



PIONEER
Pioneer Energy Services

MICRORESISTIVITY LOG

Company SHAKESPEARE OIL CO. INC.
Well CL COMMUNITY #1-30
Field WILDCAT
County SCOTT
State KANSAS

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Field WILDCAT
County SCOTT State KANSAS

Location: API #: 15-171-21256-00-00

118' FNL & 2456' FWL

SEC 30 TWP 16S RGE 32W

Permanent Datum GROUND LEVEL Elevation 2921'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Other Services
CNL/CDL
DIL/BHCS
Elevation
K.B. 2931'
D.F. N/A
G.L. 2921'

Date 7/21/2019

Run Number TWO

Depth Driller 4725'

Depth Logger 4724'

Bottom Logged Interval 4723'

Top Log Interval 3600'

Casing Driller 8.625" @ 265'

Casing Logger 264'

Bit Size 7.875"

Type Fluid in Hole CHEMICAL

Salinity, ppm CL 4000

Density / Viscosity 9.3 54

pH / Fluid Loss 11.0 8.0

Source of Sample FLOWLINE

Rm @ Meas. Temp .80 @ 78

Rmt @ Meas. Temp .60 @ 78

Rmc @ Meas. Temp 1.08 @ 78

Source of Rmt / Rmc CHARTS

Rm @ BHT .51 @ 123

Operating Rig Time 5 HOURS

Max Rec. Temp. F 123 DEGF

Equipment Number P-108

Location HAYS

Recorded By J. HENRICKSON

Witnessed By VERN SCHRAG

<<< 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.

SCOTT CITY KANSAS

11 NORTH TO INGRESS, 1/2 NW ON TRAIL, NORTH INTO

Log Measured From: KELLY BUSHING

10 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: VERN SCHRAG

Secondary Witness:

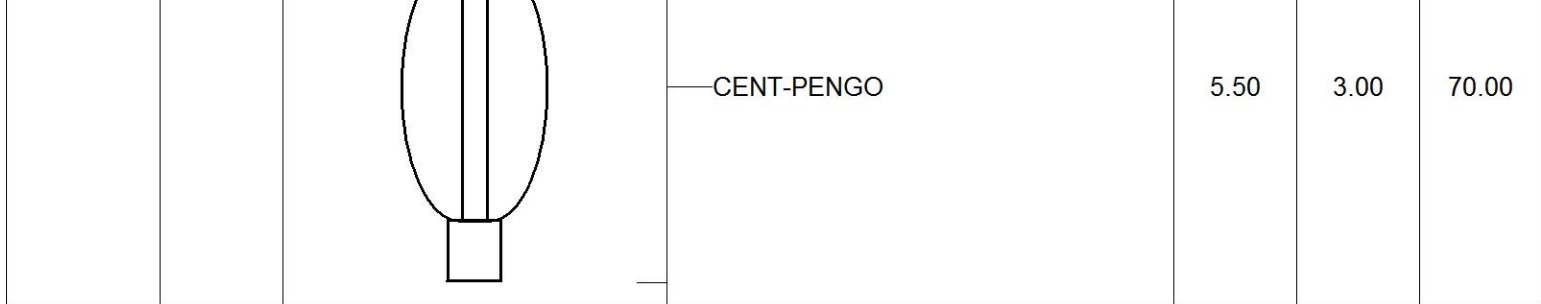
Secondary Witness:

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 0	mmho/m 0	mV 0	degF 0	Off	ft 0

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
MCAL MI MN	22.50		ML-Armadillo (Armadillo-1) Pengo micro log tool mandrel with Armadillo Electronics	5.00	3.50	100.00
	22.50					
	22.50					
WVF4 WVF1	13.50 13.50		SLT-PENGO (0001)	16.00	3.50	300.00
WVF3 WVF2	11.50 11.50					



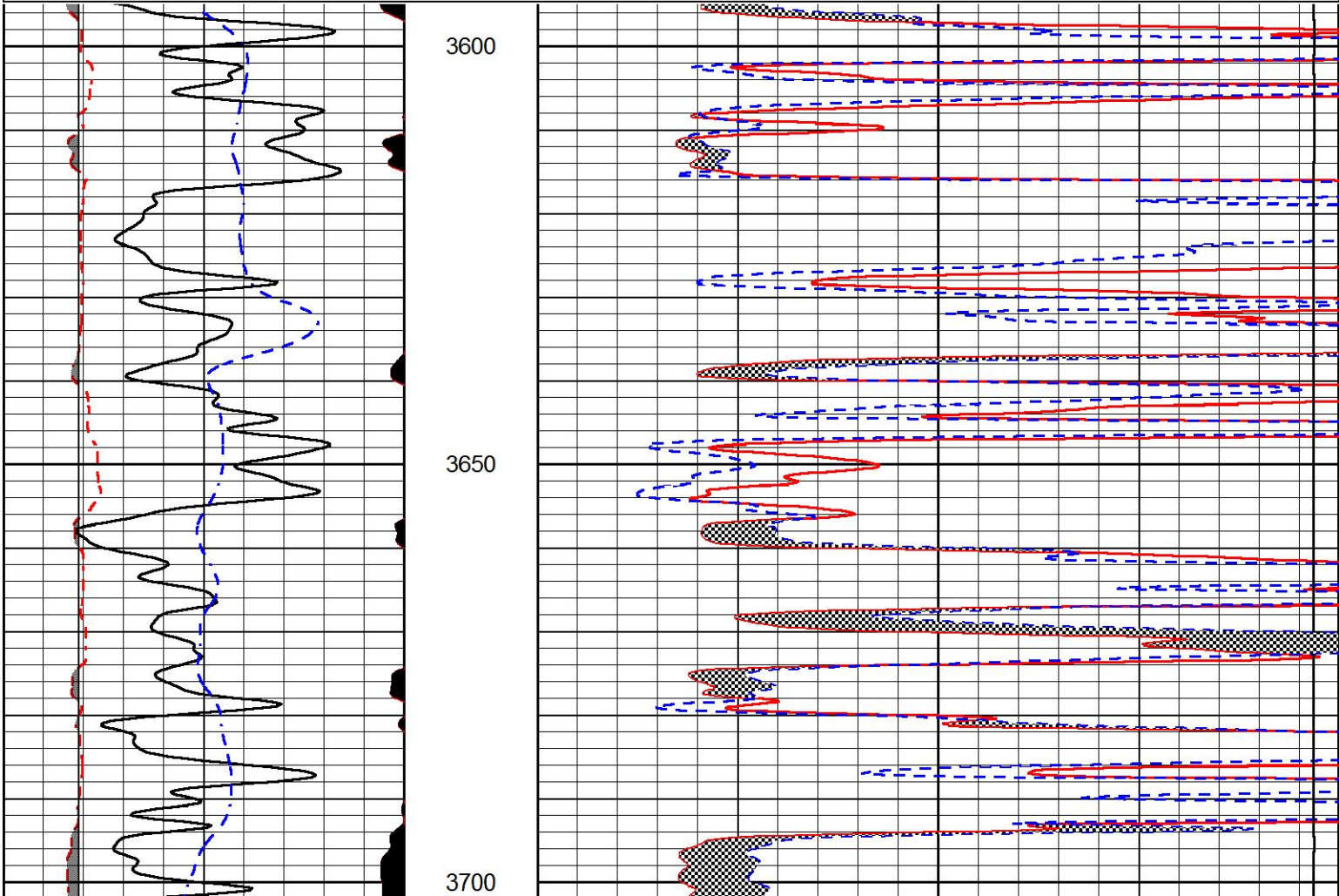
Dataset: shakespeare_cl_community_1_30.db: field/well/SONMEL/pass3
Total length: 26.50 ft
Total weight: 470.00 lb
O.D.: 3.50 in

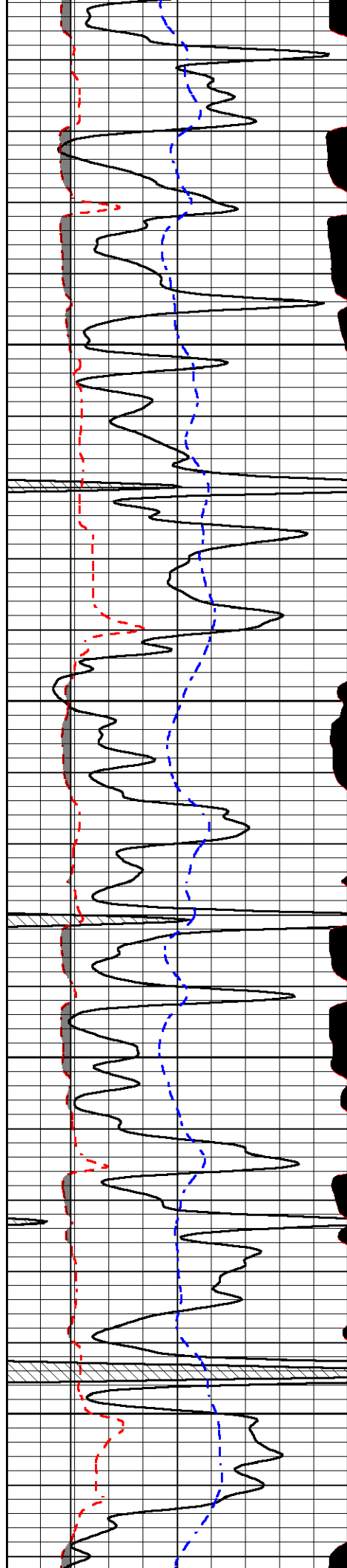


MAIN PASS

Database File	shakespeare_cl_community_1_30.db
Dataset Pathname	stack/pass3.1
Presentation Format	micro
Dataset Creation	Sun Jul 21 18:48:39 2019
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			



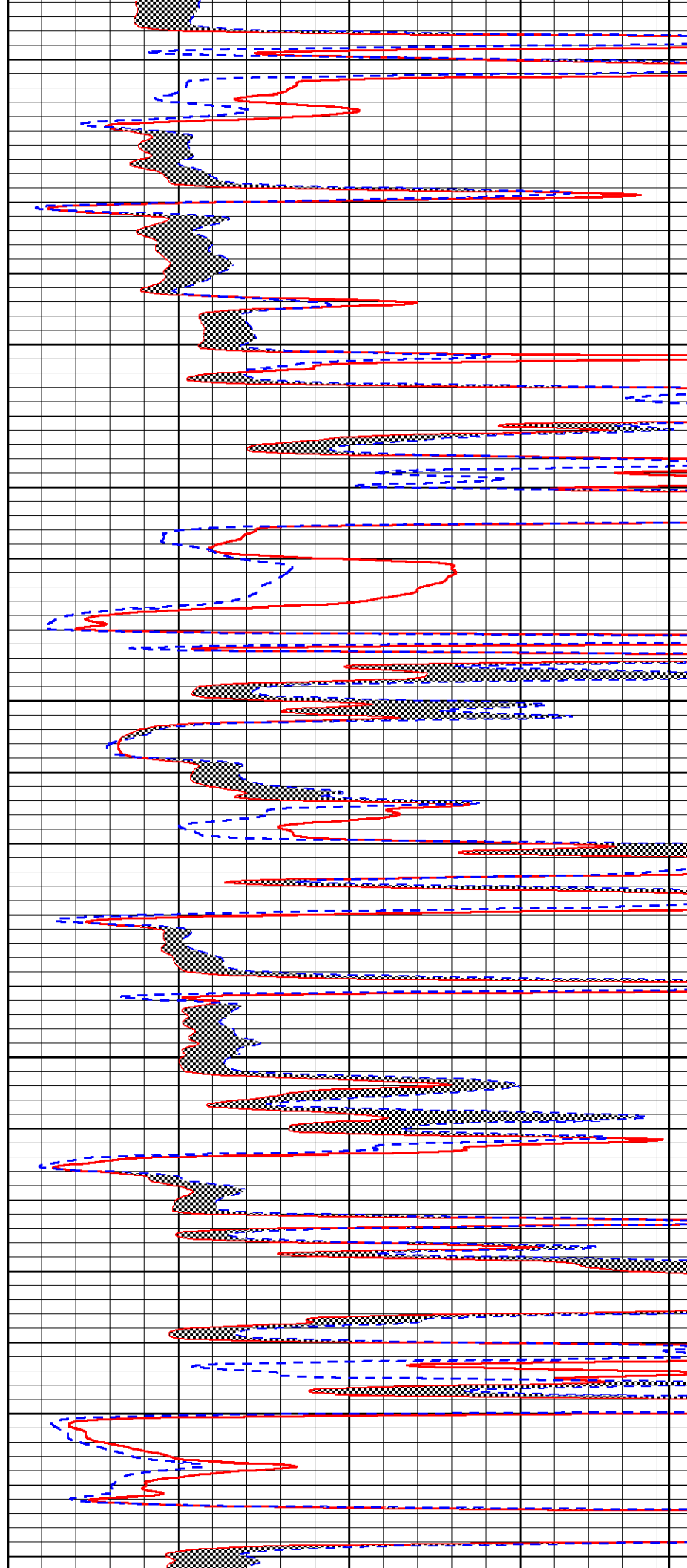


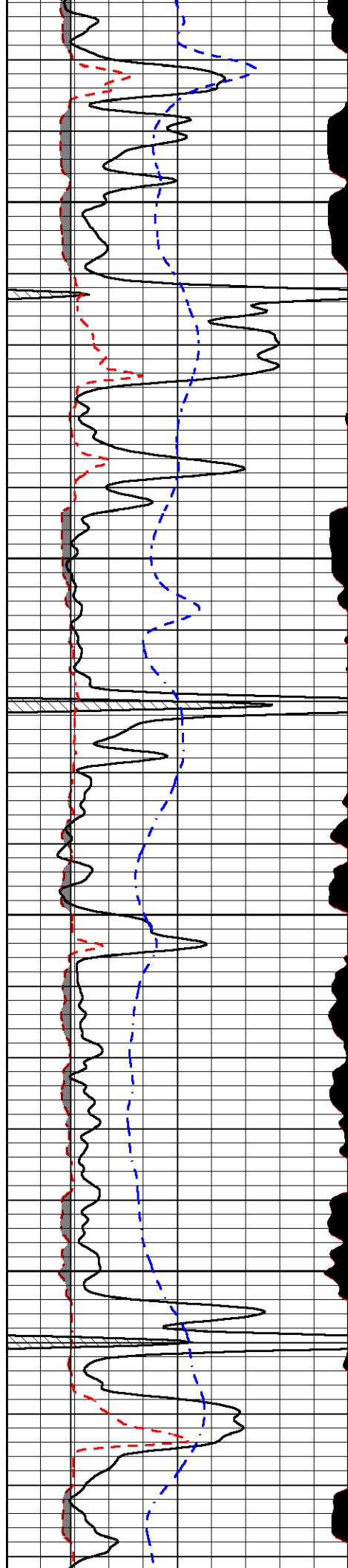
3750

3800

3850

3900



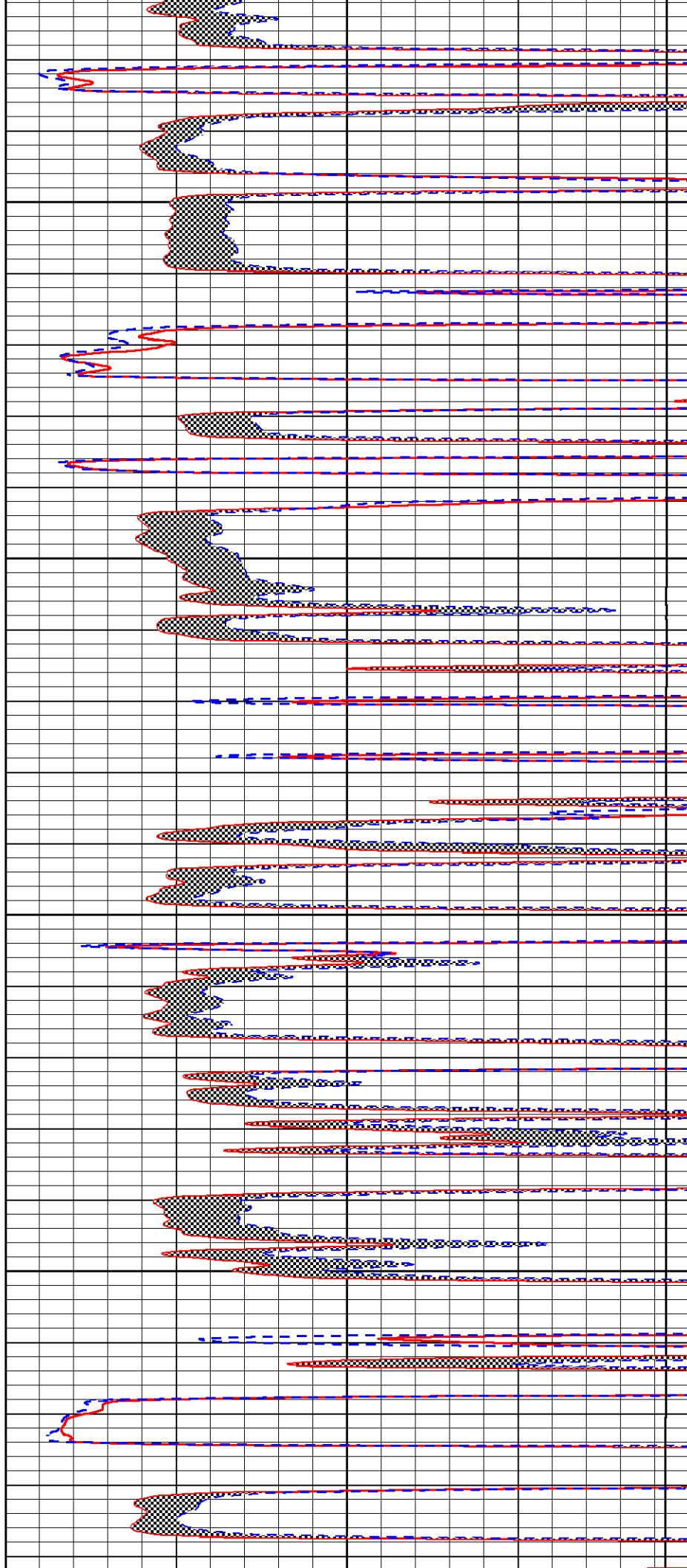


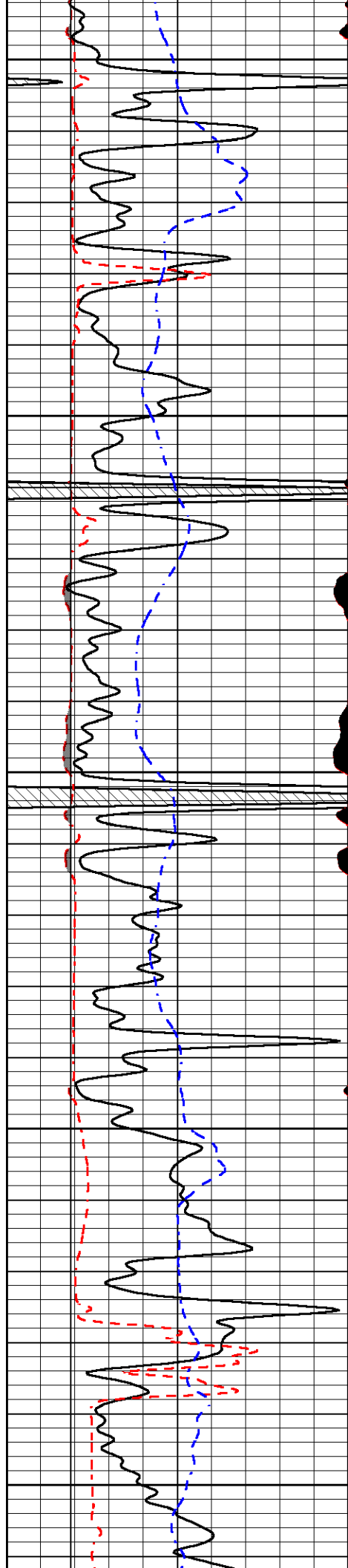
3950

4000

4050

4100





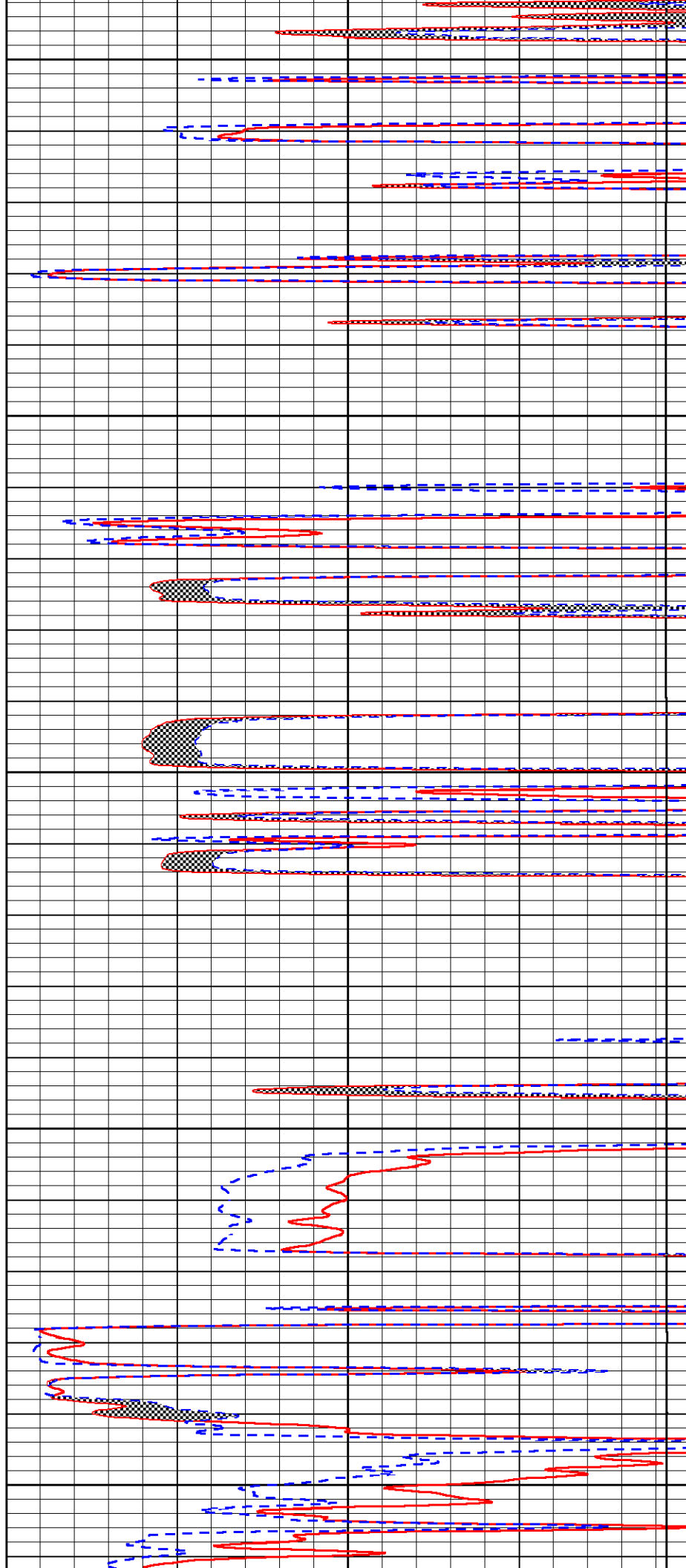
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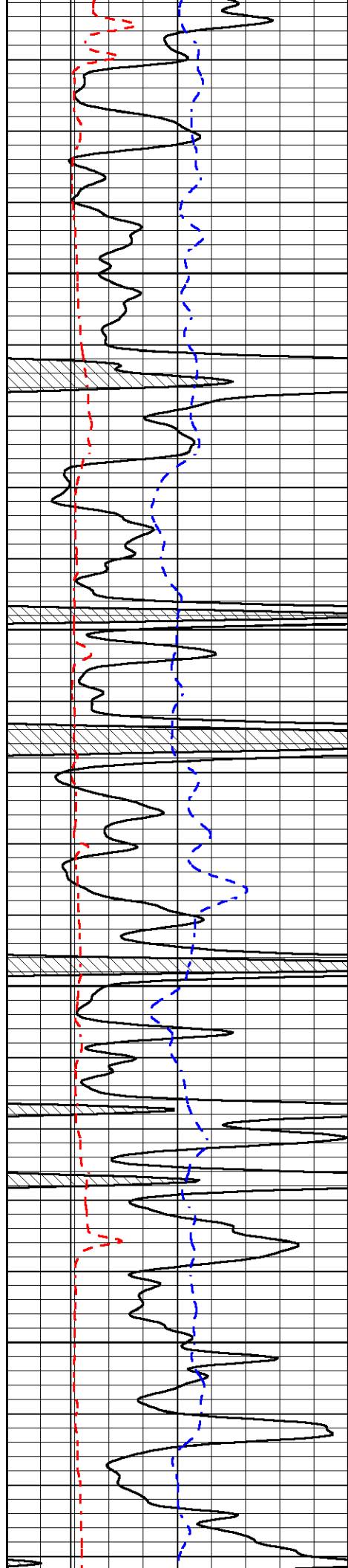
4200

4250

4300

4350



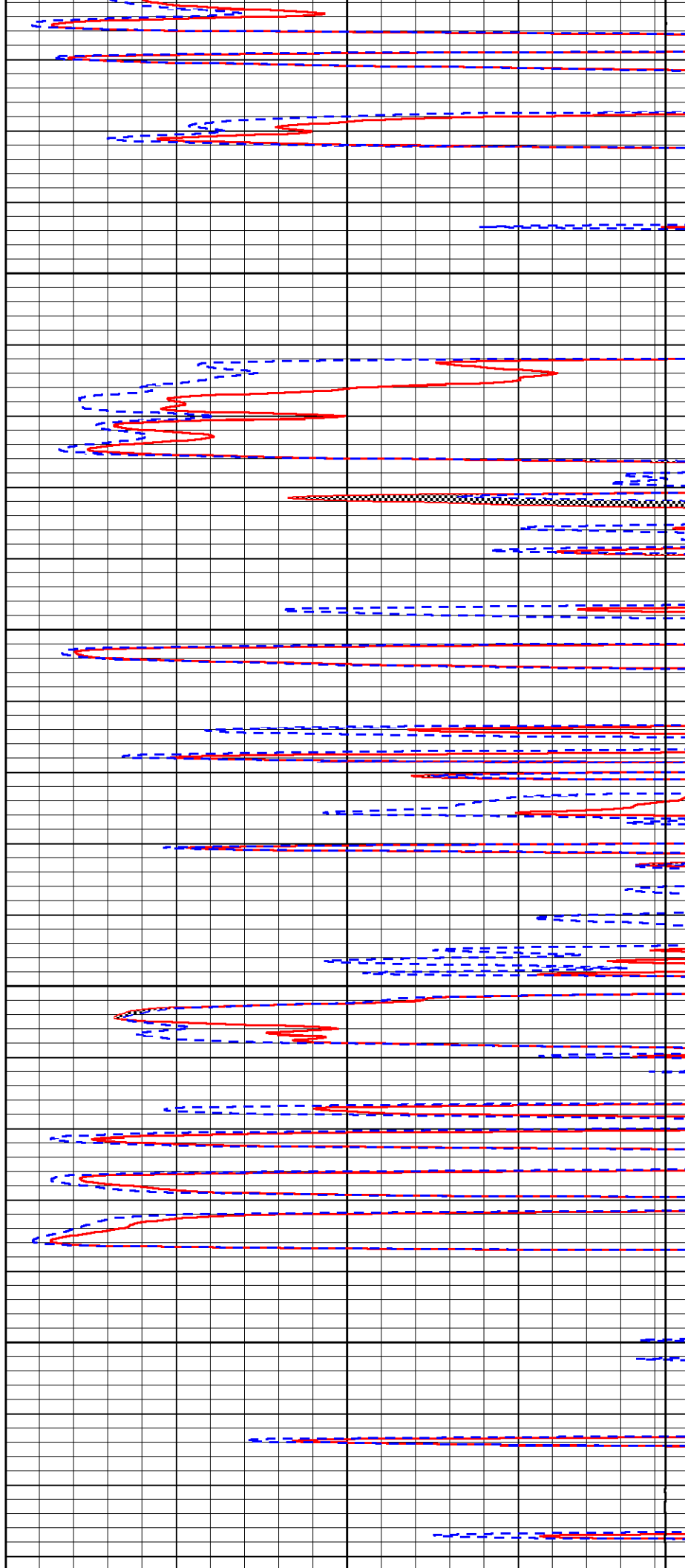


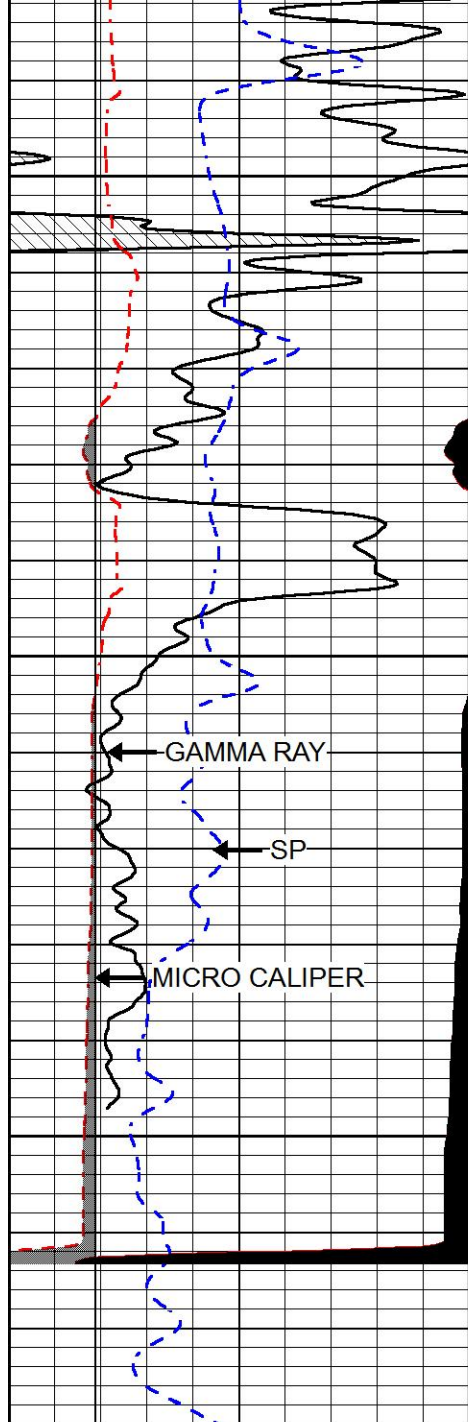
4400

4450

4500

4550





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

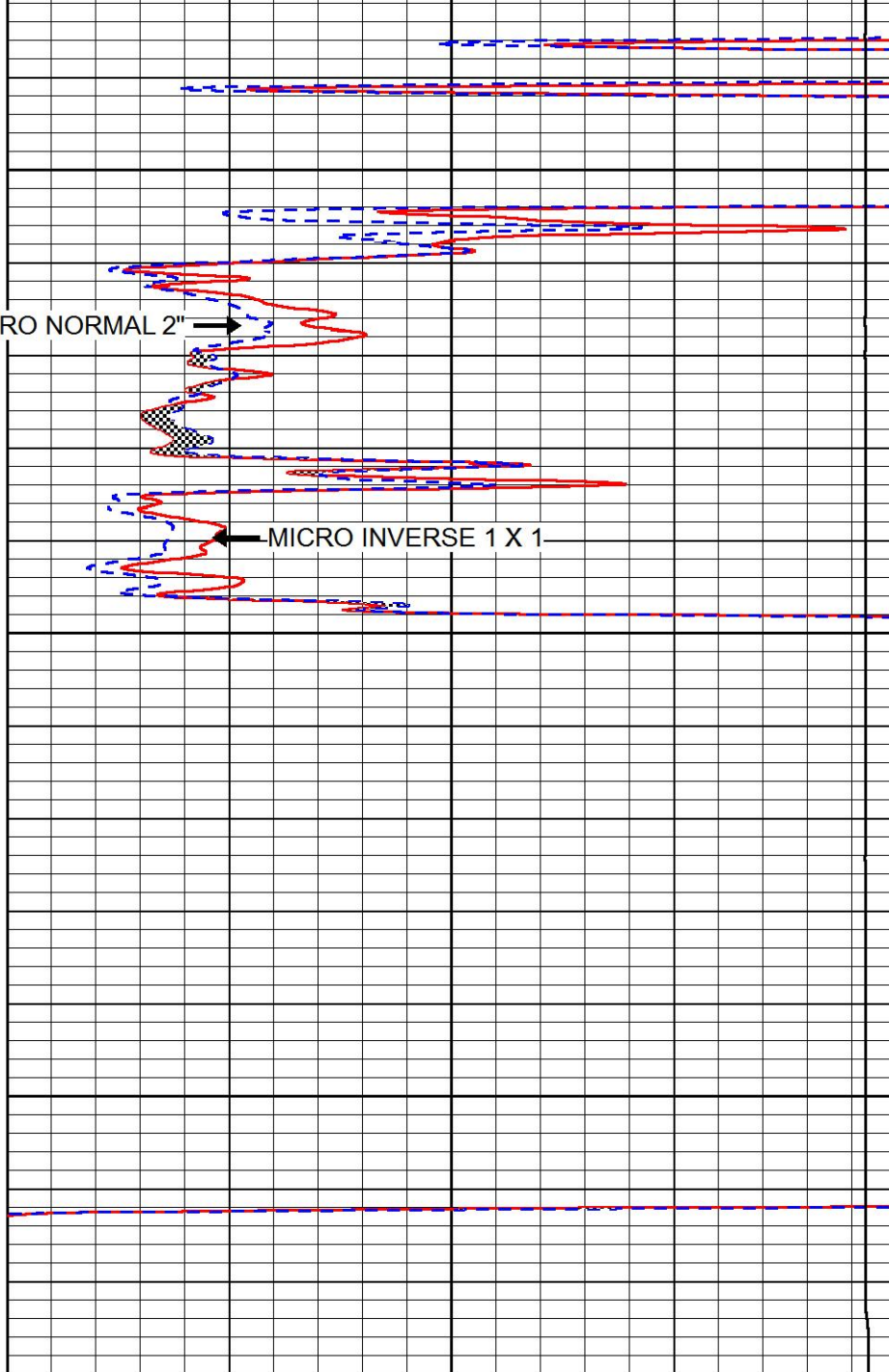
4600

MICRO NORMAL 2" →

← MICRO INVERSE 1 X 1

4650

4700



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



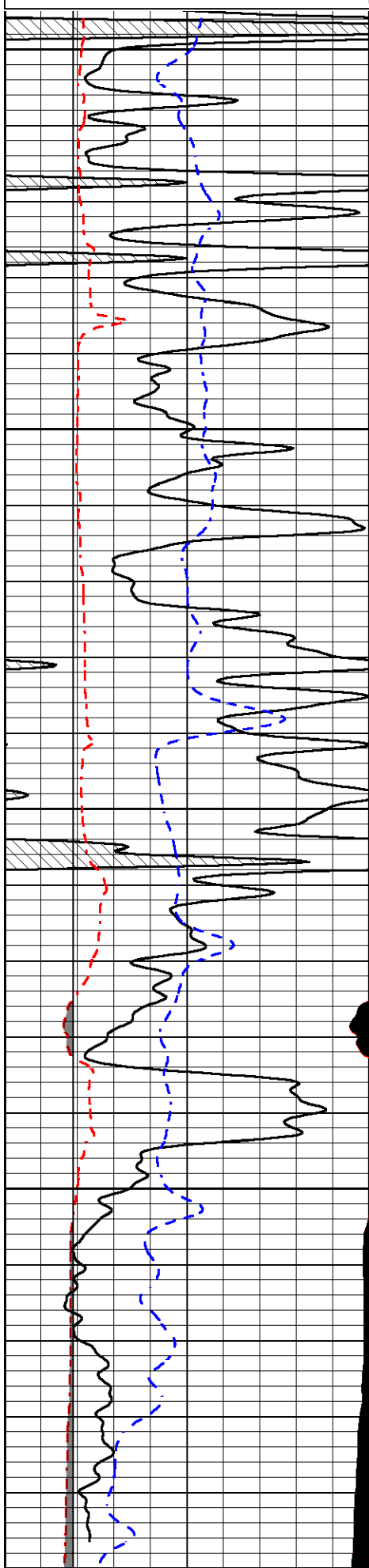
REPEAT SECTION

Database File shakespeare_cl_community_1_30.db
Dataset Pathname stack/pass2.1
Presentation Format micro
Dataset Creation Sun Jul 21 18:10:53 2019
Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
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0	MICRO INVERSE 1 X 1 (Ohm-m)	40
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6 MICRO CALIPER (in) 16
6 BIT SIZE (in) 16
-200 SP (mV) 0



4500

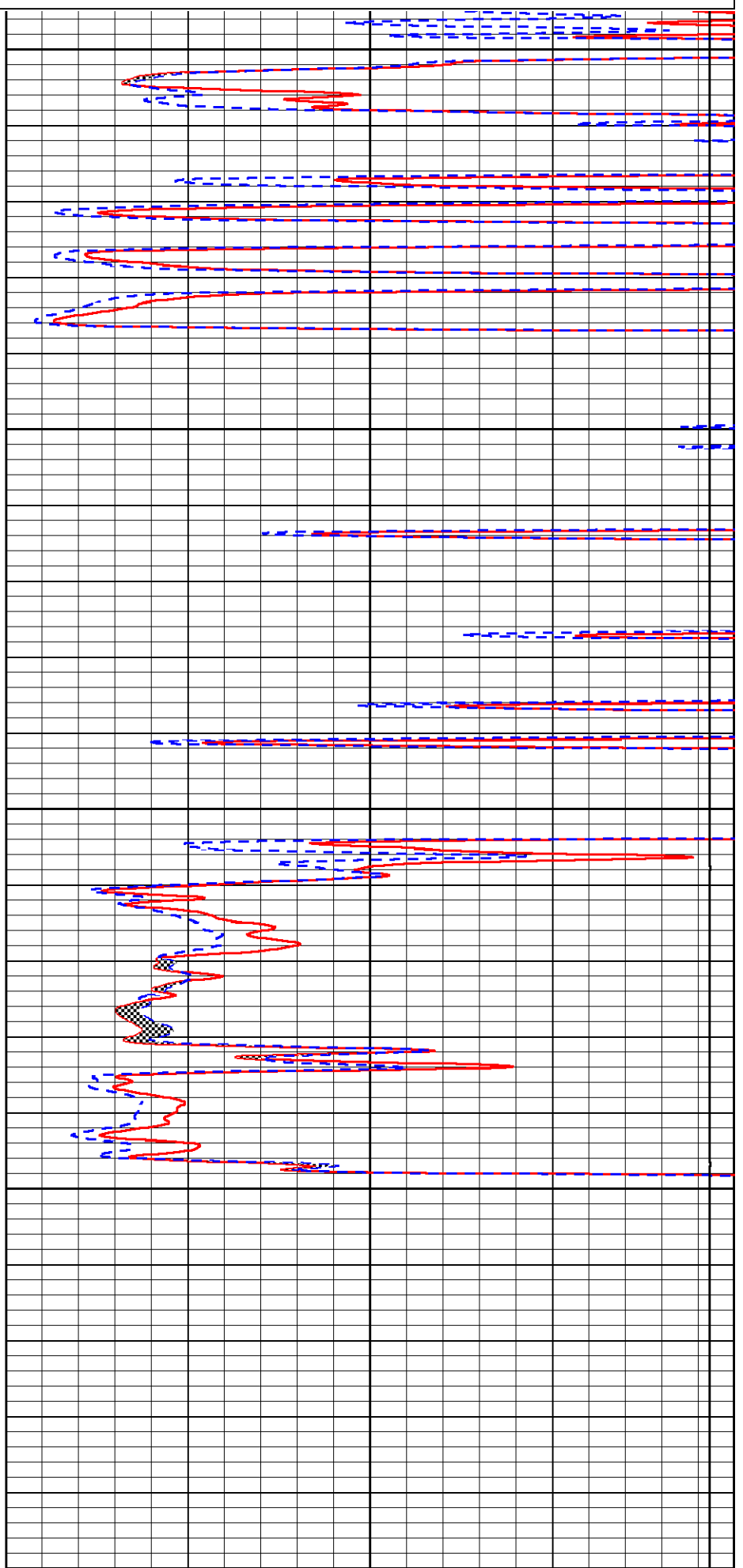
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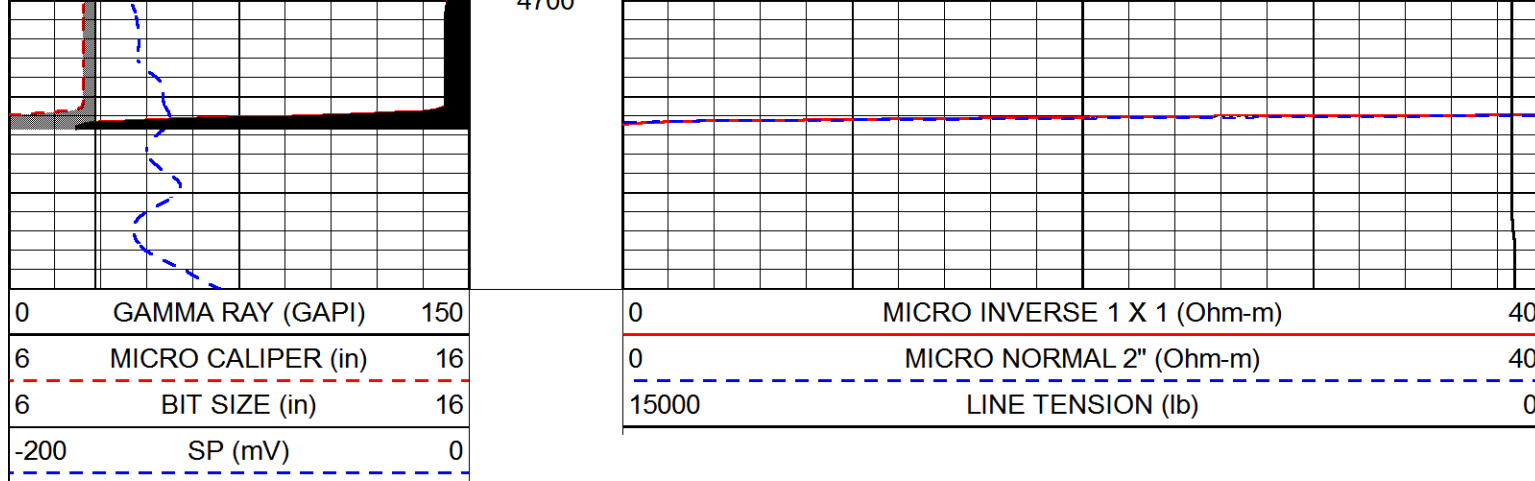
4600

4650

4700

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





Calibration Report

Database File shakespeare_cl_community_1_30.db
Dataset Pathname stack/pass3.1
Dataset Creation Sun Jul 21 18:48:39 2019

Dual Induction Calibration Report

Serial-Model: PSI 988-M&W
Calibration Performed: Tue Nov 20 10:50:19 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	178.615	710.235	0.000	255.800	mmho/m	0.525	-44.000
Medium	161.982	1441.110	0.000	255.800	mmho/m	0.380	-17.000

Compensated Density Calibration Report

Serial-Model: 144-84-M&W
Source / Verifier: /
Master Calibration Performed: Mon Jan 07 15:00:31 2019

Master Calibration							
	Density			Far Detector		Near Detector	
Magnesium	1.755	g/cc		4315.49		5309.89	cps
Aluminum	2.675	g/cc		825.26		3443.46	cps
Spine Angle = 75.33				Density/Spine Ratio = 0.538			
	Size			Reading			
Small Ring	4.00	in		0.69			
Large Ring	14.00	in		0.04			

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
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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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