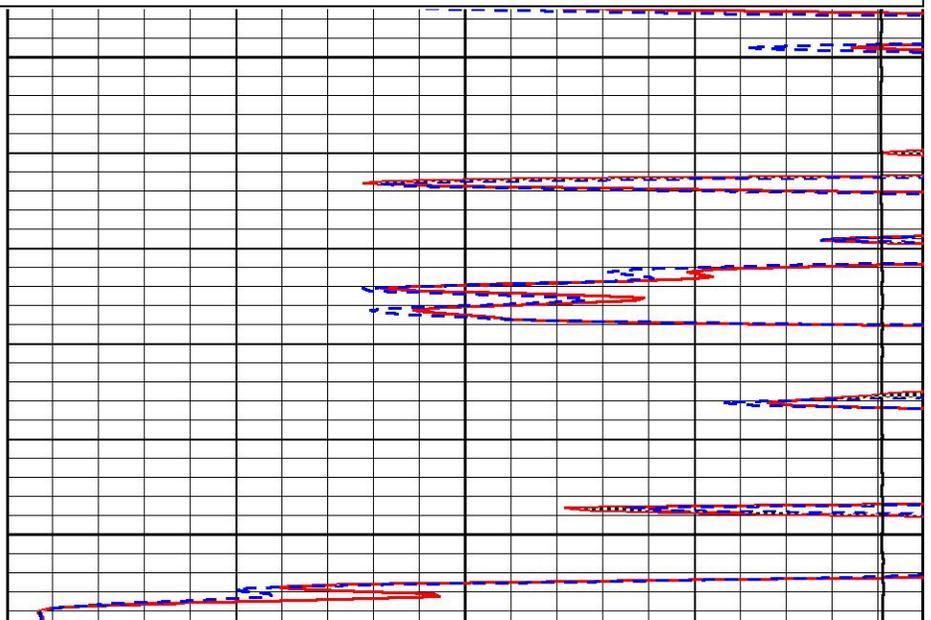
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6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

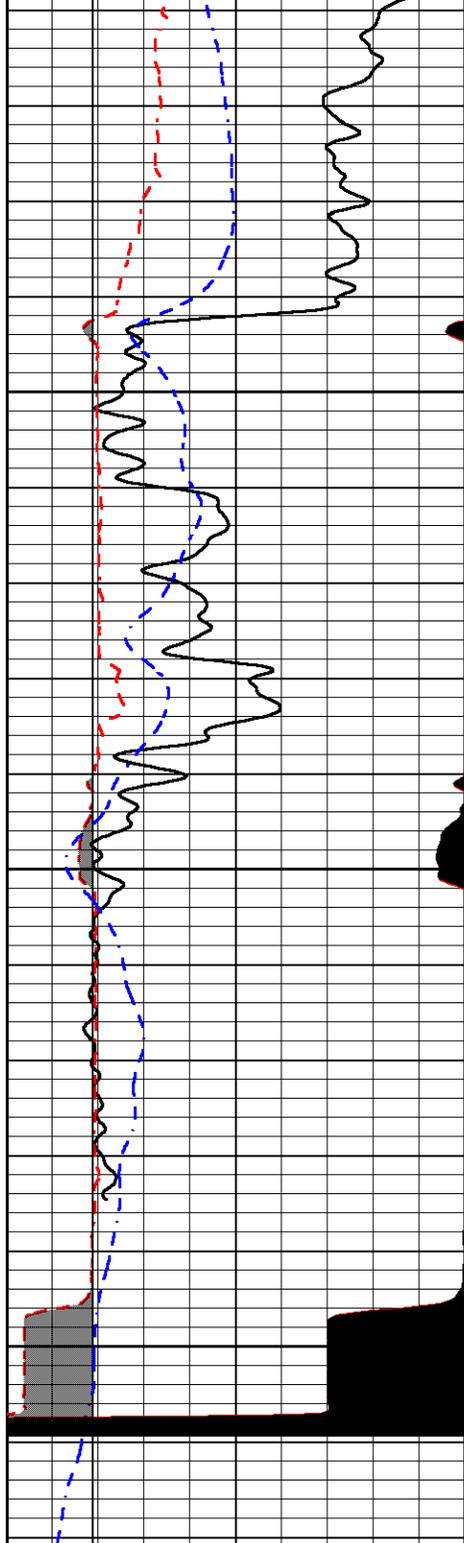
0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
15000	LINE TENSION (lb)	0



4750

4800



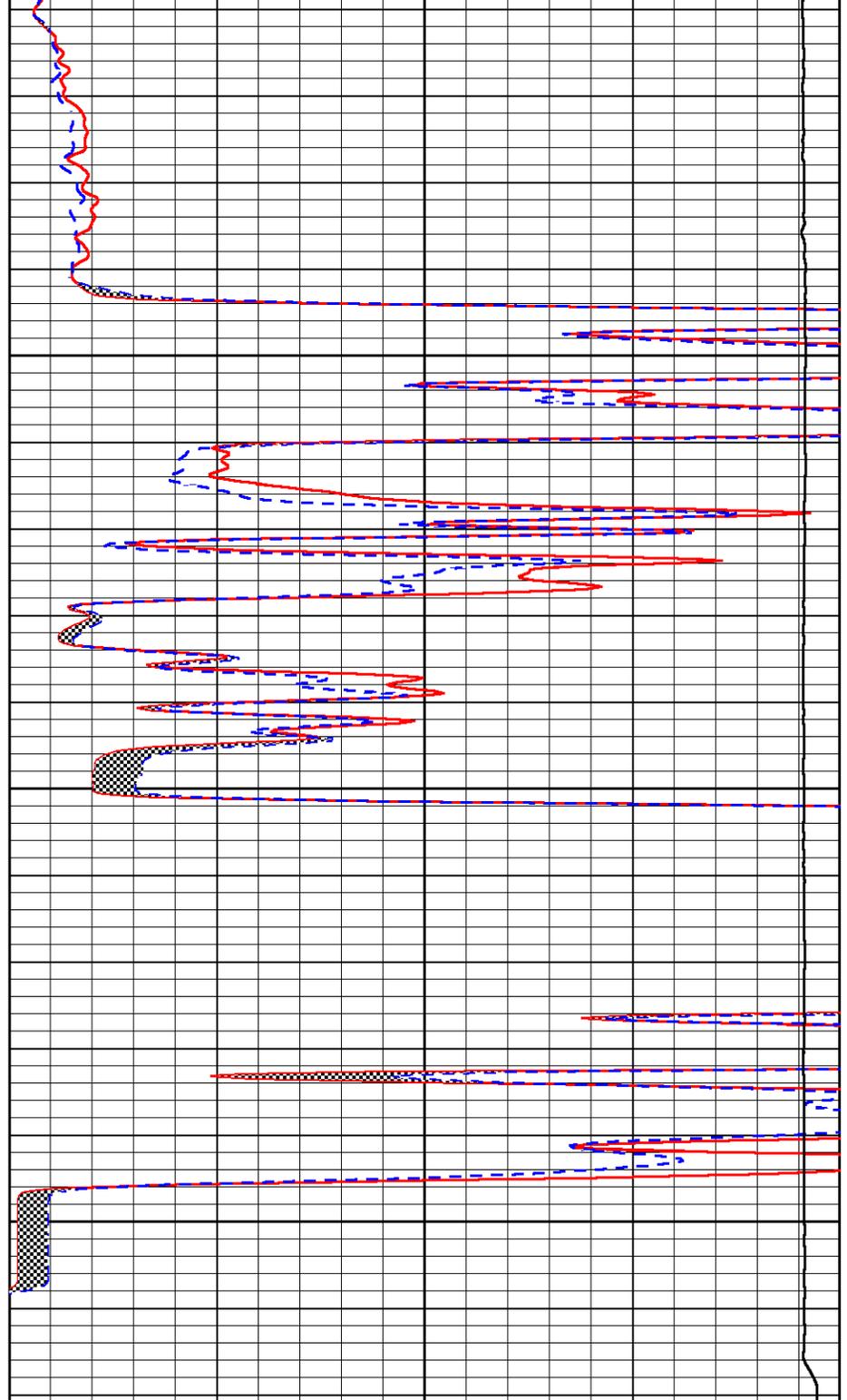


4850

4900

4950

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

Calibration Report

Database File brito_metzger_1_18.db
 Dataset Pathname stackml/pass3.1
 Dataset Creation Thu Jan 04 10:10:47 2018

Dual Induction Calibration Report

Serial-Model: PSI 978-M&W
 Calibration Performed: Wed Dec 13 12:45:09 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.570	-36.500
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.420	-35.000

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	40500.0000	-1.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	51500.0000	-1.0000
Caliper	1.0001	1.1397	6.5000	18.5000	in	86.0000	-82.6000

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
Aluminum	2.695	g/cc	859.57	3020.22	cps
Spine Angle = 74.61			Density/Spine Ratio = 0.534		
	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



PIONEER

Pioneer Energy Services

Company	BRITO OIL COMPANY, INC.
Well	METZGER NO. 1-18
Field	WILDCAT
County	SCOTT
State	KANSAS