



PIONEER
Pioneer Energy Services

MICRORESISTIVITY LOG

Company LARSON ENGINEERING, INC.
Well BATT NO. 1-1
Field TRAPP
County BARTON
State KANSAS

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Location: API #: 15-009-26256-00-00

Other Services

330' FSL & 2227' FEL
SEC 1 TWP 16S RGE 14W

CNL/CDL
DIL

Permanent Datum GROUND LEVEL Elevation 1910'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 1919'
D.F. N/A
G.L. 1910'

Date 4/8/2019

Run Number TWO

Depth Driller 3430'

Depth Logger 3429'

Bottom Logged Interval 3428'

Top Log Interval 2700'

Casing Driller 8.625" @ 431'

Casing Logger 432'

Bit Size 7.875"

Type Fluid in Hole CHEMICAL

Salinity, ppm CL 7200

Density / Viscosity 9.35 63

pH / Fluid Loss 9.5 10.4

Source of Sample FLOWLINE

Rm @ Meas. Temp .75 @ 68

Rmf @ Meas. Temp .56 @ 68

Rmc @ Meas. Temp 1.01 @ 68

Source of Rmf / Rmc CHARTS

Rm @ BHT .46 @ 110

Operating Rig Time 2 HOURS

Max Rec. Temp. F 110 DEGF

Equipment Number P-108

Location HAYS

Recorded By J. HENRICKSON

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.

RUSSELL KANSAS
SOUTH TO 220 RD, 1 1/2 EAST, NORTH INTO

Log Measured From: KELLY BUSHING 9 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:

Log Variables

DatabaseC:\ProgramData\Warrior\Data\larson_batt_1_1.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	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	0	0	Off	0

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
MCAL	1.00		ML-Armadillo (Armadillo-1) Pengo micro log tool mandrel with Armadillo Electronics	5.00	3.50	100.00
MI	1.00					
MN	1.00					

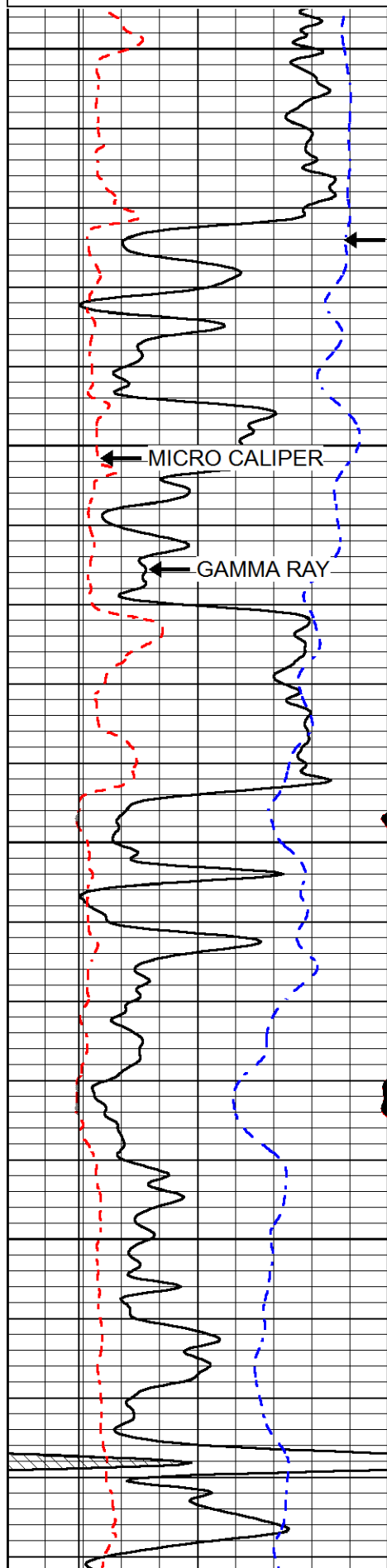
Dataset: larson_batt_1_1.db: field/well/MICRO/pass2
Total length: 5.00 ft
Total weight: 100.00 lb
O.D.: 3.50 in



MAIN PASS

Database File larson_batt_1_1.db
Dataset Pathname stackml/pass3.1
Presentation Format micro
Dataset Creation Mon Apr 08 03:32:03 2019
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



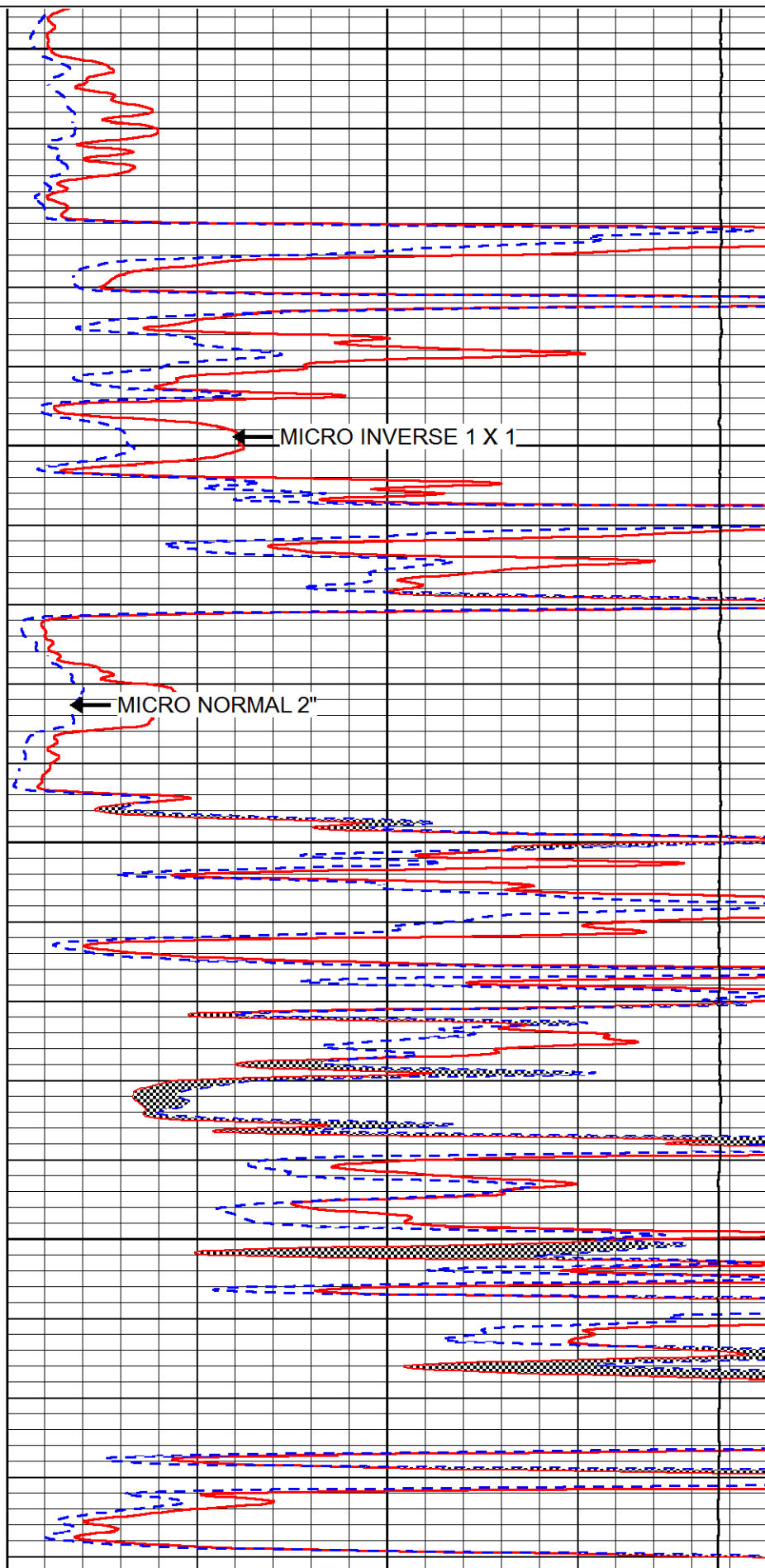
2700

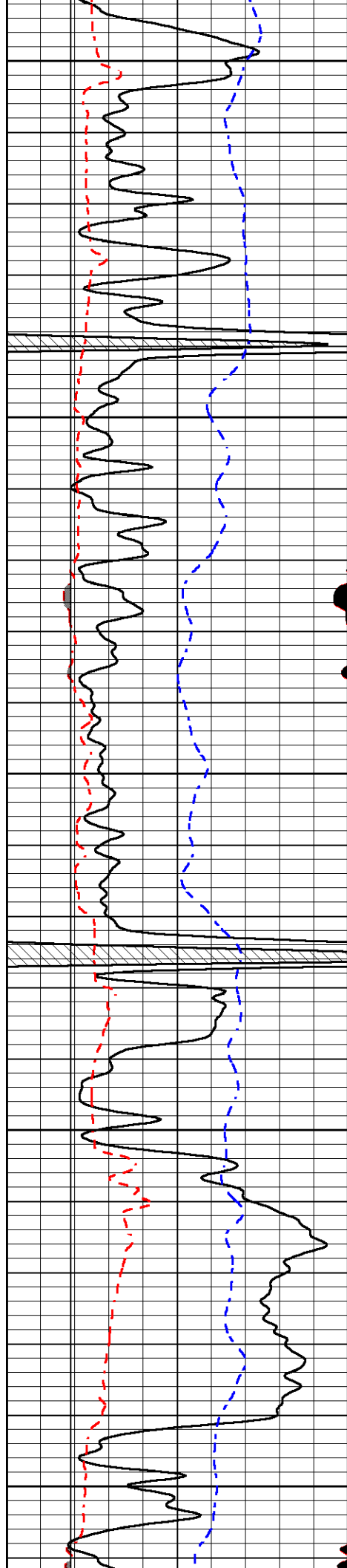
2750

2800

2850

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





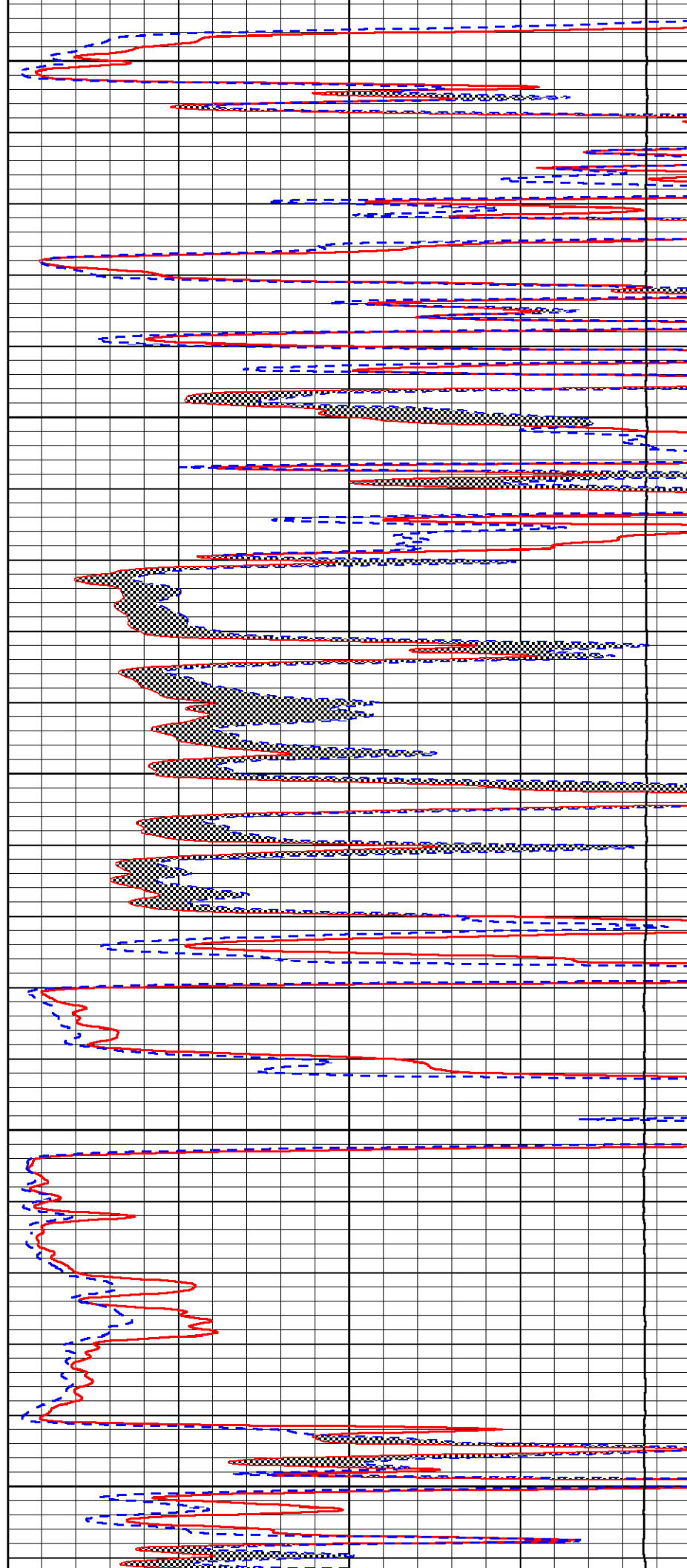
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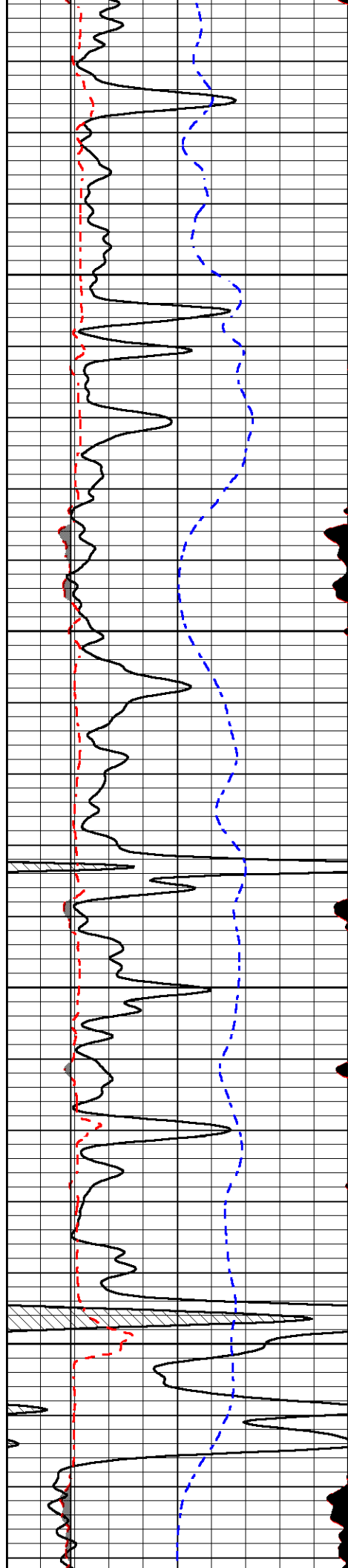
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3000

3050

3100



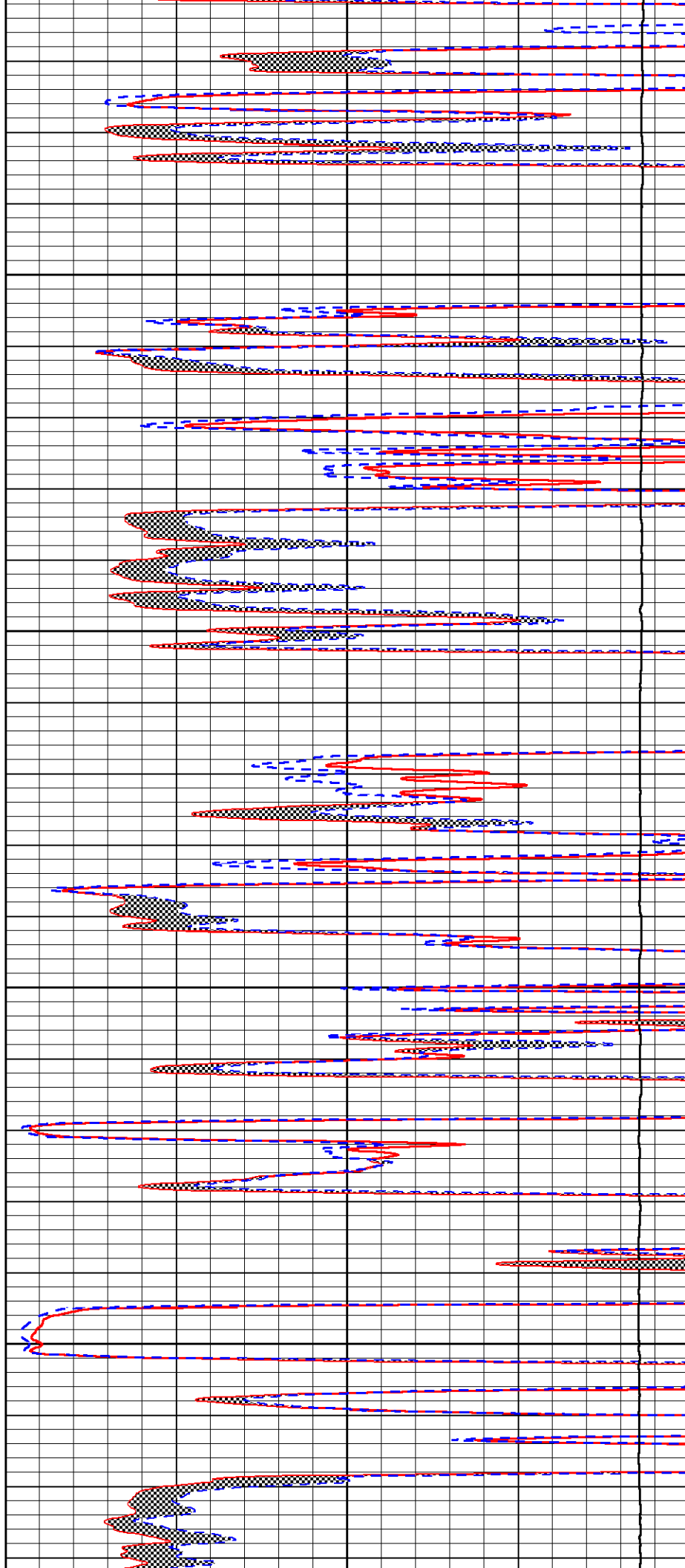


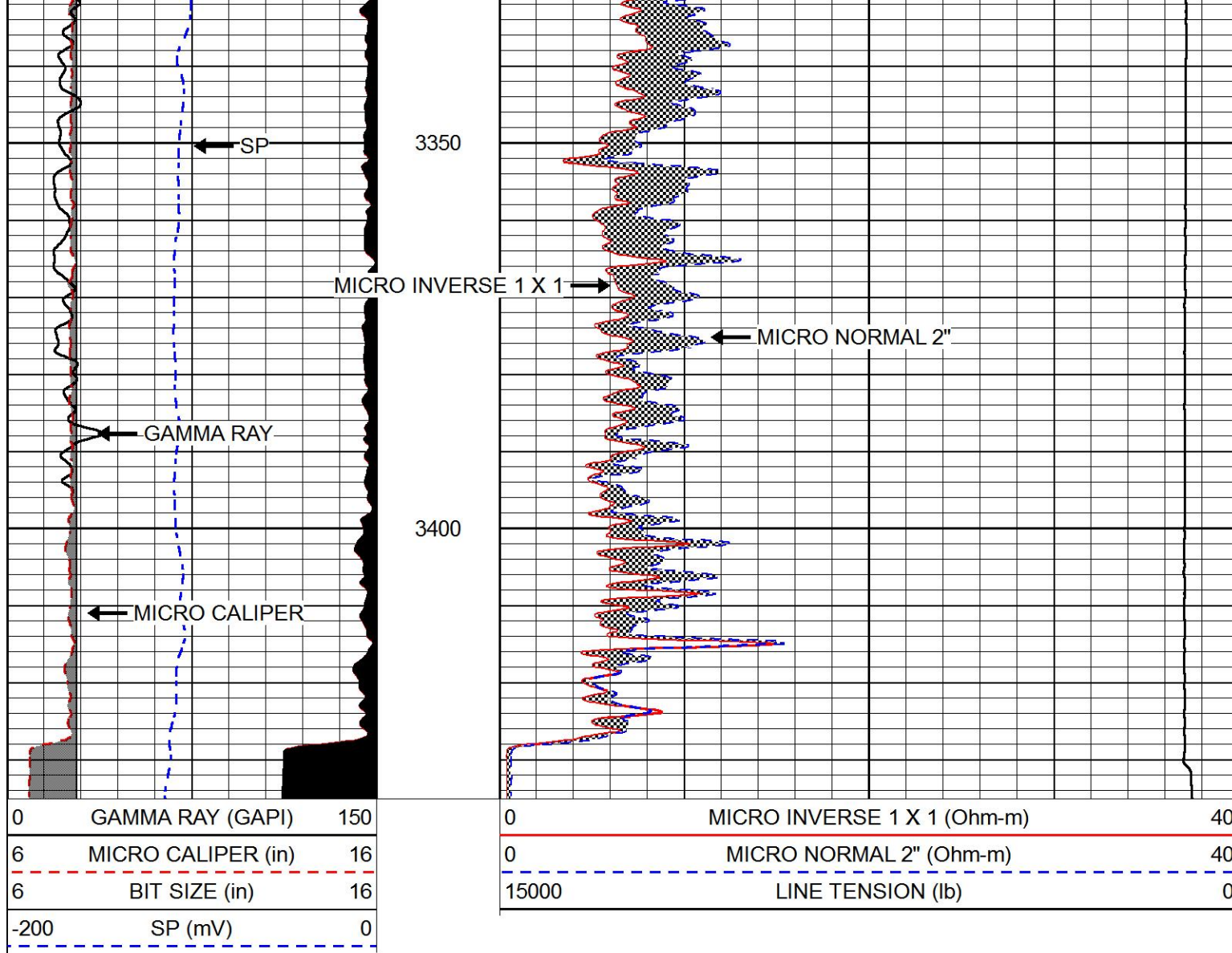
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3200

3250

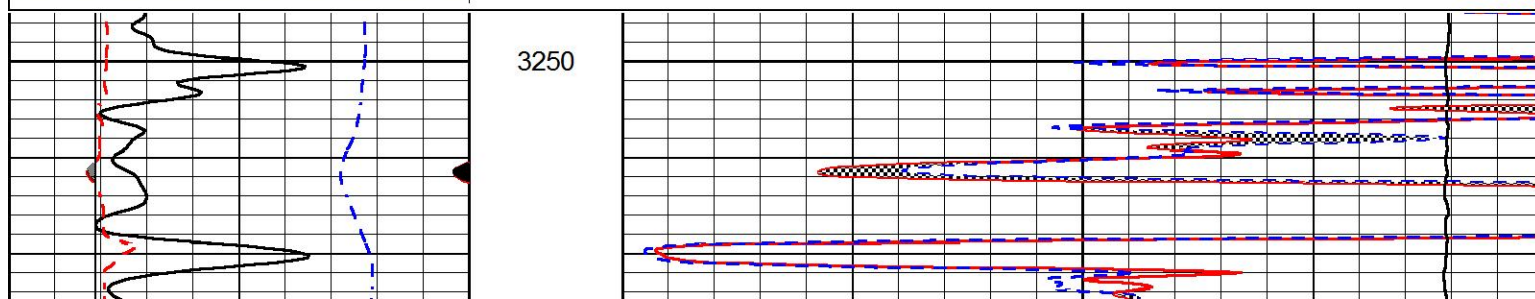
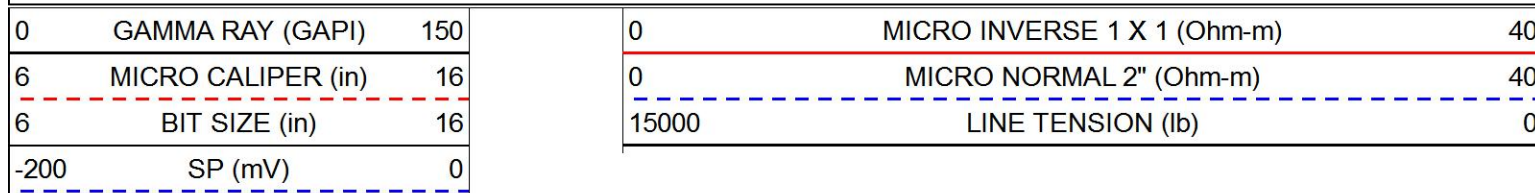
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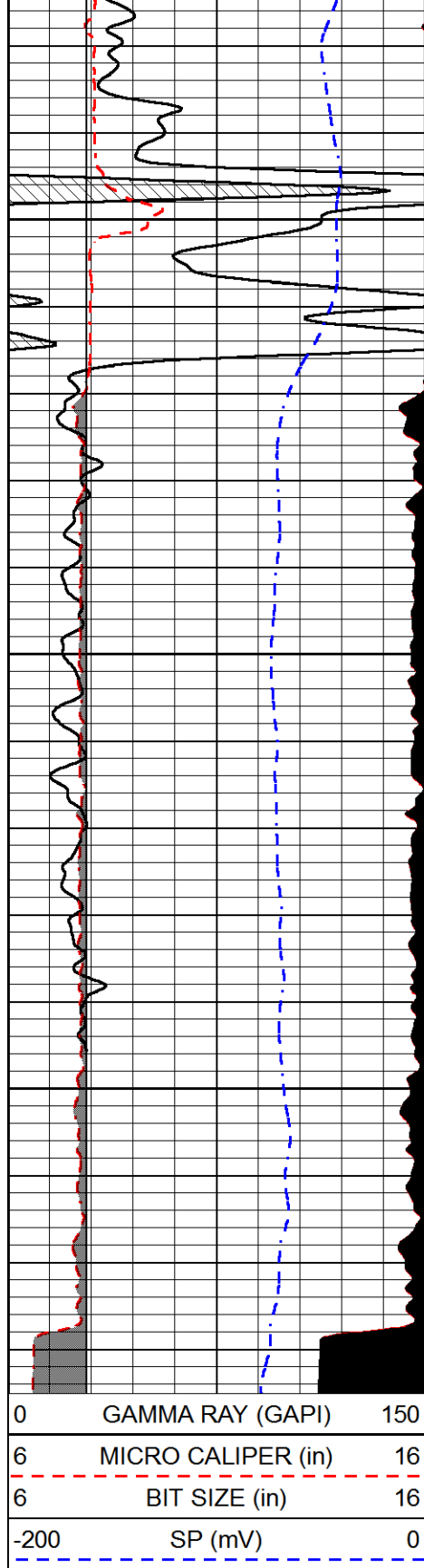




REPEAT SECTION

Database File laron_batt_1_1.db
 Dataset Pathname stackml/pass2.1
 Presentation Format micro
 Dataset Creation Mon Apr 08 03:00:28 2019
 Charted by Depth in Feet scaled 1:240

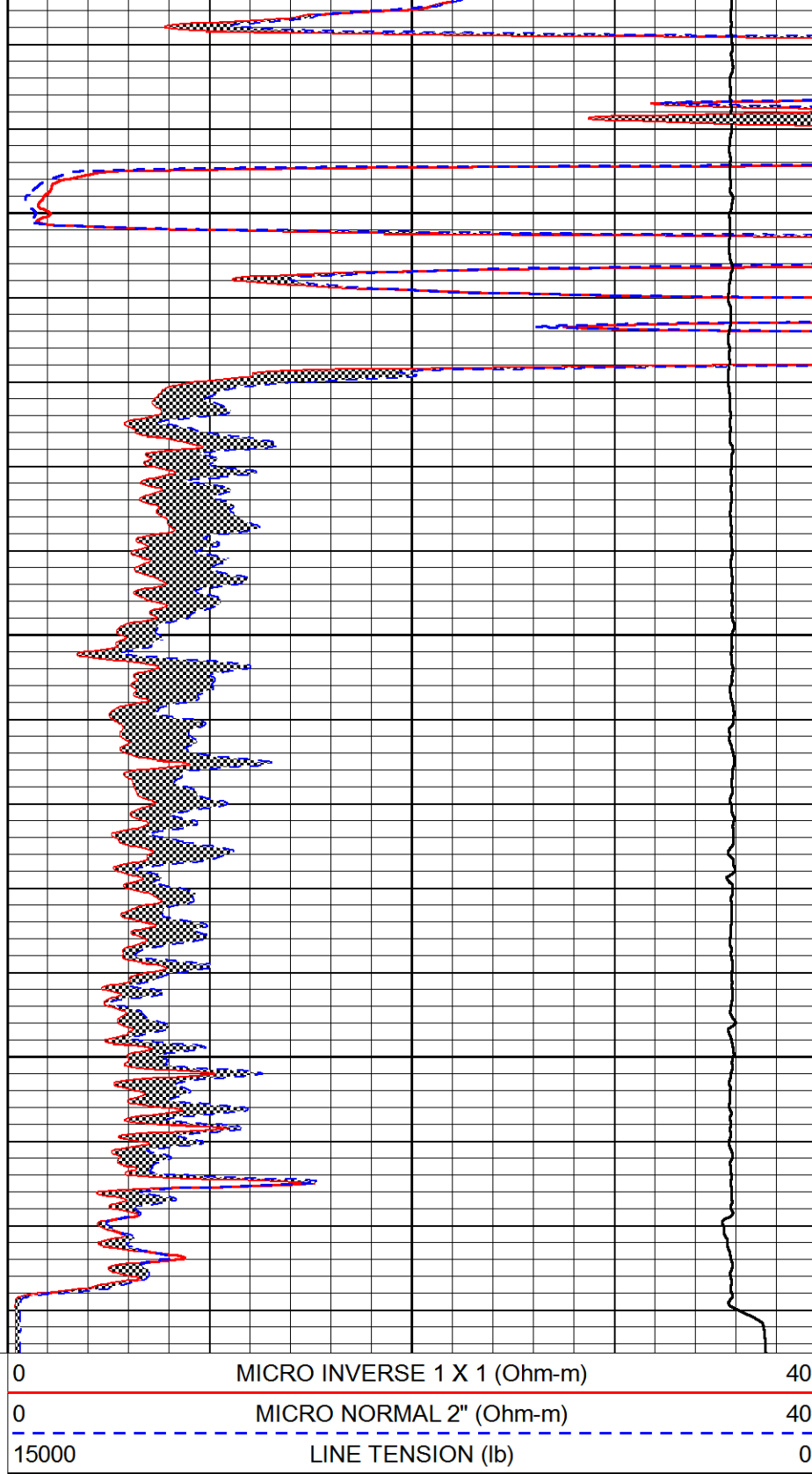




3300

3350

3400



Calibration Report

Database File laron_batt_1_1.db
 Dataset Pathname stackml/pass3.1
 Dataset Creation Mon Apr 08 03:32:03 2019

Microlog Calibration Report

Serial-Model:
 Performed:

Armadillo-1-Armadillo
 Fri Nov 18 11:19:49 2016

	Readings			References			Results	
	Zero	Cal		Zero	Cal		m	b
Normal	0.0122	1.0361	V	0.0000	10.0000	Ohm-m	35.0000	-1.7000
Inverse	-0.0037	0.9549	V	0.0000	10.0000	Ohm-m	25.0000	-1.0000
Caliper	1.1139	8.3644	V	5.0000	19.0000	in	1.9309	3.7000



Company

LARSON ENGINEERING, INC.

Well

BATT NO. 1-1

Field

TRAPP

County

BARTON

State

KANSAS