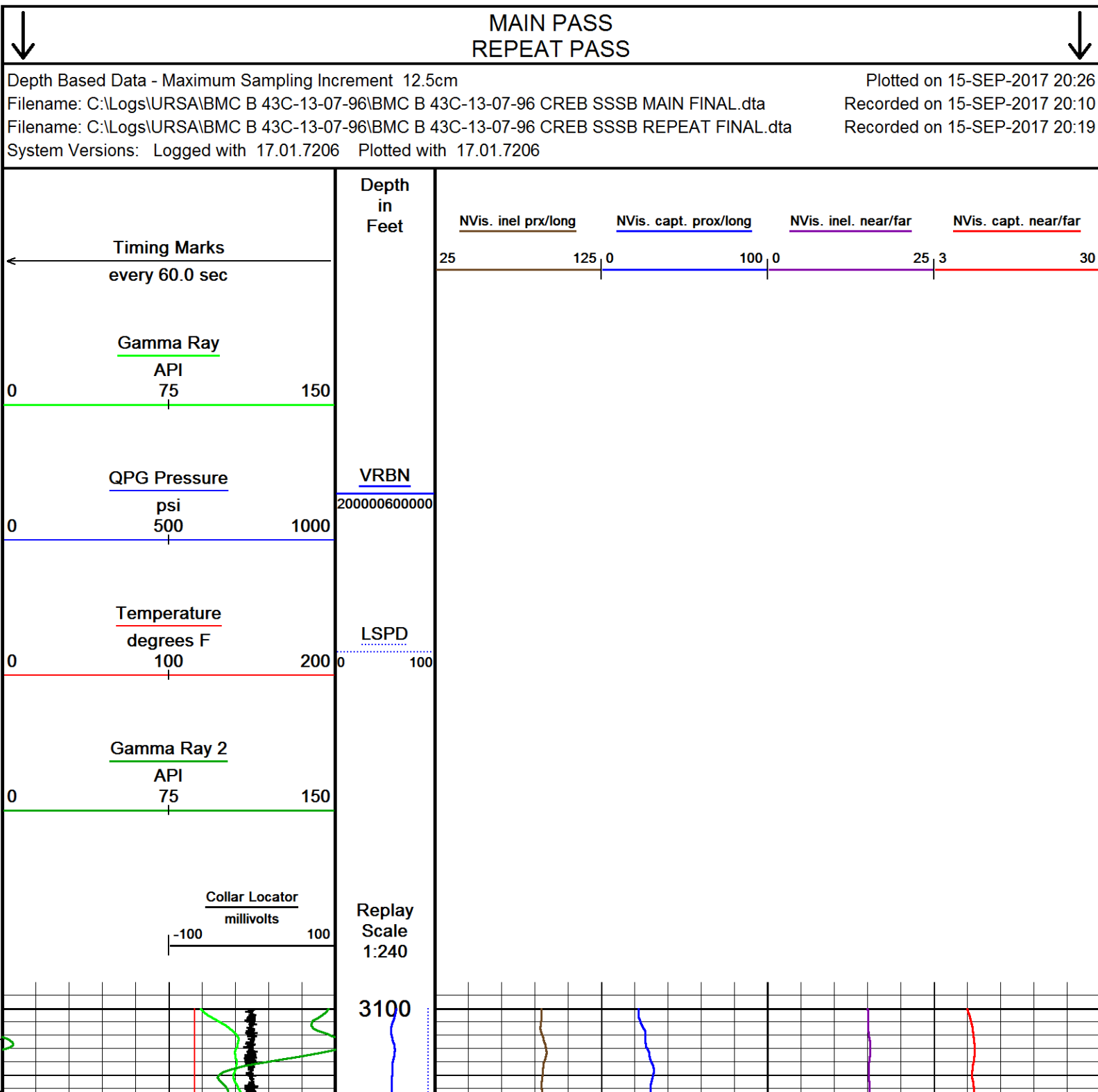
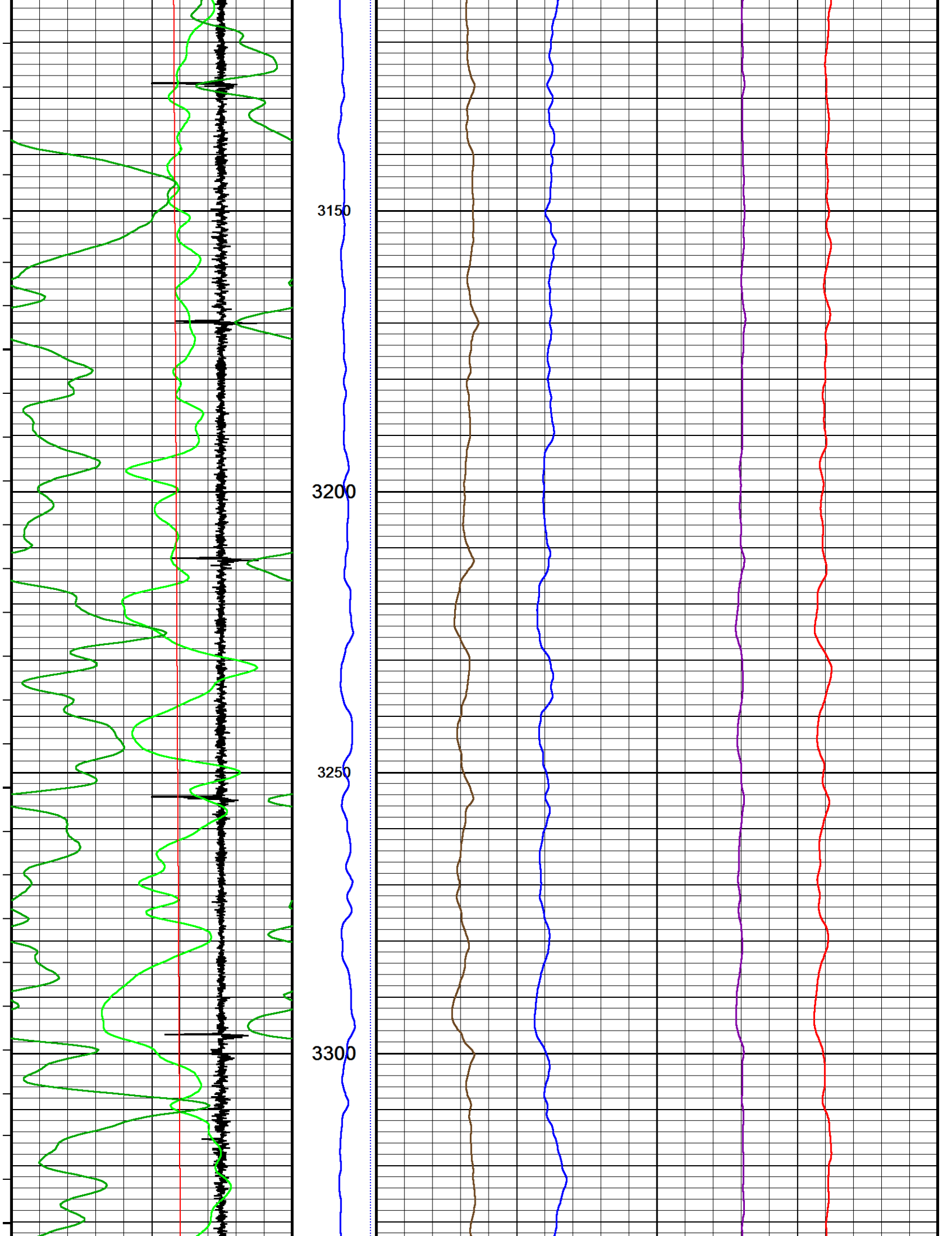
				RAPTOR NVISION LOG			
COMPANY				URSA OPERATING COMPANY			
WELL				BMC B 43C-13-07-96			
FIELD				WILDCAT			
PROVINCE/COUNTY				GARFIELD			
COUNTRY/STATE				USA / COLORADO			
LOCATION				2260' FNL & 0633' FWL			
SEC 18	TWP 7S	RGE 95W	Other Services				
Latitude		SSSB					
Longitude							
API Number		05-045-23486					
Permanent Datum GROUND LEVEL, Elevation 5100 feet				Elevations:			
Log Measured From KB, 17.00 feet above Permanent Datum				KB 5117.00			
Drilling Measured From KB				DF 5117.00			
				GL 5100.00			
Date	15-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	6816.00	feet					
Depth Logger	6450.00	feet					
Top Log Interval	3100.00	feet					
Bottom Log Interval	6450.00	feet					
Hole Fluid Type	WATER						
Hole Fluid Level	0.00	feet					
Restriction ID	3.875	inches	Gun Type				
Max Recorded Temp	196.00	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	SEE LOG	8.625	32.00	0.00	1700.00		
Unit	14115	4.500	11.60	0.00	6816.00		
Equipment Name	WSS-E						
Base	CASPER						
Recorded By	P. MAZUR						
Witnessed By	NOT WITNESSED						

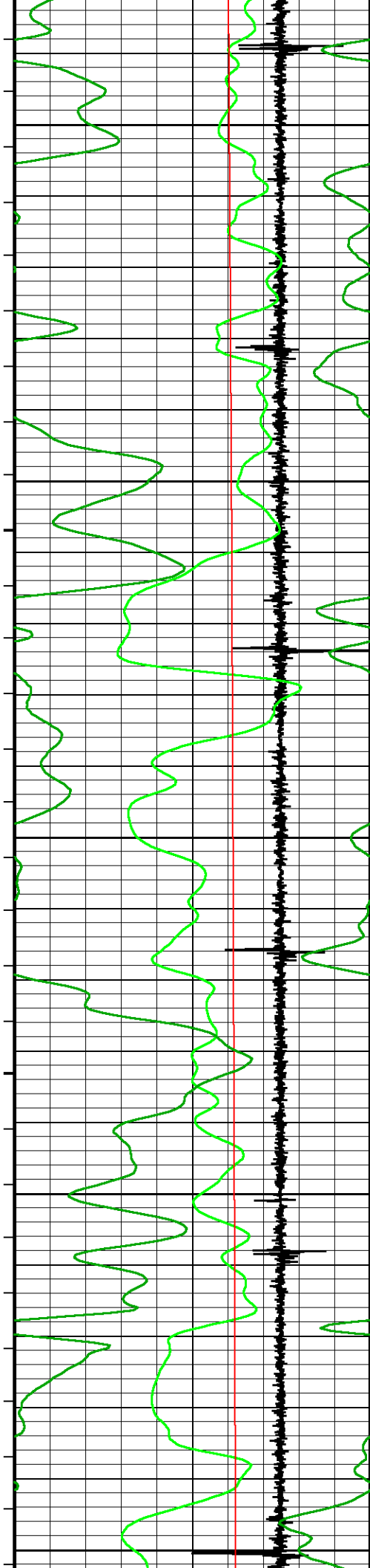
CASING / TUBING RECORD						
Type	Grade	TypeJoint	Size inches	Depth From feet	Shoe Depth feet	Weight pounds/ft
SURFACE			8.625	0.00	1700.00	32.00
PRODUCTION			4.500	0.00	6816.00	11.60

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 140 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.







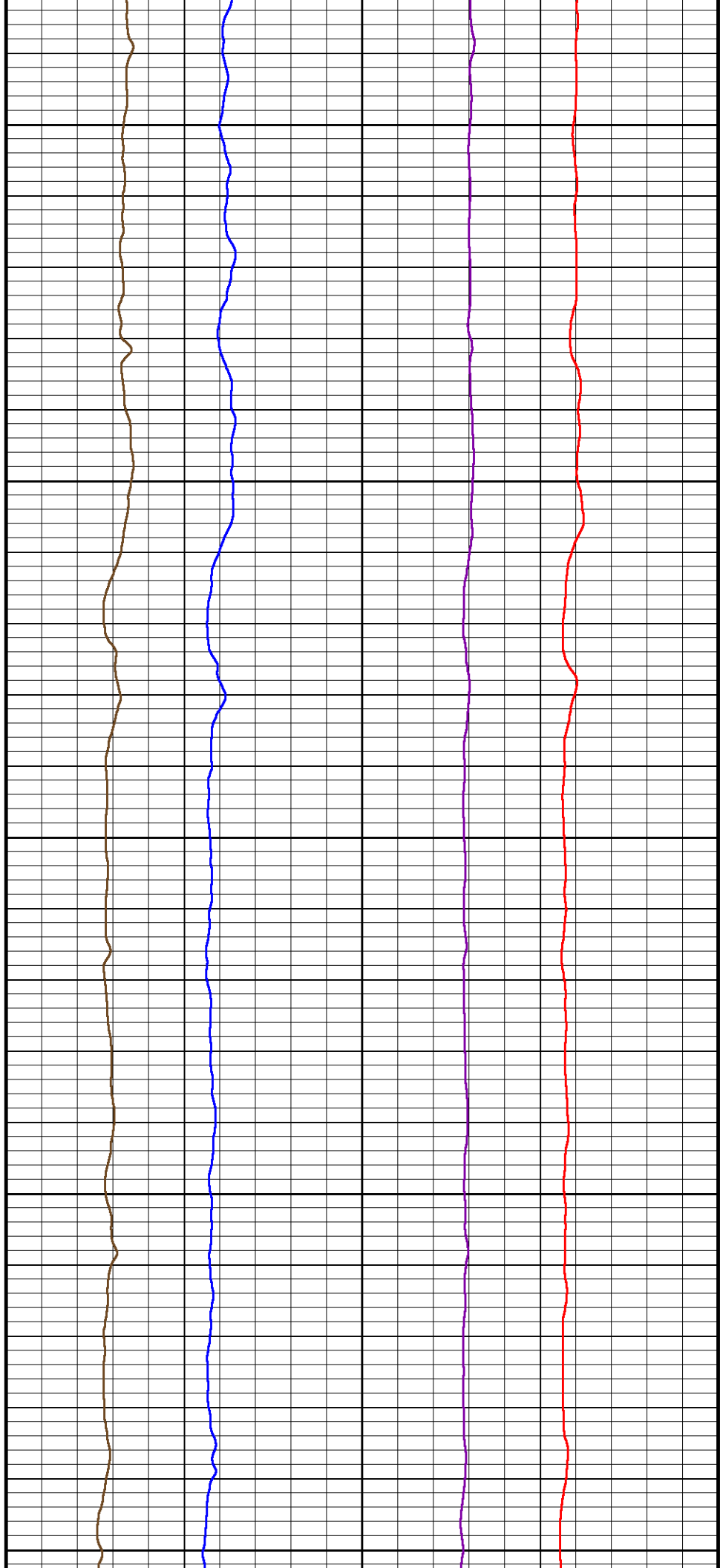
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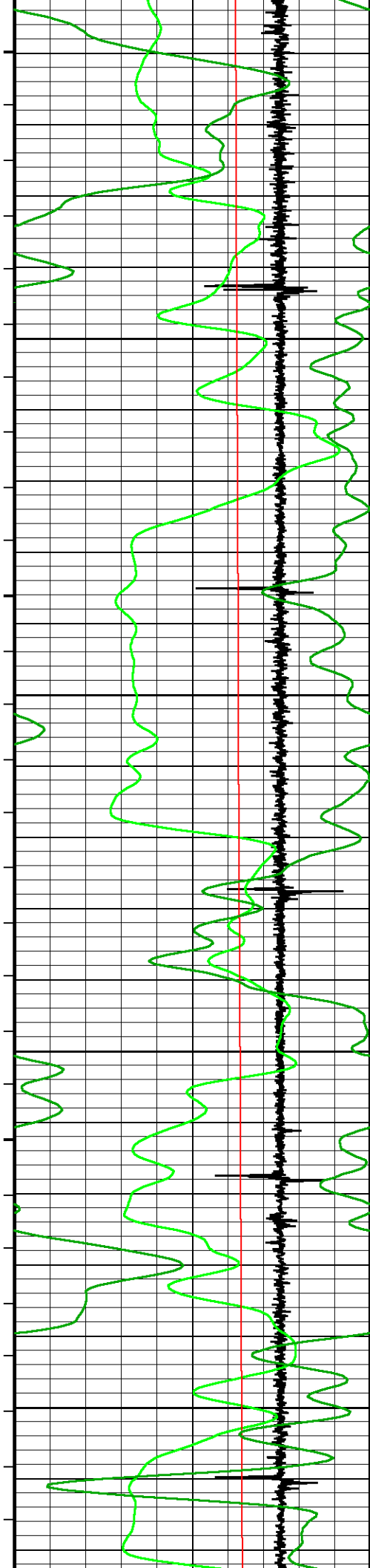
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3450

3500

3550



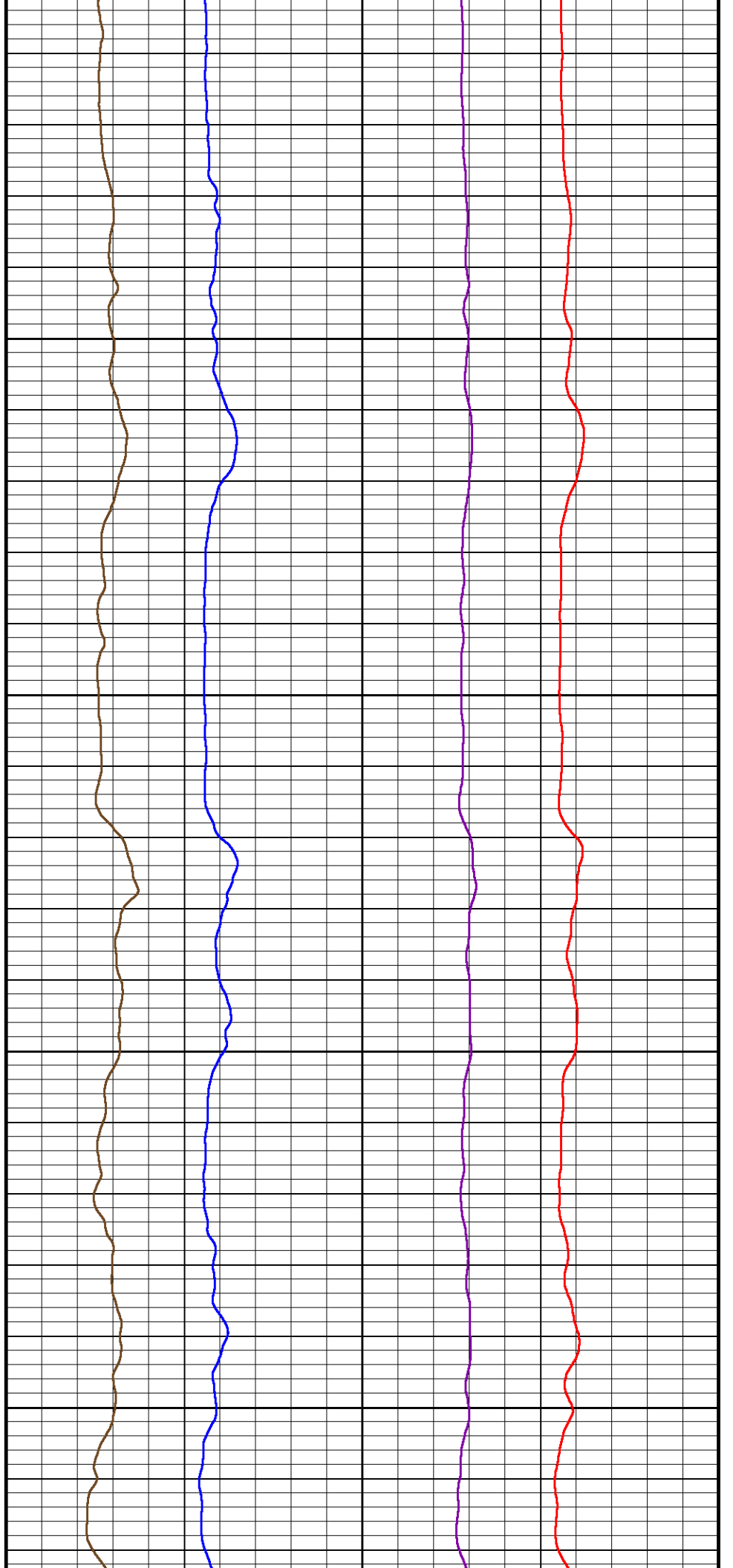


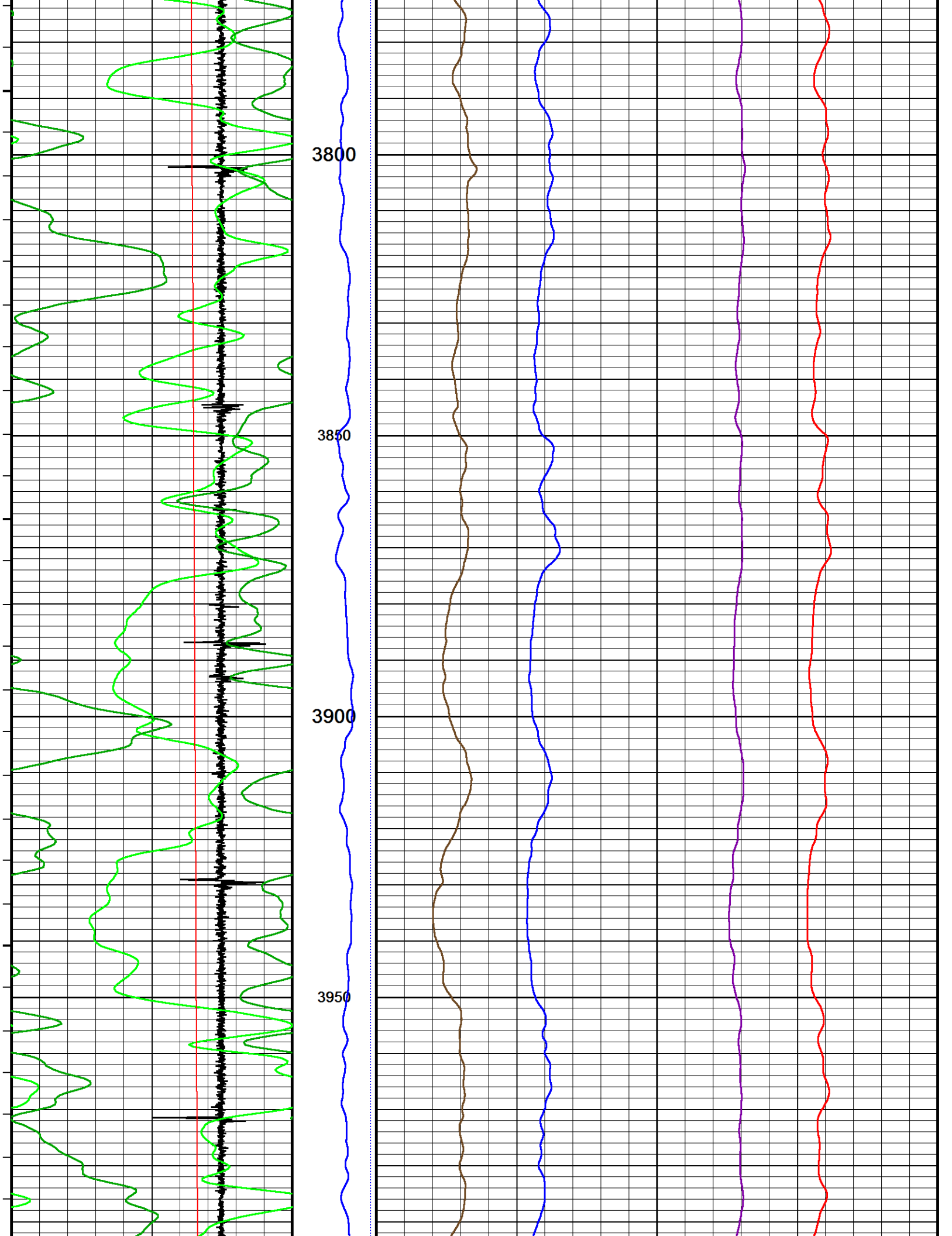
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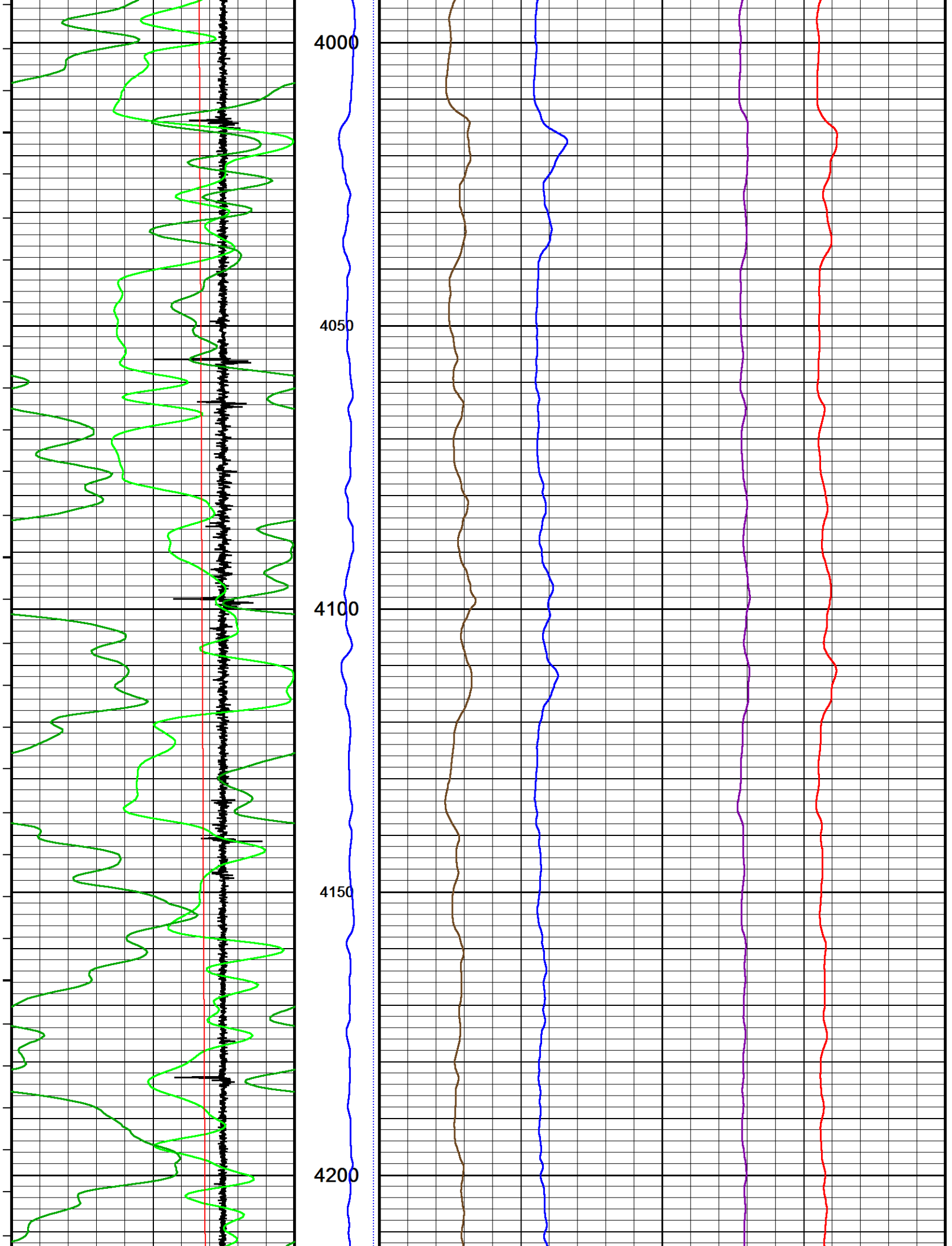
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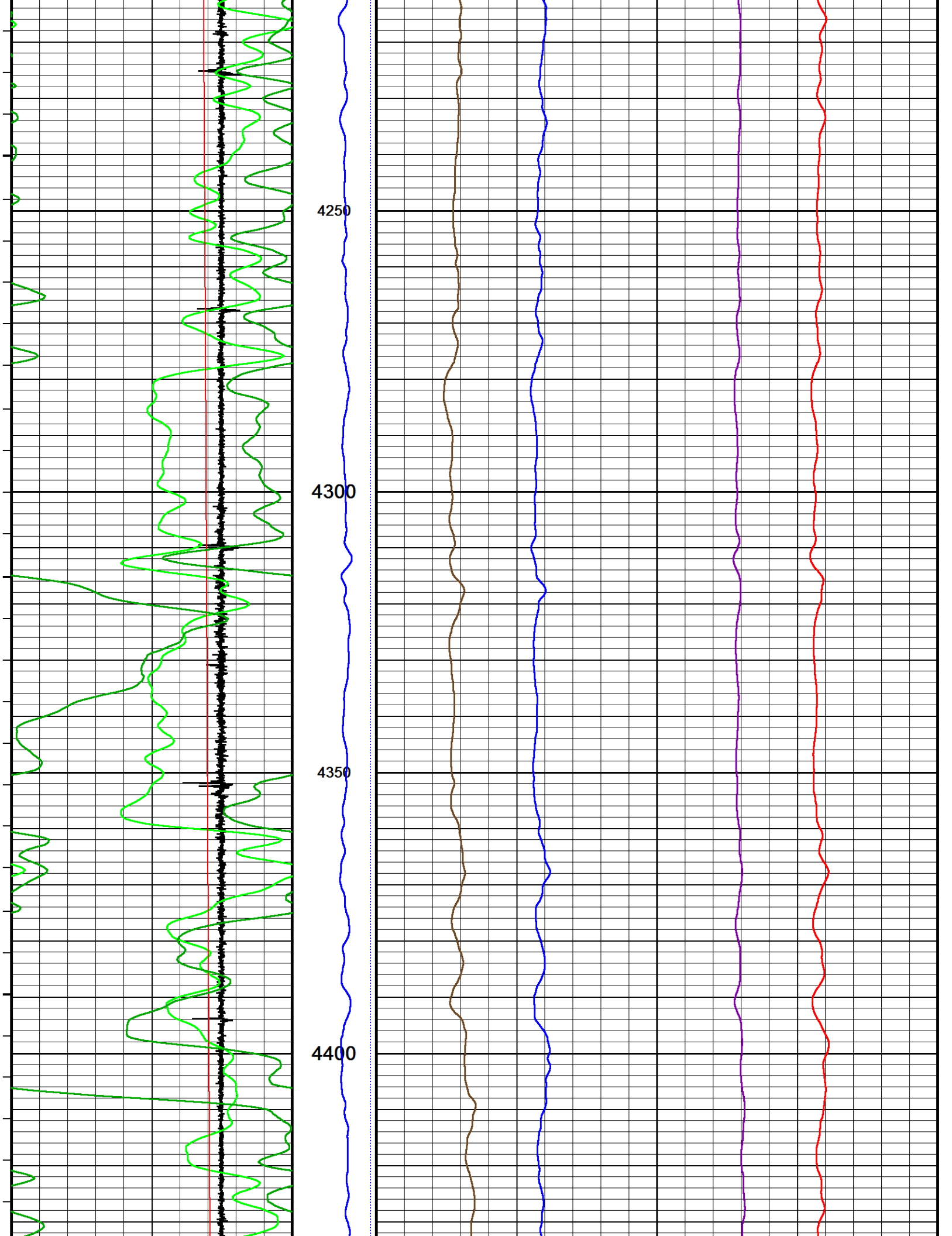
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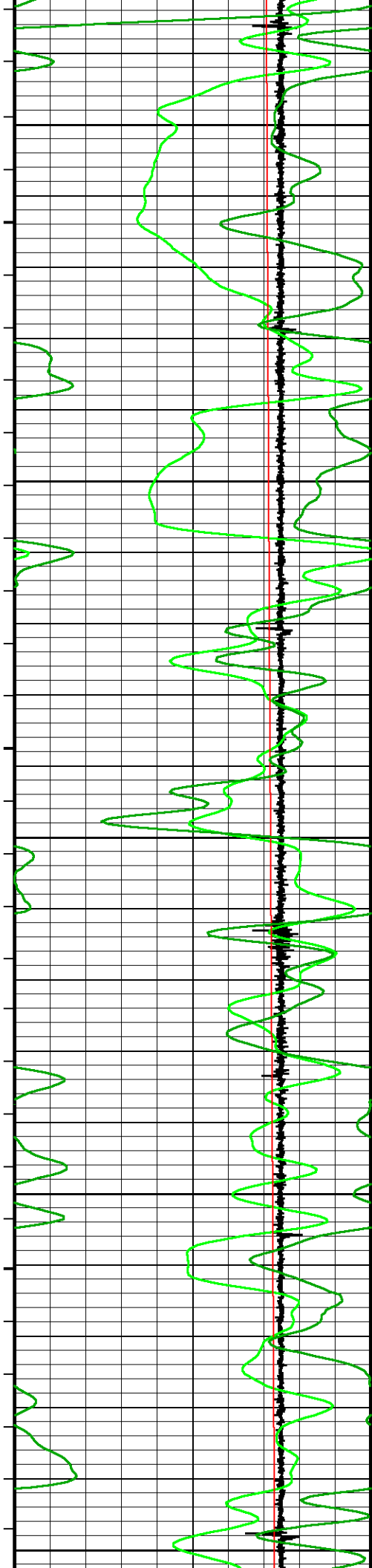
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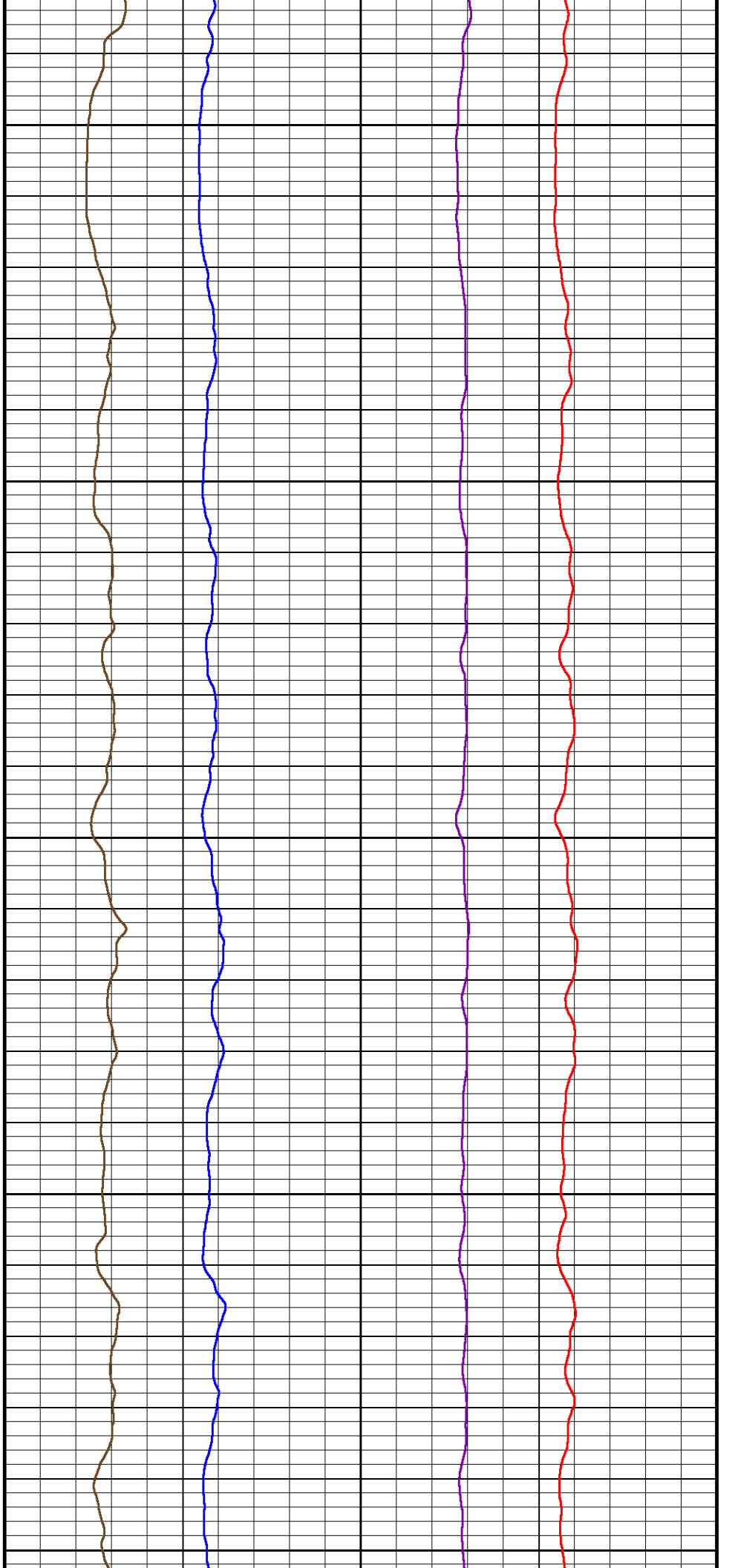
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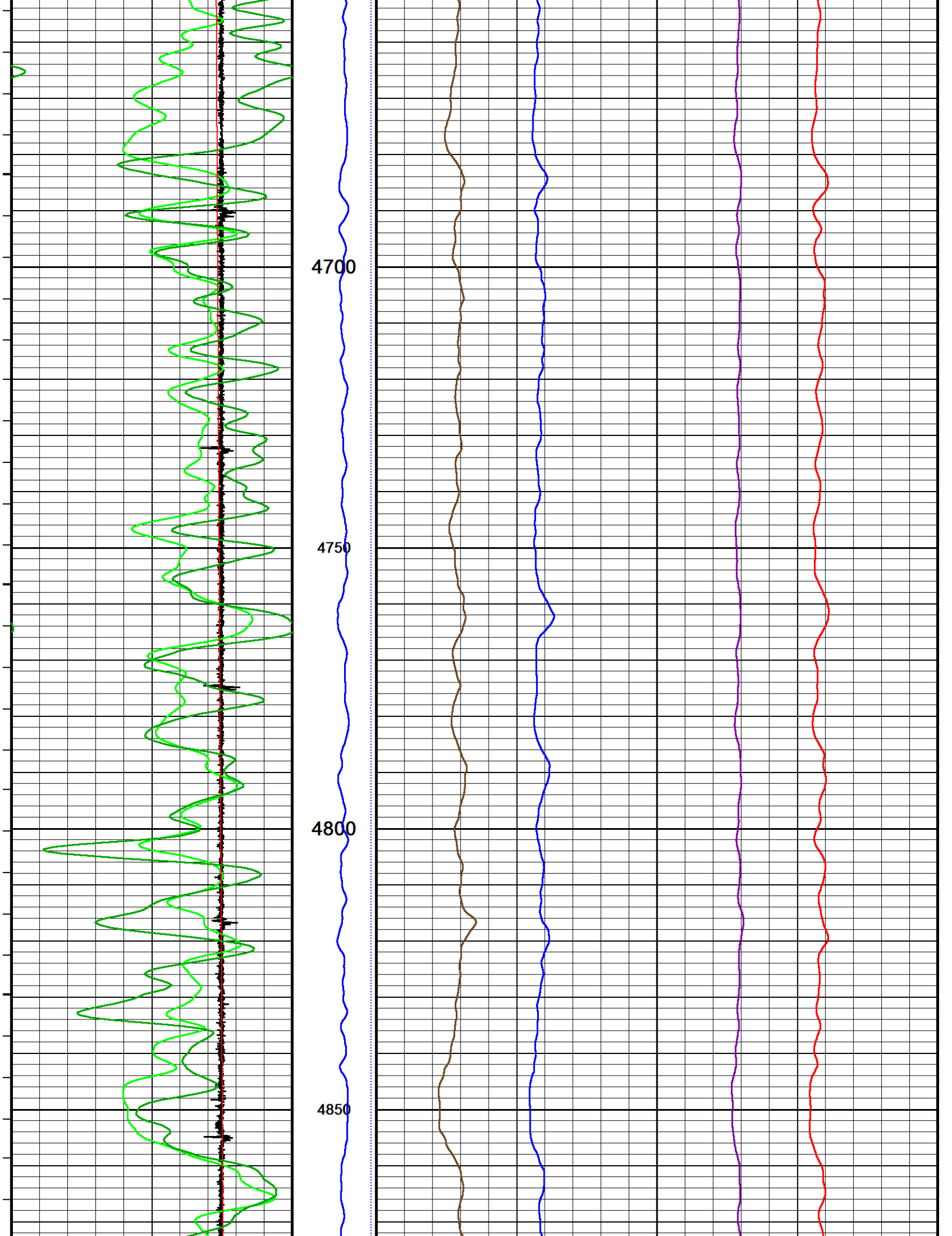
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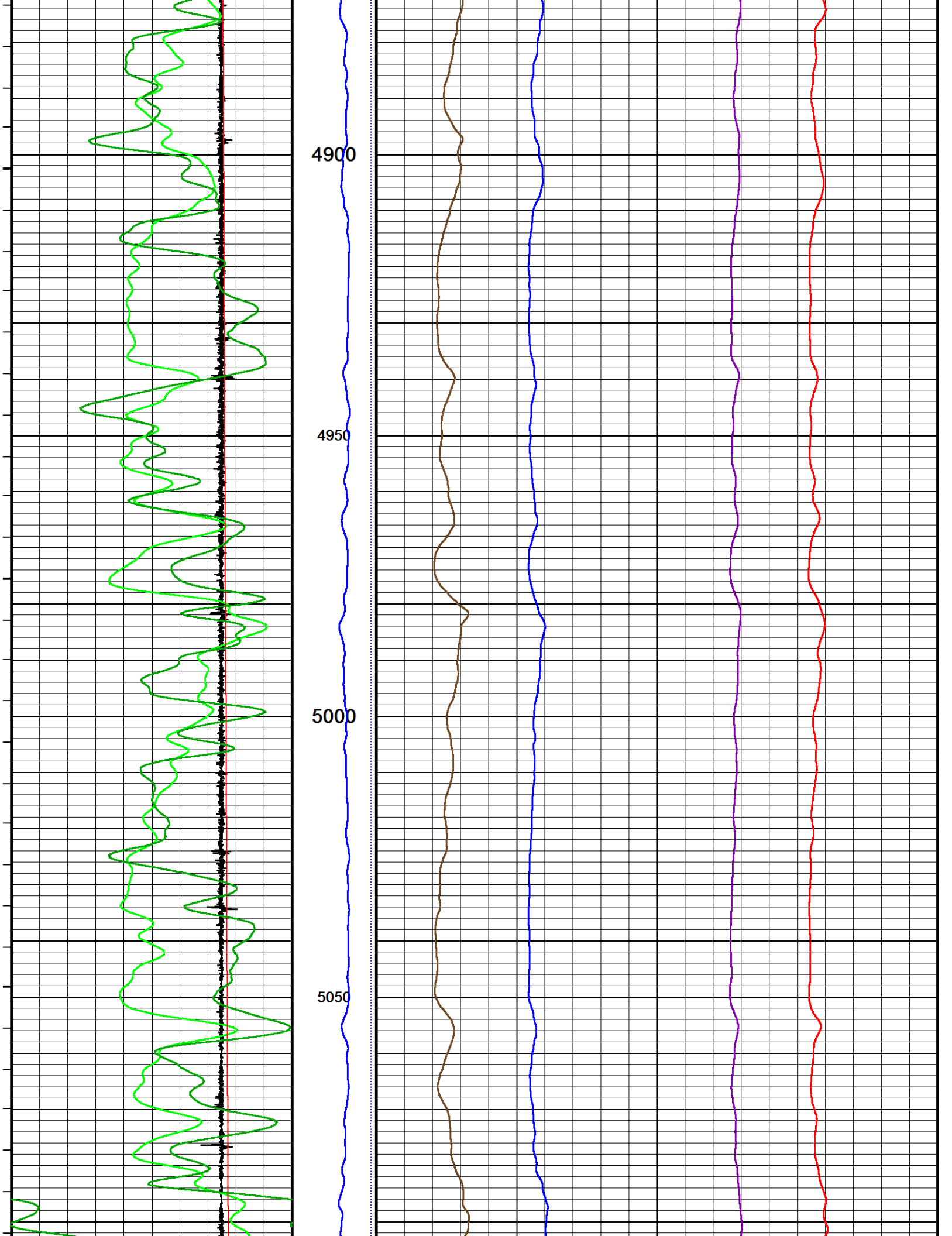
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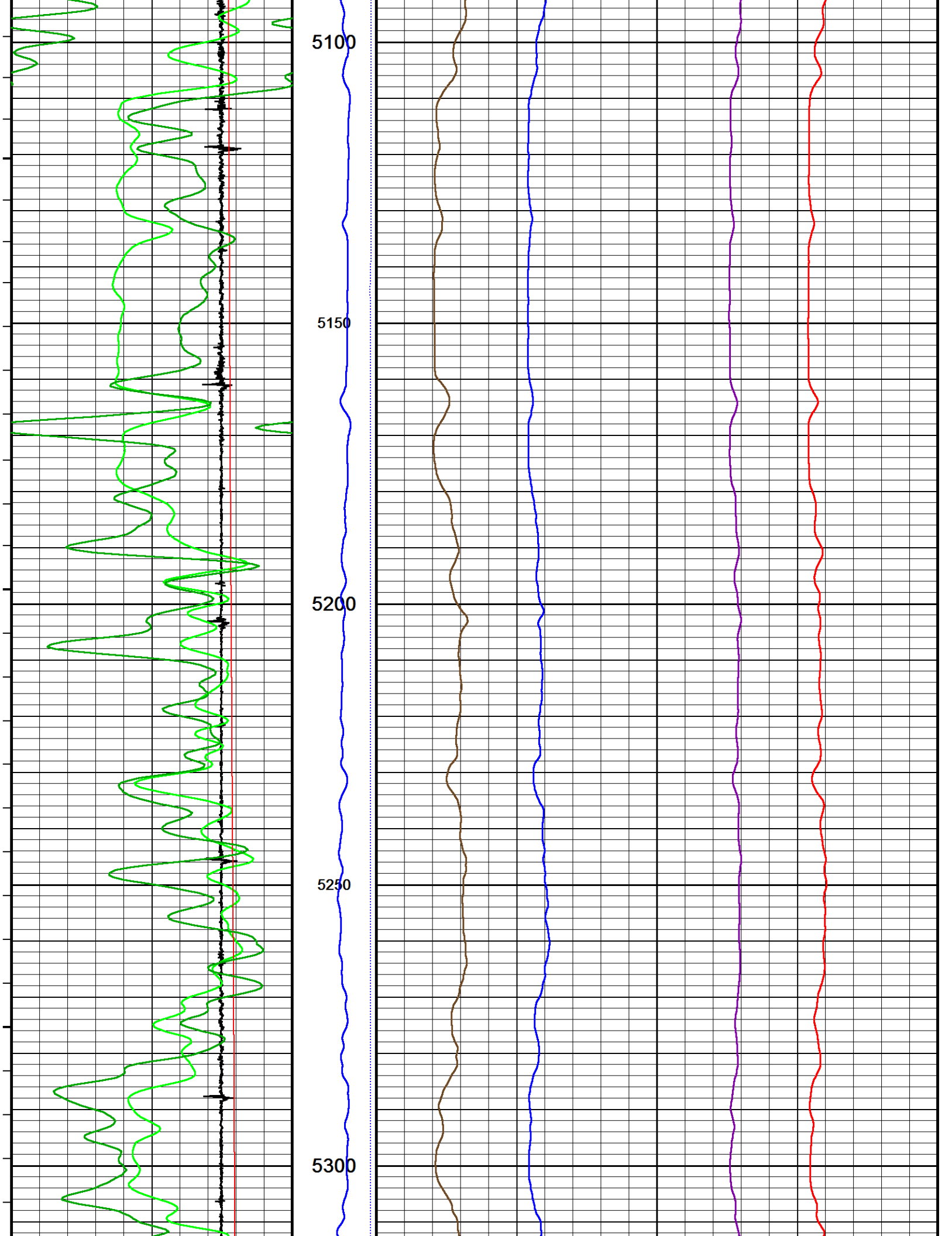
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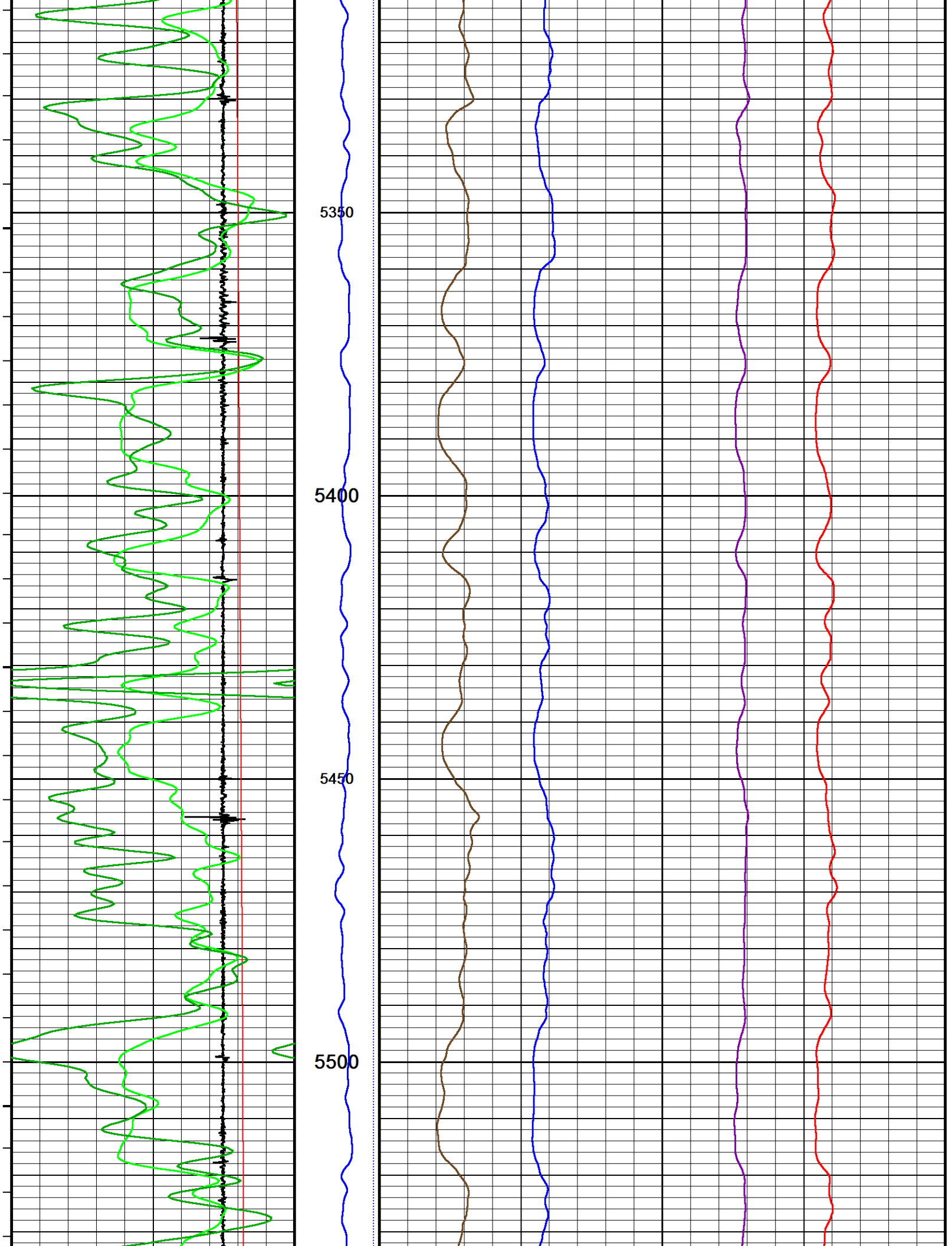
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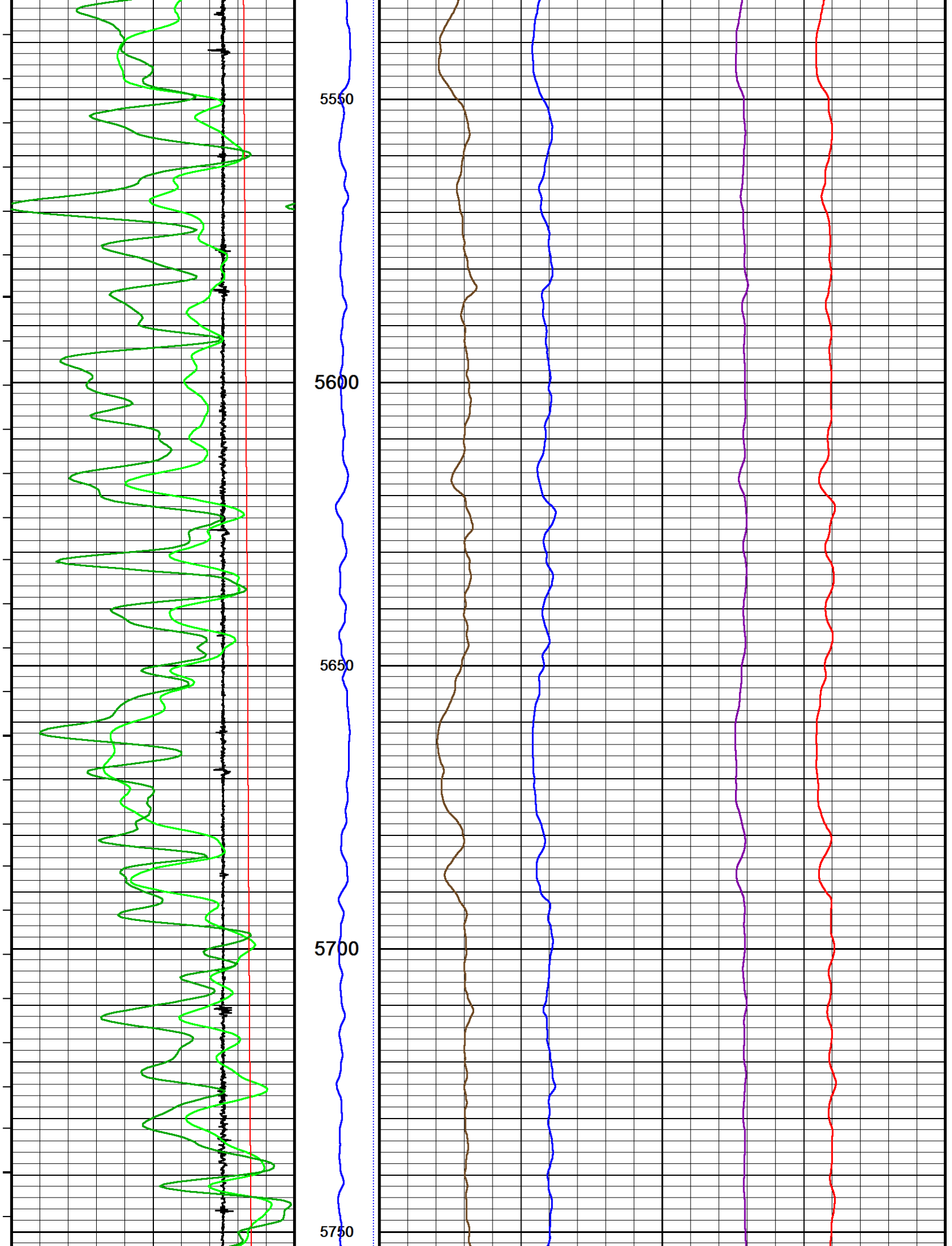


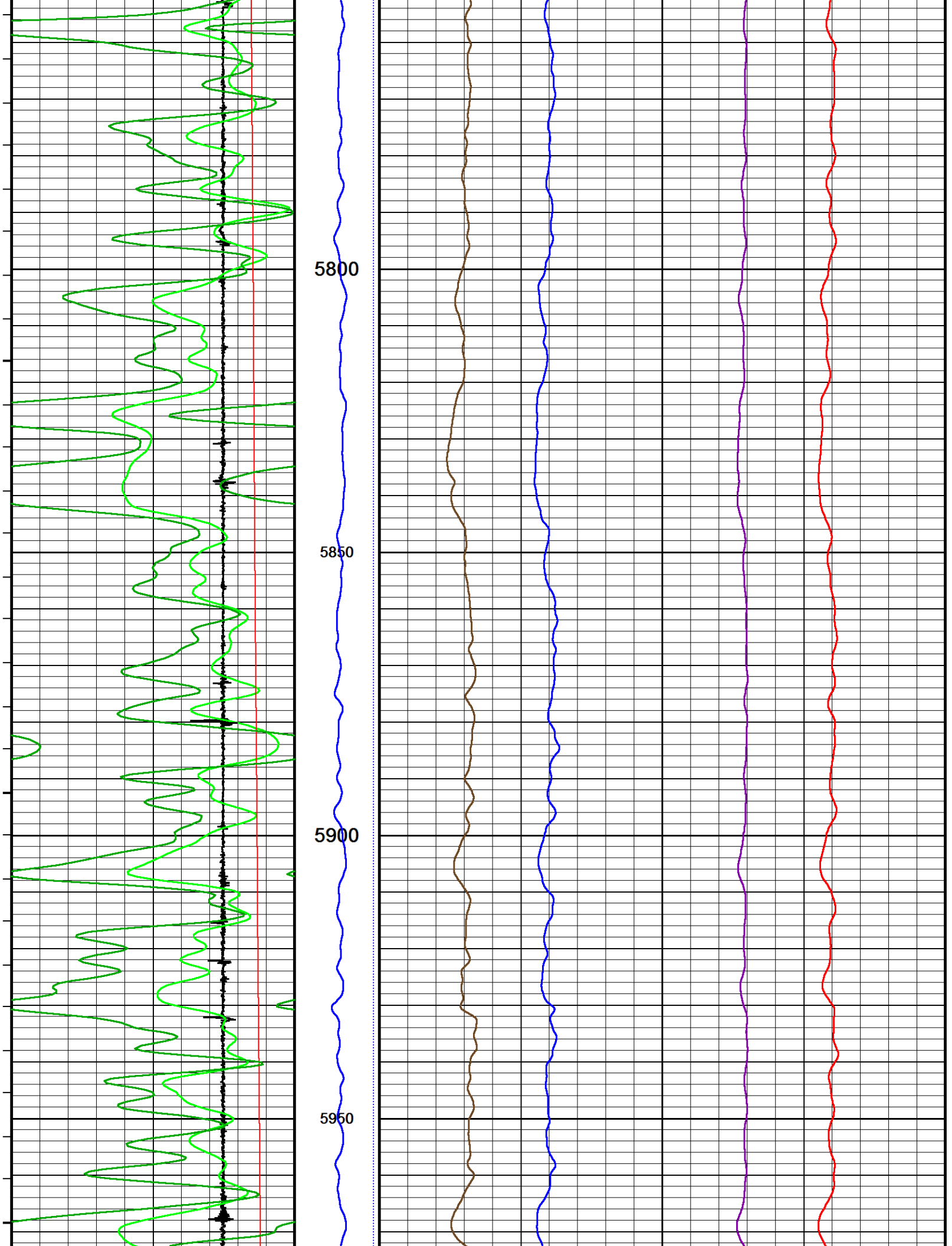


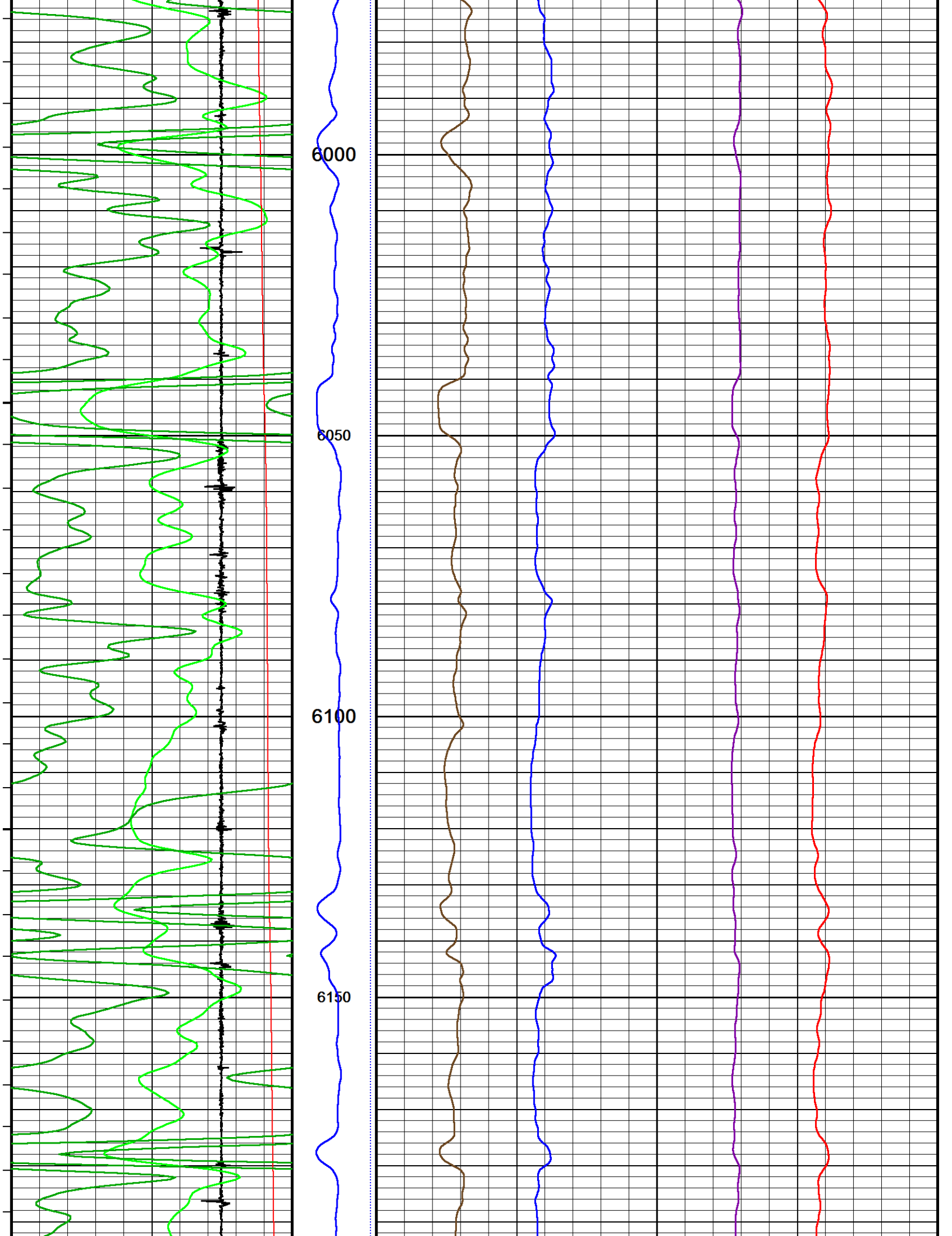


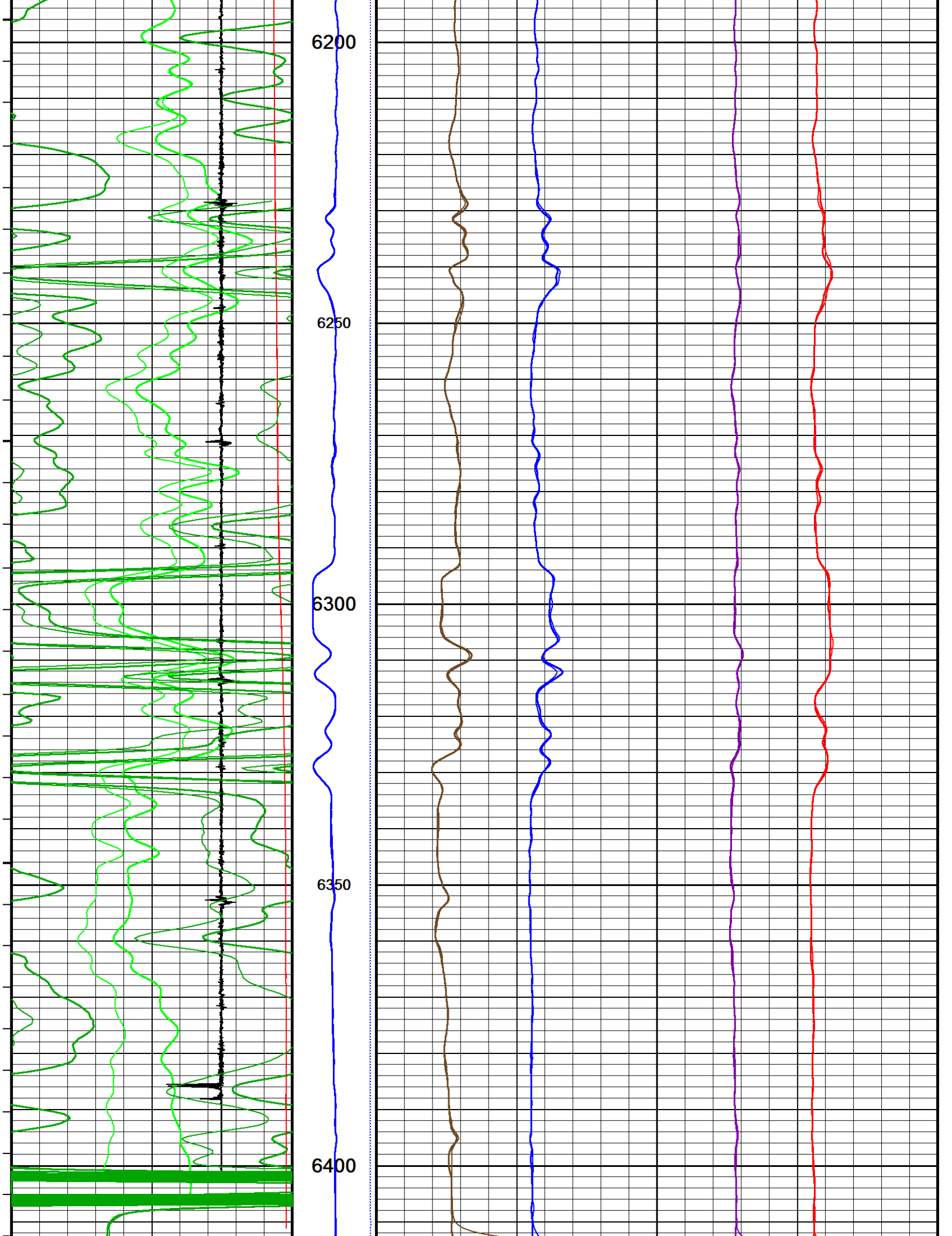


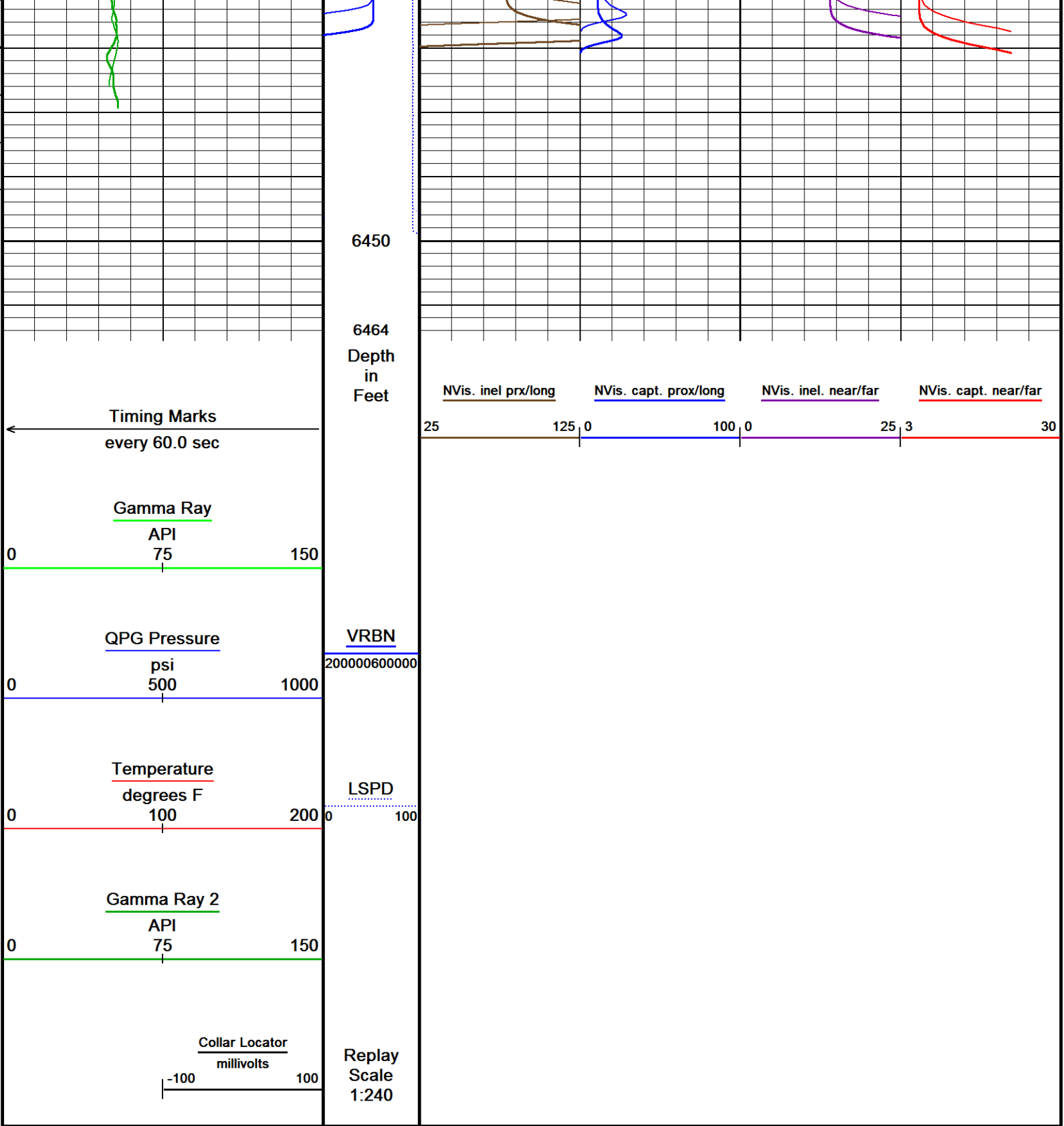










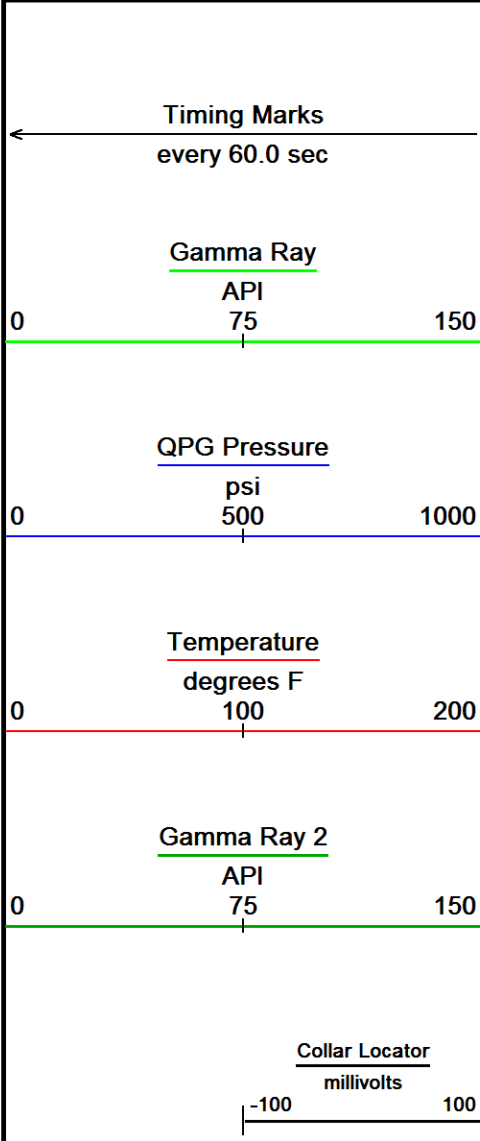


Depth Based Data - Maximum Sampling Increment 12.5cm
Filename: C:\Logs\URSA\BMC B 43C-13-07-96\BMC B 43C-13-07-96 CREB SSSB MAIN FINAL.dta
Filename: C:\Logs\URSA\BMC B 43C-13-07-96\BMC B 43C-13-07-96 CREB SSSB REPEAT FINAL.dta
System Versions: Logged with 17.01.7206 Plotted with 17.01.7206

↑ MAIN PASS REPEAT PASS ↑

↓ REPEAT PASS ↓

Depth Based Data - Maximum Sampling Increment 12.5cm
Filename: C:\Logs\URSA\BMC B 43C-13-07-96\BMC B 43C-13-07-96 CREB SSSB REPEAT FINAL.dta
System Versions: Logged with 17.01.7206 Plotted with 17.01.7206



Depth
in
Feet

VRBN

200000600000

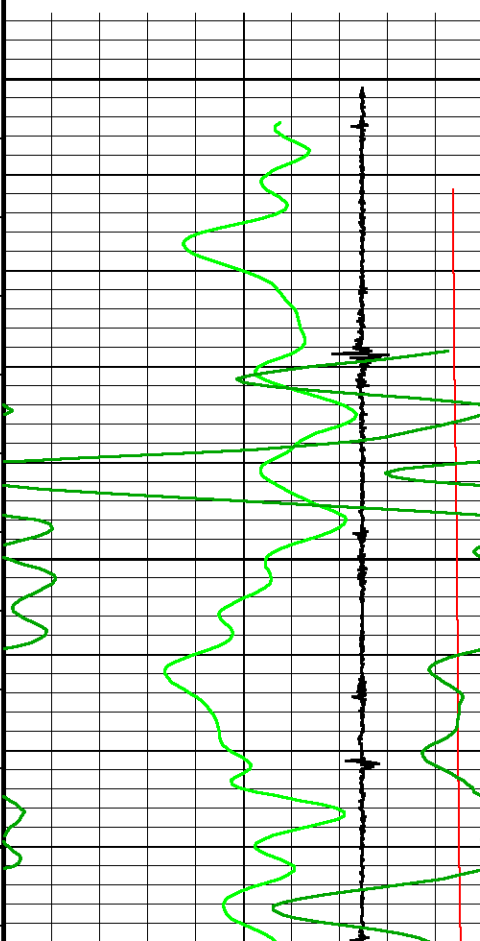
LSPD

0 100

Replay
Scale
1:240

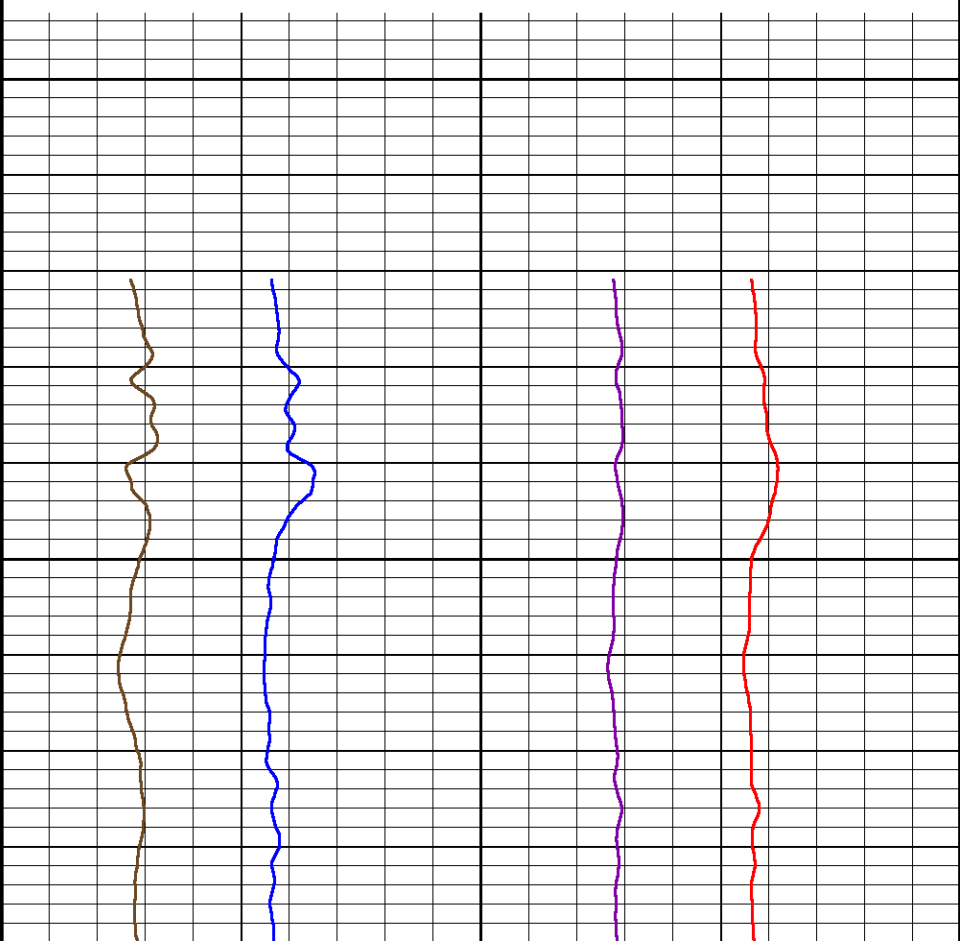
6200

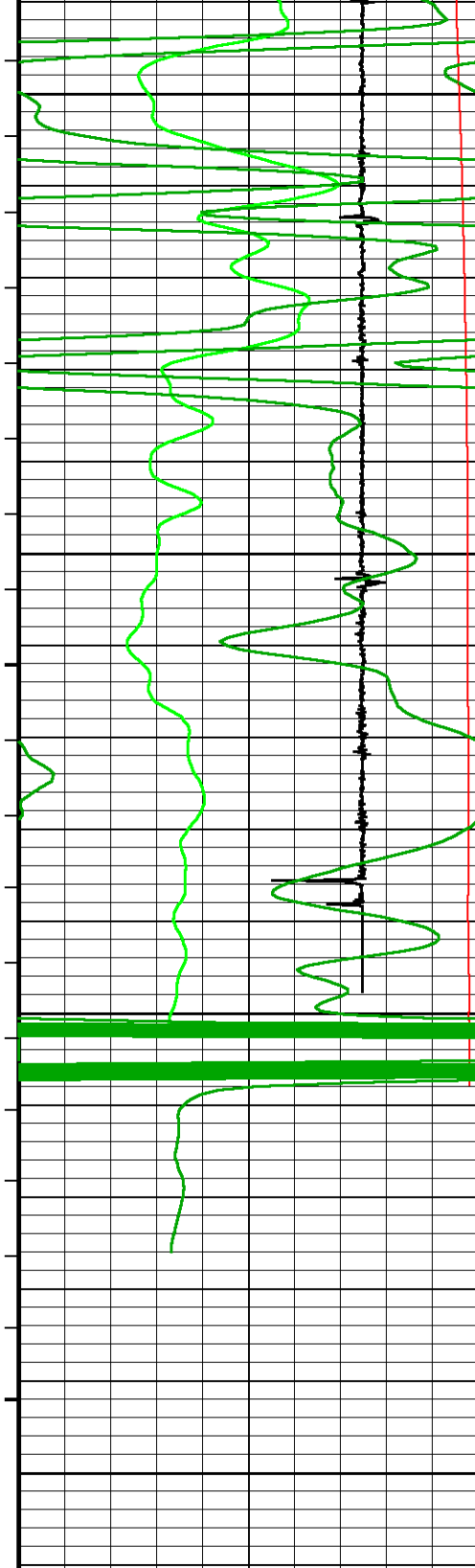
6250



NVis. incl prx/long NVis. capt. prox/long NVis. incl. near/far NVis. capt. near/far

25 125 0 100 0 25 3 30





6300

6350

6400

6450

6460

Depth
in
Feet

Timing Marks
every 60.0 sec

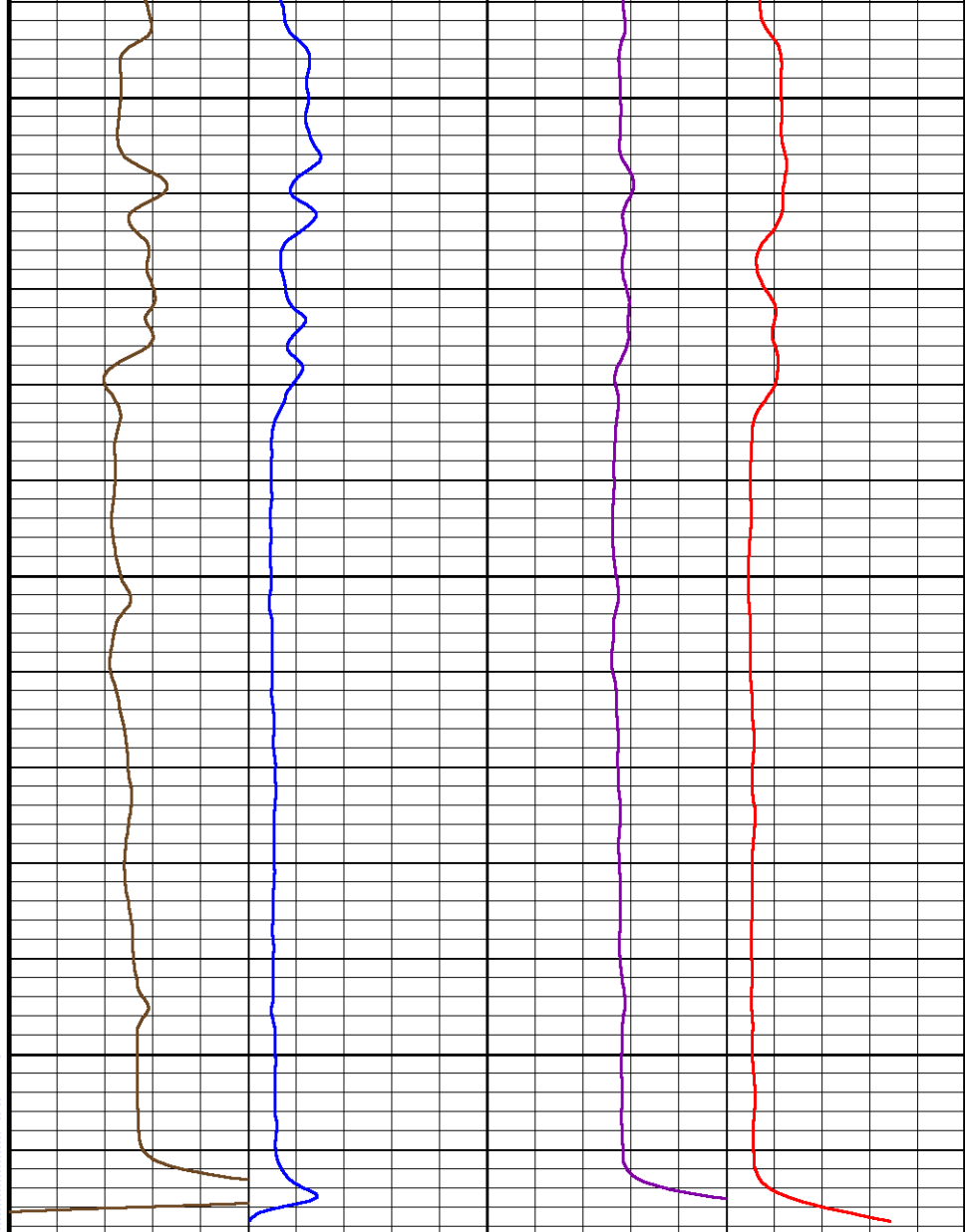
Gamma Ray

API

0 75 150

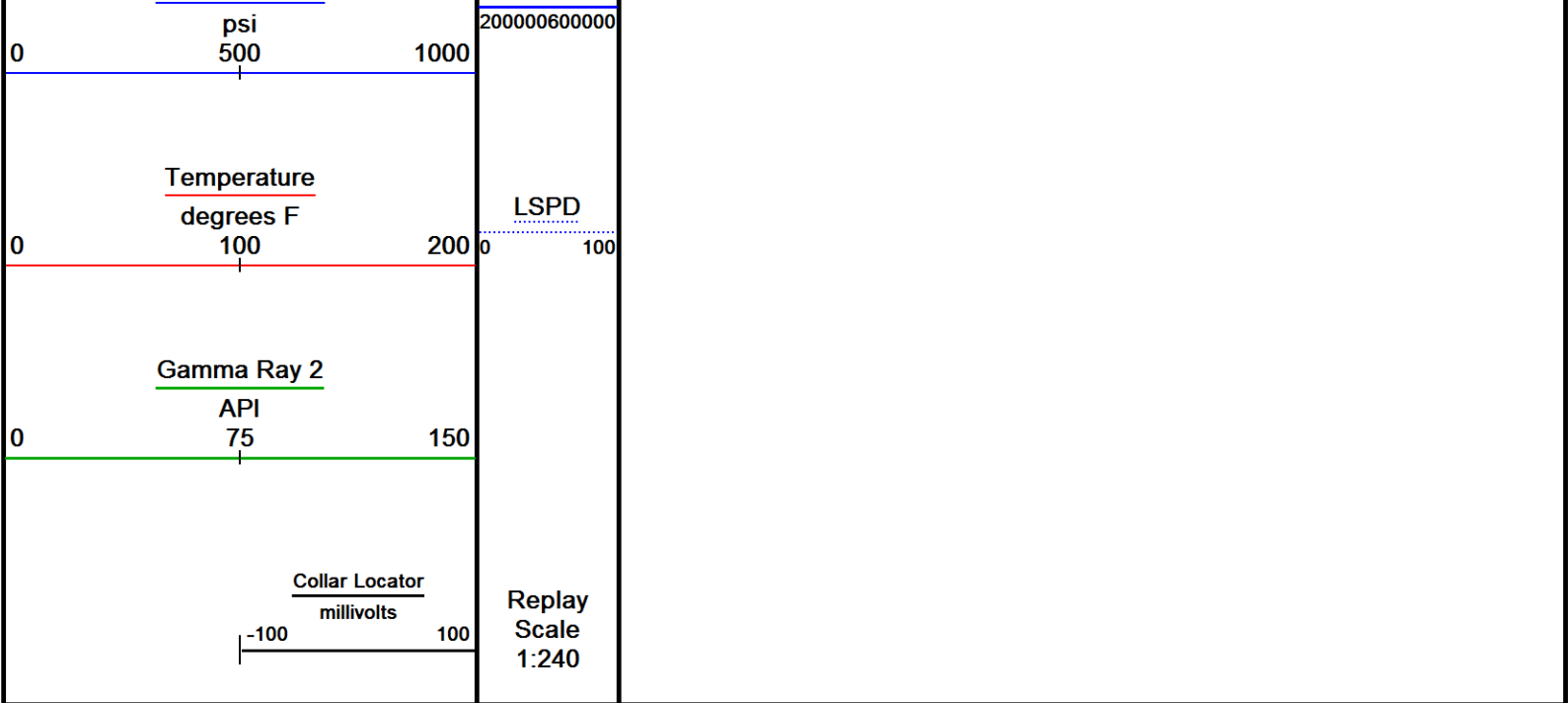
QPG Pressure

VRBN



NVis. inel prx/long NVis. capt. prox/long NVis. inel. near/far NVis. capt. near/far

25 125 0 100 0 25 3 30



Depth Based Data - Maximum Sampling Increment 12.5cm
Filename: C:\Logs\URSA\BMC B 43C-13-07-96\BMC B 43C-13-07-96 CREB SSSB REPEAT FINAL.dta
System Versions: Logged with 17.01.7206 Plotted with 17.01.7206

↑ REPEAT PASS ↑

DOWNHOLE EQUIPMENT
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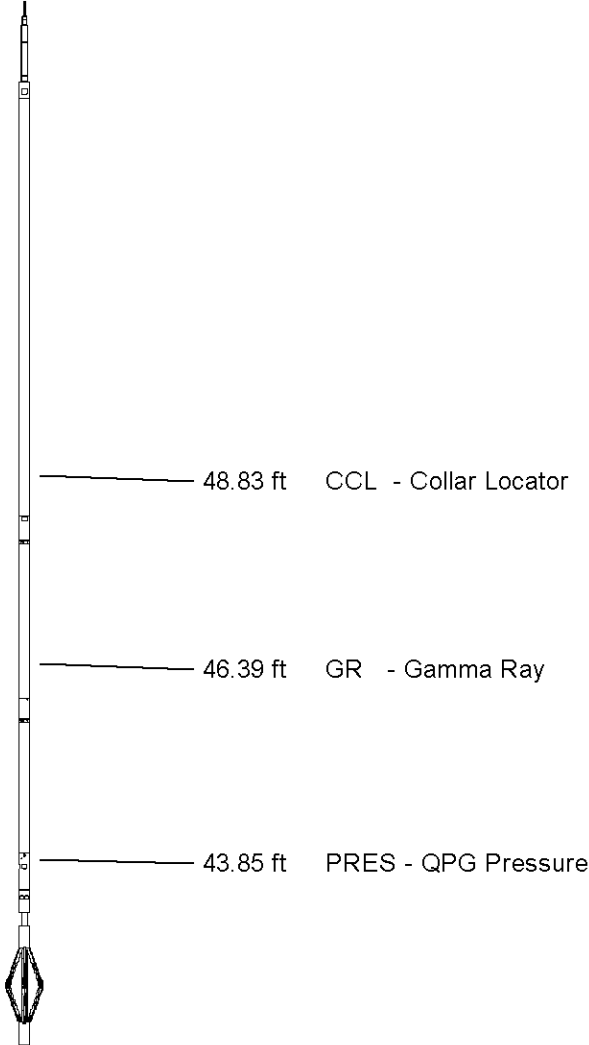
Mono-Cablehead
MCH-AA 0 LG: 1.03 ft WT: 2.2 lb OD: 1.457 in

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 138 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

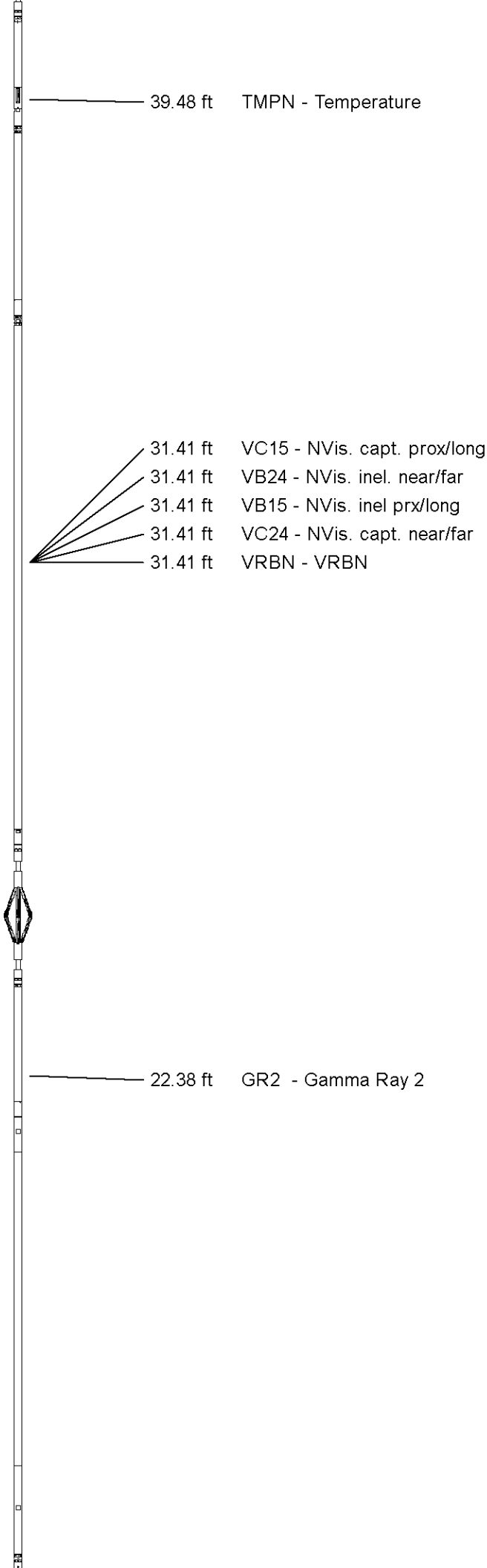
Casing Reservoir Evaluation Tool Sonde
CRM-BA 129 LG: 9.19 ft WT: 46.3 lb OD: 1.693 in

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



SSSB Receiver Section
SSS-BA 117 LG: 8.76 ft WT: 30.9 lb OD: 1.693 in

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 43C-13-07-96\BMC B 43C-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 138

Temperature Tool Shop Survey Calibration	
Tool Type: TMP-NA	Serial No: 138

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
Calibrator No: 101

Serial No: 132

Background Calibrator Standard Units

42.6 812.4 470.2 API

Delta Counts Per Sec: 769.8 CPS/API = 1.637

SSBC Field Calibration SSS-BA 117

Field Calibration on 08-SEP-2017 15:24

Slim Sector Bond Field Calibration

Tool Type SSS-BA Serial No 117

Sensor	Description	Standard	Measured
AMP 3FT	100% Bond	1.00	2.00
	Free Pipe	81.00	2515.50
AMP 5FT	100% Bond	0.40	5.30
	Free Pipe	54.00	3741.80
1 SECTOR AMP	100% Bond	5.00	5.80
	Free Pipe	95.00	2561.00
2 SECTOR AMP	100% Bond	5.00	8.70
	Free Pipe	95.00	2535.30
3 SECTOR AMP	100% Bond	5.00	1.20
	Free Pipe	95.00	2158.50
4 SECTOR AMP	100% Bond	5.00	4.60
	Free Pipe	95.00	2065.90
5 SECTOR AMP	100% Bond	5.00	10.50
	Free Pipe	95.00	1949.80
6 SECTOR AMP	100% Bond	5.00	1.60
	Free Pipe	95.00	2254.40

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

COMPANY

URSA OPERATING COMPANY

WELL

BMC B 43C-13-07-96

FIELD

WILDCAT


PROVINCE/COUNTY

GARFIELD

COUNTRY/STATE

USA / COLORADO

Elevation Kelly Bushing	5117	feet	Bottom Log Interval	6450.00	feet
Elevation Drill Floor	5117	feet	Depth Driller	6816.00	feet
Elevation Ground Level	5100	feet	Depth Logger	6450.00	feet



Weatherford®

RAPTOR NVISION LOG