



# MICRORESISTIVITY LOG

Company: GREAT PLAINS ENERGY, INC.  
 Well: SAUVAGE #11  
 Field: SWEDE HOLLOW  
 County: DECATUR  
 State: KANSAS

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Location: API #: 15-039-21265-00-00  
 550' FSL & 900' FEL  
 SEC 26 TWP 4S RGE 30W  
 Permanent Datum: GROUND LEVEL Elevation 2841'  
 Log Measured From: KELLY BUSHING  
 Drilling Measured From: KELLY BUSHING  
 Other Services: CNL/CDL DIL  
 Elevation: K.B. 2848', D.F. N/A, G.L. 2841'

Date	10/14/2019
Run Number	ONE
Depth Driller	4200'
Depth Logger	4202'
Bottom Logged Interval	4201'
Top Log Interval	3200'
Casing Driller	8.625" @ 269'
Casing Logger	266'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	1800
Density / Viscosity	8.9 70
pH / Fluid Loss	11.0 6.8
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.80 @ 60
Rmt @ Meas. Temp	0.60 @ 60
Rmc @ Meas. Temp	1.08 @ 60
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.41 @ 118
Operating Rig Time	3 HOURS
Max Rec. Temp. F	118
Equipment Number	P-24
Location	HAYS
Recorded By	D. SCHMIDT
Witnessed By	CLAYTON ERICKSON

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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.

OBERLIN,  
 10 SOUTH TO I LANE (RD 352),  
 6 1/2 WEST, 1 SOUTH, 1/2 WEST,  
 NORTH INTO

Log Measured From: KELLY BUSHING 7 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: D. SCHMIDT	Operator:	Primary Witness: CLAYTON ERICKSON	Secondary Witness:
Operator:	Operator:	Secondary Witness:	Secondary Witness:
Operator:		Secondary Witness:	

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (233-M&W)	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		ML-PSIML (PSI-01) GO Micro log tools converted to Simplec electronics	7.58	4.00	65.00
MCAL MI MN	19.83 19.83 19.83		CDL-M&W (96-916)	8.50	4.00	250.00
RLL3F RLL3	15.80 15.80					
CILD	8.00		DIL-PSI HIGH TEMP (1039)	18.50	3.50	220.00
CILM	4.70					
SP	0.20					

Dataset: great plains\_sauvage 11.db: field/well/stkml/pass3.1  
 Total length: 43.08 ft  
 Total weight: 685.00 lb  
 O.D.: 4.00 in

# Log Variables

DatabaseC:\ProgramData\Warrior\Data\great plains\_sauvage 11.db  
 Dataset field/well/stkml/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	460	0	Off	0

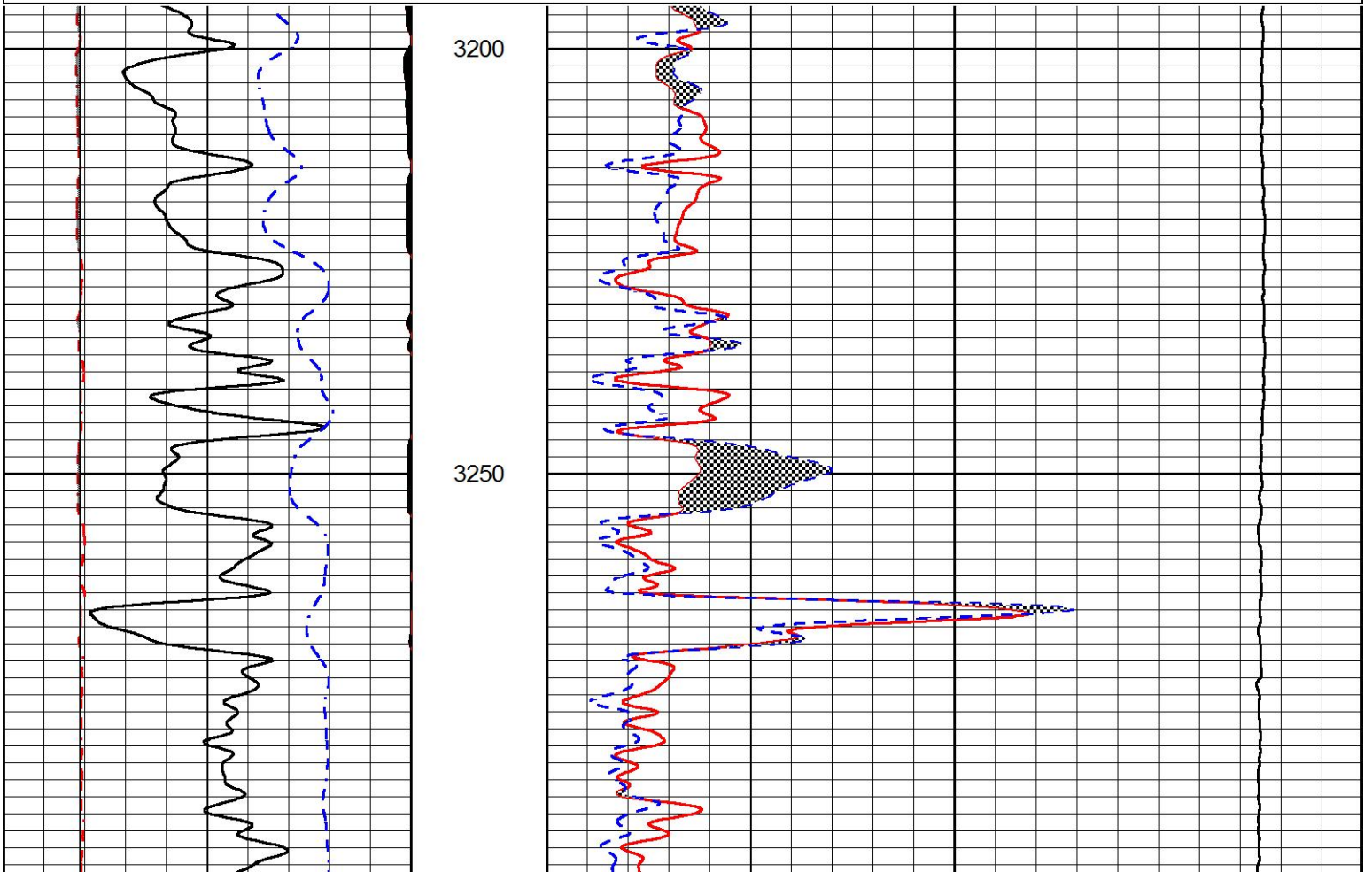


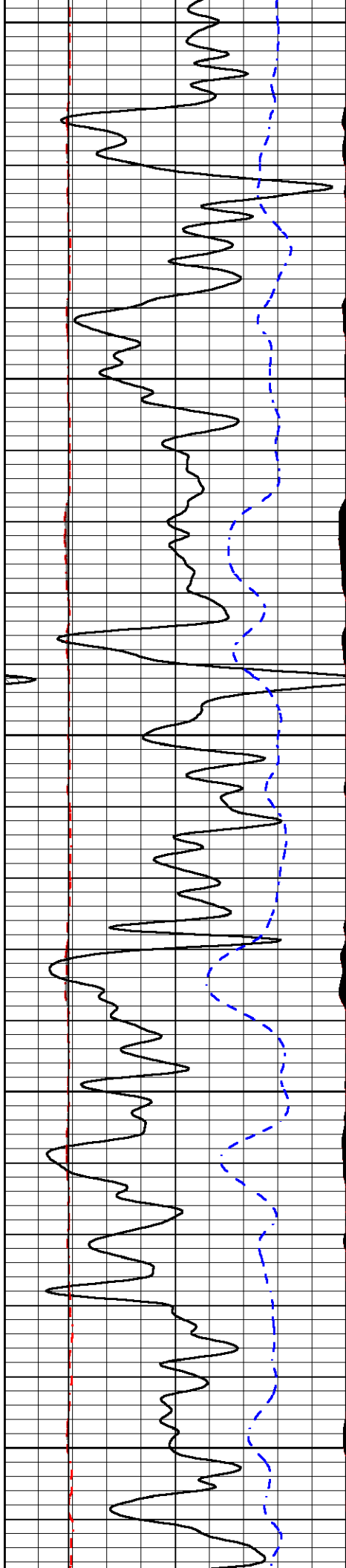
# MAIN PASS

Database File great plains\_sauvage 11.db  
 Dataset Pathname stkml/pass3.1  
 Presentation Format \_micro  
 Dataset Creation Mon Oct 14 21:12:16 2019  
 Charted by Depth in Feet scaled 1:240

0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
2.875	mcals (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





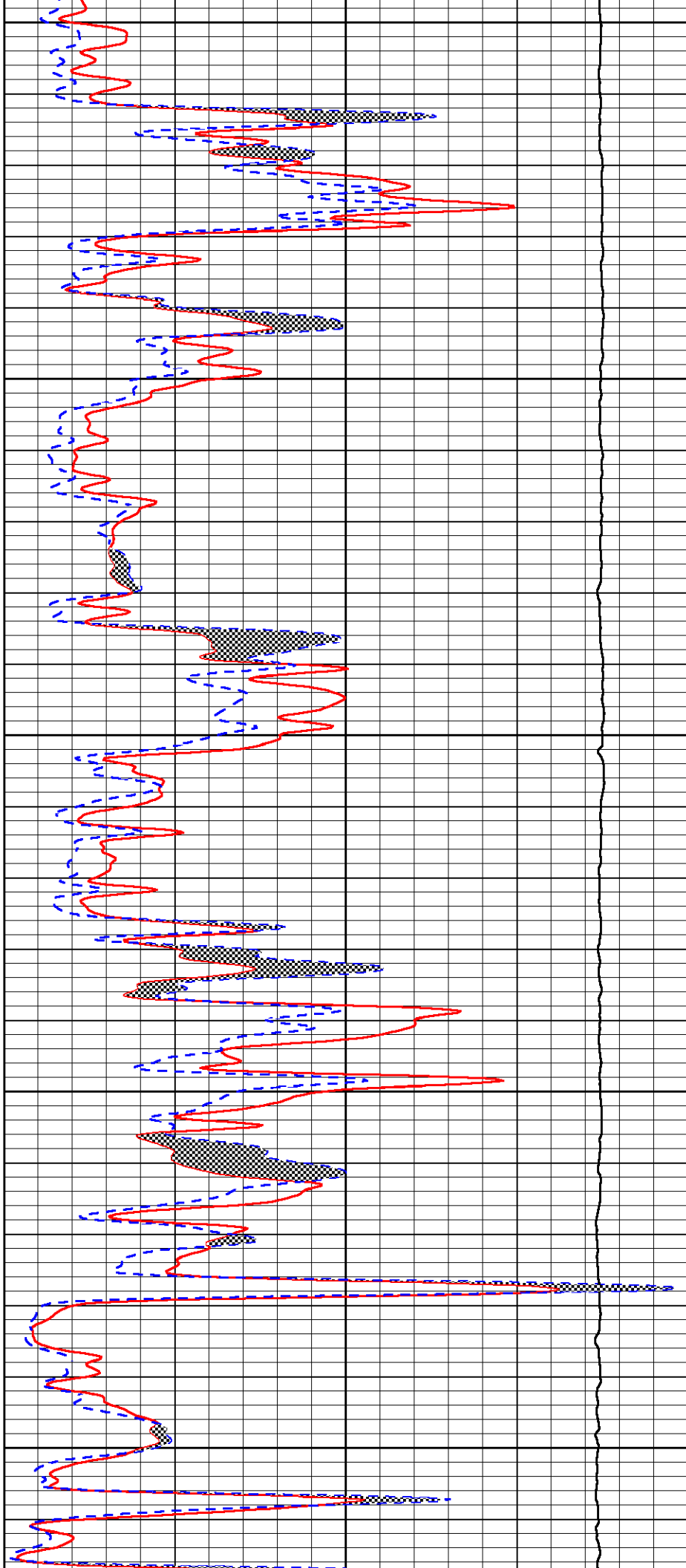
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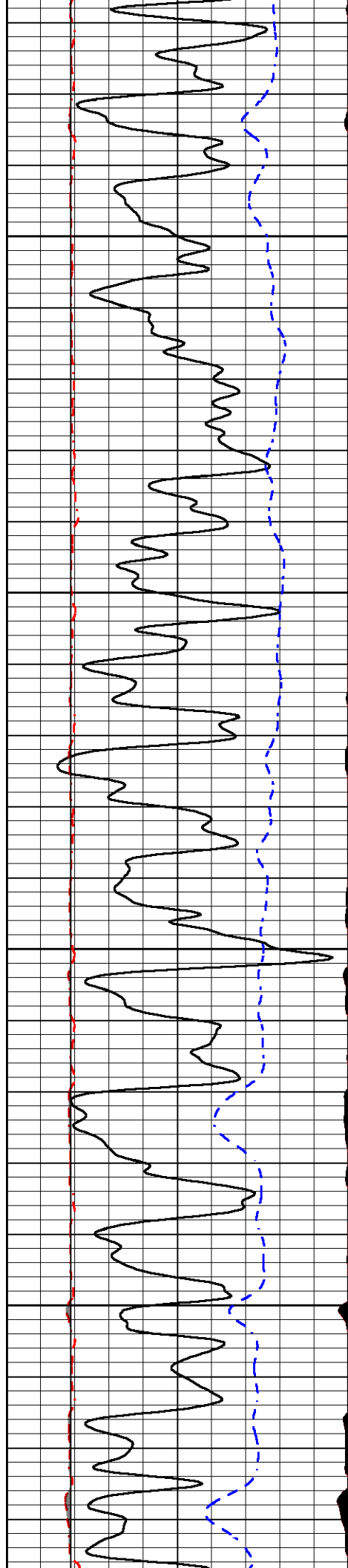
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3400

3450

3500



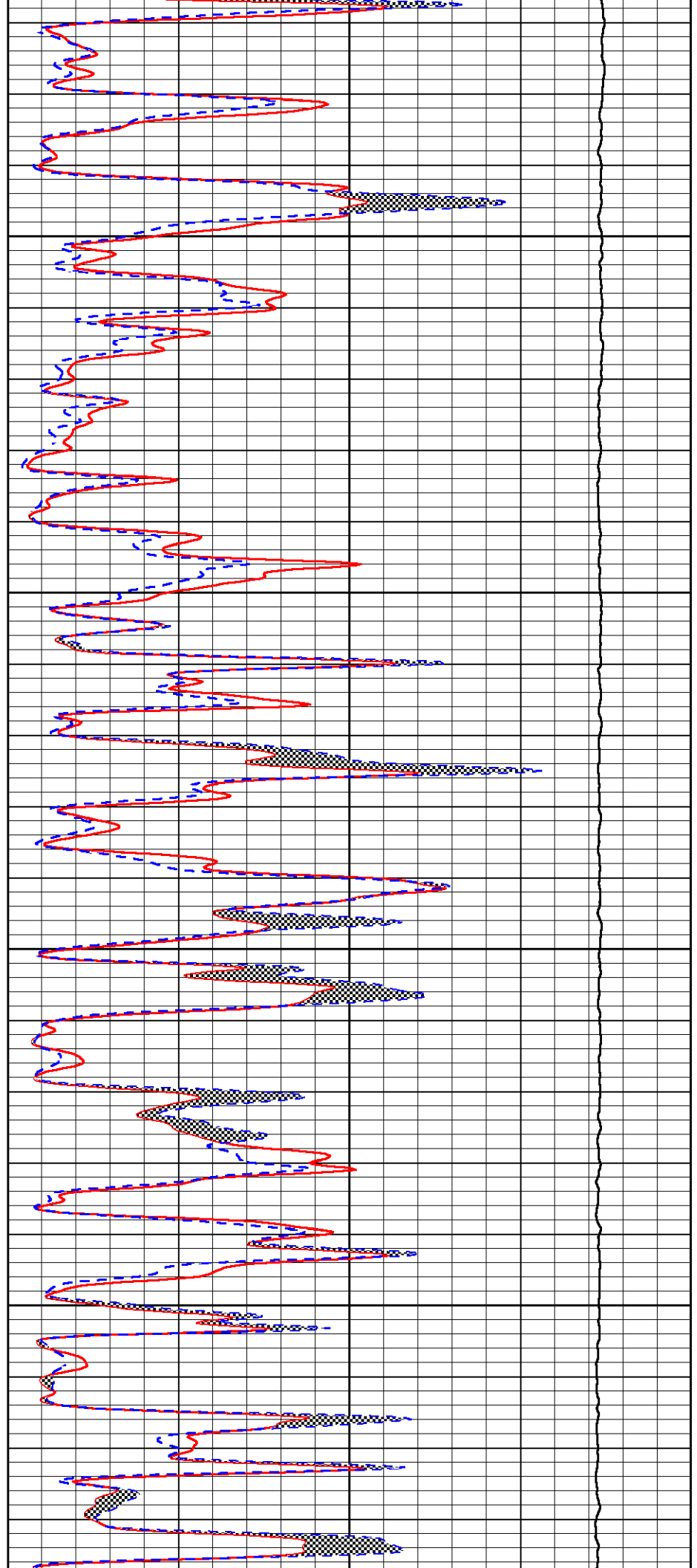


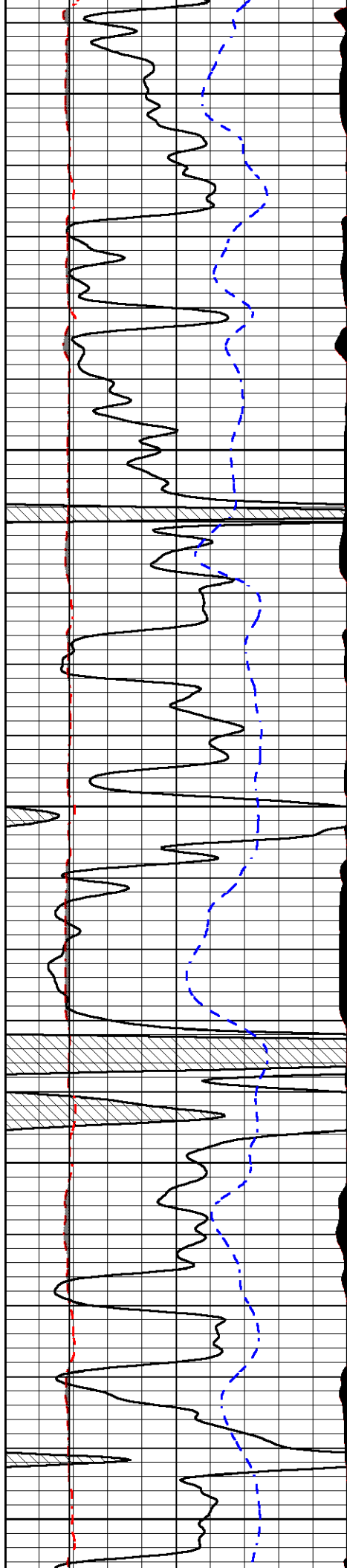
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3600

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3700





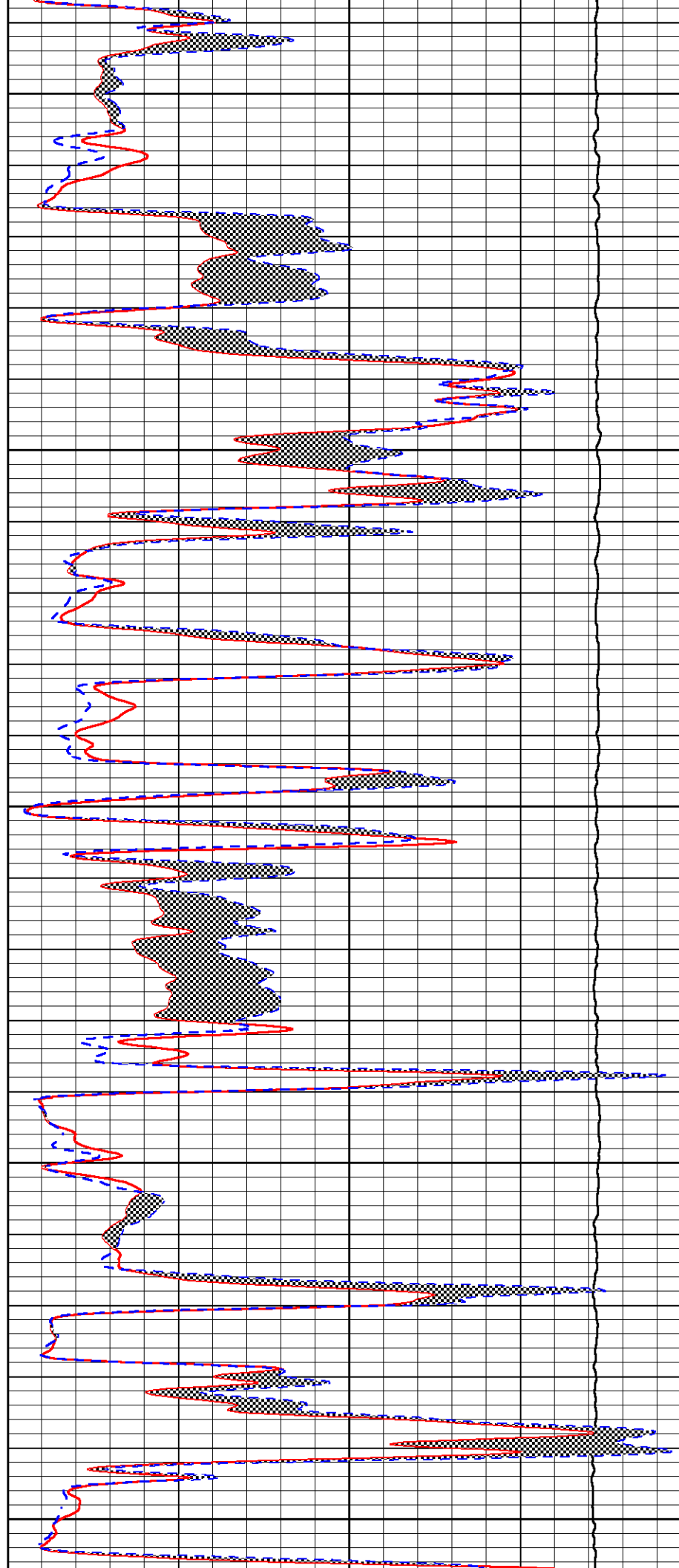
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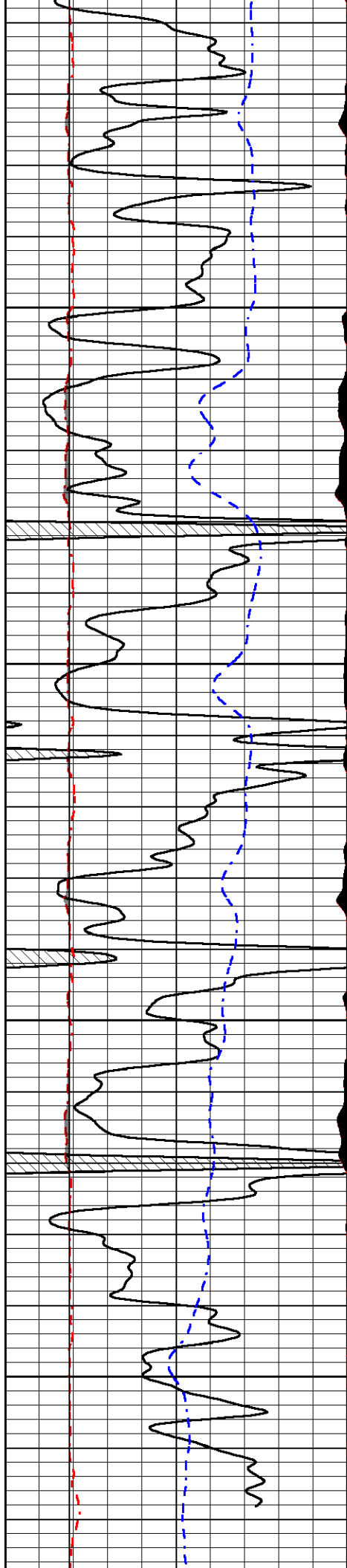
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3850

3900

3950



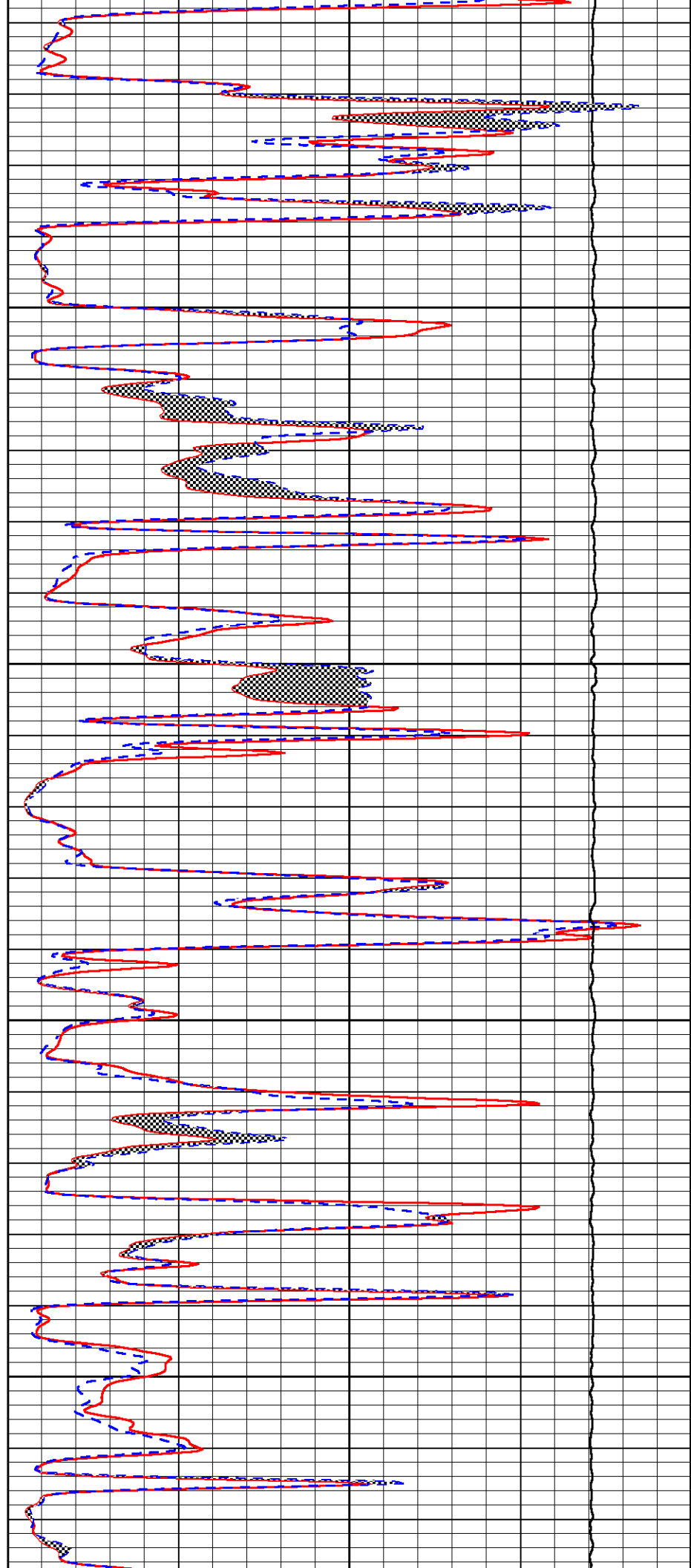


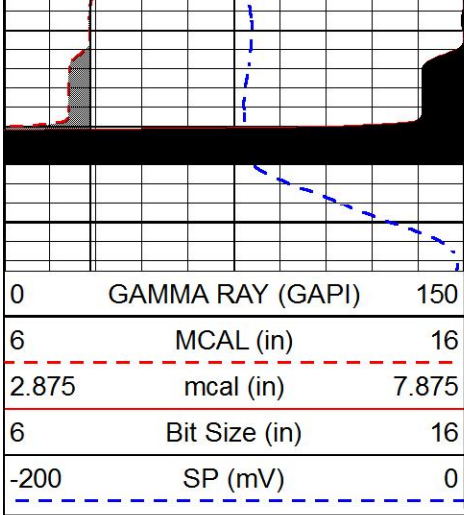
4000

4050

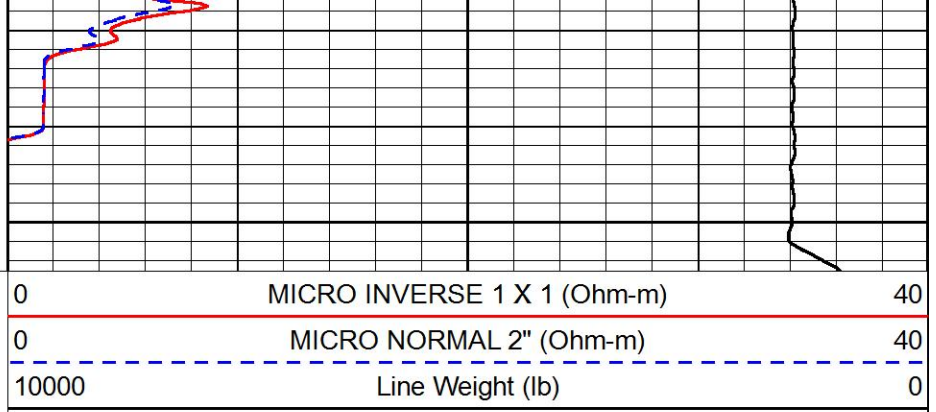
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4150



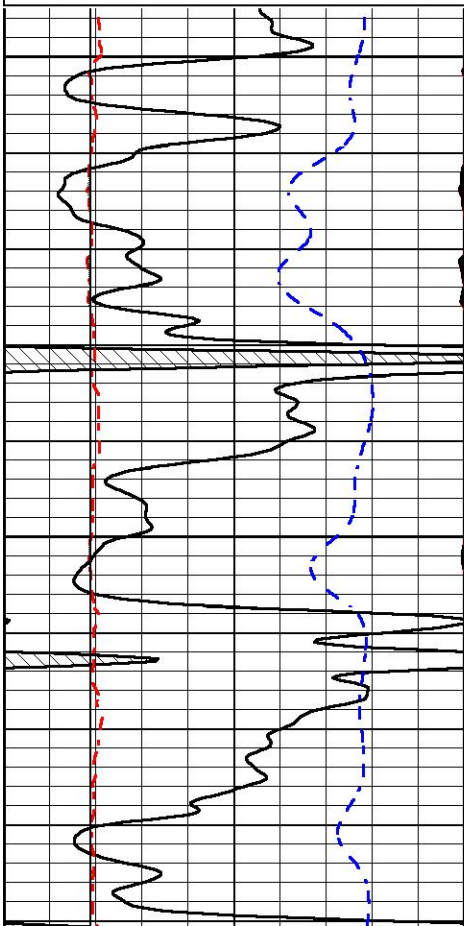
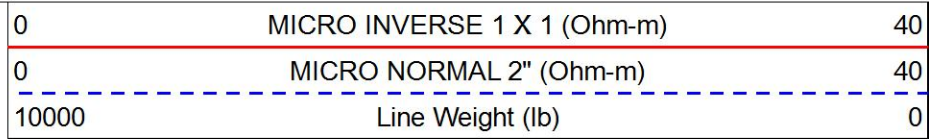
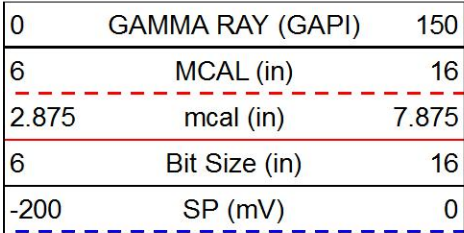


4200



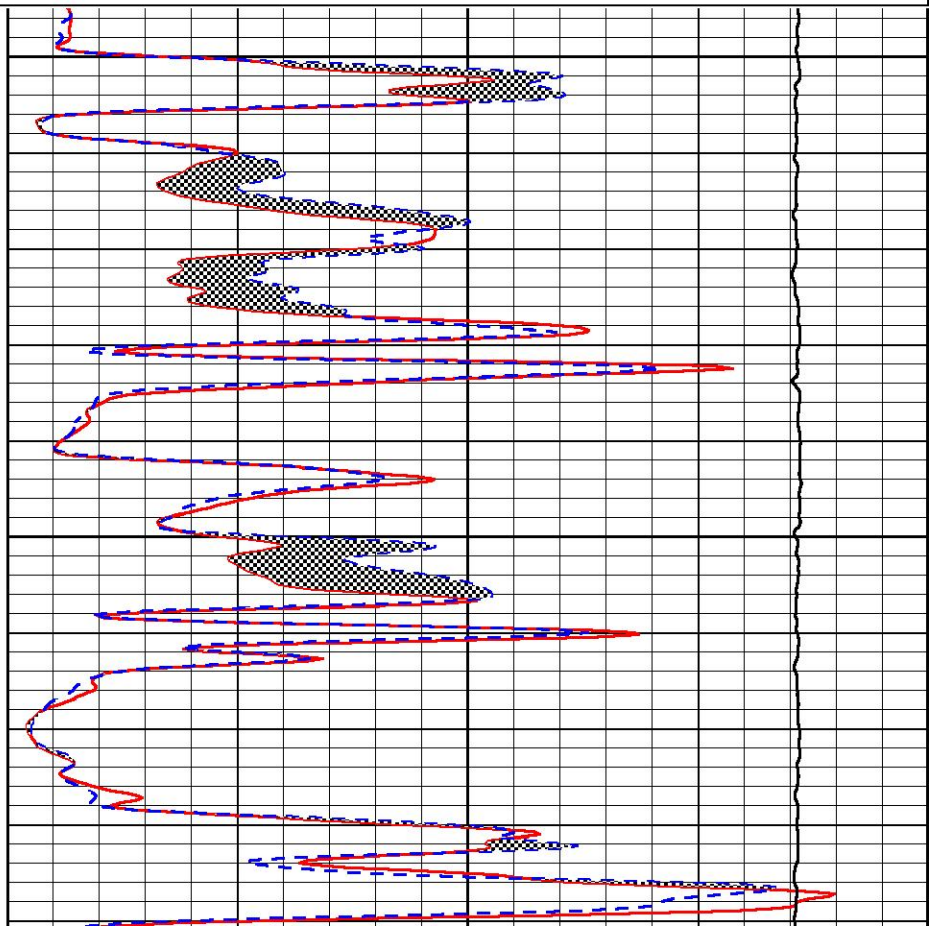
# REPEAT SECTION

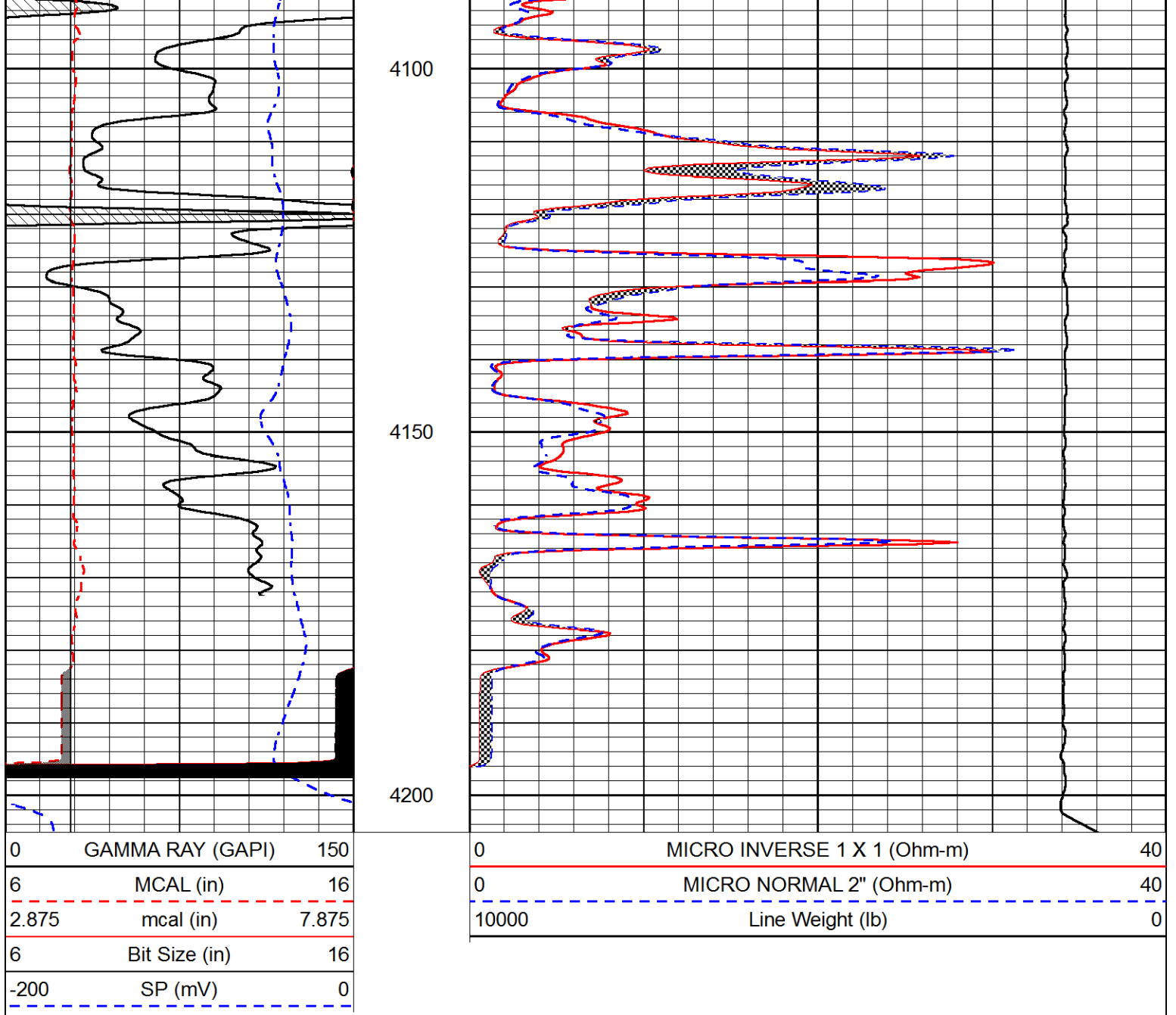
Database File great plains\_sauvage 11.db  
 Dataset Pathname stkml/pass2.1  
 Presentation Format \_micro  
 Dataset Creation Mon Oct 14 21:11:27 2019  
 Charted by Depth in Feet scaled 1:240



4000

4050





### Calibration Report

Database File: great plains\_sauvage 11.db  
 Dataset Pathname: stkml/pass3.1  
 Dataset Creation: Mon Oct 14 21:12:16 2019

### Dual Induction Calibration Report

Serial-Model: 1039-PSI HIGH TEMP  
 Calibration Performed: Sat Sep 28 21:39:07 2019

Loop:	Readings		References		Results		
	Air	Loop	Air	Loop	Gain	Offset	
Deep	167.000	835.000	0.000	255.800	mmho/m	0.470	-41.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.360	-15.000

### Compensated Density Calibration Report

Serial-Model: 96-916-M&W  
 Source / Verifier: 16955B / 2ci

Master Calibration

	<u>Density</u>			<u>Far Detector</u>		<u>Near Detector</u>	
Magnesium	1.755	g/cc		8943.64		10054.60	cps
Aluminum	2.650	g/cc		1595.61		6242.82	cps
	Spine Angle = 74.54			Density/Spine Ratio = 0.500			
	<u>Size</u>			<u>Reading</u>			
Small Ring	6.00	in		1.75			
Large Ring	15.00	in		1.40			

Microlog Calibration Report

Serial-Model: PSI-01-PSIML  
Performed: Thu Aug 01 07:57:13 2019

	<u>Readings</u>		<u>References</u>			<u>Results</u>	
	<u>Zero</u>	<u>Cal</u>	<u>Zero</u>	<u>Cal</u>		<u>m</u>	<u>b</u>
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	19500.0000	-1.8000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	18000.0000	-1.3000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-64.4250

Compensated Neutron Calibration Report

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

<u>Detector</u>	<u>Readings</u>	<u>Target</u>	<u>Normalization</u>
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: 233-M&W  
Tool Model: M&W  
Calibration Performed: Fri Feb 07 01:42:40 2014

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps  
Calibrator Reading: 1.0 cps

Sensitivity: 0.5500 GAPI/cps



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