



MICRORESISTIVITY LOG

Company JOHN O. FARMER, INC.
Well DENTON #1
Field HAGINS
County LYON
State KANSAS

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Location: API #: 15-111-20538-00-00
 500' FNL & 2345' FEL
 SEC 13 TWP 17S RGE 11E
Permanent Datum GROUND LEVEL Elevation 1252'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING
Other Services CNL/CDL DIL/BHCS
Elevation 1260'
K.B. N/A
D.F. N/A
G.L. 1252'

Date	5/27/2018
Run Number	ONE
Depth Driller	2950'
Depth Logger	2951'
Bottom Logged Interval	2950'
Top Log Interval	2100'
Casing Driller	8.625" @ 220'
Casing Logger	216'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	1700
Density / Viscosity	9.0 70
pH / Fluid Loss	10.5 8.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.90 @ 85
Rmt @ Meas. Temp	0.68 @ 85
Rmc @ Meas. Temp	1.22 @ 85
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.73 @ 106
Operating Rig Time	5 HOURS
Max Rec. Temp. F	106
Equipment Number	91
Location	HAYS
Recorded By	D. SCHMIDT
Witnessed By	AUSTIN KLAUS

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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.

ADMIRE (HWY 56 & 99),
5 SOUTH TO 290 RD, 2 1/2 WEST,
SOUTH INTO

Log Measured From: KELLY BUSHING 8 Ft. Above Permanent Datum

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

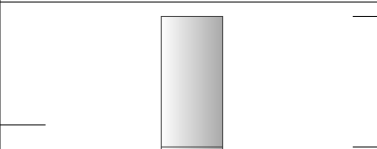
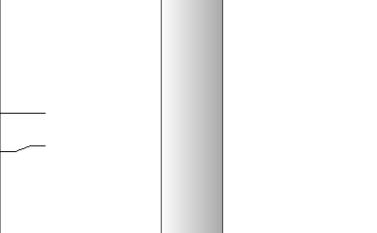
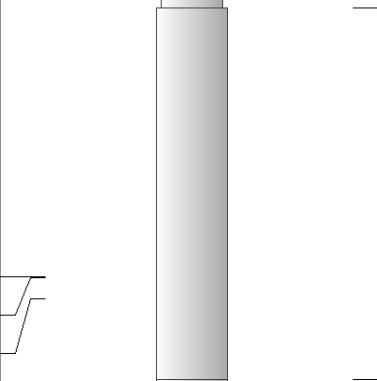
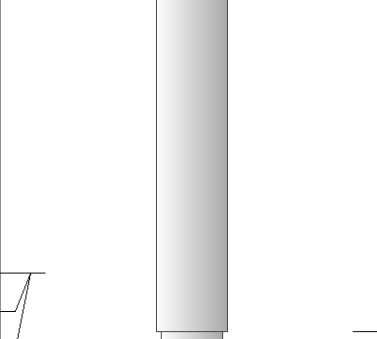
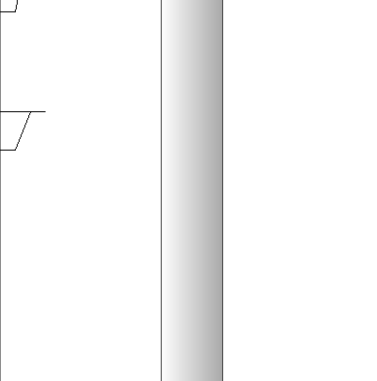
Your Pioneer Energy Services Crew Engineer: D. SCHMIDT Operator: Operator: Operator:	This Log Record Was Witnessed By Primary Witness: AUSTIN KLAUS Secondary Witness: Secondary Witness: Secondary Witness:
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Log Variables

Database: C:\ProgramData\Warrior\Data\john o farmer_denton 1.db
 Dataset: field/well/STKML/pass3.1/_vars_

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	96	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	90	0	5.5	0	2951	106	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 (817-947)	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 (PSI 971 HT)	18.50	3.50	220.00
CILM	4.70					
SP	0.20					

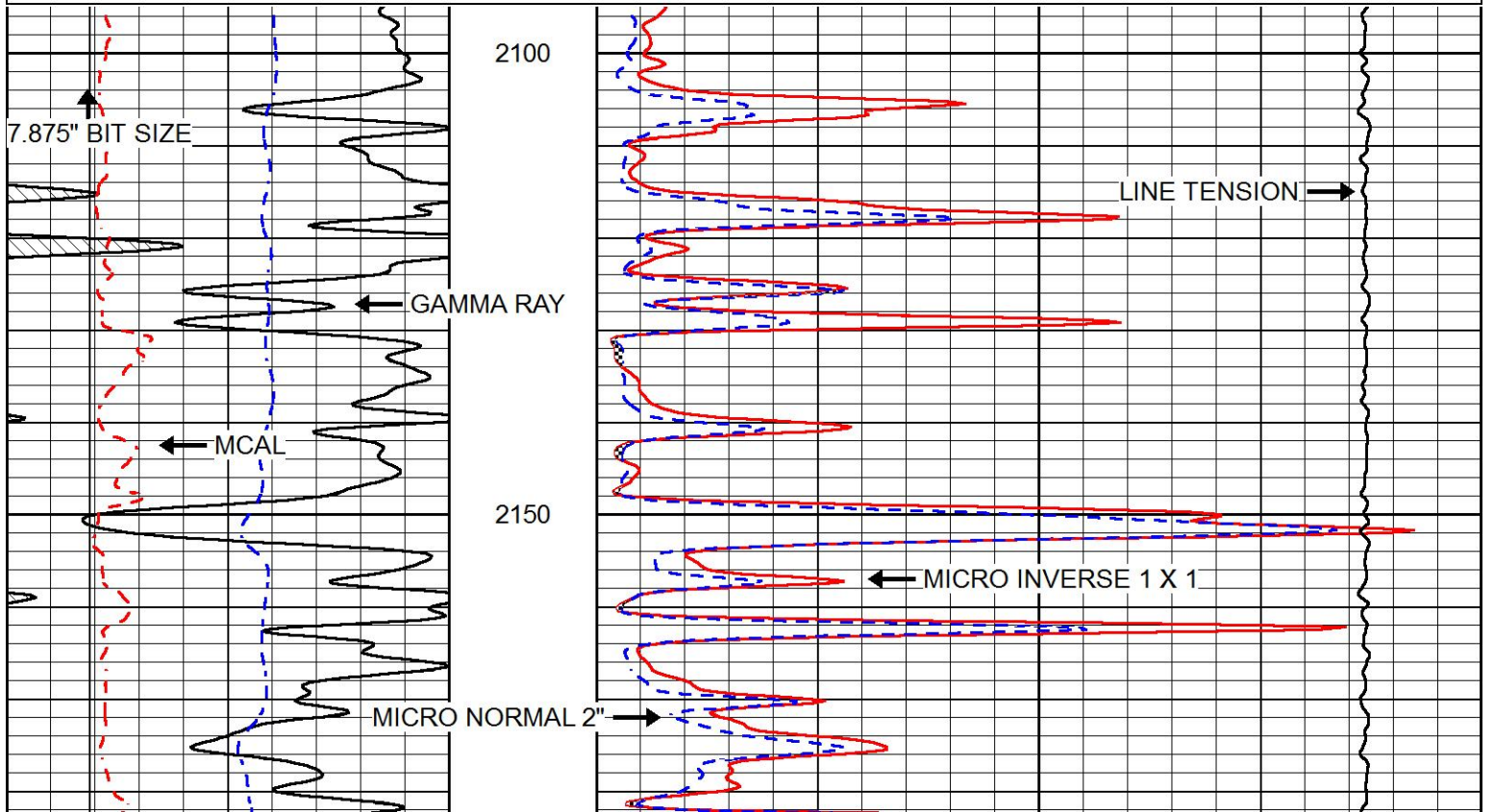
Dataset: john o farmer_denton 1.db: field/well/STKML/pass3.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

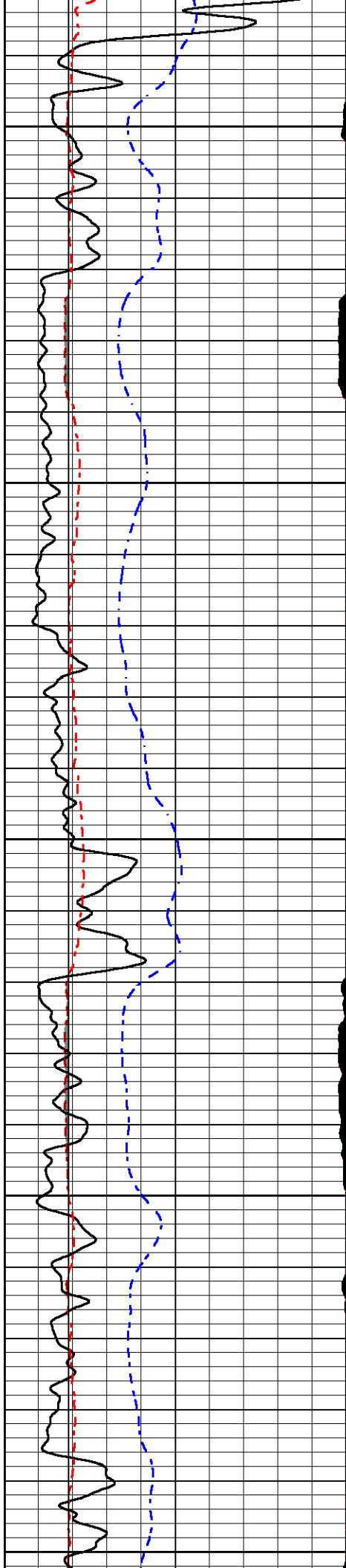


MAIN PASS

Database File: john o farmer_denton 1.db
 Dataset Pathname: STKML/pass3.1
 Presentation Format: micro
 Dataset Creation: Sun May 27 23:00:53 2018
 Charted by: Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150	0	MICRO INVERSE 1 X 1 (Ohm-m)	40
6	MCAL (in)	16	0	MICRO NORMAL 2" (Ohm-m)	40
2.875	mcal (in)	7.875	10000	Line Weight (lb)	0
6	Bit Size (in)	16			
-200	SP (mV)	0			





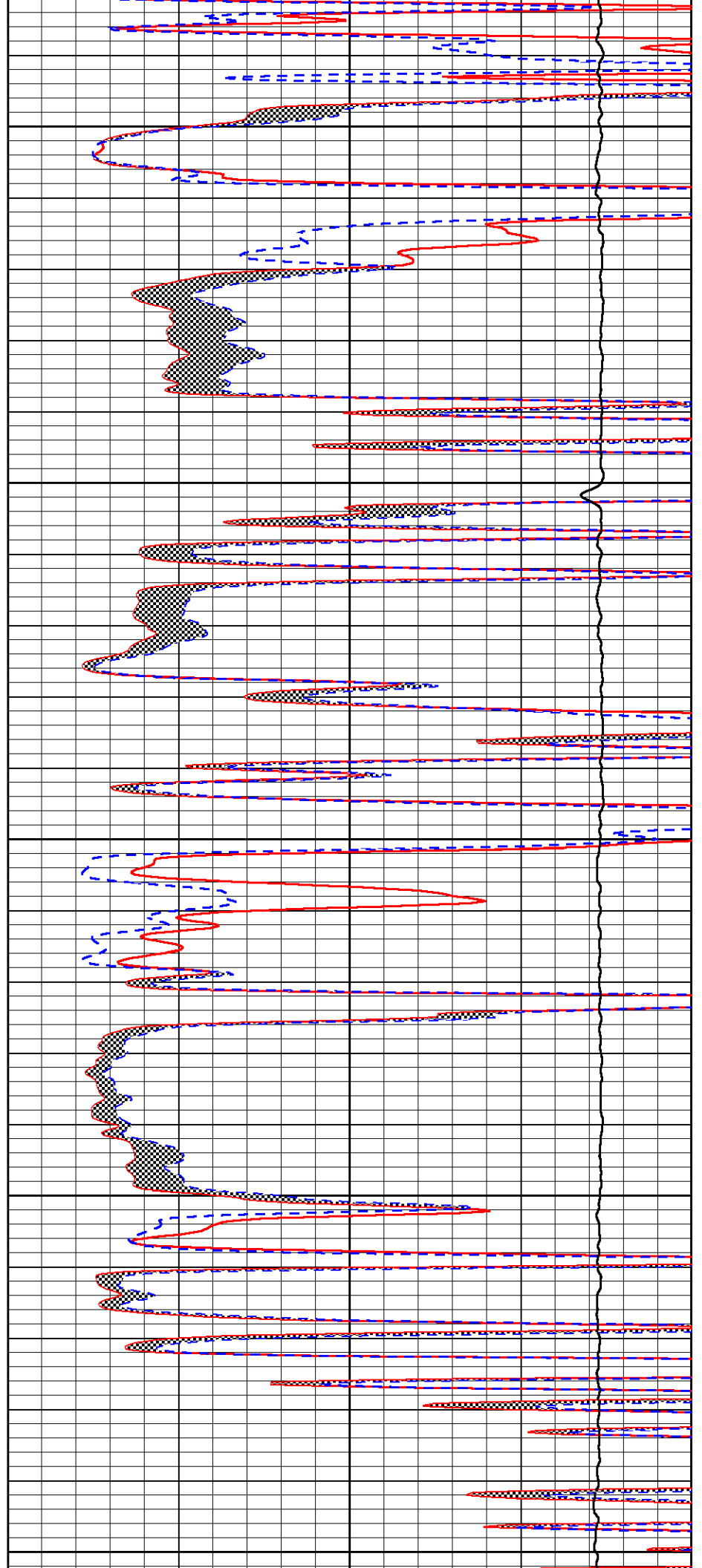
2200

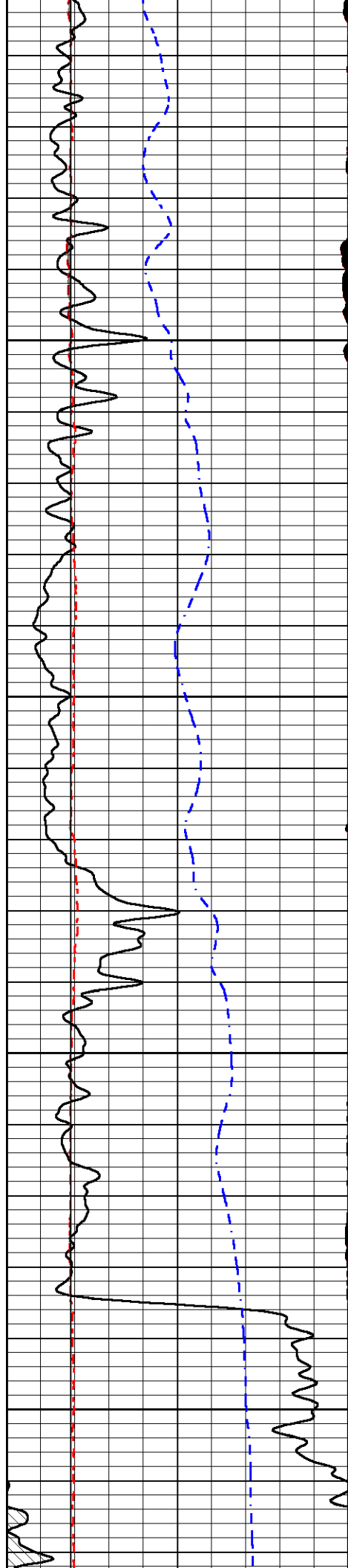
2250

2300

2350

2400



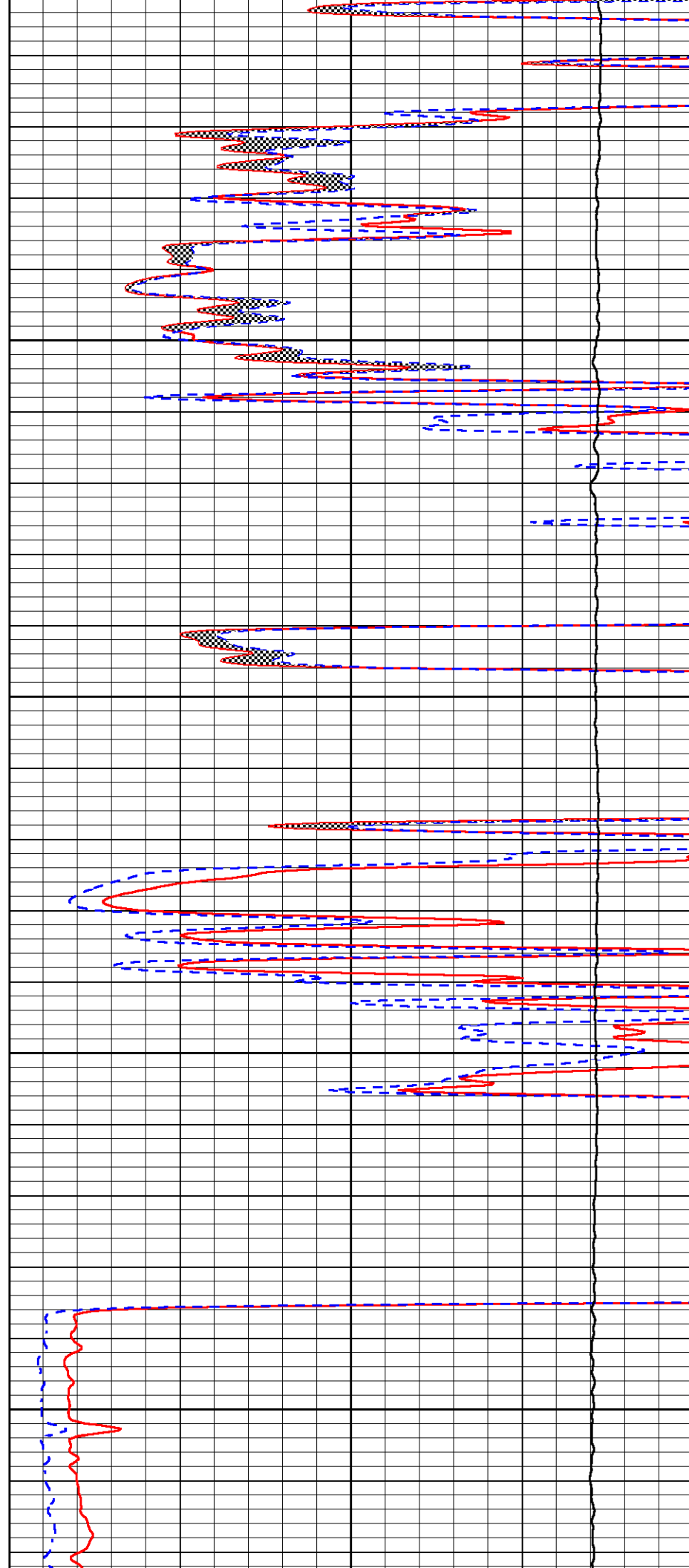


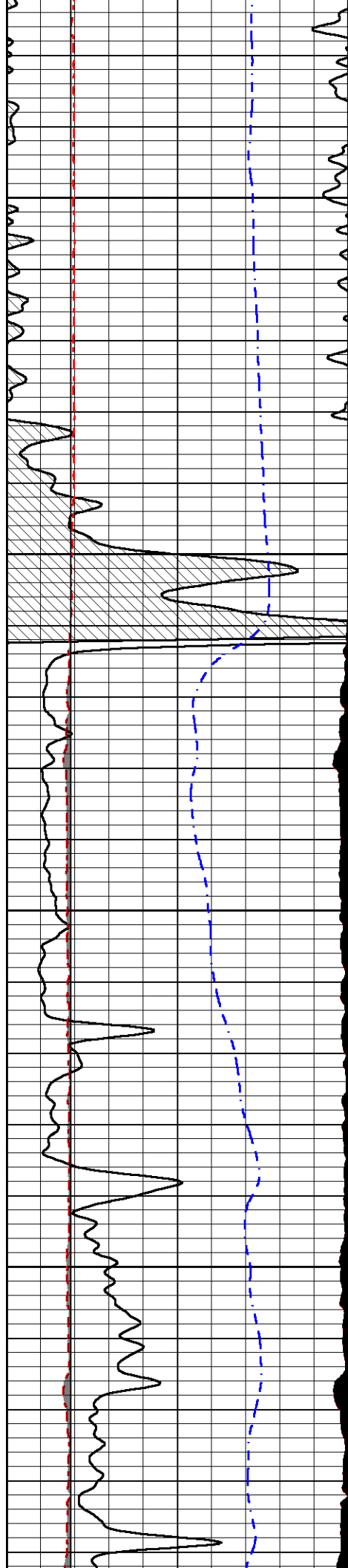
2450

2500

2550

2600



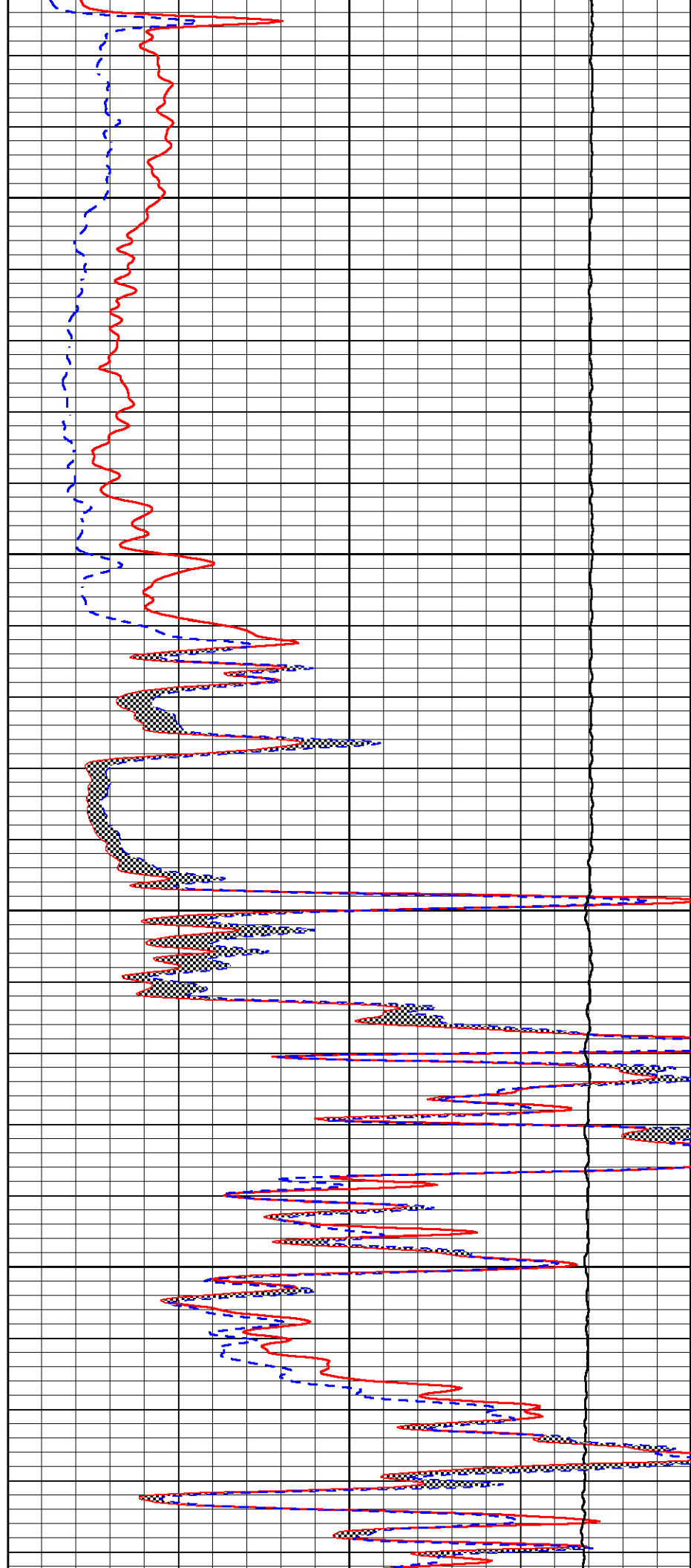


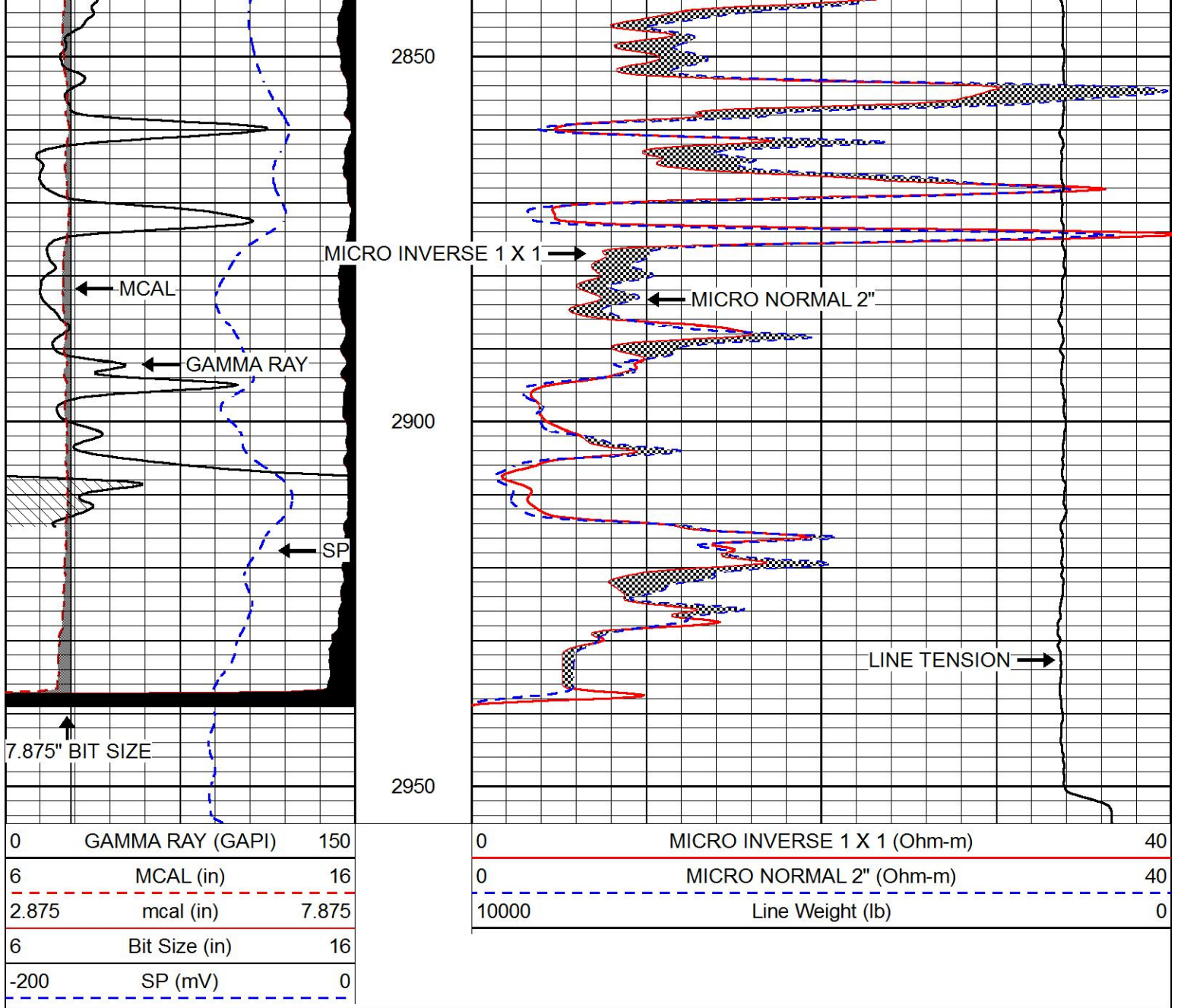
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2700

2750

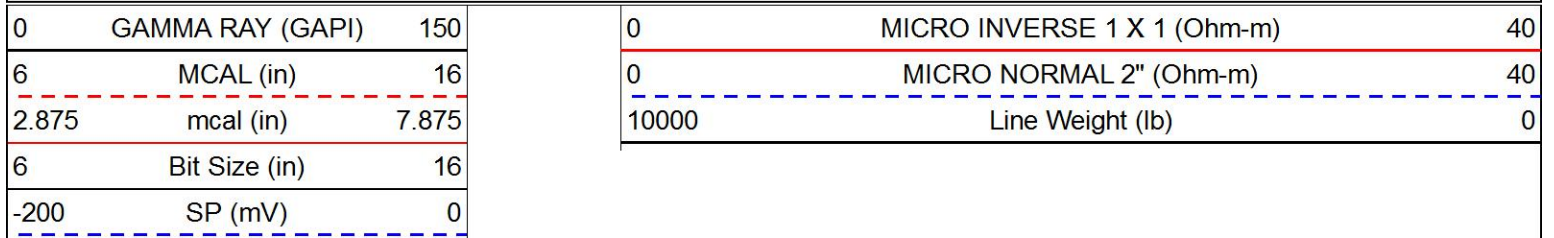
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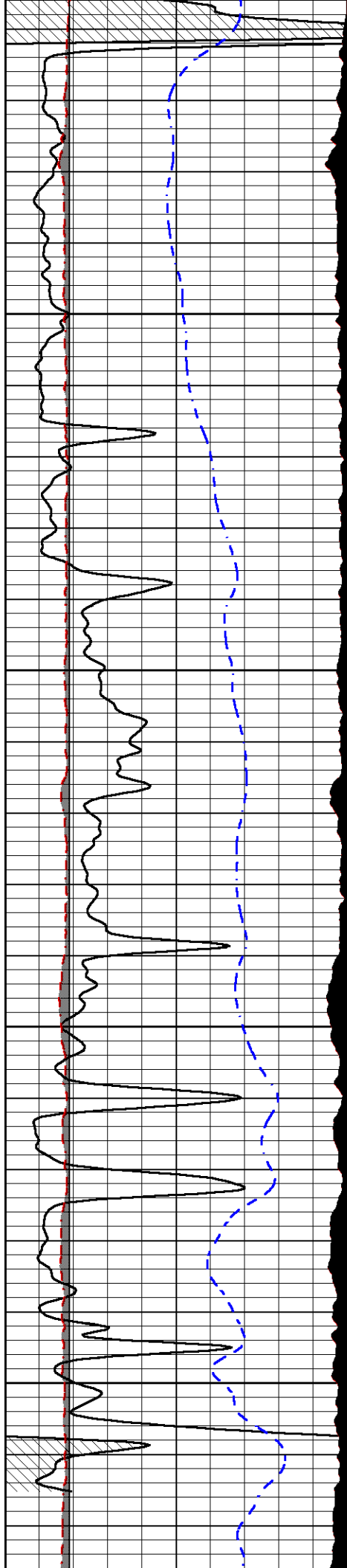




REPEAT SECTION

Database File john o farmer_denton 1.db
 Dataset Pathname STKML/pass2.1
 Presentation Format micro
 Dataset Creation Sun May 27 23:08:00 2018
 Charted by Depth in Feet scaled 1:240



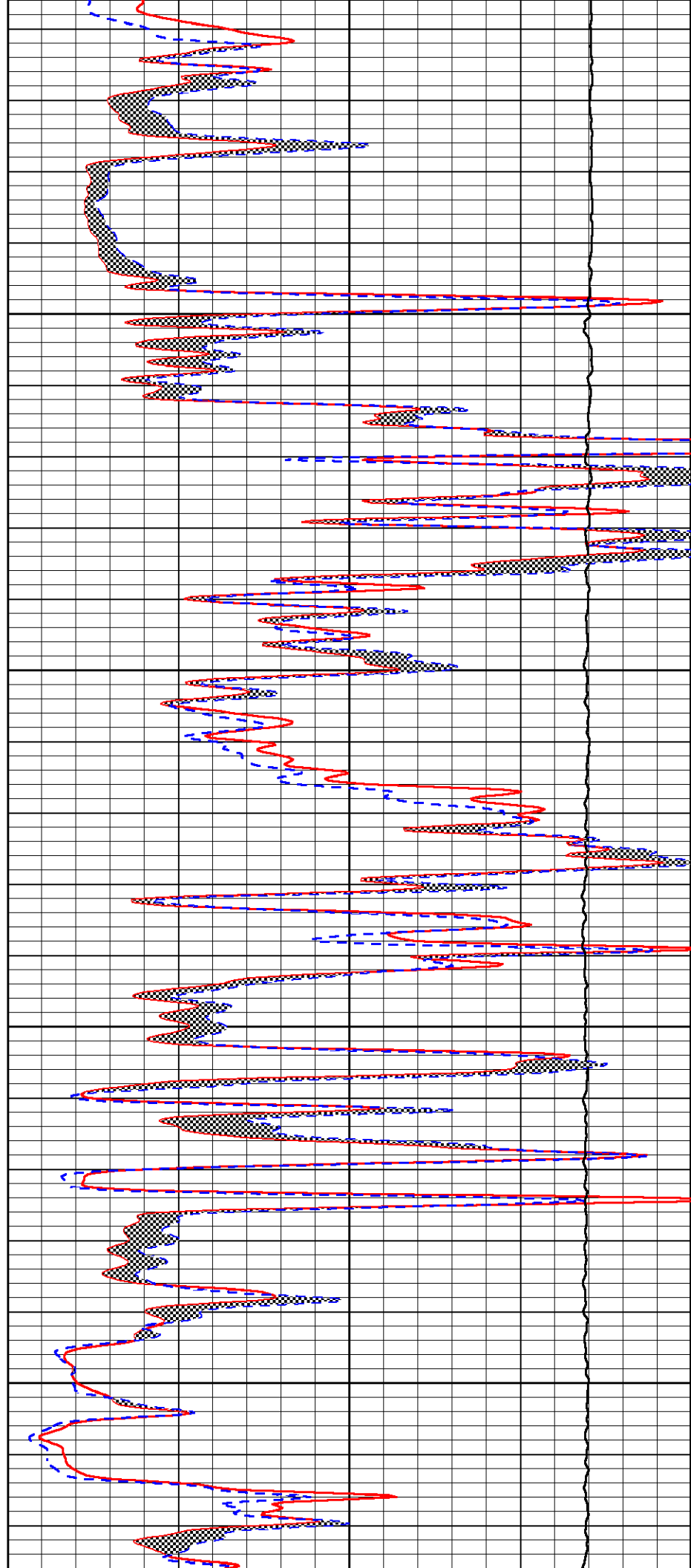


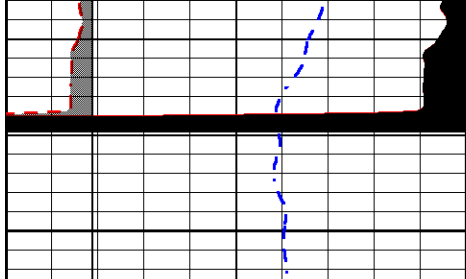
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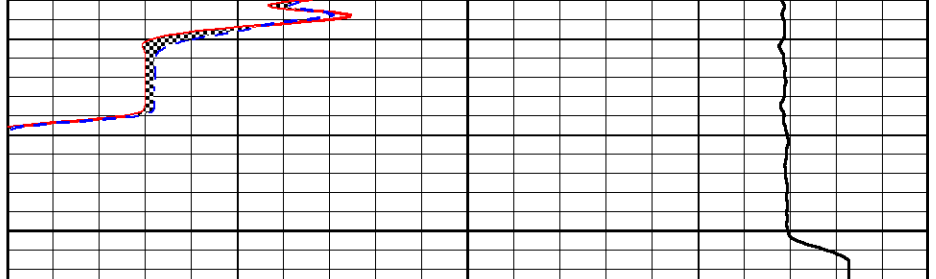
2850

2900





2950



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

Calibration Report

Database File john o farmer_denton 1.db
 Dataset Pathname STKML/pass3.1
 Dataset Creation Sun May 27 23:00:53 2018

Dual Induction Calibration Report

Serial-Model: PSI 971 HT-PSI HIGH TEMP
 Calibration Performed: Sun May 27 00:33:10 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.430	-30.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.375	-30.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
 Performed: Sun May 27 00:33:27 2018

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	8500.0000	-0.3000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	11000.0000	-0.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-65.7500

Compensated Density Calibration Report

Serial-Model: 817-947-M&W
 Source / Verifier: 16955B / 2ci
 Master Calibration Performed: Tue May 01 14:00:17 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	6127.15	5922.31	cps
Aluminum	2.660	g/cc	1141.85	3762.09	cps

Spine Angle = 74.89

Density/Spine Ratio = 0.520

	Size		Reading
Small Ring	4.50	in	1.02
Large Ring	15.00	in	1.15

Compensated Neutron Calibration Report

Serial Number:	207-MW
Tool Model:	M&W
Calibration Performed:	MON APR 16 10:30:30 2018

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 15 11:20:44 2018
Calibrator Value:	1.0 GAPI
Background Reading:	0.0 cps
Calibrator Reading:	1.0 cps
Sensitivity:	0.6000 GAPI/cps

 <p>PIONEER Pioneer Energy Services</p>	Company	JOHN O. FARMER, INC.
	Well	DENTON #1
	Field	HAGINS
	County	LYON
	State	KANSAS