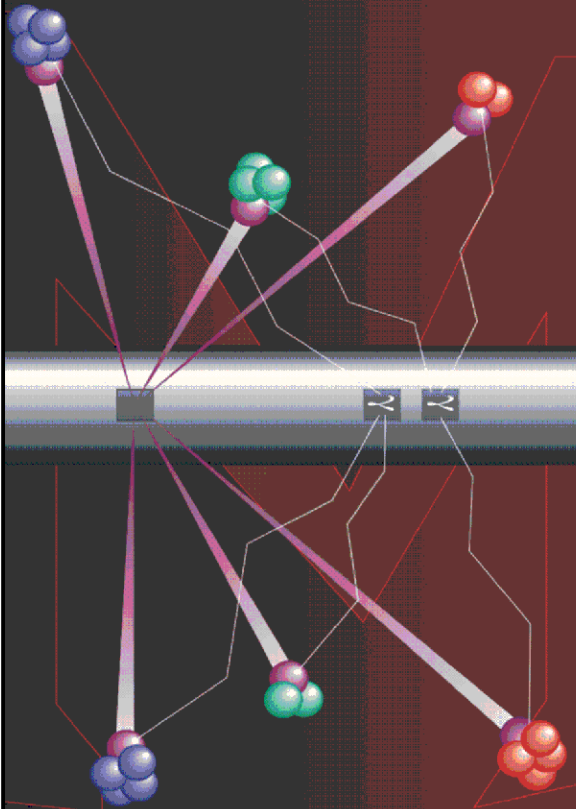




# Pulsed Neutron Formation Evaluation



## NEO Neutron Emulated Openhole

COMPANY LARAMIE ENERGY LLC

WELL NICHOLS 0994-24-08E

FIELD VEGA

COUNTY MESA STATE COLORADO

LOCATION:

SEE REMARKS SECTION

SEC 24 TWP 9S RGE 94W

ELEVATIONS:

KB 7161.0 FT DF 7160.0 FT GL 7137.0 FT

DATE 23-JAN-2018 ECC 30113-01

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>1-FEB-2018</u>
FIELD DATA	LOCATION: <u>WOODWARD</u>	ENGINEER: <u>M.MENTZER/US132013</u>	DATE: <u>23-JAN-2018</u>

FROM	TO								
<u>2232 FT</u>	<u>7436 FT</u>								

### REMARKS

LOCATION:  
SHL: LAT:39.264465 N; 107.830720 W  
BHL: LAT:39.264737 N; 107.826024 W

TRAINING WELL: NICHOLS 0994-24-06W

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

BOND LOG IS DEPTH REFERENCE LOG

# NEO RESULTS FOR NICHOLS 0994-24-08E (G-SAND)

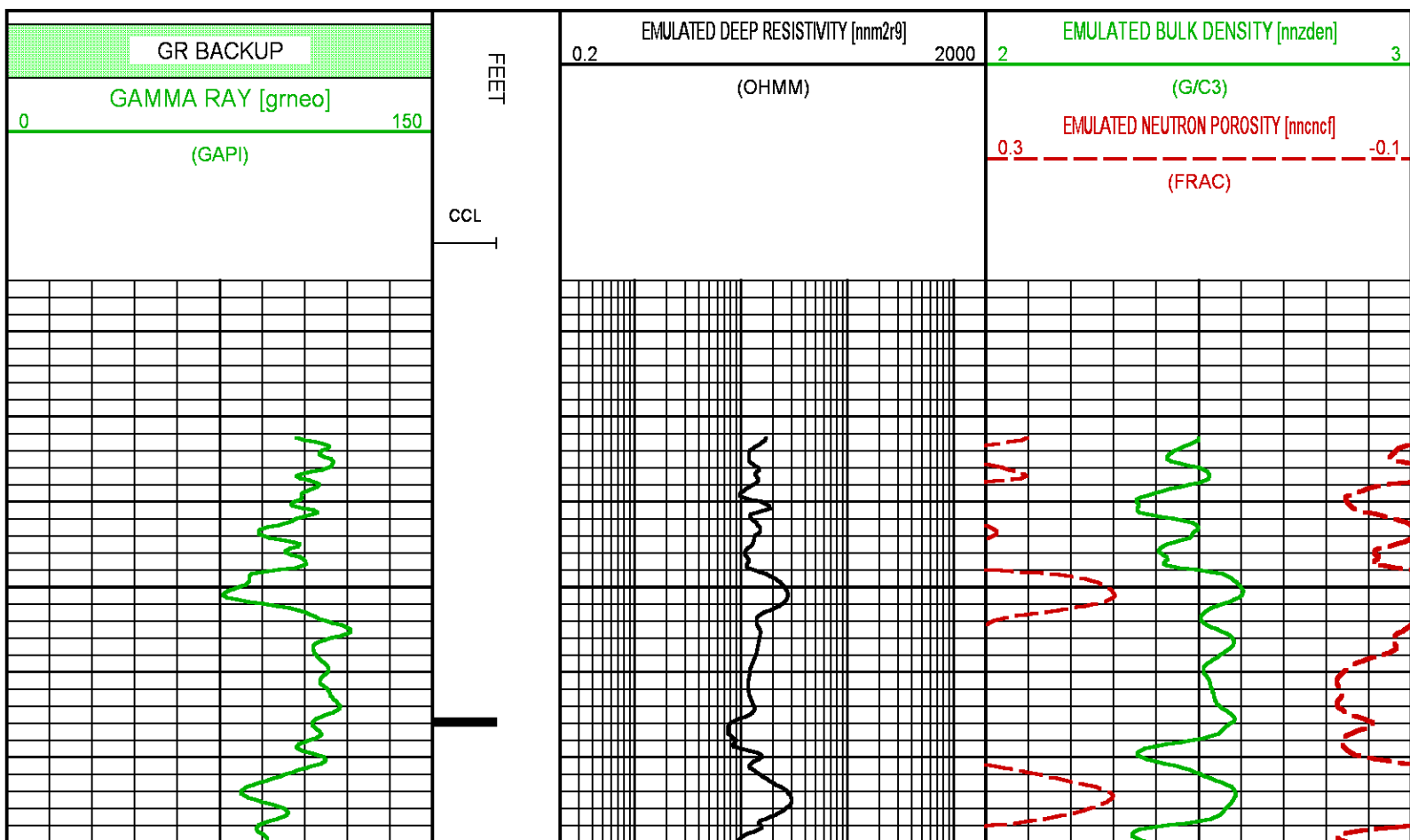
ECLIPS ECPLLOT from ECLIPS 7.0 WFM 5.0.7343.1 Sun 02/07/2016 16:48:51.73

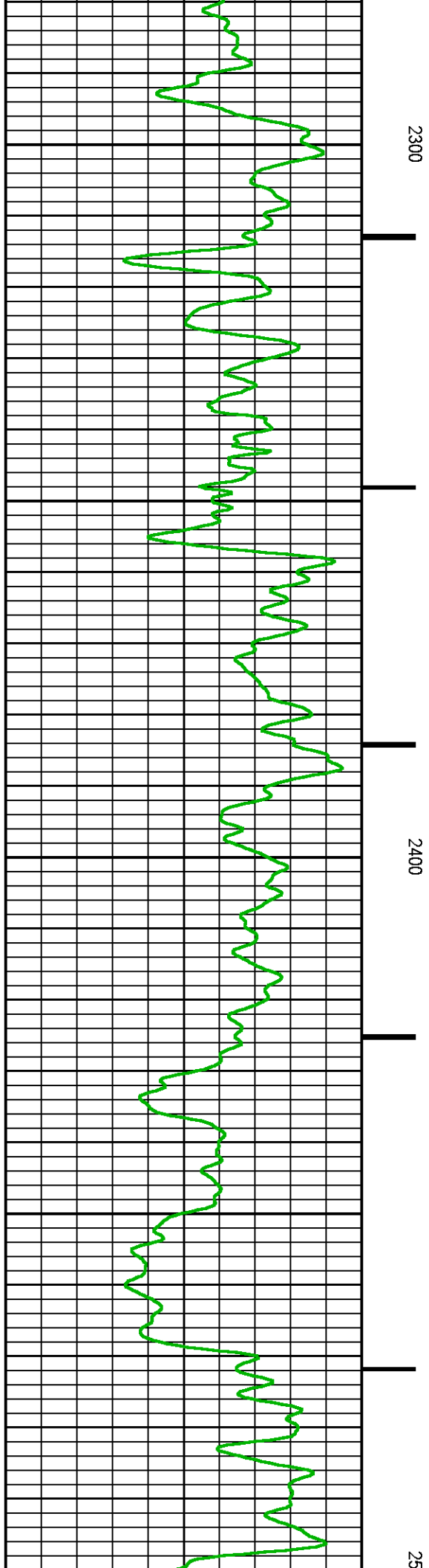
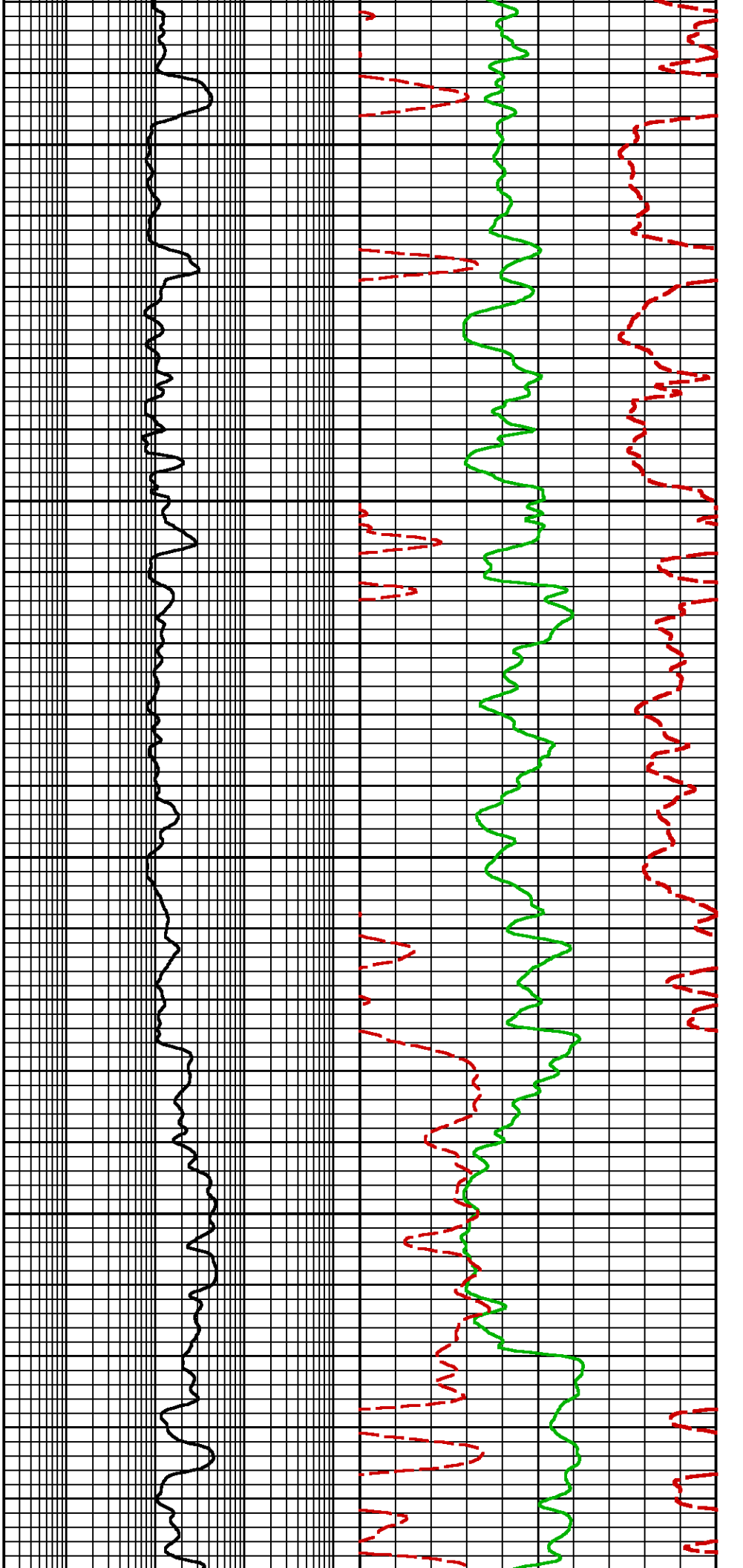
Plotted: Thu Feb 01 08:04:58 2018

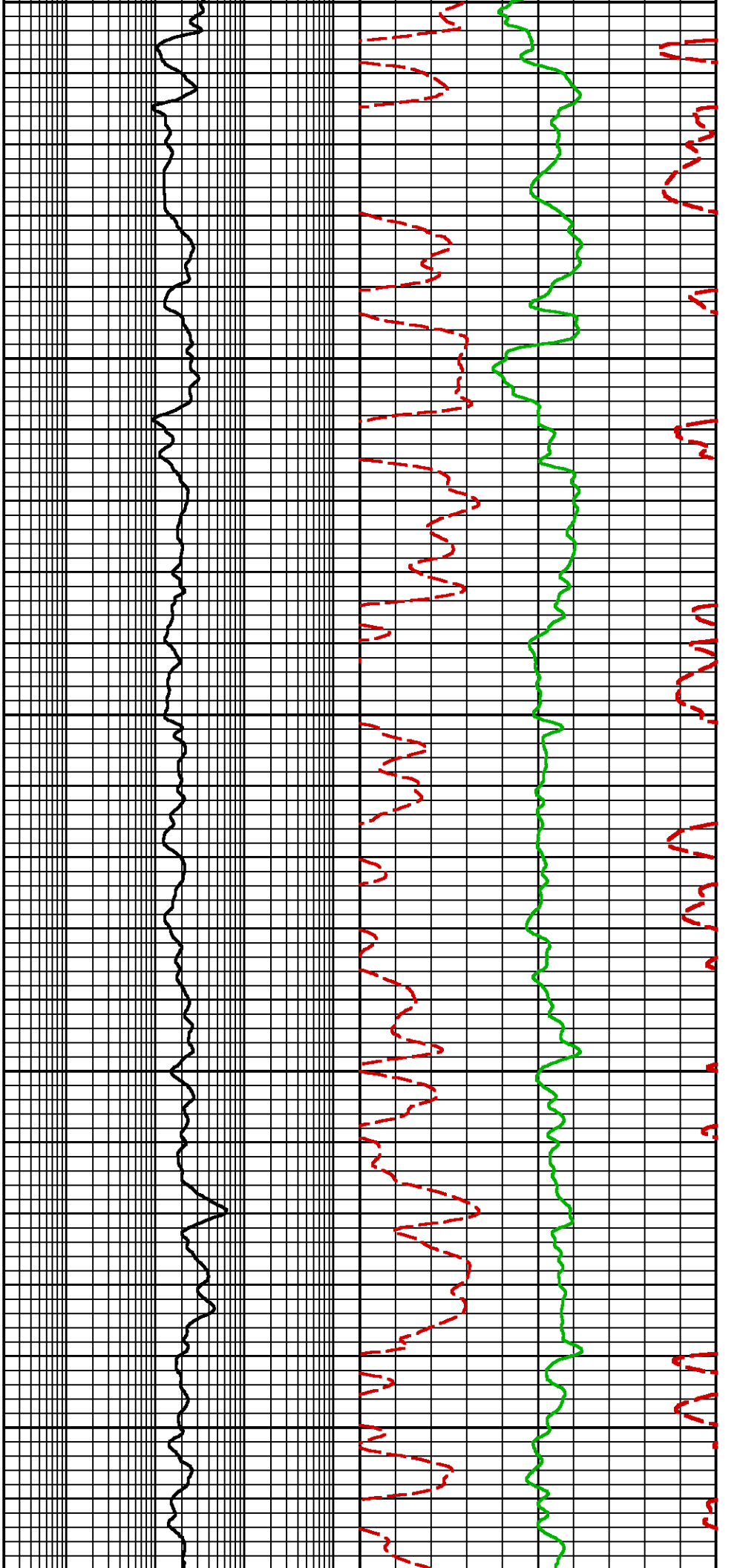
## CURVE MEASURE POINT OFFSET

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\_NICHOLS\_0994\_24\_08E\_NEO\NEO\_PRESENTATION\_LARAMIE\_G-Sand.pdf [5"/100" Scale]  
**Plot Interval** : 2215 - 2960 Feet  
**Data File 1** : F1 : BHI1F65XZ1:D:\Ape\_Projects\Laramie\_NICHOLS\_0994\_24\_08E\_NEO\Merged\_Set\_Final.xtf  
**Created On** : N/A  
**Company** : LARAMIE ENERGY LLC  
**Well** : NICHOLS 0994-24-08E  
**Field** : VEGA  
**File Interval** : 2232.5 - 7436.5 Feet  
**OCT** : NA



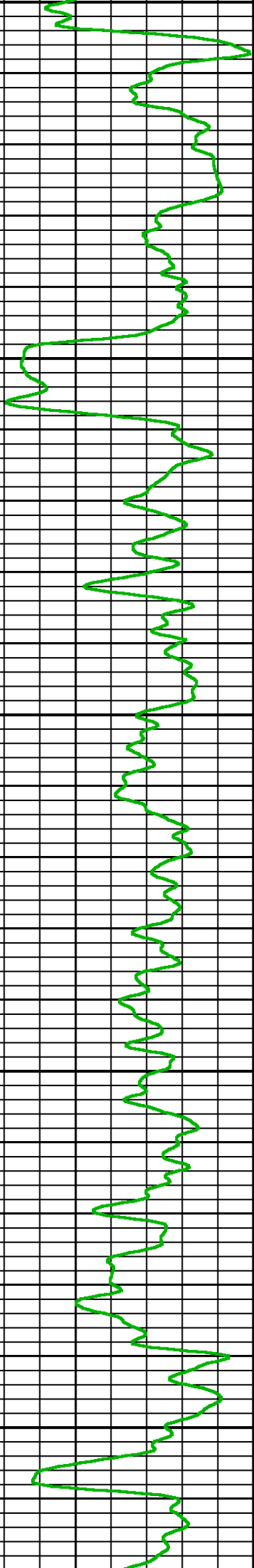


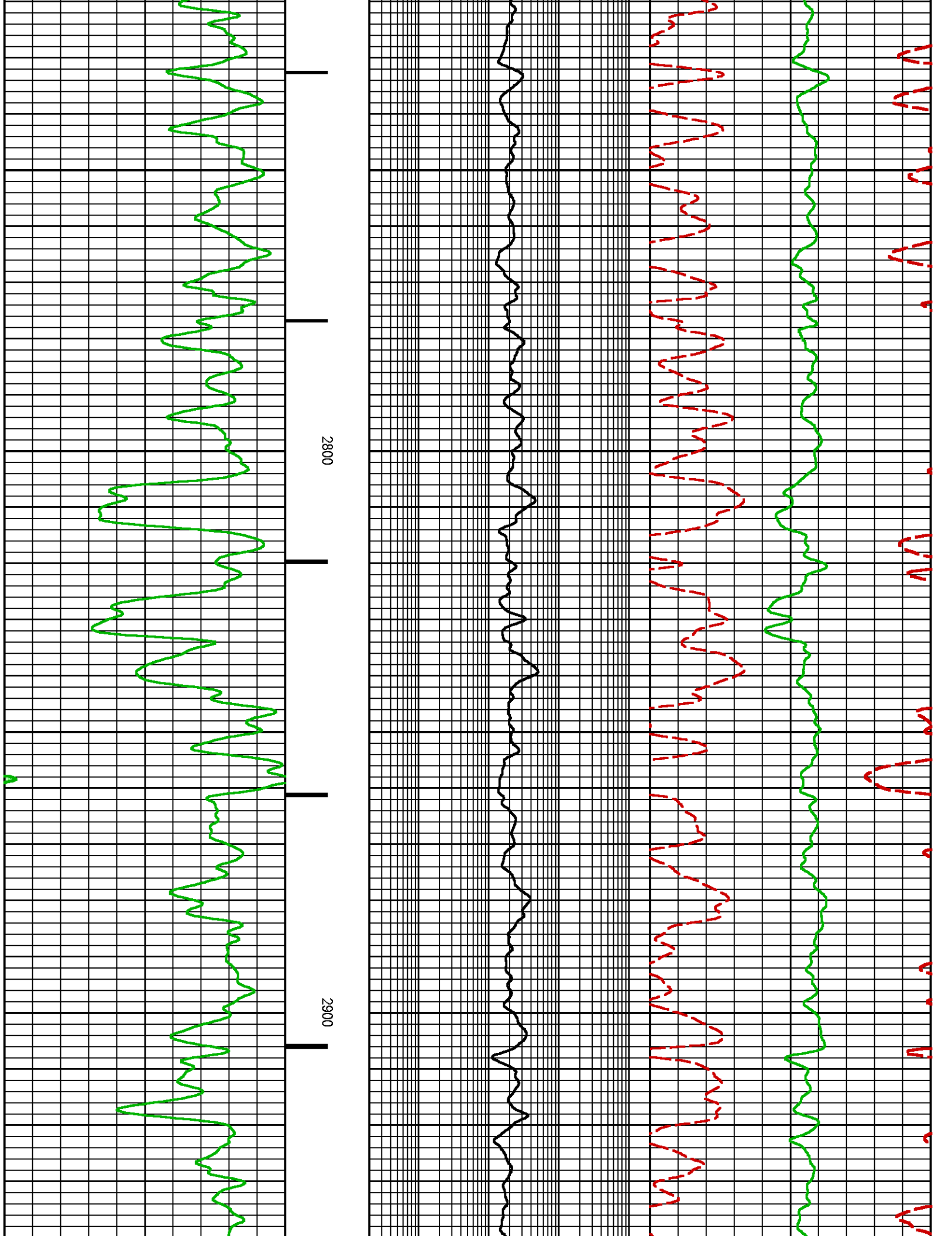


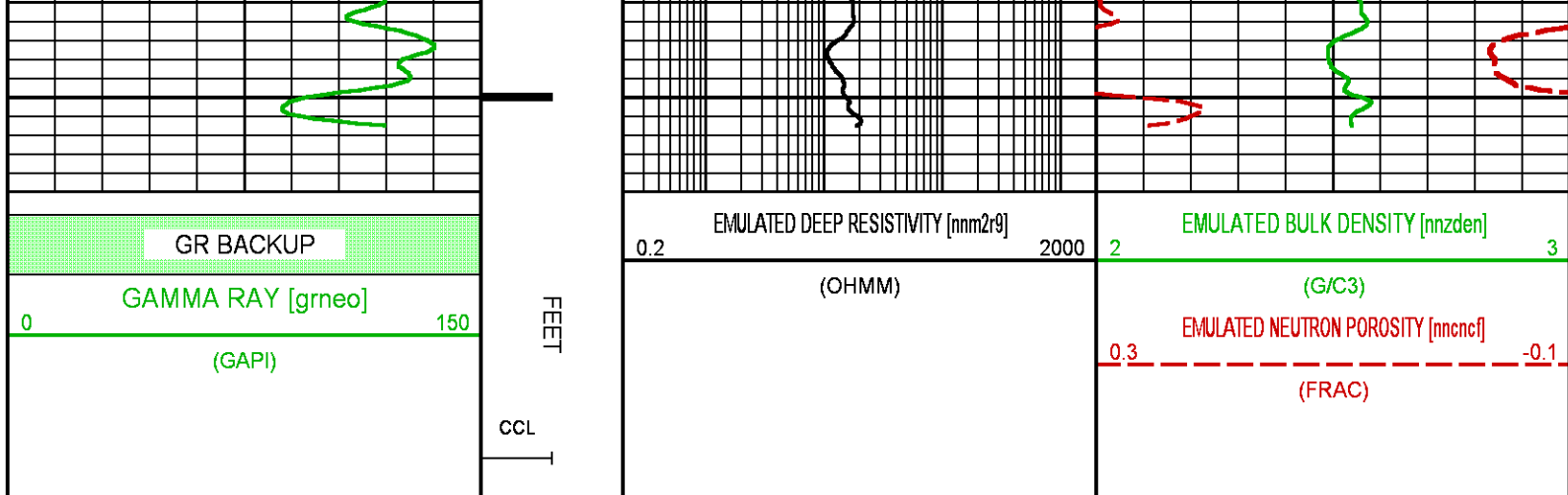
00

2600

2700







## NEO RESULTS FOR NICHOLS 0994-24-08E (MAIN)

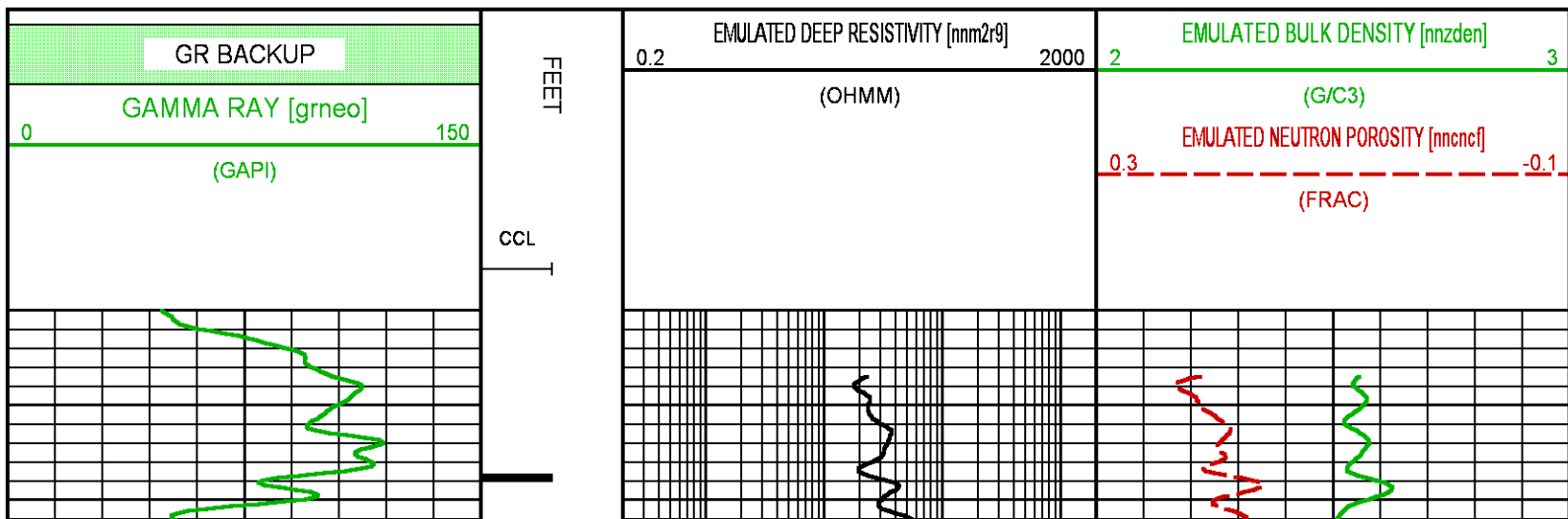
ECLIPS ECPLLOT from ECLIPS 7.0 WFM 5.0.7343.1 Sun 02/07/2016 16:48:51.73

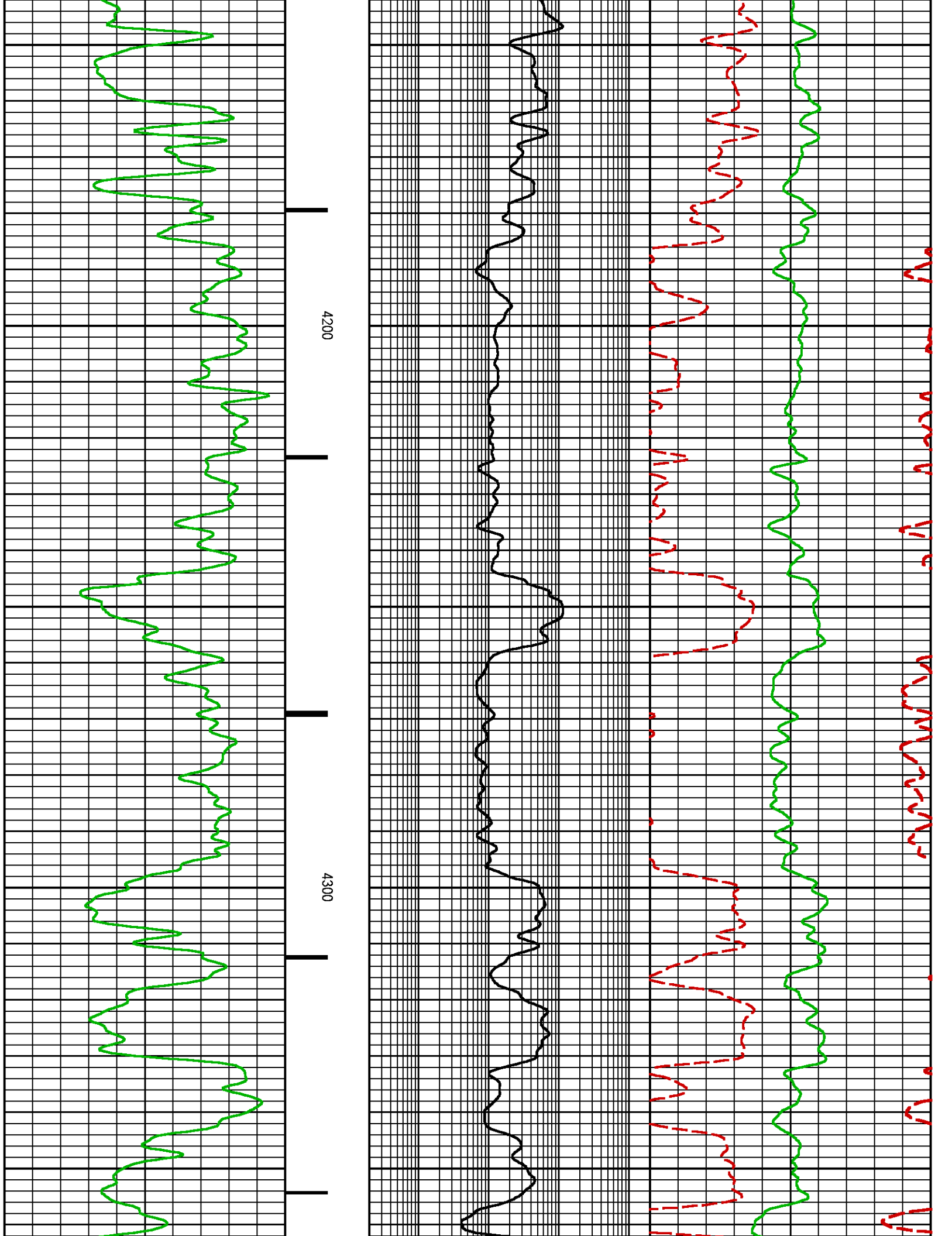
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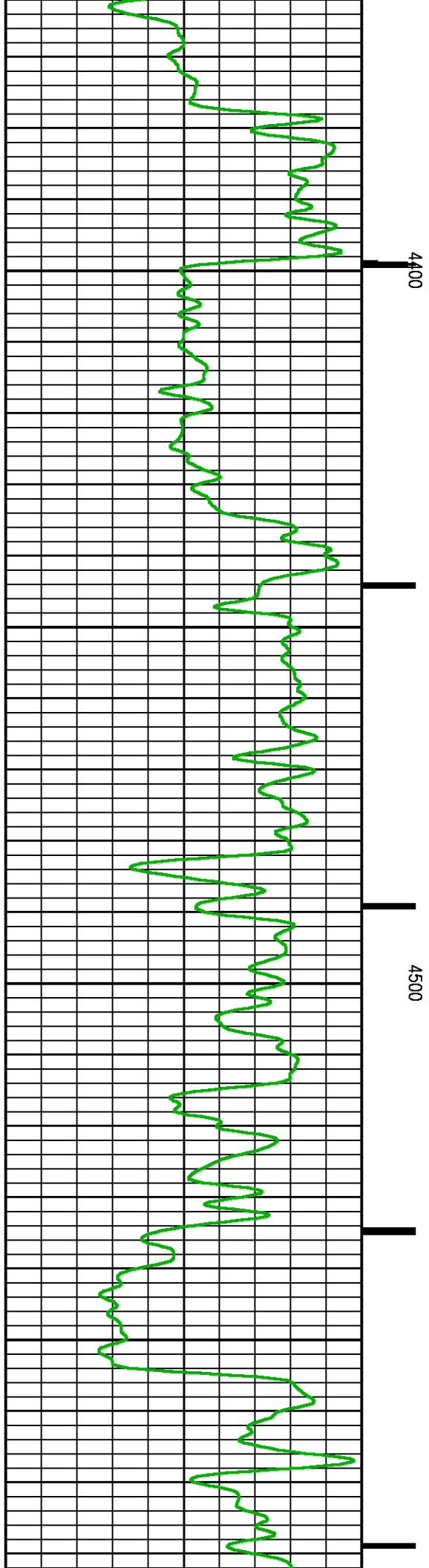
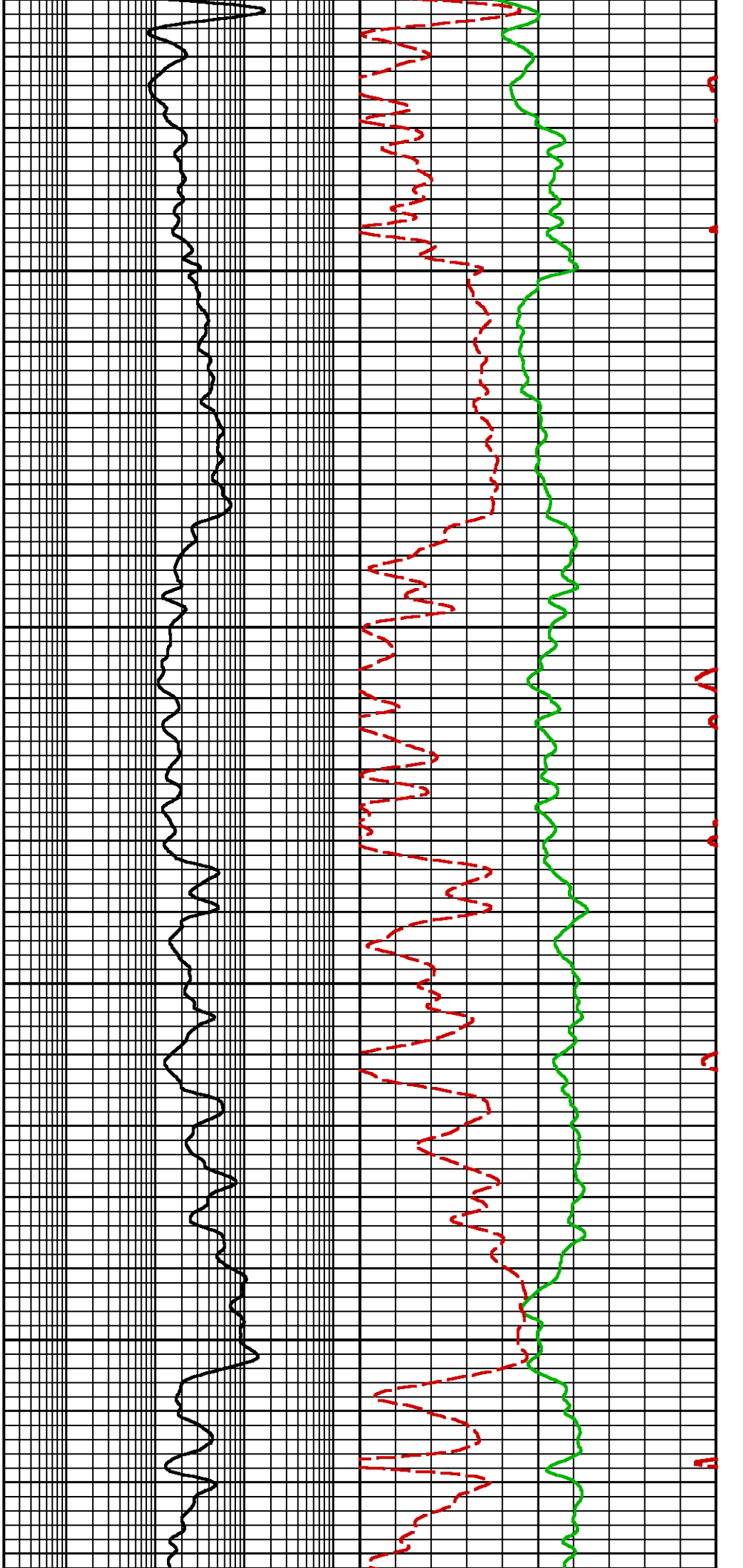
### CURVE MEASURE POINT OFFSET

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

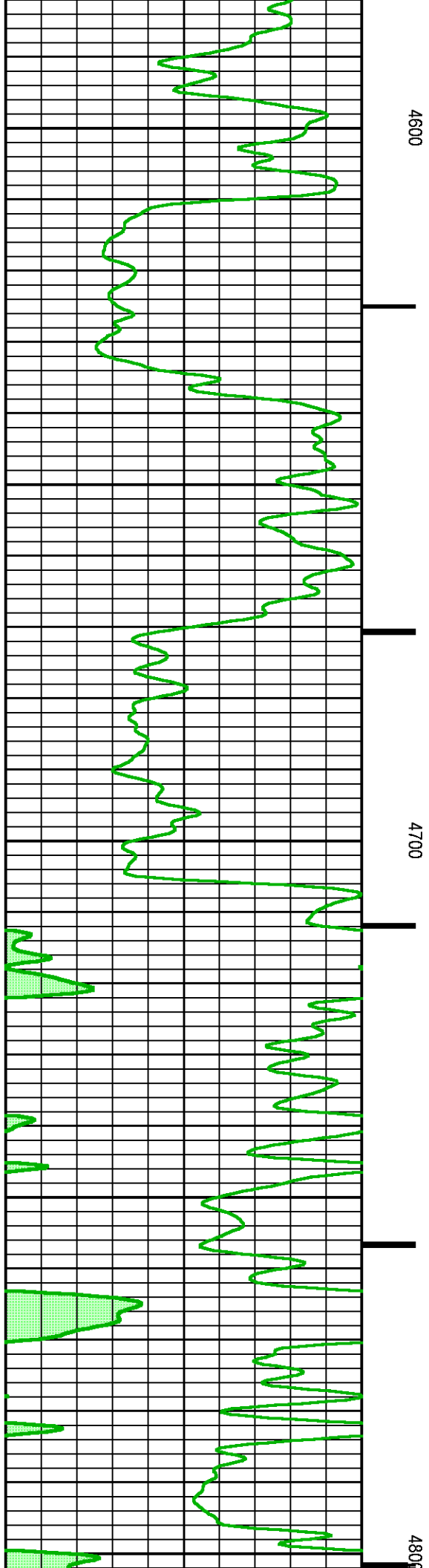
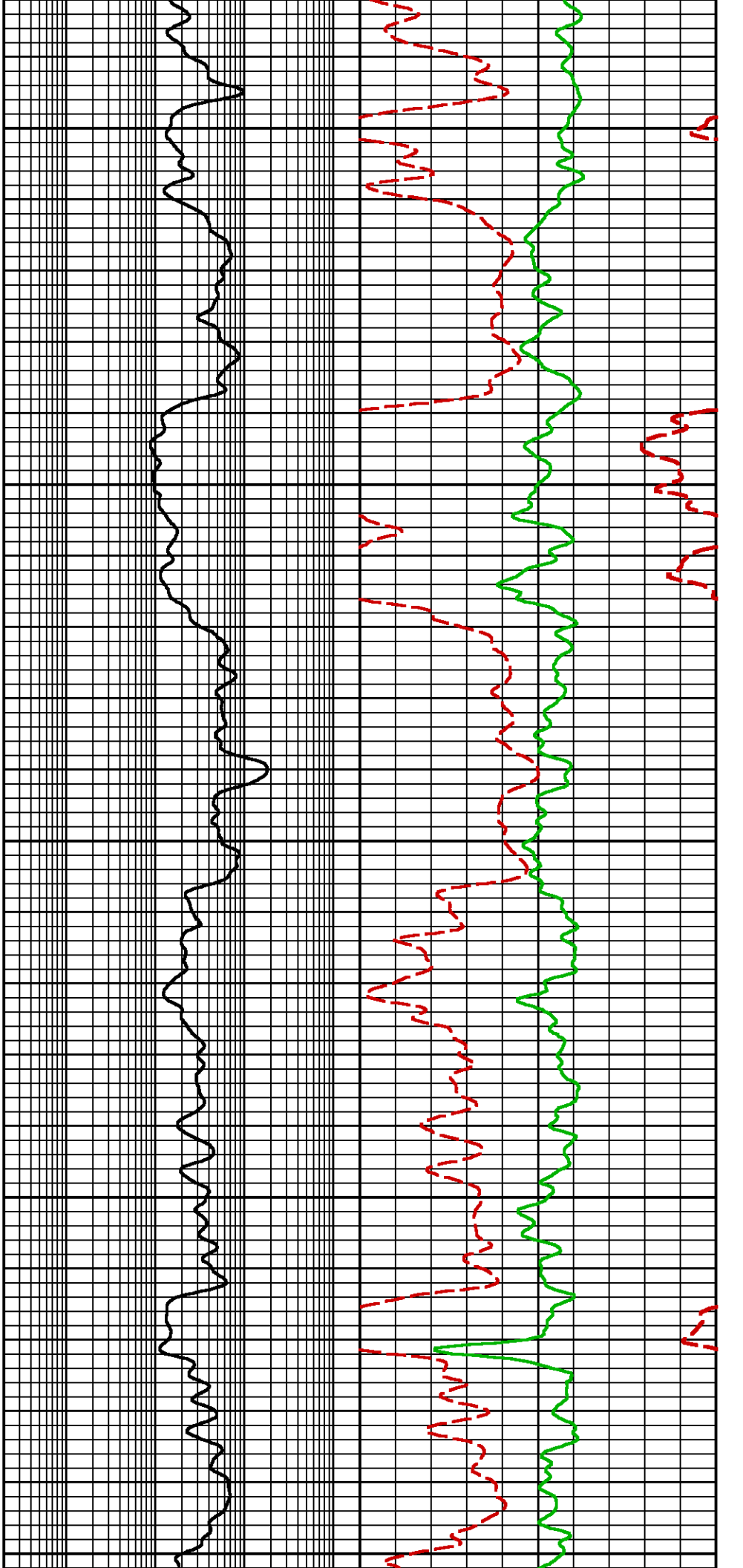
**Project** : NA  
**User** : kotoale  
**Presentation** : BHI1F65XZ1:d:\Ape\_Projects\Laramie\_NICHOLS\_0994\_24\_08E\_NEO\NEO\_PRESENTATION\_LARAMIE\_MAIN.pdf [5"7/100" Scale]  
**Plot Interval** : 4120 - 7440 Feet  
**Data File 1** : F1 : BHI1F65XZ1:D:\Ape\_Projects\Laramie\_NICHOLS\_0994\_24\_08E\_NEO\Merged\_Set\_Final.xtf  
**Created On** : N/A  
**Company** : LARAMIE ENERGY LLC  
**Well** : NICHOLS 0994-24-08E  
**Field** : VEGA  
**File Interval** : 2232.5 - 7436.5 Feet  
**OCT** : NA

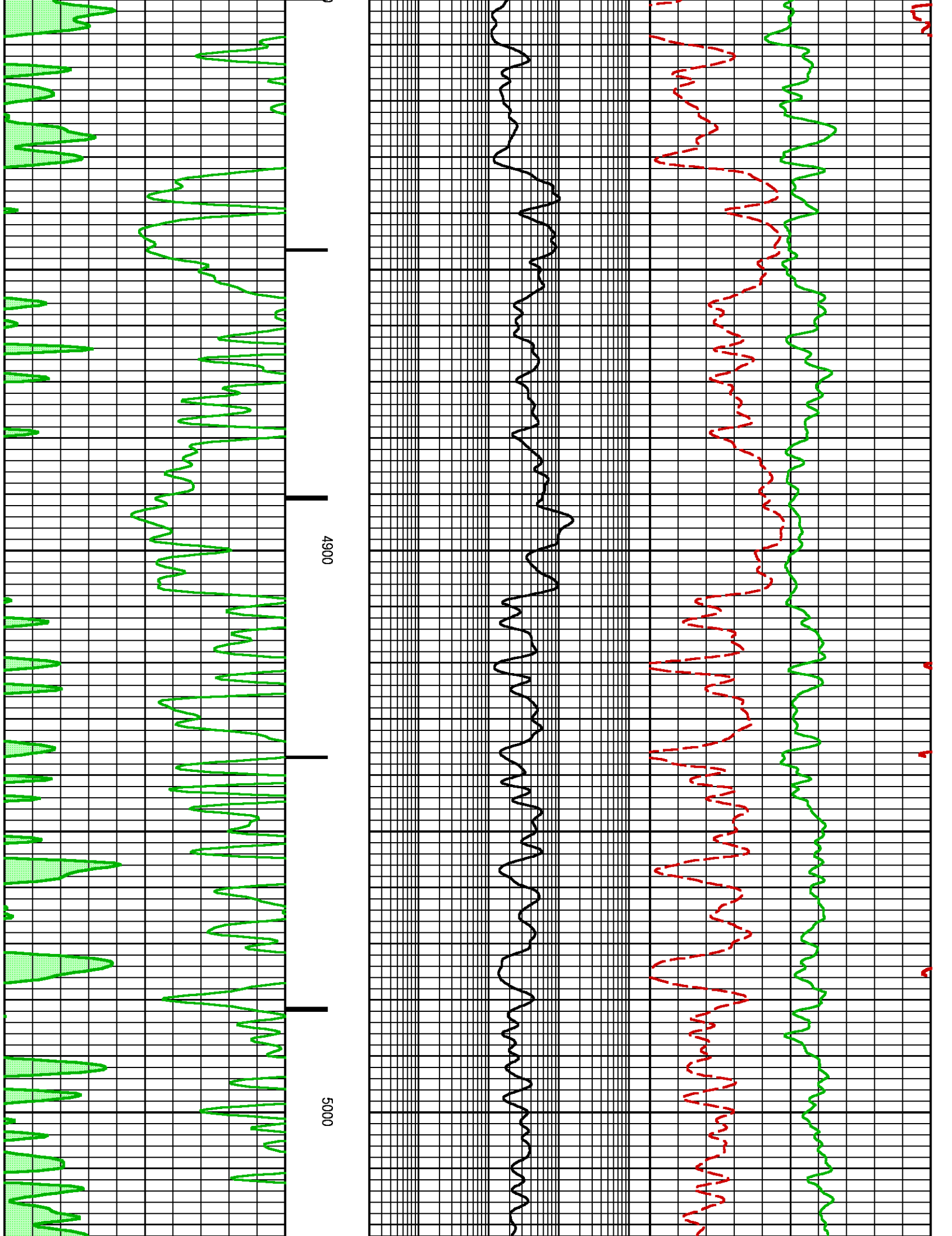


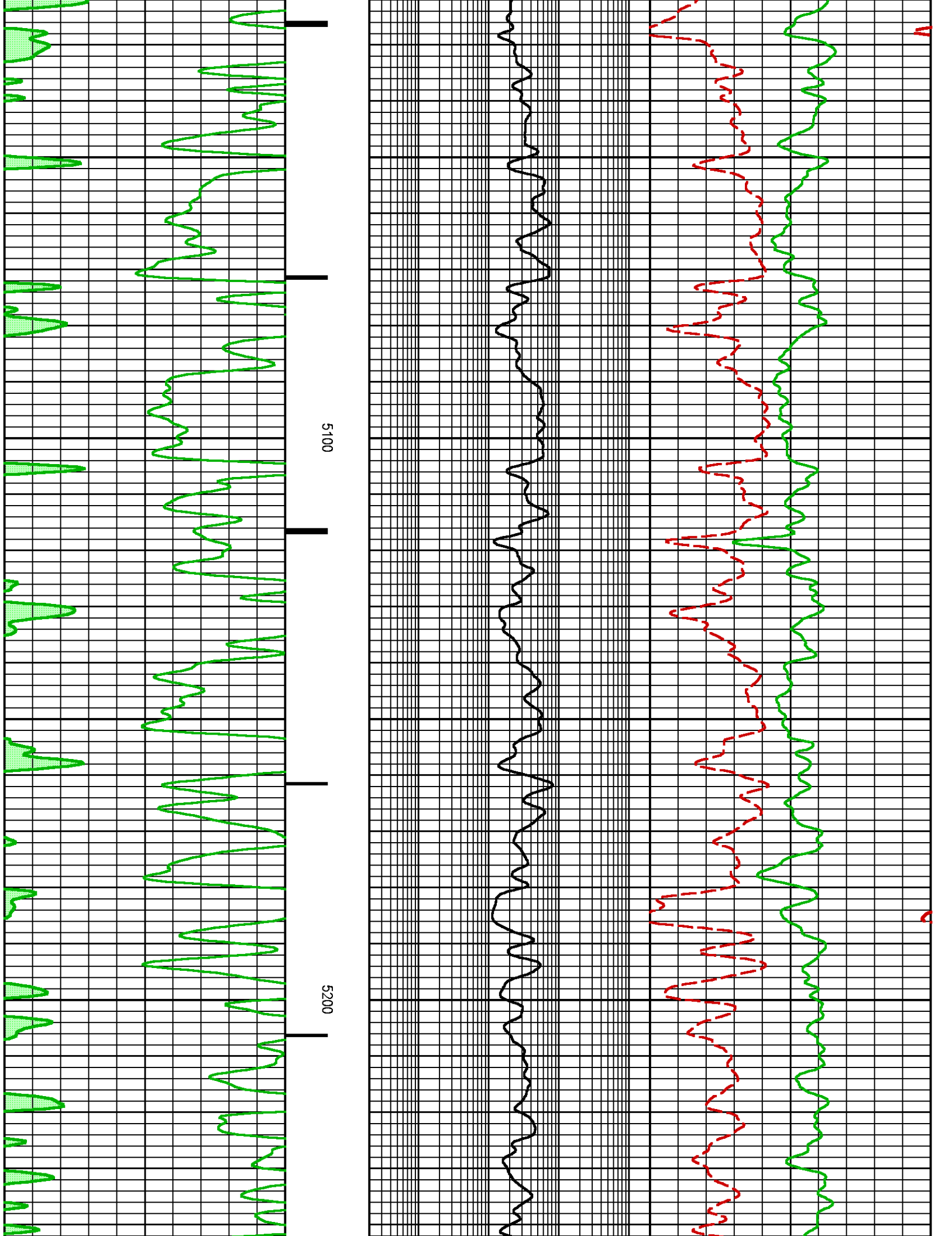


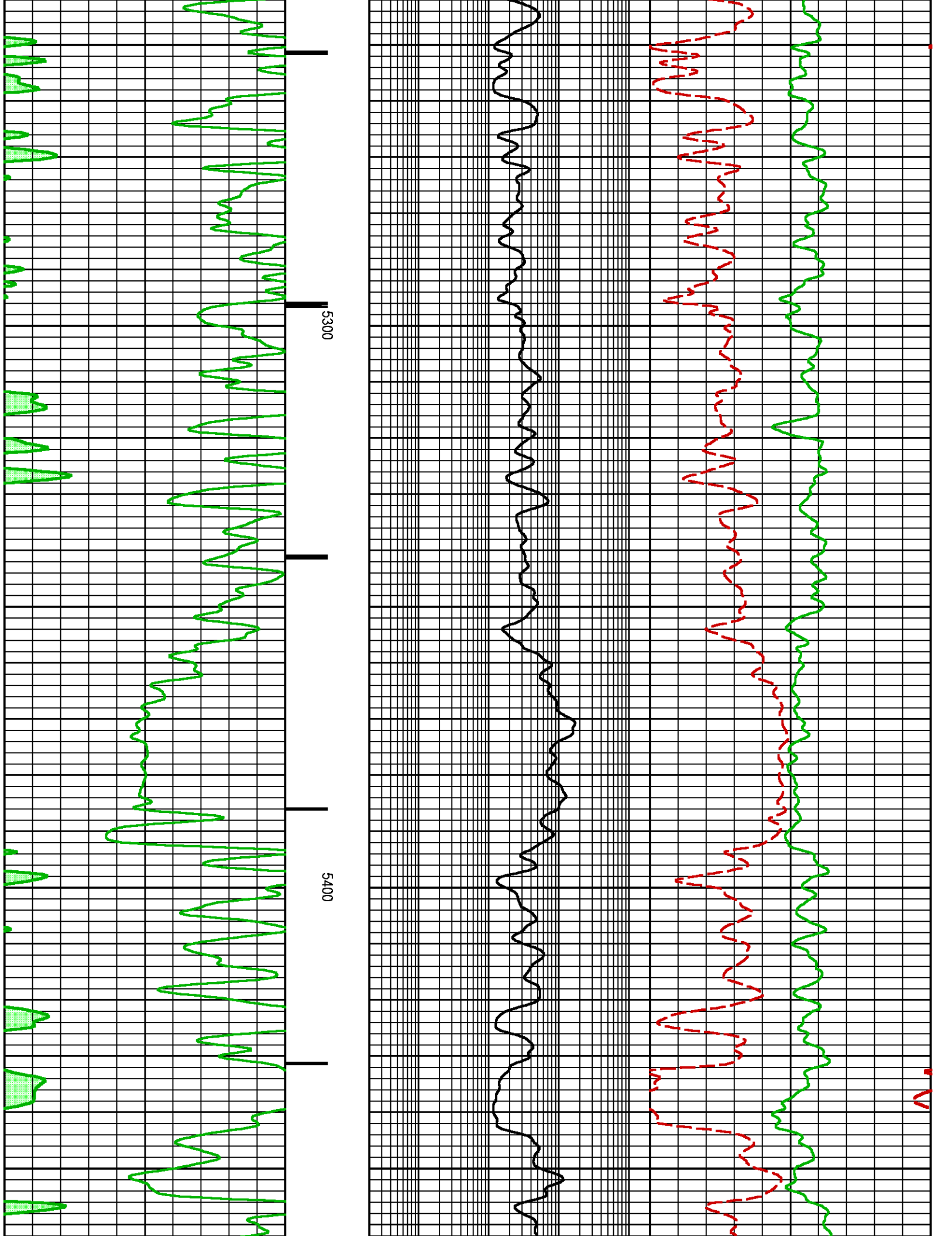


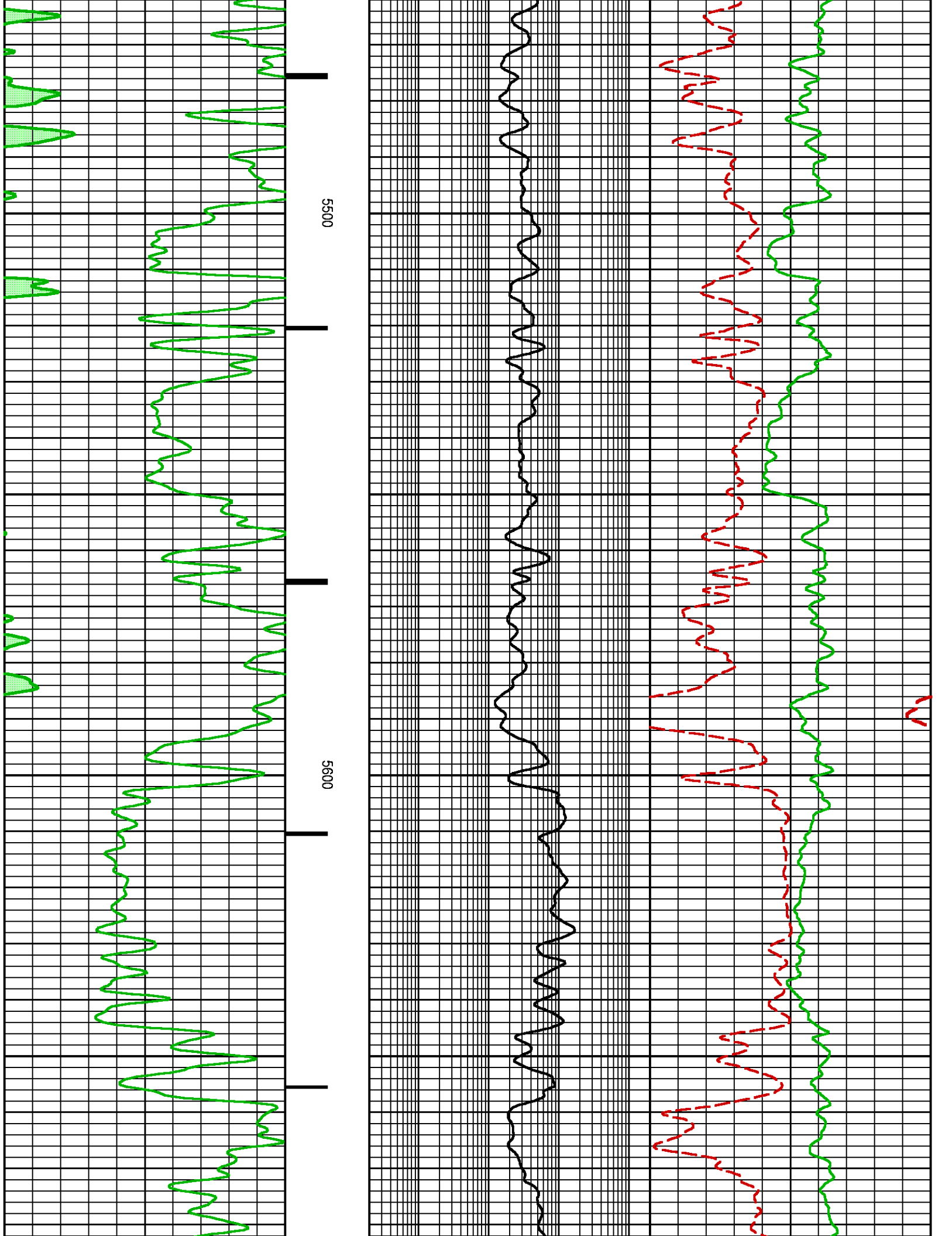


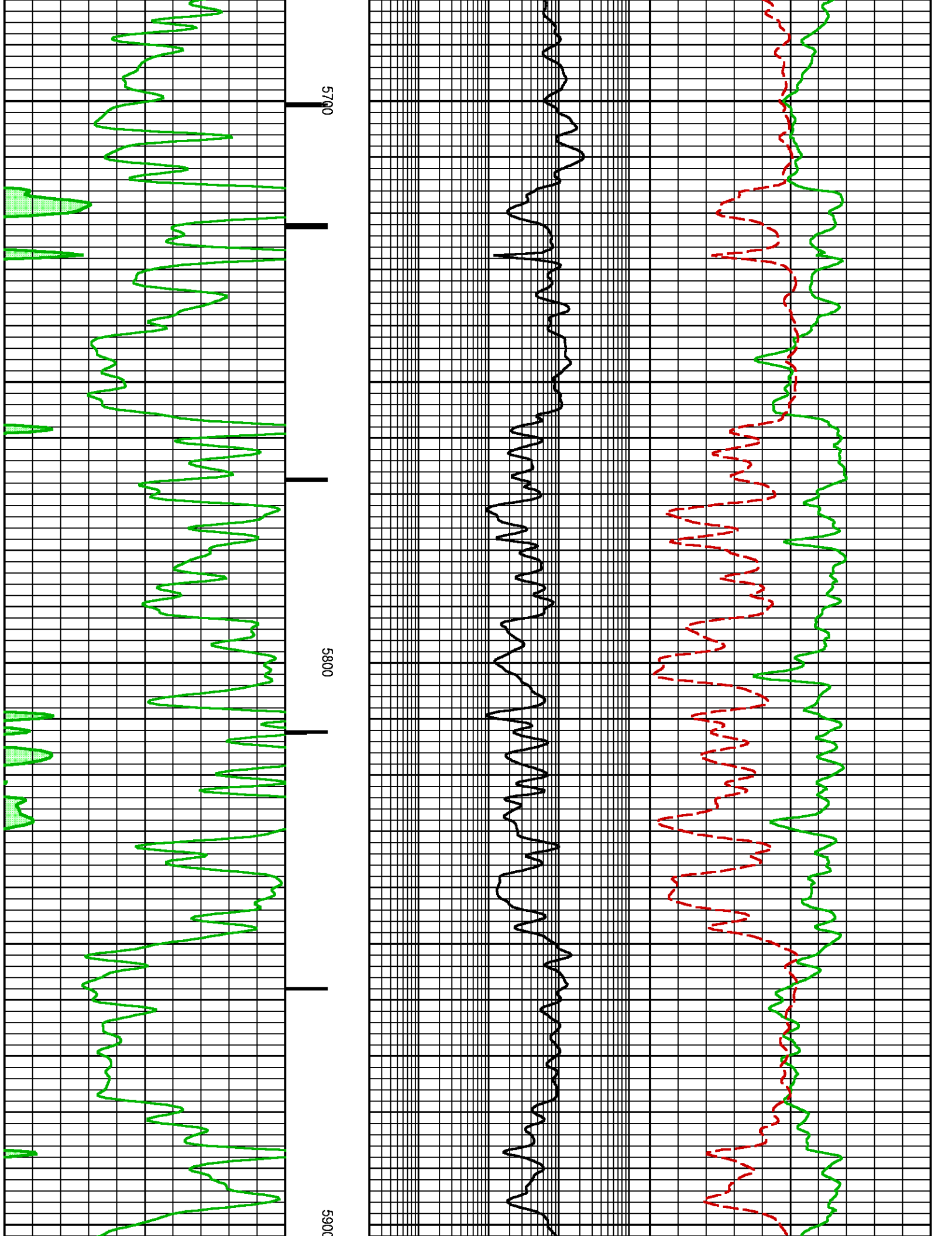


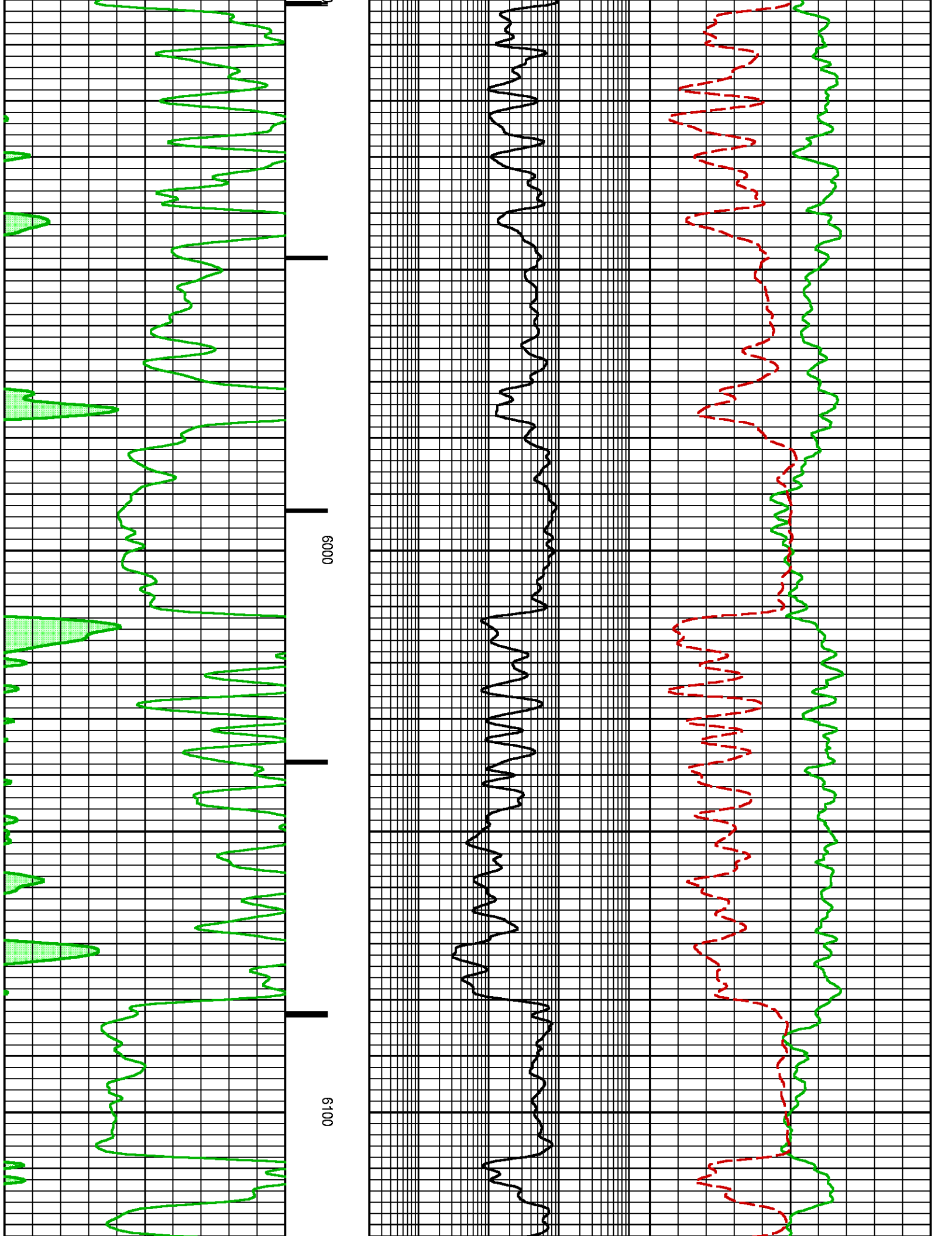


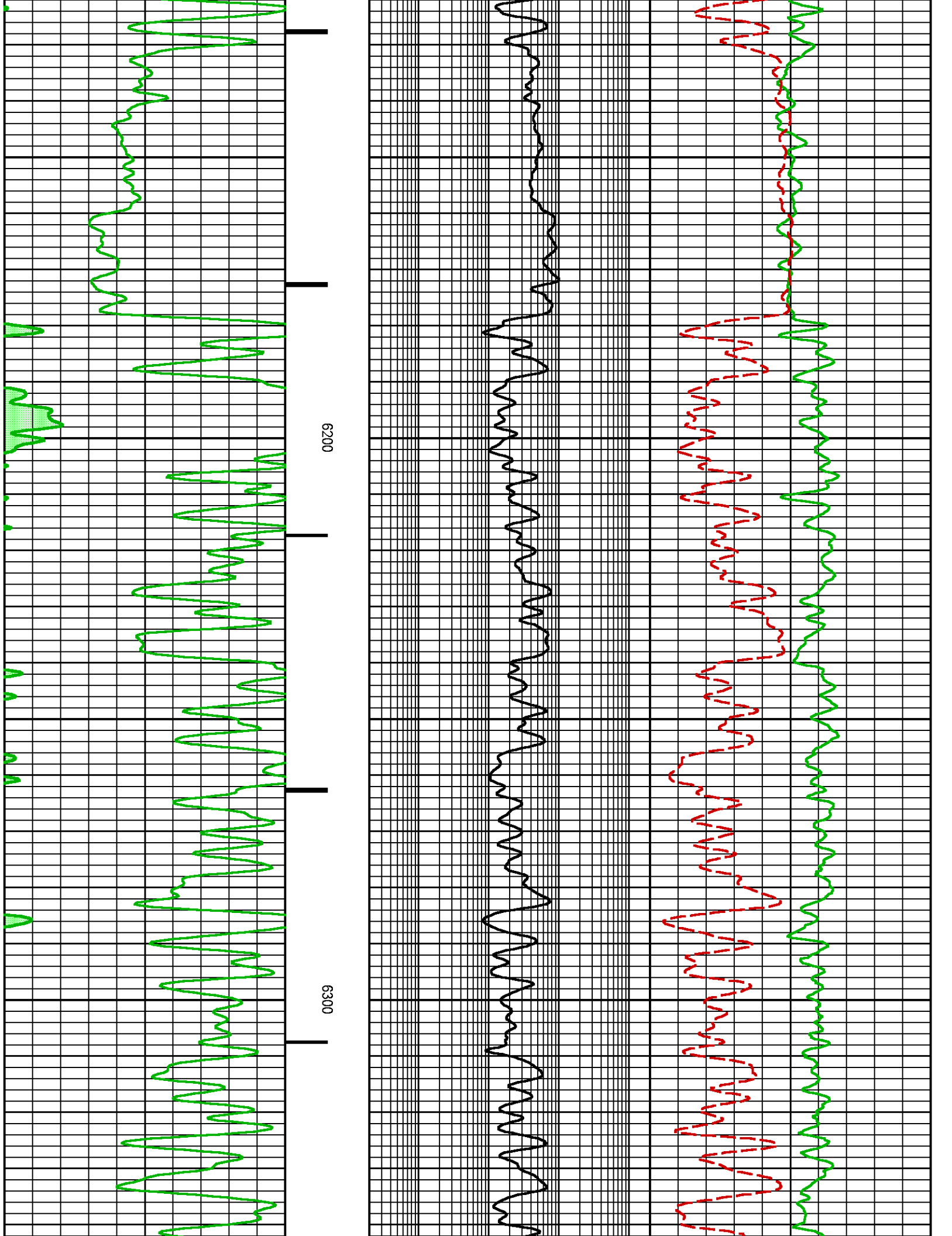




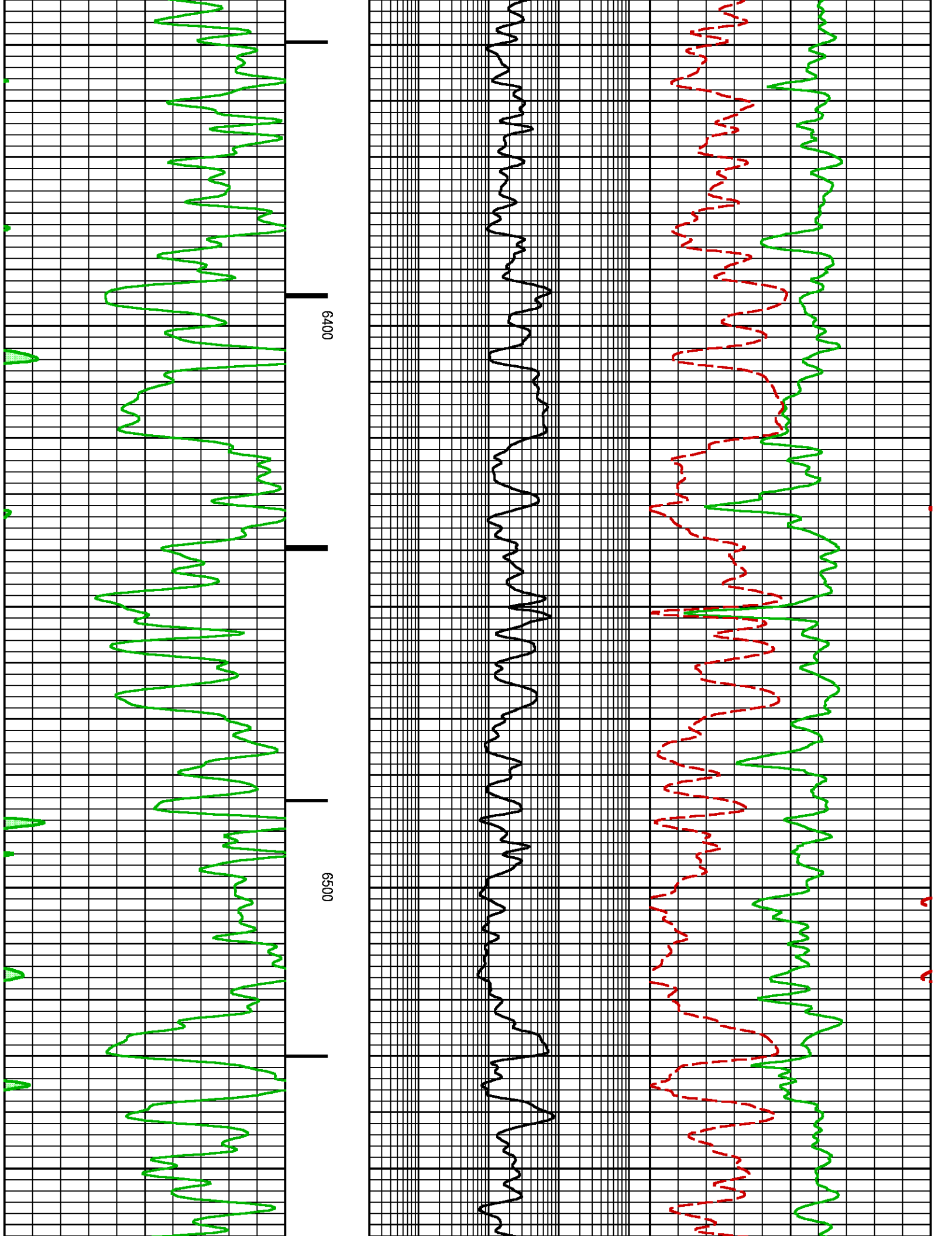


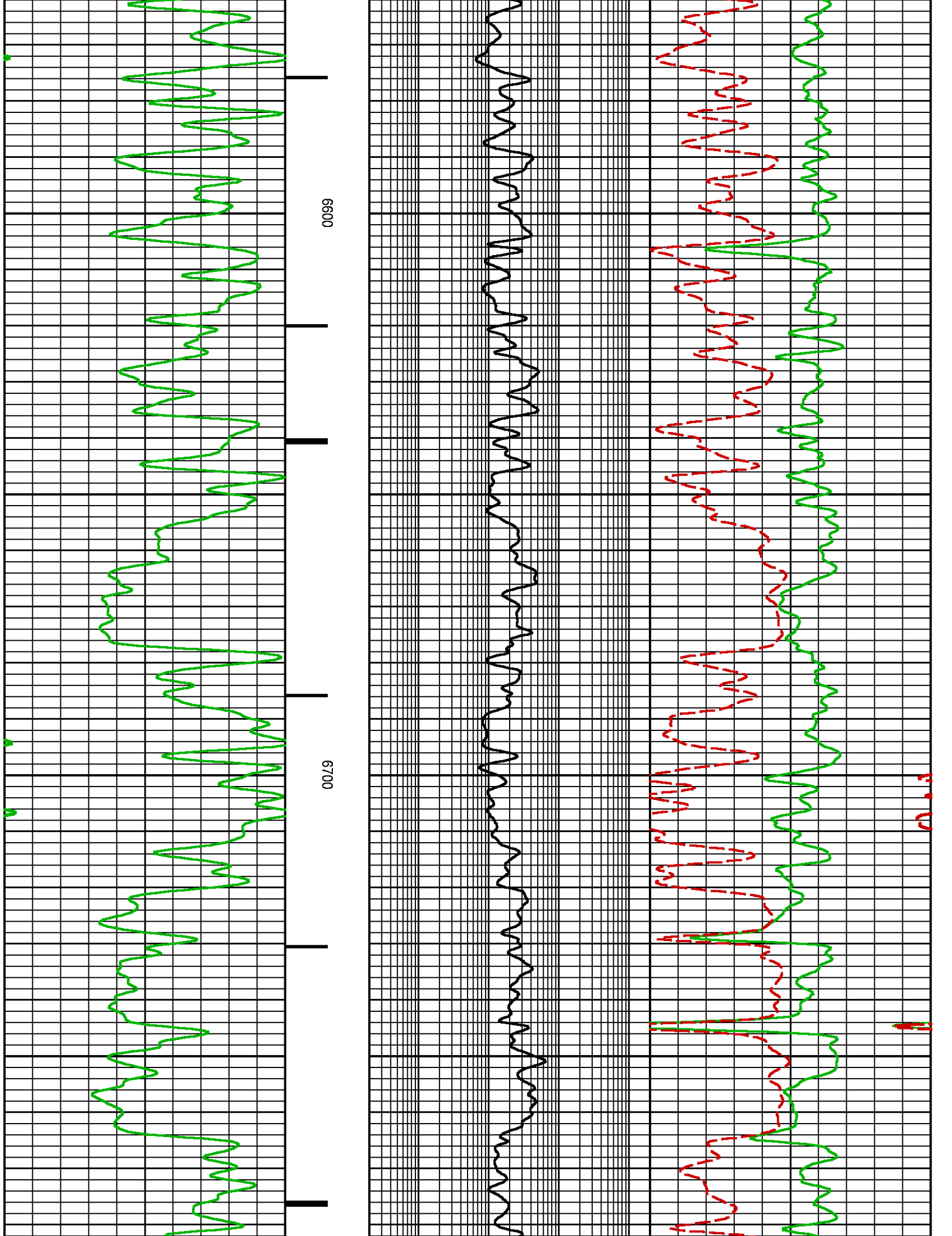


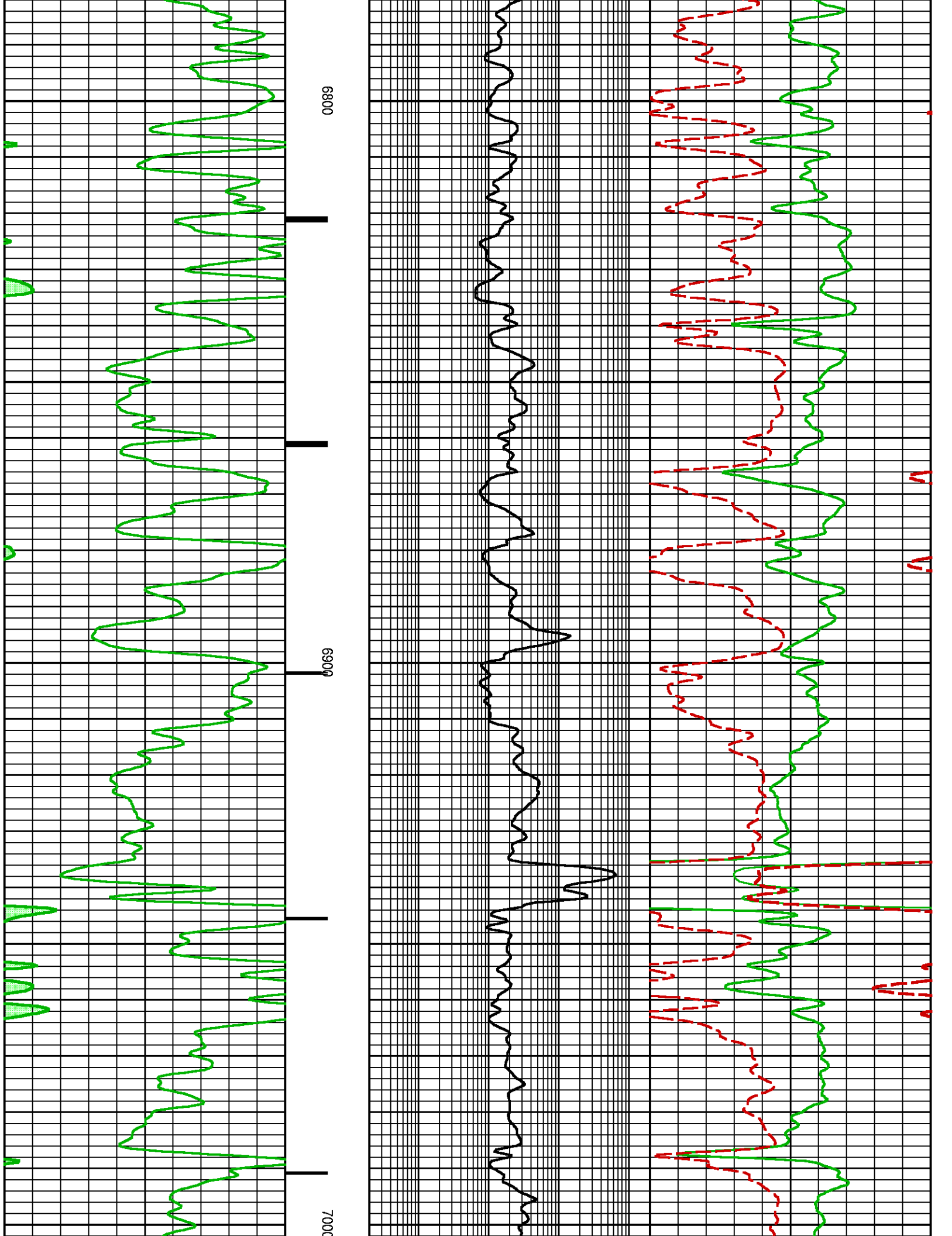


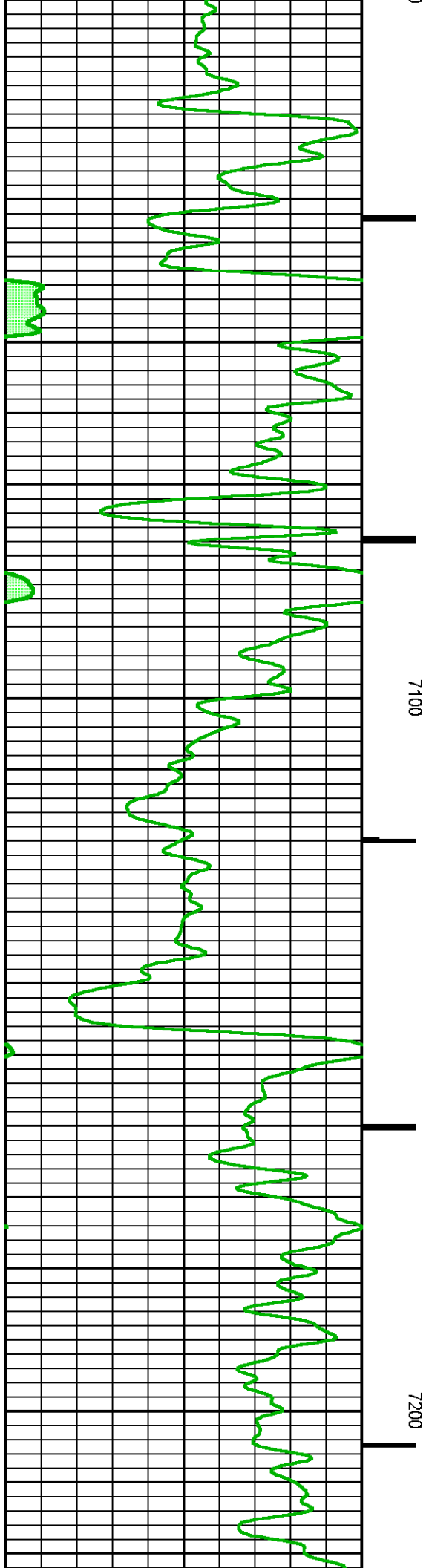
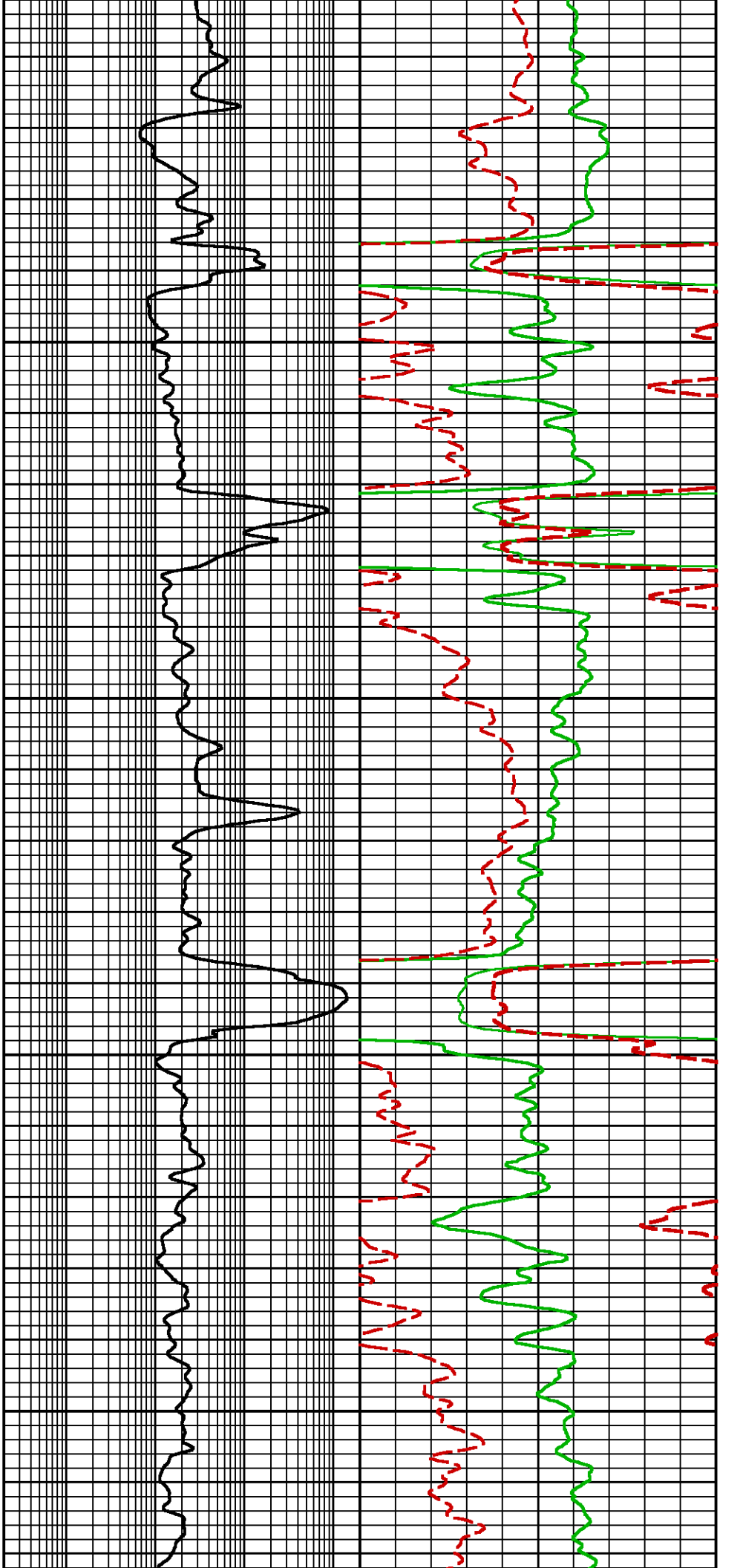


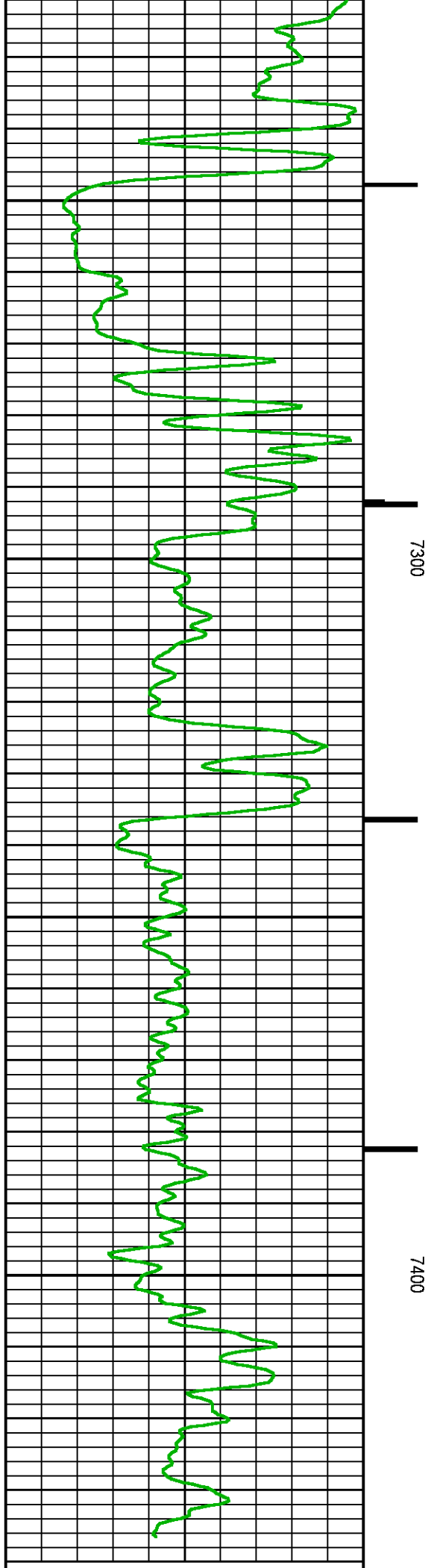
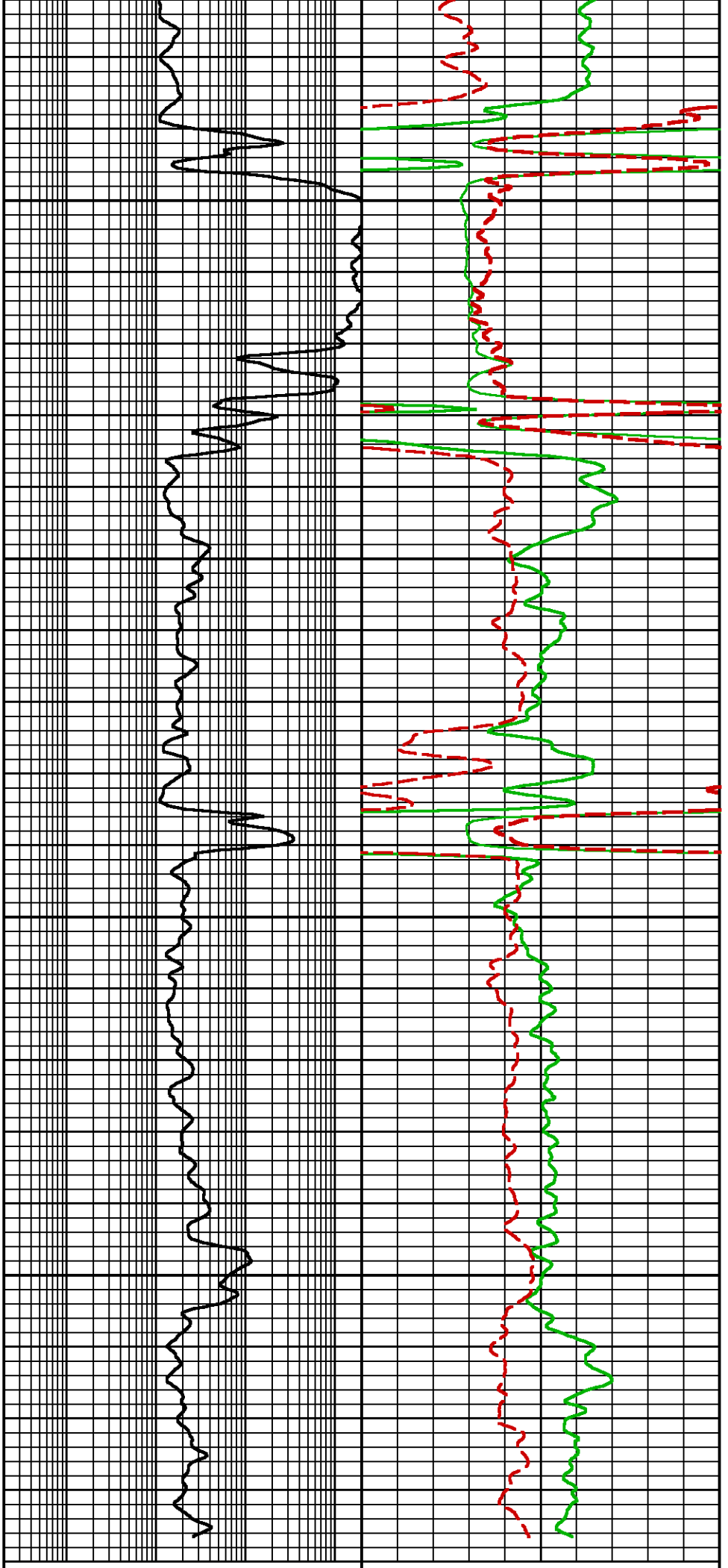





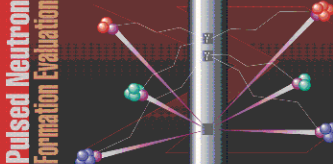








<div>GR BACKUP</div> <div>GAMMA RAY [grneo]</div> <div>(GAPI)</div> <div>0150</div>	<div>FEET</div> <div>CCL</div>	0.2	EMULATED DEEP RESISTIVITY [nm2r9]	2000	2	EMULATED BULK DENSITY [nnzden]	3
			(OHMM)			(G/C3)	
					0.3	EMULATED NEUTRON POROSITY [nnncnf]	-0.1
						(FRAC)	

 	<b>COMPANY</b> <u>LARAMIE ENERGY LLC</u> <b>WELL</b> <u>NICHOLS 0994-24-08E</u> <b>FIELD</b> <u>VEGA</u> <b>COUNTY</b> <u>MESA</u> <b>STATE</b> <u>COLORADO</u>	<b>FILE NO:</b> <u>30113-01</u> <b>API NO:</b> <u>05077104120000</u>
	<b>LOCATION:</b> <u>SEE REMARKS SECTION</u>	<b>ELEVATIONS:</b> KB 7161.0 FT DF 7160.0 FT GL 7137.0 FT
	<b>SEC</b> <u>24</u> <b>TWP</b> <u>9S</u> <b>RGE</b> <u>94W</u>	<b>DATE</b> <u>23-JAN-2018</u>