



MICRORESISTIVITY LOG

Company RITCHEE EXPLORATION INC.
 Well WHITHAM-SMITH TRUST #1
 Field WILDCAT
 County WICHITA
 State KANSAS

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Location: API #: 15-203-20342-00-00
 2432' & 976' FWL
 SEC 35 TWP 16S RGE 37W
 Permanent Datum GROUND LEVEL Elevation 3344
 Log Measured From KELLY BUSHING
 Drilling Measured From KELLY BUSHING
 Other Services
 CNL/CDL
 DIL/BHCS
 Elevation
 K.B. 3352'
 D.F. N/A
 G.L. 3344'

Date	9/7/2018
Run Number	ONE
Depth Driller	4960'
Depth Logger	4958'
Bottom Logged Interval	4957'
Top Log Interval	3550'
Casing Driller	8.625" @ 263'
Casing Logger	262'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	7800
Density / Viscosity	9.4 63
pH / Fluid Loss	10.0 10.4
Source of Sample	FLOWLINE
Rm @ Meas. Temp	0.40 @ 75
Rmt @ Meas. Temp	0.30 @ 75
Rmc @ Meas. Temp	0.54 @ 75
Source of Rmf / Rmc	CHARTS
Rm @ BHT	0.24 @ 126
Operating Rig Time	4 HOURS
Max Rec. Temp. F	126
Equipment Number	91
Location	HAYS
Recorded By	IAN MABB
Witnessed By	JOHN GOLDSMITH

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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.
 RUSSEL SPRINGS, KS.
 SOUTH TO COUNTY LINE, AND 6 MILES SOUTH TO G RD,
 1 MILE WEST , 1/2 NORTH, & EAST 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: IAN MABB Operator: Operator: Operator:	This Log Record Was Witnessed By Primary Witness: JOHN GOLDSMITH Secondary Witness: Secondary Witness: Secondary Witness:
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Top - Bottom

M	A	SZCOR	NPORSEL	FLUIDDEN g/cc	MATRXDEN g/cc	SPSHIFT mV	SNDERRM mmho/m
2	1	Off	Limestone	1	2.71	498	2
SNDERR mmho/m	SRFTEMP degF	CASETHCK in	CASEOD in	PERFS	TDEPTH ft	BOTTEMP degF	BOREID in
10	0	0	5.5	0	4948	121	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 (144-84)	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	
CILM	4.70	
SP	0.20	

DIL-PSI HIGH TEMP (967 (HT))

18.50

3.50

220.00

Dataset: ritchi_exploration_whitham-smith_trust_1.db: field/well/stackmel/pass3.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

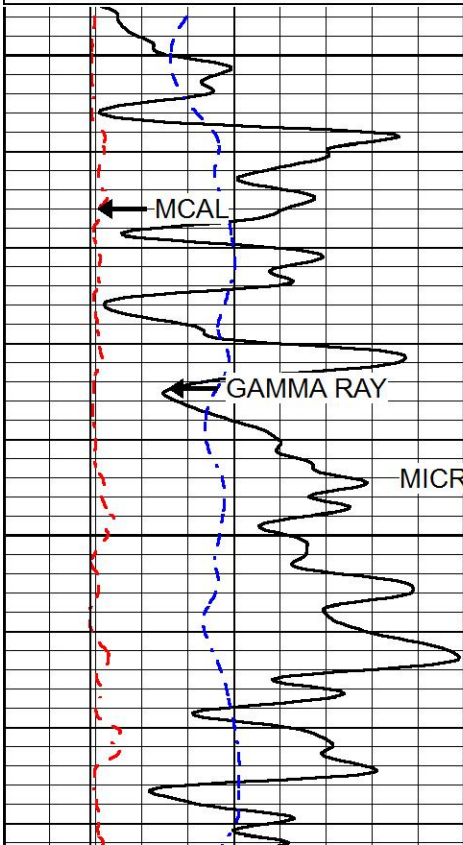


MAIN PASS

Database File: ritchi_exploration_whitham-smith_trust_1.db
 Dataset Pathname: stackmel/pass3.1
 Presentation Format: micro
 Dataset Creation: Fri Sep 07 21:21:32 2018
 Charted by: Depth in Feet scaled 1:240

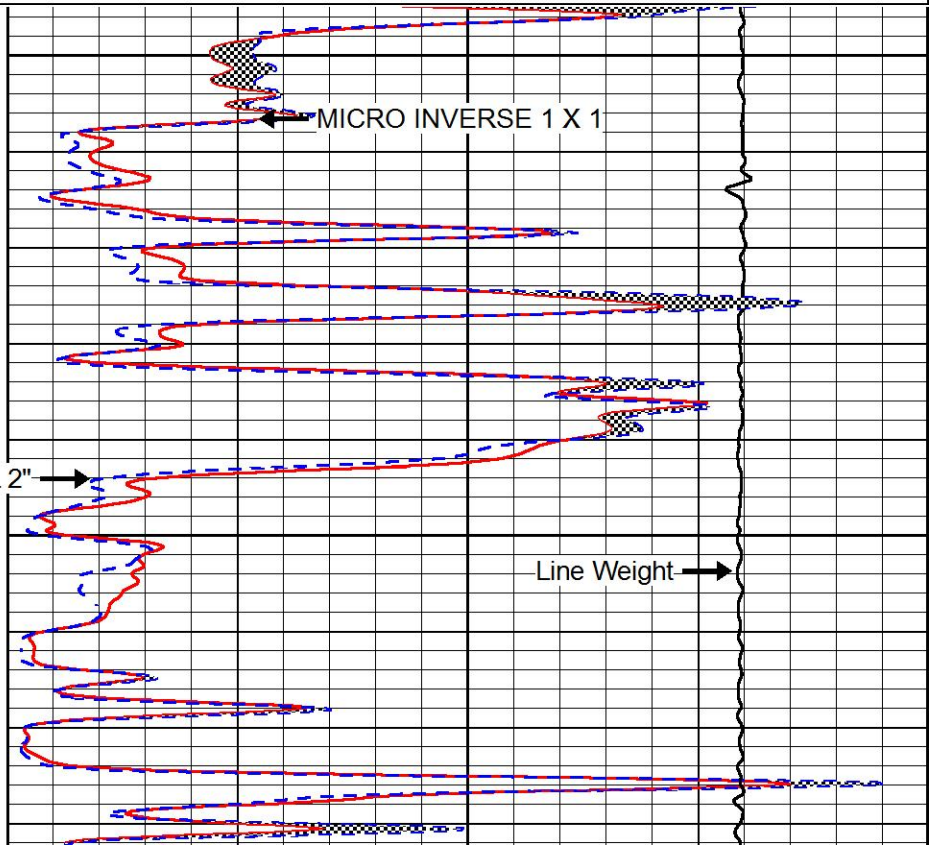
0	GAMMA RAY (GAPI)	150
6	MCAL (in)	16
2.875	mcals (in)	7.875
6	Bit Size (in)	16
-200	SP (mV)	0

0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
10000	Line Weight (lb)	0



3550

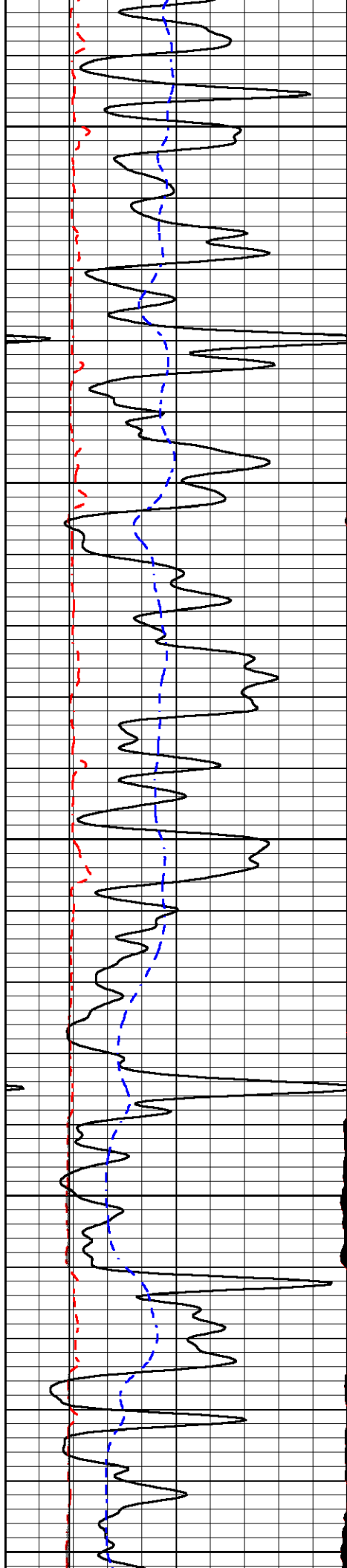
3600



MICRO INVERSE 1 X 1

MICRO NORMAL 2"

Line Weight



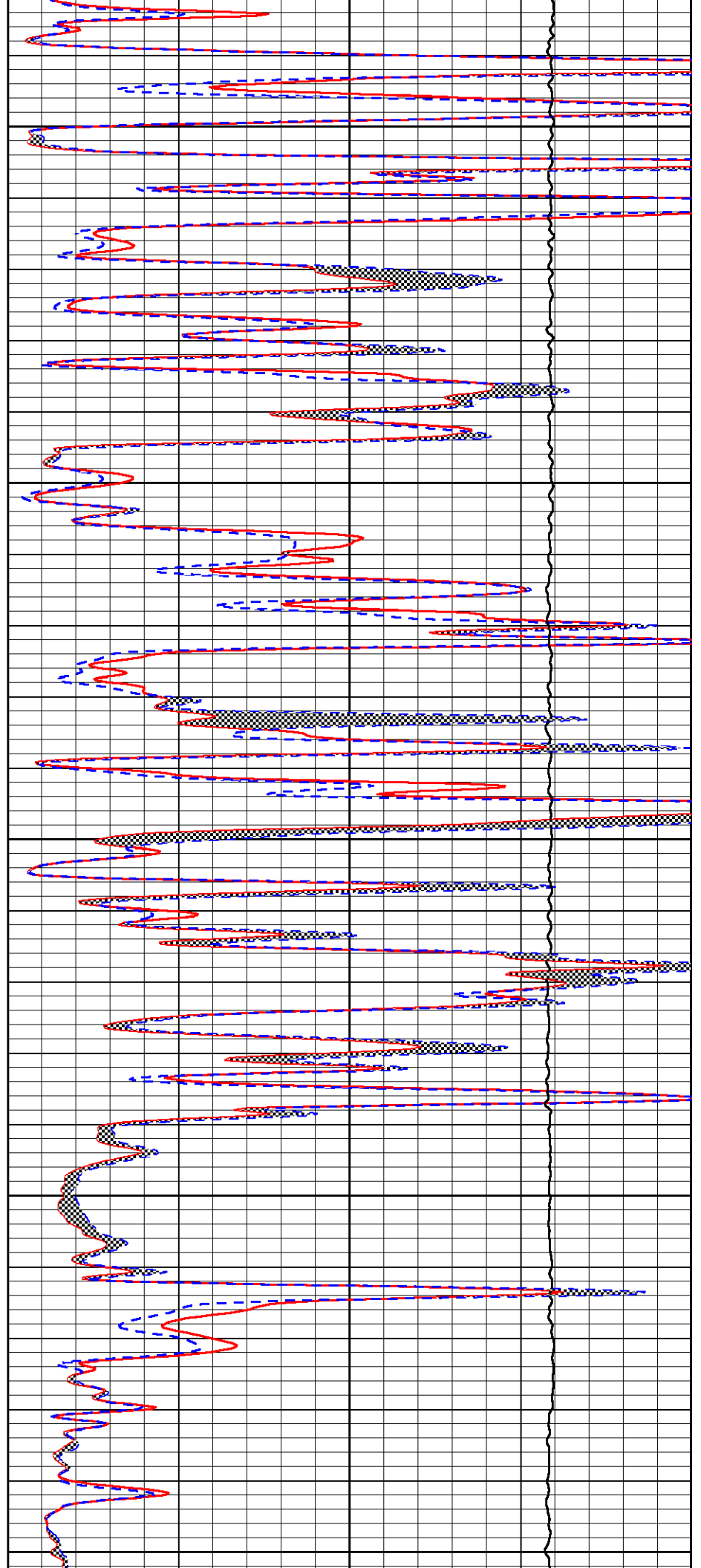
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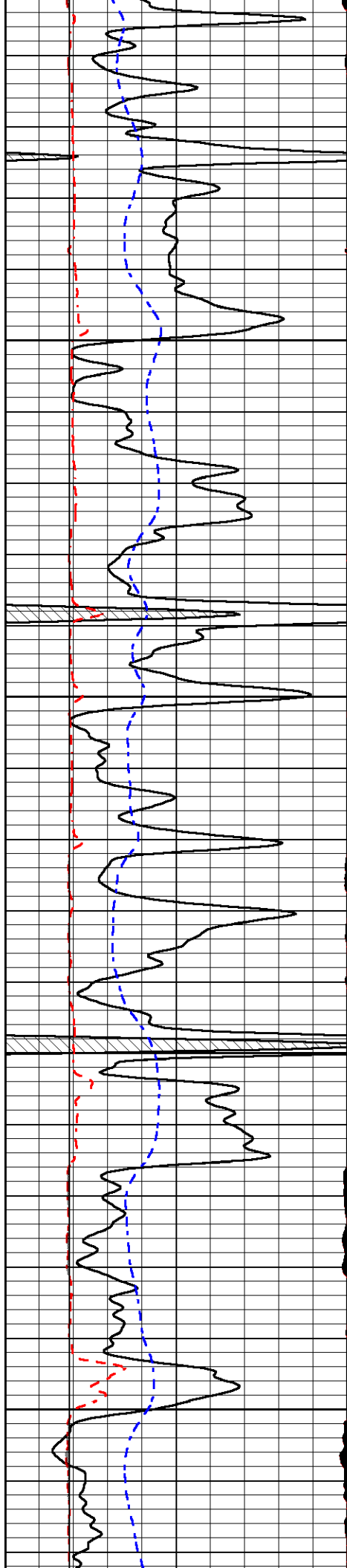
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3750

3800

3850



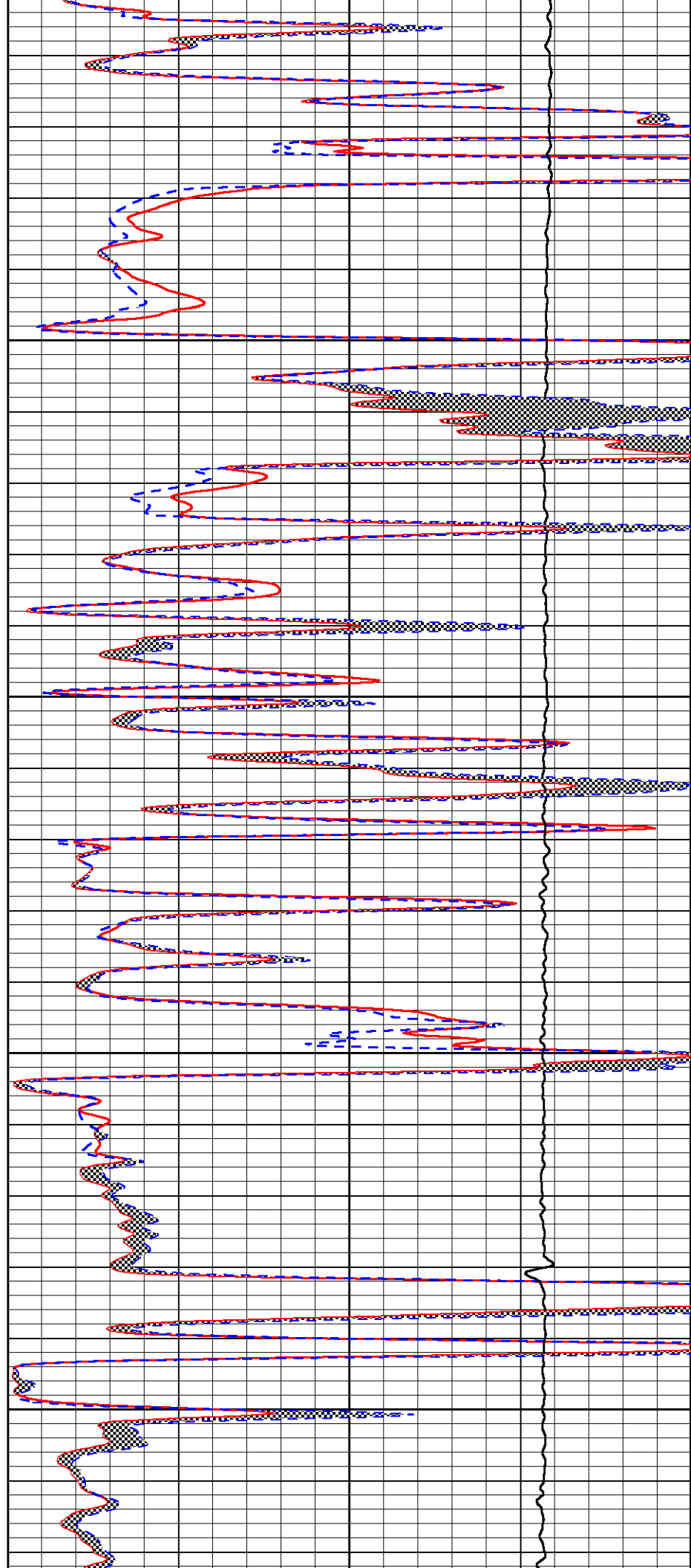


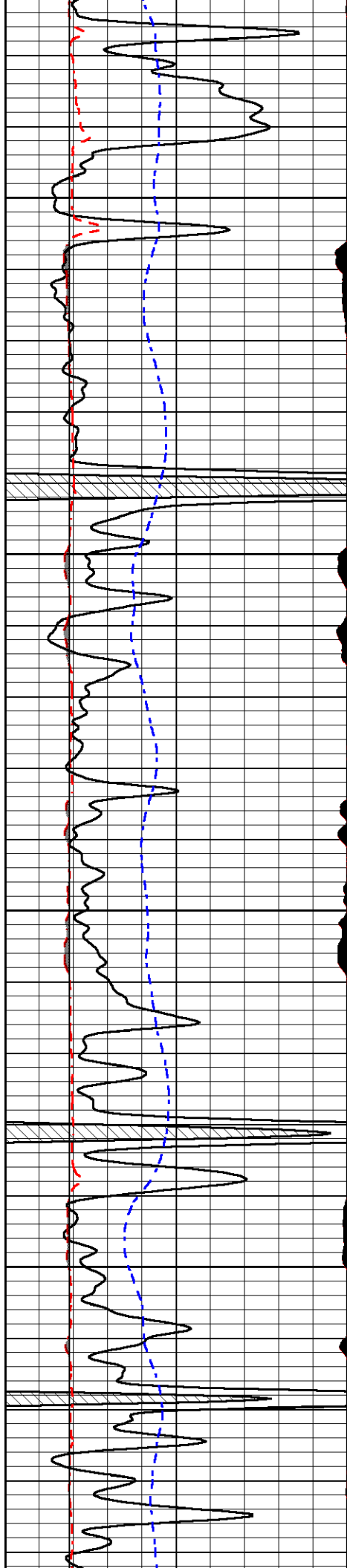
3900

3950

4000

4050



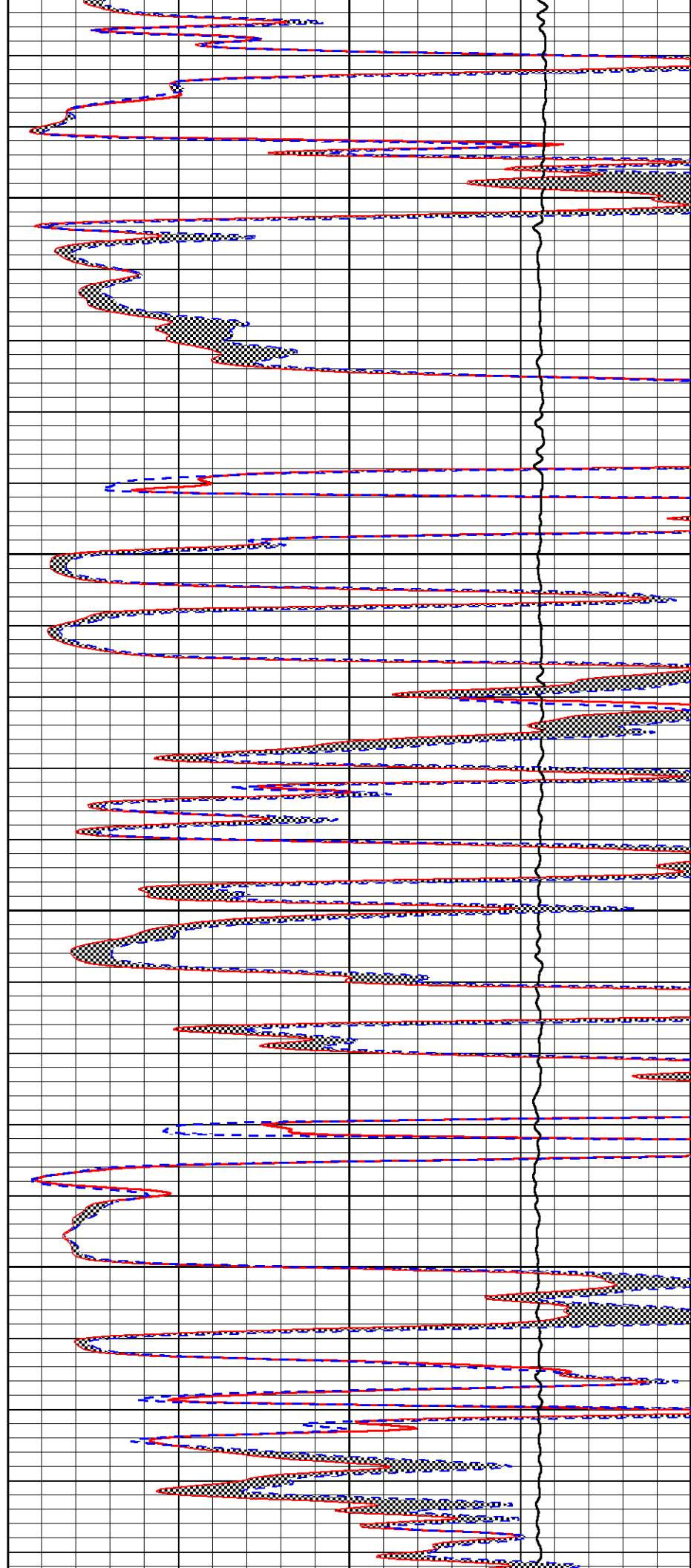


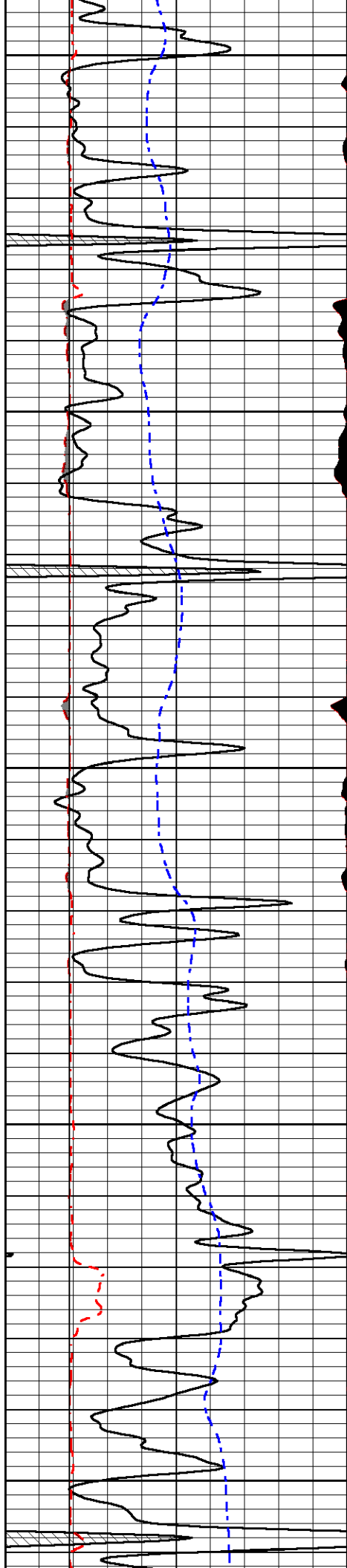
4100

4150

4200

4250





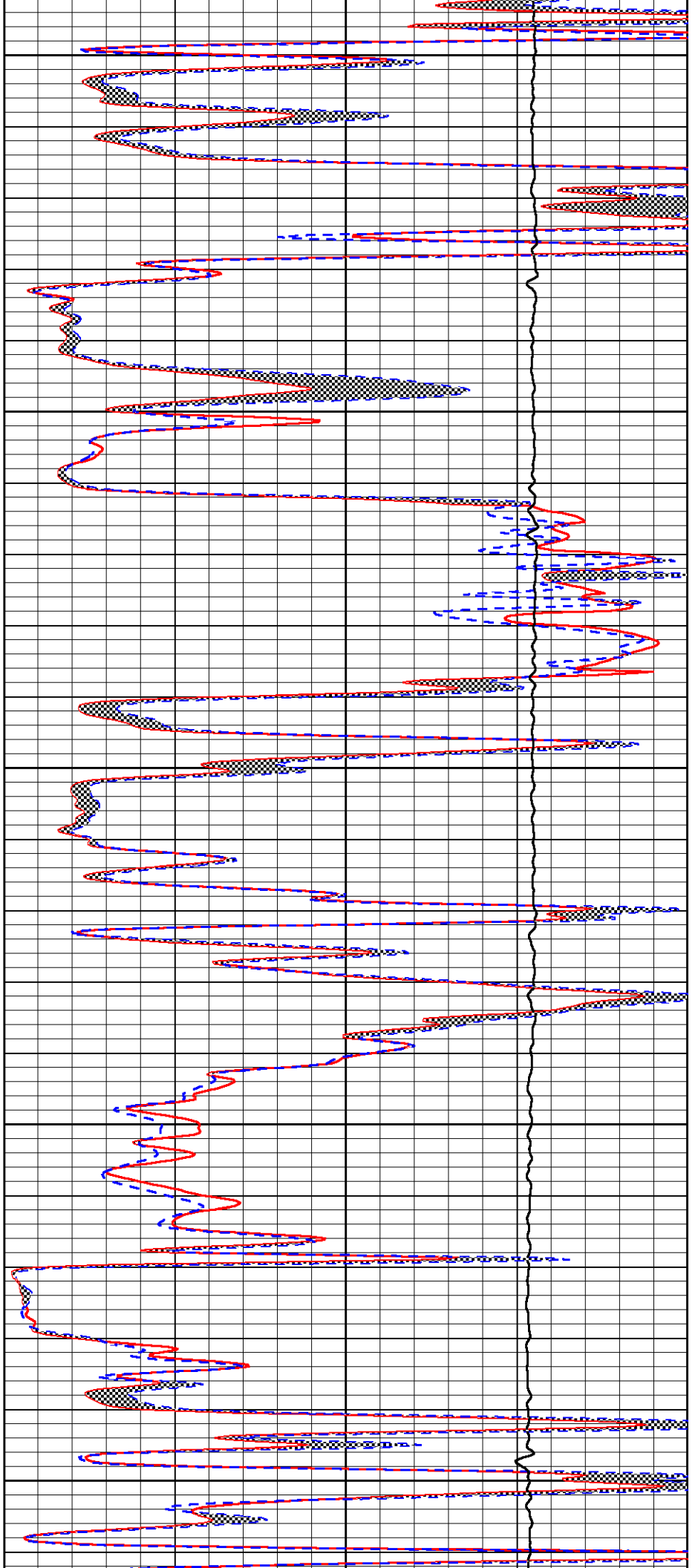
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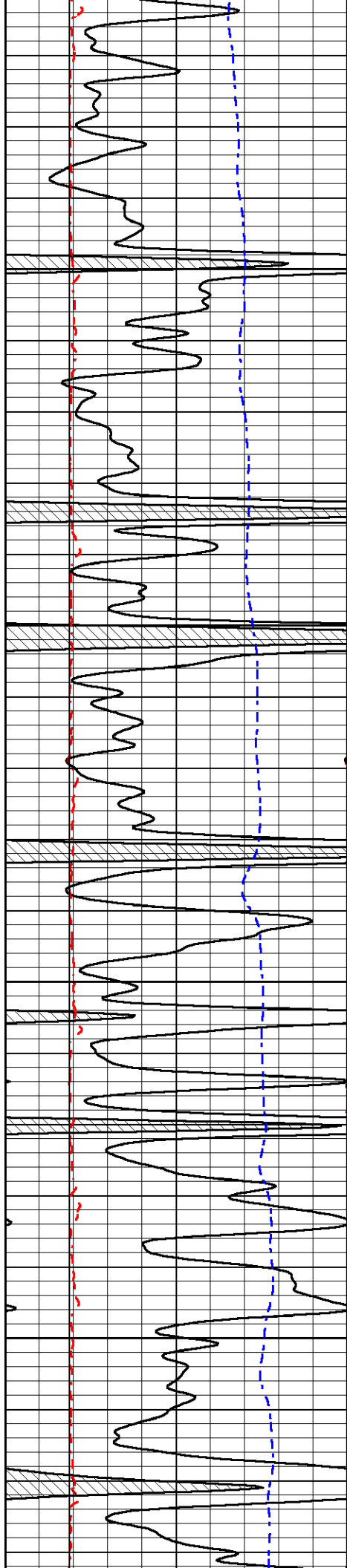
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4400

4450

4500



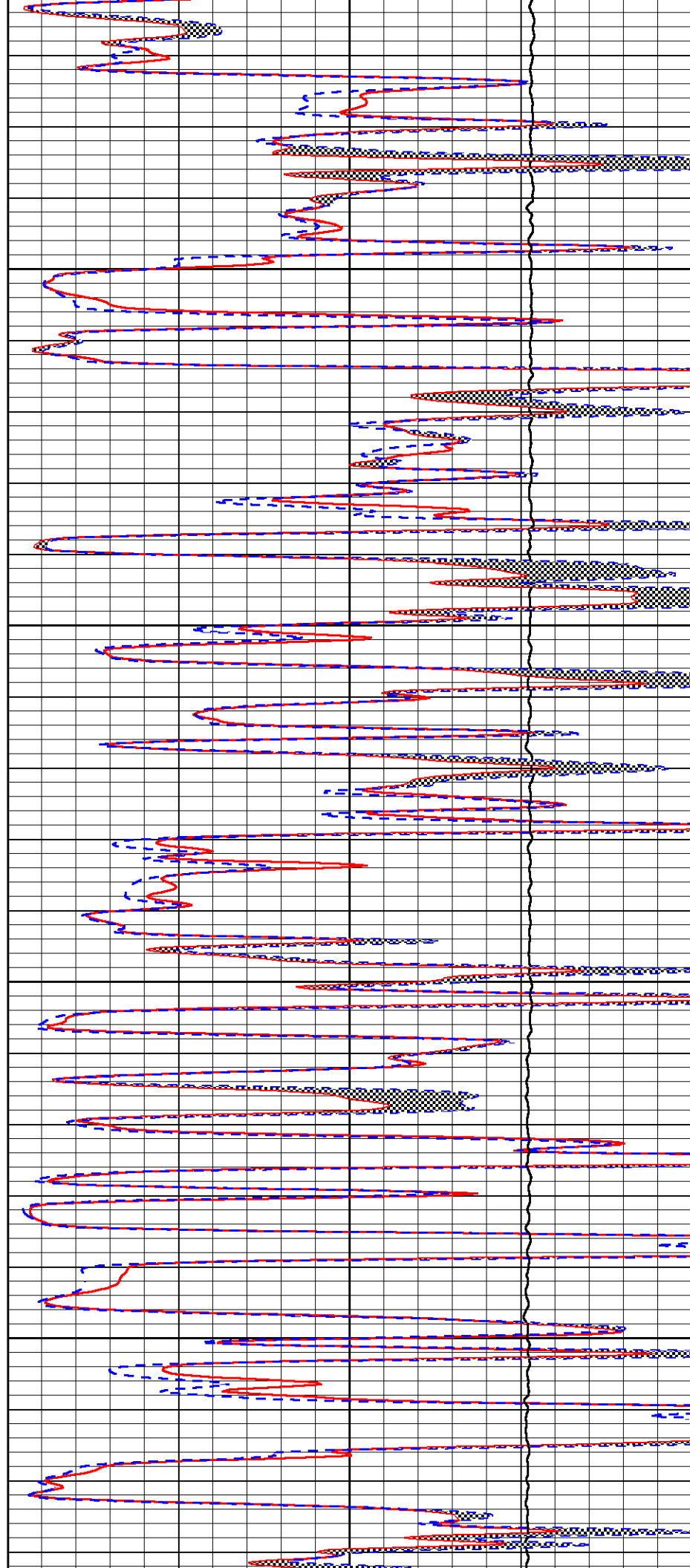


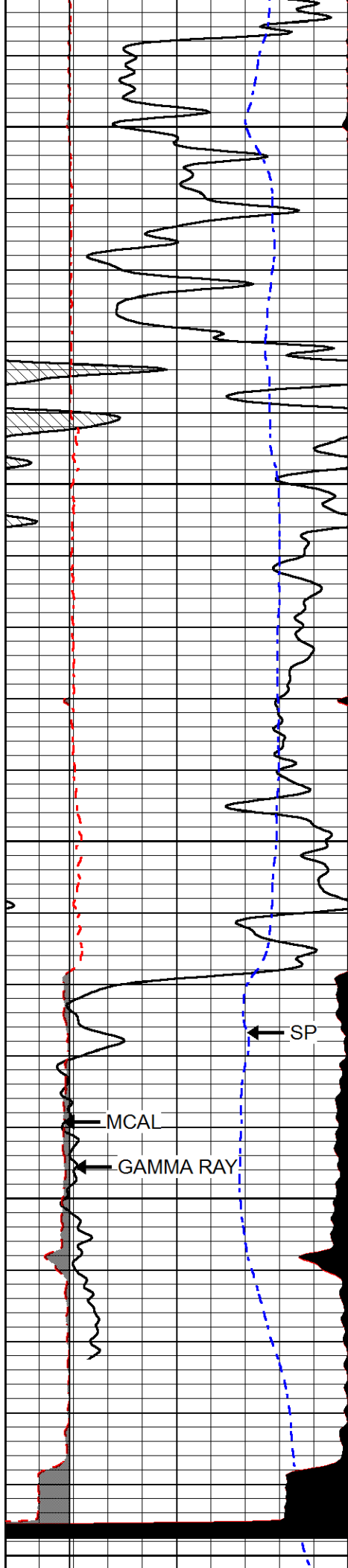
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4600

4650

4700





4750

4800

4850

4900

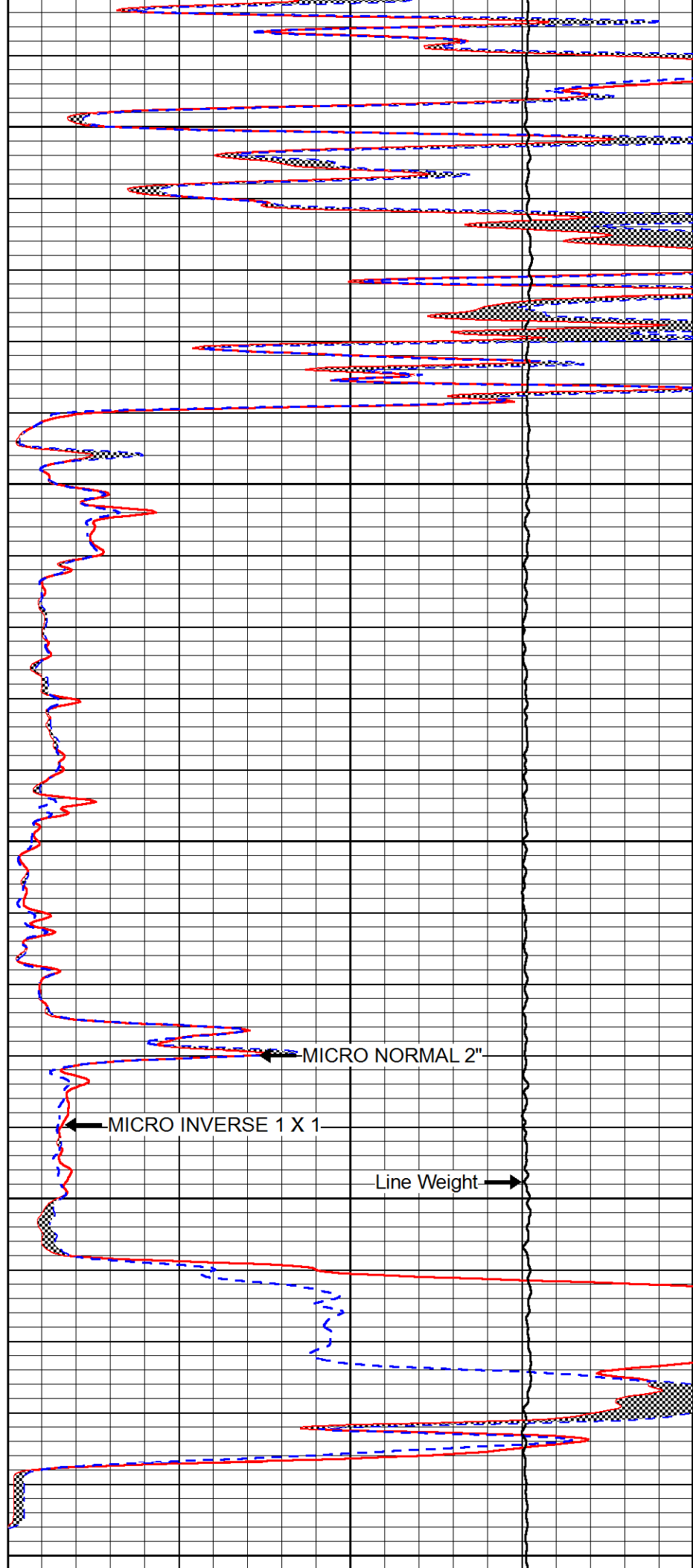
4950

mcal

SP

MCAL

GAMMA RAY



MICRO NORMAL 2"

MICRO INVERSE 1 X 1

Line Weight

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

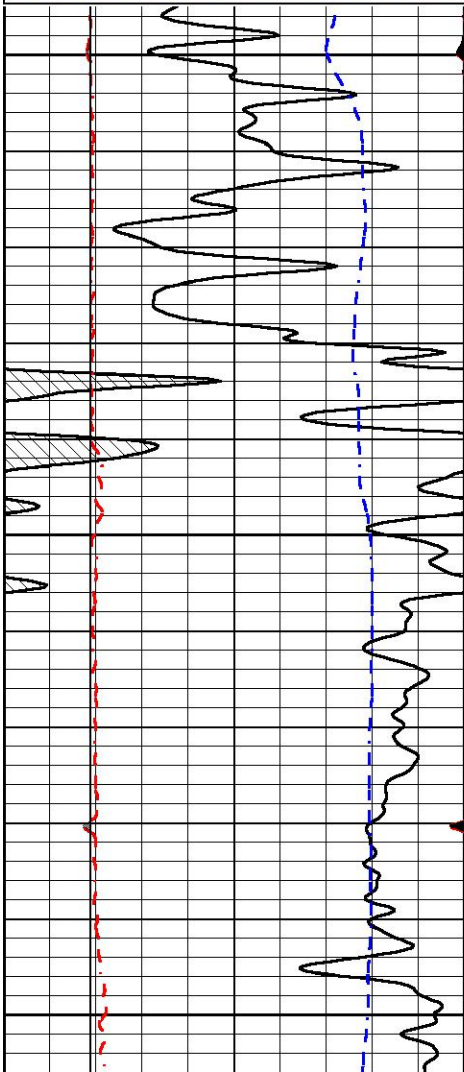


REPEAT SECTION

Database File ritchi_exploration_whitham-smith_trust_1.db
 Dataset Pathname stackmel/pass2.1
 Presentation Format micro
 Dataset Creation Fri Sep 07 21:25:38 2018
 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

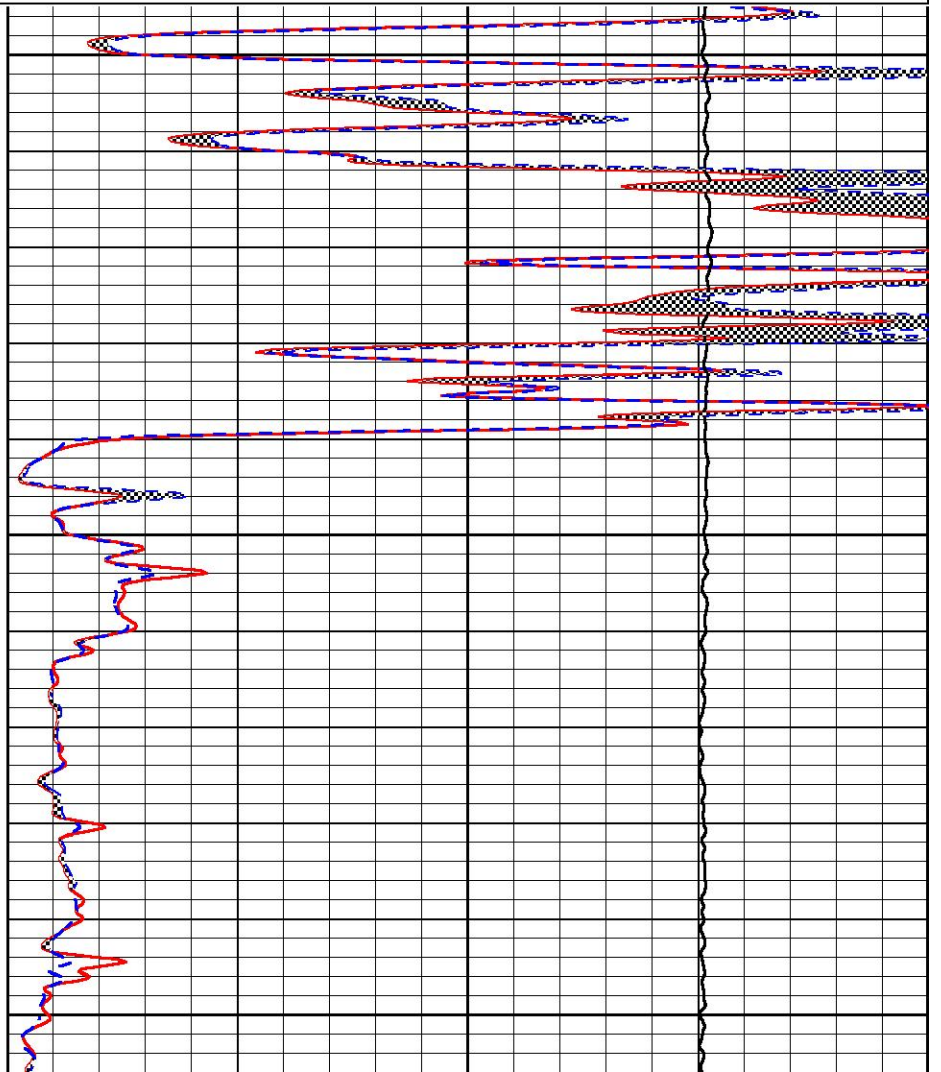
0	MICRO INVERSE 1 X 1 (Ohm-m)	40
0	MICRO NORMAL 2" (Ohm-m)	40
10000	Line Weight (lb)	0

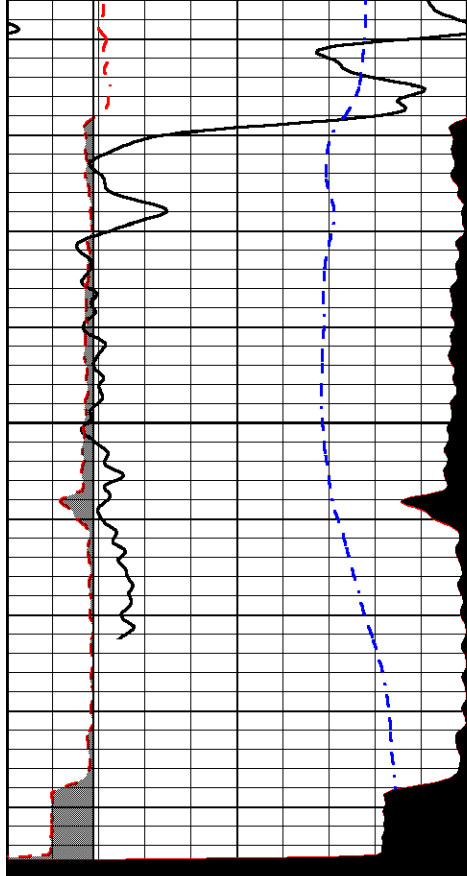


4750

4800

4850

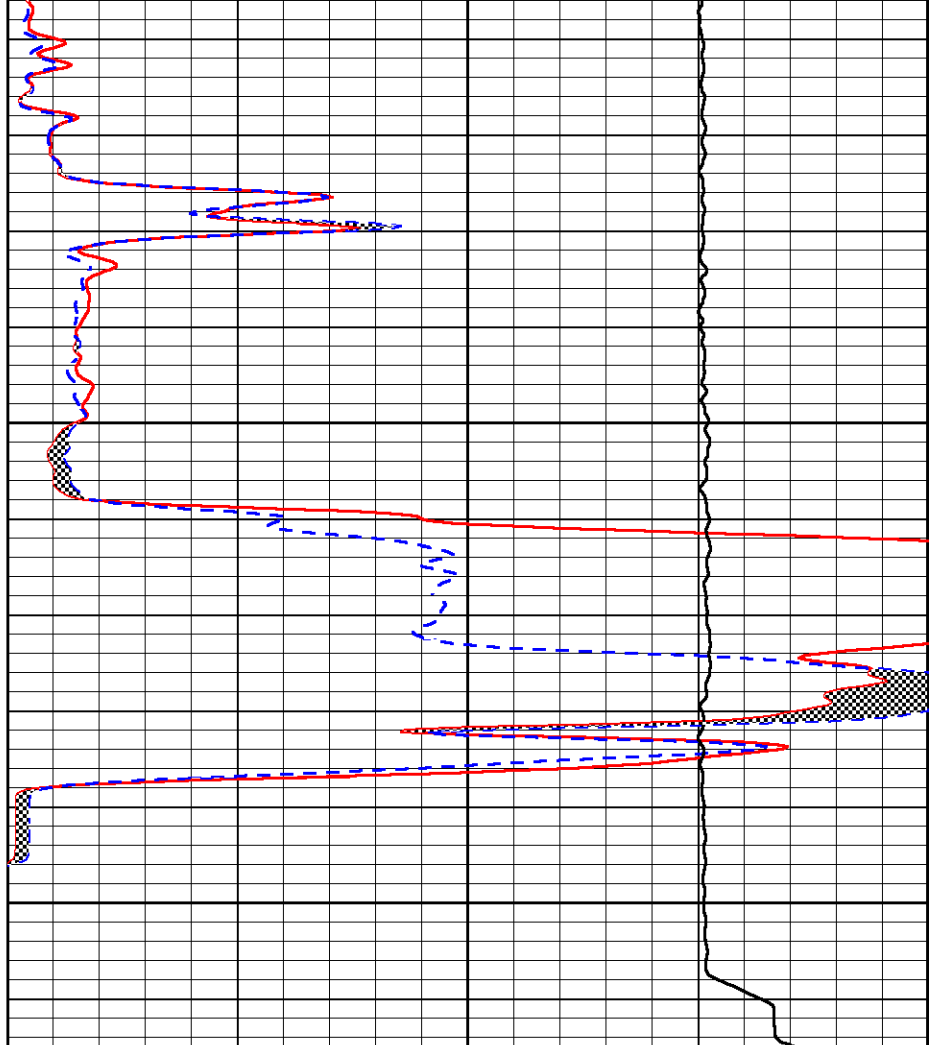




4900

4950

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 ritchi_exploration_whitham-smith_trust_1.db
 Dataset Pathname stackmel/pass3.1
 Dataset Creation Fri Sep 07 21:21:32 2018

Dual Induction Calibration Report

Serial-Model: 967 (HT)-PSI HIGH TEMP
 Calibration Performed: Sun Aug 26 00:41:13 2018

Loop:	Readings		References			Results	
	Air	Loop	Air	Loop		Gain	Offset
Deep	167.000	835.000	0.000	255.800	mmho/m	0.565	-20.000
Medium	0.000	1348.000	142.000	255.800	mmho/m	0.390	-40.000

Microlog Calibration Report

Serial-Model: PSI-01-PSIML
 Performed: Thu Aug 30 10:35:41 2018

	Readings		References			Results	
	Zero	Cal	Zero	Cal		m	b
Normal	0.0000	1.0000	0.0000	1.0000	Ohm-m	23000.0000	-0.8000
Inverse	0.0000	1.0000	0.0000	1.0000	Ohm-m	31000.0000	-0.6000
Caliper	1.0001	1.1397	6.5000	18.5000	in	70.0000	-65.9500

Compensated Density Calibration Report

Serial-Model: 144-84-M&W
Source / Verifier: 16955B / 2ci
Master Calibration Performed: Thu Aug 30 10:10:19 2018

Master Calibration

	Density		Far Detector	Near Detector	
Magnesium	1.755	g/cc	4867.47	6031.92	cps
Aluminum	2.650	g/cc	906.23	3806.99	cps
Spine Angle = 74.69			Density/Spine Ratio = 0.514		
	Size		Reading		
Small Ring	5.00	in	1.09		
Large Ring	15.00	in	1.03		

Compensated Neutron Calibration Report

Serial Number: 207-MW
Tool Model: M&W
Calibration Performed: FRI AUG 24 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: Fri Aug 24 11:16:10 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	RITCHIE EXPLORATION INC.
	Well	WHITHAM-SMITH TRUST #1
	Field	WILDCAT
	County	WICHITA
	State	KANSAS