

5" = 100' FEET MD

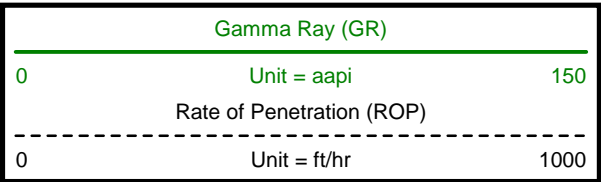
COMPANY : BILL BARRETT CORP WELL : ANSCHUTZ EQUUS FARMS 4-62-9-3225B2 FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-42151										COMPANY : BILL BARRETT CORP WELL : ANSCHUTZ EQUUS FARMS 4-62-9-3225B2 FIELD : WATTENBERG COUNTY : WELD STATE : COLORADO COUNTRY : U.S.A. UWI : 05-123-42151									
DEPTH REF. : KB REF. HEIGHT : 16.000 ft GROUND LEVEL : 4528.000 ft										KB to Ground Level G.L. to MEAN SEA LEVEL									
BOREHOLE RECORD										DEVIATION RECORD									
HOLE SIZE in		FROM ft		TO ft		INCLINATION deg		FROM ft		TO ft									
8.75						0-15		800		5715									
6.125						0-88		5715		6614									
						88-92		6614		XXX									
CASING RECORD																			
CASING SIZE in		FROM ft		TO ft															
9.6125		0		809															
7		0		6599															
										DRILLING CO.: CADE RIG: 24 LWD UNIT NO.: MWD-00267-DISTRICT: CASPER SPUD DATE: 11/11/2015 LWD START DATE: 01/19/2016 LWD END DATE: DEPTH: 4000 ft TOTAL DEPTH:									

Remarks
BILL BARRETT CORP PRODUCTION AFE# 19400D
SCIENTIFIC DRILLING INTERNATIONAL JOB# 339960
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 RATE OF PENETRATION CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO HOOKLOAD (MAX) CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO WEIGHT-ON-BIT (SURF,MAX) CURVE
RUN #1: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 128-4070 / CONT = 715 / MWD EYE = 0164 / GAMMA RAY = 1131
BIT TO SENSOR OFFSETS: SURVEY = 63.27 FT. / GAMMA RAY = 59.69 FT.
RUN #2: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 128-4070 / CONT = 715 / MWD EYE = 0164 / GAMMA RAY = 1131
BIT TO SENSOR OFFSETS: SURVEY = 62.11 FT. / GAMMA RAY = 58.51 FT.
RUN #3: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 78-268 / CONT = 456 / MWD EYE = 1046 / GAMMA RAY = 1065
BIT TO SENSOR OFFSETS: SURVEY = 55.67 FT. / GAMMA RAY = 47.09 FT.
MNEMONICS LIST:
GR = GAMMA RAY

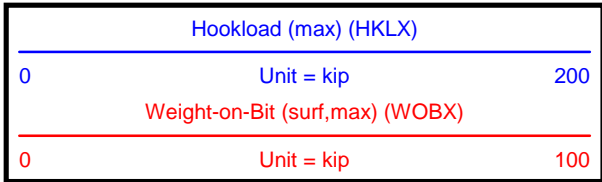
[illegible]

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.

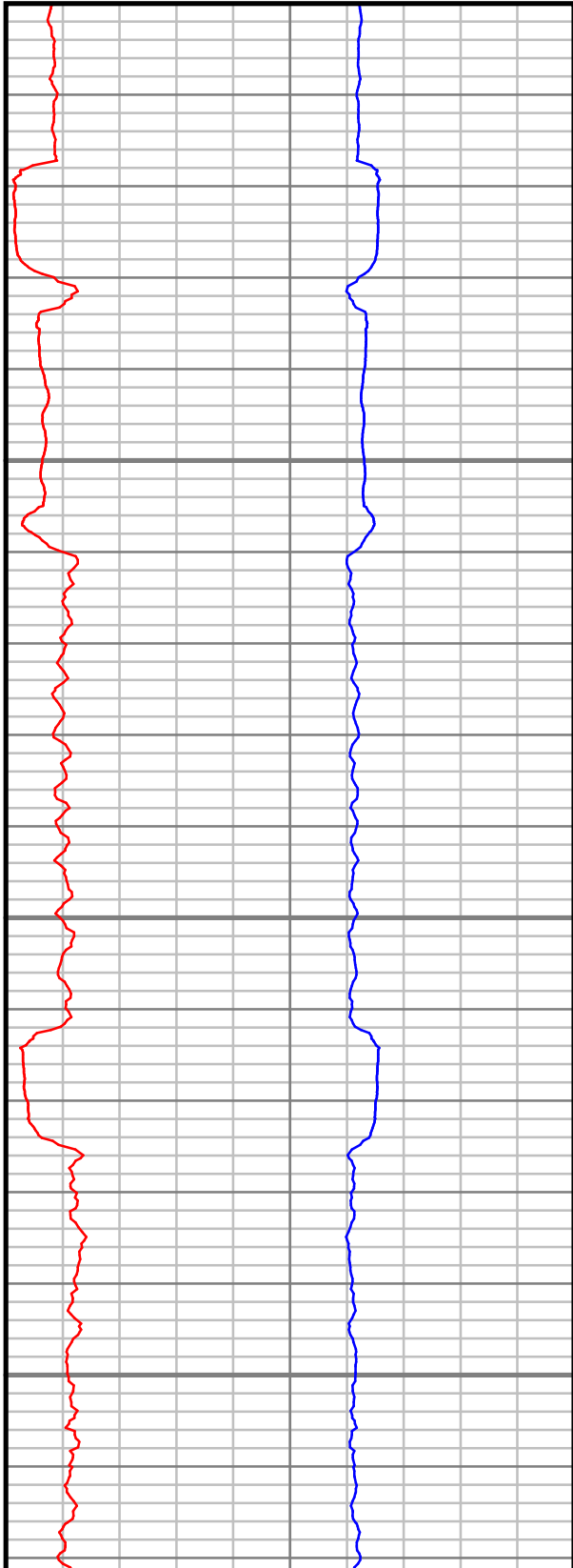
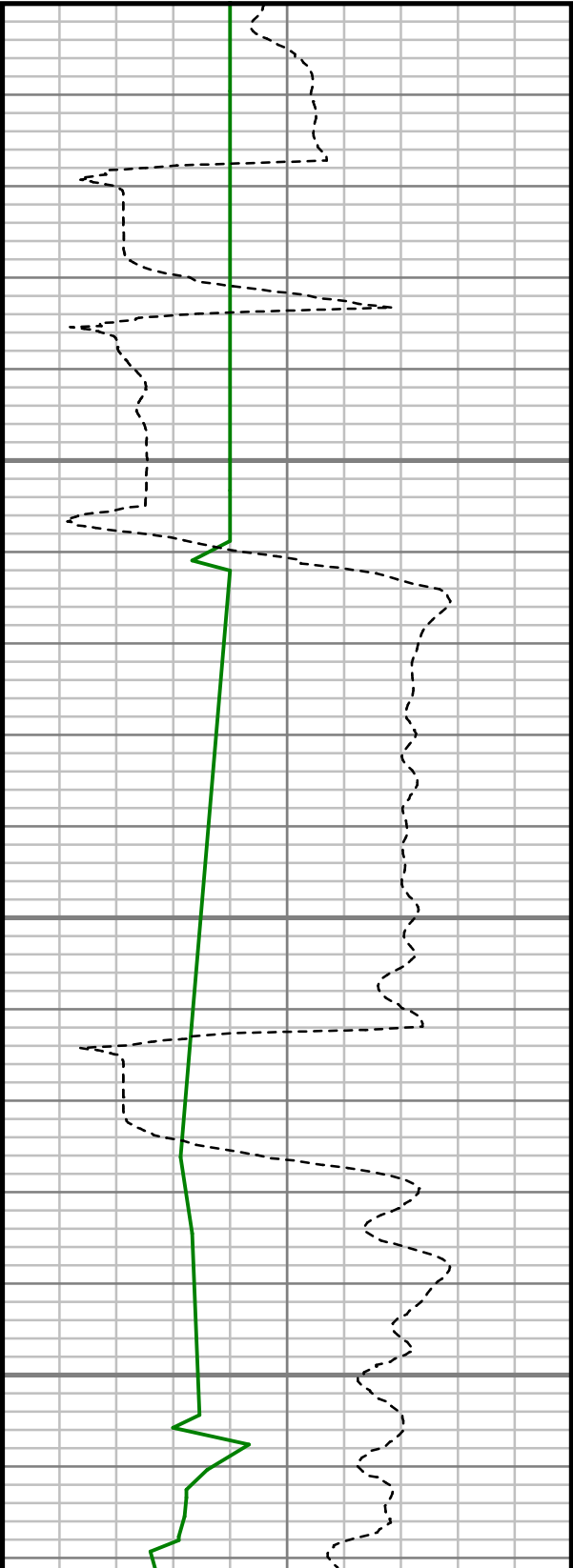
BILL BARRETT CORPORATION
ANSCHUTZ EQUUS FARMS 4-62-9-3225B2
WATTENBERG FIELD
WELD COUNTY, COLORADO
05-123-42151



MEASURED DEPTH
1:240 (ft)

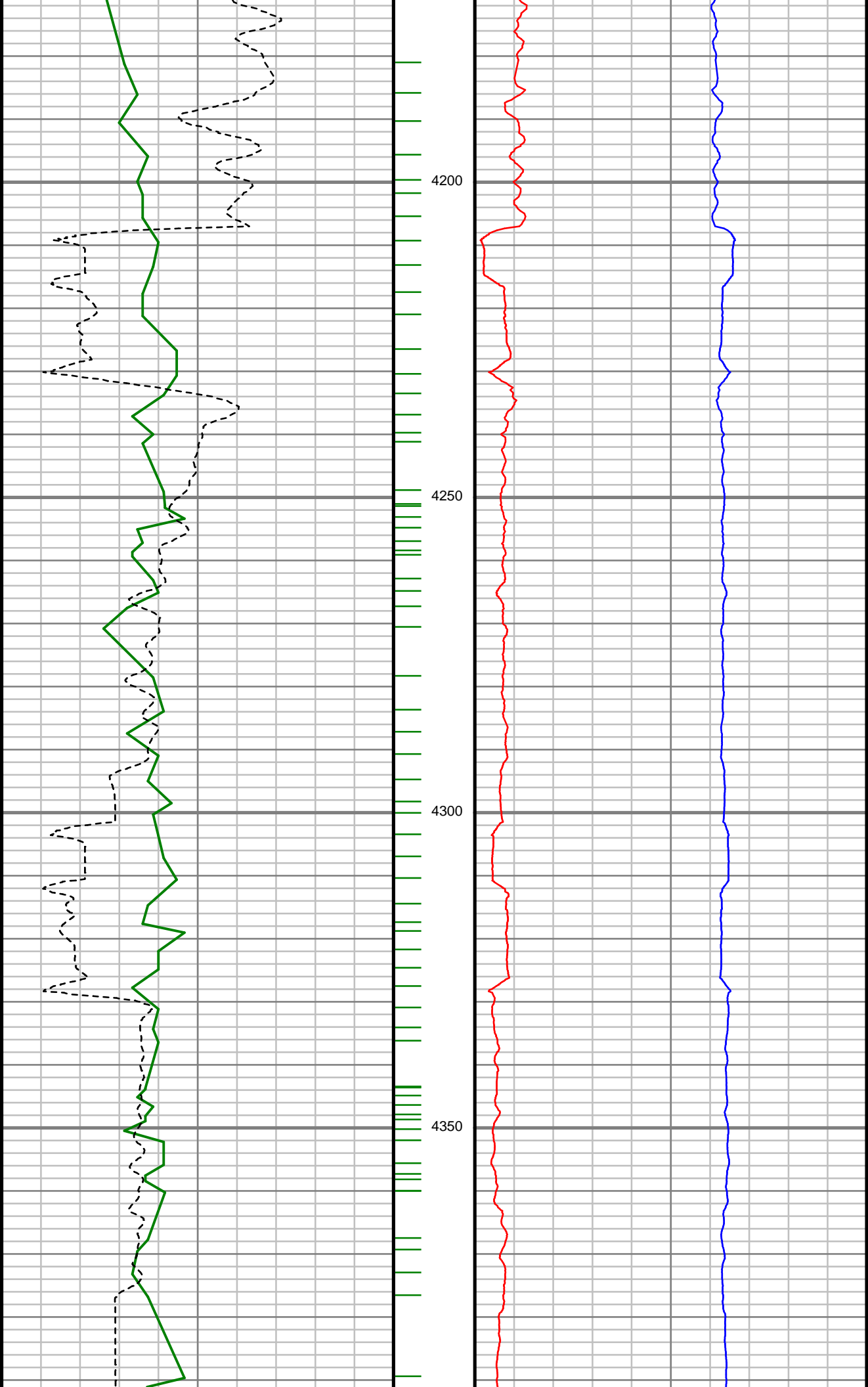


Comments



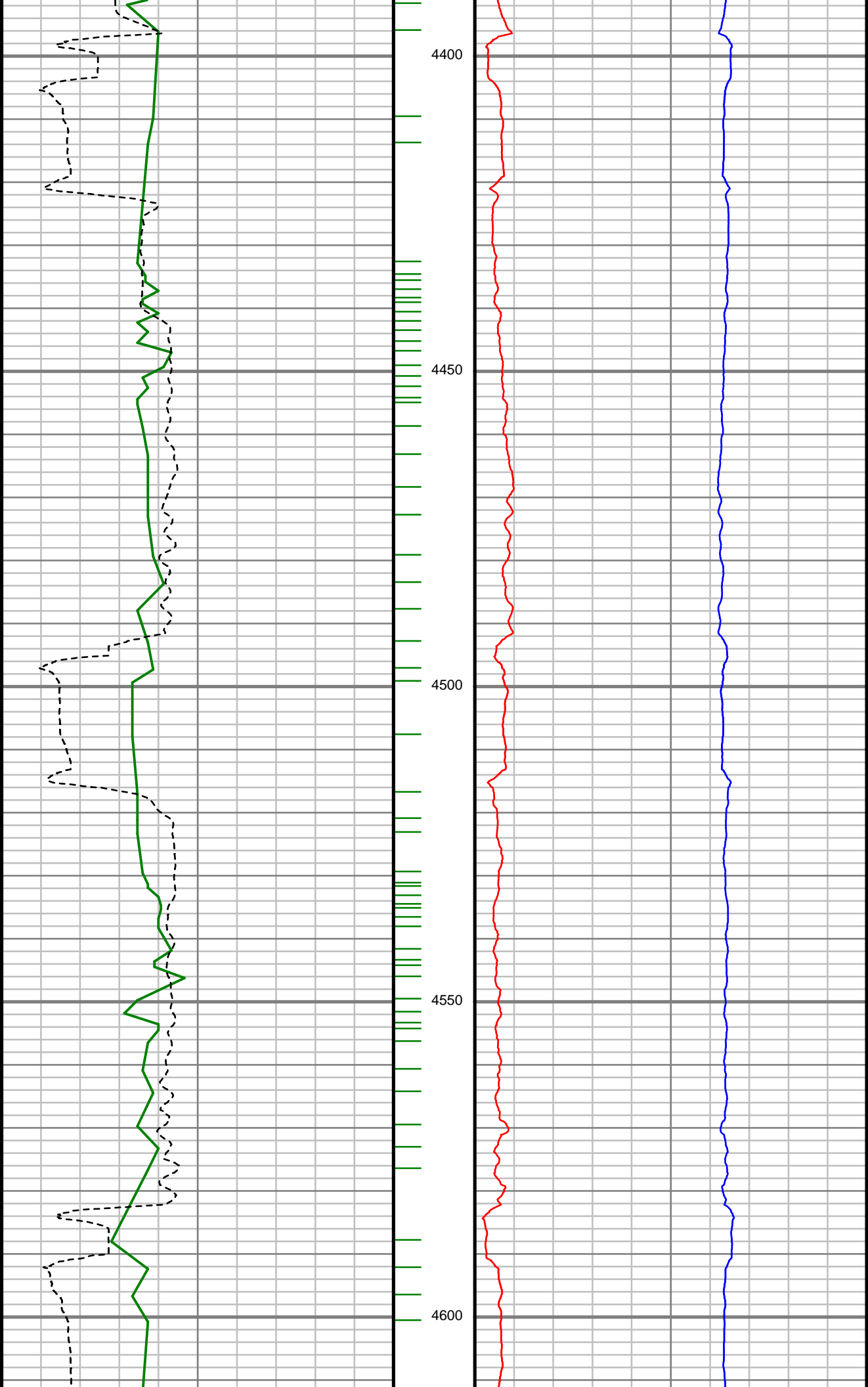
S: 35 MD: 4047.00 ft Inc:
10.55 deg Az: 333.03 deg
TVD: 3995.01 ft

S: 36 MD: 4141.00 ft Inc:
10.82 deg Az: 332.94 deg
TVD: 4087.38 ft



S: 37 MD: 4235.00 ft Inc:
10.99 deg Az: 334.87 deg
TVD: 4179.69 ft

S: 38 MD: 4330.00 ft Inc:
10.11 deg Az: 337.24 deg
TVD: 4273.08 ft



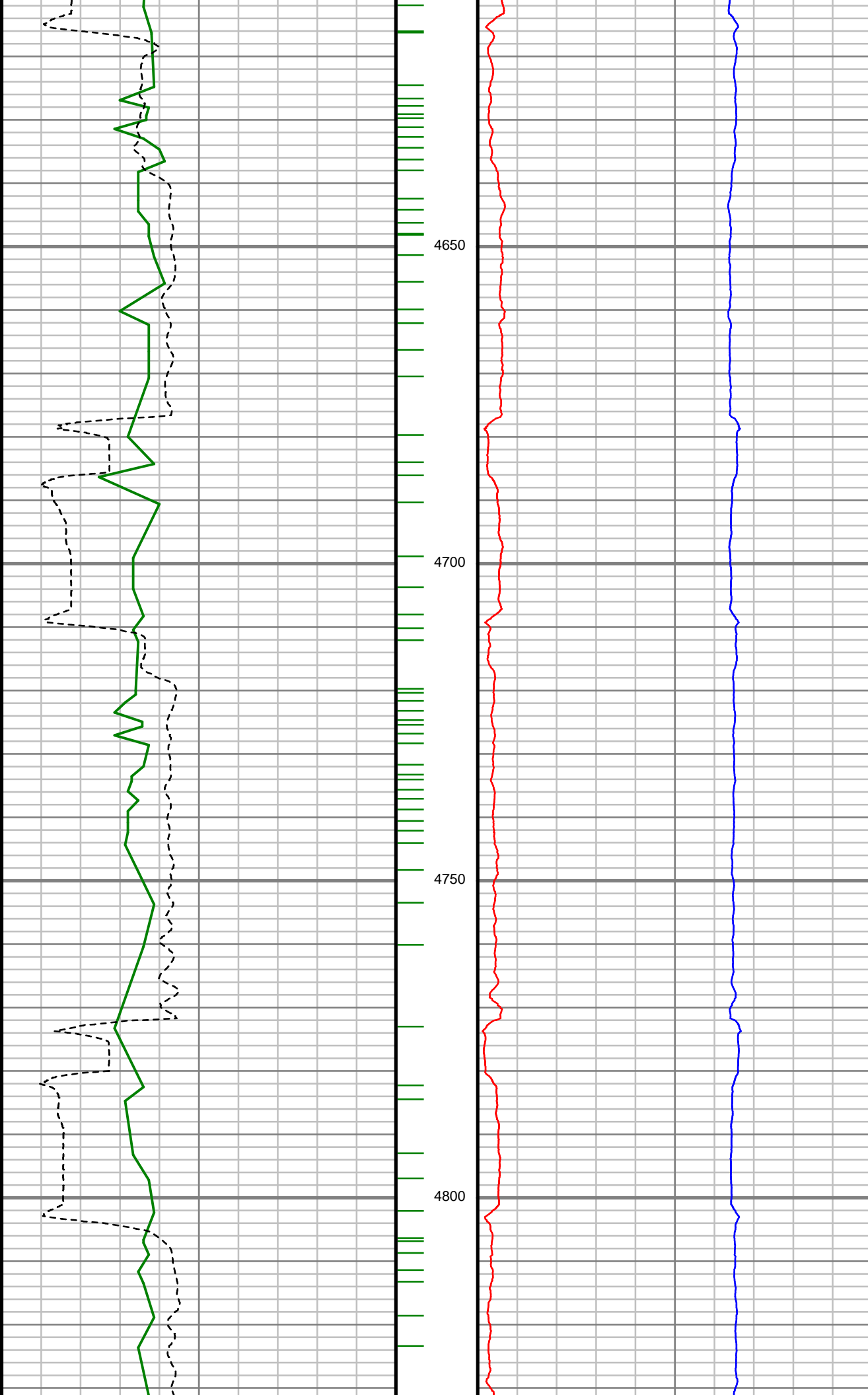
S: 39 MD: 4424.00 ft Inc:
10.38 deg Az: 336.81 deg
TVD: 4365.58 ft

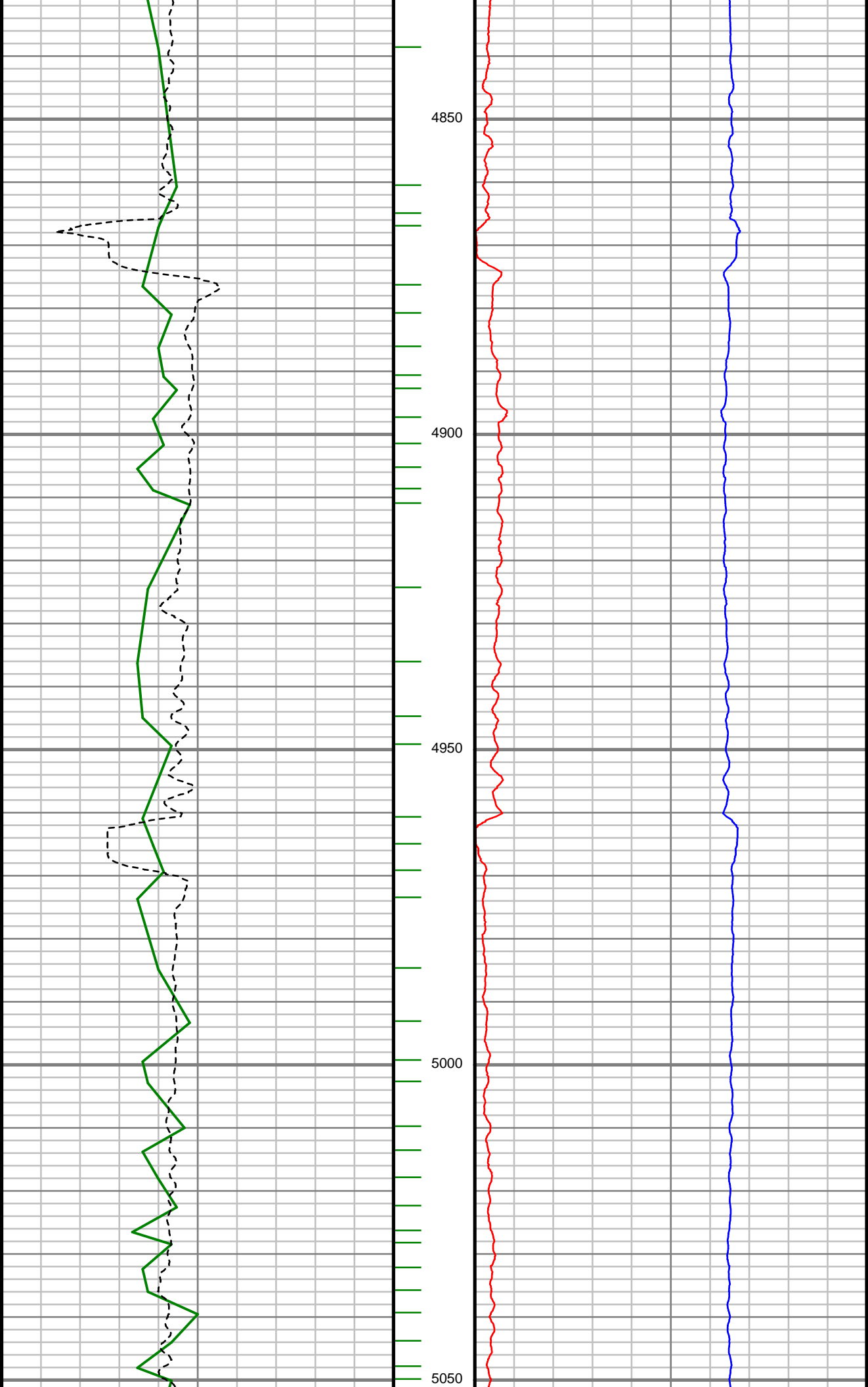
S: 40 MD: 4518.00 ft Inc:
9.85 deg Az: 340.76 deg
TVD: 4458.12 ft

S: 41 MD: 4612.00 ft Inc:
10.02 deg Az: 346.47 deg
TVD: 4550.71 ft

S: 42 MD: 4707.00 ft Inc:
10.20 deg Az: 344.80 deg
TVD: 4644.24 ft

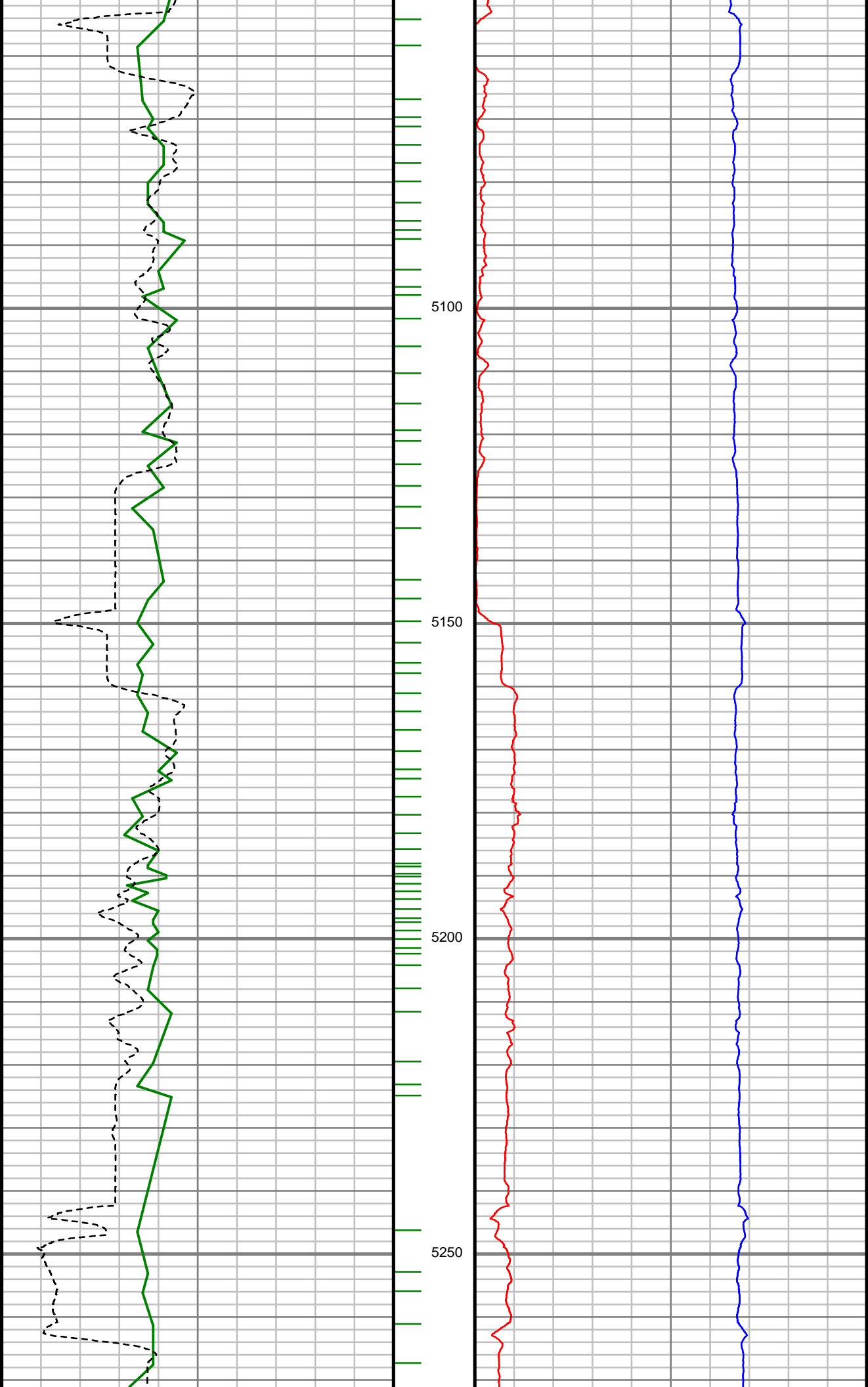
S: 43 MD: 4801.00 ft Inc:
10.73 deg Az: 342.34 deg
TVD: 4736.68 ft





S: 44 MD: 4895.00 ft Inc:
9.41 deg Az: 340.76 deg
TVD: 4829.23 ft

S: 45 MD: 4989.00 ft Inc:
7.30 deg Az: 340.85 deg
TVD: 4922.22 ft



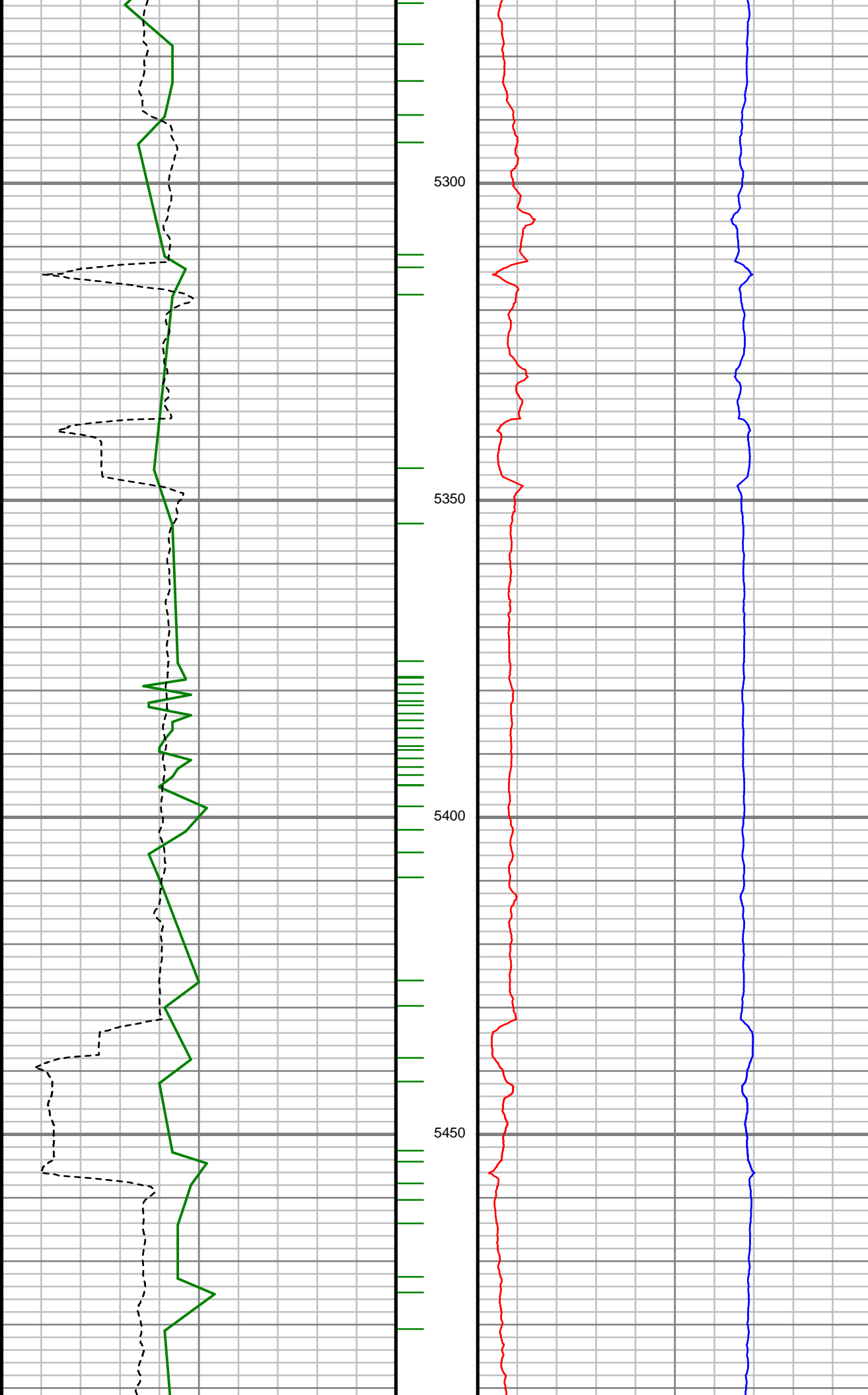
S: 46 MD: 5084.00 ft Inc:
5.98 deg Az: 340.76 deg
TVD: 5016.58 ft

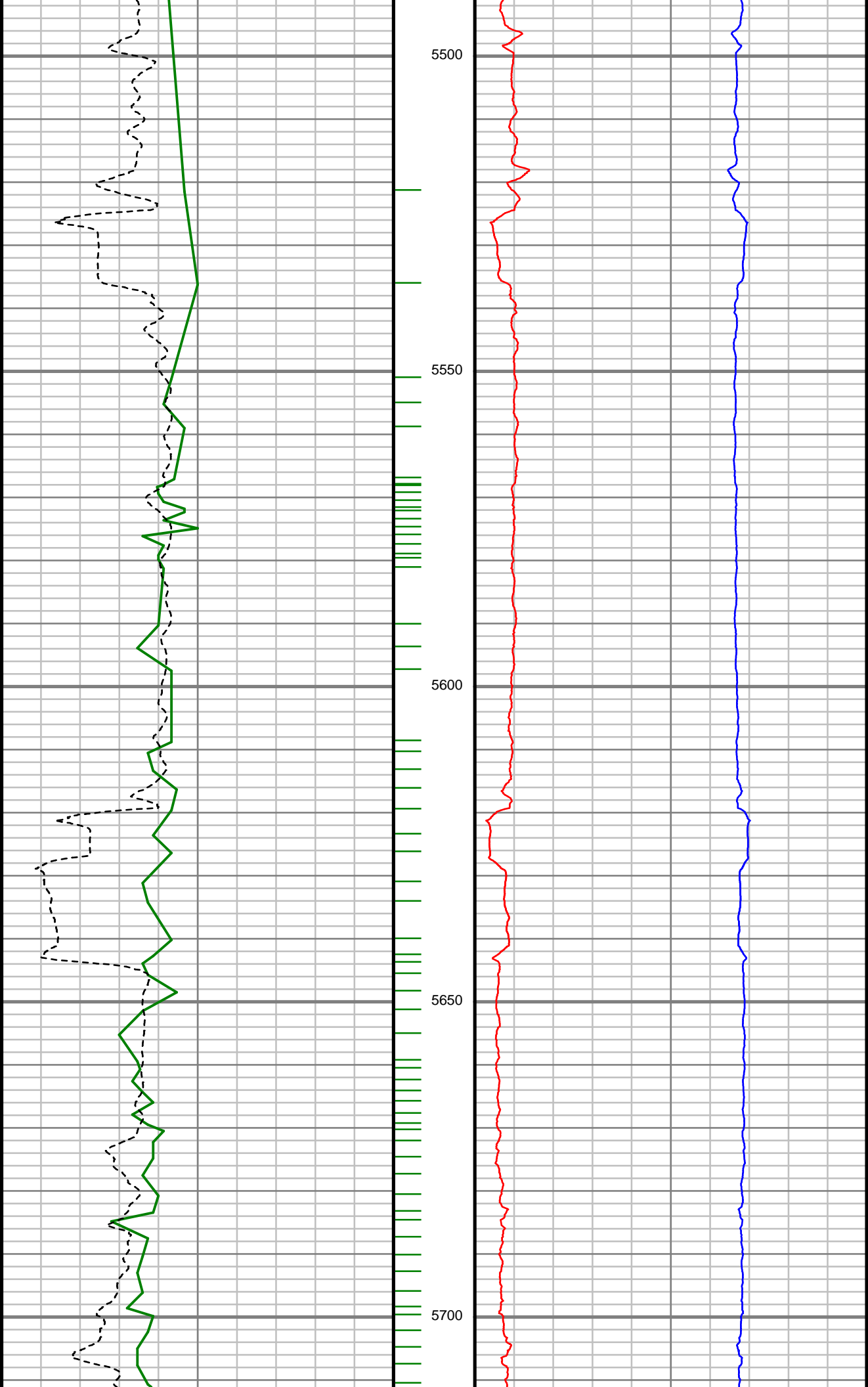
S: 47 MD: 5178.00 ft Inc:
4.84 deg Az: 339.79 deg
TVD: 5110.16 ft

S: 48 MD: 5272.00 ft Inc:
3.69 deg Az: 329.33 deg
TVD: 5203.90 ft

S: 49 MD: 5366.00 ft Inc:
2.90 deg Az: 330.13 deg
TVD: 5297.75 ft

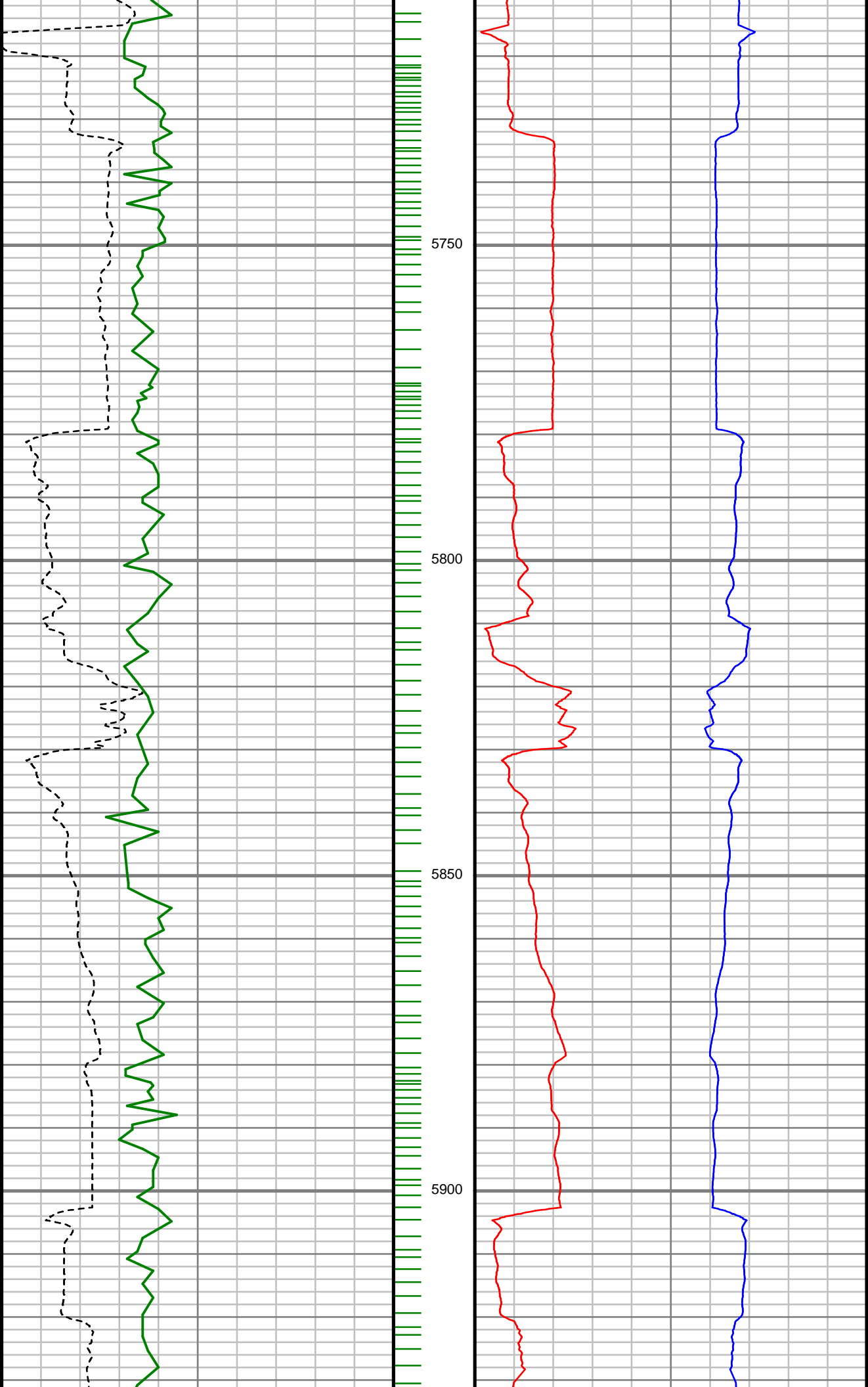
S: 50 MD: 5460.00 ft Inc:
1.85 deg Az: 309.82 deg
TVD: 5391.67 ft





S: 51 MD: 5555.00 ft Inc:
1.41 deg Az: 306.66 deg
TVD: 5486.63 ft

S: 52 MD: 5650.00 ft Inc:
0.79 deg Az: 193.19 deg
TVD: 5581.62 ft



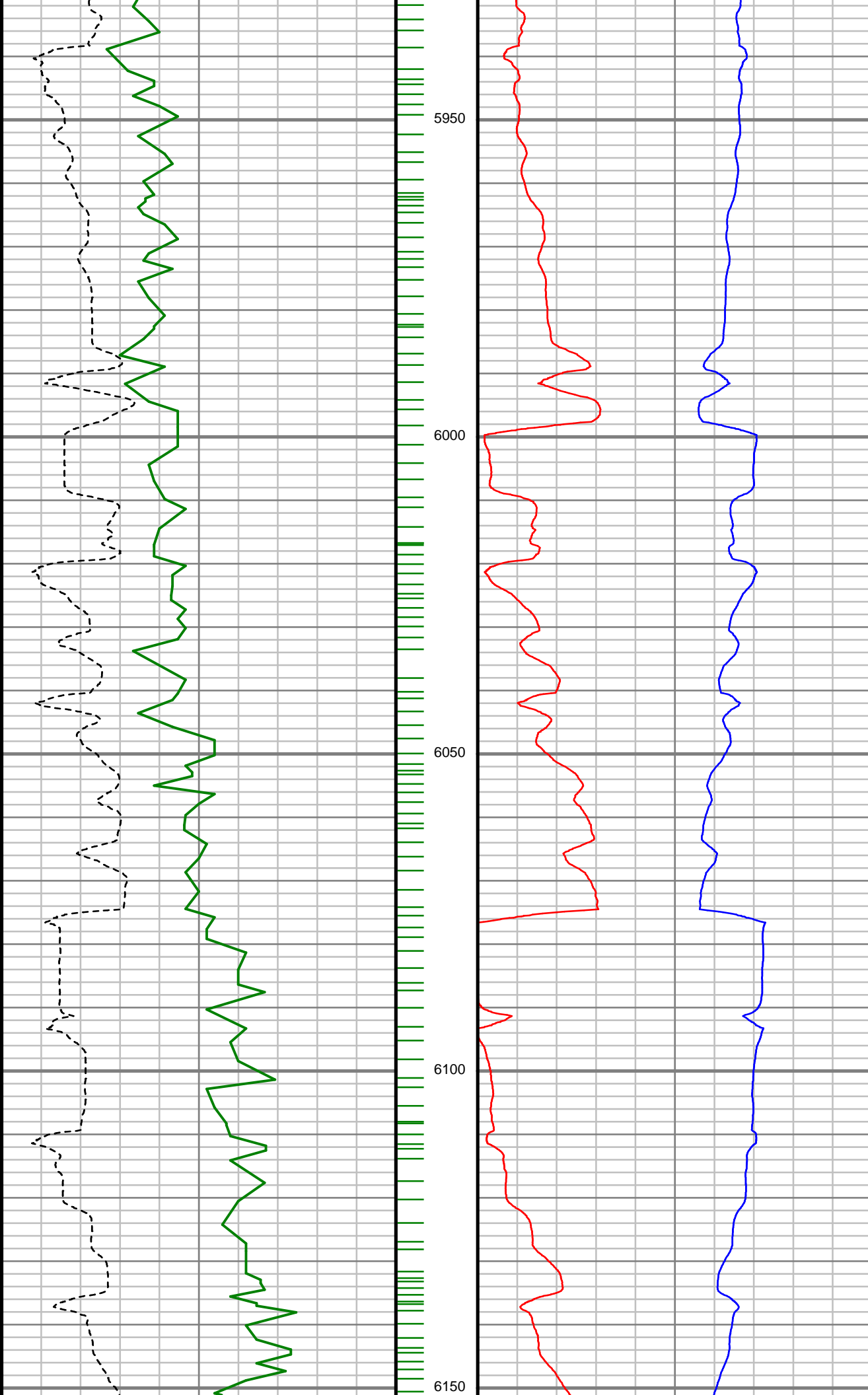
S: 53 MD: 5745.00 ft Inc:
0.47 deg Az: 169.82 deg
TVD: 5676.61 ft

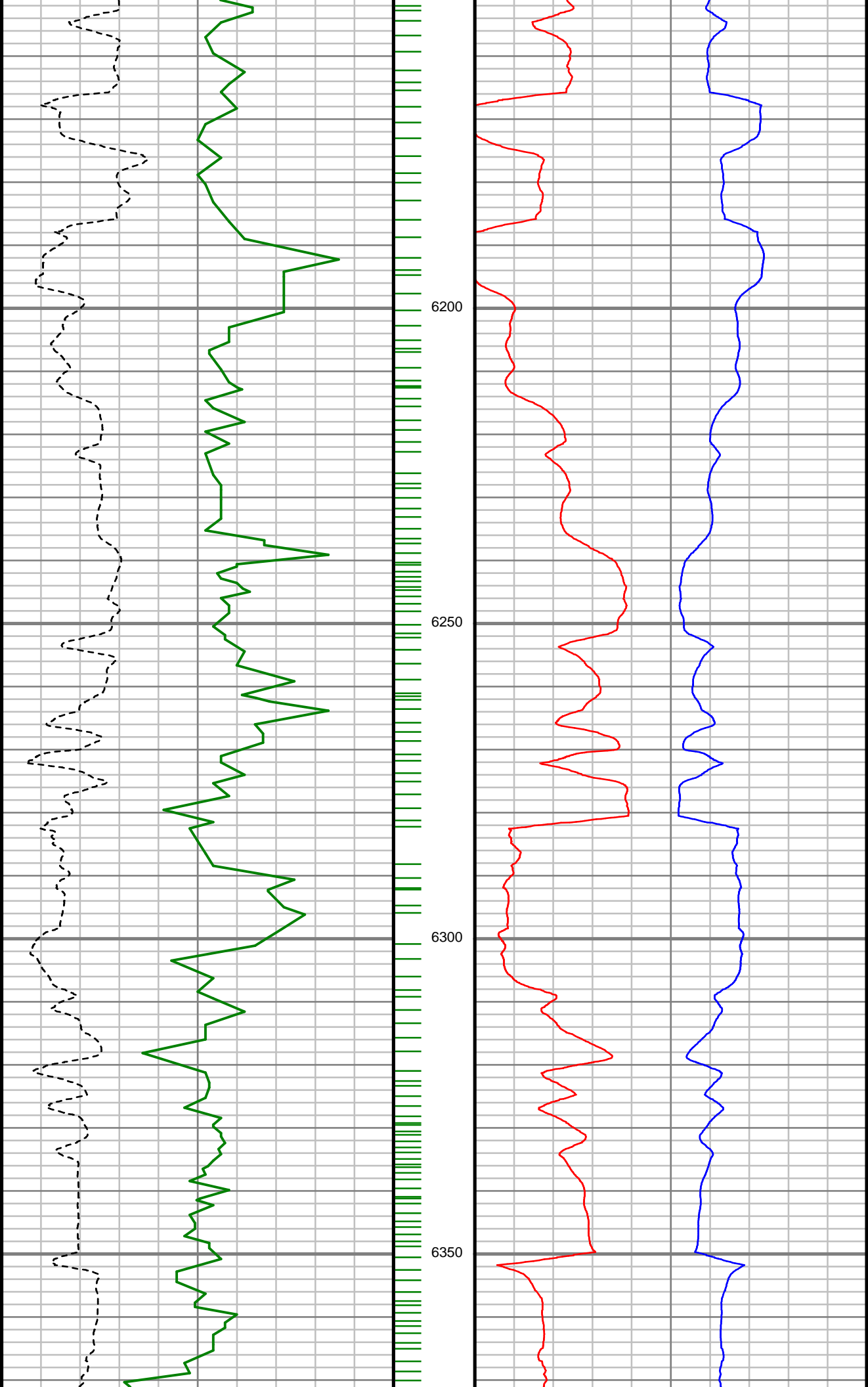
S: 54 MD: 5838.00 ft Inc:
8.71 deg Az: 83.33 deg
TVD: 5769.25 ft

S: 55 MD: 5933.00 ft Inc:
20.40 deg Az: 81.83 deg
TVD: 5861.05 ft

S: 56 MD: 6027.00 ft Inc:
30.60 deg Az: 85.26 deg
TVD: 5945.78 ft

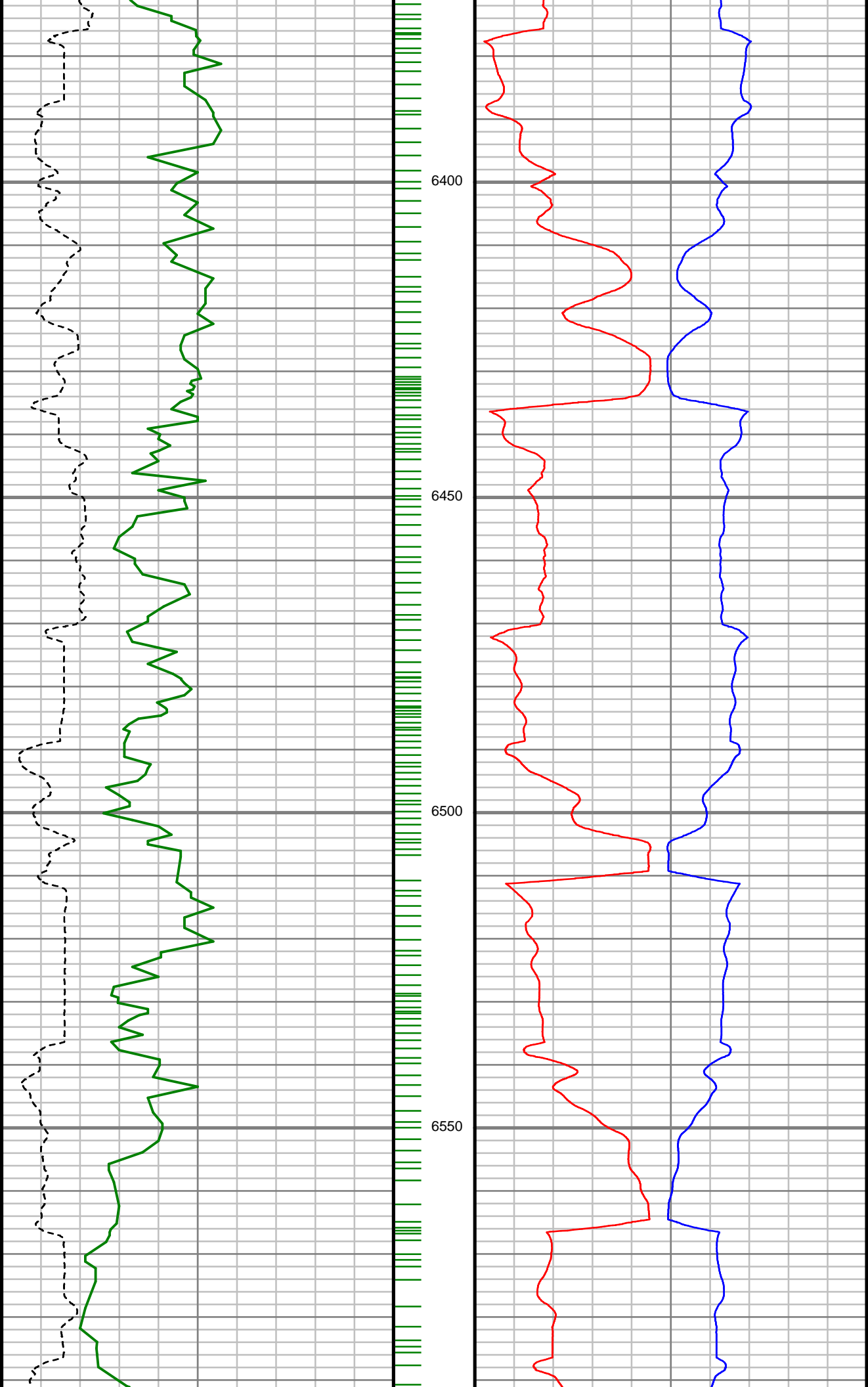
S: 57 MD: 6121.00 ft Inc:
38.60 deg Az: 89.31 deg
TVD: 6023.10 ft





S: 58 MD: 6216.00 ft Inc:
49.33 deg Az: 85.97 deg
TVD: 6091.39 ft

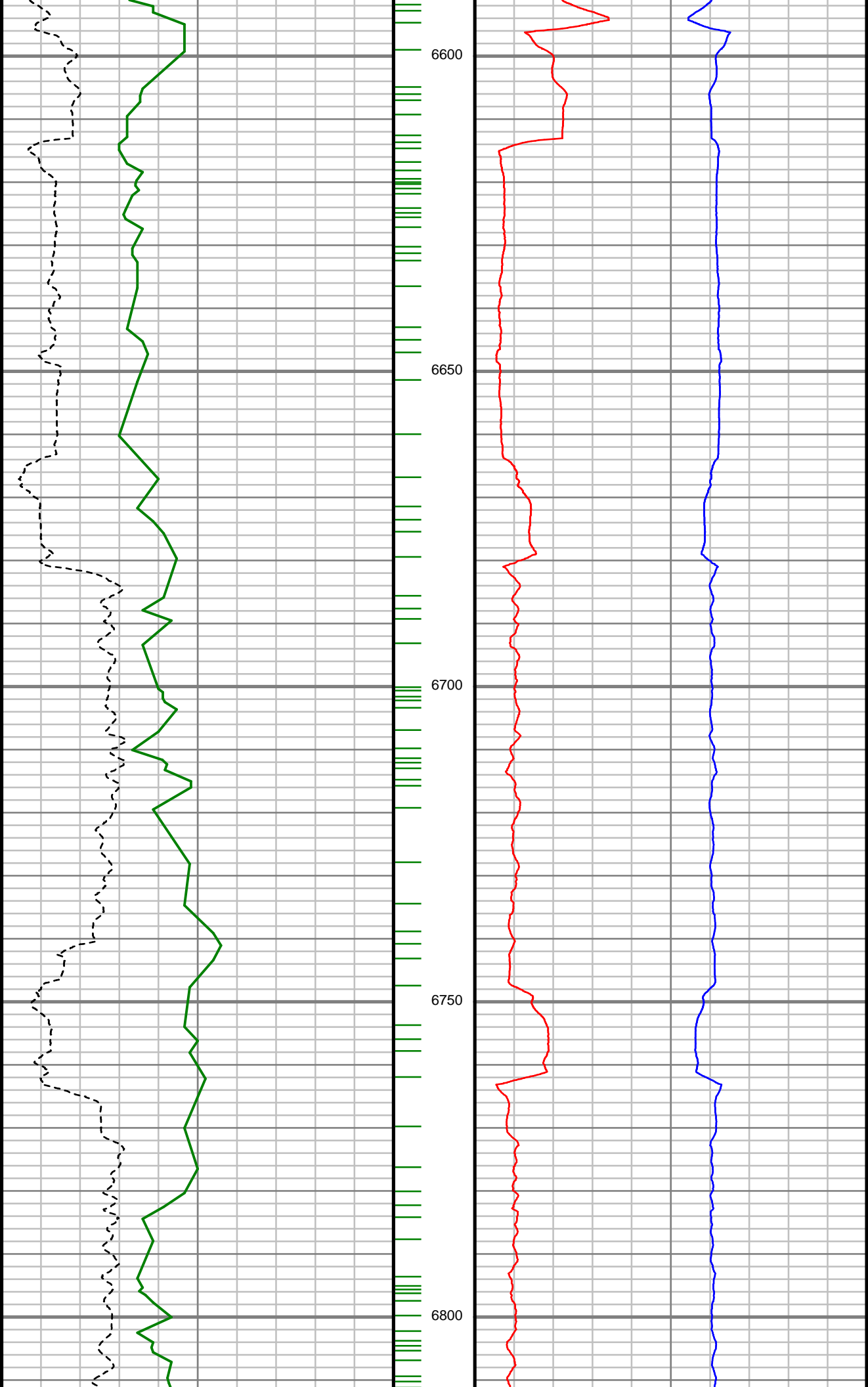
S: 59 MD: 6310.00 ft Inc:
64.72 deg Az: 82.45 deg
TVD: 6142.41 ft



S: 60 MD: 6405.00 ft Inc:
74.22 deg Az: 88.69 deg
TVD: 6175.72 ft

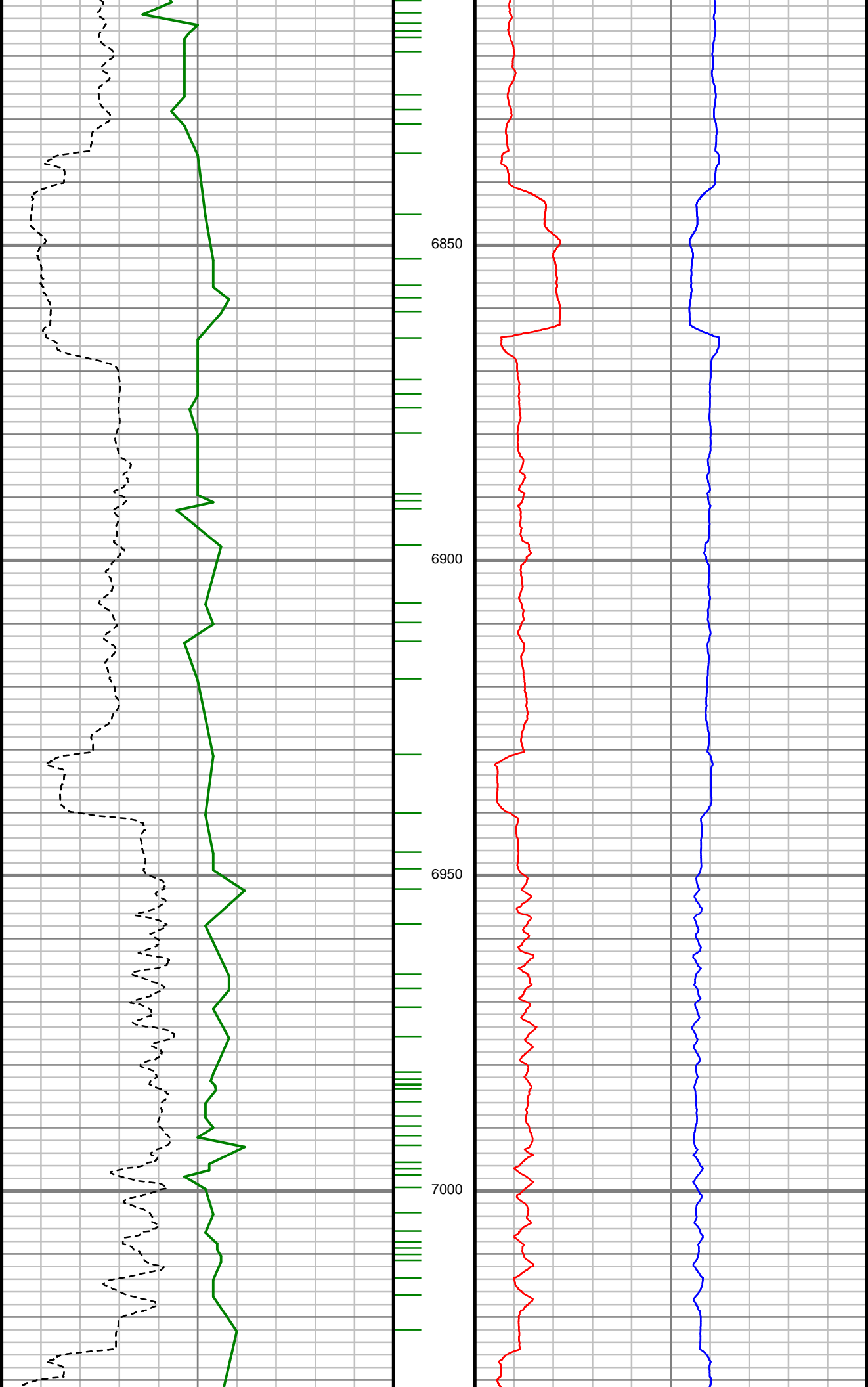
S: 61 MD: 6499.00 ft Inc:
80.20 deg Az: 93.17 deg
TVD: 6196.53 ft

S: 62 MD: 6550.00 ft Inc:
84.45 deg Az: 94.95 deg
TVD: 6203.35 ft



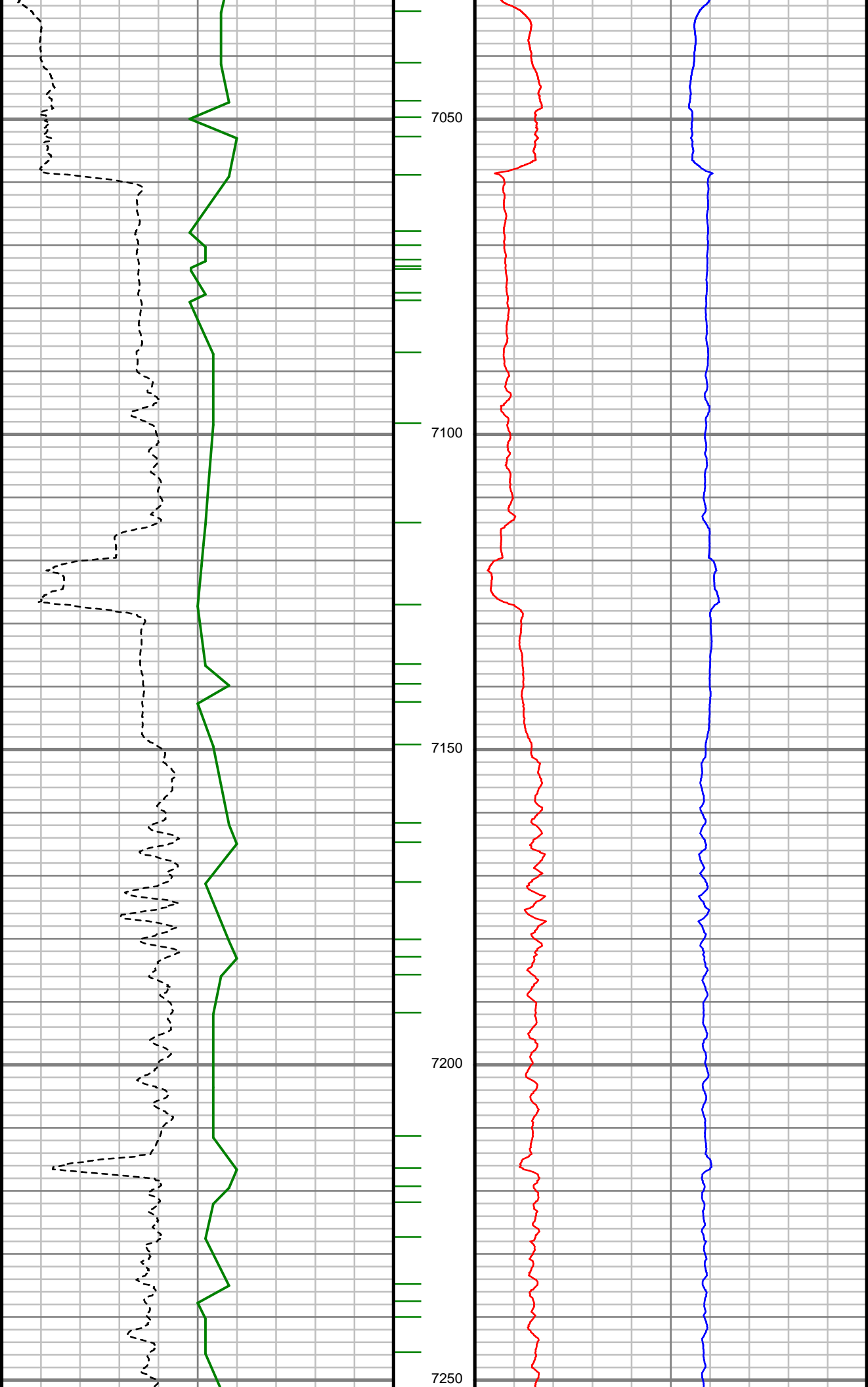
S: 63 MD: 6683.00 ft Inc:
89.96 deg Az: 94.40 deg
TVD: 6209.84 ft

S: 64 MD: 6778.00 ft Inc:
90.75 deg Az: 93.35 deg
TVD: 6209.25 ft



S: 65 MD: 6873.00 ft Inc:
90.13 deg Az: 91.59 deg
TVD: 6208.52 ft

S: 66 MD: 6967.00 ft Inc:
90.40 deg Az: 92.56 deg
TVD: 6208.09 ft



S: 67 MD: 7062.00 ft Inc:
90.92 deg Az: 90.18 deg
TVD: 6207.00 ft

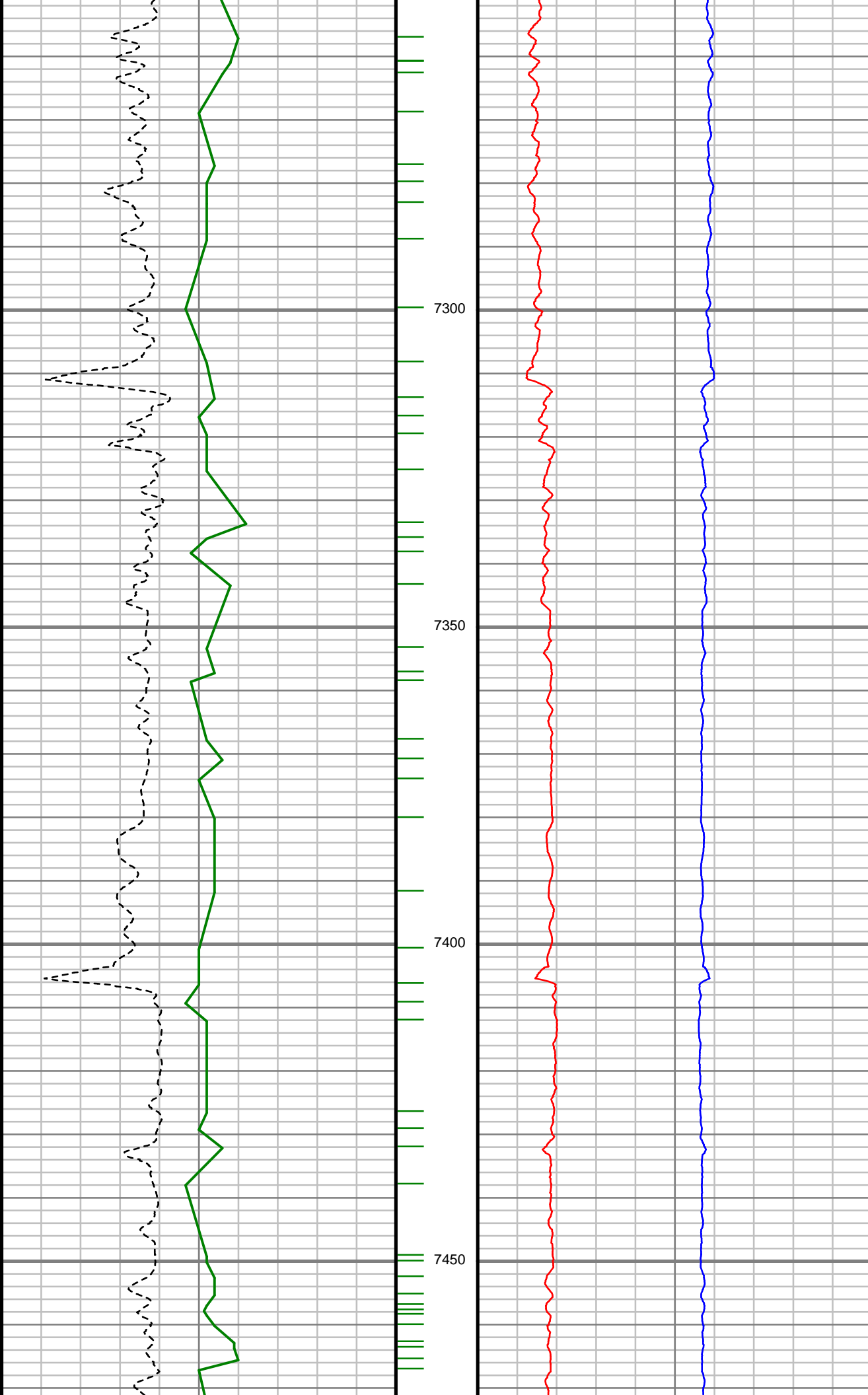
S: 68 MD: 7156.00 ft Inc:
90.48 deg Az: 89.66 deg
TVD: 6205.84 ft

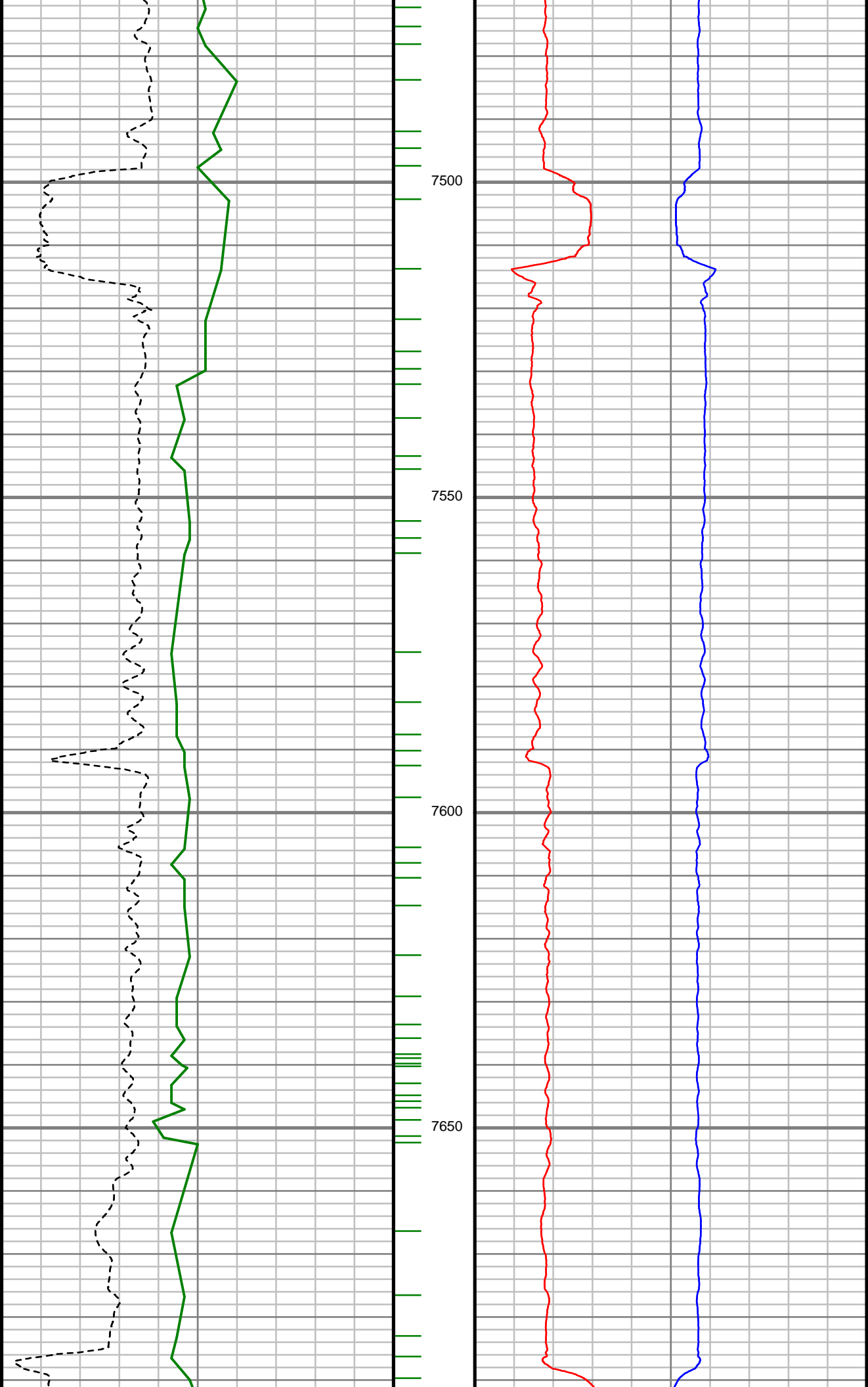
S: 69 MD: 7250.00 ft Inc:

S: 69 MD: 7250.00 ft Inc:
90.13 deg Az: 89.13 deg
TVD: 6205.34 ft

S: 70 MD: 7344.00 ft Inc:
90.31 deg Az: 90.01 deg
TVD: 6204.98 ft

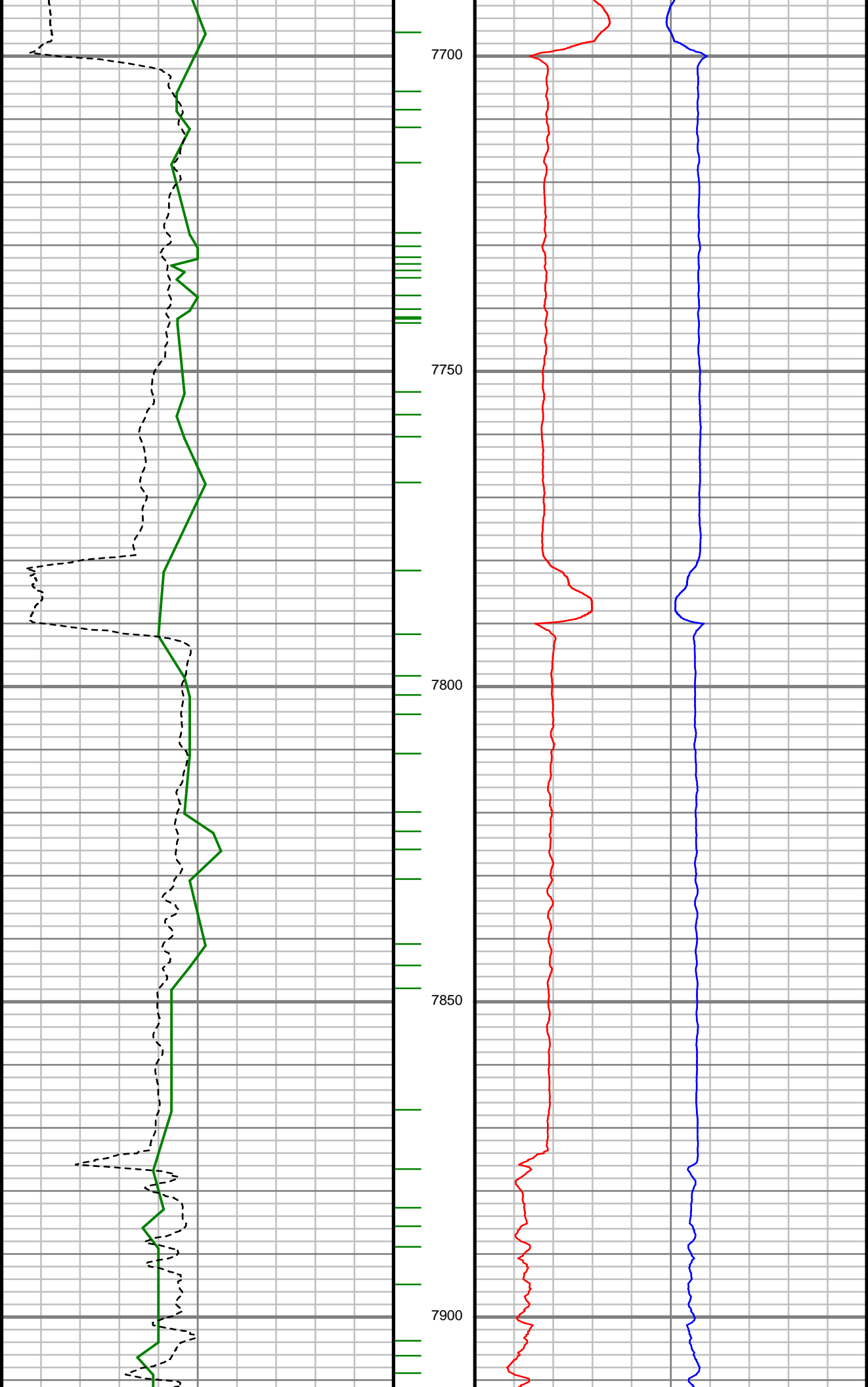
S: 71 MD: 7438.00 ft Inc:
90.66 deg Az: 91.33 deg
TVD: 6204.18 ft





S: 72 MD: 7533.00 ft Inc:
90.57 deg Az: 89.57 deg
TVD: 6203.16 ft

S: 73 MD: 7628.00 ft Inc:
90.04 deg Az: 90.01 deg
TVD: 6202.65 ft



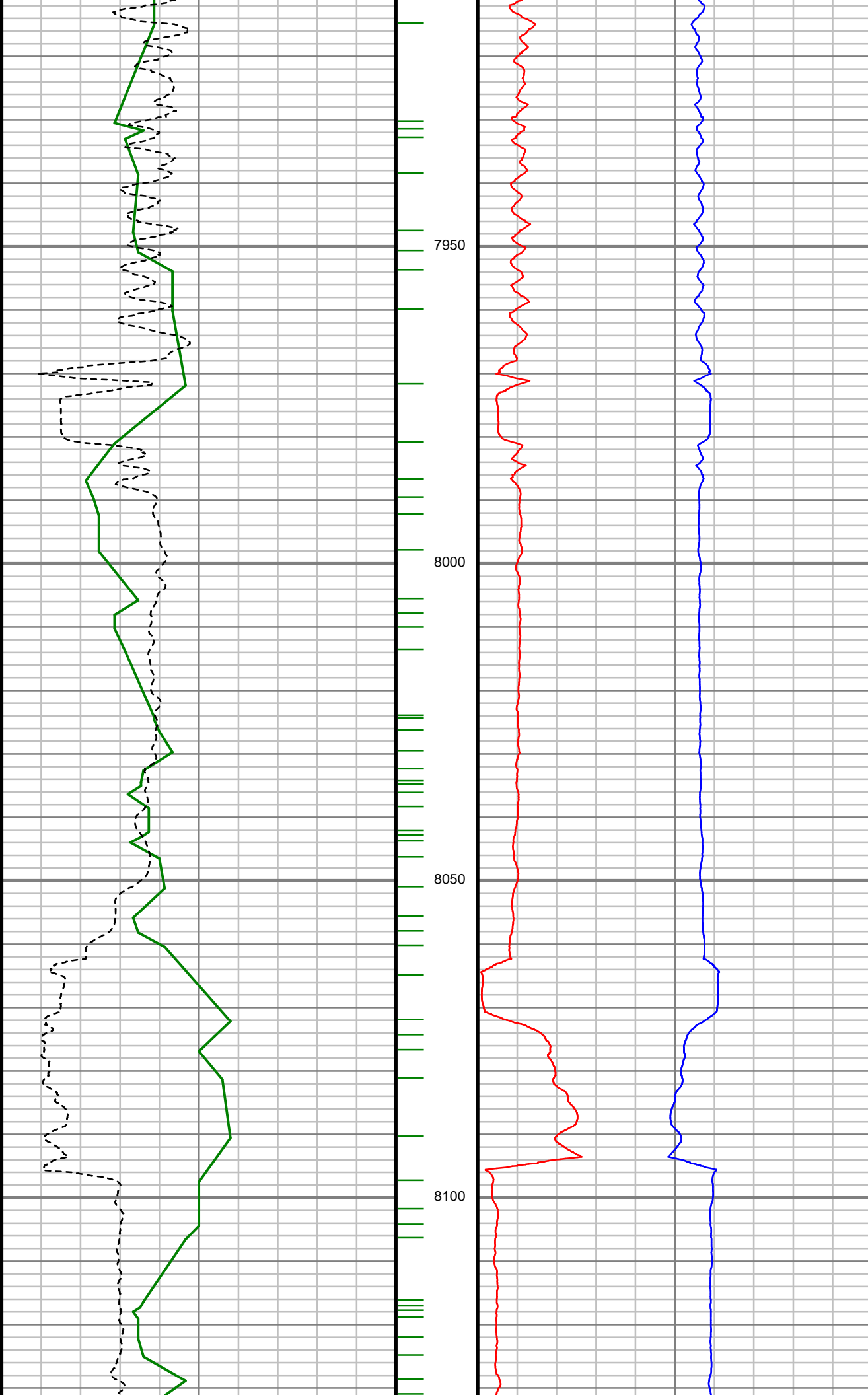
S: 74 MD: 7722.00 ft Inc:
89.96 deg Az: 89.22 deg
TVD: 6202.65 ft

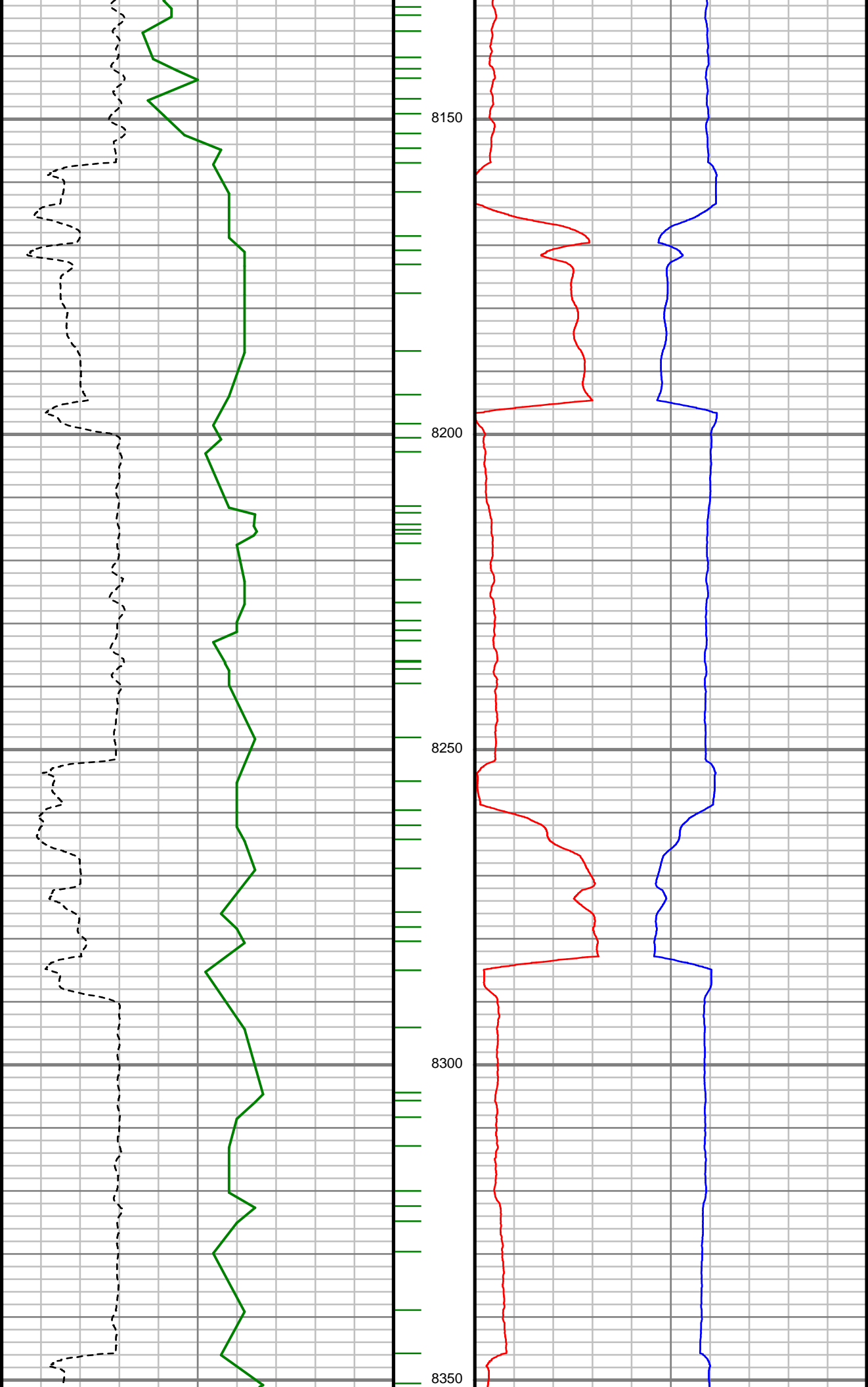
S: 75 MD: 7816.00 ft Inc:
91.28 deg Az: 88.87 deg
TVD: 6201.64 ft

S: 76 MD: 7911.00 ft Inc:
91.80 deg Az: 88.87 deg
TVD: 6199.09 ft

S: 77 MD: 8005.00 ft Inc:
92.95 deg Az: 89.13 deg
TVD: 6195.20 ft

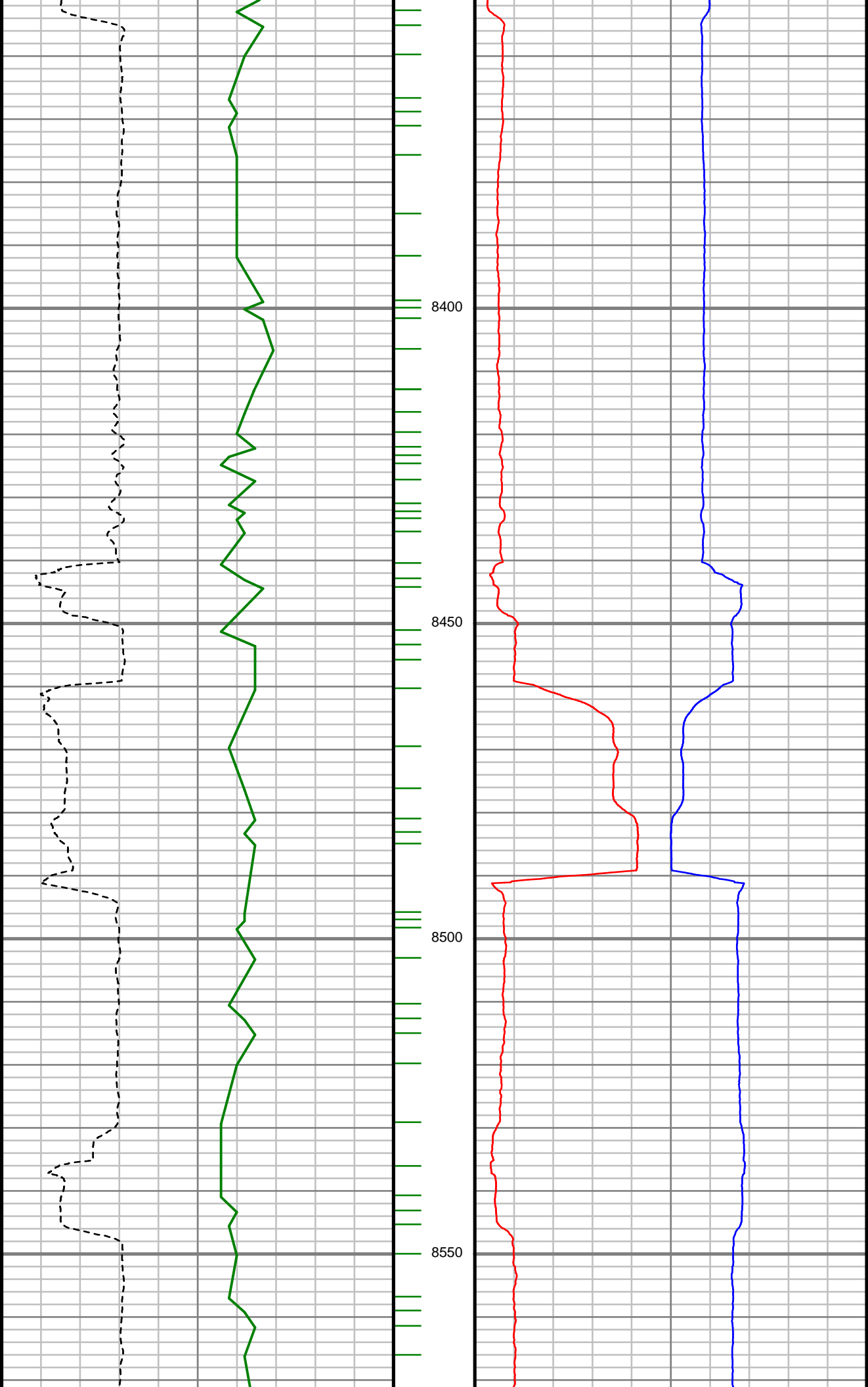
S: 78 MD: 8099.00 ft Inc:
92.15 deg Az: 89.39 deg
TVD: 6191.02 ft





S: 79 MD: 8193.00 ft Inc:
90.92 deg Az: 89.04 deg
TVD: 6188.49 ft

S: 80 MD: 8287.00 ft Inc:
89.16 deg Az: 88.25 deg
TVD: 6188.42 ft



S: 81 MD: 8381.00 ft Inc:
91.10 deg Az: 89.13 deg
TVD: 6188.20 ft

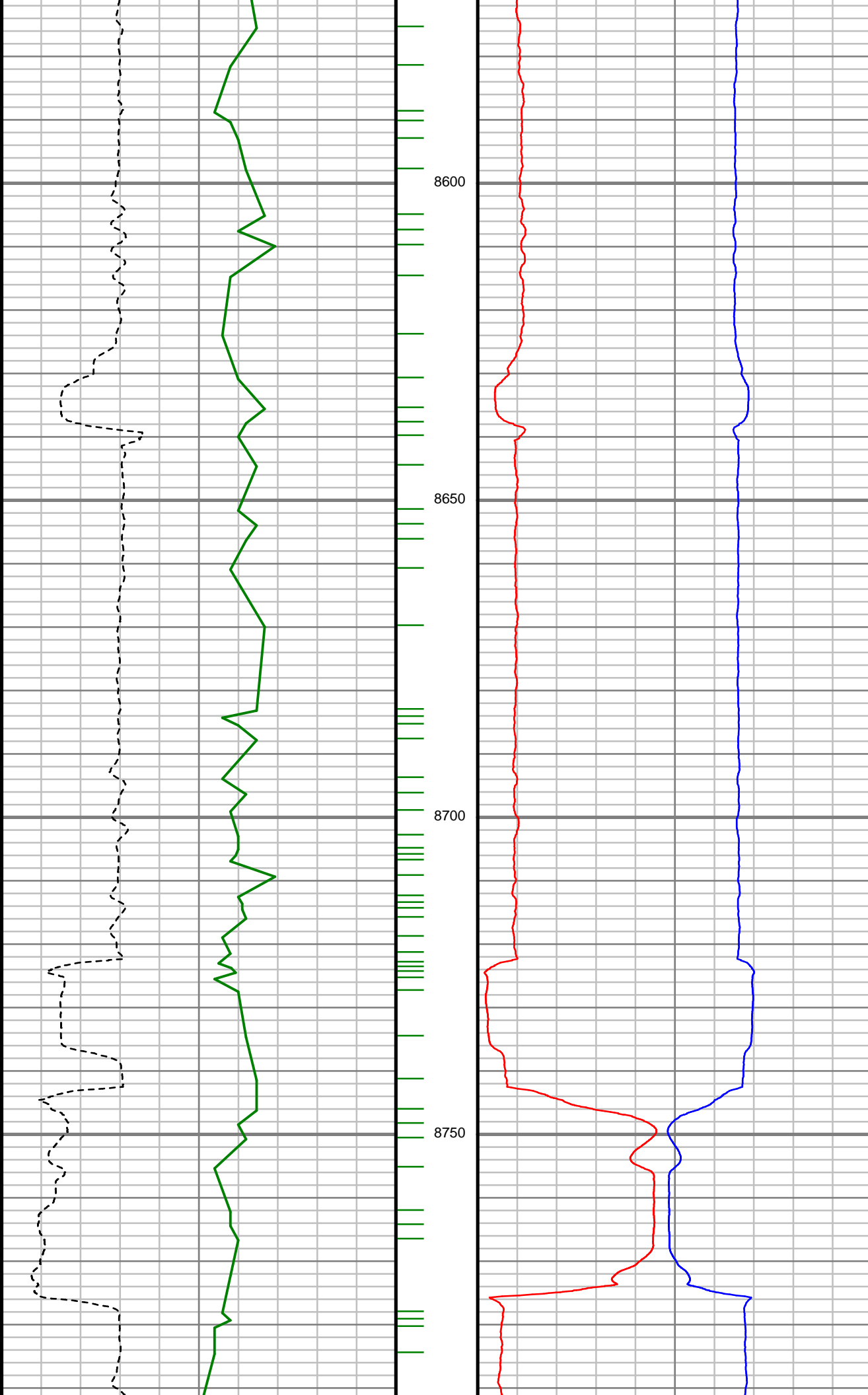
S: 82 MD: 8476.00 ft Inc:
90.04 deg Az: 89.39 deg
TVD: 6187.26 ft

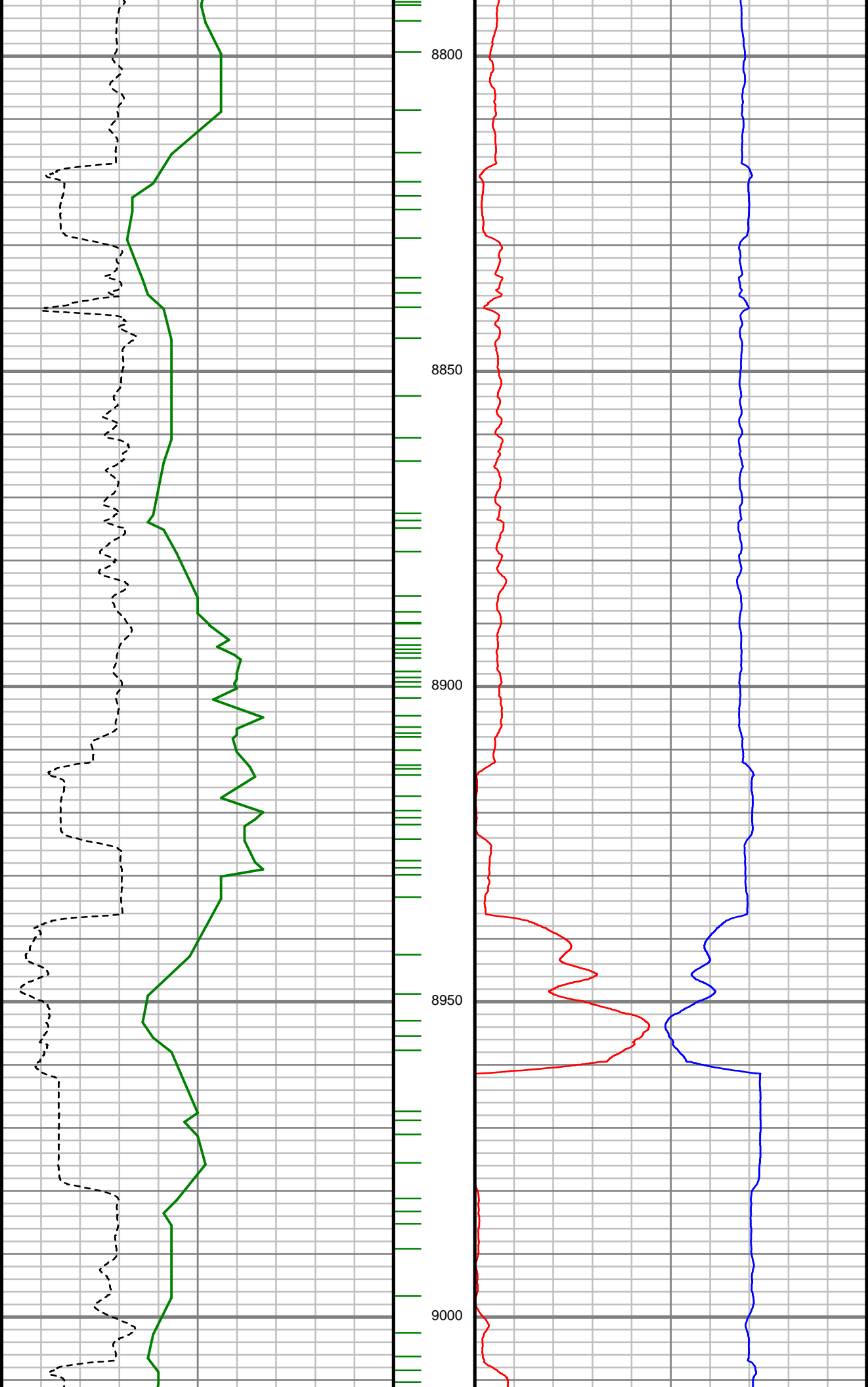
S: 83 MD: 8570.00 ft Inc:

S: 83 MD: 8570.00 ft Inc:
90.04 deg Az: 89.92 deg
TVD: 6187.18 ft

S: 84 MD: 8665.00 ft Inc:
89.87 deg Az: 90.80 deg
TVD: 6187.26 ft

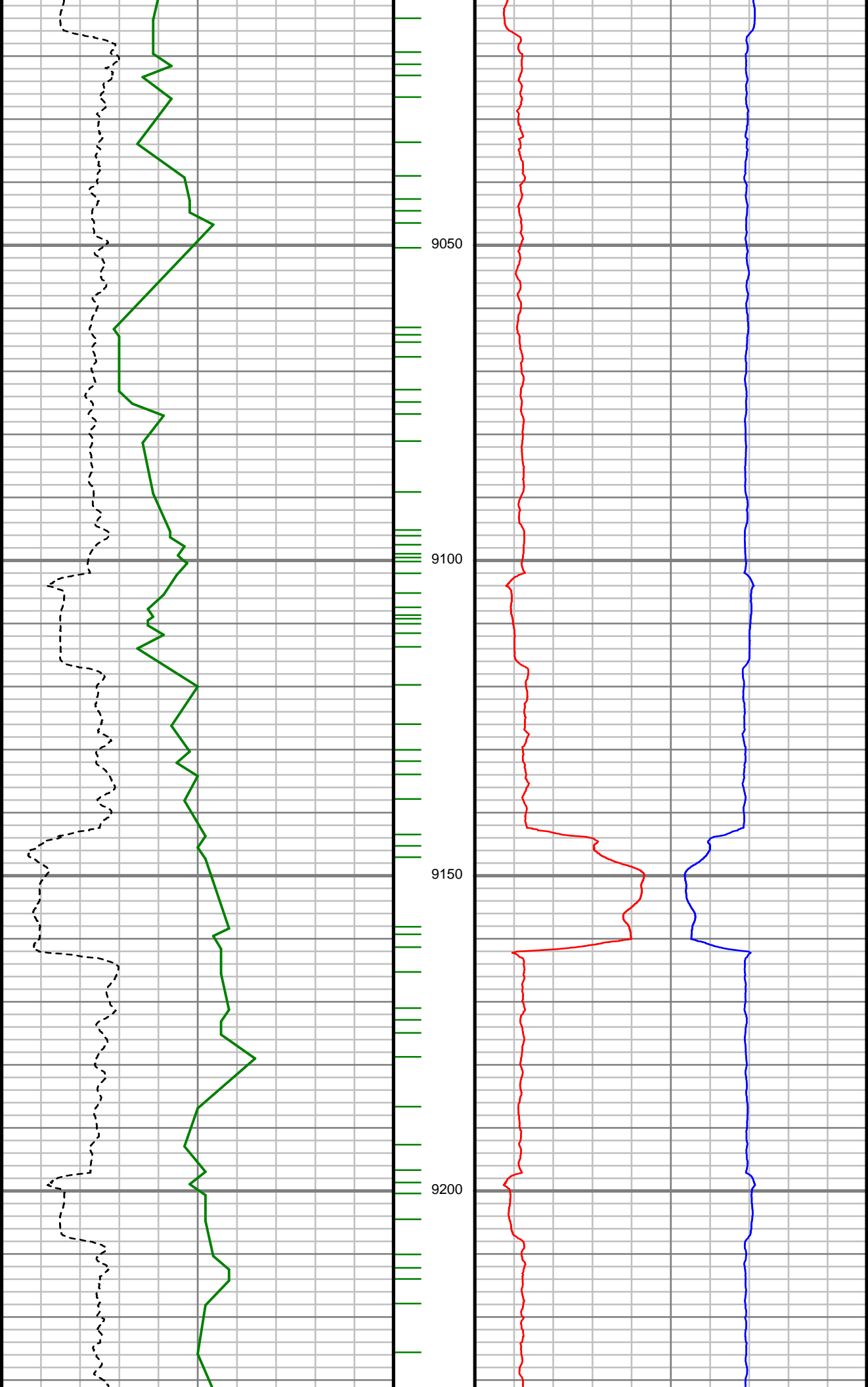
S: 85 MD: 8759.00 ft Inc:
89.43 deg Az: 89.74 deg
TVD: 6187.83 ft





S: 86 MD: 8853.00 ft Inc:
89.87 deg Az: 88.95 deg
TVD: 6188.41 ft

S: 87 MD: 8947.00 ft Inc:
89.52 deg Az: 88.34 deg
TVD: 6188.91 ft



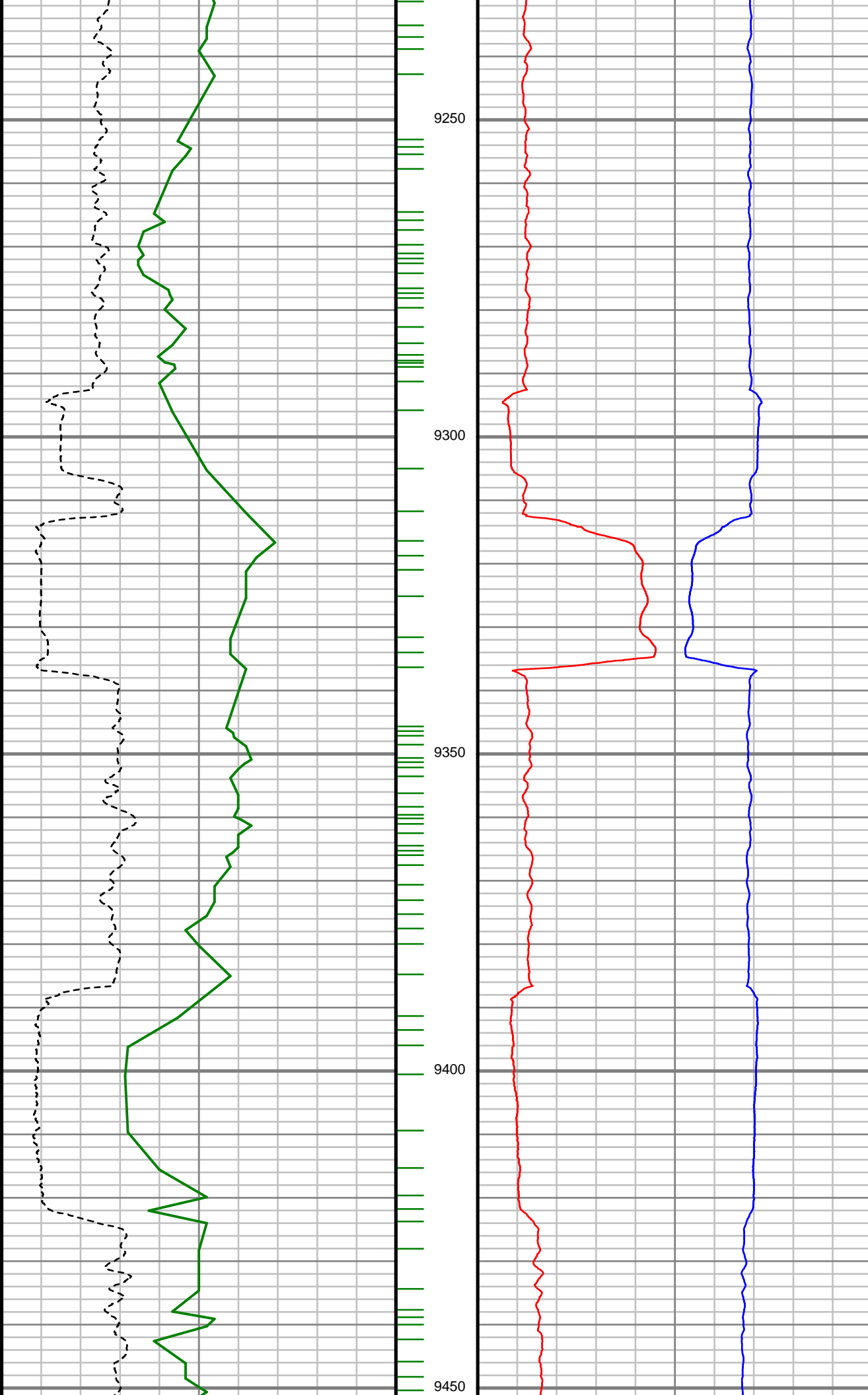
S: 88 MD: 9041.00 ft Inc:
90.92 deg Az: 87.99 deg
TVD: 6188.55 ft

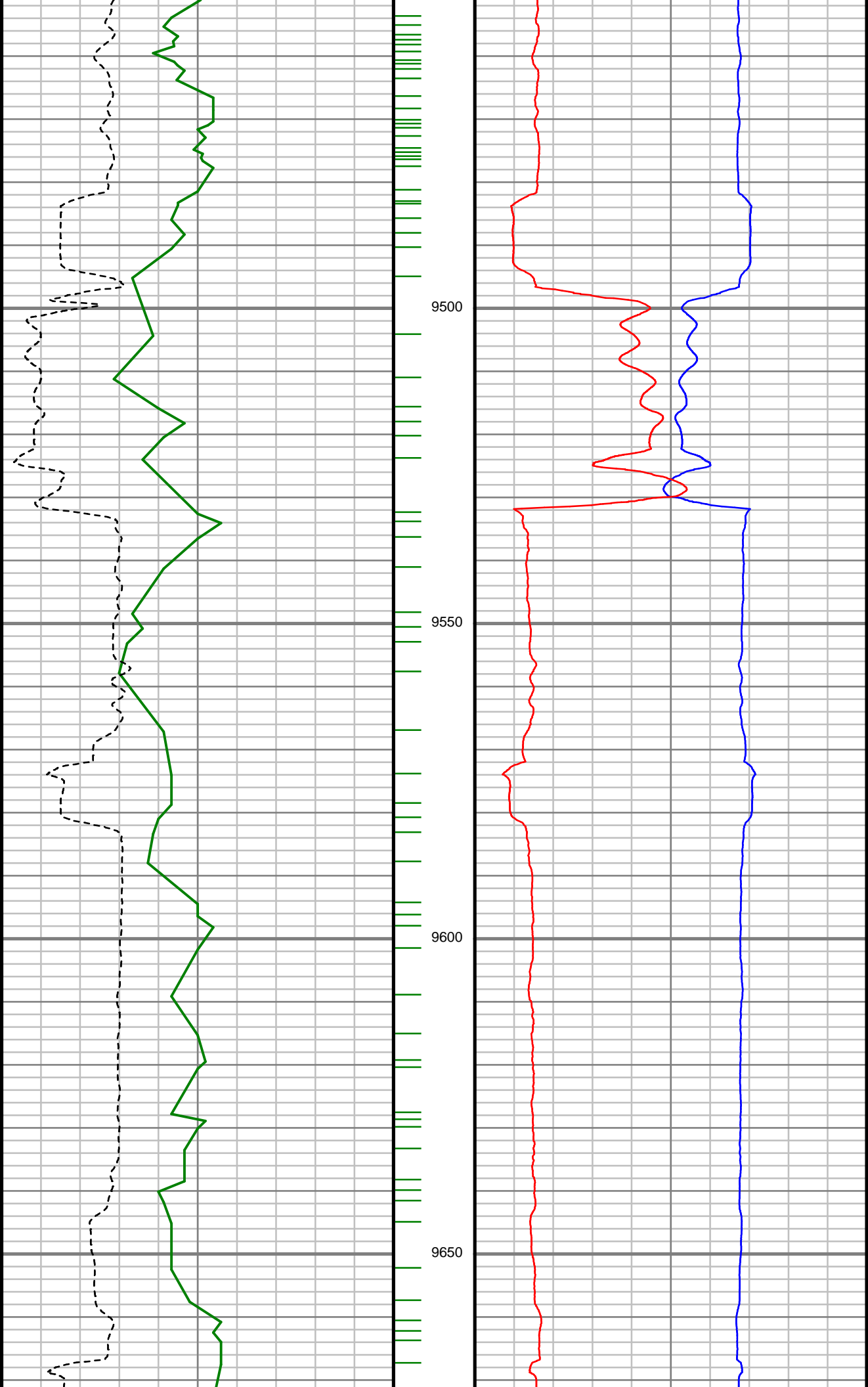
S: 89 MD: 9136.00 ft Inc:
91.36 deg Az: 89.13 deg
TVD: 6186.66 ft

S: 90 MD: 9231.00 ft Inc:
90.75 deg Az: 89.13 deg
TVD: 6184.91 ft

S: 91 MD: 9324.00 ft Inc:
90.04 deg Az: 89.31 deg
TVD: 6184.27 ft

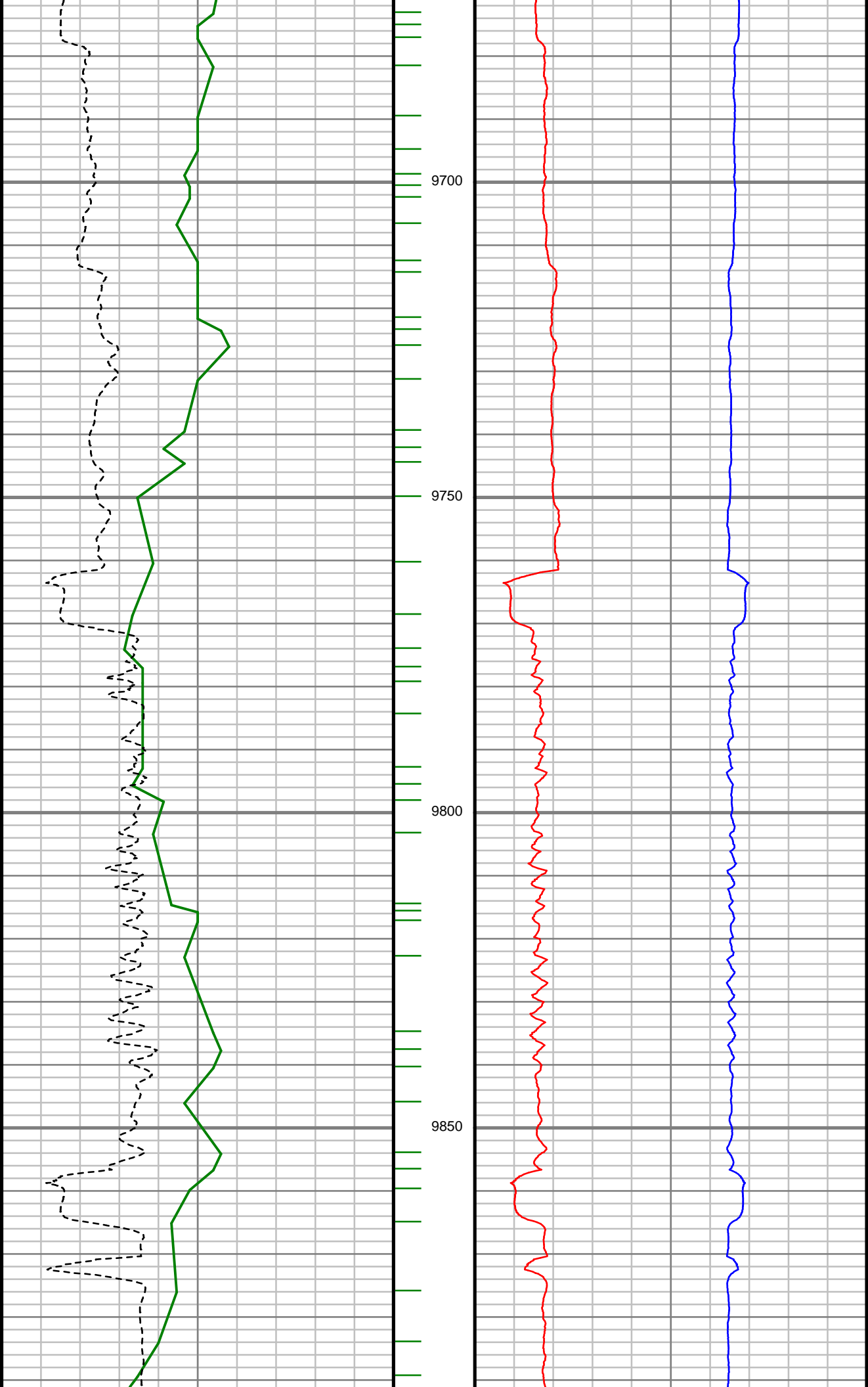
S: 92 MD: 9419.00 ft Inc:
90.48 deg Az: 89.48 deg
TVD: 6183.83 ft





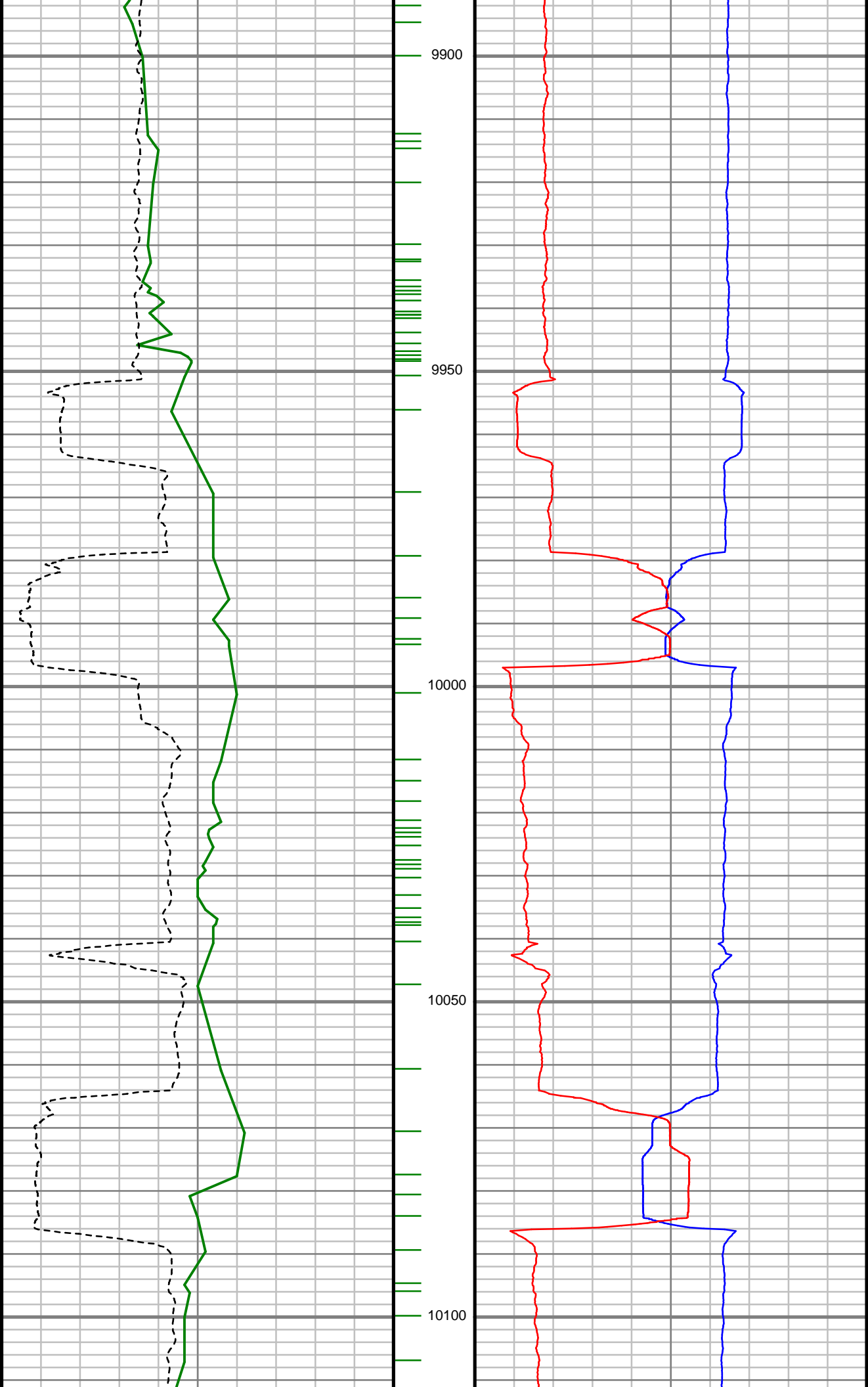
S: 93 MD: 9513.00 ft Inc:
89.25 deg Az: 88.43 deg
TVD: 6184.05 ft

S: 94 MD: 9608.00 ft Inc:
89.08 deg Az: 88.34 deg
TVD: 6185.43 ft



S: 95 MD: 9702.00 ft Inc:
89.52 deg Az: 88.51 deg
TVD: 6186.59 ft

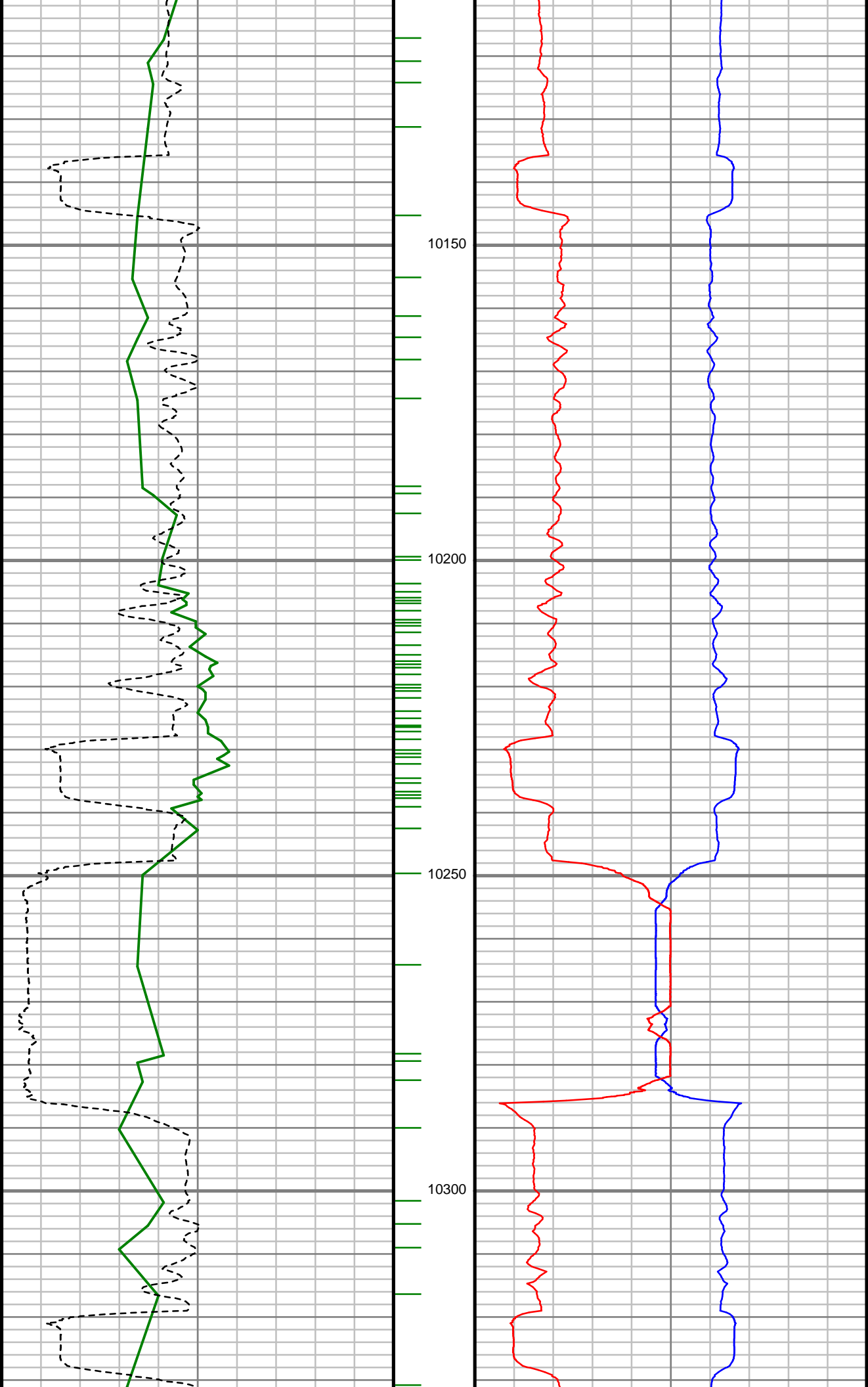
S: 96 MD: 9797.00 ft Inc:
89.78 deg Az: 88.78 deg
TVD: 6187.17 ft



S: 97 MD: 9891.00 ft Inc:
90.48 deg Az: 88.78 deg
TVD: 6186.95 ft

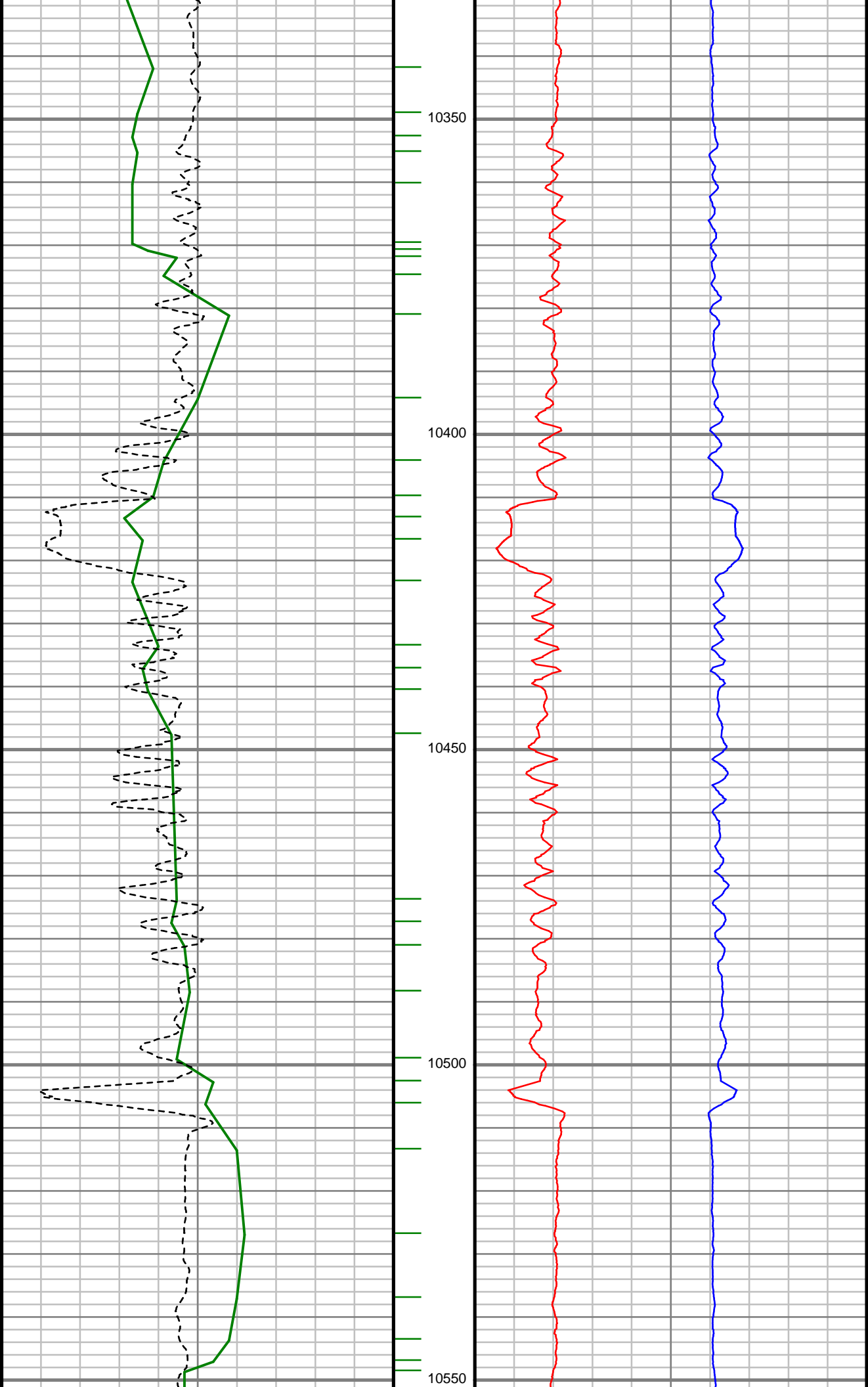
S: 98 MD: 9986.00 ft Inc:
90.81 deg Az: 89.31 deg
TVD: 6185.88 ft

S: 99 MD: 10081.00 ft
Inc: 89.60 deg Az: 88.16
deg TVD: 6185.54 ft



S: 100 MD: 10172.00 ft
Inc: 91.01 deg Az: 88.78
deg TVD: 6185.05 ft

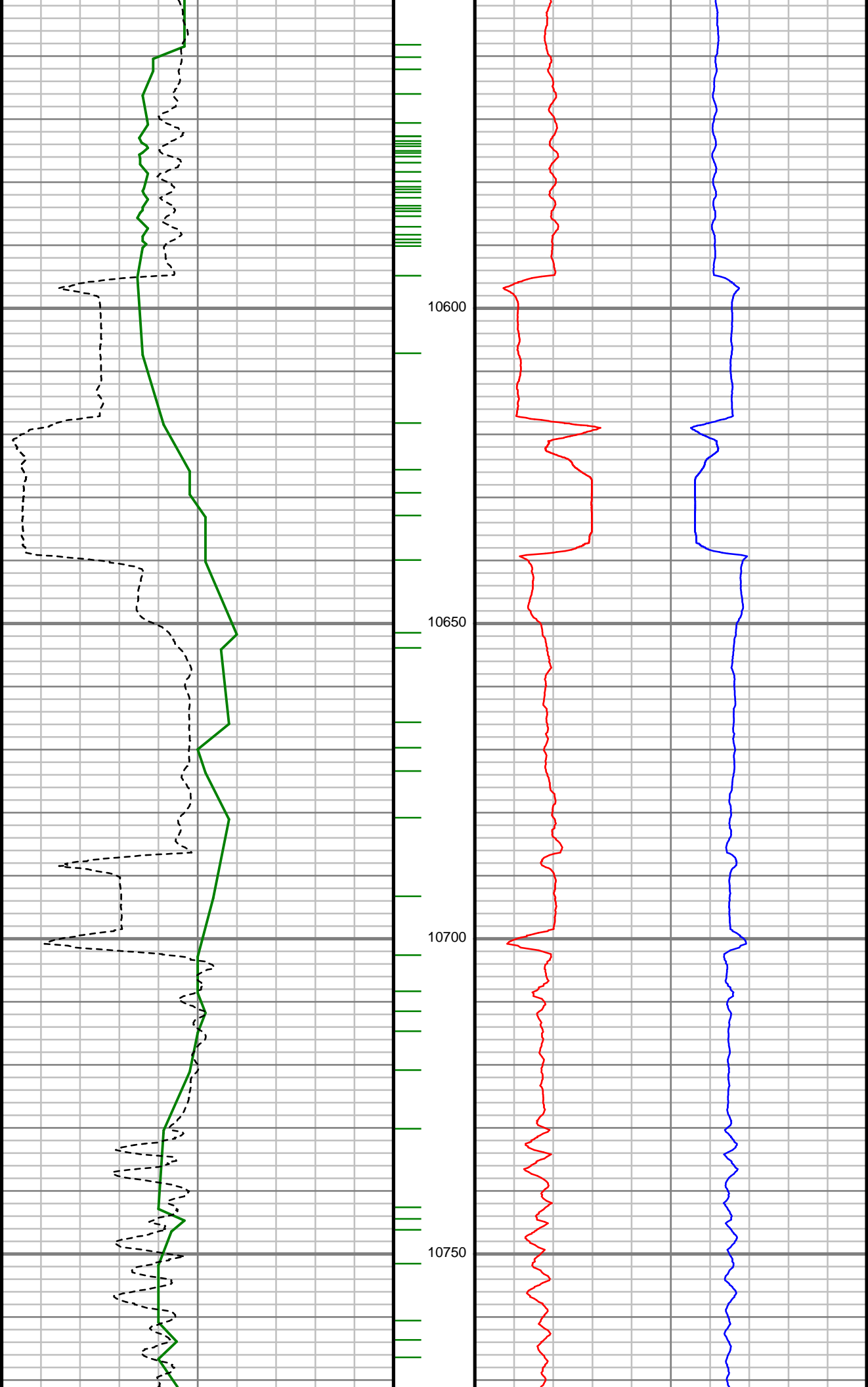
S: 101 MD: 10264.00 ft
Inc: 90.22 deg Az: 88.69
deg TVD: 6184.06 ft



S: 102 MD: 10356.00 ft
Inc: 89.77 deg Az: 88.85
deg TVD: 6184.08 ft

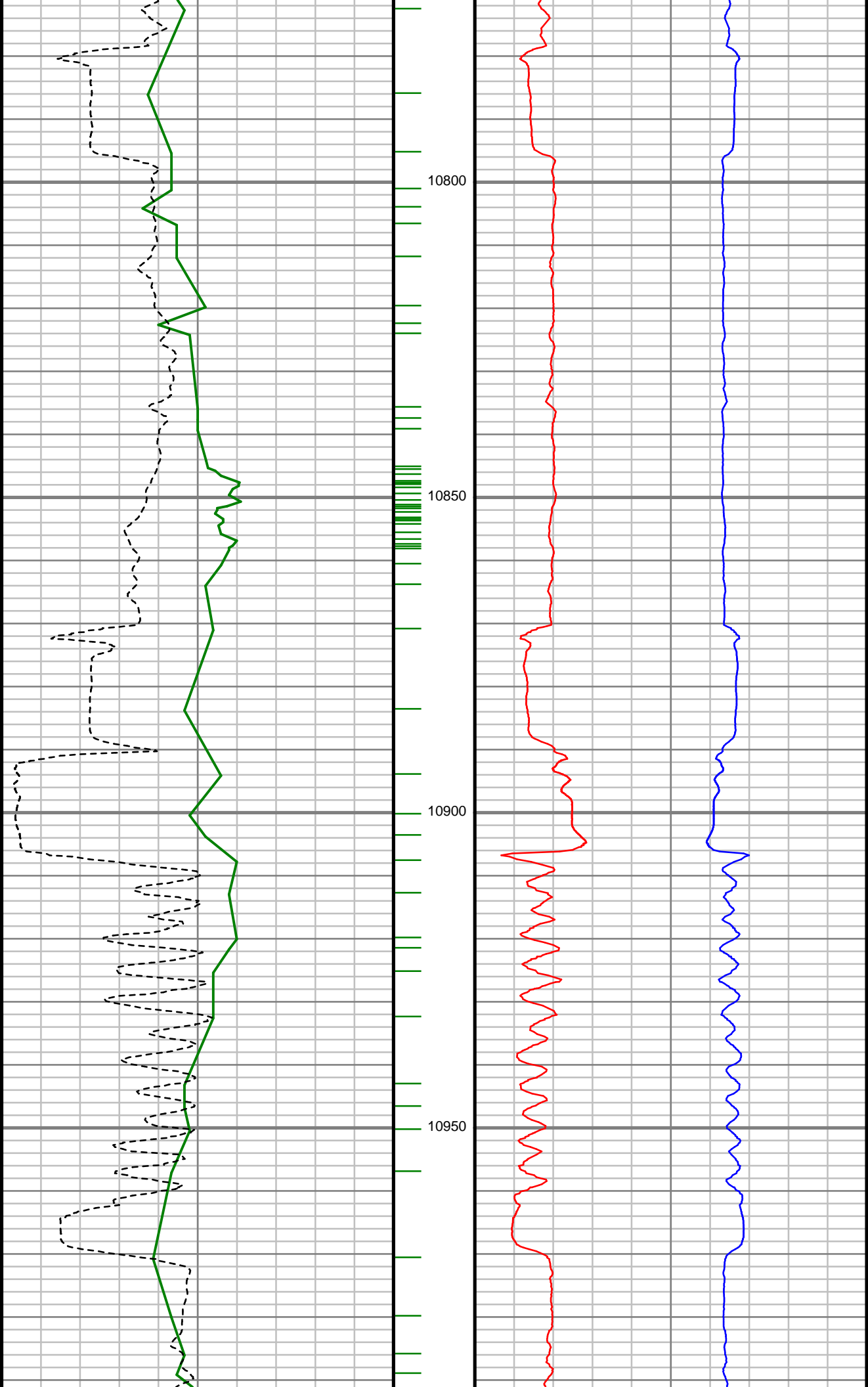
S: 103 MD: 10447.00 ft
Inc: 90.48 deg Az: 89.22
deg TVD: 6183.88 ft

S: 104 MD: 10539.00 ft
Inc: 91.36 deg Az: 89.74
deg TVD: 6182.40 ft



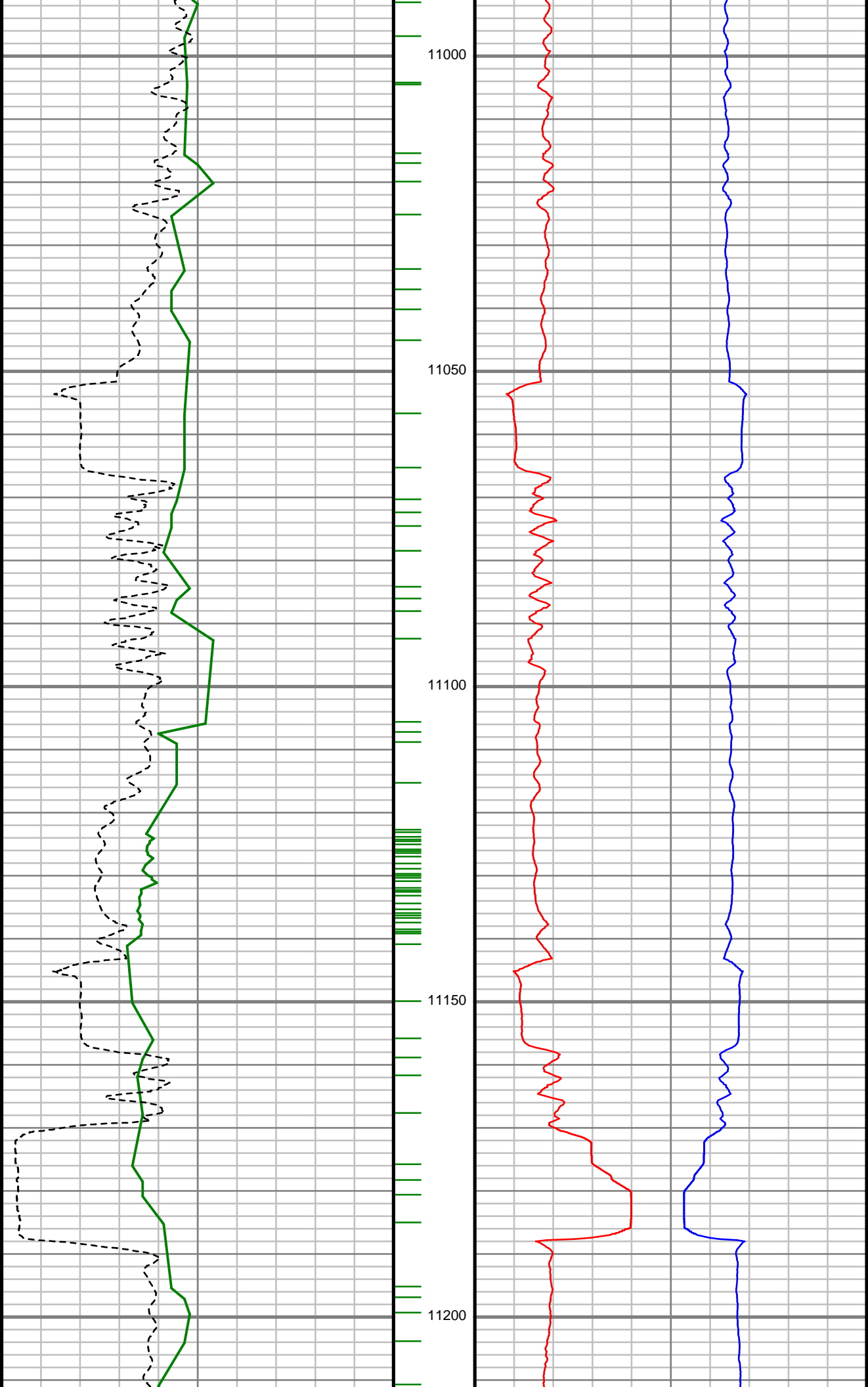
S: 105 MD: 10630.00 ft
Inc: 90.66 deg Az: 89.48
deg TVD: 6180.79 ft

S: 106 MD: 10721.00 ft
Inc: 90.92 deg Az: 89.22
deg TVD: 6179.53 ft



S: 107 MD: 10813.00 ft
Inc: 89.43 deg Az: 87.72
deg TVD: 6179.25 ft

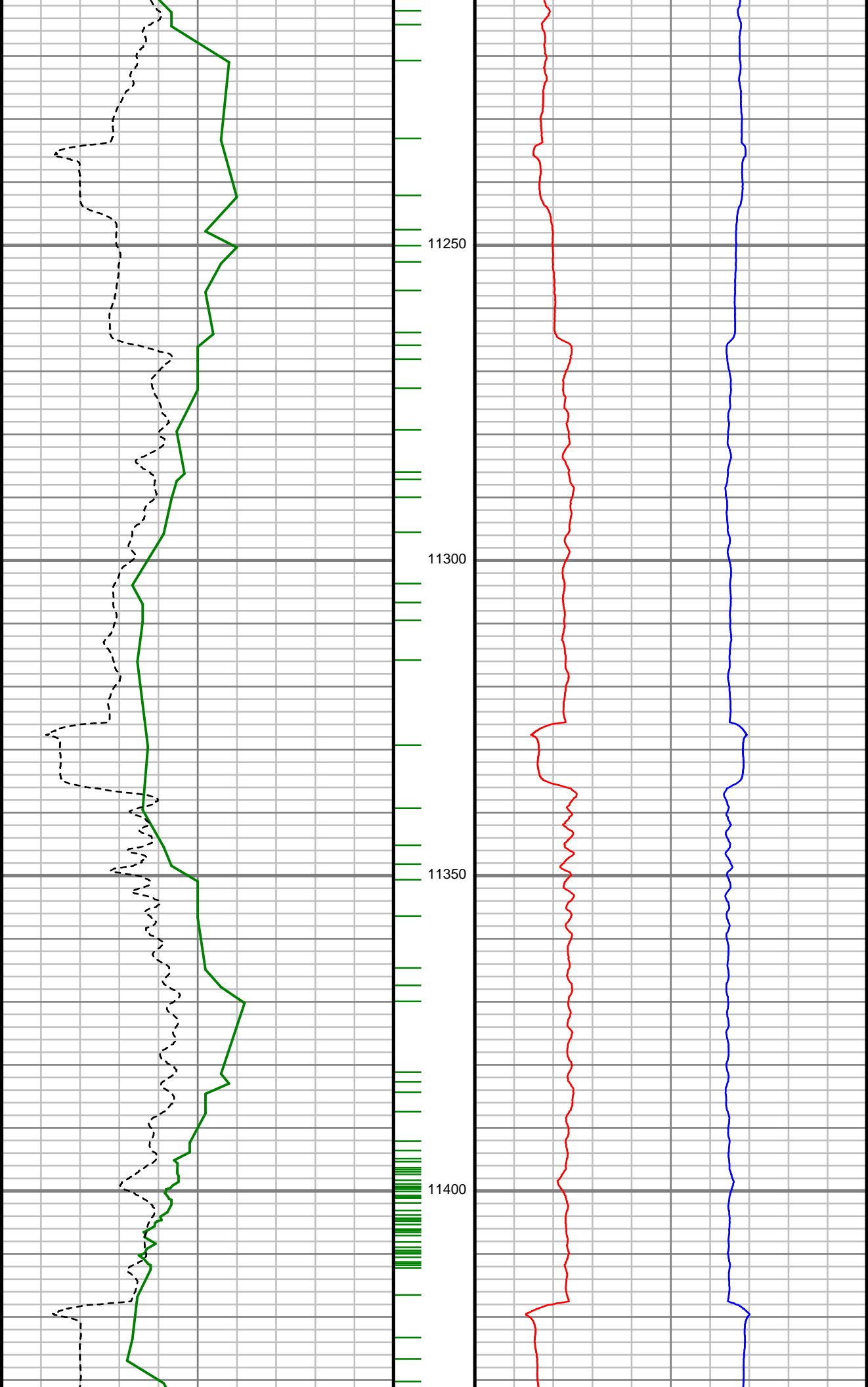
S: 108 MD: 10904.00 ft
Inc: 90.57 deg Az: 88.16
deg TVD: 6179.25 ft



S: 109 MD: 10995.00 ft
Inc: 90.84 deg Az: 88.69
deg TVD: 6178.13 ft

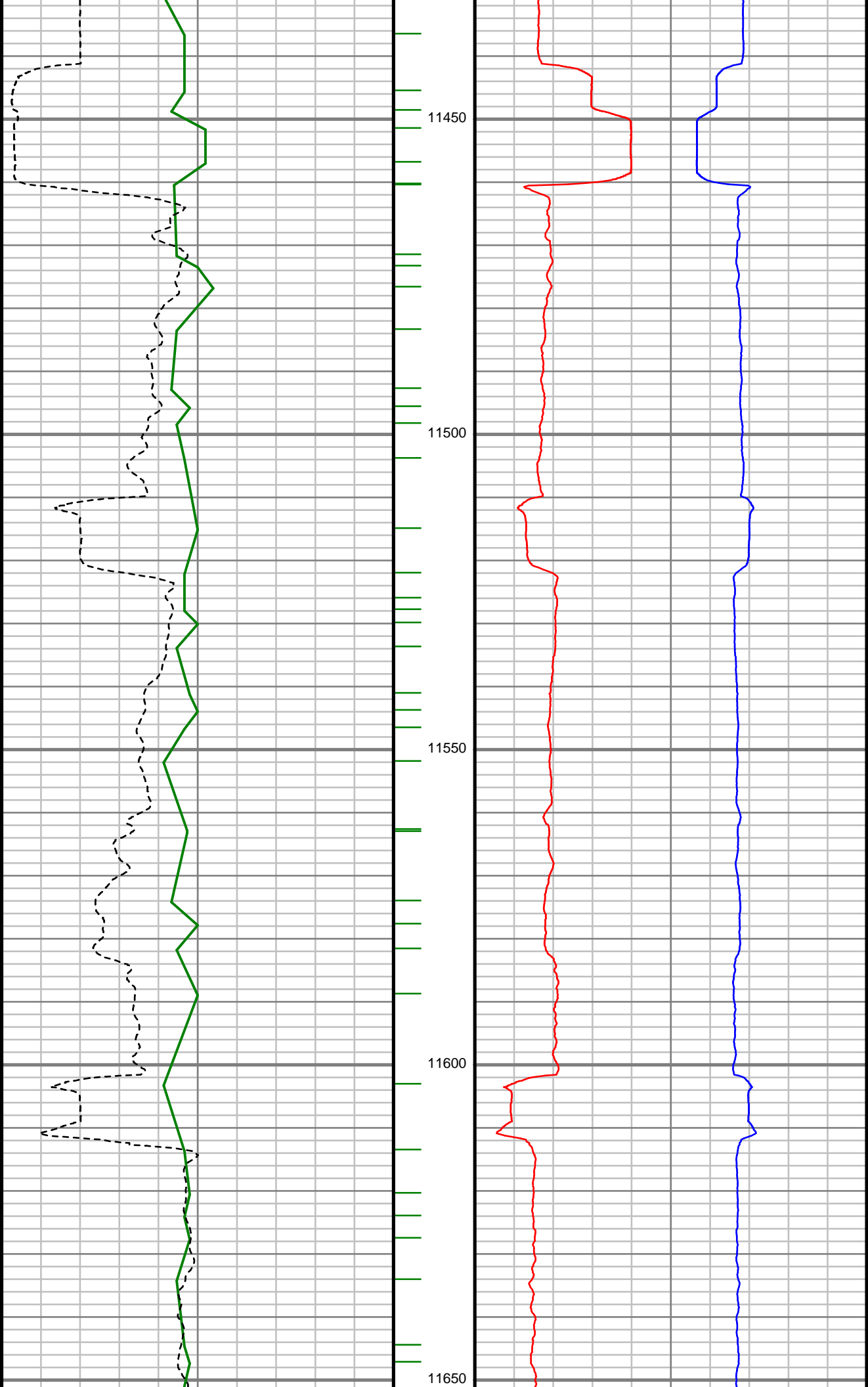
S: 110 MD: 11087.00 ft
Inc: 89.96 deg Az: 88.16
deg TVD: 6177.50 ft

S: 111 MD: 11179.00 ft
Inc: 90.92 deg Az: 88.78
deg TVD: 6176.79 ft



S: 112 MD: 11270.00 ft
Inc: 91.63 deg Az: 89.66
deg TVD: 6174.77 ft

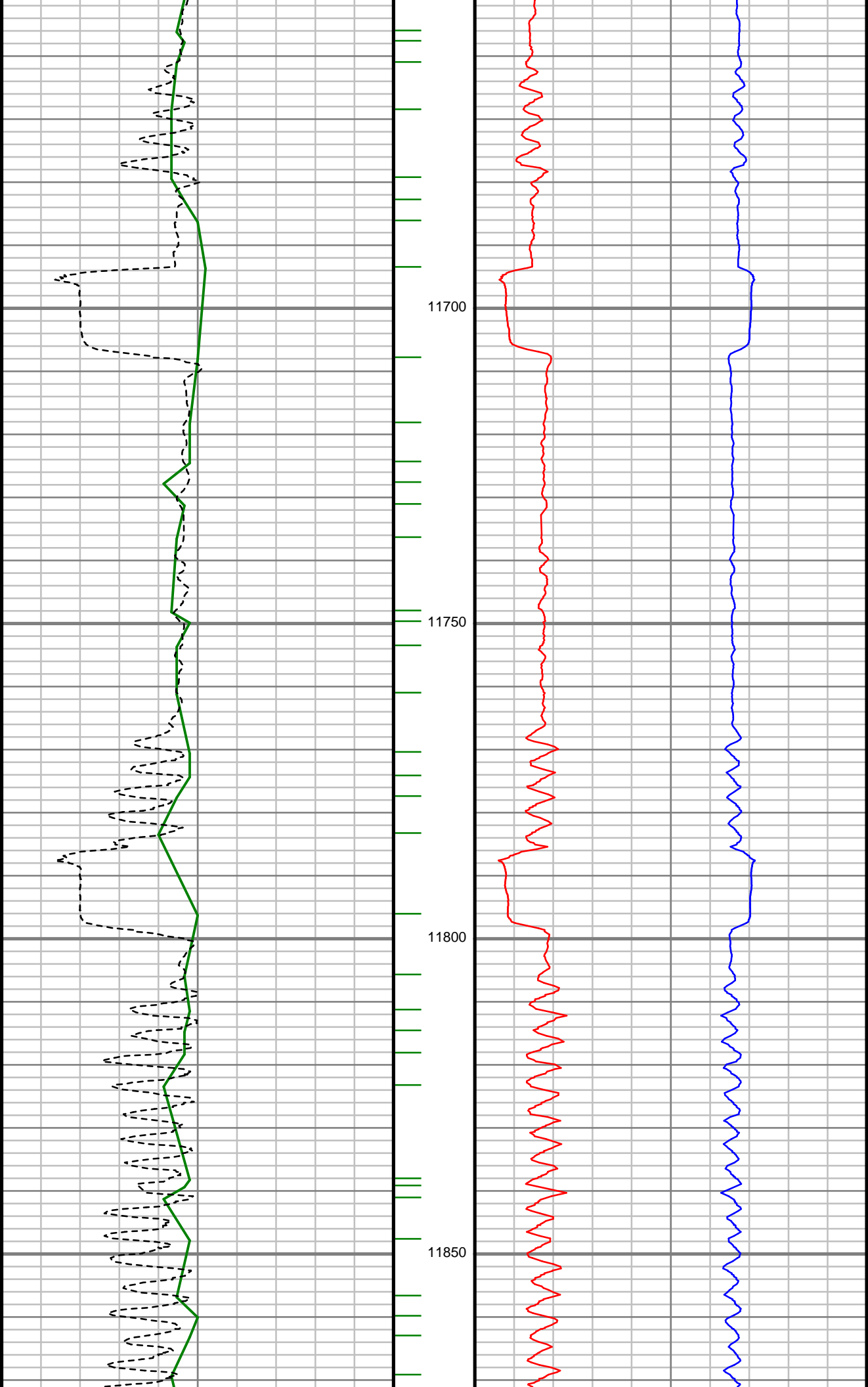
S: 113 MD: 11362.00 ft
Inc: 91.89 deg Az: 89.31
deg TVD: 6171.94 ft



S: 114 MD: 11454.00 ft
Inc: 90.75 deg Az: 89.57
deg TVD: 6169.83 ft

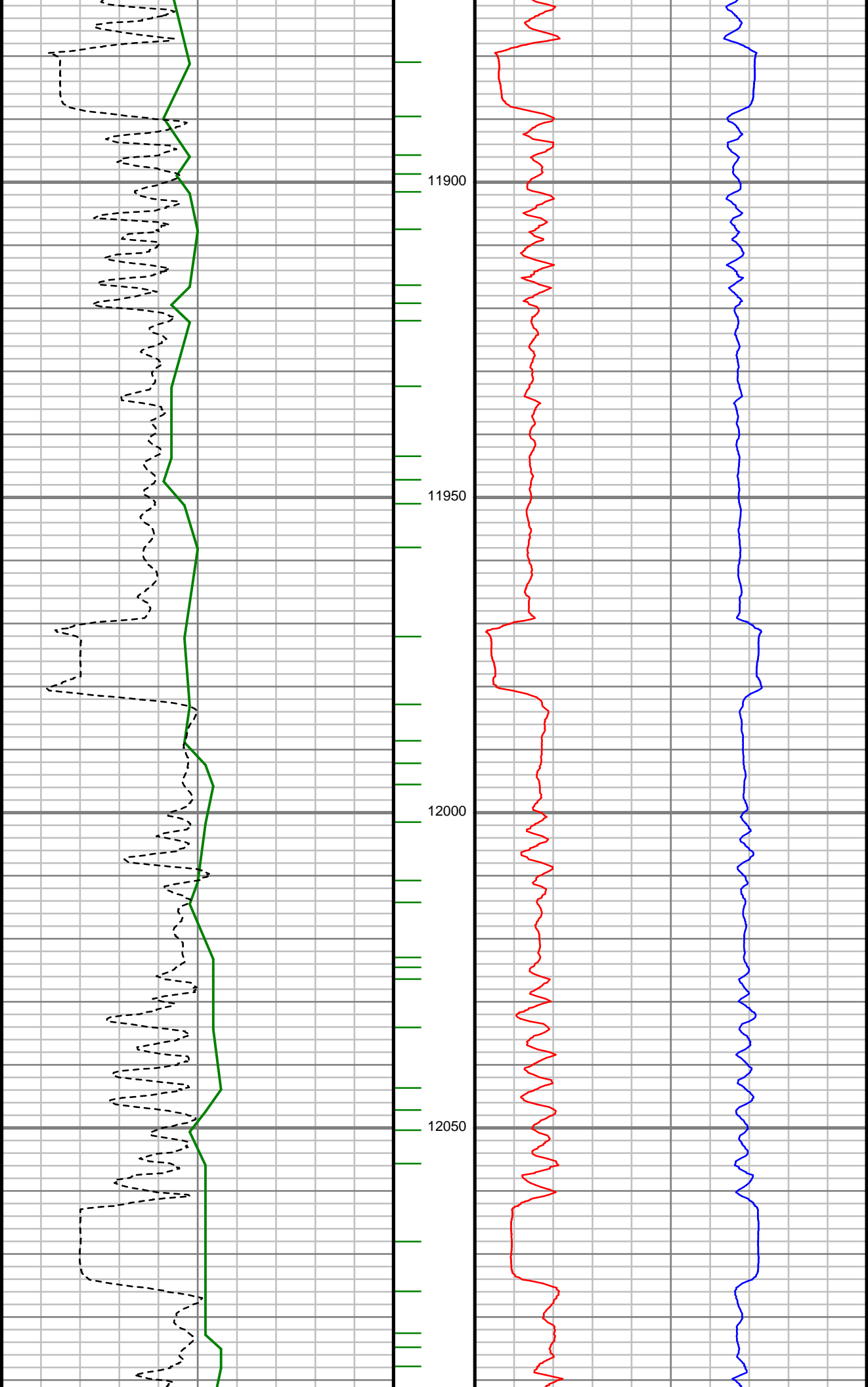
S: 115 MD: 11545.00 ft
Inc: 90.34 deg Az: 88.94
deg TVD: 6168.97 ft

S: 116 MD: 11636.00 ft
Inc: 90.48 deg Az: 88.78
deg TVD: 6168.32 ft



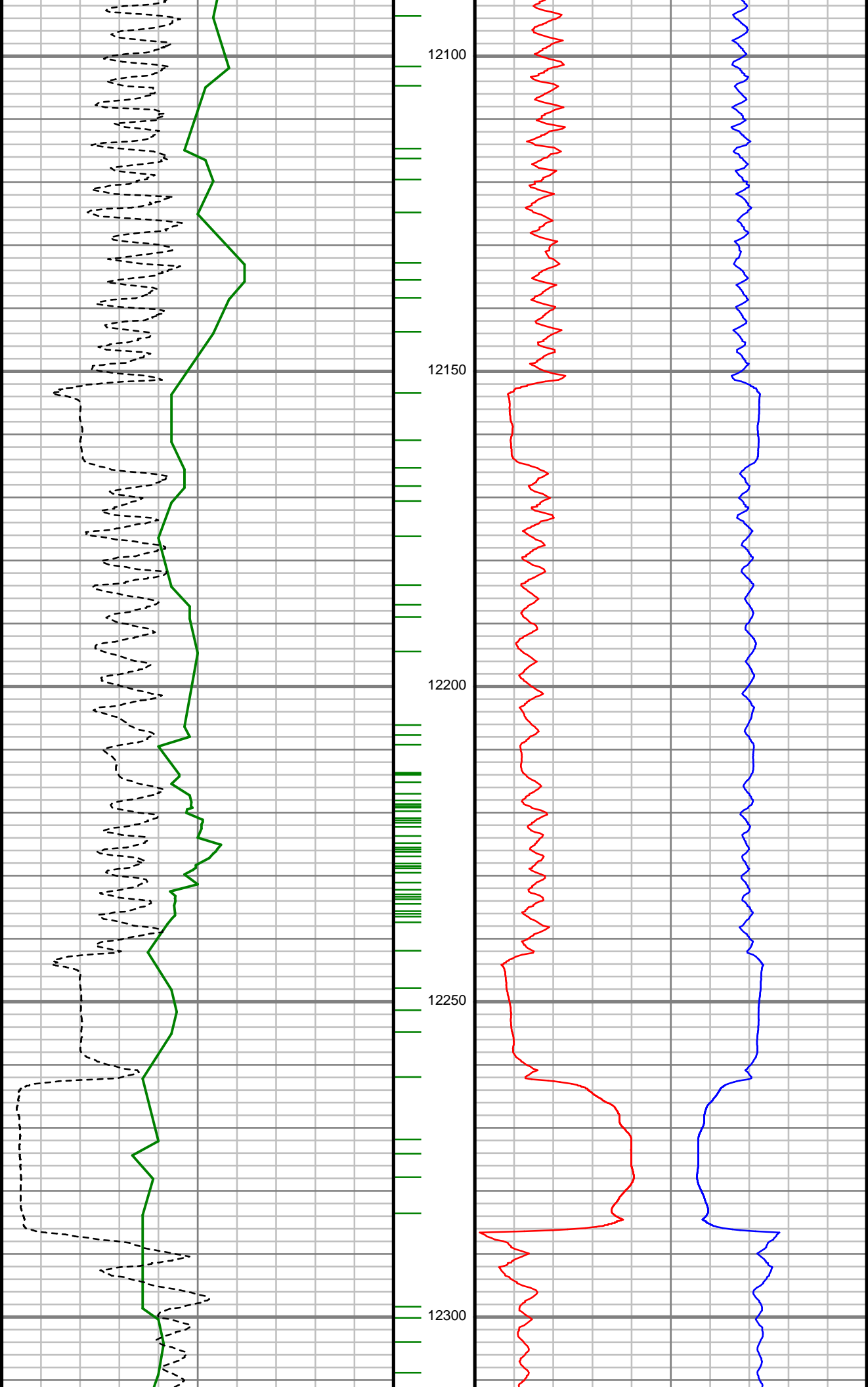
S: 117 MD: 11727.00 ft
Inc: 90.48 deg Az: 88.87
deg TVD: 6167.55 ft

S: 118 MD: 11819.00 ft
Inc: 90.48 deg Az: 89.39
deg TVD: 6166.77 ft



S: 119 MD: 11910.00 ft
Inc: 90.40 deg Az: 89.22
deg TVD: 6166.07 ft

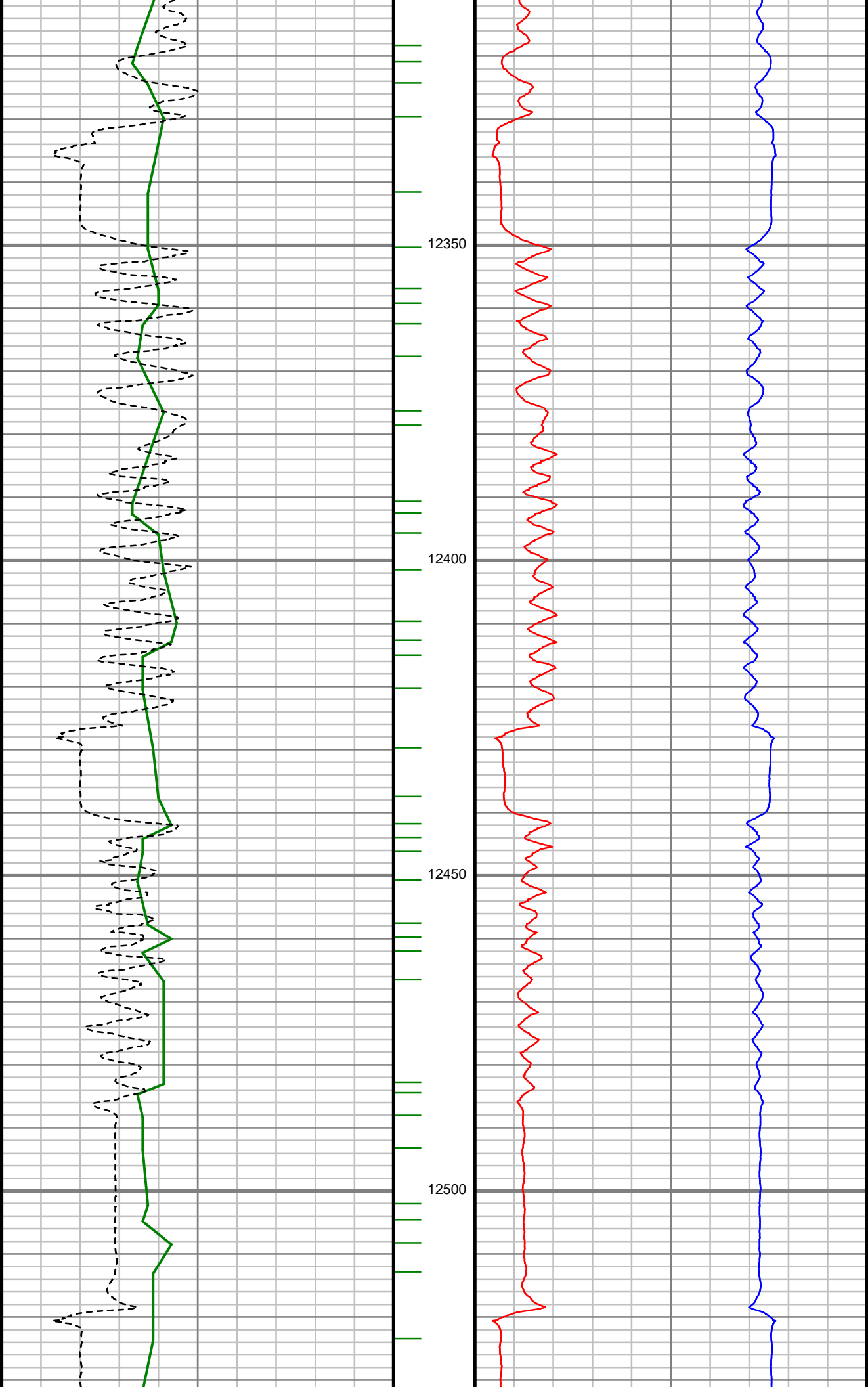
S: 120 MD: 12002.00 ft
Inc: 90.84 deg Az: 89.83
deg TVD: 6165.08 ft



S: 121 MD: 12094.00 ft
Inc: 91.19 deg Az: 89.22
deg TVD: 6163.46 ft

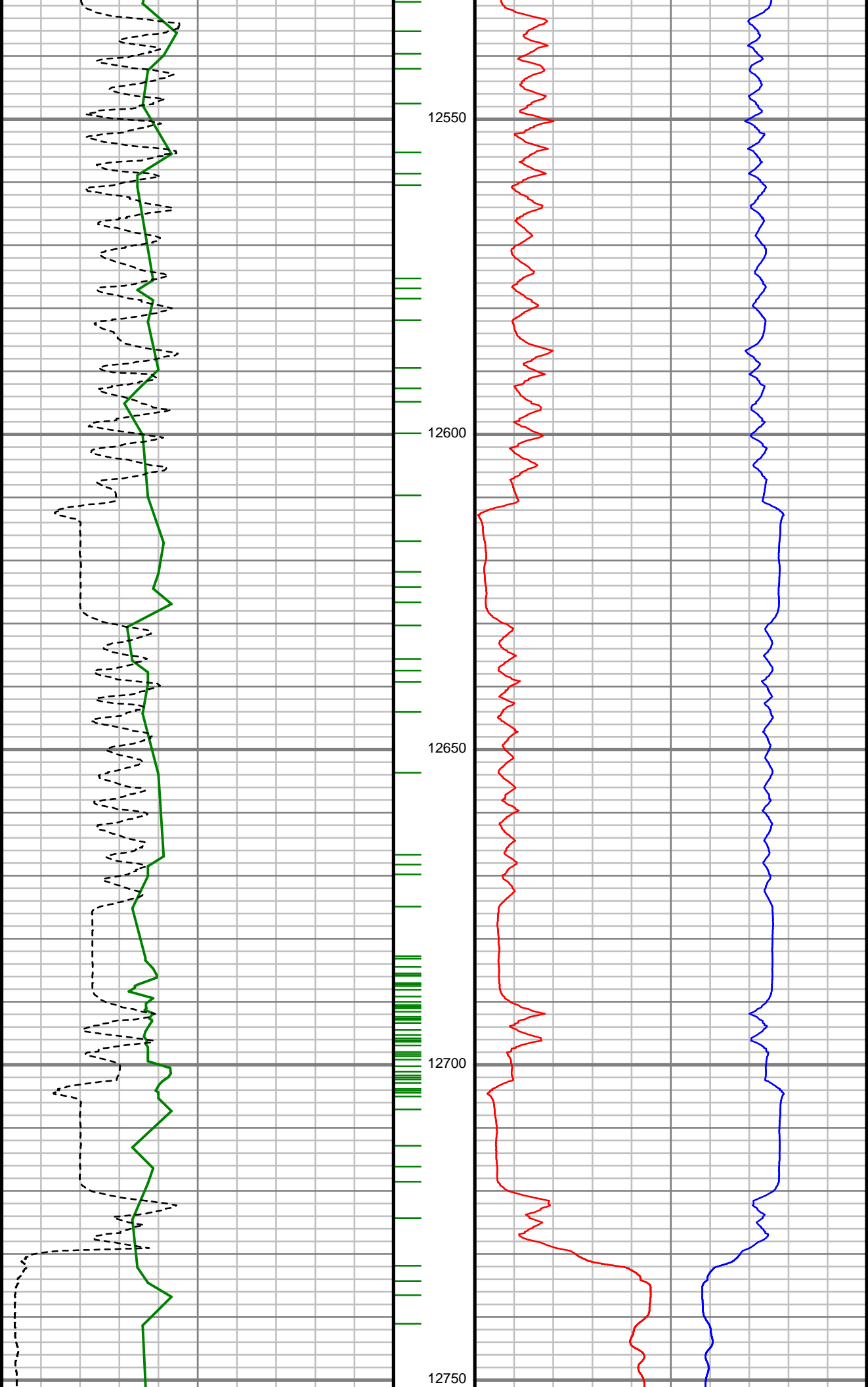
S: 122 MD: 12185.00 ft
Inc: 91.71 deg Az: 89.22
deg TVD: 6161.16 ft

S: 123 MD: 12277.00 ft
Inc: 90.31 deg Az: 89.66
deg TVD: 6159.53 ft



S: 124 MD: 12369.00 ft
Inc: 90.66 deg Az: 89.66
deg TVD: 6158.76 ft

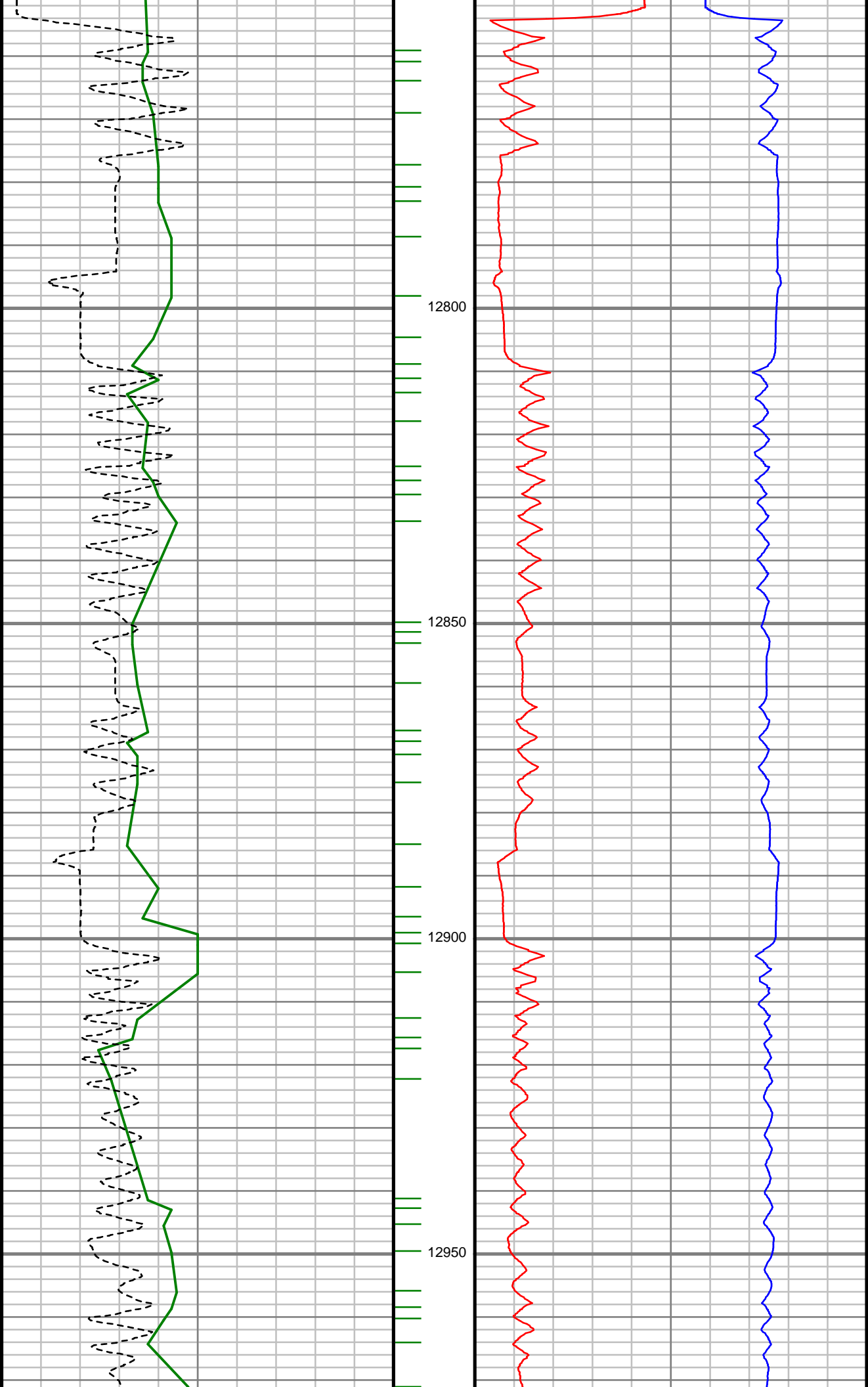
S: 125 MD: 12461.00 ft
Inc: 90.13 deg Az: 89.22
deg TVD: 6158.12 ft



S: 126 MD: 12552.00 ft
Inc: 90.22 deg Az: 88.78
deg TVD: 6157.84 ft

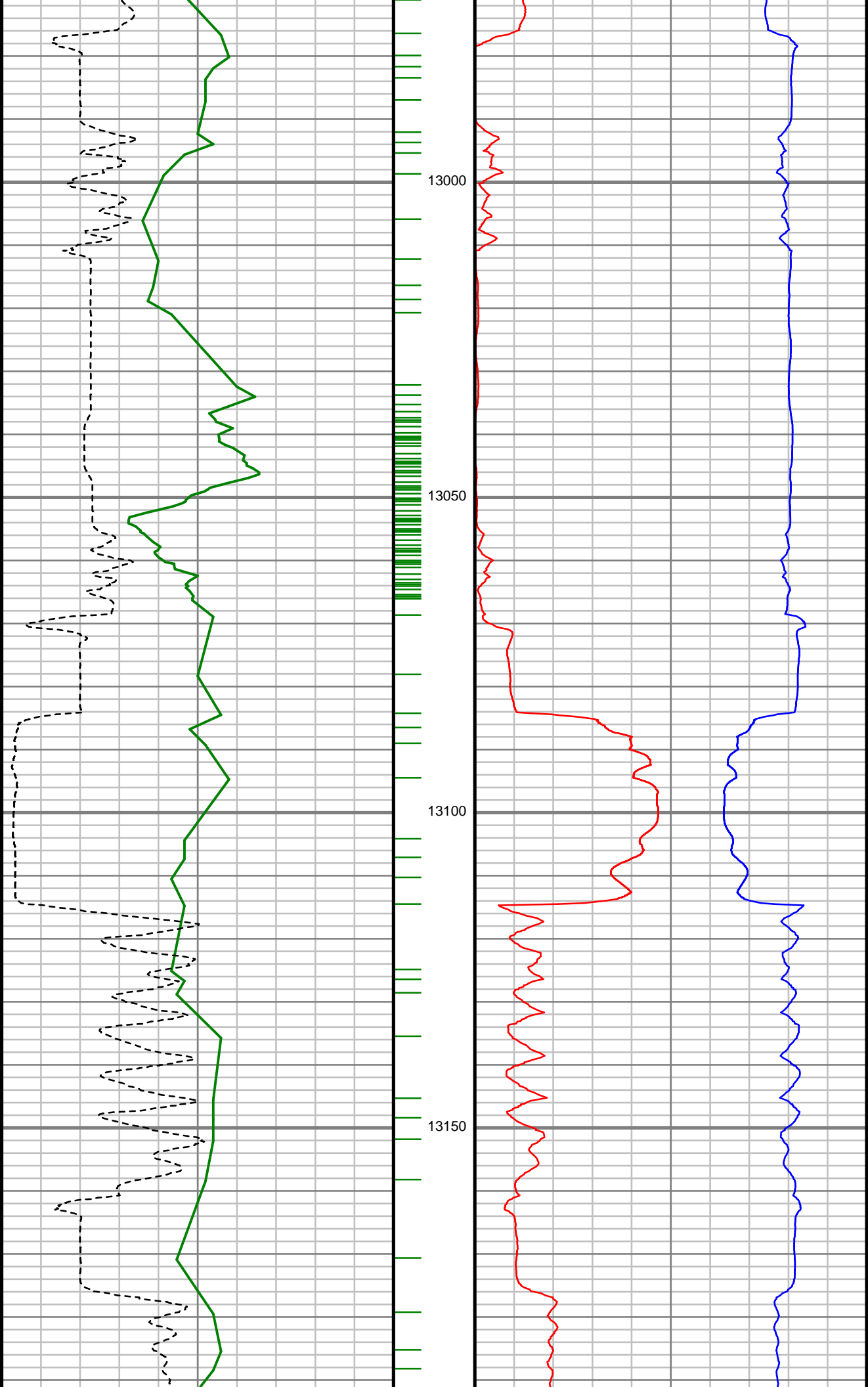
S: 127 MD: 12644.00 ft
Inc: 90.40 deg Az: 88.16
deg TVD: 6157.35 ft

S: 128 MD: 12735.00 ft
Inc: 89.78 deg Az: 88.43
deg TVD: 6157.21 ft



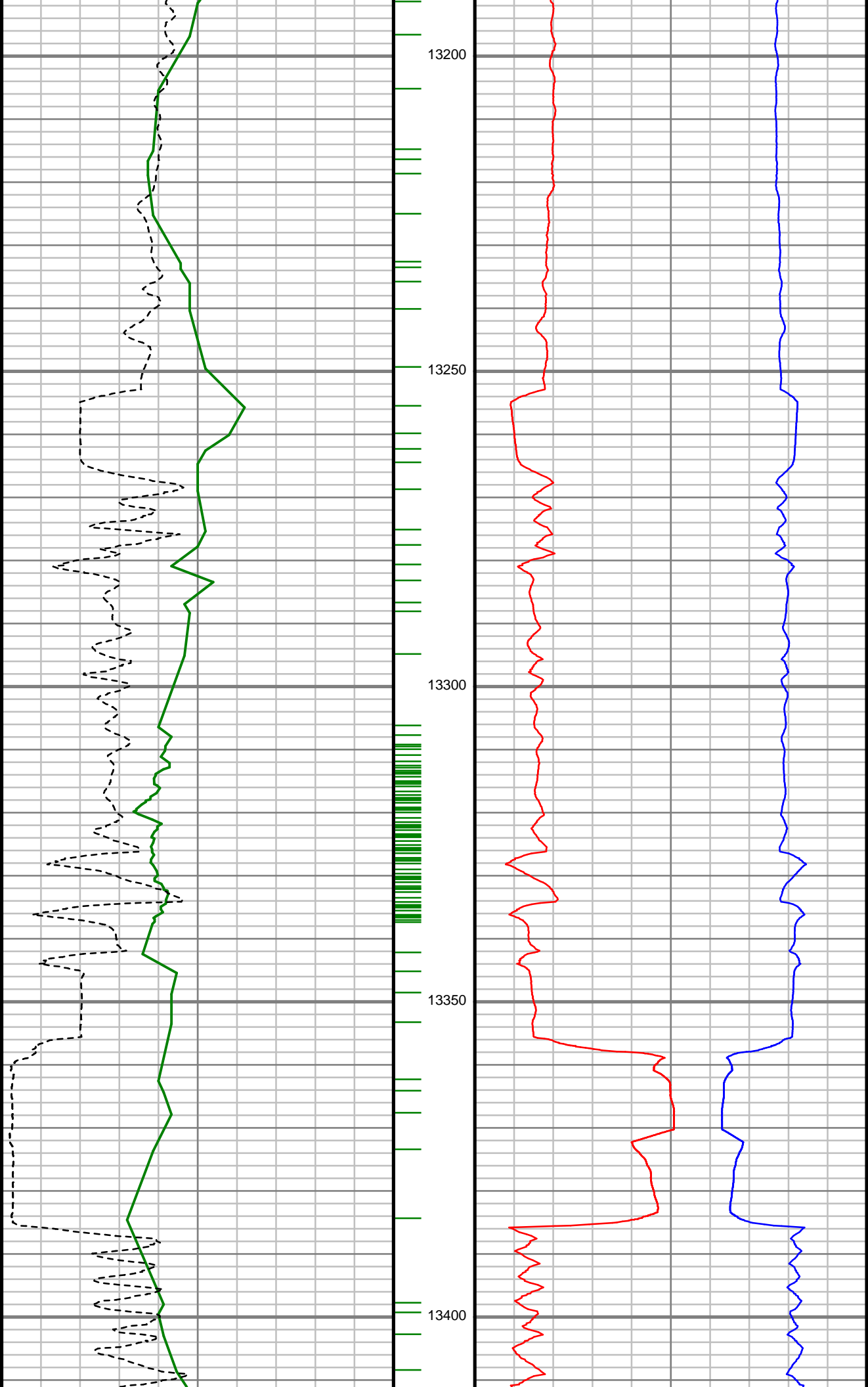
S: 129 MD: 12827.00 ft
Inc: 90.66 deg Az: 90.62
deg TVD: 6156.86 ft

S: 130 MD: 12918.00 ft
Inc: 91.28 deg Az: 90.89
deg TVD: 6155.32 ft



S: 131 MD: 13010.00 ft
Inc: 92.15 deg Az: 91.15
deg TVD: 6152.57 ft

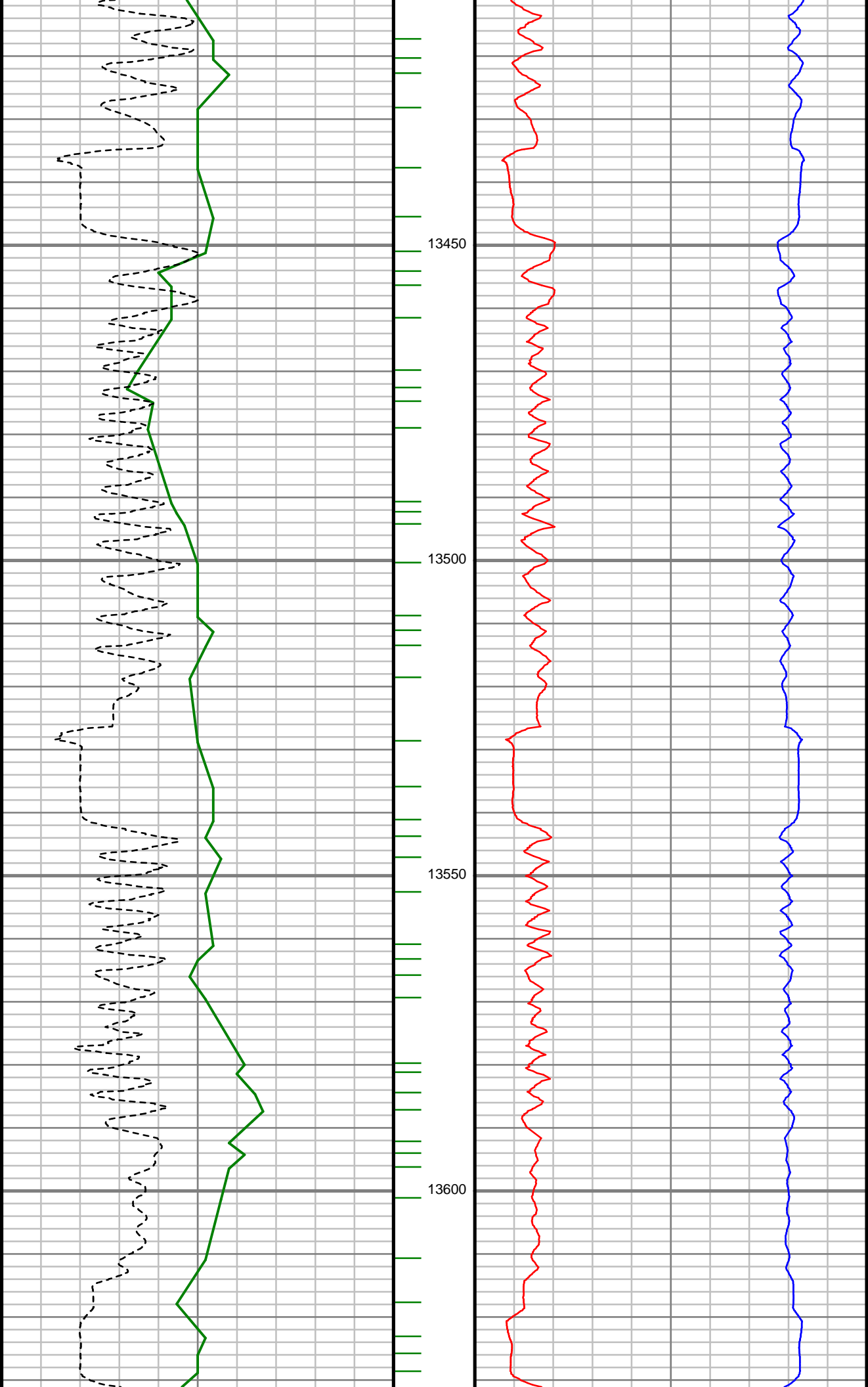
S: 132 MD: 13101.00 ft
Inc: 90.92 deg Az: 90.71
deg TVD: 6150.12 ft



S: 133 MD: 13193.00 ft
Inc: 90.13 deg Az: 90.71
deg TVD: 6149.28 ft

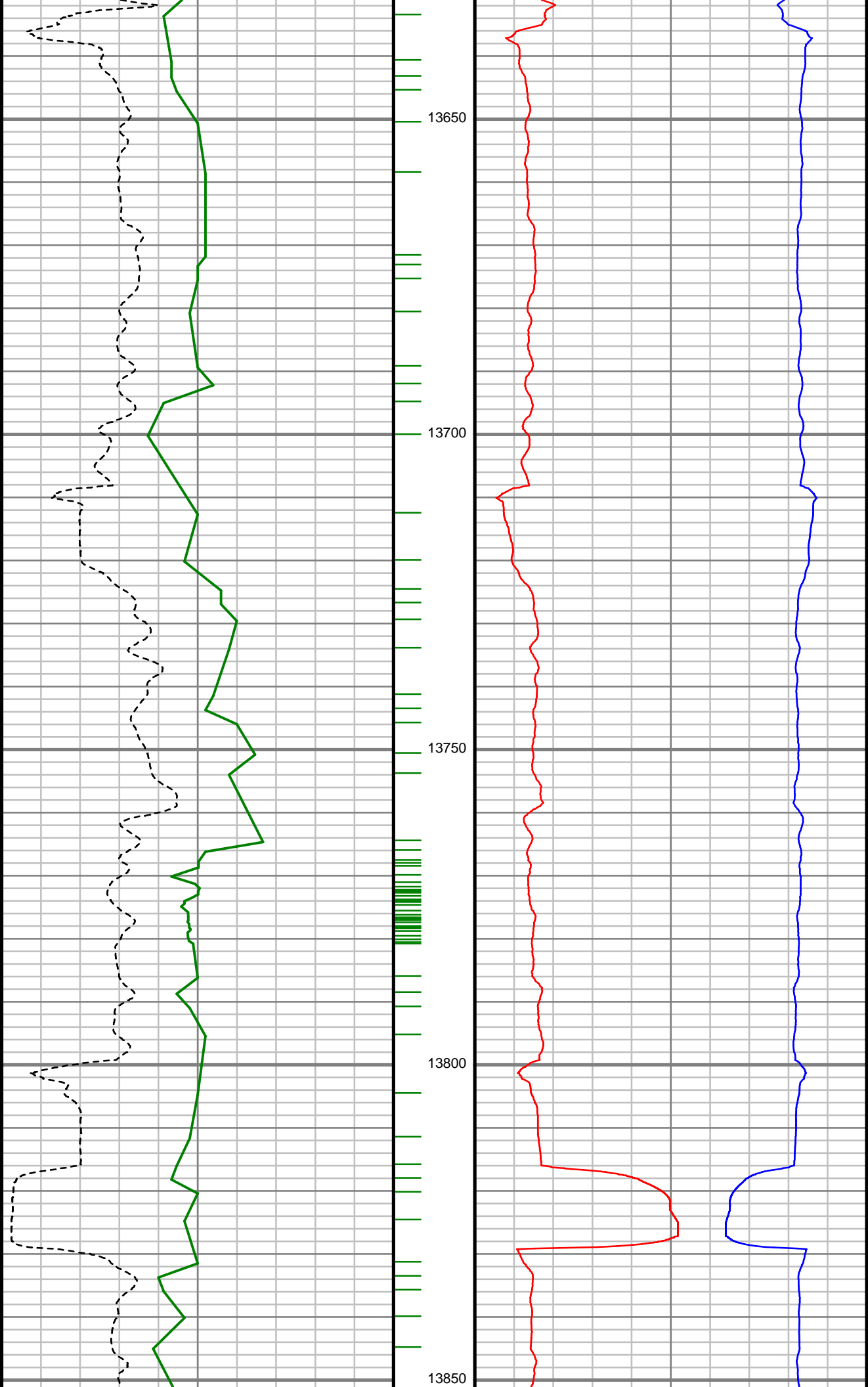
S: 134 MD: 13284.00 ft
Inc: 90.48 deg Az: 91.33
deg TVD: 6148.79 ft

S: 135 MD: 13376.00 ft
Inc: 89.78 deg Az: 90.54
deg TVD: 6148.57 ft



S: 136 MD: 13467.00 ft
Inc: 89.52 deg Az: 90.10
deg TVD: 6149.13 ft

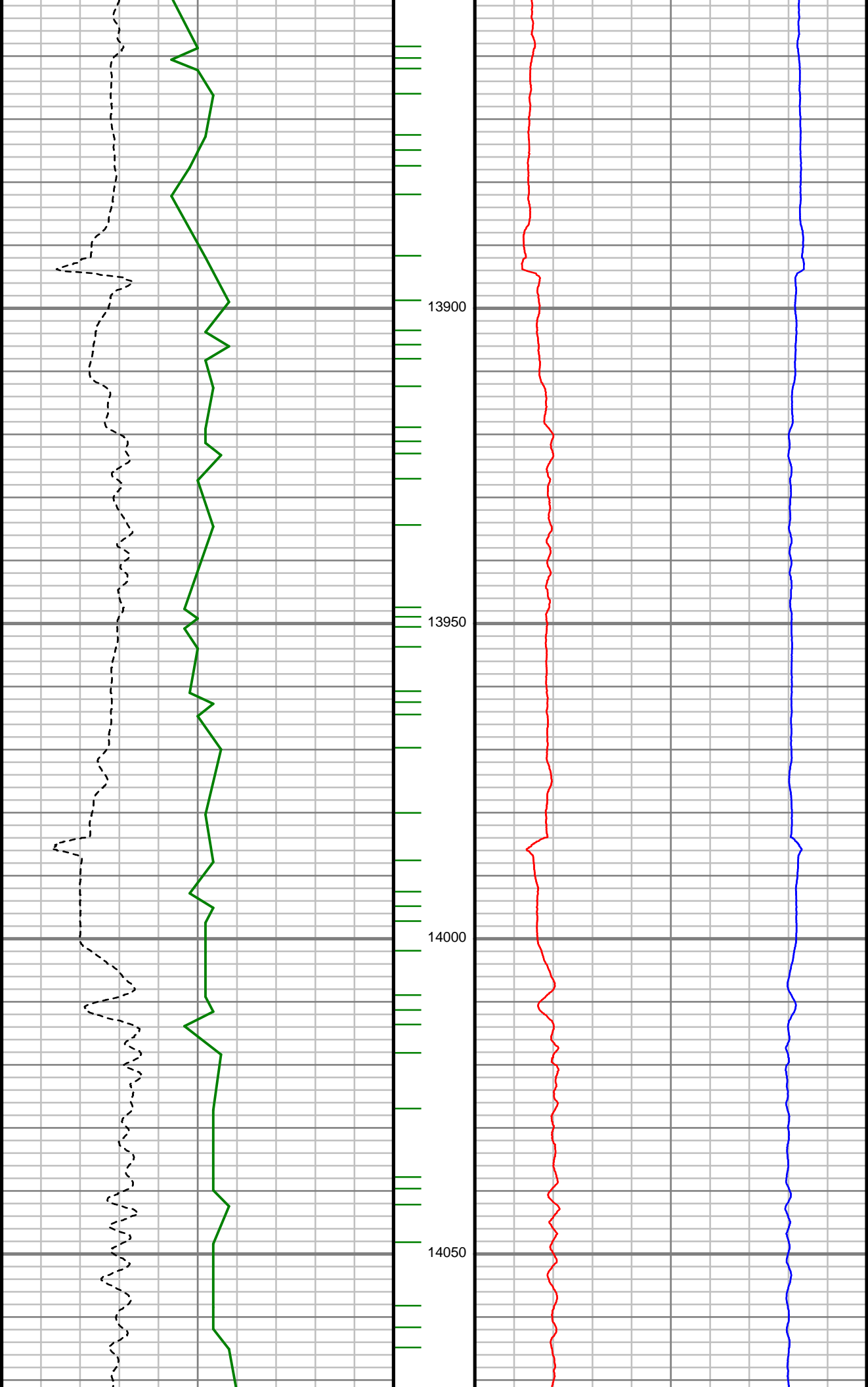
S: 137 MD: 13558.00 ft
Inc: 89.25 deg Az: 90.54
deg TVD: 6150.11 ft



S: 138 MD: 13650.00 ft
Inc: 89.34 deg Az: 90.36
deg TVD: 6151.24 ft

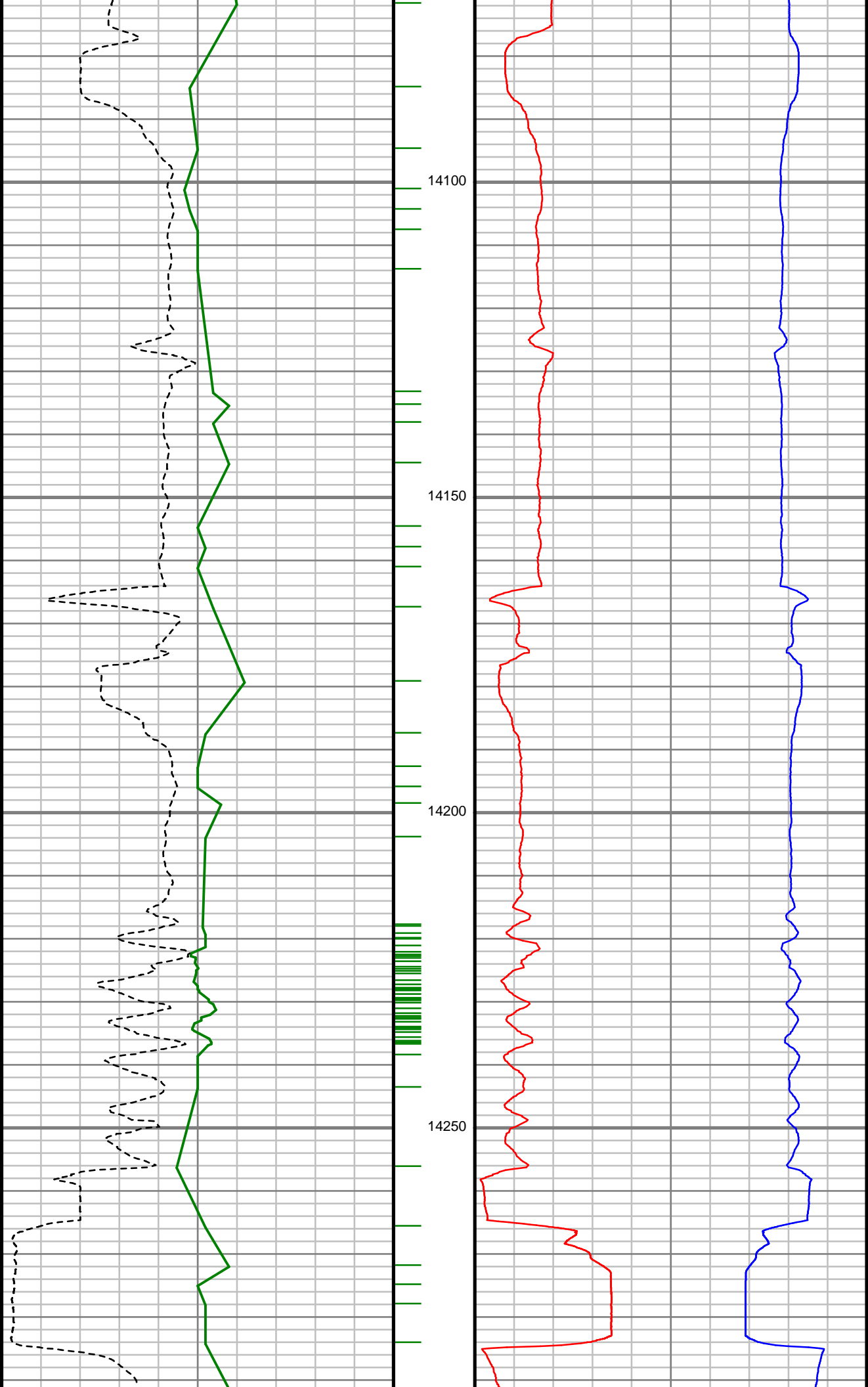
S: 139 MD: 13742.00 ft
Inc: 89.16 deg Az: 89.83
deg TVD: 6152.44 ft

S: 140 MD: 13833.00 ft
Inc: 90.22 deg Az: 89.57
deg TVD: 6152.93 ft



S: 141 MD: 13925.00 ft
Inc: 91.45 deg Az: 89.74
deg TVD: 6151.59 ft

S: 142 MD: 14016.00 ft
Inc: 90.48 deg Az: 88.87
deg TVD: 6150.05 ft



S: 143 MD: 14107.00 ft
Inc: 90.66 deg Az: 89.31
deg TVD: 6149.14 ft

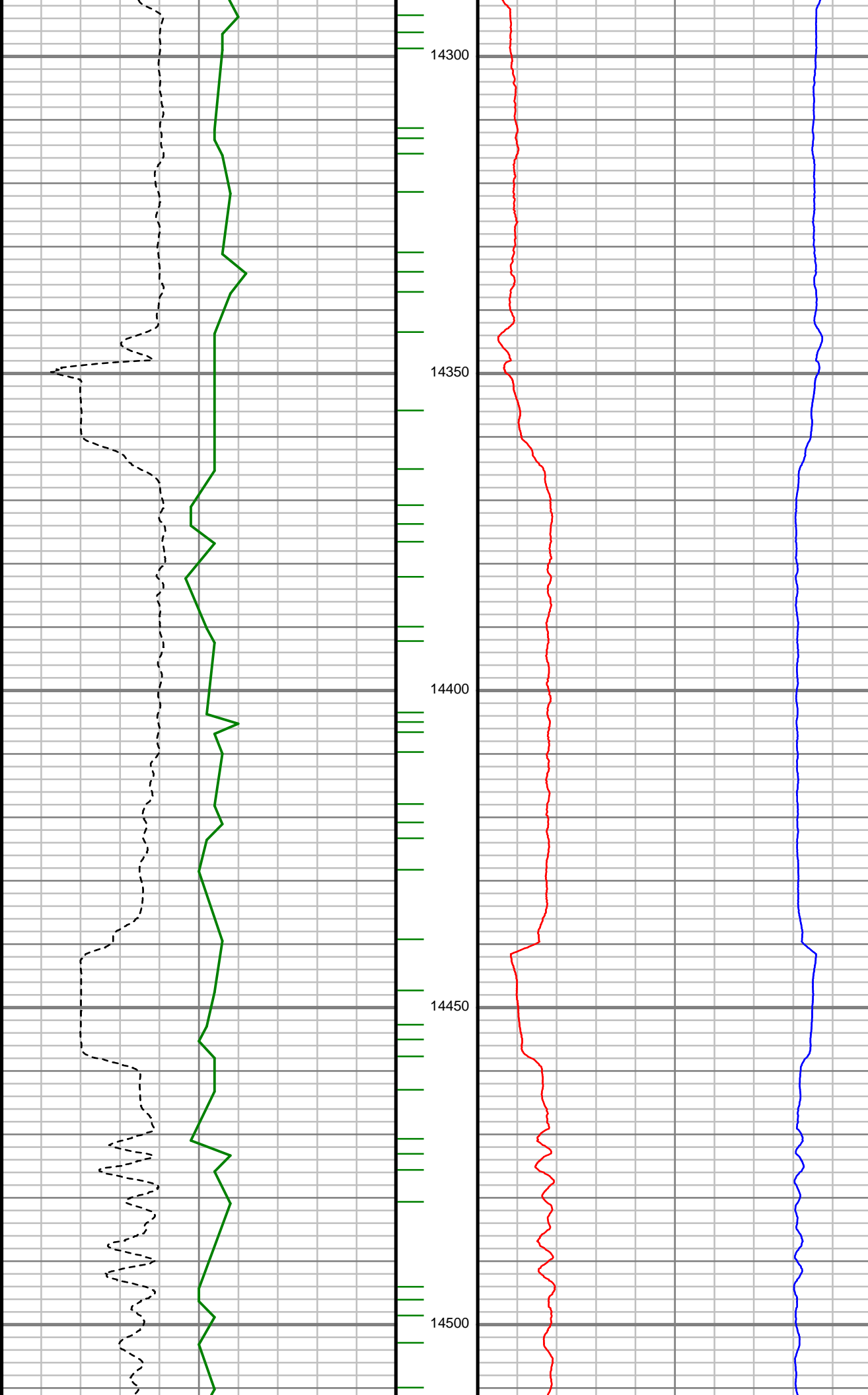
S: 144 MD: 14199.00 ft
Inc: 90.92 deg Az: 87.37
deg TVD: 6147.87 ft

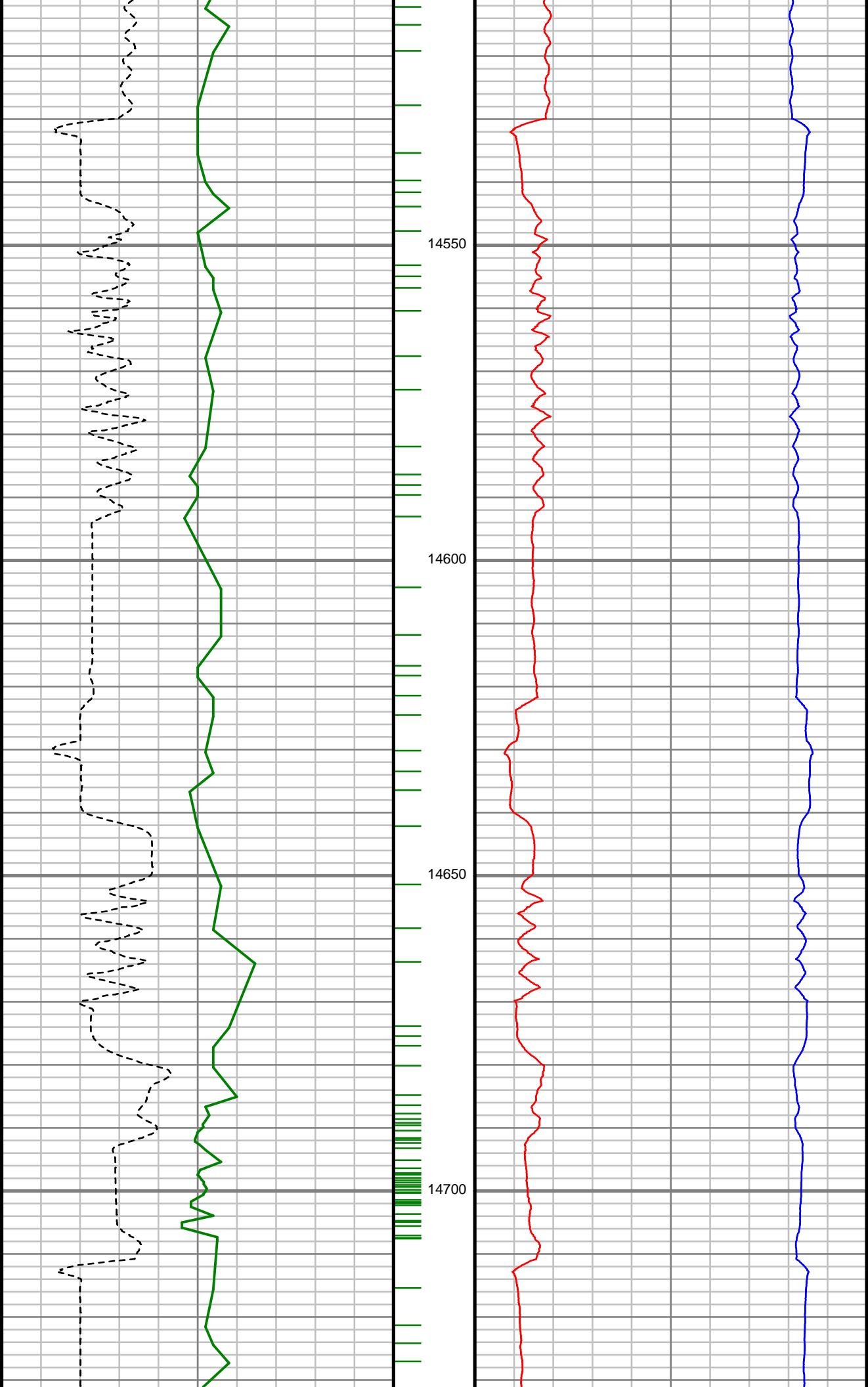
S: 145 MD: 14200.00 ft

S: 145 MD: 14290.00 ft
Inc: 90.40 deg Az: 88.43
deg TVD: 6146.83 ft

S: 146 MD: 14382.00 ft
Inc: 90.57 deg Az: 88.34
deg TVD: 6146.05 ft

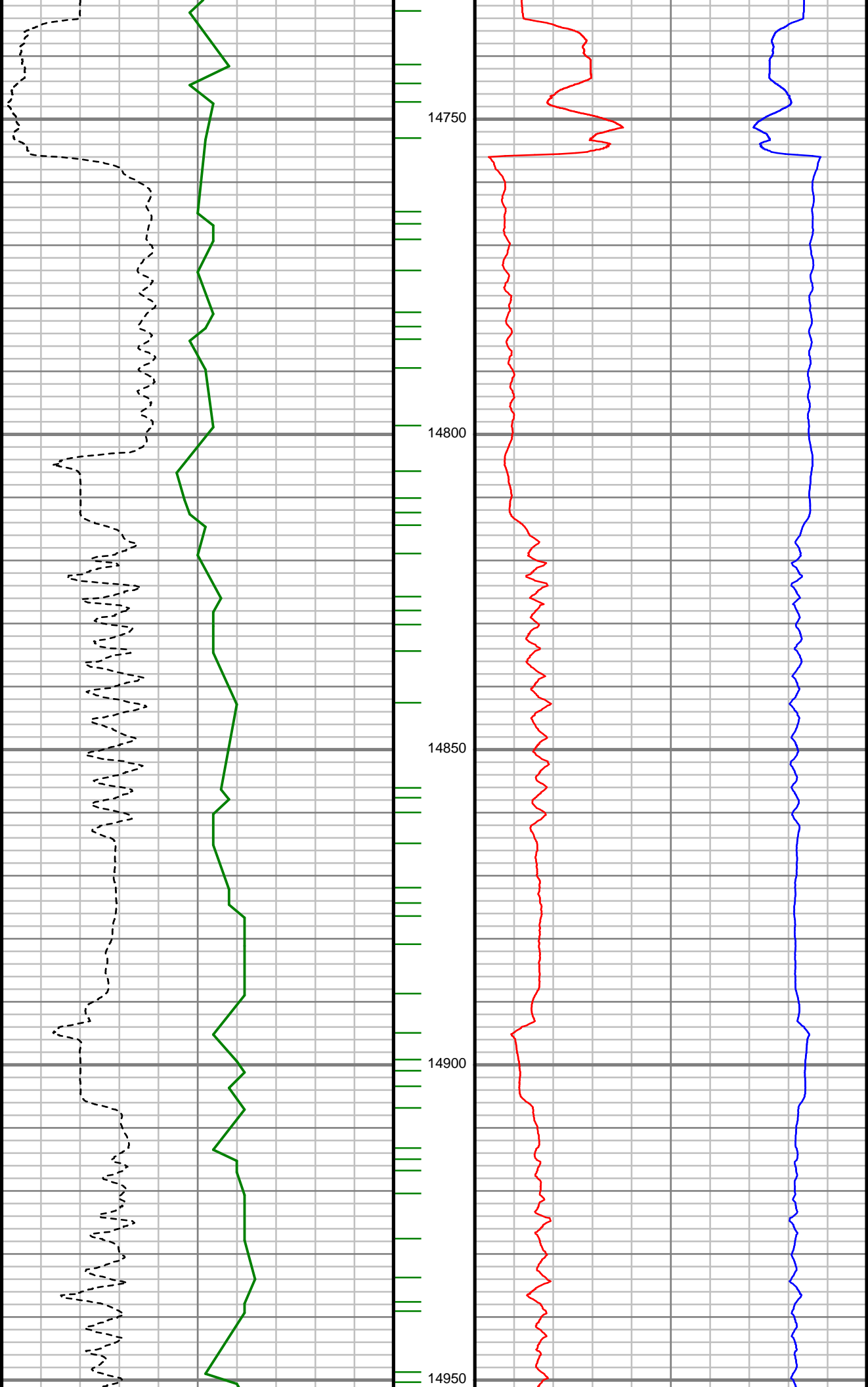
S: 147 MD: 14473.00 ft
Inc: 91.19 deg Az: 89.66
deg TVD: 6144.65 ft





S: 148 MD: 14564.00 ft
Inc: 91.10 deg Az: 89.13
deg TVD: 6142.84 ft

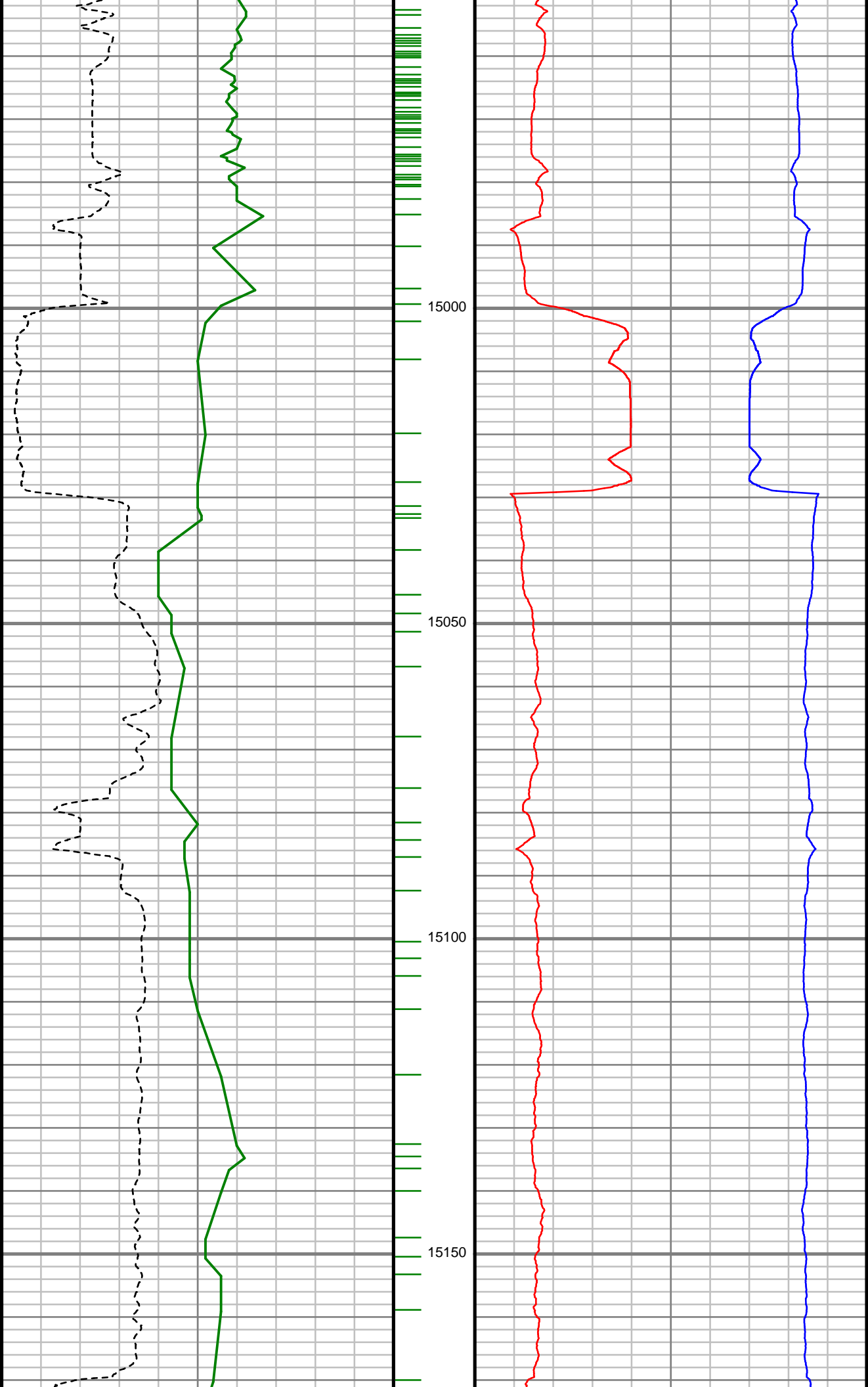
S: 149 MD: 14656.00 ft
Inc: 91.36 deg Az: 88.07
deg TVD: 6140.86 ft



S: 150 MD: 14748.00 ft
Inc: 90.22 deg Az: 87.90
deg TVD: 6139.59 ft

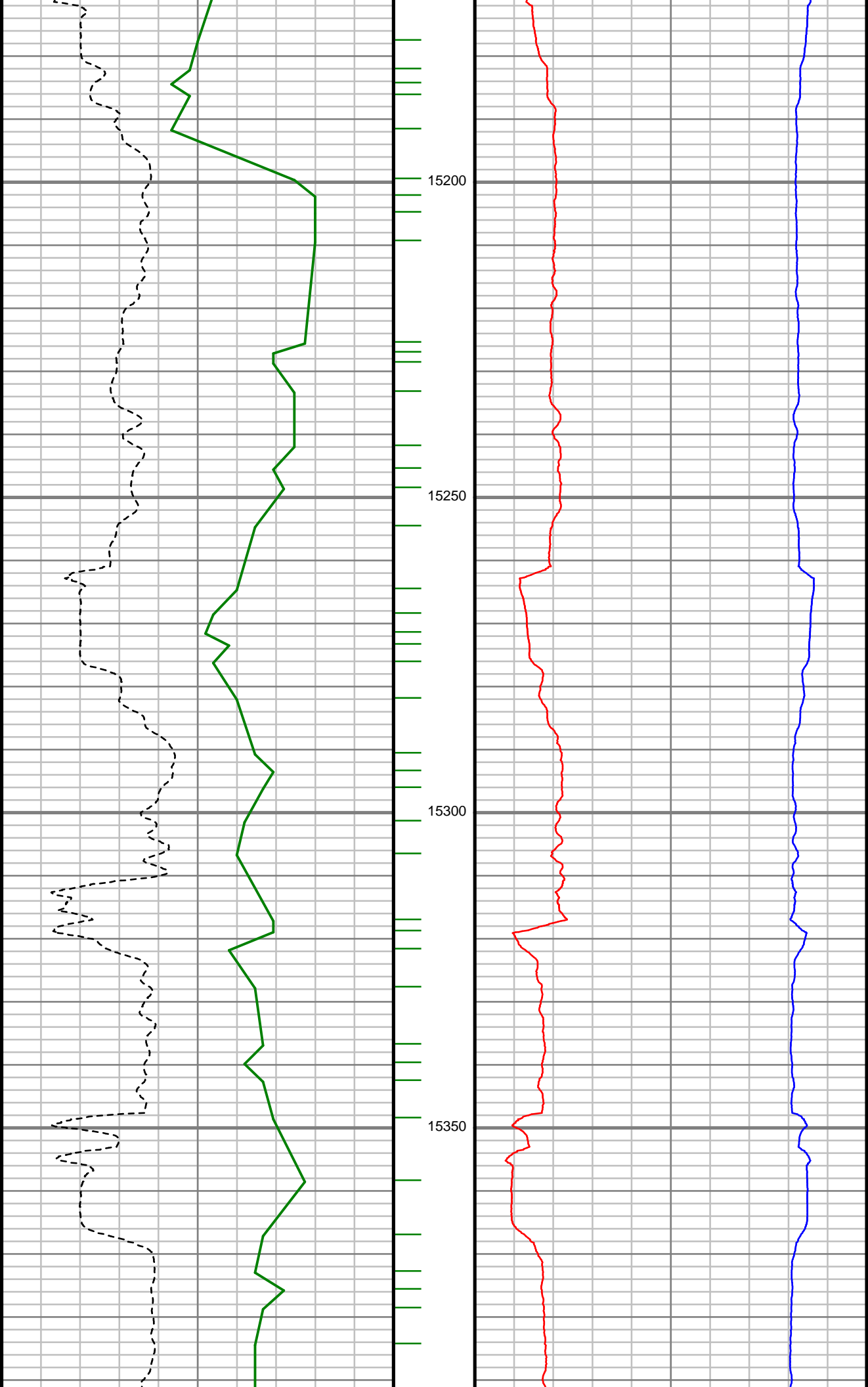
S: 151 MD: 14839.00 ft
Inc: 90.40 deg Az: 87.90
deg TVD: 6139.10 ft

S: 152 MD: 14931.00 ft
Inc: 90.31 deg Az: 87.37
deg TVD: 6138.54 ft



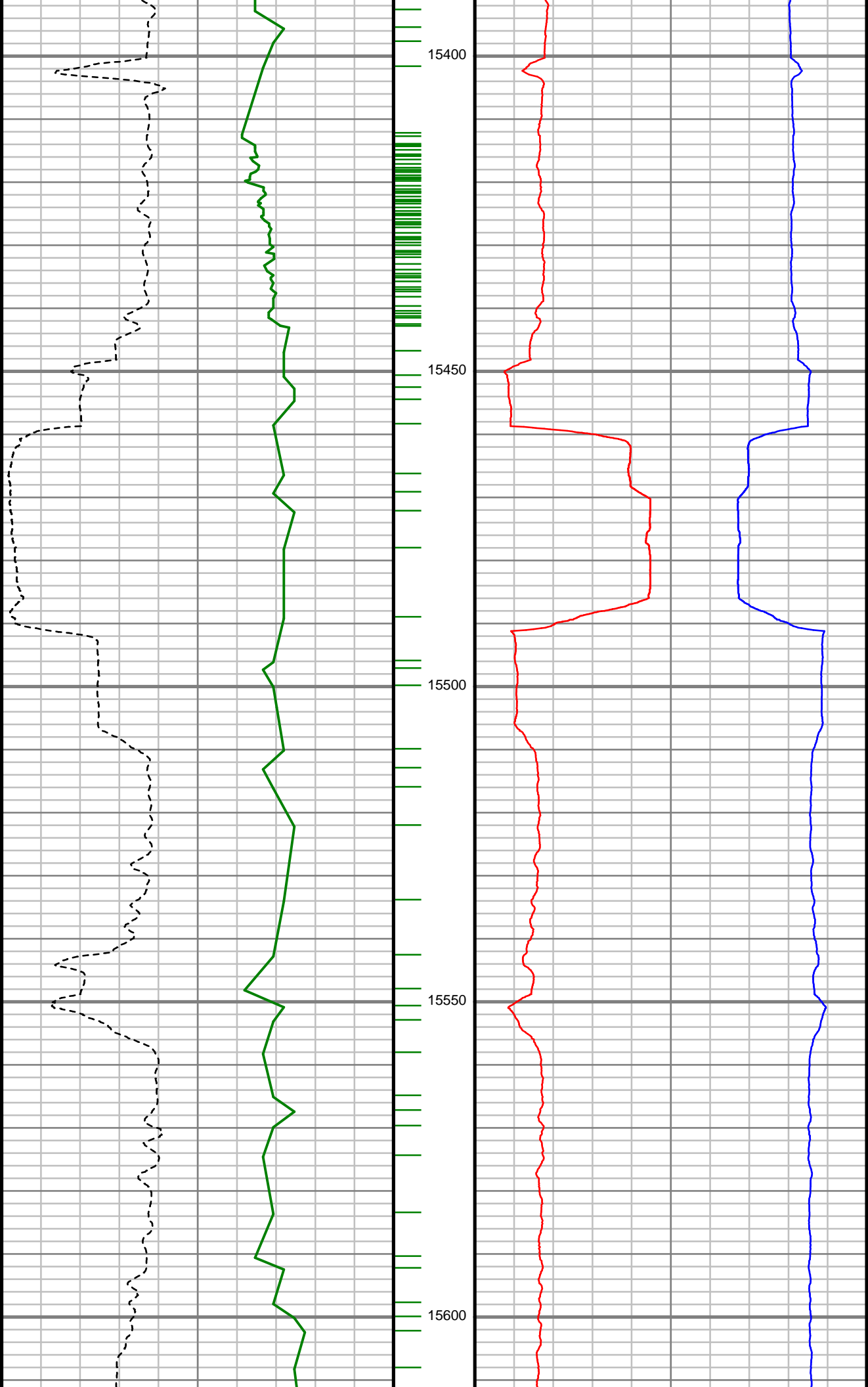
S: 153 MD: 15023.00 ft
Inc: 90.74 deg Az: 89.54
deg TVD: 6137.70 ft

S: 154 MD: 15114.00 ft
Inc: 91.28 deg Az: 89.13
deg TVD: 6136.10 ft



S: 155 MD: 15206.00 ft
Inc: 91.45 deg Az: 88.69
deg TVD: 6133.91 ft

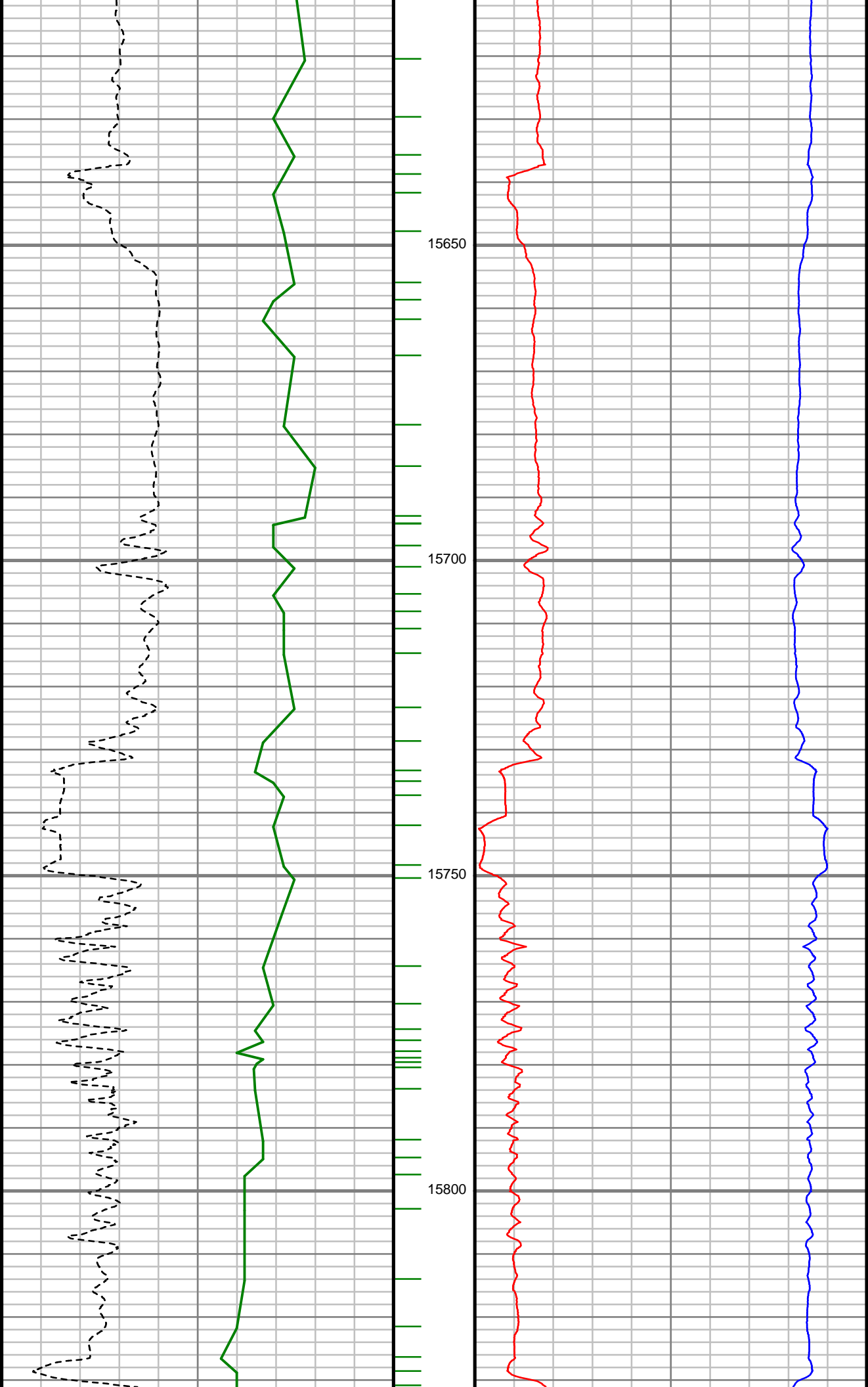
S: 156 MD: 15298.00 ft
Inc: 91.19 deg Az: 88.51
deg TVD: 6131.79 ft



S: 157 MD: 15392.00 ft
Inc: 91.19 deg Az: 87.37
deg TVD: 6129.84 ft

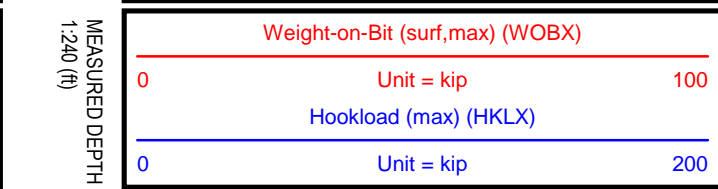
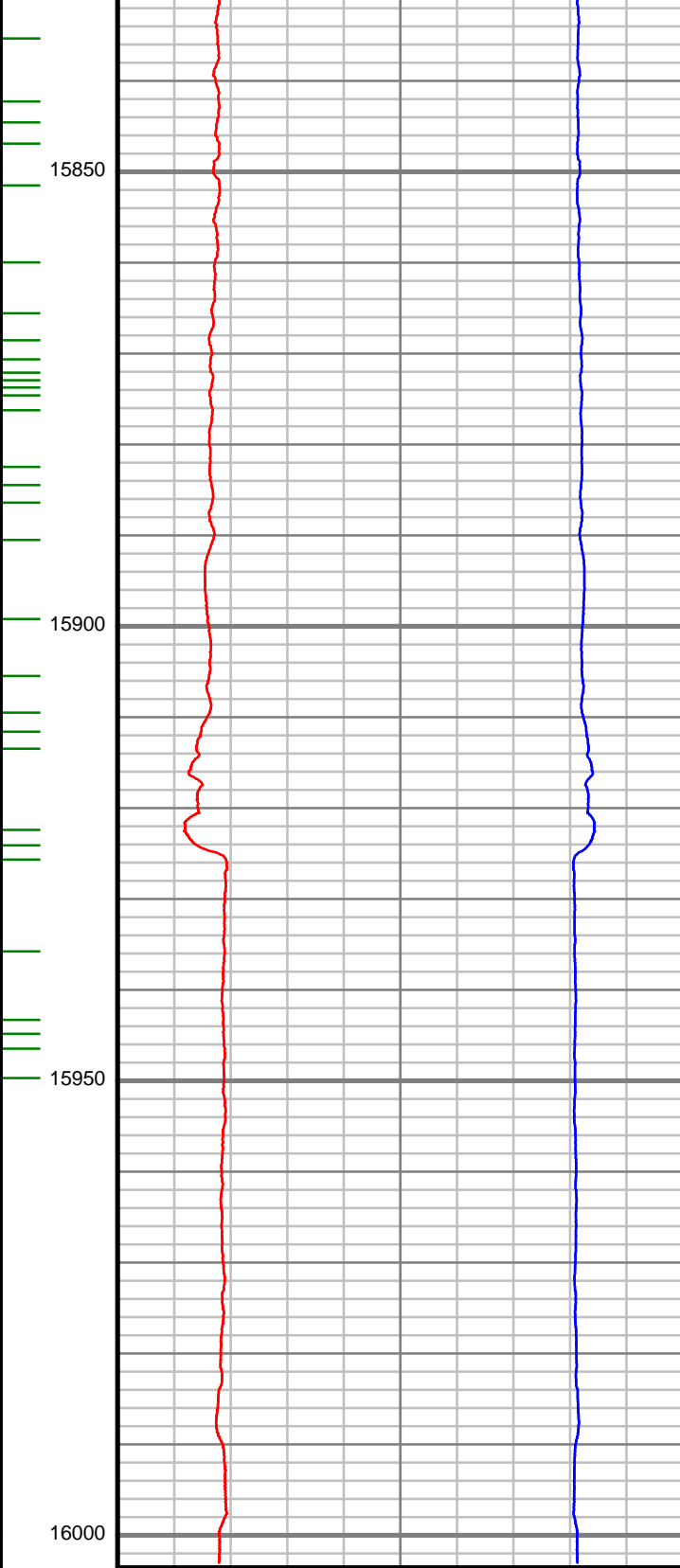
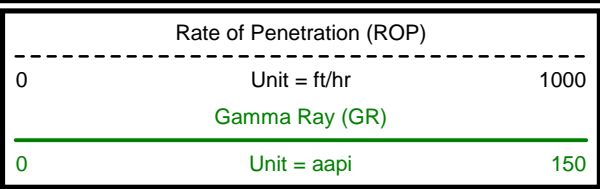
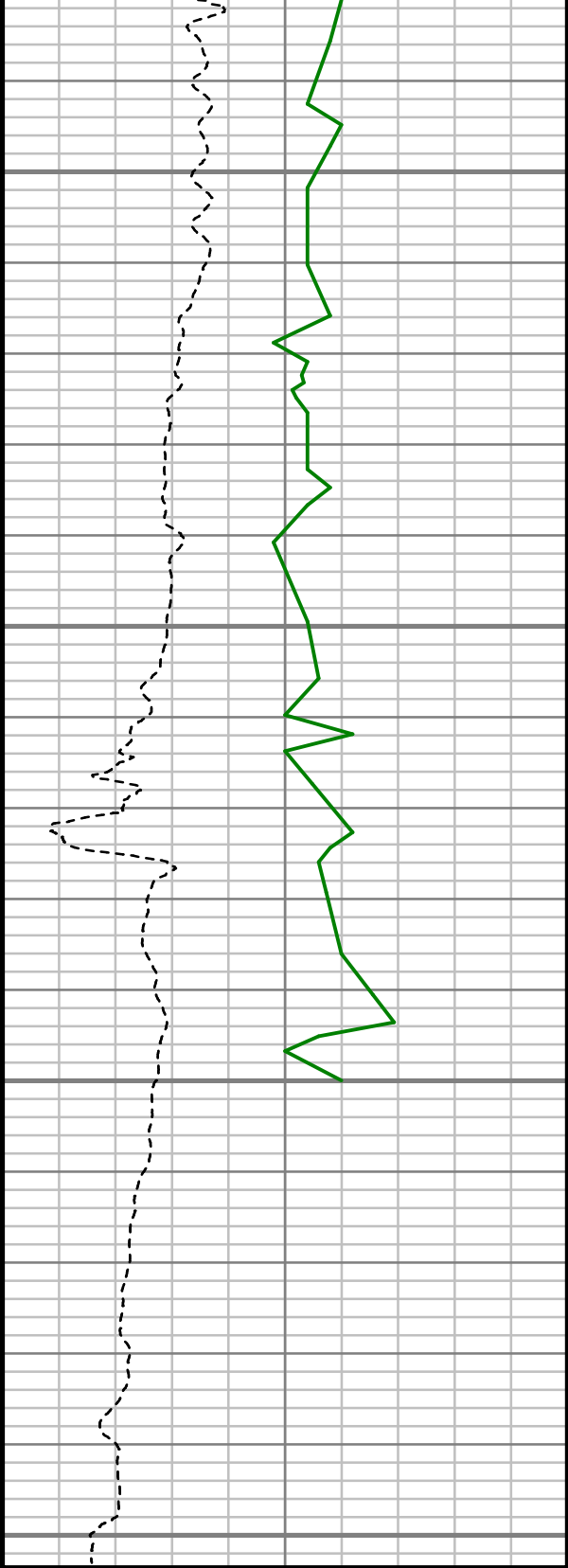
S: 158 MD: 15486.00 ft
Inc: 90.13 deg Az: 89.13
deg TVD: 6128.76 ft

S: 159 MD: 15581.00 ft
Inc: 90.31 deg Az: 88.78
deg TVD: 6128.40 ft



S: 160 MD: 15675.00 ft
Inc: 90.74 deg Az: 88.49
deg TVD: 6127.54 ft

S: 161 MD: 15770.00 ft
Inc: 91.01 deg Az: 87.55
deg TVD: 6126.09 ft



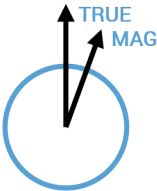
S: 162 MD: 15864.00 ft
Inc: 91.01 deg Az: 87.28
deg TVD: 6124.43 ft

Comments

MEASURED DEPTH
1:240 (ft)

CUSTOMER	BILL BARRETT CORP	WELL INFORMATION	
PROJECT	ANSCHUTZ EQUUS FARMS	Lat/Long	40° 19' 33.369" N, 104° 20' 18.69" W
	4-62-9-3225B2	Northing	1,363,700.09 ft
FIELD	WATTENBERG	Easting	3,323,826.96 ft
		UWI	05-123-42151

MAP INFORMATION		VERTICAL SECTION REFERENCE	
North Reference	True North	+N/-S	0 ft
Grid Correction		+E/-W	0 ft
System	US State Plane 1983	Proposal Direction	89.42°
Datum	North American Datum 1983 (GRS 1980)	Calculation Method	Minimum Curvature
Map Zone	Colorado North: 0501		



GEOMAGNETIC REFERENCE INFORMATION

Local Gravity: 999.102 mG [computed]

MD	MODEL	DATE	DECLINATION	MAG TO TRUE
800-15864 ft	BGGM2015	27 Oct 2015	8.27°	add 8.27°

WELL NOTES	OPERATORS
	C CHRISTMAN, C. CHRISTMAN, R. KLASSEN, S JOHNSON

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
800.00	0.00	0.00	800.00	0.00	0.00	0.00	Invalid	Invalid
885.00	0.53	263.77	885.00	-0.39	-0.04	-0.39	0.62	85.00
976.00	1.23	319.05	975.99	-1.44	0.65	-1.45	1.13	91.00
1067.00	2.64	330.83	1066.93	-3.08	3.22	-3.11	1.60	91.00
1159.00	3.87	338.56	1158.79	-5.19	7.96	-5.27	1.42	92.00
1251.00	5.36	343.48	1250.48	-7.48	14.97	-7.63	1.68	92.00
1342.00	7.12	341.73	1340.94	-10.36	24.40	-10.61	1.94	91.00
1434.00	8.27	341.64	1432.11	-14.11	36.10	-14.48	1.24	92.00
1525.00	9.32	337.24	1522.04	-18.89	49.10	-19.39	1.37	91.00
1617.00	11.26	338.48	1612.56	-24.92	64.33	-25.57	2.12	92.00
1708.00	10.99	338.21	1701.85	-31.23	80.64	-32.05	0.30	91.00
1799.00	10.38	340.76	1791.27	-36.99	96.44	-37.97	0.85	91.00
1891.00	10.55	342.52	1881.74	-42.09	112.29	-43.23	0.40	92.00
1982.00	10.90	341.90	1971.15	-47.10	128.42	-48.41	0.41	91.00
2074.00	10.02	339.88	2061.62	-52.40	144.21	-53.86	1.04	92.00
2166.00	10.64	342.43	2152.13	-57.56	159.83	-59.18	0.83	92.00
2257.00	10.02	342.78	2241.65	-62.28	175.40	-64.06	0.68	91.00
2349.00	11.34	345.15	2332.06	-66.80	191.80	-68.75	1.51	92.00

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	Course Length ft
2443.00	11.26	346.12	2424.23	-71.19	209.64	-73.32	0.22	94.00
2538.00	11.52	346.21	2517.36	-75.49	227.85	-77.80	0.28	95.00
2632.00	12.13	346.03	2609.37	-79.93	246.55	-82.43	0.66	94.00
2726.00	12.13	341.11	2701.27	-85.32	265.49	-88.01	1.10	94.00
2821.00	10.64	339.18	2794.40	-91.49	283.14	-94.36	1.62	95.00
2915.00	9.41	339.62	2886.96	-97.09	298.45	-100.12	1.31	94.00
3009.00	9.41	342.69	2979.70	-101.91	312.99	-105.08	0.53	94.00
3103.00	9.67	343.40	3072.40	-106.30	327.89	-109.62	0.31	94.00
3197.00	10.38	339.62	3164.96	-111.35	343.40	-114.83	1.02	94.00
3292.00	10.46	341.20	3258.40	-116.94	359.58	-120.59	0.32	95.00
3387.00	12.75	338.04	3351.45	-123.46	377.47	-127.29	2.50	95.00
3481.00	14.42	337.07	3442.81	-131.70	397.88	-135.73	1.79	94.00
3575.00	14.86	336.37	3533.76	-140.87	419.70	-145.13	0.50	94.00
3669.00	13.37	333.20	3624.92	-150.39	440.44	-154.86	1.79	94.00
3764.00	12.75	332.50	3717.47	-159.99	459.54	-164.65	0.67	95.00
3858.00	11.70	333.64	3809.33	-168.83	477.28	-173.67	1.15	94.00
3952.00	10.38	334.43	3901.59	-176.55	493.45	-181.55	1.41	94.00
4047.00	10.55	333.03	3995.01	-184.03	508.92	-189.19	0.33	95.00

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	Course Length ft
4141.00	10.82	332.94	4087.38	-191.79	524.45	-197.11	0.28	94.00
4235.00	10.99	334.87	4179.69	-199.44	540.42	-204.92	0.43	94.00
4330.00	10.11	337.24	4273.08	-206.35	556.31	-212.00	1.03	95.00
4424.00	10.38	336.81	4365.58	-212.72	571.70	-218.52	0.29	94.00
4518.00	9.85	340.76	4458.12	-218.55	587.07	-224.51	0.93	94.00
4612.00	10.02	346.47	4550.71	-222.96	602.61	-229.07	1.06	94.00
4707.00	10.20	344.80	4644.24	-226.93	618.77	-233.21	0.36	95.00
4801.00	10.73	342.34	4736.68	-231.60	635.14	-238.04	0.74	94.00
4895.00	9.41	340.76	4829.23	-236.63	650.73	-243.23	1.43	94.00
4989.00	7.30	340.85	4922.22	-240.99	663.63	-247.72	2.25	94.00
5084.00	5.98	340.76	5016.58	-244.50	674.00	-251.33	1.39	95.00
5178.00	4.84	339.79	5110.16	-247.39	682.34	-254.31	1.22	94.00
5272.00	3.69	329.33	5203.90	-250.24	688.66	-257.23	1.47	94.00
5366.00	2.90	330.13	5297.75	-252.92	693.33	-259.96	0.84	94.00
5460.00	1.85	309.82	5391.67	-255.24	696.36	-262.30	1.42	94.00
5555.00	1.41	306.66	5486.63	-257.34	698.04	-264.42	0.47	95.00
5650.00	0.79	193.19	5581.62	-258.42	698.10	-265.50	1.97	95.00
5745.00	0.47	169.82	5676.61	-258.51	697.08	-265.58	0.43	95.00

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
5838.00	8.71	83.33	5769.25	-251.44	697.52	-258.51	9.34	93.00
5933.00	20.40	81.83	5861.05	-227.79	700.72	-234.90	12.32	95.00
6027.00	30.60	85.26	5945.78	-187.58	705.03	-194.73	10.96	94.00
6121.00	38.60	89.31	6023.10	-134.30	707.37	-141.47	8.85	94.00
6216.00	49.33	85.97	6091.39	-68.50	710.27	-75.70	11.55	95.00
6310.00	64.72	82.45	6142.41	9.76	718.41	2.48	16.66	94.00
6405.00	74.22	88.69	6175.72	98.37	725.12	91.04	11.73	95.00
6499.00	80.20	93.17	6196.53	189.94	723.59	182.62	7.88	94.00
6550.00	84.45	94.95	6203.35	240.30	720.01	233.03	9.03	51.00
6683.00	89.96	94.40	6209.84	372.53	709.19	365.37	4.16	133.00
6778.00	90.75	93.35	6209.25	467.24	702.77	460.15	1.39	95.00
6873.00	90.13	91.59	6208.52	562.10	698.68	555.06	1.96	95.00
6967.00	90.40	92.56	6208.09	656.00	695.28	648.99	1.07	94.00
7062.00	90.92	90.18	6207.00	750.93	693.00	743.95	2.56	95.00
7156.00	90.48	89.66	6205.84	844.92	693.13	837.95	0.73	94.00
7250.00	90.13	89.13	6205.34	938.92	694.13	931.94	0.67	94.00
7344.00	90.31	90.01	6204.98	1032.92	694.84	1025.93	0.95	94.00
7438.00	90.66	91.33	6204.18	1126.89	693.74	1119.92	1.45	94.00

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
7533.00	90.57	89.57	6203.16	1221.86	693.00	1214.91	1.85	95.00
7628.00	90.04	90.01	6202.65	1316.86	693.35	1309.91	0.72	95.00
7722.00	89.96	89.22	6202.65	1410.86	693.99	1403.90	0.85	94.00
7816.00	91.28	88.87	6201.64	1504.85	695.56	1497.88	1.45	94.00
7911.00	91.80	88.87	6199.09	1599.81	697.44	1592.83	0.56	95.00
8005.00	92.95	89.13	6195.20	1693.72	699.08	1686.73	1.25	94.00
8099.00	92.15	89.39	6191.02	1787.63	700.29	1780.63	0.89	94.00
8193.00	90.92	89.04	6188.49	1881.59	701.58	1874.59	1.36	94.00
8287.00	89.16	88.25	6188.42	1975.58	703.80	1968.56	2.05	94.00
8381.00	91.10	89.13	6188.20	2069.57	705.95	2062.53	2.26	94.00
8476.00	90.04	89.39	6187.26	2164.56	707.17	2157.51	1.14	95.00
8570.00	90.04	89.92	6187.18	2258.56	707.73	2251.51	0.56	94.00
8665.00	89.87	90.80	6187.26	2353.55	707.14	2346.51	0.94	95.00
8759.00	89.43	89.74	6187.83	2447.53	706.69	2440.50	1.22	94.00
8853.00	89.87	88.95	6188.41	2541.53	707.76	2534.49	0.96	94.00
8947.00	89.52	88.34	6188.91	2635.52	709.98	2628.47	0.75	94.00
9041.00	90.92	87.99	6188.55	2729.49	712.99	2722.41	1.54	94.00
9136.00	91.36	89.13	6186.66	2824.46	715.38	2817.36	1.29	95.00

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
9231.00	90.75	89.13	6184.91	2919.44	716.83	2912.34	0.65	95.00
9324.00	90.04	89.31	6184.27	3012.44	718.10	3005.32	0.78	93.00
9419.00	90.48	89.48	6183.83	3107.44	719.10	3100.32	0.50	95.00
9513.00	89.25	88.43	6184.05	3201.43	720.82	3194.30	1.72	94.00
9608.00	89.08	88.34	6185.43	3296.41	723.50	3289.25	0.21	95.00
9702.00	89.52	88.51	6186.59	3390.38	726.08	3383.21	0.50	94.00
9797.00	89.78	88.78	6187.17	3485.37	728.33	3478.18	0.39	95.00
9891.00	90.48	88.78	6186.95	3579.37	730.33	3572.16	0.75	94.00
9986.00	90.81	89.31	6185.88	3674.36	731.92	3667.14	0.66	95.00
10081.00	89.60	88.16	6185.54	3769.35	734.01	3762.11	1.75	95.00
10172.00	91.01	88.78	6185.05	3860.33	736.44	3853.07	1.69	91.00
10264.00	90.22	88.69	6184.06	3952.32	738.47	3945.05	0.87	92.00
10356.00	89.77	88.85	6184.08	4044.31	740.45	4037.02	0.52	92.00
10447.00	90.48	89.22	6183.88	4135.31	741.99	4128.01	0.89	91.00
10539.00	91.36	89.74	6182.40	4227.30	742.82	4219.99	1.11	92.00
10630.00	90.66	89.48	6180.79	4318.28	743.44	4310.98	0.83	91.00
10721.00	90.92	89.22	6179.53	4409.27	744.47	4401.96	0.41	91.00
10813.00	89.43	87.72	6179.25	4501.25	746.93	4493.92	2.30	92.00

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
10904.00	90.57	88.16	6179.25	4592.22	750.19	4584.86	1.35	91.00
10995.00	90.84	88.69	6178.13	4683.20	752.69	4675.82	0.65	91.00
11087.00	89.96	88.16	6177.50	4775.18	755.22	4767.78	1.11	92.00
11179.00	90.92	88.78	6176.79	4867.17	757.67	4859.75	1.25	92.00
11270.00	91.63	89.66	6174.77	4958.14	758.92	4950.71	1.24	91.00
11362.00	91.89	89.31	6171.94	5050.10	759.75	5042.67	0.48	92.00
11454.00	90.75	89.57	6169.83	5142.07	760.65	5134.64	1.28	92.00
11545.00	90.34	88.94	6168.97	5233.07	761.84	5225.62	0.82	91.00
11636.00	90.48	88.78	6168.32	5324.06	763.65	5316.60	0.24	91.00
11727.00	90.48	88.87	6167.55	5415.05	765.52	5407.58	0.10	91.00
11819.00	90.48	89.39	6166.77	5507.05	766.92	5499.57	0.57	92.00
11910.00	90.40	89.22	6166.07	5598.05	768.02	5590.56	0.22	91.00
12002.00	90.84	89.83	6165.08	5690.04	768.78	5682.55	0.82	92.00
12094.00	91.19	89.22	6163.46	5782.02	769.55	5774.53	0.77	92.00
12185.00	91.71	89.22	6161.16	5872.99	770.79	5865.49	0.58	91.00
12277.00	90.31	89.66	6159.53	5964.98	771.69	5957.47	1.60	92.00
12369.00	90.66	89.66	6158.76	6056.97	772.24	6049.47	0.38	92.00
12461.00	90.13	89.22	6158.12	6148.97	773.15	6141.46	0.75	92.00

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
12552.00	90.22	88.78	6157.84	6239.97	774.74	6232.44	0.49	91.00
12644.00	90.40	88.16	6157.35	6331.95	777.20	6324.41	0.70	92.00
12735.00	89.78	88.43	6157.21	6422.93	779.90	6415.37	0.74	91.00
12827.00	90.66	90.62	6156.86	6514.93	780.67	6507.36	2.57	92.00
12918.00	91.28	90.89	6155.32	6605.89	779.47	6598.34	0.74	91.00
13010.00	92.15	91.15	6152.57	6697.81	777.83	6690.28	1.00	92.00
13101.00	90.92	90.71	6150.12	6788.74	776.35	6781.23	1.44	91.00
13193.00	90.13	90.71	6149.28	6880.72	775.21	6873.22	0.86	92.00
13284.00	90.48	91.33	6148.79	6971.68	773.59	6964.20	0.78	91.00
13376.00	89.78	90.54	6148.57	7063.65	772.10	7056.19	1.15	92.00
13467.00	89.52	90.10	6149.13	7154.63	771.60	7147.19	0.56	91.00
13558.00	89.25	90.54	6150.11	7245.62	771.09	7238.18	0.56	91.00
13650.00	89.34	90.36	6151.24	7337.59	770.38	7330.17	0.21	92.00
13742.00	89.16	89.83	6152.44	7429.58	770.22	7422.16	0.60	92.00
13833.00	90.22	89.57	6152.93	7520.58	770.70	7513.16	1.20	91.00
13925.00	91.45	89.74	6151.59	7612.56	771.25	7605.15	1.35	92.00
14016.00	90.48	88.87	6150.05	7703.55	772.35	7696.12	1.44	91.00
14107.00	90.66	89.31	6149.14	7794.54	773.80	7787.11	0.52	91.00

MD	Inc	Azim	TVD	VS	+N/-S	+E/-W	DLS	Course Length
ft	deg	deg	ft	ft	ft	ft	°/100ft	ft
14199.00	90.92	87.37	6147.87	7886.51	776.47	7879.06	2.12	92.00
14290.00	90.40	88.43	6146.83	7977.47	779.81	7969.99	1.30	91.00
14382.00	90.57	88.34	6146.05	8069.45	782.40	8061.95	0.21	92.00
14473.00	91.19	89.66	6144.65	8160.44	784.00	8152.92	1.60	91.00
14564.00	91.10	89.13	6142.84	8251.42	784.96	8243.90	0.59	91.00
14656.00	91.36	88.07	6140.86	8343.39	787.20	8335.85	1.18	92.00
14748.00	90.22	87.90	6139.59	8435.35	790.44	8427.78	1.26	92.00
14839.00	90.40	87.90	6139.10	8526.32	793.77	8518.72	0.19	91.00
14931.00	90.31	87.37	6138.54	8618.27	797.57	8610.64	0.58	92.00
15023.00	90.74	89.54	6137.70	8710.25	800.05	8702.59	2.40	92.00
15114.00	91.28	89.13	6136.10	8801.23	801.10	8793.57	0.74	91.00
15206.00	91.45	88.69	6133.91	8893.20	802.86	8885.53	0.51	92.00
15298.00	91.19	88.51	6131.79	8985.17	805.10	8977.48	0.34	92.00
15392.00	91.19	87.37	6129.84	9079.11	808.47	9071.40	1.22	94.00
15486.00	90.13	89.13	6128.76	9173.08	811.34	9165.34	2.18	94.00
15581.00	90.31	88.78	6128.40	9268.08	813.08	9260.32	0.41	95.00
15675.00	90.74	88.49	6127.54	9362.07	815.32	9354.29	0.55	94.00
15770.00	91.01	87.55	6126.09	9457.03	818.61	9449.22	1.03	95.00

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft	Course Length ft
15864.00	91.01	87.28	6124.43	9550.95	822.84	9543.11	0.28	94.00

[illegible]

5" = 100' FEET MD