



Weatherford

RAPTOR NVISION LOG

COMPANY	CAERUS OIL & GAS LLC		
WELL	PUCKETT 23B-1		
FIELD	GRAND VALLEY		
PROVINCE/COUNTY	GARFIELD		
COUNTRY/STATE	USA / COLORADO		
LOCATION	SHL:2118 N 1318 W & BHL: 1986 S 2359 FIELD PRINT		
SEC 1	TWP 7S	RGE 97W	Other Services SSSB
Latitude			
Longitude			
API Number			
Permanent Datum	GROUND LEVEL, Elevation 8329 feet		
Log Measured From	KB		
Drilling Measured From	KB @ 22'		
Elevations:	KB	8351.00	feet
	DF	8351.00	feet
	GL	8329.00	feet
Date	21-NOV-2015	PERFORATION RECORD	
Run Number	ONE	Shot	Number
Service Order	135356048	Density	of Shots
Type Log	CREB-SSSB		feet
Depth Driller	8852.00		feet
Depth Logger	8782.00		feet
Top Log Interval	2500.00		feet
Bottom Log Interval	8779.00		feet
Hole Fluid Type	1.4% KCL		
Hole Fluid Level	0.00		
Restriction ID	3.875	Gun Type	
Max Recorded Temp	226.00	Gun Size	
Well Head Pressure	0.00	psi	
Well Head Equipment	N/A	CASING / TUBING RECORD	
Time Well Ready	ROA	Size	Weight
Time Logger Bottom	0731	inches	pounds/ft
Unit	14113	9.625	36.00
Equipment Name	WSS-E	4.500	11.60
Base	CASPER		
Recorded By	MAZUR/BACA		
Witnessed By	NOT WITNESSED		
		Depth From	Depth To
		feet	feet

BOREHOLE RECORD			Last Edited: 21-NOV-2015 21:31
Bit Size inches	Depth From feet	Depth To feet	
14.750	0.00	2509.00	
8.750	2509.00	9007.00	

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	2508.00	36.00
PRODUCTION	P-110	LT&C	4.500	0.00	8852.00	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 5440' - 5449'

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

FREE PIPE CALIBRATION DONE AT 2805 FT

UNKNOWNEN CEMENT CLASS DUE MISSING DATA FROM CLIENT

UNKNOWNEN CEMENT JOB ENDED TIME DUE TO MISSING DATA FROM CLIENT

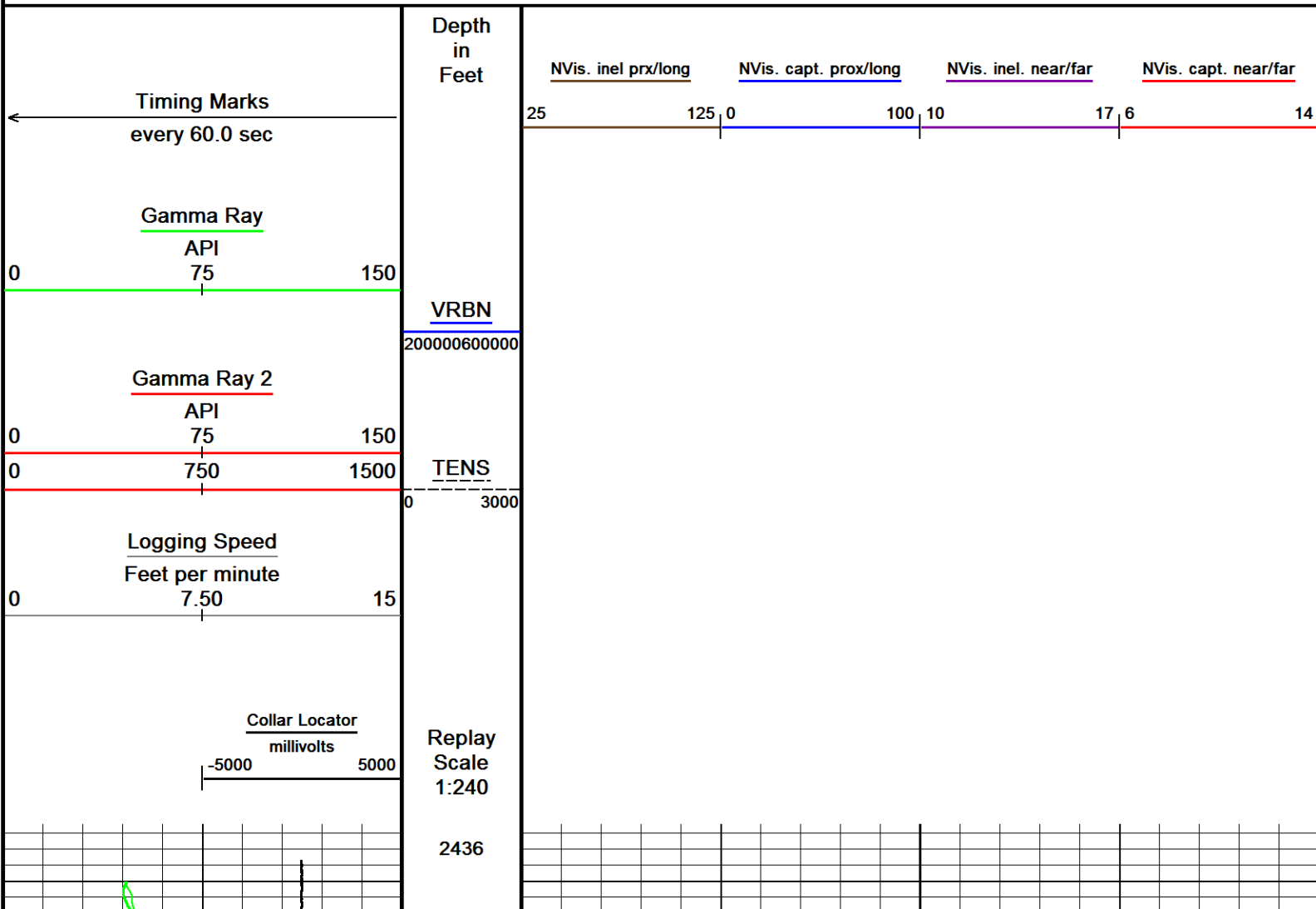
BOTTOM HOLE TEMPERATURE WAS 226 DEG. F

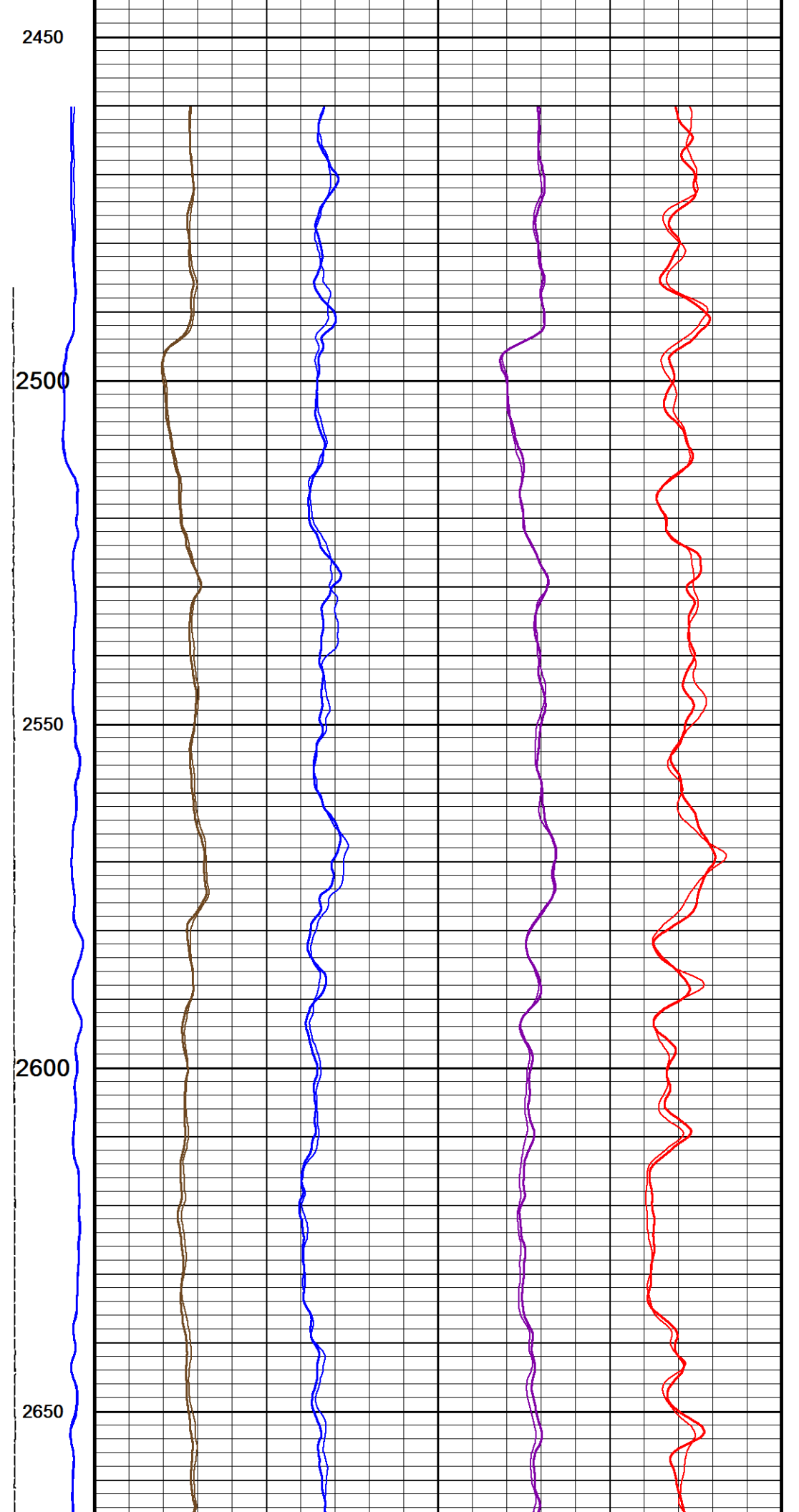
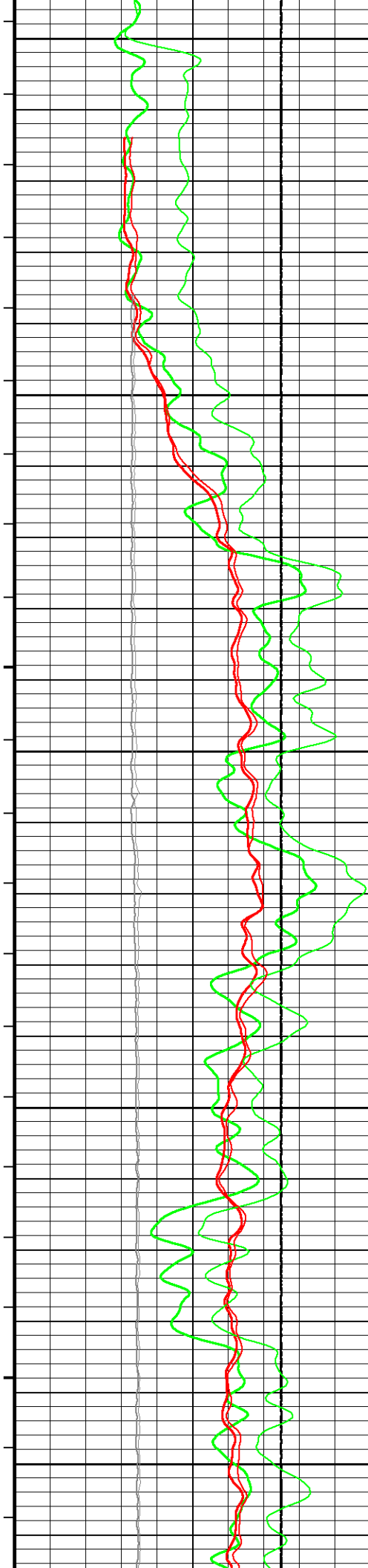
CREW: PAUL MAZUR, EMERY BACA, BRYAN DIESBURG, JAMES BARNETT

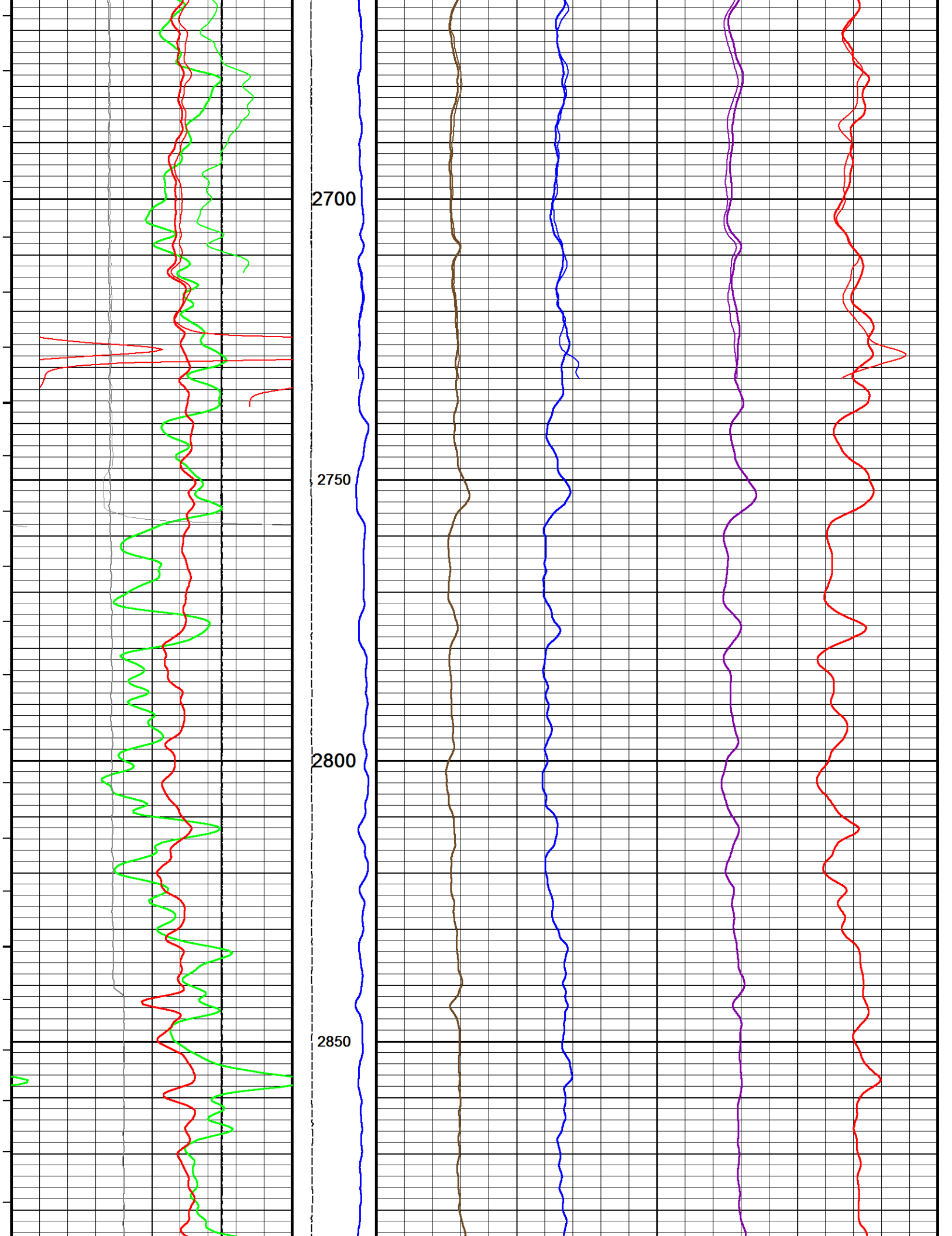
In interpreting, communicating or providing information and/or making recommendations, either written or oral, as to logs or test or other data, type or amount of material, or Work or other service to be furnished, or manner of performance, or in predicting results to be obtained, the Contractor will 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.

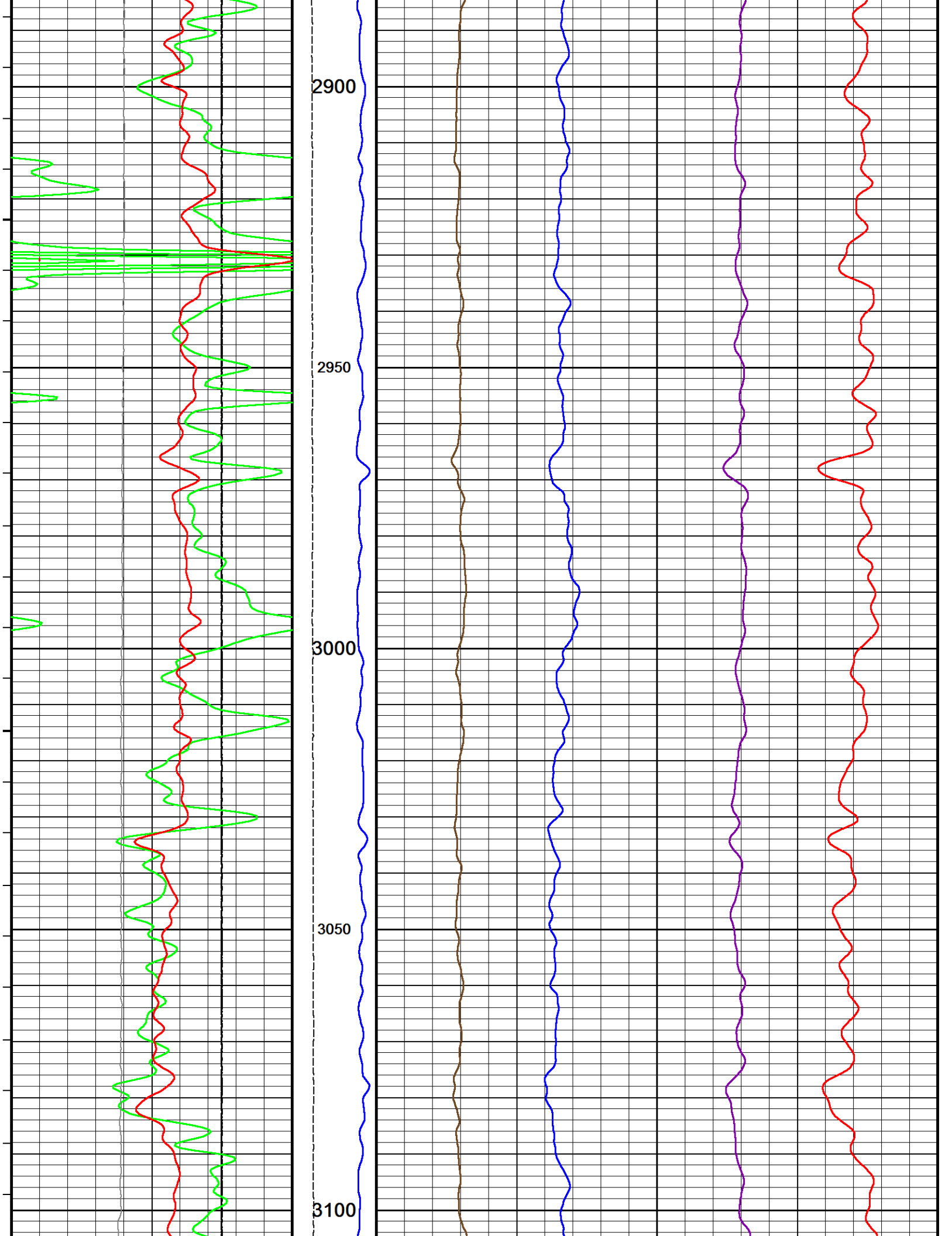
MAIN REPEAT 2

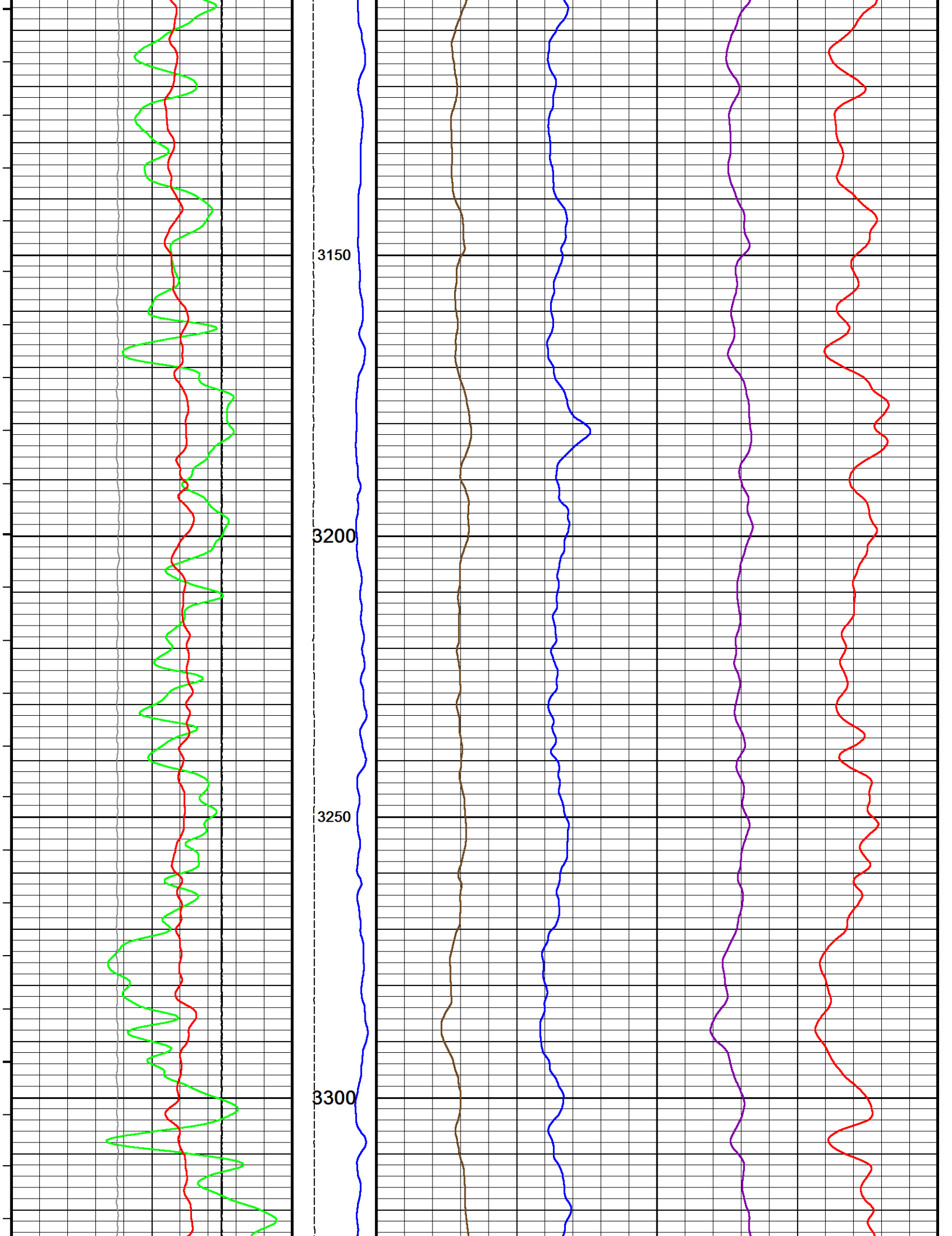
Depth Based Data - Maximum Sampling Increment 12.5cm
Filename: C:\Logs\Caerus\Puckett 23B-1\CREB-SSB_001.dta
Filename: C:\Logs\Caerus\Puckett 23B-1\CREB-SSB_002.dta
System Versions: Logged with 16.00.6296 Processed with 16.00.6296 Plotted with 16.00.6296
Plotted on 21-NOV-2015 21:41
Recorded on 21-NOV-2015 07:37
Recorded on 21-NOV-2015 18:39

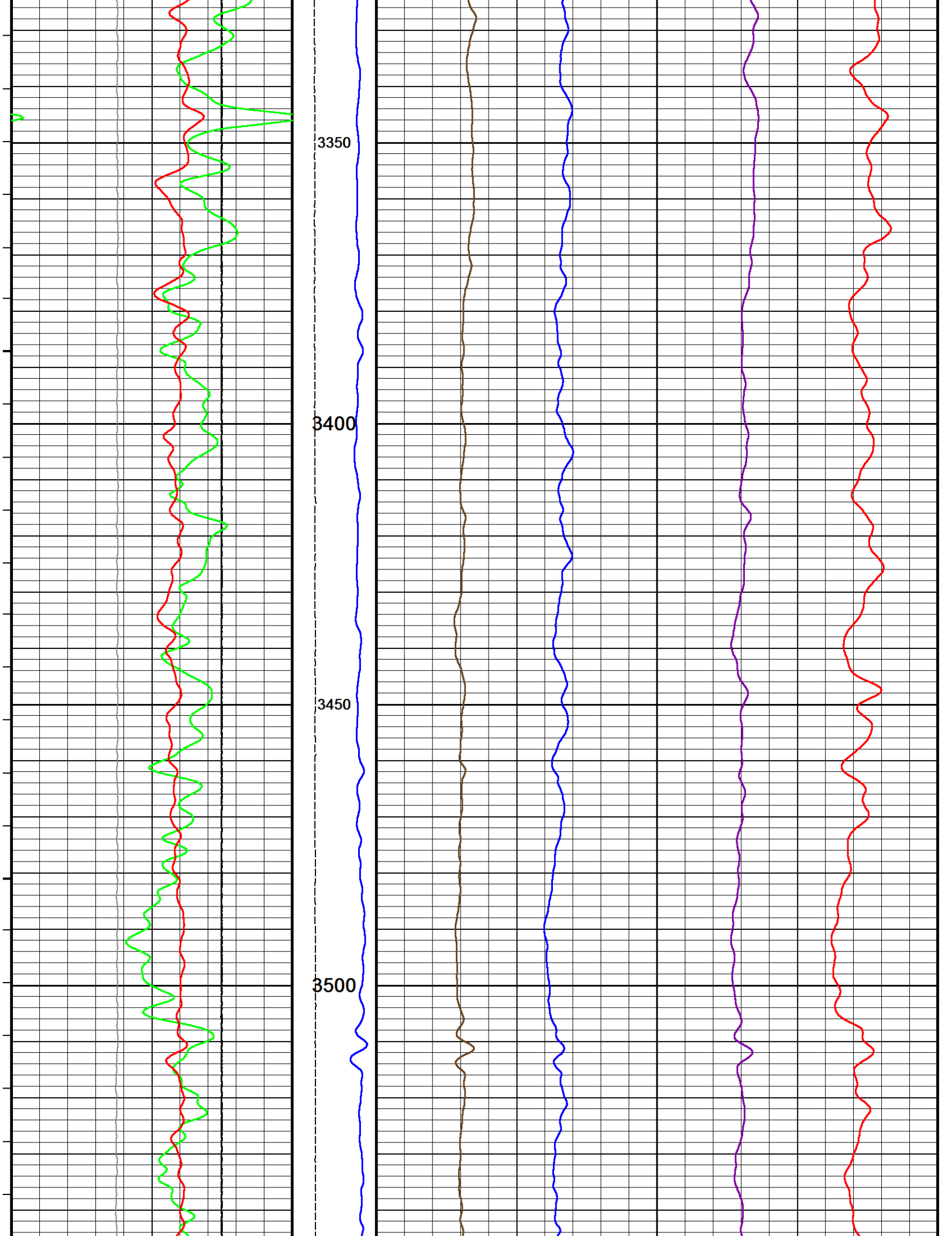


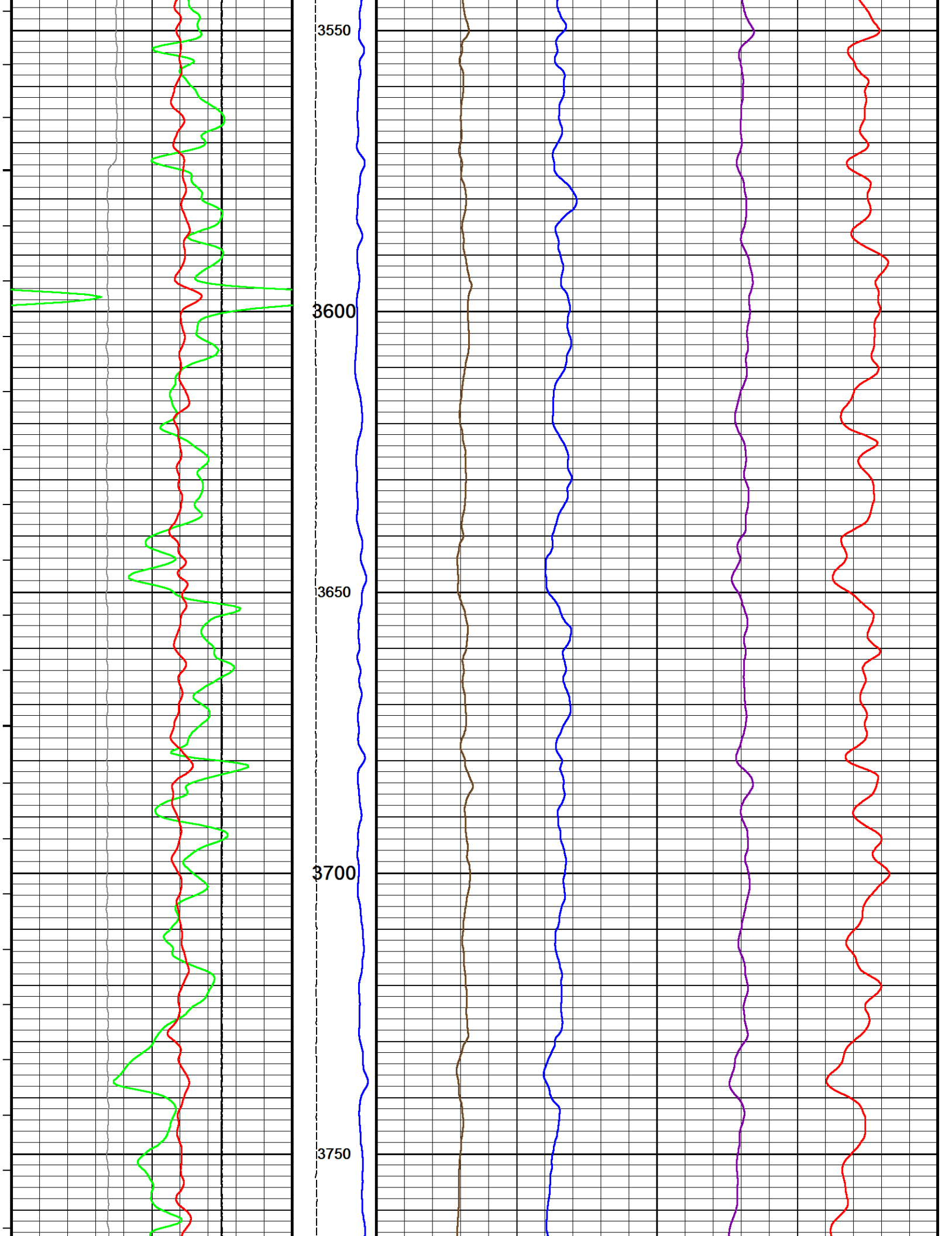


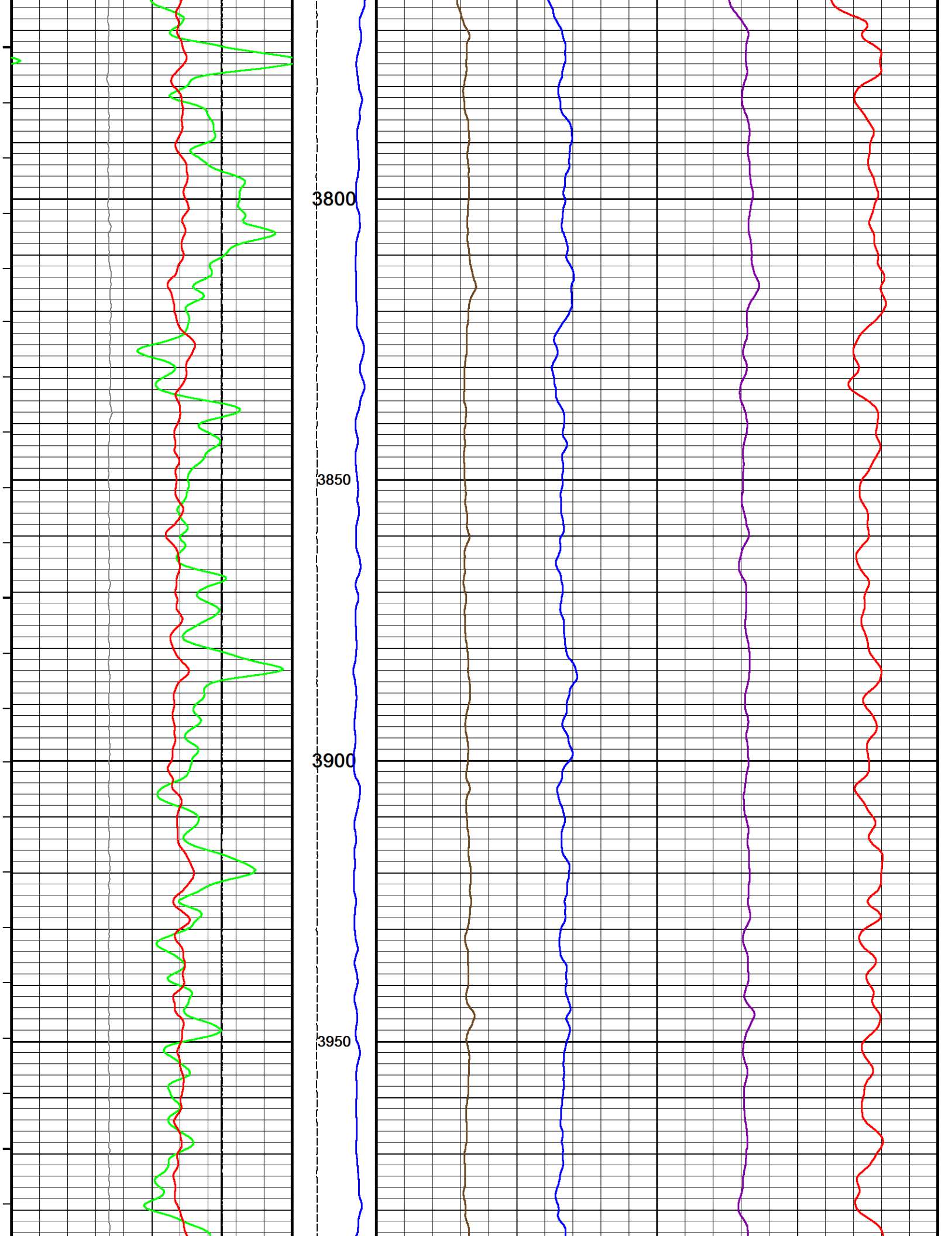


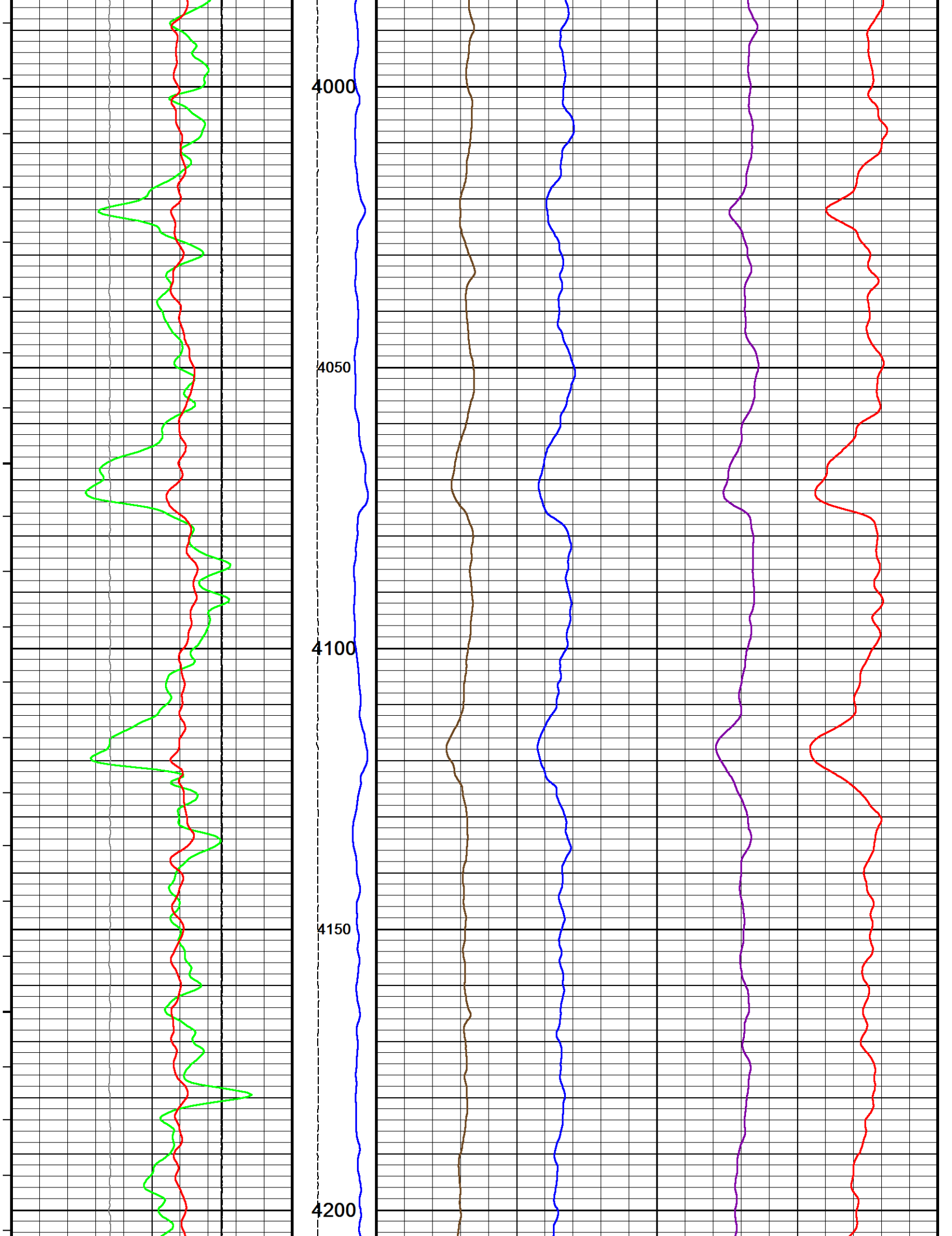


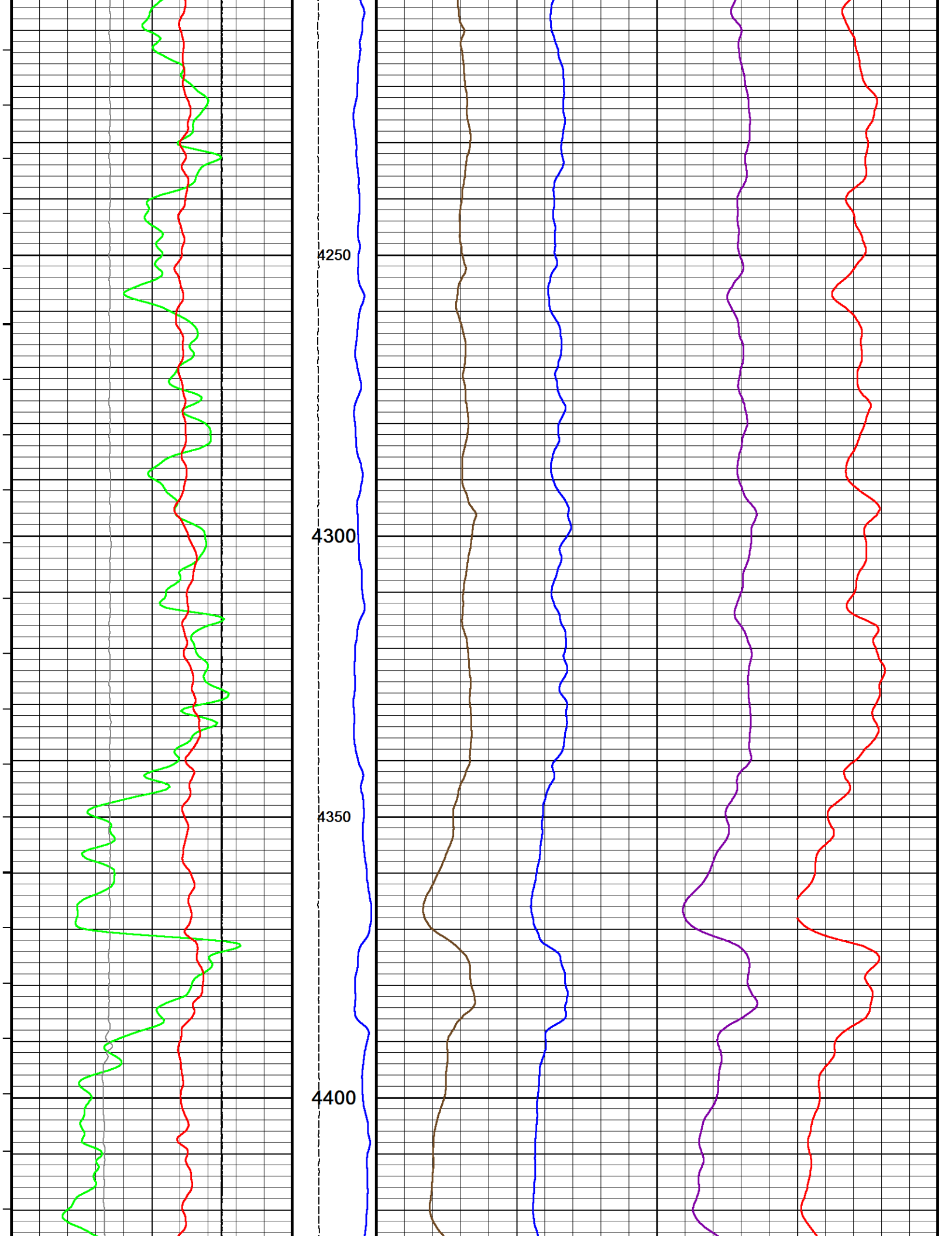


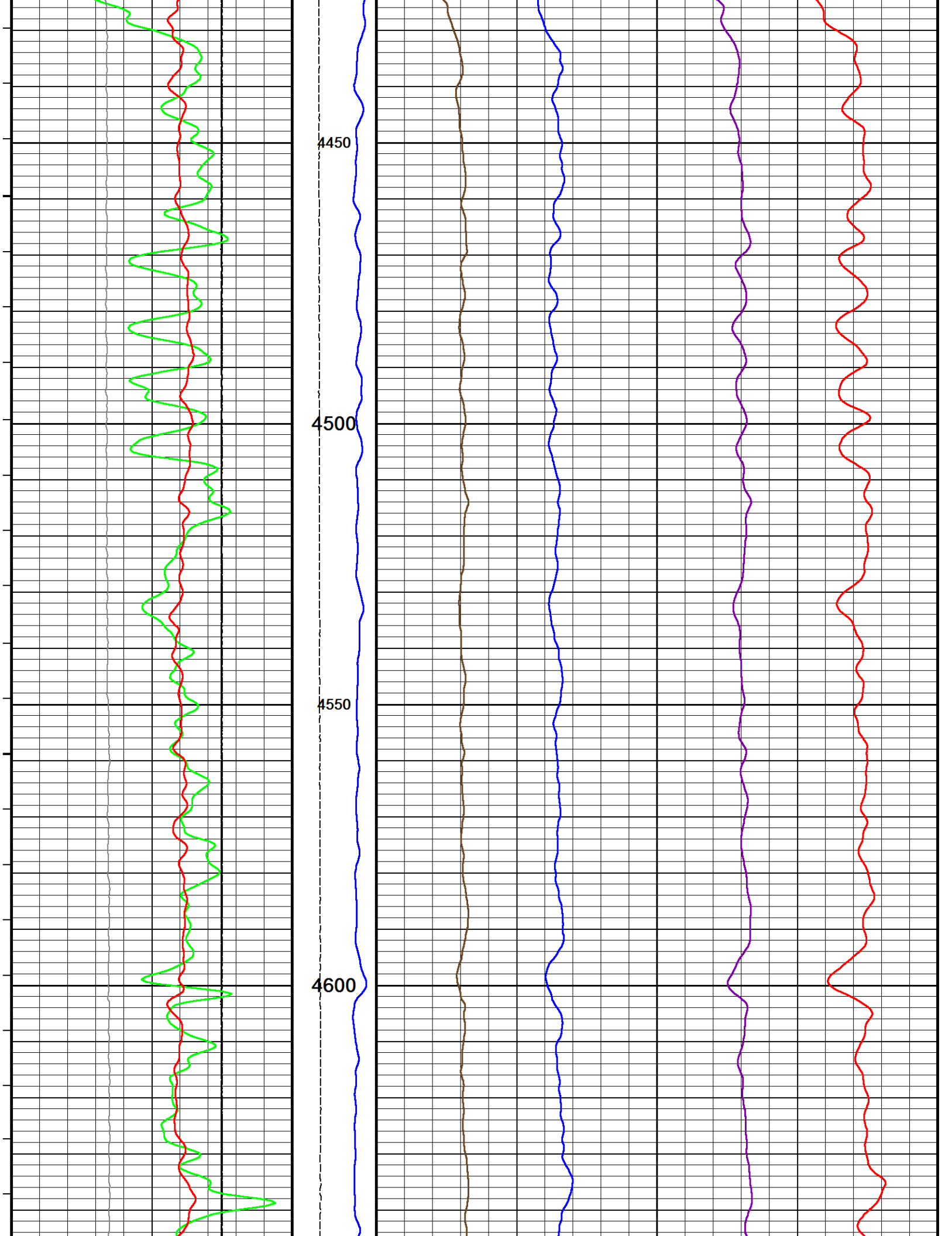


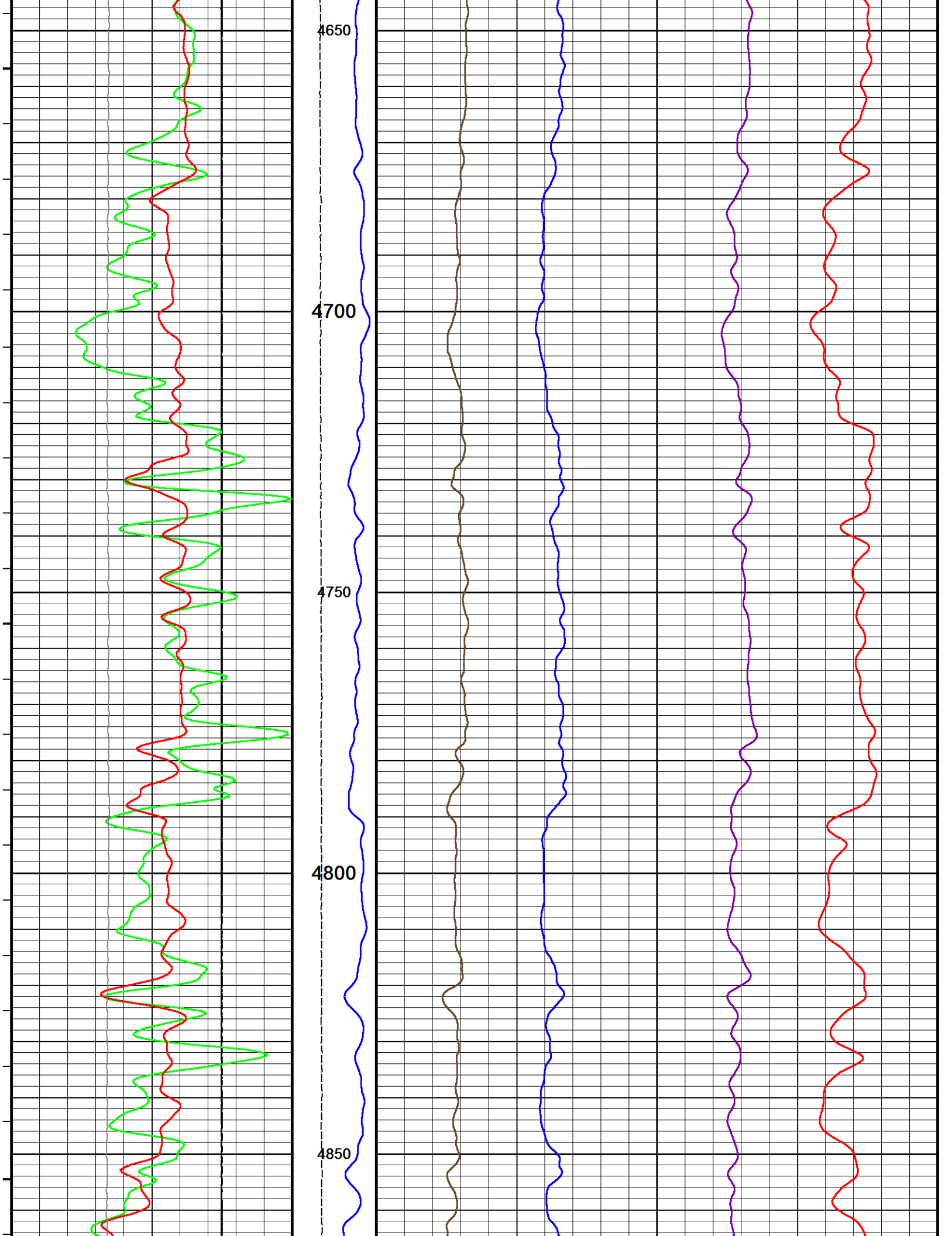


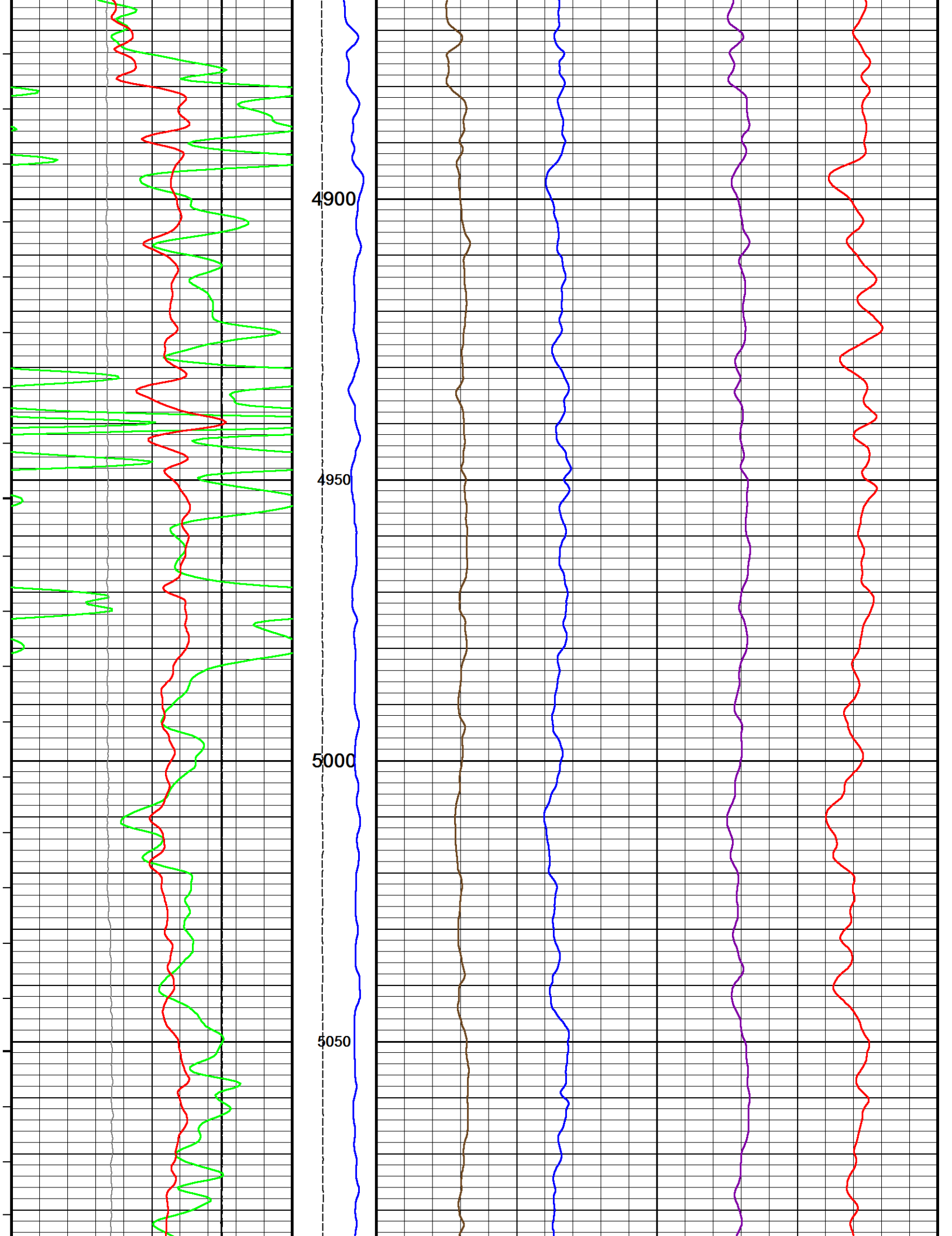


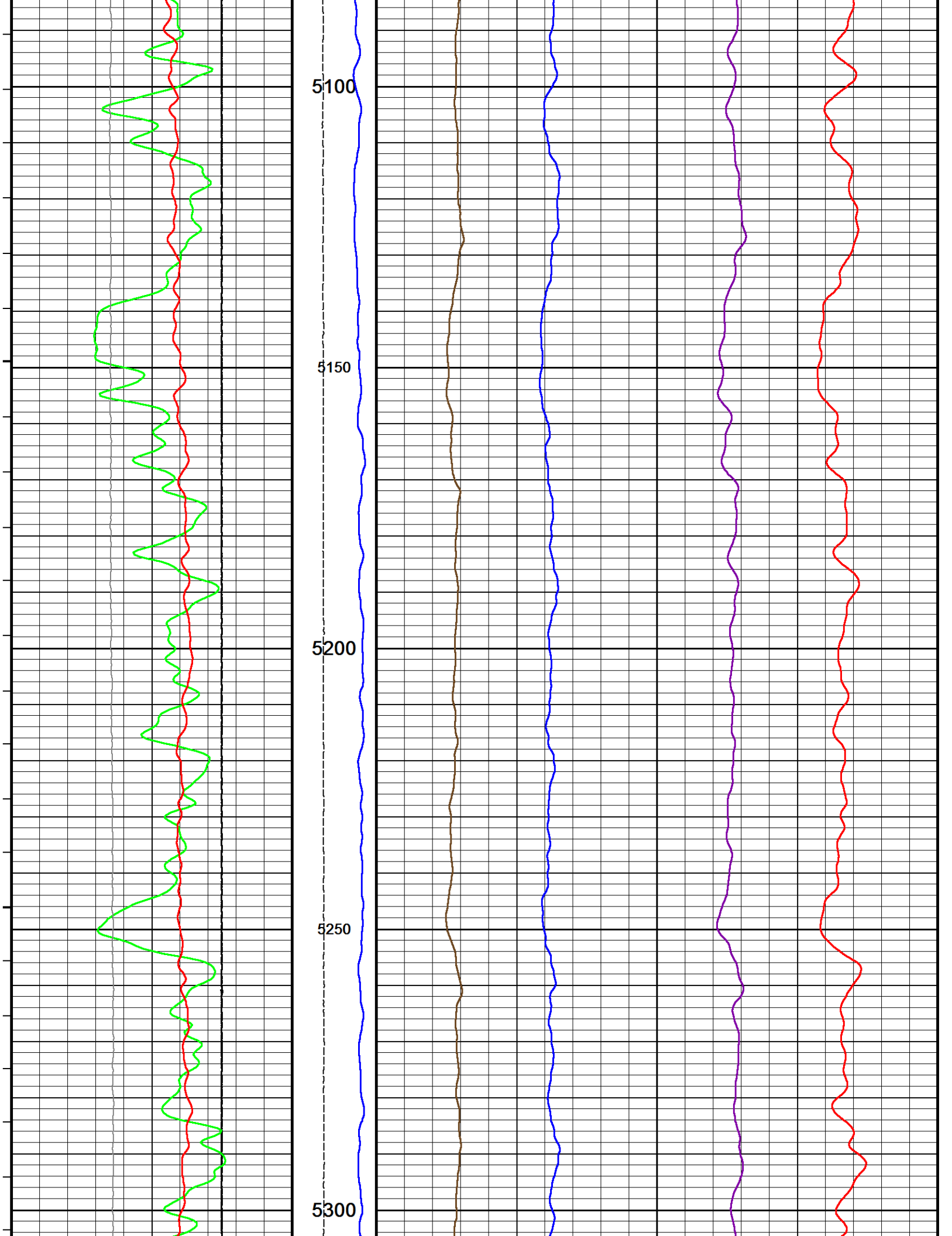


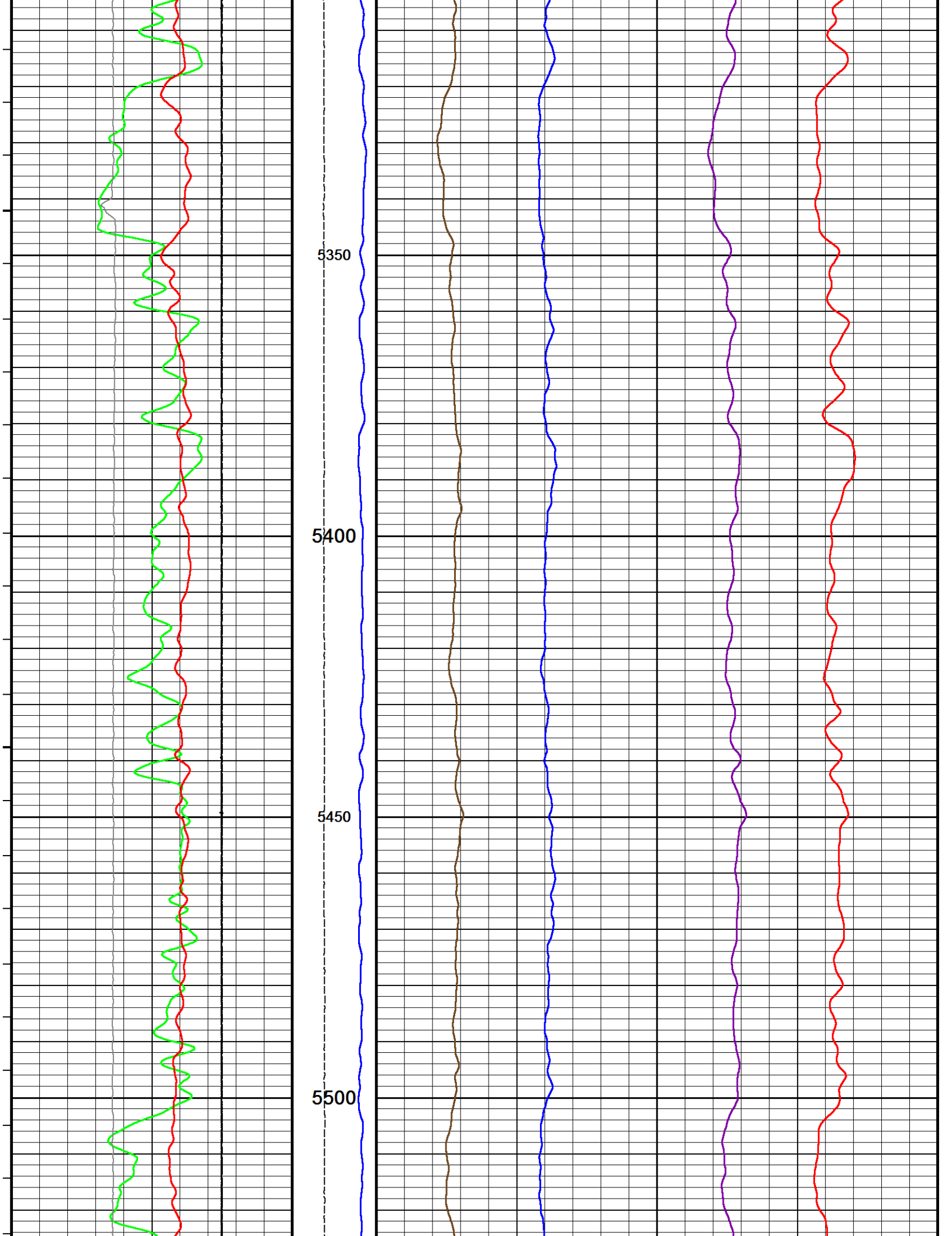


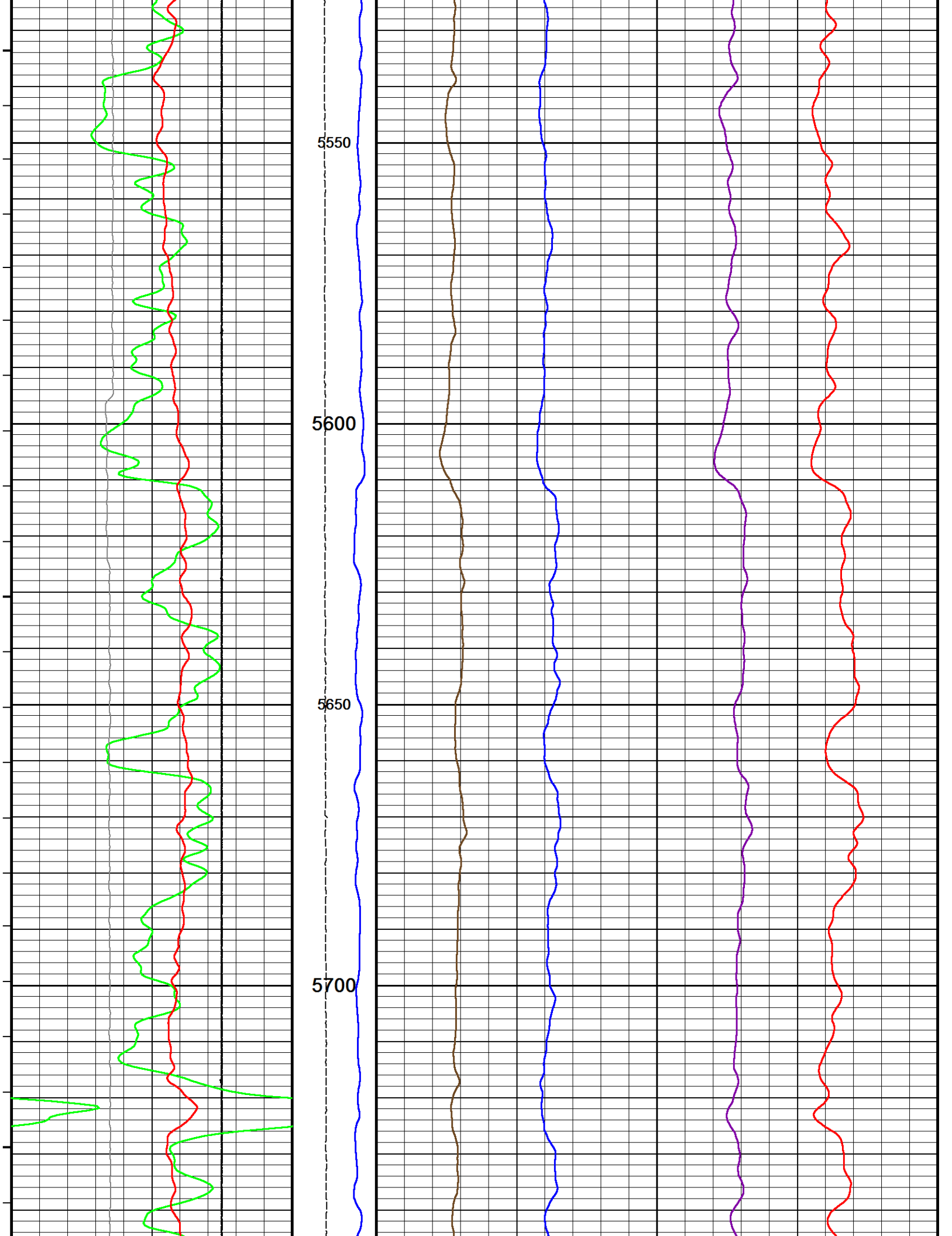


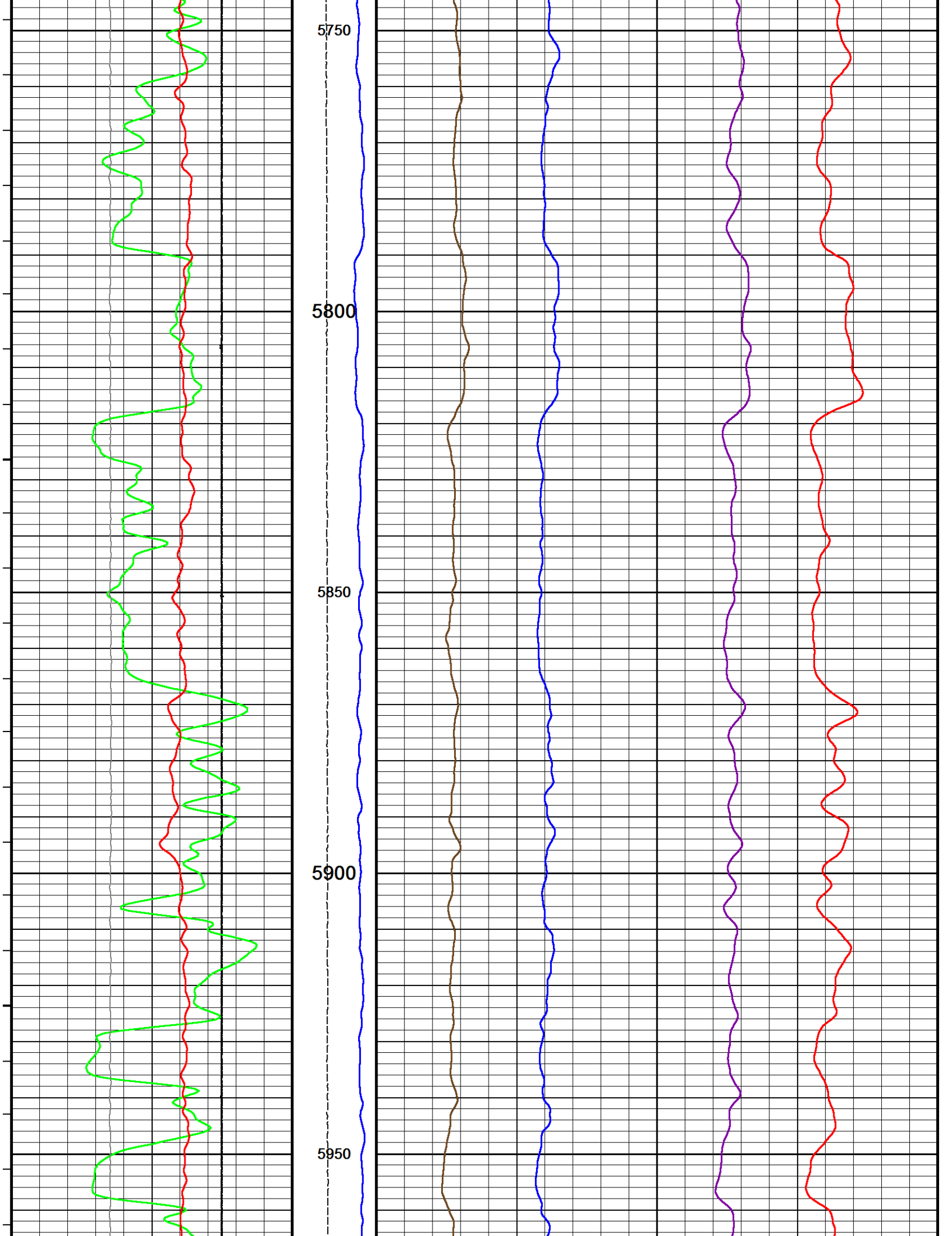


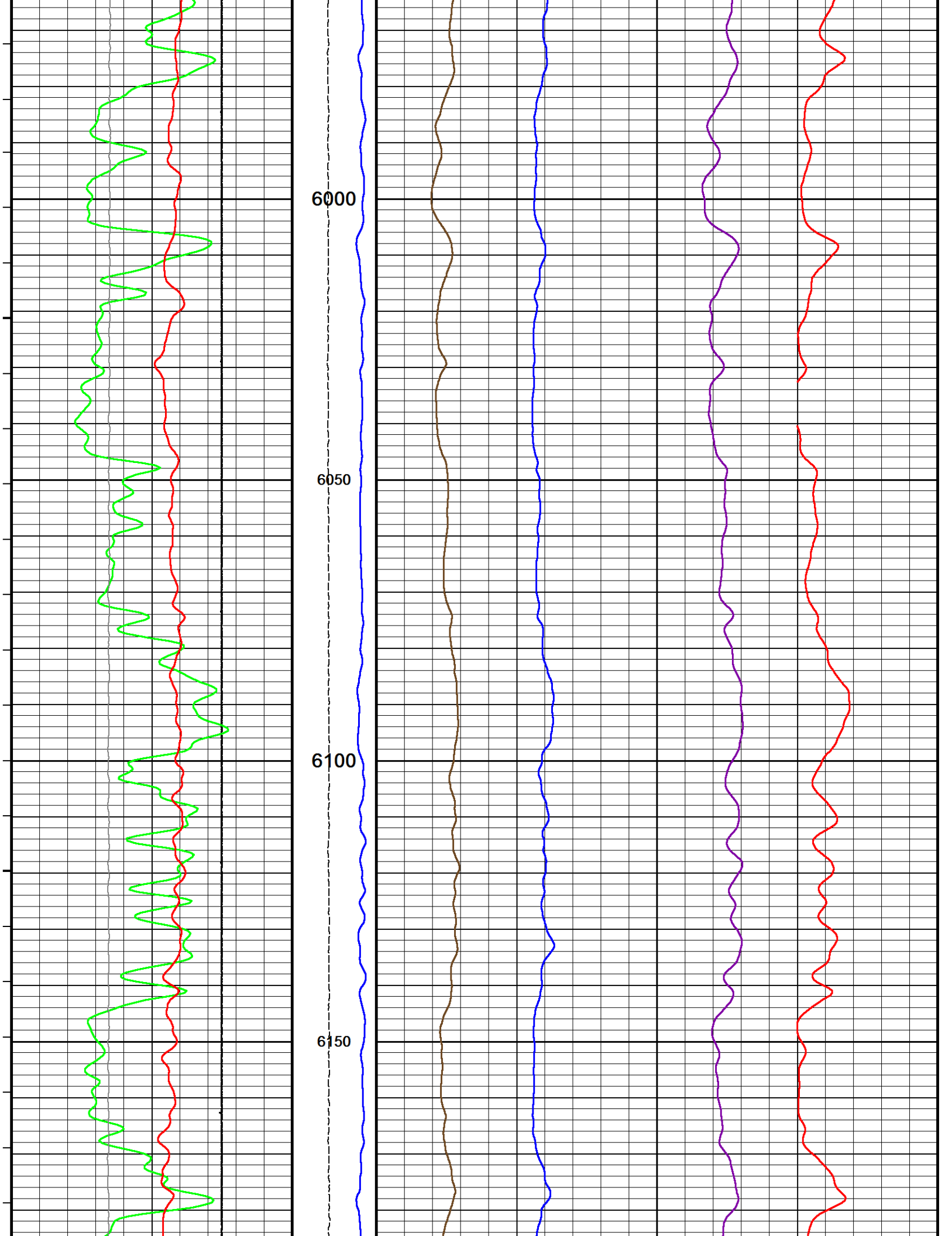


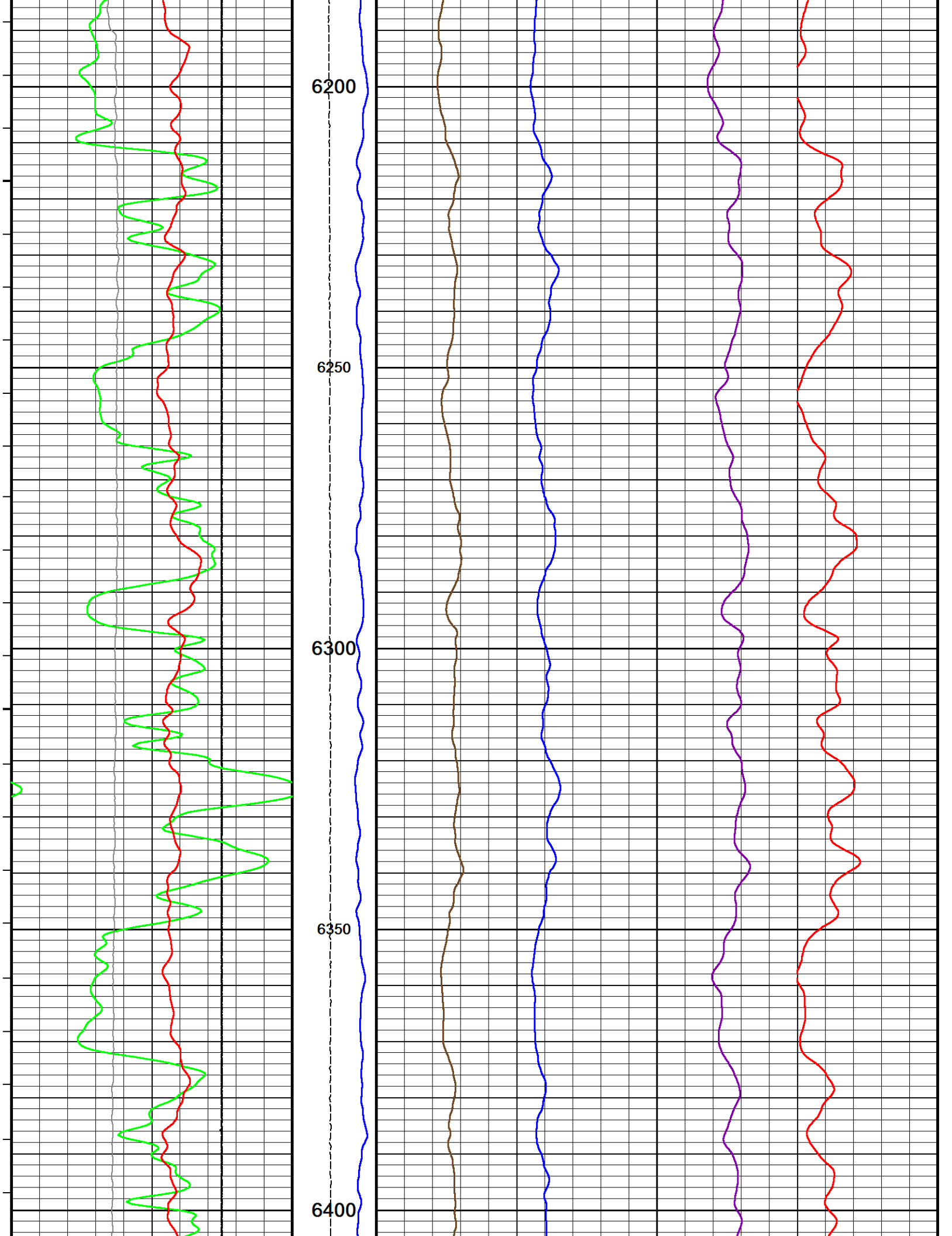


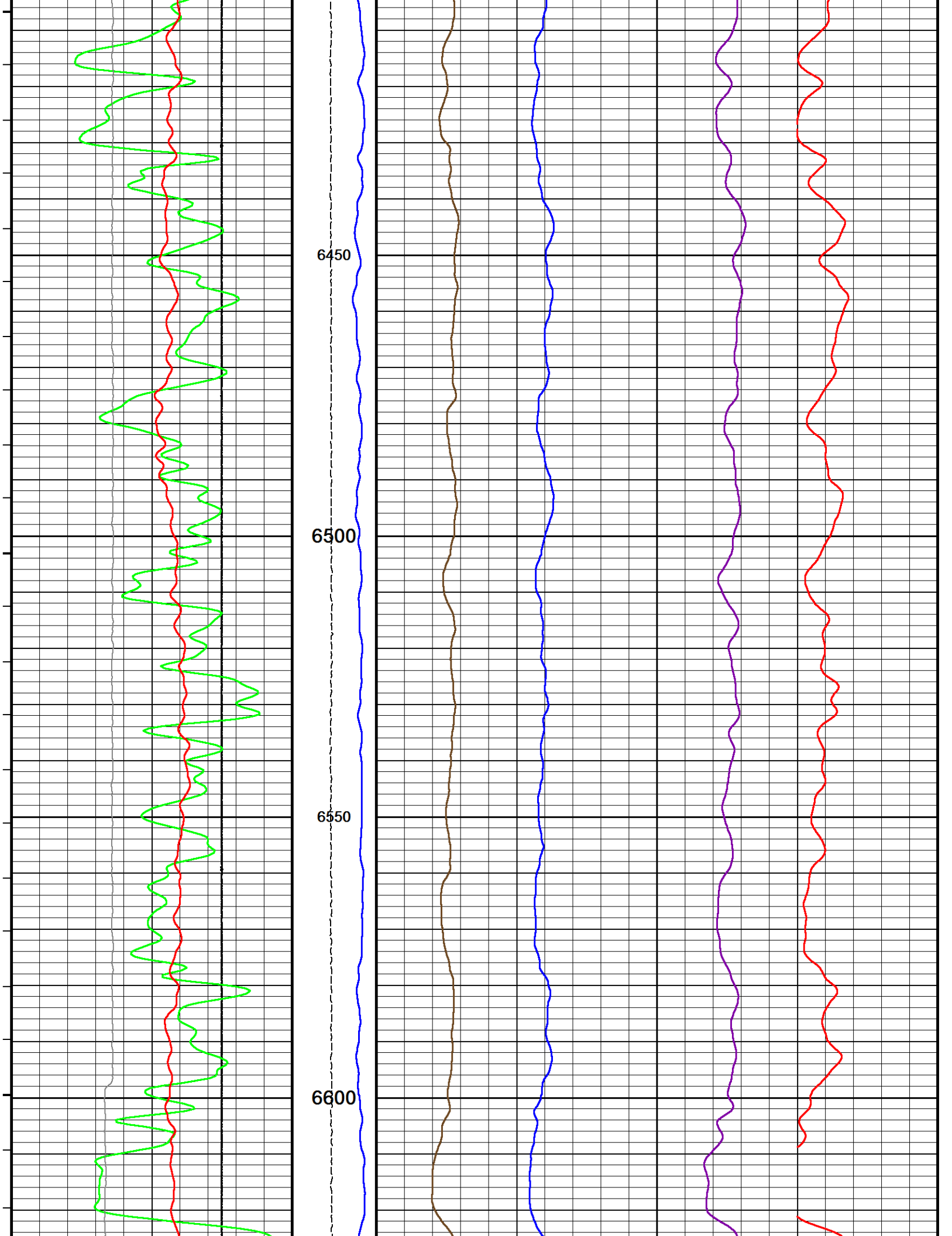


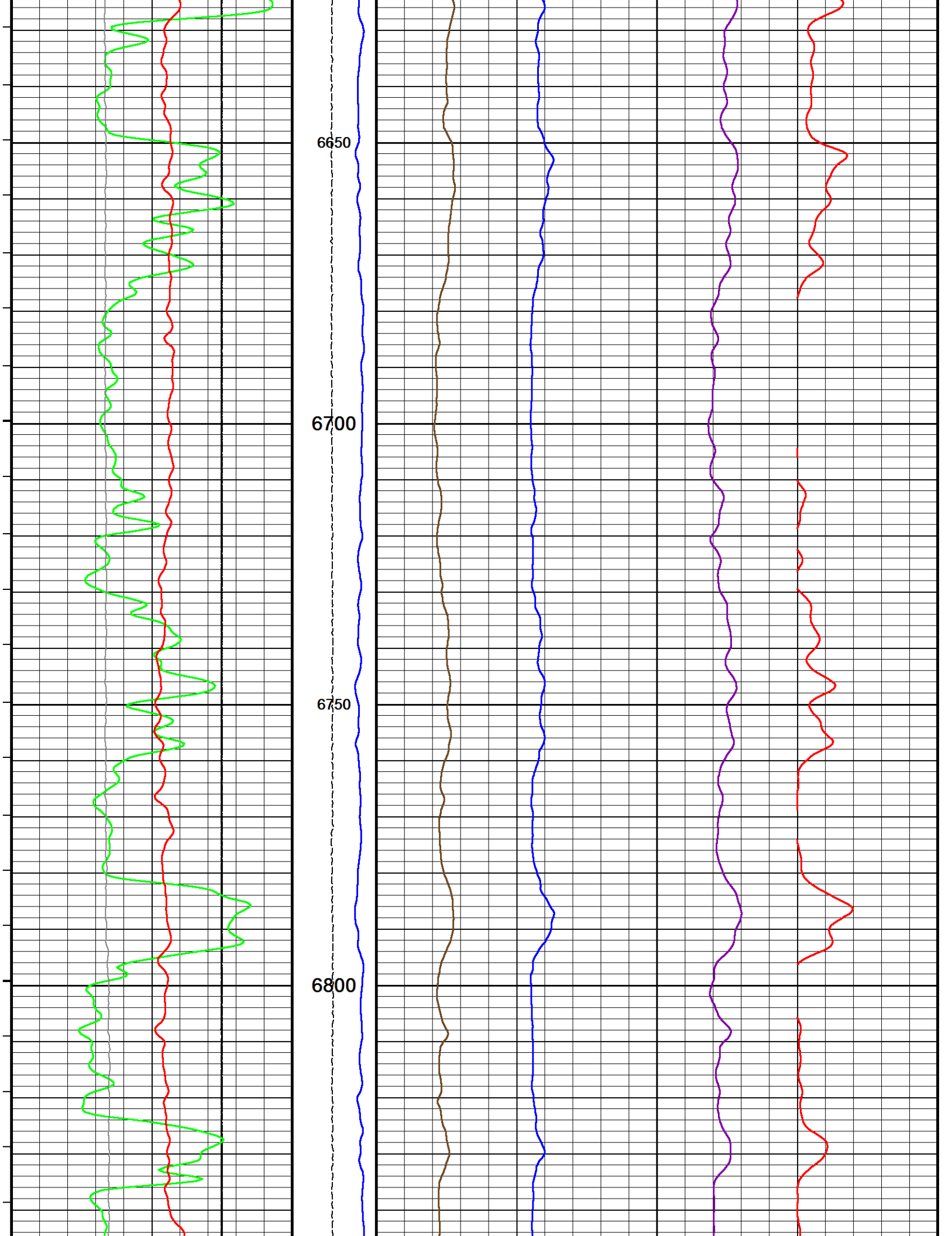


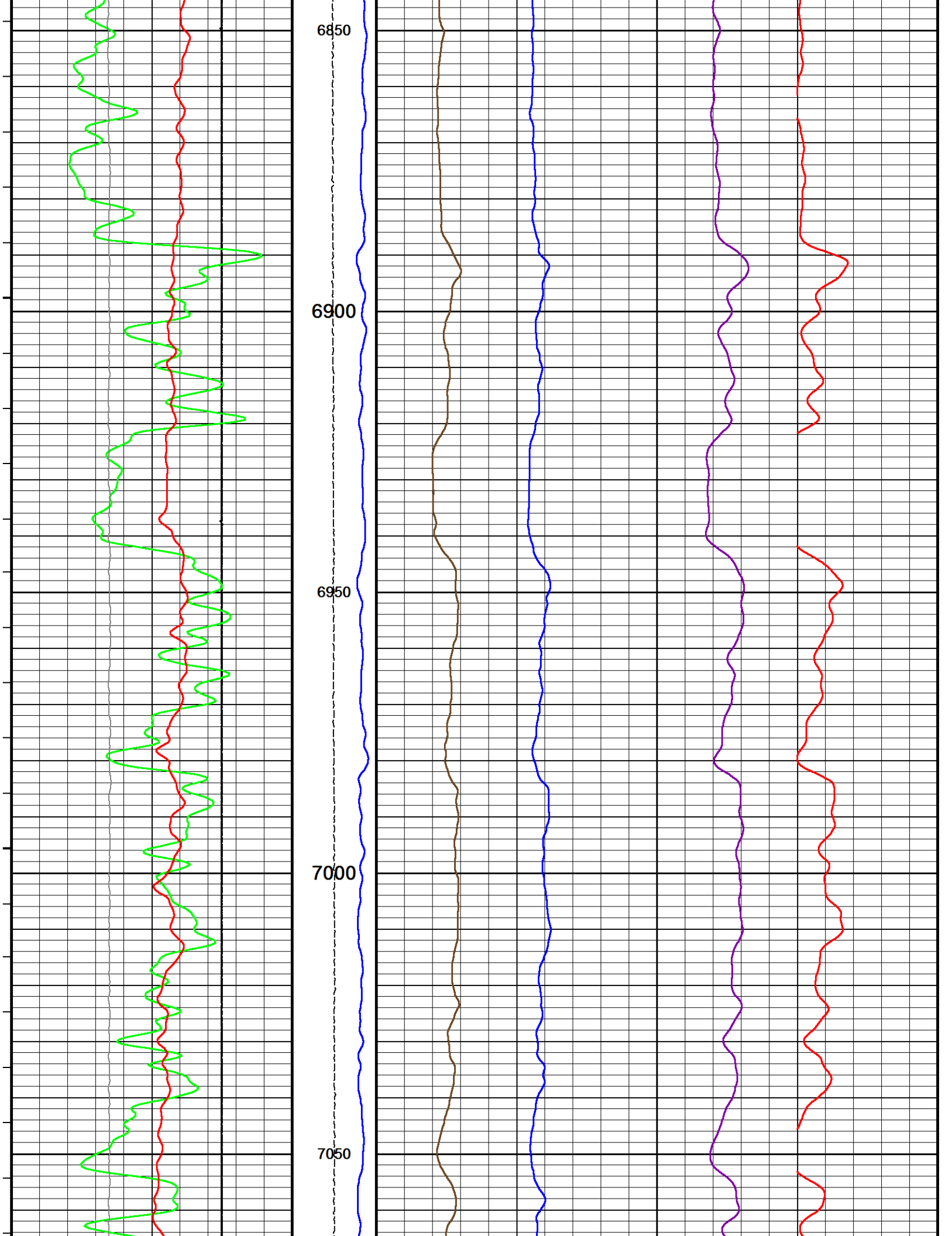


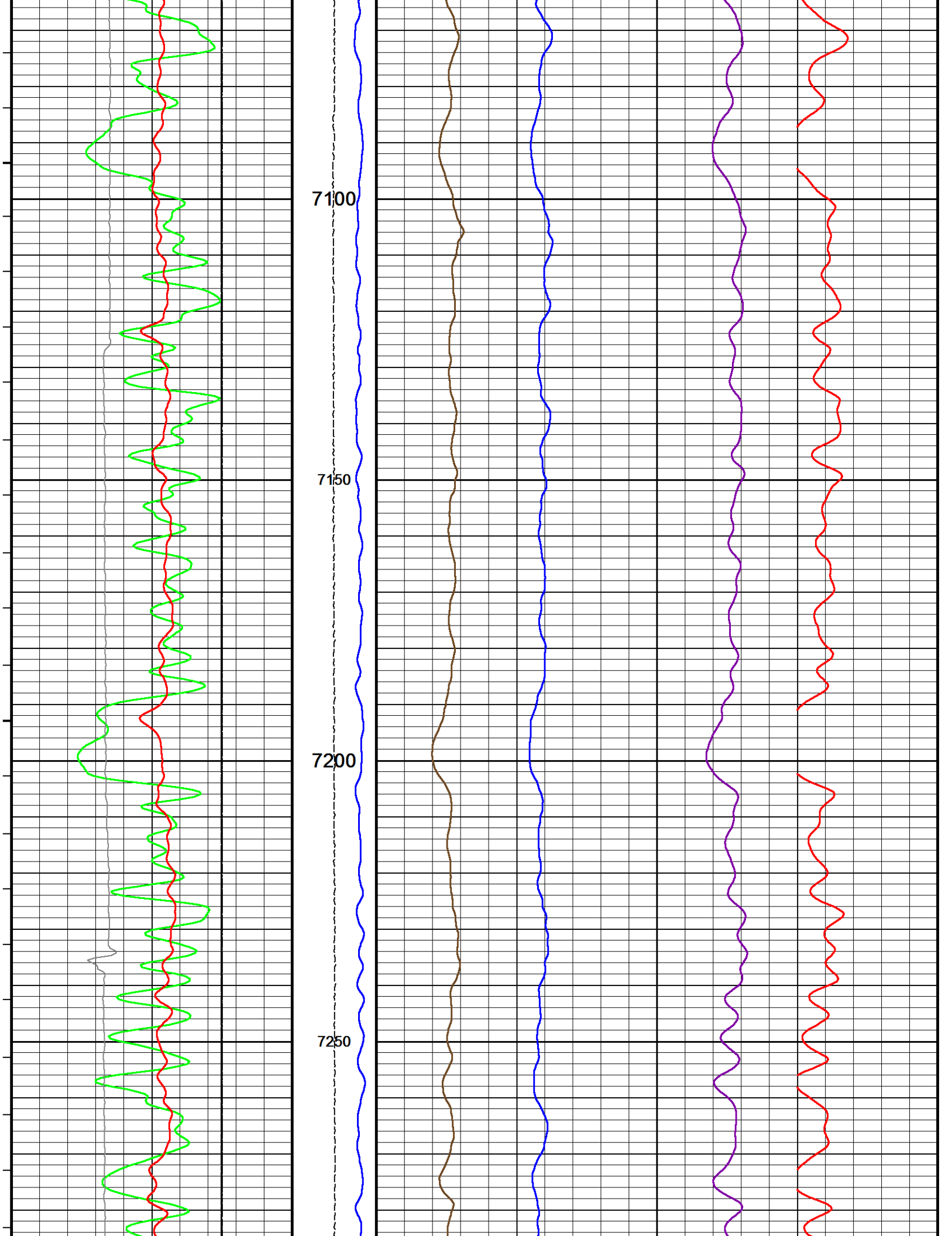


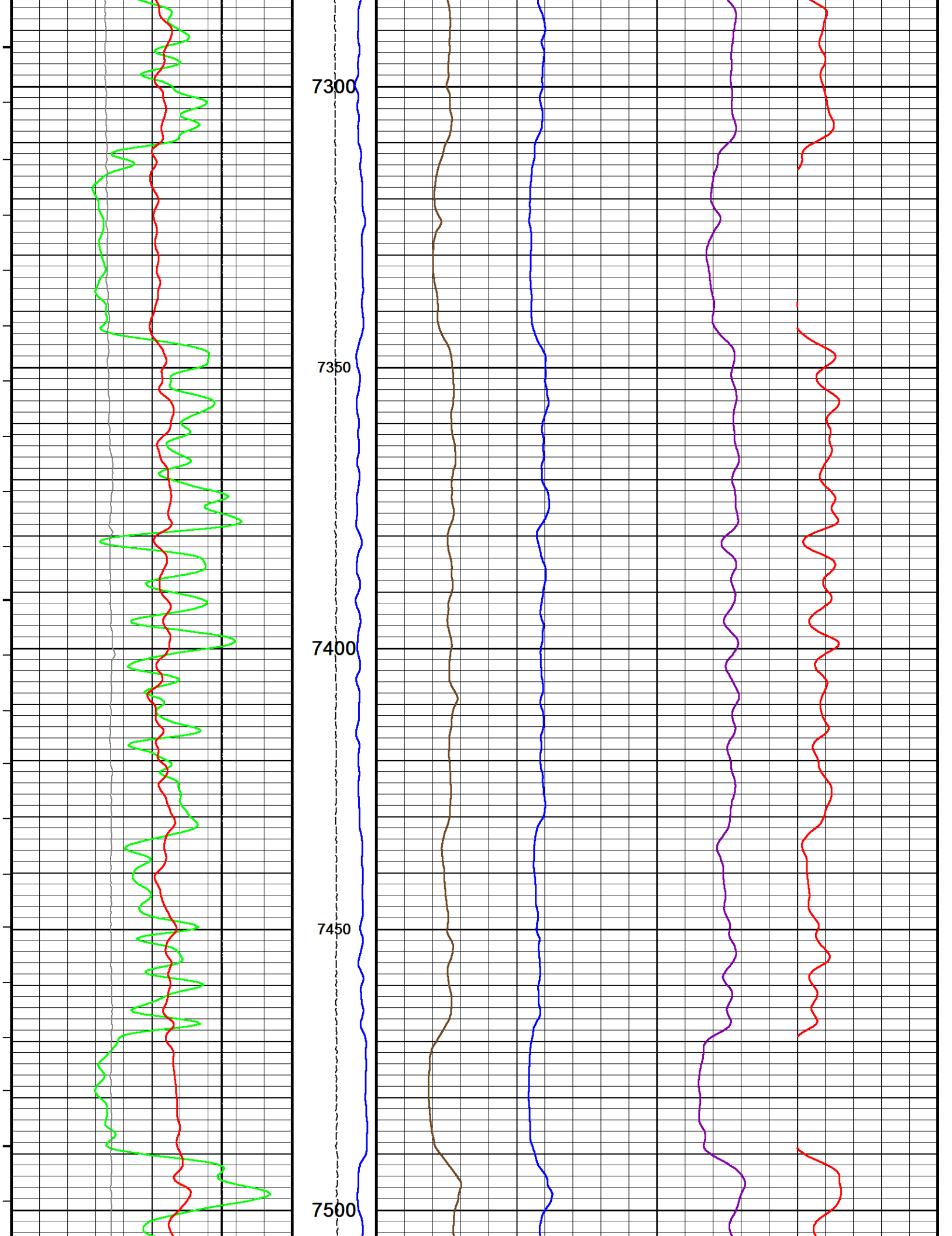


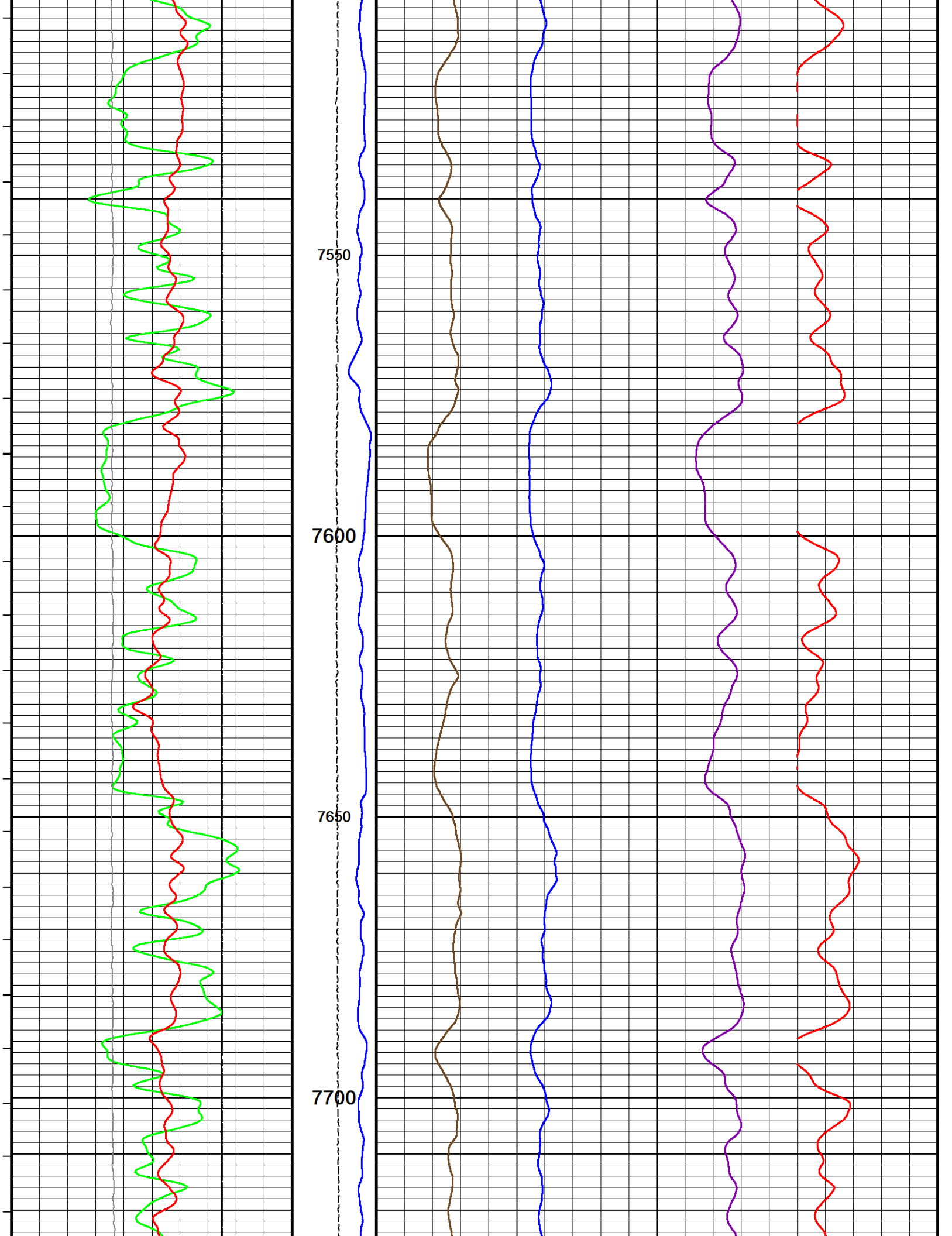


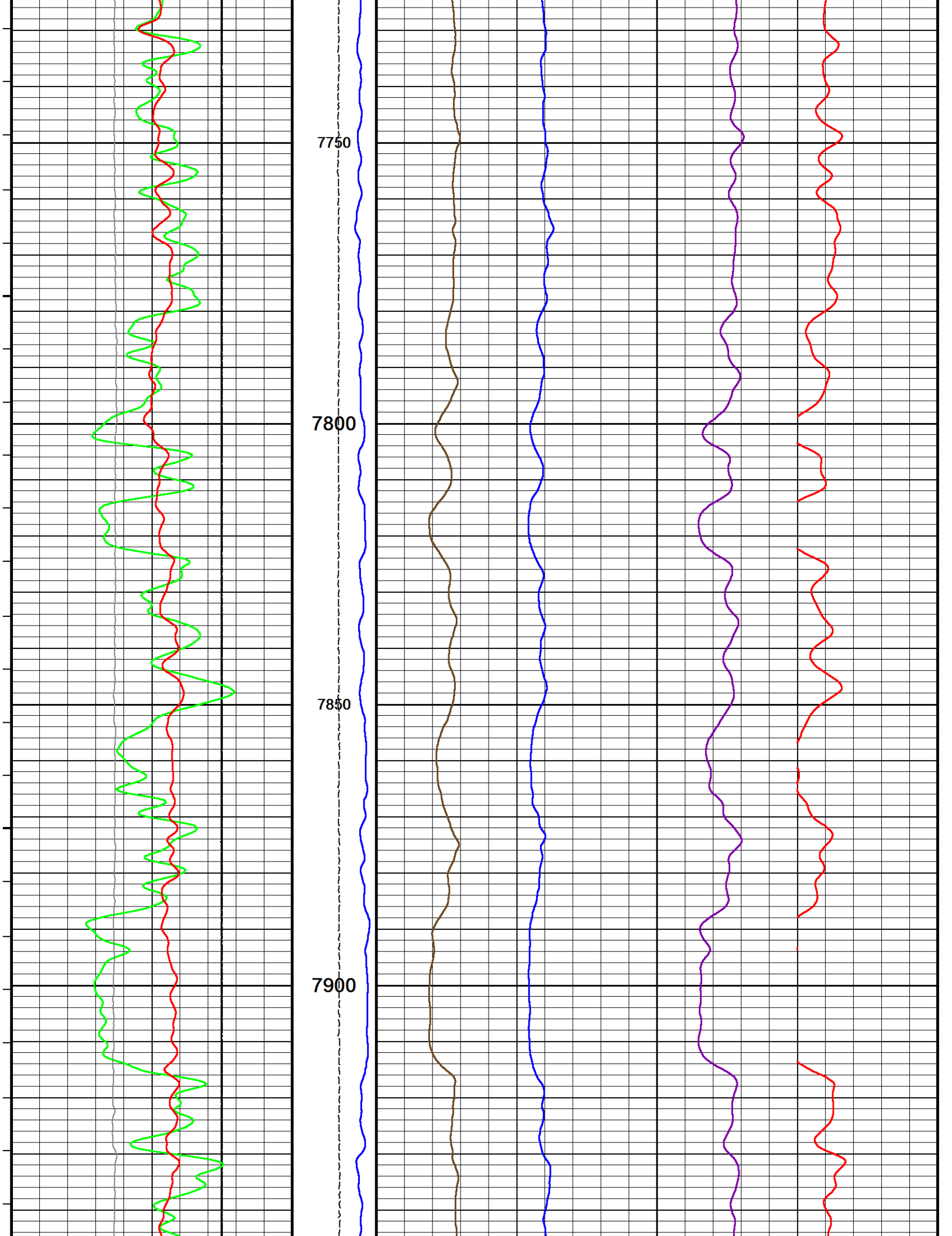


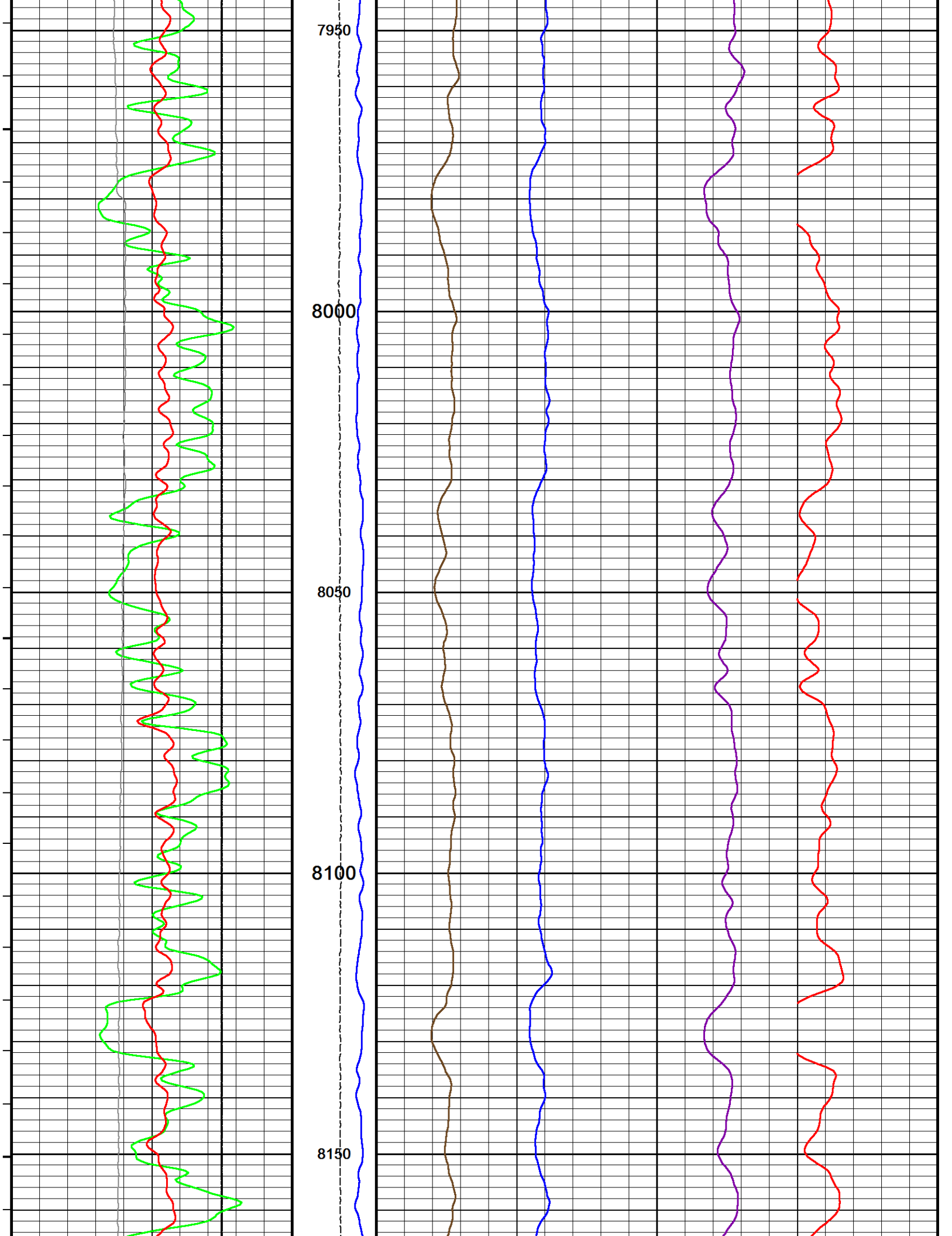


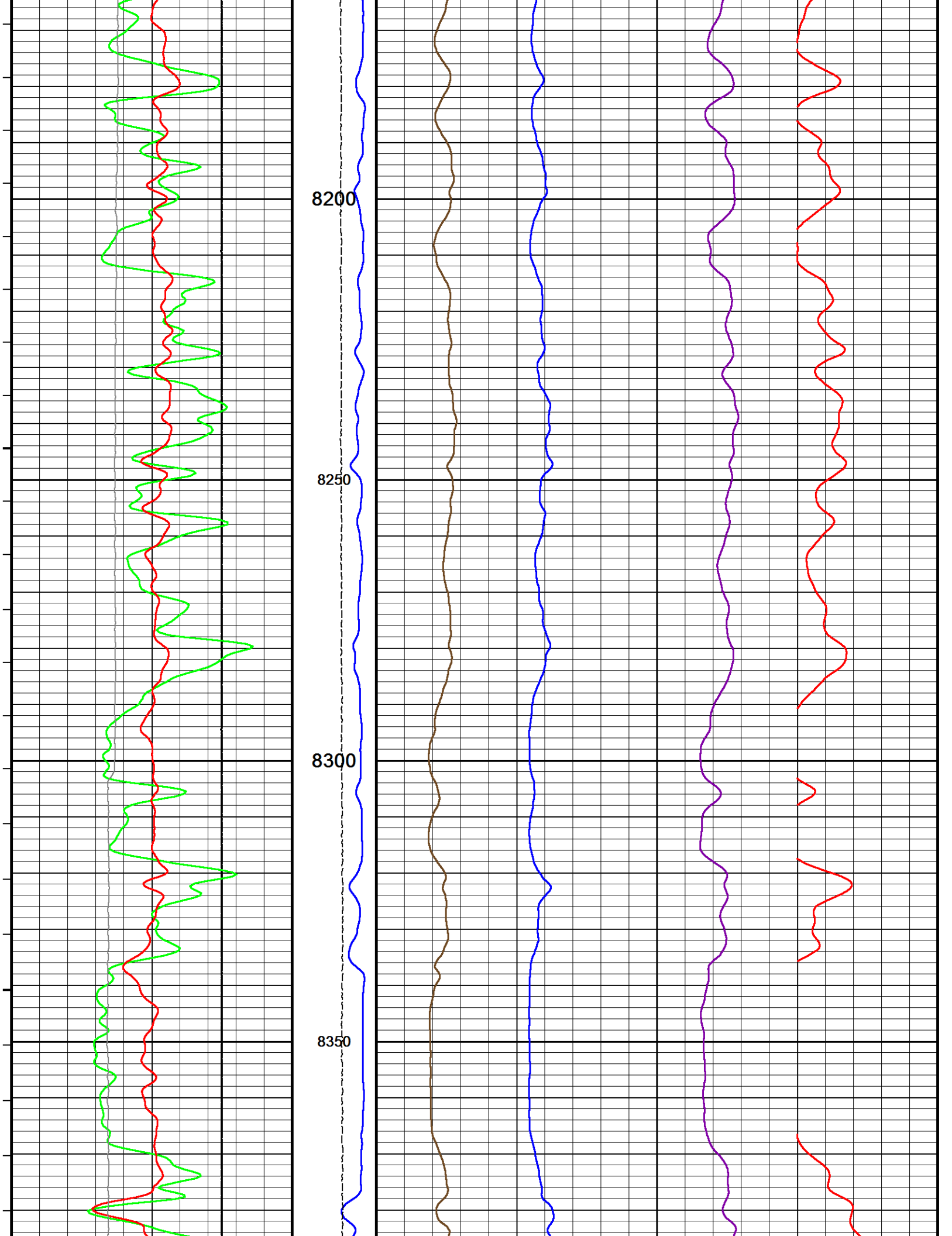


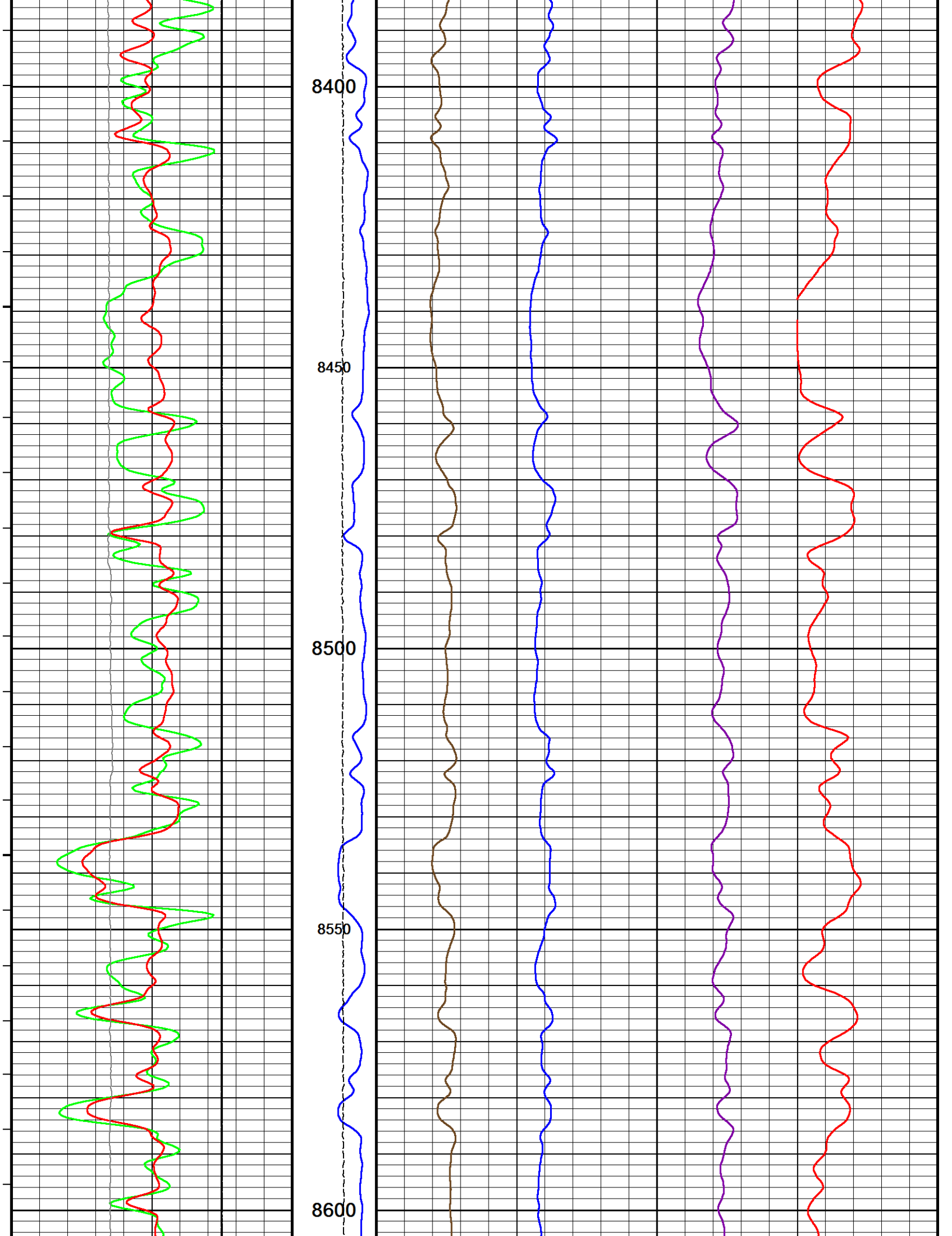


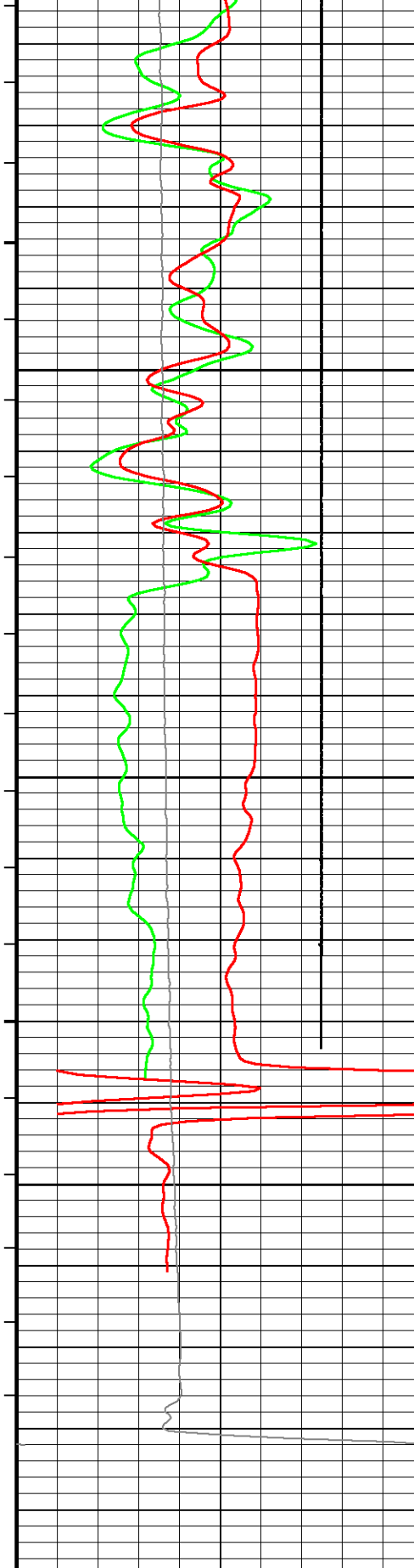






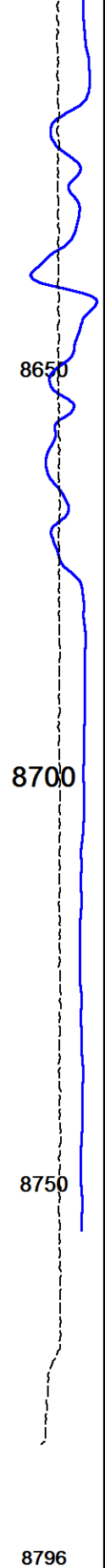




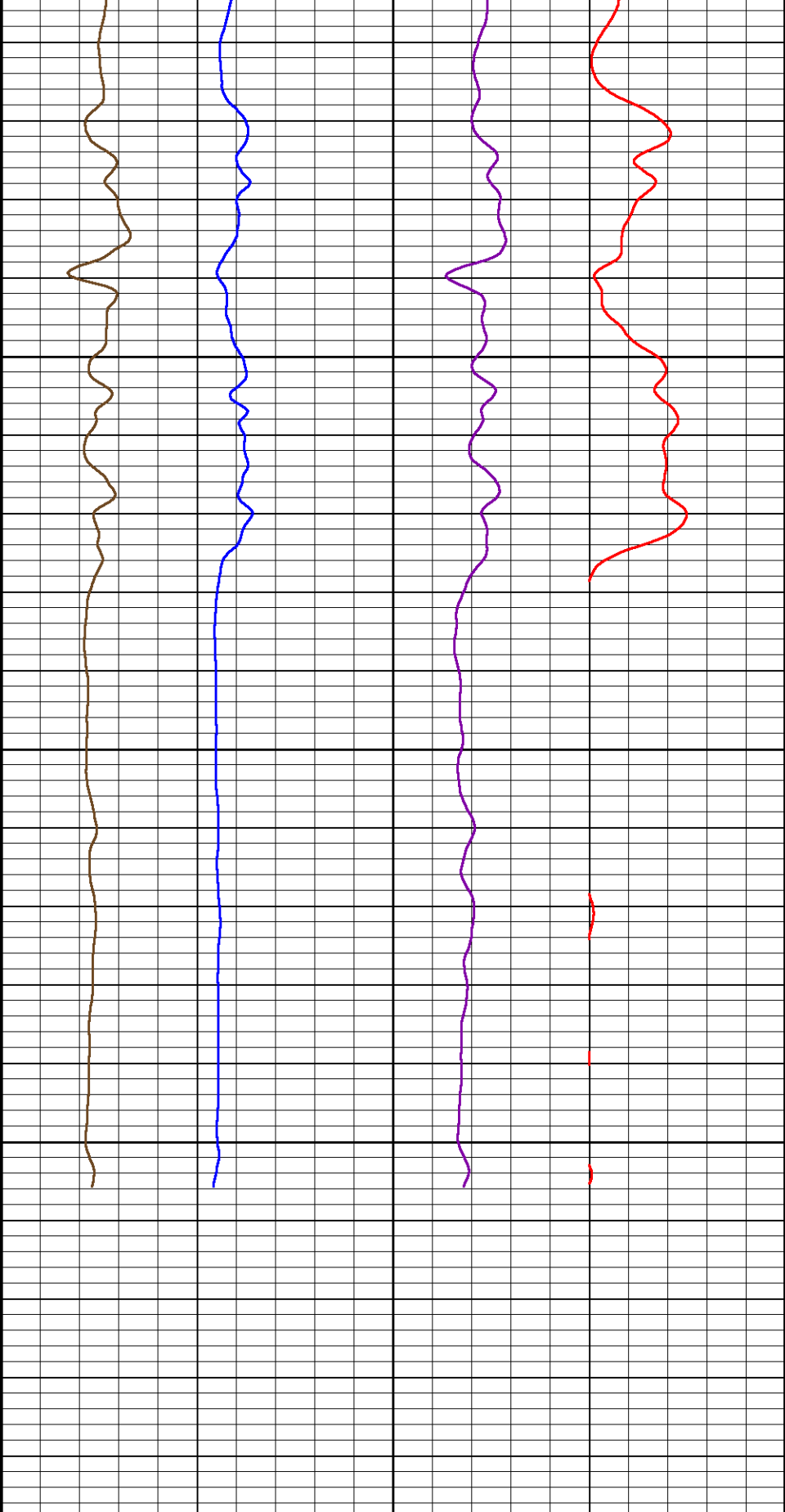


Timing Marks
every 60.0 sec

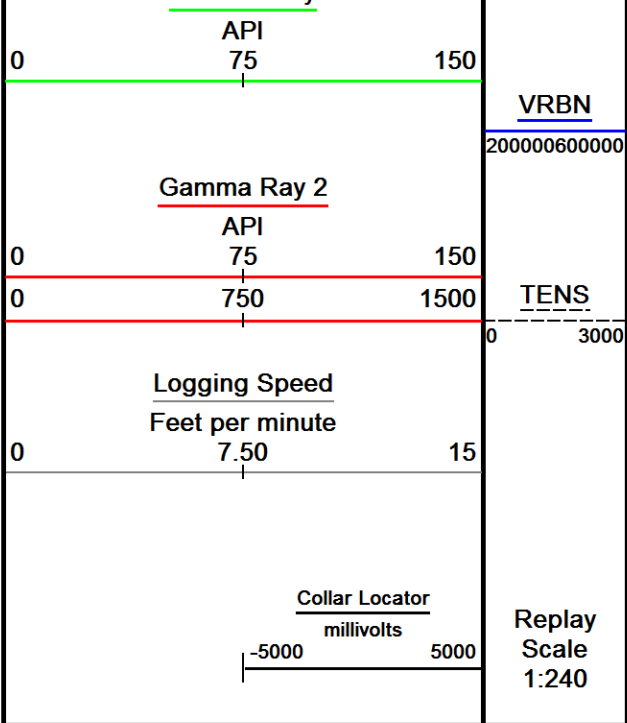
Gamma Ray



8796
Depth
in
Feet



<u>NVis. inel prx/long</u>	<u>NVis. capt. prox/long</u>	<u>NVis. inel. near/far</u>	<u>NVis. capt. near/far</u>
25	125, 0	100, 10	17, 6



Depth Based Data - Maximum Sampling Increment 12.5cm
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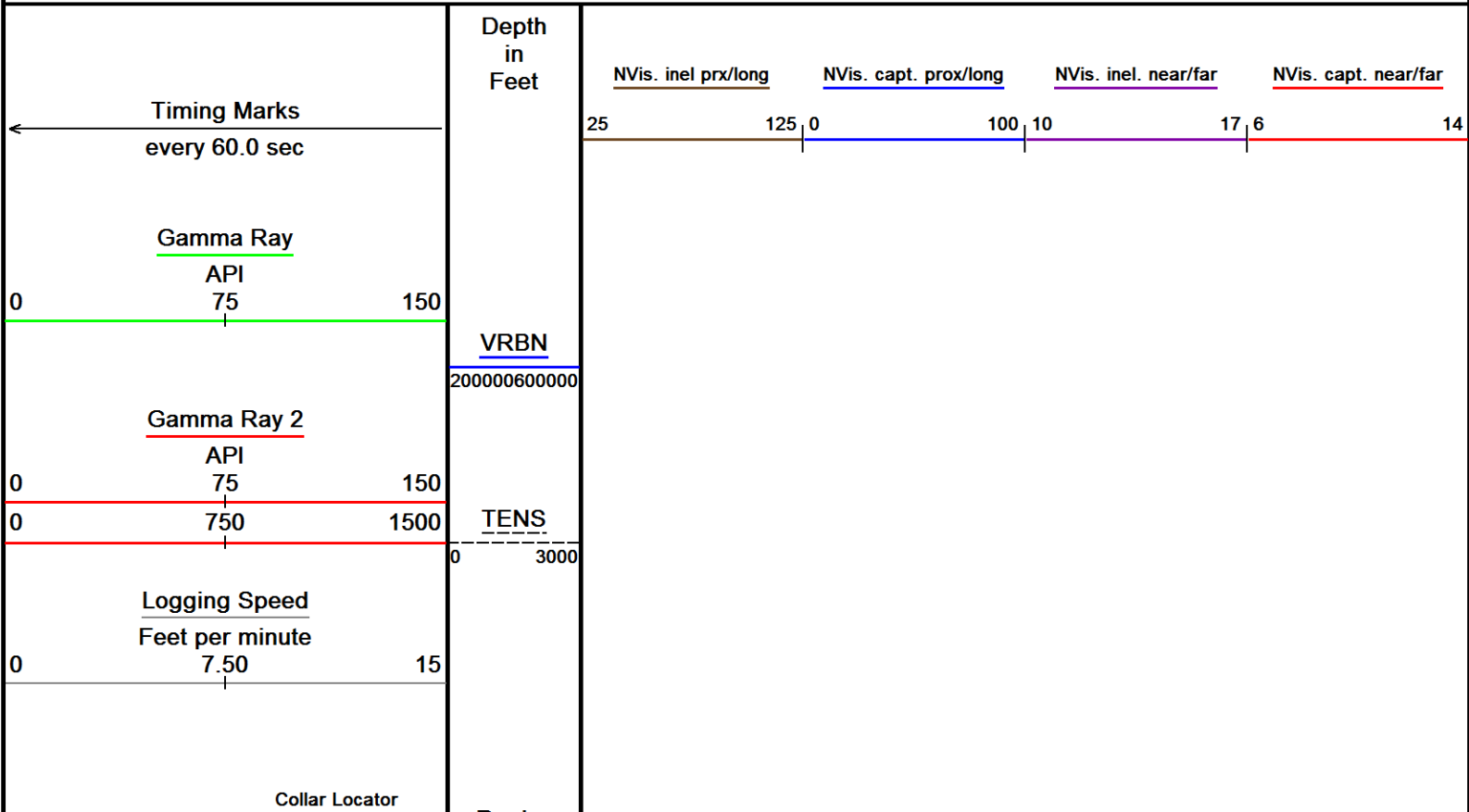
Plotted on 21-NOV-2015 21:41
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↑ MAIN REPEAT 2 ↑

↓ REPEAT 1 REPEAT 2 ↓

Depth Based Data - Maximum Sampling Increment 12.5cm
 Filename: C:\Logs\Caerus\Puckett 23B-1\CREB-SSB.dta
 Filename: C:\Logs\Caerus\Puckett 23B-1\CREB-SSB_002.dta
 System Versions: Logged with 16.00.6296 Processed with 16.00.6296 Plotted with 16.00.6296

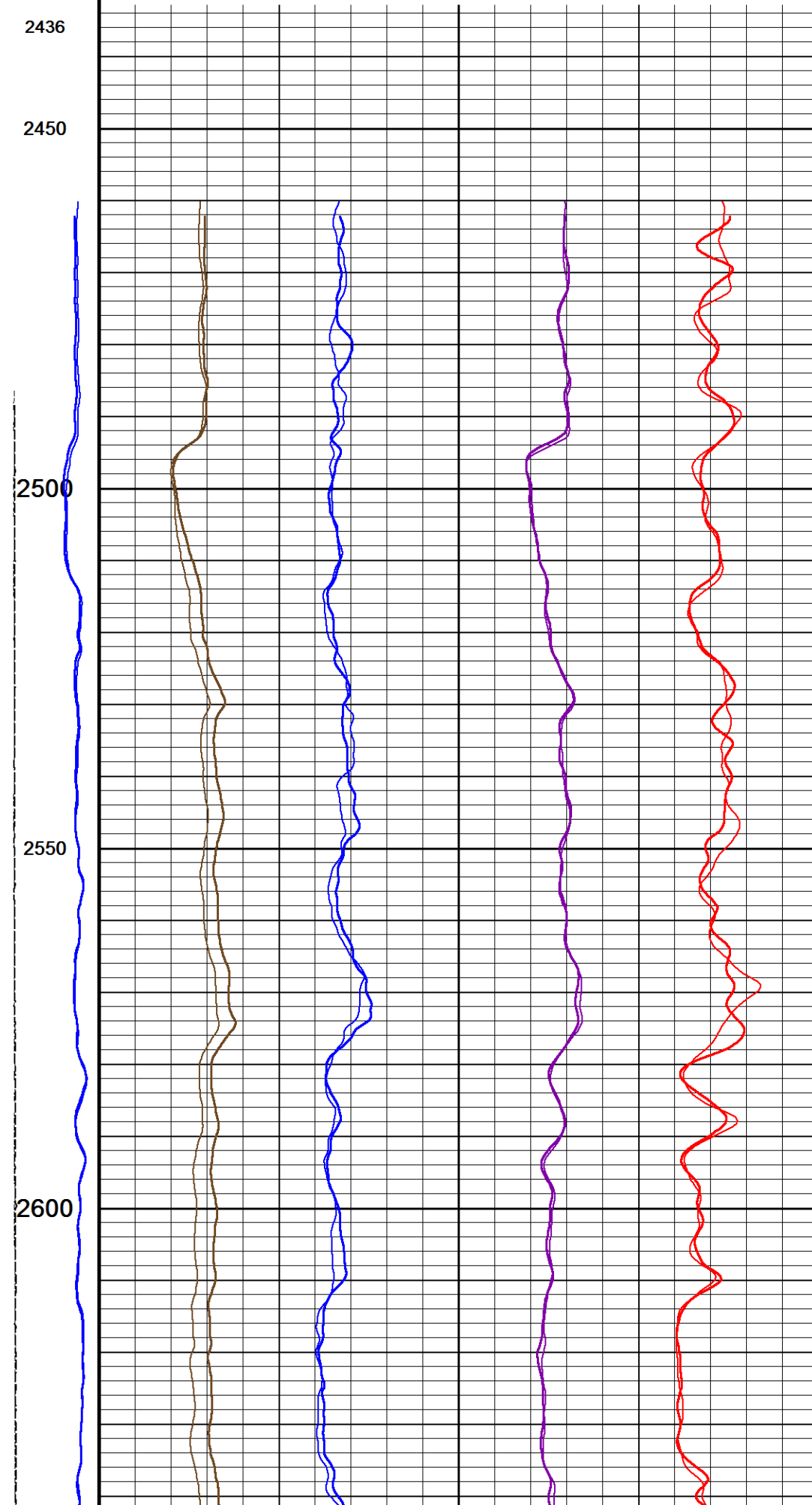
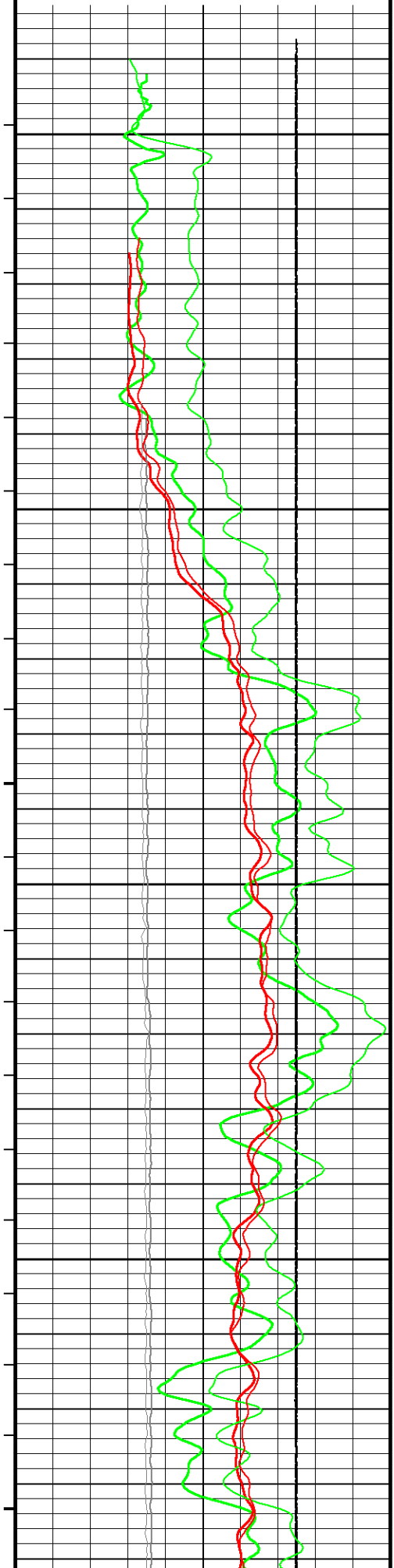
Plotted on 21-NOV-2015 21:41
 Recorded on 21-NOV-2015 06:02
 Recorded on 21-NOV-2015 18:39

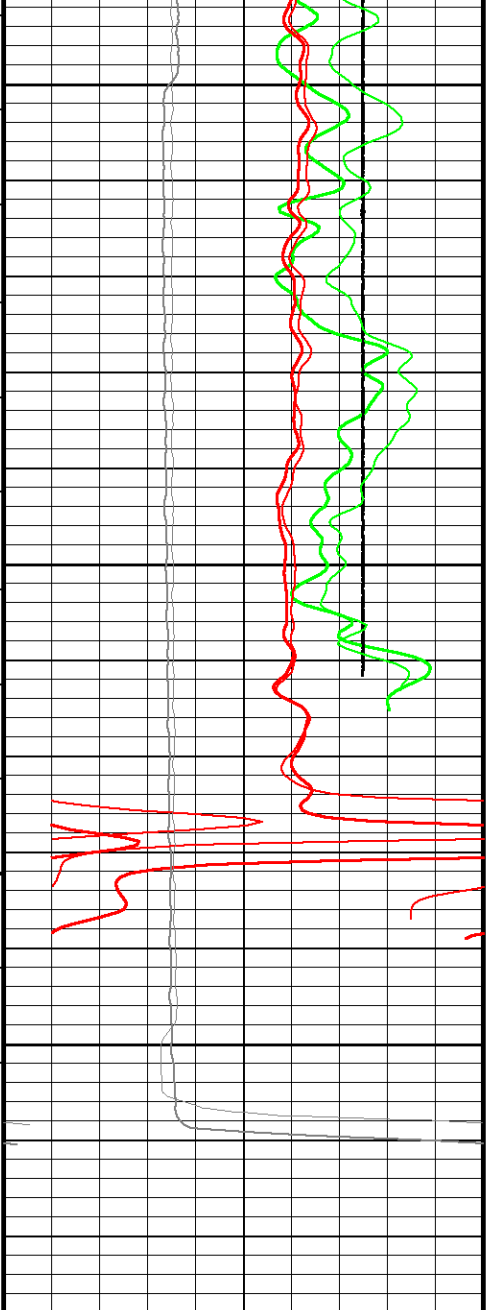


millivolts
-5000 5000

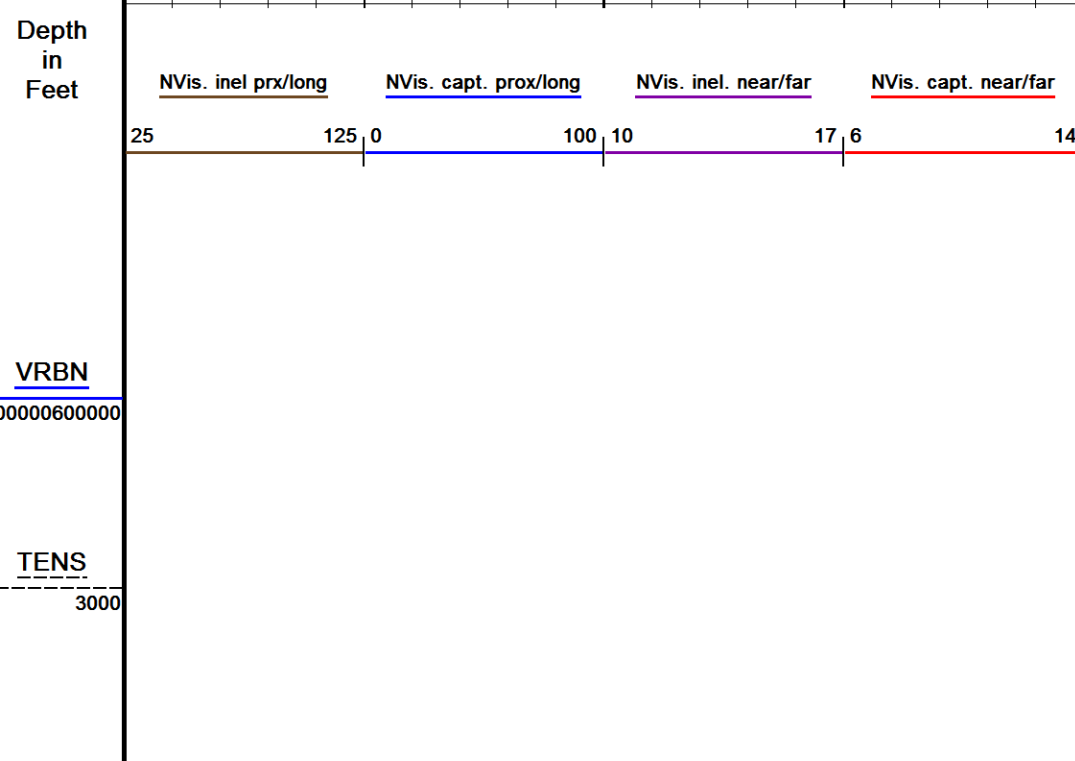
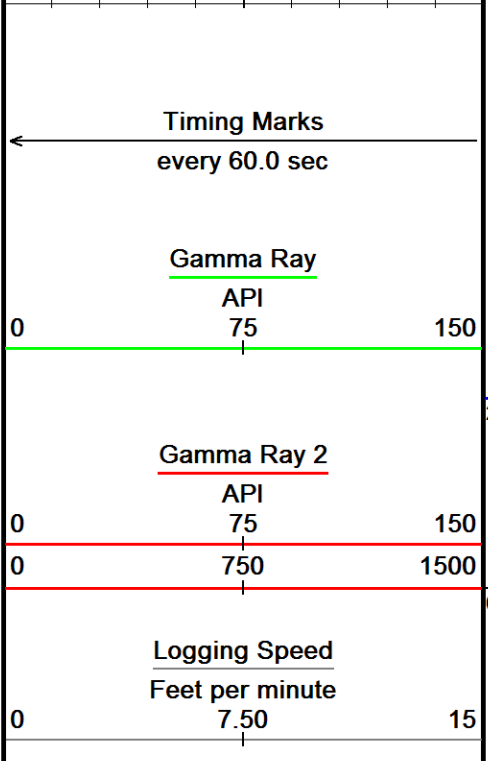
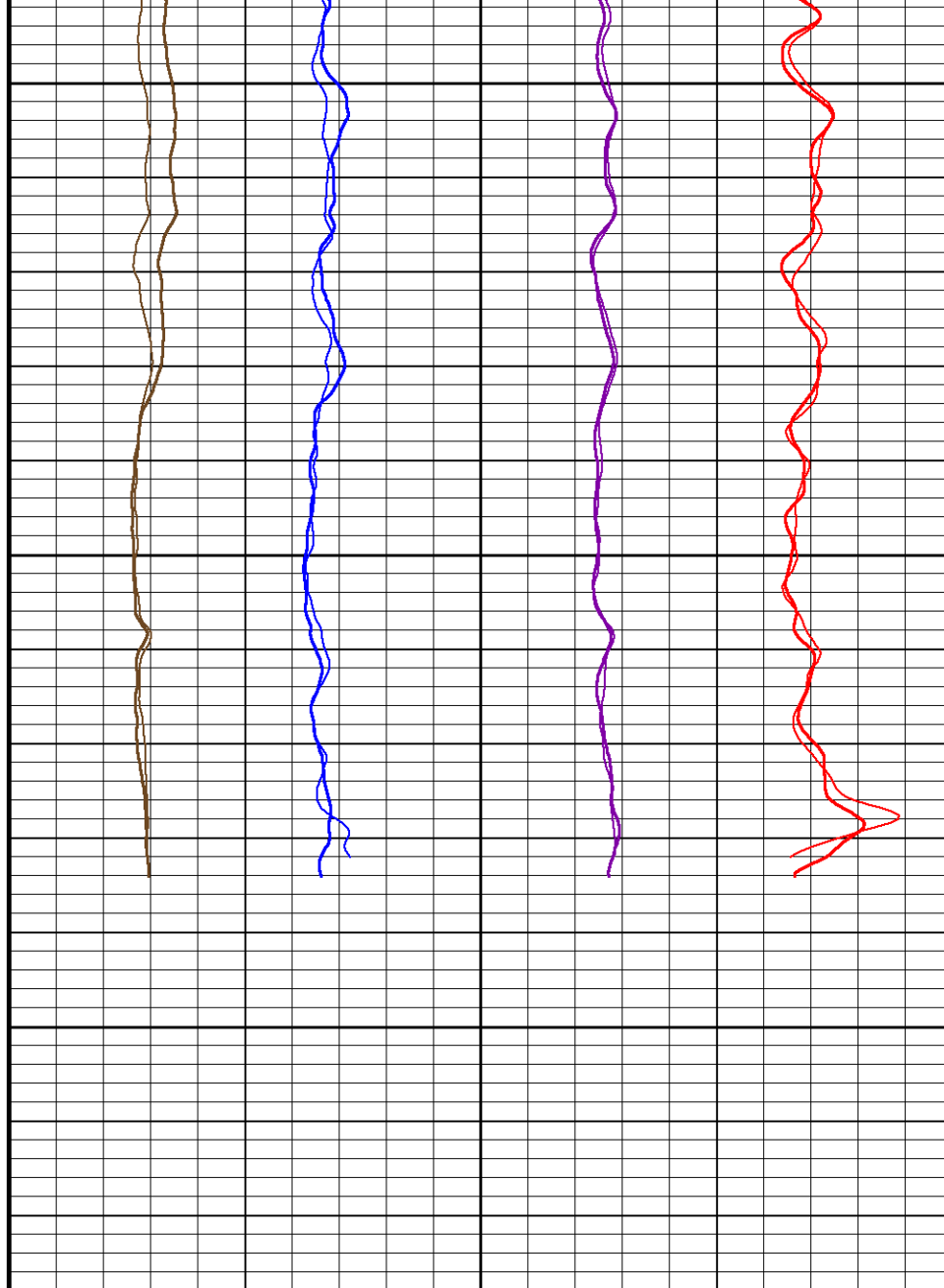
Replay
Scale
1:240

2436
2450
2500
2550
2600





2650
2700
2750
2776
Depth
in
Feet



Collar Locator
millivolts
-5000 5000

Replay
Scale
1:240

Depth Based Data - Maximum Sampling Increment 12.5cm

Plotted on 21-NOV-2015 21:41

Filename: C:\Logs\Caerus\Puckett 23B-1\CREB-SSB.dta

Recorded on 21-NOV-2015 06:02

Filename: C:\Logs\Caerus\Puckett 23B-1\CREB-SSB_002.dta

Recorded on 21-NOV-2015 18:39

System Versions: Logged with 16.00.6296 Processed with 16.00.6296 Plotted with 16.00.6296



REPEAT 1
REPEAT 2



DOWNHOLE EQUIPMENT

C:\Logs\Caerus\Puckett 23B-1\CREB-SSB.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 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



48.70 ft CCL - Collar Locator

46.26 ft GR - Gamma Ray

43.72 ft PRES - QPG Pressure

39.41 ft TMPN - Temperature

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



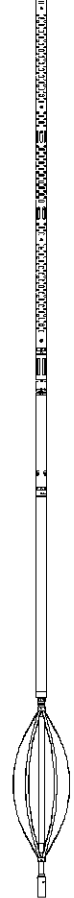
- 26.43 ft FV - far V
- 26.43 ft NV - near V
- 26.43 ft PV - prox V
- 26.43 ft BISP - beam I setpoint
- 26.43 ft REPV - ngc rep V
- 26.43 ft VRBN - VRBN
- 26.43 ft VC24 - NVis. capt. near/far
- 26.43 ft VC15 - NVis. capt. prox/long
- 26.43 ft VB24 - NVis. incl. near/far
- 26.43 ft VB15 - NVis. incl. prx/long
- 26.43 ft BEAM - beam current
- 26.43 ft BKL - Bkgd long
- 26.43 ft BKF - Bkgd Far
- 26.43 ft BKN - Bkgd Near
- 26.43 ft LV - long V

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

Total Length: 54.87 ft Weight: 242.5 lb



0.00 ft TENS - Tension
 Tool Zero (0.00ft from bottom)
 All measurements relative to tool zero.

SHOP AND FIELD CALIBRATIONS

C:\Logs\Caerus\Puckett 23B-1\CREB-SSB_004.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 Serial No: 108
 Calibrator No: 99

Background	calibrator	Standard	Units
42.7	1067.9	631.5	API

Delta Counts Per Sec: 1025.2 CPS/API: 1.622

QPG Master Calibration QPG-EA 107

Gauge

Serial Number	220929	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	14.1363	-0.231359	-0.0199948	9.69338e-006	
P1	9.69338e-006	42.6942	-0.0212493	2.7973e-005	
P2	2.7973e-005	-5.21212e-008	-0.00210258	8.46866e-006	
P3	8.46866e-006	-4.68837e-008	2.25752e-011	7.55316e-007	
P4					

Temperature

Temperature polynomial order 3					
	T0	T1	T2	T3	T4
	25.2281	-0.730006	-0.000855483	-6.83633e-007	

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

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

COMPANY	CAERUS OIL & GAS LLC
WELL	PUCKETT 23B-1
FIELD	GRAND VALLEY
PROVINCE/COUNTY	GARFIELD
COUNTRY/STATE	USA / COLORADO

Elevation Kelly Bushing	8351.00	feet	Bottom Log Interval	8779.00	feet
Elevation Drill Floor	8351.00	feet	Depth Driller	8852.00	feet
Elevation Ground Level	8329.00	feet	Depth Logger	8782.00	feet


Weatherford[®]
RAPTOR NVISION LOG