



PROPAGATION RESISTIVITY
GAMMA RAY

5" = 100' FEET MD

COMPANY : ENCANA OIL & GAS (U.S.A.) INC
WELL : DALE 4E-20H-O264
FIELD : WATTENBERG
COUNTY : WELD
STATE : COLORADO
COUNTRY : U.S.A.
UWI : 05-123-39723

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WELL LOCATION

LAT:40°7'3.508"N LONG:104°34'18.890"W
N:1287061.45 ft E:3259559.89 ft

SEC:20 TWP:2N RANGE:64W

OTHER SERVICES

DIRECTIONAL
ROP

DEPTH REF. : RKB

REF. HEIGHT : 25.000 ft RKB to Ground Level

GROUND LEVEL : 4957.000 ft G.L. to MEAN SEA LEVEL

BOREHOLE RECORD

DEVIATION RECORD

HOLE SIZE in	FROM ft	TO ft	INCLINATION deg	FROM ft	TO ft
12.25	0	1136	0 - 12	0	1886
8.75	1136	7530	12 - 0	1886	5847
			0 - 91	5847	7530

CASING RECORD

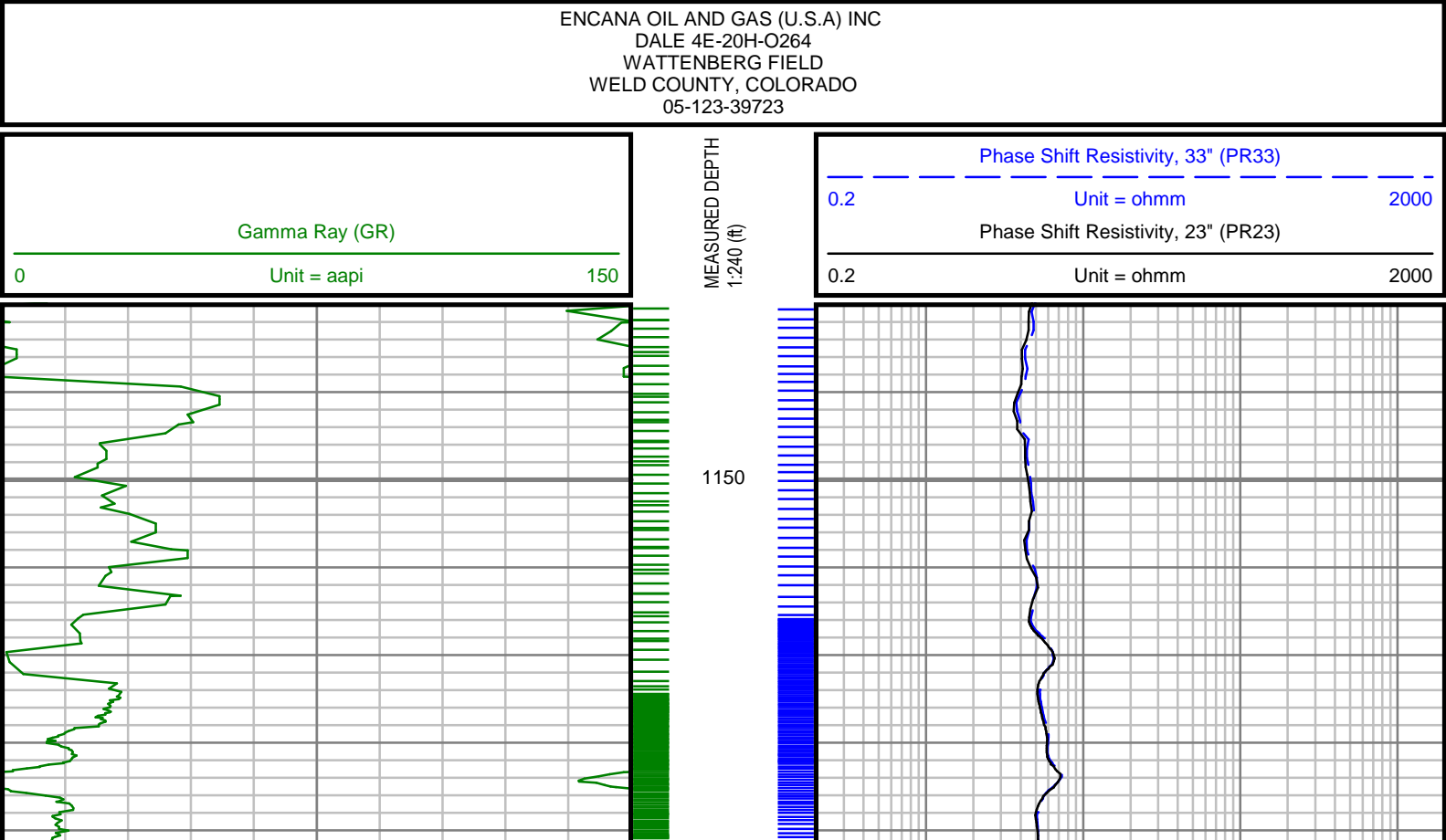
CASING SIZE in	FROM ft	TO ft	DRILLING CO. : H&P RIG : 278 LWD UNIT NO. : MWD-00046-DISTRICT : CASPER, CASPER SPUD DATE : 08/21/2014 LWD START DATE : 10/15/2014 DEPTH : 1124 ft LWD END DATE : 10/16/2014 DEPTH : 7530 ft TOTAL DEPTH : 7530 ft		
9.625	0	1119			

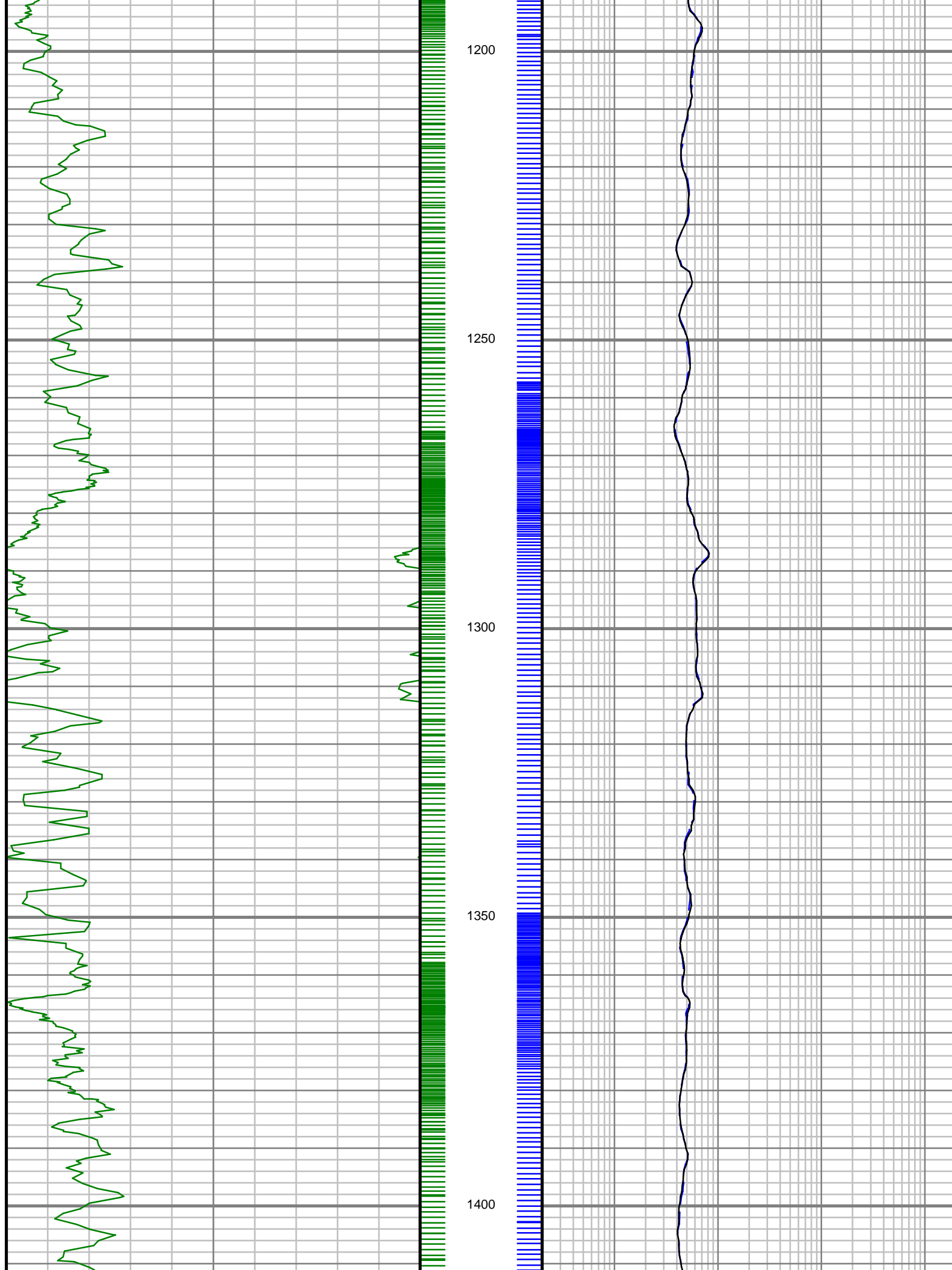
Run Data

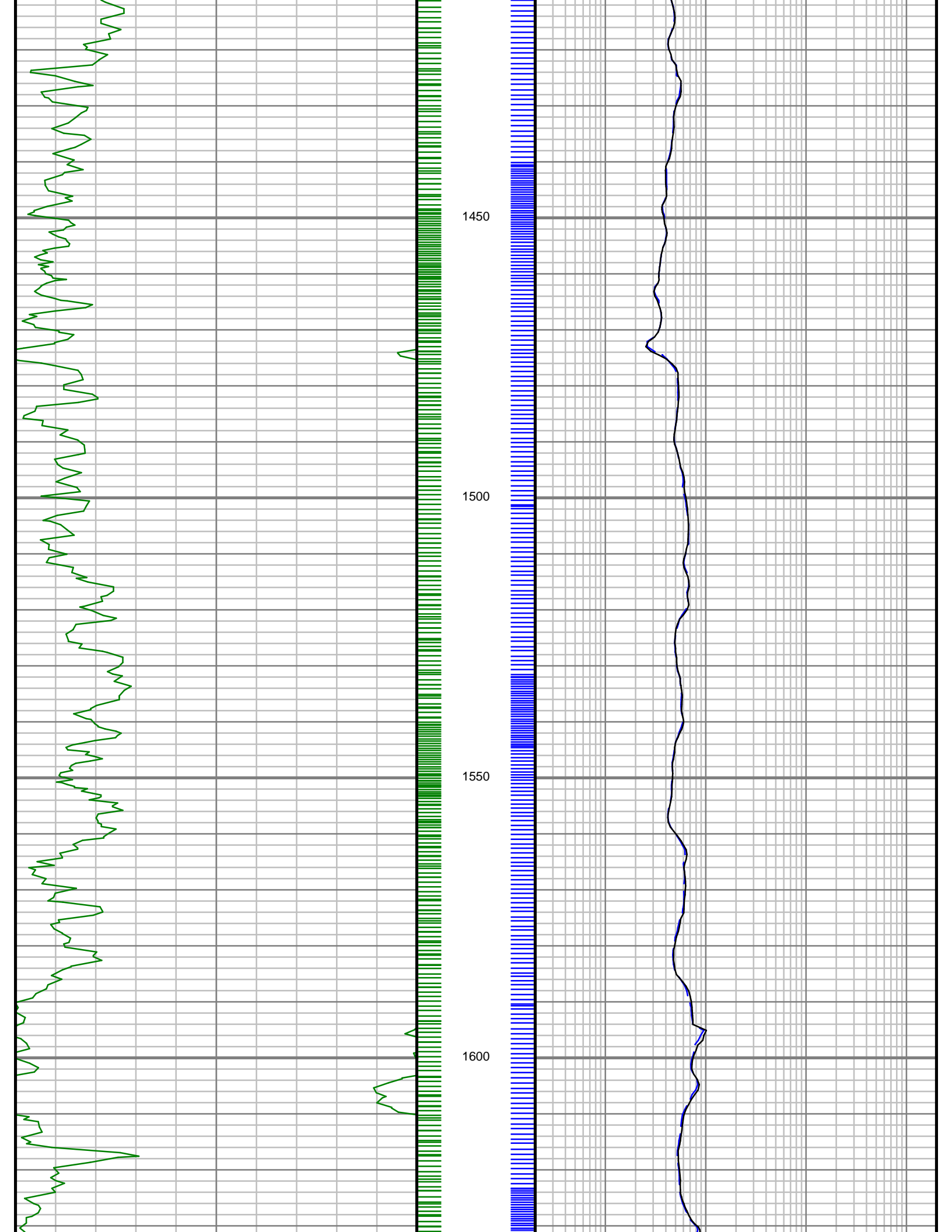
RUN NUMBER	1	2		
START DATE	08/21/82014	10/15/2014		
START TIME	1900	0130		
END DATE	08/22/2014	10/16/2014		
END TIME	0215	0700		
DEPTH IN (ft)	0	1136		
DEPTH OUT (ft)	1136	7530		
LOG TOP (ft)	-	1124		
LOG BOTTOM (ft)	-	5000		
HOLE SIZE (in)	12.25	8.75		
MUD DATA @ (ft)	1136	5580		
MUD TYPE	WATER-BASED	WATER-BASED		
DENSITY (lb / gal)	8.5	10.2		
VISCOSITY (s / qt)	26	33		
pH	-	7.85		
FLUID LOSS (cm3 / 30)	-	-		
SALINITY (ppm)	-	-		
Rm (ohmm @ deg F)	-	-		
Rmf (ohmm @ deg F)	-	-		
MAX TEMP (deg F)	120	176		
Rm @ MAX TEMP (ohmm)	-	-		
LWD ENGINEER #1	C. WILSON	C. WILSON		
LWD ENGINEER #2	T. LE	T. LE		
LWD ENGINEER #3	-	-		
LOG WITNESS #1	-	-		
LOG WITNESS #2	-	-		

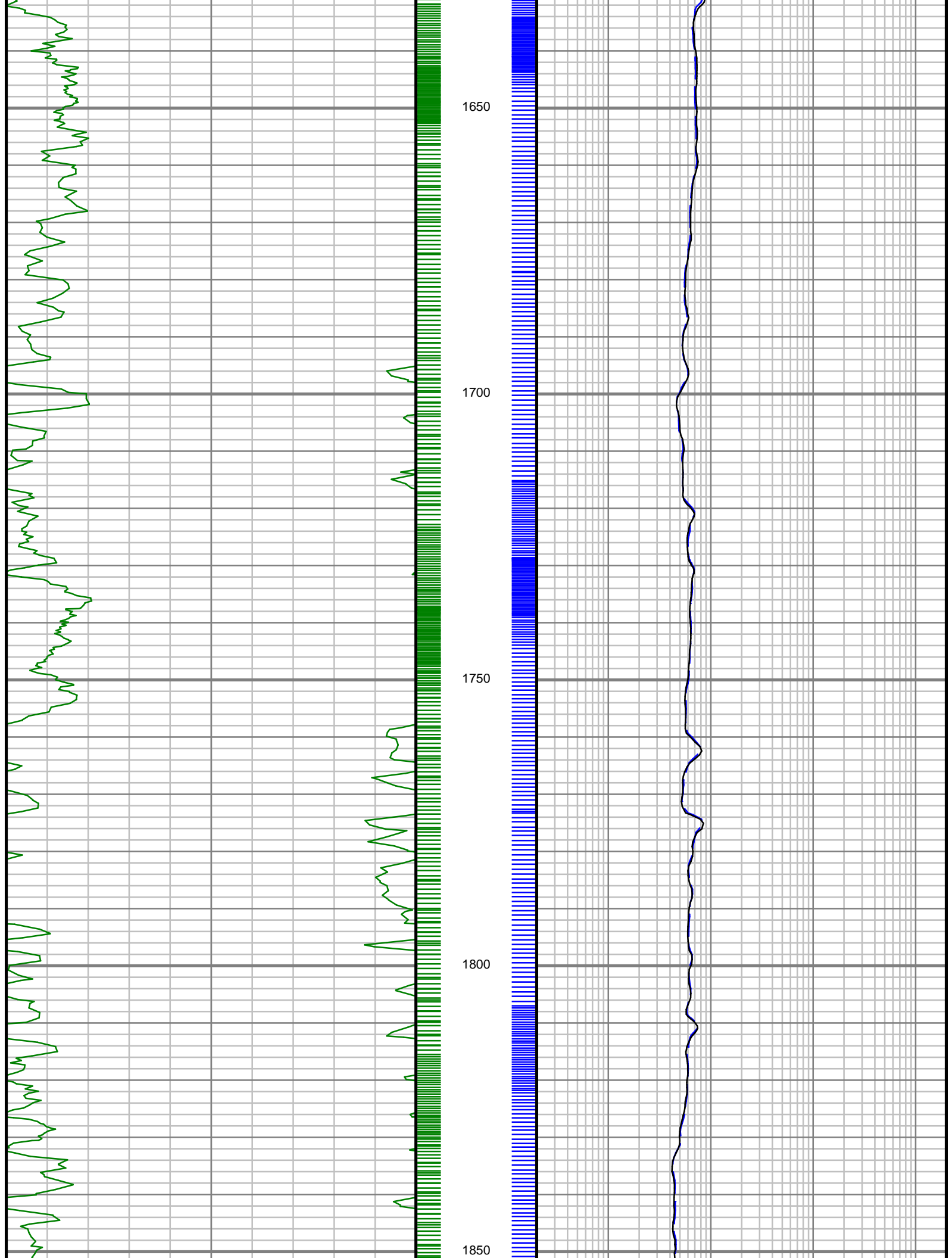
Remarks
ENCANA OIL & GAS (U.S.A.) INC PRODUCTION AFE# 14182125
SCIENTIFIC DRILLING INTERNATIONAL JOB# 186379, 210062
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO PHASE SHIFT RESISTIVITY, 33" CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO PHASE SHIFT RESISTIVITY, 23" CURVE
RUN # 1: MWD / DIRECTIONAL RUN
SENSORS S/N: PULSER = 890 / MWD EYE = 809 / GYRO = 034
BIT TO SENSOR OFFSET: GYRO SURVEY = 44.64 FT.
RUN # 2: MWD / GAMMA RAY / PROPAGATION RESISTIVITY LOGGING RUN
SENSORS S/N: PULSER = 128-028 / CONT = 126 / MWD EYE = 0213 / PRT = 322 / GAMMA RAY = 1271
BIT TO SENSOR OFFSETS: SURVEY = 57.16 FT. / RESISTIVITY = 46.50 FT. / GAMMA RAY = 37.99 FT.
MNEMONICS LIST:
GR = GAMMA RAY
PR33 = PHASE SHIFT RESISTIVITY, 33"
PR23 = PHASE SHIFT RESISTIVITY, 23"

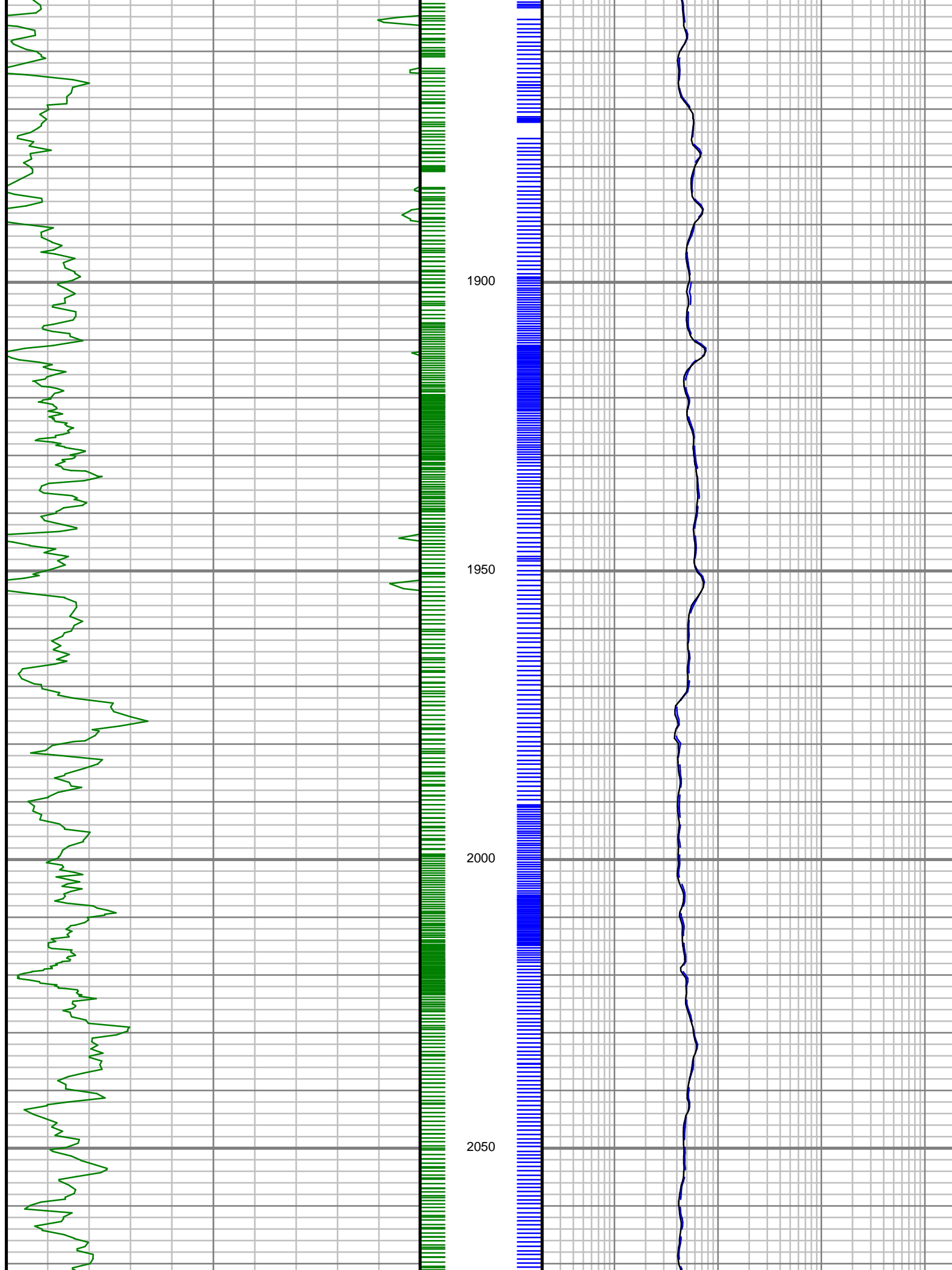
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions as set out in our current price schedule.

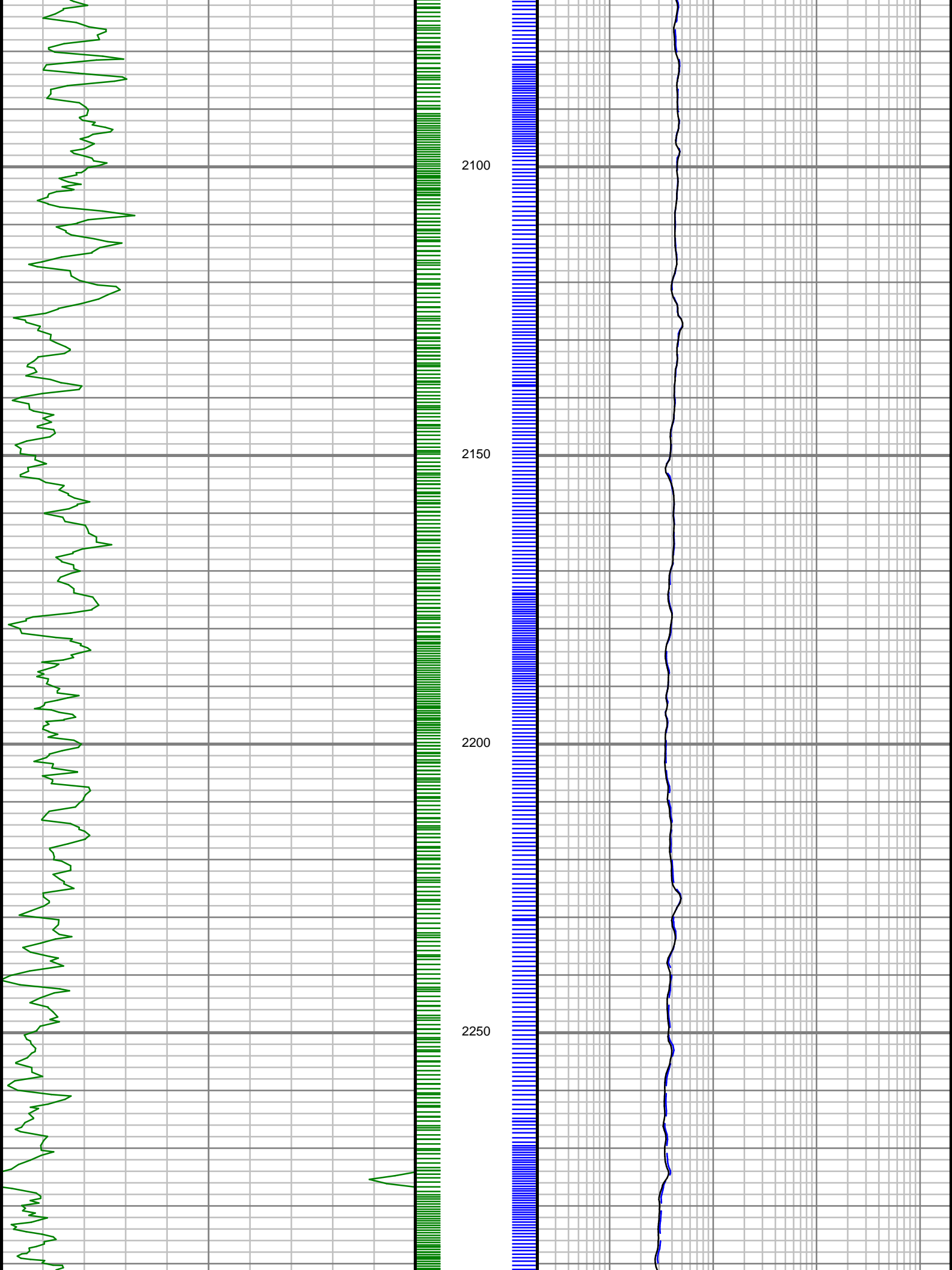


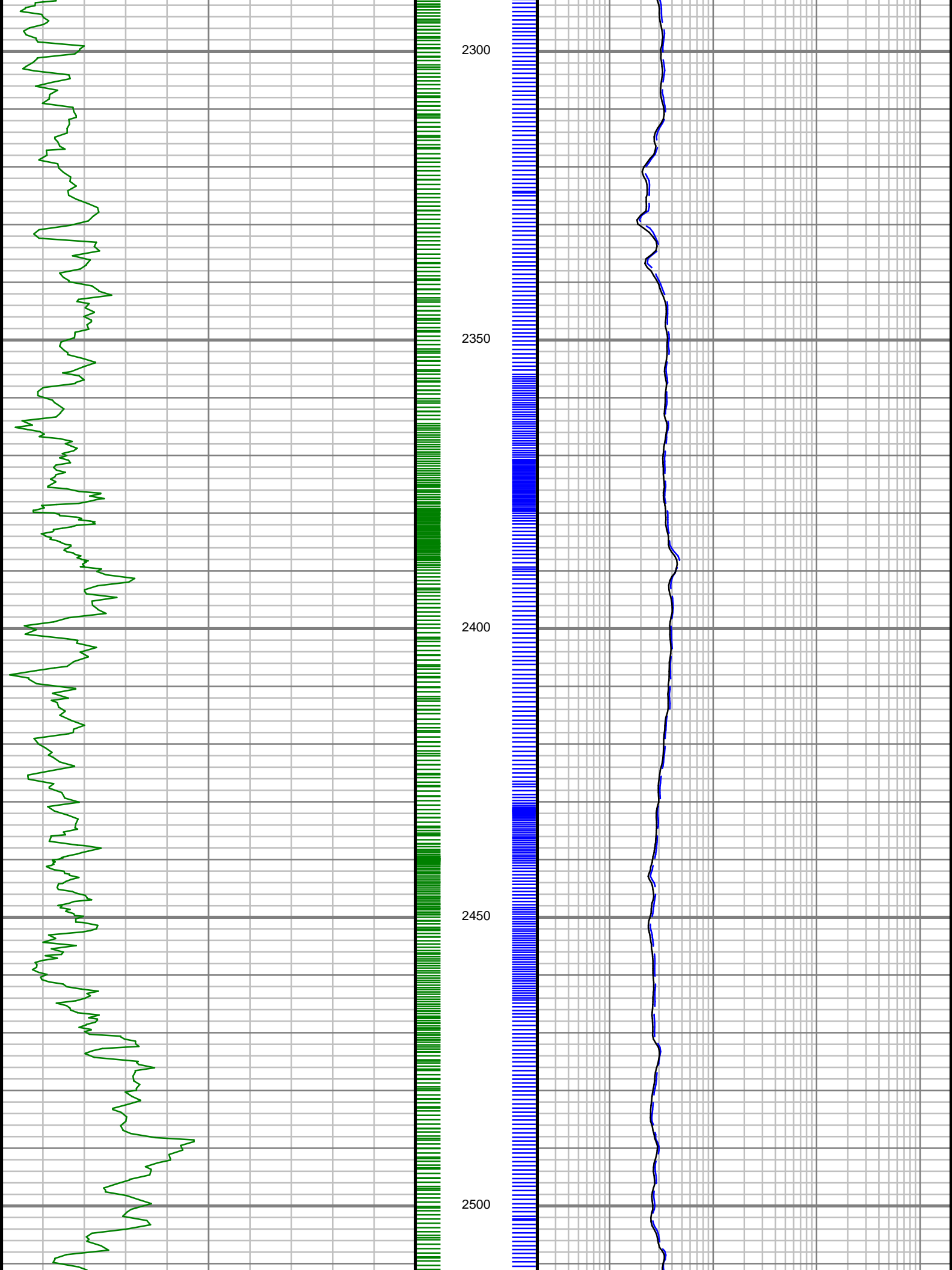


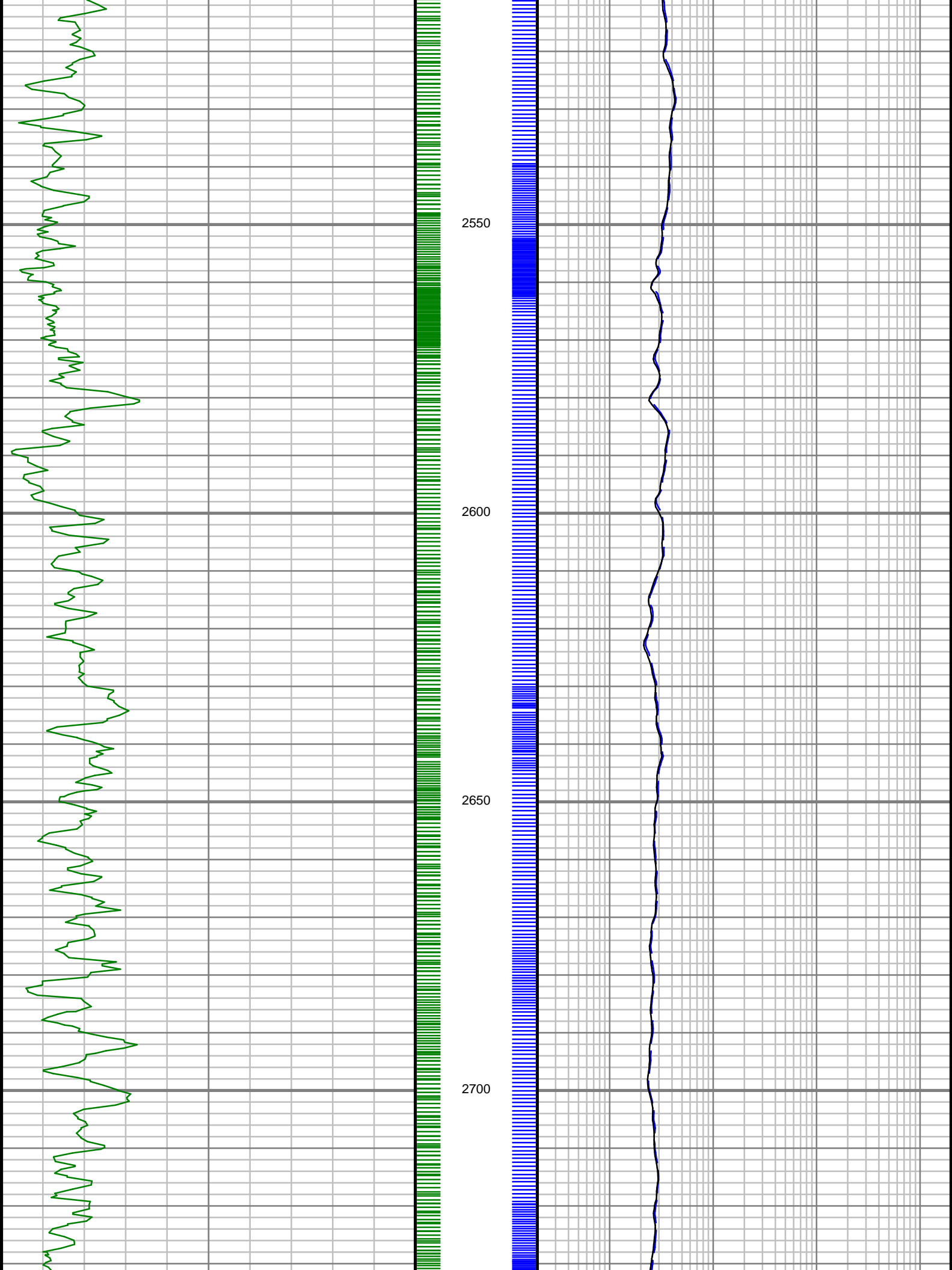


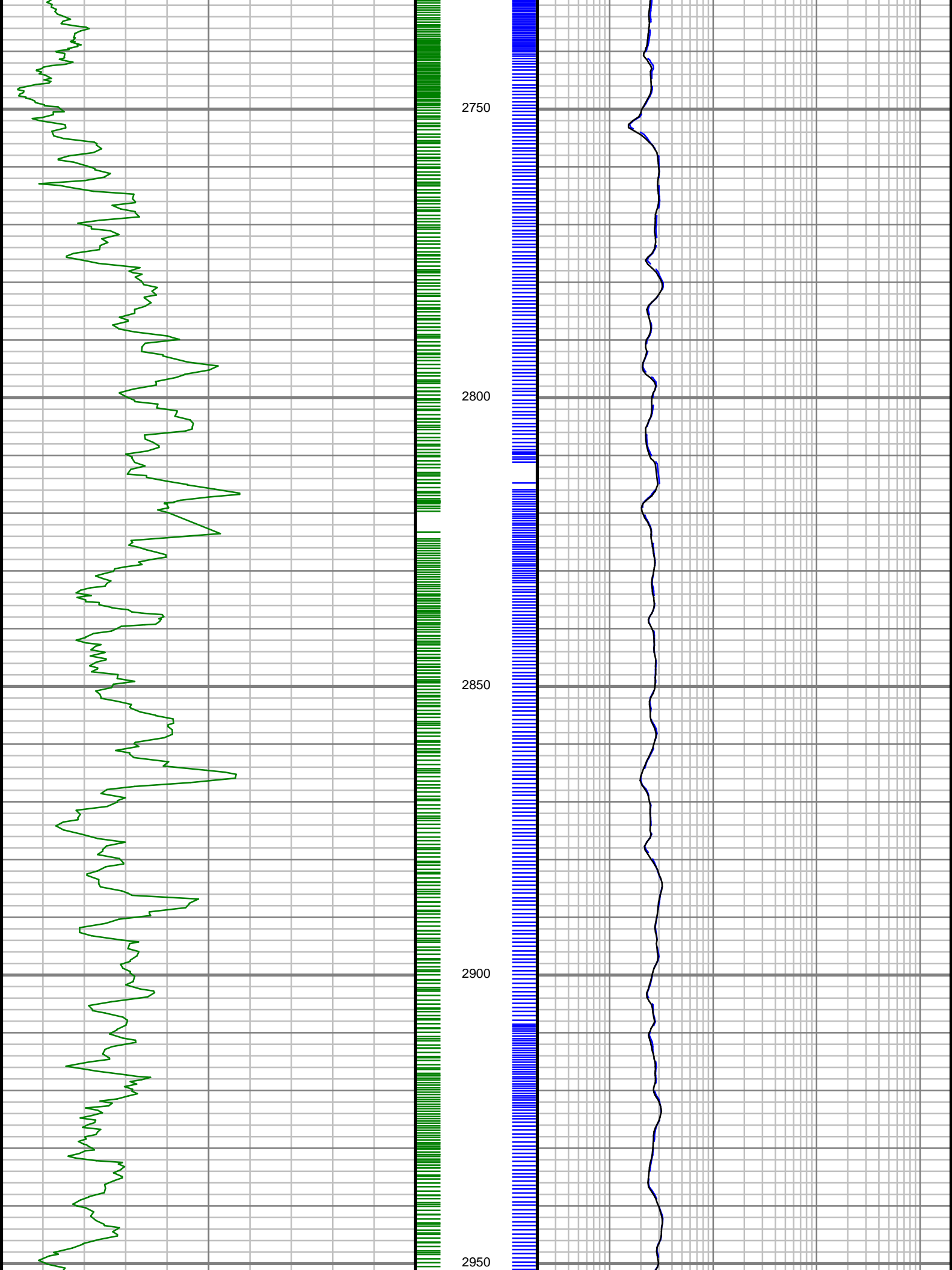


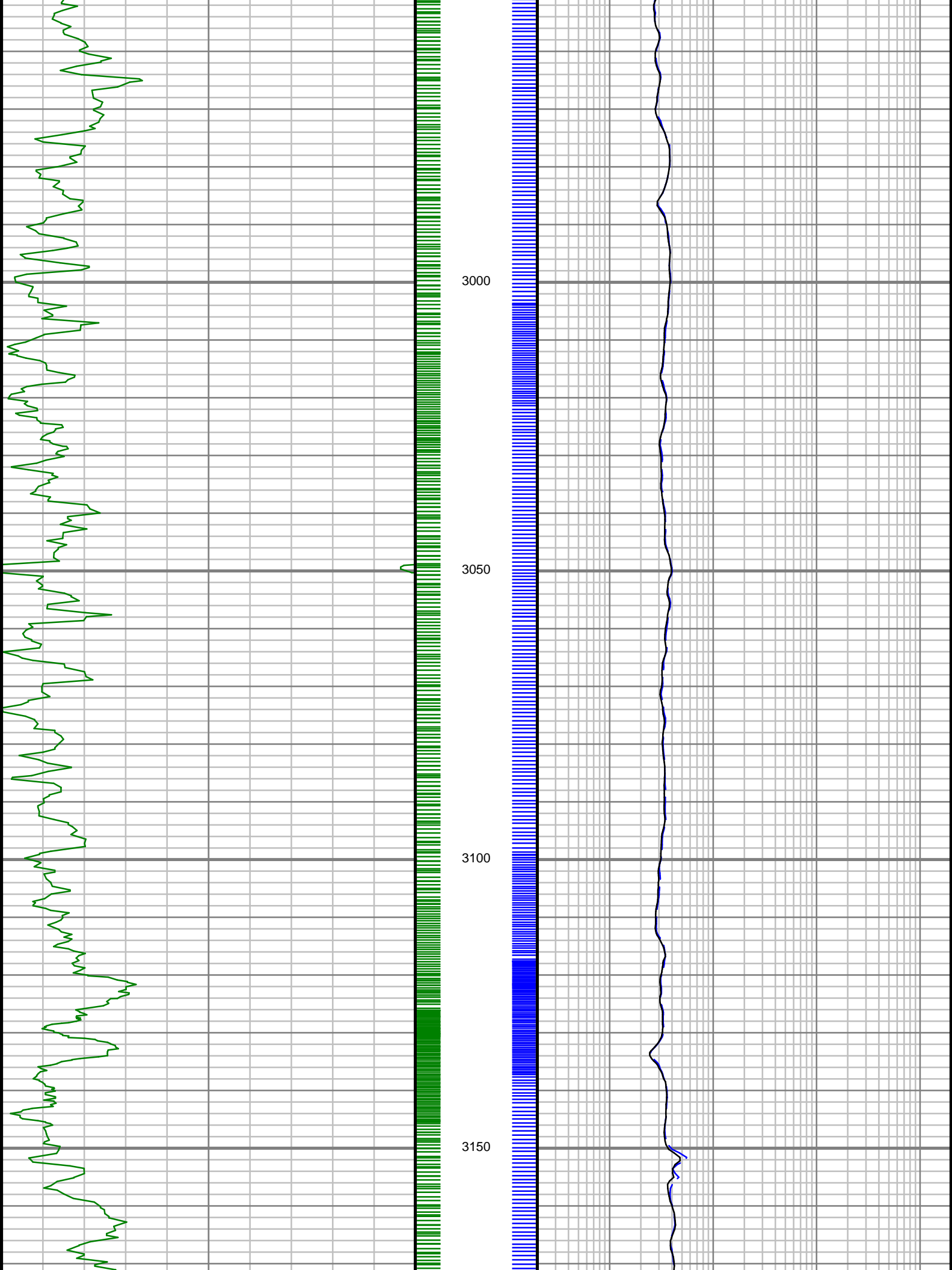


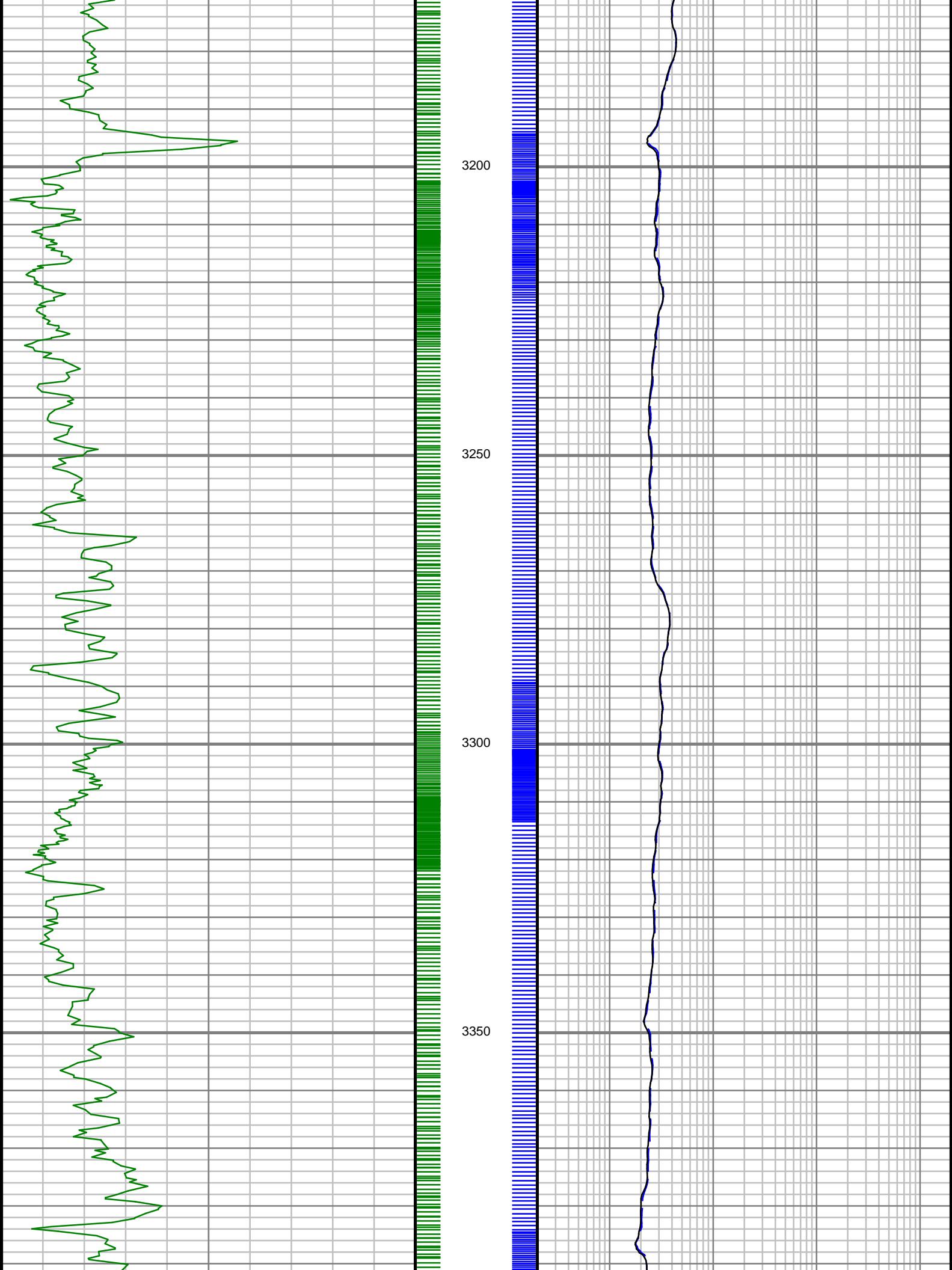


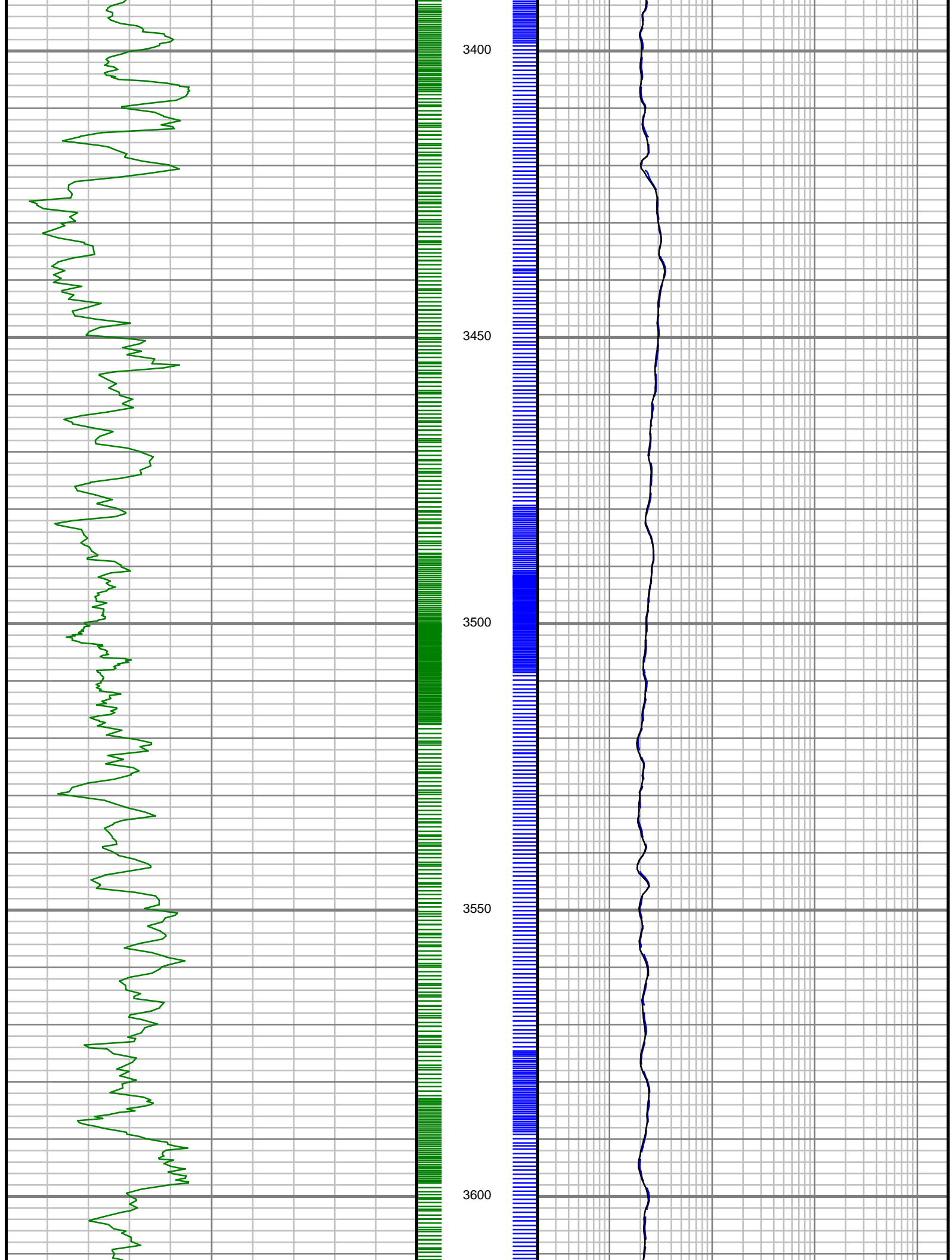


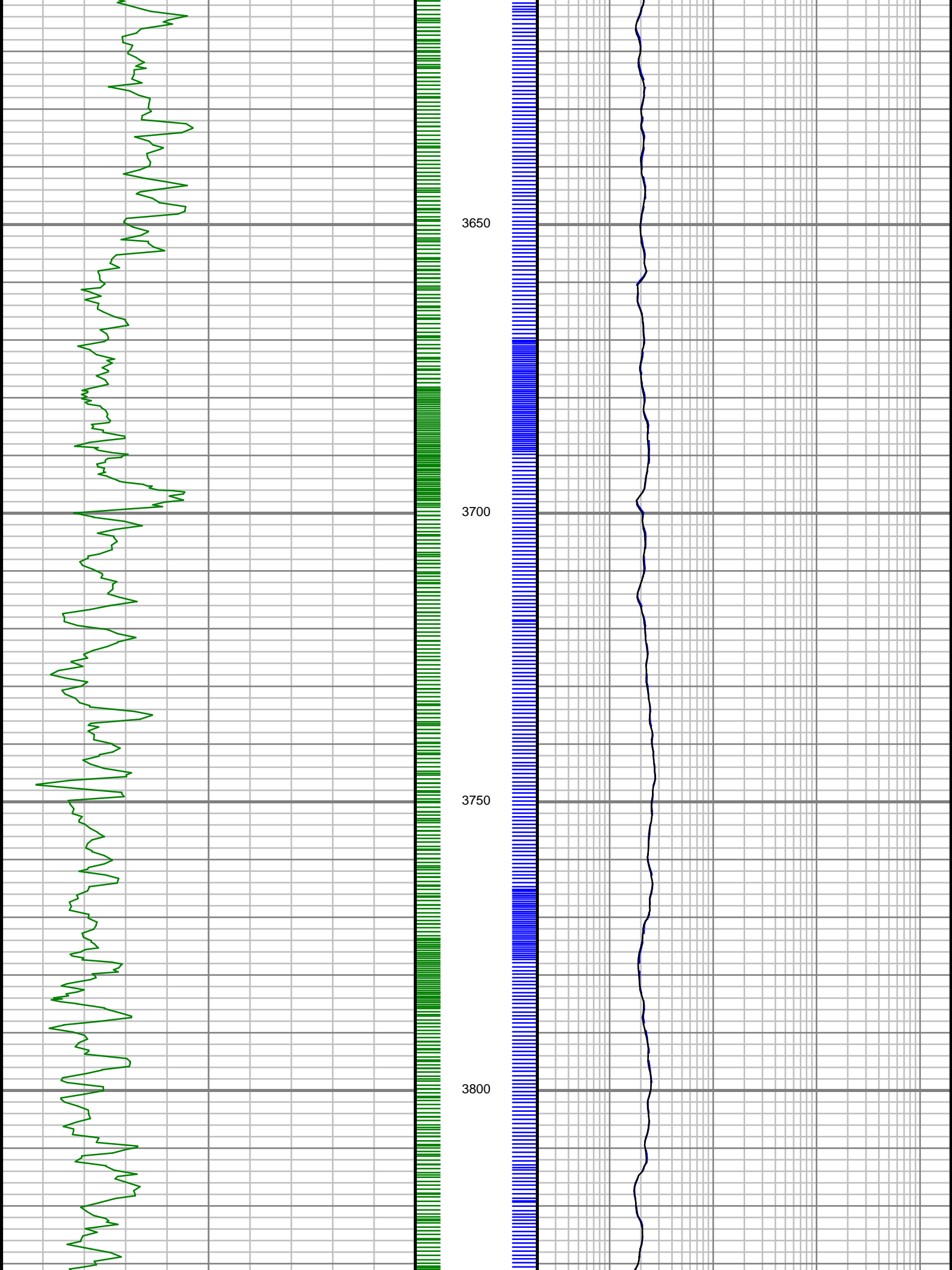


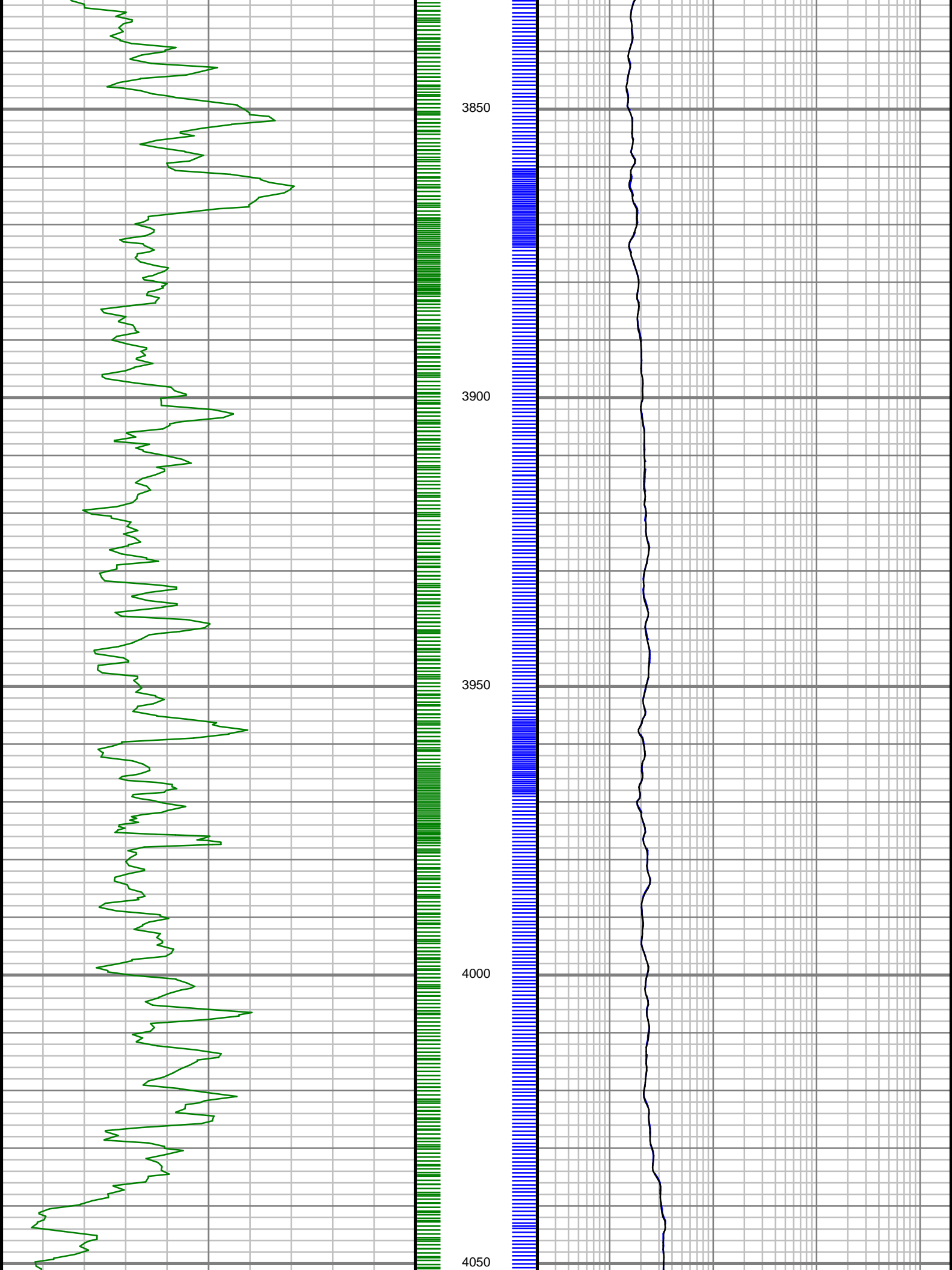


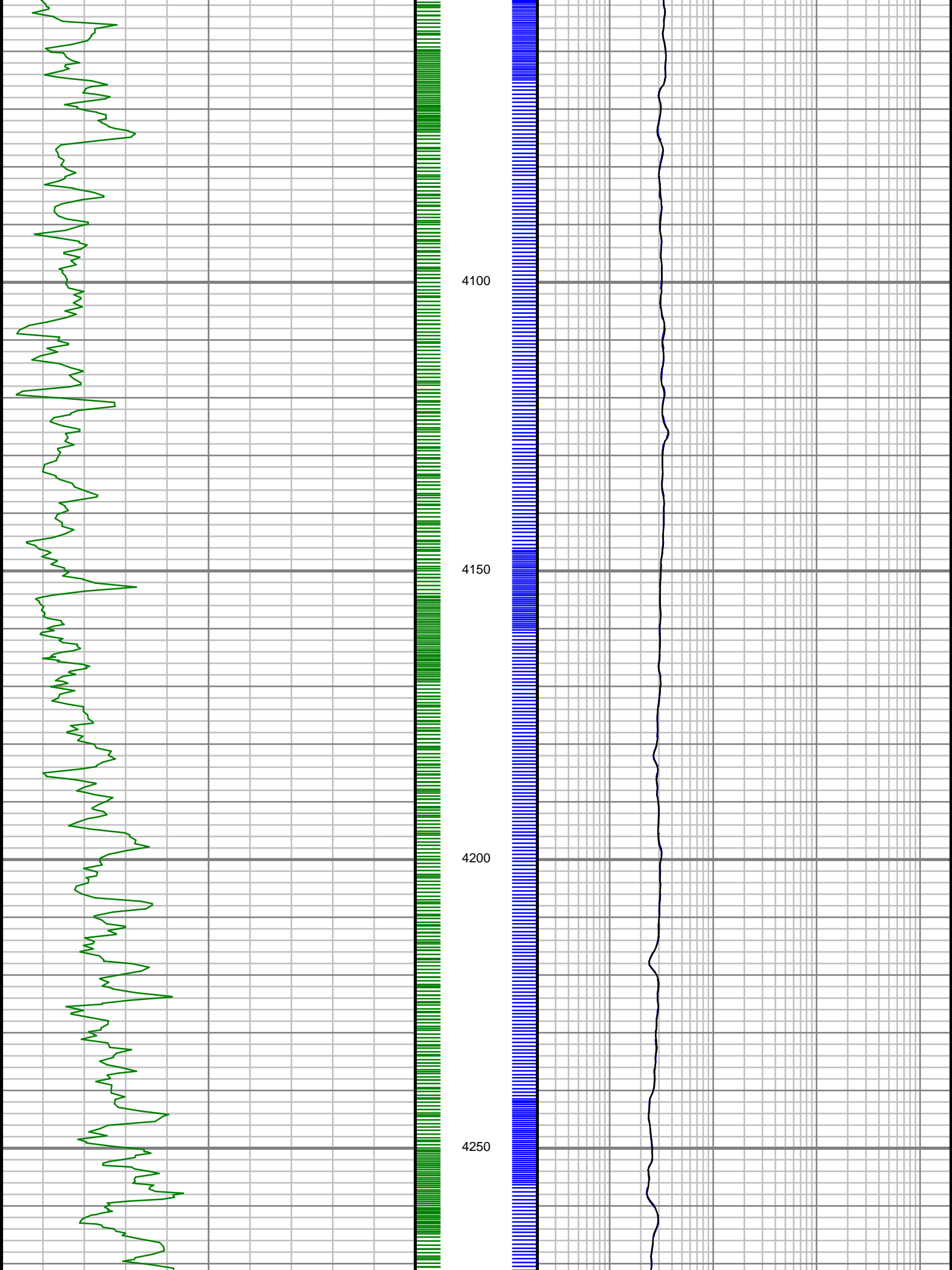


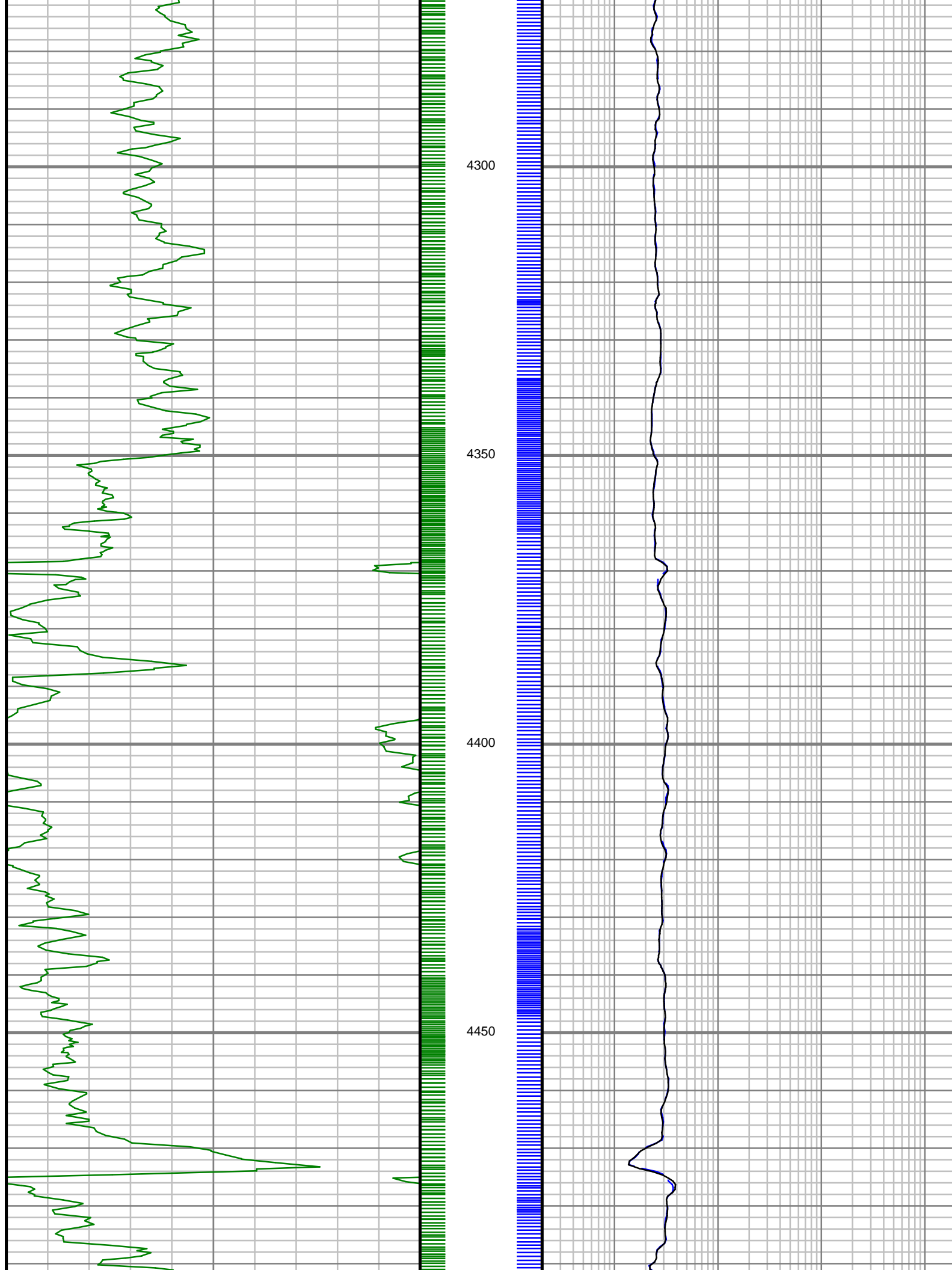


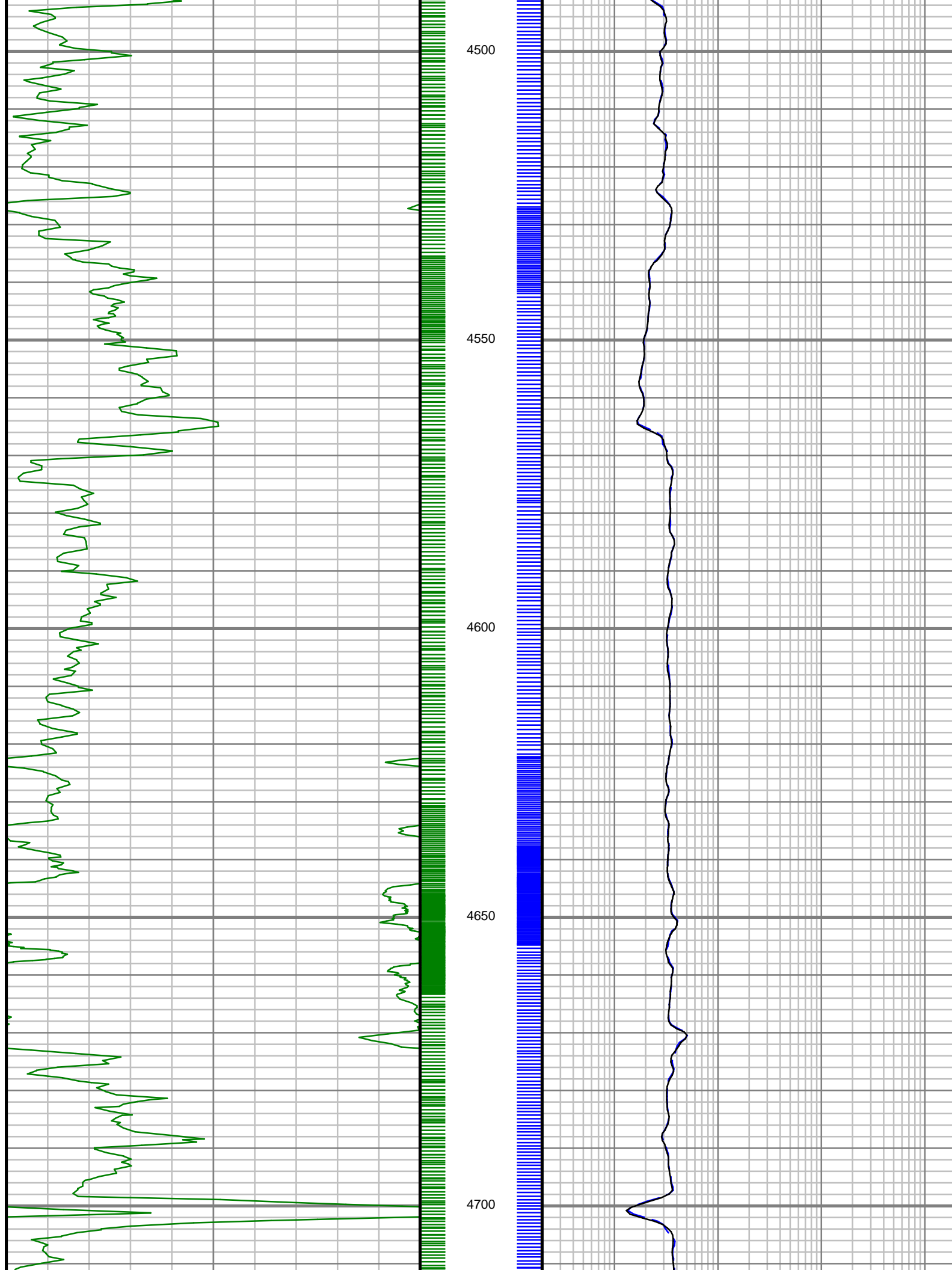


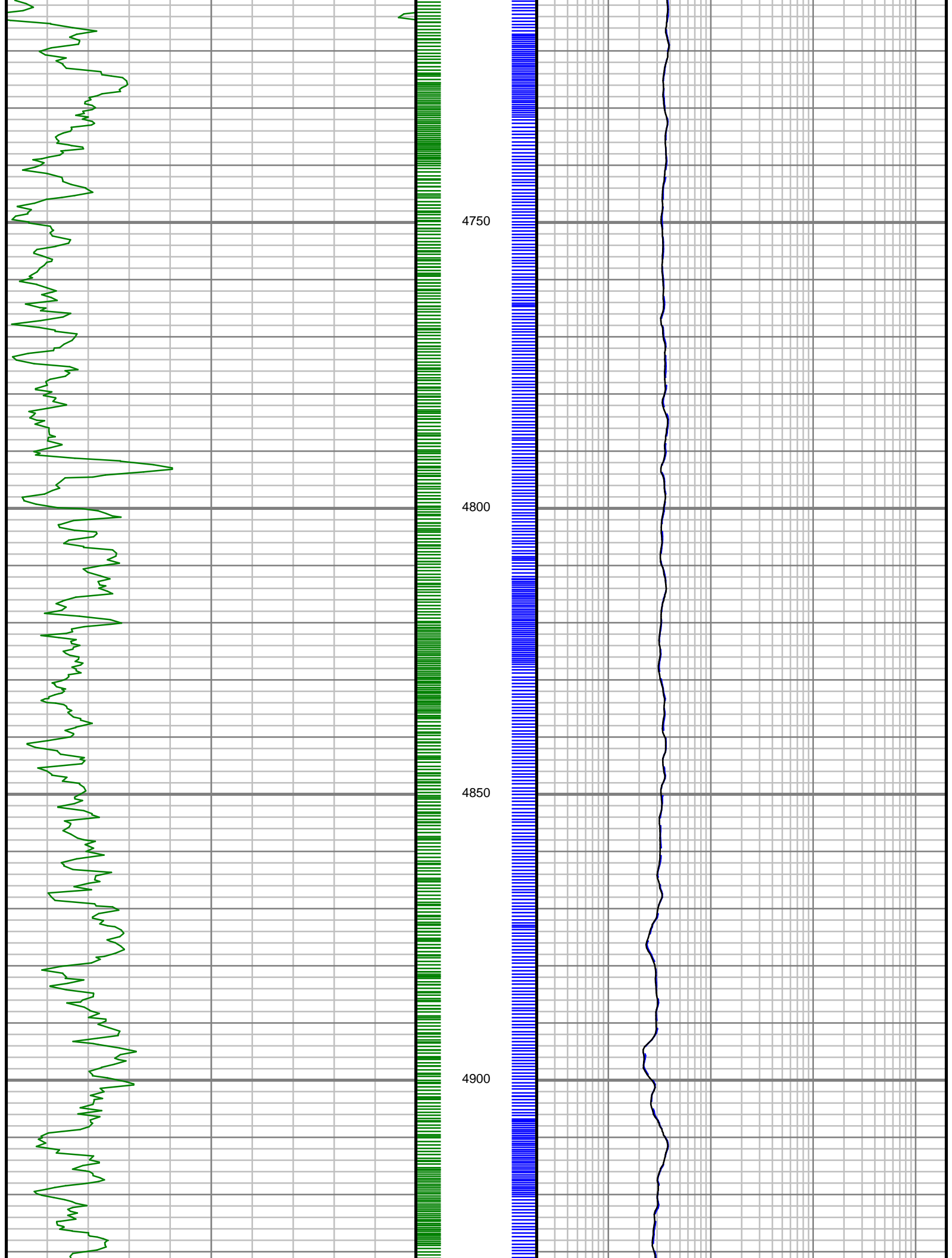


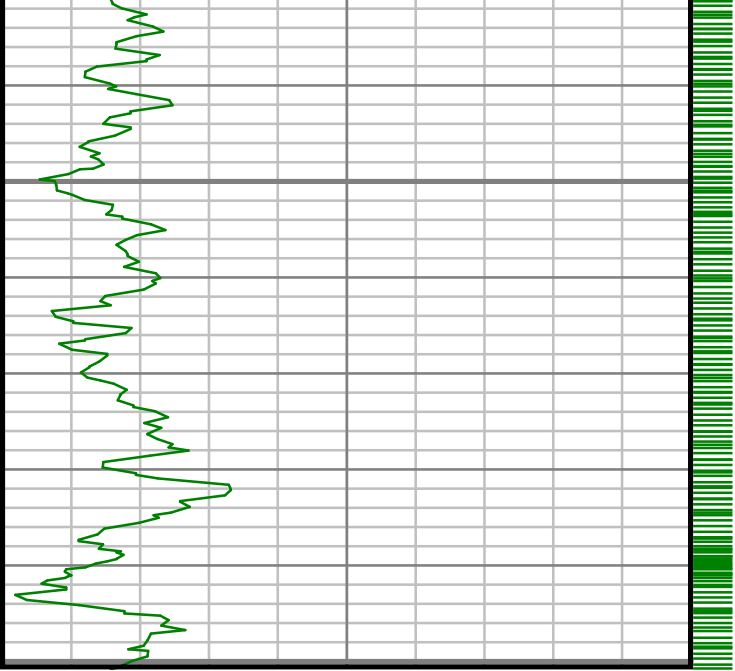












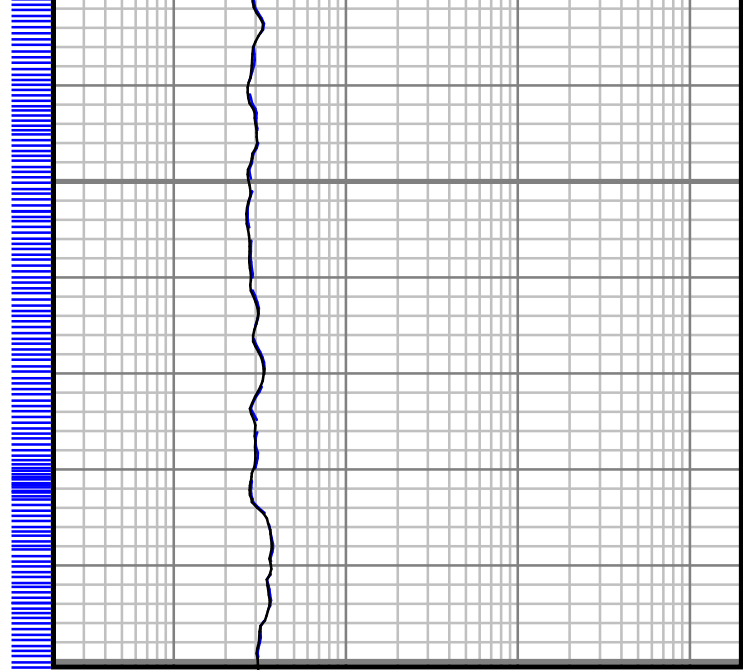
Gamma Ray (GR)

150 Unit = aapi 300

4950

5000

MEASURED DEPTH
1,240 (ft)



Phase Shift Resistivity, 23" (PR23)

0.2 Unit = ohmm 2000

Phase Shift Resistivity, 33" (PR33)

0.2 Unit = ohmm 2000



PROPAGATION RESISTIVITY
GAMMA RAY

5" = 100' FEET MD