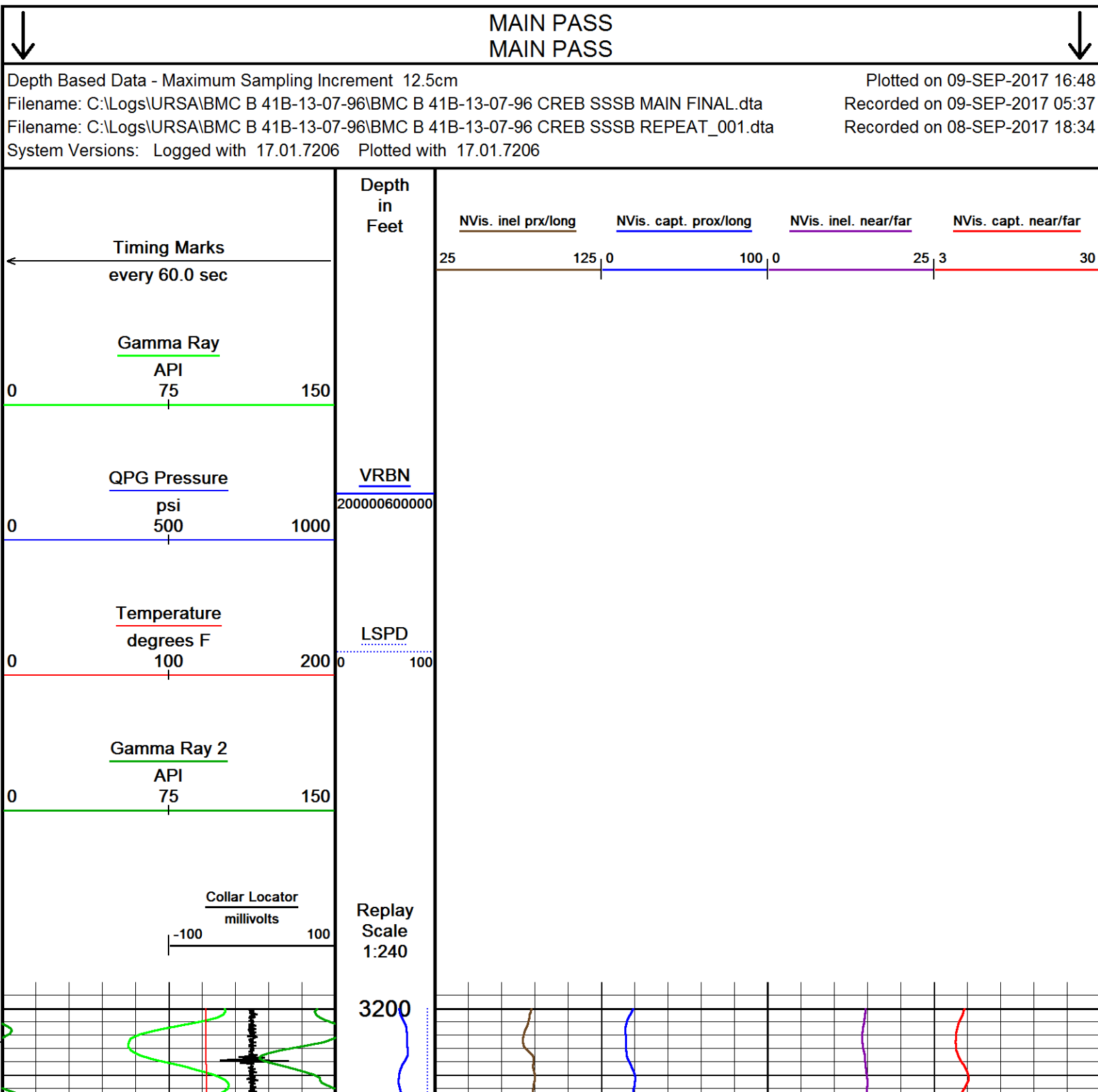
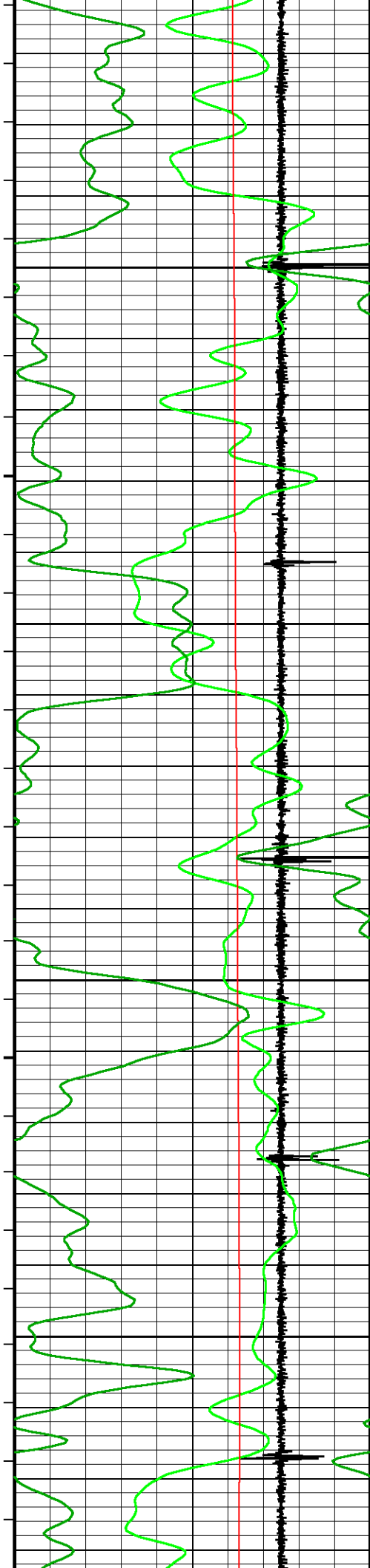
										RAPTOR NVISION LOG									
COMPANY										URSA OPERATING COMPANY									
WELL										BMC B 41B-13-07-96									
FIELD										WILDCAT									
PROVINCE/COUNTY										GARFIELD									
COUNTRY/STATE										USA / COLORADO									
LOCATION										2236' FNL & 0687' FWL									
SEC 18		TWP 7S		RGE 95W		Other Services						Elevations:		feet					
Latitude		Longitude		SSSB						KB		5117.00							
API Number		05-045-23488								DF		5117.00							
Permanent Datum GROUND LEVEL, Elevation 5100 feet										GL		5100.00							
Log Measured From KB, 17.00 feet above Permanent Datum																			
Drilling Measured From KB																			
Date				09-SEP-2017				PERFORATION RECORD											
Run Number				ONE				Shot		Number		Depth From		Depth To					
Service Order				192186338				Density		of Shots		feet		feet					
Type Log				CREB															
Depth Driller				7009.00															
Depth Logger				6485.00															
Top Log Interval				3200.00															
Bottom Log Interval				6485.00															
Hole Fluid Type				WATER															
Hole Fluid Level				0.00															
Restriction ID				3.875				Gun Type											
Max Recorded Temp				190.00				Gun Size											
Well Head Pressure				0.00				psi											
Well Head Equipment				N/A				CASING / TUBING RECORD											
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		6393.00					
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	6393.00	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 100 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. 190F

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.



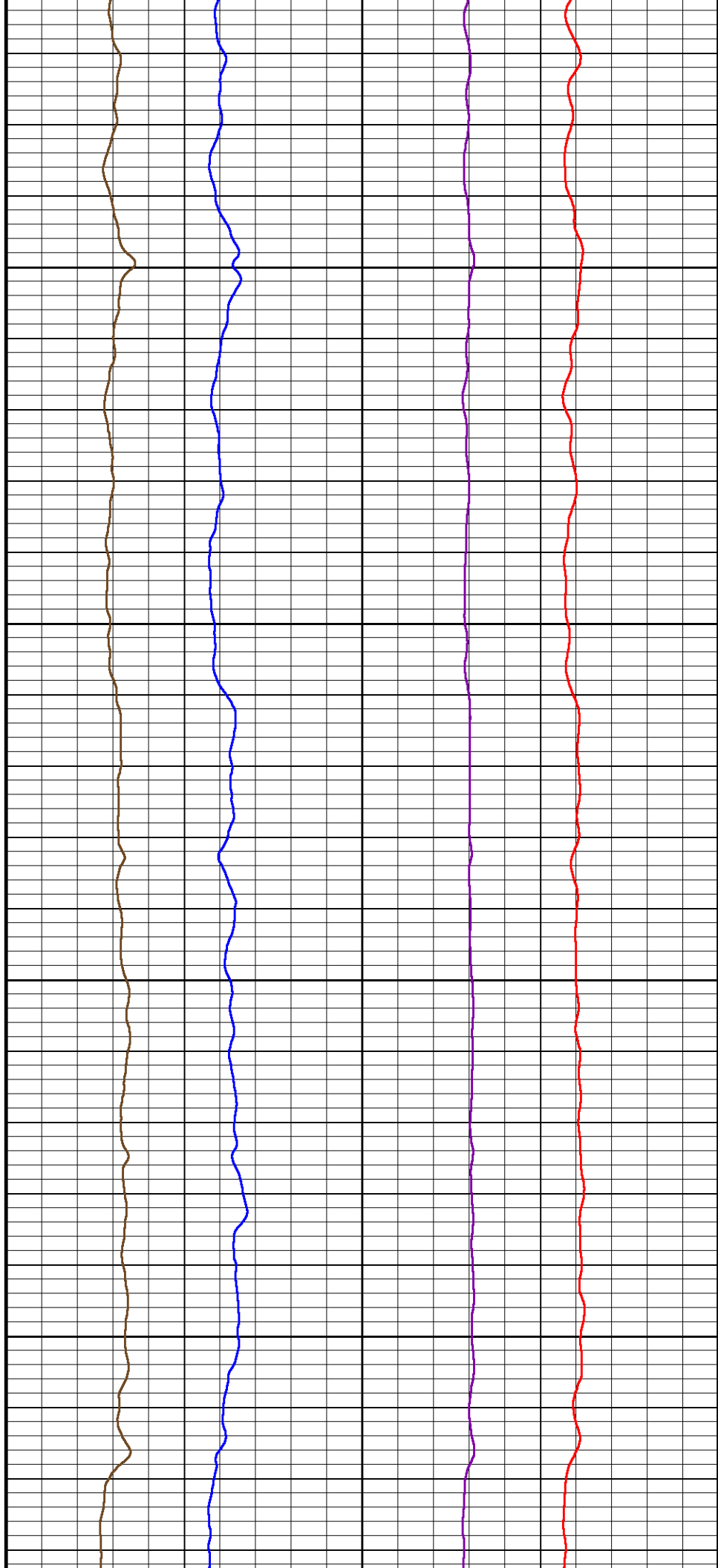


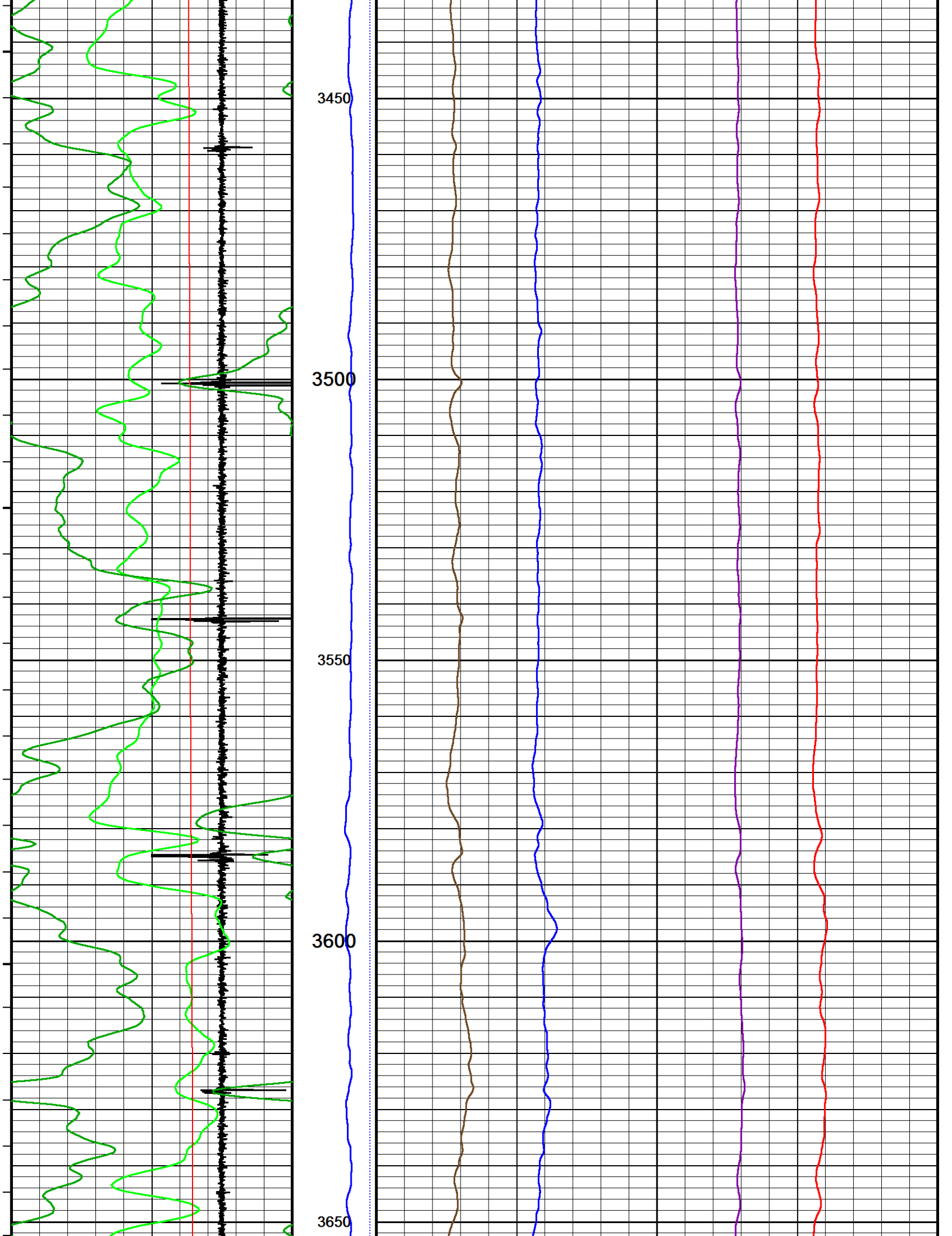
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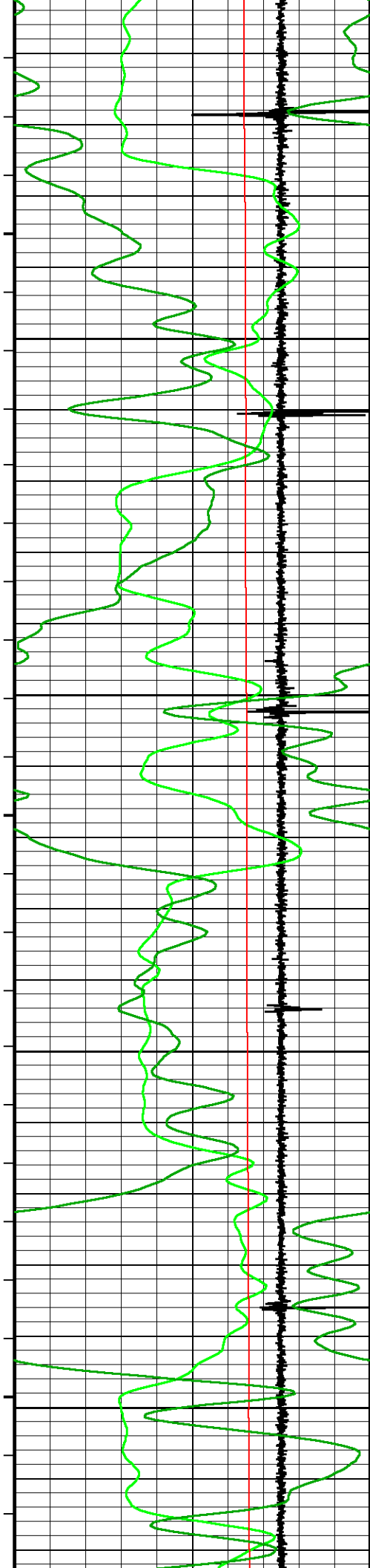
3300

3350

3400





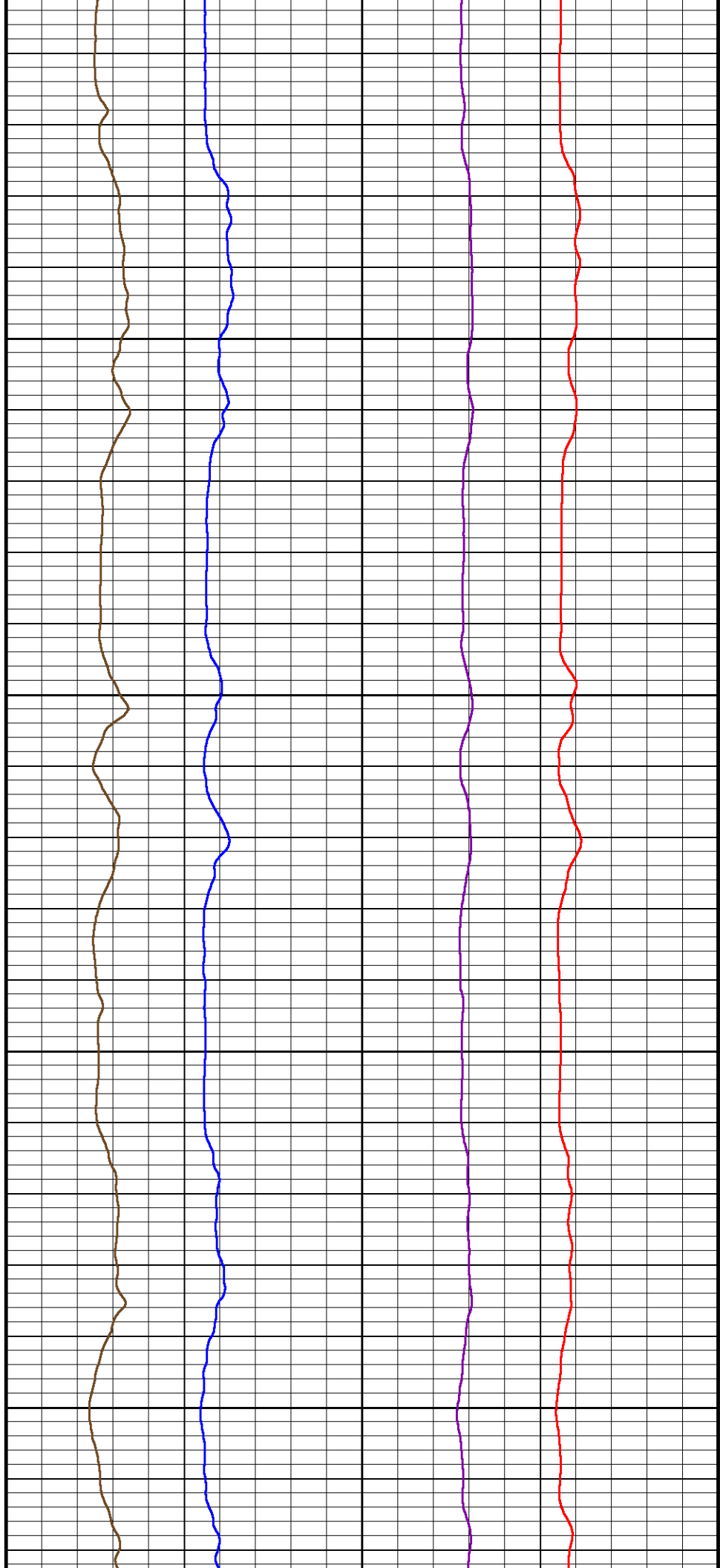


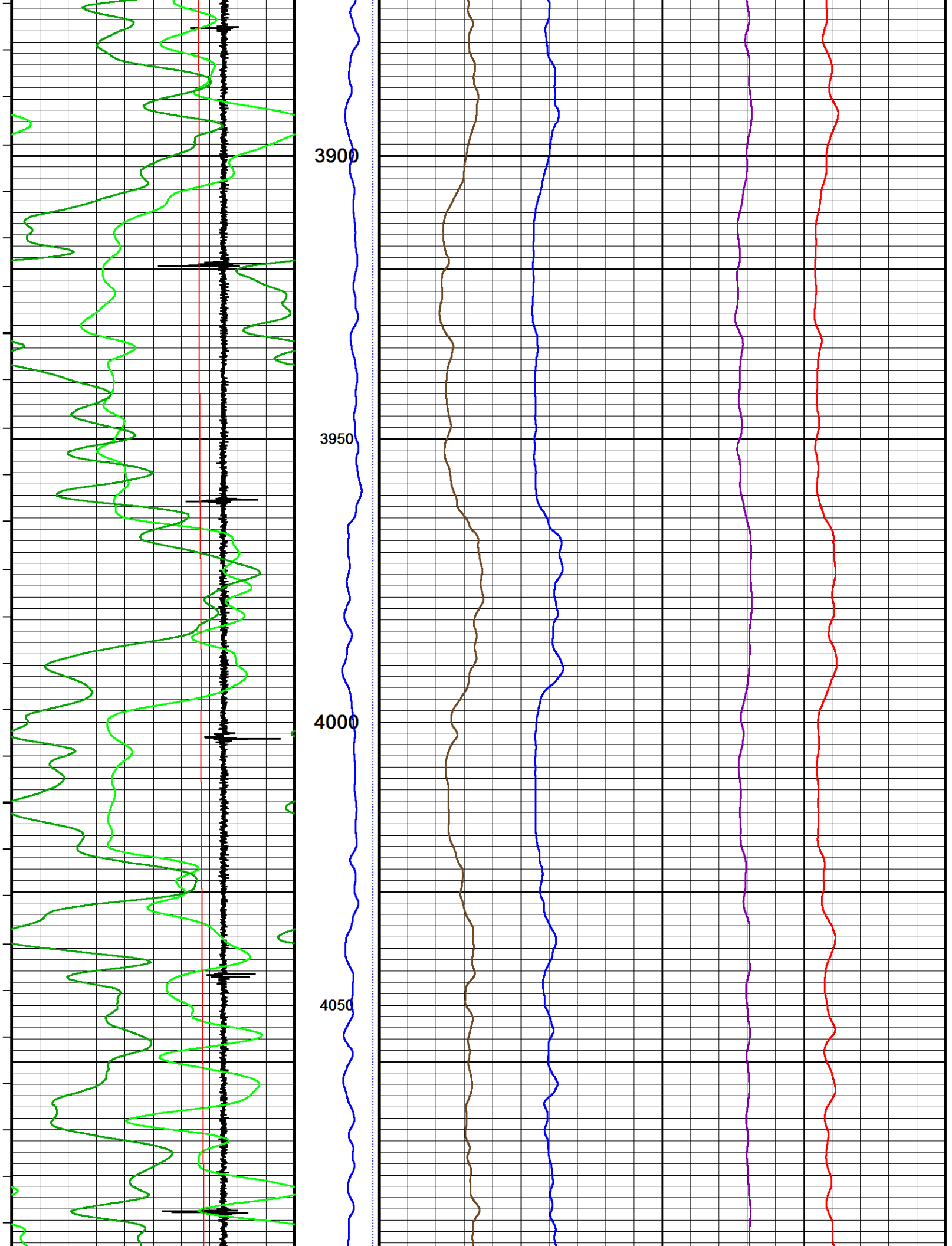
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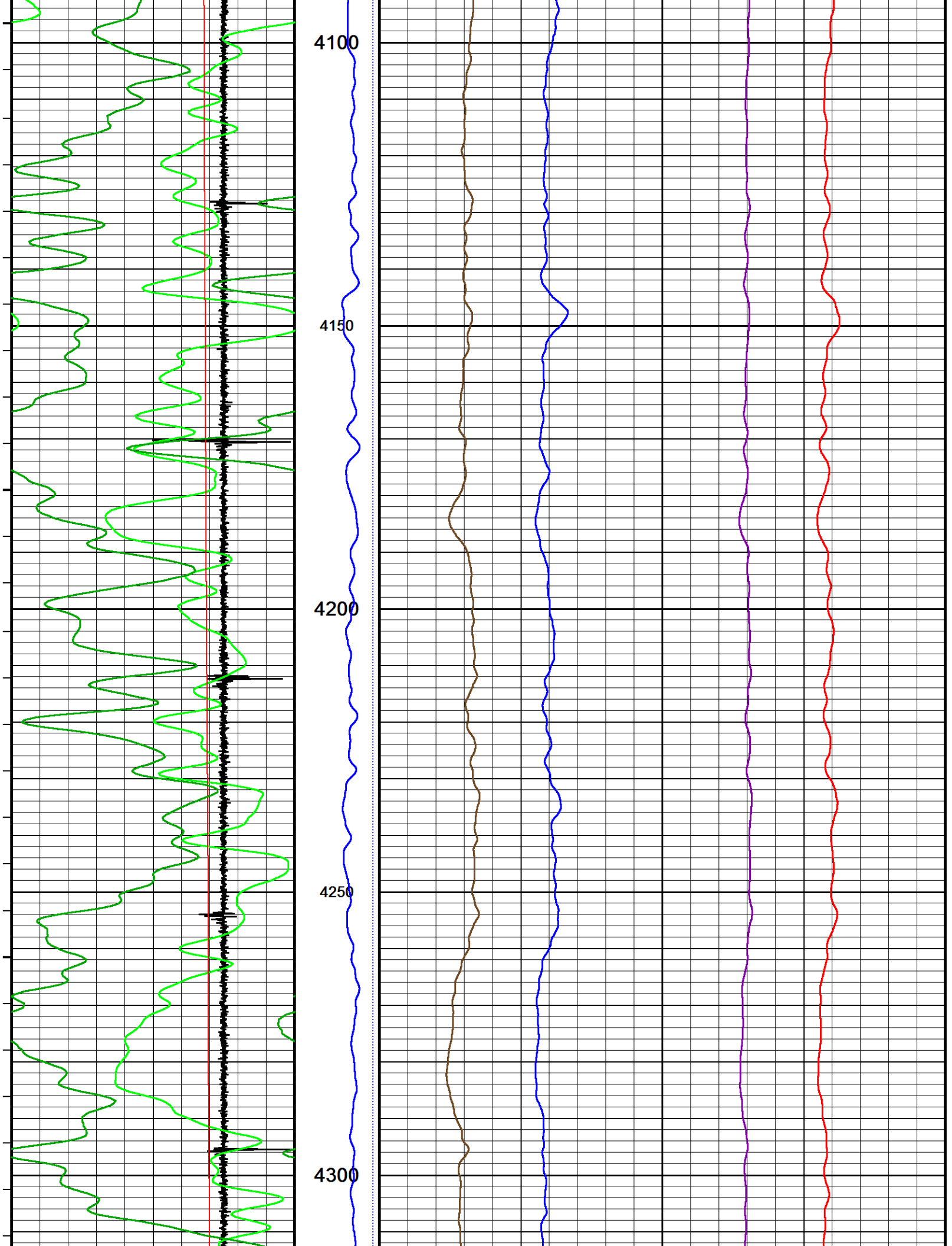
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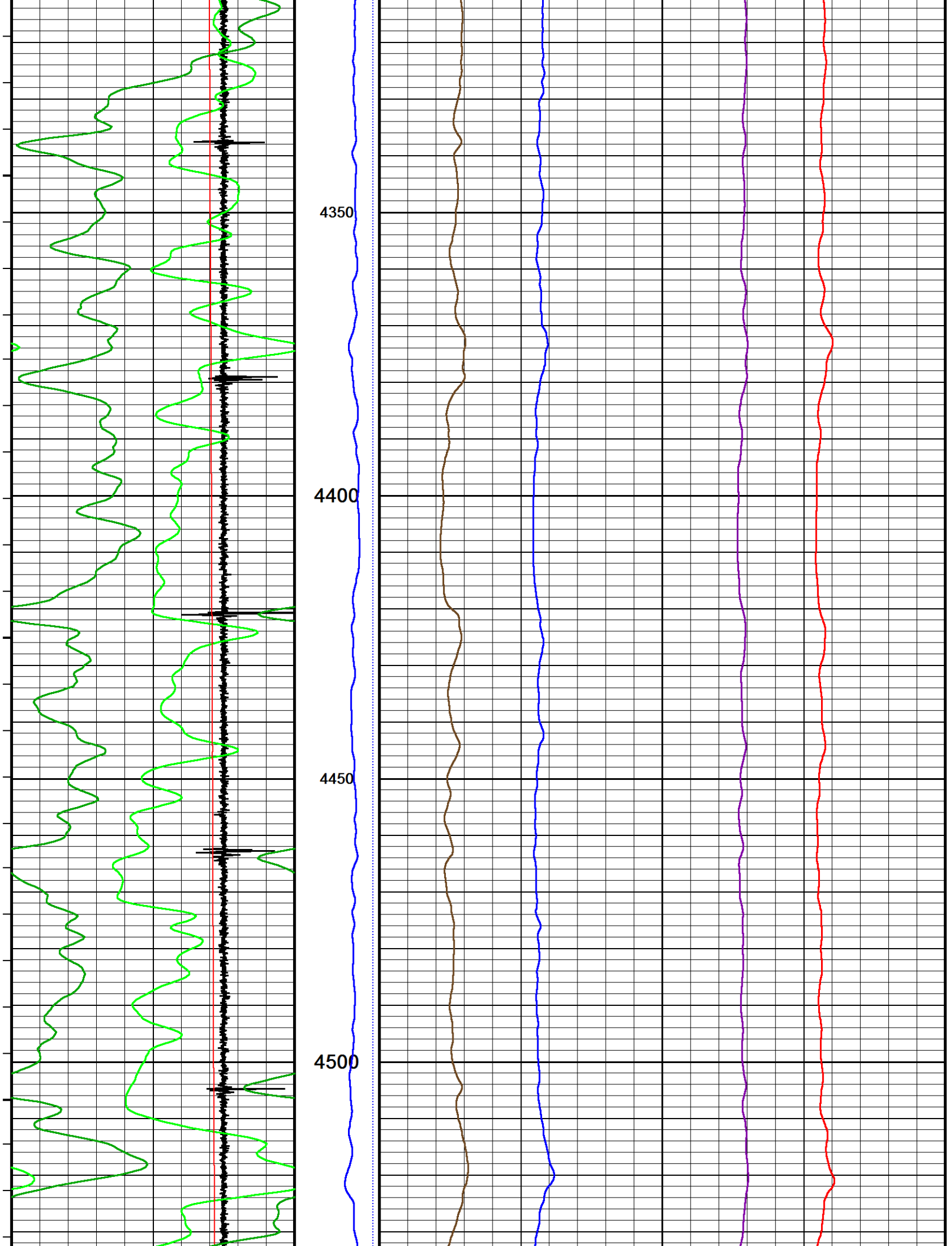
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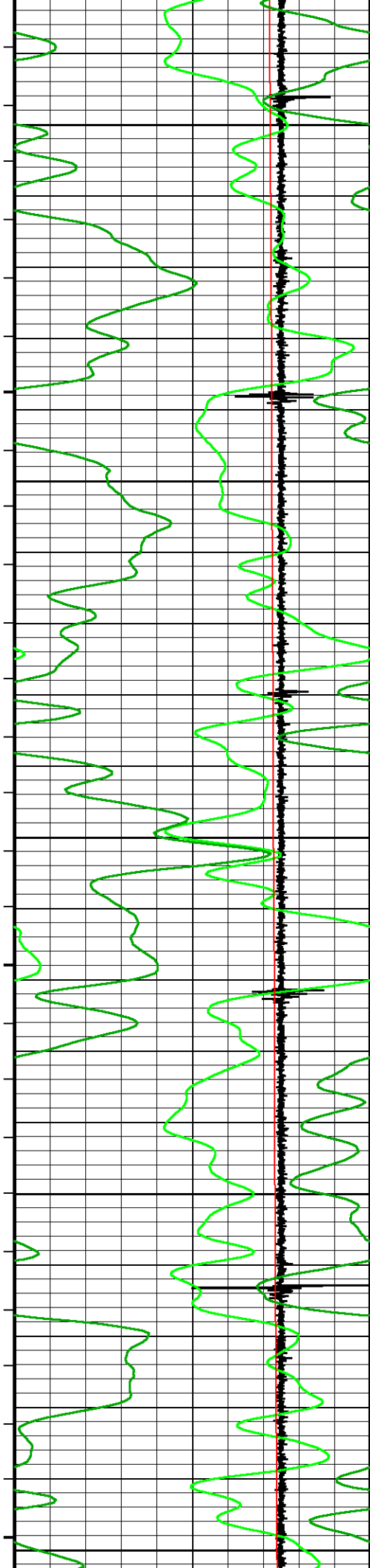
3850











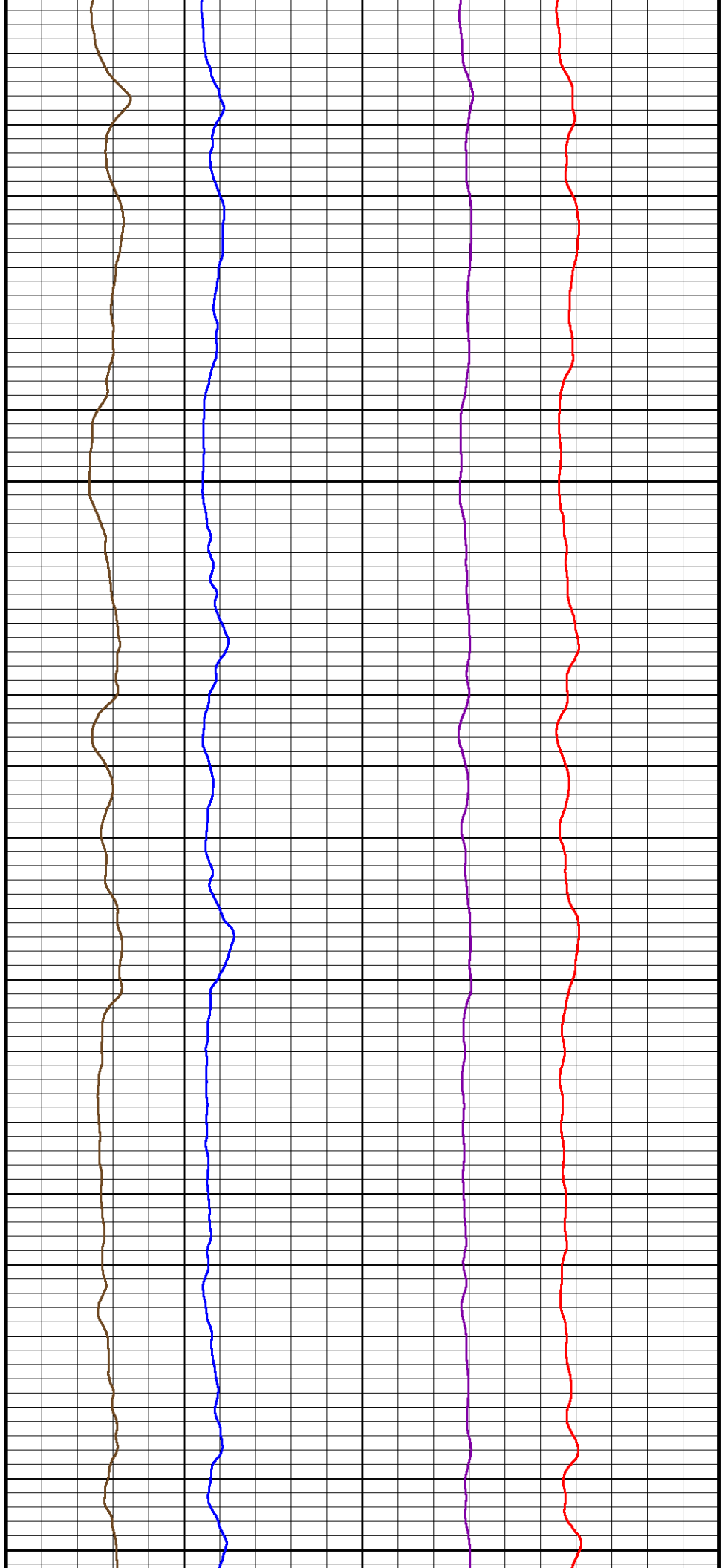
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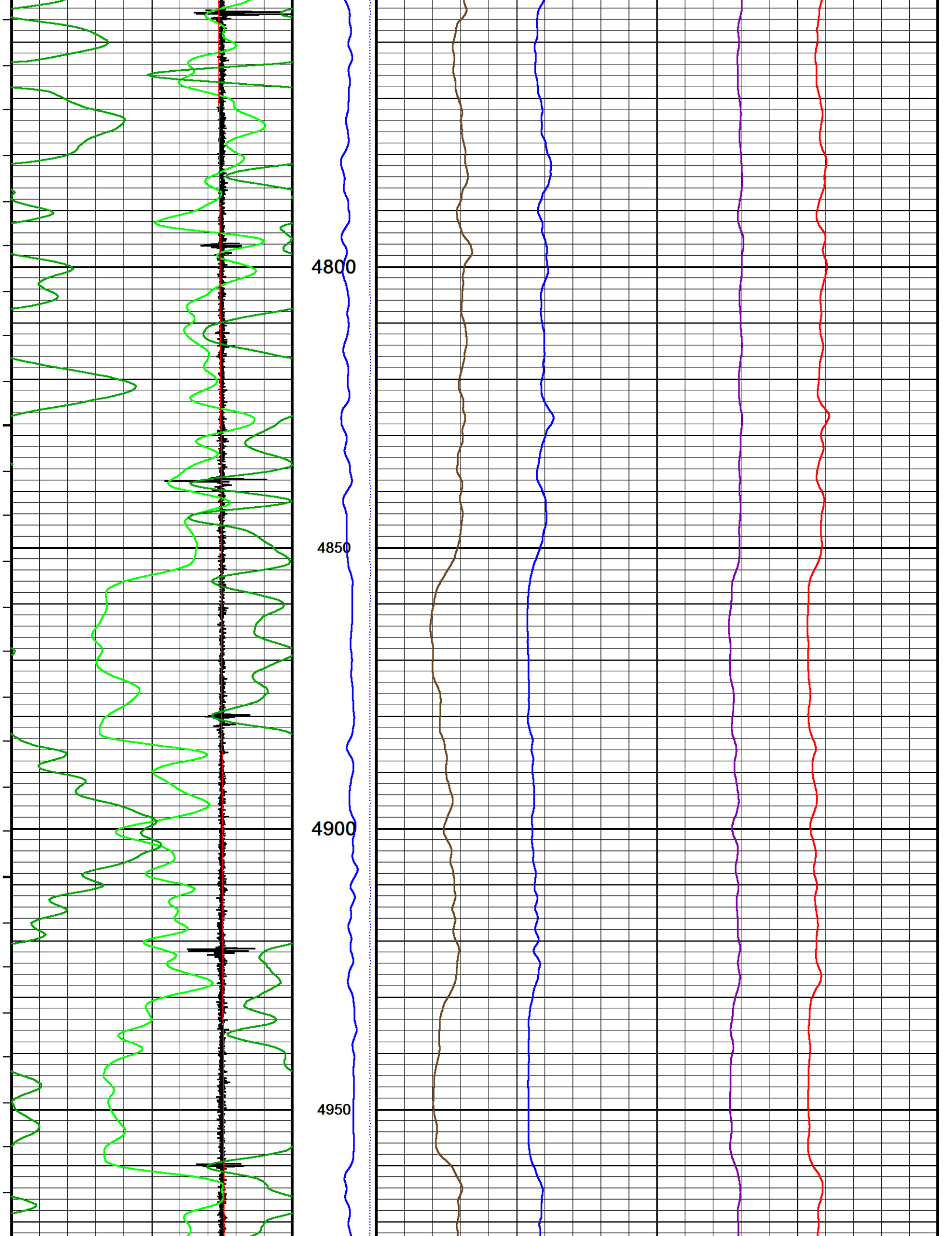
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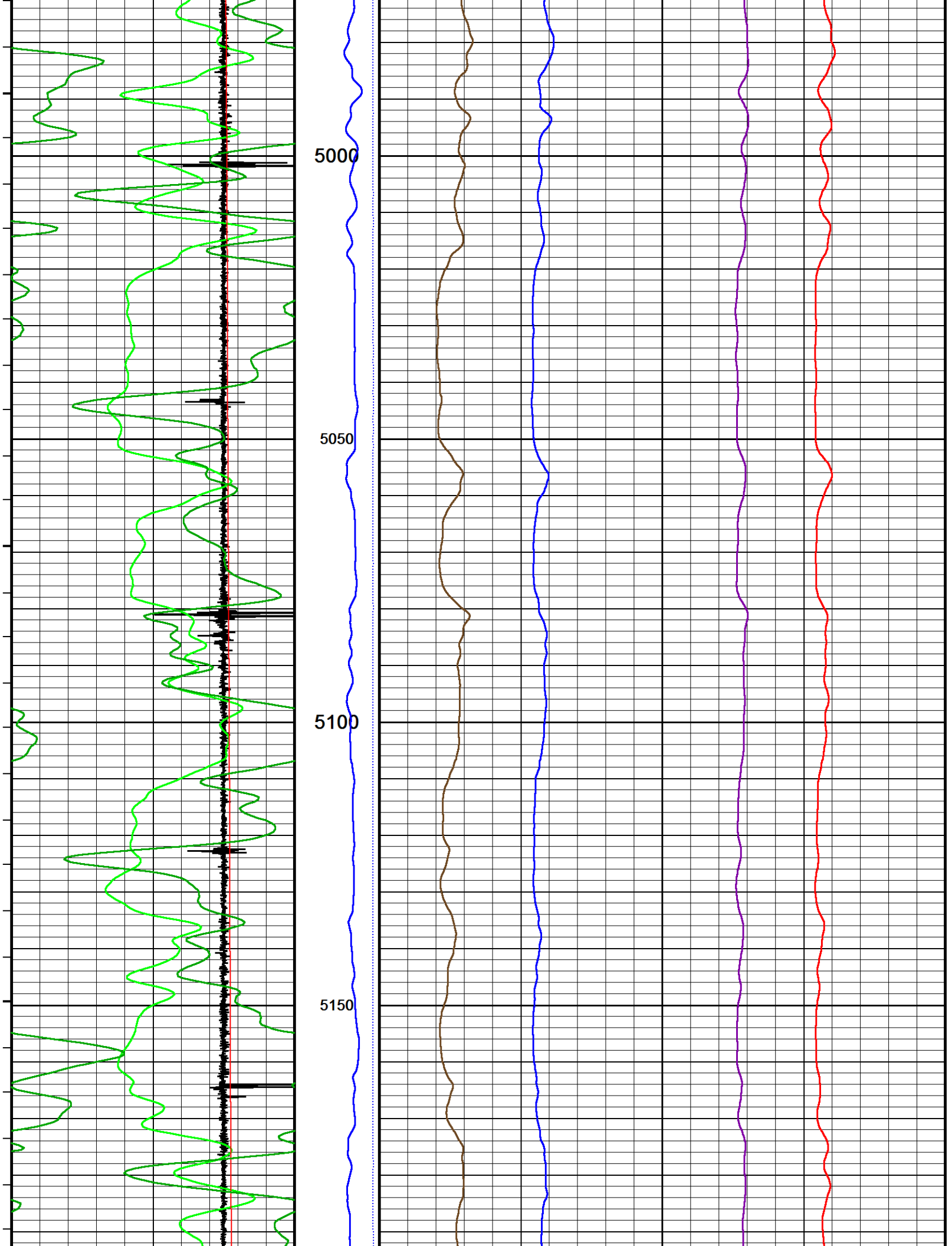
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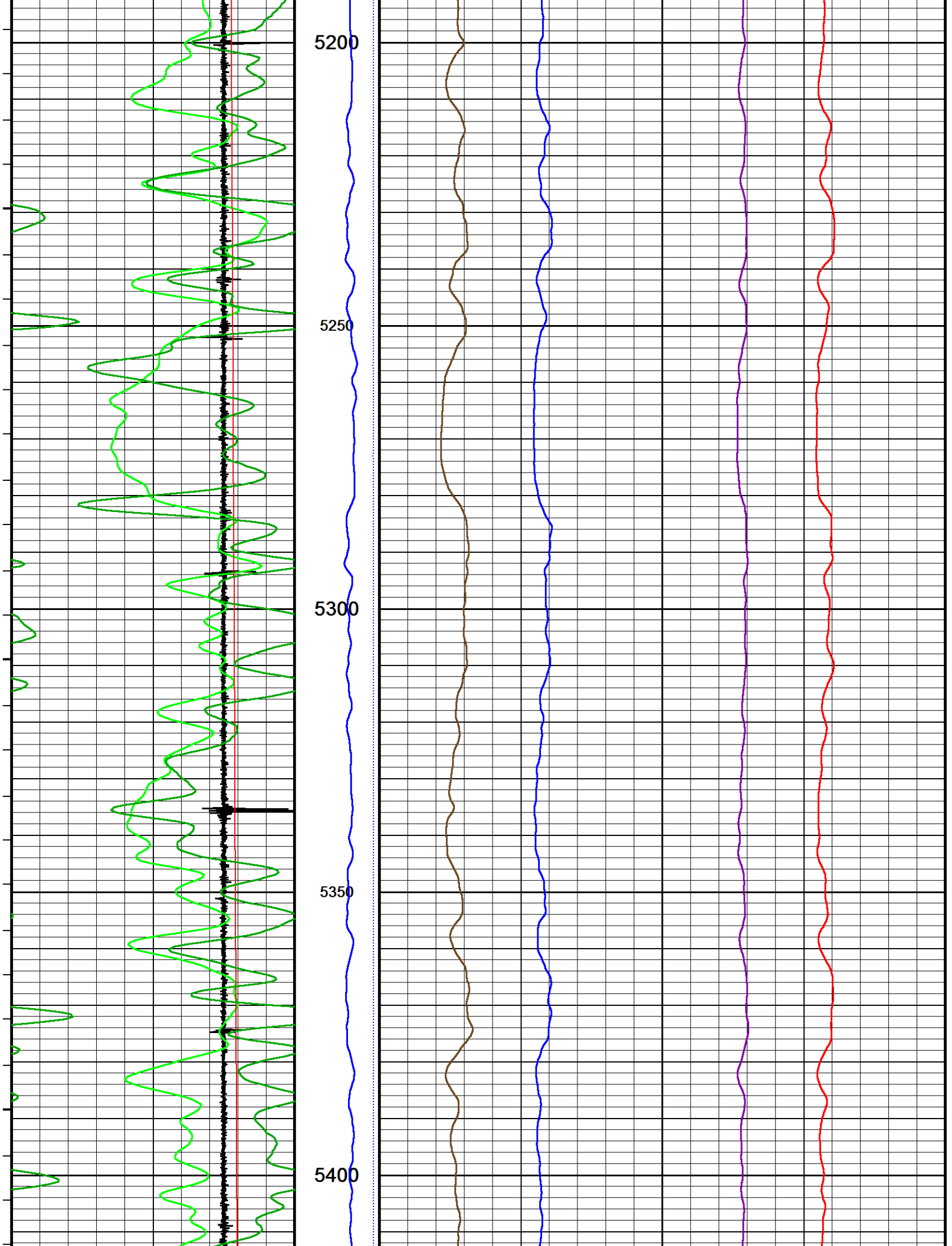
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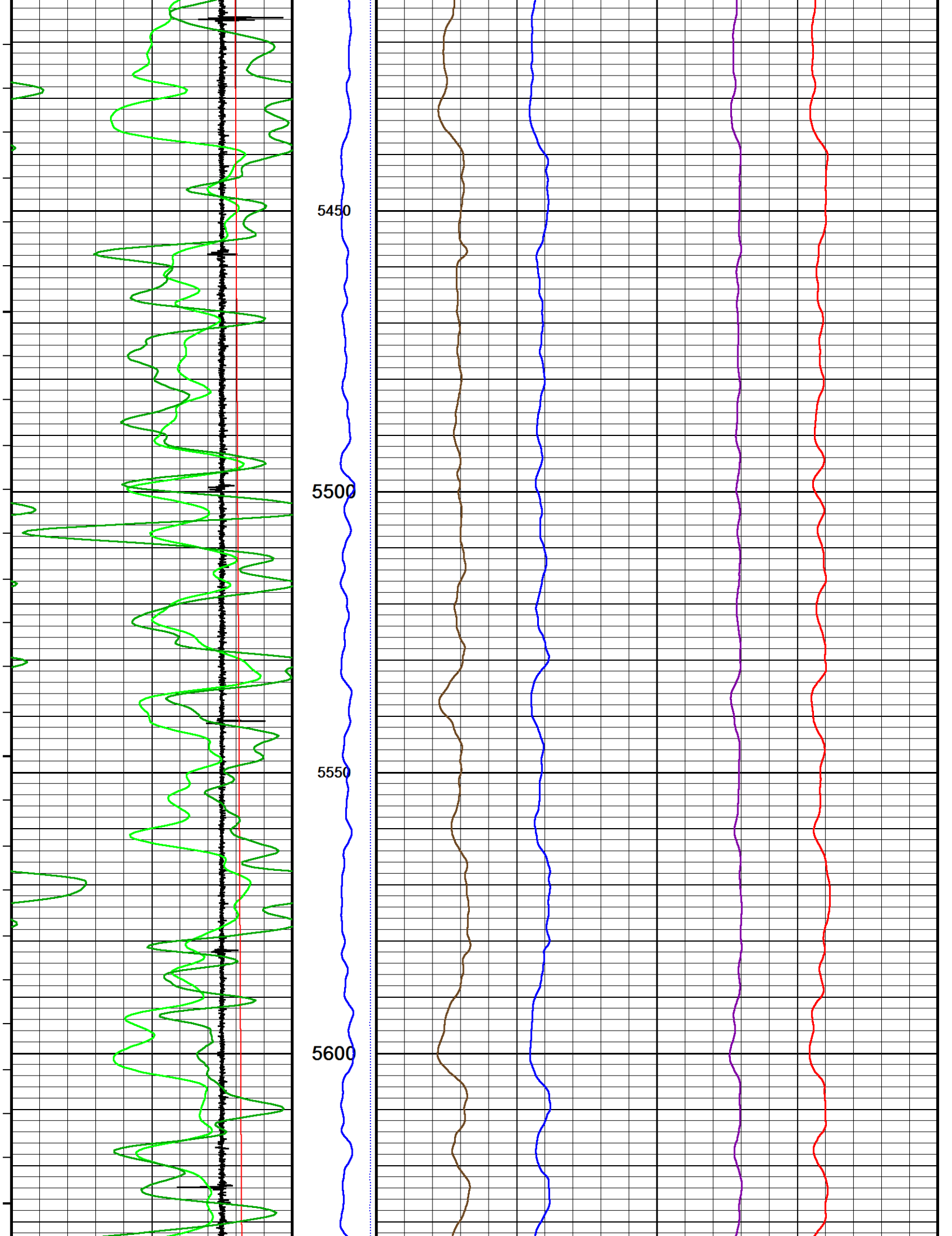
4750

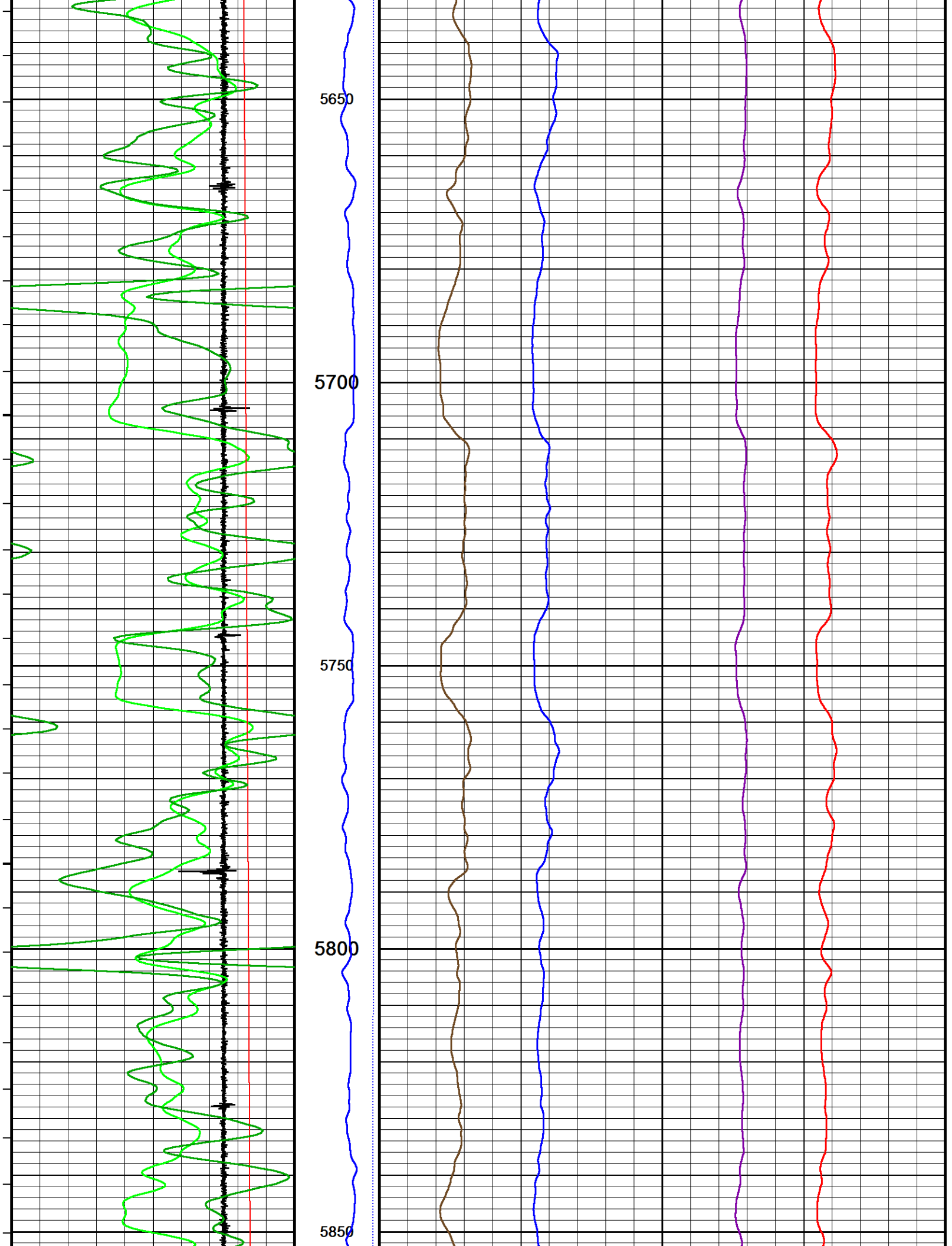


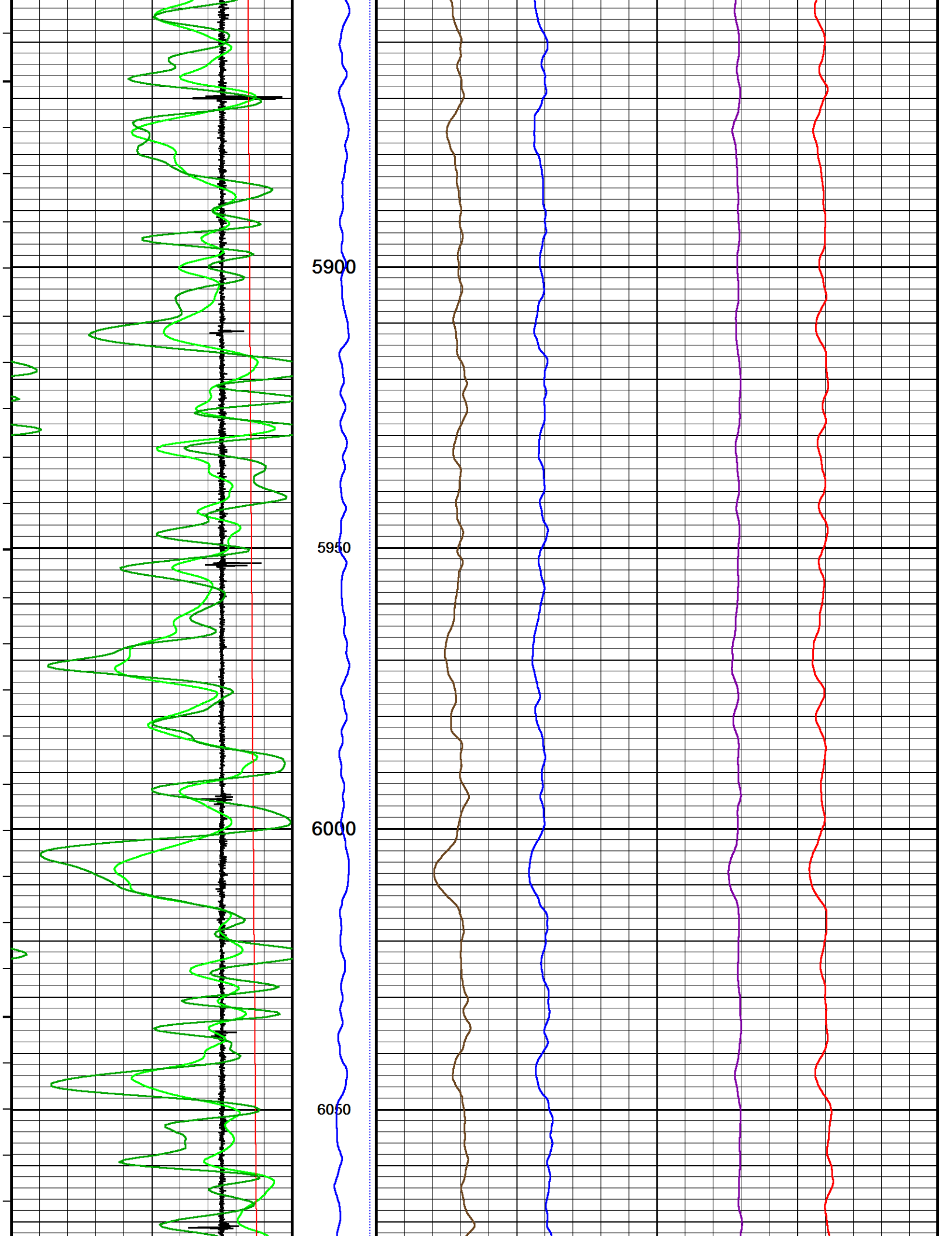


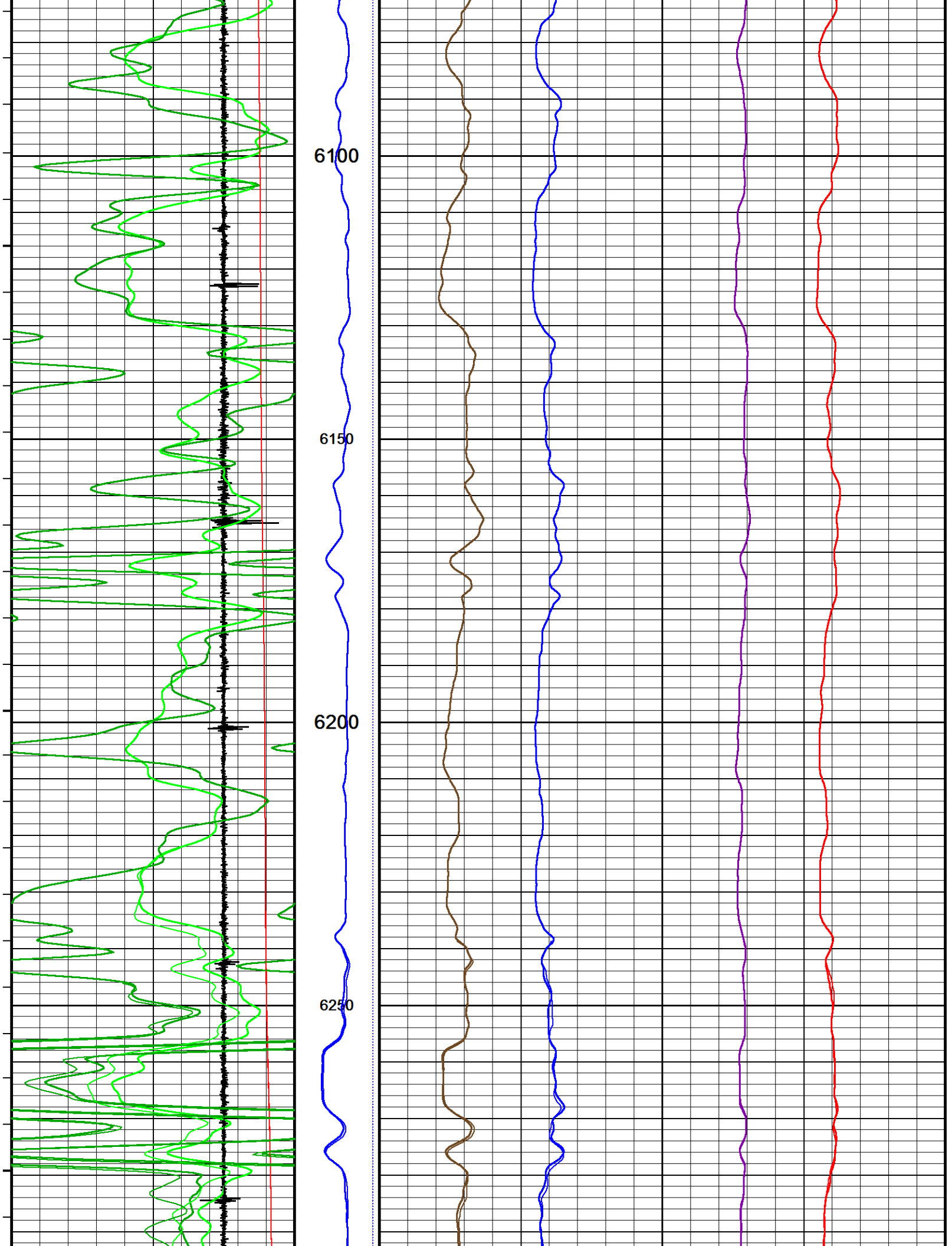


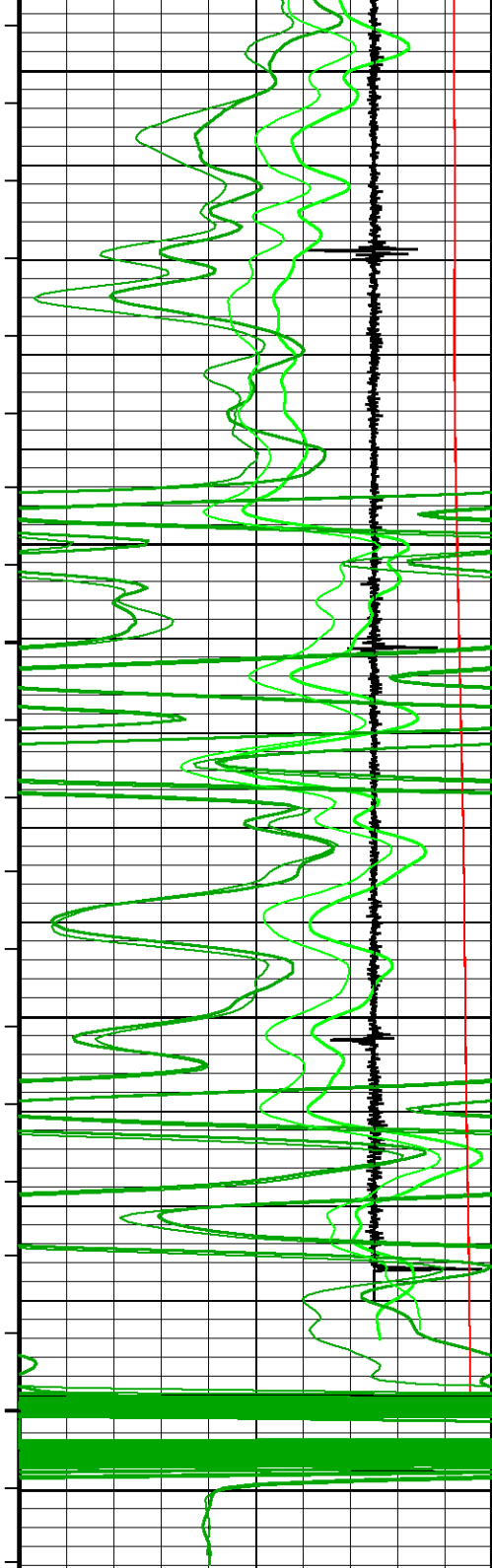












6300

6350

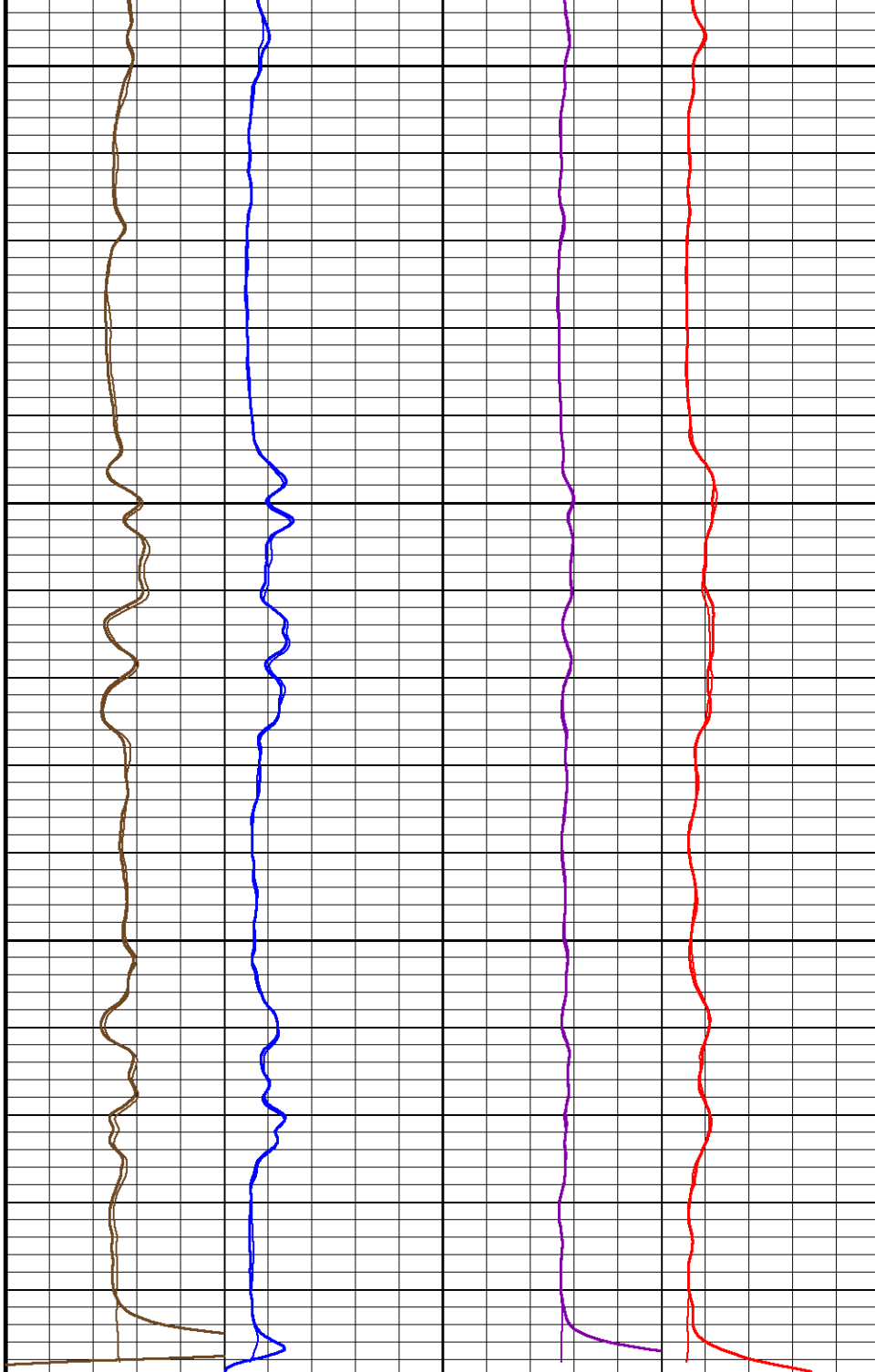
6400

6450

6486

Depth
in
Feet

Timing Marks
every 60.0 sec



NVis. inel prx/long

NVis. capt. prox/long

NVis. inel. near/far

NVis. capt. near/far

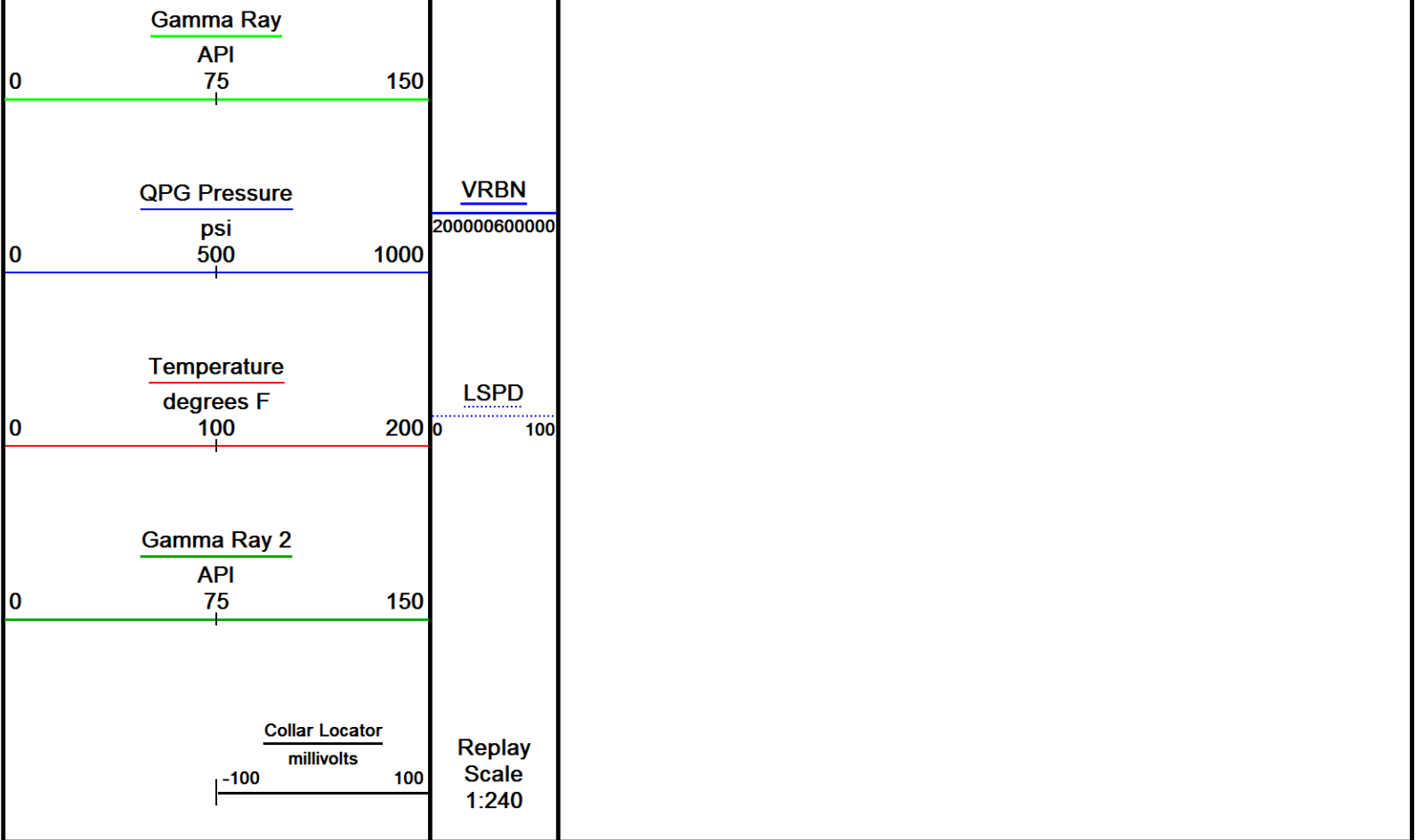
25

125 0

100 0

25 3

30

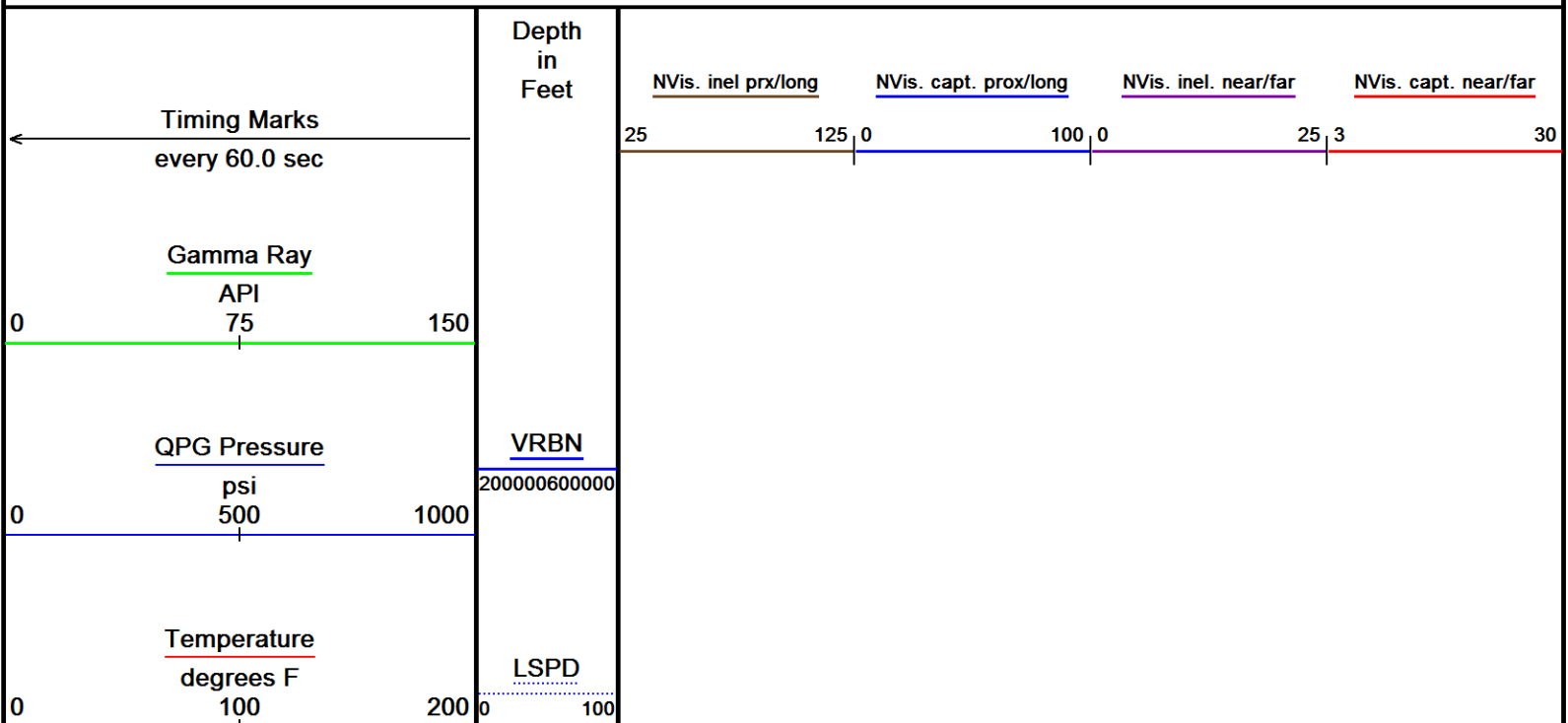


Depth Based Data - Maximum Sampling Increment 12.5cm
Filename: C:\Logs\URSA\BMC B 41B-13-07-96\BMC B 41B-13-07-96 CREB SSSB MAIN FINAL.dta
Filename: C:\Logs\URSA\BMC B 41B-13-07-96\BMC B 41B-13-07-96 CREB SSSB REPEAT_001.dta
System Versions: Logged with 17.01.7206 Plotted with 17.01.7206

↑ MAIN PASS MAIN PASS ↑

↓ MAIN PASS ↓

Depth Based Data - Maximum Sampling Increment 12.5cm
Filename: C:\Logs\URSA\BMC B 41B-13-07-96\BMC B 41B-13-07-96 CREB SSSB REPEAT_001.dta
System Versions: Logged with 17.01.7206 Plotted with 17.01.7206



Gamma Ray 2

API

75

0

150

Collar Locator

millivolts

-100

100

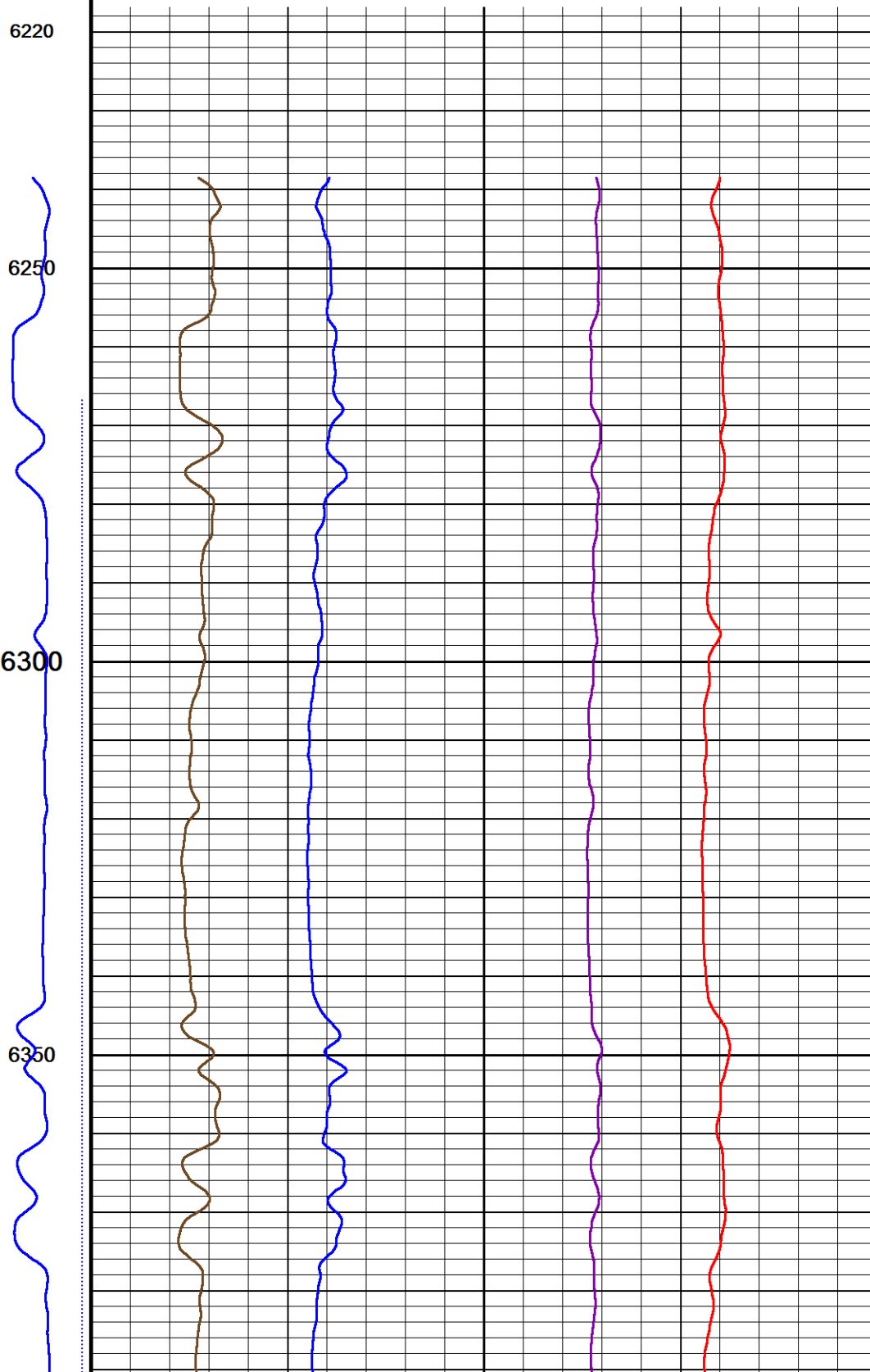
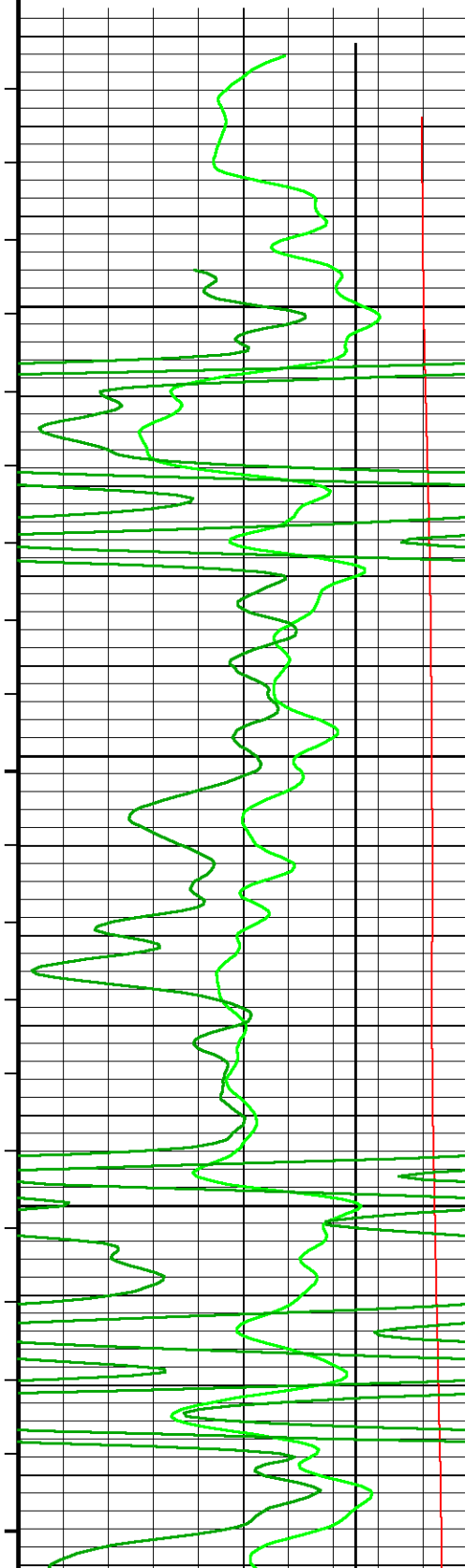
Replay
Scale
1:240

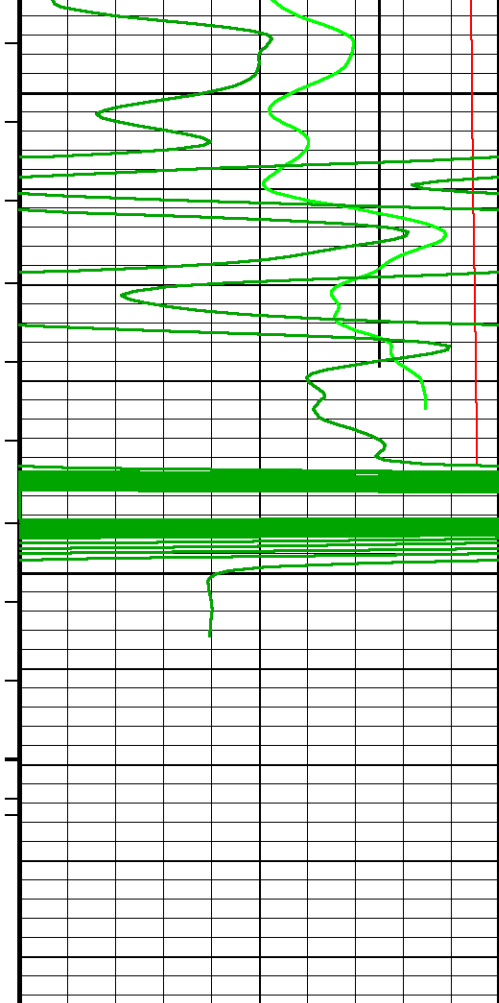
6220

6250

6300

6350





6400

6450

6492

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

Collar Locator

millivolts

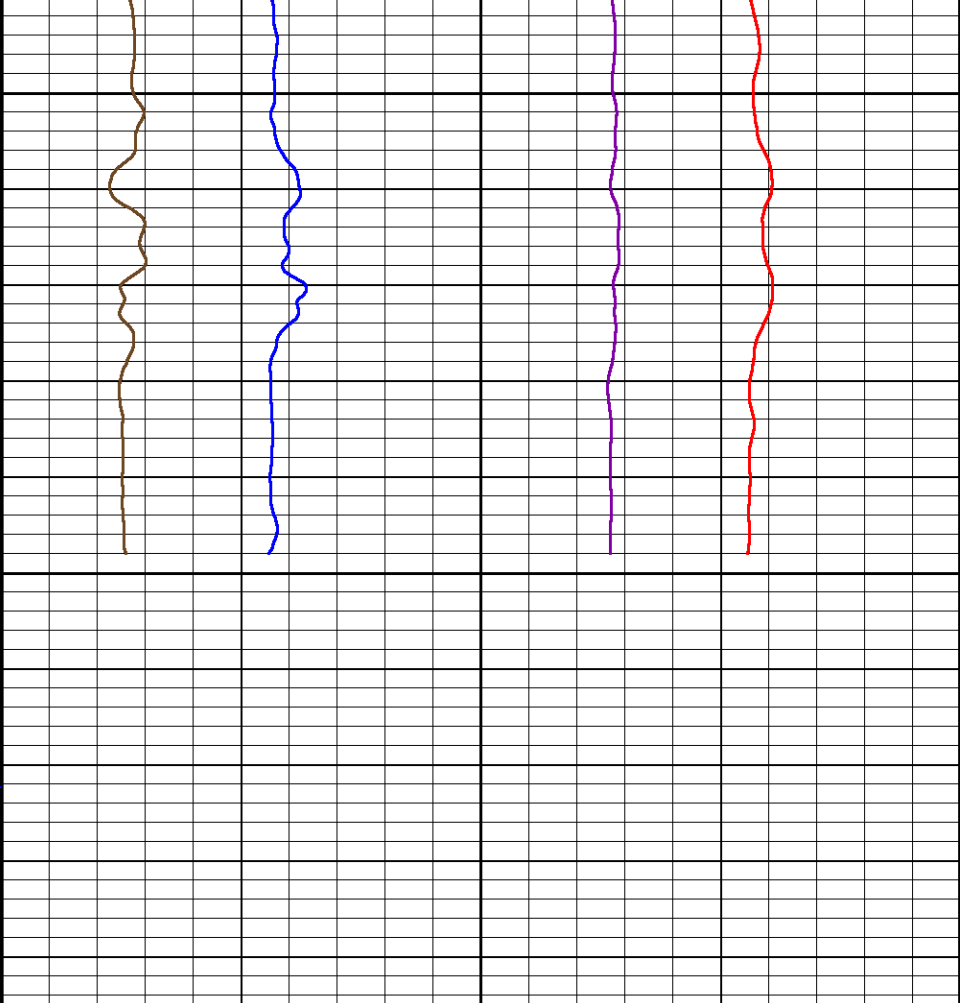
VRBN

200000600000

LSPD

0 100

Replay
Scale



NVis. inel prx/long

25

125

0

NVis. capt. prox/long

100

0

NVis. inel. near/far

25

3

NVis. capt. near/far

30

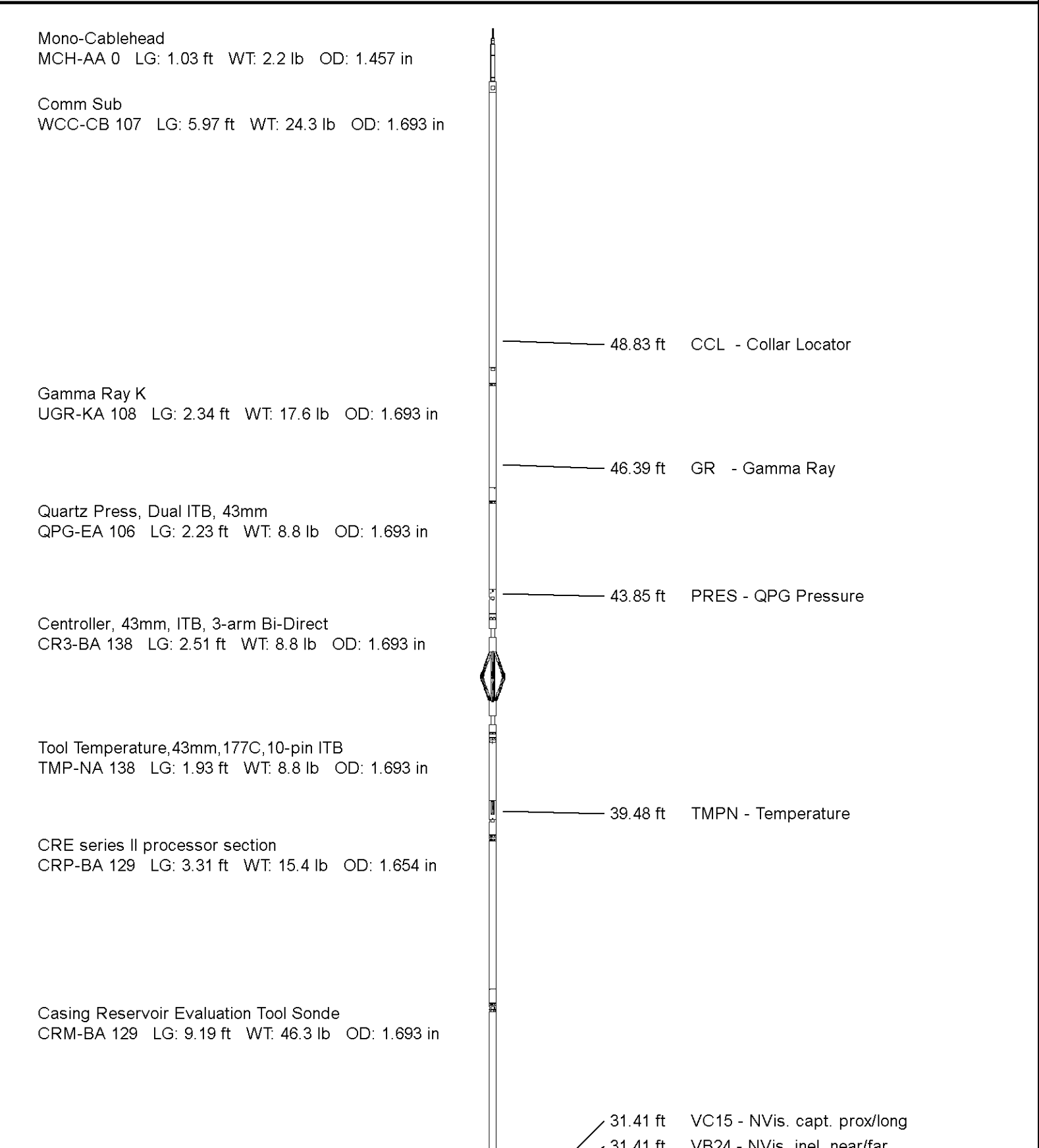
↑

MAIN PASS

↑

DOWNHOLE EQUIPMENT

C:\Logs\URSA\BMC B 41B-13-07-96\BMC B 41B-13-07-96 CREB SSSB MAIN FINAL.dta



31.41 ft VB24 - NVis. incl. near/far
31.41 ft VB15 - NVis. incl 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

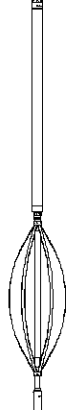
SSB Receiver Sonde
SSS-BA 117 LG: 8.76 ft WT: 30.9 lb OD: 1.693 in

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 41B-13-07-96\BMC B 41B-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 Serial No: 132
Calibrator No: 101

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
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Sensor	Description	Standard	Measured
AMP 3FT	100% Bond	1.00	1.90
	Free Pipe	81.00	1806.90
AMP 5FT	100% Bond	0.40	0.70
	Free Pipe	54.00	1056.10
1 SECTOR AMP	100% Bond	5.00	5.30
	Free Pipe	95.00	976.90
2 SECTOR AMP	100% Bond	5.00	6.40
	Free Pipe	95.00	743.80
3 SECTOR AMP	100% Bond	5.00	0.10
	Free Pipe	95.00	730.60
4 SECTOR AMP	100% Bond	5.00	2.00
	Free Pipe	95.00	564.00
5 SECTOR AMP	100% Bond	5.00	0.00
	Free Pipe	95.00	442.10
6 SECTOR AMP	100% Bond	5.00	0.70
	Free Pipe	95.00	616.10

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

COMPANY	URSA OPERATING COMPANY
WELL	BMC B 41B-13-07-96
FIELD	WILDCAT
PROVINCE/COUNTY	GARFIELD

COUNTRY/STATE			USA / COLORADO		
Elevation Kelly Bushing	5117	feet	Bottom Log Interval	6485.00	feet
Elevation Drill Floor	5117	feet	Depth Driller	7009.00	feet
Elevation Ground Level	5100	feet	Depth Logger	6485.00	feet


Weatherford[®]

RAPTOR NVISION LOG