



MIDWEST WIRELINE

GAMMA RAY / CALIPER LOG

Company: Murfin Drilling Company, Inc.
 Well: Armbrister #1-36
 Field: Nicholson
 County: Trego
 State: Kansas

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 Well: Armbrister #1-36
 Field: Nicholson
 County: Trego
 State: Kansas

Location: API #: 15-195-23150-00-00
 330 FNL & 1700 FWL
 SEC 36 TWP 11S RGE 21W
 Permanent Datum: Ground Level Elevation 2296
 Log Measured From: Kelly Bushing
 Drilling Measured From: Kelly Bushing
 Other Services: CNL/CDL, DIL/MEL, BHCS
 Elevation: 2301
 K.B. D.F. G.L. 2296

Date	11/19/2022						
Run Number	One						
Type Log	BHV						
Depth Driller	4000						
Depth Logger	3998						
Bottom Logged Interval	3969						
Top Logged Interval	200						
Type Fluid In Hole	Chemical						
Salinity, PPM CL	3500						
Density	9.0						
Level	Full						
Max. Rec. Temp. F	116						
Operating Rig Time	5 Hours						
Equipment -- Location	P-24 Hays						
Recorded By	D. Schmidt						
Witnessed By	Rod Anderson						
Borehole Record							
Run No.	Bit	From	To	Size	Wgt.	From	To
One	12.25	0	220	8.625	23	0	220
Two	7.875	220	TD				
Casing Record							

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All interpretations are opinions based on inferences from electrical or other measurements and Midwest Wireline LLC cannot and does not guarantee the accuracy or correctness of any interpretation, and Midwest Wireline 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

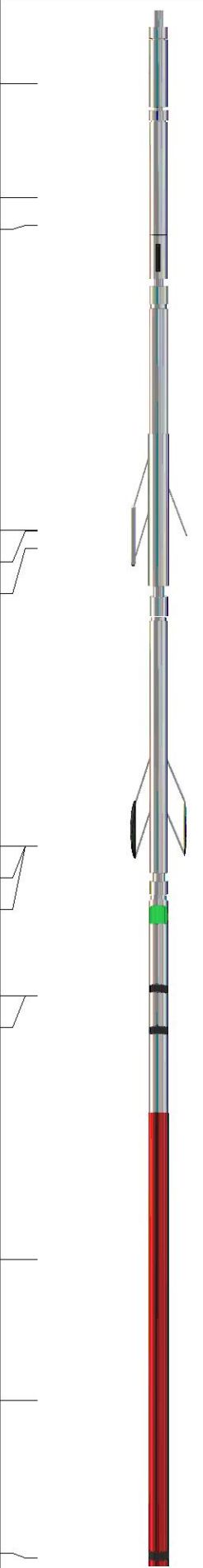
N/A DENOTES NOT AVAILABLE OR NON-APPLICABLE.

Ellis,
 North to Sleepy Hollow, 3 West,
 South into

Log Measured From: Kelly Bushing 5 Ft. Above Permanent Datum

THANK YOU FOR USING MIDWEST WIRELINE LLC
 785-625-3858

Your Midwest Wireline Crew	This Log Record Was Witnessed By
Engineer: D. Schmidt Operator: Operator: Operator:	Primary Witness: Rod Anderson Secondary Witness: Secondary Witness: Secondary Witness:

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
GR	40.33		GR-M&W (106)	3.00	3.50	50.00
CNLSC CNSSC	37.23 36.48		CNT-M&W (207-MW)	5.00	3.50	100.00
LSD DCAL SSD	28.18 28.17 27.68		CDL-M&W (305-24)	8.50	4.00	250.00
MCAL MI MN	19.58 19.58 19.58		ML-PSIML (401)	7.58	4.00	65.00
RLL3F RLL3	15.50 15.50					
CILD	8.33		DIL-M&W (502 HT)	18.25	3.50	220.00
CILM	4.50					
SP	0.20					

Dataset: murfin_arbrister 1-36.db: field/well/stkml/pass3.1
 Total length: 42.33 ft
 Total weight: 685.00 lb
 O.D.: 4.00 in

Log Variables

DatabaseC:\ProgramData\Warrior\Data\murfin_arbrister 1-36.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	116	4.5	0	1	2	2.71
NPORSEL	PERFS	SNDERR mmho/m	SNDERRM mmho/m	SPSHIFT mV	SRFTEMP degF	SZCOR	TDEPTH ft
Limestone	0	0	0	33	40	Off	3998

Variable Description

A : Cement Factor (a)
 BOREID : Borehole I.D.
 BOTTEMP : Bottom Hole Temperature
 CASEOD : Casing O.D.
 CASETHCK : Casing Thickness
 FLUIDDEN : Fluid Density
 M : Cement Exp (m)
 MATRXDEN : Matrix Density

NPORSEL : Neutron Porosity Curve Select
 PERFS : Perforation Flag
 SNDERR : Deep Sonde Error Correction
 SNDERRM : Medium Sonde Error Correction
 SPSHIFT : S.P. Baseline Offset
 SRFTEMP : Surface Temperature
 SZCOR : CN Size Cor. ?
 TDEPTH : Total Depth

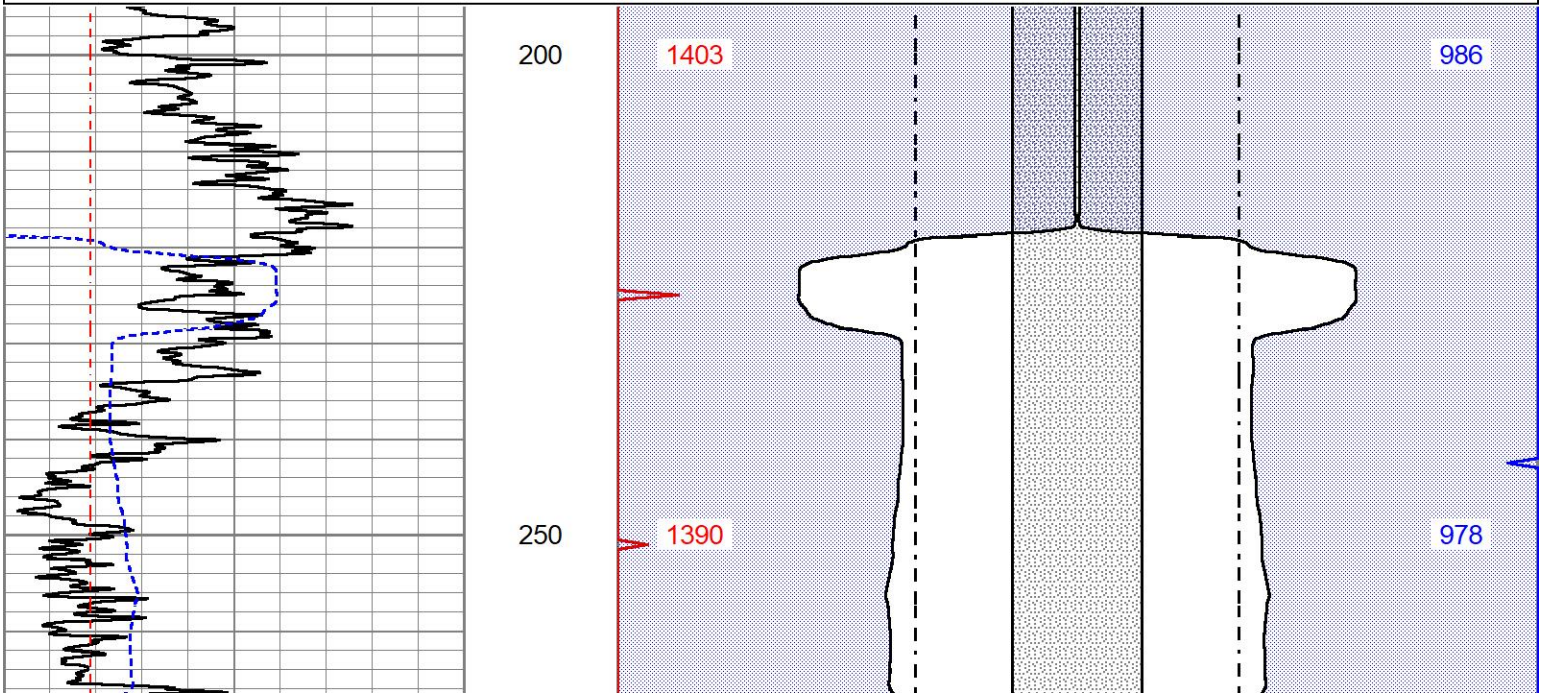


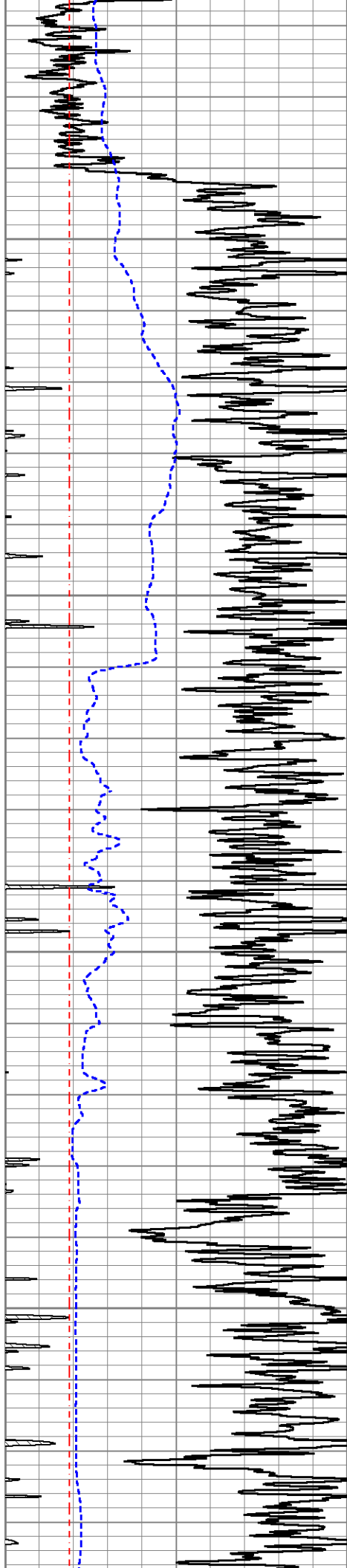
DETAIL SECTION

MAIN PASS

Database File murfin_arbrister 1-36.db
 Dataset Pathname stkml/pass3.1
 Presentation Format bhv4half
 Dataset Creation Sat Nov 19 15:53:08 2022
 Charted by Depth in Feet scaled 1:240

0	Gamma Ray (GAPI)	150		DCAL	DCAL
150	GR (GAPI)	300		BOREID	BOREID
6	DCAL (in)	16		CASEOD	CASEOD
6	BOREID (in)	16		Borehole Volume (ft3)	Annular Volume (ft3)





300

1370

350

1344

400

1322

450

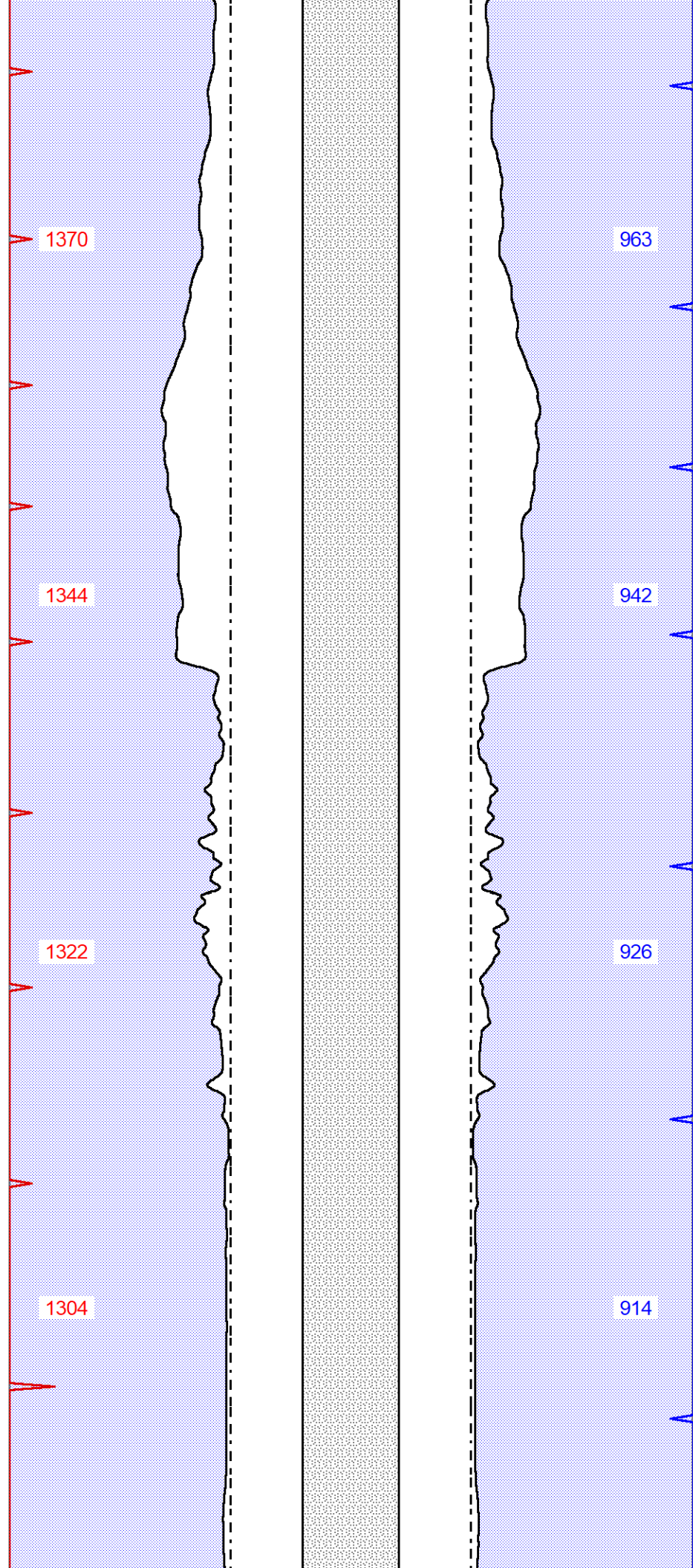
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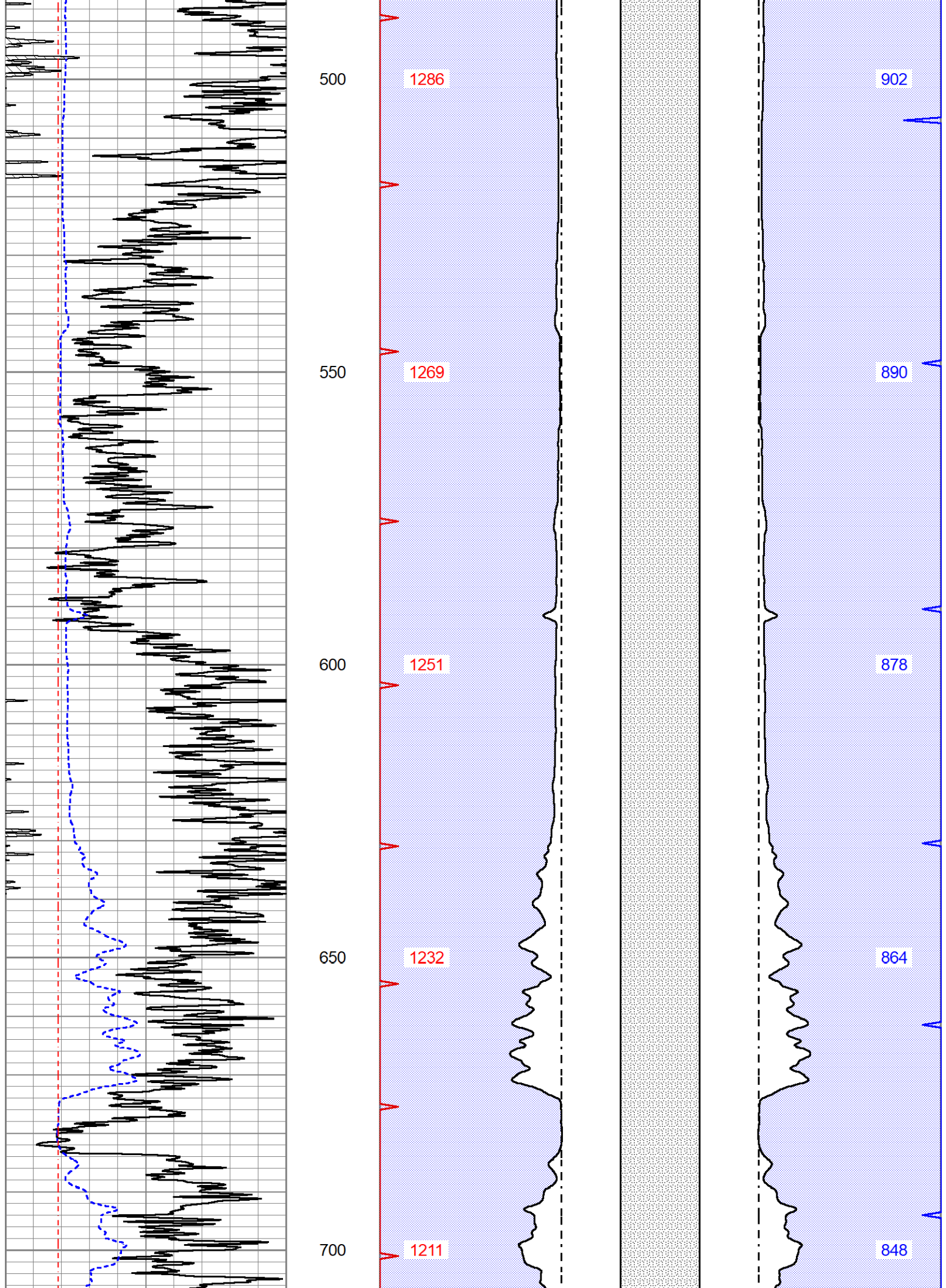
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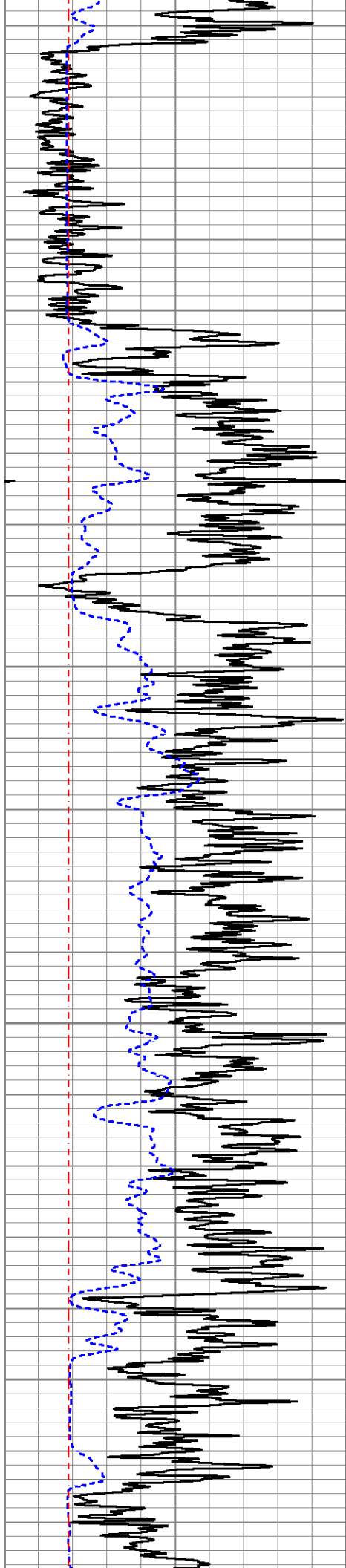
942

926

914







750

1193

800

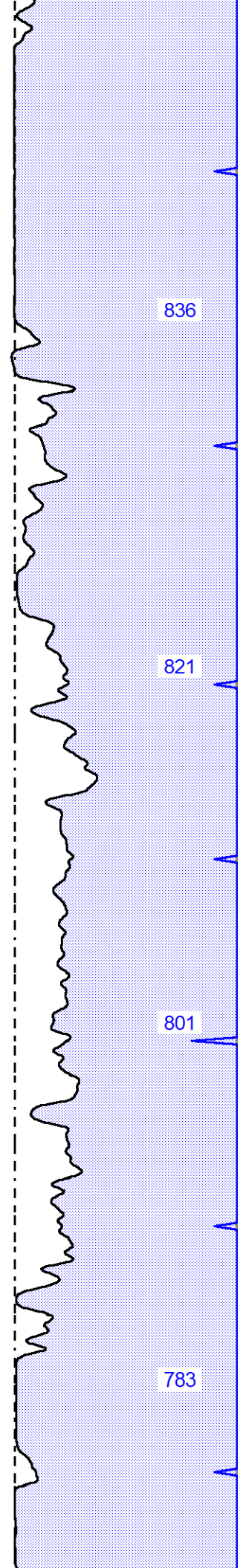
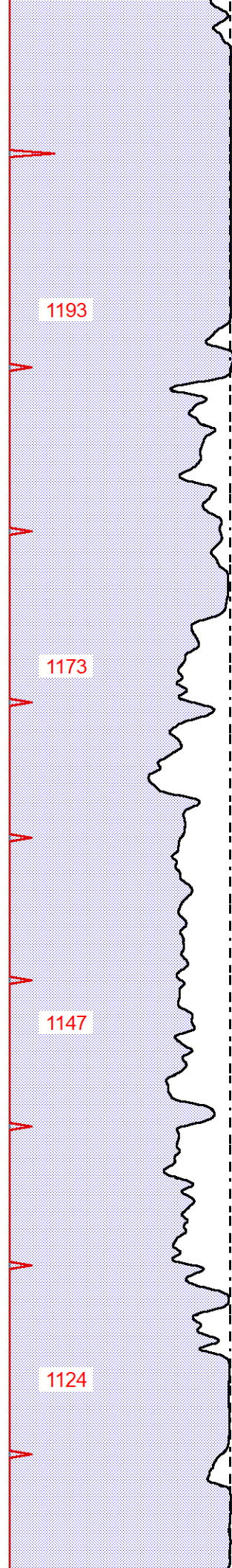
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850

1147

900

1124

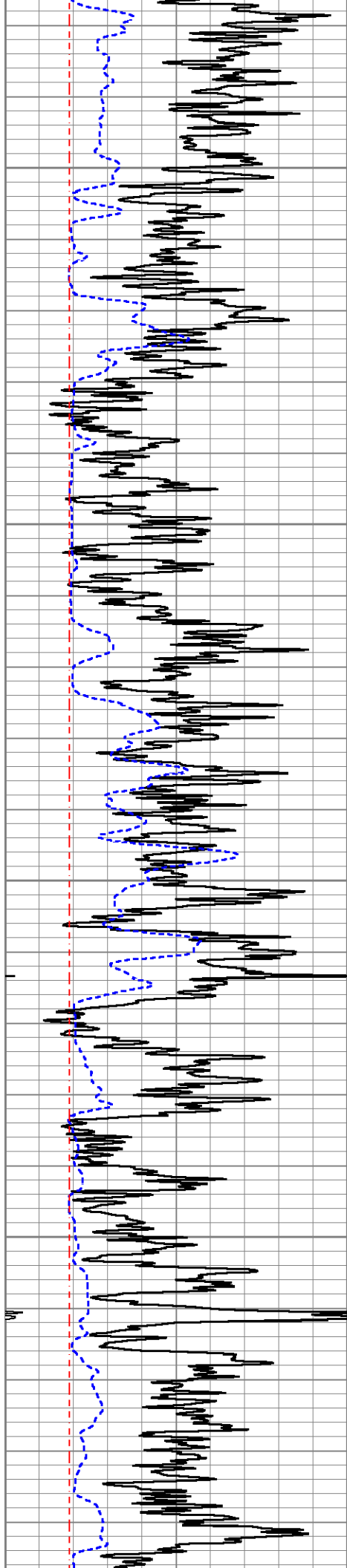


836

821

801

783



950

1105

1000

1086

1050

1064

1100

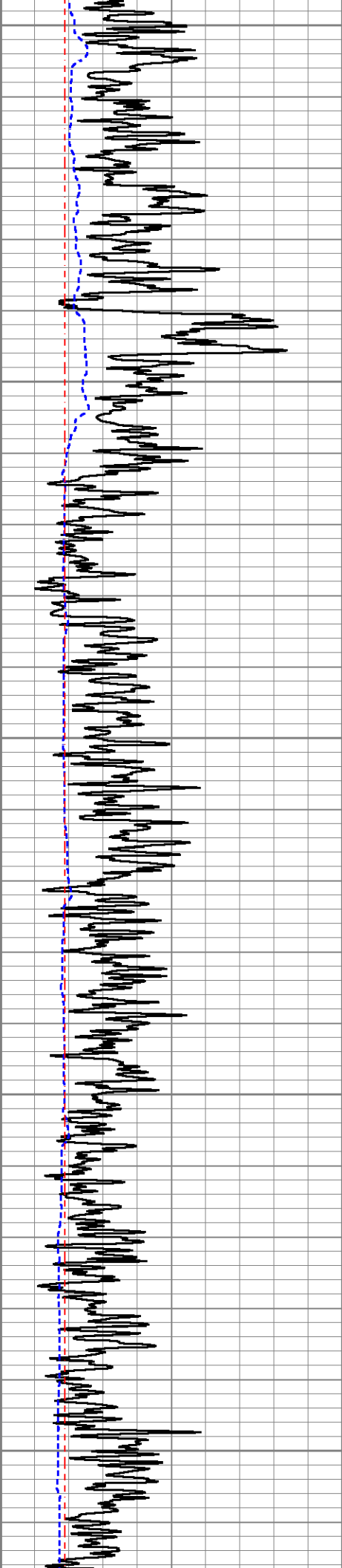
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770

756

740

726



1150

1025

713

1200

1008

700

1250

991

689

1300

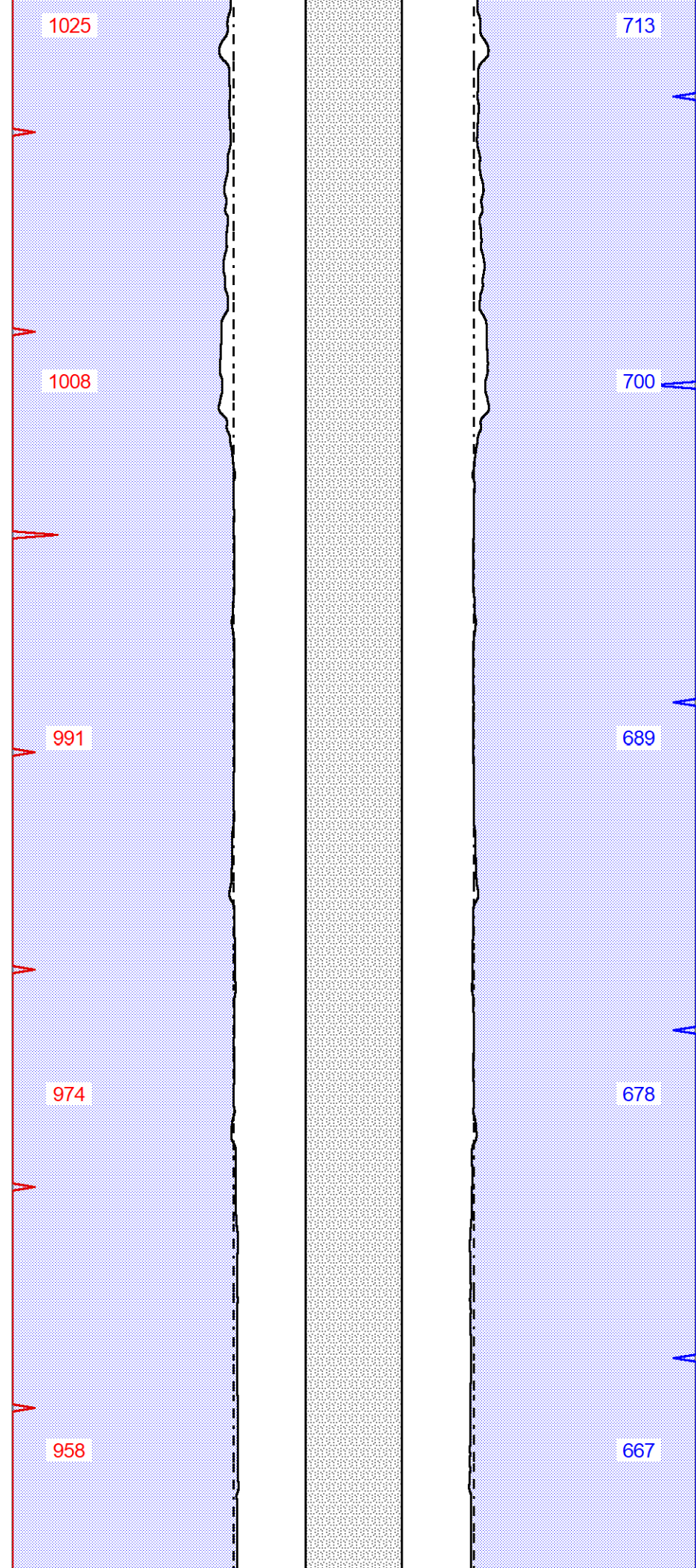
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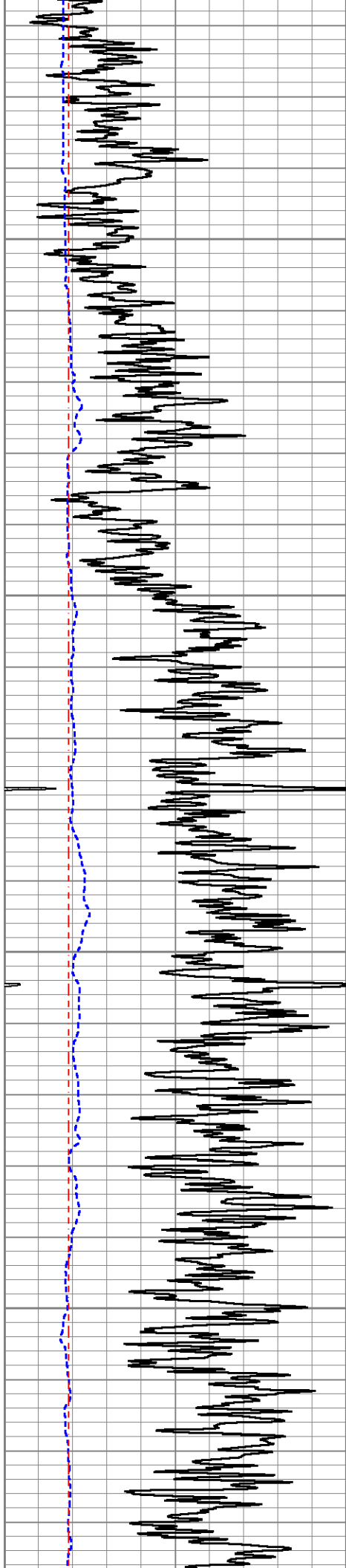
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1350

958

667





1400

942

657

1450

925

646

1500

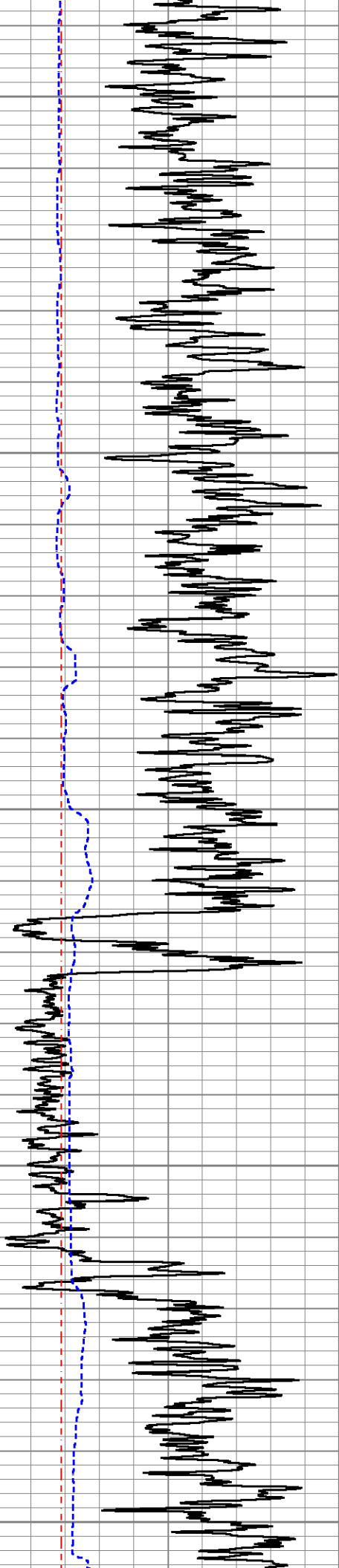
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634

1550

891

622



1600

874

611

1650

858

600

1700

841

589

1750

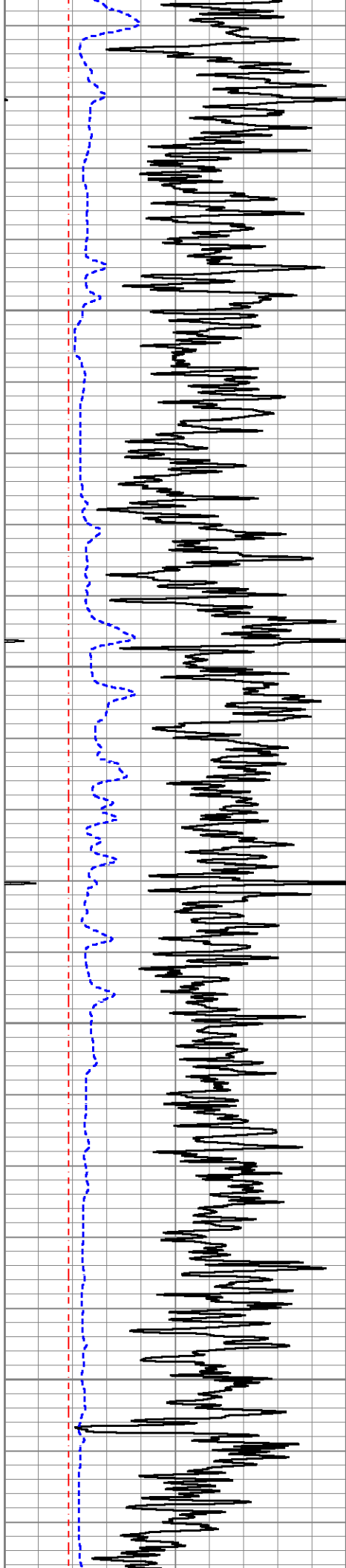
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576

1800

804

563



1850

785

1900

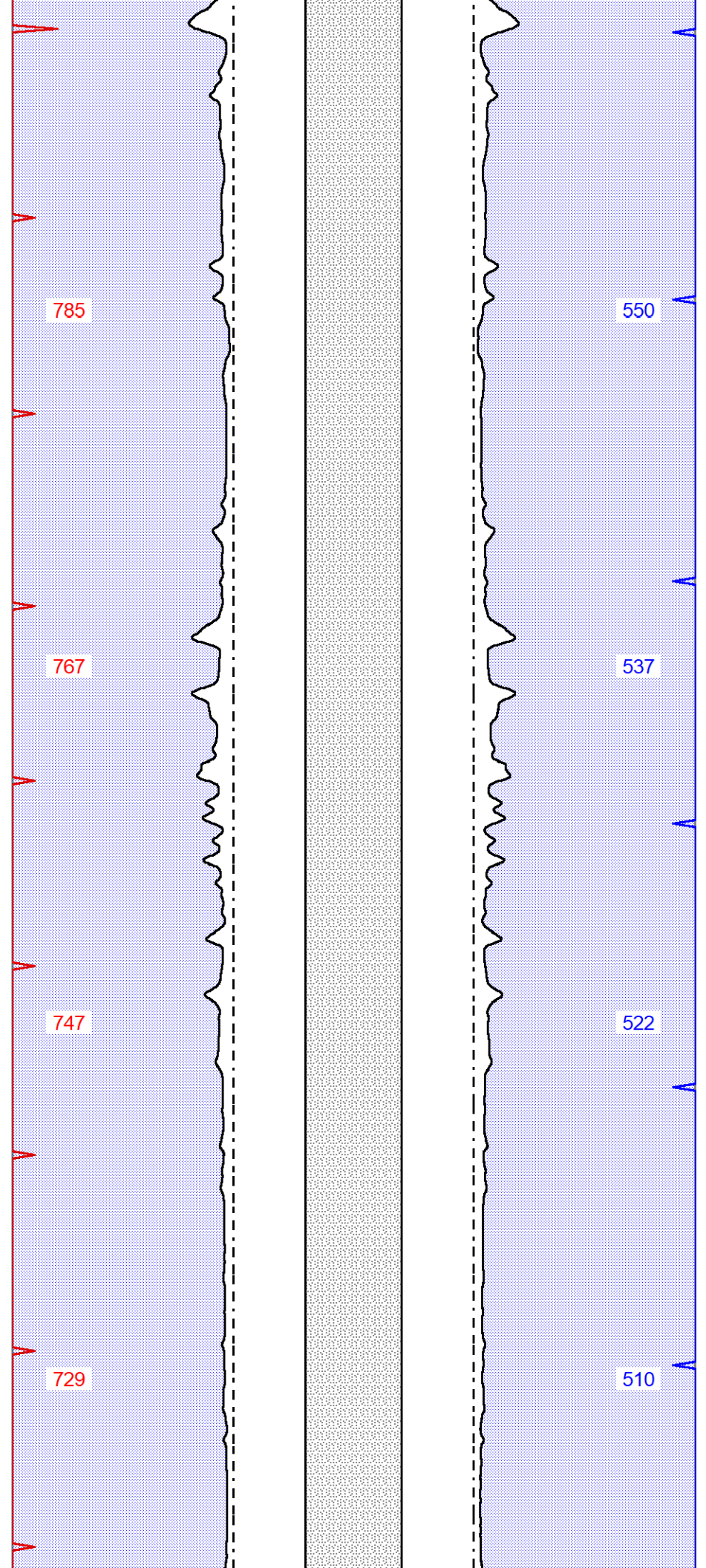
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1950

747

2000

729

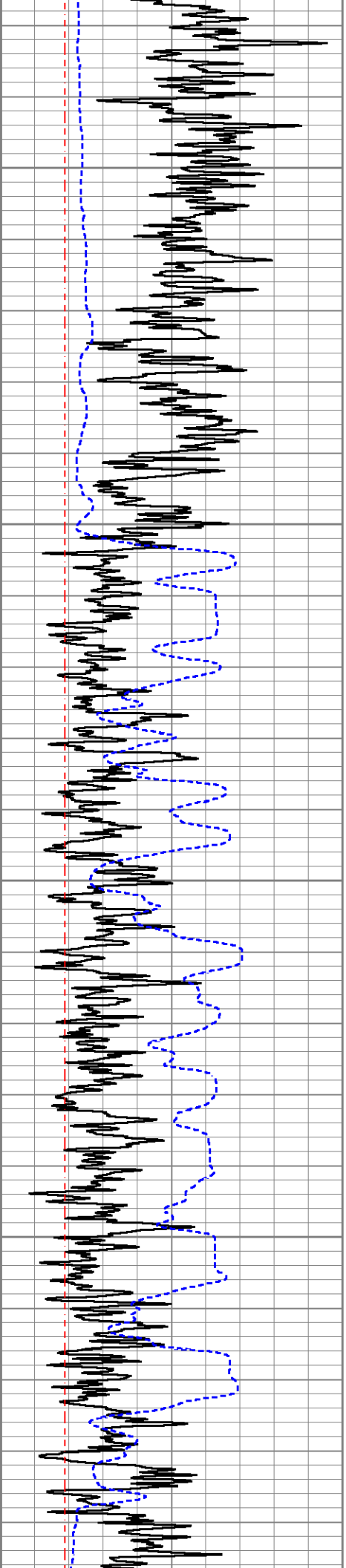


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537

522

510



2050

710

2100

692

2150

660

2200

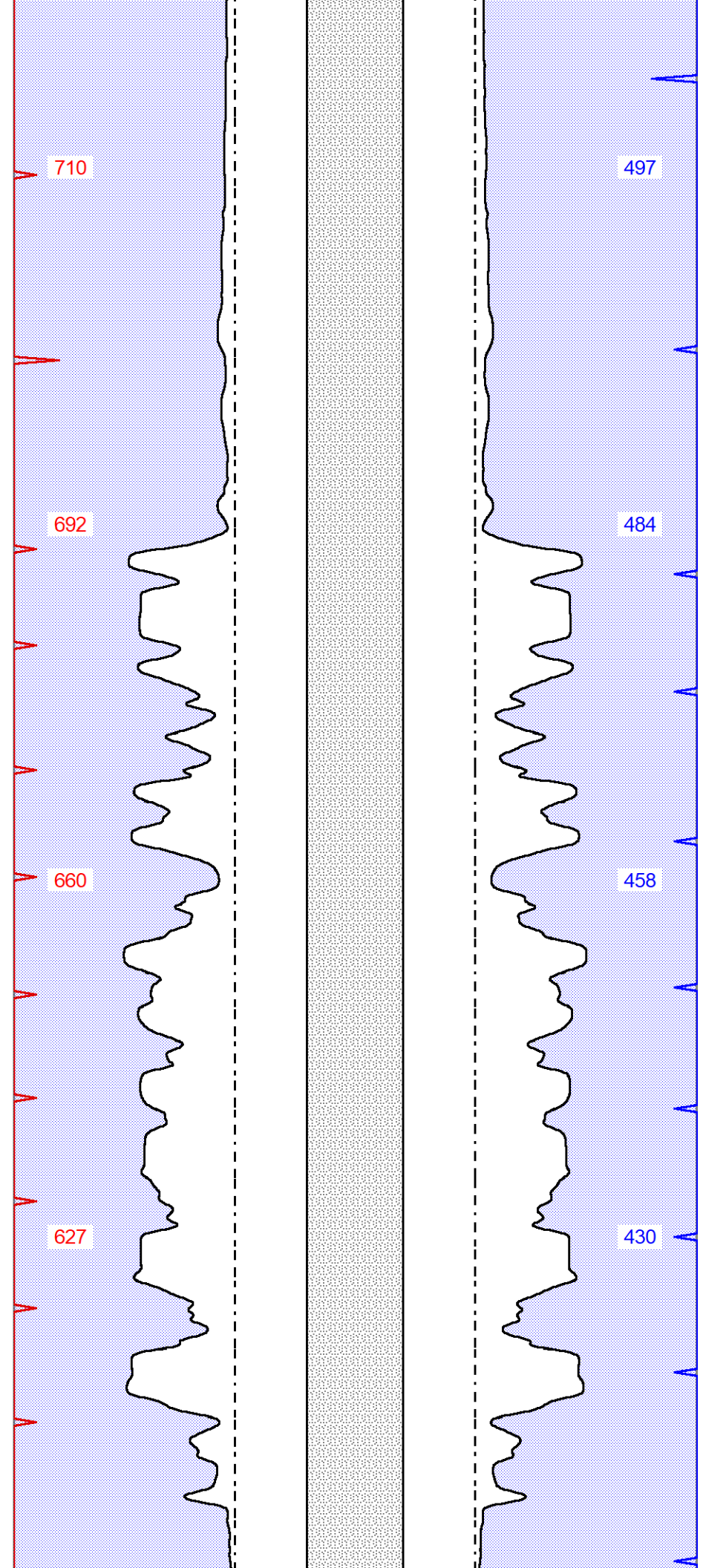
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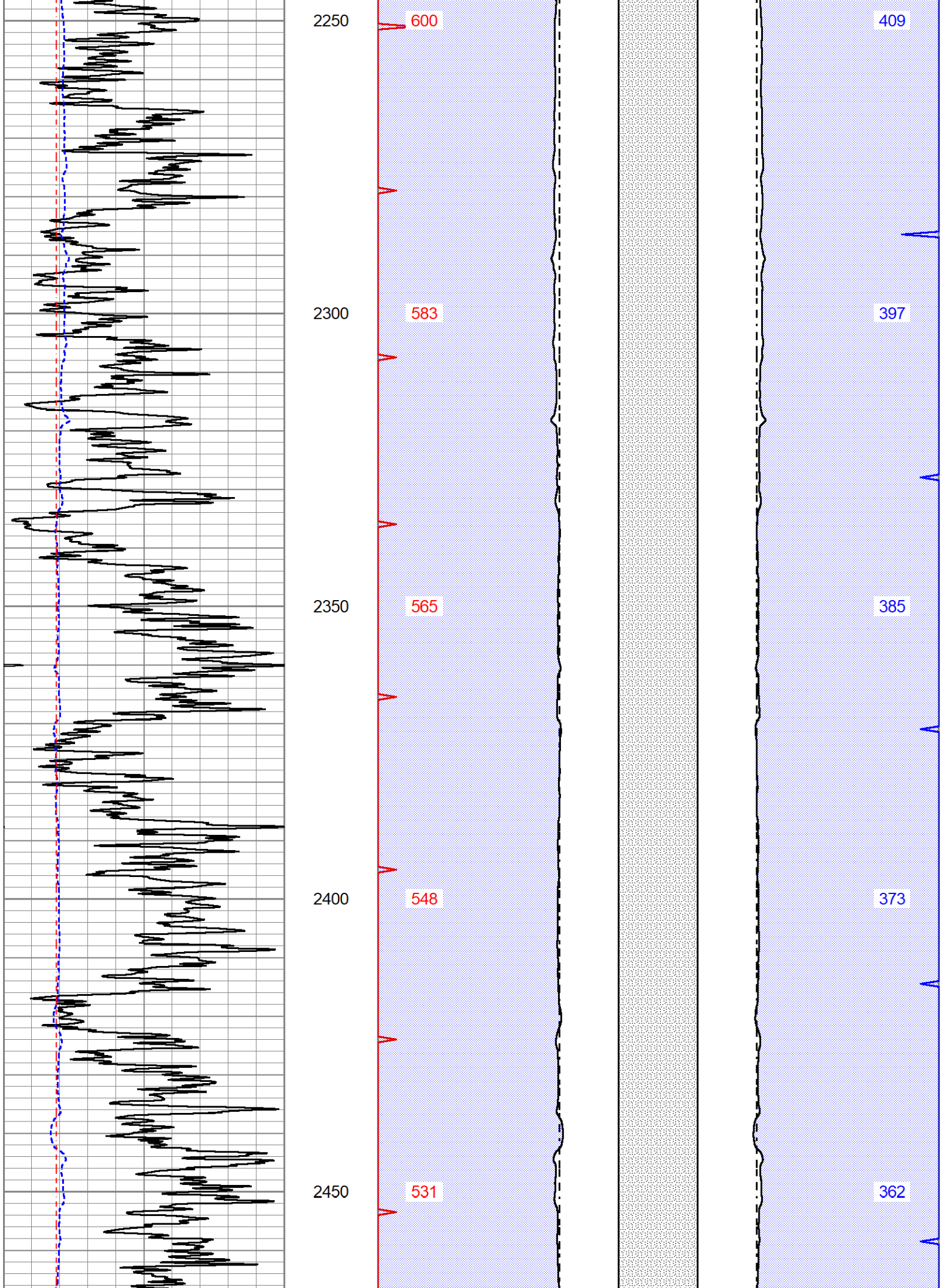
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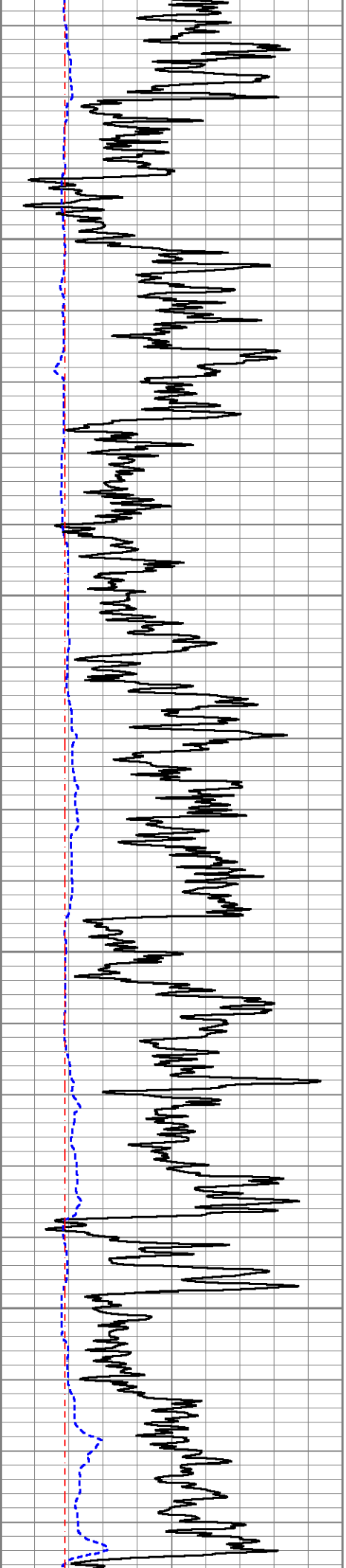
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458

430







2500

514

2550

498

2600

480

2650

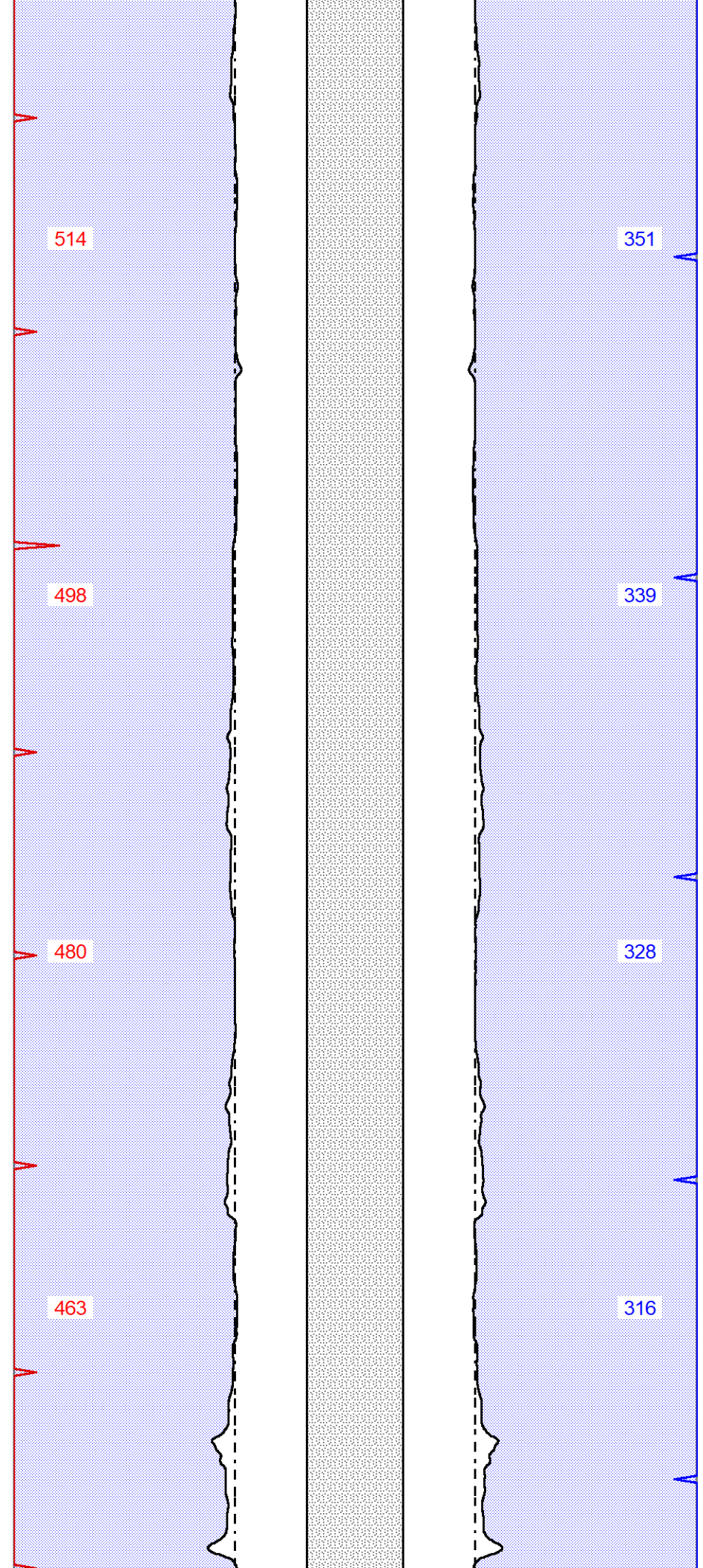
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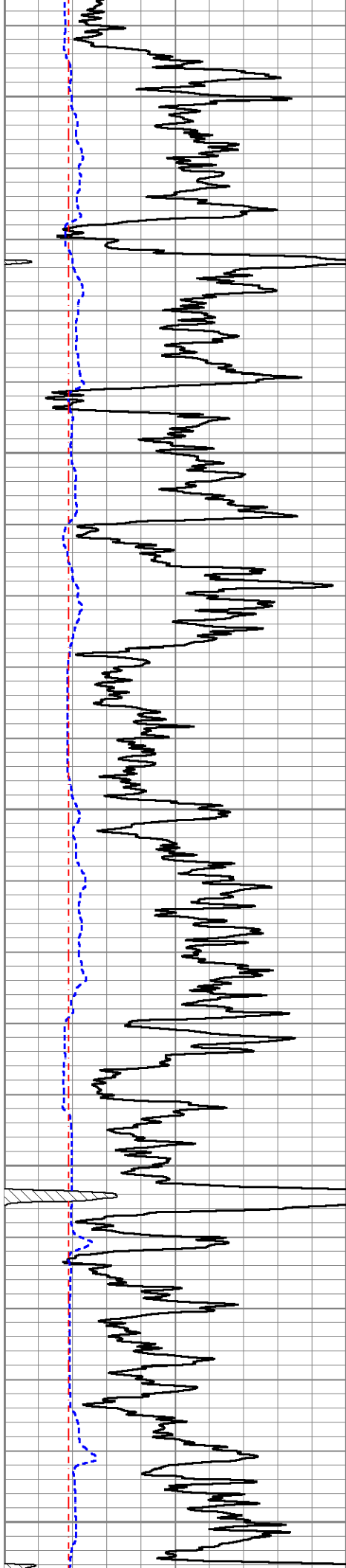
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339

328

316





2700

446

304

2750

428

292

2800

411

280

2850

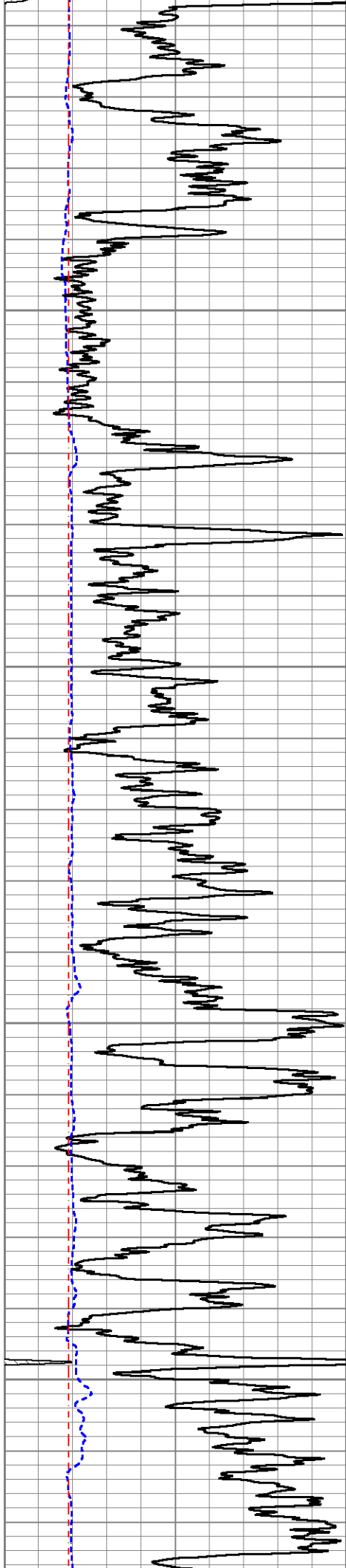
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269

2900

376

257



2950

360

245

3000

343

234

3050

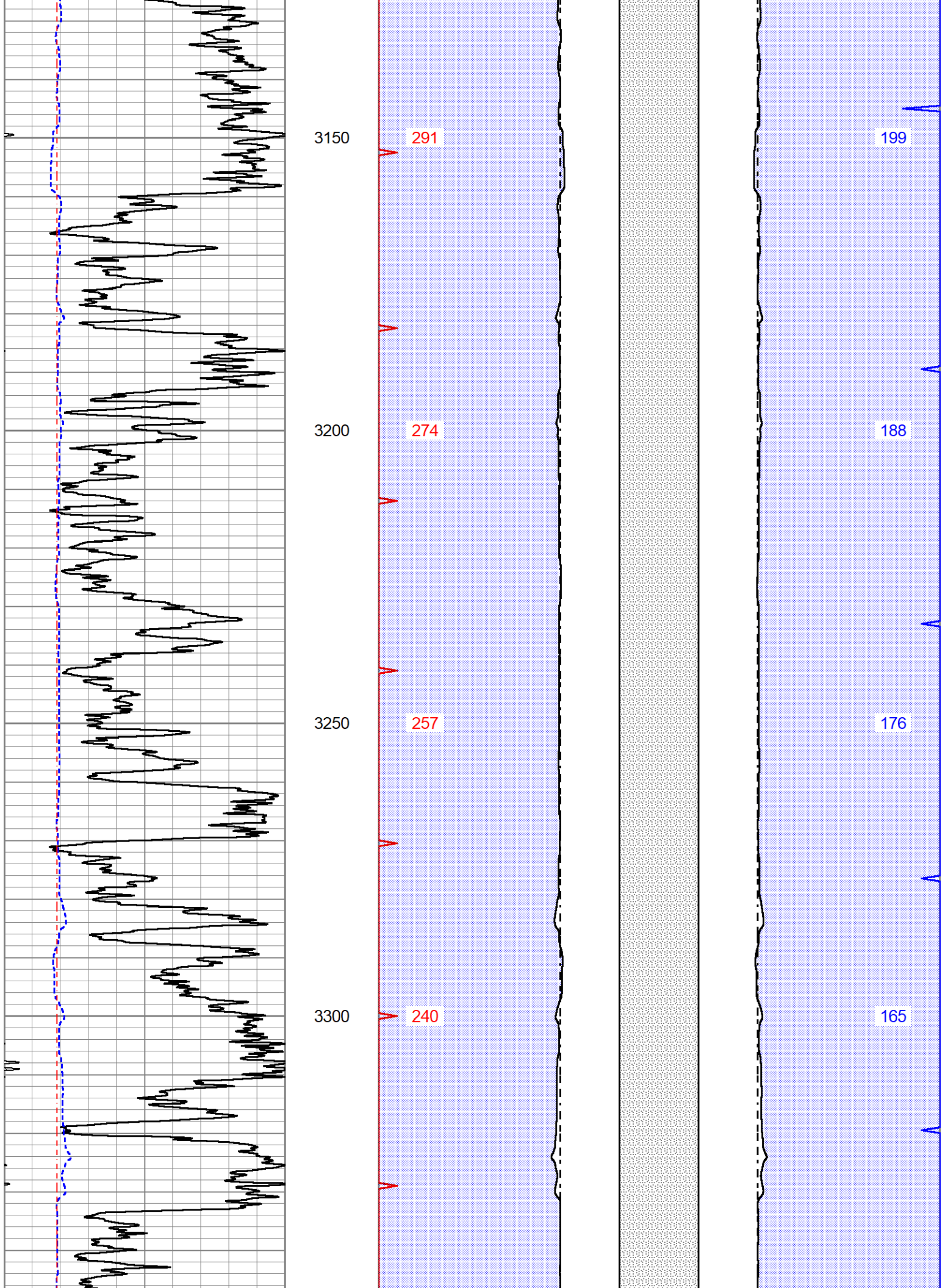
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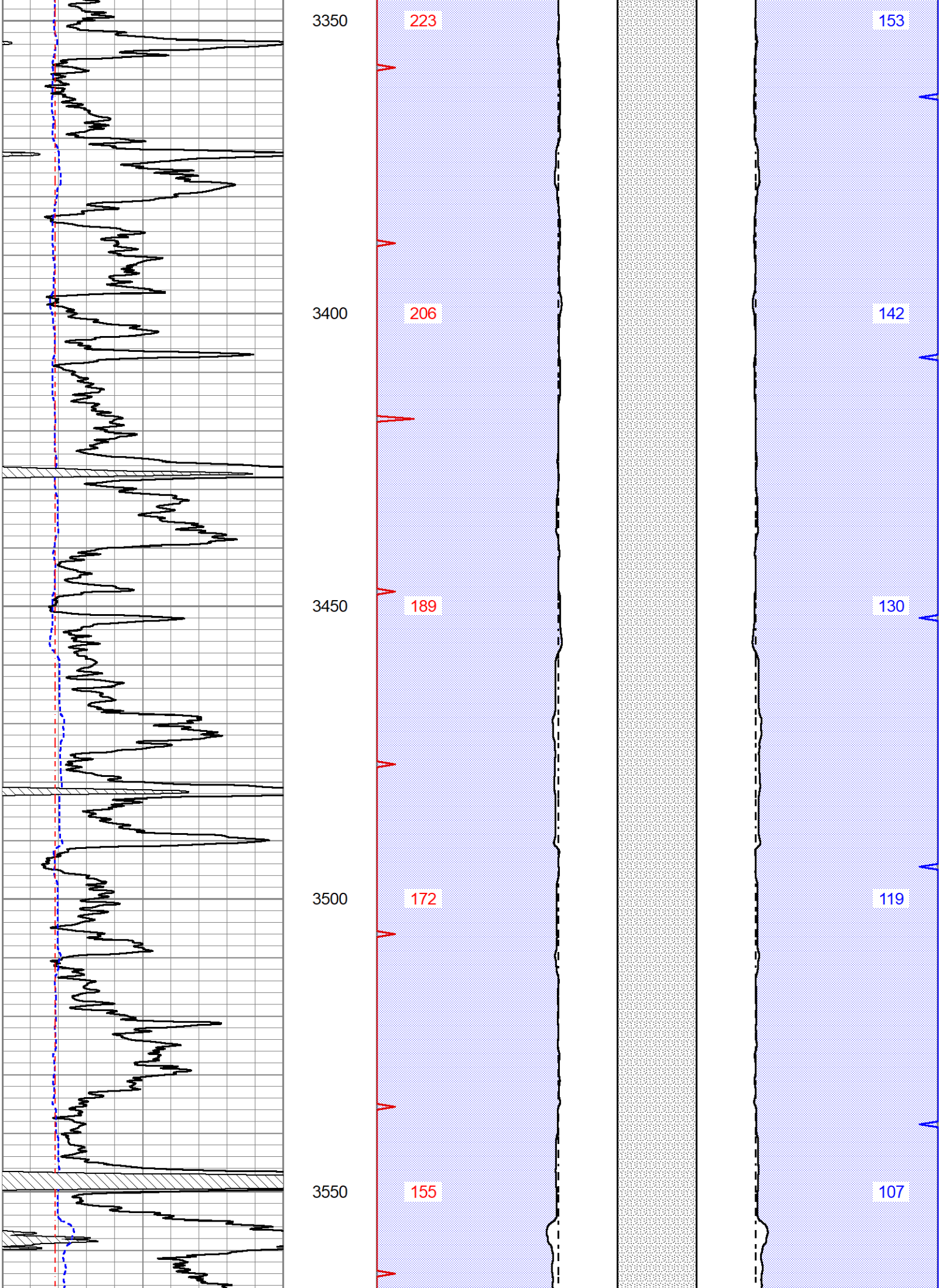
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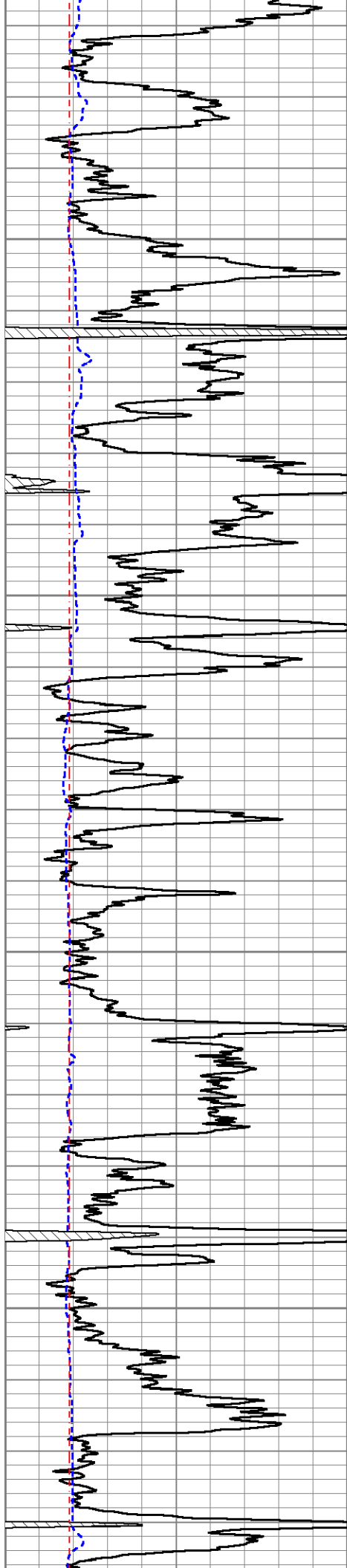
3100

308

211







3600

138

3650

120

3700

103

3750

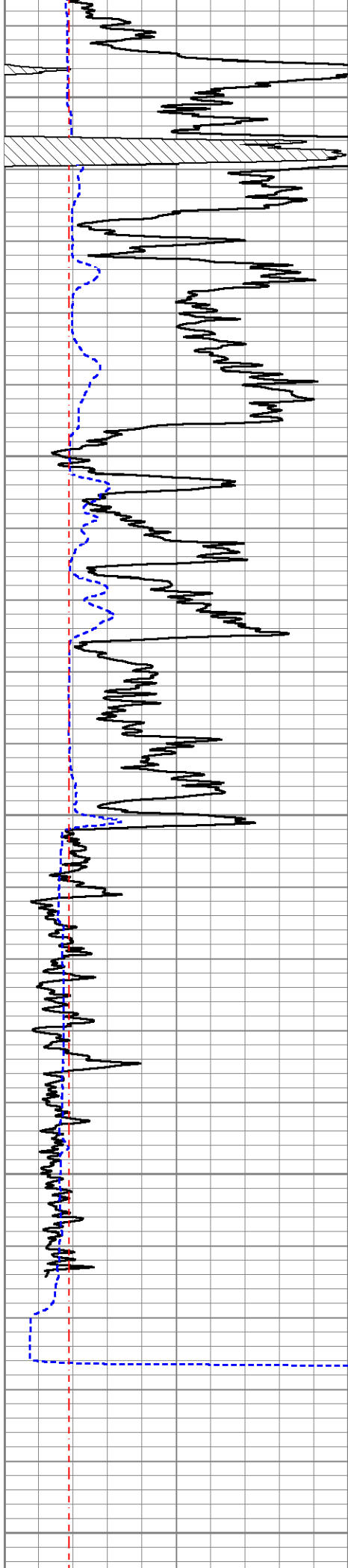
87

95

83

72

61



3800

70

3850

52

3900

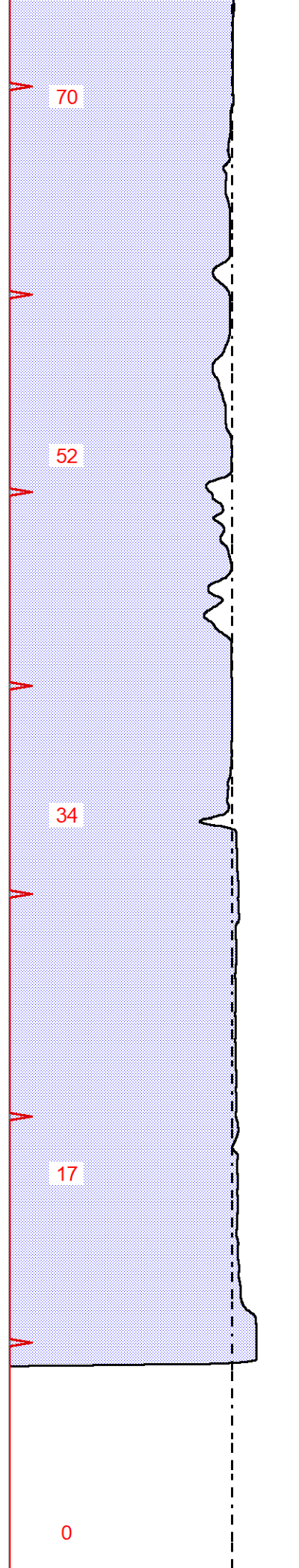
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3950

17

4000

0



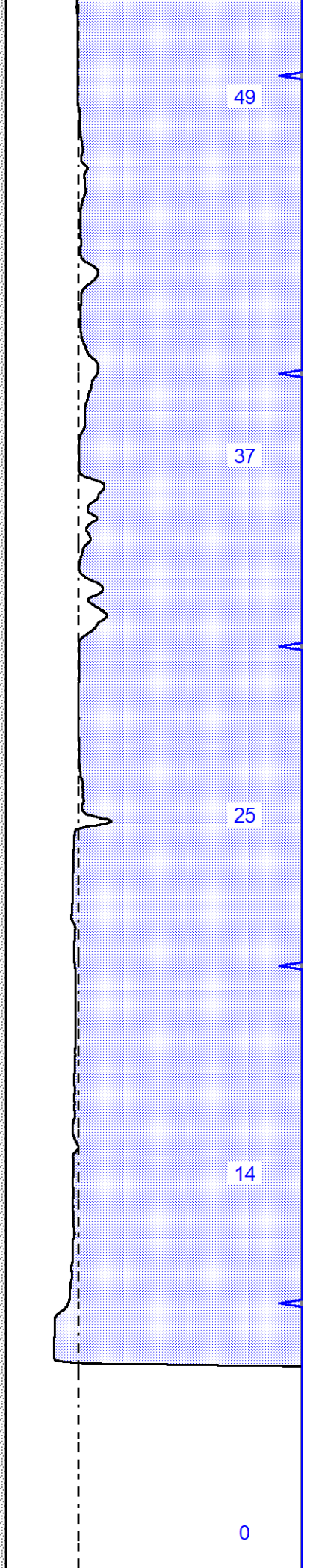
49

37

25

14

0



CALIBRATION

Detector	Readings	Target	Normalization
Short Space	6240.00 cps	1000.00 cps	1.6025
Long Space	460.00 cps	1000.00 cps	1.9500

PRE-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	
3)	Short Space	cps		
	Long Space	cps	pu	

POST-SURVEY VERIFICATION

	Detector	Readings	Measured	Target
1)	Short Space	cps		
	Long Space	cps	pu	pu
2)	Short Space	cps		
	Long Space	cps	pu	pu
3)	Short Space	cps		
	Long Space	cps	pu	pu

Gamma Ray Calibration Report

Serial Number:	106	
Tool Model:	M&W	
Performed:	Fri Dec 3 15:10:46 2021	
Calibrator Value:	500.0	GAPI
Background Reading:	24.0	cps
Calibrator Reading:	637.0	cps
Sensitivity:	0.5500	GAPI/cps



MIDWEST WIRELINE

Company	Murfin Drilling Company, Inc.
Well	Armbrister #1-36
Field	Nicholson
County	Trego
State	Kansas