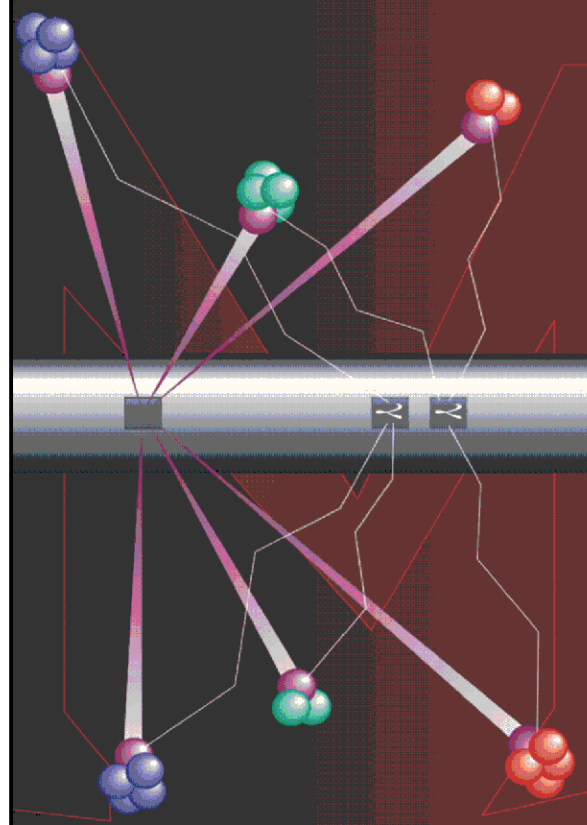


# Pulsed Neutron Formation Evaluation



## NEO Neutron Emulated Openhole

COMPANY LARAMIE ENERGY

WELL BRUTON 19-17E

FIELD VEGA

COUNTY MESA STATE COLORADO

LOCATION:

SEE REMARKS SECTION

SEC 19 TWP 9S RGE 93W

ELEVATIONS:

KB 7449.0 FT DF 7448.0 FT GL 7425.0 FT

DATE 18-AUG-2017 ECC 28079-01

IN MAKING INTERPRETATIONS OF LOGS OUR EMPLOYEES WILL GIVE THE CUSTOMER THE BENEFIT OF THEIR BEST JUDGEMENT. BUT SINCE ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS, WE CANNOT, AND WE DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION. WE SHALL NOT BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COST, DAMAGES, OR EXPENSES WHATSOEVER INCURRED OR SUSTAINED BY THE CUSTOMER RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR EMPLOYEES.

### COMPUTATION PARAMETERS

COMPUTATION	LOGS USED: <u>RPM-C</u>		PROGRAM: <u>NEO</u>
	CENTER: <u>CALGARY GEOSCIENCE</u>	LOG ANALYST: <u>A. KOTOV</u>	DATE: <u>23-AUG-2017</u>
FIELD DATA	LOCATION: <u>WOODWARD</u>	ENGINEER: <u>S.YASSA/US126723</u>	DATE: <u>18-AUG-2017</u>
FROM	TO		
<u>2354 FT</u>	<u>7700 FT</u>		

### REMARKS

LOCATION:  
SHL: LAT:39.255232N;LONG:107.806537W  
BHL: LAT:39.258531N;LONG:107.807036W

TRAINING WELL: BRUTON 19-19E

ANY ERRORS IN THE TRAINING WELL OPEN HOLE DATA CAN PERPETUATE TROUGH AS AN ERROR IN THE EMULATED RESULTS.

BONG LOG IS DEPTH REFERENCE LOG

EMULATED DENSITY CORRESPONDING TO 2243'-3100' ON TRAINING WELL IS AFFECTED  
BY SEVERELY DAMAGED BOREHOLE.

ANALYST: ALEXANDR KOTOV

## NEO RESULTS FOR BRUTON 19-17E (G-SAND)

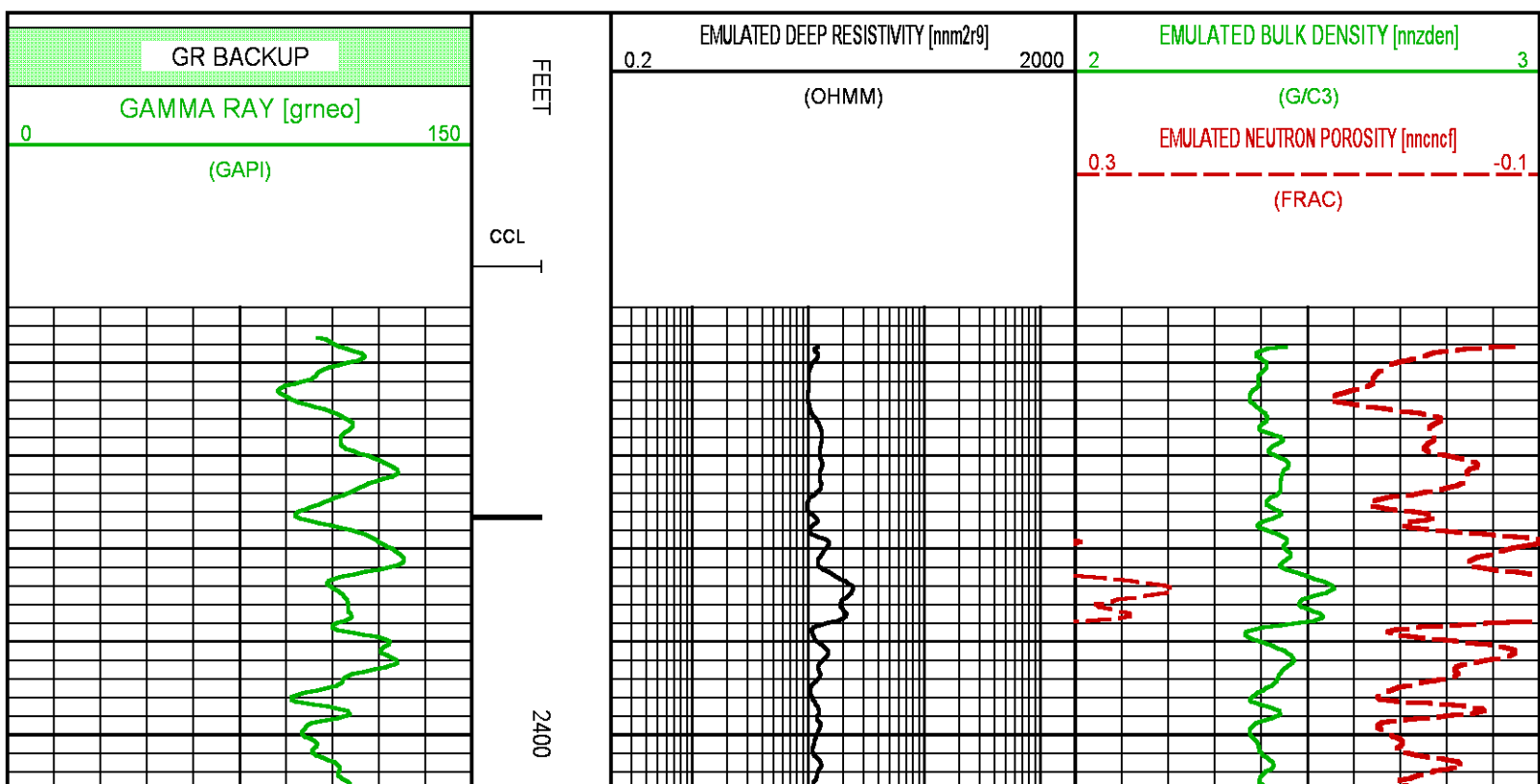
ECLIPS ECPLLOT from ECLIPS 7.0 WFM 5.0.7343.1 Sun 02/07/2016 16:48:51.73

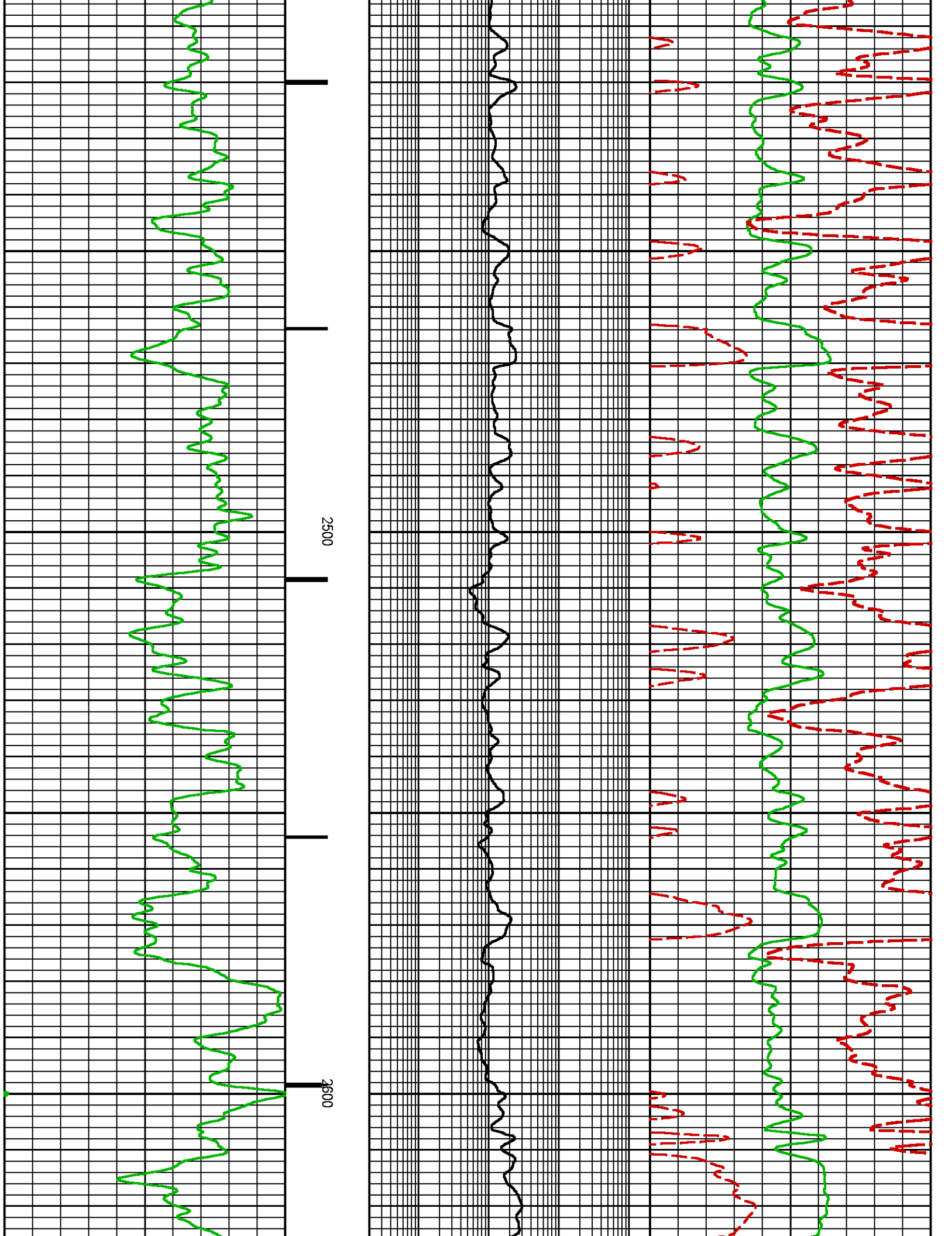
Plotted: Wed Aug 23 15:40:29 2017

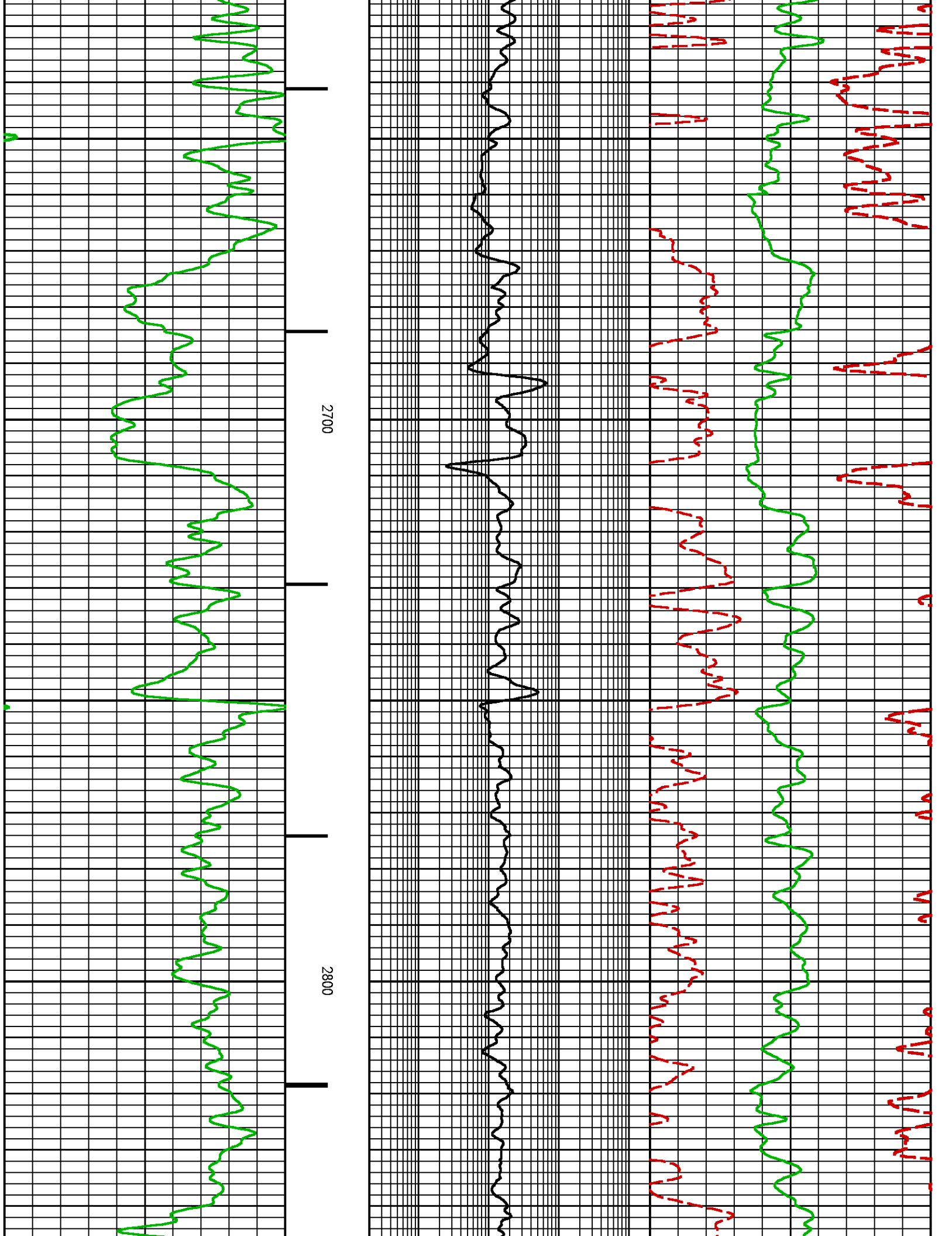
### CURVE MEASURE POINT OFFSET

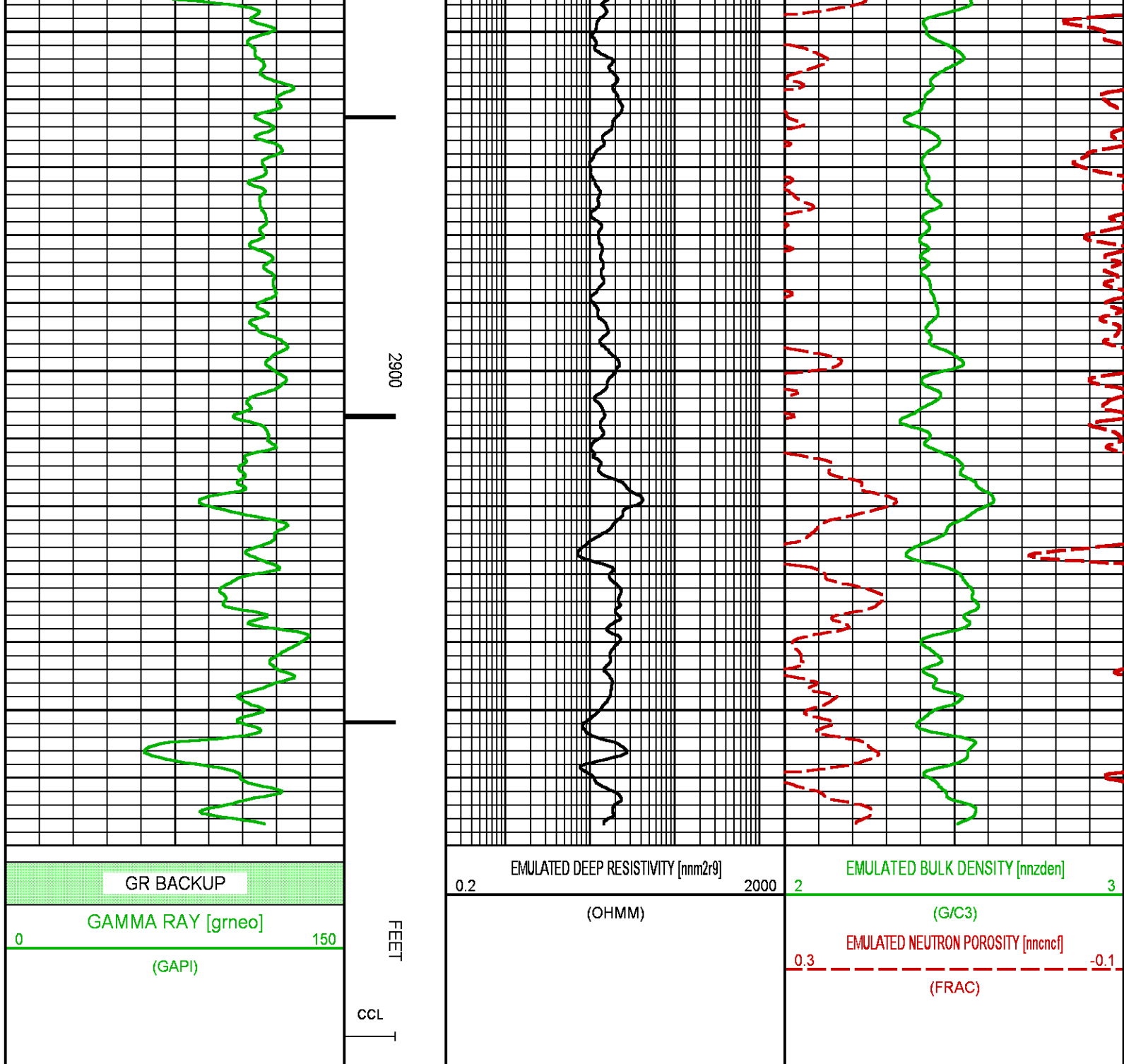
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
CCL	0.00	NNCNC	0.00	NNZDEN	0.00		
GRNEO	0.00	NNM2R9	0.00				

Project : NA  
User : kotoale  
Presentation : BHI1F65XZ1:D:\Ape\_Projects\LARAMIE\_BRUTON\_19\_17E\_NEO\  
NEO\_PRESENTATION\_LARAMIE\_G-Sand.pdf [5"/100' Scale]  
Plot Interval : 2354.75 - 2970 Feet  
  
Data File 1 : F1 : BHI1F65XZ1:D:\Ape\_Projects\LARAMIE\_BRUTON\_19\_17E\_NEO\Merged\_Set\_Final.xtf  
Created On : N/A  
Company : LARAMIE ENERGY  
Well : BRUTON 19-17E  
Field : VEGA  
File Interval : 2354.75 - 7700.75 Feet  
OCT : NA









## NEO RESULTS FOR BRUTON 19-17E (MAIN)

ECLIPS ECPLLOT from ECLIPS 7.0 WFM 5.0.7343.1 Sun 02/07/2016 16:48:51.73

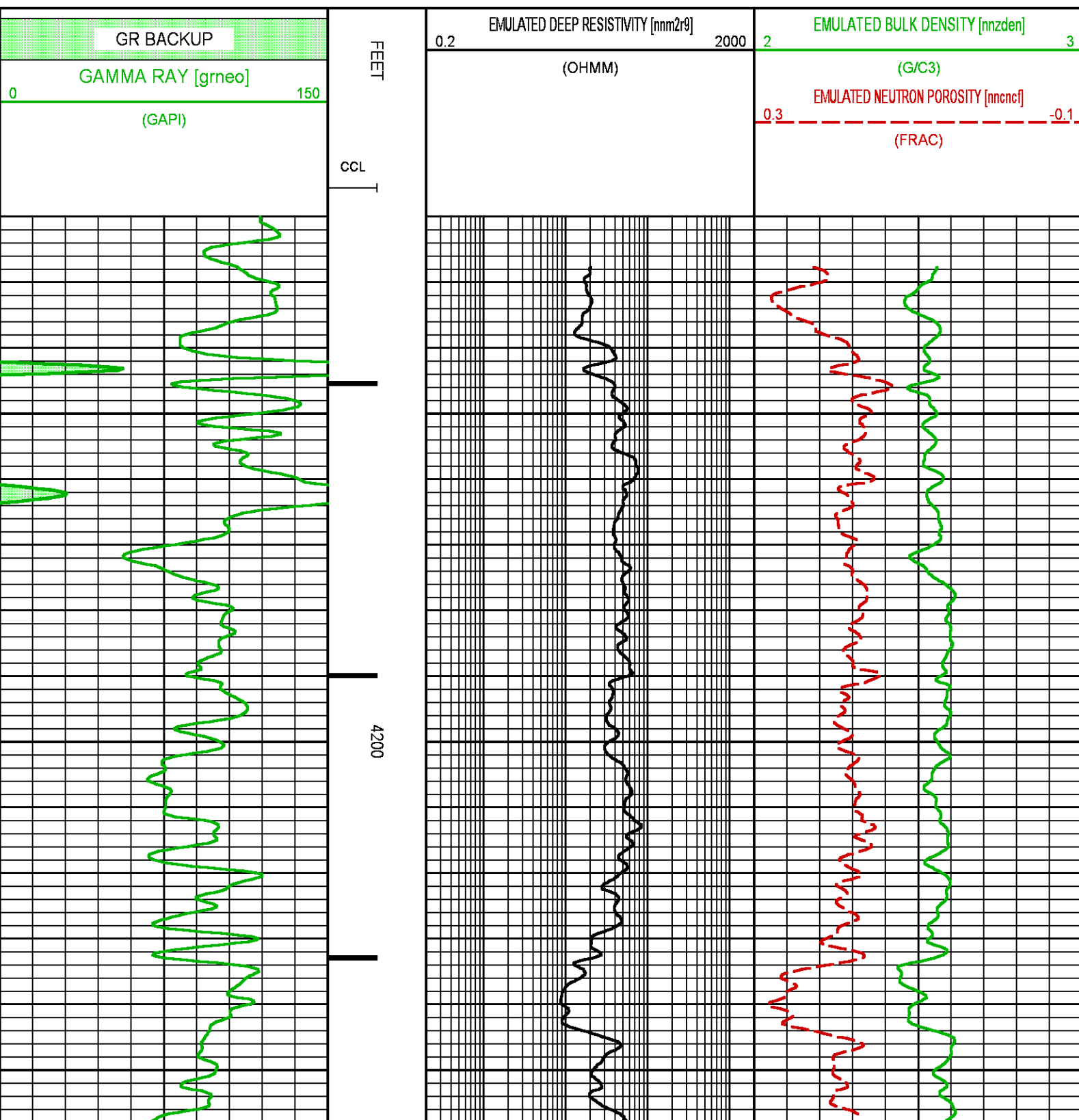
Plotted: Wed Aug 23 15:39:59 2017

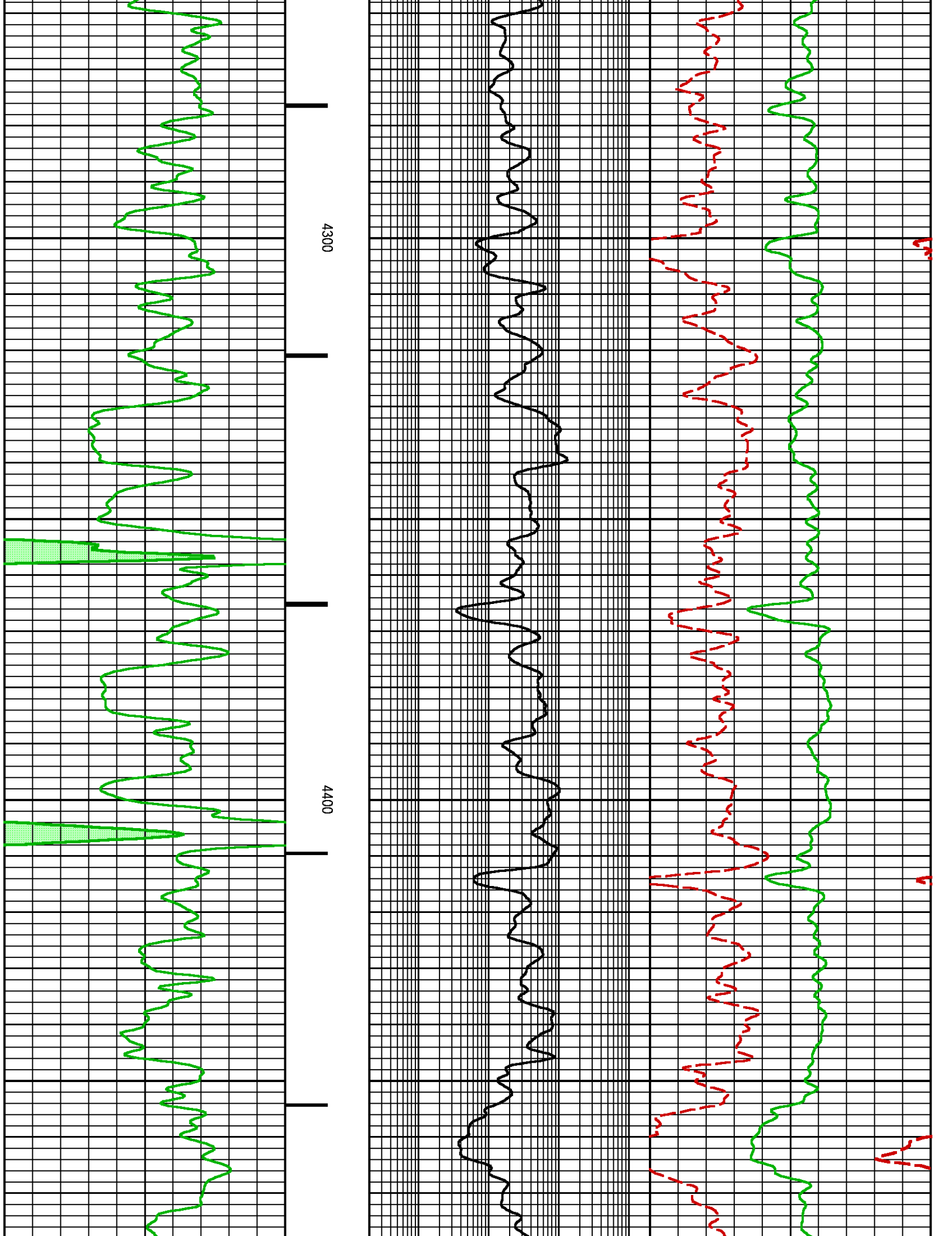
### CURVE MEASURE POINT OFFSET

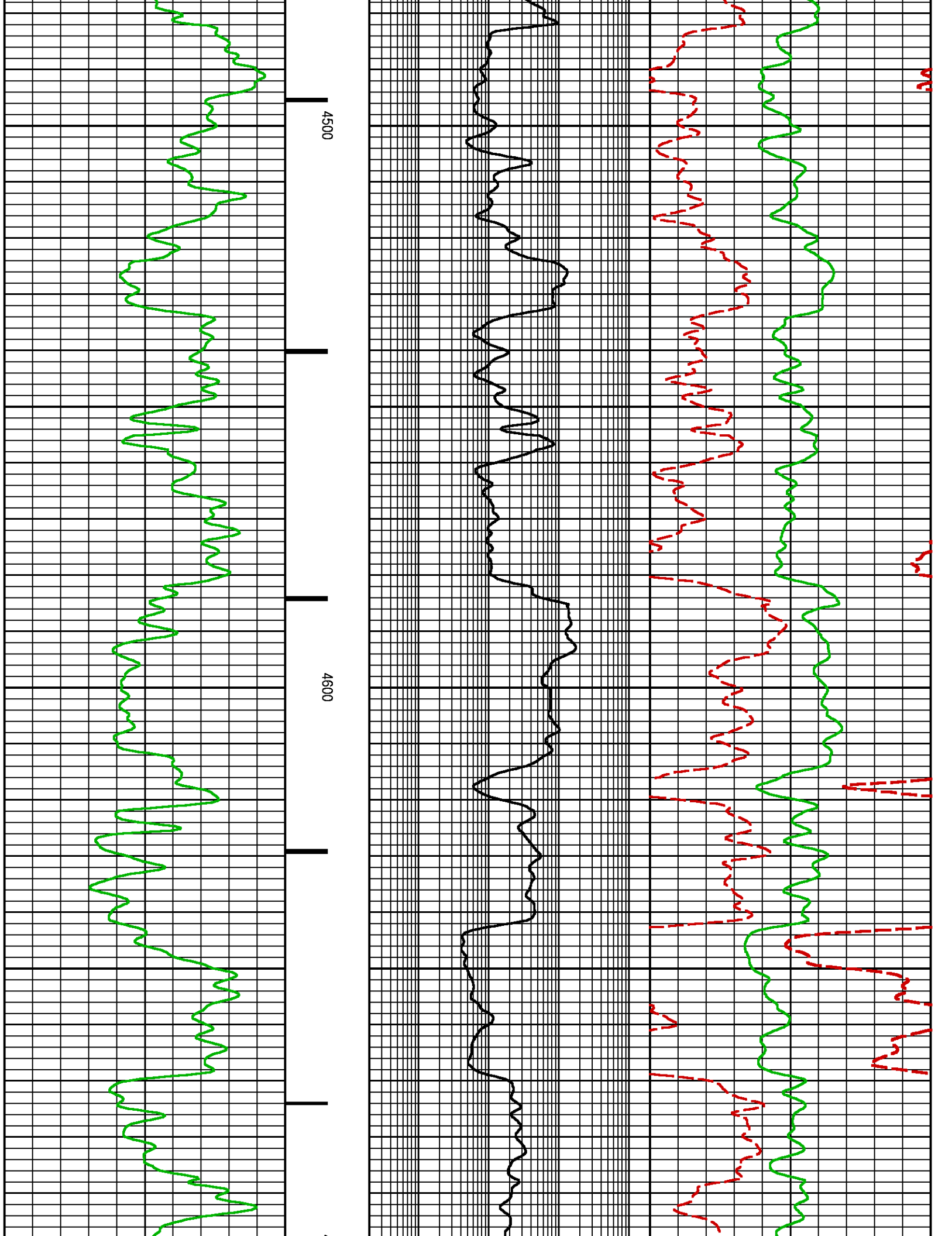
CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)	CURVE	OFFSET (ft)
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CCL	0.00	NNCNCf	0.00	NNZDEN	0.00	
GRNEO	0.00	NNM2R9	0.00			

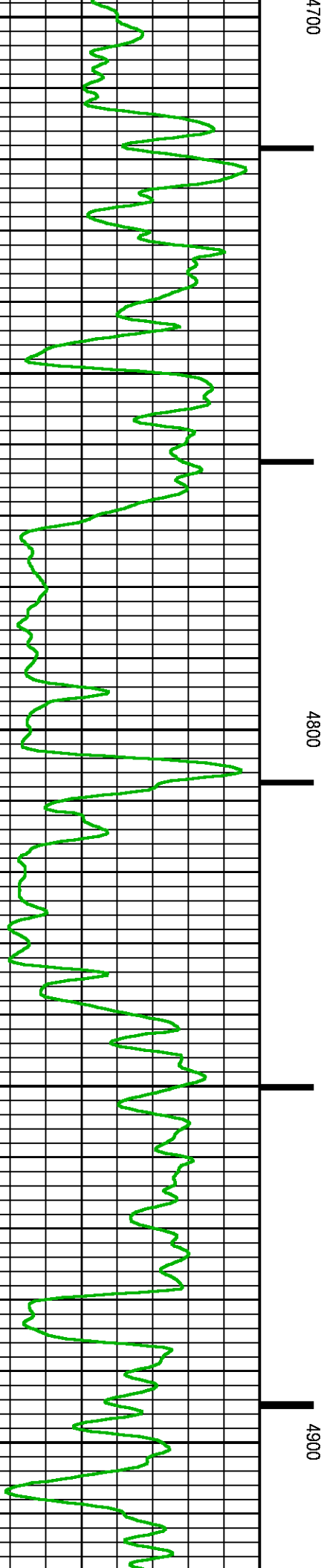
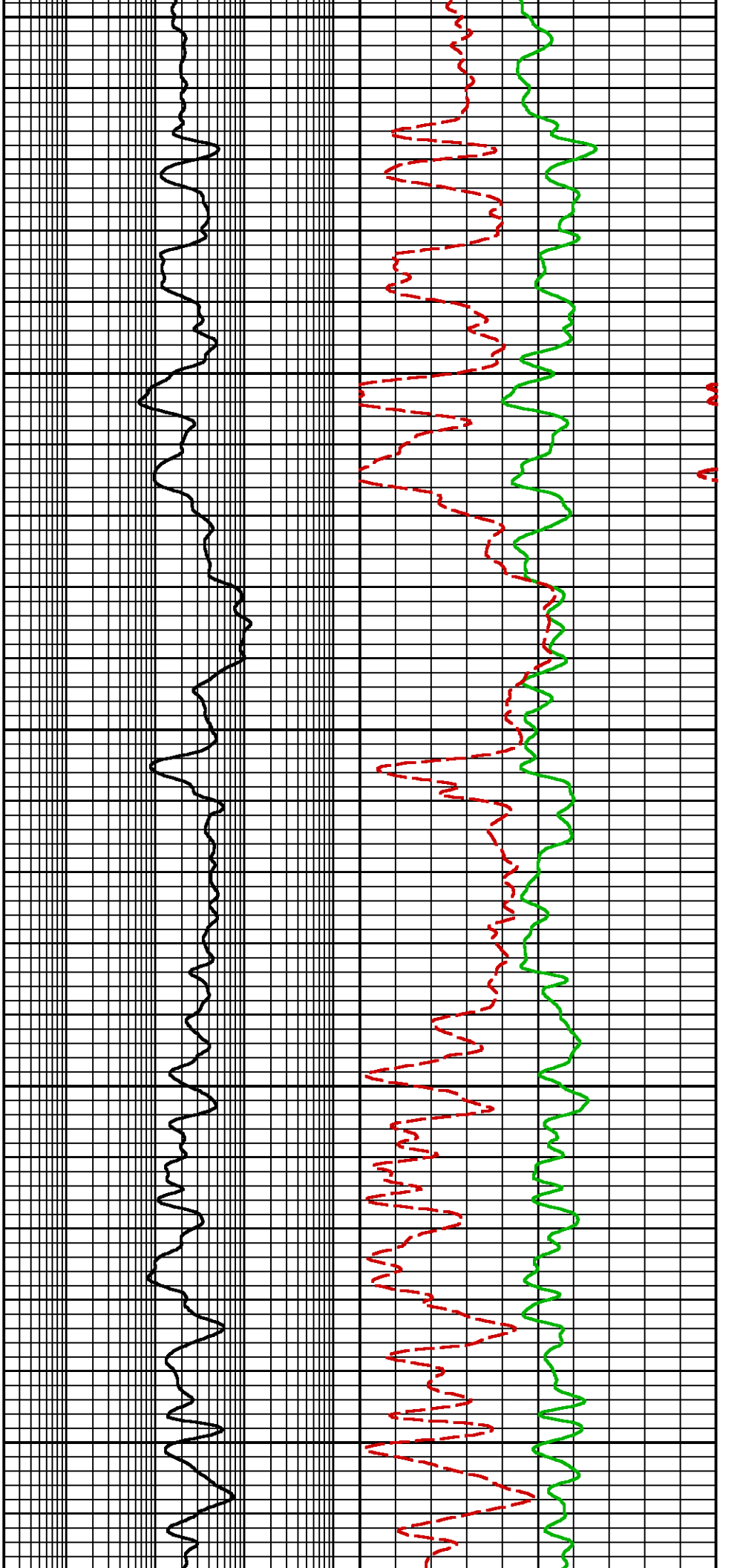
Project : NA  
User : kotoale  
Presentation : BHI1F65XZ1:D:\Ape\_Projects\LARAMIE\_BRUTON\_19\_17E\_NEO\NEO\_PRESENTATION\_LARAMIE\_MAIN.pdf [5"/100' Scale]  
Plot Interval : 4120 - 7700.75 Feet  
  
Data File 1 : F1 : BHI1F65XZ1:D:\Ape\_Projects\LARAMIE\_BRUTON\_19\_17E\_NEO\Merged\_Set\_Final.xtf  
Created On : N/A  
Company : LARAMIE ENERGY  
Well : BRUTON 19-17E  
Field : VEGA  
File Interval : 2354.75 - 7700.75 Feet  
OCT : NA

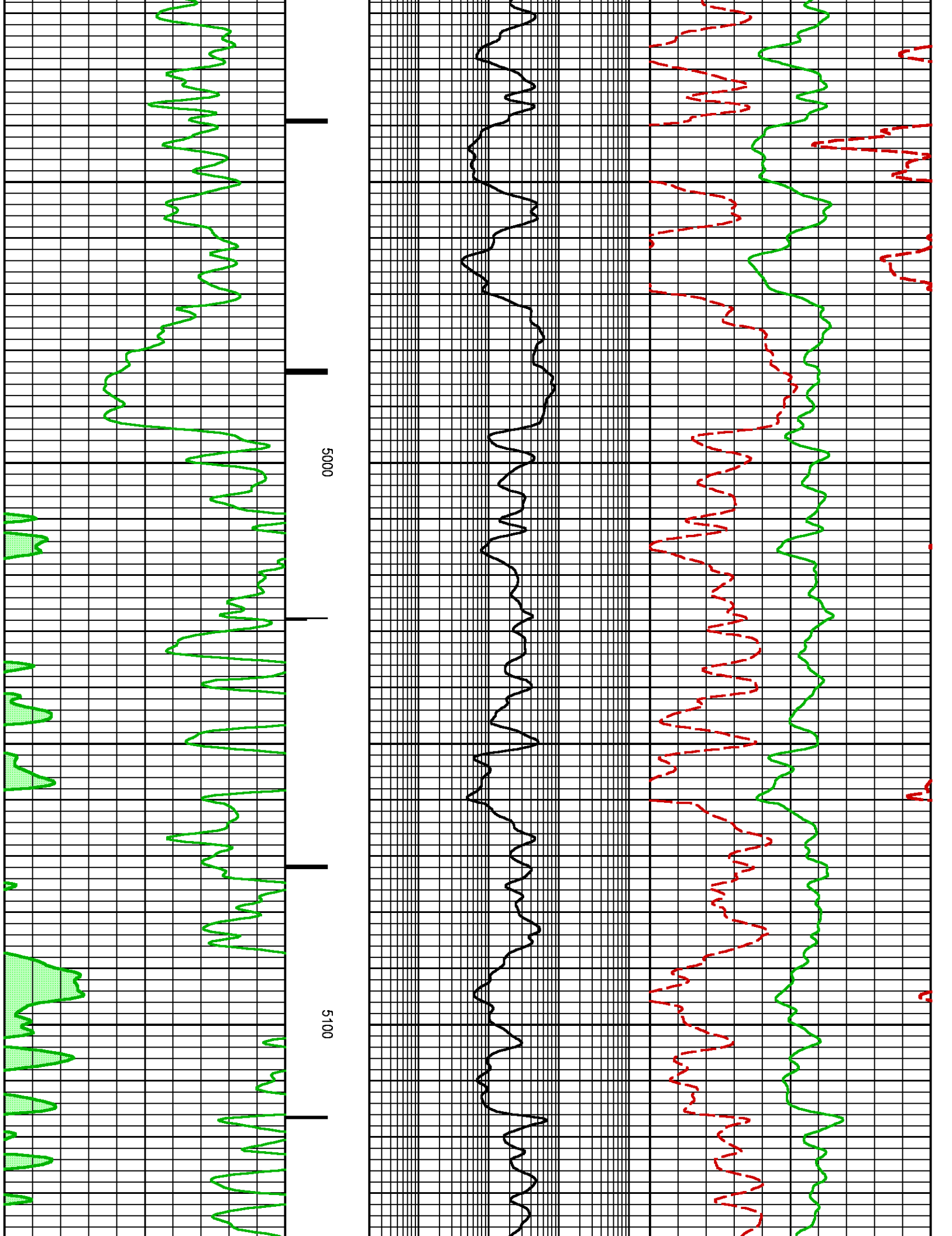


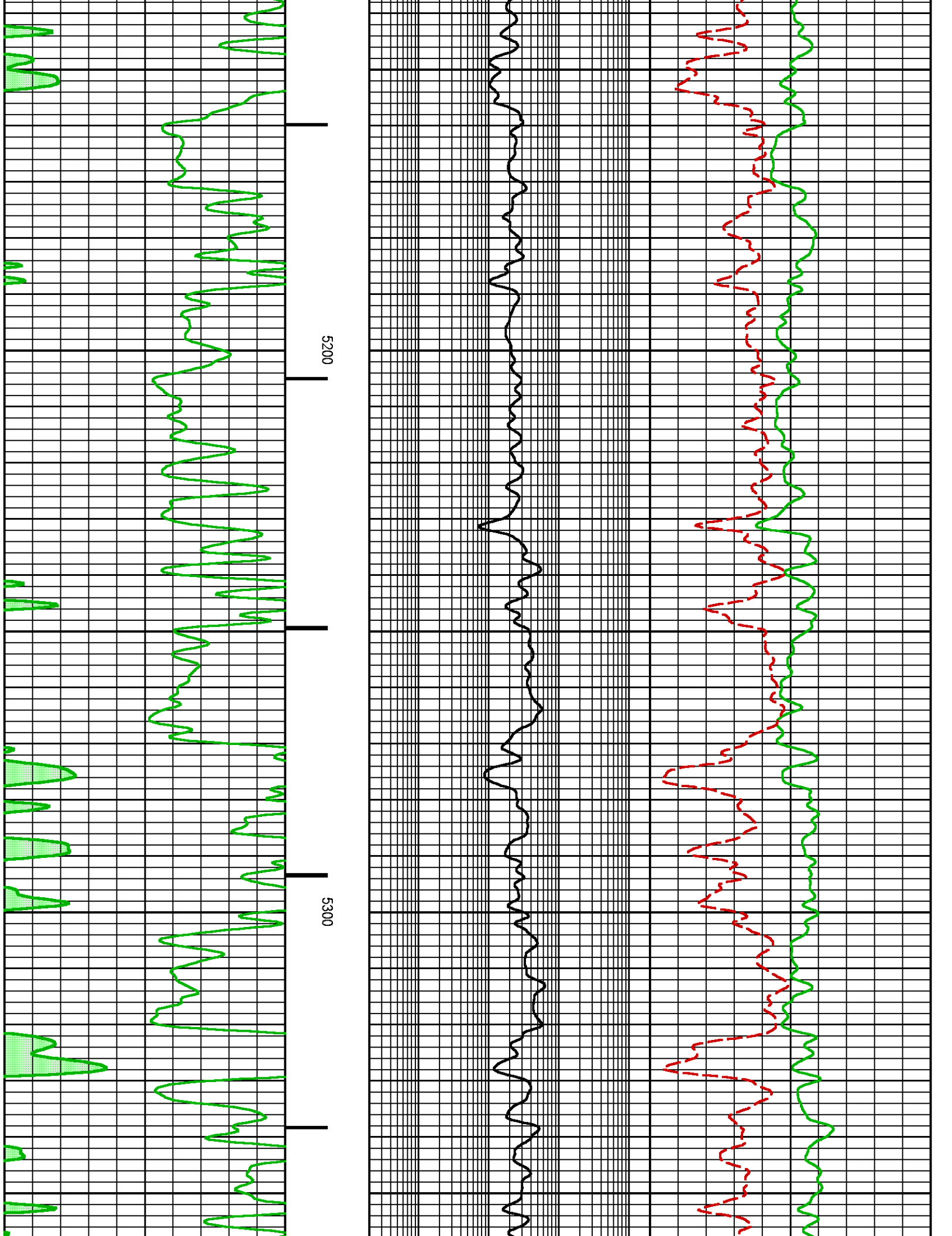


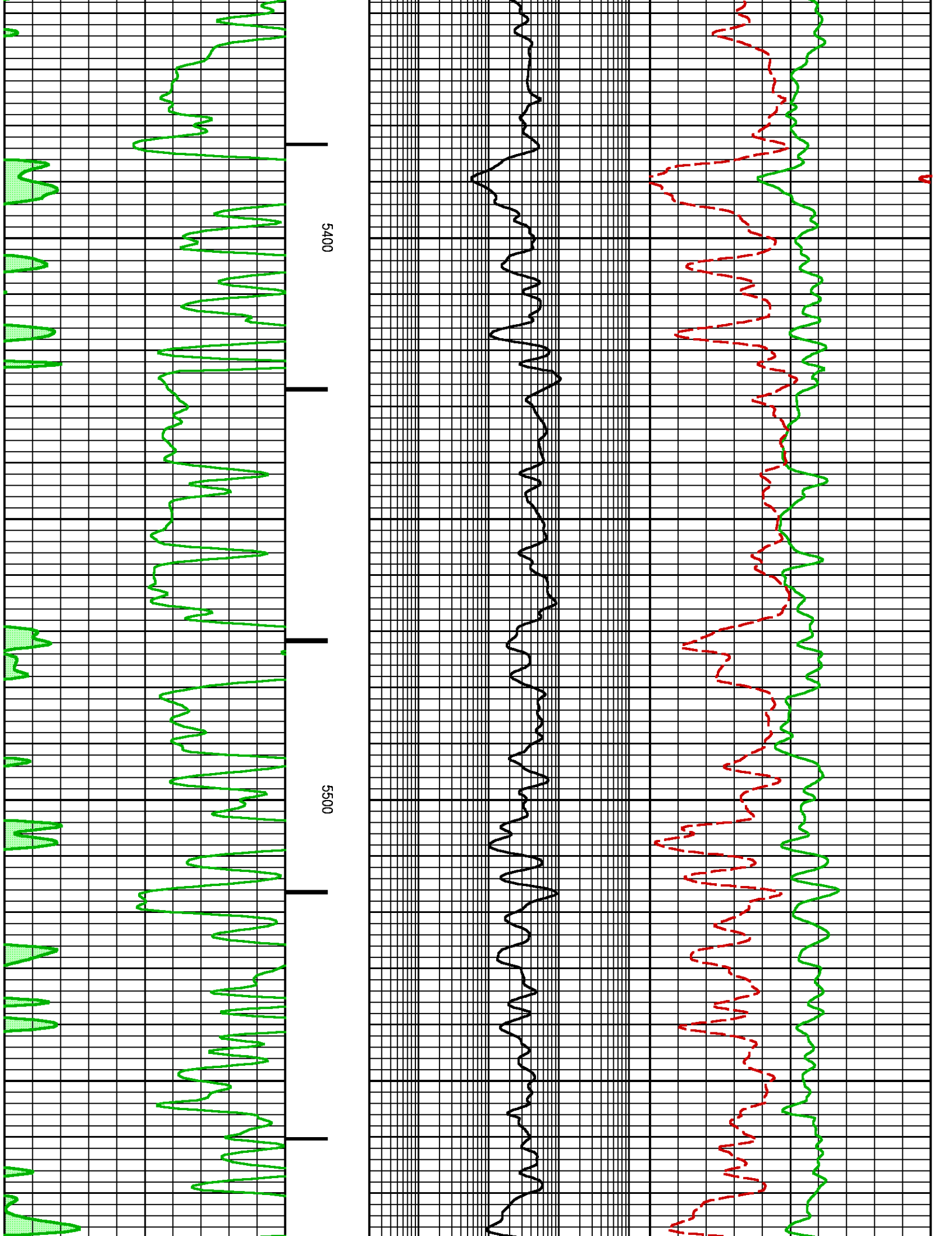


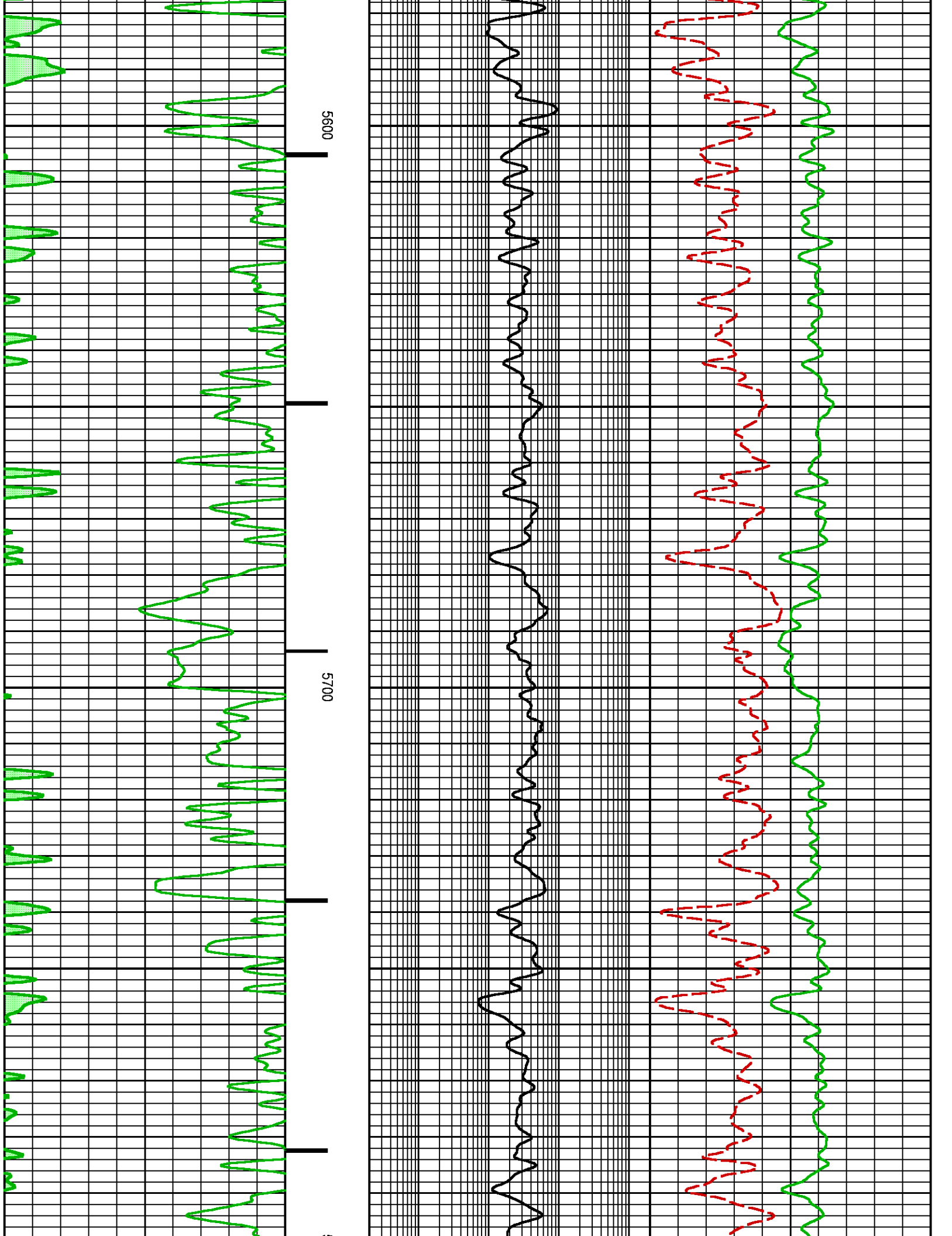


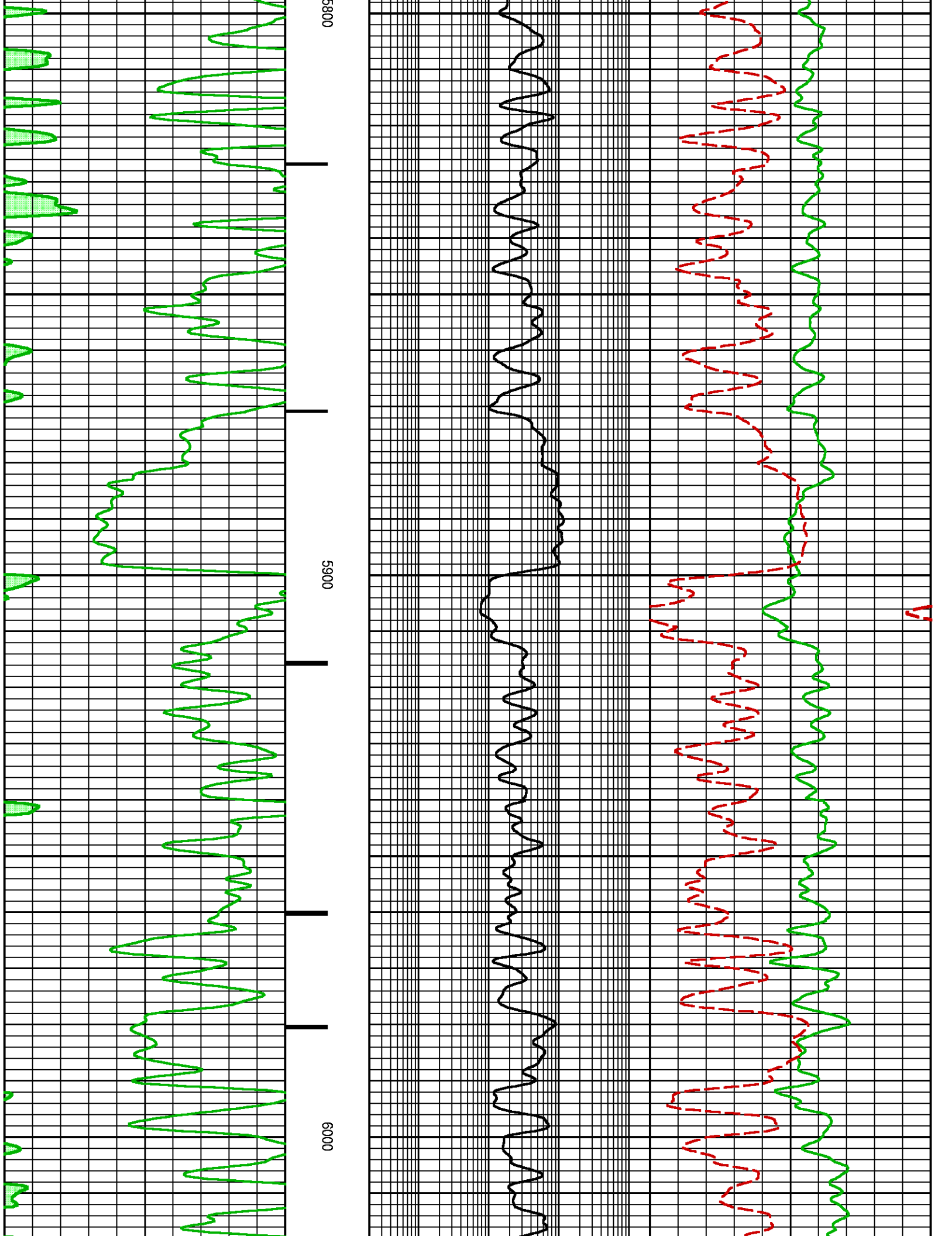


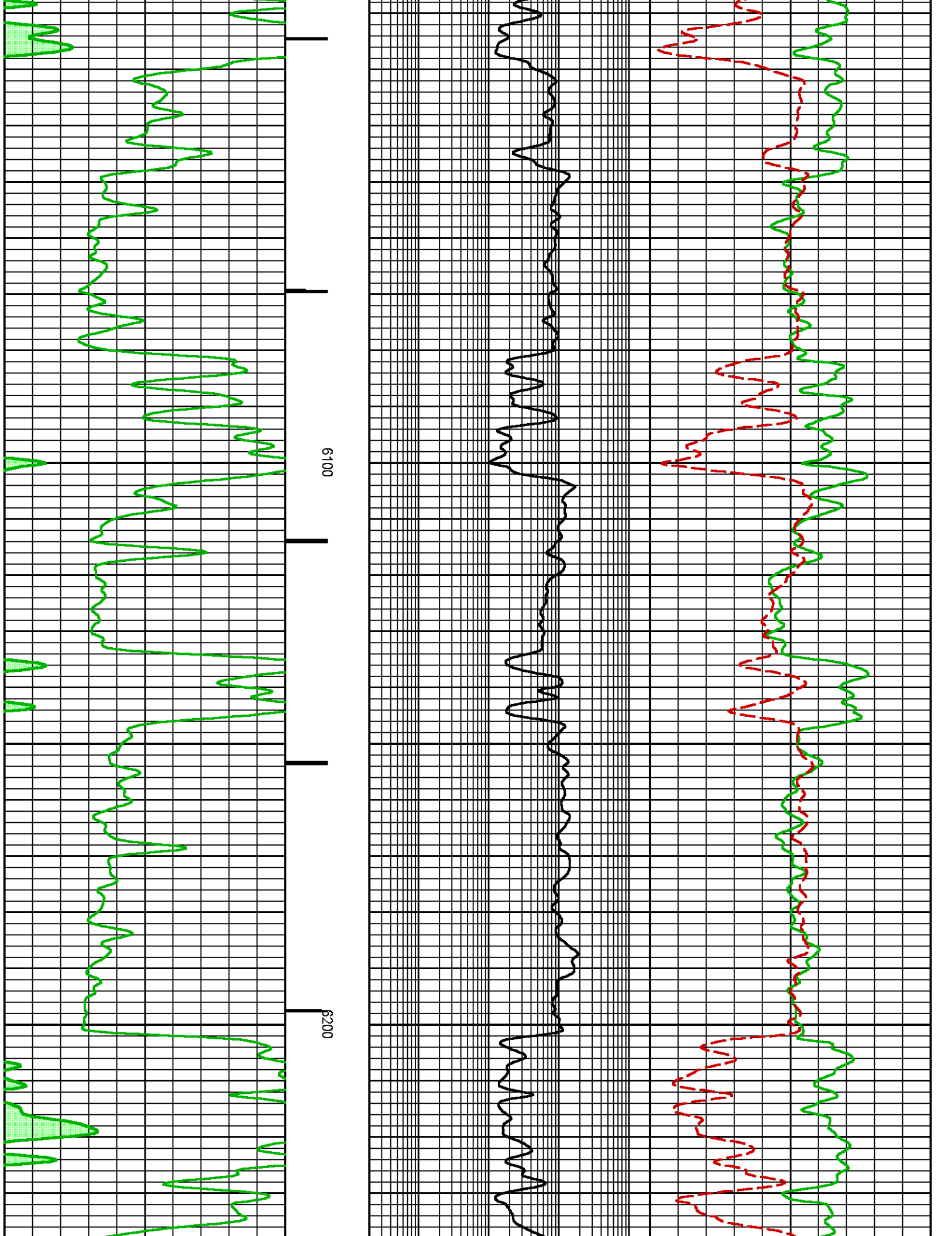


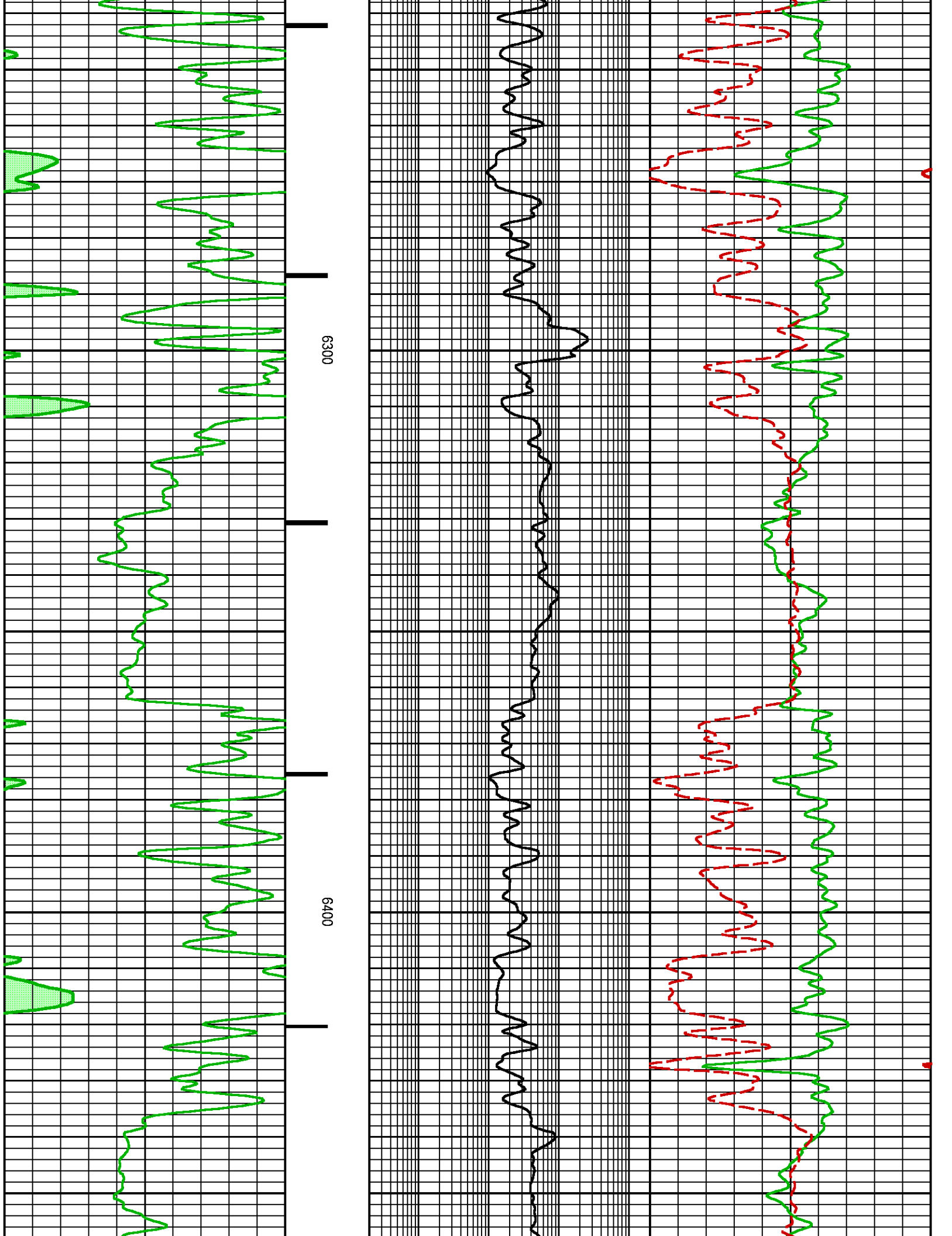




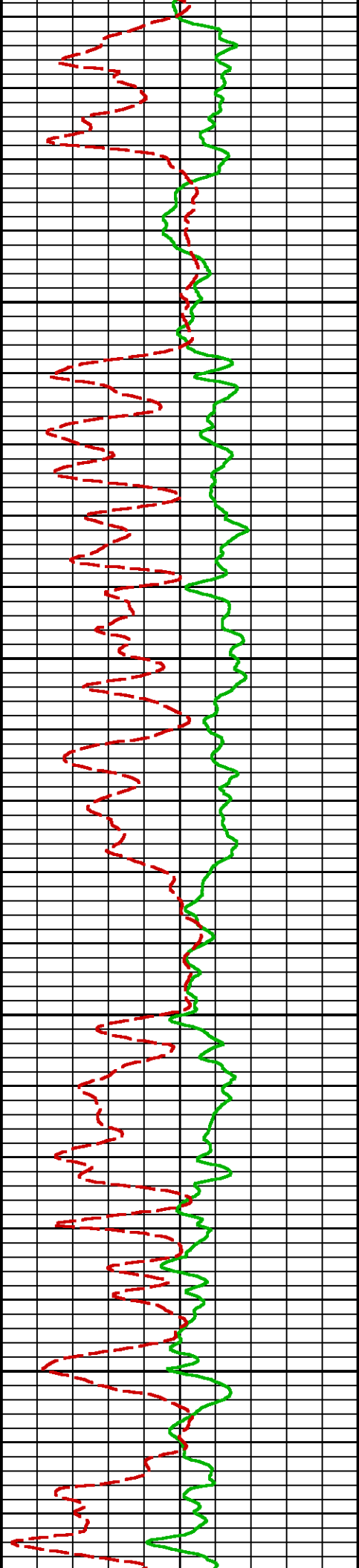
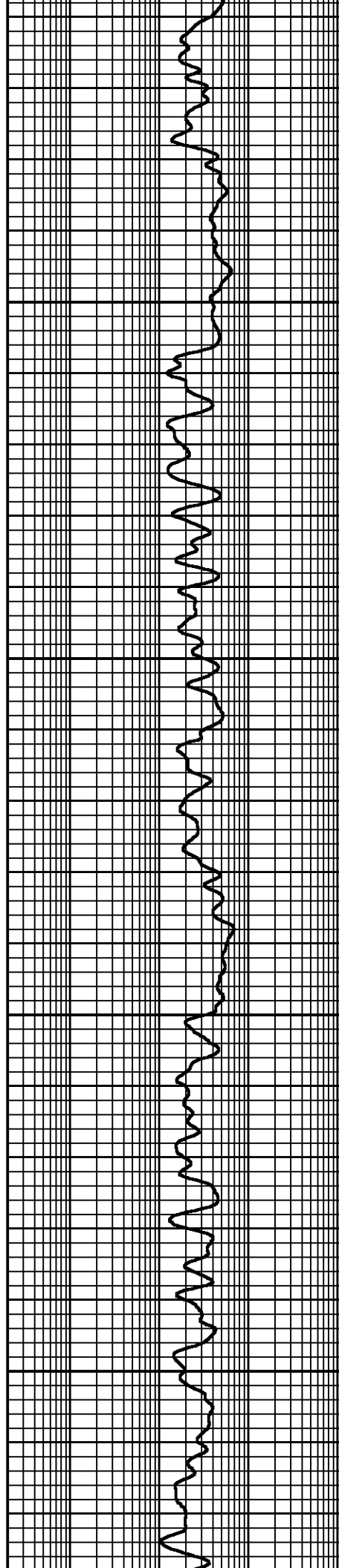
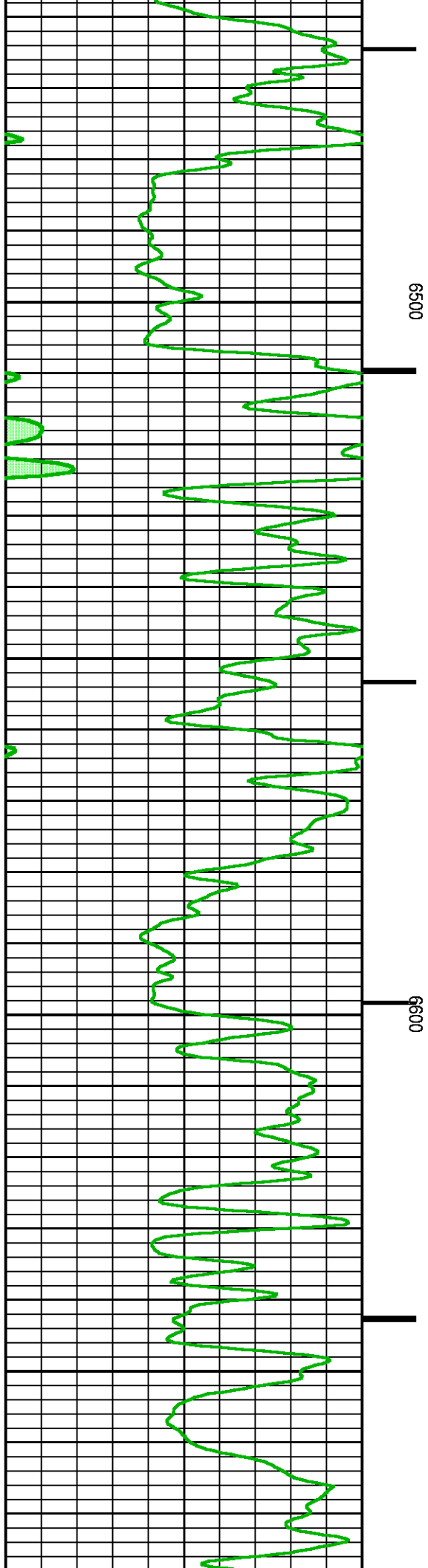


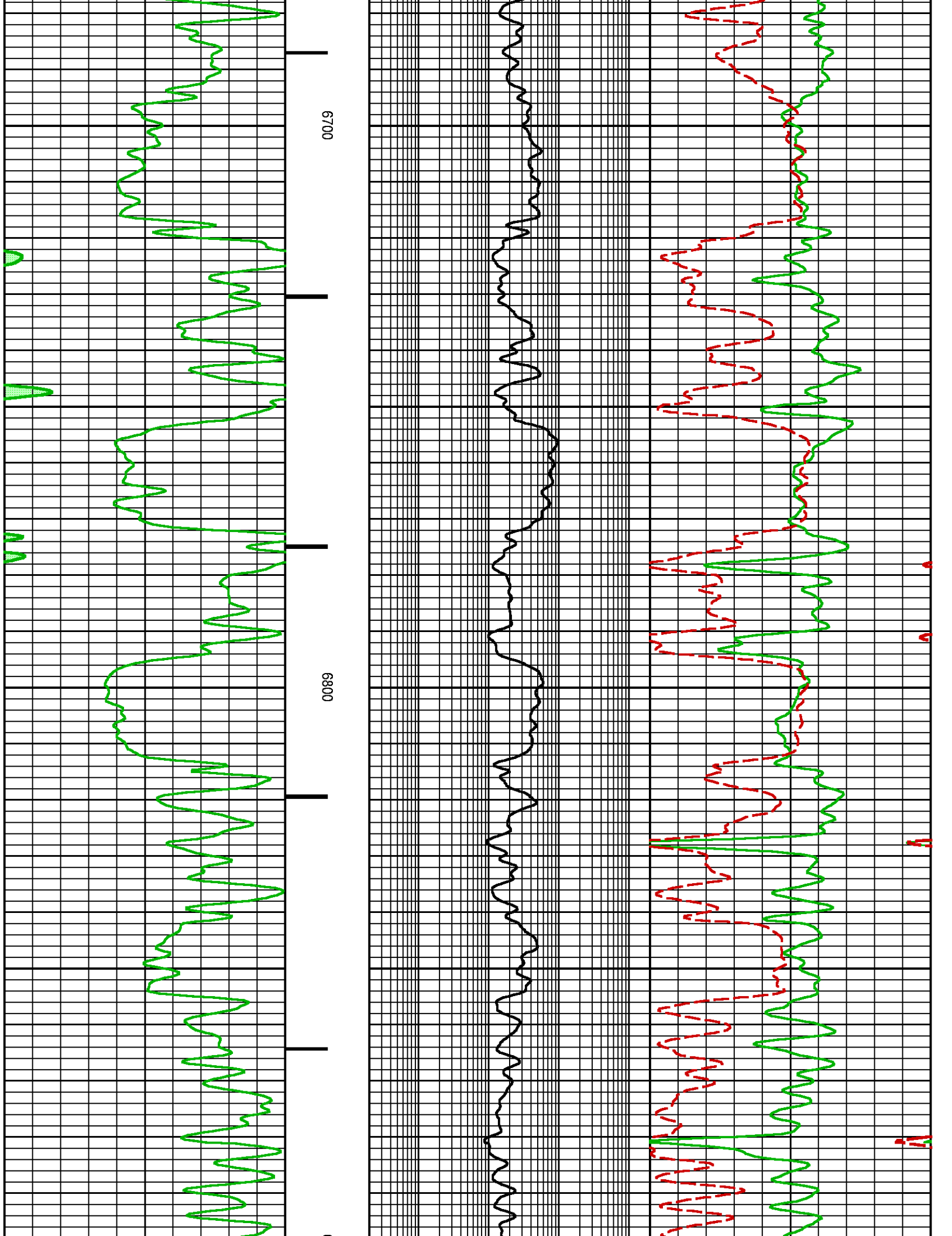


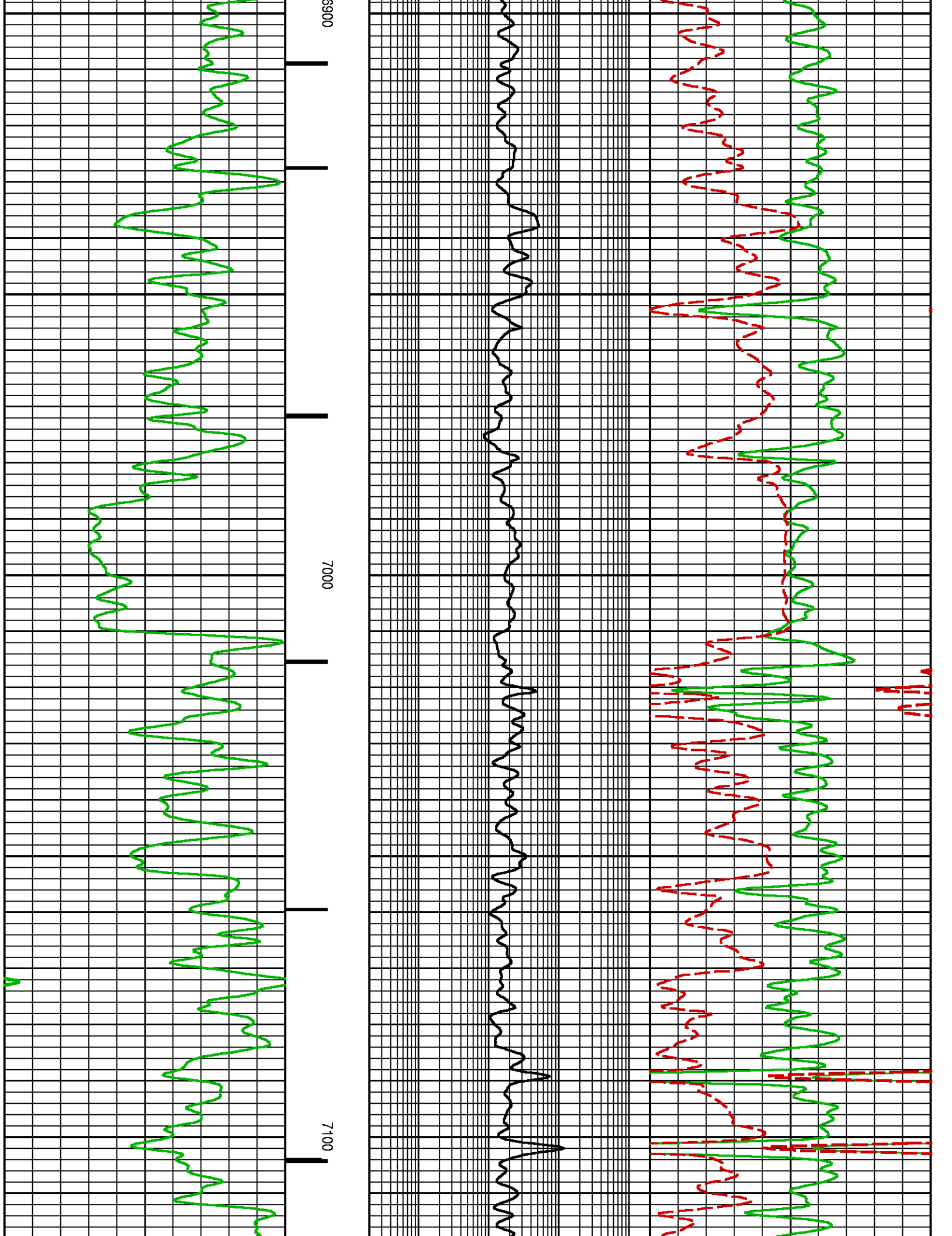


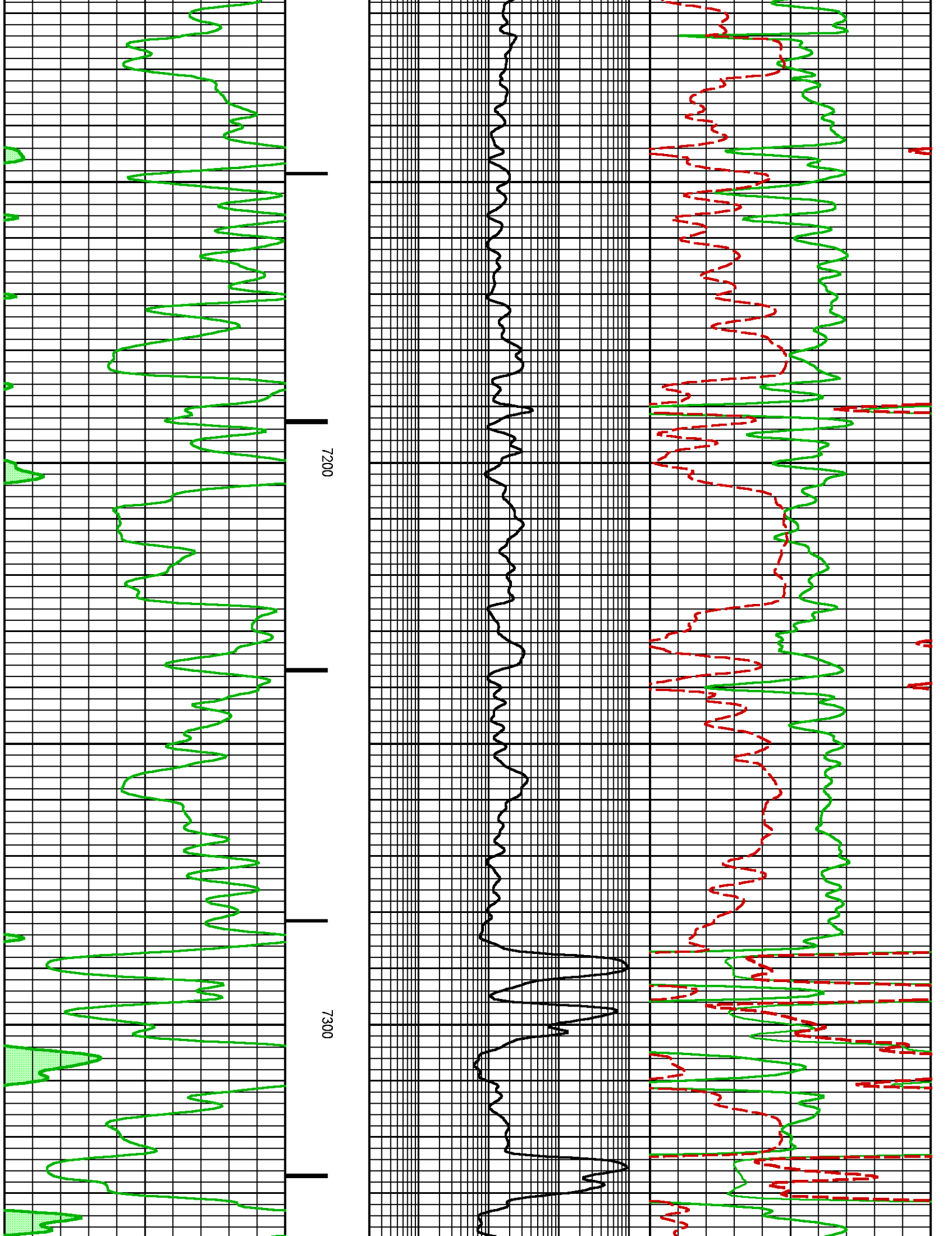


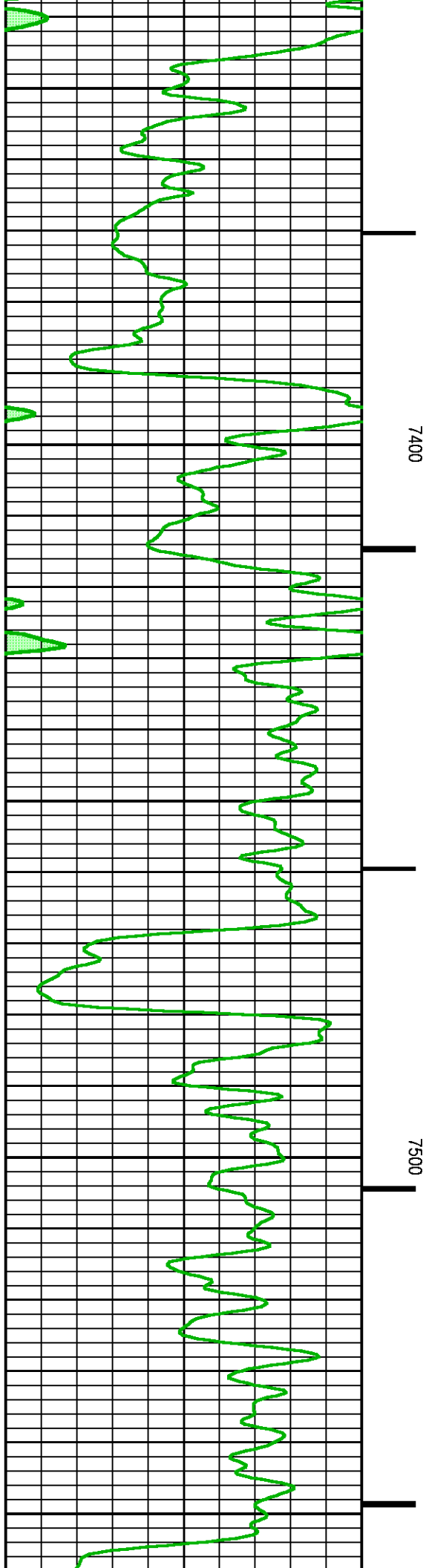
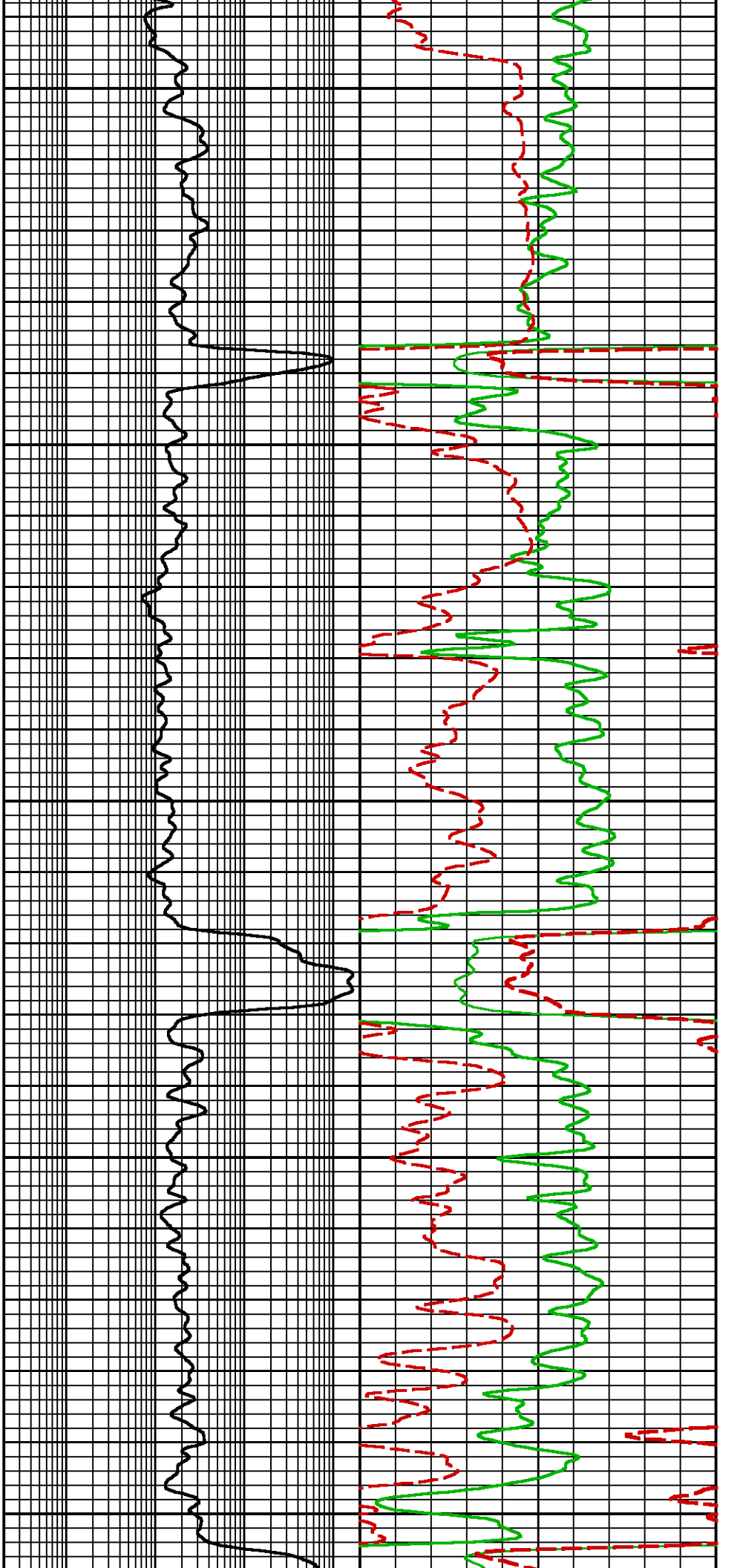


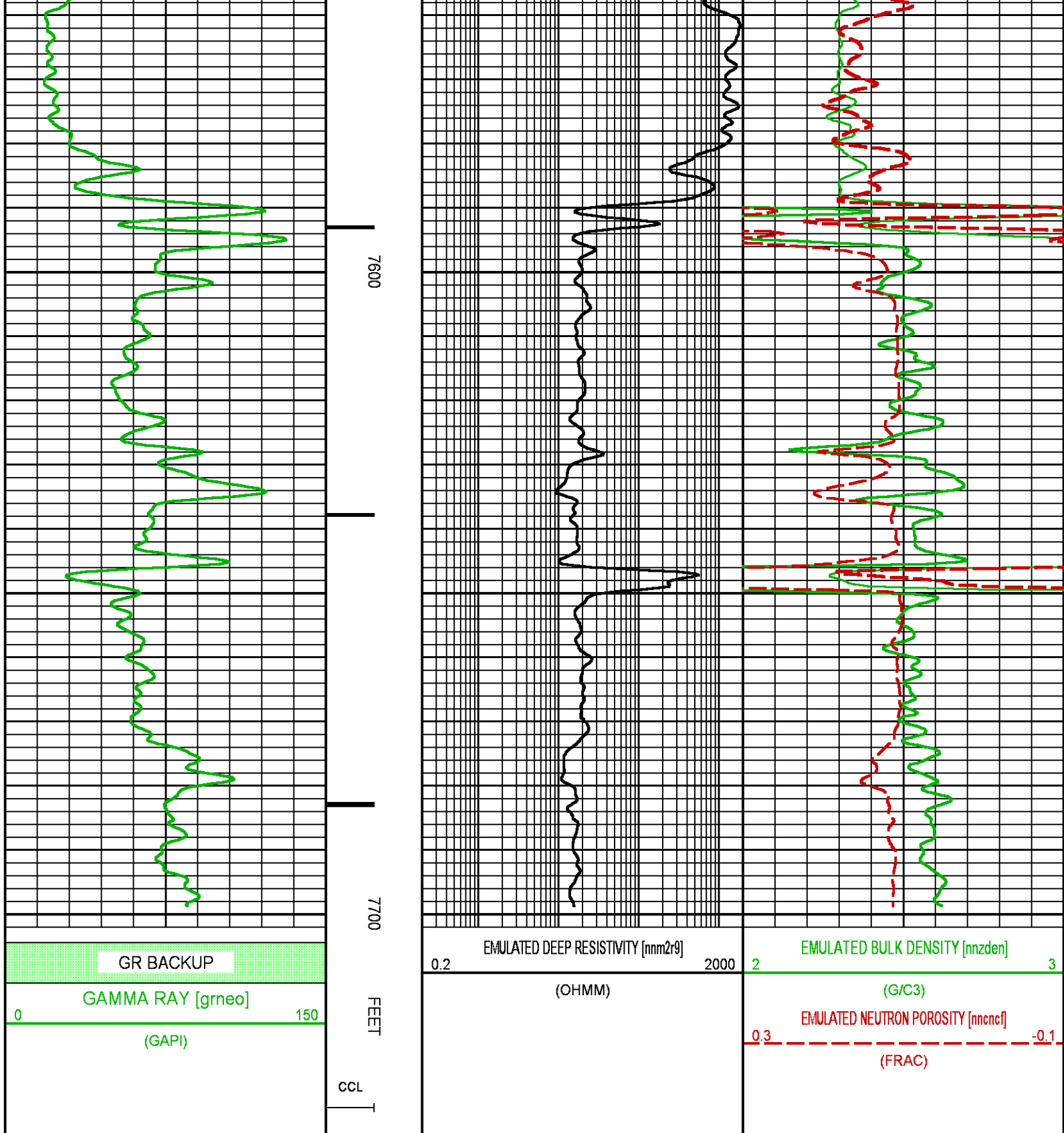












**BAKER HUGHES**  
a GE company



**COMPANY**  
**WELL**  
**FIELD**  
**COUNTY**

**LARAMIE ENERGY**  
**BRUTON 19-17E**  
**VEGA**  
**MESA**

**STATE** **COLORADO**

**FILE NO:**

**28079-01**

**API NO:**

**05077103670000**

**LOCATION:**

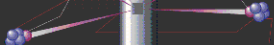
SEE REMARKS SECTION

**ELEVATIONS:**

KB 7449.0 FT

DF 7448.0 FT

GL 7425.0 FT



SEC 19 TWP 9S RGE 93W

DATE 18-AUG-2017