



PIONEER
Pioneer Energy Services

MICRORESISTIVITY LOG

Company CASTLE RESOURCES, INC.
Well EAGLE 1 MOORE #1
Field WILDCAT
County DECATUR
State KANSAS

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Location: API #: 15-039-21242-00-00

Other Services

SEC 15 TWP 1S RGE 29W
935' FNL & 2460' FWL

Permanent Datum GROUND LEVEL Elevation 2581'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Elevation
K.B. 2586'
D.F. N/A
G.L. 2581

Date 9/12/2017

Run Number	ONE		
Depth Driller	4175'		
Depth Logger	4175'		
Bottom Logged Interval	4174'		
Top Log Interval	2800'		
Casing Driller	8.625" @ 207'		
Casing Logger	208'		
Bit Size	7.875"		
Type Fluid in Hole	CHEMICAL		
Salinity, ppm CL	2500		
Density / Viscosity	8.7 41		
pH / Fluid Loss	9.7 8.2		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp	0.60 @ 80		
Rmt @ Meas. Temp	0.45 @ 80		
Rmc @ Meas. Temp	0.81 @ 80		
Source of Rmf / Rmc	CHARTS		
Rm @ BHT	0.42 @ 114		
Operating Rig Time	3 HOURS		
Max Rec. Temp. F	114		
Equipment Number	91		
Location	HAYS		
Recorded By	D. SCHMIDT		
Witnessed By	JERRY GREEN		

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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.

CEDAR BLUFFS,
200 YARDS SOUTH, 200 WEST,
SOUTH TO LOCATION

Log Measured From: KELLY BUSHING 5 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: JERRY GREEN
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	365	0
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
0	80	0	5.5	0	3759	114	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					

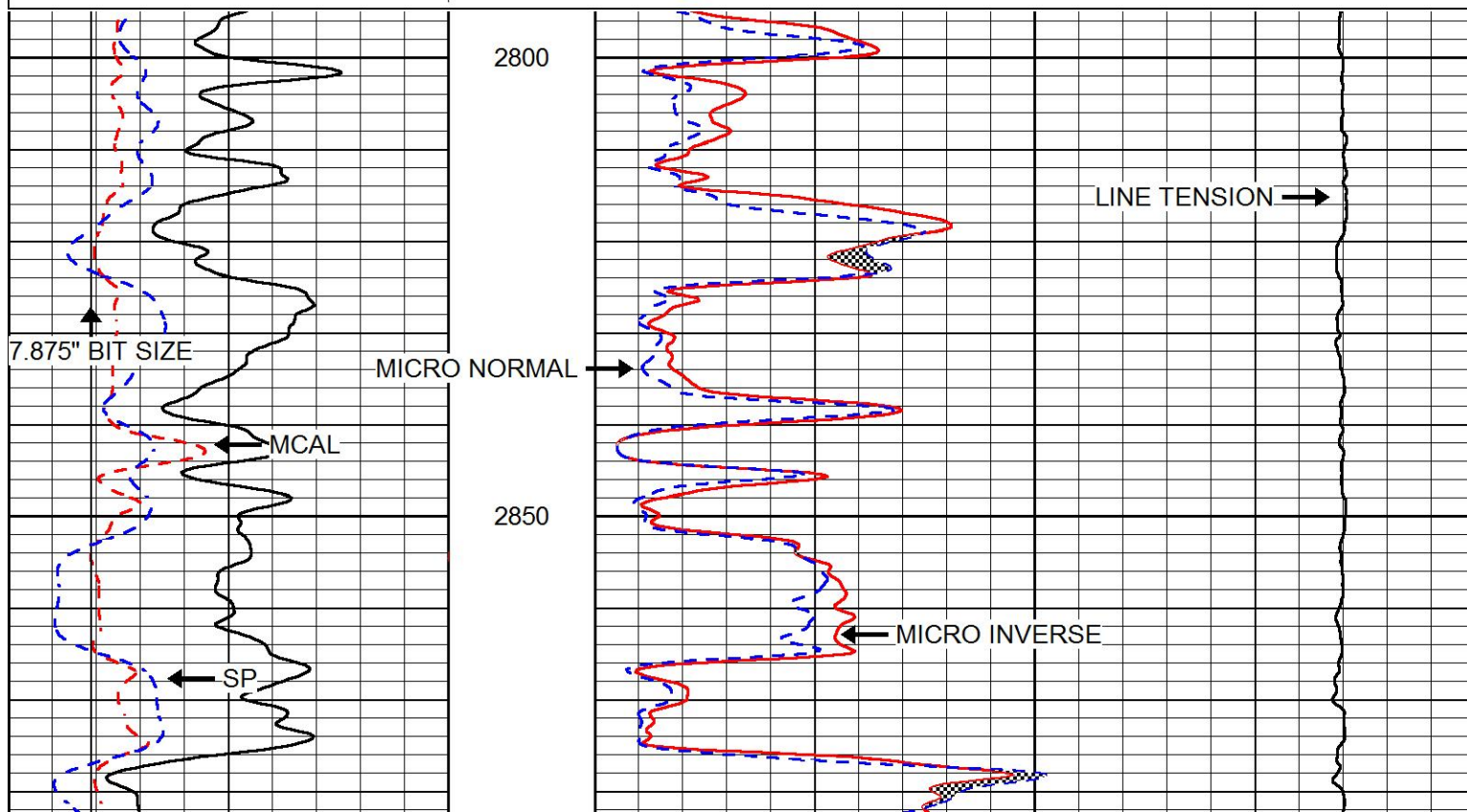
			DIL-M&W (PSI 91)	18.50	3.50	220.00
CILD	8.00					
CILM	4.70					
SP	0.20					
Dataset: castle resources_eagle 1 moore_1.db: field/well/STKML/pass4.1 Total length: 43.08 ft Total weight: 685.00 lb O.D.: 4.00 in						

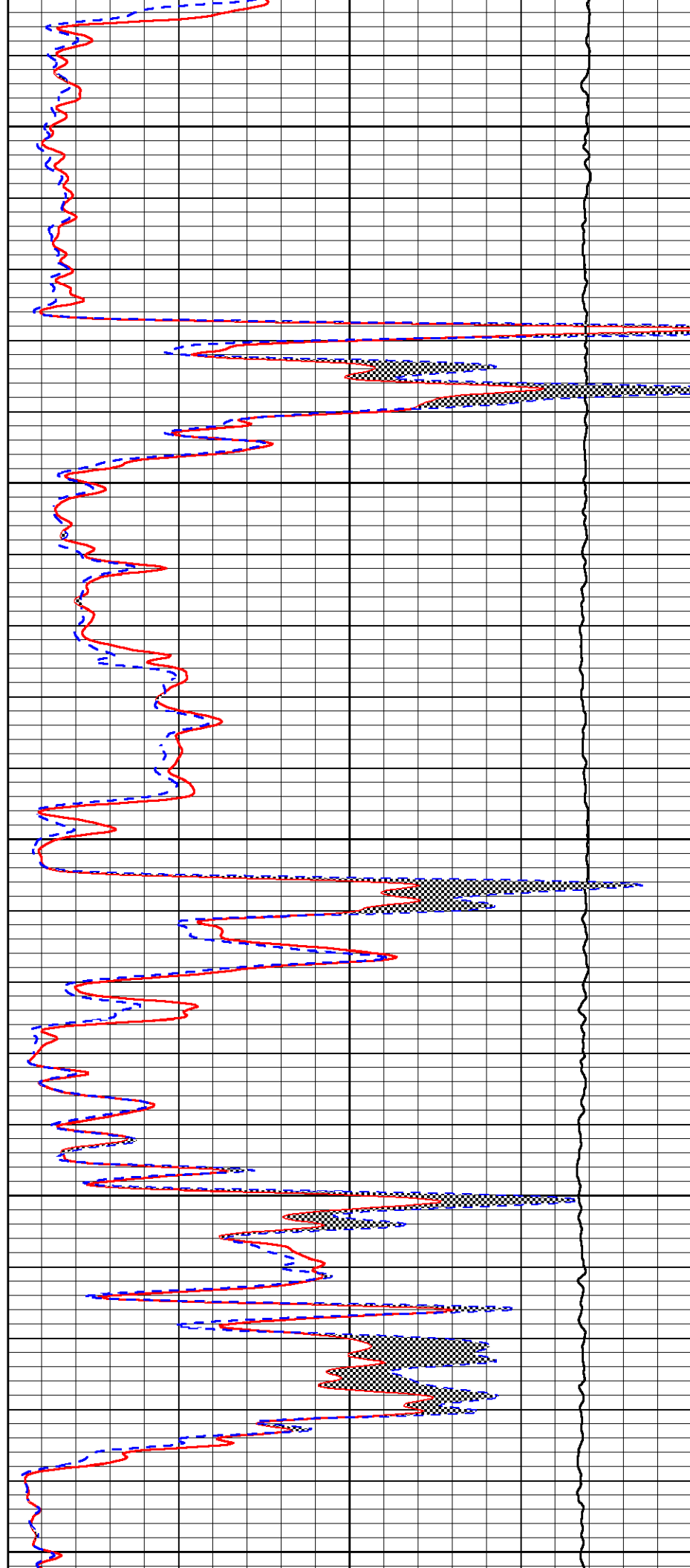
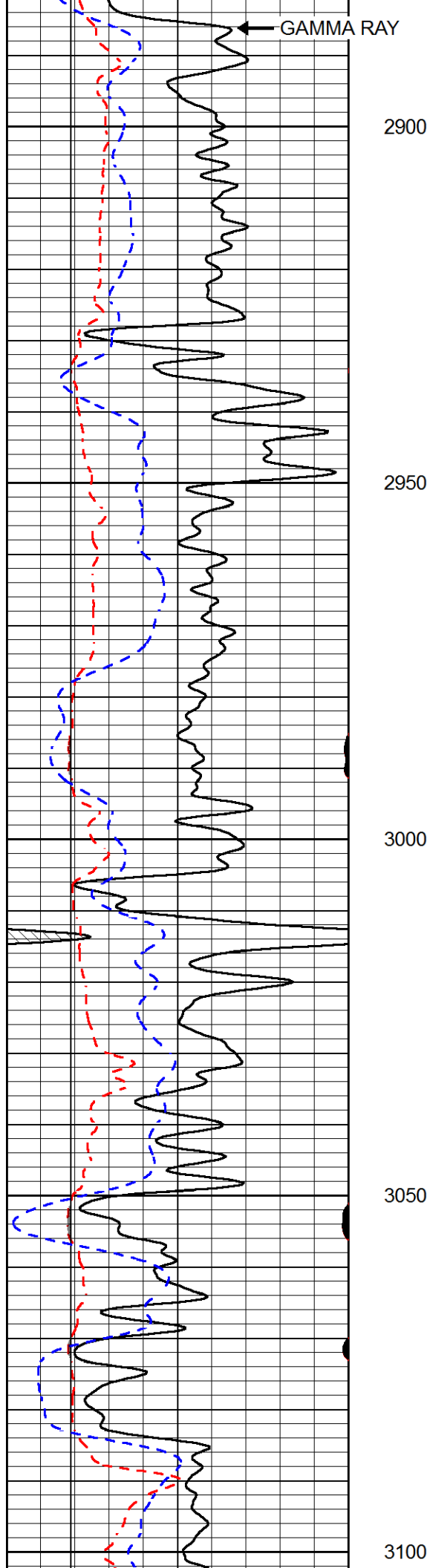


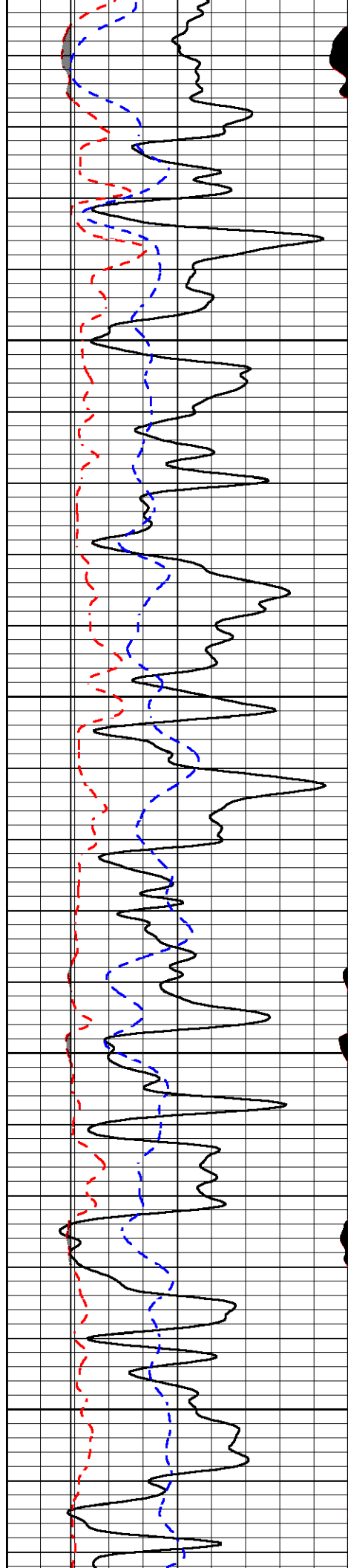
MAIN PASS

Database File	castle resources_eagle 1 moore_1.db
Dataset Pathname	STKML/pass5.1
Presentation Format	micro
Dataset Creation	Mon Sep 11 03:22:26 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			





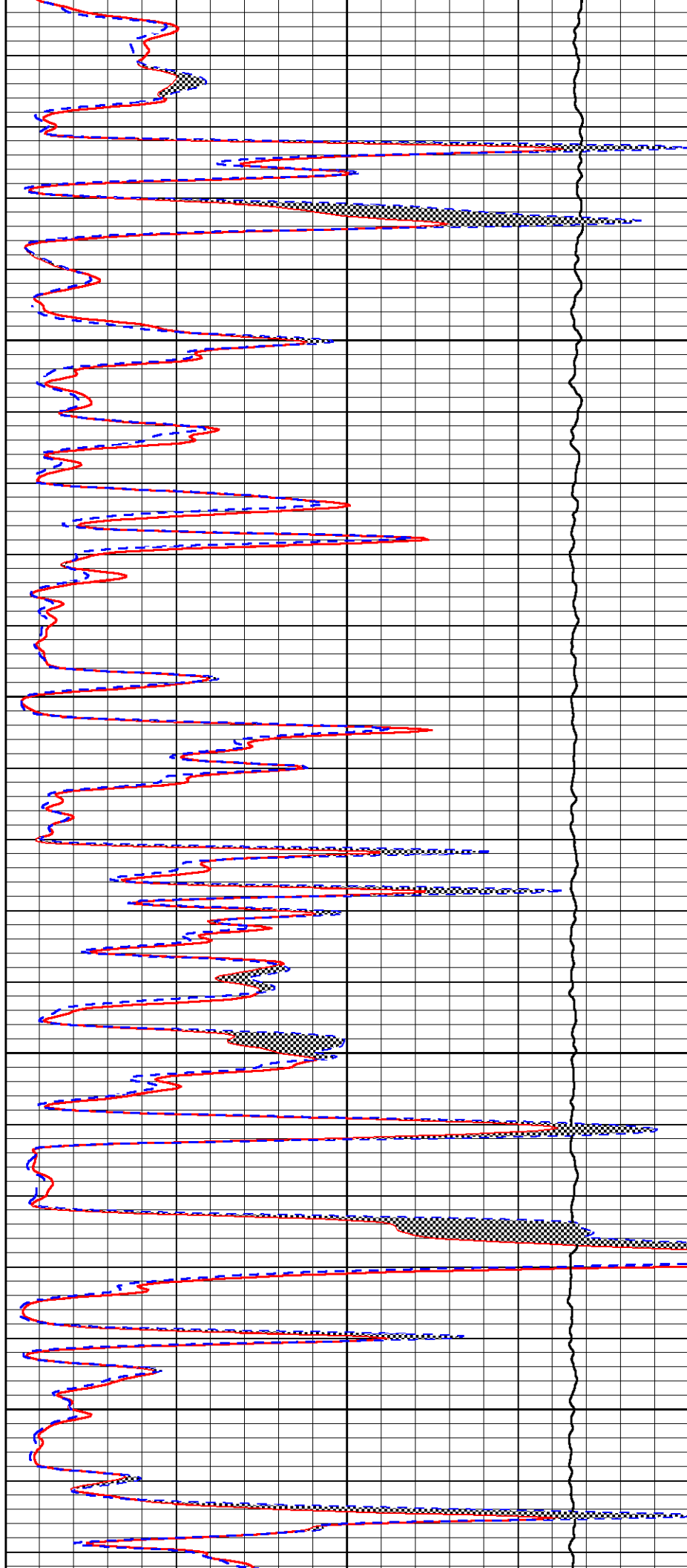


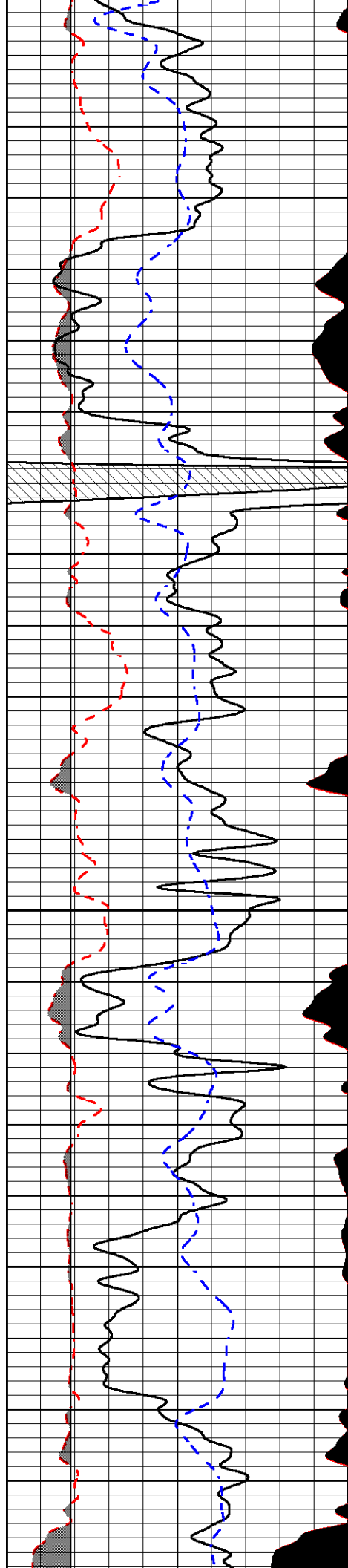
3150

3200

3250

3300



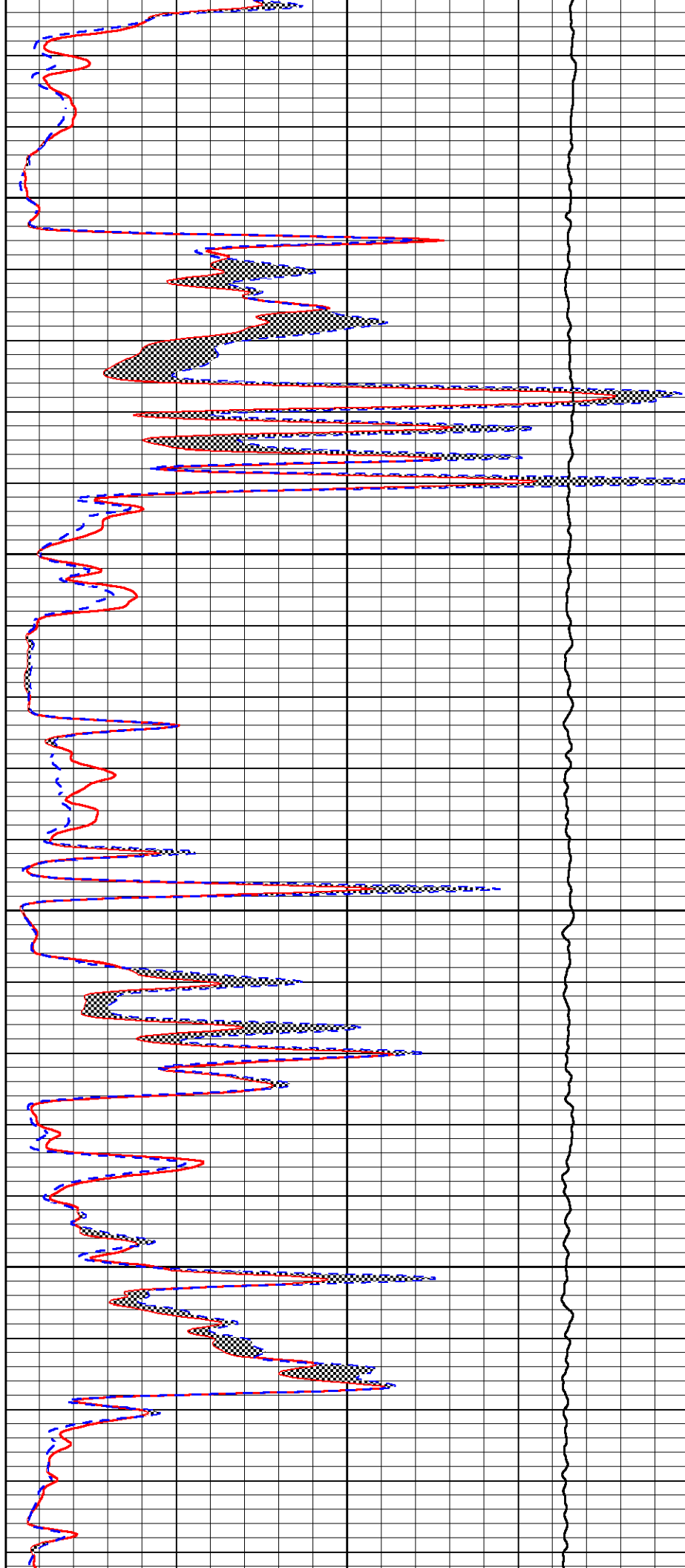


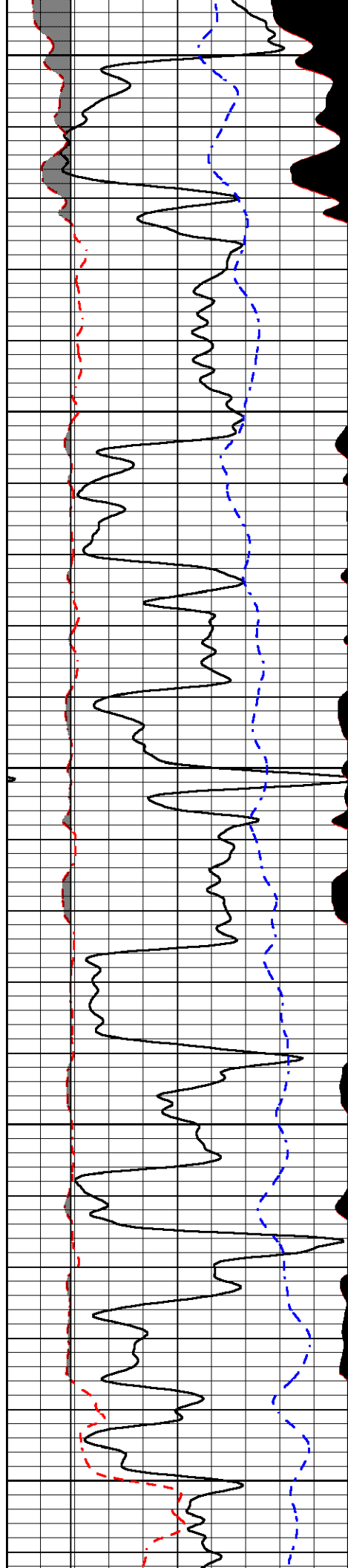
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3400

3450

3500





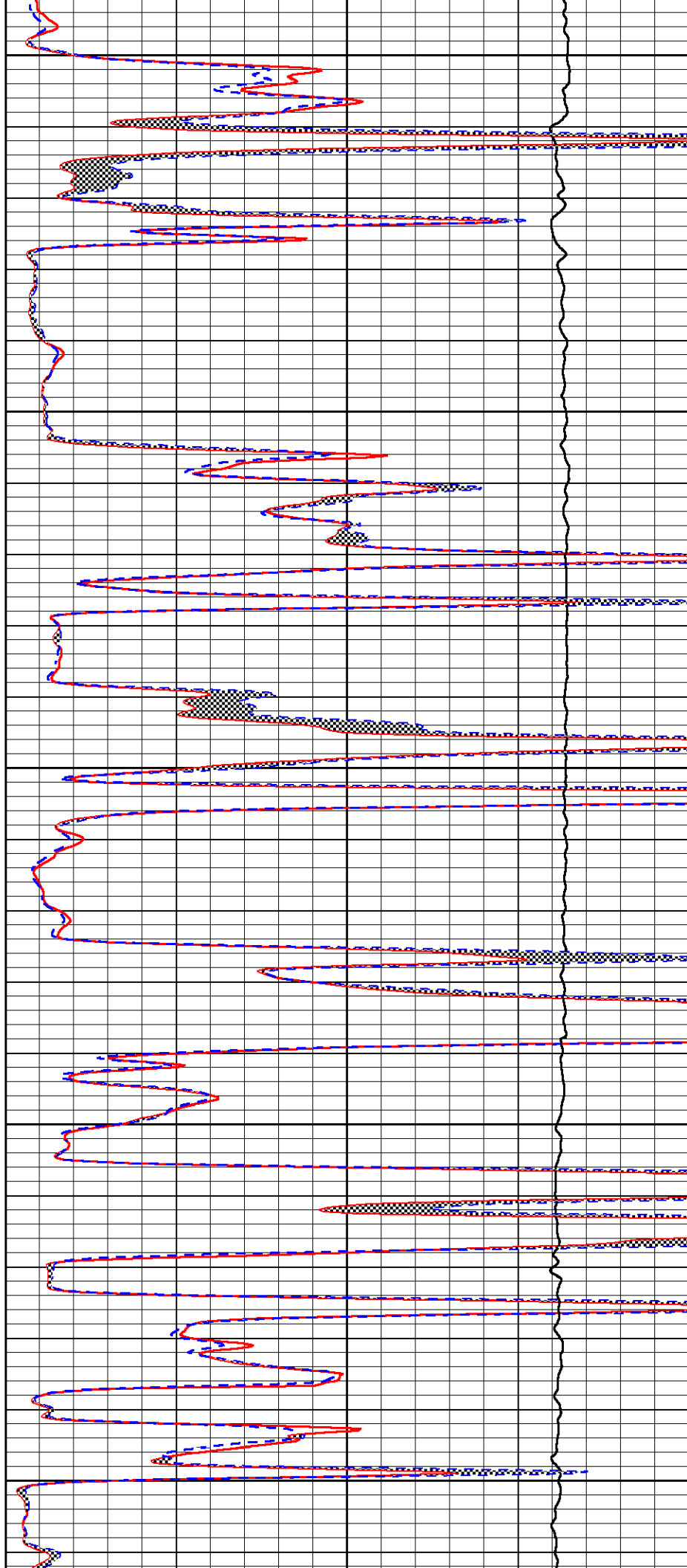
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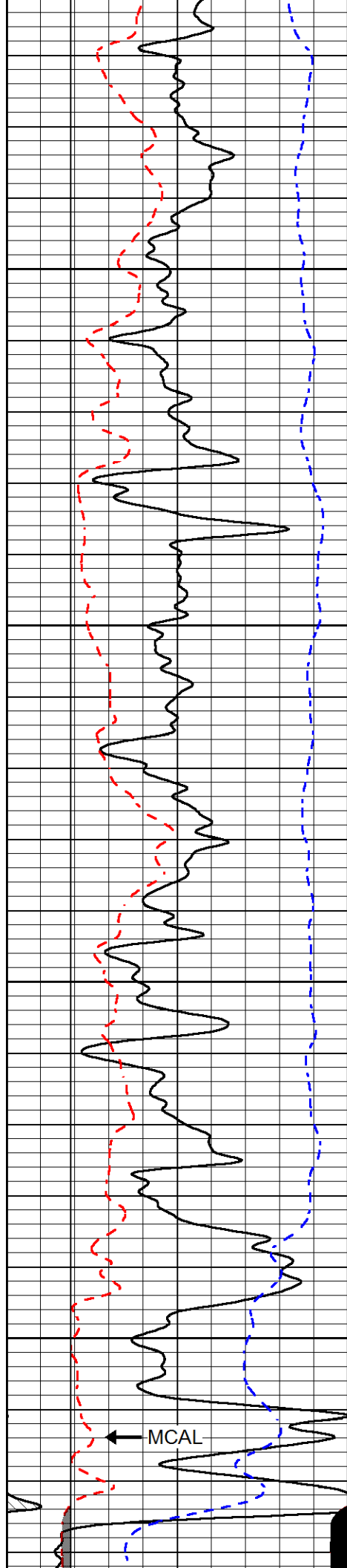
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3650

3700

3750



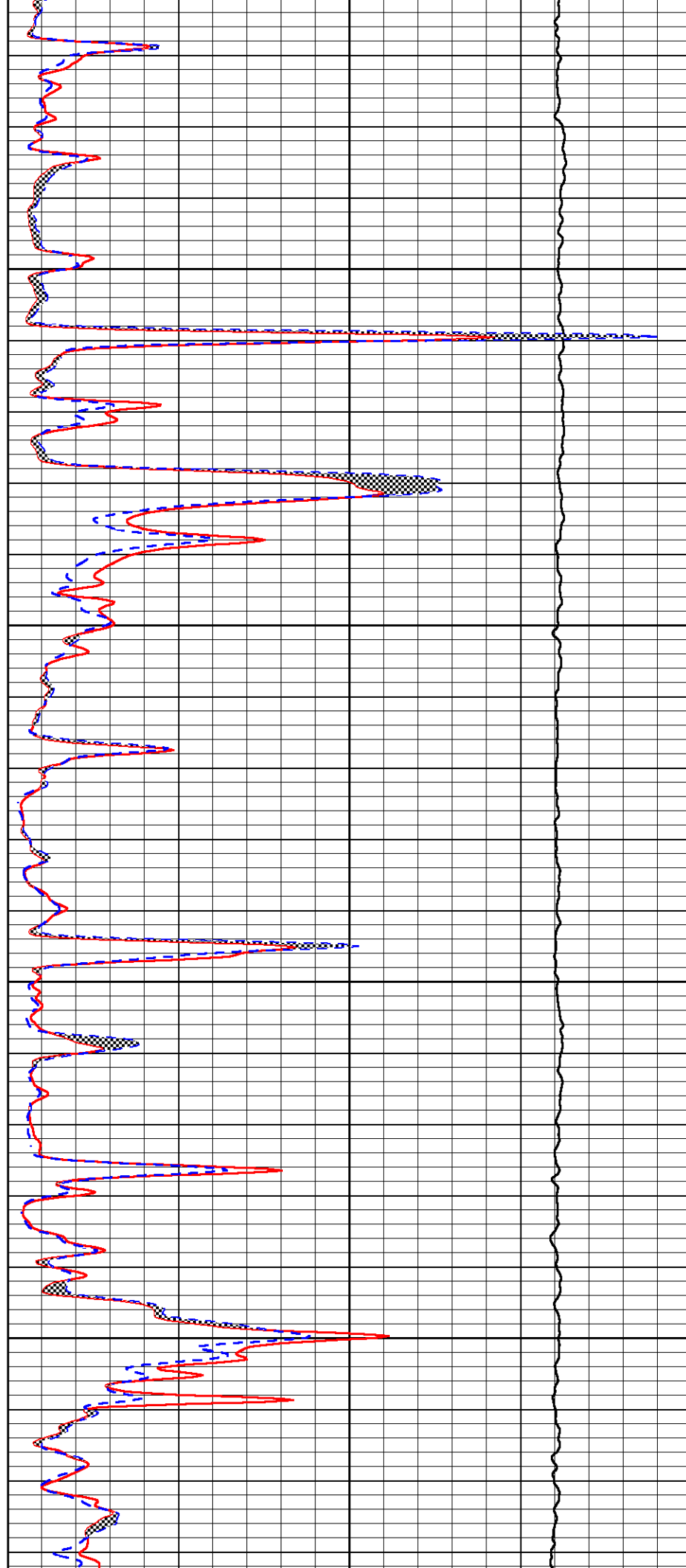


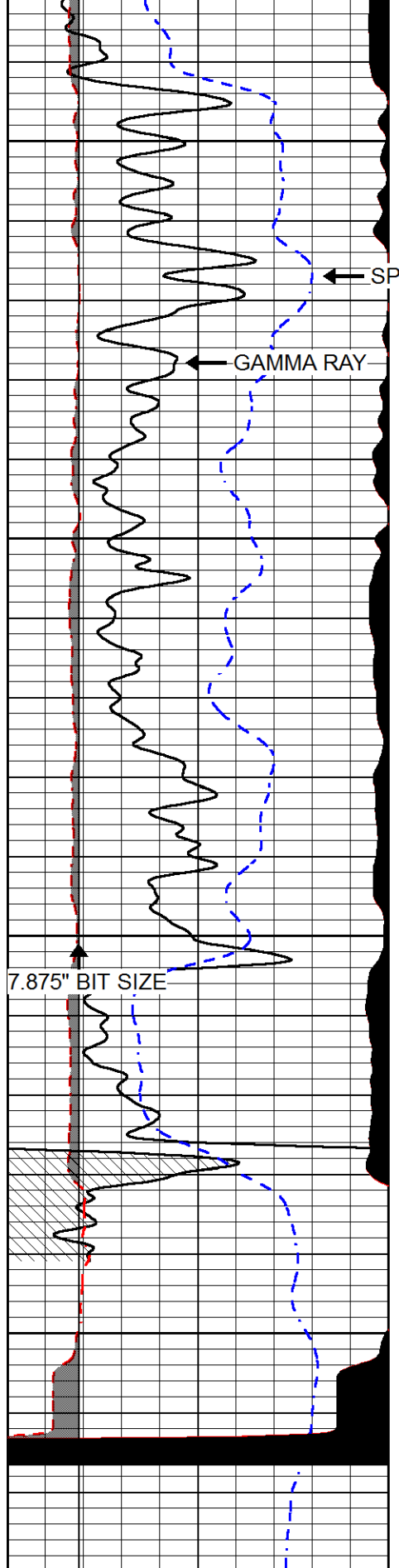
3800

3850

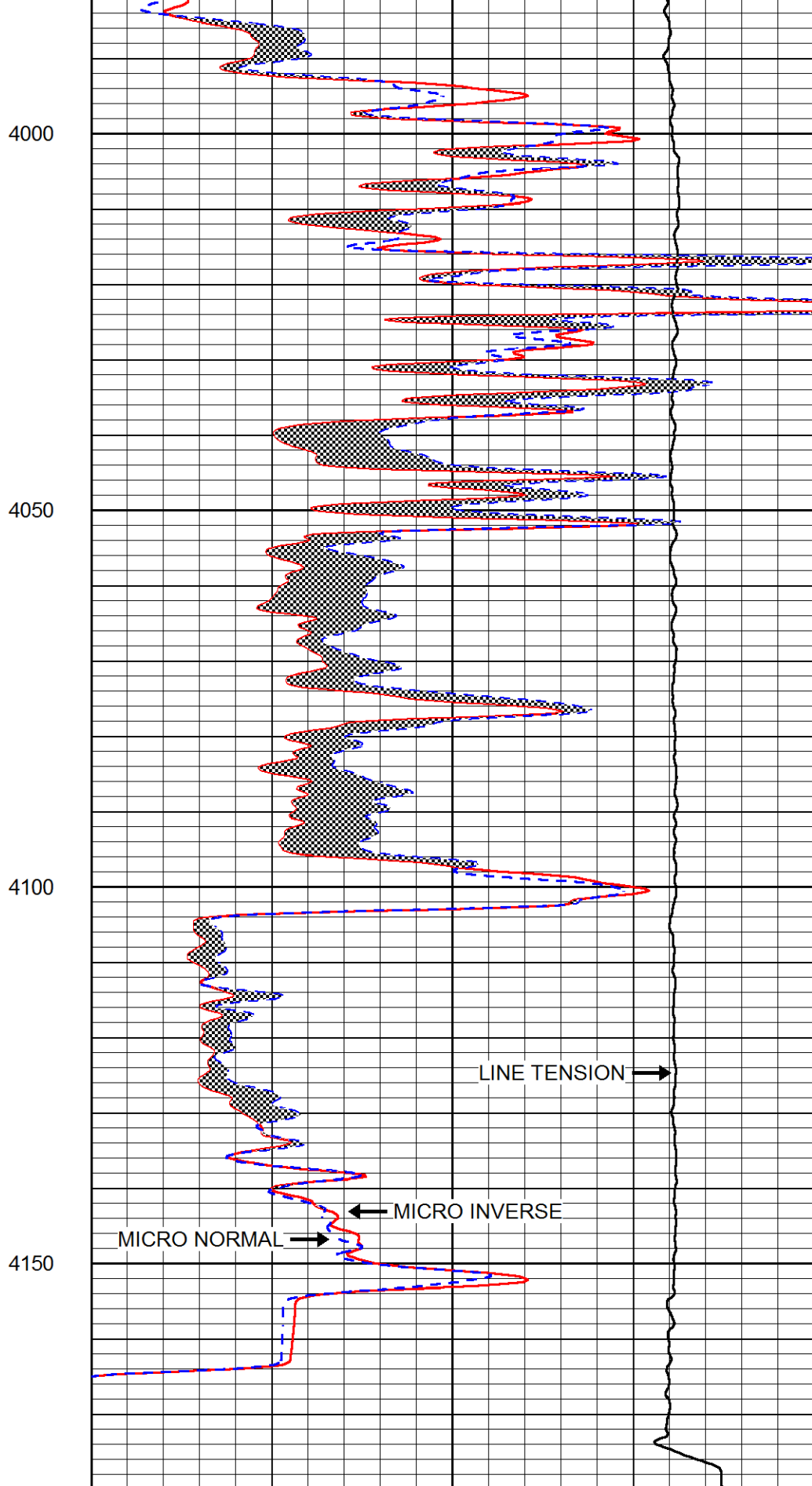
3900

3950





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

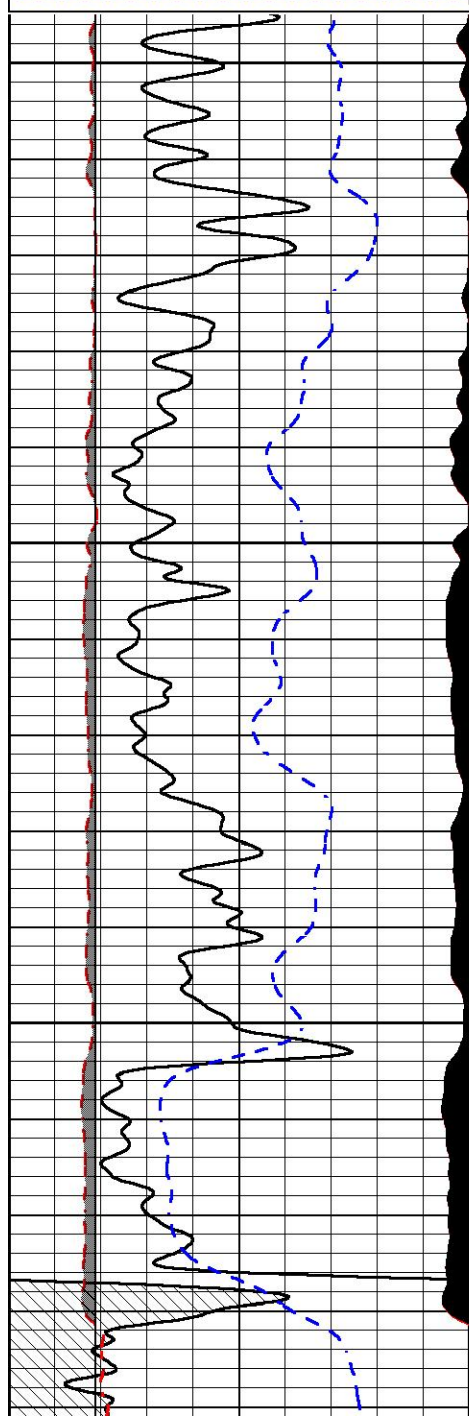


REPEAT SECTION

Database File castle resources_eagle 1 moore_1.db
 Dataset Pathname STKML2/pass2.1
 Presentation Format micro
 Dataset Creation Tue Sep 12 08:21:53 2017
 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

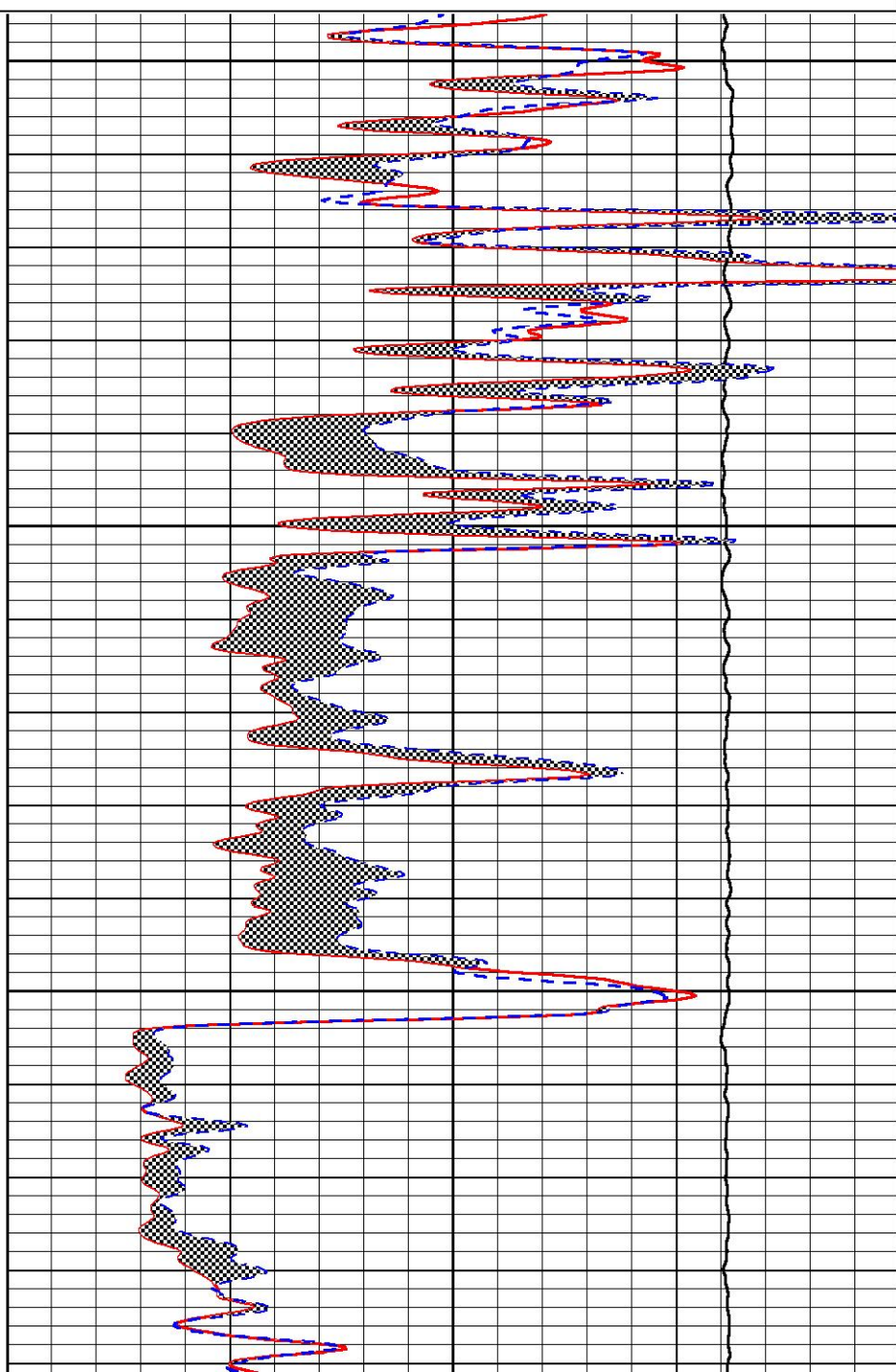
0	Micro Inverse 1 X 1 (Ohm-m)	40
0	Micro Normal 2" (Ohm-m)	40
10000	Line Weight (lb)	0

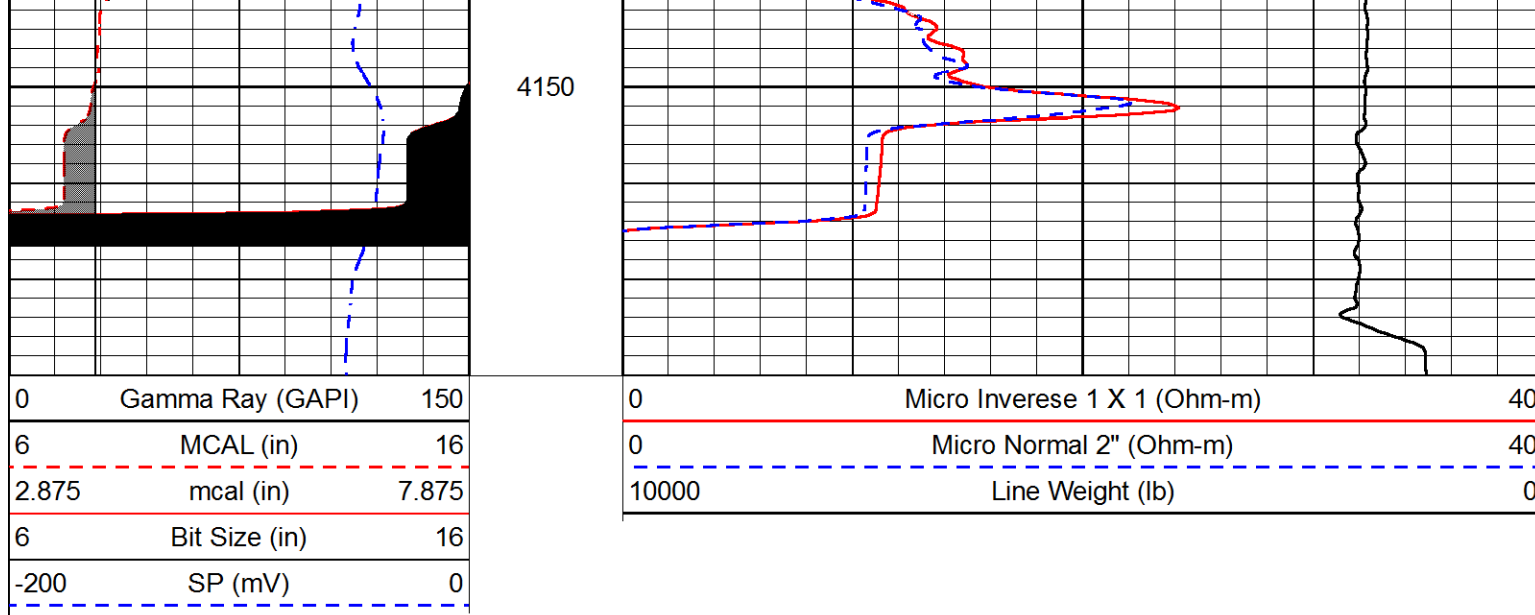


4000

4050

4100





Calibration Report							
Database File	castle resources_eagle 1 moore_1.db						
Dataset Pathname	STKML/pass4.1						
Dataset Creation	Mon Sep 11 02:52:16 2017						
Dual Induction Calibration Report							
Serial-Model: Calibration Performed:				PSI 91-M&W Wed Sep 06 19:50:36 2017			
Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
	Deep	166.796 835.089	0.000	255.800	mmho/m	0.430	-34.500
	Medium	142.009 1348.560	0.000	255.800	mmho/m	0.360	-31.000
Microlog Calibration Report							
Serial-Model: Performed:				PSI-01-PSIML Wed Sep 06 19:50:56 2017			
	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
	Normal	0.0000 1.0000	0.0000	1.0000	Ohm-m	32000.0000	-1.5000
	Inverse	0.0000 1.0000	0.0000	1.0000	Ohm-m	41000.0000	-1.3000
	Caliper	1.0001 1.1397	6.5000	18.5000	in	100.0000	-97.2350
Compensated Density Calibration Report							
Serial-Model: Source / Verifier: Master Calibration Performed:				90-1031-M&W 16955B / 2ci Wed Sep 06 19:51:03 2017			
Master Calibration							
	Density			Far Detector		Near Detector	
		g/cc					cps
Magnesium	1.755			4903.44		6153.79	

Aluminum 2.685 g/cc 934.50 4021.31 cps

Spine Angle = 75.61

Density/Spine Ratio = 0.543

	Size		Reading
Small Ring	8.00	in	1.84
Large Ring	22.00	in	1.46

Compensated Neutron Calibration Report

Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: WED SEP 6 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: Wed Sep 06 19:51:14 2017

Calibrator Value: 1.0 GAPI

Background Reading: 0.0 cps
Calibrator Reading: 1.0 cps

Sensitivity: 0.6000 GAPI/cps



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