



MICRORESISTIVITY LOG

Company AMERICAN PATRIOT OIL, LLC
 Well APO #18 WALLER LOWRY #1
 Field WILDCAT
 County ROOKS State KANSAS

Location: API #: 15-163-24312-00-00
 1,670' FNL & 931' FWL
 SEC 31 TWP 8S RGE 19W
 Permanent Datum GROUND LEVEL Elevation 2040'
 Log Measured From KELLY BUSHING
 Drilling Measured From KELLY BUSHING
 Other Services CNL/CDL DIL
 Elevation K.B. 2048'
 D.F. N/A
 G.L. 2040'

Date	4/28/2016
Run Number	ONE
Depth Driller	3578'
Depth Logger	3576'
Bottom Logged Interval	3575'
Top Log Interval	250'
Casing Driller	8.625" @ 263'
Casing Logger	262'
Bit Size	7.875"
Type Fluid in Hole	CHEMICAL
Salinity, ppm CL	4800
Density / Viscosity	9.4 62
pH / Fluid Loss	10.5 7.2
Source of Sample	FLOWLINE
Rm @ Meas. Temp	.75 @ 65
Rmt @ Meas. Temp	.56 @ 65
Rmc @ Meas. Temp	1.01 @ 65
Source of Rmf / Rmc	CHARTS
Rm @ BHT	.44 @ 112
Operating Rig Time	2 1/2 HOURS
Max Rec. Temp. F	112
Equipment Number	108
Location	COLBY
Recorded By	J. LONG
Witnessed By	MARC DOWNING

<<< Fold Here >>>

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.
 DAMAR, 5 EAST, 1/4 SOUTH, EAST INTO

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

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www.pioneerenergy.com 785-625-3858

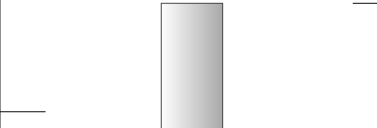
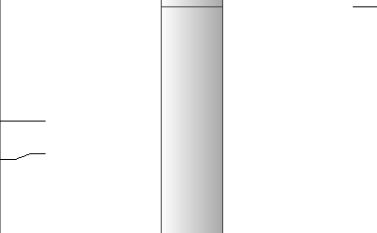
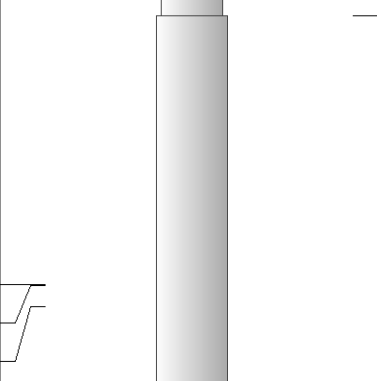
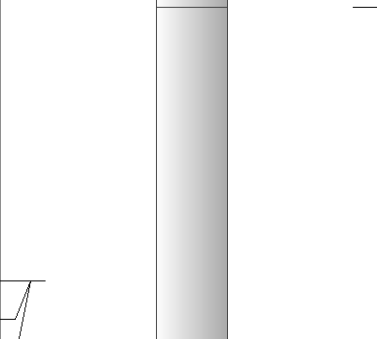
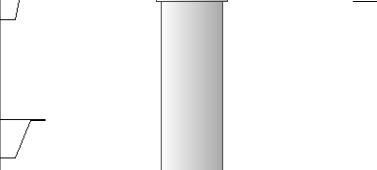
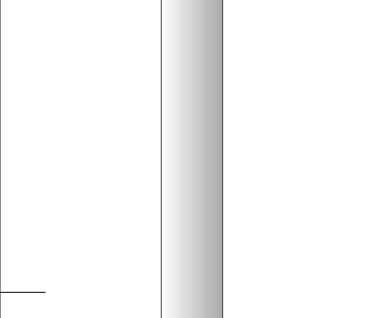
Your Pioneer Energy Services Crew Engineer: J. LONG Operator: T. MARTIN Operator: Operator:	This Log Record Was Witnessed By Primary Witness: MARC DOWNING Secondary Witness: Secondary Witness: Secondary Witness:
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Log Variables

DatabaseC:\ProgramData\Warrior\Data\lampatriot_apo_18_wallerlowry_1.db
Dataset field/well/stackmel/pass4.1/_vars_

Top - Bottom

A	BOREID in	BOTTEMP degF	CASEOD in	CASETHCK in	FLUIDDEN g/cc	M	MATRXDEN g/cc
1	7.875	112	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	-620	54	Off	3576

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.58		GR-M&W (89-M&W)	3.00	3.50	50.00
CNLSC CNSSC	37.48 36.73		CNT-M&W (tk10-MW)	5.50	3.50	100.00
LSD DCAL SSD	28.43 28.42 27.93		CDL-M&W (71-914)	8.50	4.00	250.00
MCAL MI MN	19.83 19.83 19.83		ML-PSI STKBL ML (PSI-02) Stackable Microlog Tools	7.58	4.00	65.00
RLL3 RLL3F	15.80 15.79					
CILD	8.00		DIL-M&W (1987)	18.50	3.50	220.00

CILM 4.70

SP 0.20

Dataset: ampatriot_apo_18_wallerlowry_1.db: field/well/stackmel/pass4.1
 Total length: 43.08 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

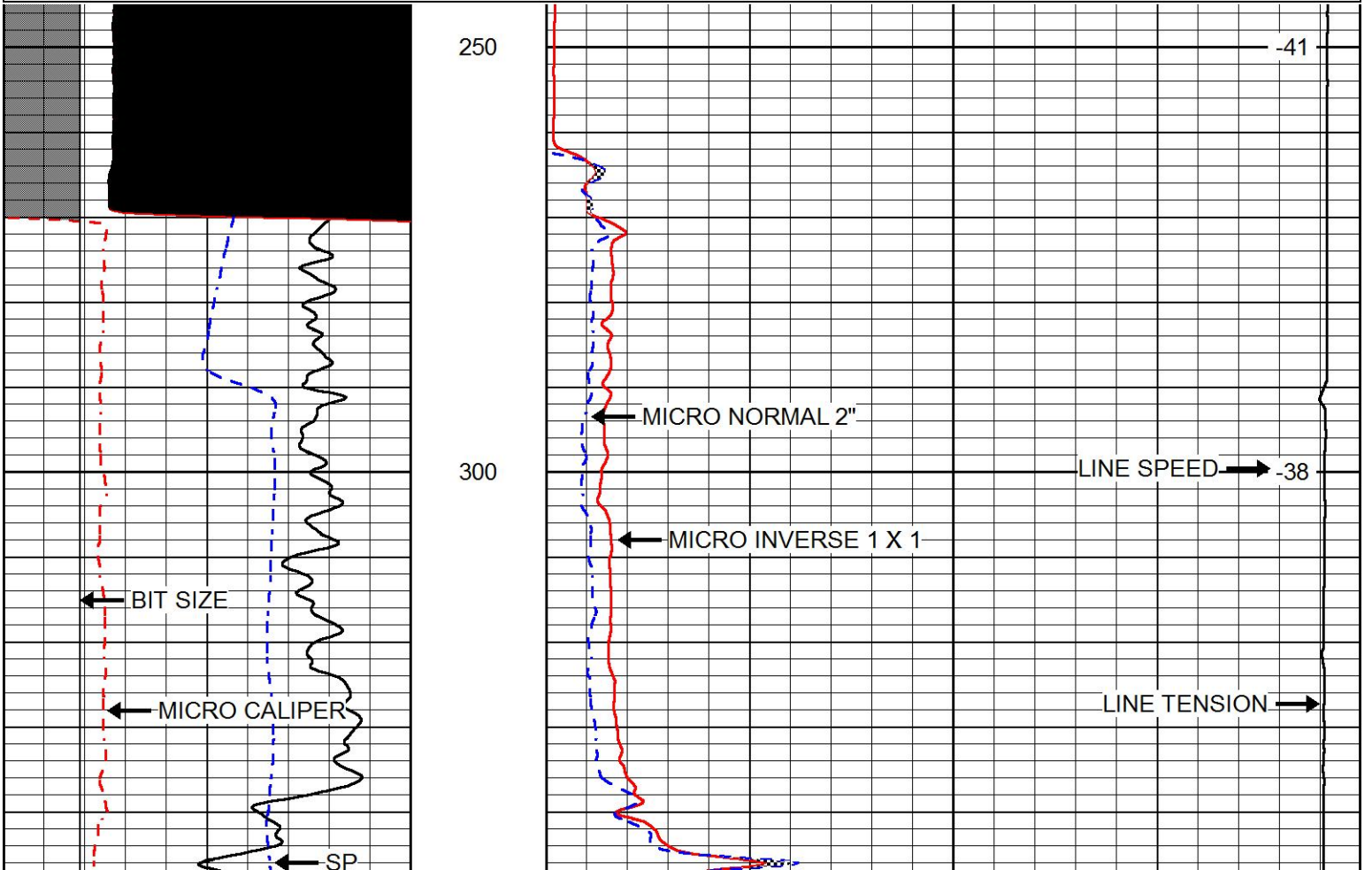


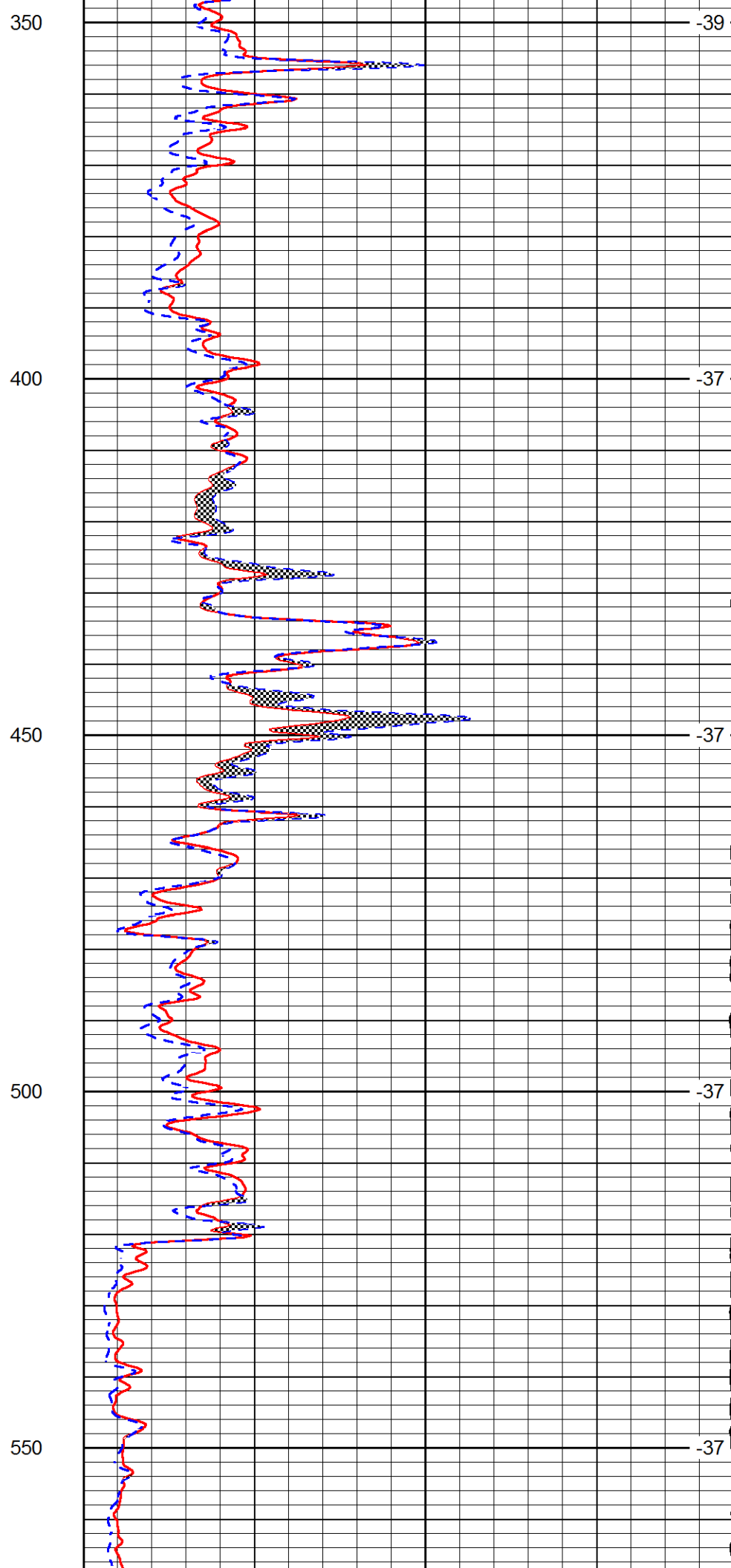
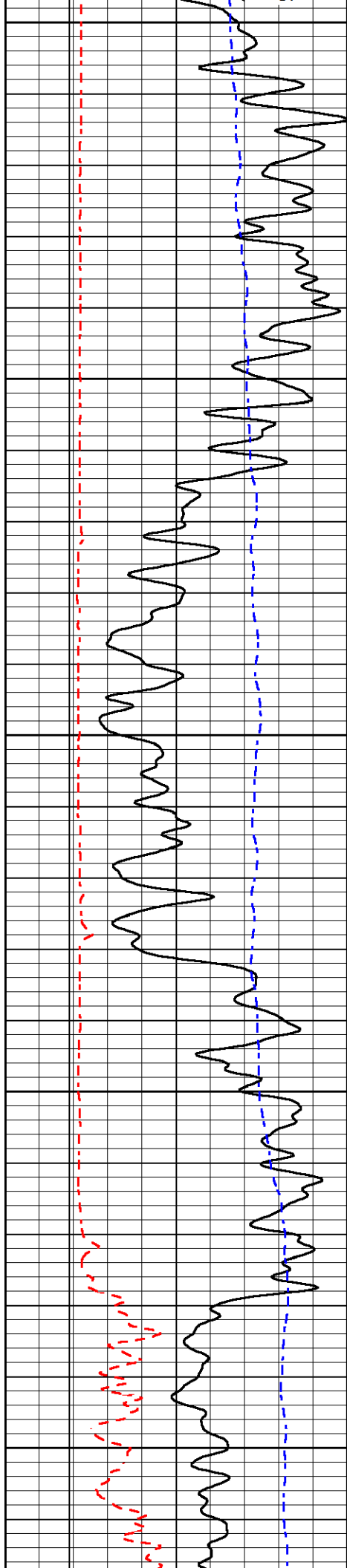
MAIN PASS

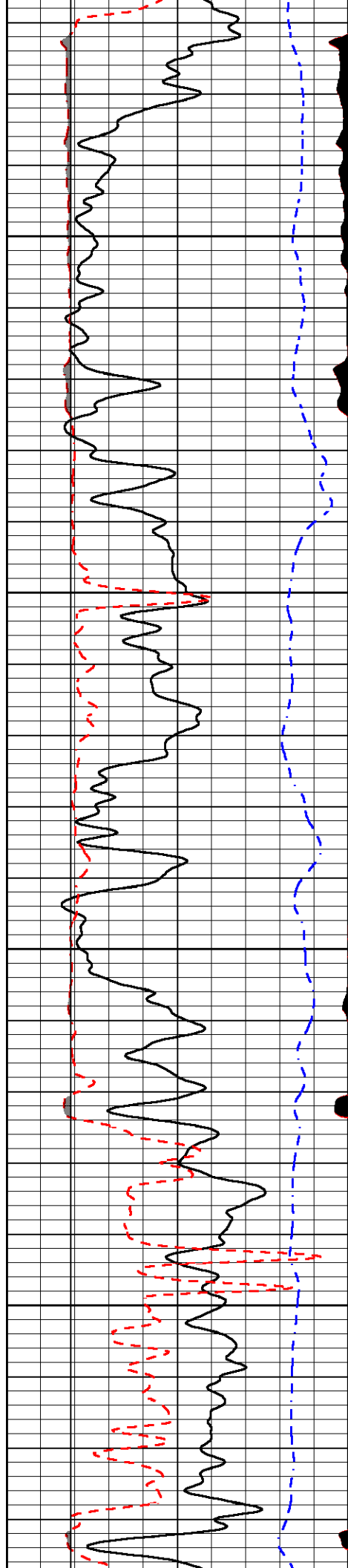
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 Dataset Pathname stackmel/pass4.1
 Presentation Format micro
 Dataset Creation Thu Apr 28 17:00:34 2016
 Charted by Depth in Feet scaled 1:240

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
	LINE SPEED (ft/min)	





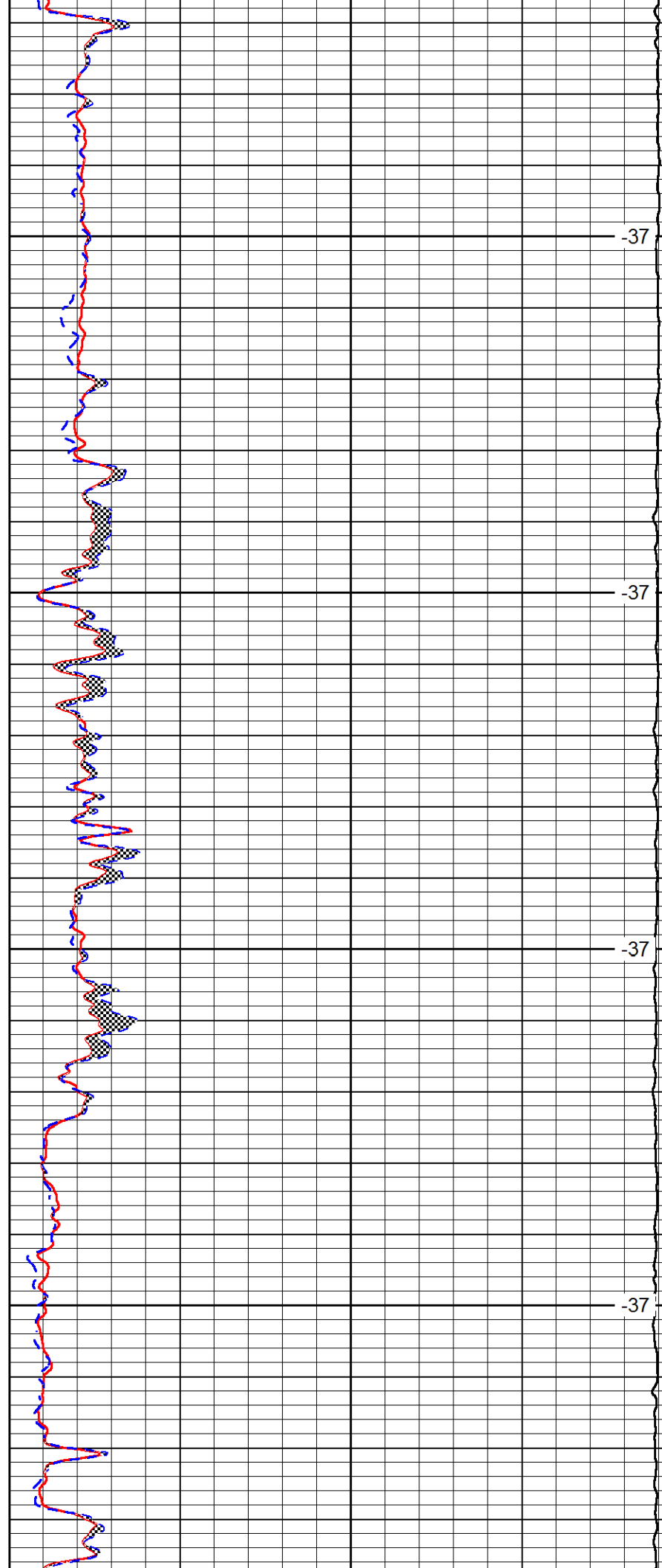


600

650

700

750

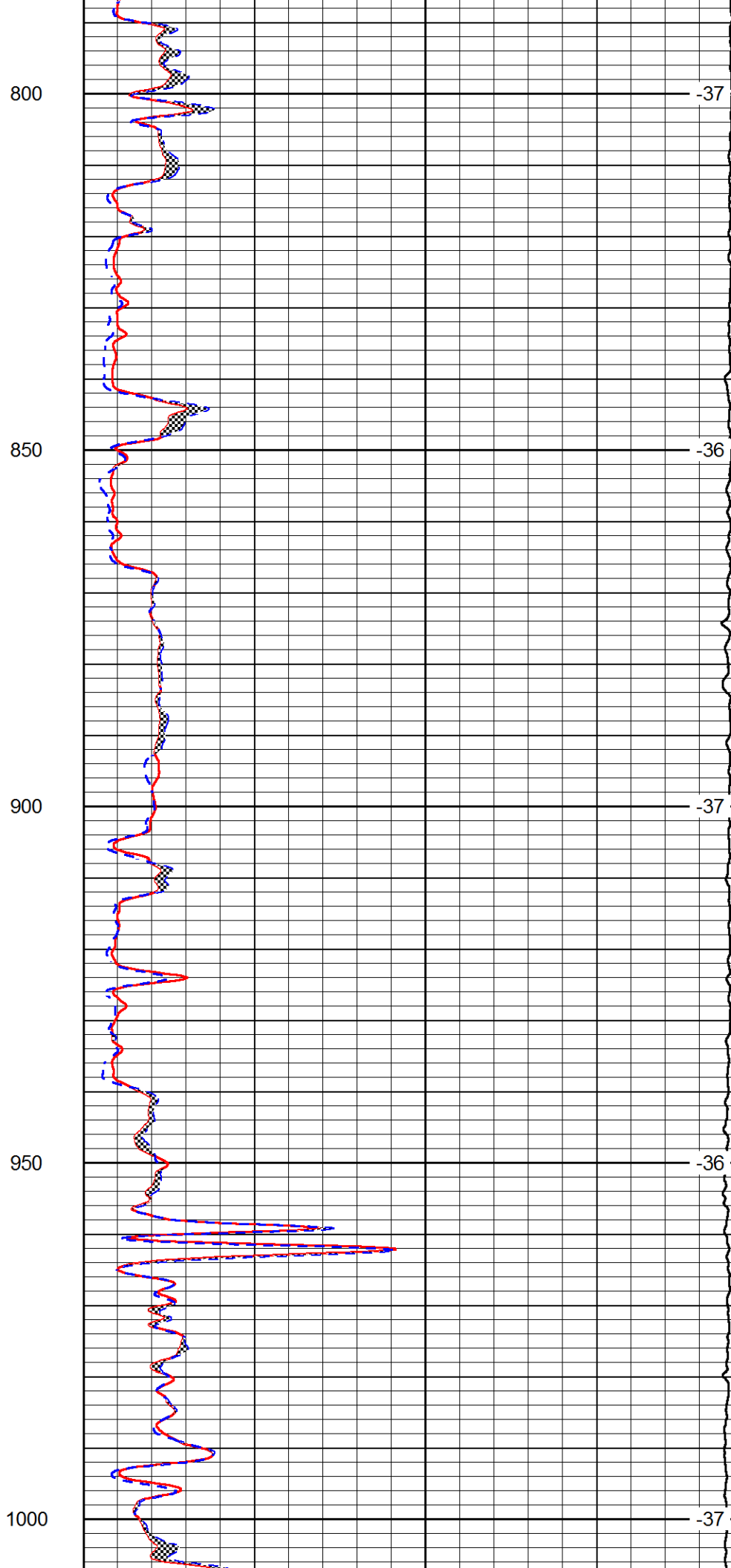
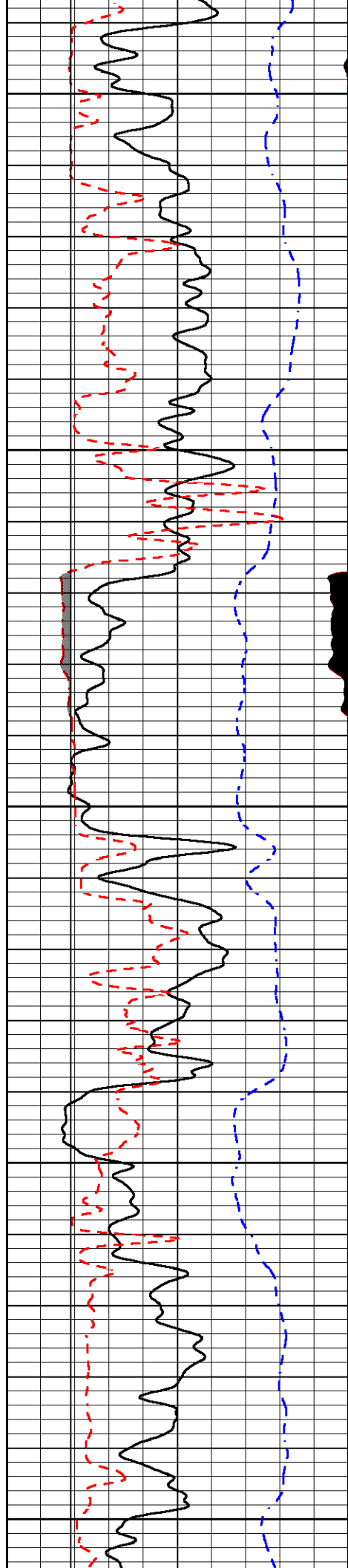


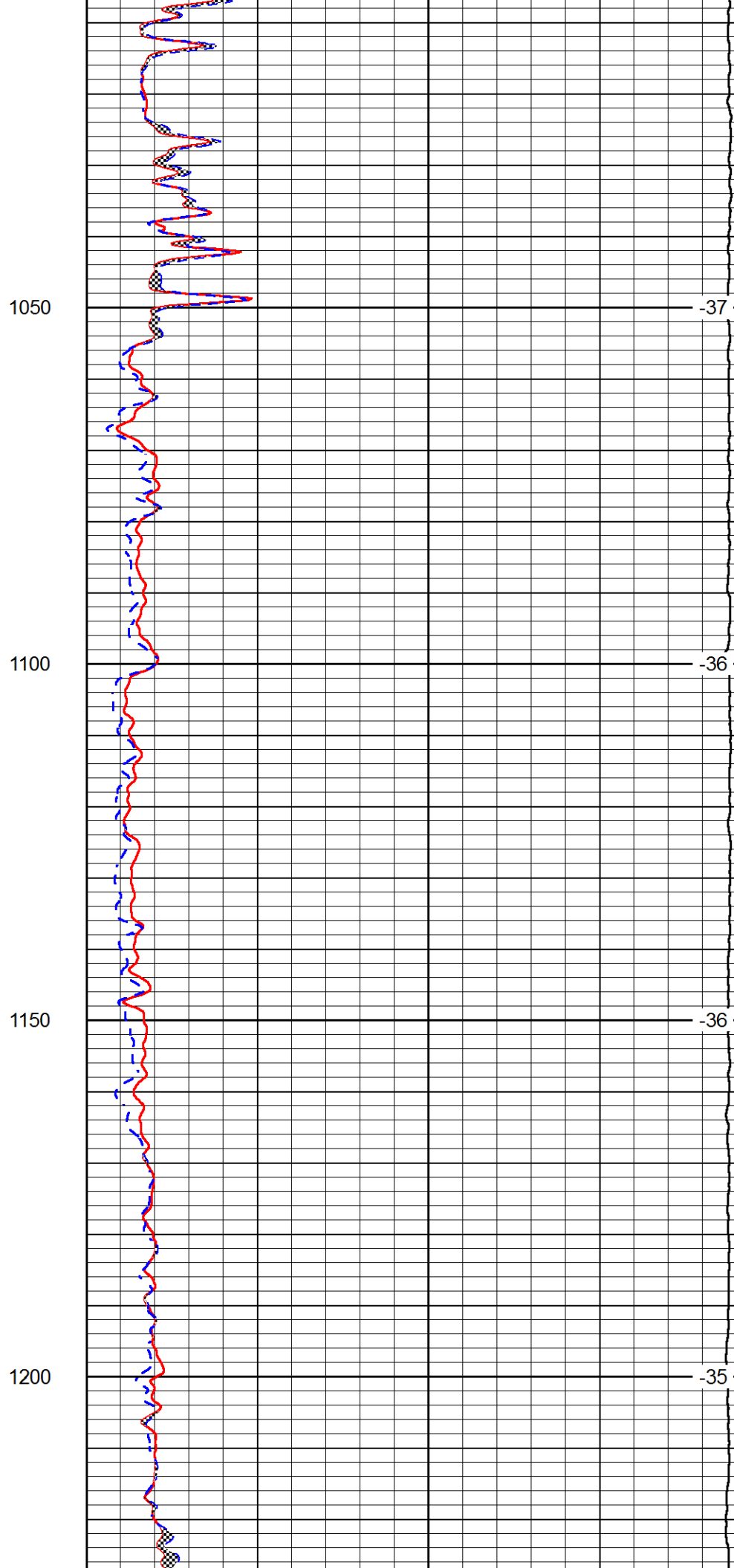
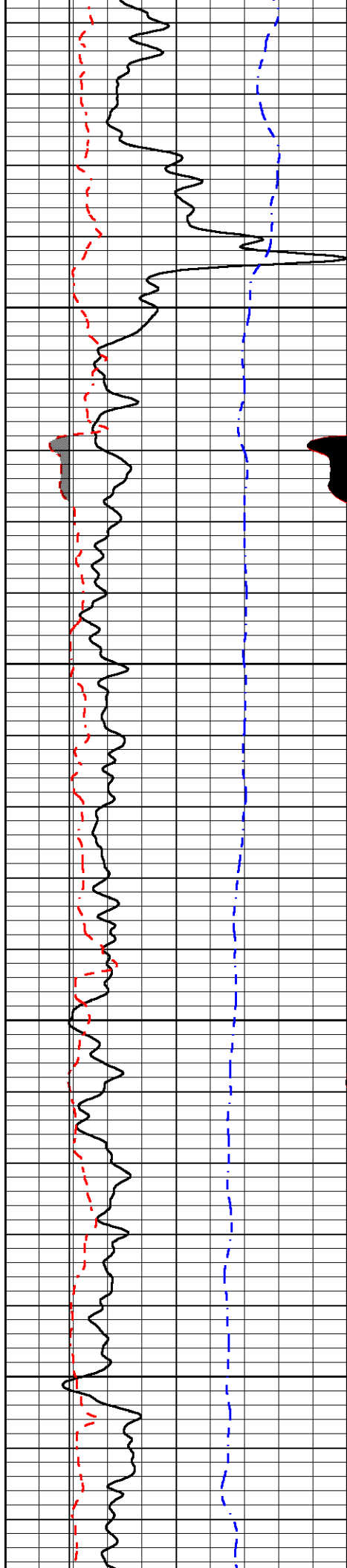
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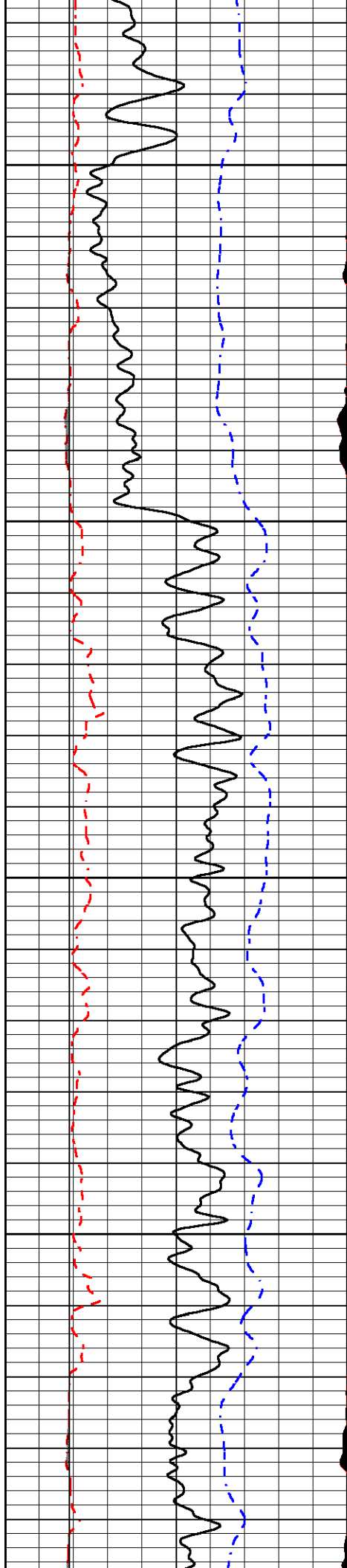
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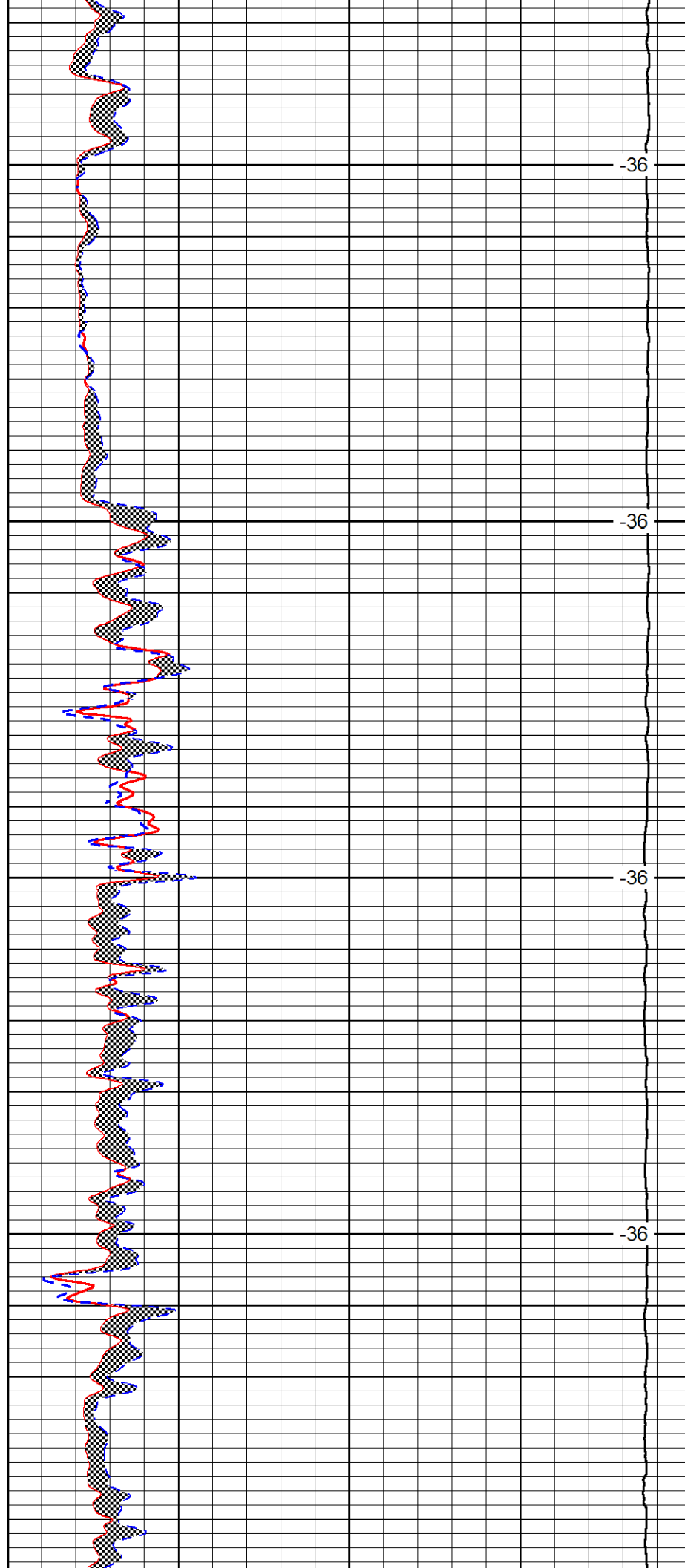


1250

1300

1350

1400

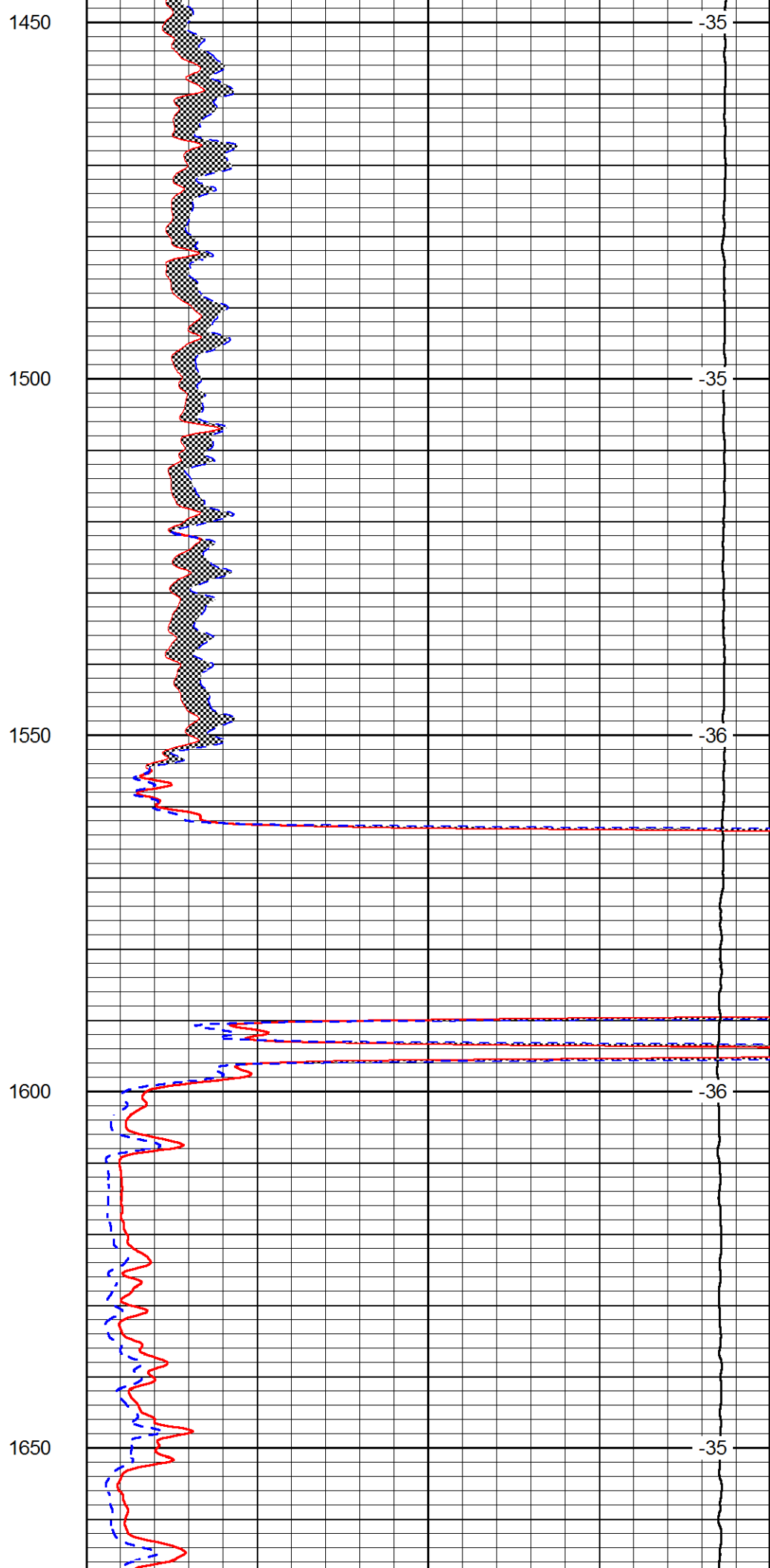
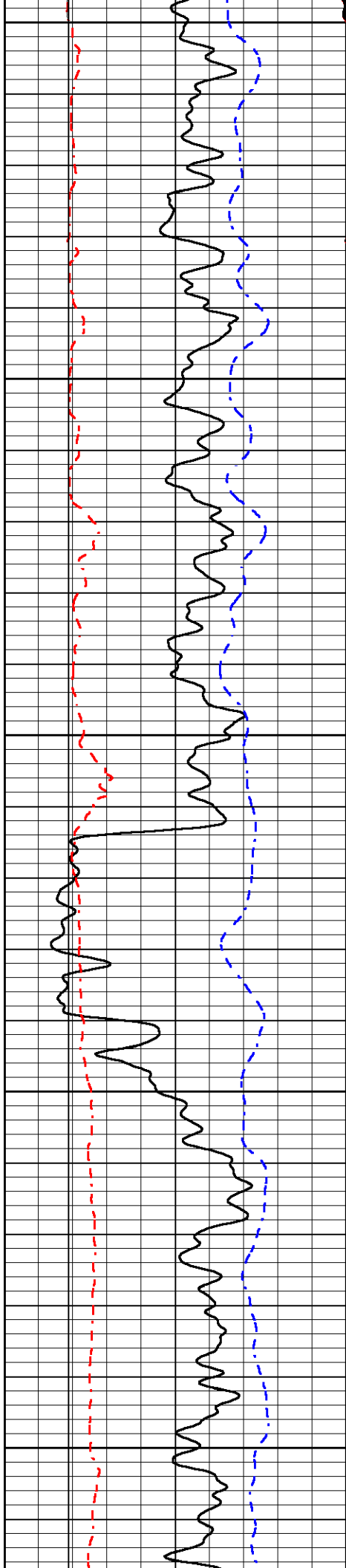


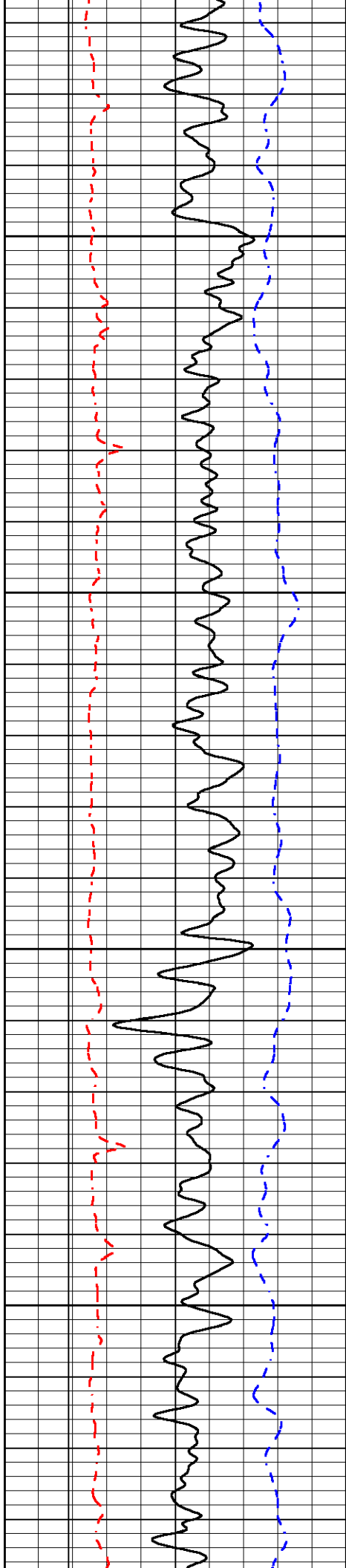
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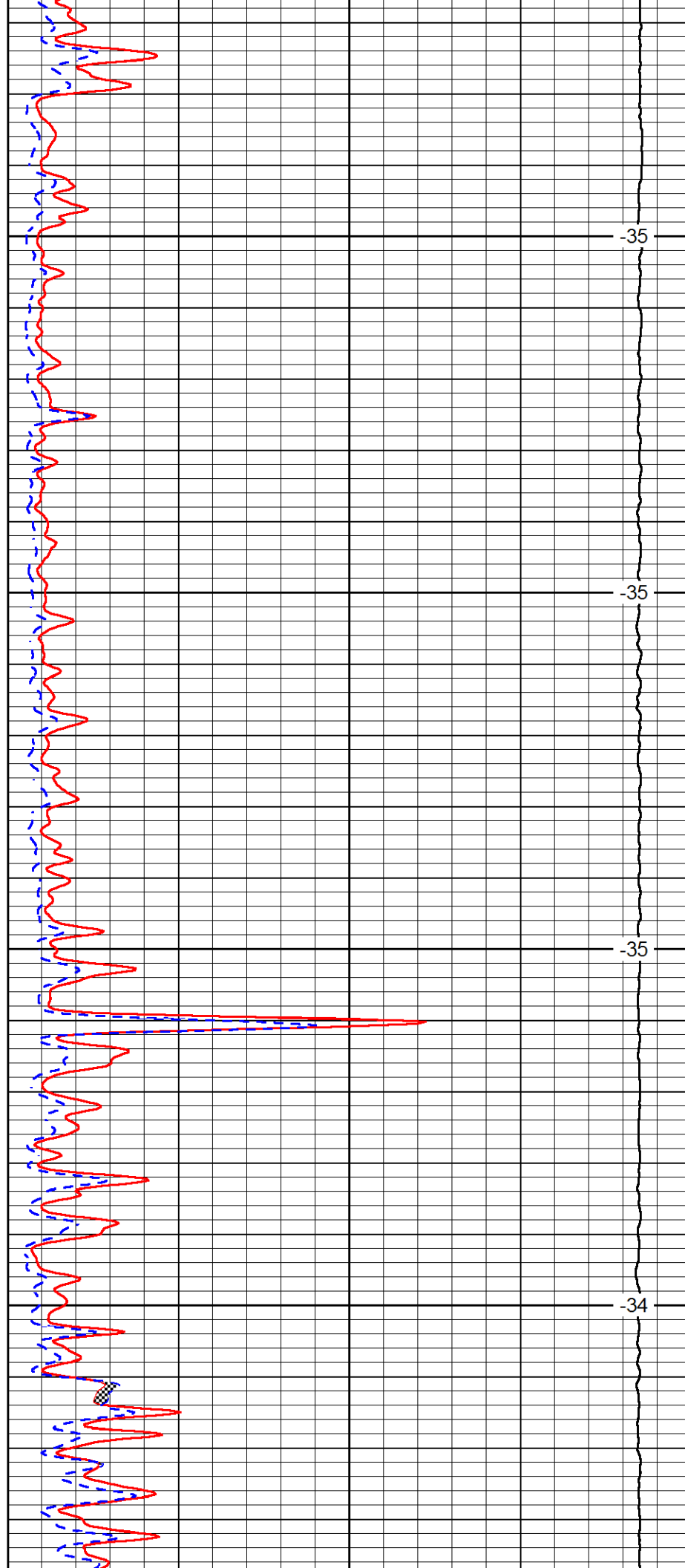


1700

1750

1800

1850

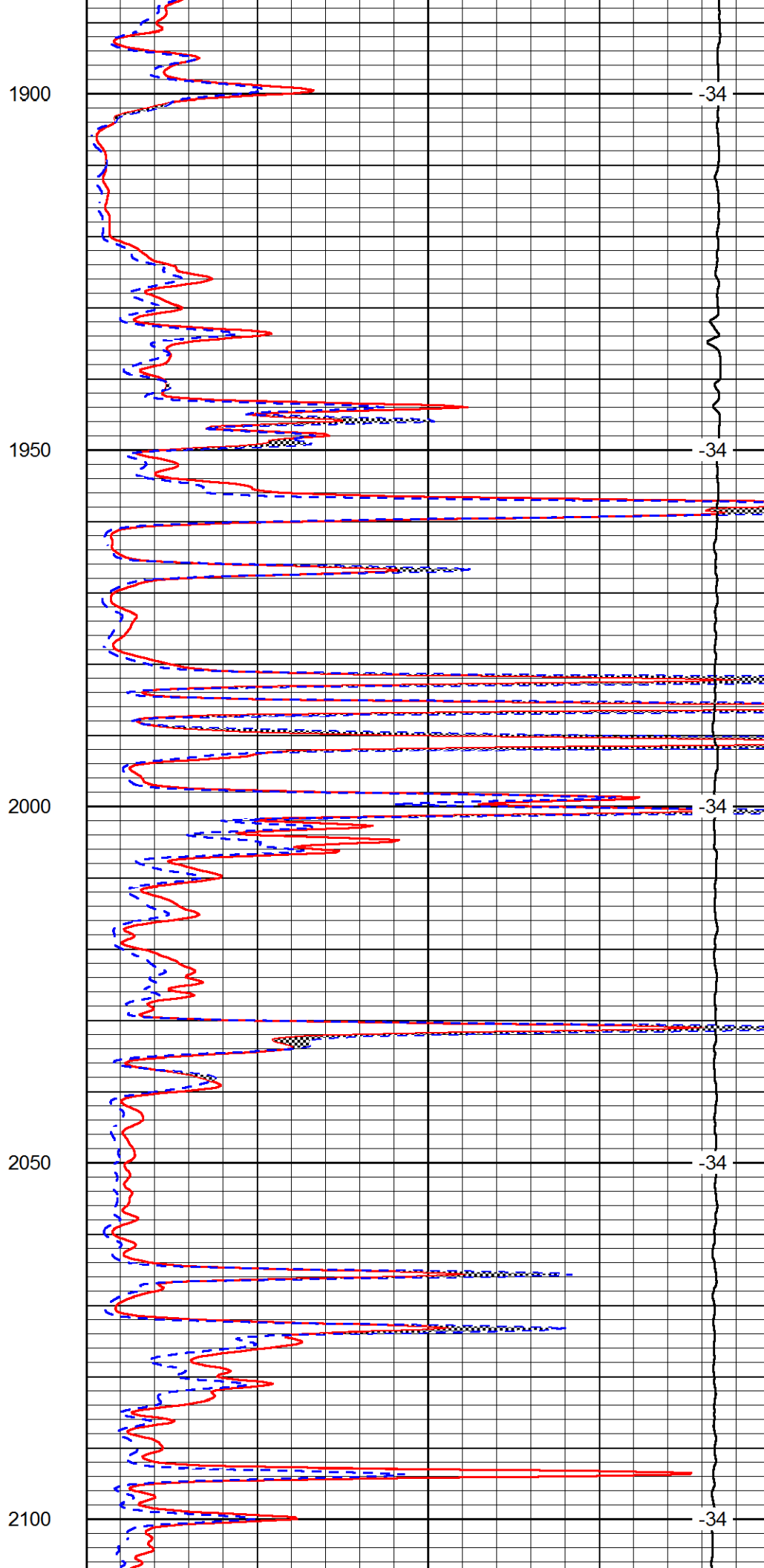
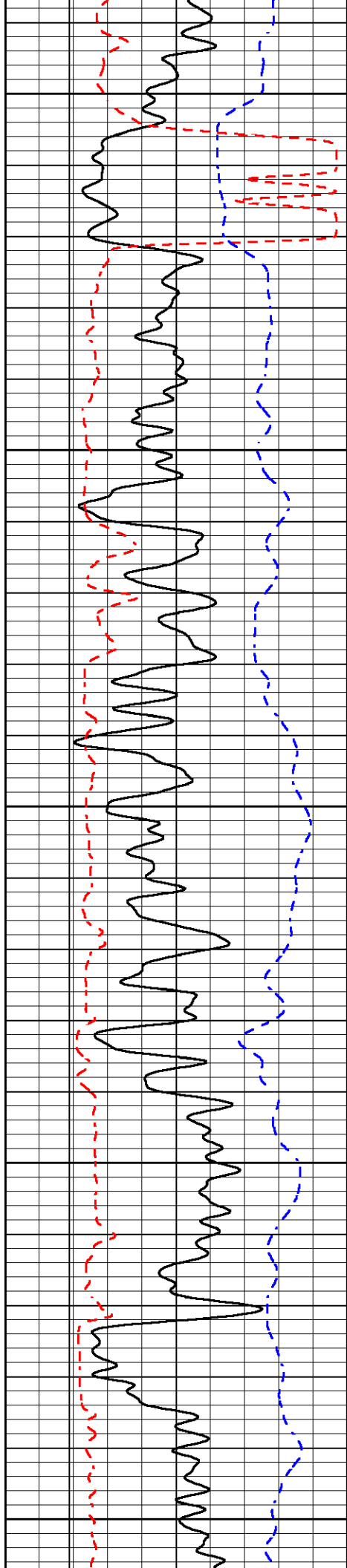


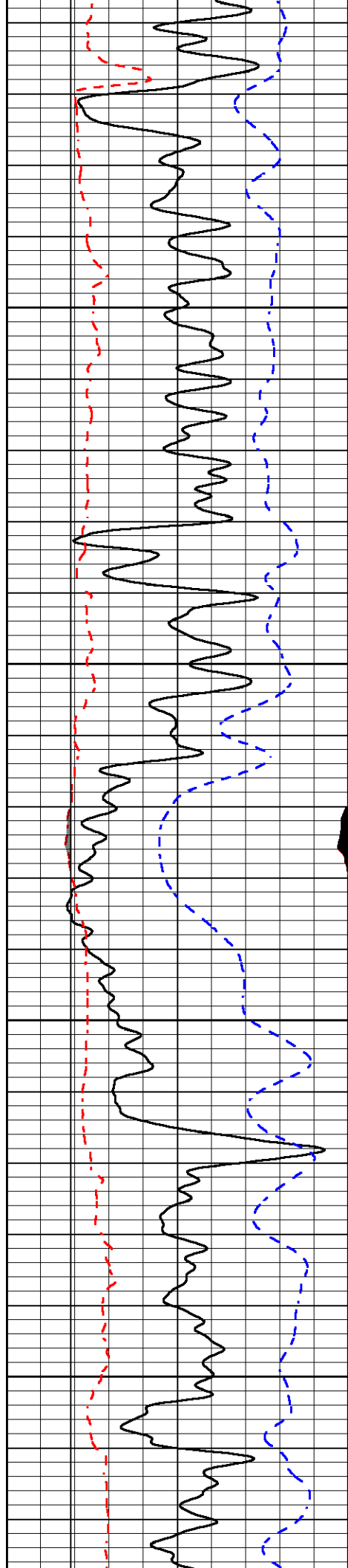
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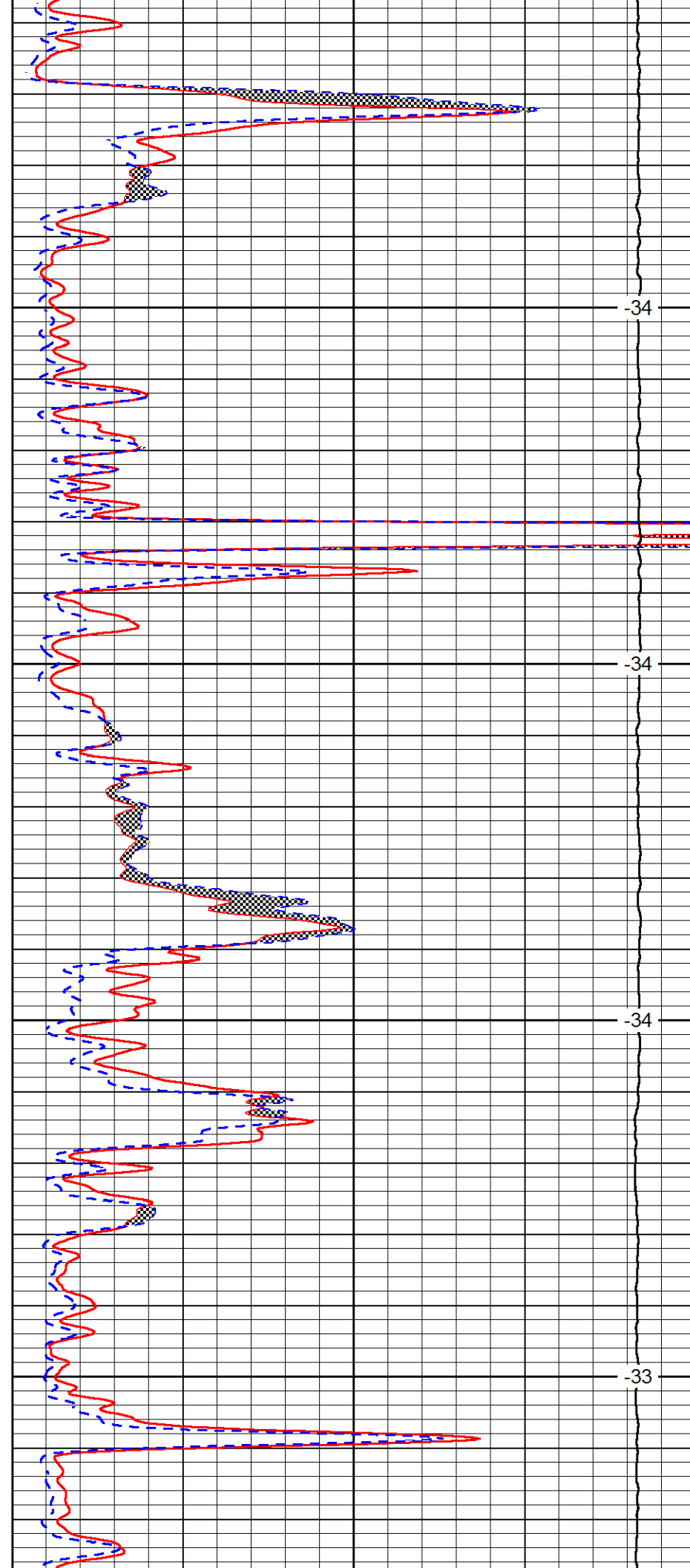


2150

2200

2250

2300

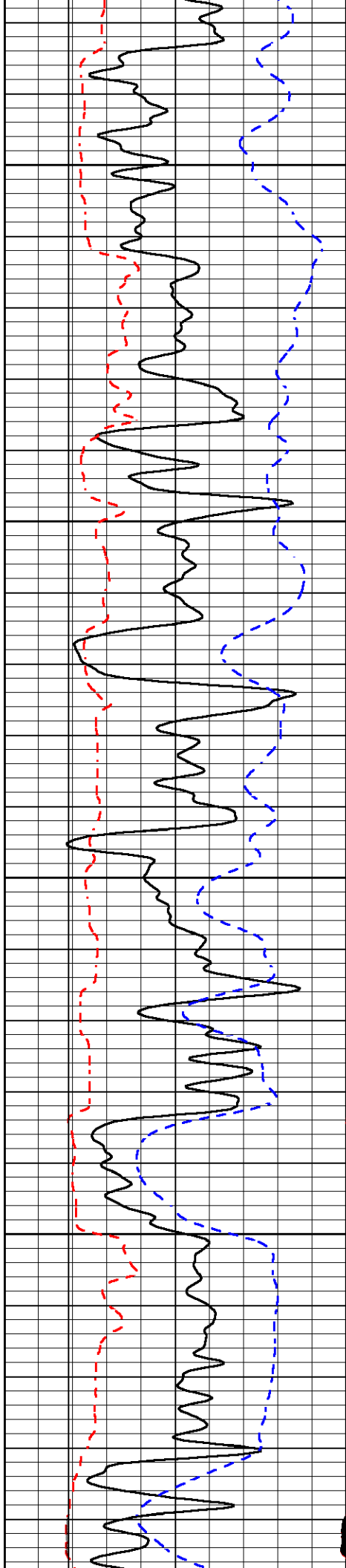


-34

-34

-34

-33

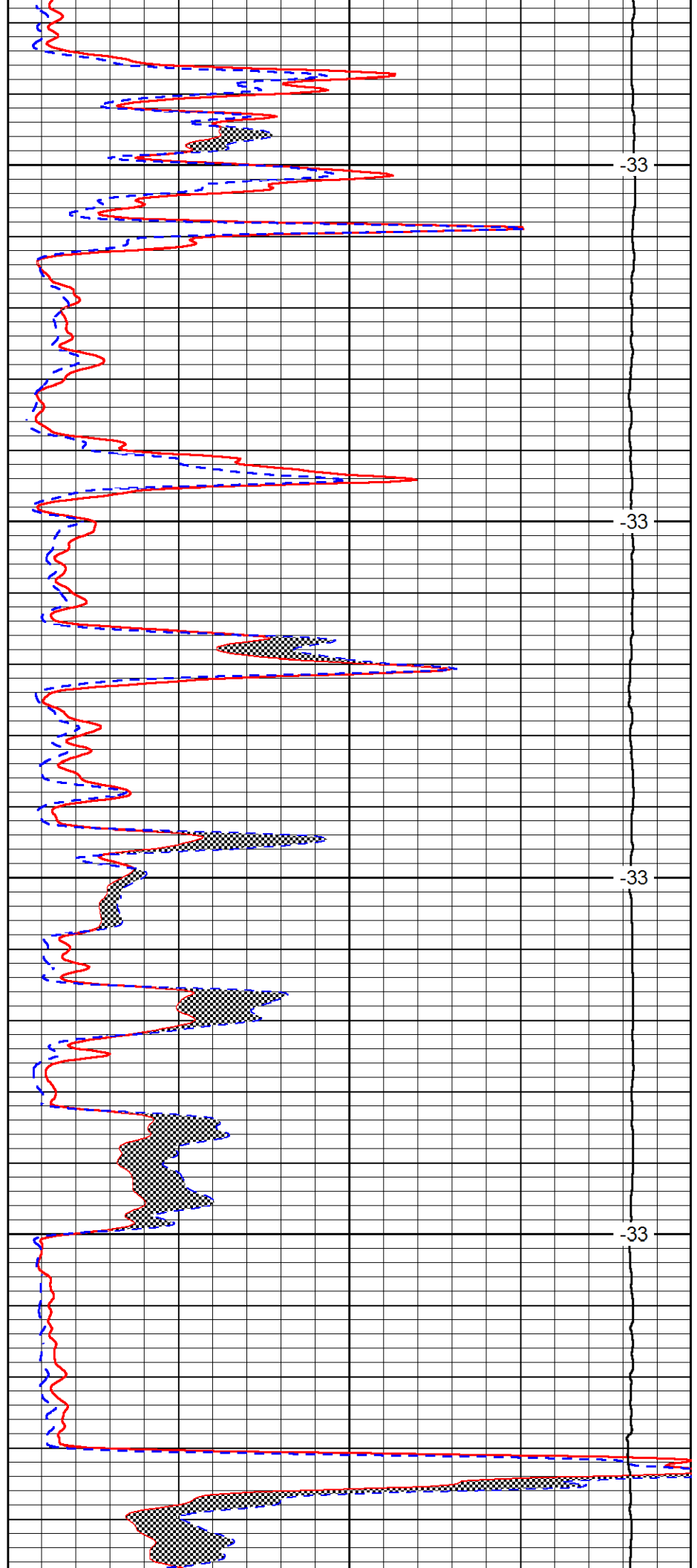


2350

2400

2450

2500

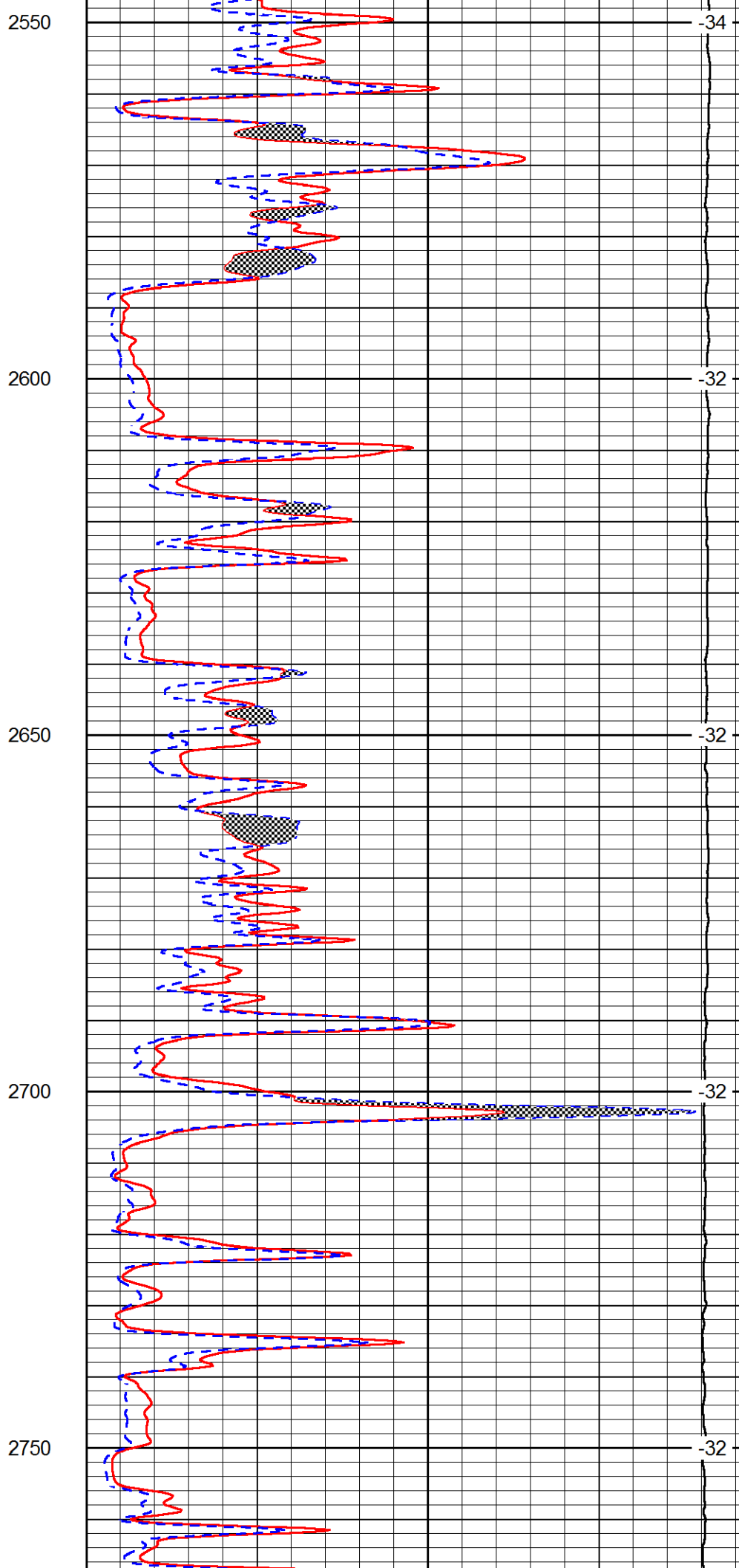
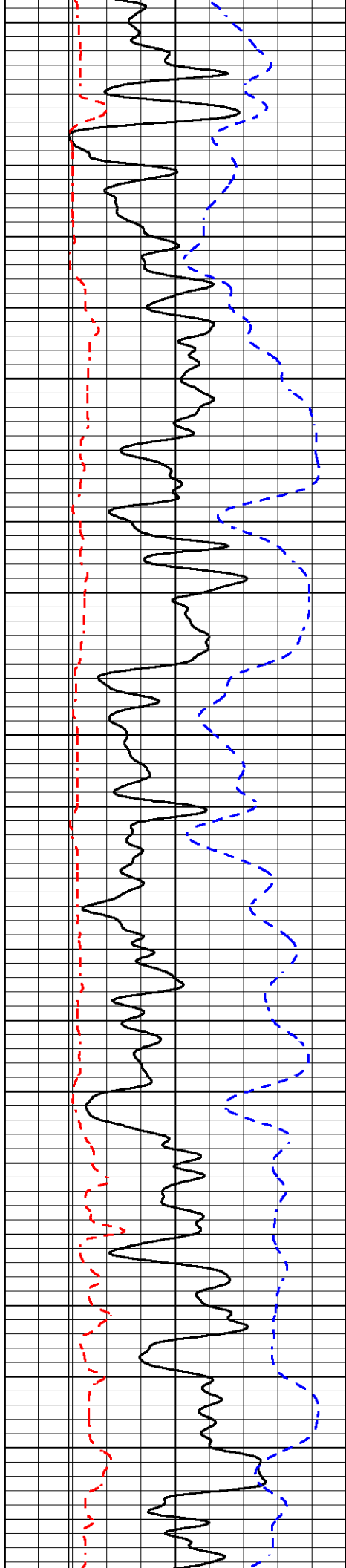


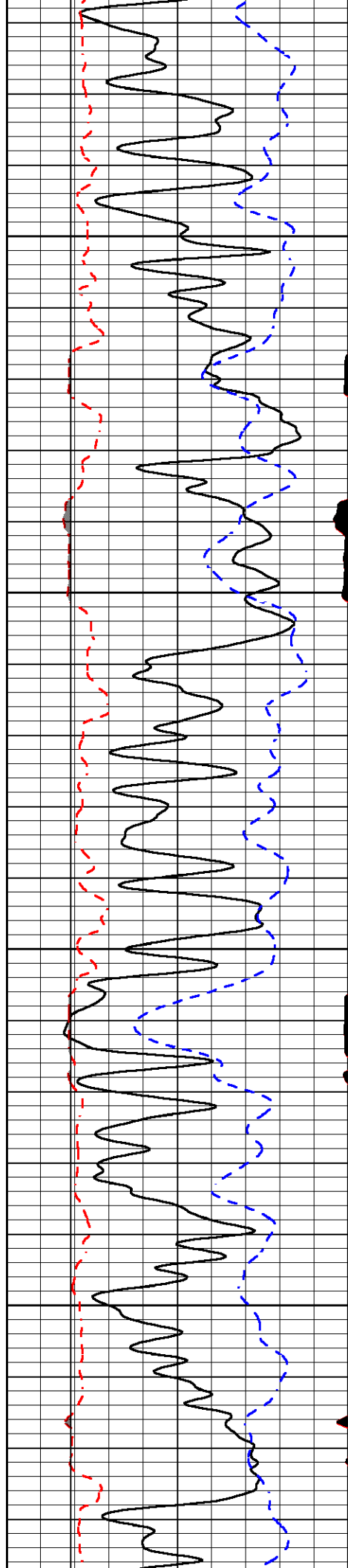
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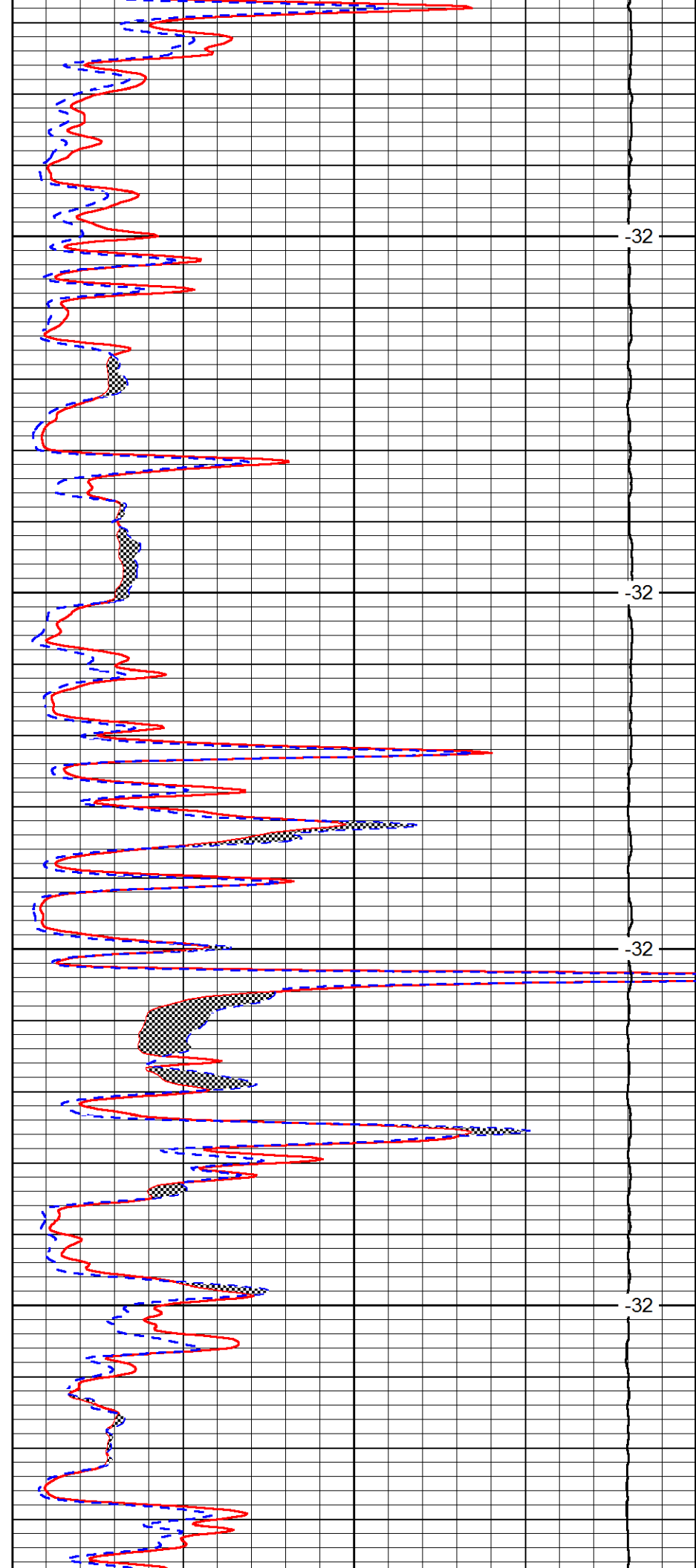


2800

2850

2900

2950

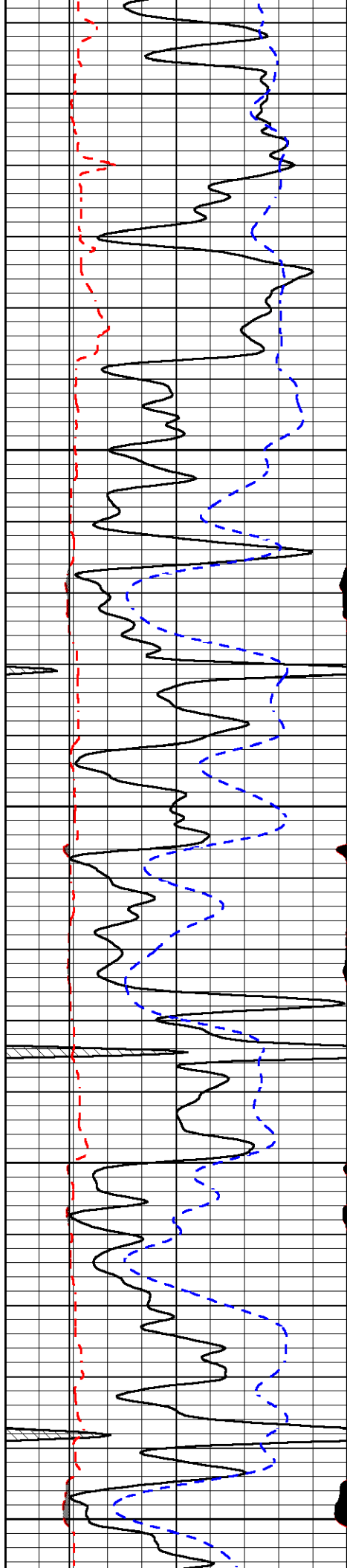


-32

-32

-32

-32



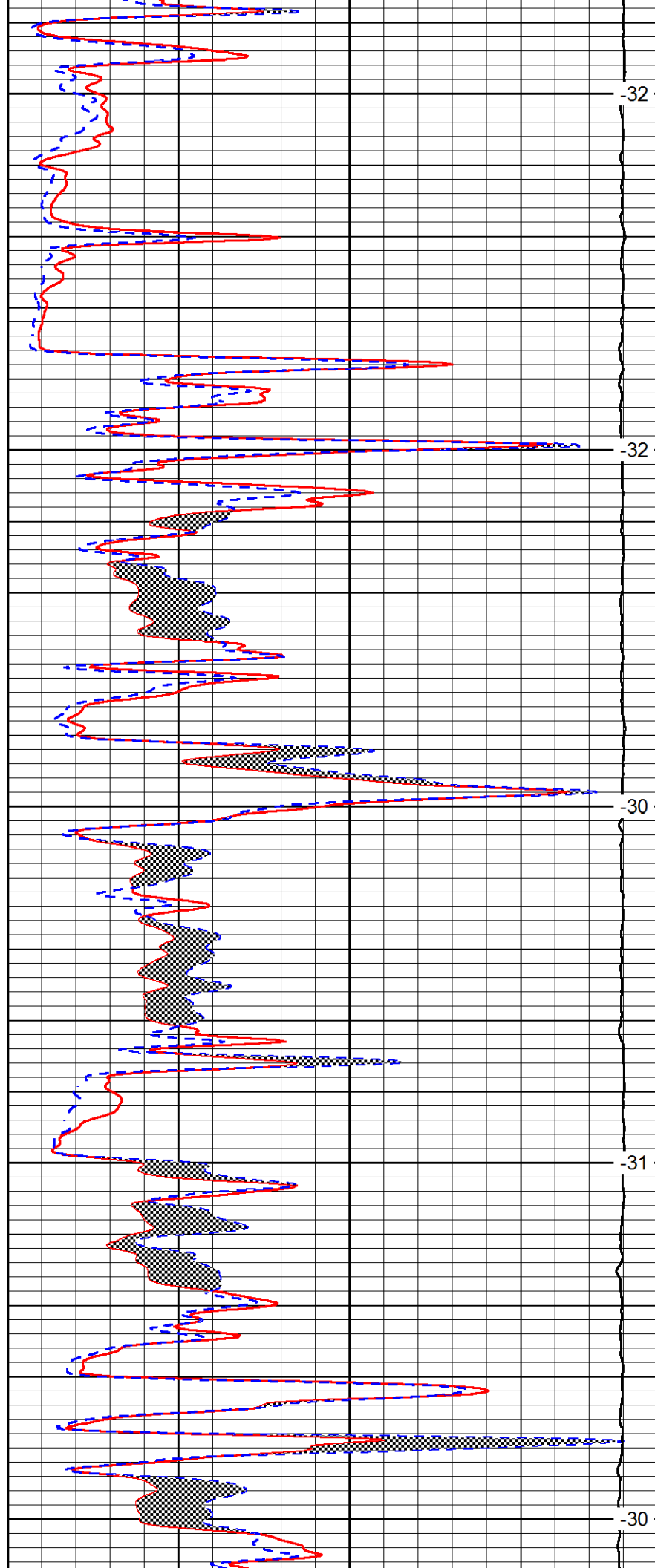
3000

3050

3100

3150

3200



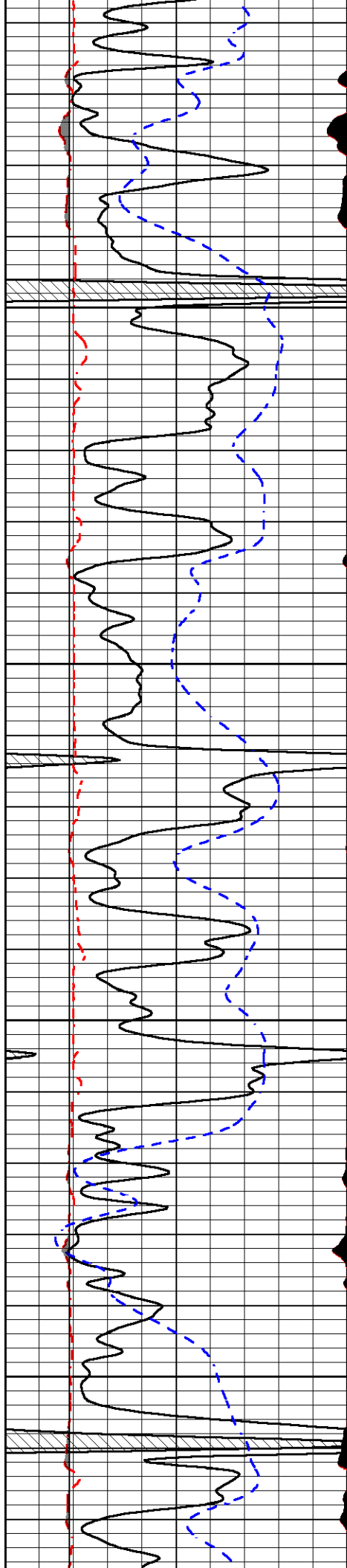
-32

-32

-30

-31

-30

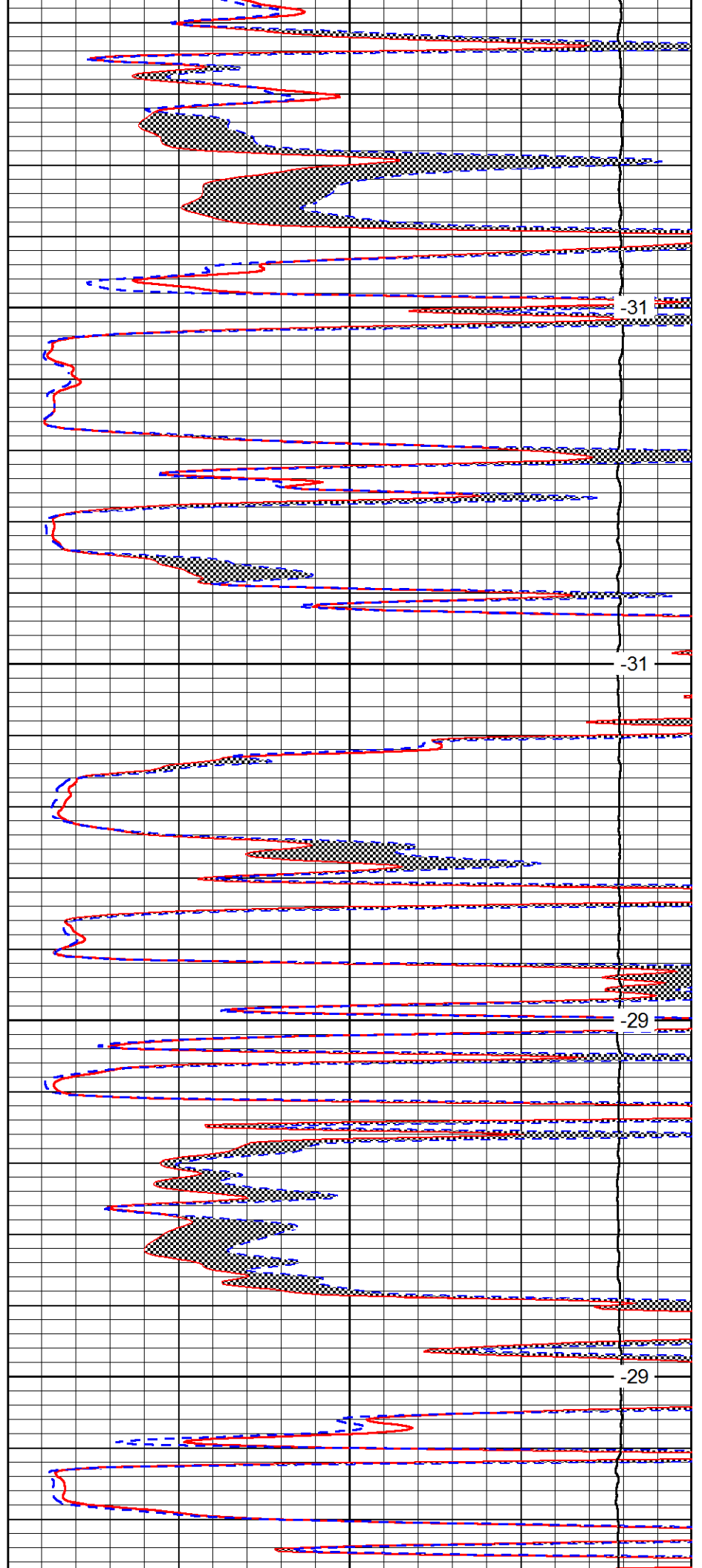


3250

3300

3350

3400

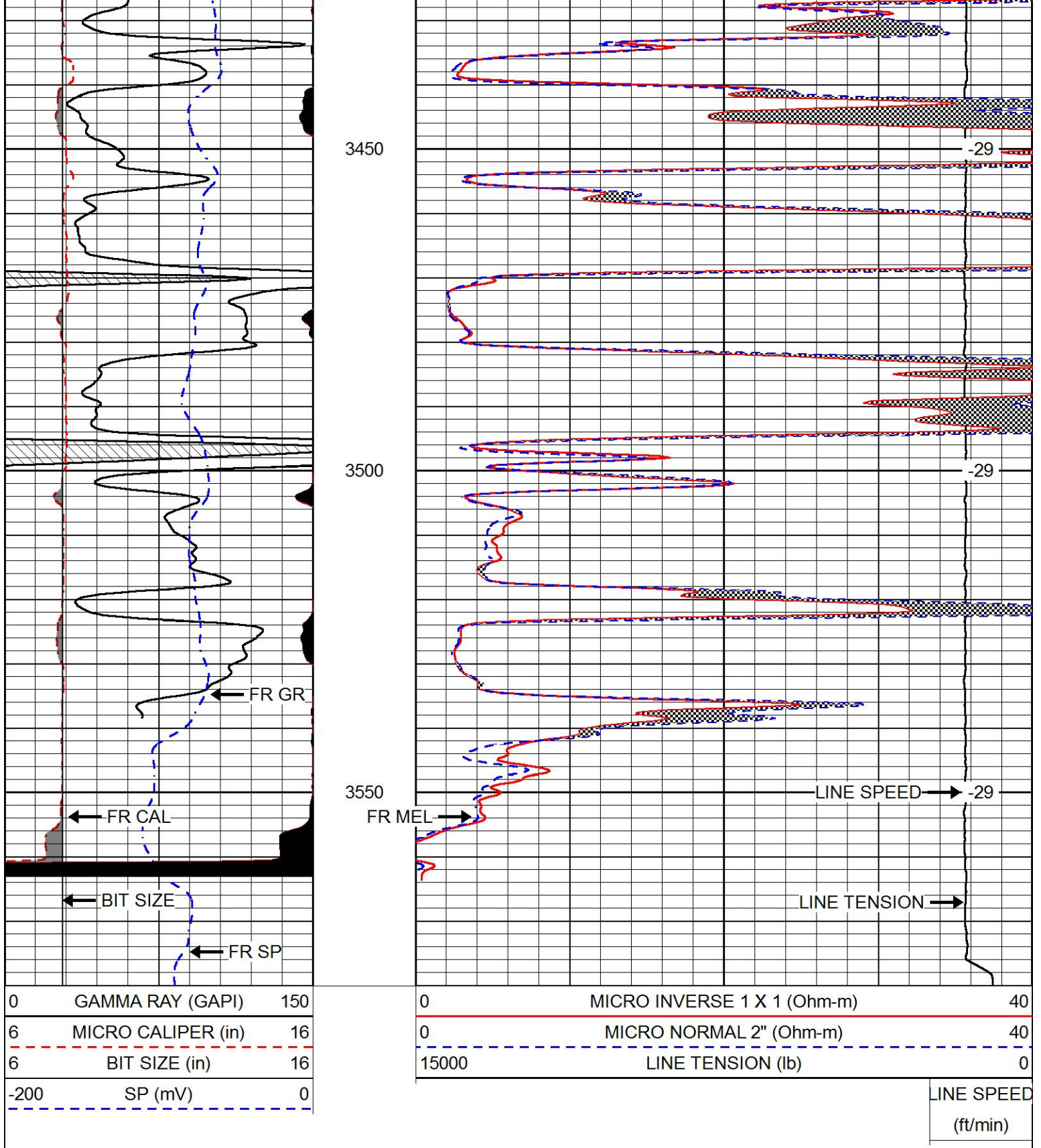


-31

-31

-29

-29

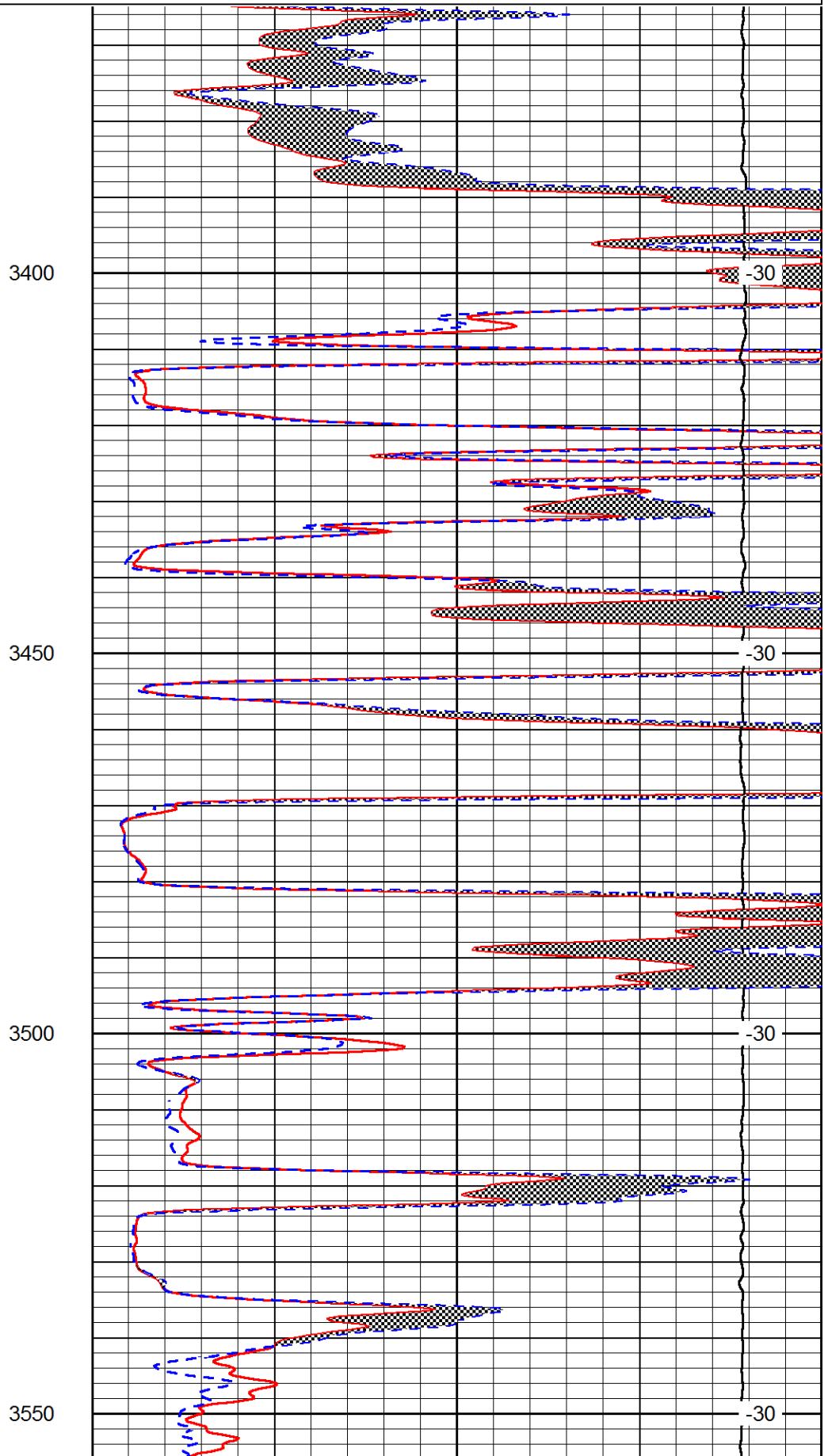
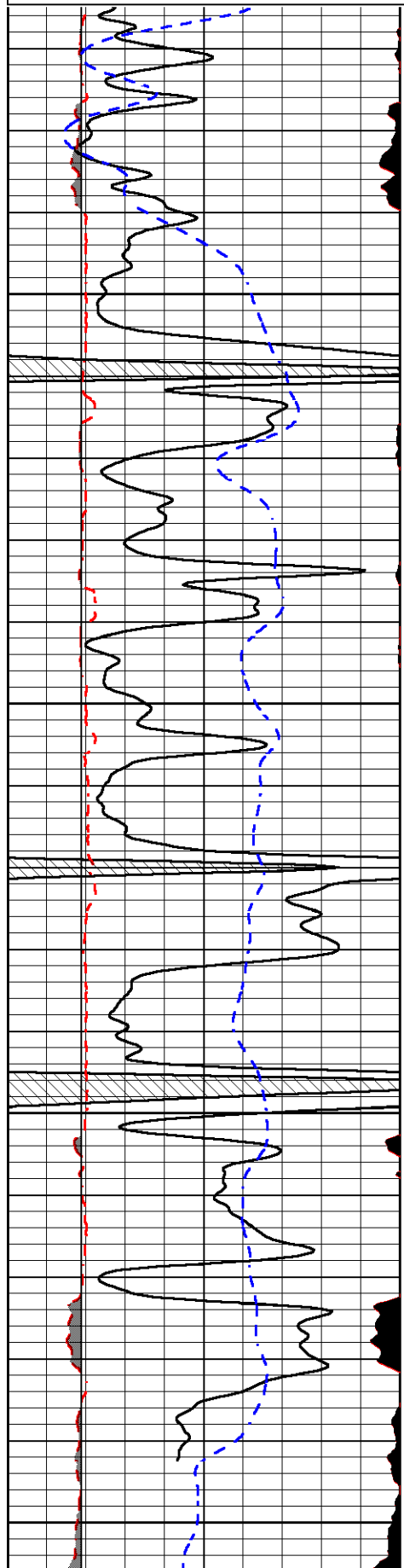


REPEAT SECTION

Database File ampatriot_apo_18_wallerlowry_1.db
 Dataset Pathname stackmel/pass3.1
 Presentation Format micro
 Dataset Creation Thu Apr 28 15:55:11 2016
 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
		LINE SPEED (ft/min)



	Size		Reading
Small Ring	4.00	in	1.16
Large Ring	14.00	in	1.57

Compensated Neutron Calibration Report

Serial Number: tk10-MW
 Tool Model: M&W
 Calibration Performed: Wed Mar 30 10:04:05 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: Thu Mar 31 15:29:33 2016

Calibrator Value: 1000.0 GAPI

Background Reading: 0.0 cps
 Calibrator Reading: 6.2 cps

Sensitivity: 0.5200 GAPI/cps

 <p>PIONEER Pioneer Energy Services</p>	Company	AMERICAN PATRIOT OIL, LLC
	Well	APO #18 WALLER LOWRY #1
	Field	WILDCAT
	County	ROOKS
	State	KANSAS