



PIONEER

Pioneer Energy Services

MICRORESISTIVITY LOG

Company **LARSON ENGINEERING, INC.**

Well **PARIS #2-11**

Field **WILDCAT**

County **LANE** State **KANSAS**

Location: API #: 15-101-22587-00-00

Other Services

NW NE NW SE
2550' FSL & 1690' FEL
SEC 11 TWP 19S RGE 29W

CNL/CDL
DIL

Permanent Datum GROUND LEVEL Elevation 2800'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2810'
D.F. N/A
G.L. 2800'

Date 2/25/2017

Run Number ONE

Depth Driller 4650'

Depth Logger 4660'

Bottom Logged Interval 4659'

Top Log Interval 3600'

Casing Driller 8.625" @ 266'

Casing Logger 265'

Bit Size 7.875"

Type Fluid in Hole CHEMICAL

Salinity, ppm CL 2400

Density / Viscosity 9.2 55

pH / Fluid Loss 10.5 7.8

Source of Sample FLOWLINE

Rm @ Meas. Temp 0.80 @ 46

Rmt @ Meas. Temp 0.60 @ 46

Rmc @ Meas. Temp 1.08 @ 46

Source of Rmt / Rmc CHARTS

Rm @ BHT 0.30 @ 123

Operating Rig Time 3 HOURS

Max Rec. Temp. F 123

Equipment Number 91

Location COLBY

Recorded By D. SCHMIDT

Witnessed By VERN SCHRAG

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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.

DIGHTON,
6 SOUTH ON HWY 23 TO 90 RD,
1 WEST TO KAW RD, 1 1/2 NORTH,
1/4 WEST TO LOCATION

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

This Log Record Was Witnessed By

Engineer: D. SCHMIDT

Primary Witness: VERN SCHRAG

Operator:

Secondary Witness:

Operator:

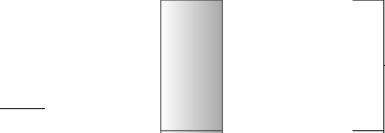
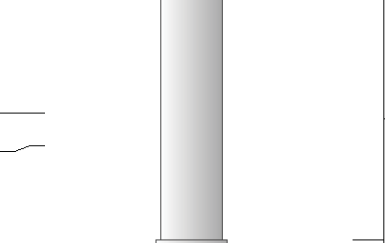
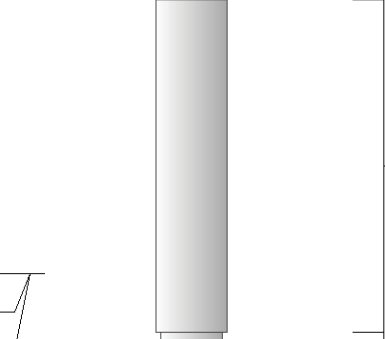
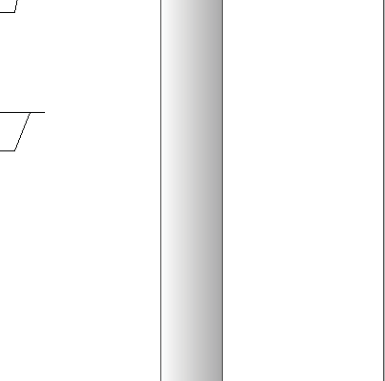
Secondary Witness:

Operator:

Secondary Witness:

Top - Bottom

M	A	SPSHIFT mV	SNDERRM mmho/m	SNDERR mmho/m	SZCOR	NPORSEL	FLUIDDEN g/cc
2	1	230	0	0	Off	Limestone	1
MATRXDEN g/cc	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
2.71	30	0	4.5	0	4660	123	7.875

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 (90-1031)	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					

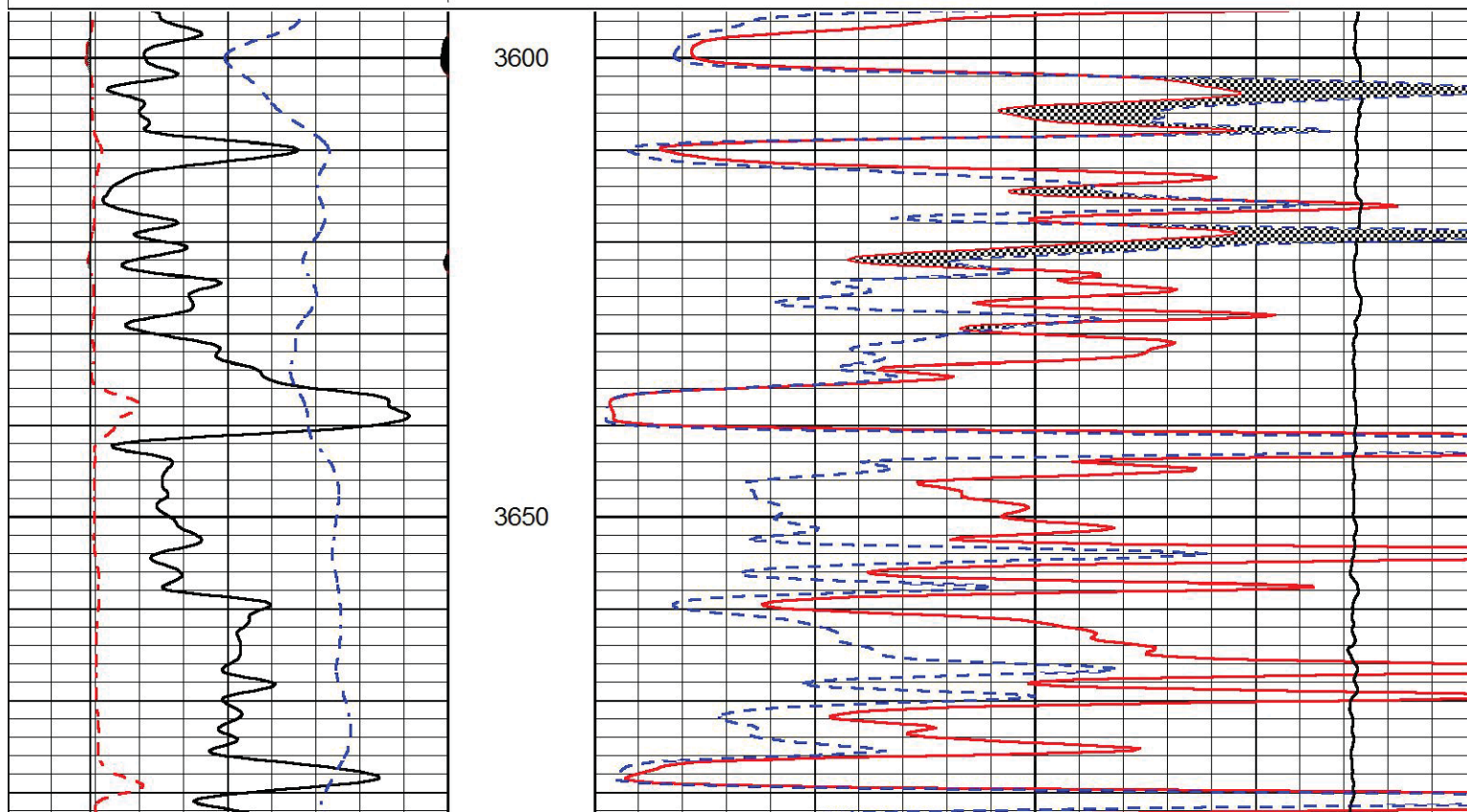
			DIL-M&W (PSI 13)	18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					
Dataset: laron_pari_2-11.db: field/well/STKML/pass3.15 Total length: 43.08 ft Total weight: 685.00 lb O.D.: 4.00 in						

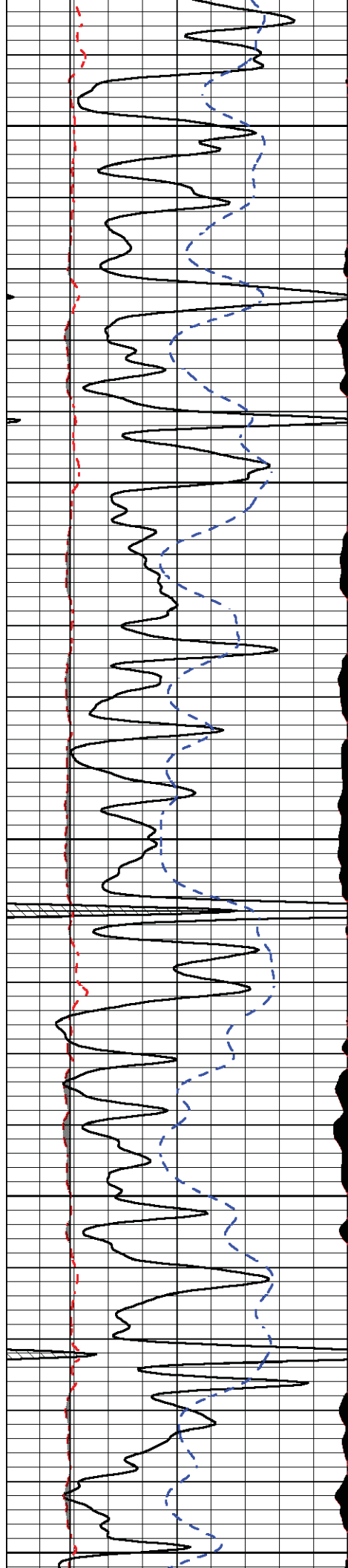


MAIN PASS

Database File	laron_pari_2-11.db
Dataset Pathname	STKML/pass3.15
Presentation Format	micro
Dataset Creation	Sat Feb 25 02:52:27 2017
Charted by	Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150	0	Micro Inverese 1 X 1 (Ohm-m)	40
6	MCAL (in)	16	0	Micro Normal 2" (Ohm-m)	40
2.875	mcals (in)	7.875	10000	Line Weight (lb)	0
6	Bit Size (in)	16			
-200	SP (mV)	0			





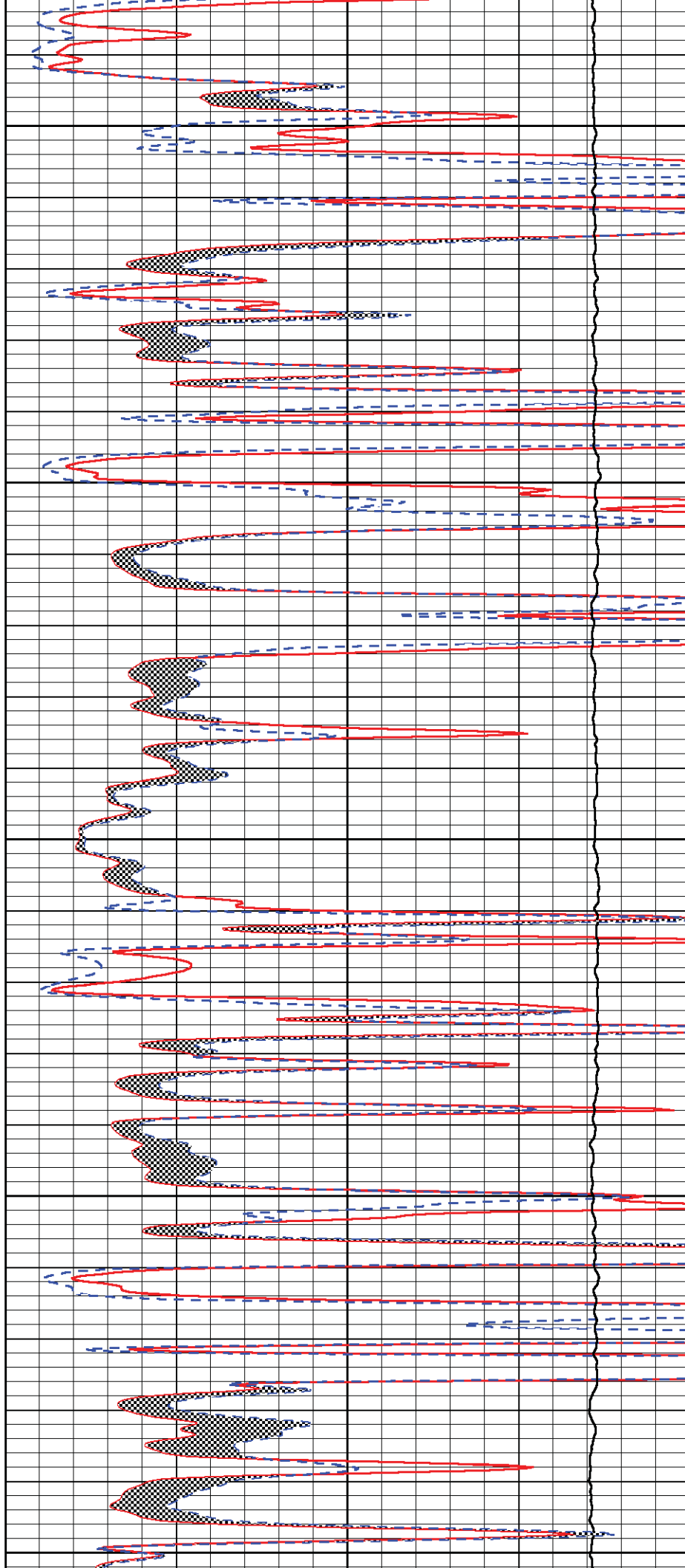
3700

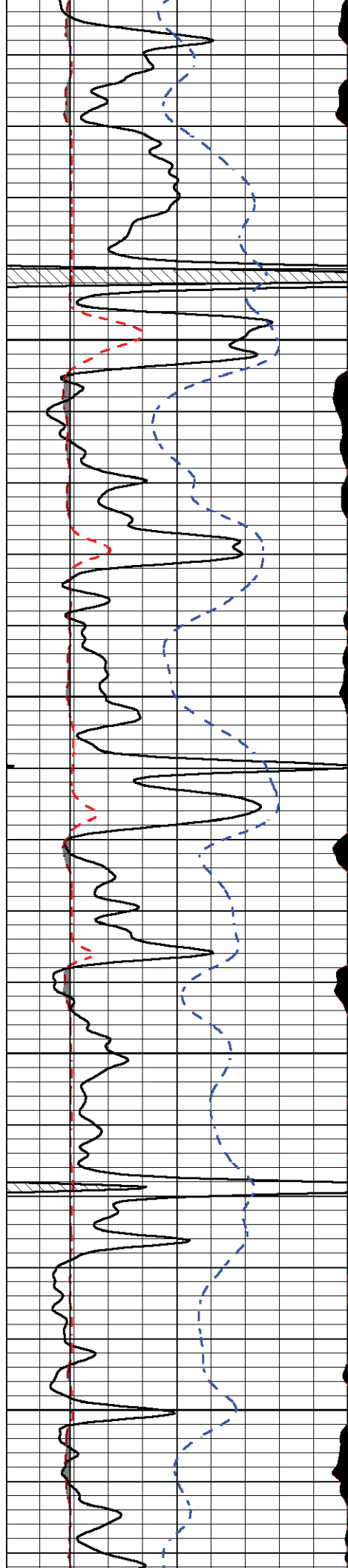
3750

3800

3850

3900



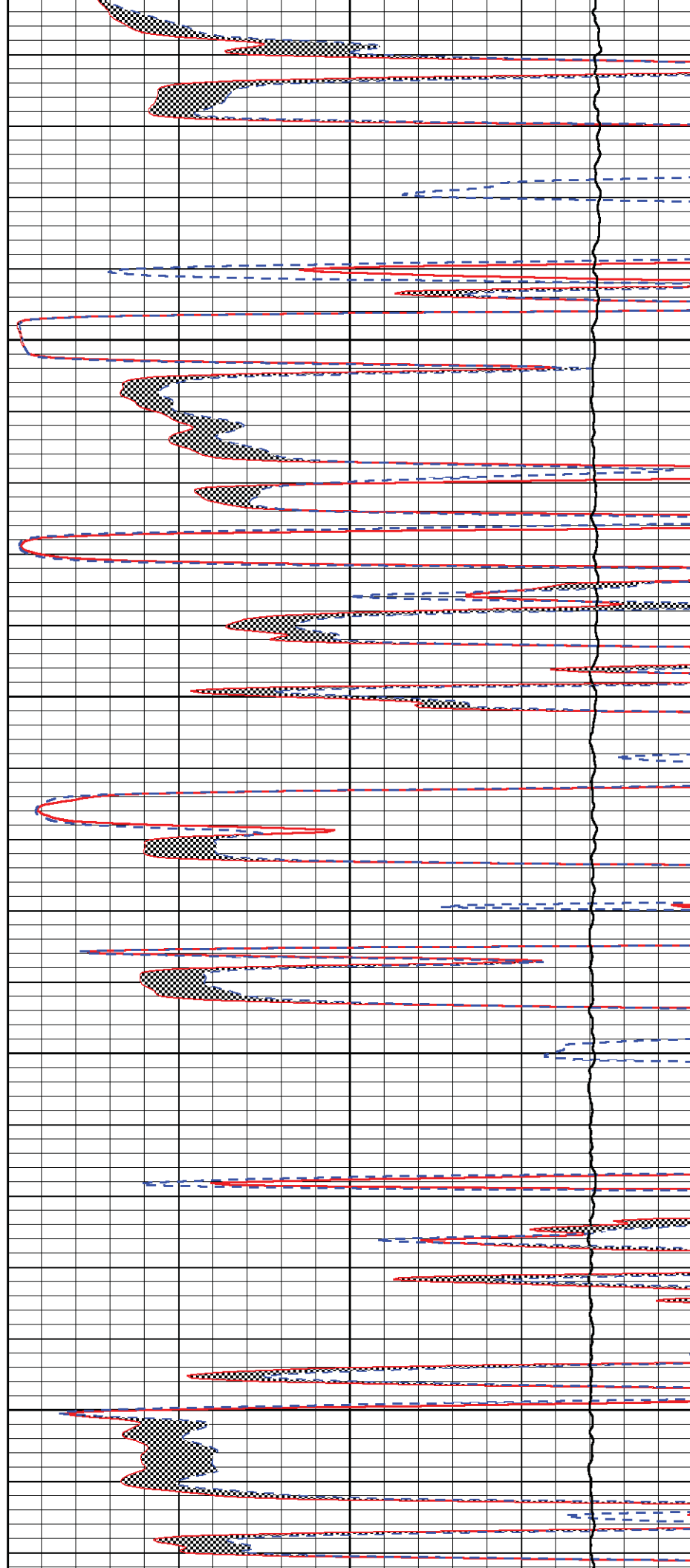


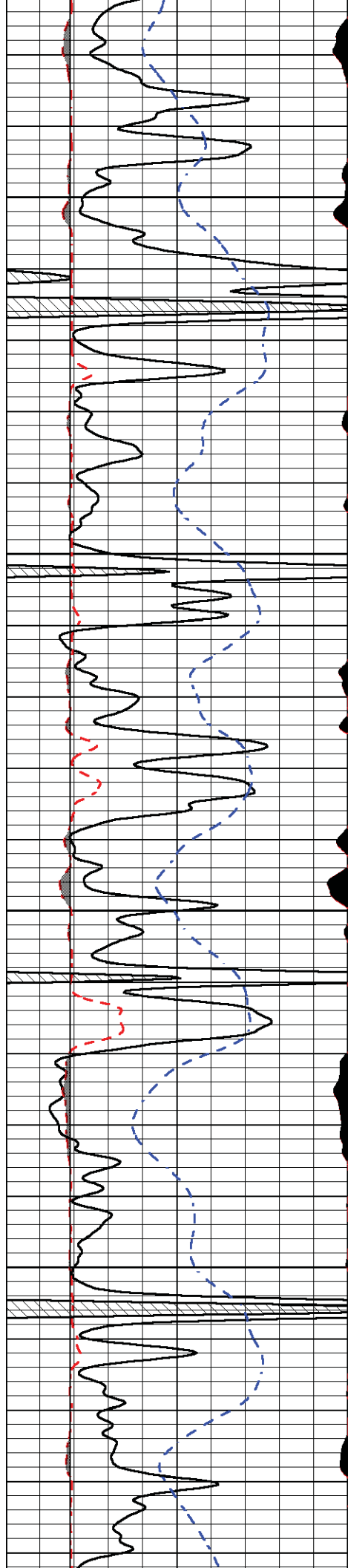
3950

4000

4050

4100



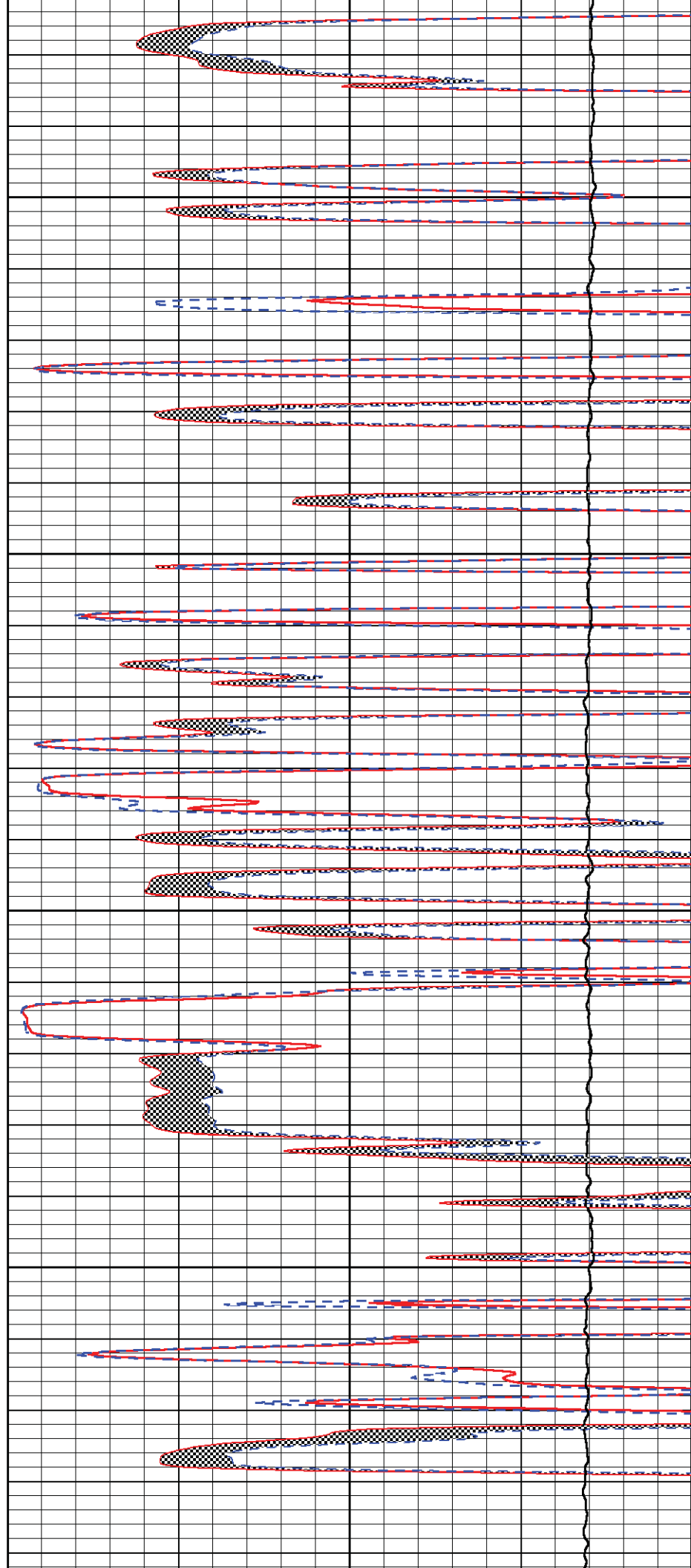


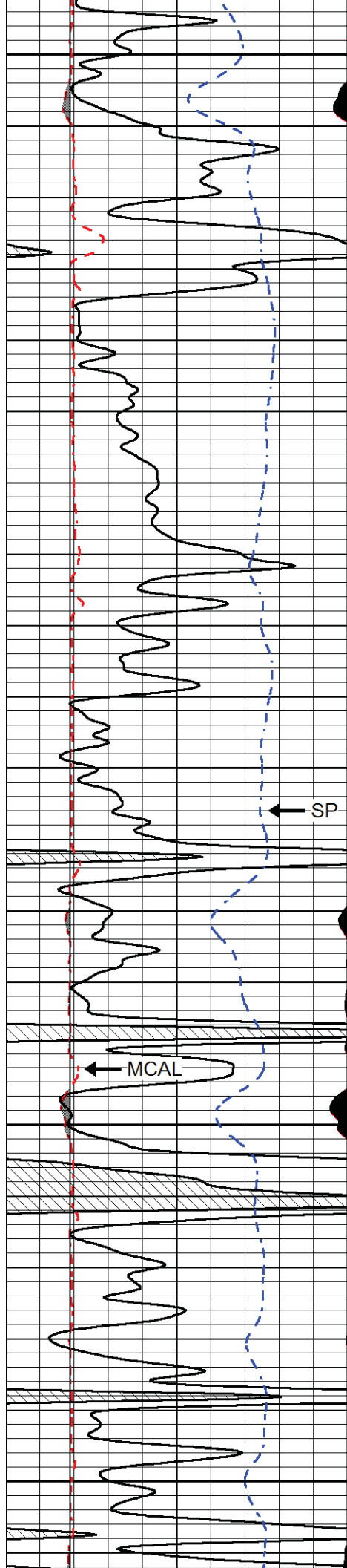
4150

4200

4250

4300





4350

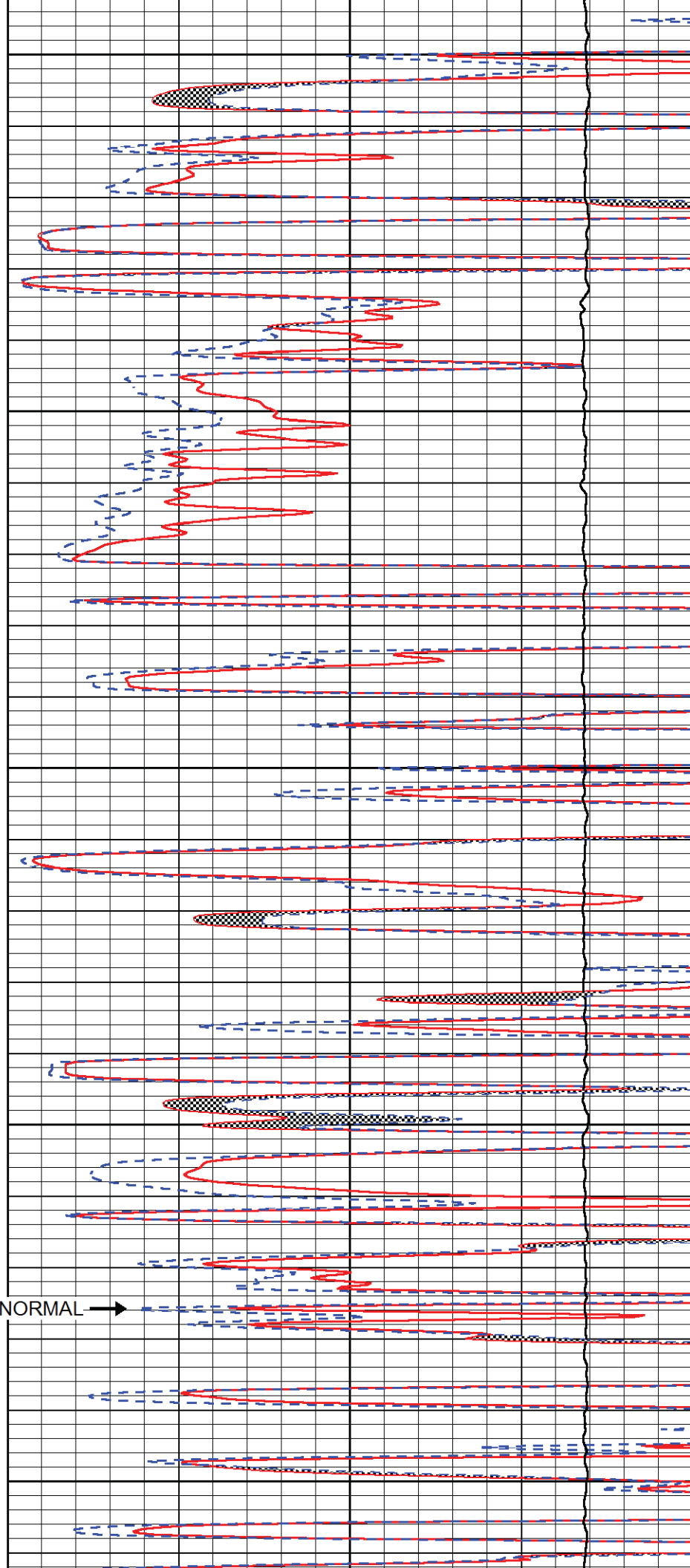
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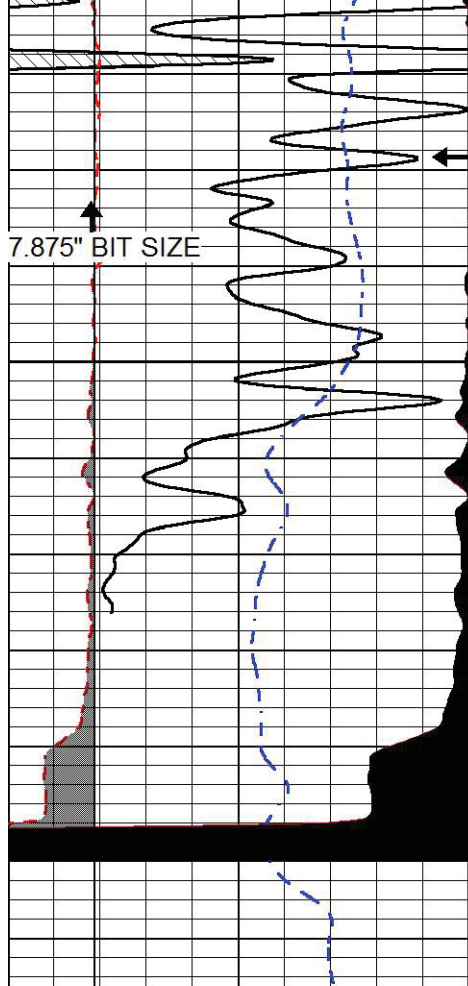
4450

4500

MICRO NORMAL →

4550



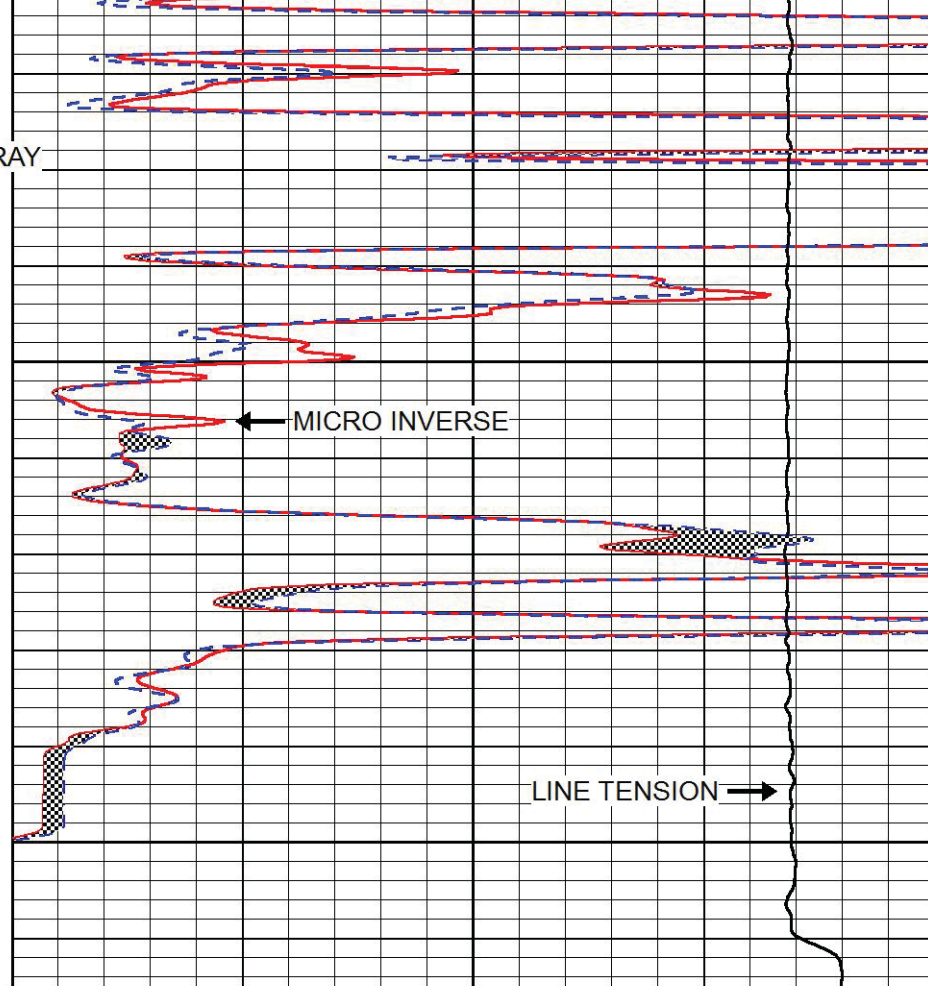


0	Gamma Ray (GAPI)	150
6	MCAL (in)	16
2.875	mcal (in)	7.875
6	Bit Size (in)	16
-200	SP (mV)	0

GAMMA RAY

4600

4650



0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0

MICRO INVERSE

LINE TENSION

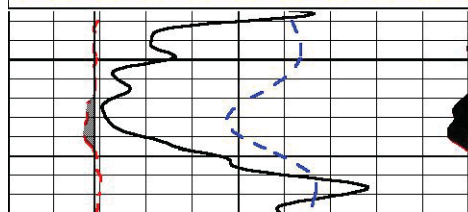


REPEAT SECTION

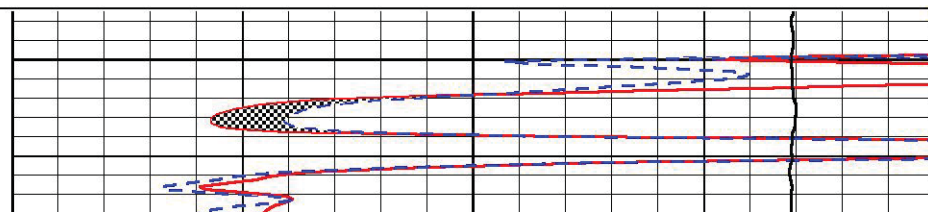
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 Presentation Format: micro
 Dataset Creation: Sat Feb 25 03:02:48 2017
 Charted by: Depth in Feet scaled 1:240

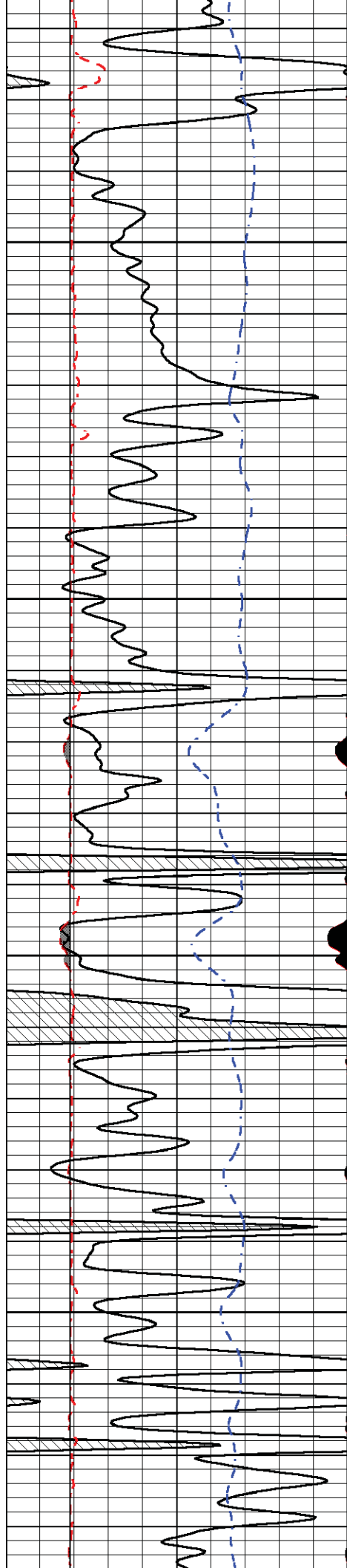
0	Gamma Ray (GAPI)	150
6	MCAL (in)	16
2.875	mcal (in)	7.875
6	Bit Size (in)	16
-200	SP (mV)	0

0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0



4350



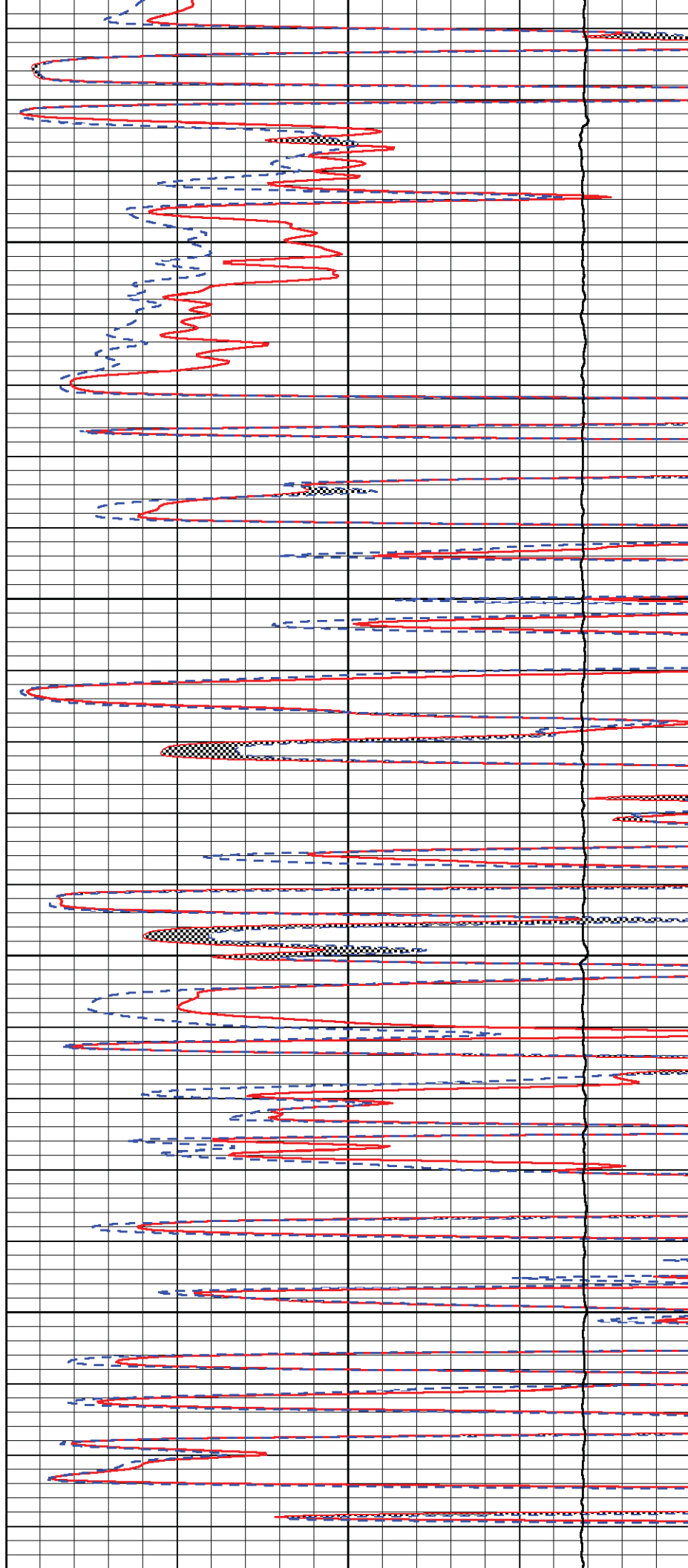


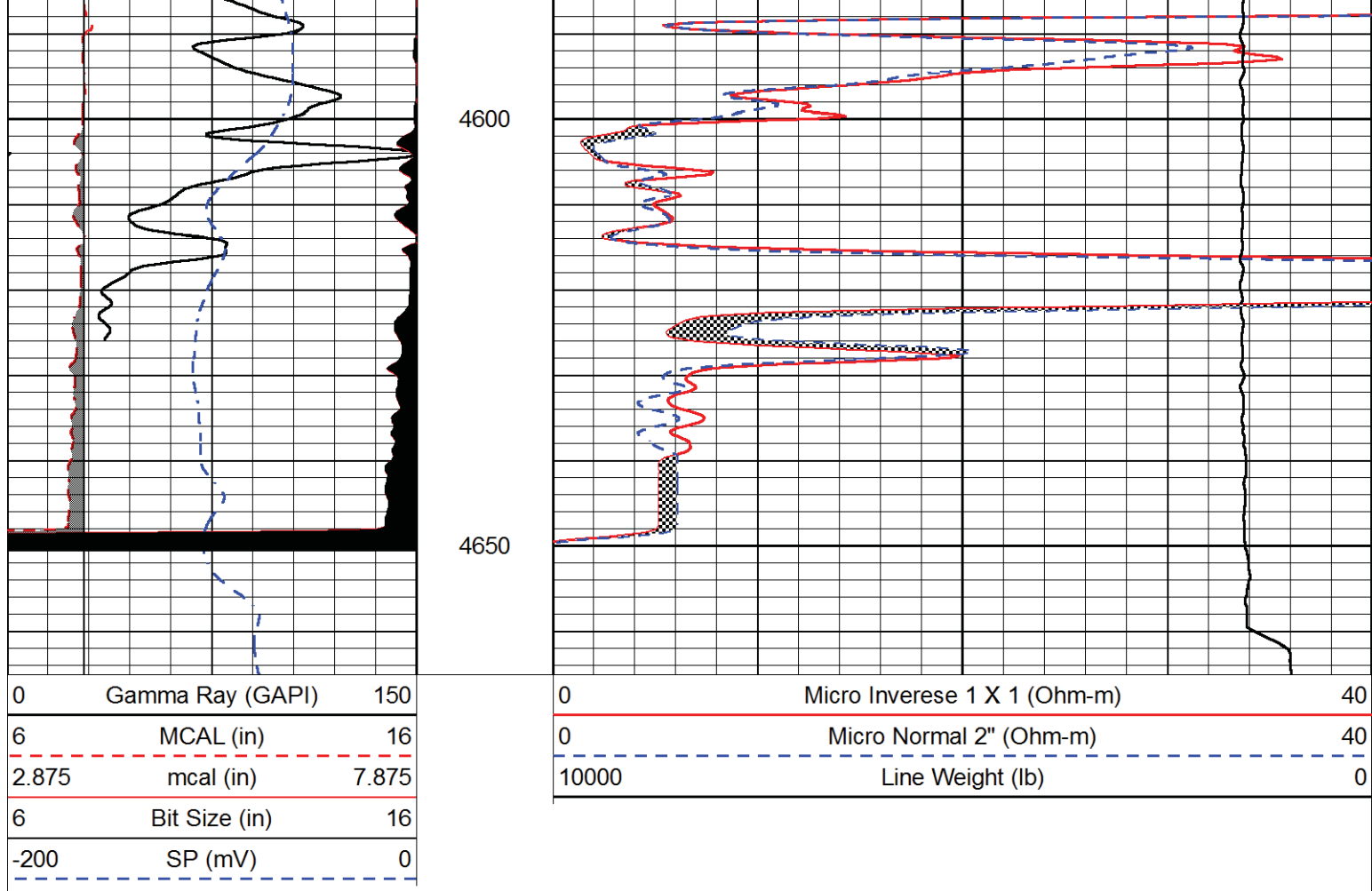
4400

4450

4500

4550





Calibration Report

Database File: laron_pari_2-11.db
 Dataset Pathname: STKML/pass3.15
 Dataset Creation: Sat Feb 25 02:52:27 2017

Dual Induction Calibration Report

Serial-Model: PSI 13-M&W
 Calibration Performed: Wed Feb 08 13:10:25 2017

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	166.796	835.089	0.000	255.800	mmho/m	0.950	-35.000
Medium	142.009	1348.560	0.000	255.800	mmho/m	0.800	-30.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
 Performed: Sun Feb 05 10:12:43 2017

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	14000.0000	-1.1000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	20000.0000	-1.3000
Caliper	1.0001	1.1397	6.5000	18.5000	in	100.0000	-97.1000

Serial-Model:	90-1031-M&W
Source / Verifier:	16955B / 2ci
Master Calibration Performed:	Wed Jan 25 06:09:31 2017

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	5174.18	6425.27	cps
Aluminum	2.675	g/cc	963.17	4037.42	cps
Spine Angle = 74.55			Density/Spine Ratio = 0.527		
	Size		Reading		
Small Ring	6.00	in	1.83		
Large Ring	16.00	in	1.48		

Compensated Neutron Calibration Report

Serial Number:	207-MW
Tool Model:	M&W
Calibration Performed:	Sun Feb 5 10:30:30 2017

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:	Mon Jan 02 18:08:34 2017	
Calibrator Value:	1.0	GAPI
Background Reading:	0.0	cps
Calibrator Reading:	1.0	cps
Sensitivity:	0.6000	GAPI/cps



Company	LARSON ENGINEERING, INC.
Well	PARIS #2-11
Field	WILDCAT
County	LANE
State	KANSAS