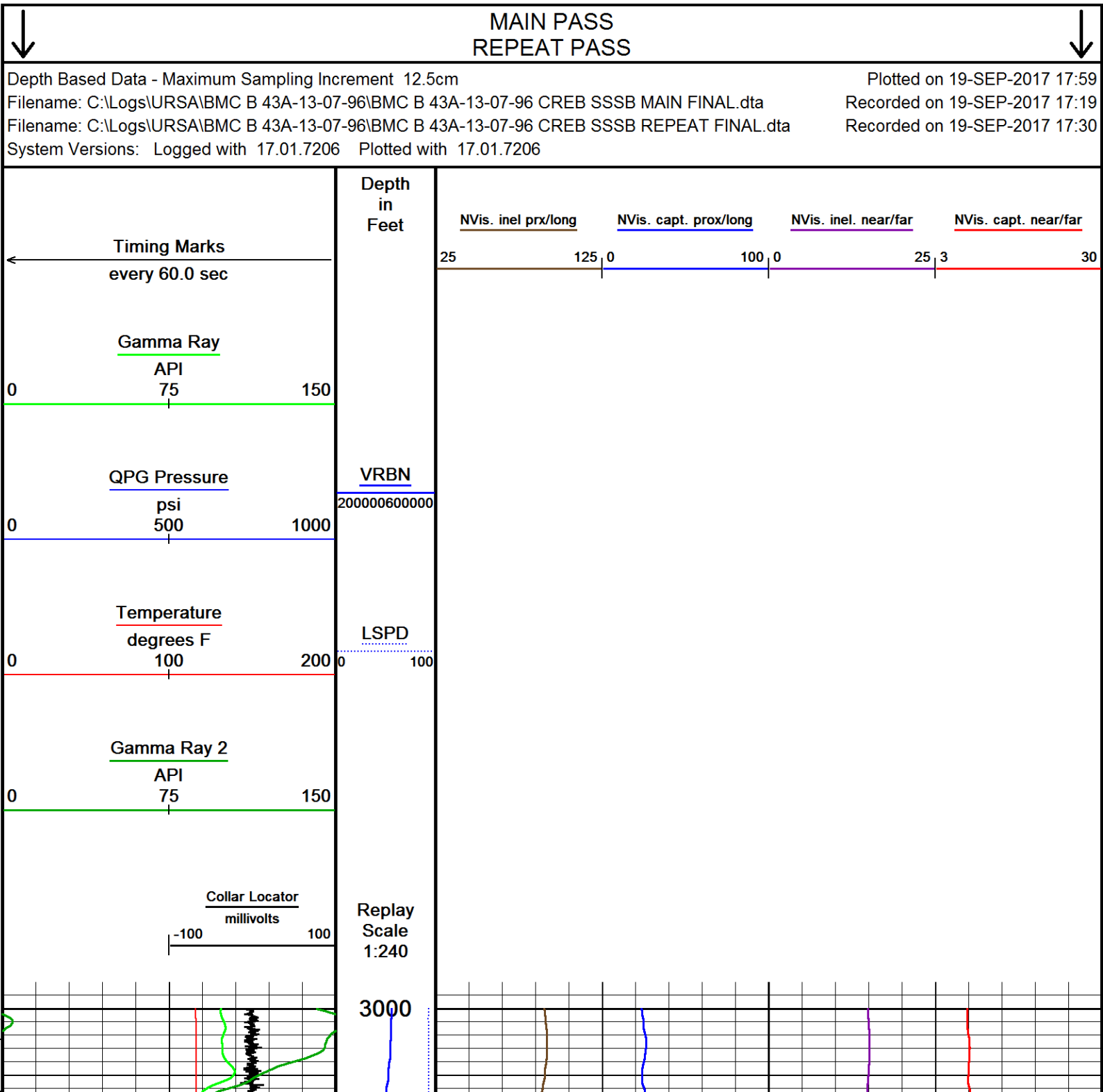
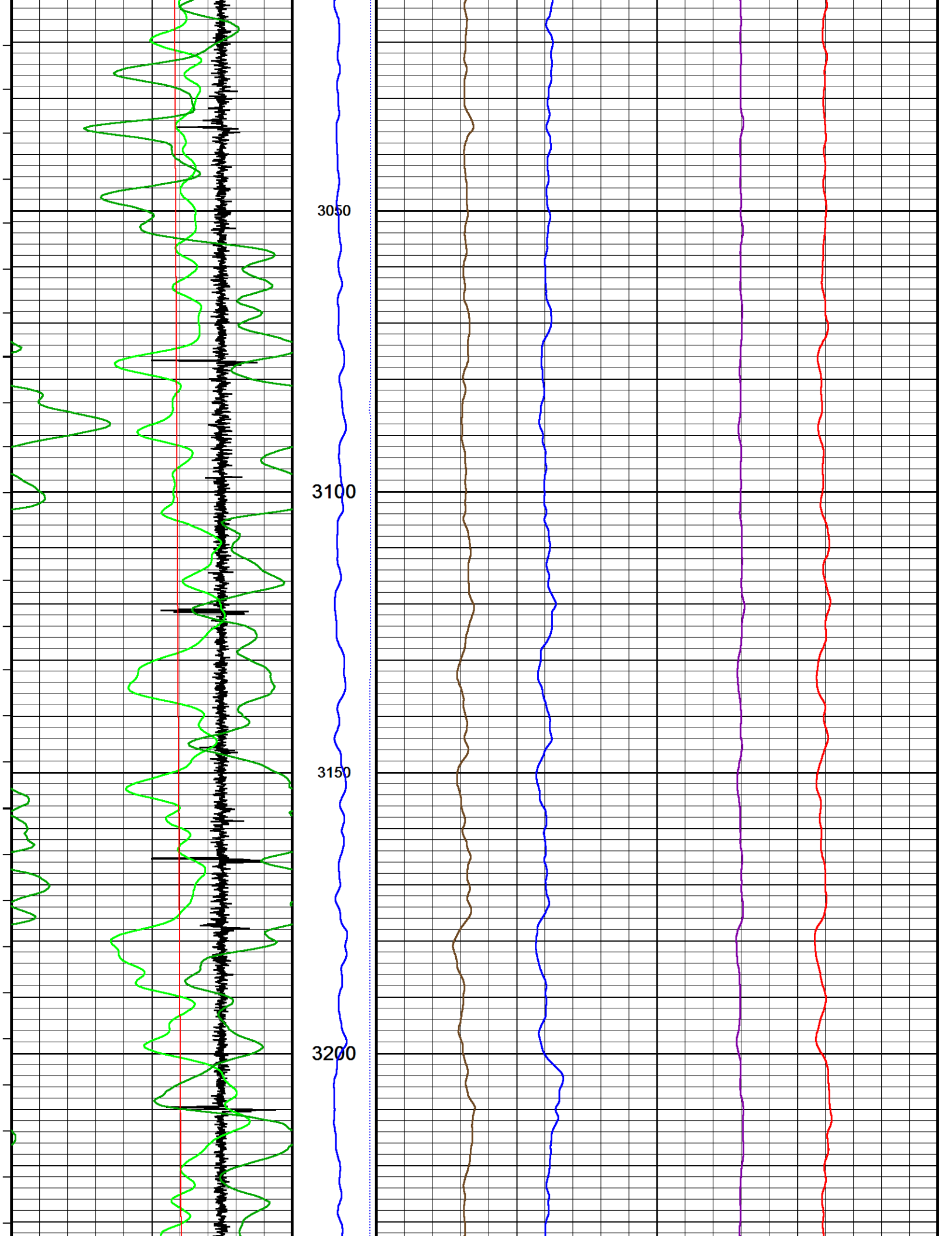
				RAPTOR NVISION LOG			
COMPANY				URSA OPERATING COMPANY			
WELL				BMC B 43A-13-07-96			
FIELD				WILDCAT			
PROVINCE/COUNTY				GARFIELD			
COUNTRY/STATE				USA / COLORADO			
LOCATION				2258' FNL & 0693' FWL			
SEC 18	TWP 7S	RGE 95W	Other Services				
Latitude		SSSB					
Longitude							
API Number		05-045-23483					
Permanent Datum GROUND LEVEL, Elevation 5100 feet				Elevations: feet			
Log Measured From KB, 17.00 feet above Permanent Datum				KB 5117.00			
Drilling Measured From KB				DF 5117.00			
				GL 5100.00			
Date	19-SEP-2017	PERFORATION RECORD					
Run Number	ONE	Shot	Number	Depth From	Depth To		
Service Order		Density	of Shots	feet	feet		
Type Log	CREB						
Depth Driller	6723.00						
Depth Logger	6290.00						
Top Log Interval	3000.00						
Bottom Log Interval	6290.00						
Hole Fluid Type	WATER						
Hole Fluid Level	0.00						
Restriction ID	3.875						
Max Recorded Temp	196.00						
Well Head Pressure	0.00						
Well Head Equipment	N/A						
Time Well Ready	ROA	Size	Weight	Depth From	Depth To		
Time Logger Bottom	SEE LOG	inches	pounds/ft	feet	feet		
Unit	14115	8.625	32.00	0.00	1700.00		
Equipment Name	WSS-E	4.500	11.60	0.00	6723.00		
Base	CASPER						
Recorded By	P. MAZUR						
Witnessed By	NOT WITNESSED						

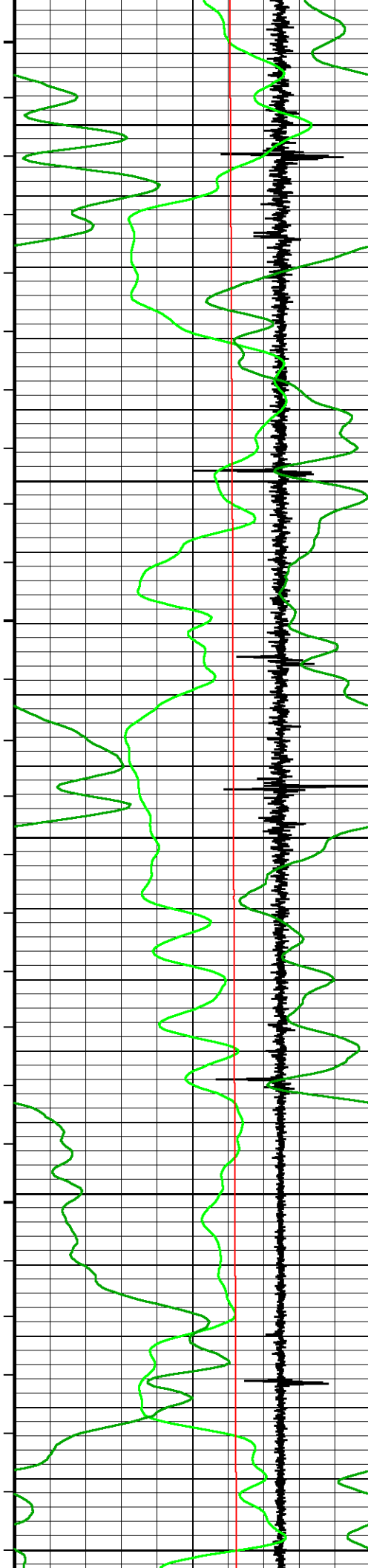
Casing / Tubing Record						
Type	Grade	TypeJoint	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE			8.625	0.00	1700.00	32.00
PRODUCTION			4.500	0.00	6723.00	11.60

REMARKS
SOFTWARE VERSION 17.01.7206 - COMMERCIAL VERSION
ALL DEPTH CONTROL PROCEDURES FOR SUBSEQUENT RUN IN HOLE WERE FOLLOWED. LOG RUN FROM 17' K.B.
SURFACE SYSTEM USED: WCM-D 160
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
FREE PIPE CALIBRATION DONE AT 270 FT
UNKNOWNEN CEMENT CLASS DUE MISSING DATA FROM CLIENT
UNKNOWNEN CEMENT JOB ENDED TIME DUE TO MISSING DATA FROM CLIENT
BOTTOM HOLE TEMPERATURE WAS DEG. 196F

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.







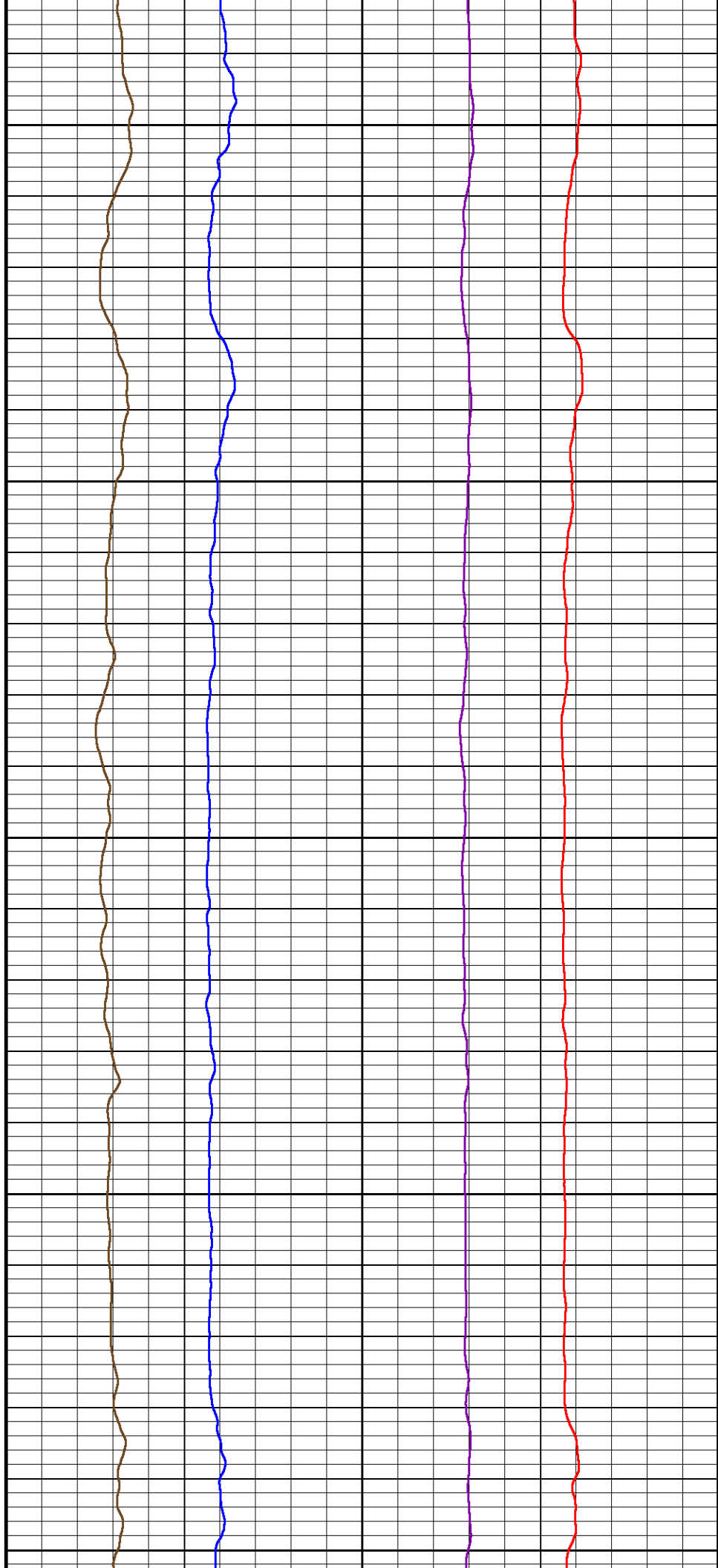
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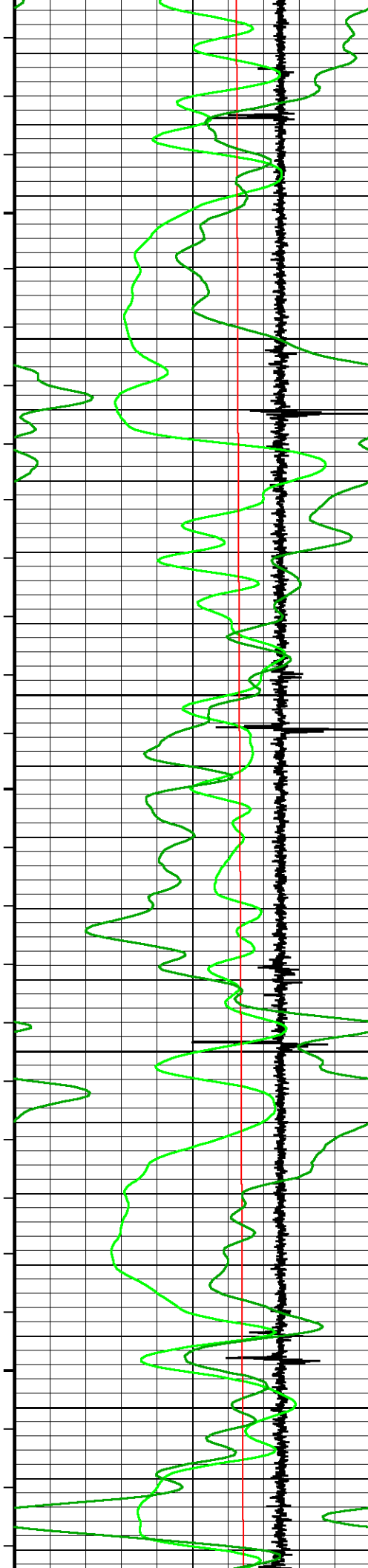
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3350

3400

3450



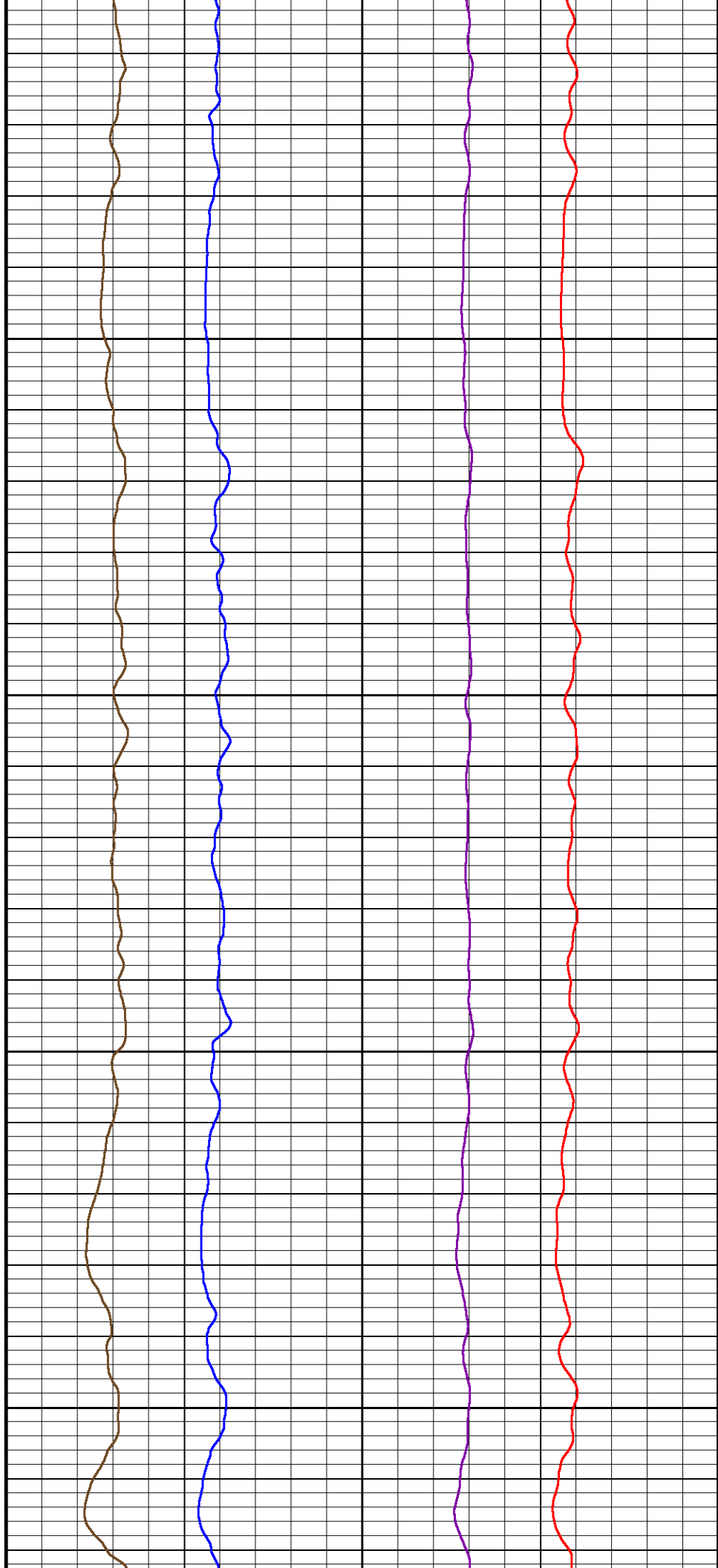


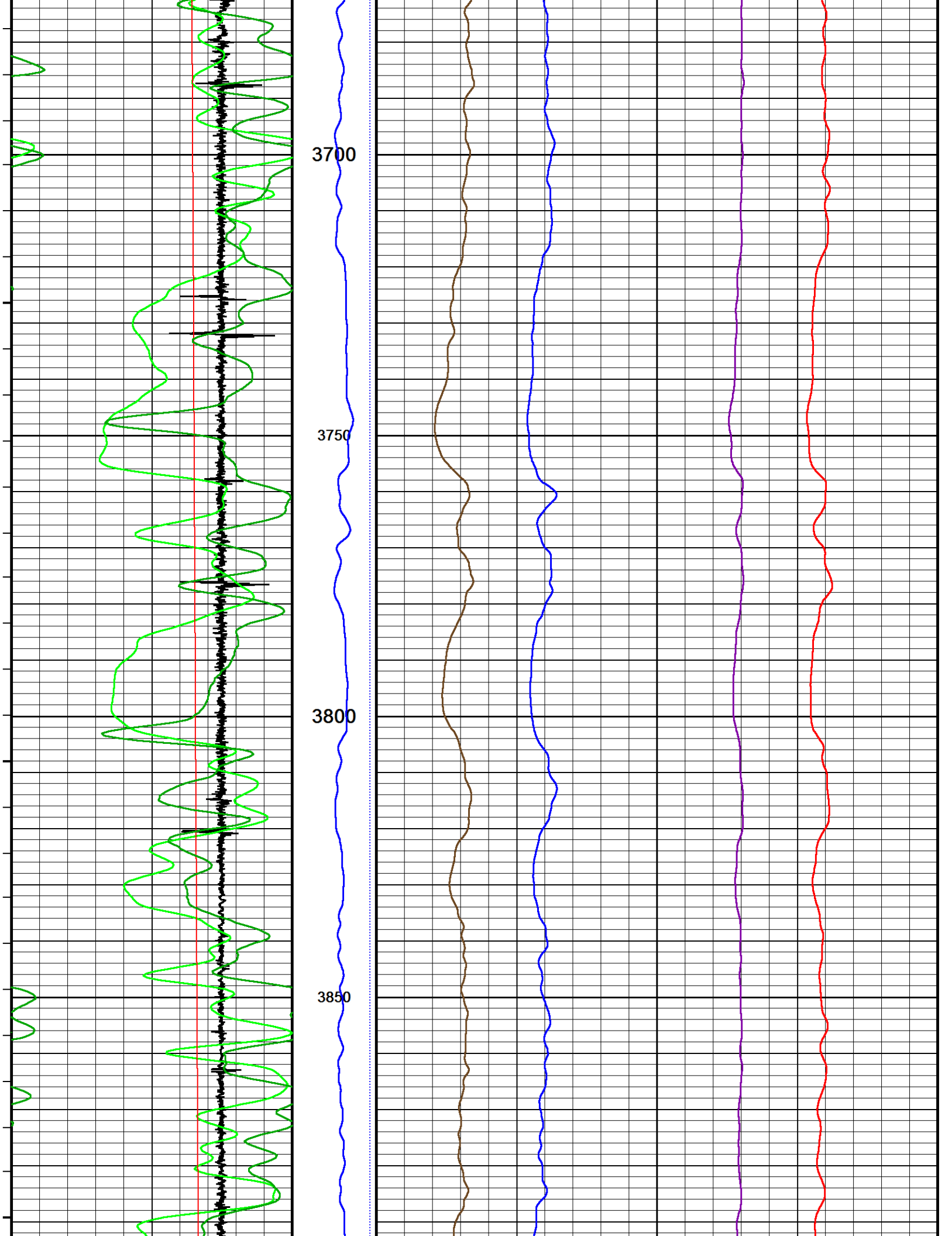
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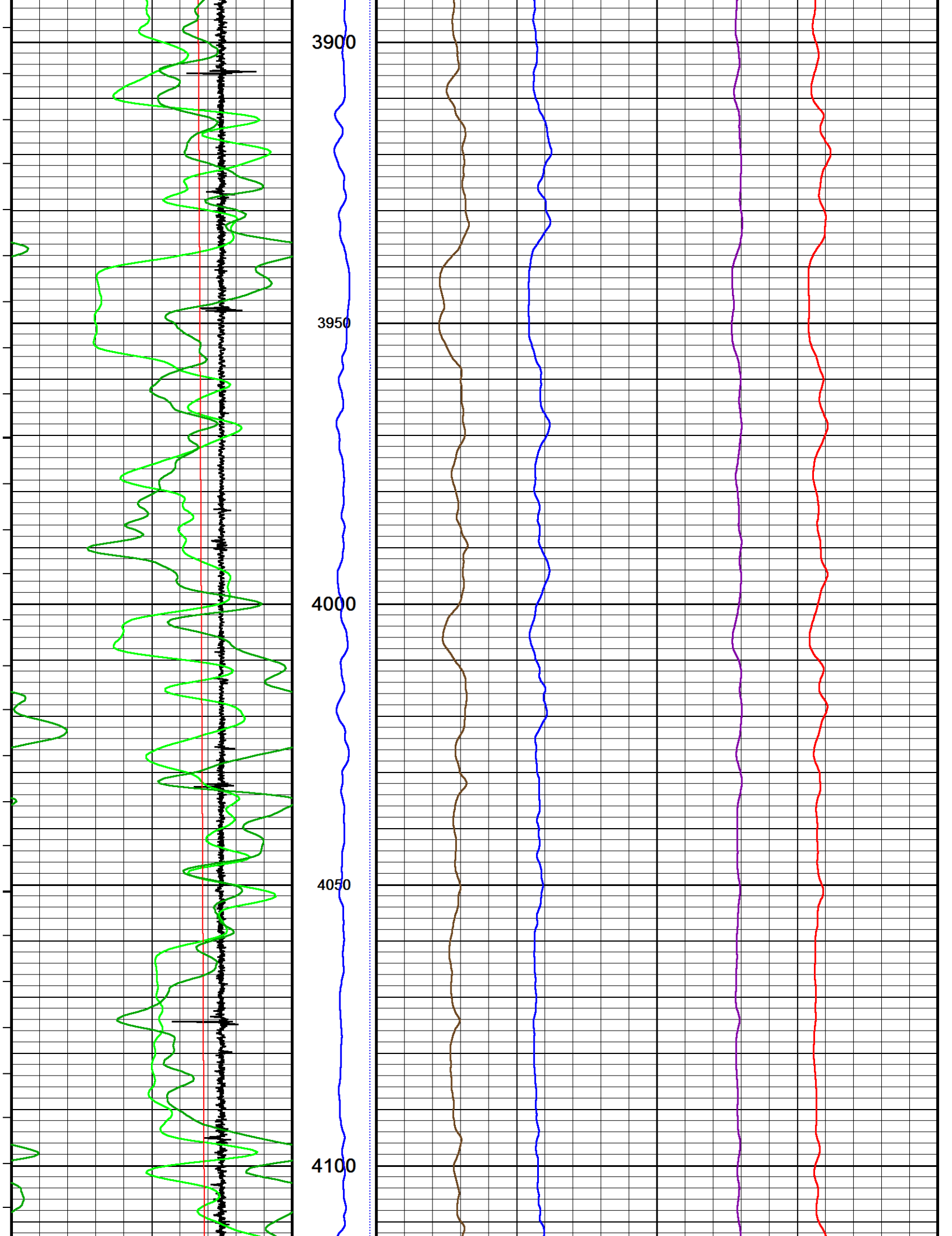
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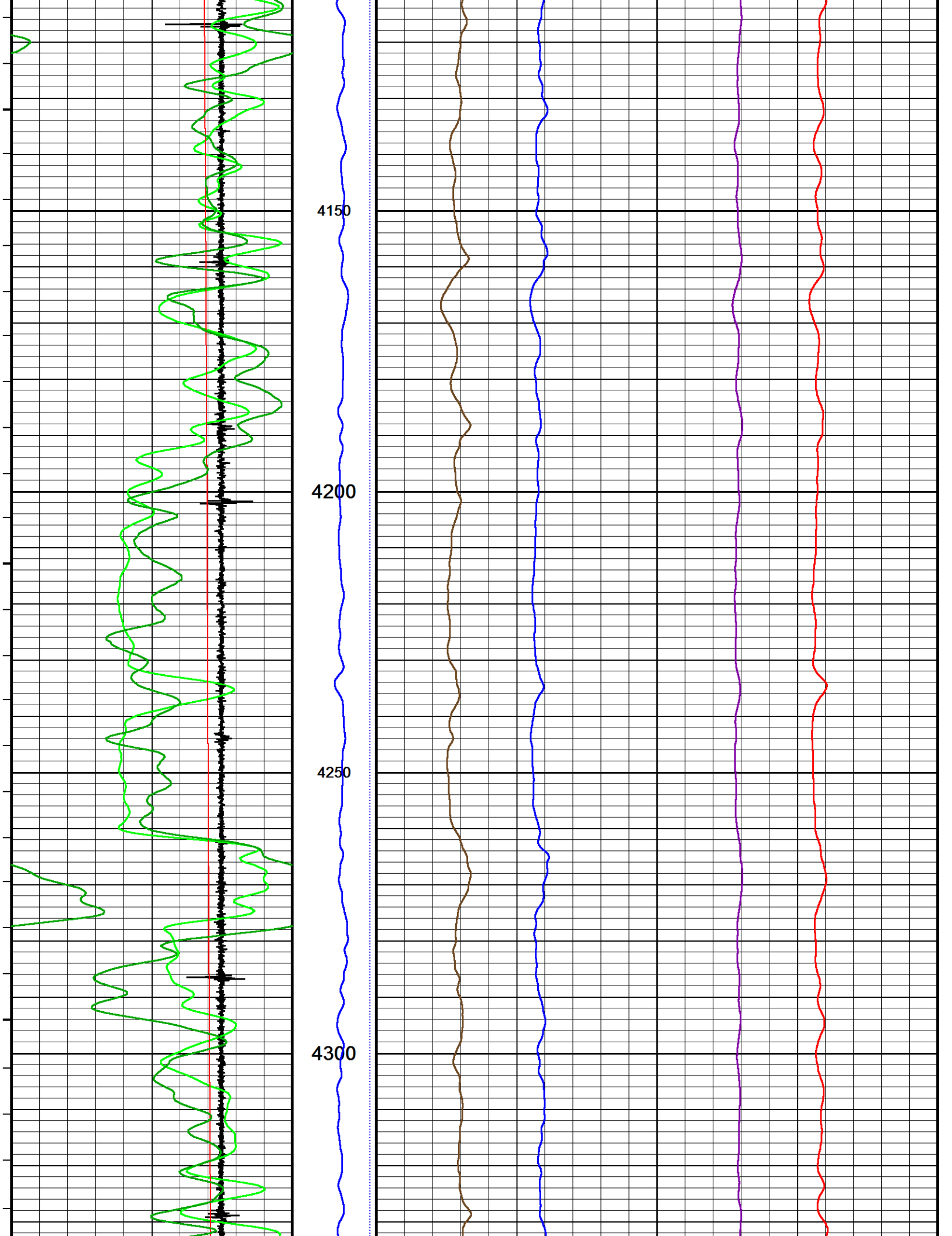
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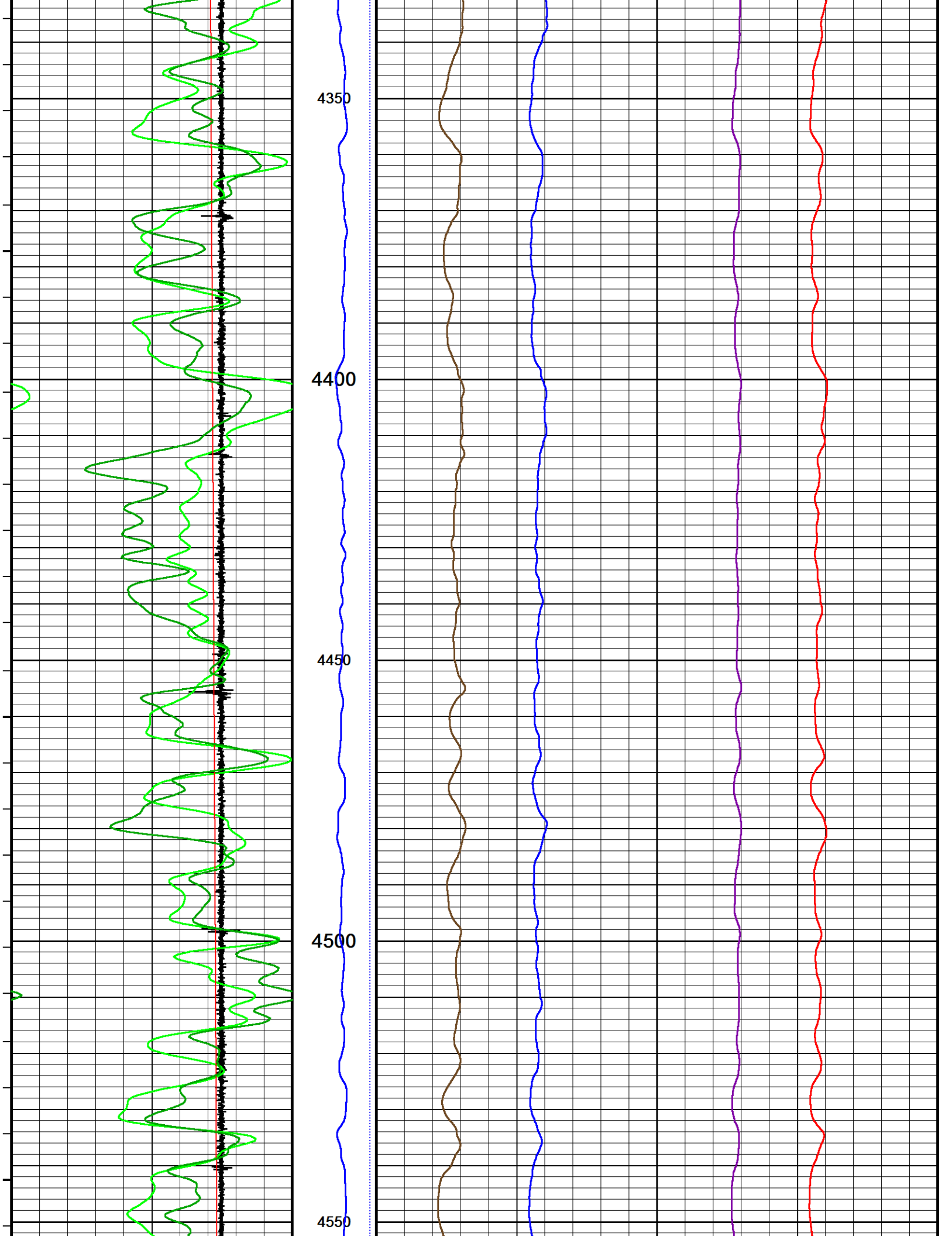
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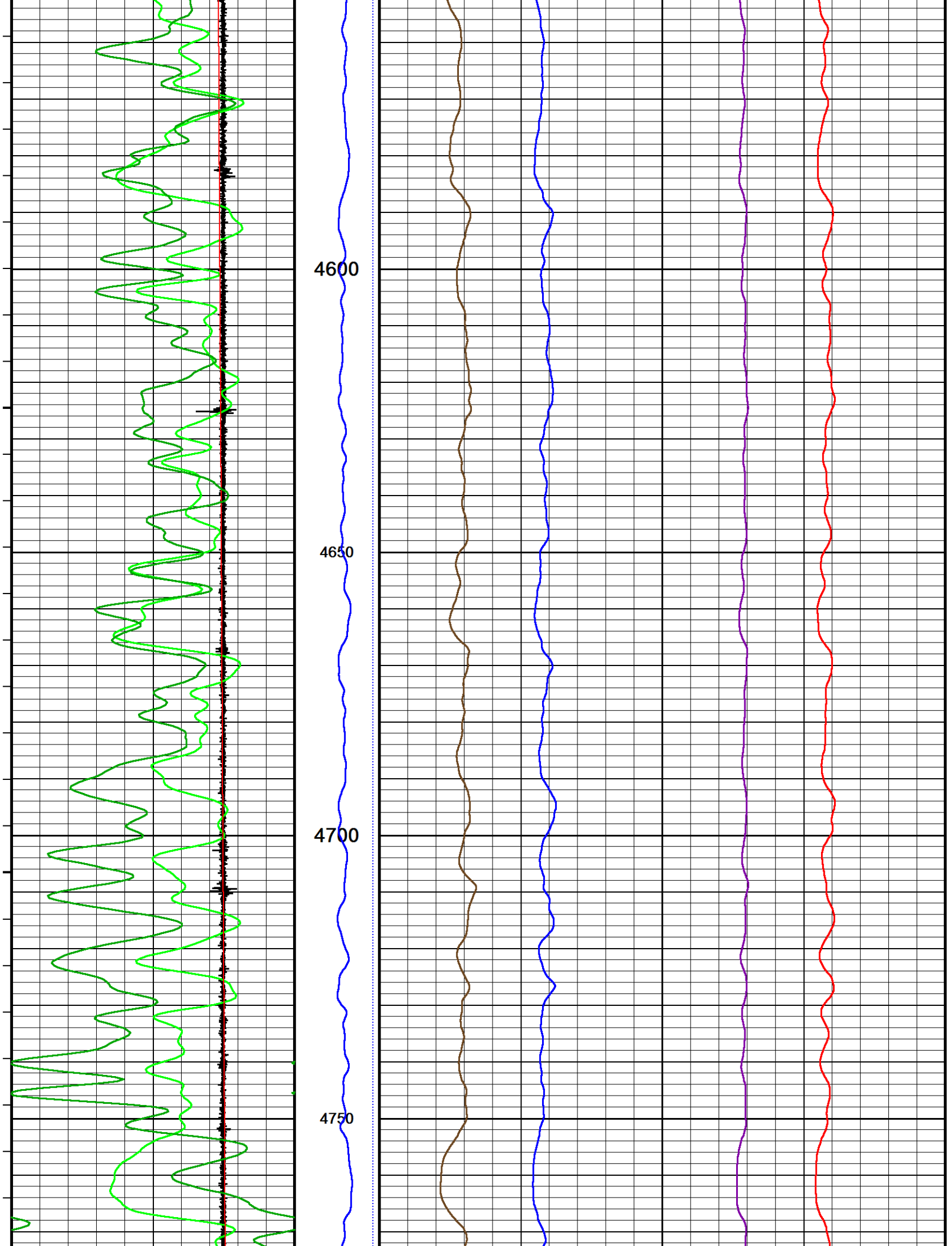


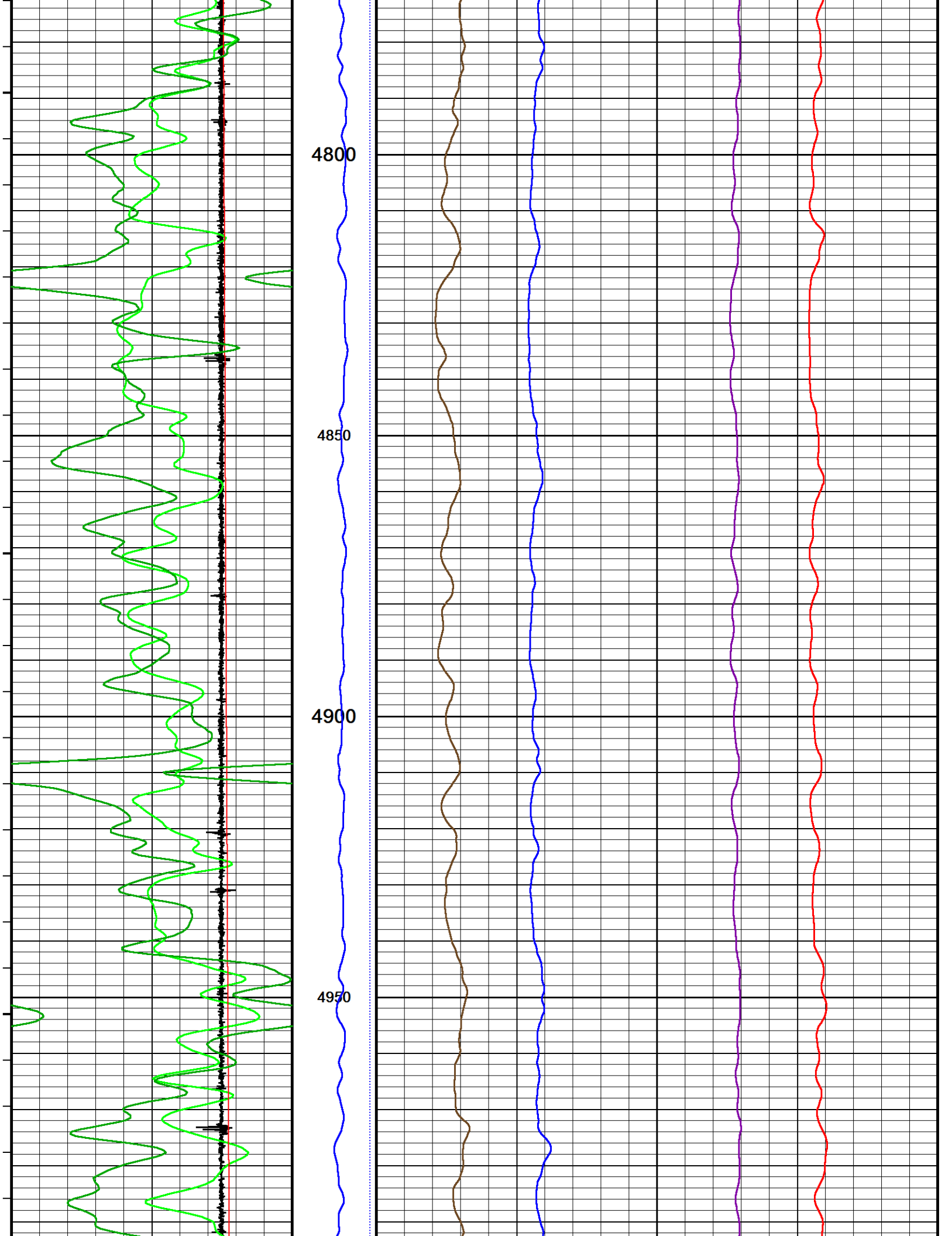


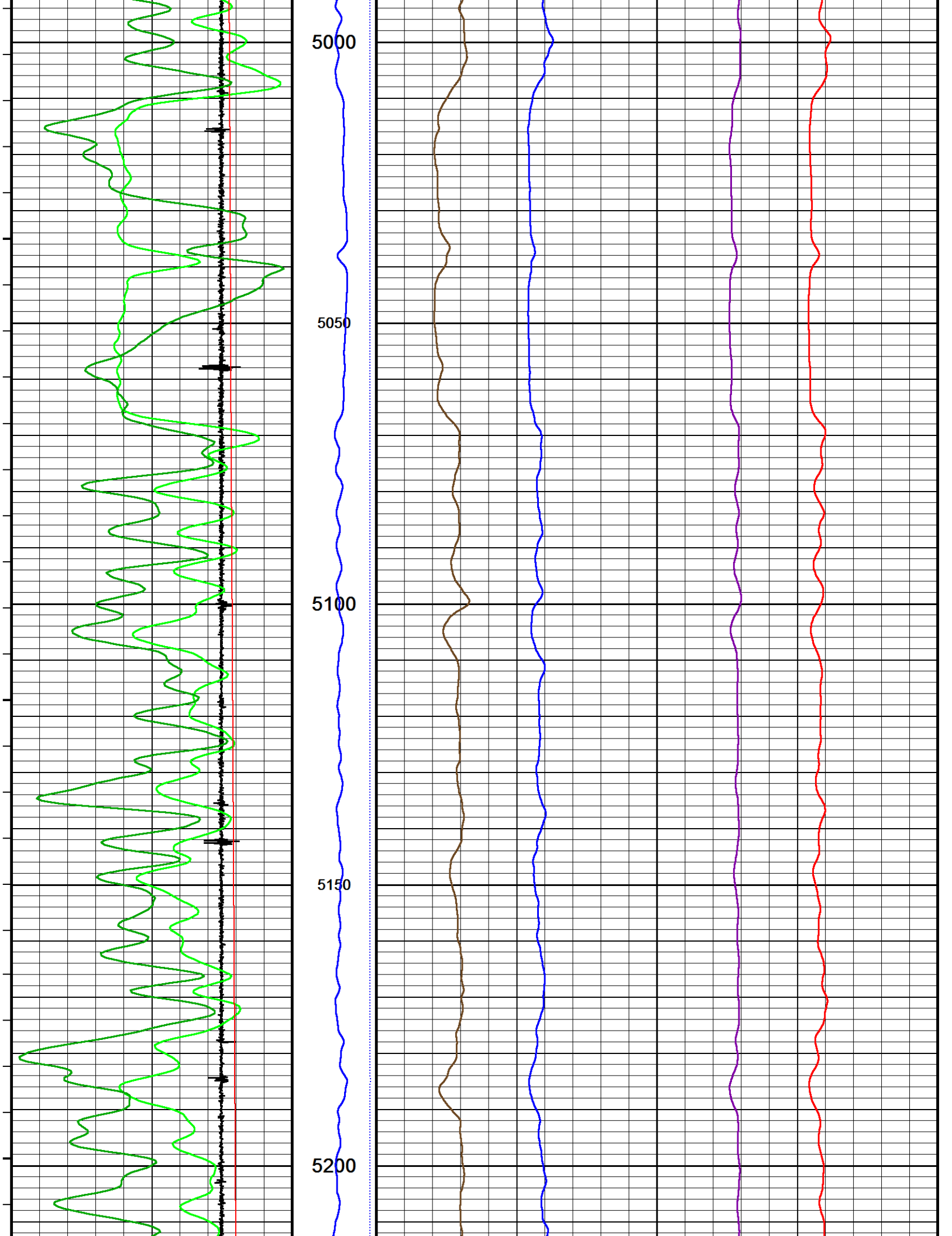


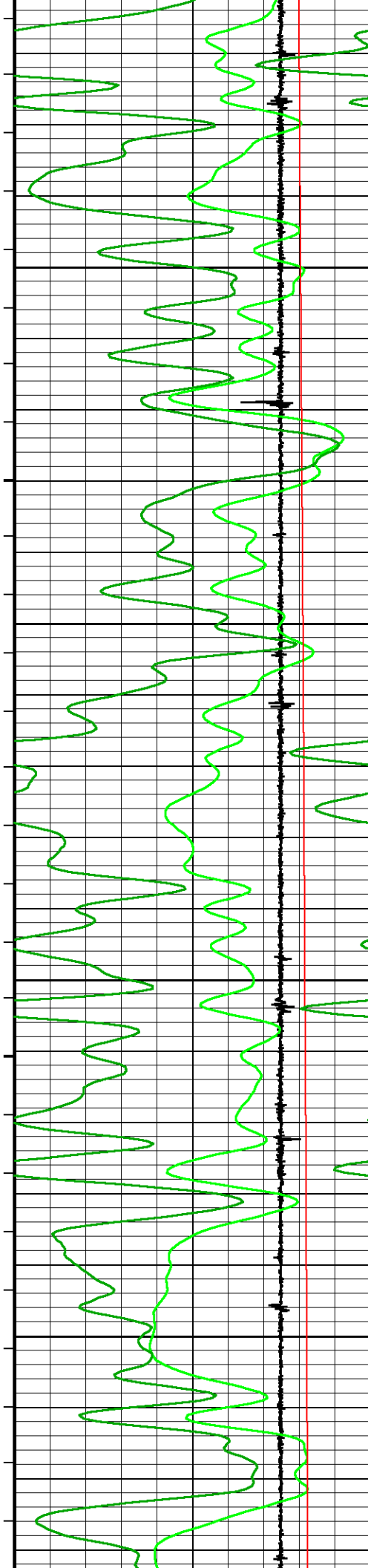










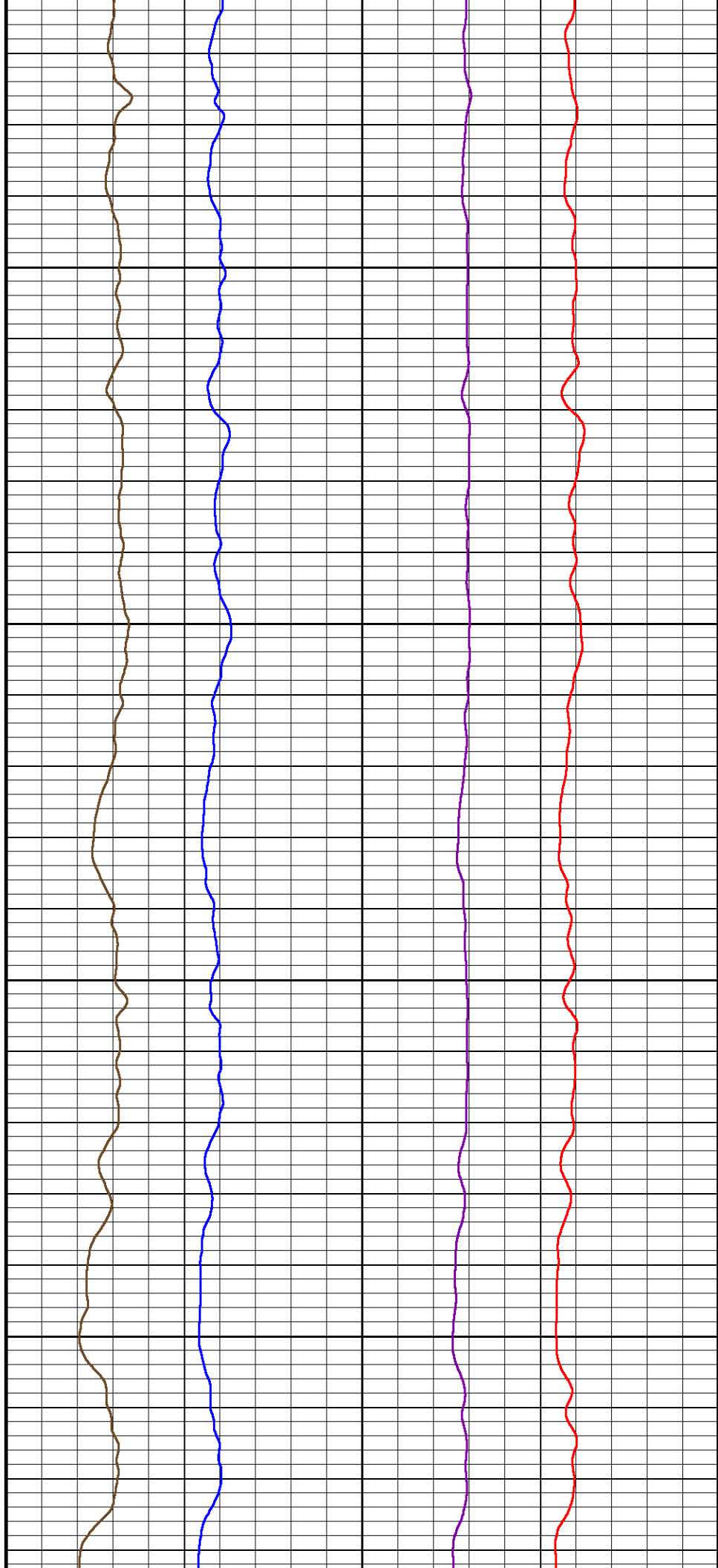


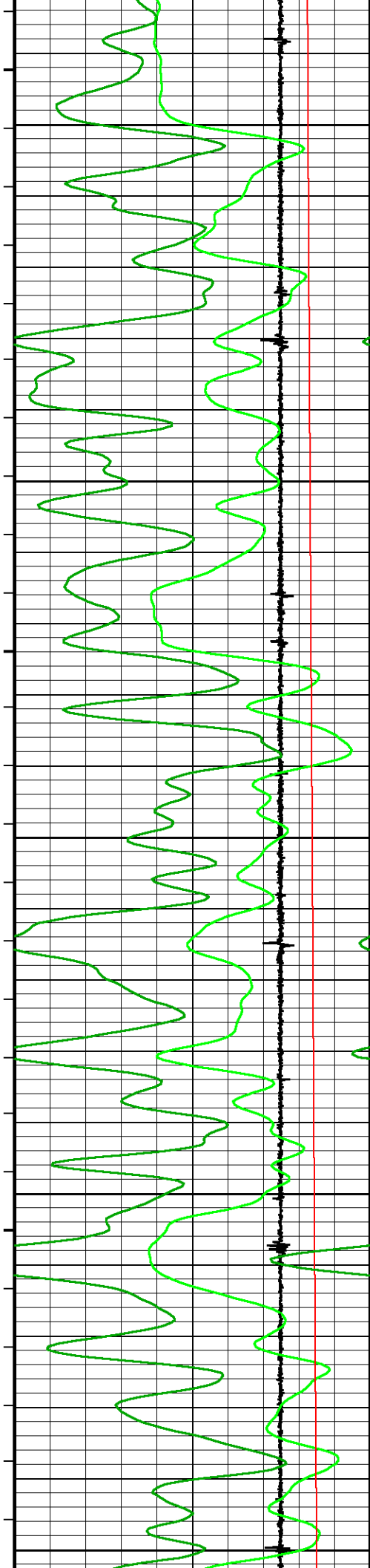
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5300

5350

5400





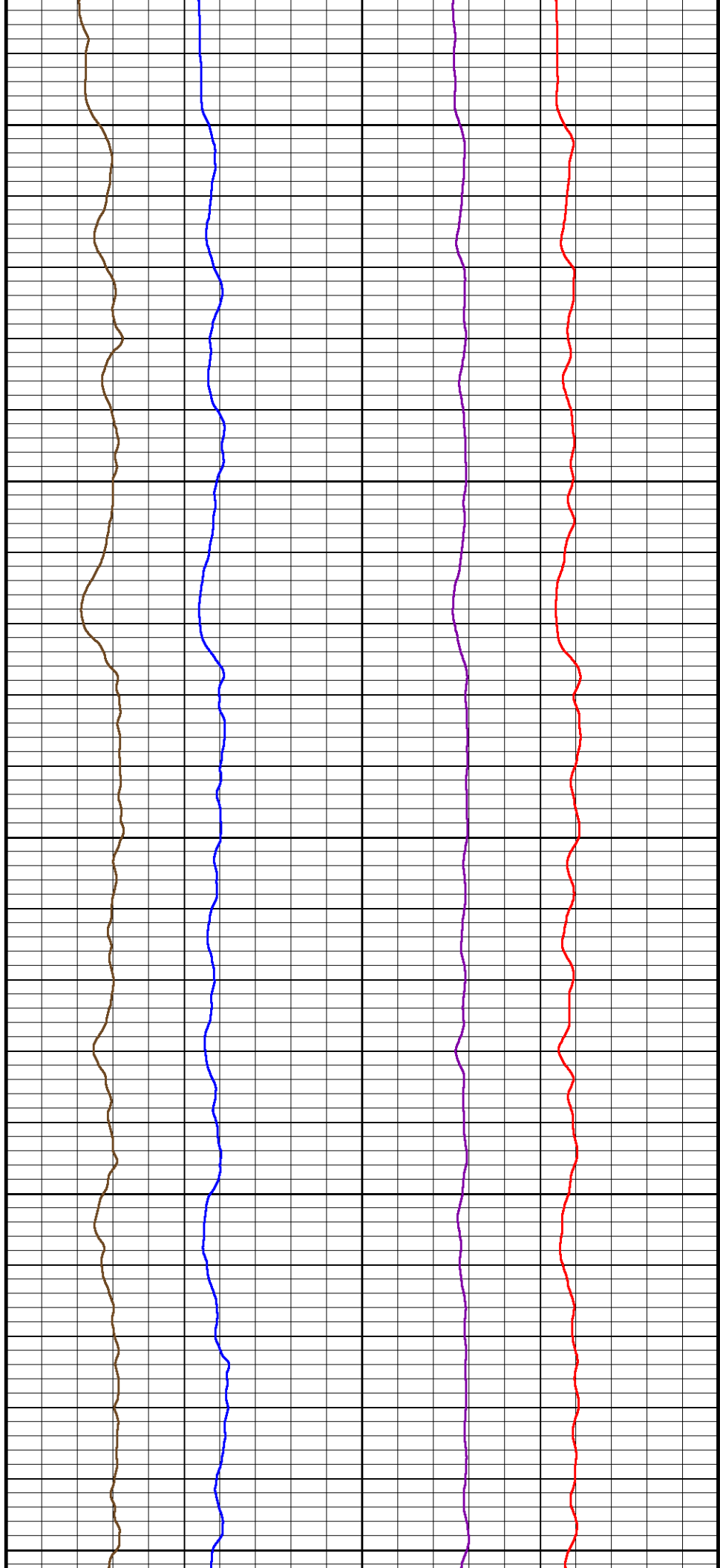
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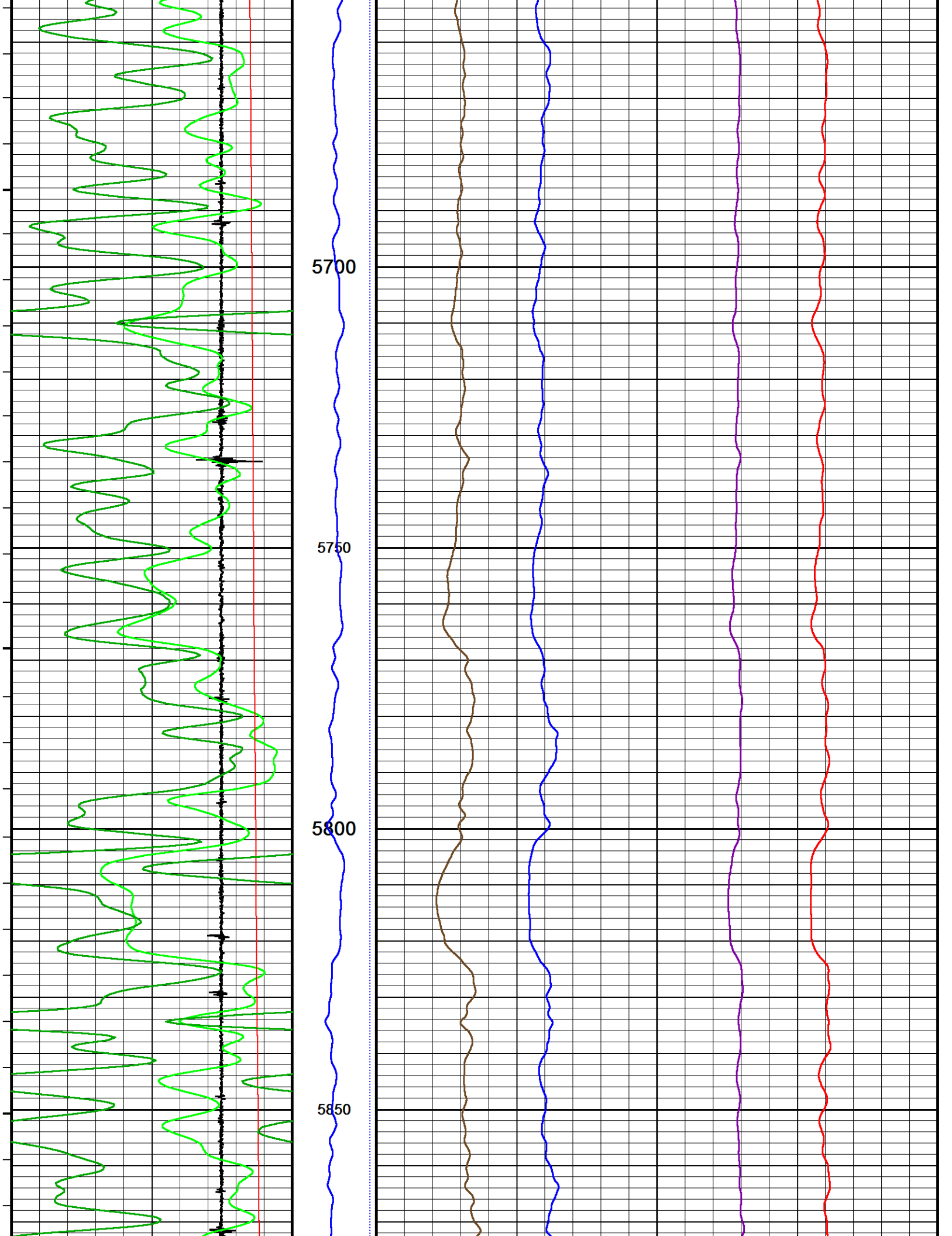
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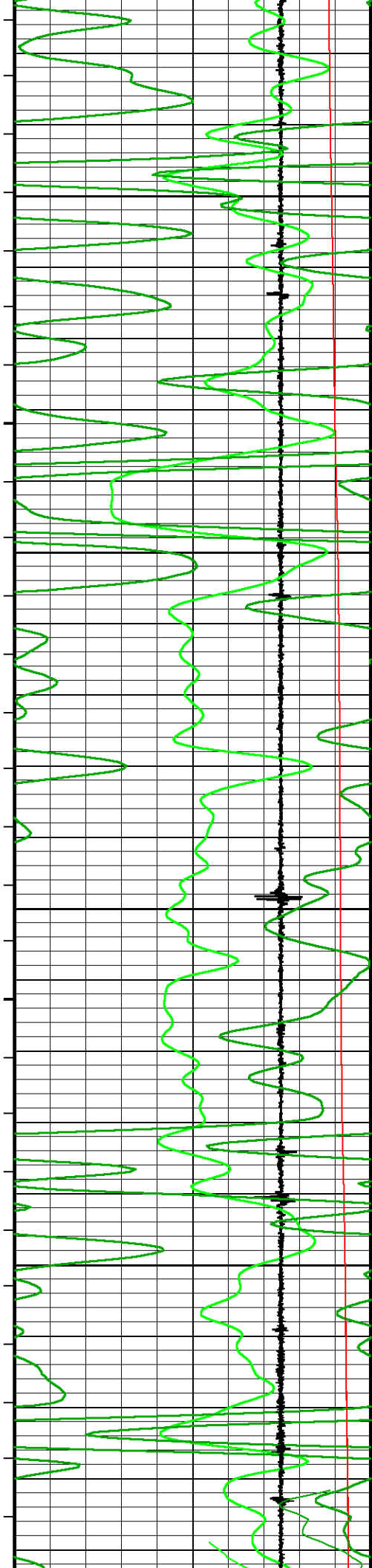
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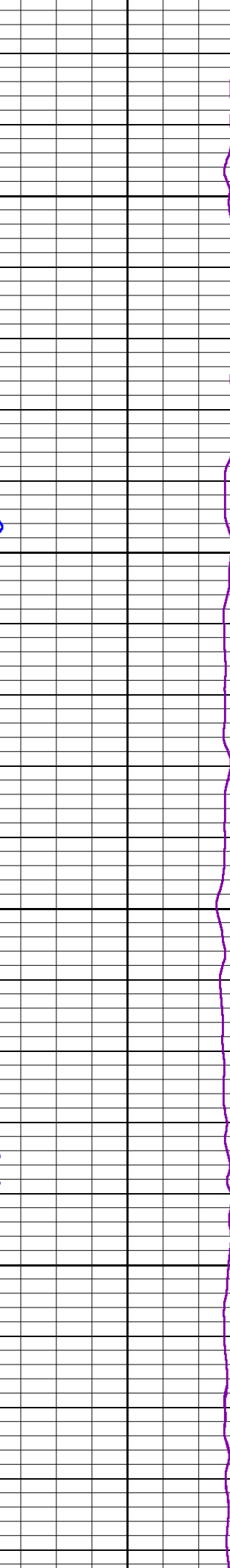
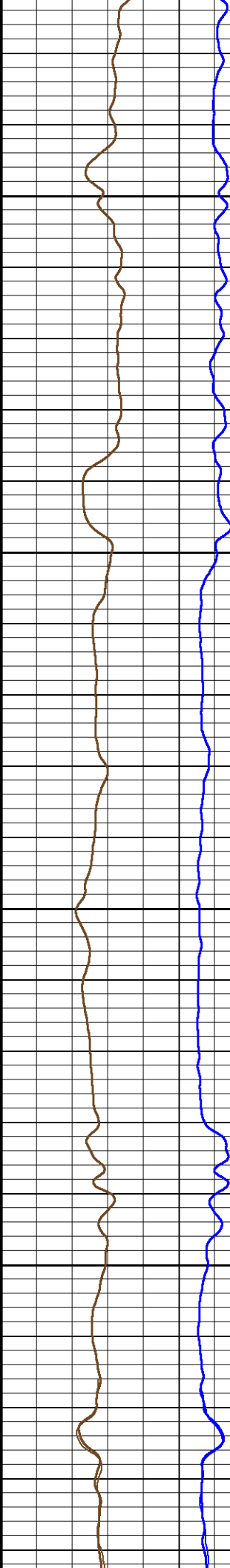
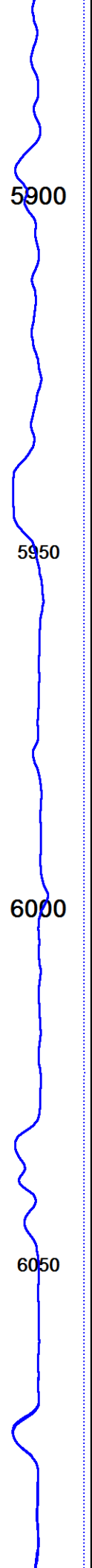


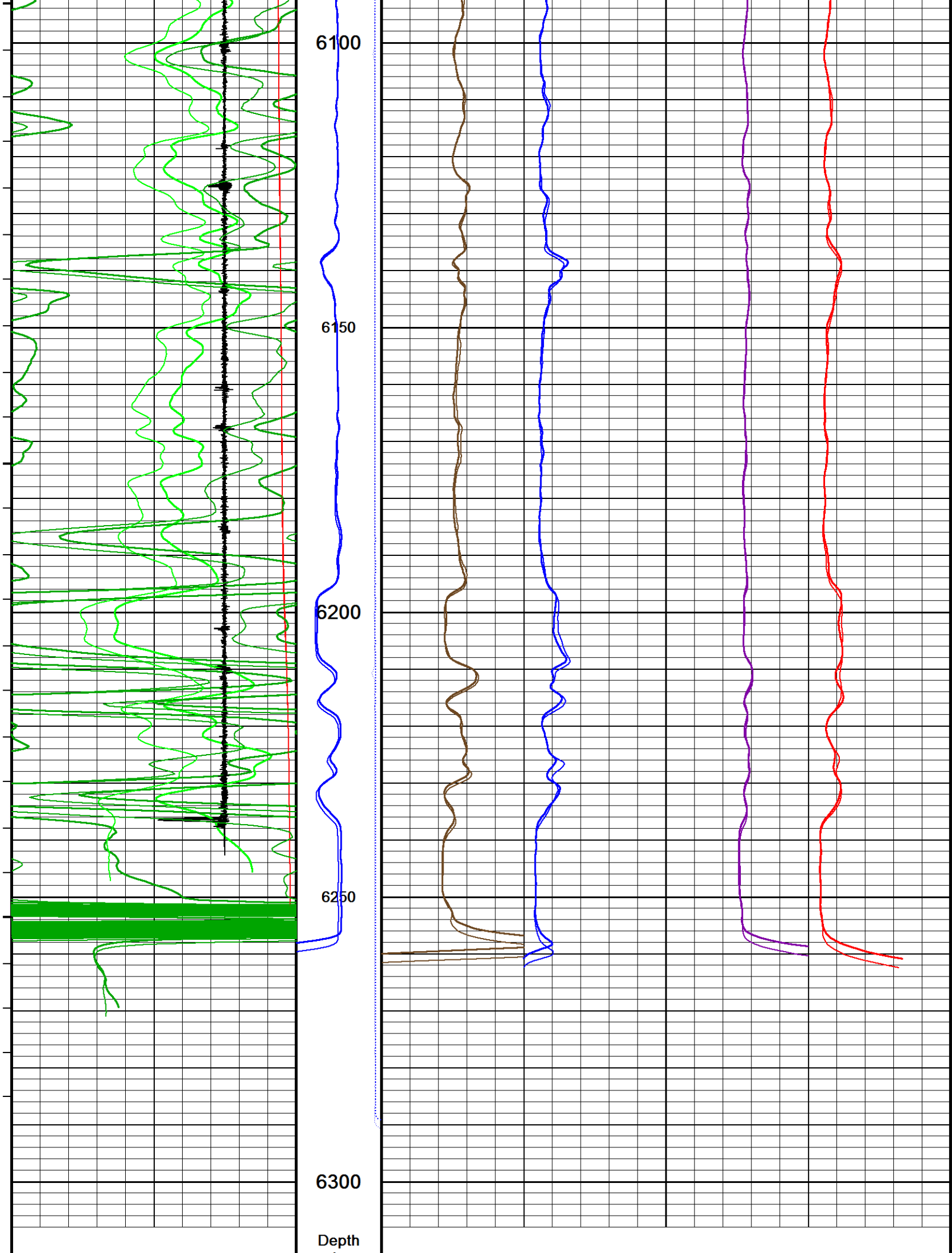
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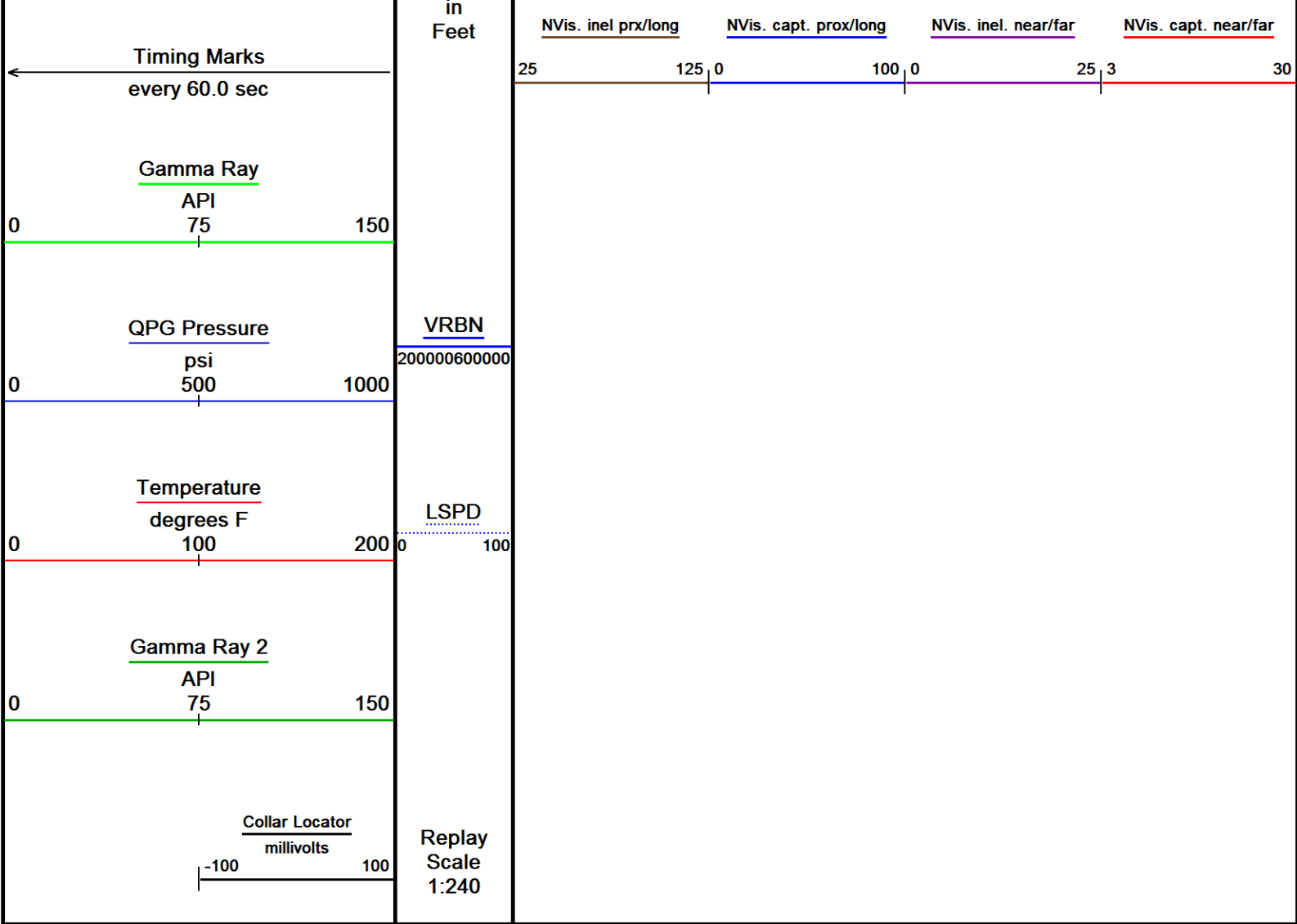
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6000

6050



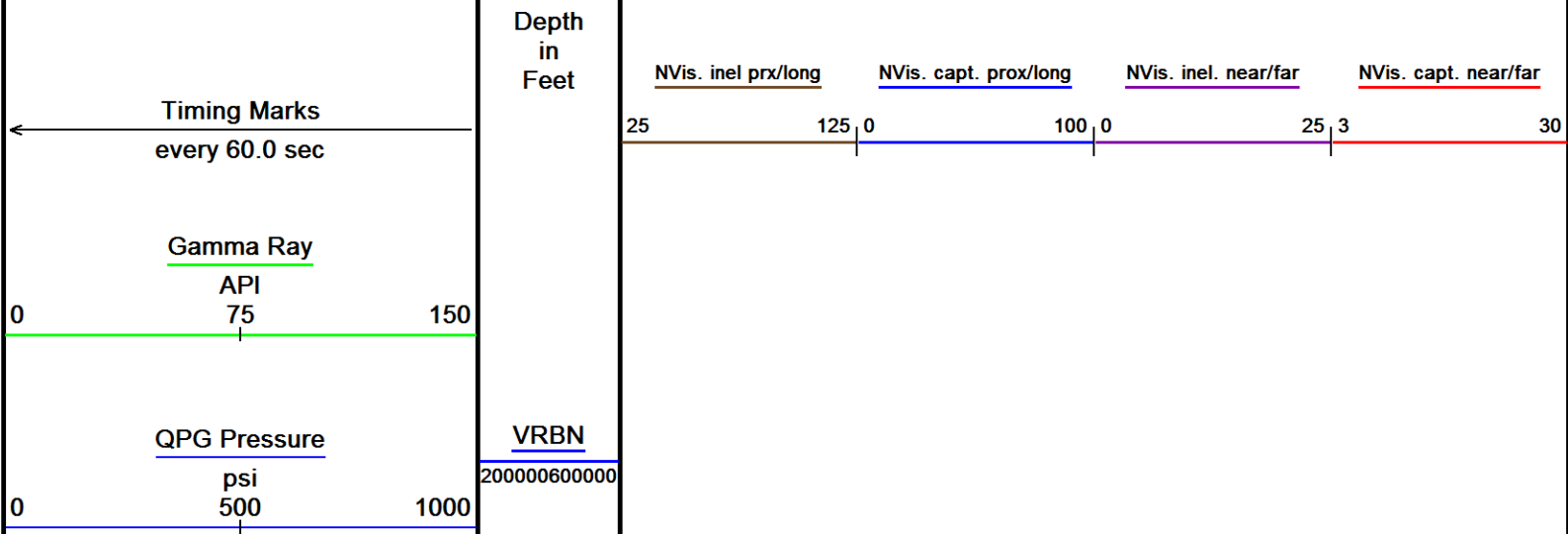


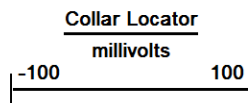
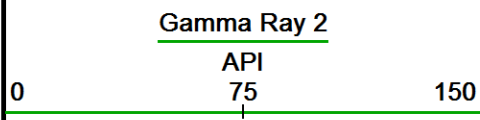
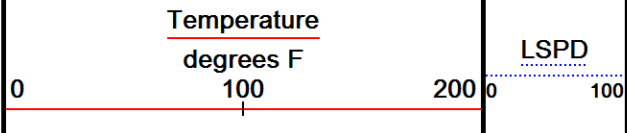


Depth Based Data - Maximum Sampling Increment 12.5cm	Plotted on 19-SEP-2017 17:59
Filename: C:\Logs\URSA\BMC B 43A-13-07-96\BMC B 43A-13-07-96 CREB SSSB MAIN FINAL.dta	Recorded on 19-SEP-2017 17:19
Filename: C:\Logs\URSA\BMC B 43A-13-07-96\BMC B 43A-13-07-96 CREB SSSB REPEAT FINAL.dta	Recorded on 19-SEP-2017 17:30
System Versions: Logged with 17.01.7206 Plotted with 17.01.7206	

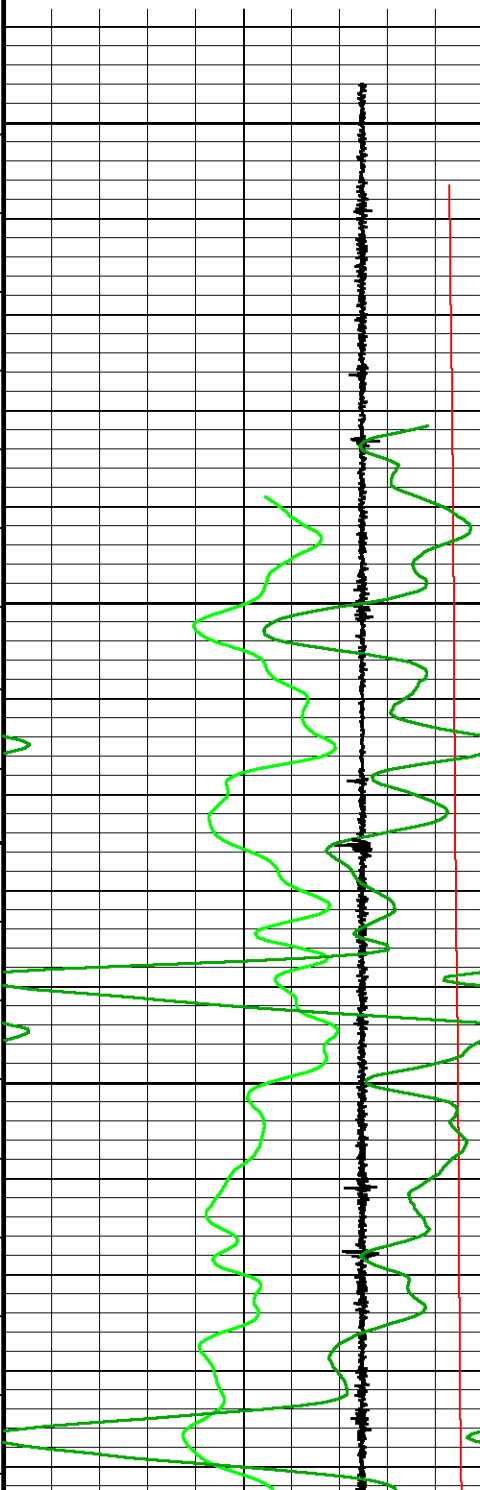
↑	MAIN PASS REPEAT PASS	↑
---	--------------------------	---

↓	REPEAT PASS	↓
Depth Based Data - Maximum Sampling Increment 12.5cm		
Plotted on 19-SEP-2017 17:59		
Filename: C:\Logs\URSA\BMC B 43A-13-07-96\BMC B 43A-13-07-96 CREB SSSB REPEAT FINAL.dta		
Recorded on 19-SEP-2017 17:30		
System Versions: Logged with 17.01.7206 Plotted with 17.01.7206		





Replay
Scale
1:240

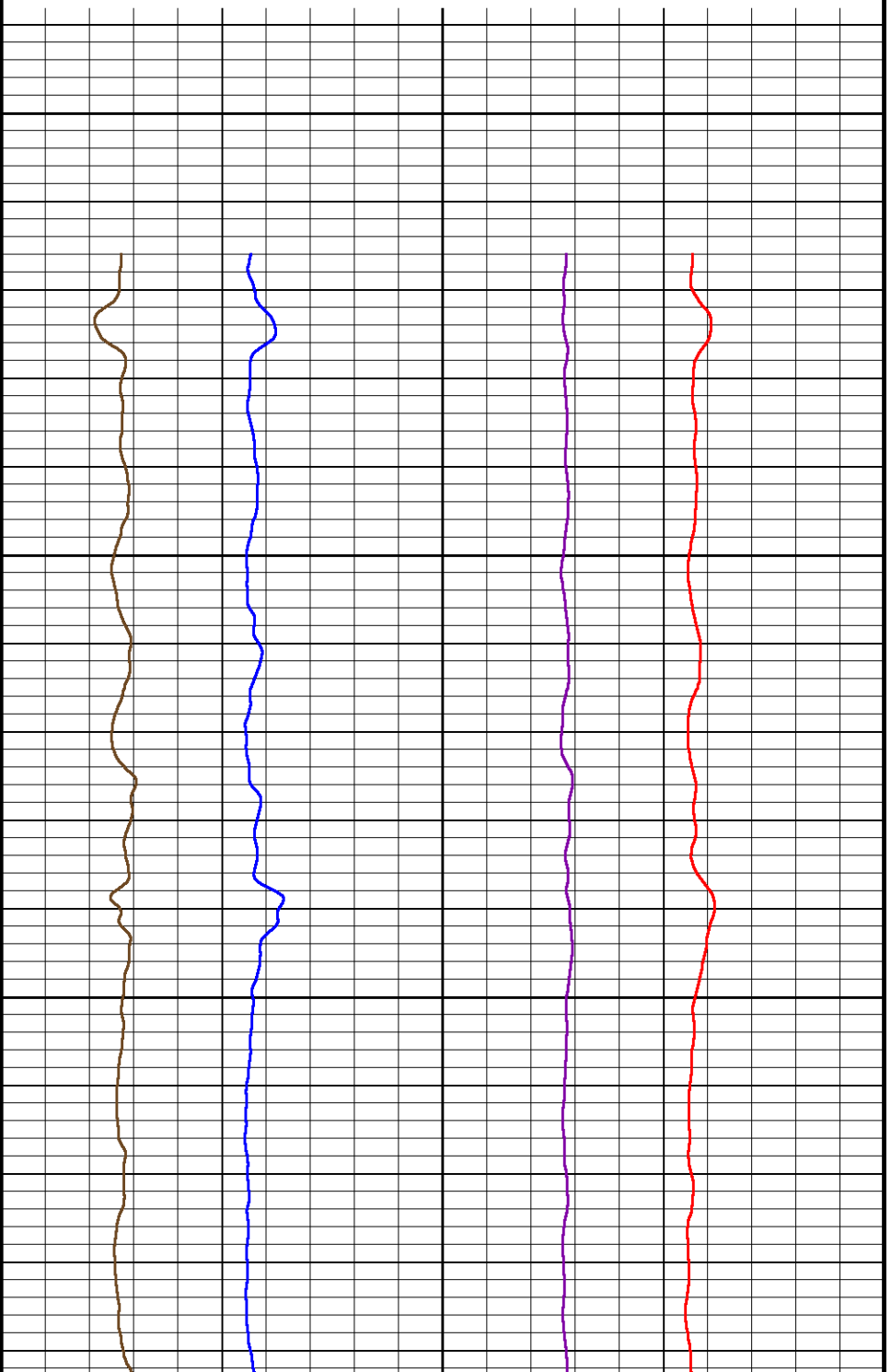


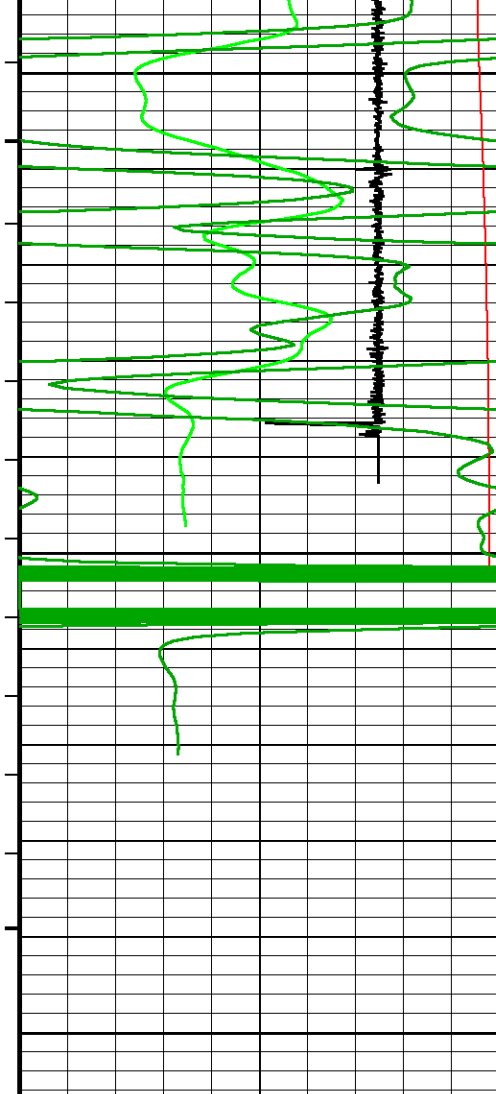
6040

6050

6100

6150





6200

6250

6300

Depth
in
Feet

Timing Marks
every 60.0 sec

Gamma Ray

API

75

QPG Pressure

psi

500

Temperature

degrees F

100

Gamma Ray 2

API

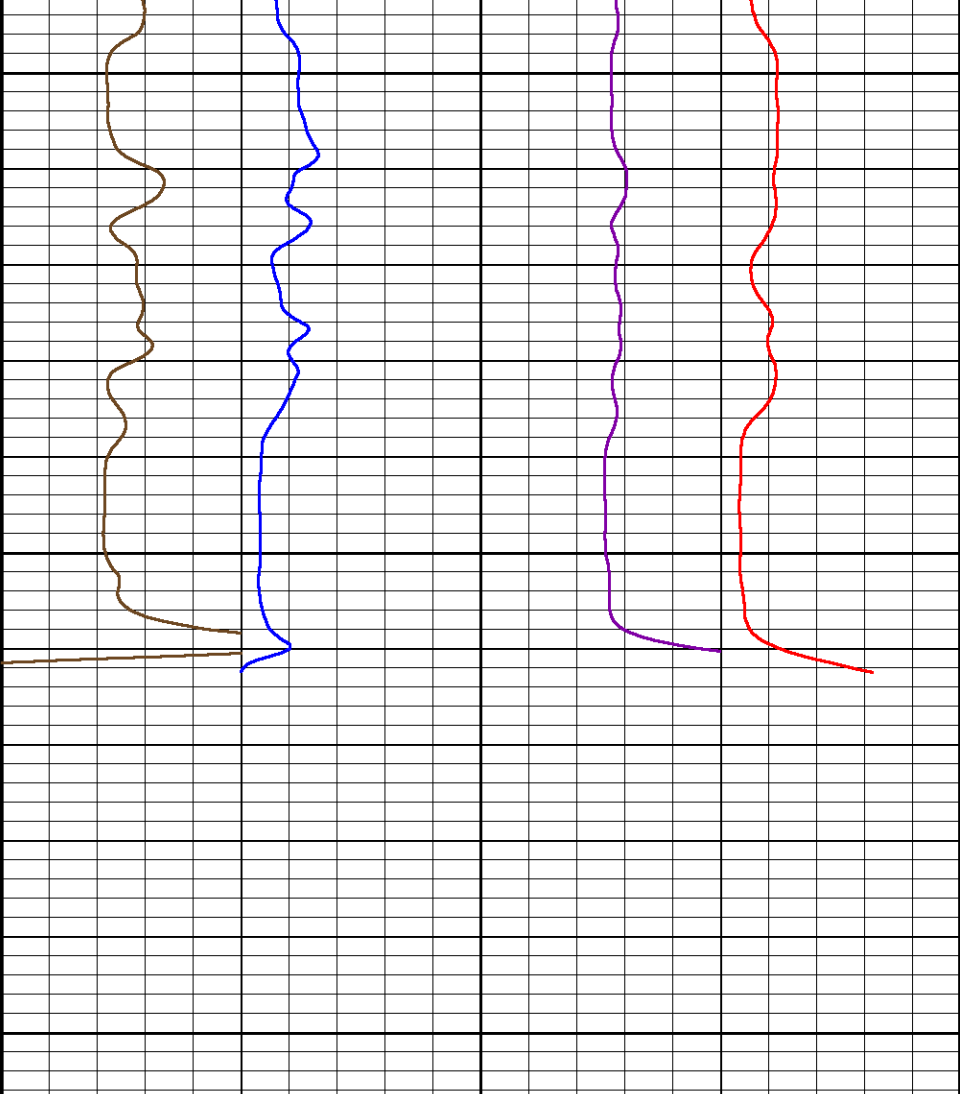
75

VRBN

200000600000

LSPD

0 100



NVis. inel prx/long

25 125 0

NVis. capt. prox/long

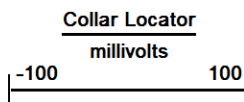
100 0

NVis. inel. near/far

25 3

NVis. capt. near/far

30



Replay
Scale
1:240

Depth Based Data - Maximum Sampling Increment 12.5cm

Plotted on 19-SEP-2017 17:59

Filename: C:\Logs\URSA\BMC B 43A-13-07-96\BMC B 43A-13-07-96 CREB SSSB REPEAT FINAL.dta

Recorded on 19-SEP-2017 17:30

System Versions: Logged with 17.01.7206 Plotted with 17.01.7206



REPEAT PASS



DOWNHOLE EQUIPMENT

C:\Logs\URSA\BMC B 43A-13-07-96\BMC B 43A-13-07-96 CREB SSSB MAIN FINAL.dta

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 106 LG: 2.23 ft WT: 8.8 lb OD: 1.693 in

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

CR3-BA 138 LG: 2.51 ft WT: 8.8 lb OD: 1.693 in

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

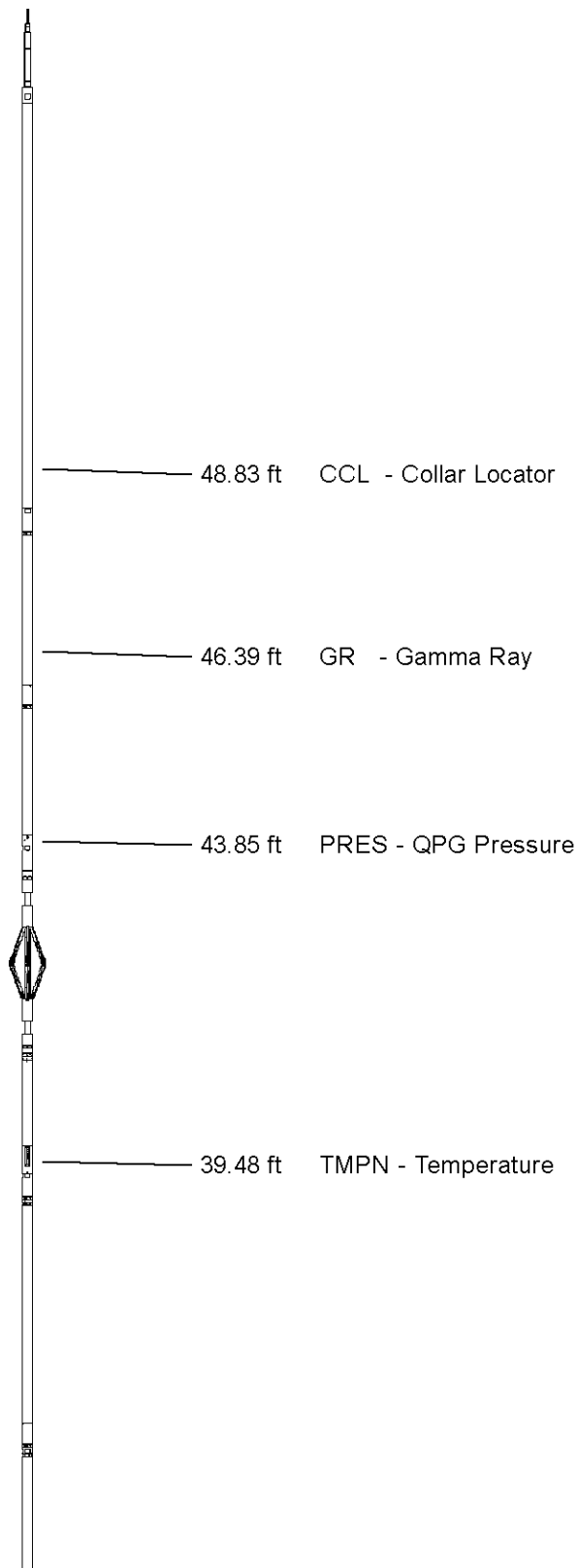
TMP-NA 139 LG: 1.93 ft WT: 8.8 lb OD: 1.693 in

CRE series II processor section

CRP-BA 129 LG: 3.31 ft WT: 15.4 lb OD: 1.654 in

Casing Reservoir Evaluation Tool Sonde

CRM-BA 129 LG: 9.19 ft WT: 46.3 lb OD: 1.693 in



- 31.41 ft VC15 - NVis. capt. prox/long
- 31.41 ft VB24 - NVis. inel. near/far
- 31.41 ft VB15 - NVis. inel prx/long
- 31.41 ft VC24 - NVis. capt. near/far
- 31.41 ft VRBN - VRBN

Centroller, 43mm, ITB, 3-arm Bi-Direct
CR3-BA 105 LG: 2.51 ft WT: 8.8 lb OD: 1.693 in

Gamma Ray K
UGR-KA 132 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: 1.654 in

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

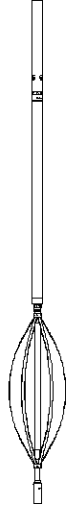


22.38 ft GR2 - Gamma Ray 2

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 370 LG: 2.60 ft WT: 8.8 lb OD: 1.380 in

Total Length: 54.99 ft Weight: 242.5 lb



Tool Zero (0.00ft from bottom)

All measurements relative to tool zero.

SHOP AND FIELD CALIBRATIONS

C:\Logs\URSA\BMC B 43A-13-07-96\BMC B 43A-13-07-96 CREB SSSB MAIN FINAL.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 15-AUG-2017 11:53

Gamma Ray Before Survey Calibration

Tool Type: UGR-KA
Calibrator No: 101

Serial No: 108

Background	Calibrator	Standard	Units
46.3	786.0	470.2	API

Delta Counts Per Sec: 739.7 CPS/API = 1.573

QPG Master Calibration QPG-EA 106

Gauge

Serial Number 220928

Calibration Date 15 Sep 2012

Gauge Type QHB108-16-177

Base Check Date

Max Pressure	16000 PSI	Max Temperature	177 Deg C
Min Pressure	13 PSI	Min Temperature	25 Deg C
Pressure			
Pressure polynomial order		3	Temperature polynomial order
		3	
	T0	T1	T2
			T3
			T4
P0	13.6402	-0.585455	-0.0197893
			9.3116e-006
P1	9.3116e-006	42.1819	-0.0208838
			2.62627e-005
P2	2.62627e-005	-5.38063e-008	-0.00199429
			8.64228e-006
P3	8.64228e-006	-3.99023e-008	3.69856e-011
			6.96299e-007
P4			
Temperature			
		Temperature polynomial order	3
	T0	T1	T2
			T3
			T4
	25.2302	-0.731527	-0.000858522
			-6.86634e-007
Temperature Tool Shop Survey Calibration TMP-NA 139			
Temperature Tool Shop Survey Calibration			
Tool Type: TMP-NA		Serial No: 139	
calibration			
standard		Measured	
32	DEGF	36714 Hz	
212	DEGF	50849 Hz	
UGK Before Survey Cal UGR-KA 132			
		Field calibration on 15-AUG-2017 12:40	
Gamma Ray Before Survey Calibration			
Tool Type: UGR-KA		Serial No: 132	
Calibrator No: 101			
Background		calibrator	standard
42.6		812.4	470.2
API			
Delta Counts Per Sec: 769.8		CPS/API = 1.637	
SSBC Field Calibration SSS-BA 117			

Slim Sector Bond Field Calibration

Tool Type	SSS-BA	Serial No	117
Sensor	Description	Standard	Measured
AMP 3FT	100% Bond	1.00	2.30
	Free Pipe	81.00	2688.80
AMP 5FT	100% Bond	0.40	3.50
	Free Pipe	54.00	4554.50
1 SECTOR AMP	100% Bond	5.00	5.60
	Free Pipe	95.00	2263.10
2 SECTOR AMP	100% Bond	5.00	7.10
	Free Pipe	95.00	1962.30
3 SECTOR AMP	100% Bond	5.00	1.10
	Free Pipe	95.00	1677.90
4 SECTOR AMP	100% Bond	5.00	4.80
	Free Pipe	95.00	1907.30
5 SECTOR AMP	100% Bond	5.00	6.80
	Free Pipe	95.00	2164.10
6 SECTOR AMP	100% Bond	5.00	1.60
	Free Pipe	95.00	2310.10

SSBC Constants SSS-BA 117

Last Edited on 00-JAN-1988 00:00

Min Ampl 100% Bond	3.63 MV
Max Ampl 0% Bond	81.03 MV
Casing Size	4.50 IN
Casing Weight	11.6 LB/F
3' TT Correction	0.0 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

SMS Constants SMS-A 0

Last Edited on 00-JAN-1988 00:00

Cement Weight	0.00 LB/G
Cement Weight	0.00 LB/G
Cement Weight	0.00 LB/G

WELL	BMC B 43A-13-07-96
FIELD	WILDCAT
PROVINCE/COUNTY	GARFIELD
COUNTRY/STATE	USA / COLORADO

Elevation Kelly Bushing	5117	feet	Bottom Log Interval	6290.00	feet
Elevation Drill Floor	5117	feet	Depth Driller	6723.00	feet
Elevation Ground Level	5100	feet	Depth Logger	6290.00	feet



RAPTOR NVISION LOG

Weatherford®