

HALLIBURTON

CEMENT BOND LOG
GR-CCL

Company				URSA OPERATING COMPANY				
Well				BMC D 22B-18-07-95				
Field				WILDCAT				
County				GARFIELDStateCO				
Company				URSA OPERATING COMPANY				
Well				BMC D 22B-18-07-95				
Field				WILDCAT				
County				GARFIELDStateCO				
API No.: 05045233140000				Serv #: 904058182				
Location: SHL: 1254' FNL 2331' FWL				Other Services				
BHL:1928' FNL & 1901' FWL				JB-GR RMT-i				
Permanent Datum				Ground Level Elevation 5268'				
Log Measured From KB, 17 Ft. above perm. datum				Elevation 5285' D.F. 5286' G.L. 5268'				
Drilling Measured From KB				FRESH WATER				
Date @ Time Logged 27-MAY-2017				Type Fluid in Hole Density of Fluid 8.4 PPG				
Run No. ONE				FULL				
Depth - Driller 6667 FT				Cement Top Est. Logged N/A				
Depth - Logger 6245 FT				Equipment / Location 11808537 / RS				
Bottom - Logged Interval 6240 FT				Recorded by Pedro Gonzalez Baquero				
Top - Log Interval 1700 FT				Witnessed by Luke Grieger				
Max. Recorded Temp. 190 °F				Protection String Production String				
CEMENTING DATA				Liner				
Date / Time Cemented								
Primary / Squeeze								
Expected Compressive Strength psi@ hrs				psi@ hrs				
Cement Volume								
Cement Type / Weight /								
Formulation								
Mud Type / Mud Wgt. /								
Borehole Record				Casing & Tubing Record				
Run Number		Bit	From	To	Size	Weight	From	To
ONE		24"	SURFACE	60'	16"	75	SURFACE	60'
TWO		12.25"	SURFACE	1730'	8.625"	32	SURFACE	1700'
THREE		7.875"	SURFACE	6668.8'	4.5"	11.6	SURFACE	6577'

HALLIBURTON DOES NOT GUARANTEE THE ACCURACY OF ANY INTERPRETATION OF THE LOG DATA, CONVERSION OF LOG DATA TO PHYSICAL ROCK PARAMETERS OR RECOMMENDATIONS WHICH MAY BE GIVEN BY HALLIBURTON PERSONNEL OR WHICH APPEAR ON THE LOG OR IN ANY OTHER FORM. ANY USER OF SUCH DATA, INTERPRETATIONS, CONVERSIONS, OR RECOMMENDATIONS AGREES THAT HALLIBURTON IS NOT RESPONSIBLE EXCEPT WHERE DUE TO GROSS NEGLIGENCE OR WILLFUL MISCONDUCT, FOR ANY LOSS, DAMAGES, OR EXPENSES RESULTING FROM THE USE THEREOF.

HES Reservoir Monitor Log First run in to the Hole
Log Correlated By the KB 17'
Log Interval per customer Request
Log Ran in combo with RMT-i tool

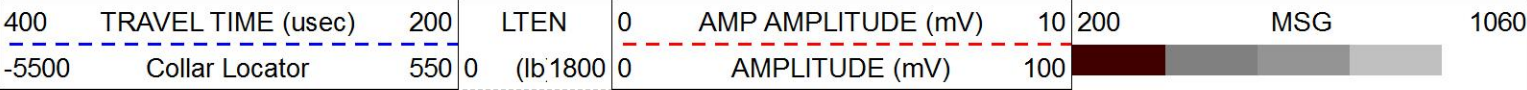
THANK YOU FOR CHOOSING HALLIBURTON ENERGY SERVICES ROCK SPRING WY

HALLIBURTON

MAIN PASS

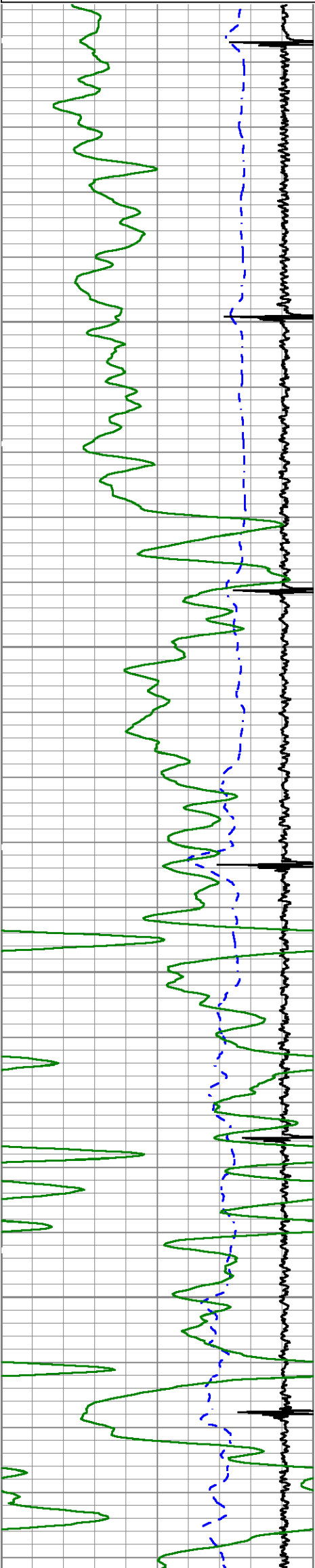
5"=100'

Database File bmc d 22b-18-07-95.db
Dataset Pathname WC/BMC_D_22B-18-07-95/run1/MAIN
Presentation Format cbl_main
Dataset Creation Sat May 27 20:15:45 2017
Charted by Depth in Feet scaled 1:240



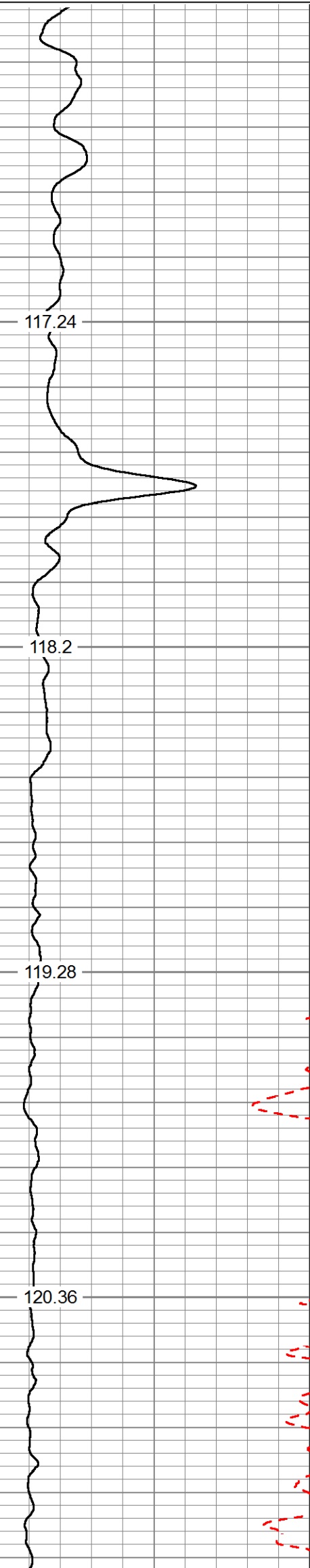
Gamma Ray (GAPI) 150

Cbll temp
(degF)



1700

1800

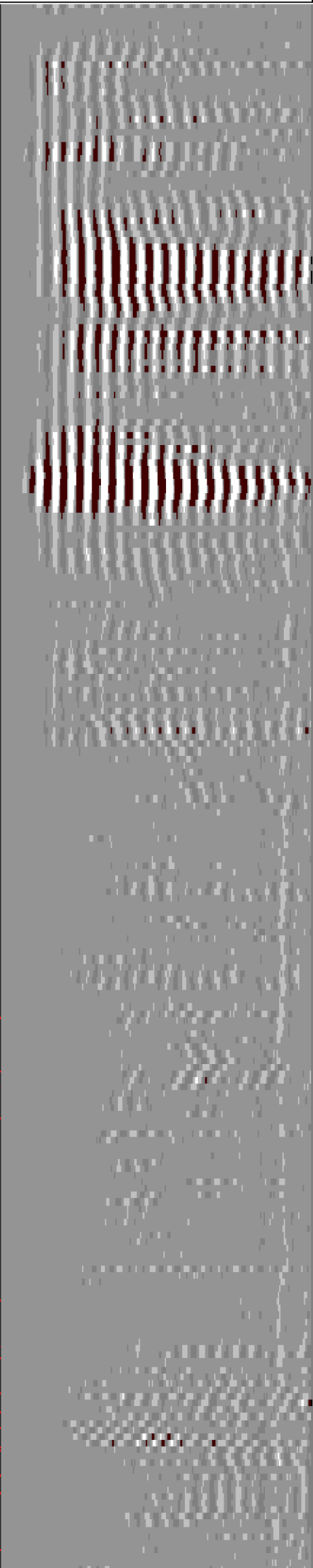


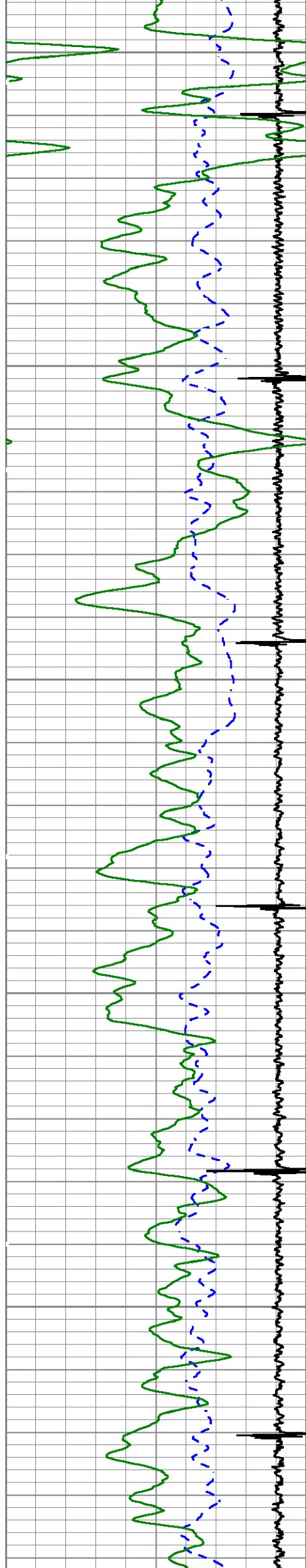
117.24

118.2

119.28

120.36





1900

2000

2100

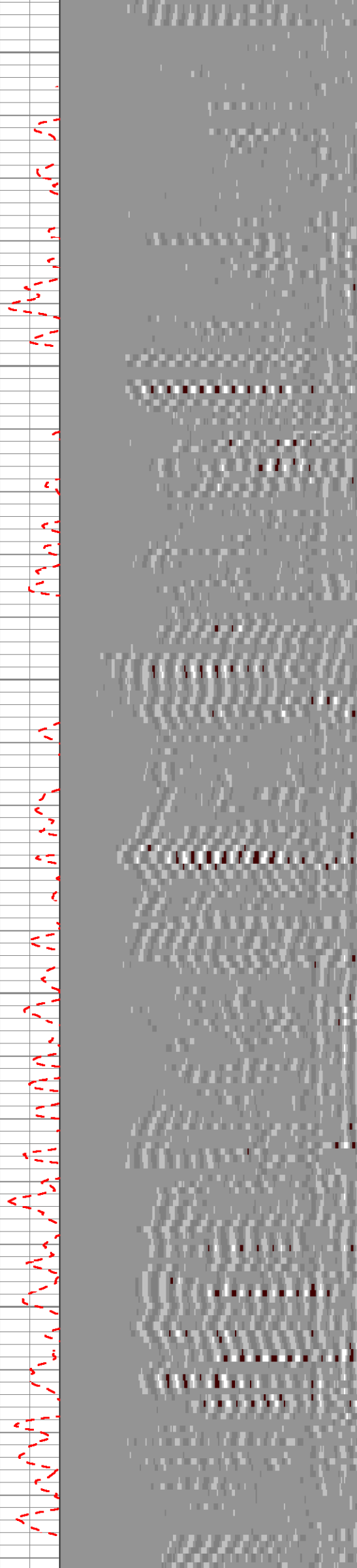
121.27

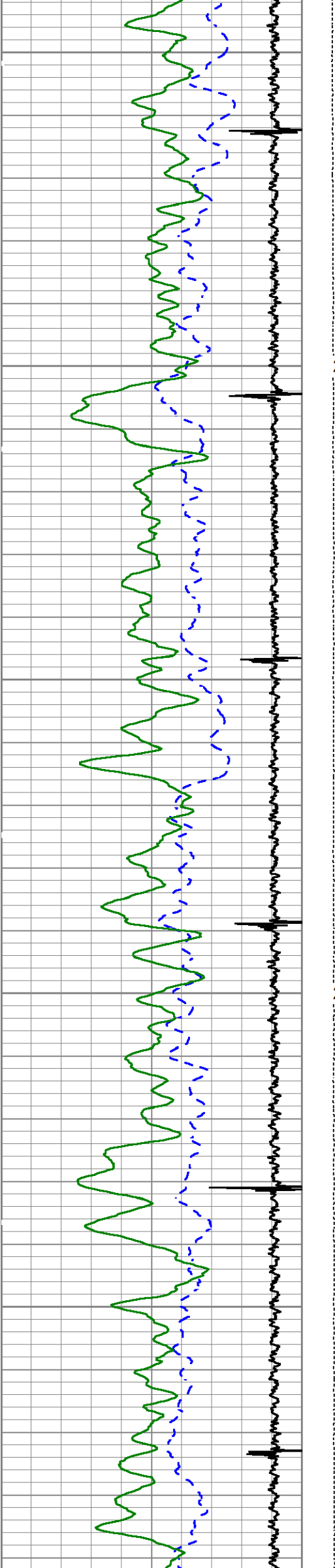
122.23

123.26

124.33

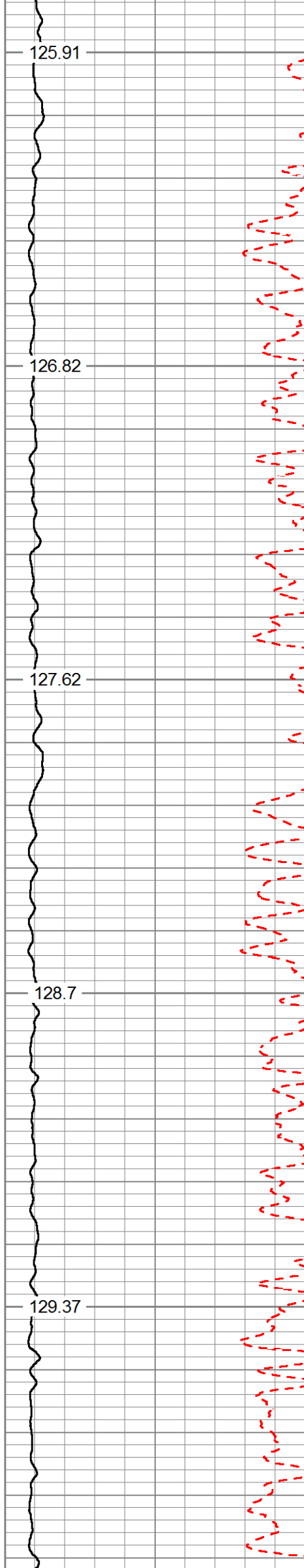
125





2200

2300



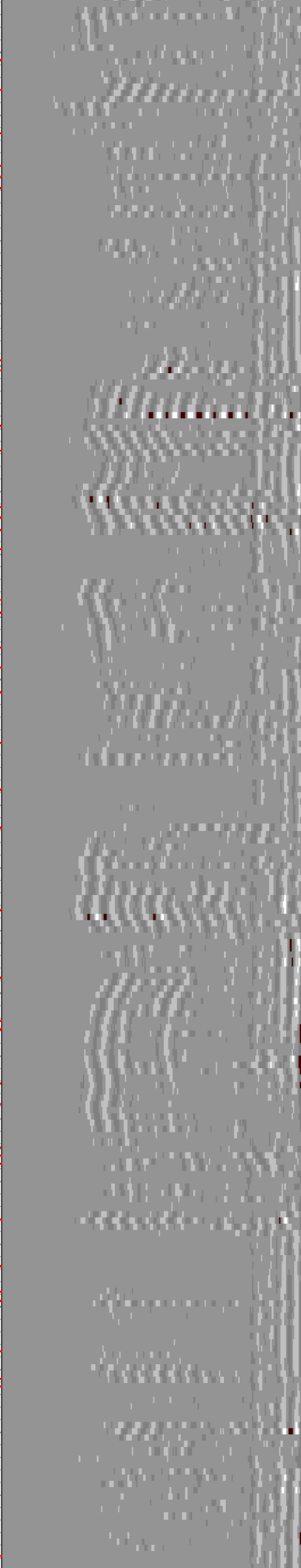
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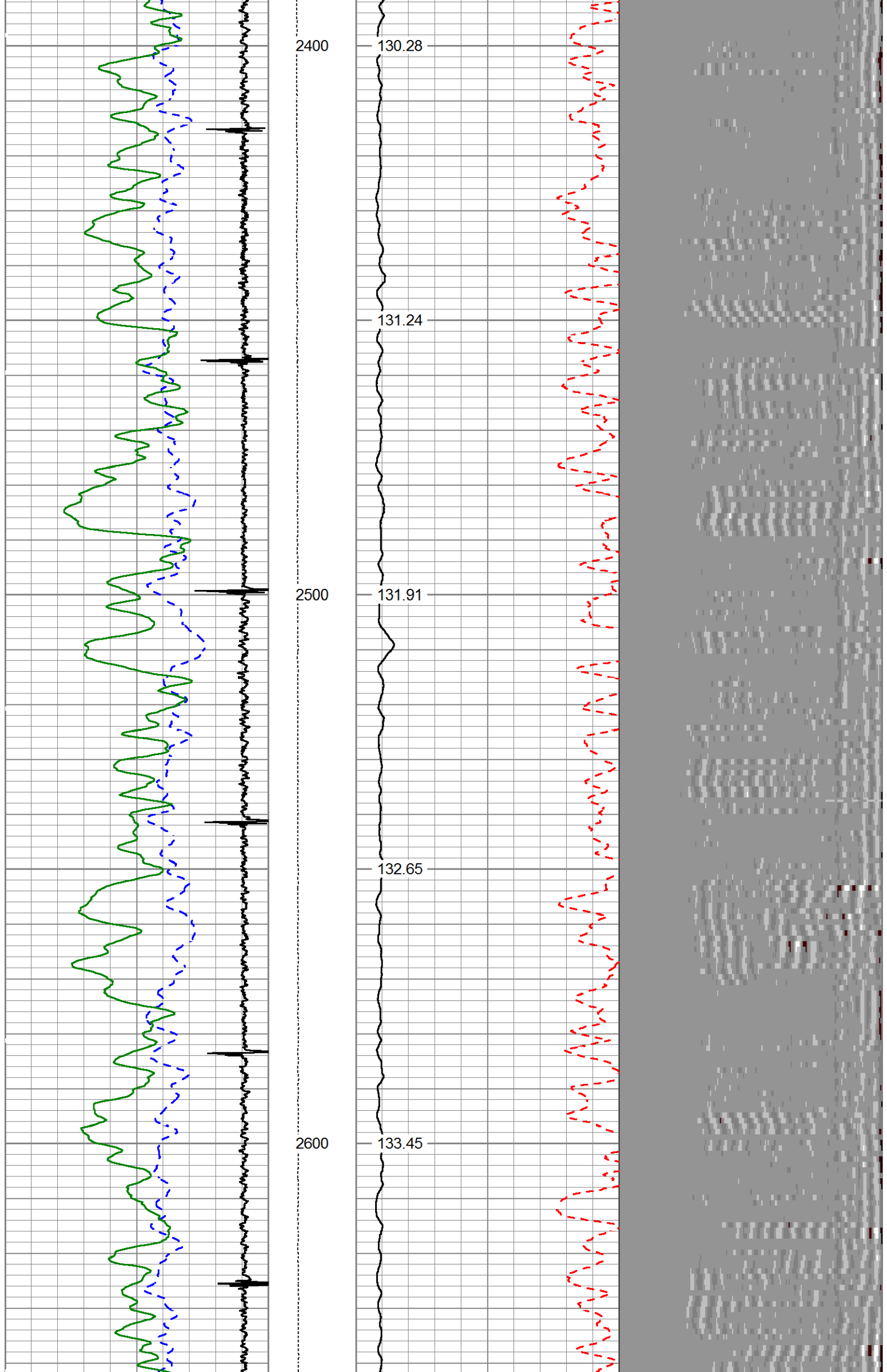
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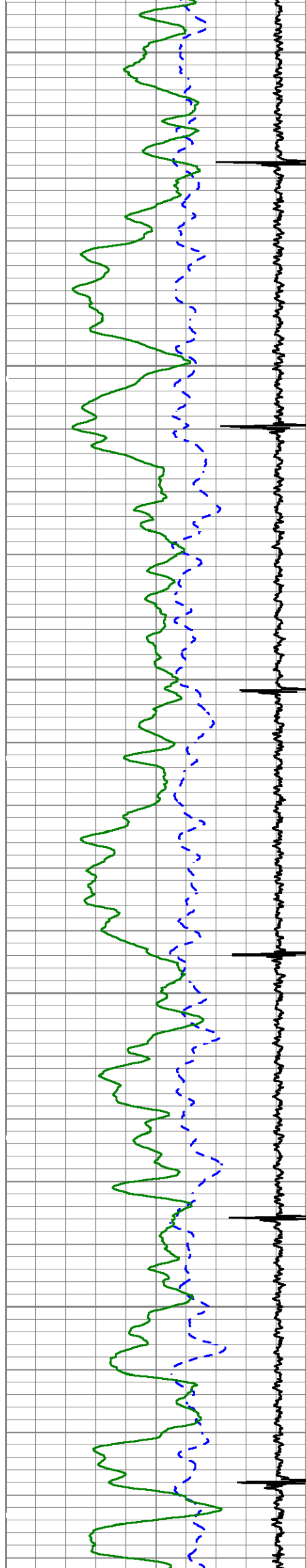
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128.7

129.37

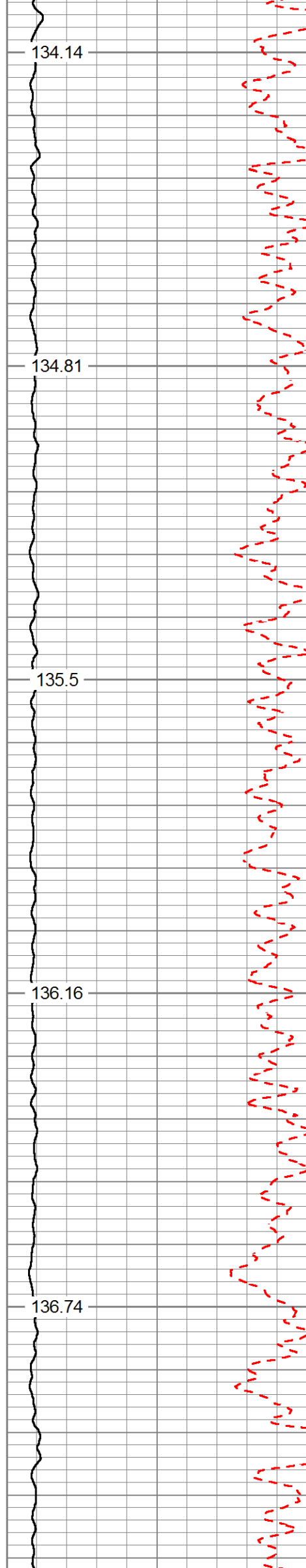


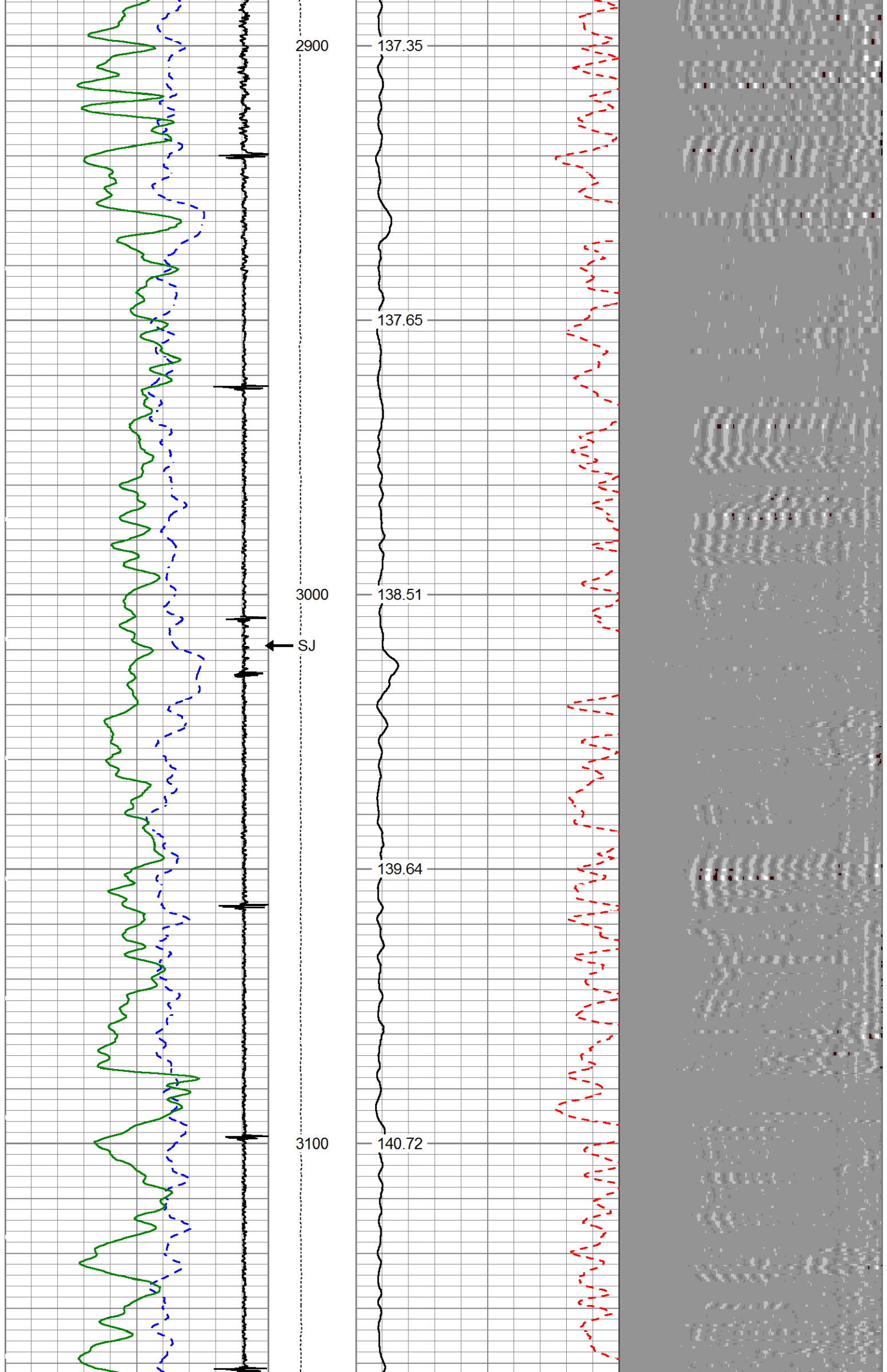


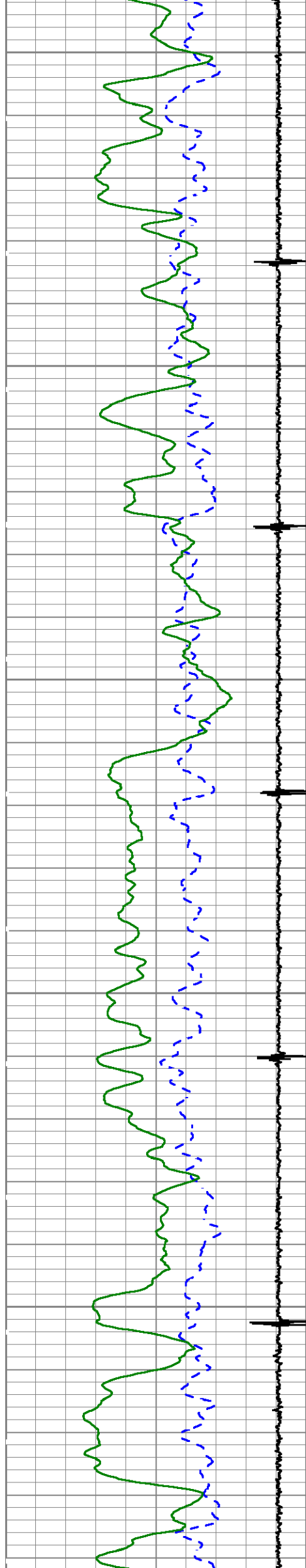


2700

2800

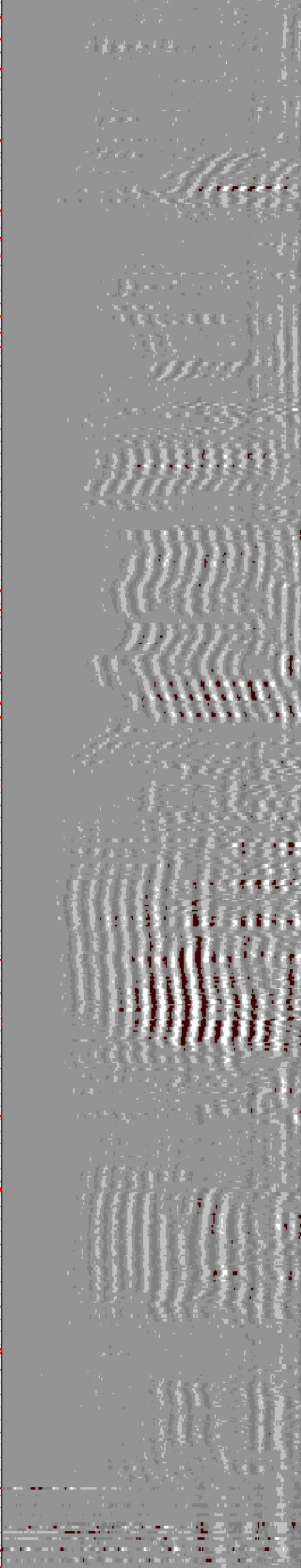
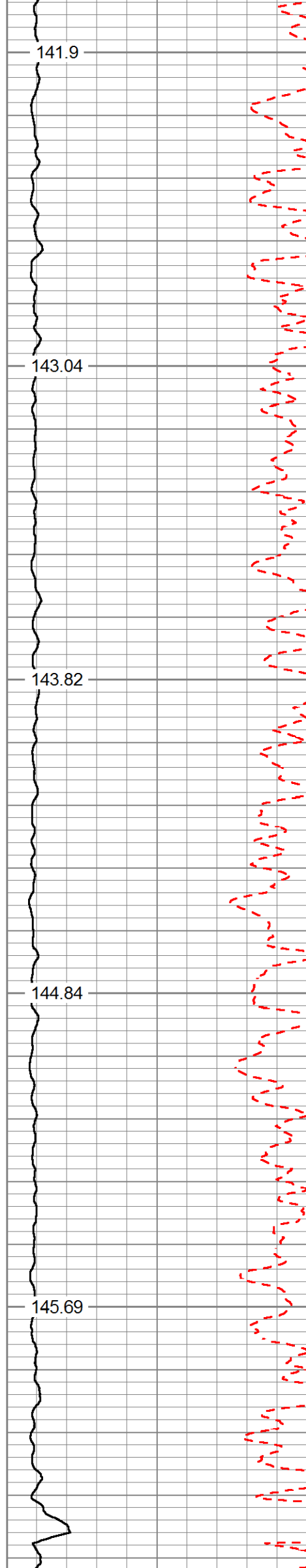


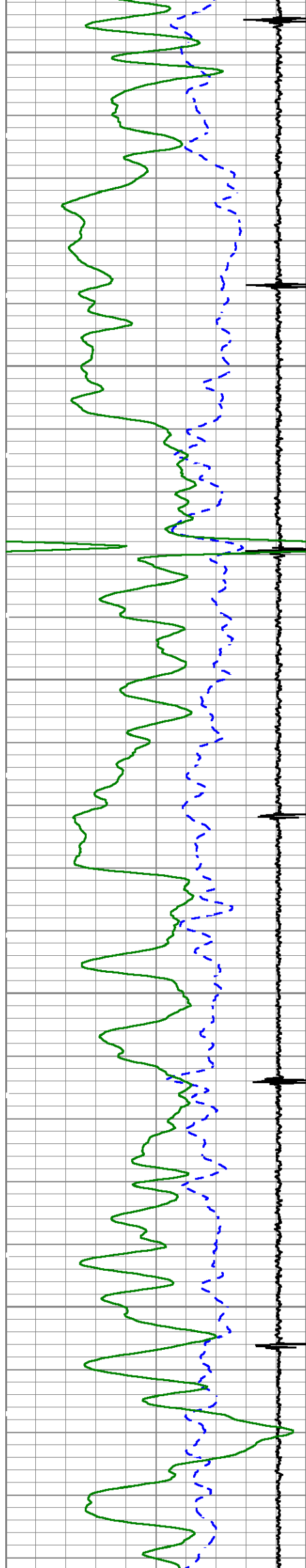




3200

3300





3400

3500

3600

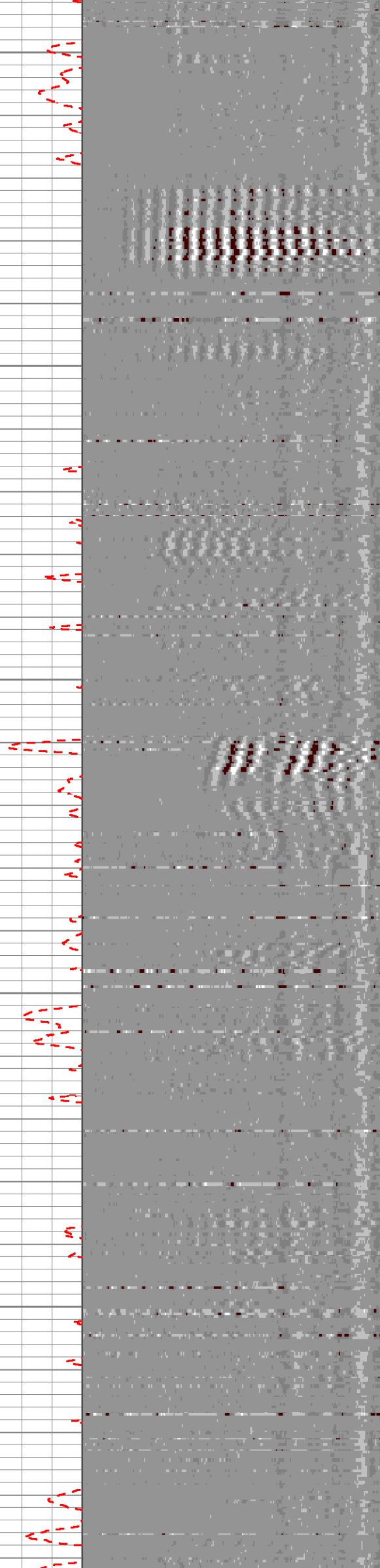
146.83

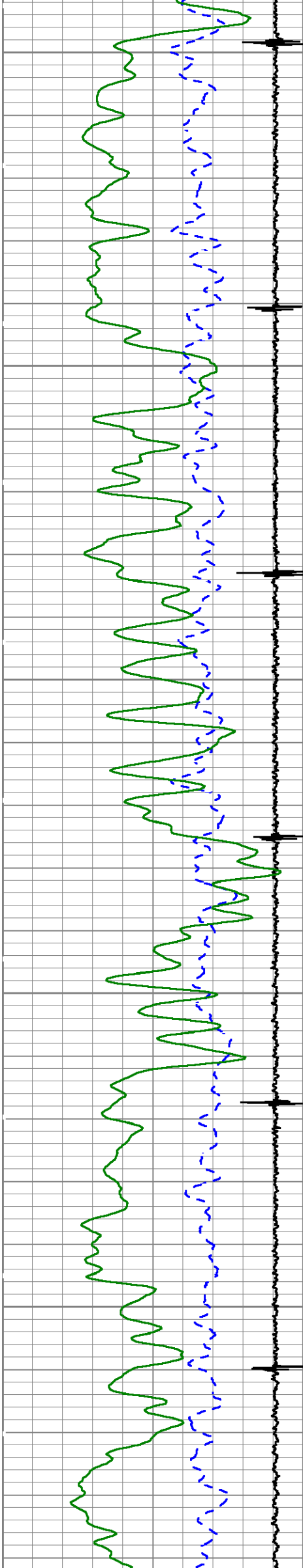
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148.65

149.56

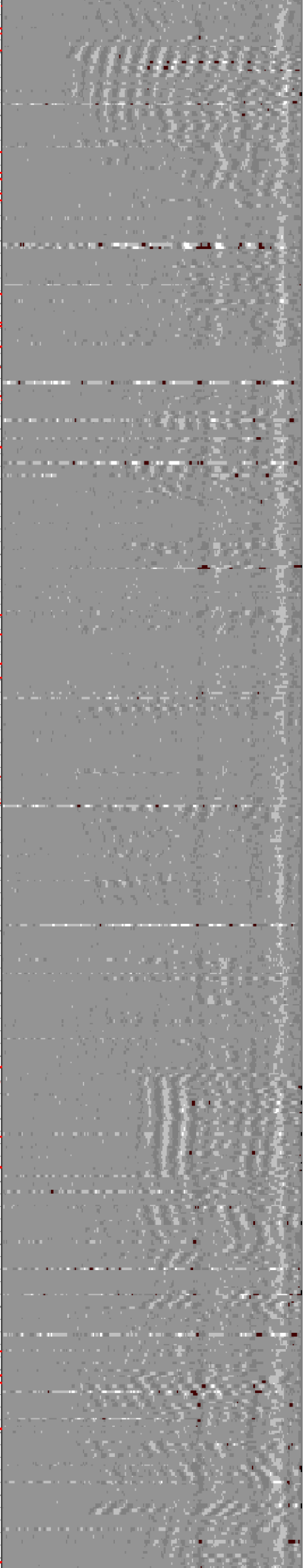
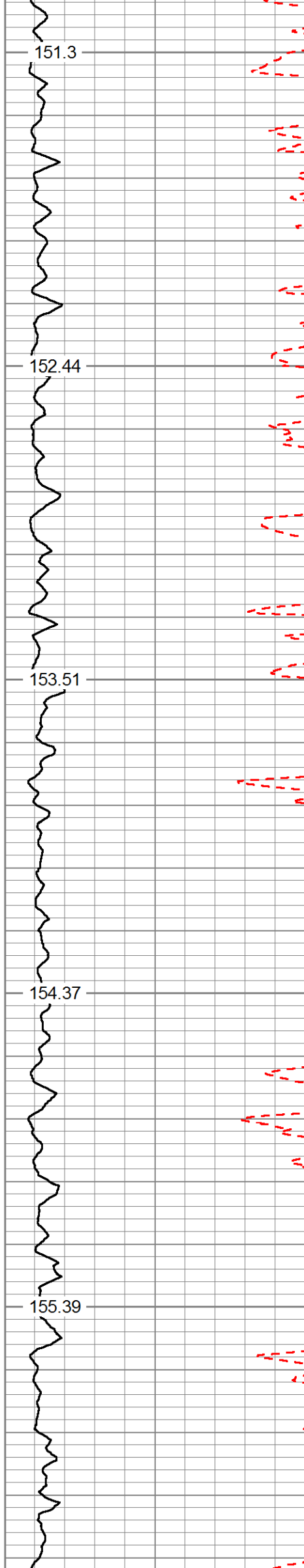
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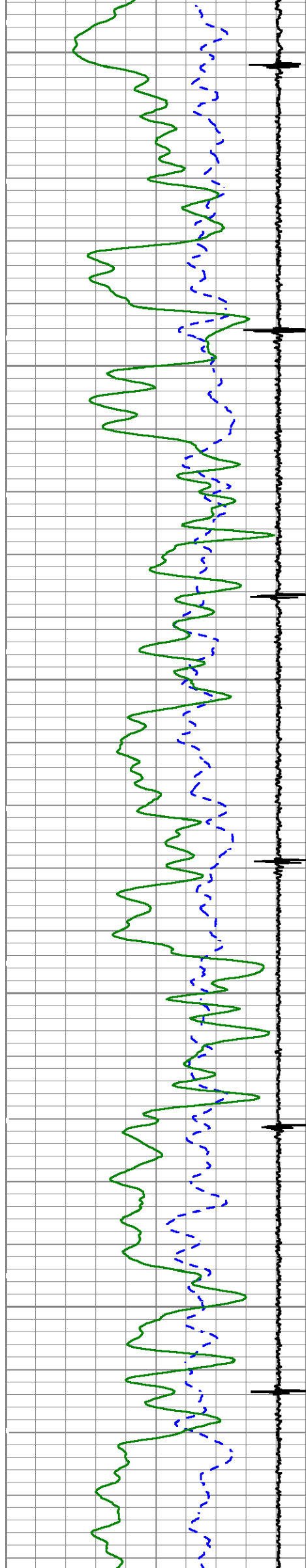




3700

3800

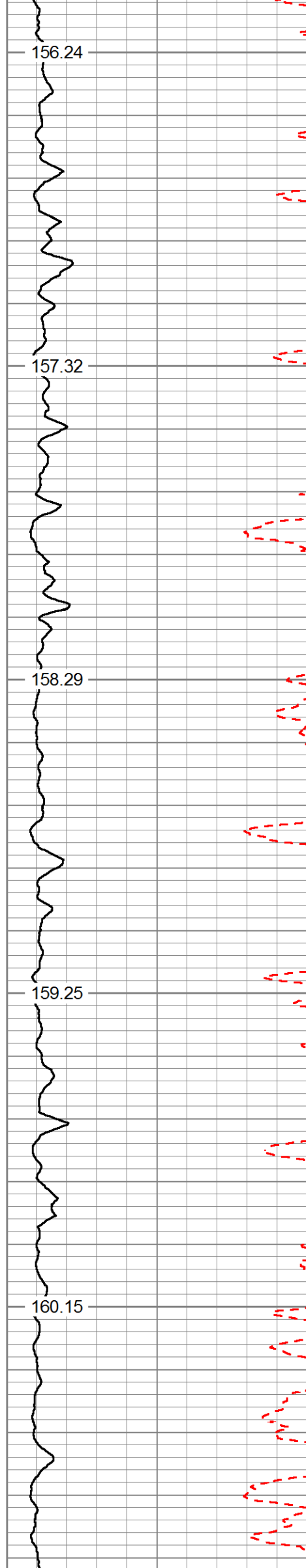




3900

4000

4100



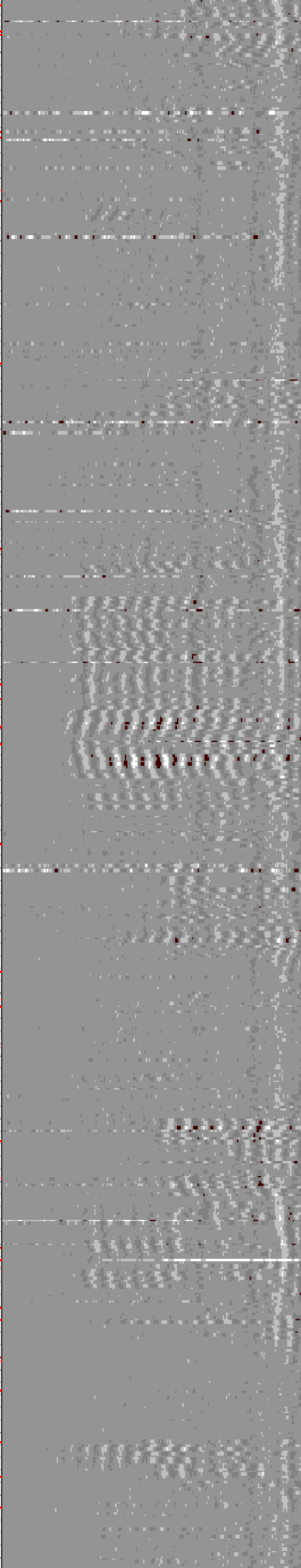
156.24

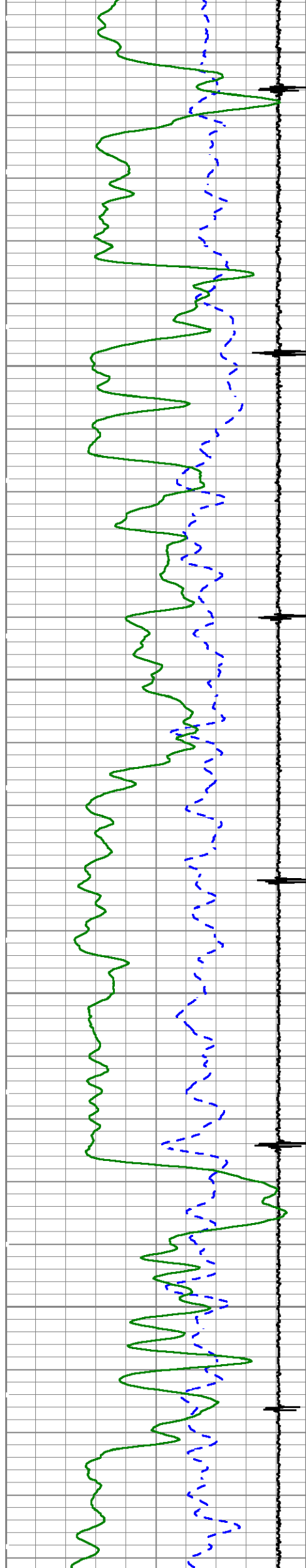
157.32

158.29

159.25

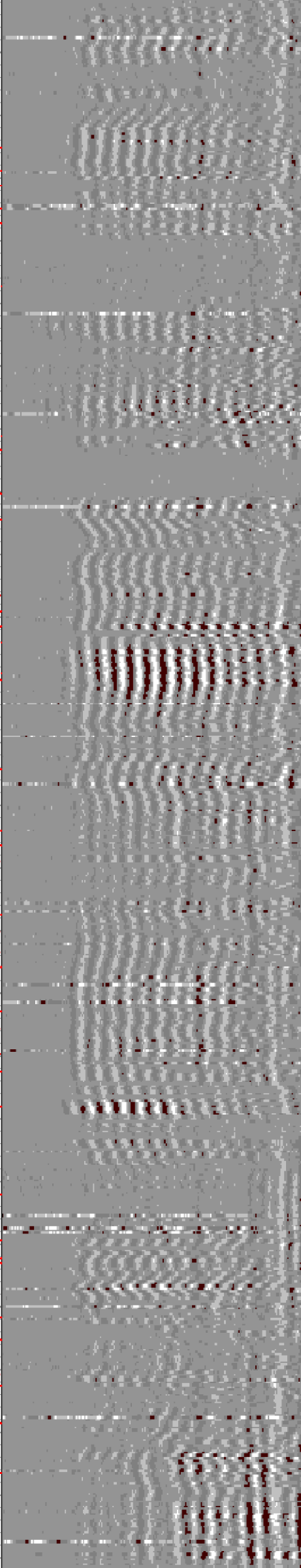
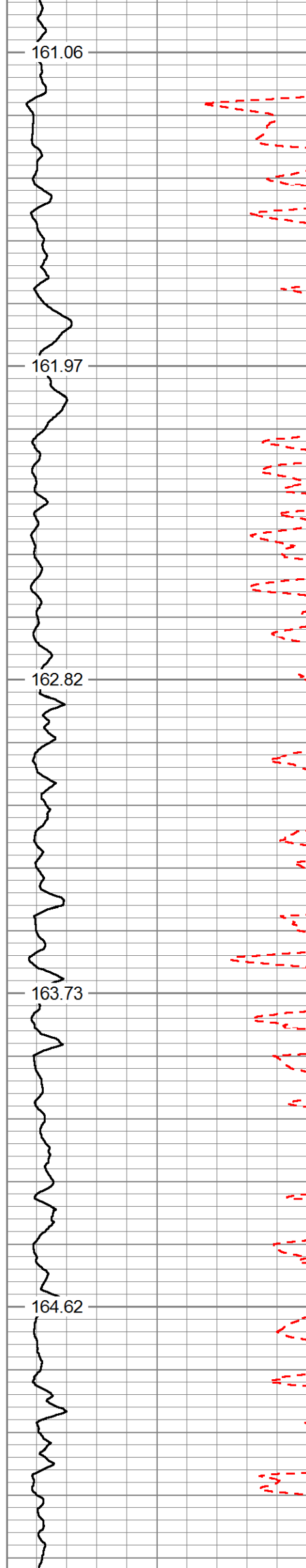
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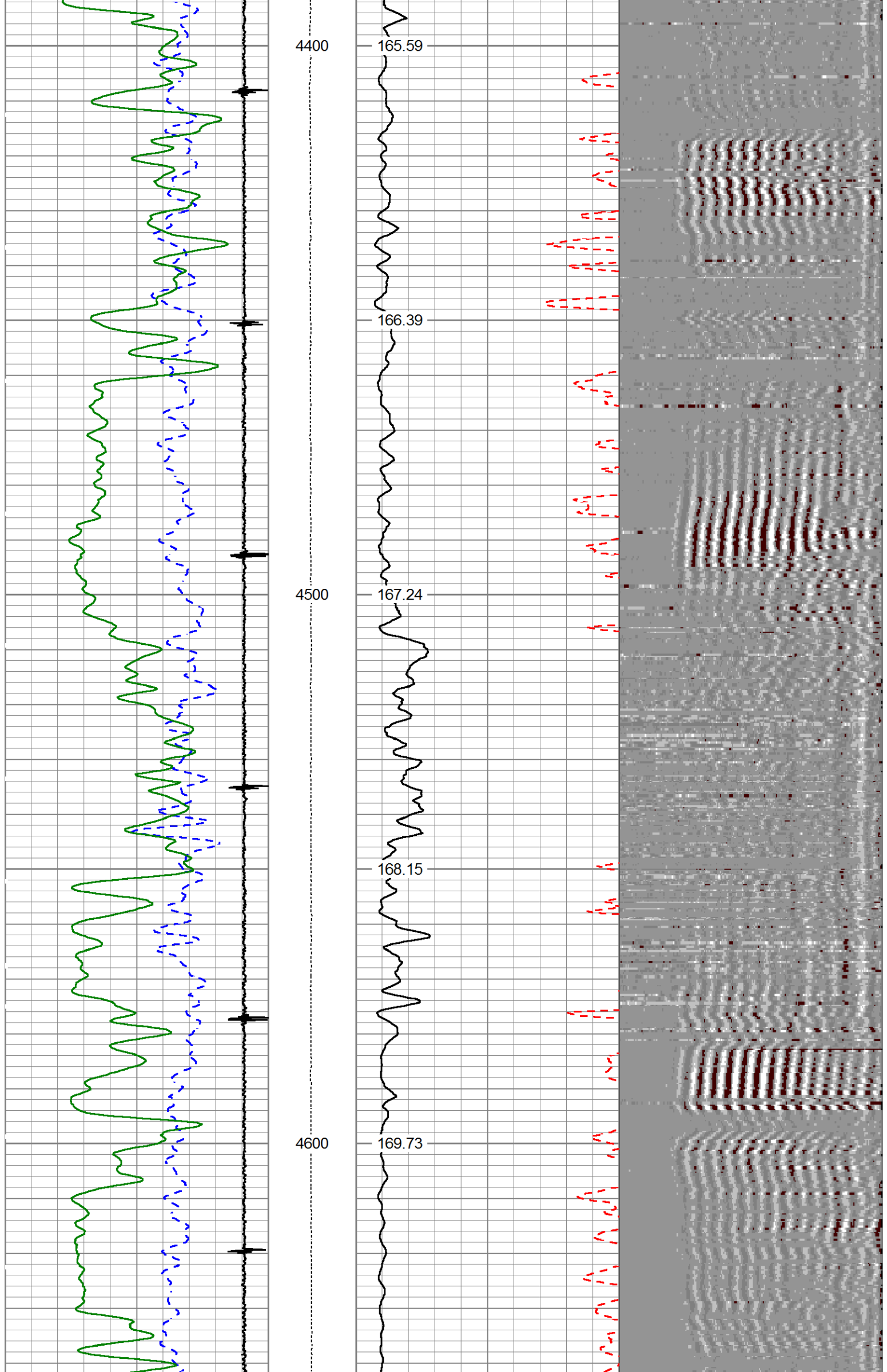


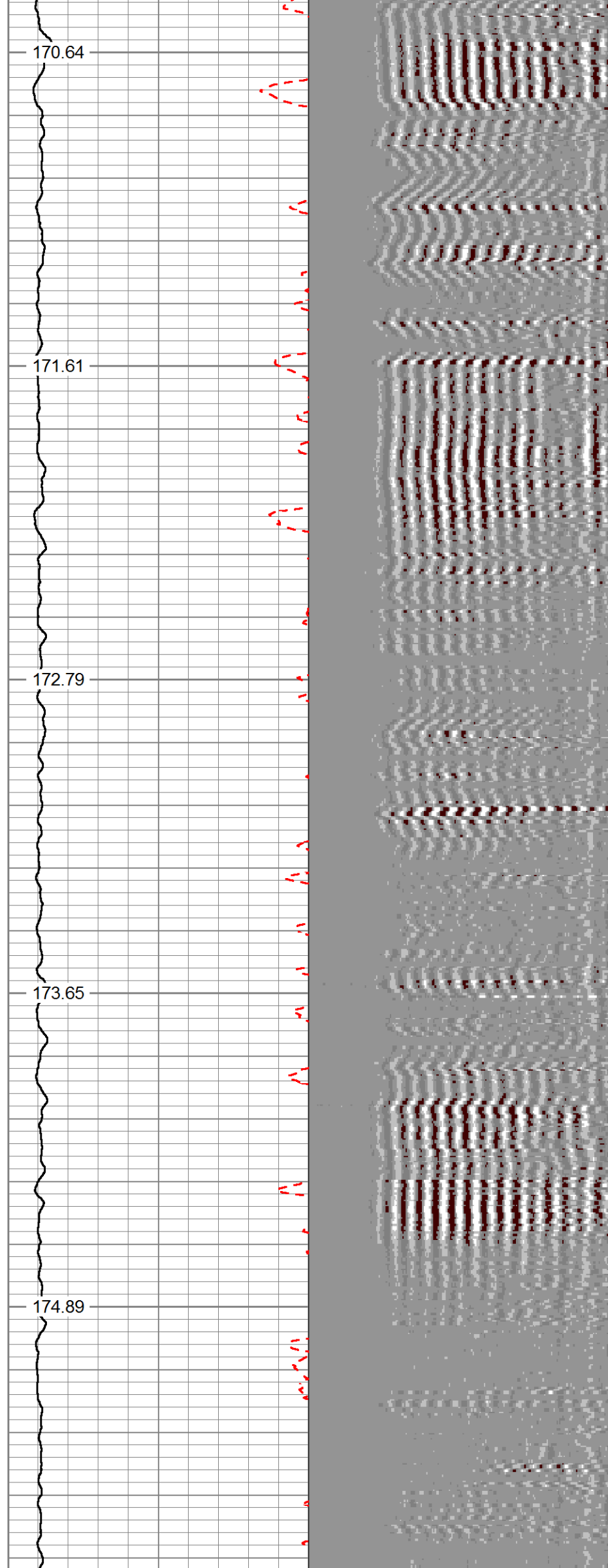
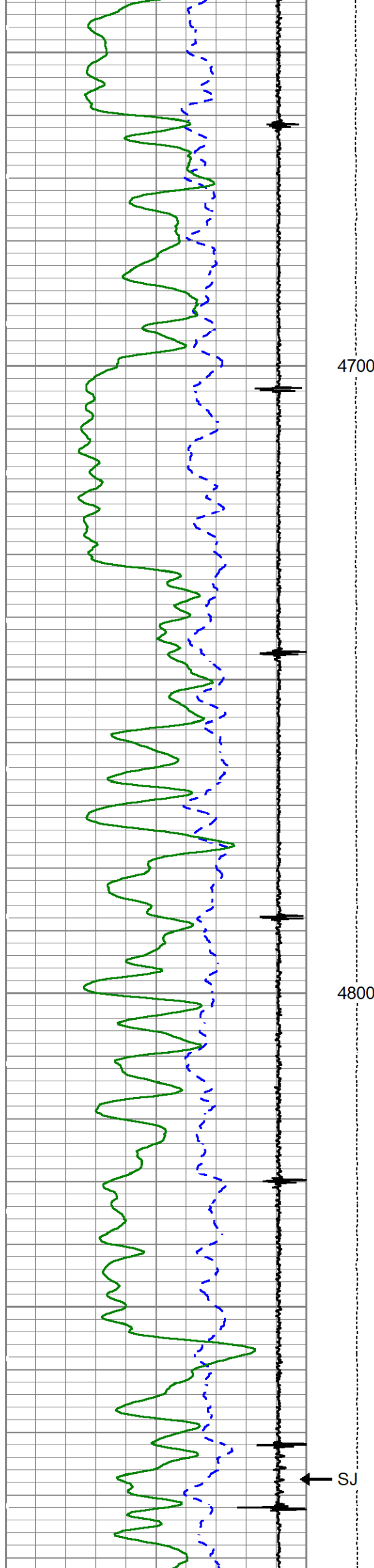


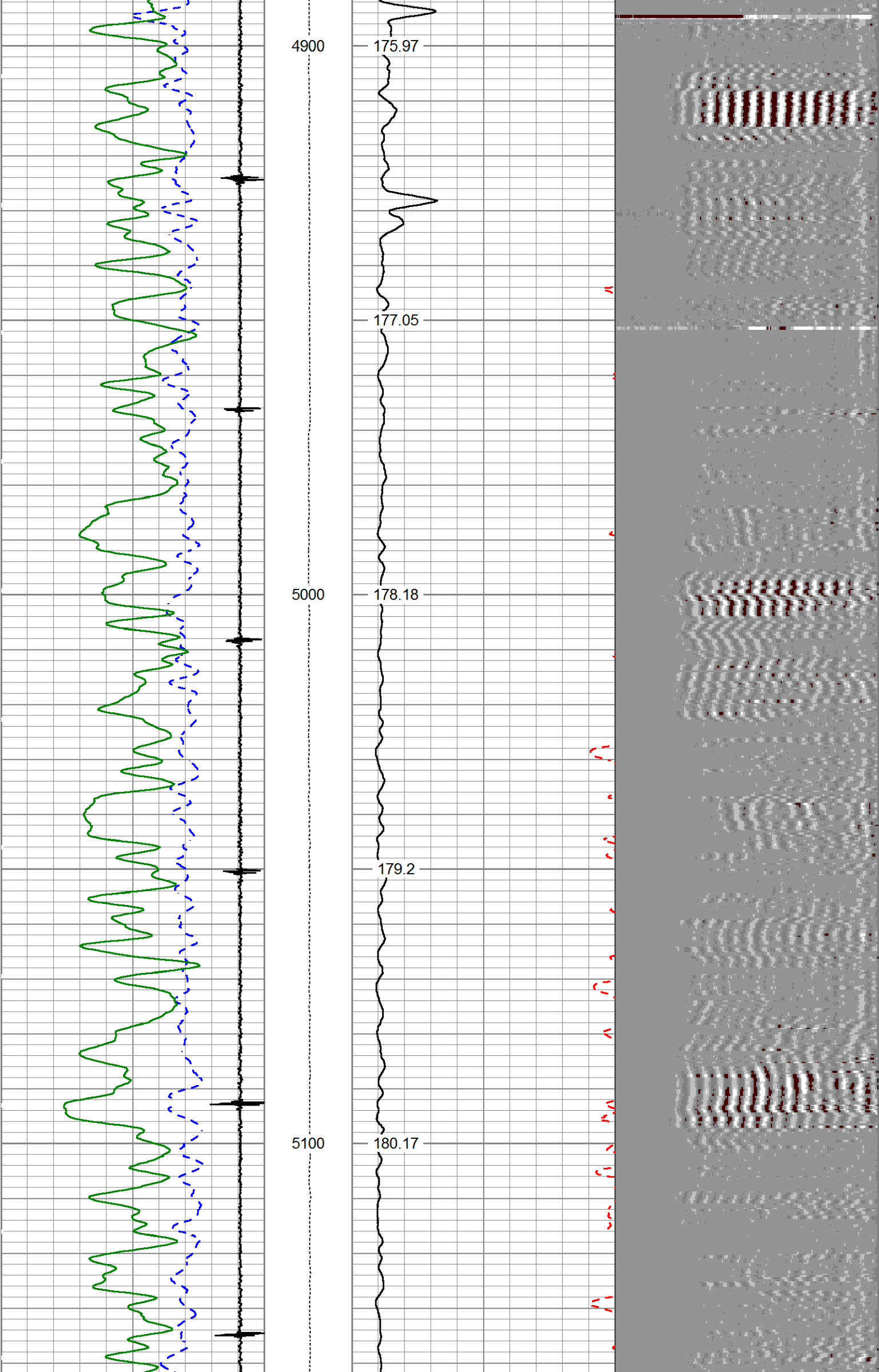
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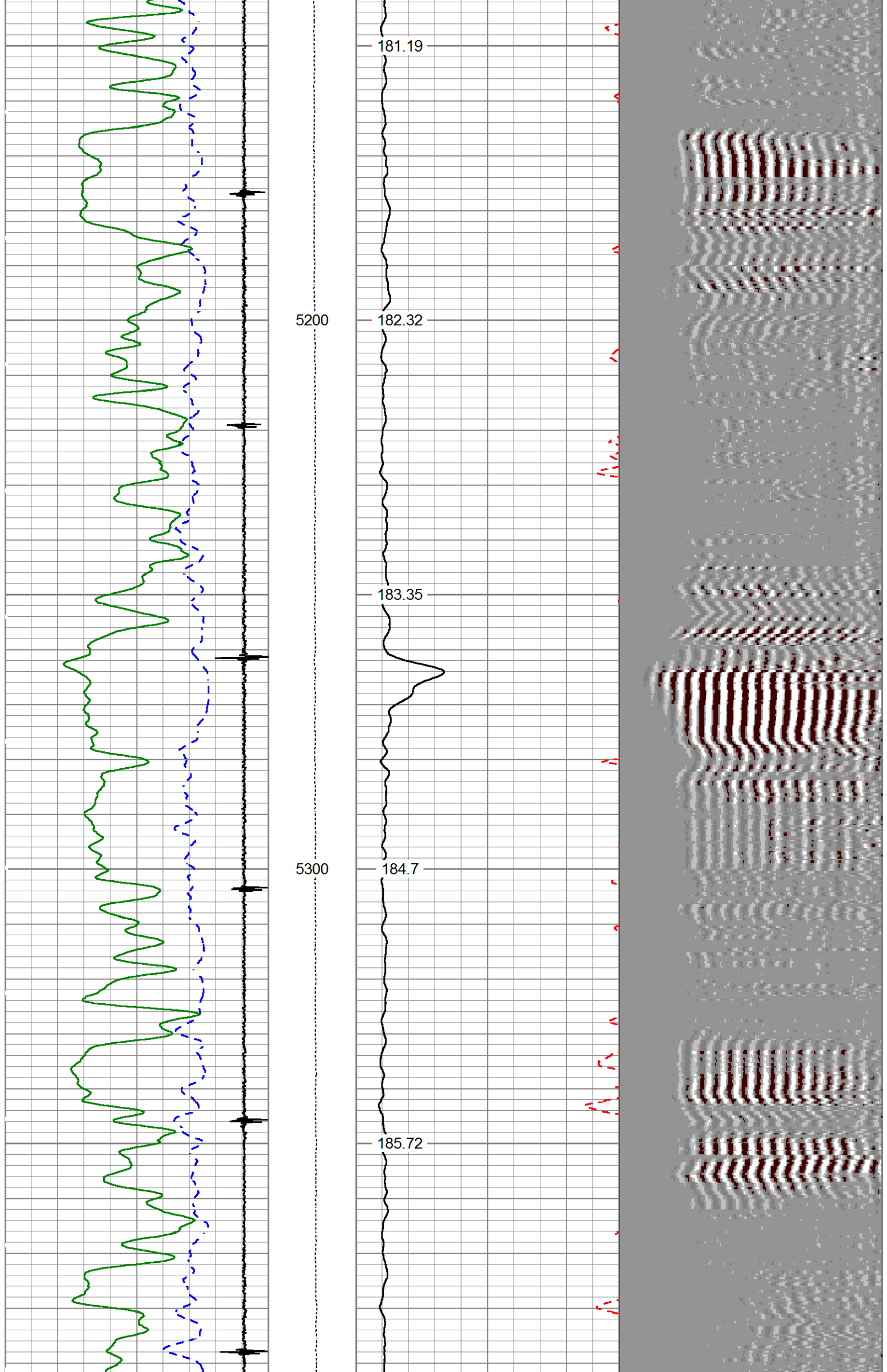
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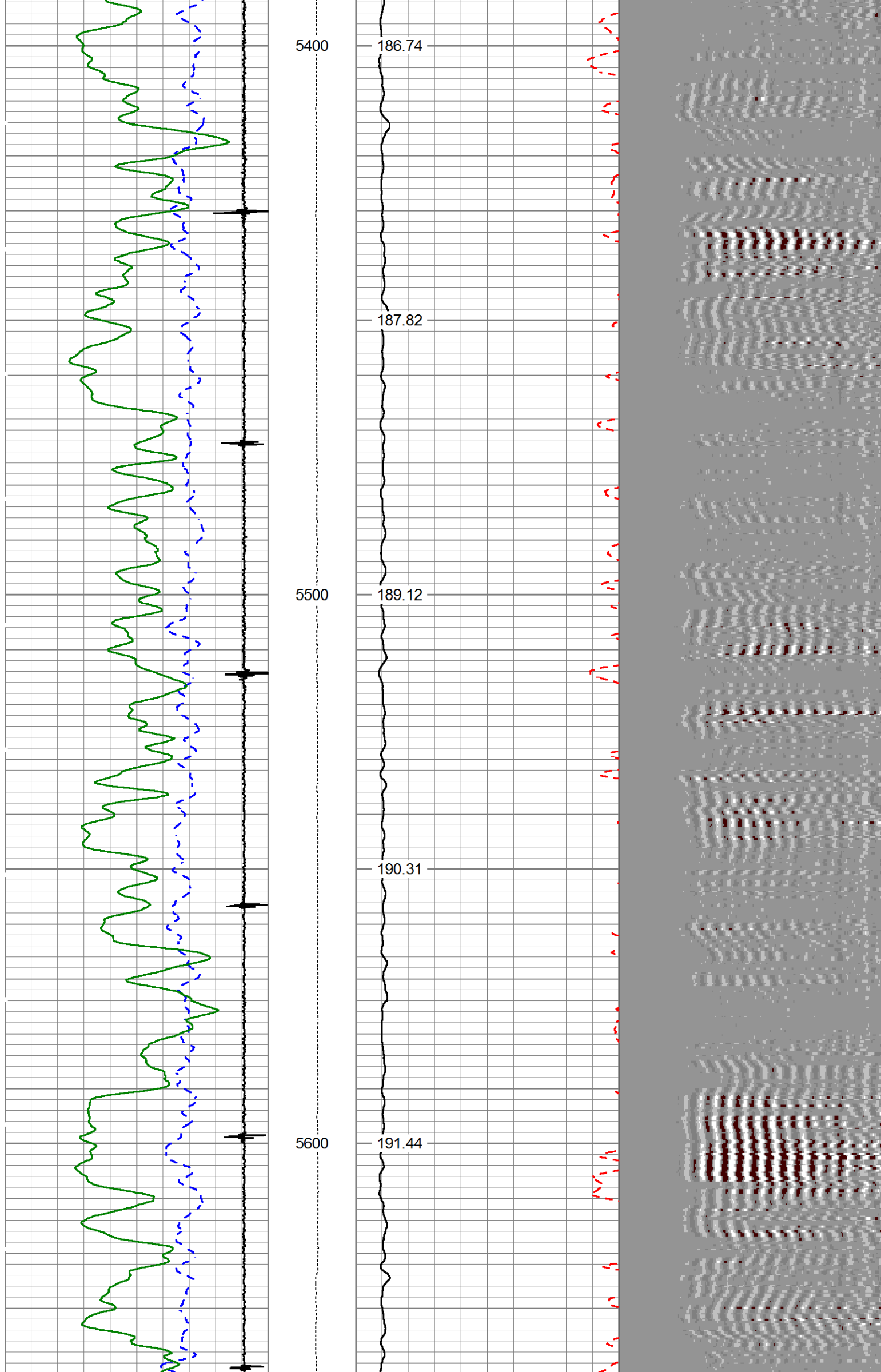


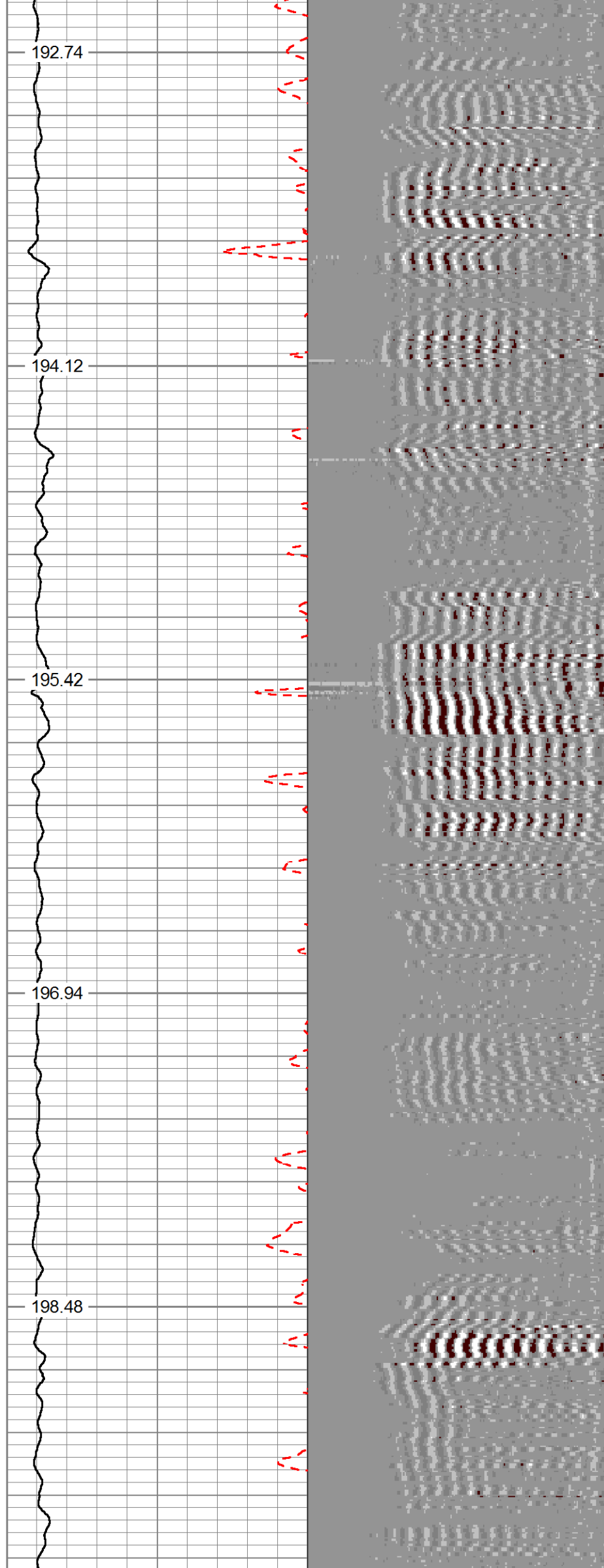
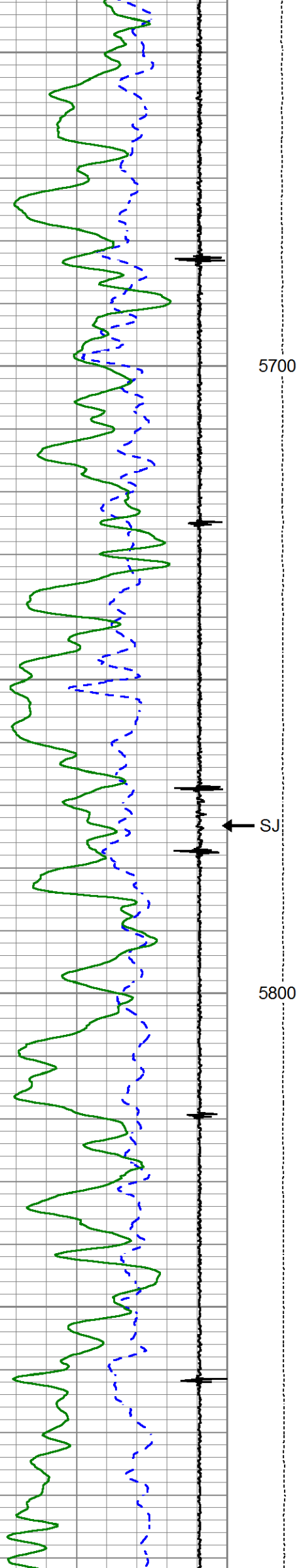


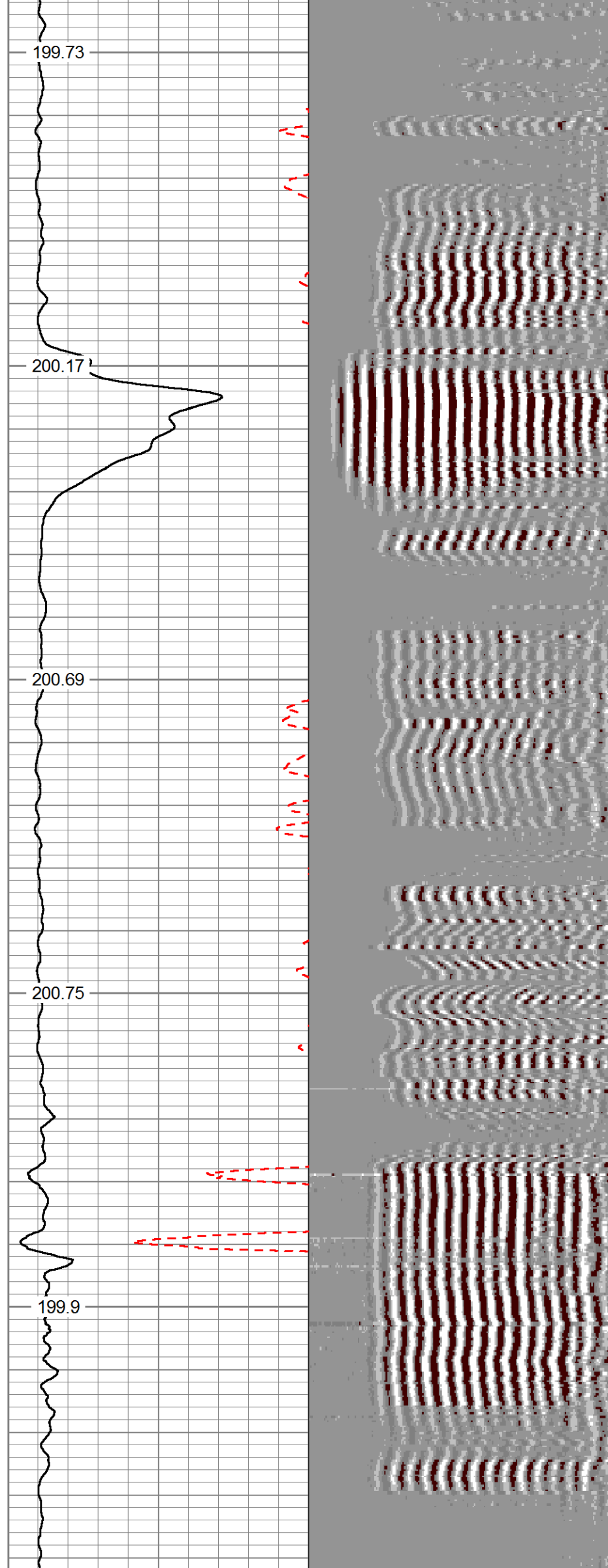
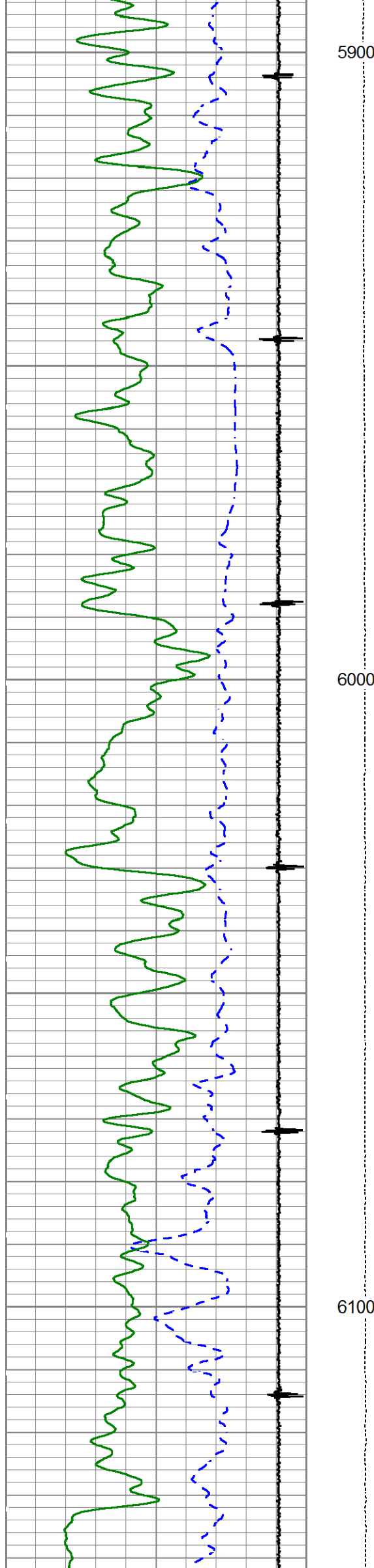


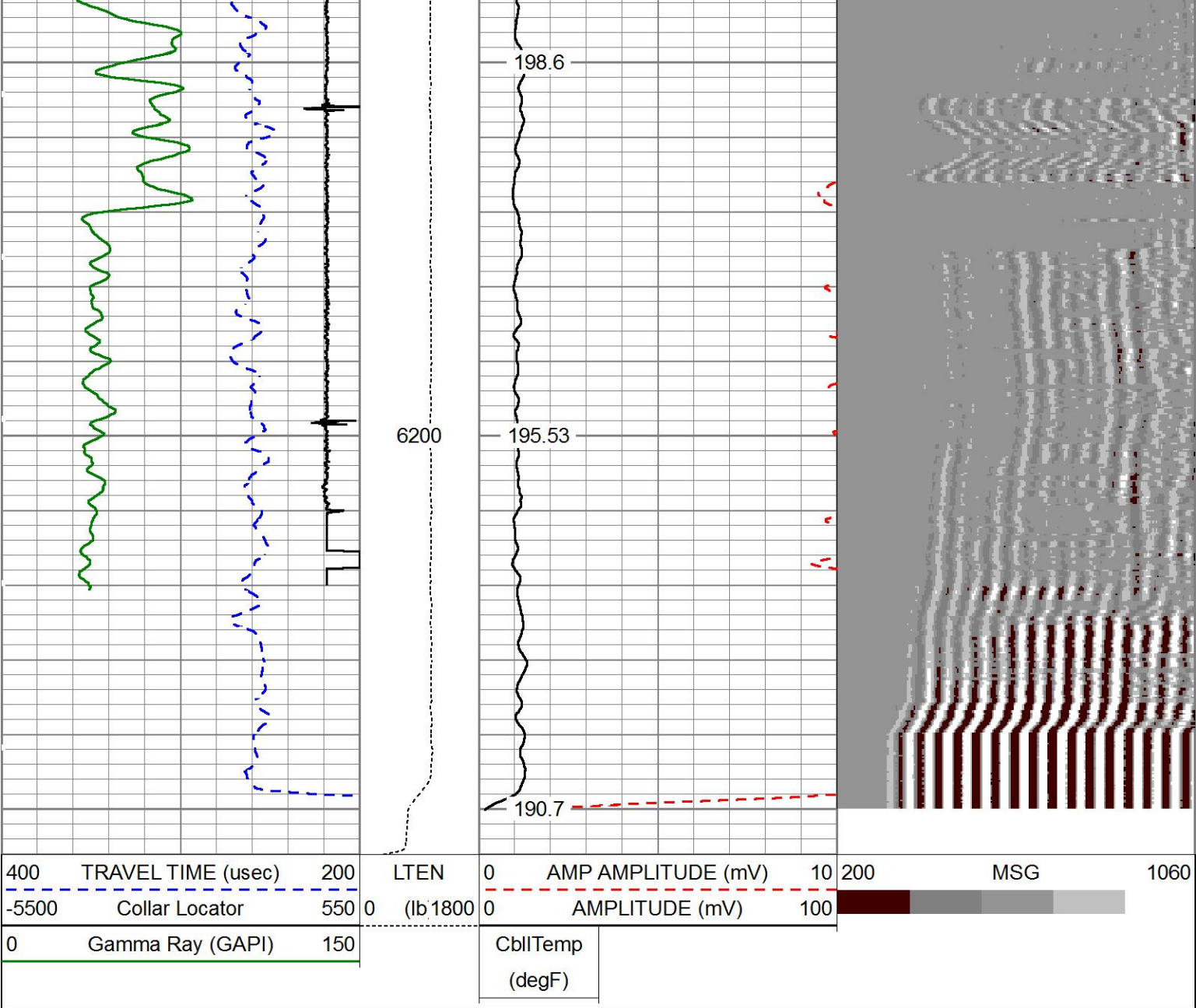












MAIN PASS

5"=100'

HALLIBURTON

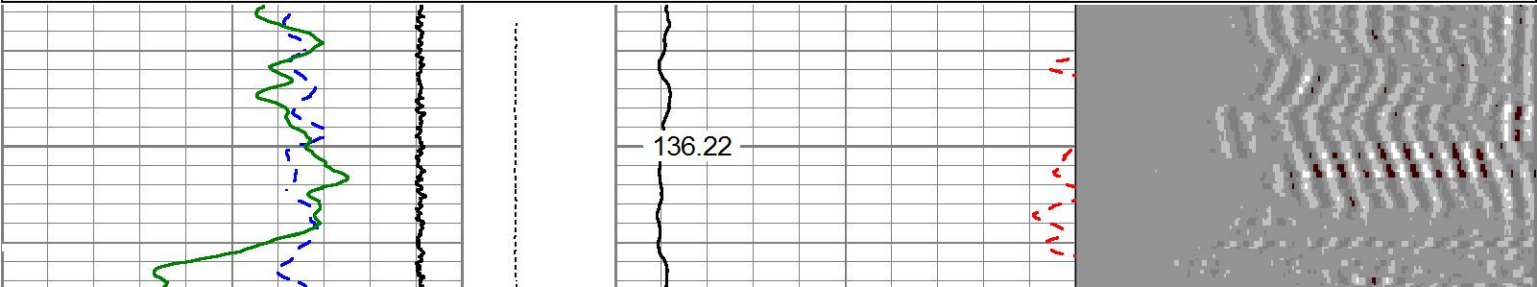
REPEAT PASS

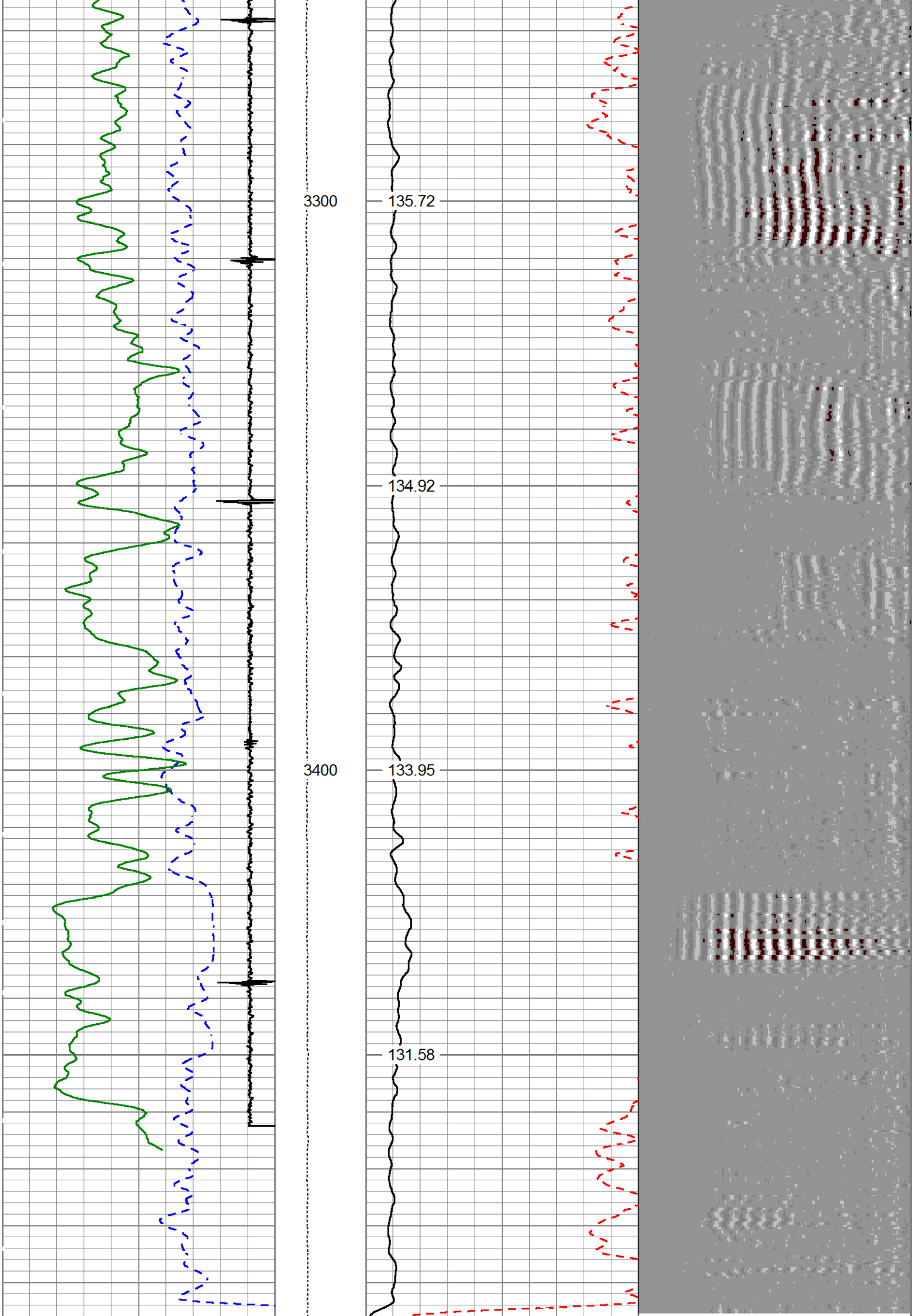
5"=100'

Database File	bmc d 22b-18-07-95.db
Dataset Pathname	WC/BMC_D_22B-18-07-95/run1/REPEAT
Presentation Format	cbl_main
Dataset Creation	Sat May 27 19:46:17 2017
Charted by	Depth in Feet scaled 1:240

400	TRAVEL TIME (usec)	200	LTEN	0	AMP AMPLITUDE (mV)	10	200	MSG	1060
-5500	Collar Locator	550	0	(lb 1800	0	AMPLITUDE (mV)	100		
0	Gamma Ray (GAPI)	150							

CblTemp
(degF)






400	TRAVEL TIME (usec)	200	LTEN	0	AMP AMPLITUDE (mV)	10	200	MSG	1060
-5500	Collar Locator	550	0 (lb 1800	0	AMPLITUDE (mV)	100			
0	Gamma Ray (GAPI)	150			CblITemp				

TCCR2	4834	4000	834	+/-1000	cps
ITCR2	3081	3200	-119	+/-250	cps
Sigma Mode					
Stabilization					
Result	Logged	Expected Value	Diff.	Tol.	Units
GENV	87.00	80.00	7.00	+/-15.00	V
FCAP	9885	10000	-115	+/-500	cps
Horizontal Water Tank					
Result	Logged	Expected Value	Diff.	Tol.	Units
N/F Normalizer	0.96	0.95	0.01		
N/F Inel Norm	0.62	0.61	0.01		
RNF	1.05	1.07	-0.02	+/-0.12	
RINC	1.62	1.64	-0.02	+/-0.18	
SGFN	24.10	24.00	0.10	+/-0.50	cu
SGFF	22.95	22.85	0.10	+/-0.50	cu
FSIN	23623	24000	-377	+/-2000	cps
FCAP	9982	10000	-18	+/-1000	cps
NFTR	0.83			<5.00	
FFTR	0.92			<5.00	
NBKG	178			<500	cps
FBKG	99			<500	cps
RTN	0.41	0.40	0.01	+/-0.10	usec
RTF	0.43	0.40	0.03	+/-0.10	usec

Calibration Software Modules					
HRMTI Module	2015.5.4.0				
RMTI Module	2015.10.16.1				
Log Data Acquisition Software Modules					
HRMTI Module	2015.5.4.0				
RMTI Module	2015.10.16.1				

Gamma Ray Calibration Report					
Type / Serial:		002 / 11527445			
SHOP CALIBRATION		Mon May 22 11:40:46 2017			
	Counts/Sec.	Gain	Offset	Jig	Units
Background	22.8				cps
Calibrator	291.4				cps
		1.3703			GAPI/cps
PRIMARY VERIFICATION					
Background	32.5				cps
Calibrator	395.1				cps
Difference				362.6	GAPI
BEFORE SURVEY VERIFICATION					
Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI
AFTER SURVEY VERIFICATION					
Background	0.0				cps
Calibrator	0.0				cps
Difference				0.0	GAPI

Sensor	Offset (ft)	Schematic	Description	Length (ft)	O.D. (in)	Weight (lb)
			STNDGU STND GU	1.50	1.44	1.00

			STNDCH-STND CH 1.4375 IN CABLE HEAD	1.30	1.44	1.00
CCL	35.86					
GR	33.60		TTTCU-002 (11527445) Through Tubing Telemetry Cartridge - Ultrawire	7.65	1.69	37.00
			XHU-003 (12461937) Crossover Halliburton 1553 to Ultrawire	1.58	1.69	7.00
RmtTFGT RmtTNGT	22.95 22.45		RMTI-A (12376244) Halliburton RMTI Tool	14.00	2.13	77.00
RmtFP5V RmtNFwvMcsPI RmtCommFWa	14.70 14.70 14.70		X-OVER-SondexxGo Sondex Box x Go Pin Cross Over	0.31	1.69	1.00
			CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
Temp	9.57					
TT3FT AMP3FT WVF5FT	7.32 7.32 6.36		HCBLM-A (12091451) Halliburton HCBLM Tool	9.38	2.75	116.00
WVF3FT	2.84		CENT-CASTM-CENT CAST M INLINE CENTRALIZER	2.16	3.13	25.00
			AUH-001 (11734726) Adaptor Ultrawire/Halliburton	0.38	1.69	3.00
LLMTEN	0.00		BUL-001 (000001) Bullnose	0.30	1.69	1.50
Dataset: bmc d 22b-18-07-95.db: WC/BMC_D_22B-18-07-95/run1/MAIN Total length: 39.43 ft Total weight: 293.50 lb O.D.: 3.13 in						

Company	URSA OPERATING COMPANY		
Well	BMC D 22B-18-07-95		
Field	WILDCAT		
County	GARFIELD	State	CO
HALLIBURTON	CEMENT BOND LOG		
	GR-CCL		