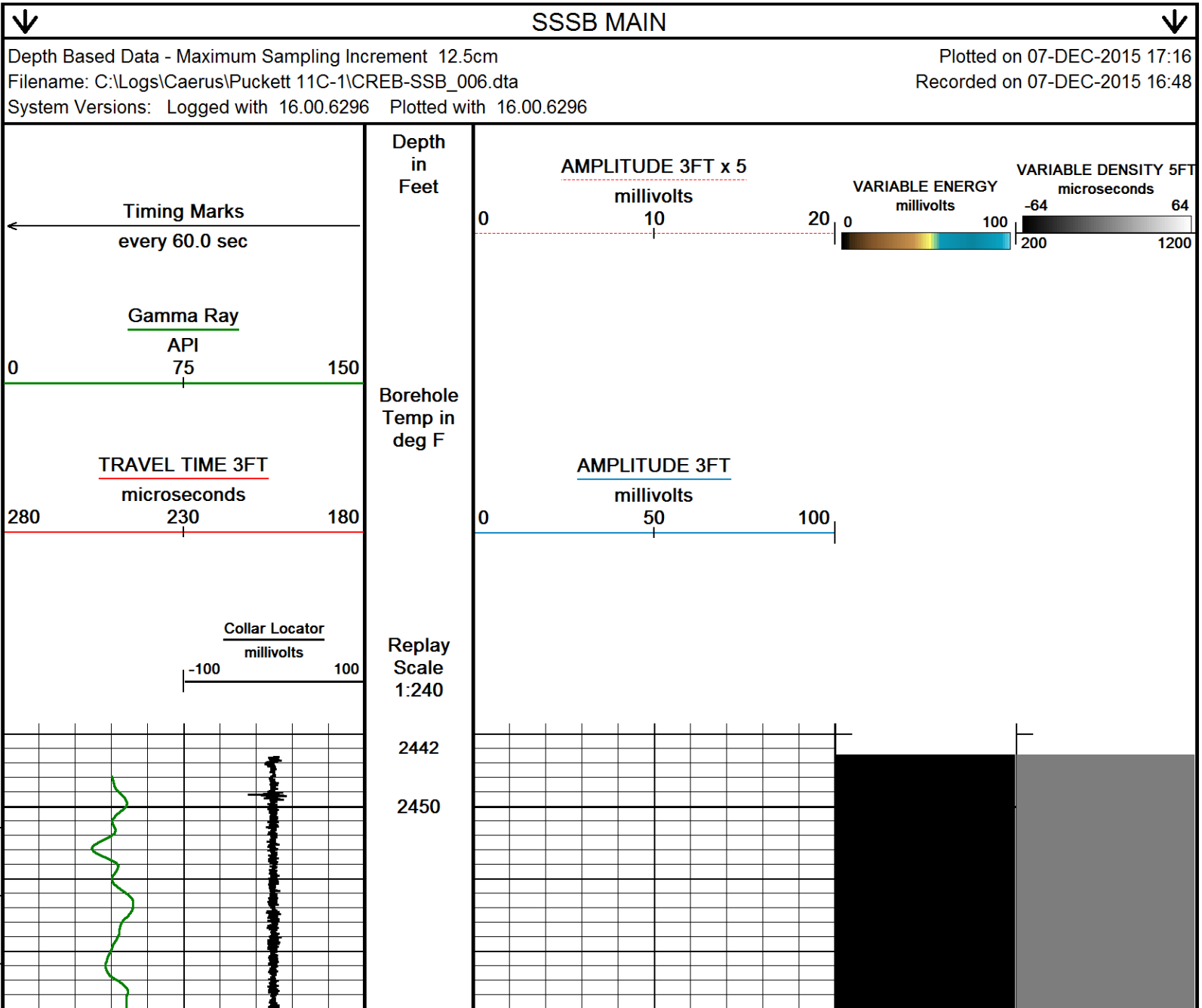
										SLIM SECTOR BOND LOG										
COMPANY					CAERUS OIL & GAS LLC															
WELL					PUCKETT 11C-1															
FIELD					GRAND VALLEY															
PROVINCE/COUNTY					GARFIELD															
COUNTRY/STATE					USA / COLORADO															
LOCATION					SHL: 2097 N 1330 W & BHL: 724 N 698 W															
SEC 1		TWP 7S		RGE 97W		Other Services RPATOR B								Elevations: KB 8351.00 DF 8351.00 GL 8329.00						
Latitude																				
Longitude																				
API Number 5045228640000																				
Permanent Datum GROUND LEVEL, Elevation 8329 feet																				
Log Measured From KB																				
Drilling Measured From KB @ 22'																				
Date					07-DEC-2015					PERFORATION RECORD										
Run Number					ONE					Shot		Number		Depth From		Depth To				
Service Order					136665392					Density		of Shots		feet		feet				
Type Log					CREB-SSSB															
Depth Driller					8991.00					feet										
Depth Logger					8869.00					feet										
Top Log Interval					2500.00					feet										
Bottom Log Interval					8865.00					feet										
Hole Fluid Type					1.4% KCL															
Hole Fluid Level					0.00					feet										
Restriction ID					3.875					inches		Gun Type								
Max Recorded Temp					226.00					deg F		Gun Size								
Well Head Pressure					0.00					psi		CASING / TUBING RECORD								
Well Head Equipment					N/A					Size		Weight		Depth From		Depth To				
Time Well Ready					ROA					inches		pounds/ft		feet		feet				
Time Logger Bottom					0354					9.625		36.00		0.00		2534.00				
Unit					14113					4.500		11.60		0.00		8991.00				
Equipment Name					WSS-E															
Base					CASPER															
Recorded By					MAZUR															
Witnessed By					NOT WITNESSED															

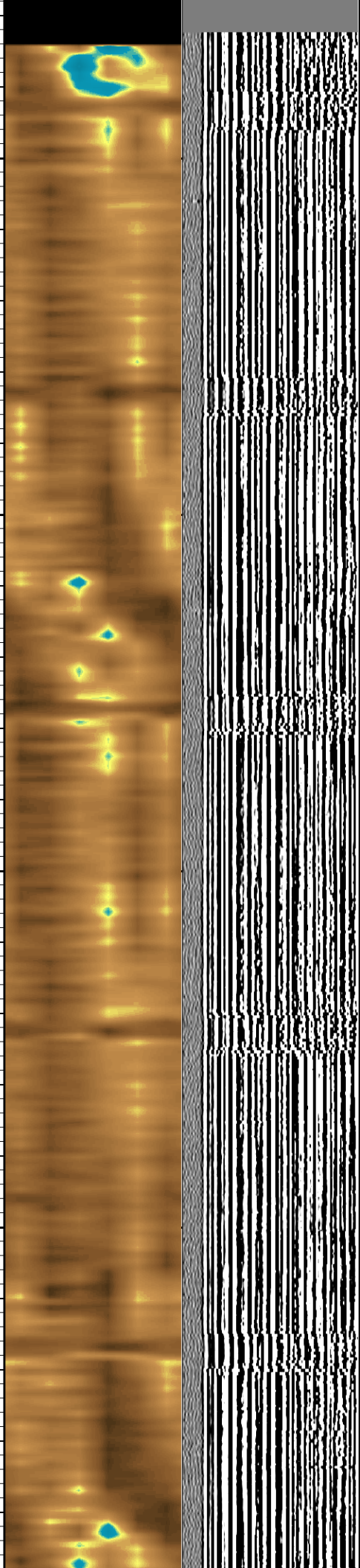
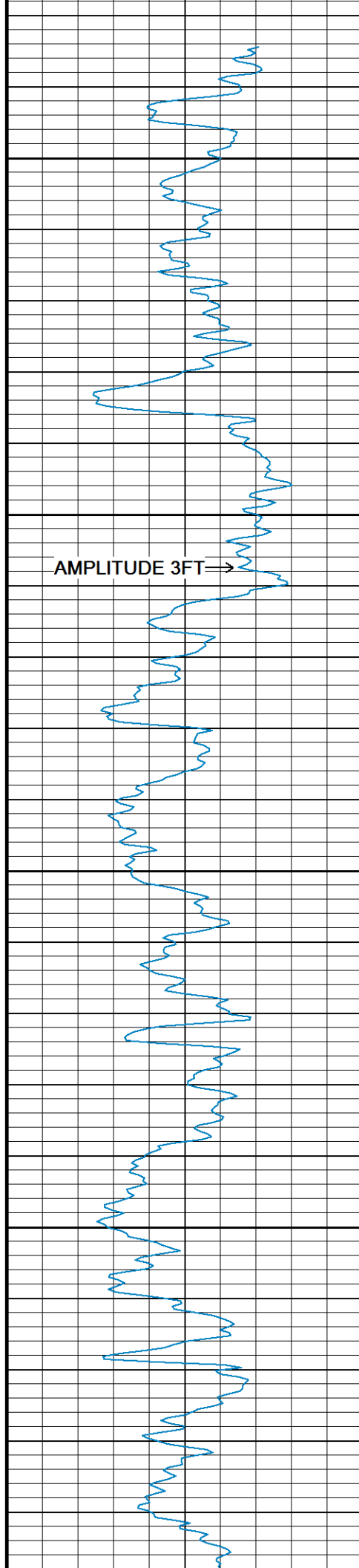
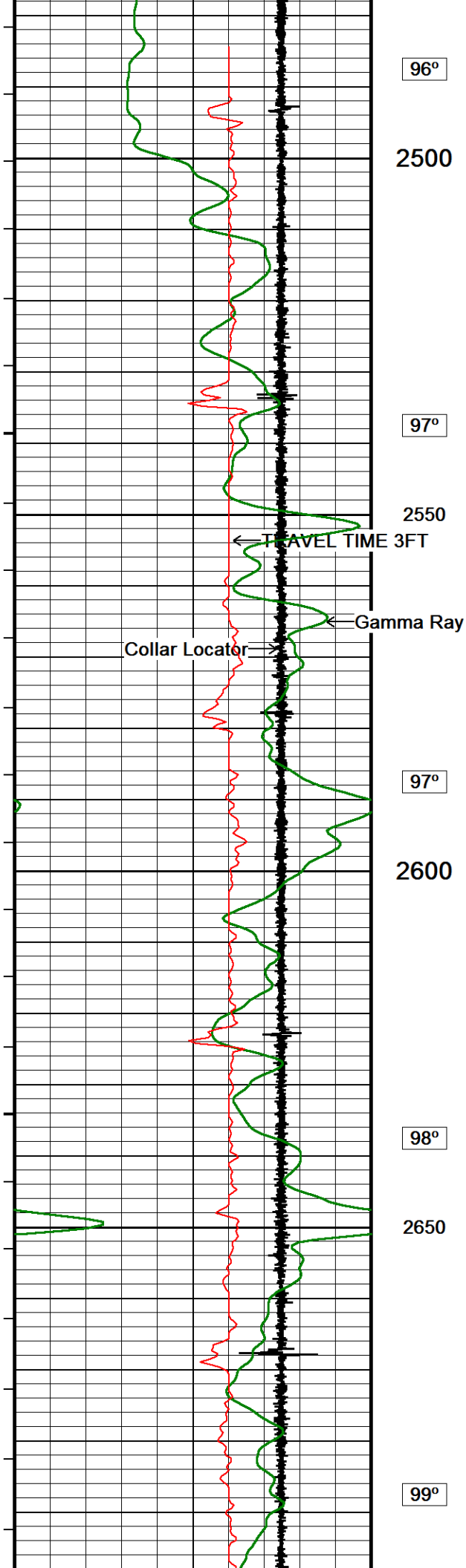
BOREHOLE RECORD						Last Edited: 07-DEC-2015 17:11
Bit Size inches		Depth From feet		Depth To feet		
14.750		0.00		2535.00		
8.750		2535.00		9361.00		
CASING / TUBING RECORD						
Type	Grade	TypeJoint	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE	J-55	LT&C	9.625	0.00	2534.00	36.00
PRODUCTION	P-110	LT&C	4.500	0.00	8991.00	11.60

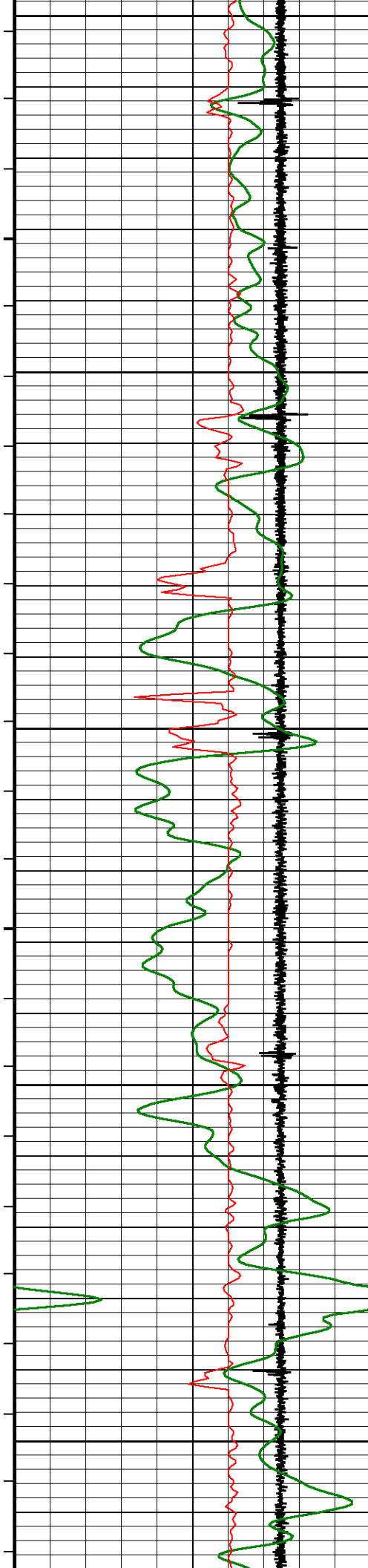
REMARKS
SOFTWARE VERSION 16.00.6296 - DEVELOPMENT BUILD VERSION
ALL DEPTH CONTROL PROCEDURES FOR SUBSEQUENT RUN IN HOLE WERE FOLLOWED. LOG RUN FROM 22' K.B.
SHORT JOINT LOCATED AT 5075' - 5086'
SURFACE SYSTEM USED: WCM-D 307
TOOLS RUN: WCCC, UGRK, QPGE, CR3B, TMPN, CRPB, CRMB, CR3B, UGRK, SUEC, SSSB, STEB, CENA WERE RAN IN COMBINATION
GAMMA RAY COUNTS ON SUBSEQUENT PASSES ARE AFFECTED BY RESIDUAL NEUTRON ACTIVATION CAUSED BY THE PREVIOUS PASS
PREDICTED 3' AMPLITUDE FOR 4.5" WITH 11.6 LB/FT CASING: 81 mv

CREW: PAUL MAZUR, DARREN BEANS, ZACH MAGNER, JAMES BARNETT

In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will give the Company the benefit of the Contractor's best judgment based on its experience and will perform all such Work in a good and workmanlike manner. Any interpretation of test or other data, and any recommendation or reservoir description based upon such interpretations, are opinions based upon inferences from measurements and empirical relationships and assumptions, which inferences and assumptions are not infallible, and with respect to which professional engineers and analysts may differ. ACCORDINGLY ANY INTERPRETATION OR RECOMMENDATION RESULTING FROM THE SERVICES WILL BE AT THE SOLE RISK OF THE COMPANY, AND THE CONTRACTOR CANNOT AND DOES NOT WARRANT THE ACCURACY, CORRECTNESS OR COMPLETENESS OF ANY SUCH INTERPRETATION OR RECOMMENDATION, WHICH INTERPRETATIONS AND RECOMMENDATIONS SHOULD NOT, THEREFORE, UNDER ANY CIRCUMSTANCES BE RELIED UPON AS THE SOLE OR MAIN BASIS FOR ANY DRILLING, COMPLETION, WELL TREATMENT, PRODUCTION OR FINANCIAL DECISION, OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING ACTIVITY, DRILLING RIG OR ITS CREW OR ANY OTHER INDIVIDUAL. THE COMPANY HAS FULL RESPONSIBILITY FOR ALL DECISIONS CONCERNING THE SERVICES.







2700

100°

2750

101°

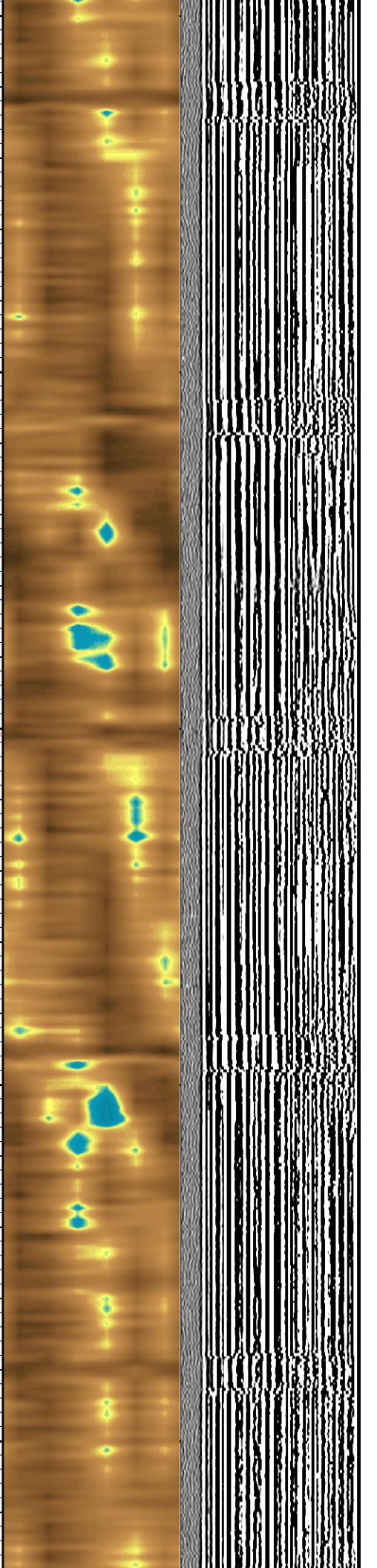
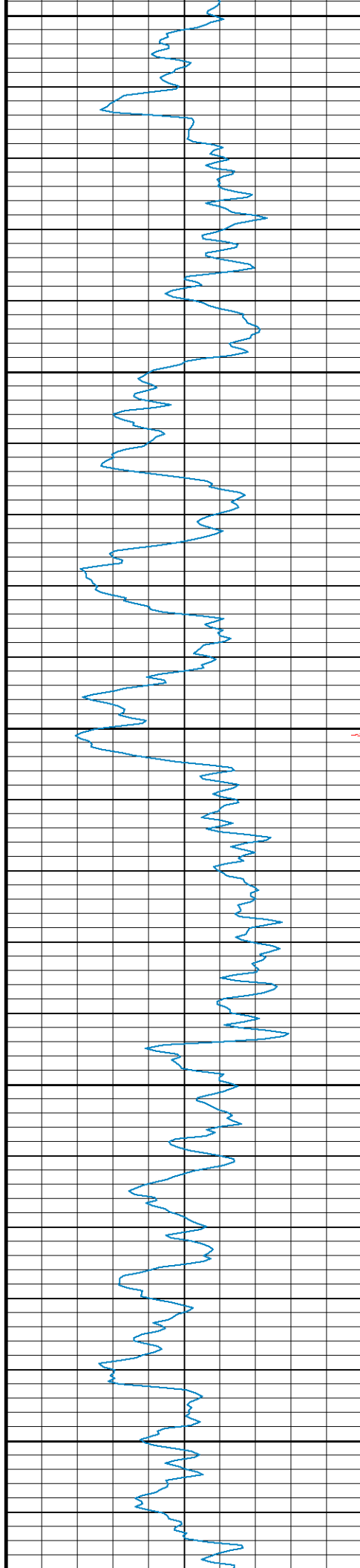
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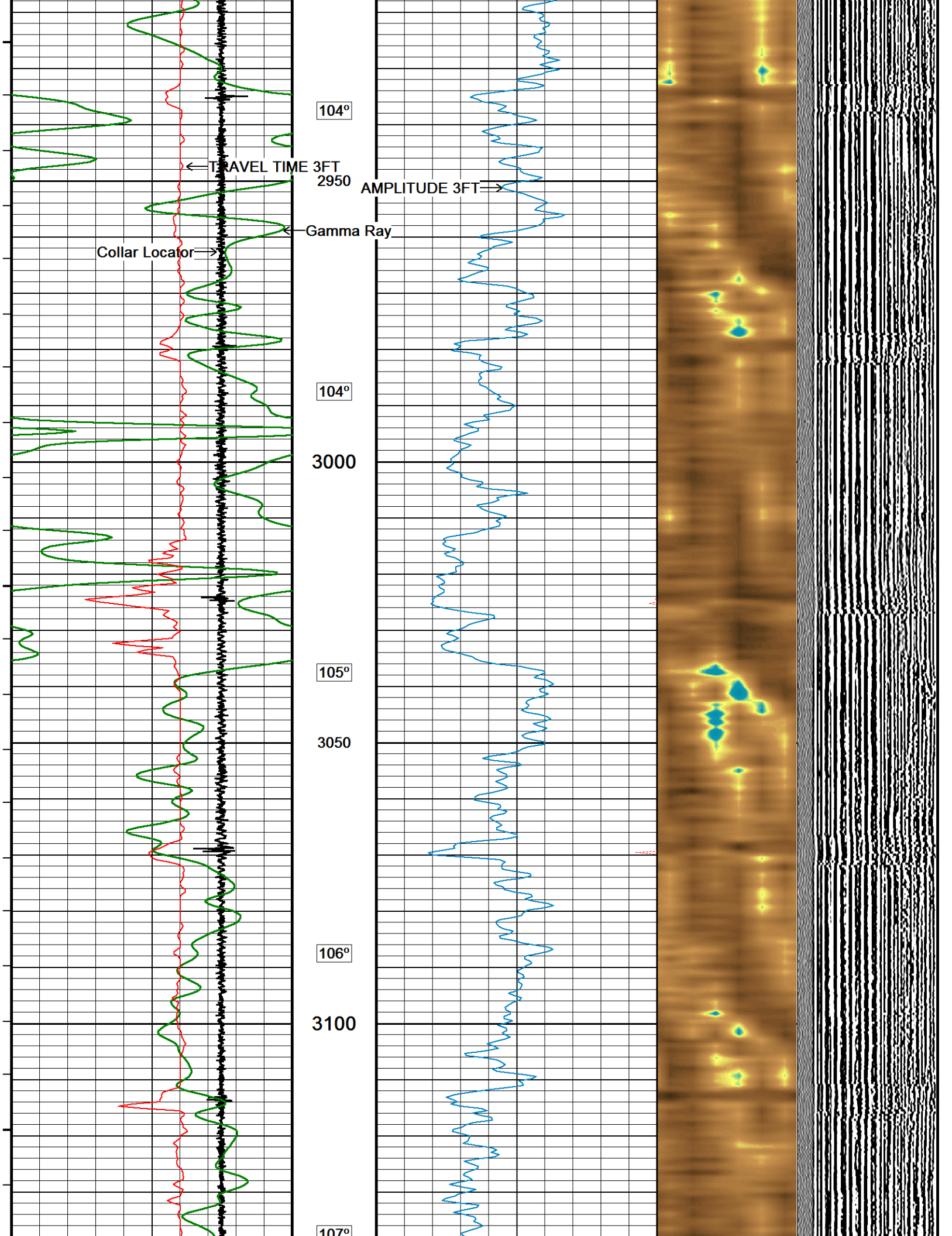
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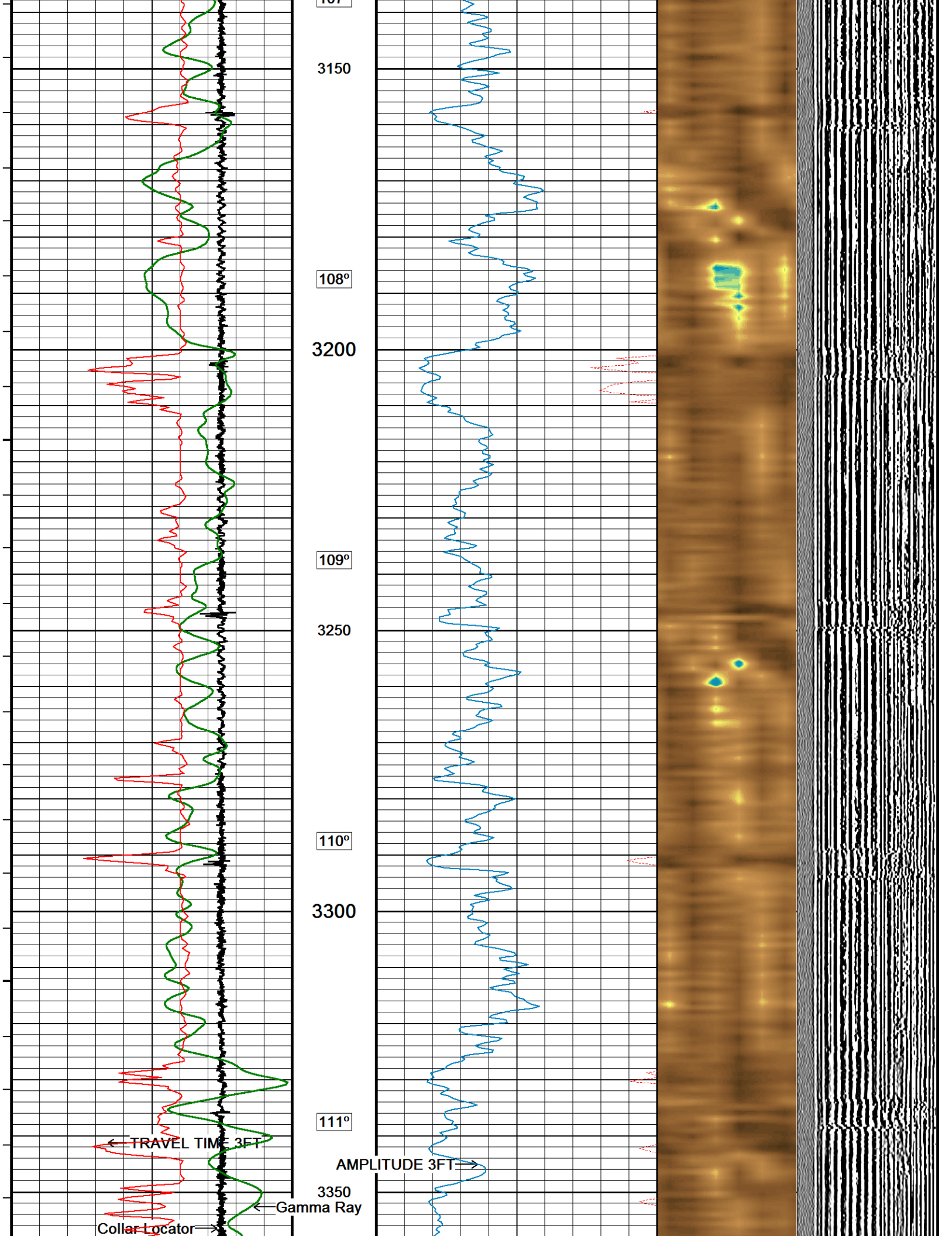
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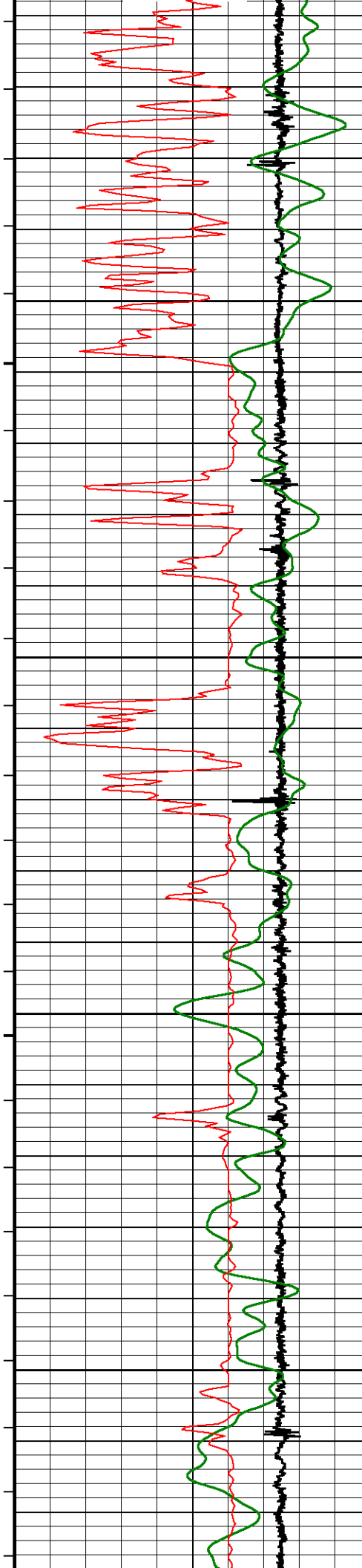
102°

2900









112°

3400

113°

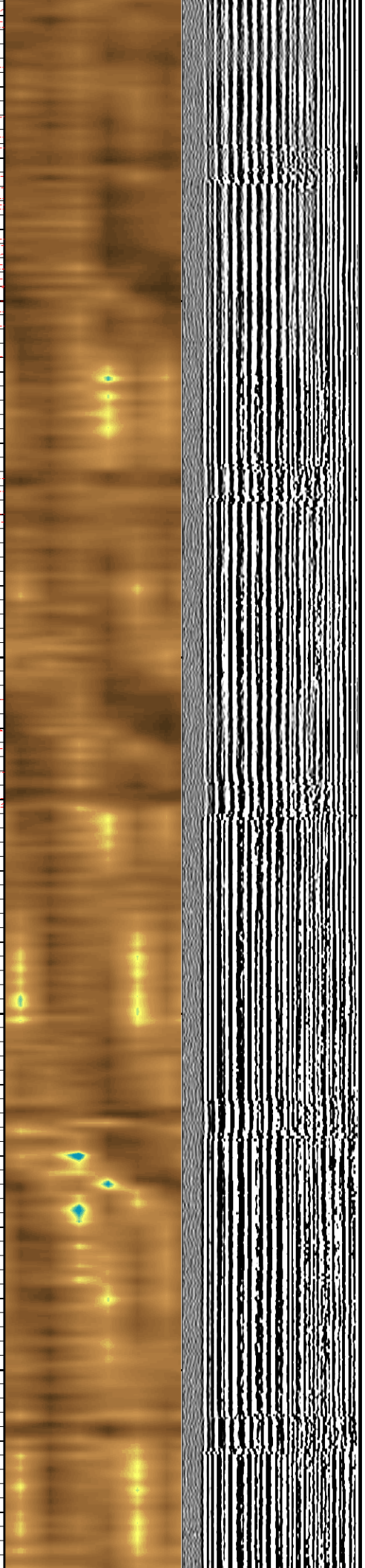
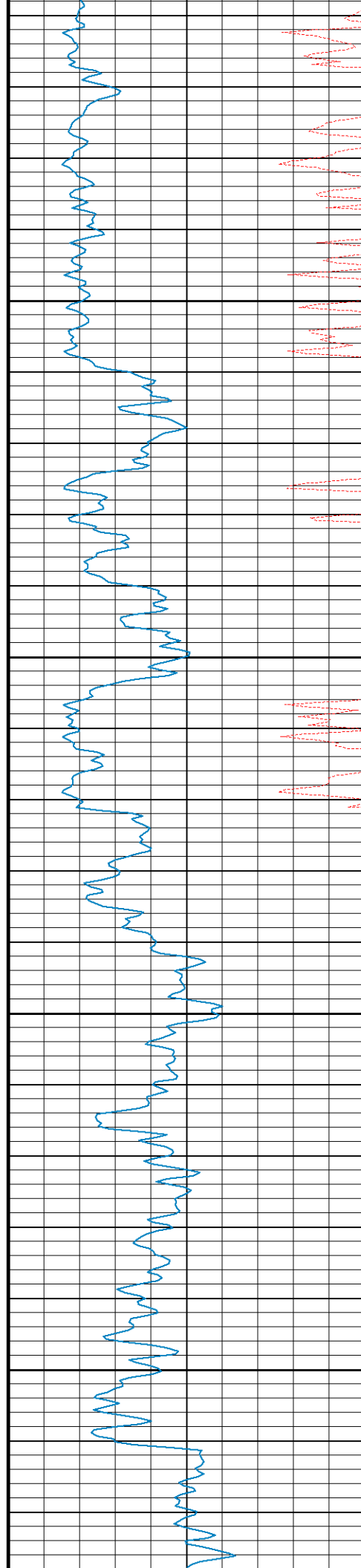
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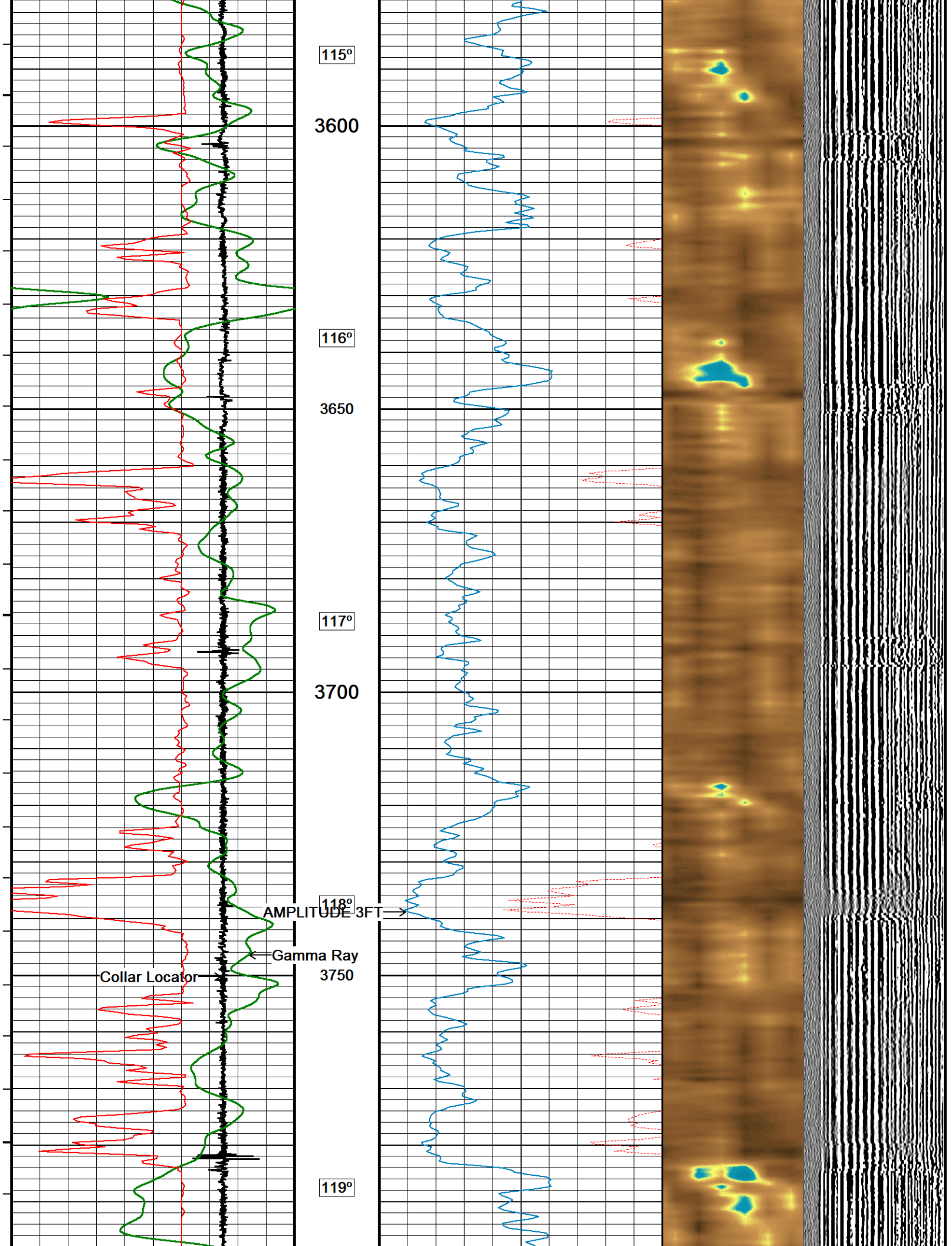
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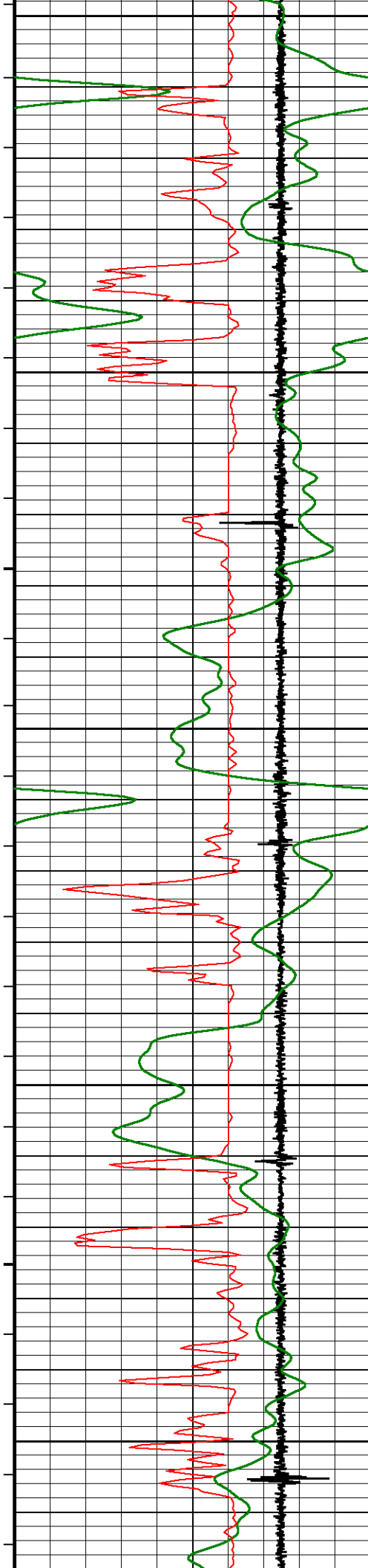
3500

114°

3550







3800

120°

3850

121°

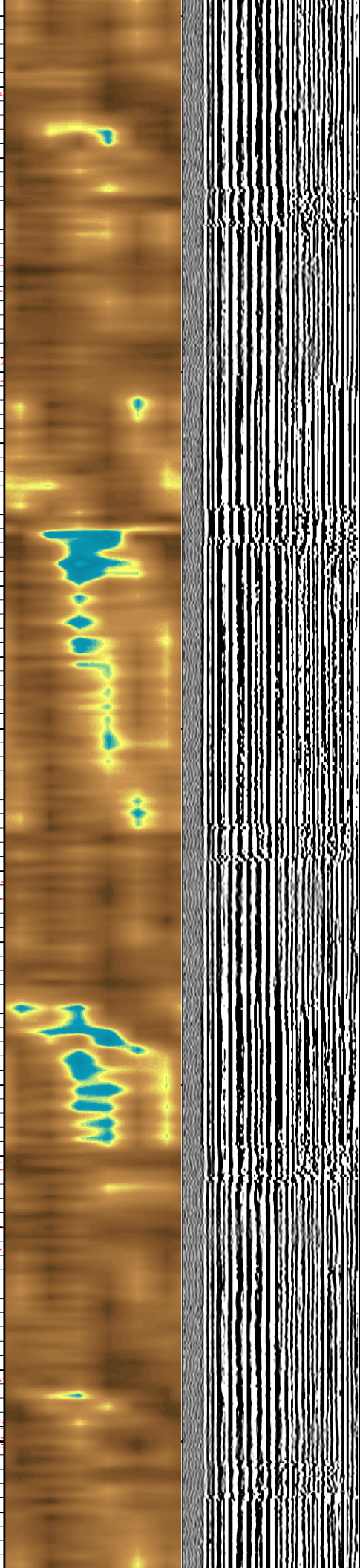
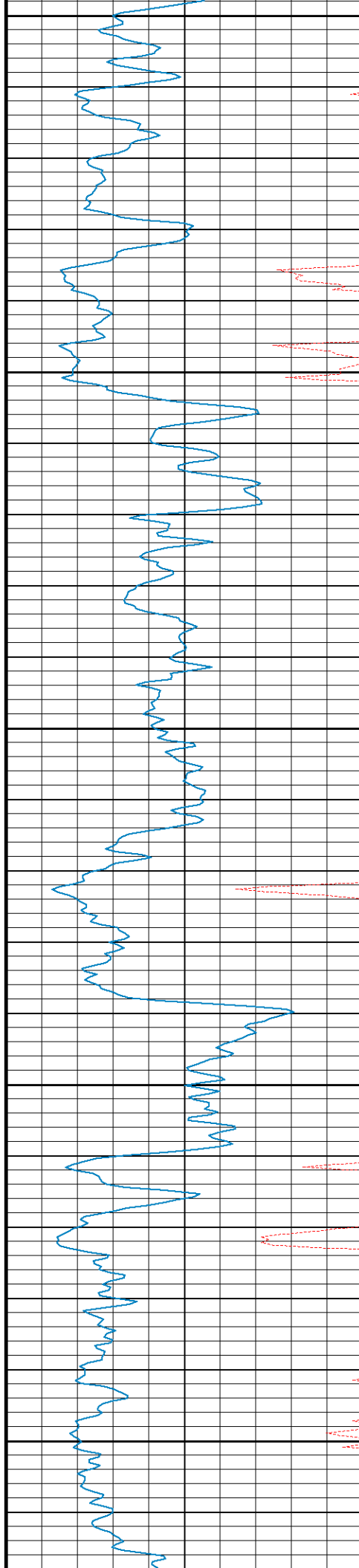
3900

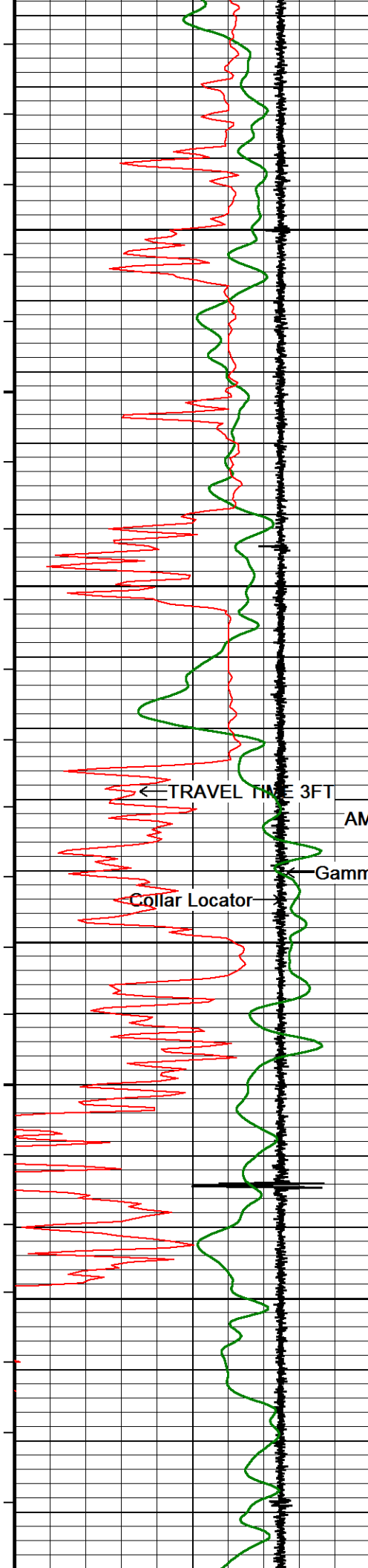
122°

3950

123°

4000





124°

4050

125°

4100

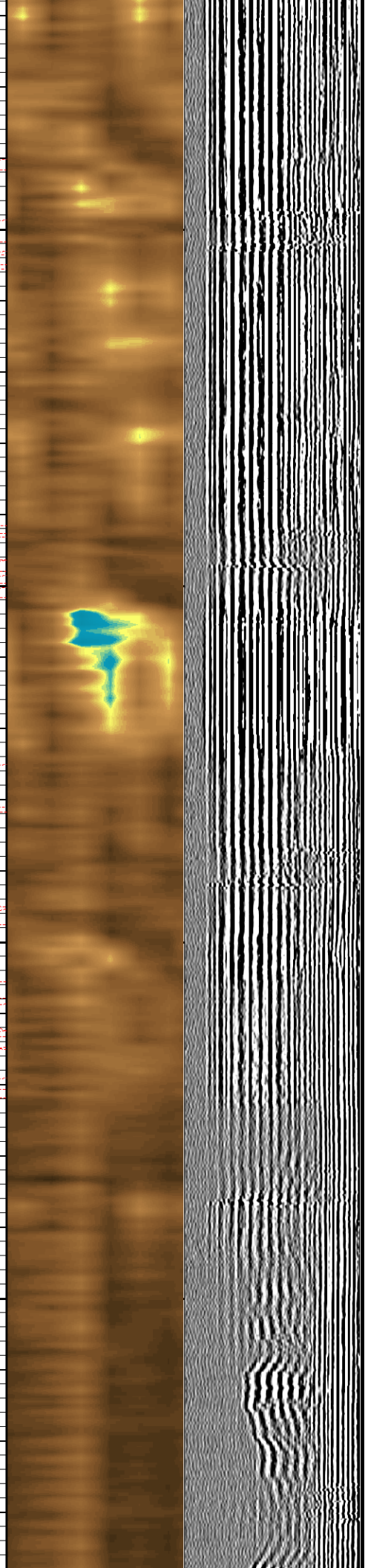
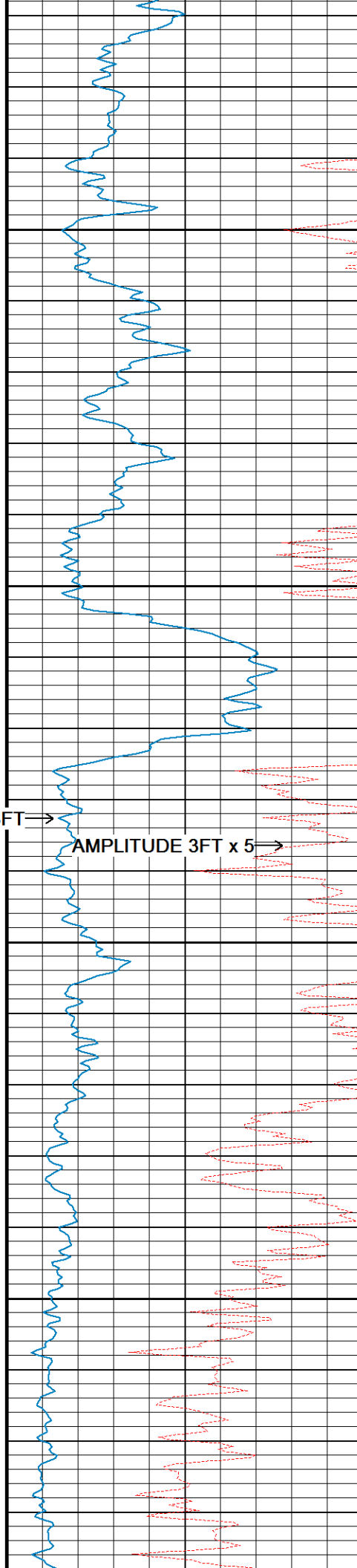
126°

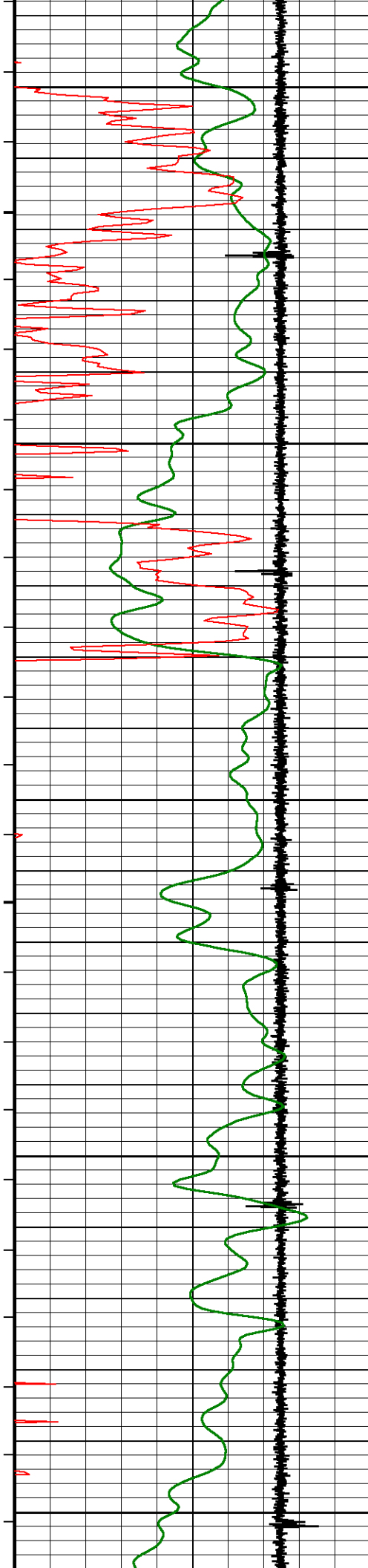
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127°

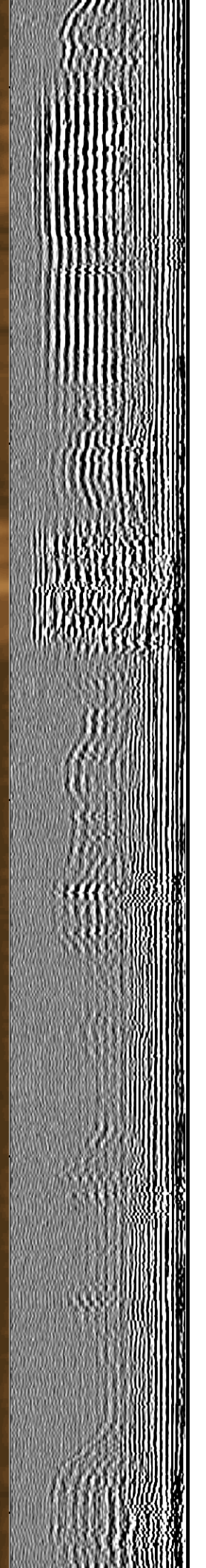
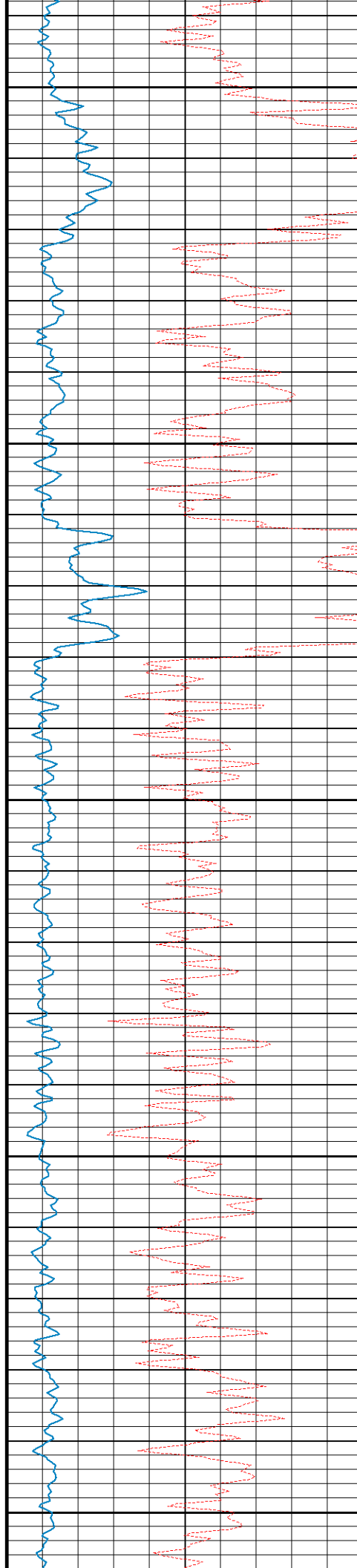
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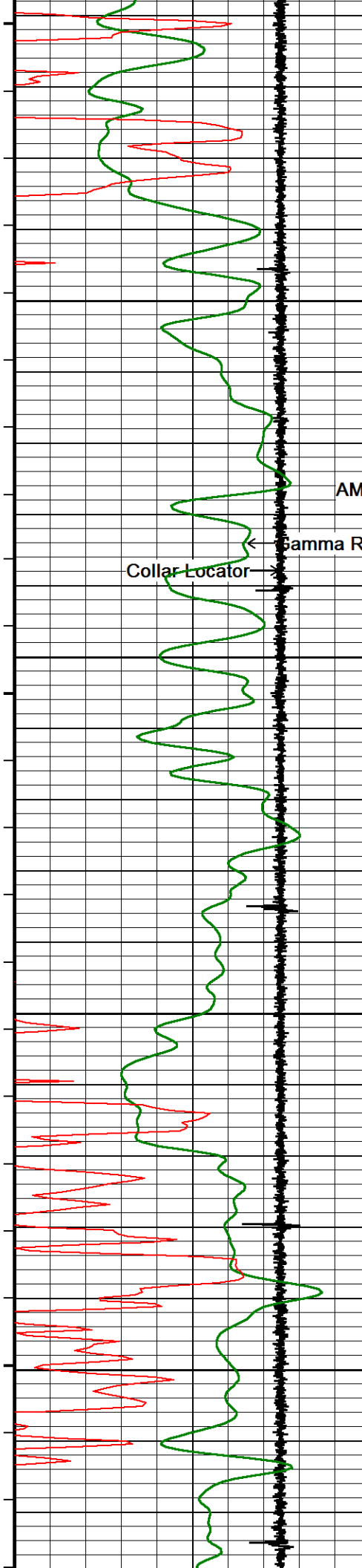
128°





128
4250
129°
4300
130°
4350
131°
4400
132°
4450





132°

4500

AMPLITUDE 3FT

← Gamma Ray
Collar Locator →

133°

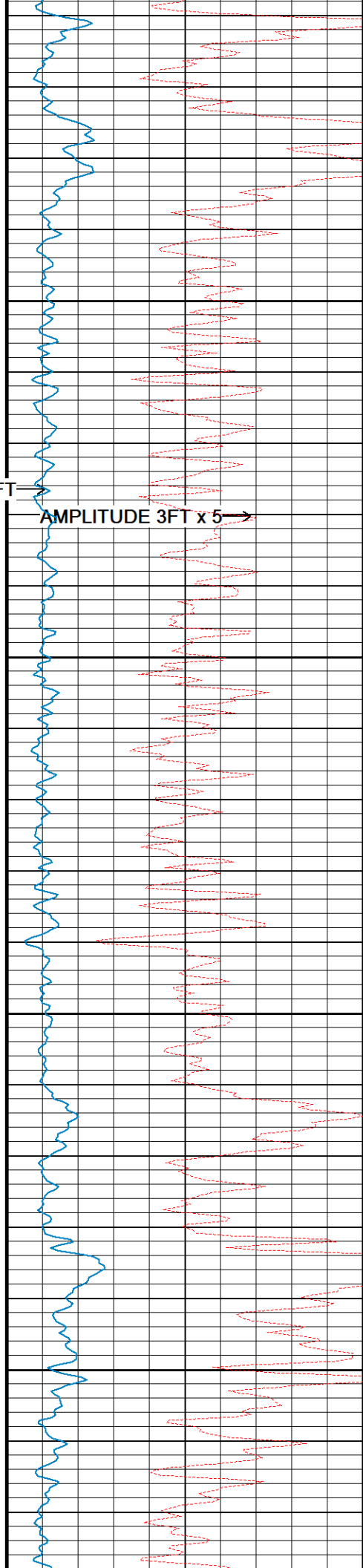
4550

134°

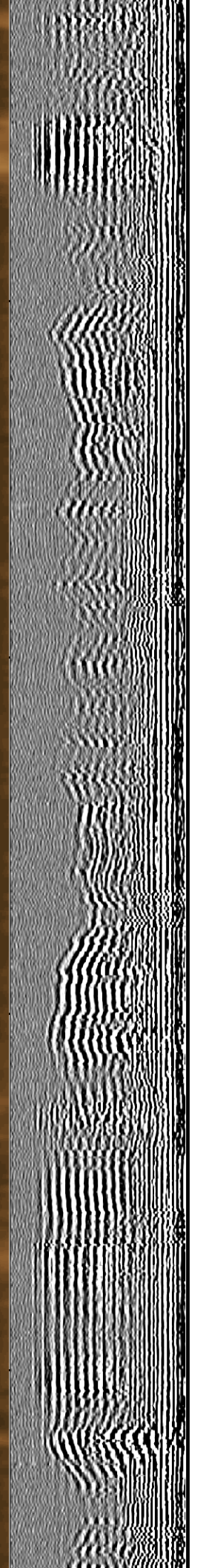
4600

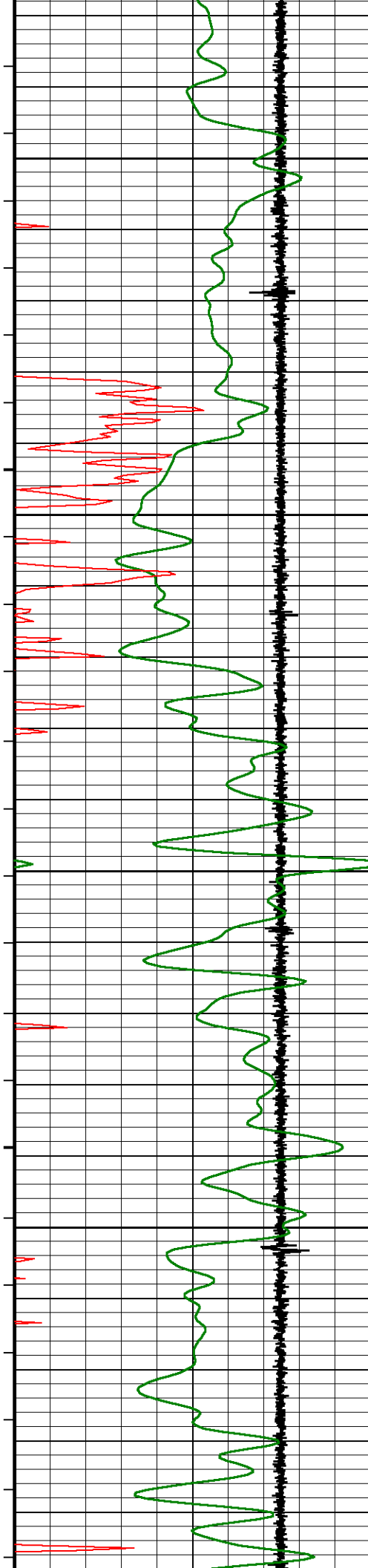
135°

4650



AMPLITUDE 3FT x 5





136°

4700

137°

4750

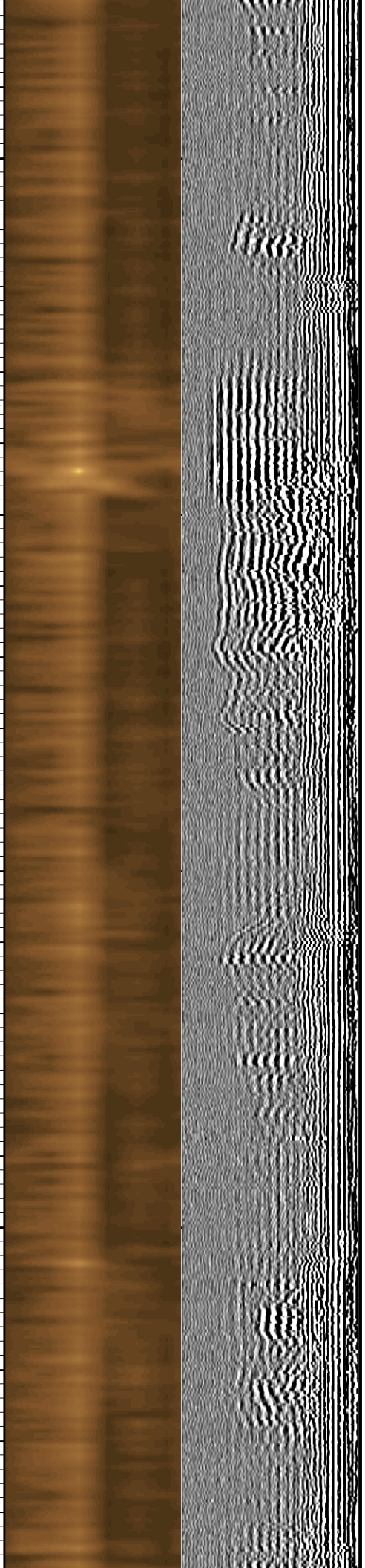
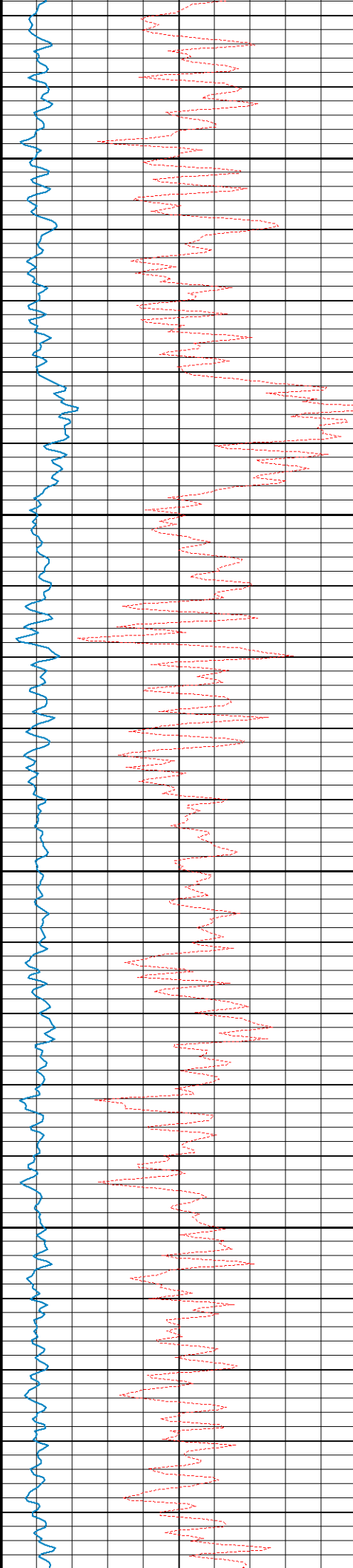
138°

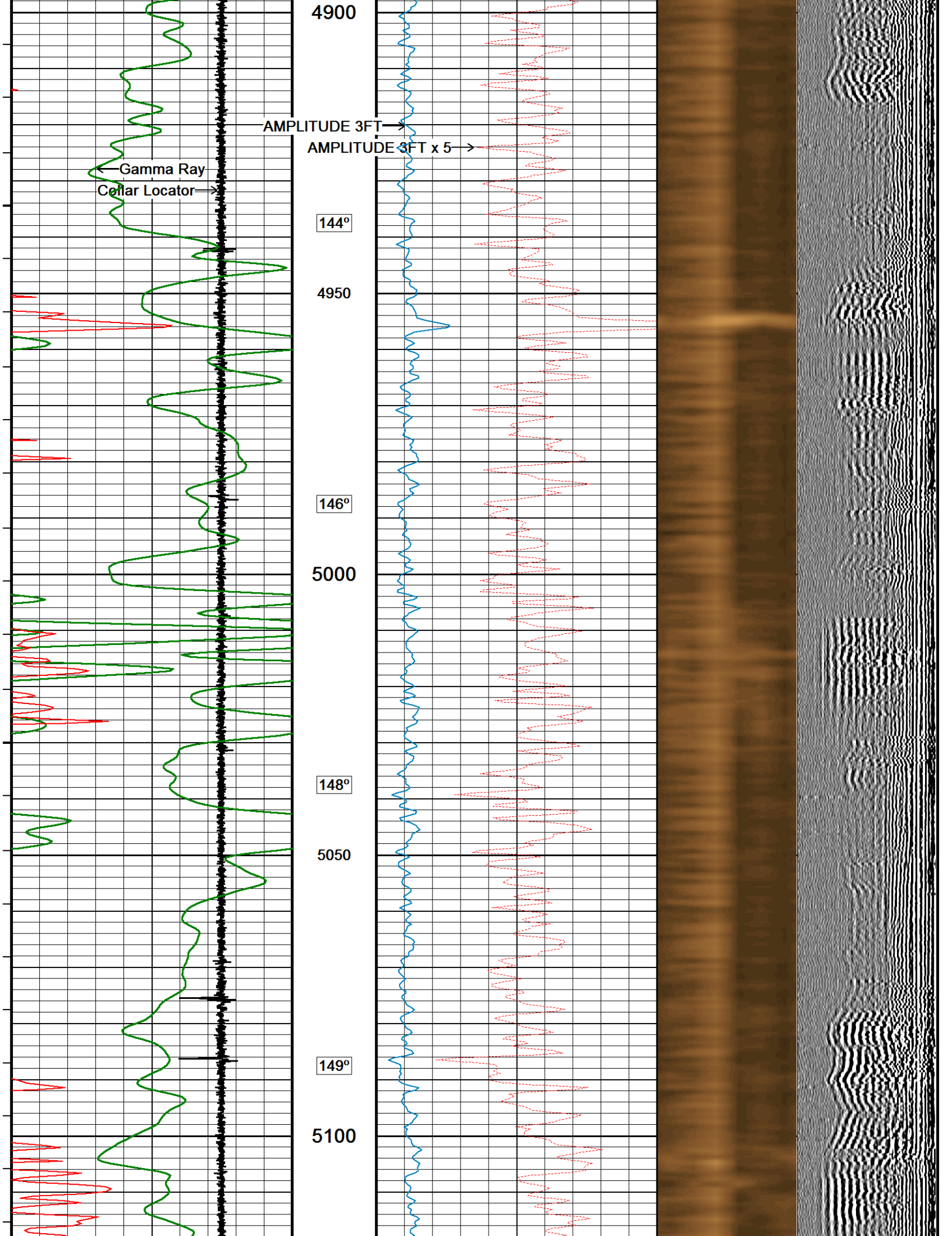
4800

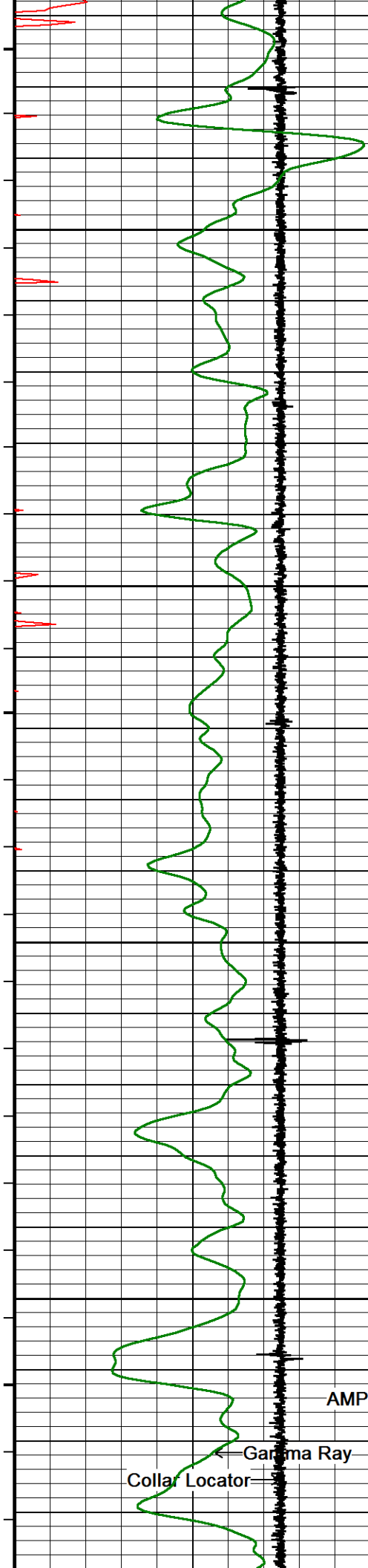
140°

4850

141°







150°

5150

151°

5200

152°

5250

153°

5300

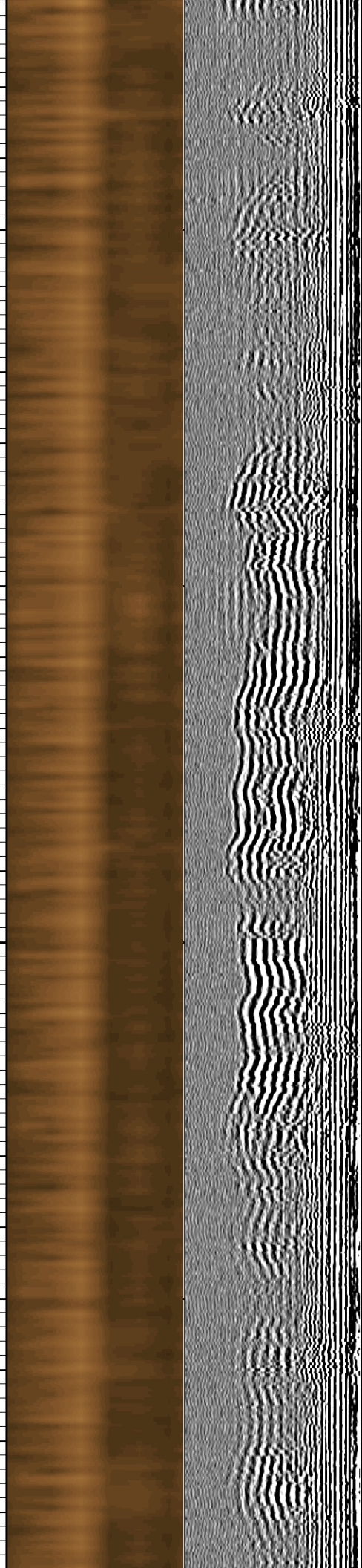
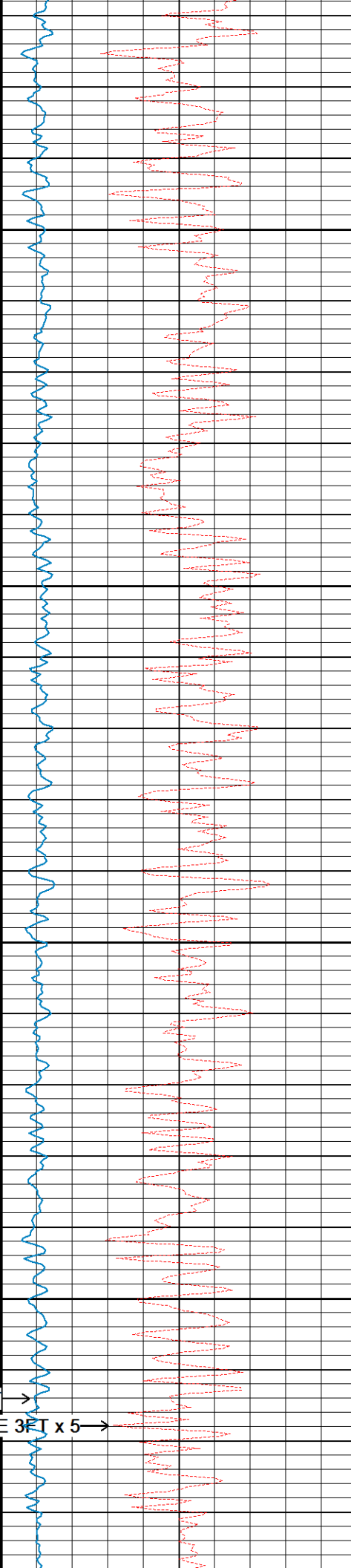
AMPLITUDE 3FT →

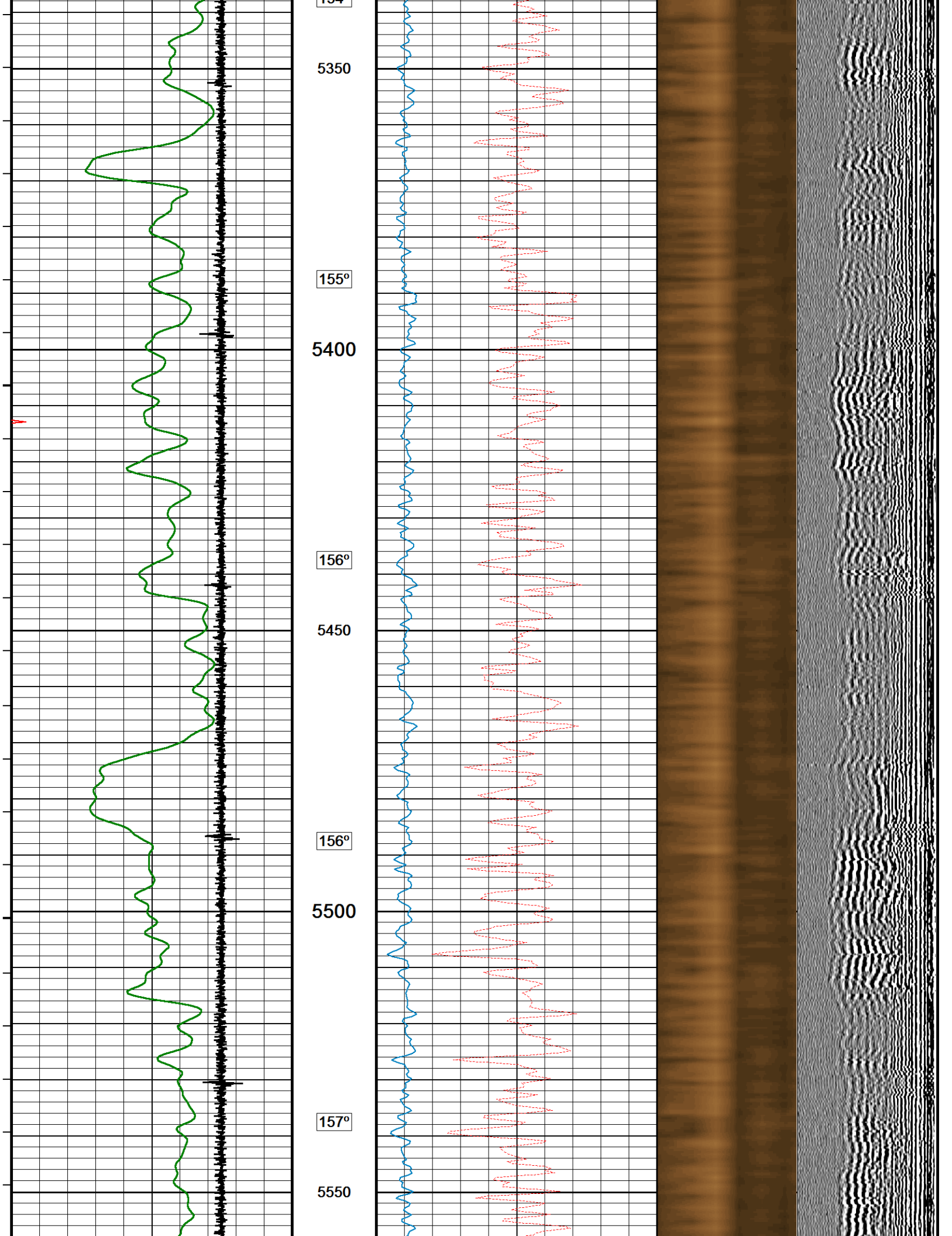
AMPLITUDE 3FT x 5 →

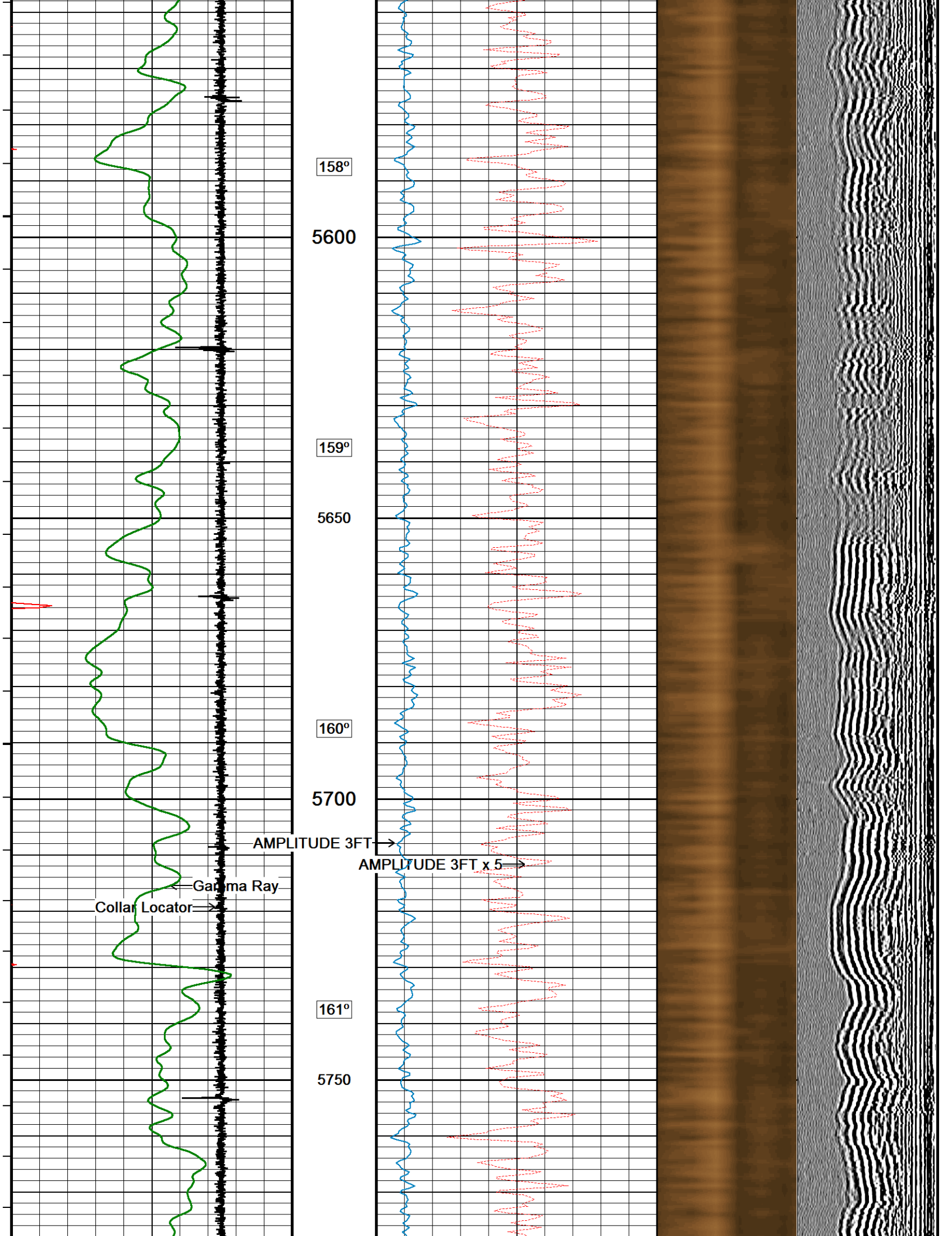
← Gamma Ray

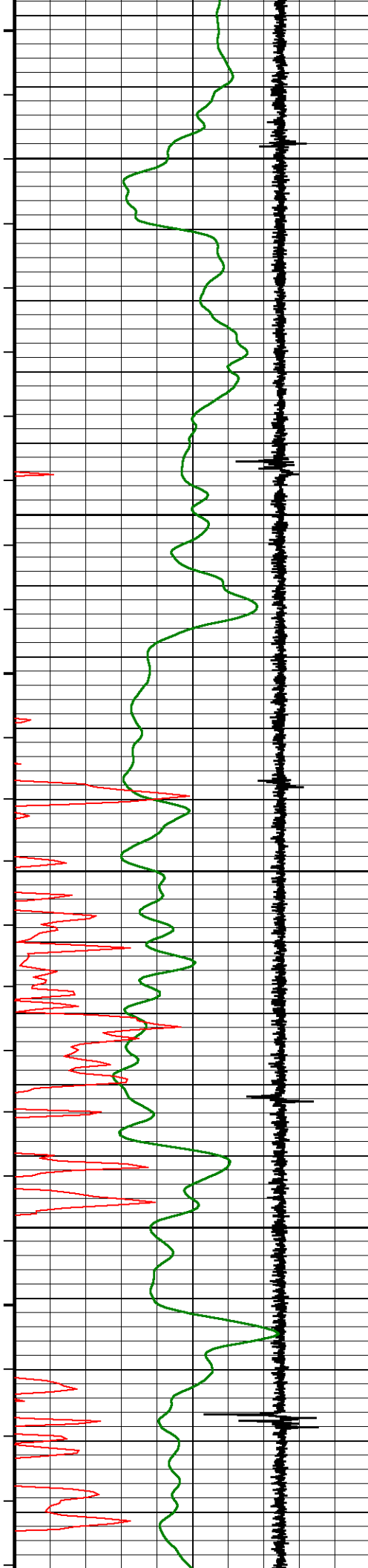
Collar Locator

154°









162°

5800

163°

5850

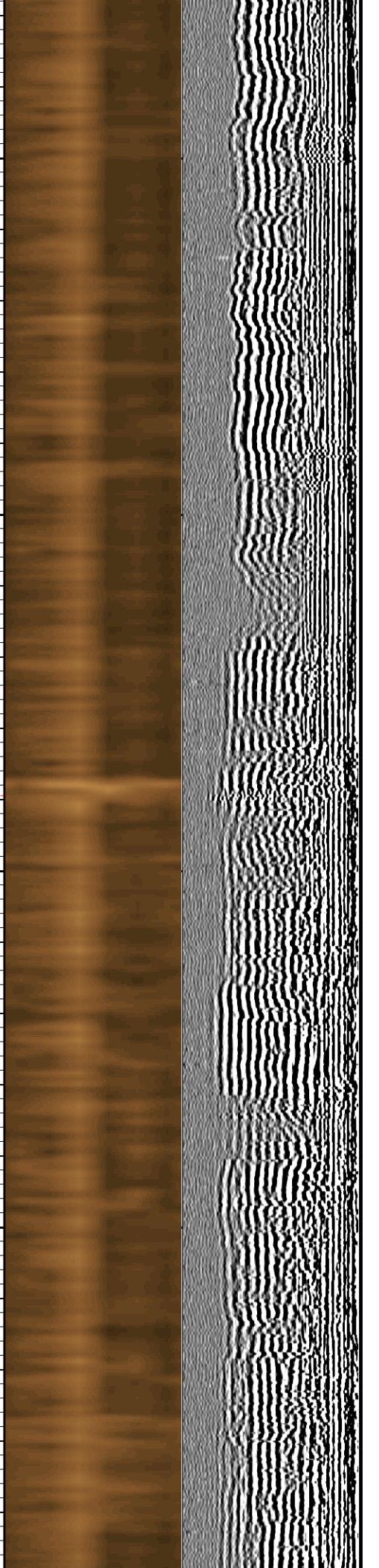
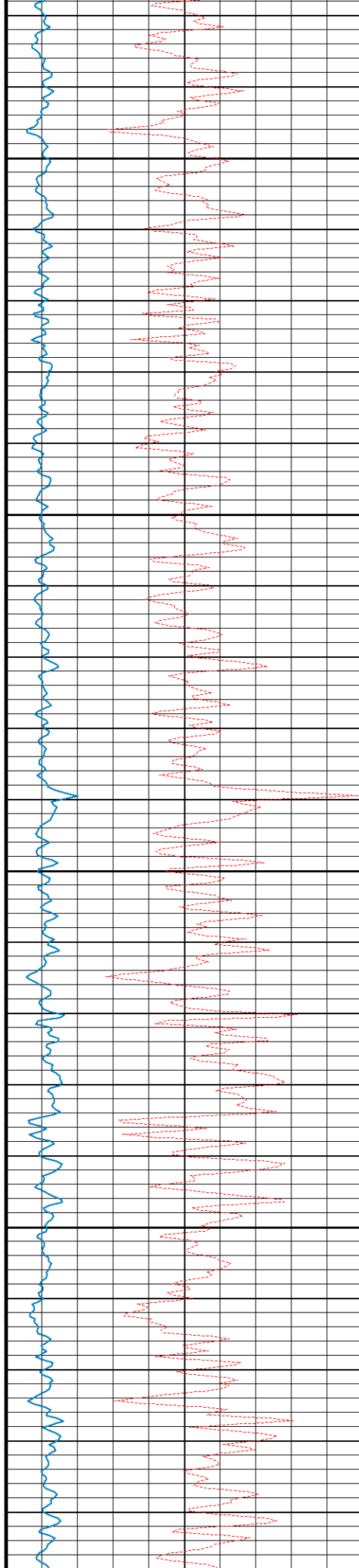
164°

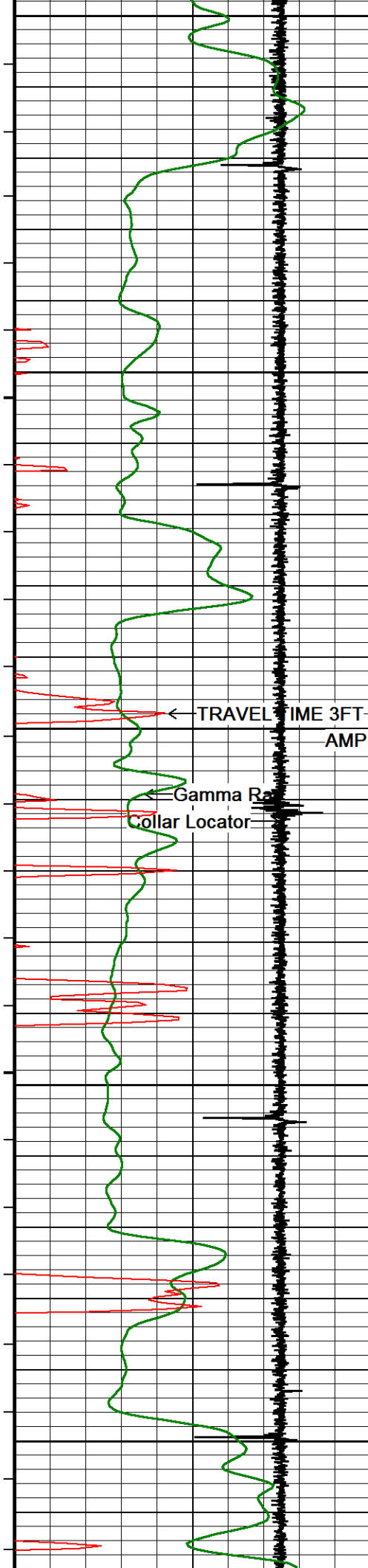
5900

165°

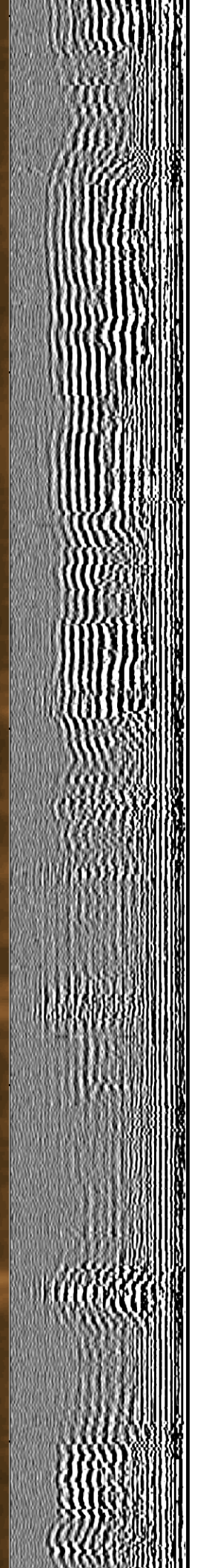
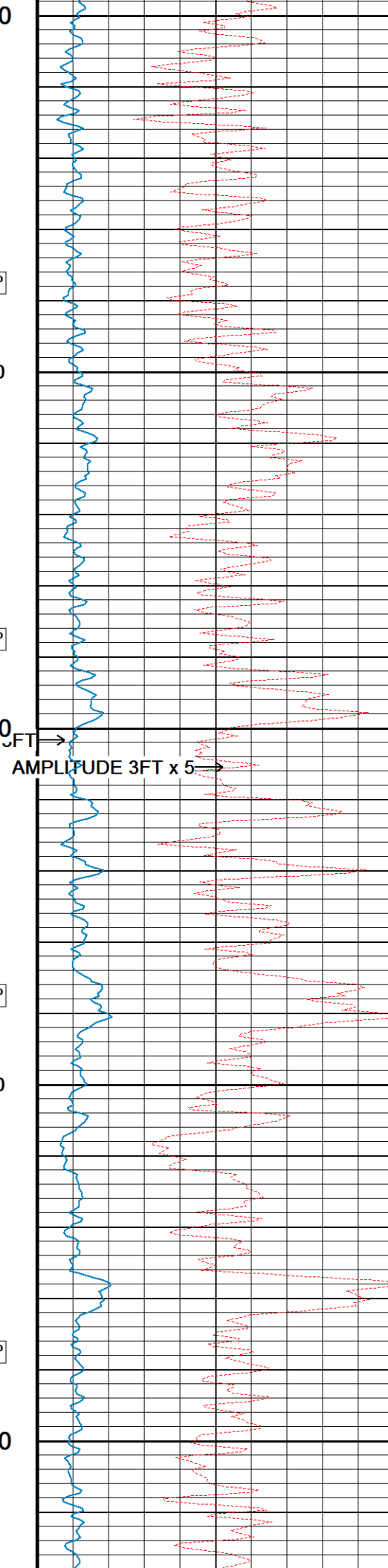
5950

166°





6000
166°
6050
167°
6100
6150
168°
6200



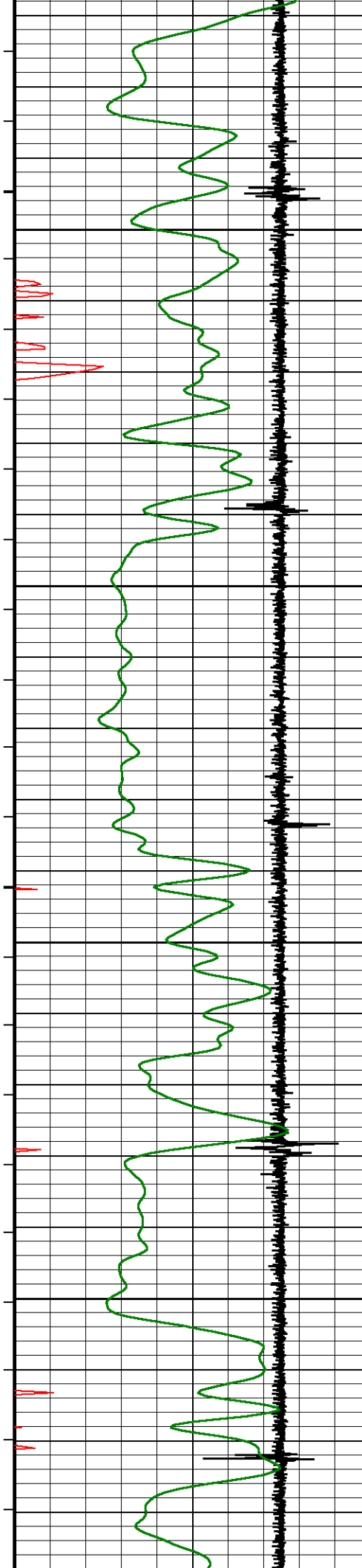
← TRAVEL TIME 3FT

AMPLITUDE 3FT →

AMPLITUDE 3FT x 5 →

← Gamma Ray

← Collar Locator



169°

6250

170°

6300

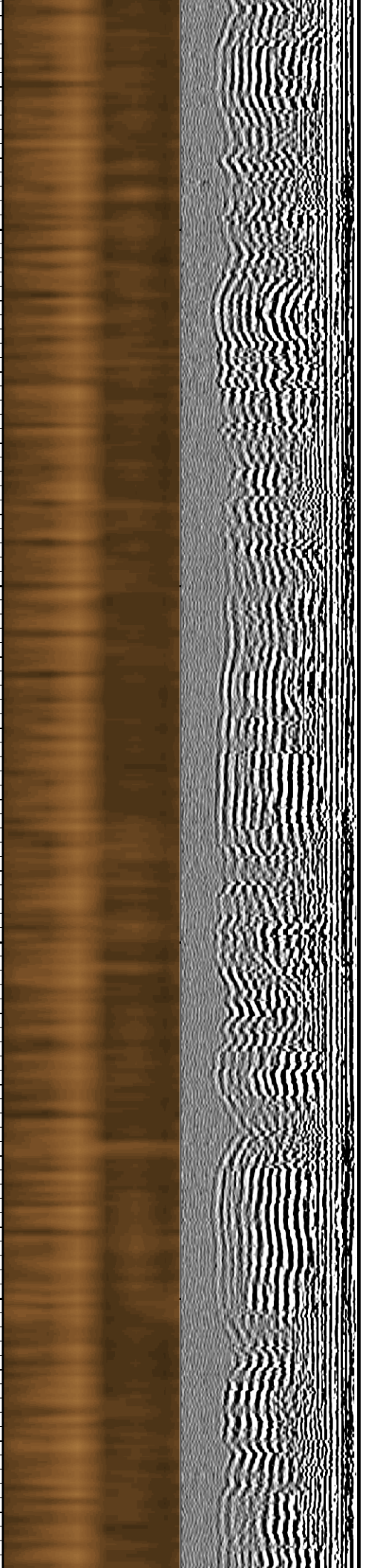
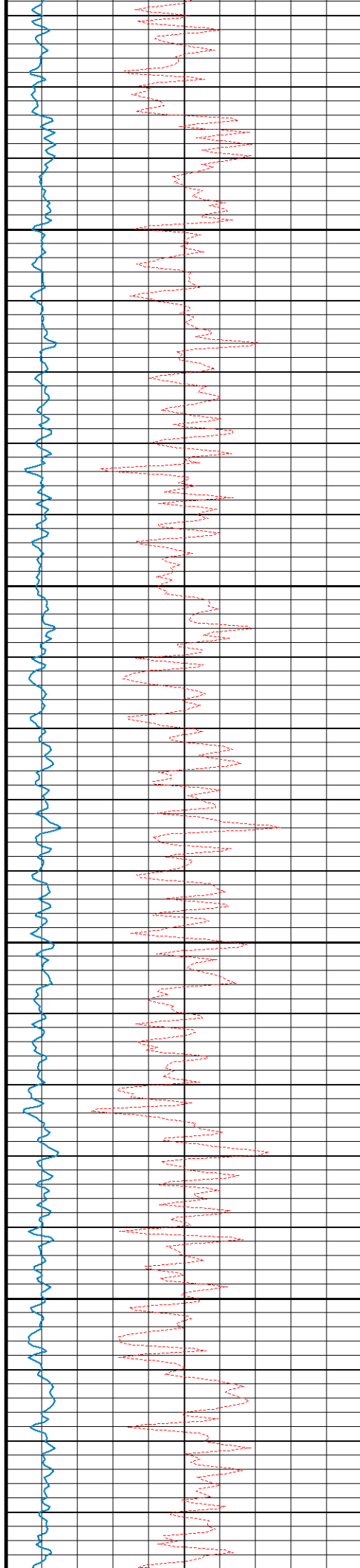
171°

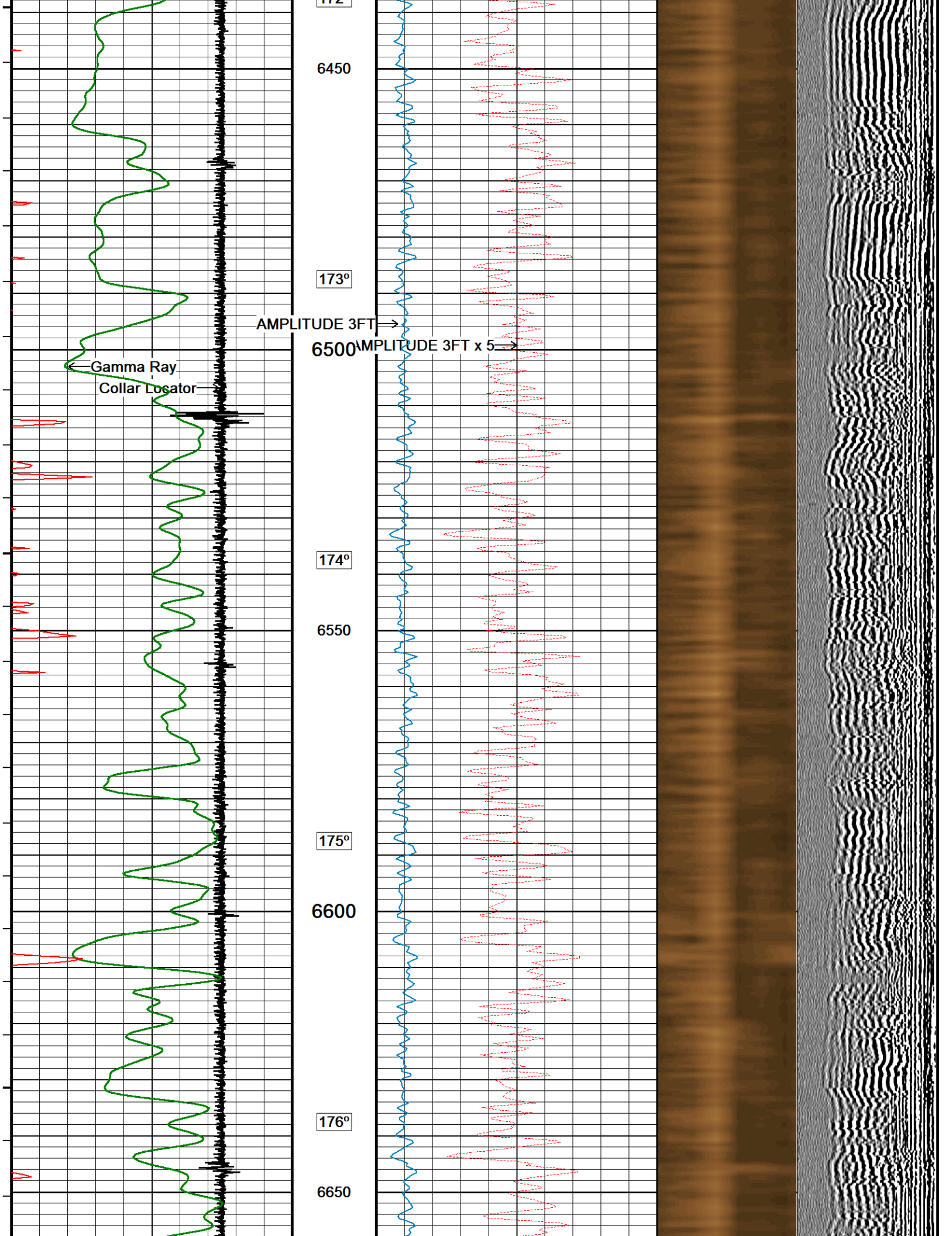
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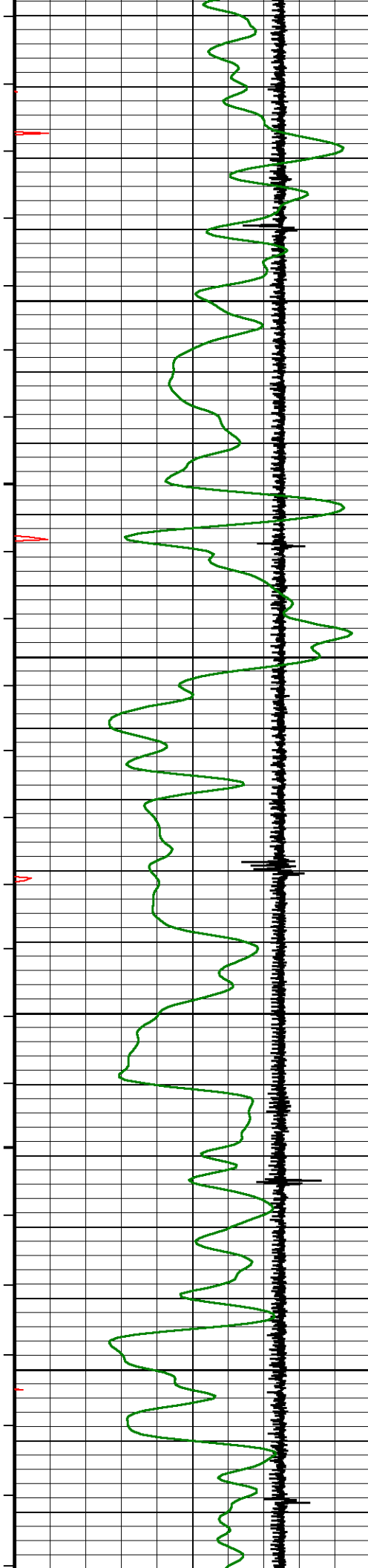
172°

6400

172°







177°

6700

178°

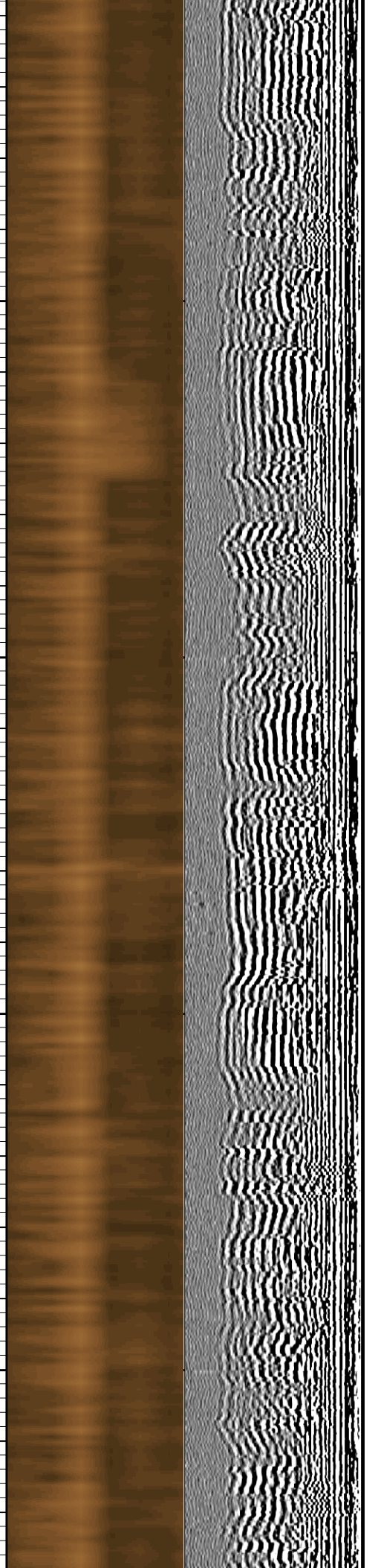
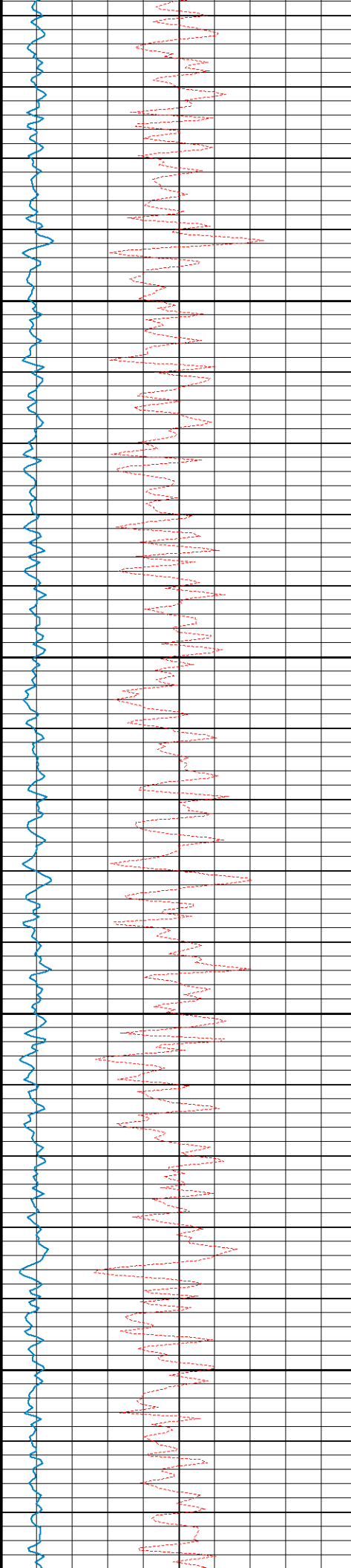
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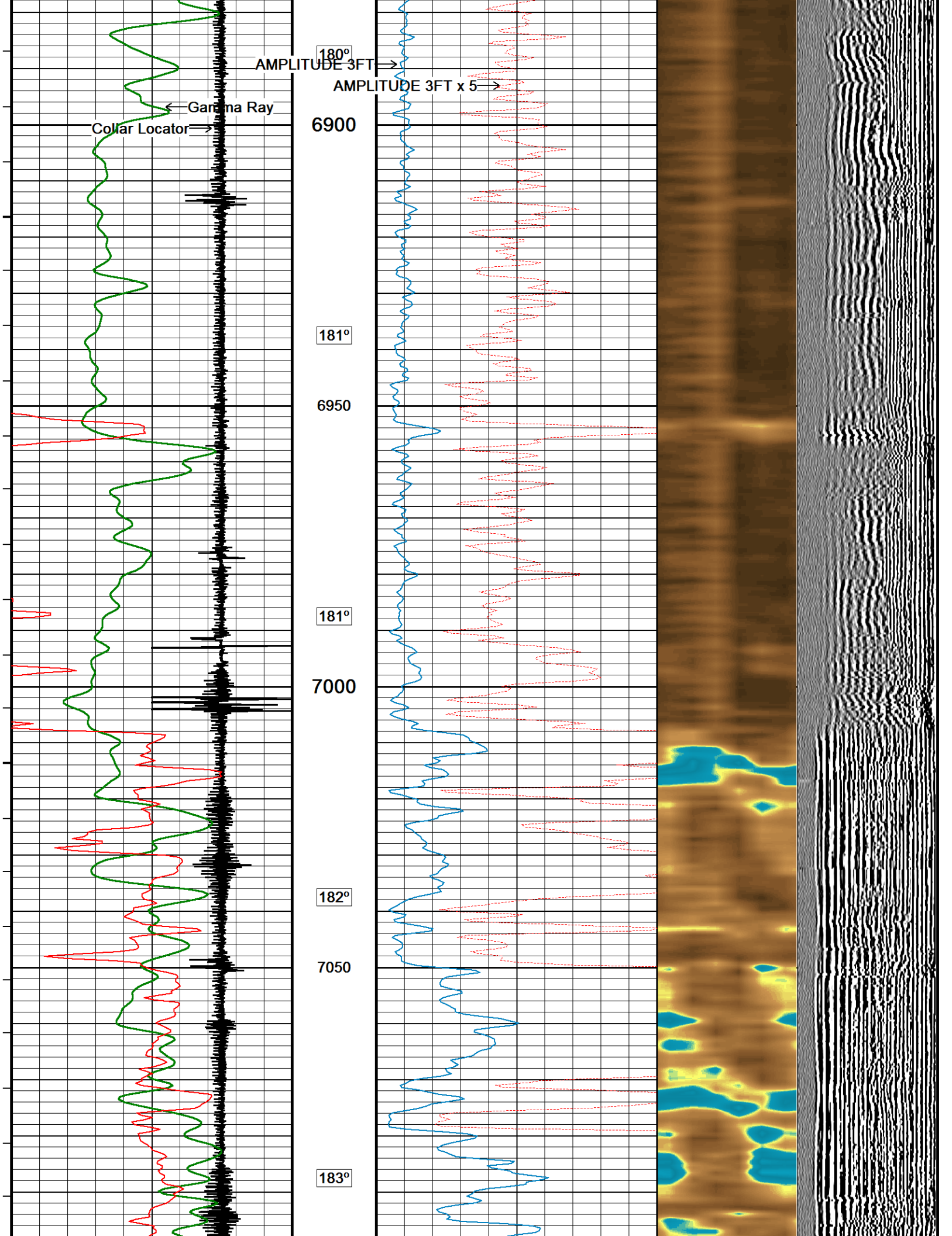
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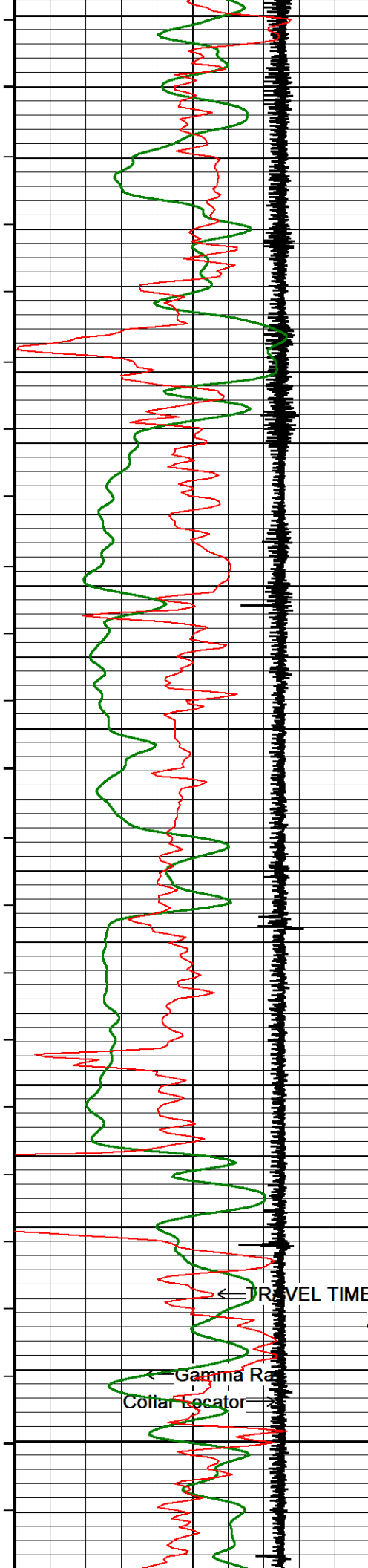
6800

179°

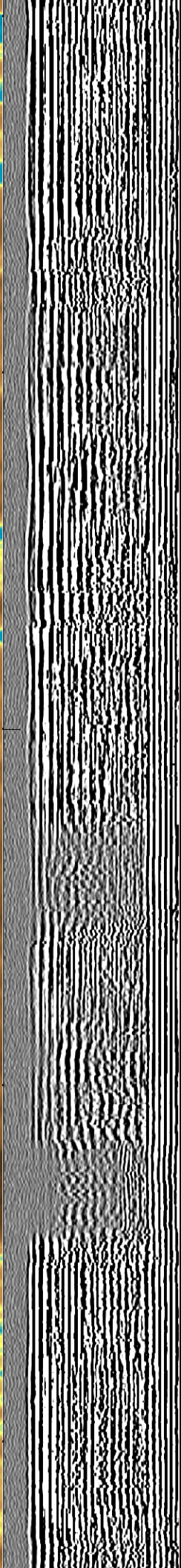
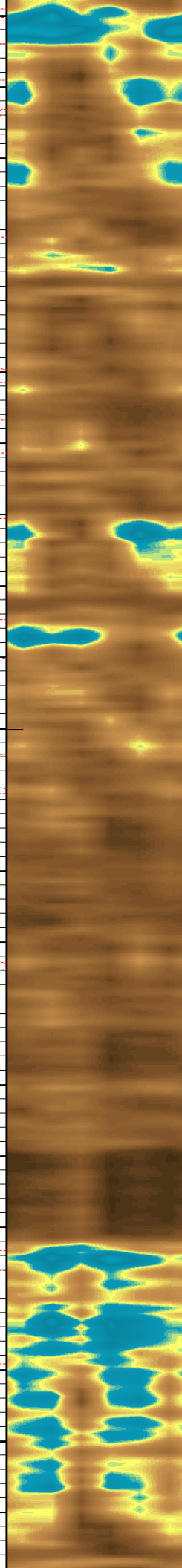
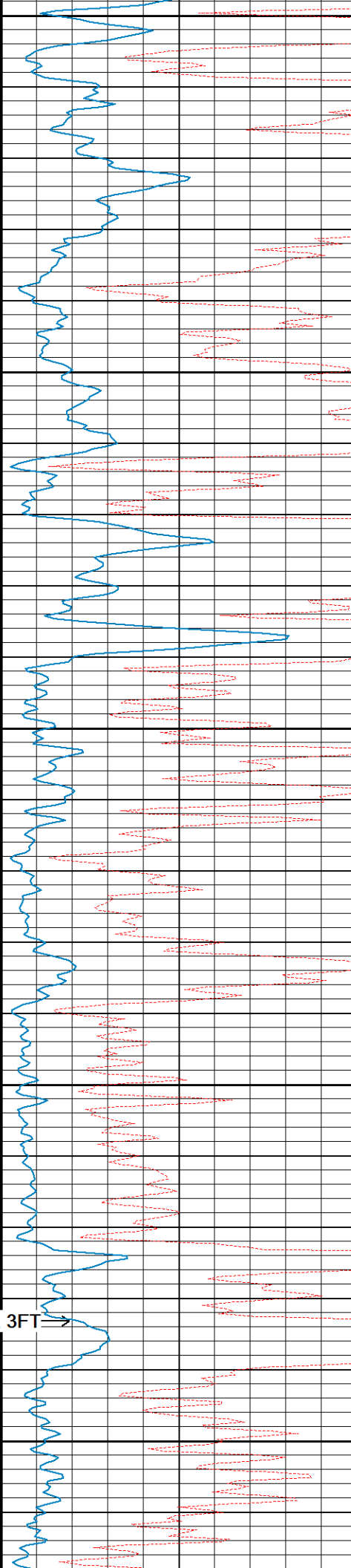
6850



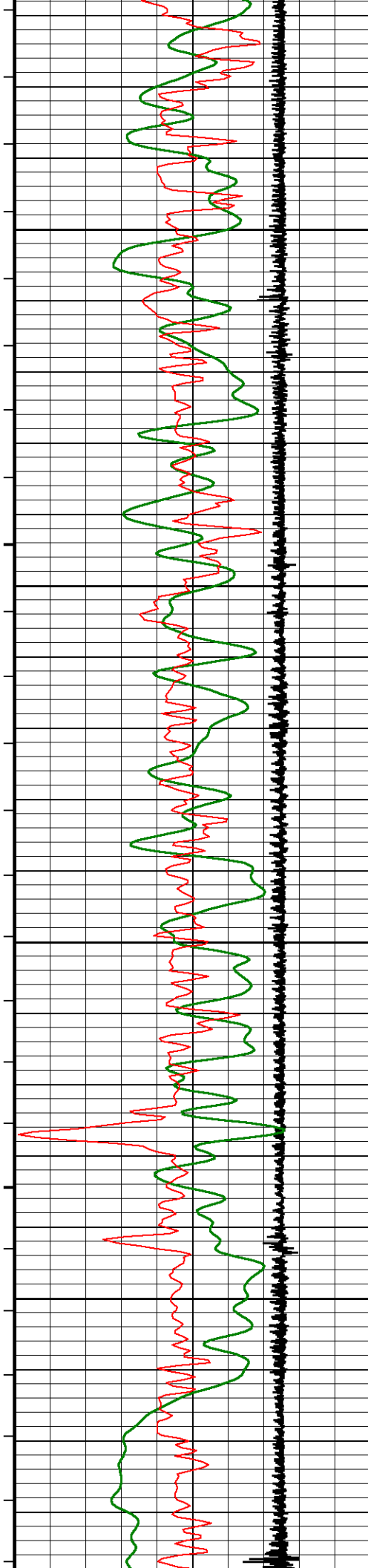




7100
184°
7150
185°
7200
186°
7250
187°
7300



← TRAVEL TIME 3FT
← Gamma Ray
← Collar Locator
→ AMPLITUDE 3FT →



188°

7350

188°

7400

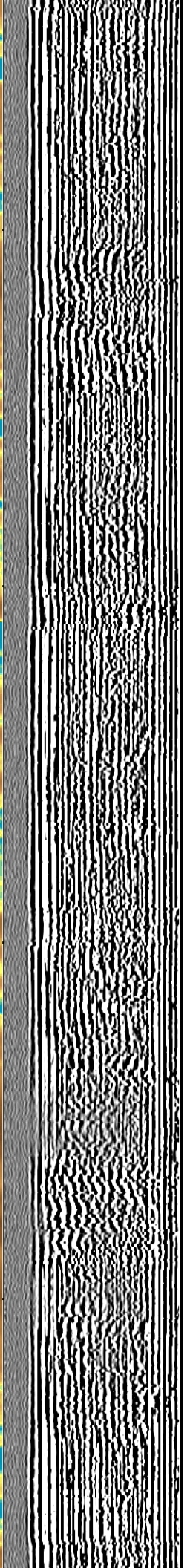
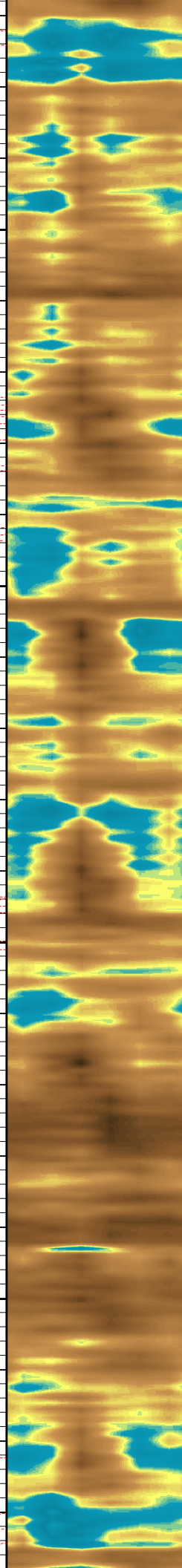
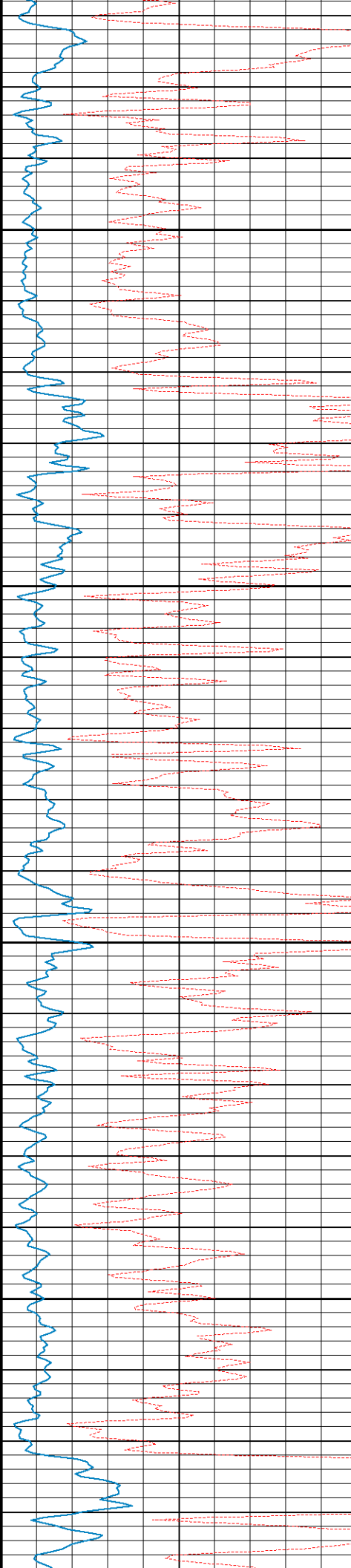
190°

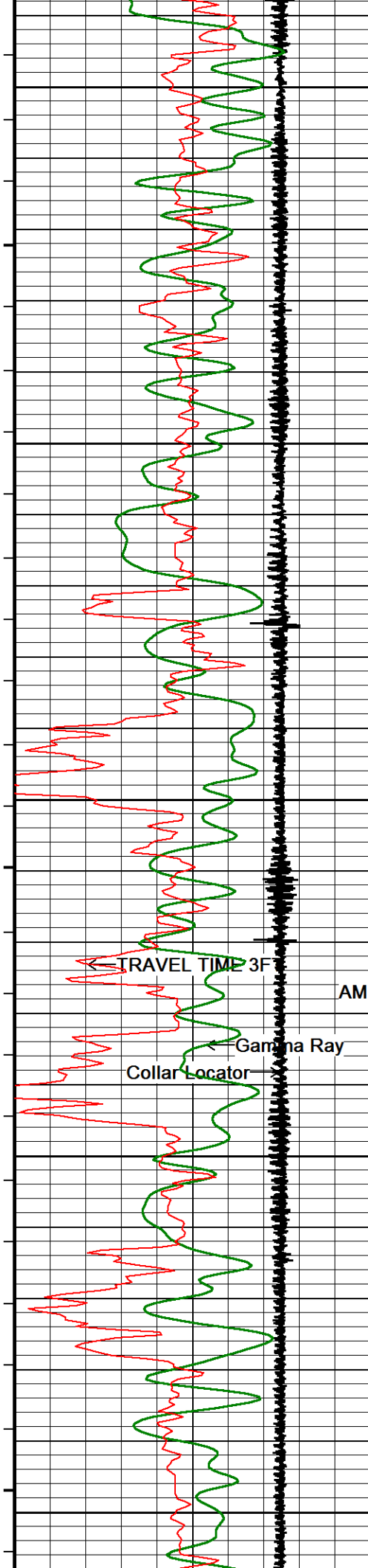
7450

190°

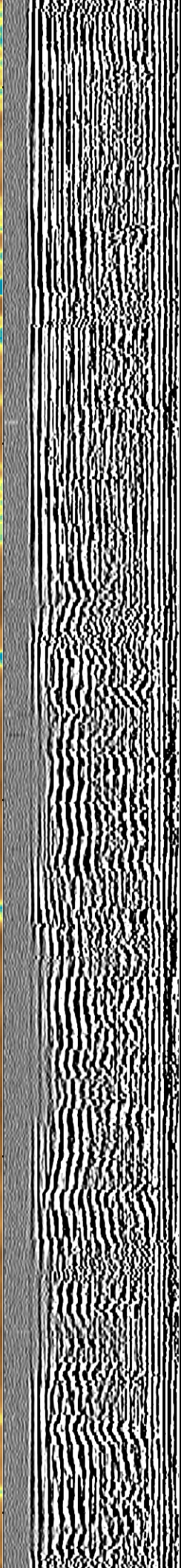
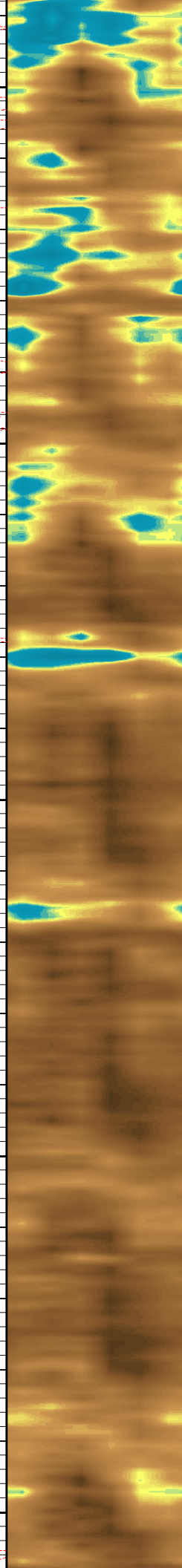
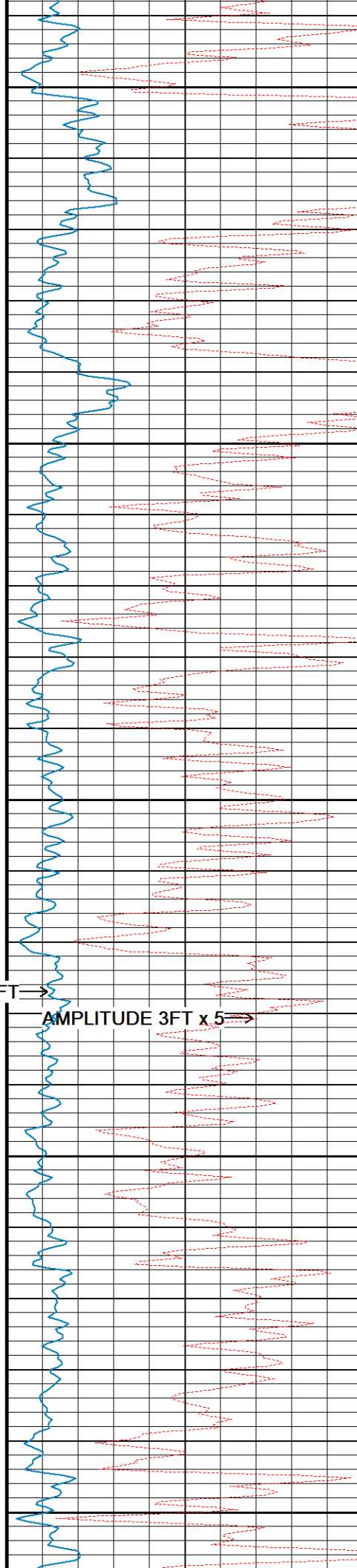
7500

191°





7550
192°
7600
193°
7650
194°
7700
195°
7750

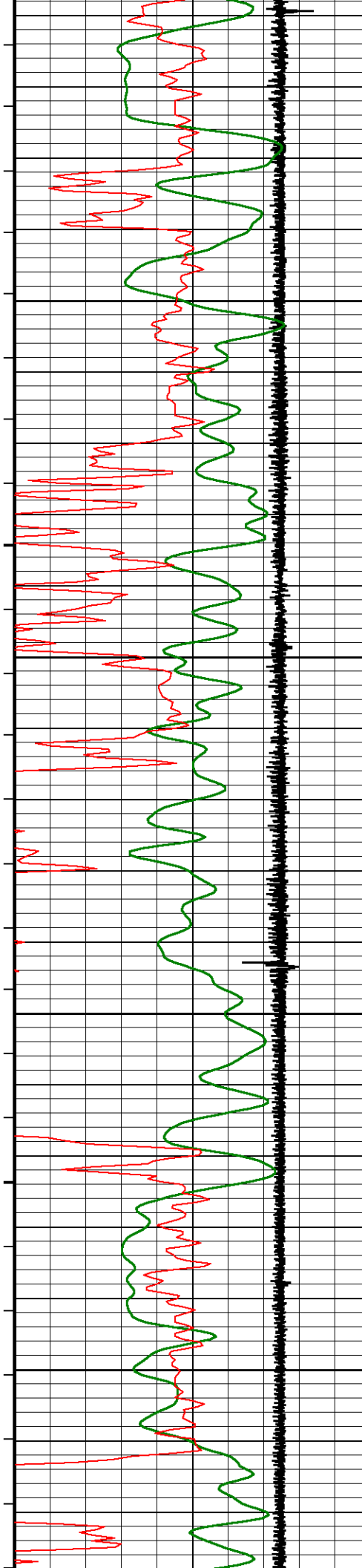


← TRAVEL TIME 3FT

AMPLITUDE 3FT →

AMPLITUDE 3FT x 5 →

← Gamma Ray
Collar Locator



196°

7800

197°

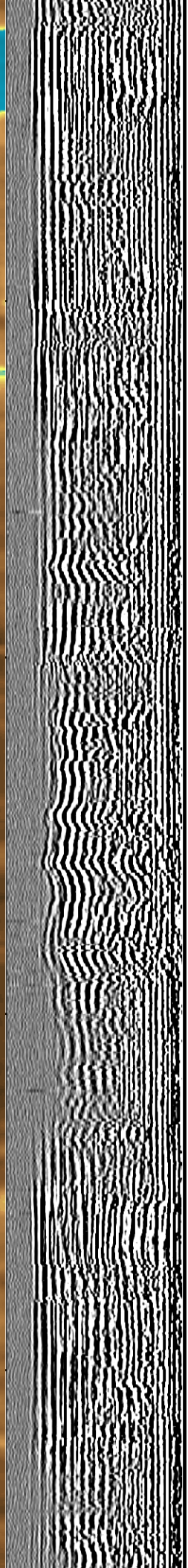
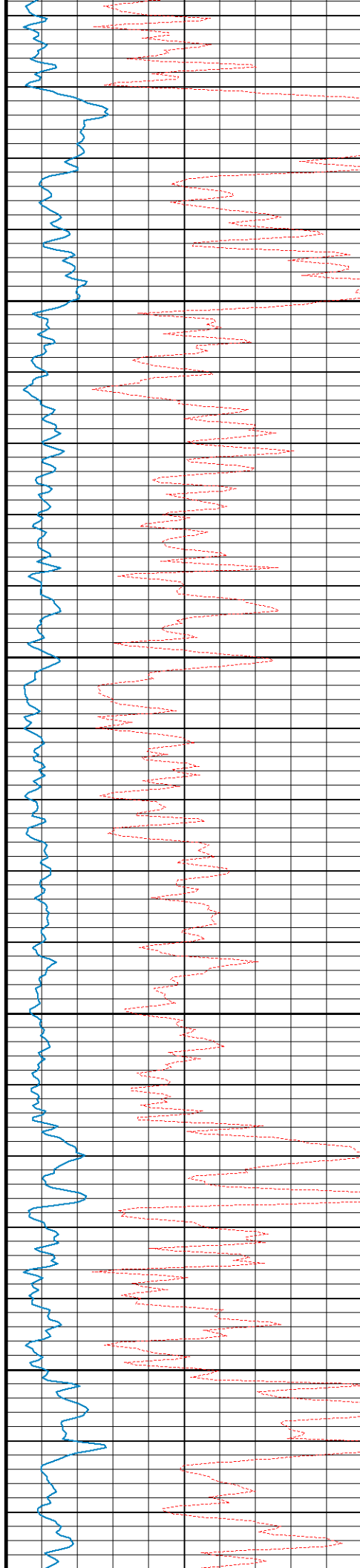
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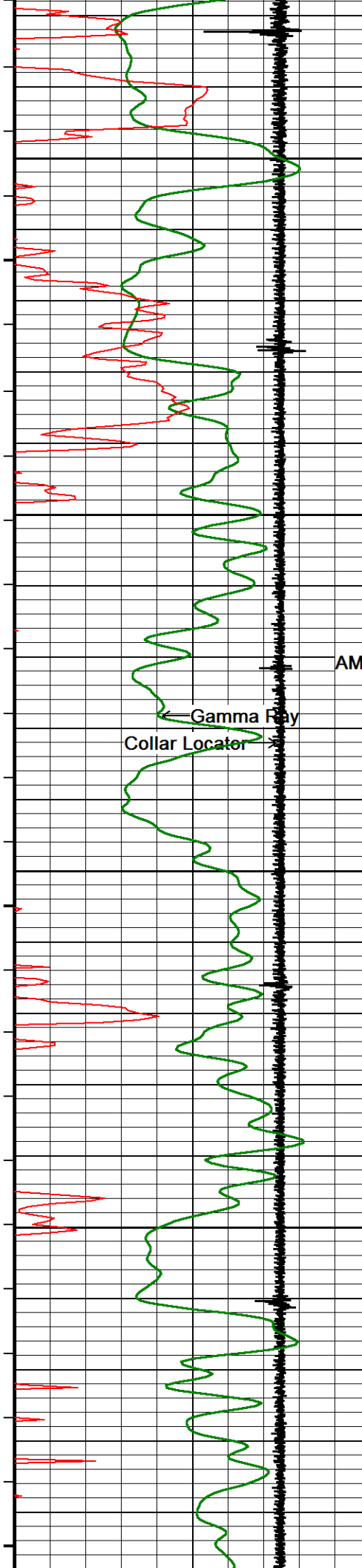
199°

7900

200°

7950





201°

8000

202°

8050

AMPLITUDE 3FT →

AMPLITUDE 3FT x 5 →

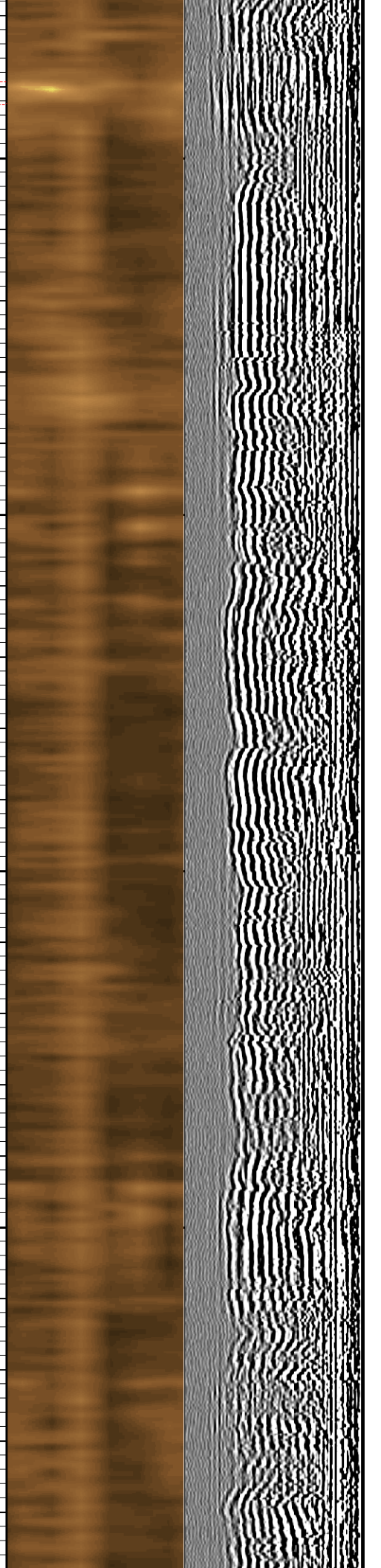
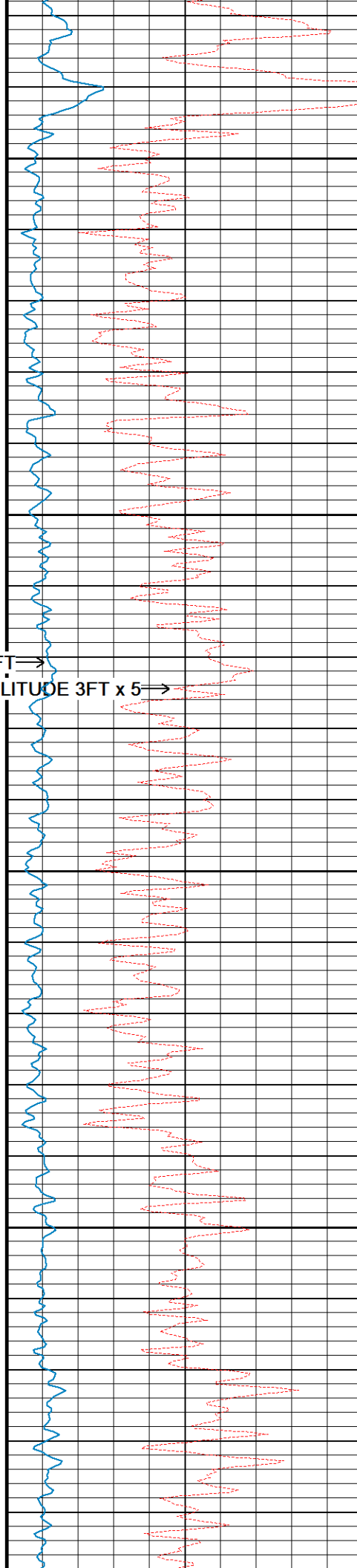
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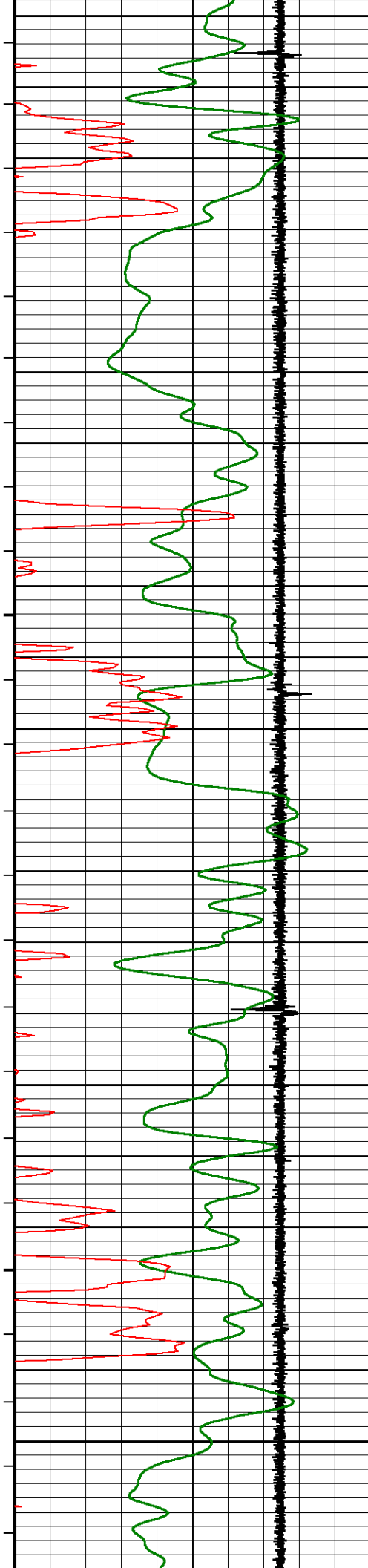
8100

204°

8150

205°





8200

206°

8250

207°

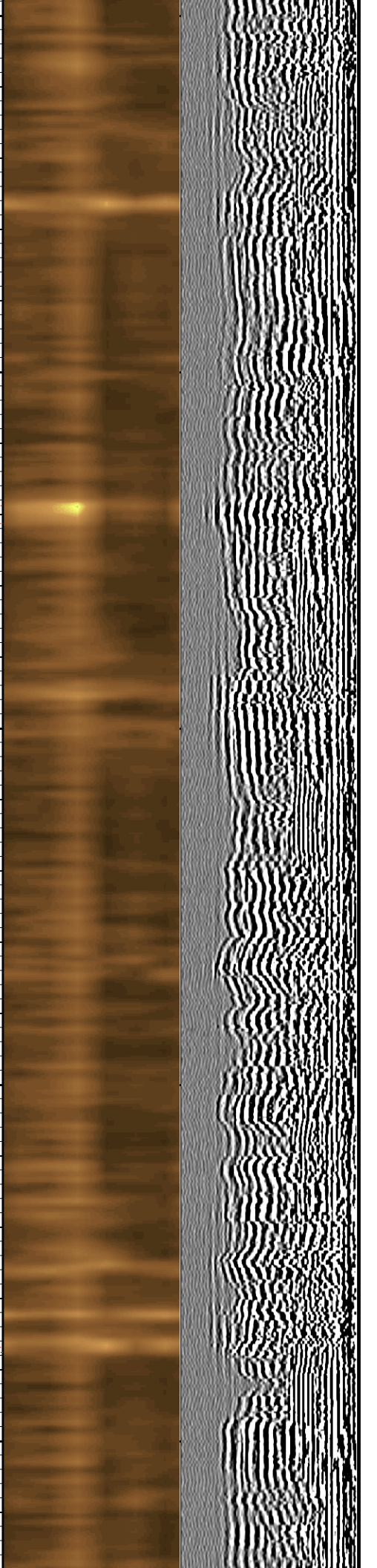
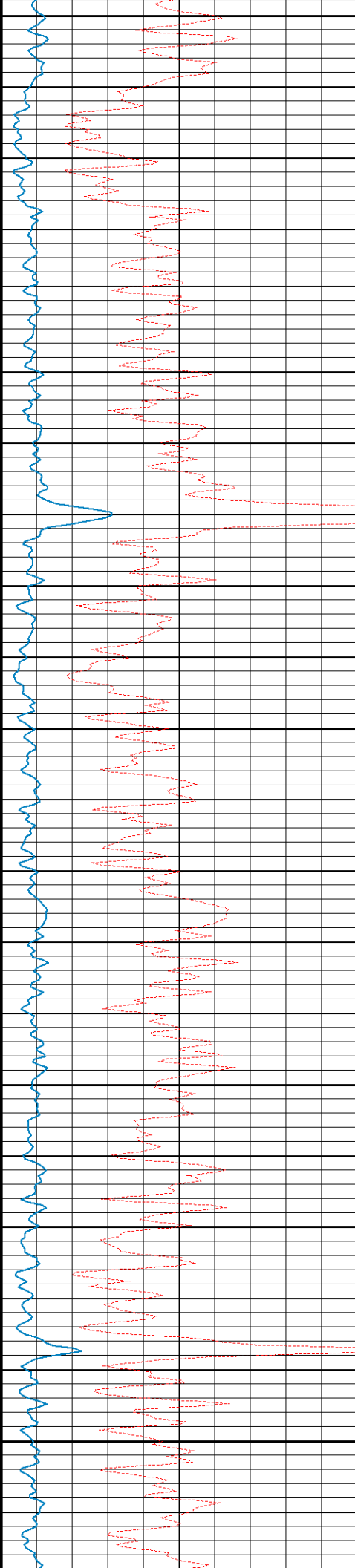
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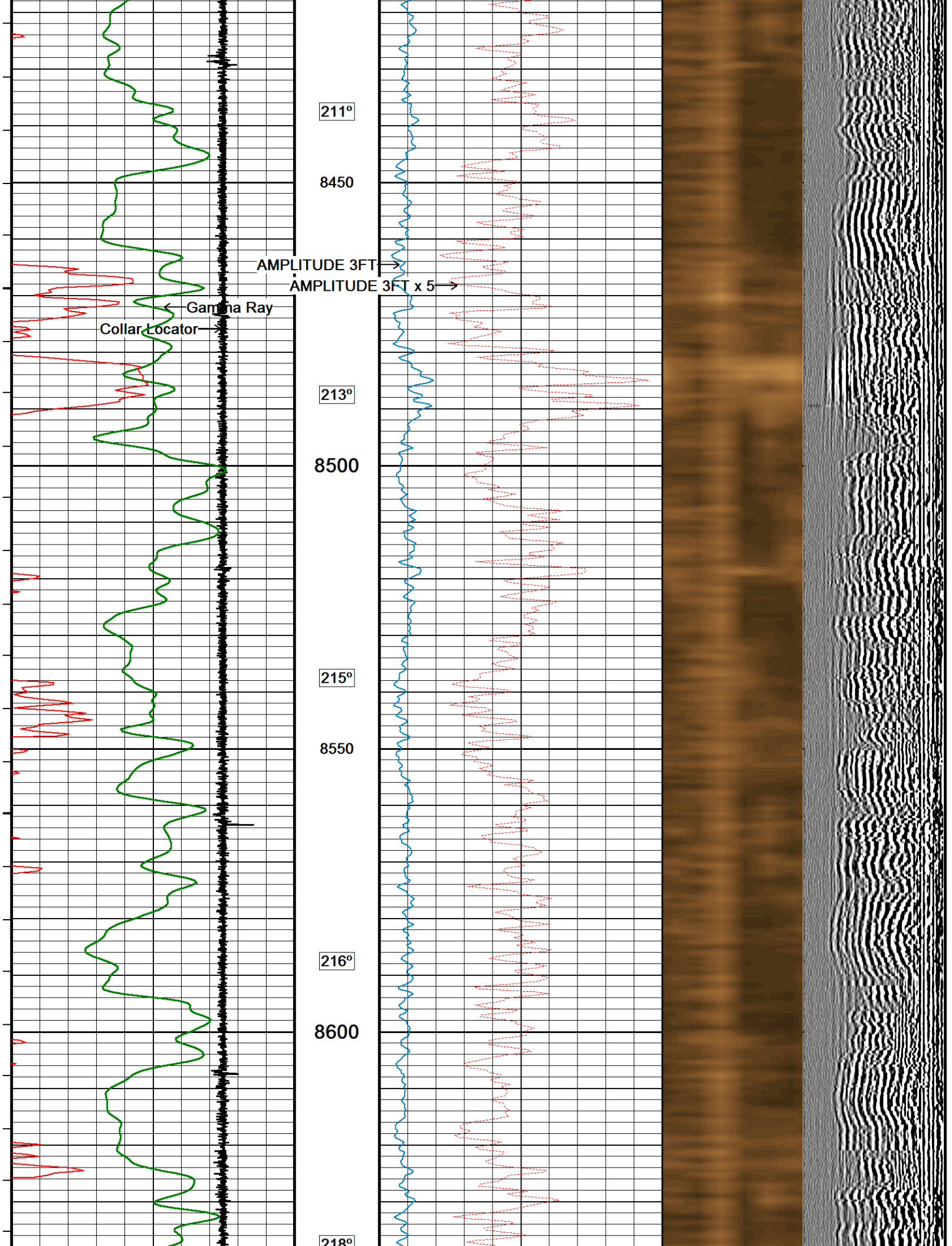
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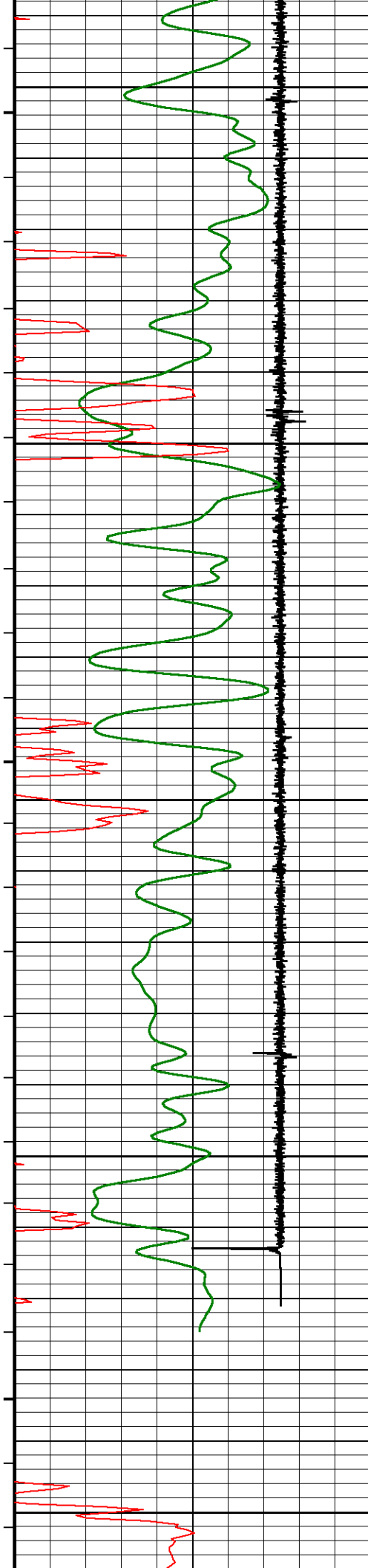
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210°

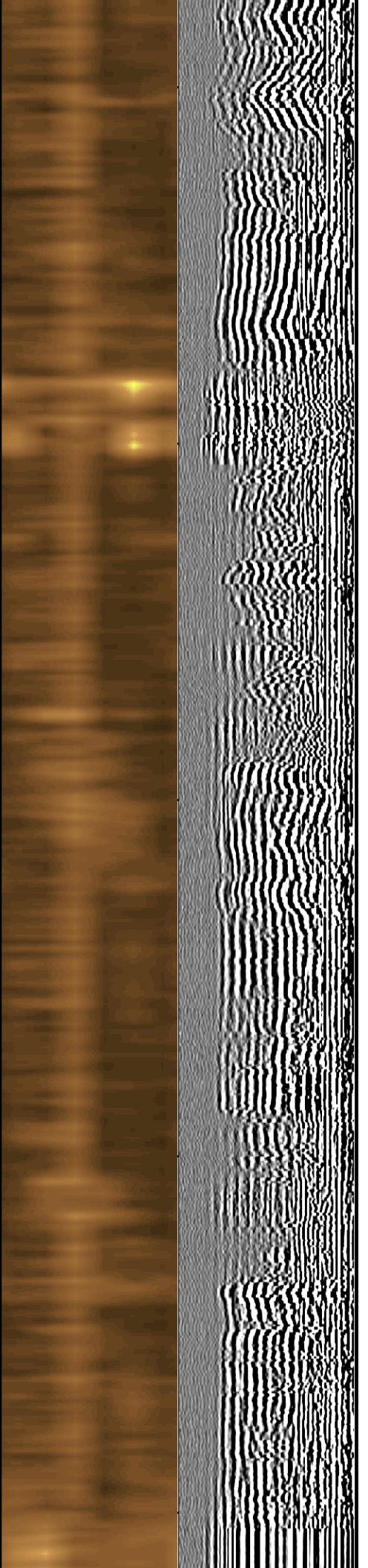
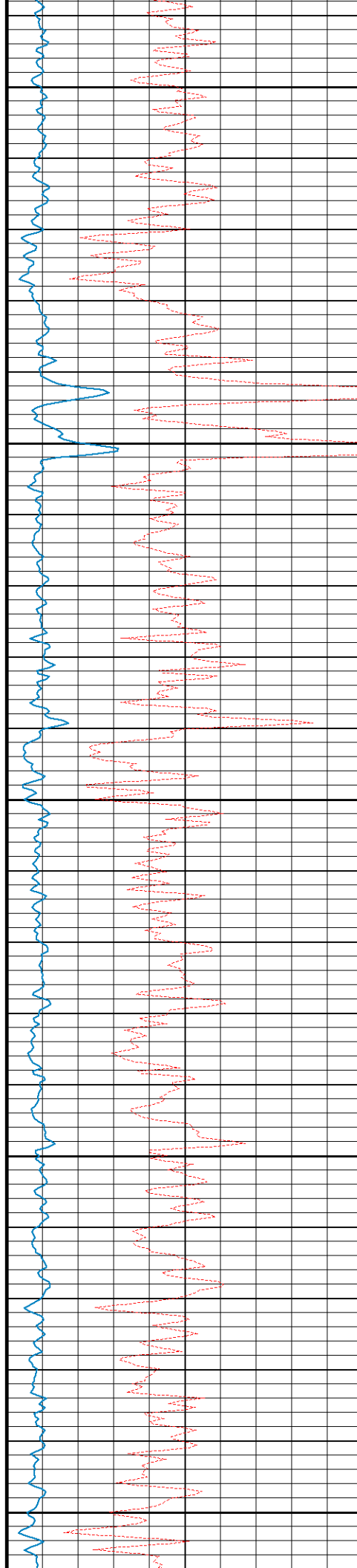
8400

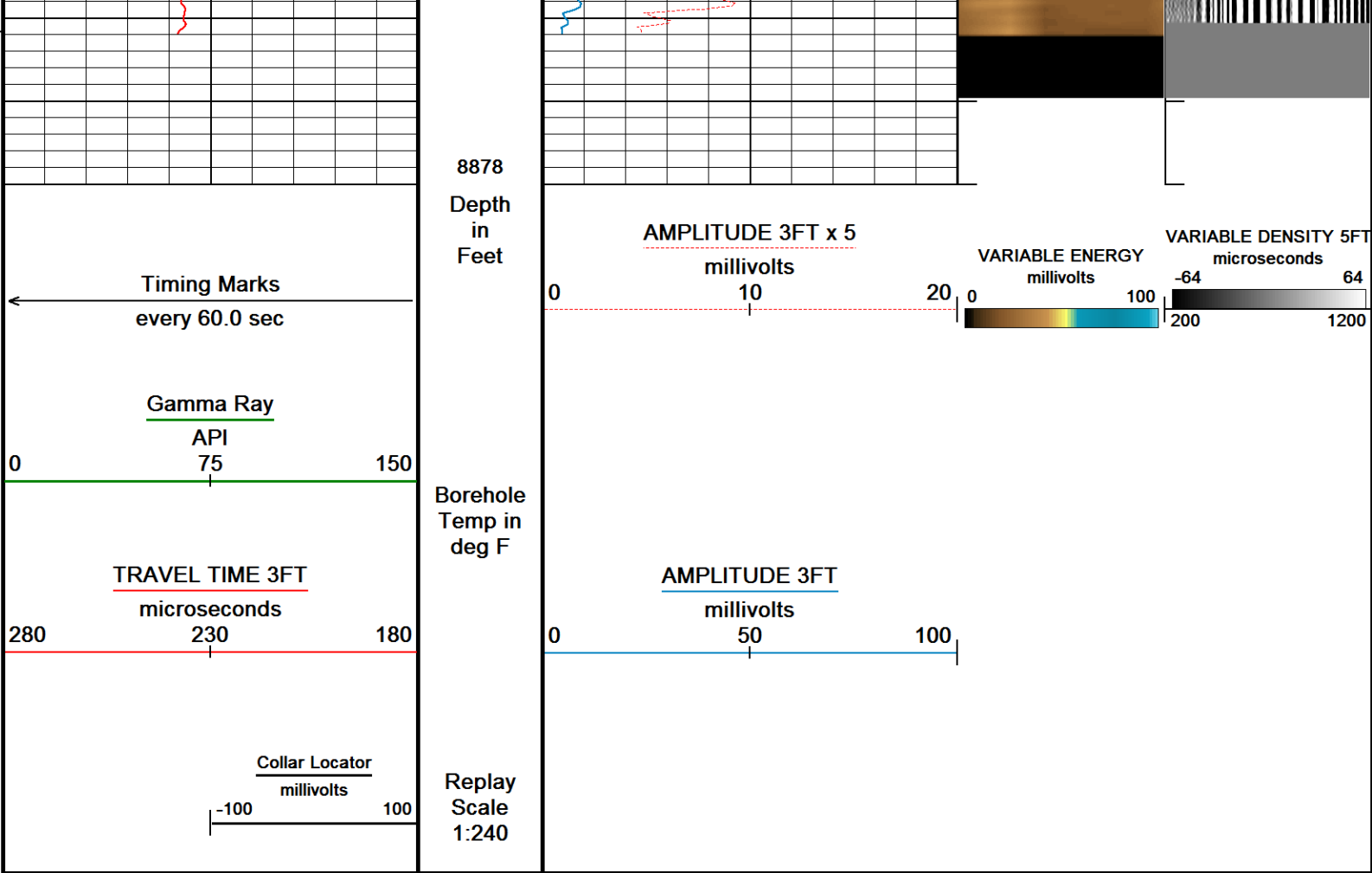






210
8650
222°
8700
225°
8750
226°
8800
8850





Depth Based Data - Maximum Sampling Increment 12.5cm
Filename: C:\Logs\Caerus\Puckett 11C-1\CREB-SSB_006.dta
System Versions: Logged with 16.00.6296 Plotted with 16.00.6296

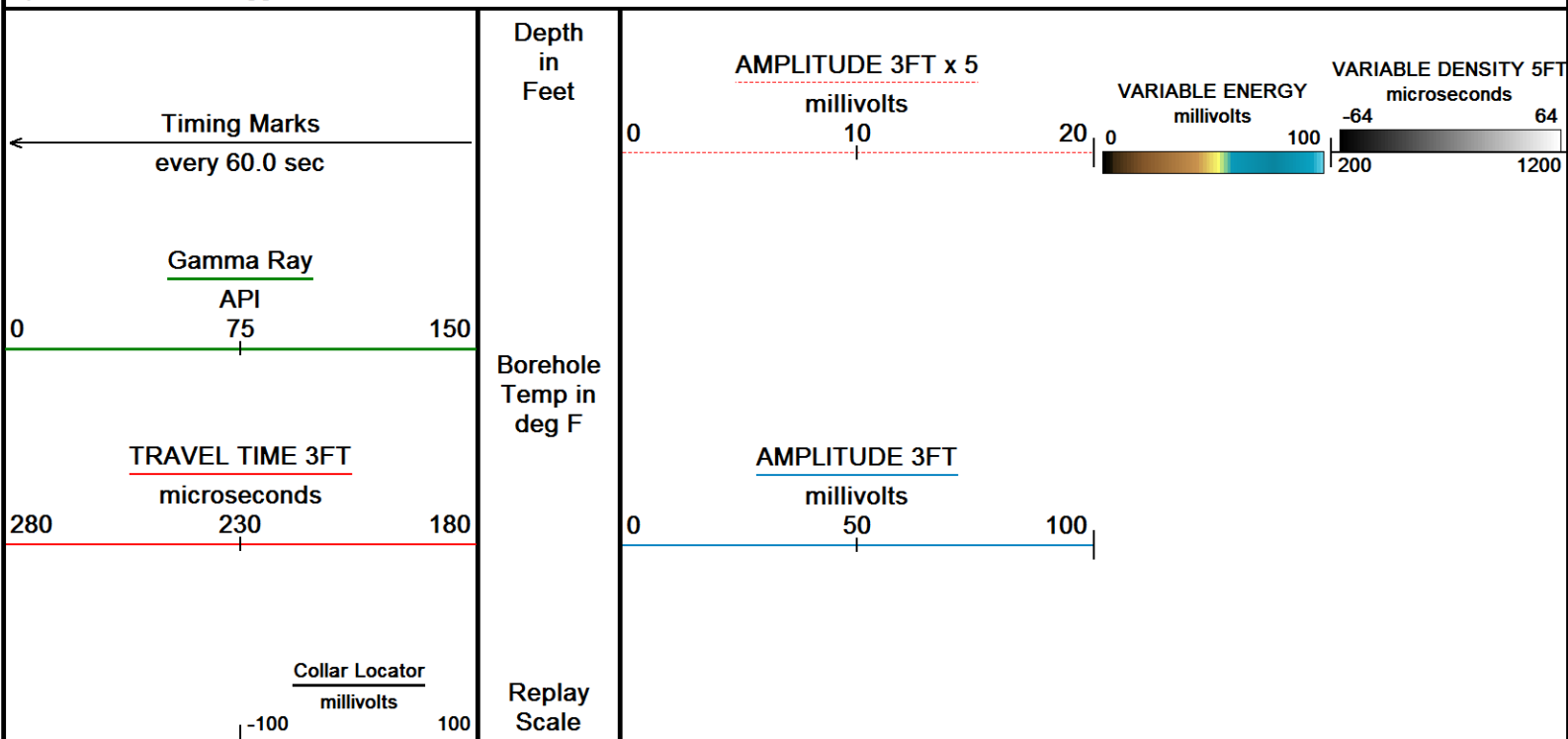
Plotted on 07-DEC-2015 17:16
Recorded on 07-DEC-2015 16:48

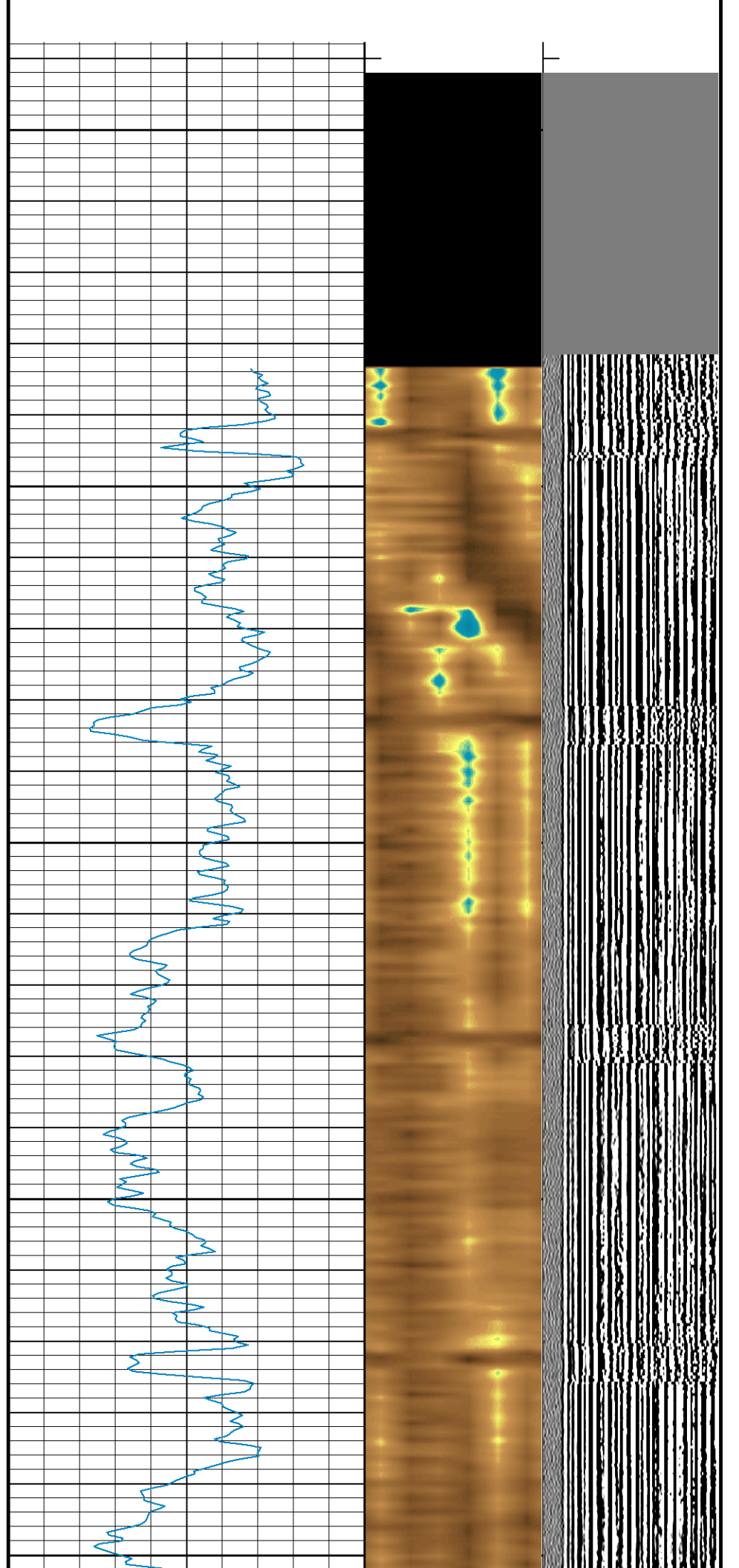
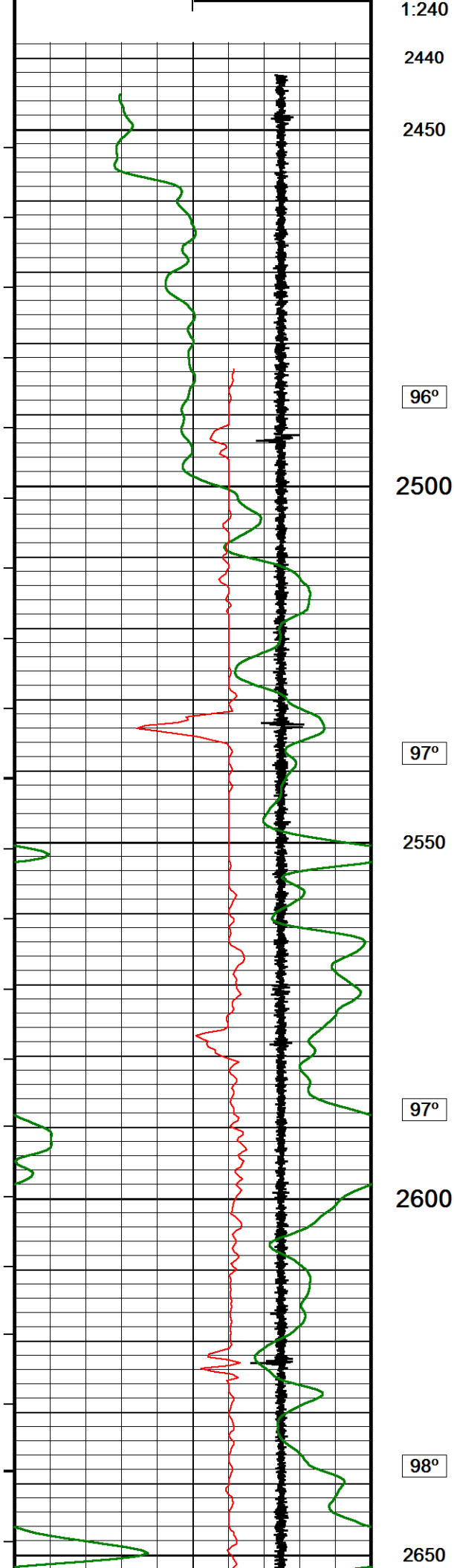
↑ SSSB MAIN ↑

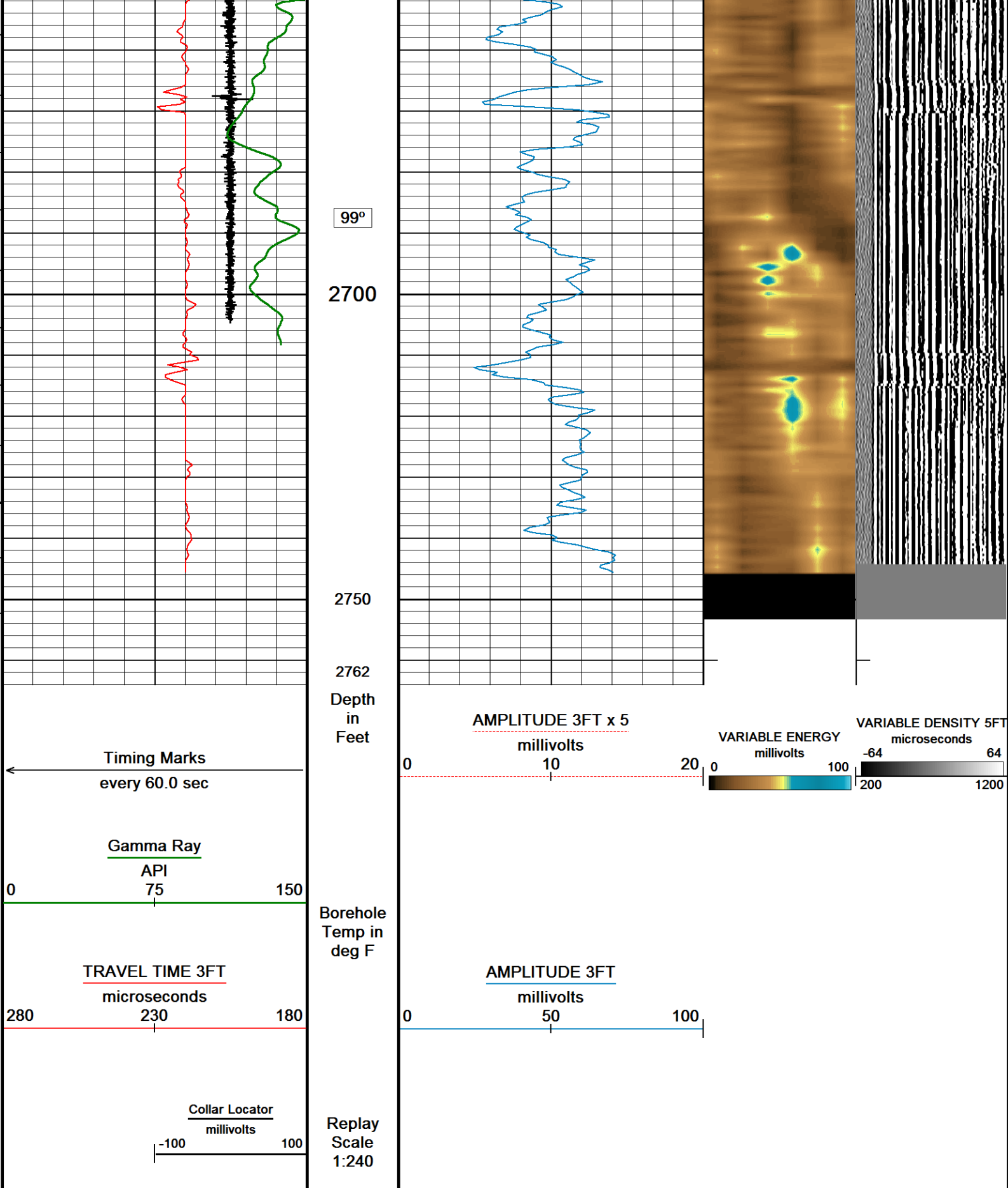
↓ SSSB REPEAT ↓

Depth Based Data - Maximum Sampling Increment 12.5cm
Filename: C:\Logs\Caerus\Puckett 11C-1\CREB-SSB_005.dta
System Versions: Logged with 16.00.6296 Plotted with 16.00.6296

Plotted on 07-DEC-2015 17:16
Recorded on 07-DEC-2015 16:46







Mono-Cablehead

MCH-AA 0 LG: 1.03 ft WT: 2.2 lb OD: 1.457 in

Comm Sub

WCC-CB 107 LG: 5.97 ft WT: 24.3 lb OD: 1.693 in

Gamma Ray K

UGR-KA 108 LG: 2.34 ft WT: 17.6 lb OD: 1.693 in

Quartz Press, Dual ITB, 43mm

QPG-EA 107 LG: 2.23 ft WT: 8.8 lb OD: 1.693 in

Centroller, 43mm, ITB, 3-arm Bi-Direct

CR3-BA 106 LG: 2.44 ft WT: 8.8 lb OD: 1.693 in

Tool Temperature, 43mm, 177C, 10-pin ITB

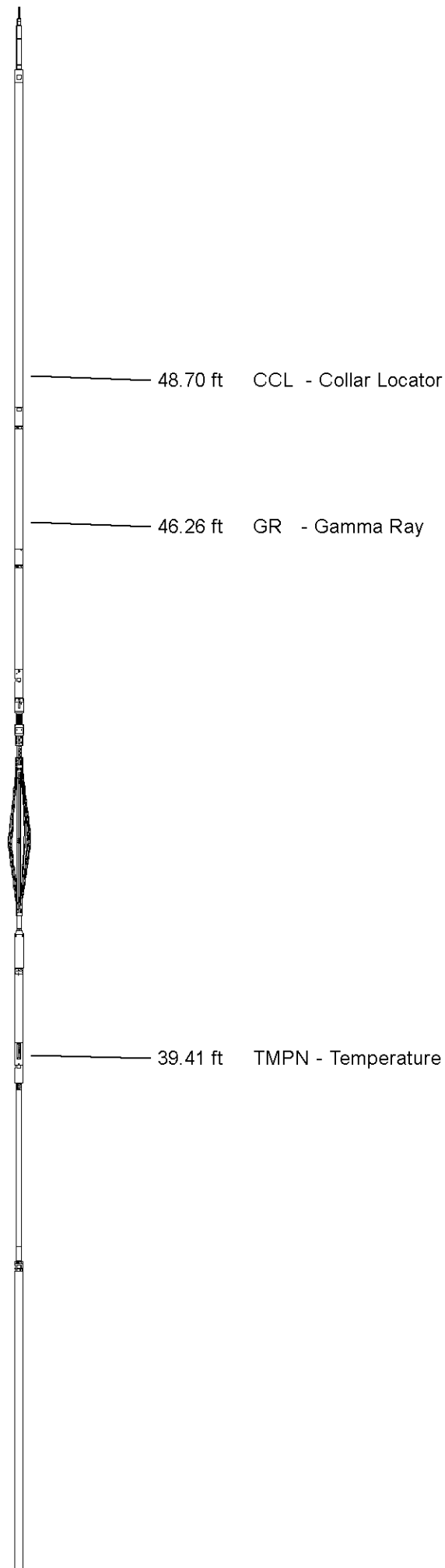
TMP-NA 106 LG: 1.93 ft WT: 8.8 lb OD: 1.693 in

CRE series II processor section

CRP-BA 2 LG: 3.31 ft WT: 15.4 lb OD: 1.654 in

Casing Reservoir Evaluation Tool Sonde

CRM-BA 2 LG: 9.19 ft WT: 46.3 lb OD: 1.693 in



Centroller, 43mm, ITB, 3-arm Bi-Direct
CR3-BA 107 LG: 2.44 ft WT: 8.8 lb OD: 1.693 in

Gamma Ray K
UGR-KA 131 LG: 2.34 ft WT: 17.6 lb OD: 1.693 in

SSB Upper Electronics, ITB
SUE-CA 137 LG: 7.64 ft WT: 26.5 lb OD: 1.650 in

SSB Receiver Sonde
SSS-BA 117 LG: 8.76 ft WT: 30.9 lb OD: 1.693 in



9.37 ft VDL5 - VARIABLE DENSITY 5FT

8.37 ft AM3F - AMPLITUDE 3FT

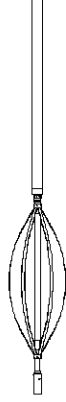
8.37 ft TT3F - TRAVEL TIME 3FT

7.87 ft VAMP - VARIABLE ENERGY

SSB Transmitter Section
STE-BA 129 LG: 2.64 ft WT: 17.6 lb OD: 1.654 in

Centralizer, 35mm, ITB, uni-directional
CEN-LA 220 LG: 2.60 ft WT: 8.8 lb OD: 1.380 in

Total Length: 54.87 ft Weight: 242.5 lb



Tool Zero (0.00ft from bottom)

All measurements relative to tool zero.

SHOP AND FIELD CALIBRATIONS

C:\Logs\Caerus\Puckett 11C-1\CREB-SSB_006.dta

WCC Shop calibration WCC-CB 107

Calibration on 00-JAN-1988 00:00

Tension Compression Shop Calibration

Tool Type: WCC-CB

Serial No: 107

	Standard	+1G Measured	Standard	-1G Measured
X Acc	1.000 G	250000.0 mv	-1.000 G	0.0 mv
Y Acc	1.000 G	250000.0 mv	-1.000 G	0.0 mv
Z Acc	1.000 G	250000.0 mv	-1.000 G	0.0 mv

UGK Before Survey Cal UGR-KA 108

Field calibration on 05-OCT-2015 16:31

Gamma Ray Before Survey Calibration

Tool Type: UGR-KA
Calibrator No: 99

Serial No: 108

Background	Calibrator	Standard	Units
42.7	1067.9	631.5	API
Delta Counts Per Sec: 1025.2		CPS/API = 1.623	

Temperature Tool Shop Survey Calibration TMP-NA 106

Temperature Tool Shop Survey Calibration

Tool Type: TMP-NA

Serial No: 106

calibration

standard	Measured
32 DEGF	36714 Hz

212

DEGF

50849 Hz

UGK Before Survey Cal UGR-KA 131

Field calibration on 23-OCT-2015 14:59

Gamma Ray Before Survey Calibration

Tool Type: UGR-KA
Calibrator No: 101

Serial No: 131

Background

Calibrator

Standard

Units

43.9

778.4

470.2

API

Delta Counts Per Sec: 734.5

CPS/API = 1.562

SSBC Field Calibration SSS-BA 117

Field calibration on 19-NOV-2015 17:43

Slim Sector Bond Field Calibration

Tool Type

SSS-BA

Serial No

117

Sensor
AMP 3FTDescription
100% Bond
Free PipeStandard
2.70
81.00Measured
12.40
351.70

AMP 5FT

100% Bond
Free Pipe1.80
54.002.80
211.80

1 SECTOR AMP

100% Bond
Free Pipe5.00
95.0015.60
208.10

2 SECTOR AMP

100% Bond
Free Pipe5.00
95.0022.50
232.60

3 SECTOR AMP

100% Bond
Free Pipe5.00
95.008.20
136.00

4 SECTOR AMP

100% Bond
Free Pipe5.00
95.002.00
142.80

5 SECTOR AMP

100% Bond
Free Pipe5.00
95.004.30
174.60

6 SECTOR AMP

100% Bond
Free Pipe5.00
95.004.00
193.70

SSBC Constants SSS-BA 117

Last Edited on 00-JAN-1988 00:00

Min Ampl 100% Bond	2.00 MV
Max Ampl 0% Bond	81.00 MV
Casing Size	4.50 IN
Casing Weight	11.6 LB/F
3' TT Correction	-999.3 US
DT Fluid	200.0 US/F
Fast Formation TT	38.5 US/F

Cement Cmpr Strength	580	PSI
Casing Velocity	57.00	US/F
Maximum Attenuation	12.00	DB/F

COMPANY	CAERUS OIL & GAS LLC
WELL	PUCKETT 11C-1
FIELD	GRAND VALLEY
PROVINCE/COUNTY	GARFIELD
COUNTRY/STATE	USA / COLORADO

Elevation Kelly Bushing	8351.00	feet	Bottom Log Interval	8865.00	feet
Elevation Drill Floor	8351.00	feet	Depth Driller	8991.00	feet
Elevation Ground Level	8329.00	feet	Depth Logger	8869.00	feet



Weatherford®

SLIM SECTOR BOND LOG