



# MICRORESISTIVITY LOG

Pioneer Energy Services

Company PIONEER OIL COMPANY, INC.  
 Well SCHAMBERGER #1-28  
 Field FREDA  
 County SHERIDAN  
 State KANSAS

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Location: API #: 15-179-21460-00-00  
 330' FSL & 1785' FWL  
 SEC 28 TWP 8S RGE 28W  
 Permanent Datum GROUND LEVEL Elevation 2738'  
 Log Measured From KELLY BUSHING  
 Drilling Measured From KELLY BUSHING  
 Other Services CNL/CDL DIL/BHCS  
 Elevation K.B. 2746'  
 D.F. N/A  
 G.L. 2738'

Date	4/6/2019
Run Number	ONE
Depth Driller	4200
Depth Logger	4202'
Bottom Logged Interval	4201'
Top Log Interval	3200'
Casing Driller	8.625" @ 279'
Casing Logger	242'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	1500
Density / Viscosity	9.3 60
pH / Fluid Loss	10.5 7.6
Source of Sample	FLOWLINE
Rm @ Meas. Temp	1.10 @ 74
Rmt @ Meas. Temp	0.83 @ 74
Rmc @ Meas. Temp	1.49 @ 74
Source of Rmf / Rmc	CHARTS
Rm @ BHT	1.49 @ 124
Operating Rig Time	4 HOURS
Max Rec. Temp. F	124
Equipment Number	P-24
Location	HAYS
Recorded By	IAN MABB
Witnessed By	JIM MUSGROVE

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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.

HOXIE, KS.  
 SOUTH TO RD 30S,  
 WEST 3/4, NORTH INTO

Log Measured From: KELLY BUSHING Ft. Above Permanent Datum

THANK YOU FOR USING PIONEER ENERGY SERVICES  
[www.pioneerenergy.com](http://www.pioneerenergy.com) 785-625-3858

Your Pioneer Energy Services Crew	This Log Record Was Witnessed By
Engineer: IAN MABB	Primary Witness: JIM MUSGROVE
Operator:	Secondary Witness:
Operator:	Secondary Witness:
Operator:	Secondary Witness:

# Log Variables

DatabaseC:\ProgramData\Warrior\Data\pioneer\_oil\_schamberger\_1\_28.db  
 Dataset field/well/stackmel/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	597	71	Off	4202

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (207-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (96-916)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
RLL3F RLL3	15.80 15.80					
CILD	8.00		DIL-PSI HIGH TEMP (967 (HT))	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: pioneer\_oil\_schamberger\_1\_28.db: field/well/stackmel/pass3.1  
 Total length: 43.08 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in

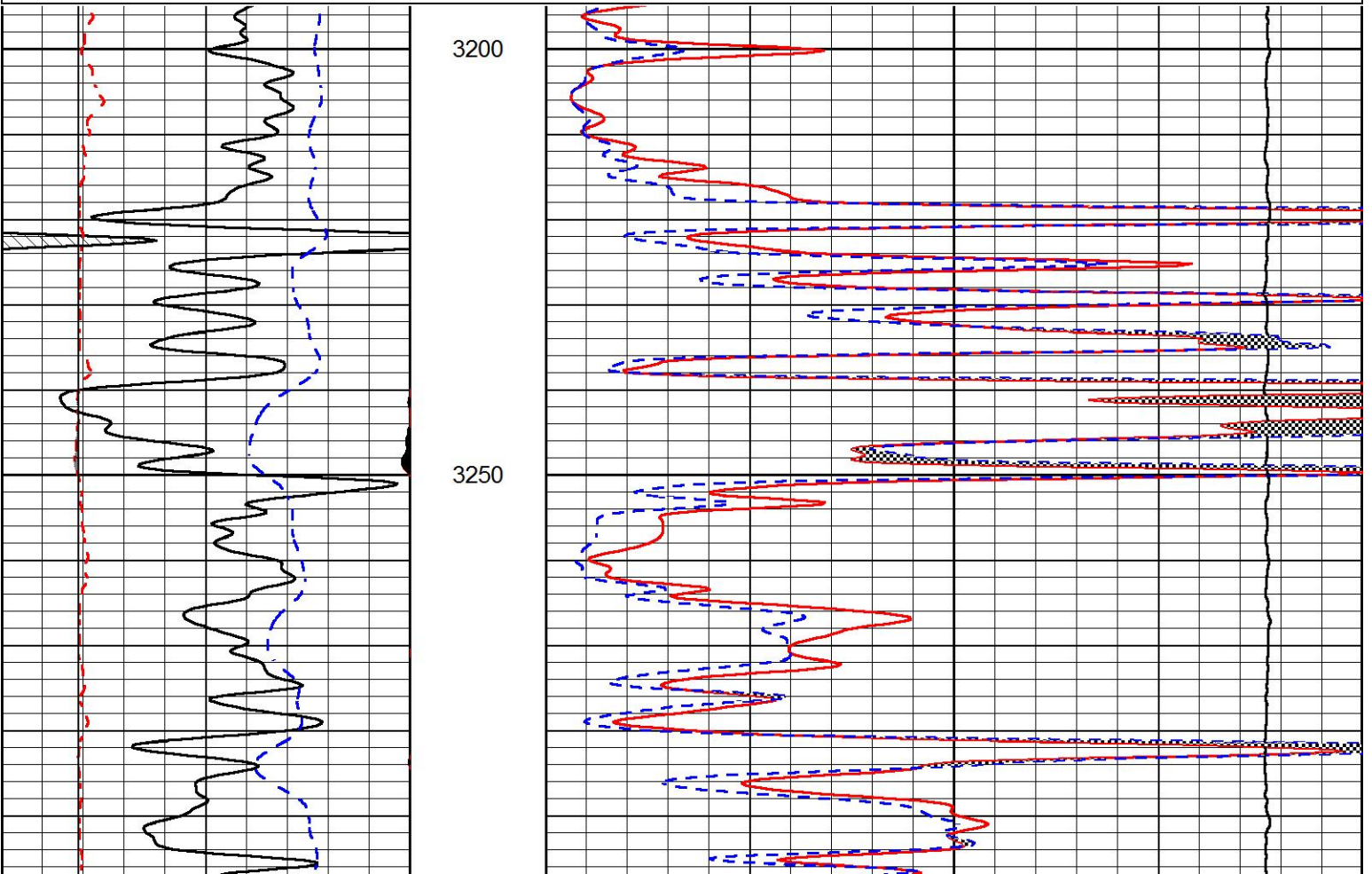


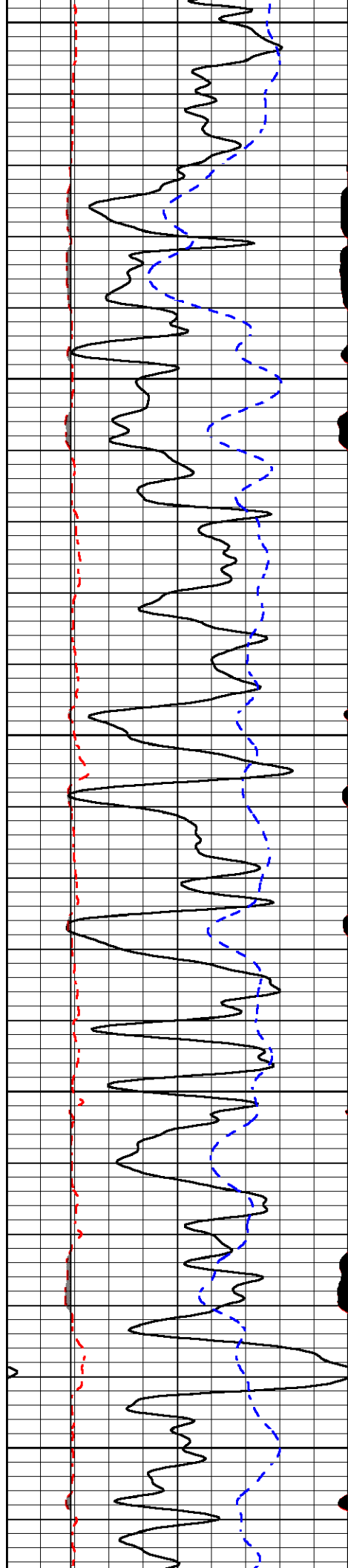
# MAIN PASS

Database File: pioneer\_oil\_schamberger\_1\_28.db  
 Dataset Pathname: stackmel/pass3.1  
 Presentation Format: \_micro  
 Dataset Creation: Sat Apr 06 17:43:35 2019  
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
2.875	mcAl (in)	7.875
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
10000	Line Weight (lb)	0





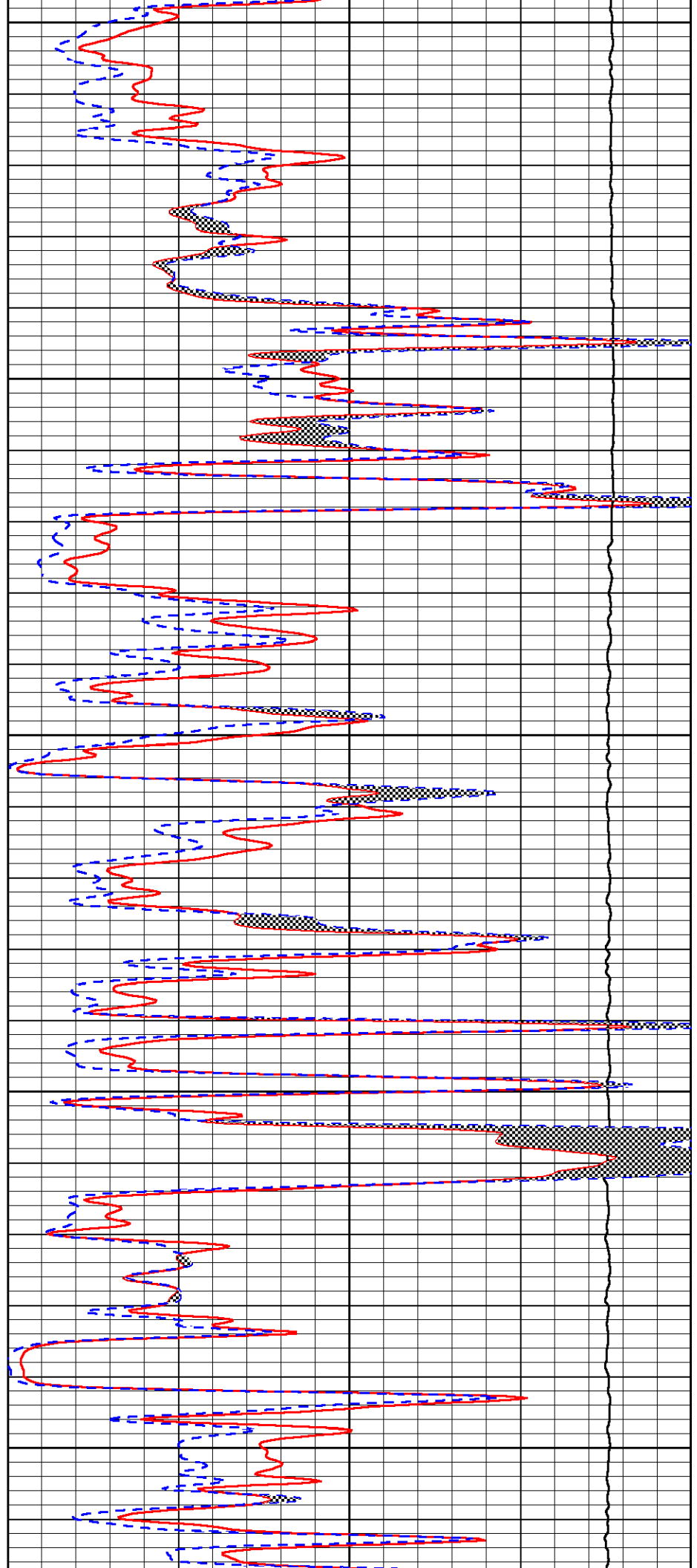
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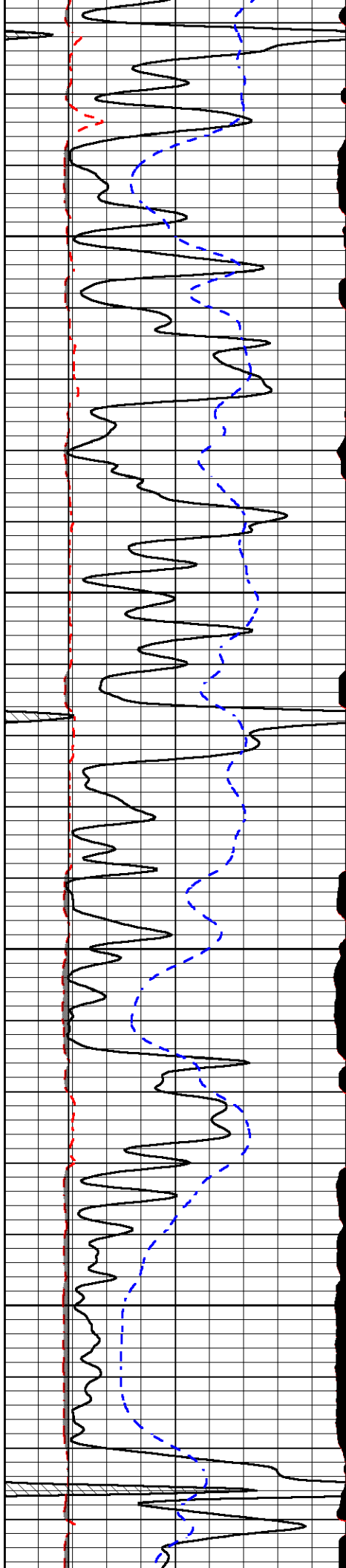
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3400

3450

3500



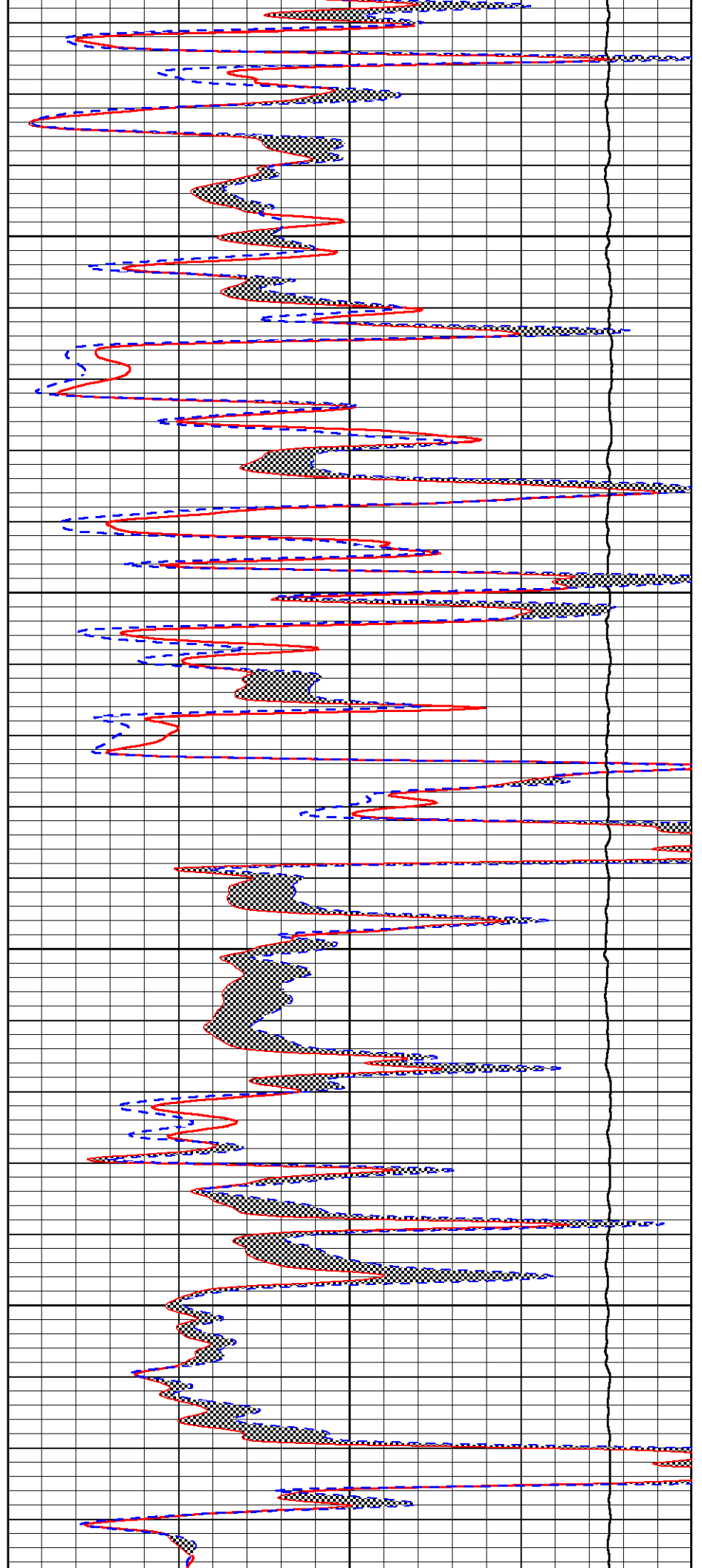


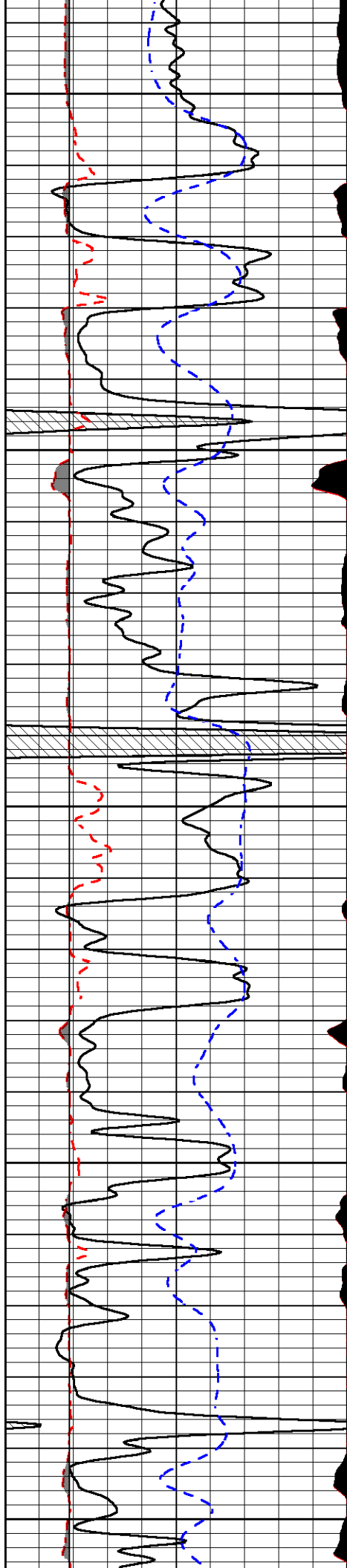
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3600

3650

3700





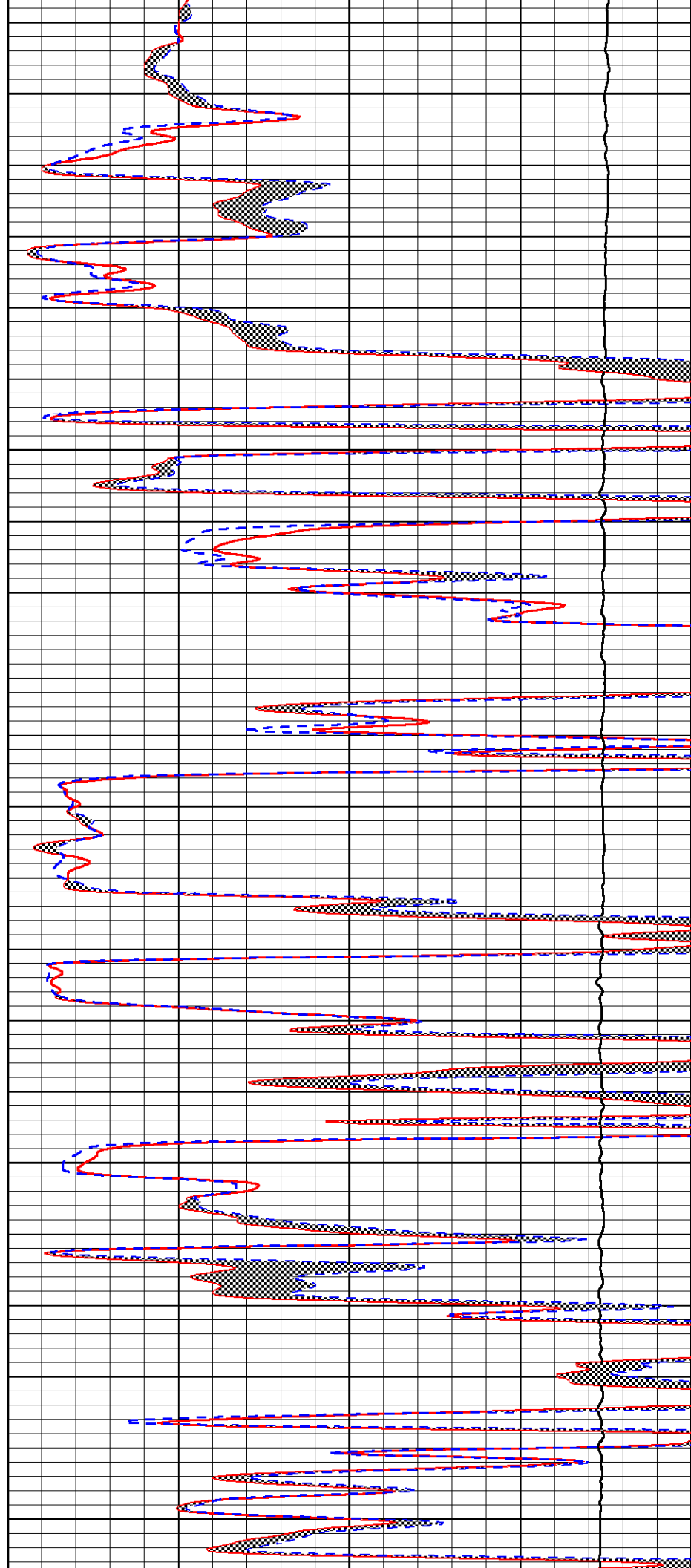
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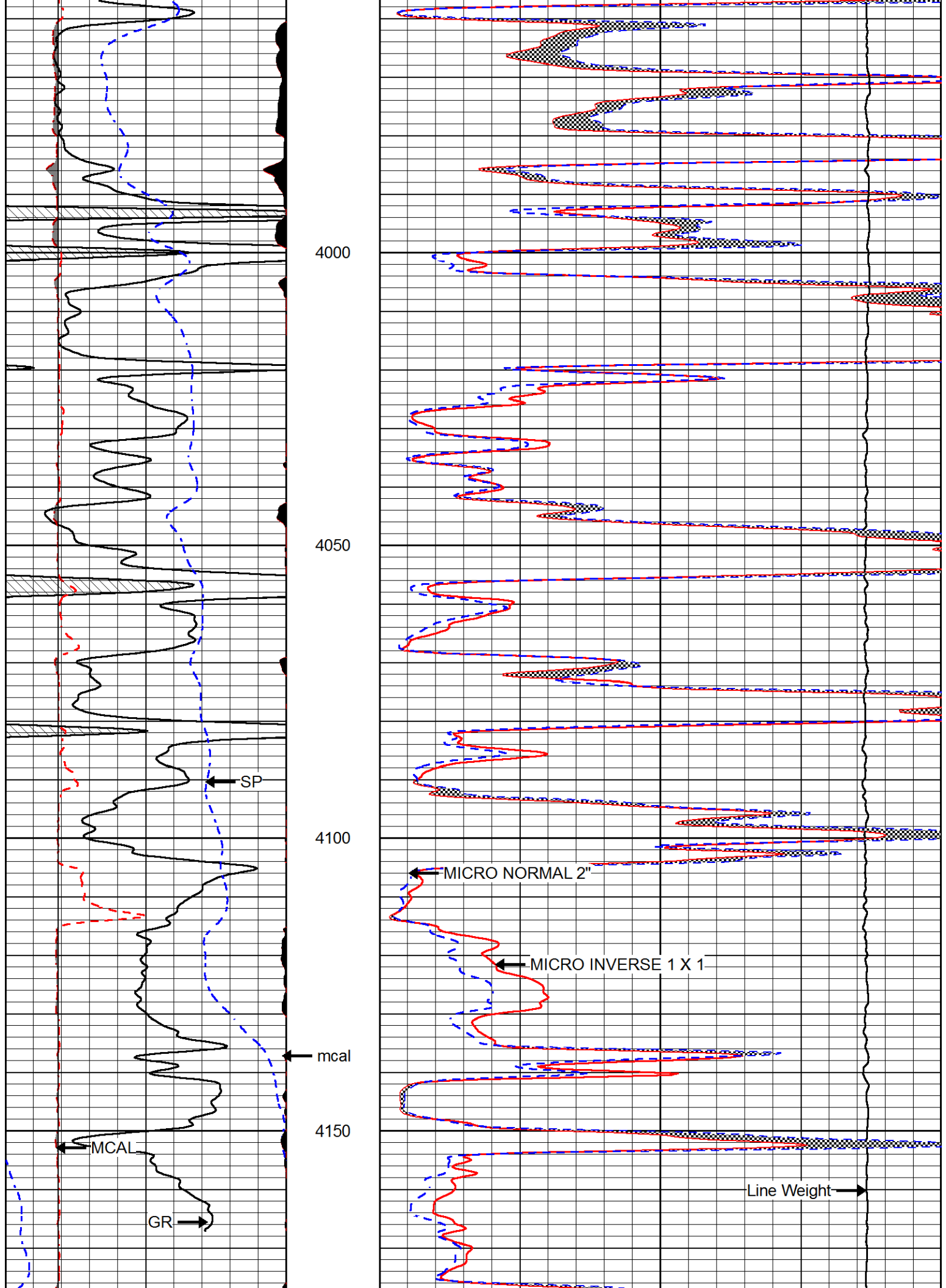
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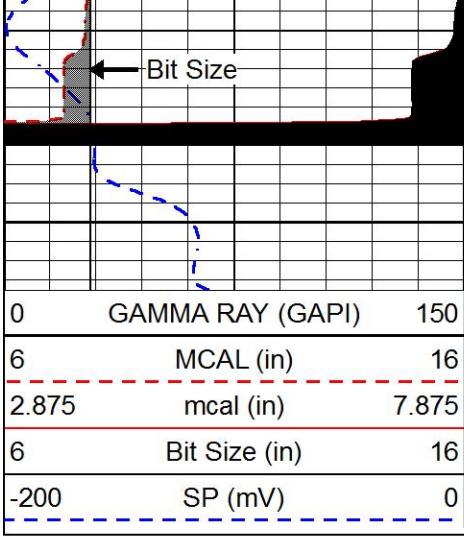
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3900

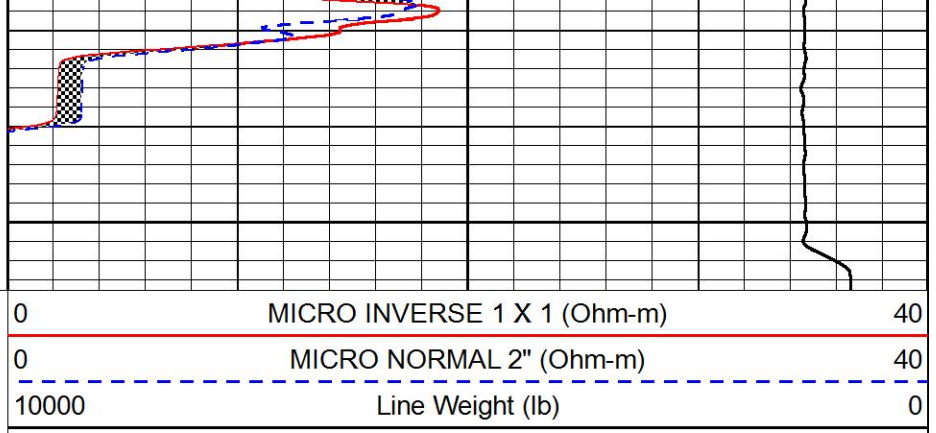
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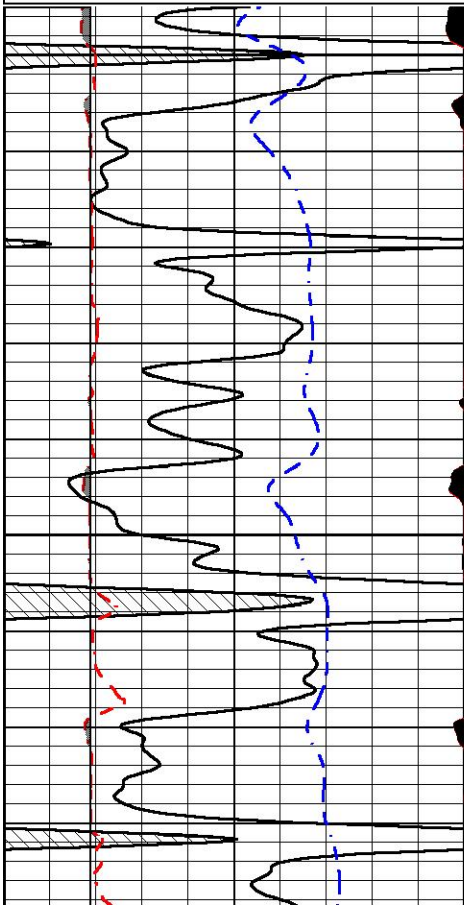
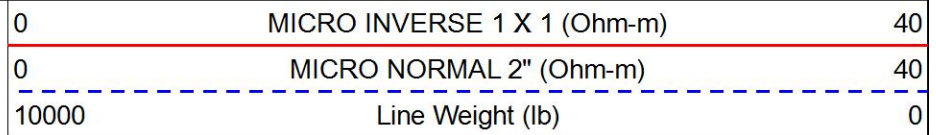
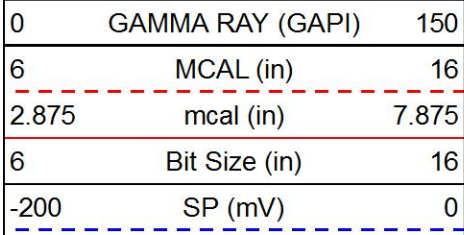


4200



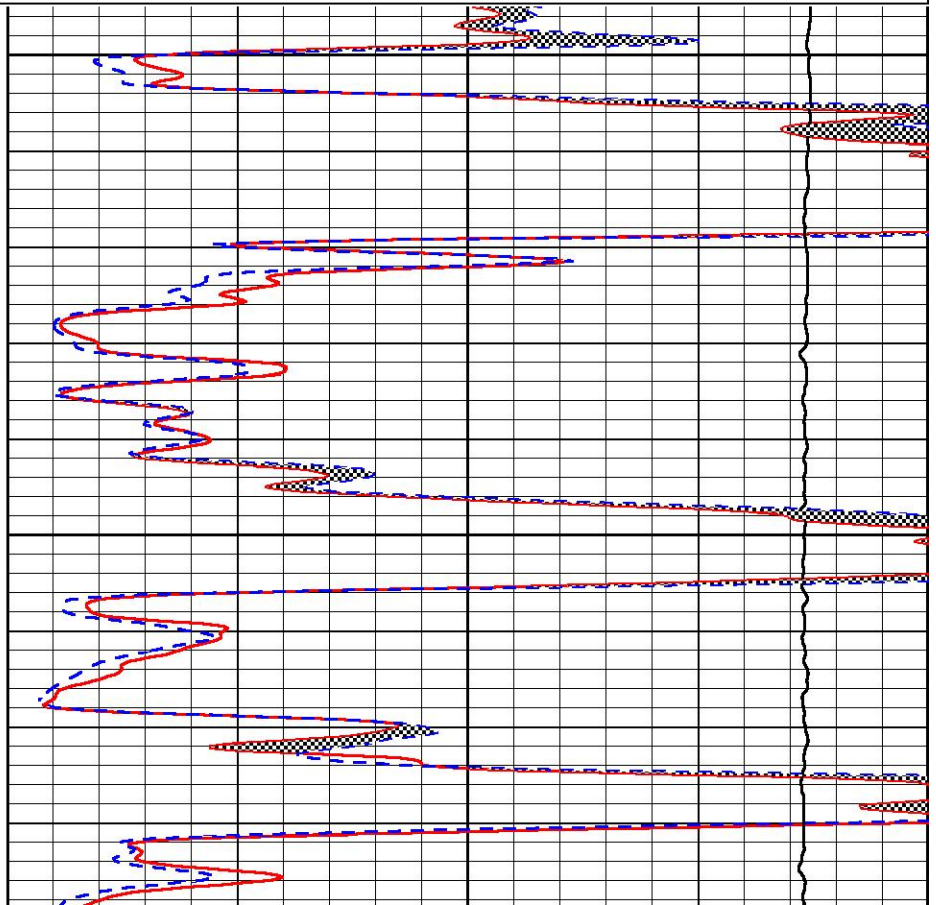
# REPEAT SECTION

Database File: pioneer\_oil\_schamberger\_1\_28.db  
 Dataset Pathname: stackmel/pass2.1  
 Presentation Format: \_micro  
 Dataset Creation: Sat Apr 06 17:44:16 2019  
 Charted by: Depth in Feet scaled 1:240

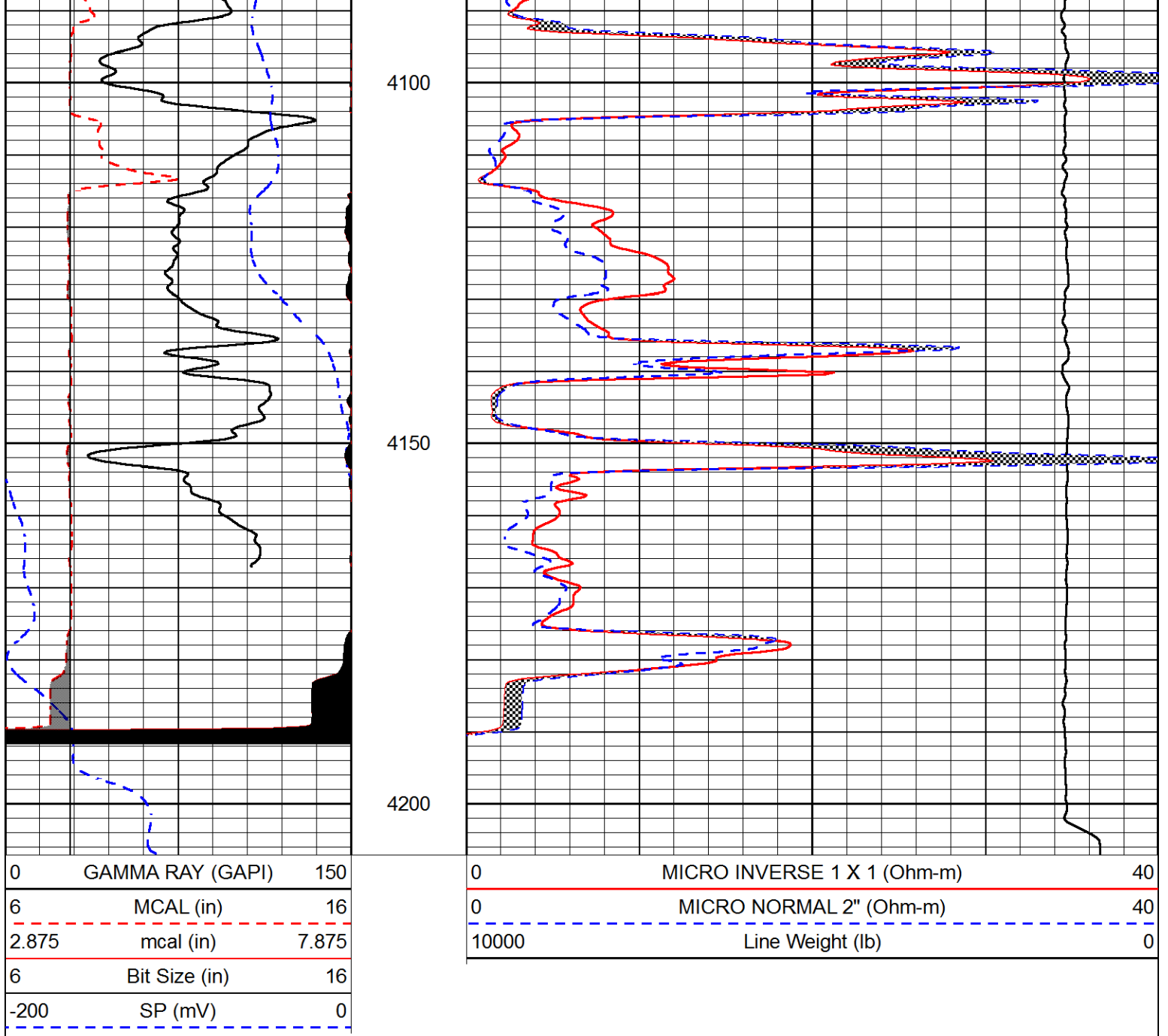


4000

4050







### Calibration Report

Database File pioneer\_oil\_schamberger\_1\_28.db  
 Dataset Pathname stackmel/pass3.1  
 Dataset Creation Sat Apr 06 17:43:35 2019

### Dual Induction Calibration Report

Serial-Model: 967 (HT)-PSI HIGH TEMP  
 Calibration Performed: Sun Oct 07 19:24:22 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.565	-17.500
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.390	-40.000

### Microlog Calibration Report

Serial-Model: DSL 01-DCIM

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	35000.0000	-2.0000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	50000.0000	-2.0000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-65.7000

Compensated Density Calibration Report

Serial-Model: 96-916-M&W  
 Source / Verifier: 16955B / 2ci  
 Master Calibration Performed: Wed Mar 27 11:00:53 2019

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	8943.64	10054.60	cps
Aluminum	2.655	g/cc	1595.61	6242.82	cps
Spine Angle = 74.54		Density/Spine Ratio = 0.503			
	Size		Reading		
Small Ring	6.00	in	1.75		
Large Ring	16.00	in	1.46		

Compensated Neutron Calibration Report

Serial Number: 207-MW  
 Tool Model: M&W  
 Calibration Performed: WED FEB 13 10:30:30 2019

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  
 Tool Model: M&W  
 Calibration Performed: Fri Aug 24 11:16:10 2018

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
 Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



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