



MICRORESISTIVITY LOG

PIONEER
Pioneer Energy Services

Company DAYSTAR PETROLEUM, INC.

Well GRAVES #3

Field DAMME

County FINNEY

State KANSAS

Location: API #: 15-055-22521-00-00

675' FNL & 1251' FEL

SEC 16 TWP 22S RGE 33W

Permanent Datum GROUND LEVEL Elevation 2871'
Log Measured From KELLY BUSHING
Drilling Measured From KELLY BUSHING

Other Services
CNL/CDL
DIL
Elevation
K.B. 2882'
D.F. N/A
G.L. 2871'

Date

8/8/2019

Run Number

ONE

Depth Driller

4800'

Depth Logger

4799'

Bottom Logged Interval

4798'

Top Log Interval

2800'

Casing Driller

8.625" @ 394'

Casing Logger

392'

Bit Size

7.875"

Type Fluid in Hole

CHEMICAL

Salinity, ppm CL

2900

Density / Viscosity

9.1 60

pH / Fluid Loss

9.0 10.0

Source of Sample

FLOWLINE

Rm @ Meas. Temp

.90 @ 74

Rmt @ Meas. Temp

.68 @ 74

Rmc @ Meas. Temp

1.22 @ 74

Source of Rmt / Rmc

CHARTS

Rm @ BHT

.54 @ 124

Operating Rig Time

2 HOURS

Max Rec. Temp. F

124 DEGF

Equipment Number

P-108

Location

HAYS

Recorded By

J. HENRICKSON

Witnessed By

JON CHRISTENSEN

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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.

GARDEN CITY KANSAS
NORTH TO BARLOW ROAD, 3 WEST TO TANK BATTERY,
3/4 NORTH, 1/4 WEST, NORTH INTO

Log Measured From: KELLY BUSHING 11 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: JON CHRISTENSEN
Secondary Witness:
Secondary Witness:
Secondary Witness:

Top - Bottom

A	BOREID	BOTTEMP	CASEOD	CASETHCK	FLUIDDEN	M	MATRXDEN
1	in 7.875	degF 124	in 5.5	in 0	g/cc 1	2	g/cc 2.71
NPORSEL	PERFS	SNDERR	SNDERRM	SPSHIFT	SRFTEMP	SZCOR	TDEPTH
Limestone	0	mmho/m 0	mmho/m 0	mV 110	degF 78	Off	ft 4799

Sensor	Offset (ft)	Schematic		Description	Length (ft)	O.D. (in)	Weight (lb)
GR	44.50			GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC	41.40			CNT-M&W (tk10-MW)	5.50	3.50	100.00
CNSSC	40.65						
LSD	32.35			CDL-M&W (979-229)	8.50	4.00	250.00
DCAL	32.33			ML-PSI UDM ML (UDM-01)	11.50	4.00	215.00
SSD	31.85			Stackable Microlog Tools			
MCAL	20.87						
MI	20.87						
MN	20.87						
RLL3	15.80						
RLL3F	15.79						
CILD	8.00			DIL-M&W (PSI 988)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: daystar_graves_3.db: field/well/stackml/pass3.1
Total length: 47.00 ft
Total weight: 835.00 lb
O.D.: 4.00 in

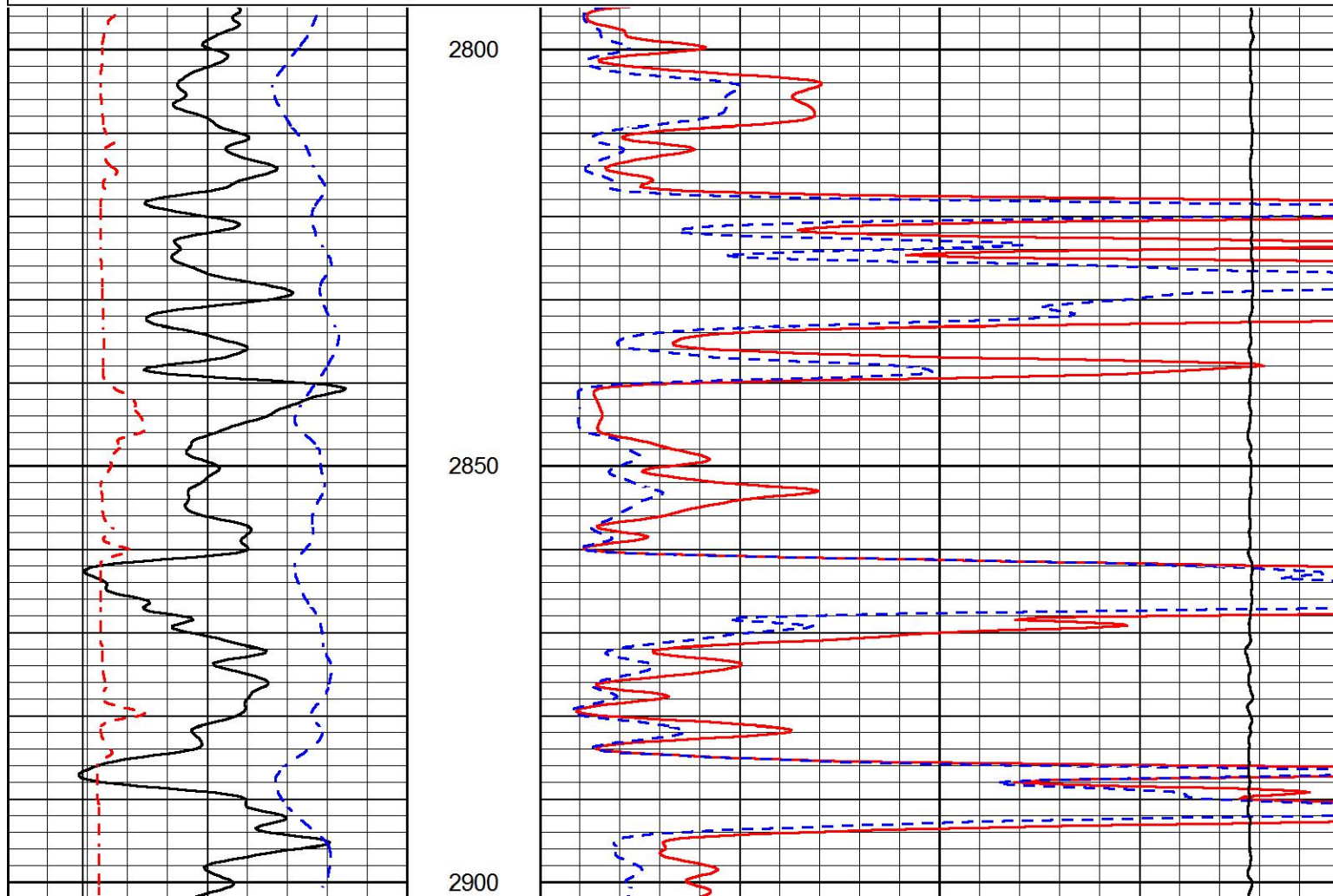


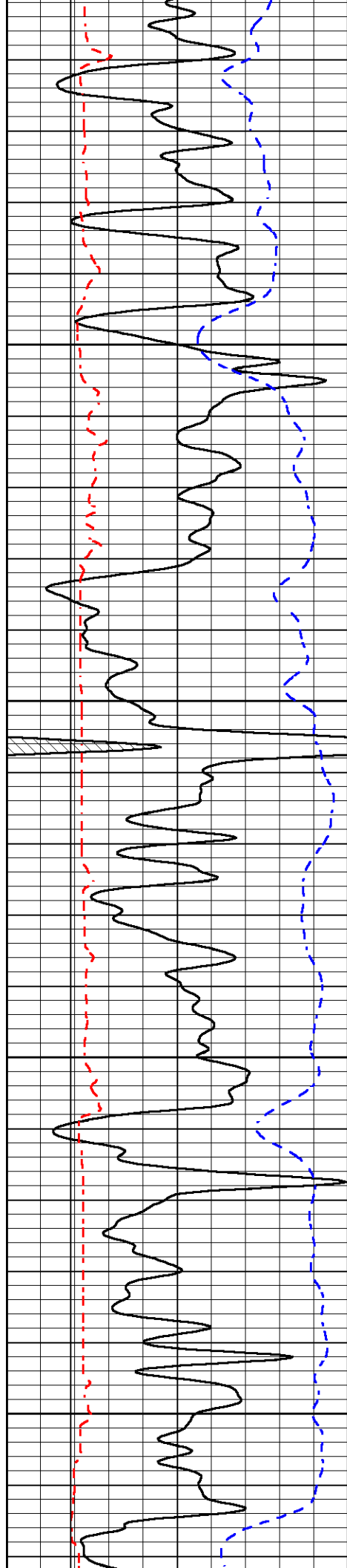
MAIN PASS

Database File daystar_graves_3.db
Dataset Pathname stackml/pass3.1
Presentation Format micro
Dataset Creation Thu Aug 08 11:11:03 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

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



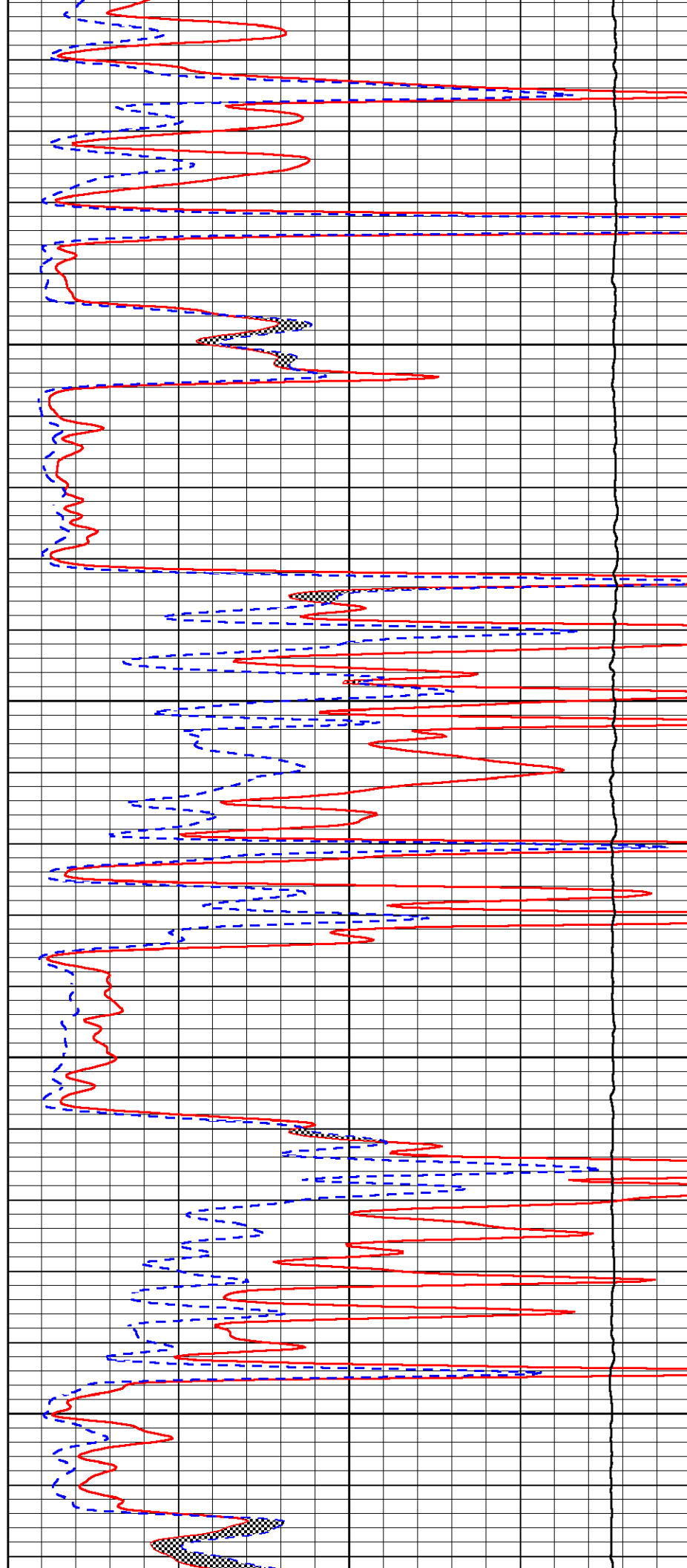


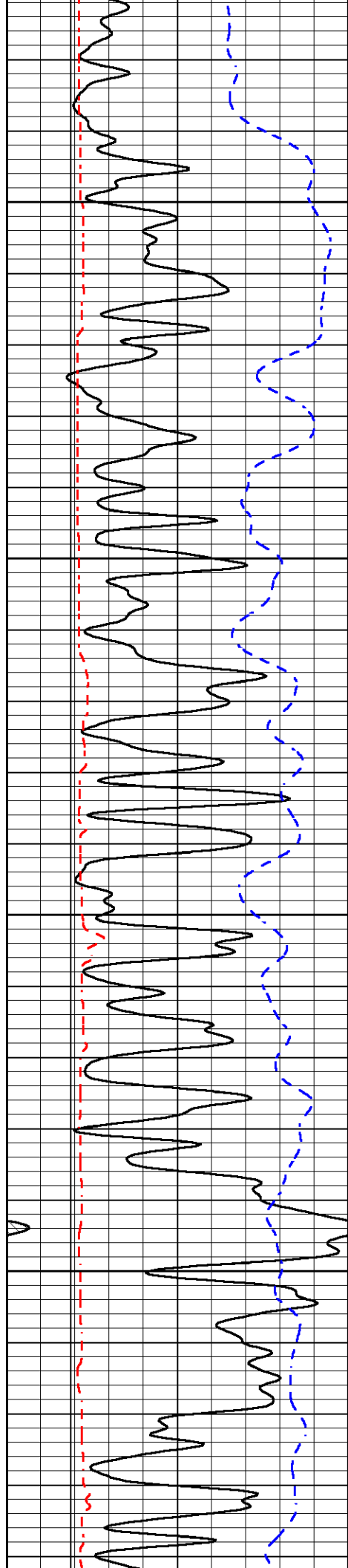
2950

3000

3050

3100



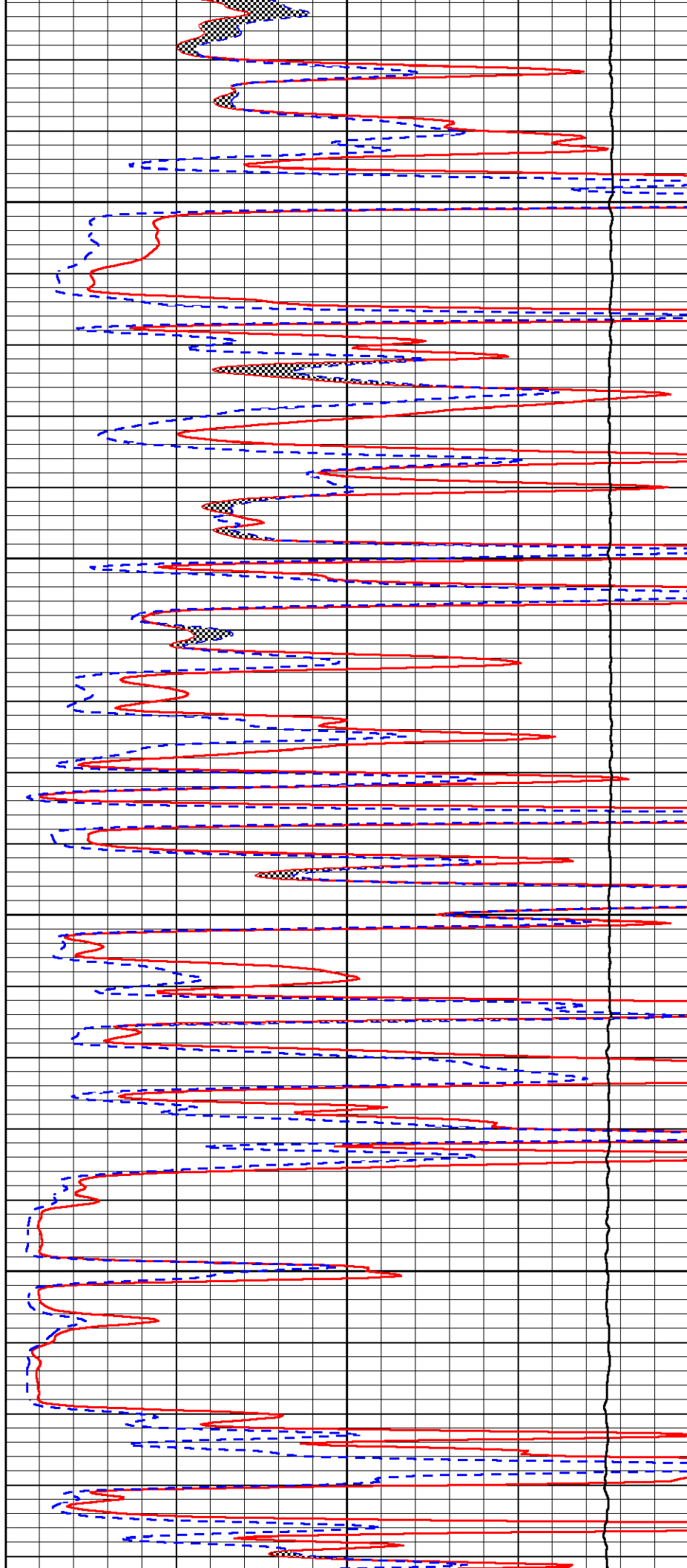


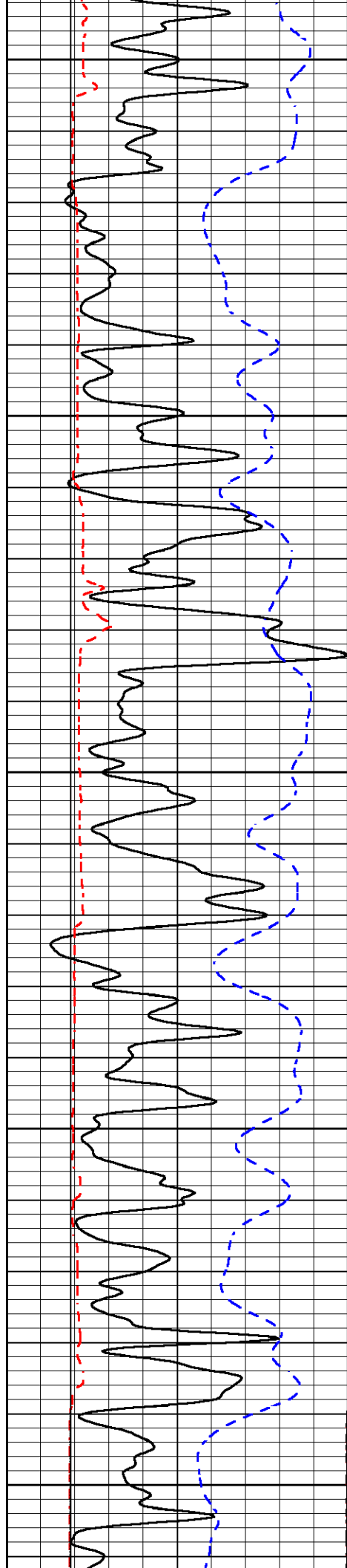
3150

3200

3250

3300





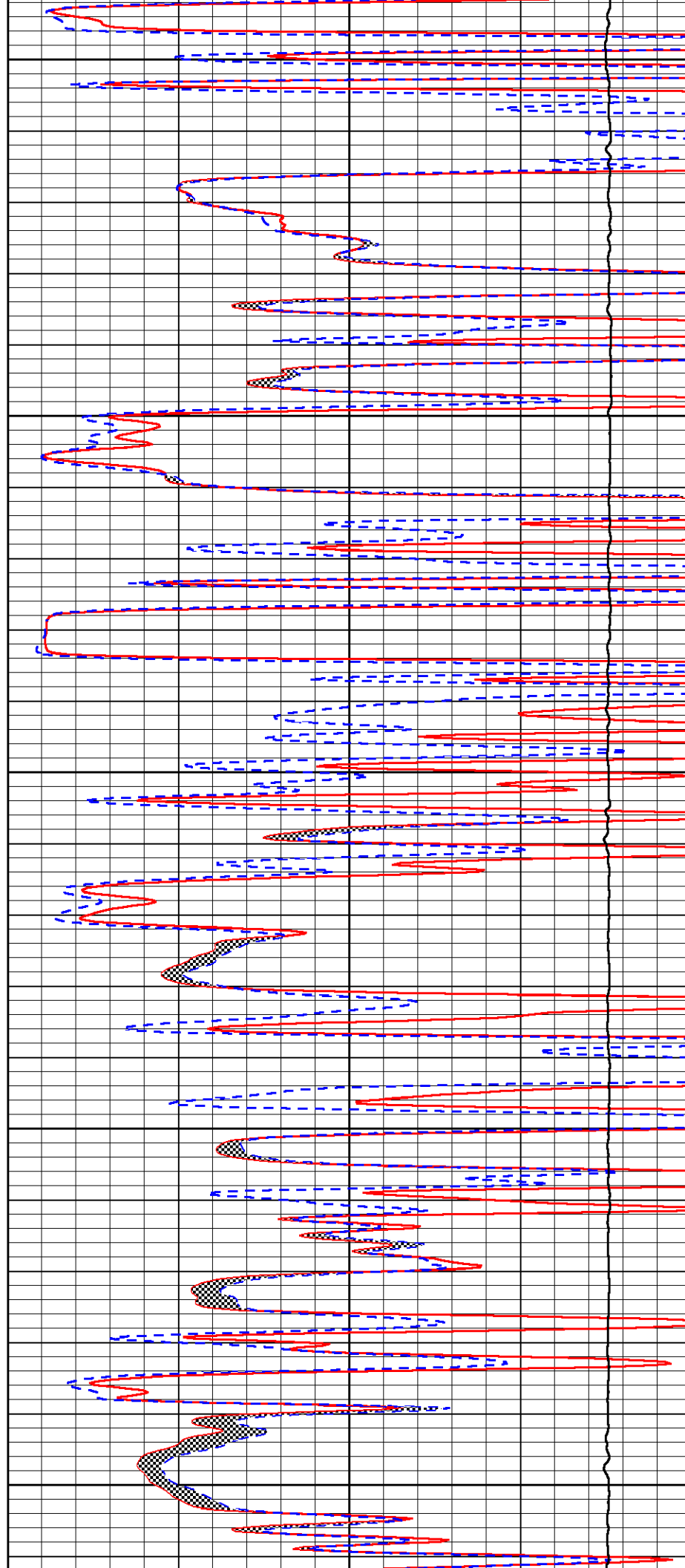
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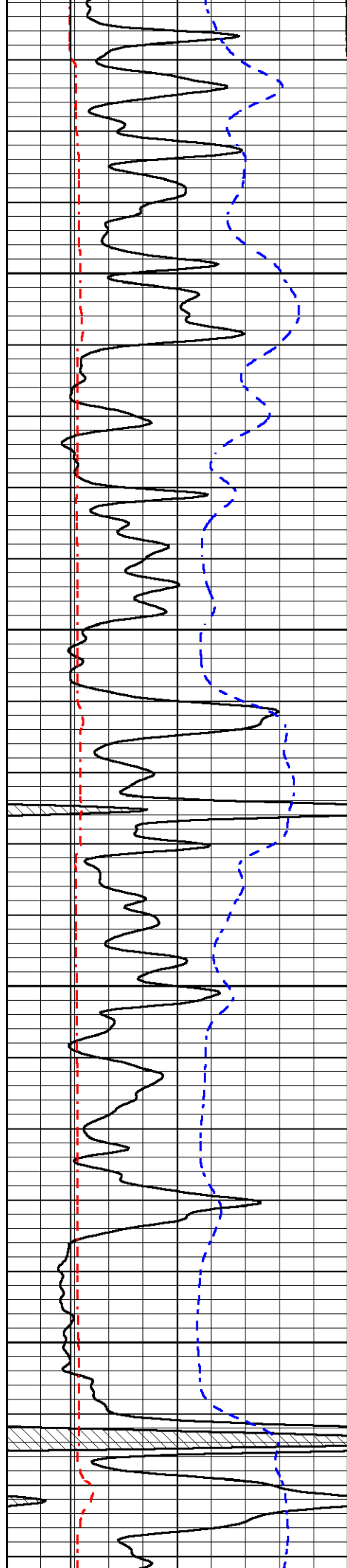
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3450

3500

3550



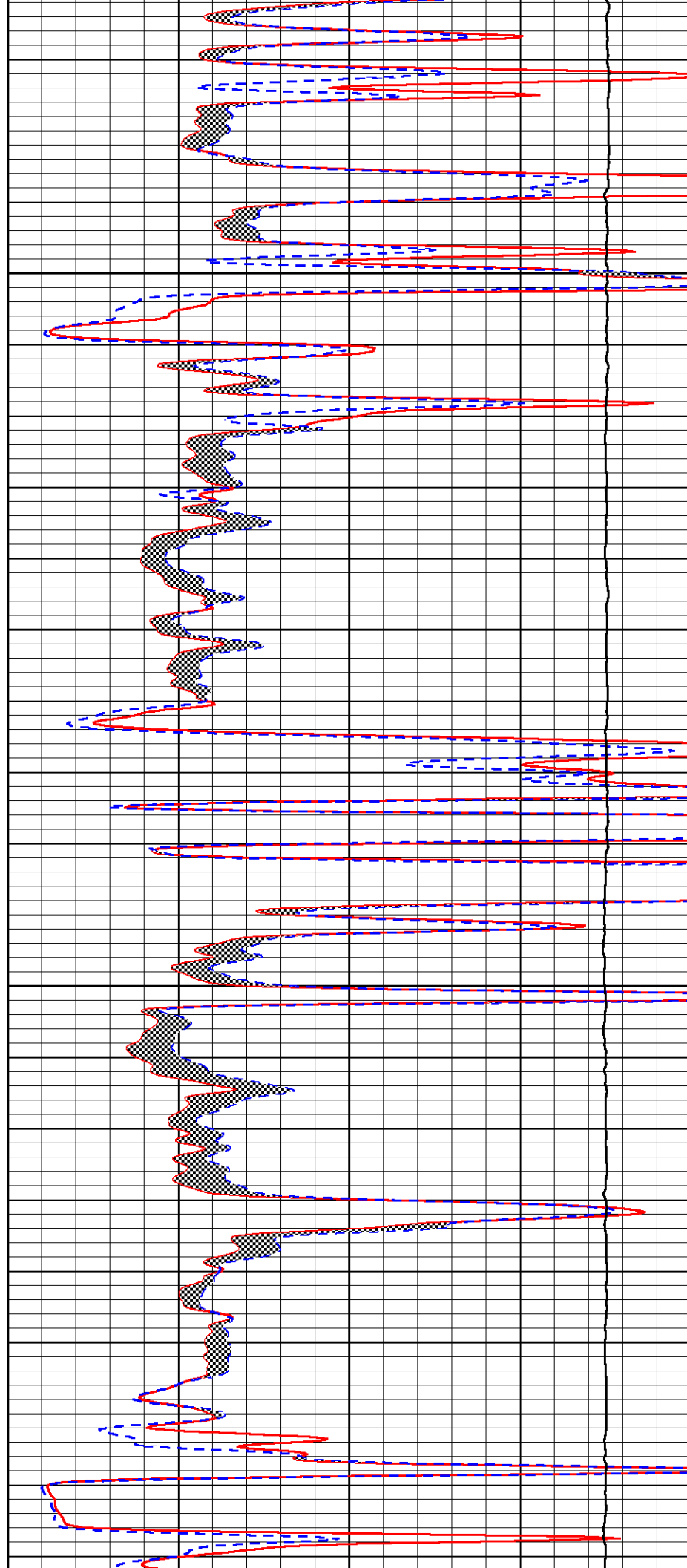


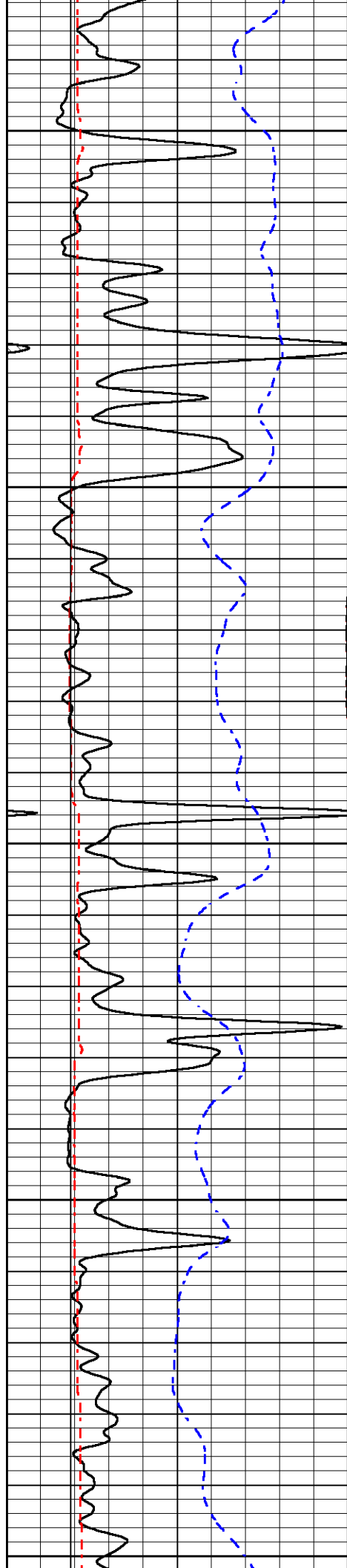
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3650

3700

3750





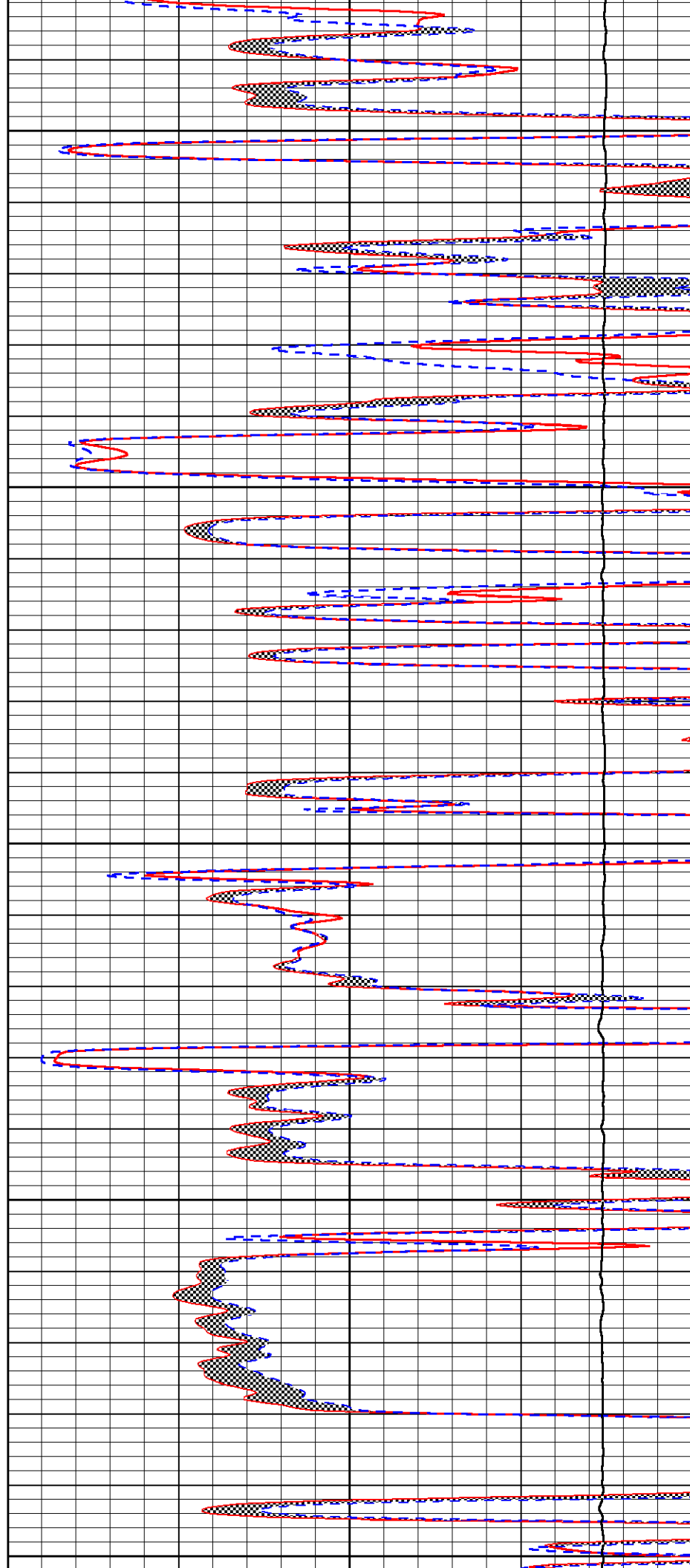
3800

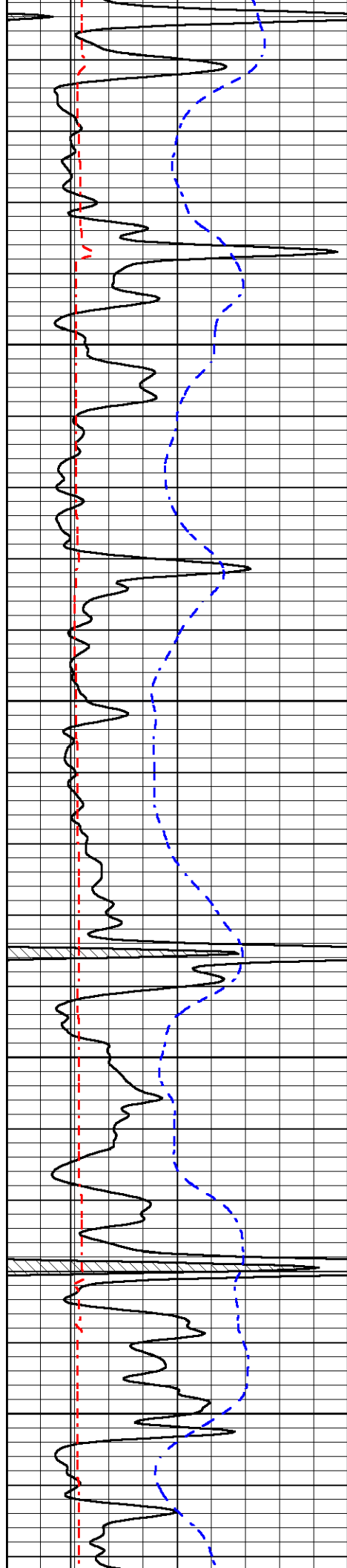
3850

3900

3950

4000



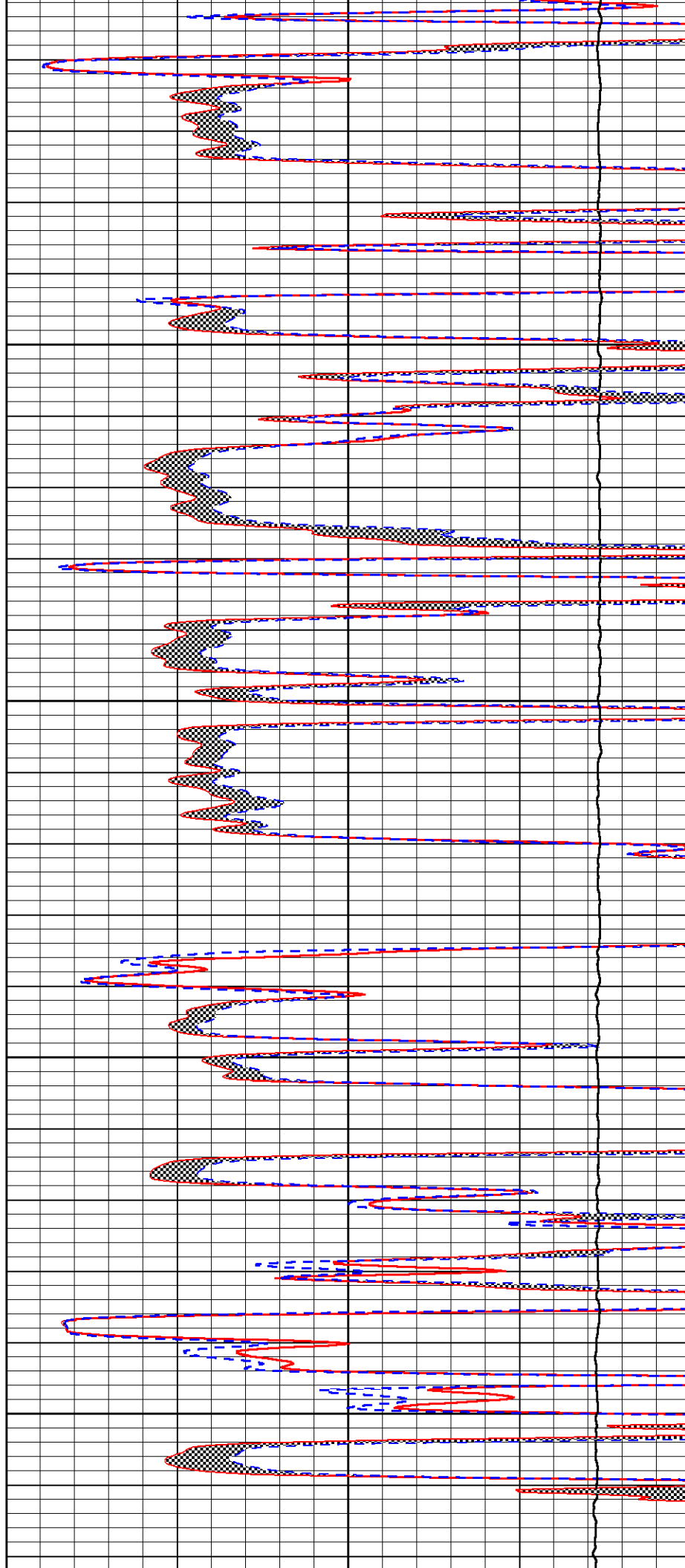


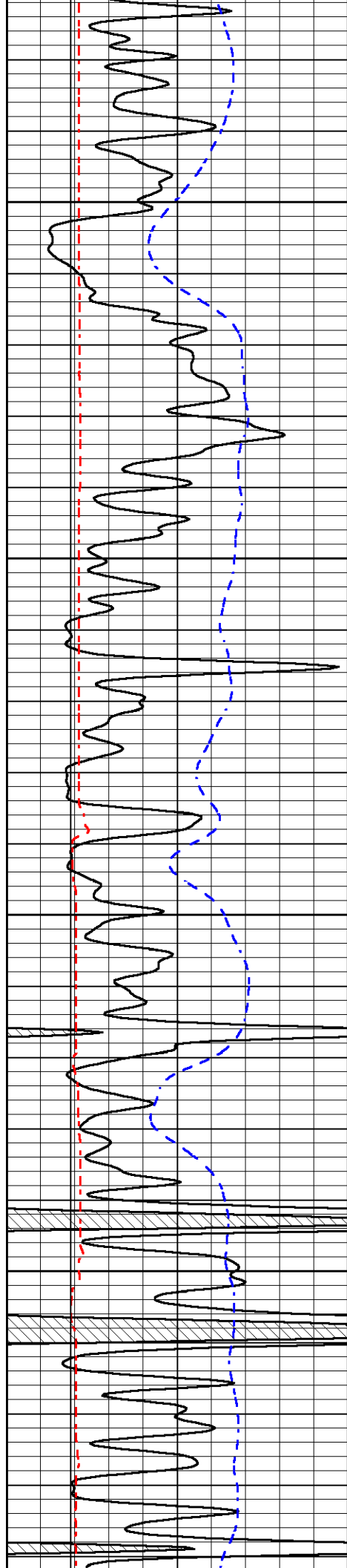
4050

4100

4150

4200



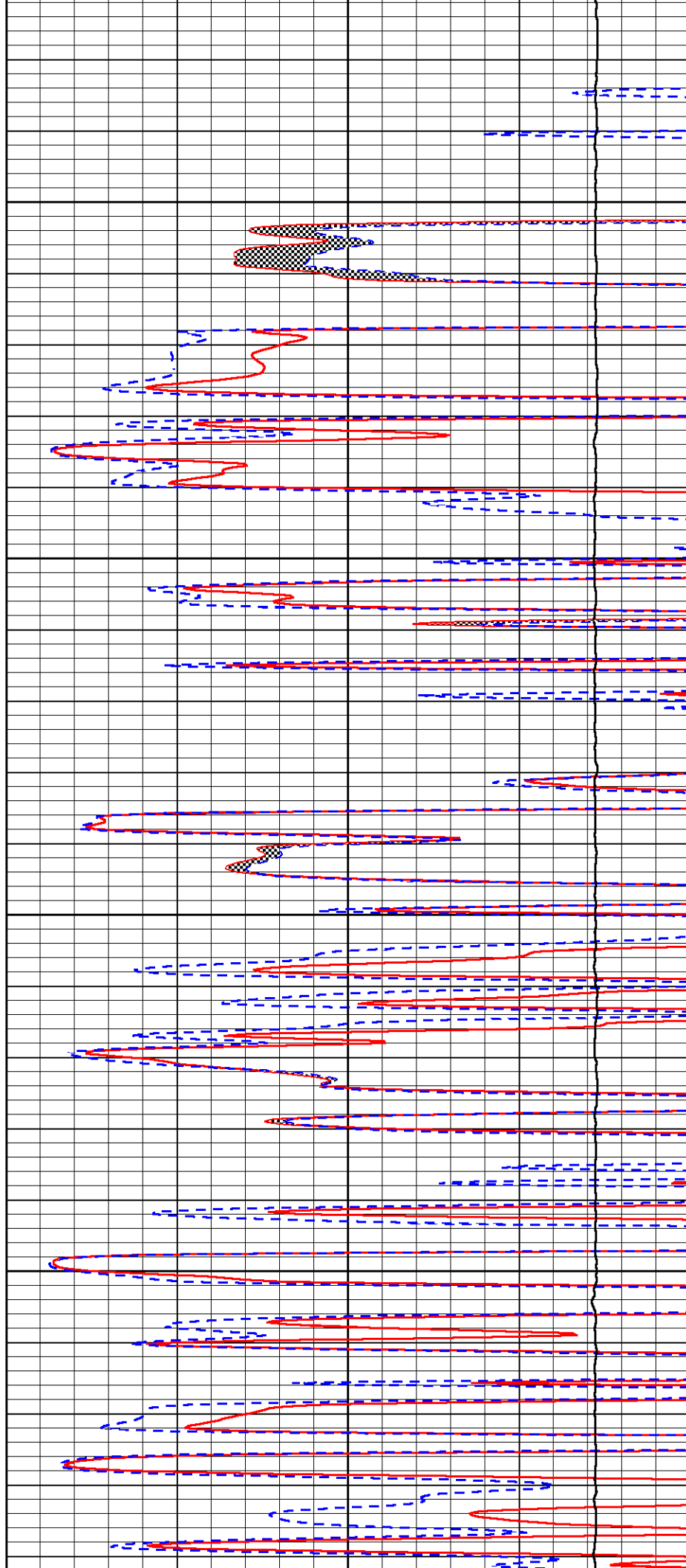


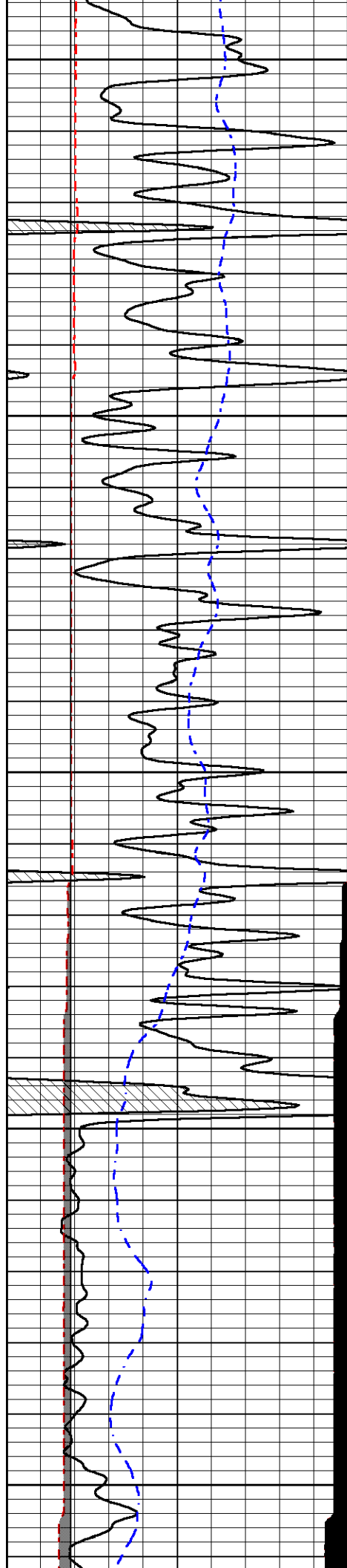
4250

4300

4350

4400





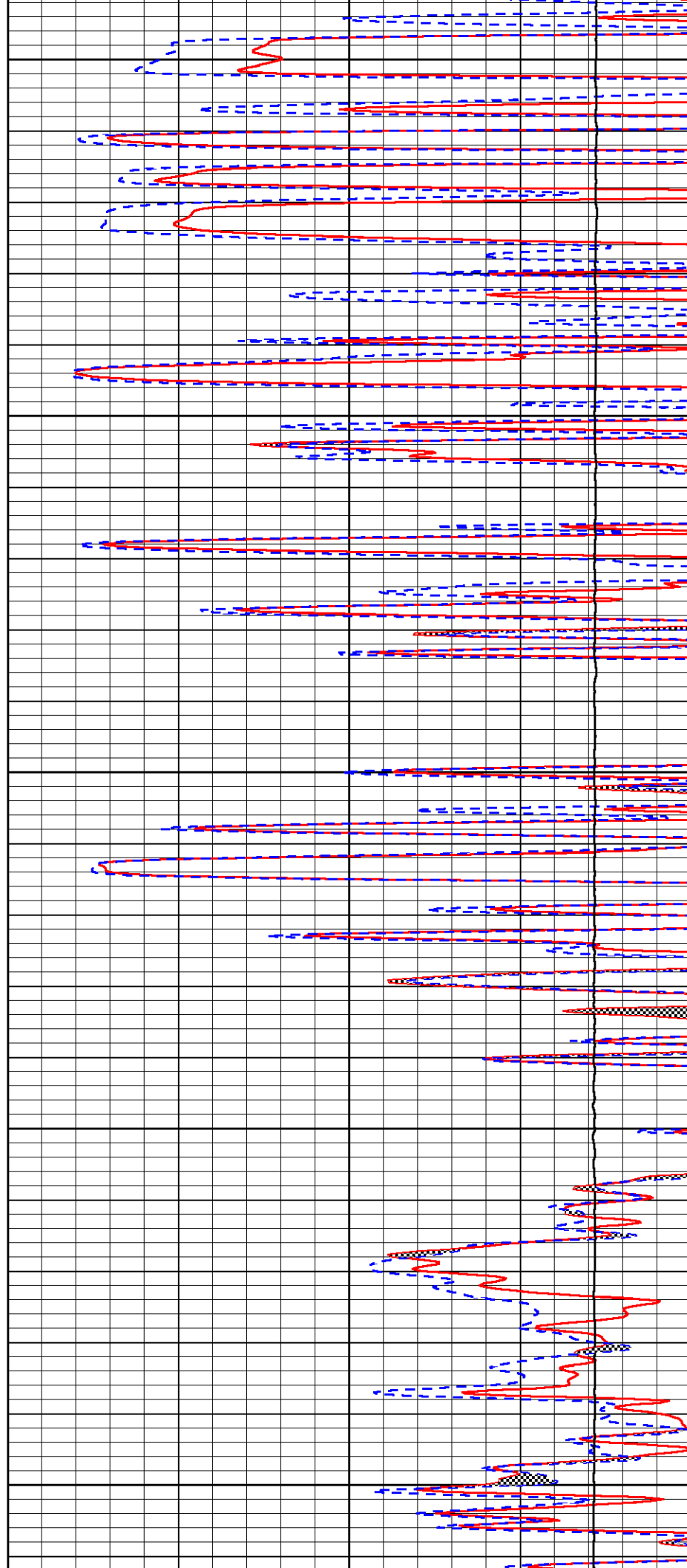
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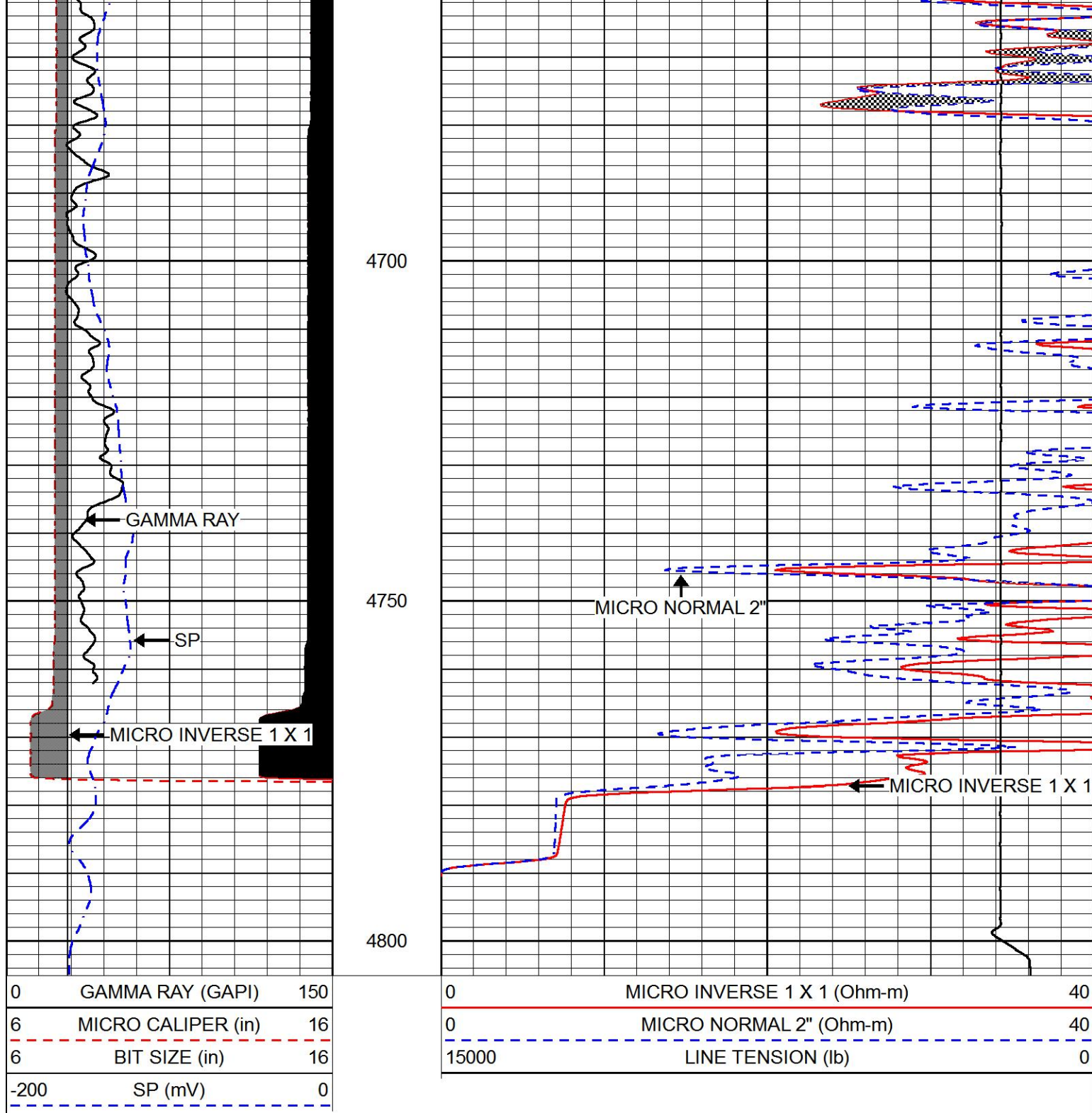
4500

4550

4600

4650







PIONEER
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REPEAT SECTION

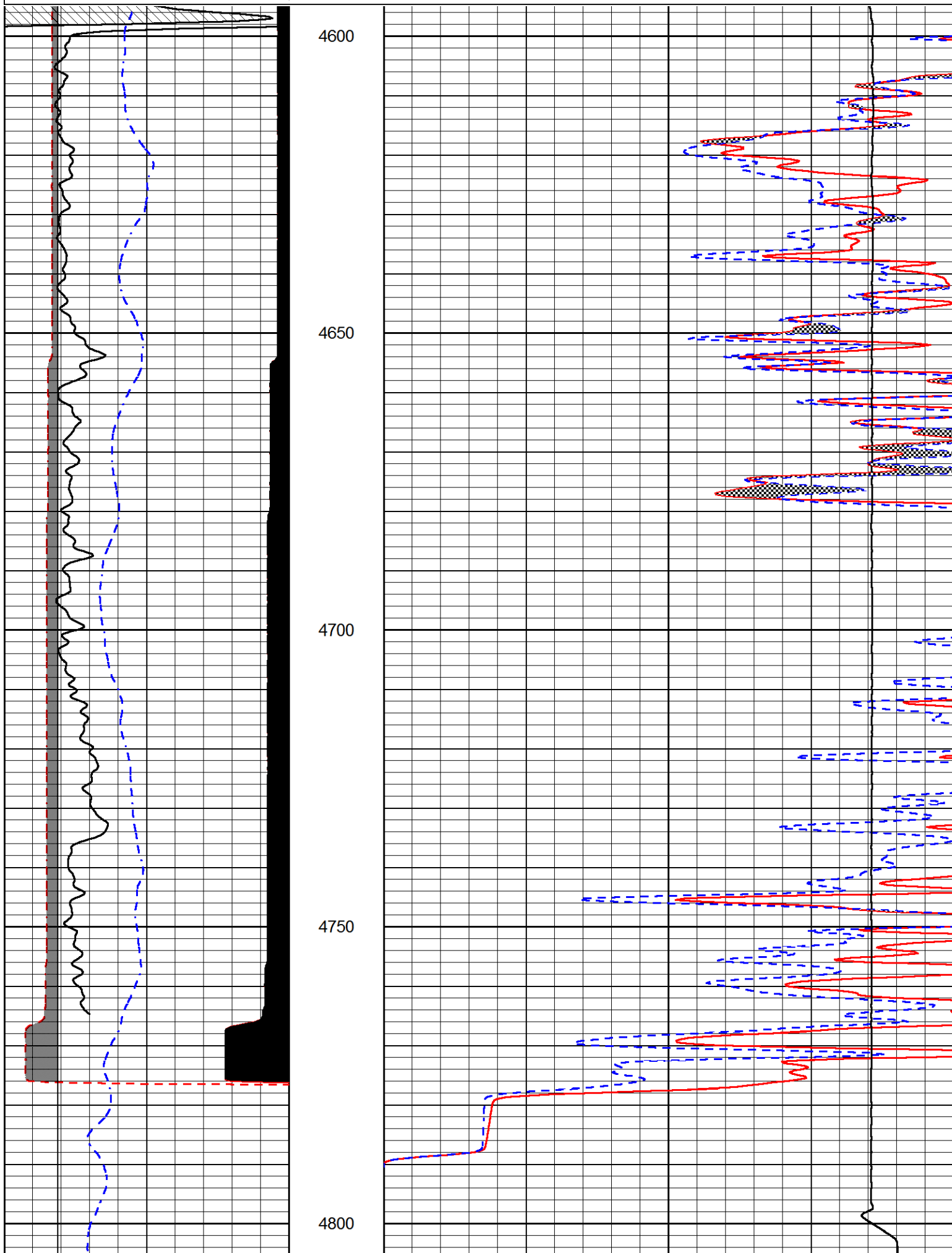
Database File		daystar_graves_3.db	
Dataset Pathname		stackml/pass2.1	
Presentation Format		micro	
Dataset Creation		Thu Aug 08 10:02:31 2019	
Charted by		Depth in Feet scaled 1:240	

0	GAMMA RAY (GAPI)	150
6	MICRO CALIPER (in)	16
6	BIT SIZE (in)	16
-200	SP (mV)	0

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

6 BIT SIZE (in) 16
-200 SP (mV) 0

15000 LINE TENSION (lb) 0



0	GAMMA RAY (GAPI)	150	0	MICRO INVERSE 1 X 1 (Ohm-m)	40
6	MICRO CALIPER (in)	16	0	MICRO NORMAL 2" (Ohm-m)	40
6	BIT SIZE (in)	16	15000	LINE TENSION (lb)	0
-200	SP (mV)	0			

Calibration Report									
Database File		daystar_graves_3.db							
Dataset Pathname		stackml/pass3.1							
Dataset Creation		Thu Aug 08 11:11:03 2019							
Dual Induction Calibration Report									
Serial-Model:				PSI 988-M&W					
Calibration Performed:				Tue Nov 20 10:50:19 2018					
		Readings		References			Results		
Loop:	Air	Loop		Air	Loop		Gain	Offset	
Deep	178.615	710.235		0.000	255.800	mmho/m	0.525	-44.000	
Medium	161.982	1441.110		0.000	255.800	mmho/m	0.360	-17.000	
Microlog Calibration Report									
Serial-Model:				UDM-01-PSI UDM ML					
Performed:				Fri May 31 06:10:42 2019					
		Readings		References			Results		
	Zero	Cal		Zero	Cal		m	b	
Normal	0.0000	1.0000		0.0000	1.0000	Ohm-m	20000.0000	0.0000	
Inverse	0.0000	1.0000		0.0000	1.0000	Ohm-m	20000.0000	0.0000	
Caliper	1.3170	1.1585		8.0000	22.0000	in	-88.3214	124.3180	
Compensated Density Calibration Report									
Serial-Model:				979-229-M&W					
Source / Verifier:				21170B /					
Master Calibration Performed:				Tue Jul 23 10:17:03 2019					
Master Calibration									
		Density		Far Detector		Near Detector			
Magnesium		1.755	g/cc		7680.82		9959.08	cps	
Aluminum		2.690	g/cc		1424.07		6427.19	cps	
Spine Angle = 75.43				Density/Spine Ratio = 0.537					
		Size		Reading					
Small Ring		4.00	in		1.15				
Large Ring		16.00	in		1.03				
Compensated Neutron Calibration Report									
Serial Number:				tk10-MW					
Tool Model:				M&W					

Tool Model: M&W
Calibration Performed: Wed Nov 16 11:21:36 2016

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-M&W
Tool Model:	M&W
Calibration Performed:	Tue Apr 11 17:08:01 2017
Calibrator Value:	1000.0 GAPI
Background Reading:	0.0 cps
Calibrator Reading:	6.2 cps
Sensitivity:	0.5200 GAPI/cps



Company	DAYSTAR PETROLEUM, INC.
Well	GRAVES #3
Field	DAMME
County	FINNEY
State	KANSAS