

2" = 100' FEET MD

COMPANY : BILL BARRETT CORPORATION  
 WELL : ANSCHUTZ EQUUS FARMS 4-62-9-3340B2  
 FIELD : WATTENBERG  
 COUNTY : WELD  
 STATE : COLORADO  
 COUNTRY : U.S.A.  
 UWI : 05-123-42153

COMPANY : BILL BARRETT CORPORATION  
 WELL : ANSCHUTZ EQUUS FARMS 4-62-9-3340B2  
 FIELD : WATTENBERG  
 COUNTY : WELD  
 STATE : COLORADO  
 COUNTRY : U.S.A.  
 UWI : 05-123-42153

WELL LOCATION  
 LAT:40°19'33.081"N LONG:104°20'18.668"W  
 N:1363670.97 Ft E:3323829.02 Ft  
 SEC:9 TWP:4N RANGE:62W  
 OTHER SERVICES  
 DIRECTIONAL  
 ROP

DEPTH REF. : RKB  
 REF. HEIGHT : 16.000 Ft  
 GROUND LEVEL : 4528.000 Ft  
 RKB 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 - 6	800	
6.125			0 - 87	5717	
			87 - 93	6523	
CASING RECORD					
CASING SIZE in	FROM Ft	TO Ft			
9.625	0	810			
7.0	0	6508			

DRILLING CO. : CADPE  
 RIG : 24

LMD UNIT NO. : MWD-00267-DISTRICT : CASPER  
 SPUD DATE : 11/13/2015  
 LMD START DATE : 02/03/2016  
 LMD END DATE :  
 DEPTH : 4000 Ft  
 DEPTH :

TOTAL DEPTH :

Run Data

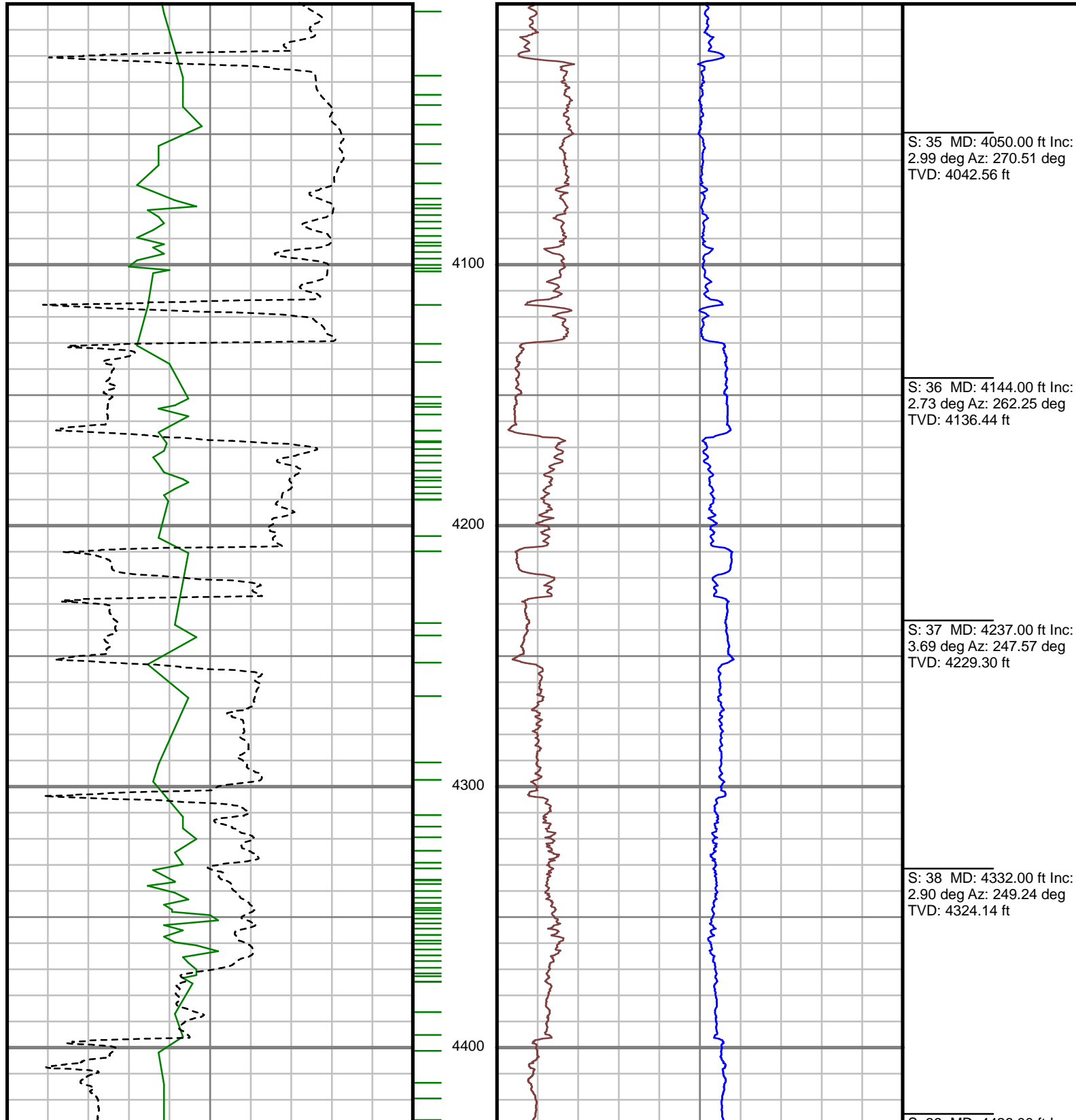
RUN NUMBER	1	2	3		
START DATE	02/03/2016	02/04/2016	02/05/2016		
START TIME	0850	1200	1740		
END DATE	02/04/2016	02/05/2016			
END TIME	1200	0455			
DEPTH IN (ft)	800	5717	6523		
DEPTH OUT (ft)	5717	6523			
LOG TOP (ft)	4000	5657	6464		
LOG BOTTOM (ft)	5657	6464			
HOLE SIZE (in)	8.75	8.75	6.125		
MUD DATA @ (ft)	736	5717			
MUD TYPE	WATER-BASED	WATER-BASED	WATER-BASED		
DENSITY (lb / gal)	8.05	9.95			
VISCOSITY (s / qt)	36	35			
pH	12.6	8.6			
FLUID LOSS (cm3 / 30)	-	-	-		
SALINITY (ppm)	-	-	-		
Rm (ohmm @ deg F)	-	-	-		
Rmf (ohmm @ deg F)	-	-	-		
MAX TEMP (deg F)	150	150			
Rm @ MAX TEMP (ohmm)	-	-	-		
LWD ENGINEER #1	S. JOHNSON	S. JOHNSON	S. JOHNSON		
LWD ENGINEER #2	R. KLASSEN	R. KLASSEN	R. KLASSEN		
LWD ENGINEER #3	-	-	-		
LOG WITNESS #1	-	-	-		
LOG WITNESS #2	-	-	-		

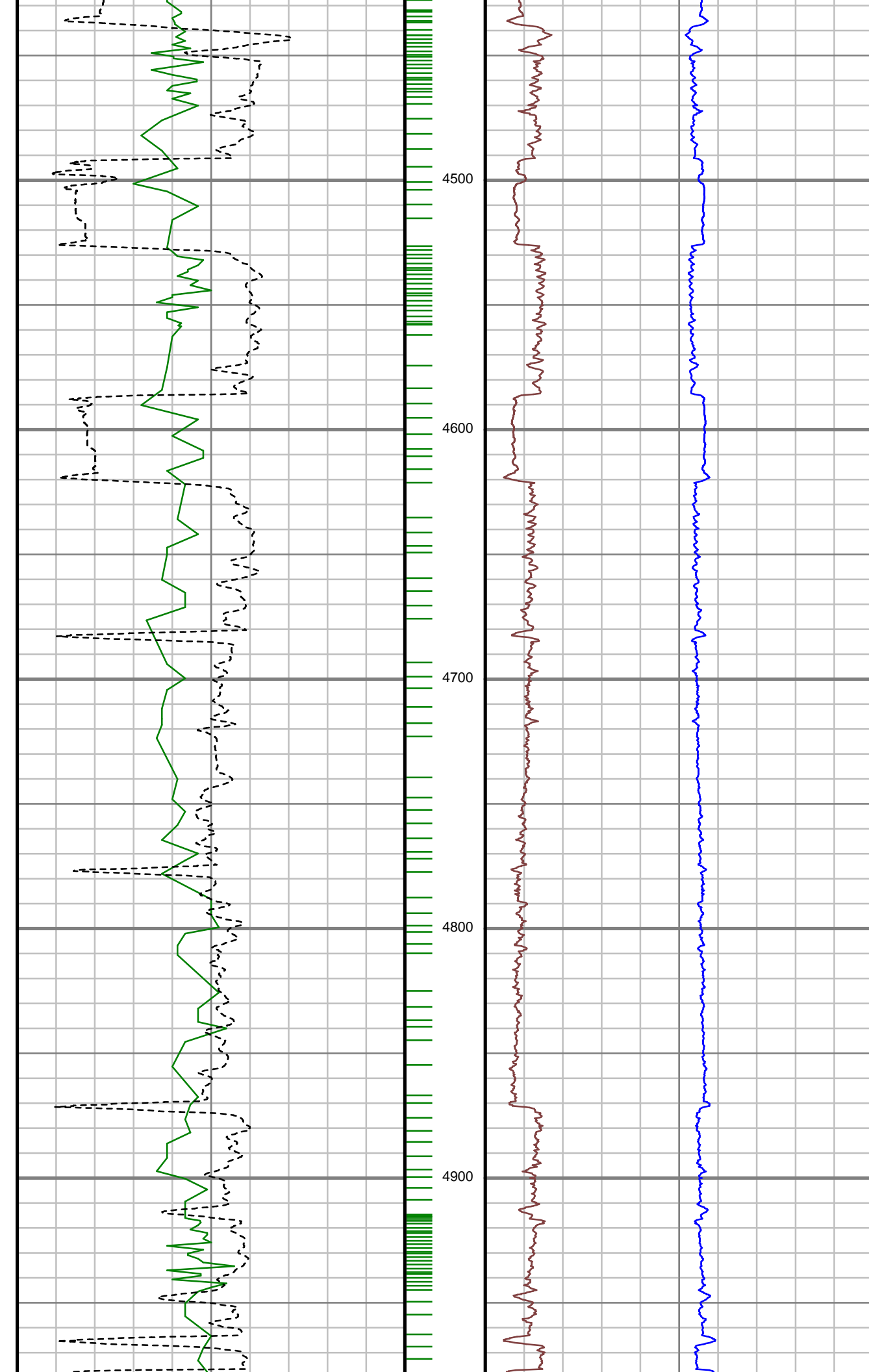


All interpretations are opinions based on inferences from electrical and other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, 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 4-62-9-3340CB2  
 WATTENBERG FIELD  
 WELD COUNTY, COLORADO  
 05-123-42153

<b>Gamma Ray (GR)</b> <hr/> 0 Unit = aapi 150 Rate of Penetration (ROP) <hr style="border-top: 1px dashed black;"/> 0 Unit = ft/hr 1000	MEASURED DEPTH 1:600 (ft)	<b>Hookload (max) (HKLX)</b> <hr/> 0 Unit = kip 200 Weight-on-Bit (surf,max) (WOBX) <hr/> 0 Unit = kip 100	Comments
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S: 39 MD: 4426.00 ft Inc:  
3.61 deg Az: 252.93 deg  
TVD: 4417.99 ft

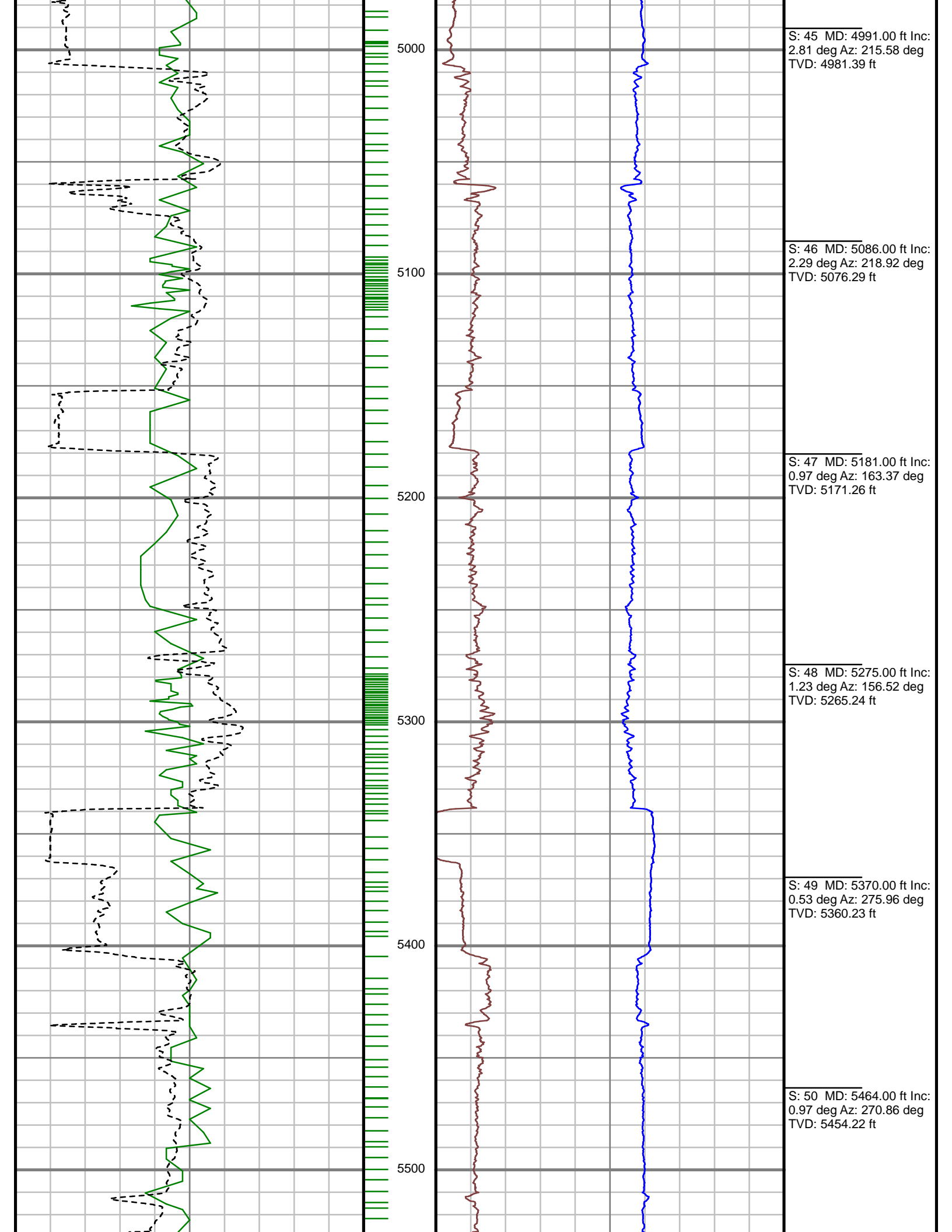
S: 40 MD: 4520.00 ft Inc:  
3.69 deg Az: 242.56 deg  
TVD: 4511.80 ft

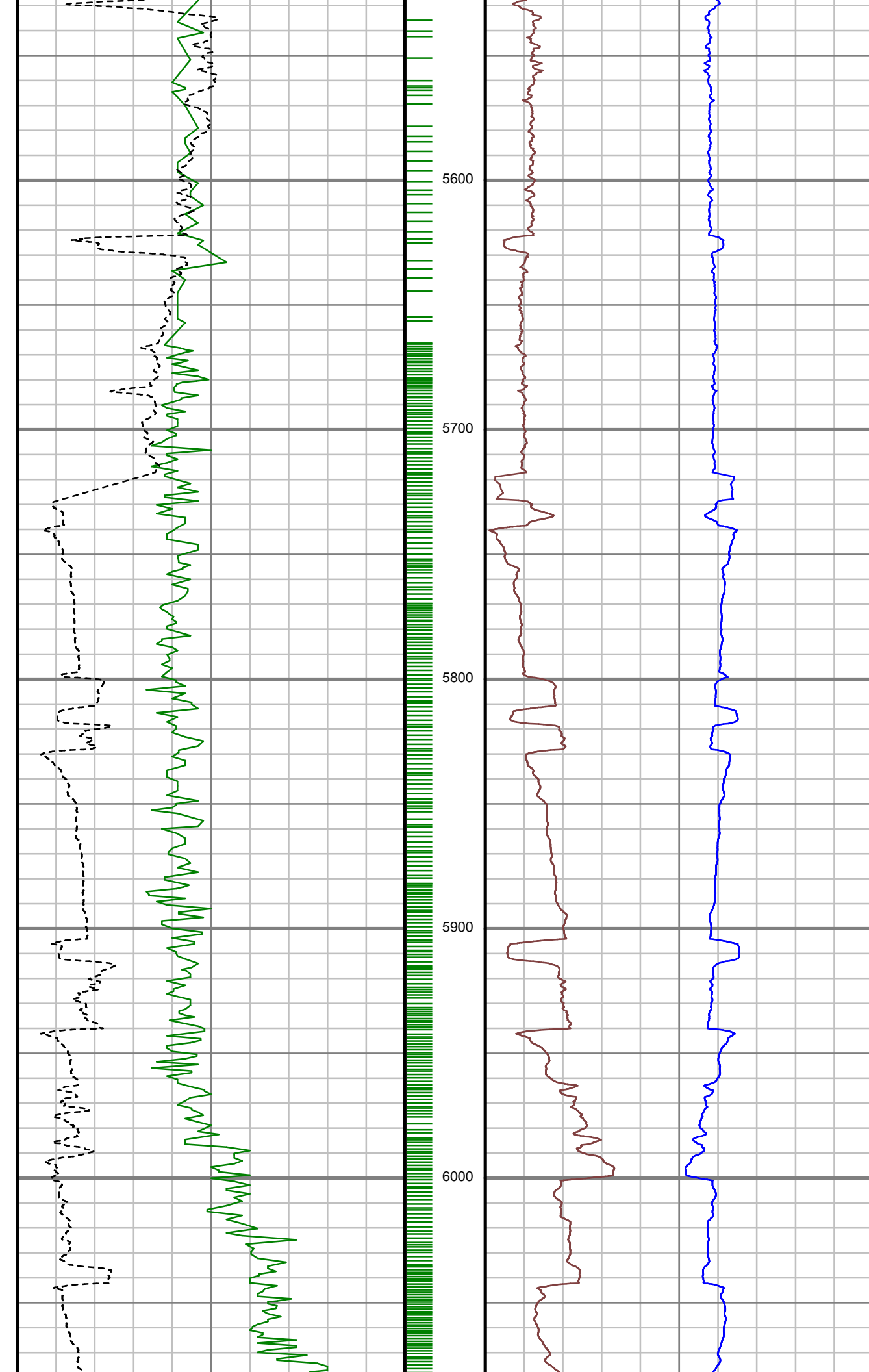
S: 41 MD: 4615.00 ft Inc:  
4.84 deg Az: 232.89 deg  
TVD: 4606.53 ft

S: 42 MD: 4709.00 ft Inc:  
5.28 deg Az: 225.60 deg  
TVD: 4700.17 ft

S: 43 MD: 4803.00 ft Inc:  
4.48 deg Az: 216.90 deg  
TVD: 4793.83 ft

S: 44 MD: 4897.00 ft Inc:  
4.13 deg Az: 214.17 deg  
TVD: 4887.56 ft





S: 51 MD: 5558.00 ft Inc:  
0.35 deg Az: 251.79 deg  
TVD: 5548.22 ft

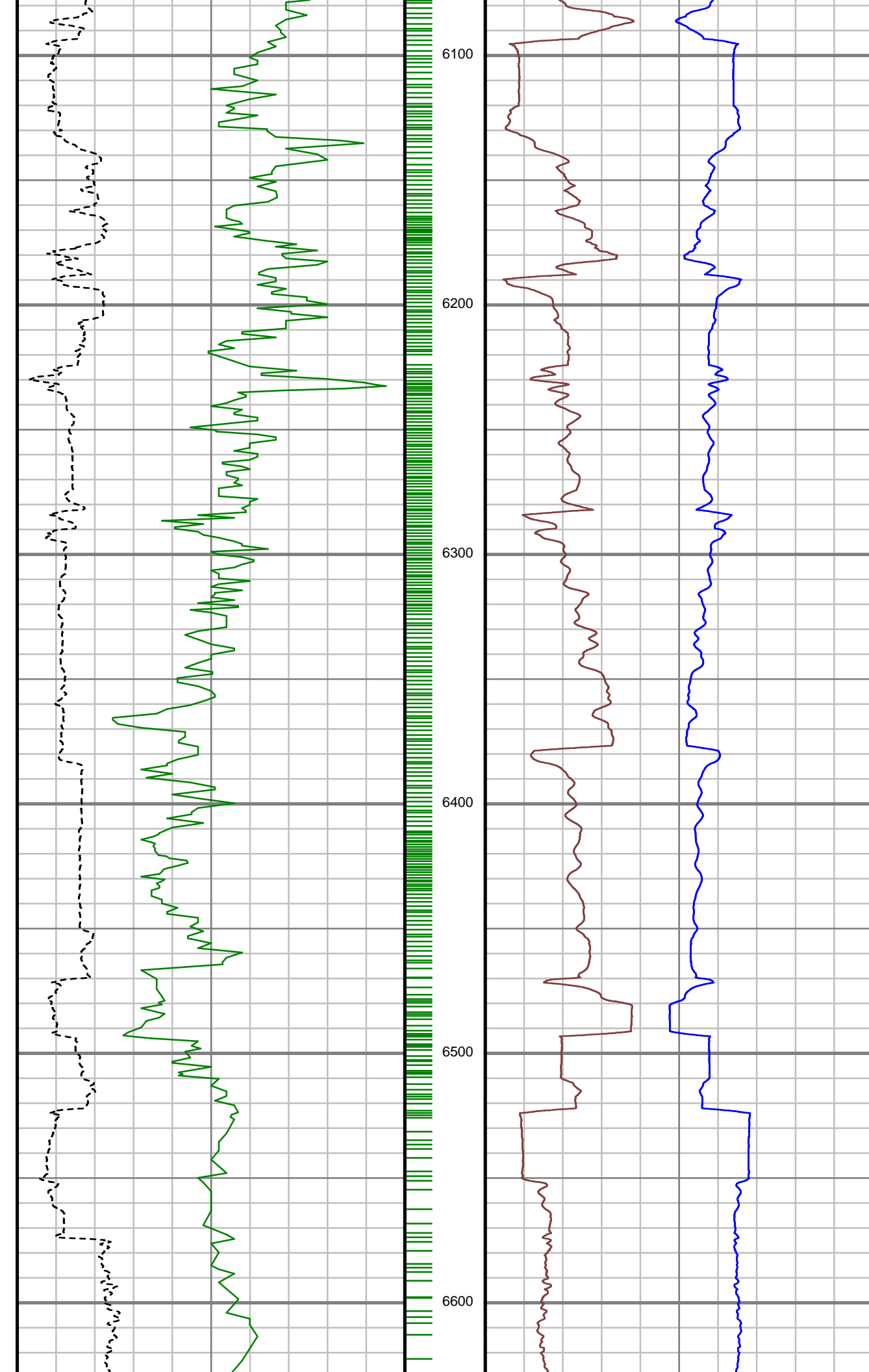
S: 52 MD: 5652.00 ft Inc:  
0.53 deg Az: 277.72 deg  
TVD: 5642.22 ft

S: 53 MD: 5746.00 ft Inc:  
4.57 deg Az: 90.07 deg  
TVD: 5736.13 ft

S: 54 MD: 5841.00 ft Inc:  
16.36 deg Az: 87.79 deg  
TVD: 5829.38 ft

S: 55 MD: 5935.00 ft Inc:  
27.00 deg Az: 89.63 deg  
TVD: 5916.61 ft

S: 56 MD: 6030.00 ft Inc:  
36.76 deg Az: 88.05 deg  
TVD: 5997.19 ft



S: 57 MD: 6124.00 ft Inc:  
46.08 deg Az: 87.43 deg  
TVD: 6067.60 ft

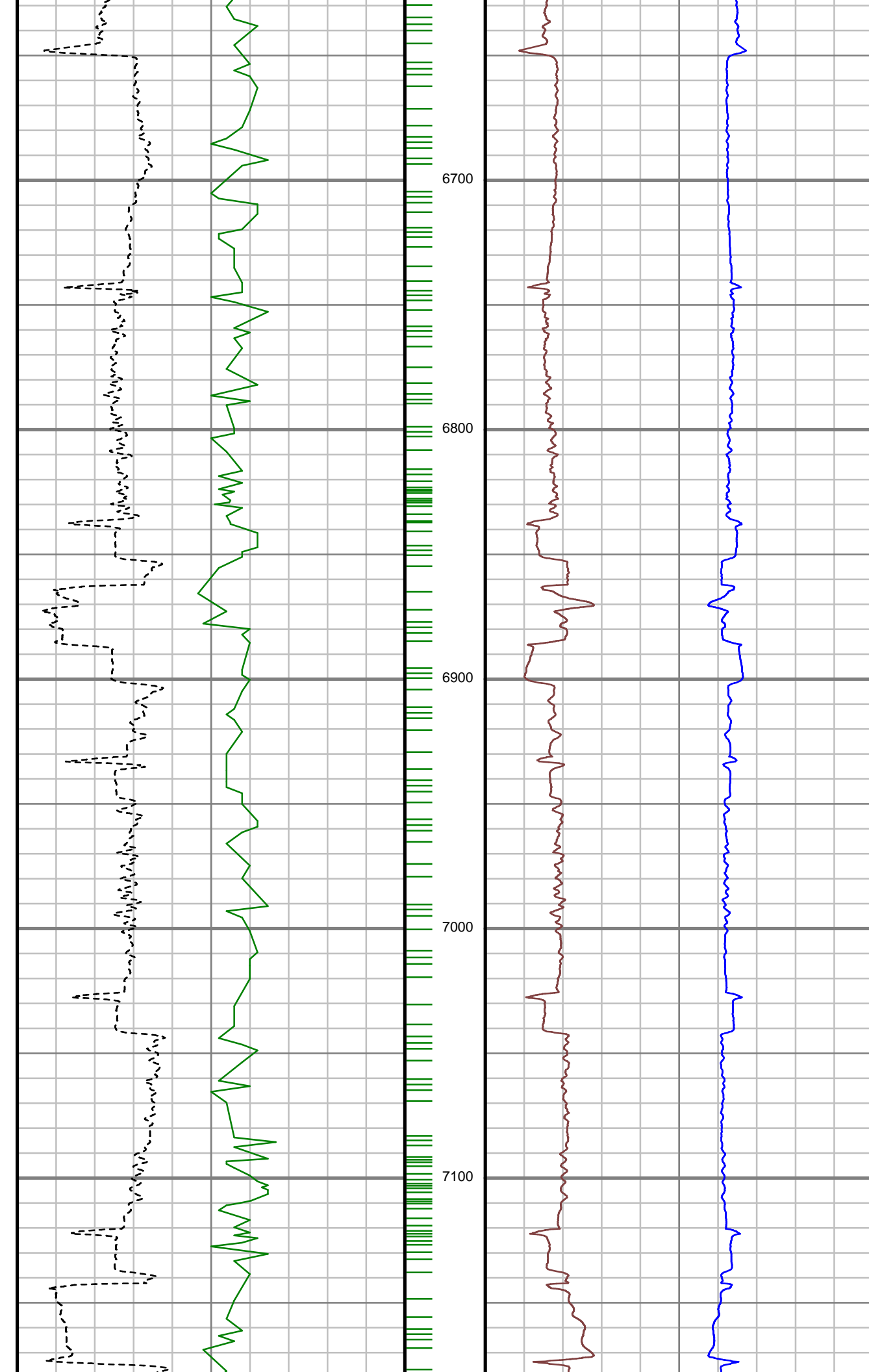
S: 58 MD: 6218.00 ft Inc:  
53.82 deg Az: 89.28 deg  
TVD: 6128.05 ft

S: 59 MD: 6312.00 ft Inc:  
70.35 deg Az: 89.28 deg  
TVD: 6171.91 ft

S: 60 MD: 6406.00 ft Inc:  
85.30 deg Az: 88.14 deg  
TVD: 6191.68 ft

S: 61 MD: 6459.00 ft Inc:  
86.97 deg Az: 88.05 deg  
TVD: 6195.26 ft

S: 62 MD: 6590.00 ft Inc:  
89.34 deg Az: 90.60 deg  
TVD: 6199.48 ft



S: 63 MD: 6684.00 ft Inc:  
89.52 deg Az: 89.63 deg  
TVD: 6200.42 ft

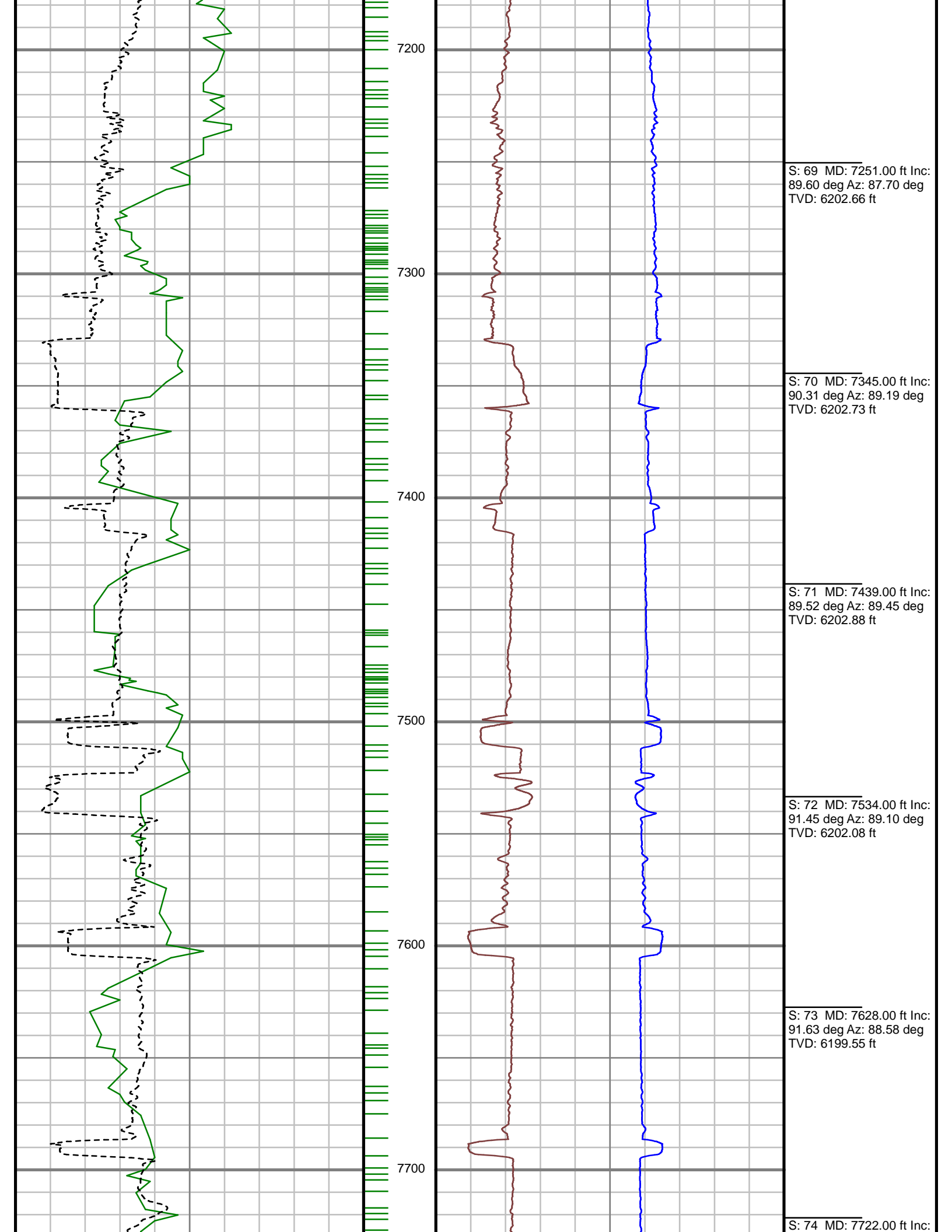
S: 64 MD: 6779.00 ft Inc:  
90.66 deg Az: 89.63 deg  
TVD: 6200.27 ft

S: 65 MD: 6874.00 ft Inc:  
89.78 deg Az: 89.19 deg  
TVD: 6199.91 ft

S: 66 MD: 6968.00 ft Inc:  
89.78 deg Az: 88.66 deg  
TVD: 6200.27 ft

S: 67 MD: 7062.00 ft Inc:  
90.04 deg Az: 86.99 deg  
TVD: 6200.41 ft

S: 68 MD: 7157.00 ft Inc:  
88.81 deg Az: 87.52 deg  
TVD: 6201.36 ft



92.51 deg Az: 88.14 deg  
TVD: 6196.16 ft

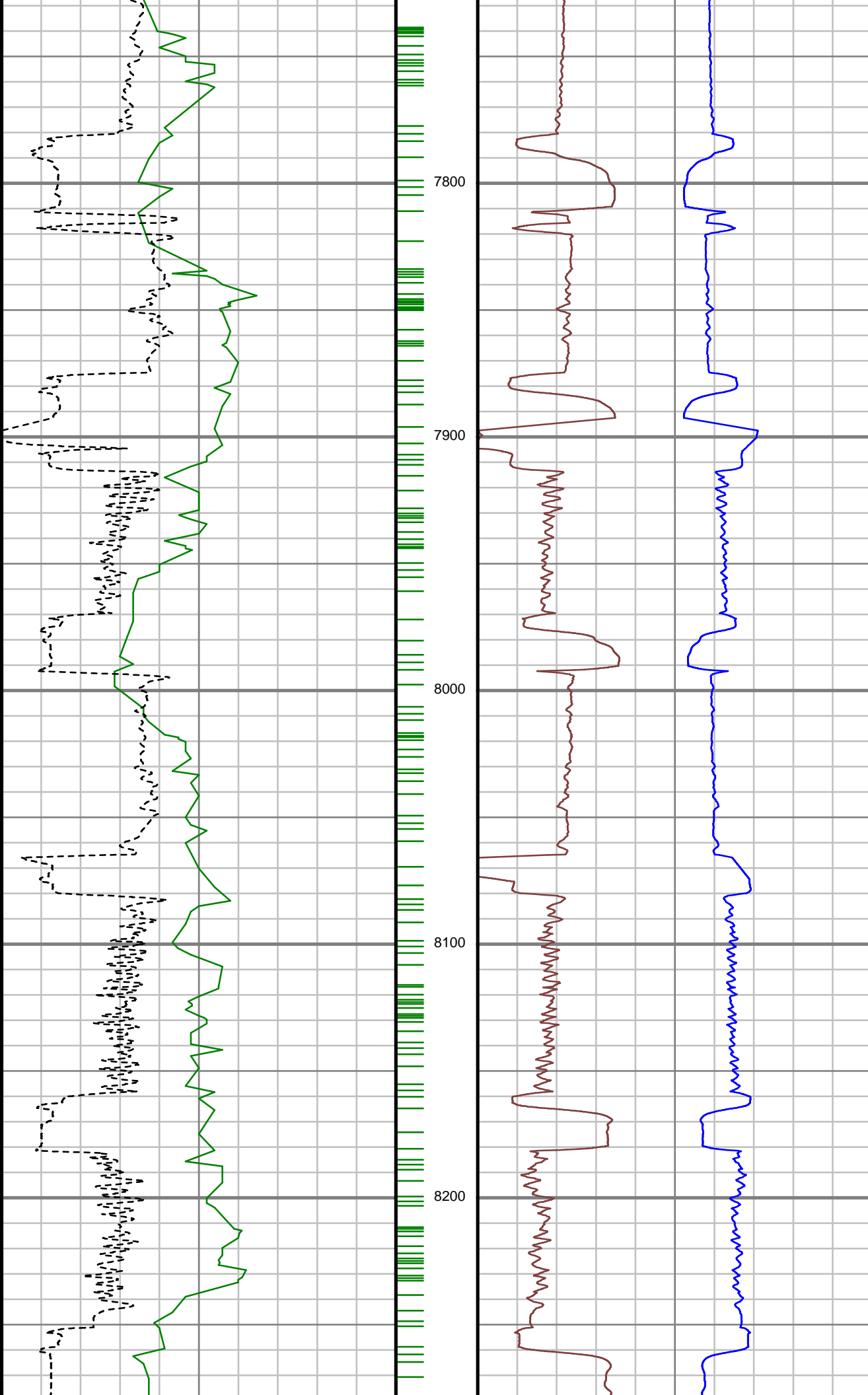
S: 75 MD: 7817.00 ft Inc:  
92.42 deg Az: 90.51 deg  
TVD: 6192.08 ft

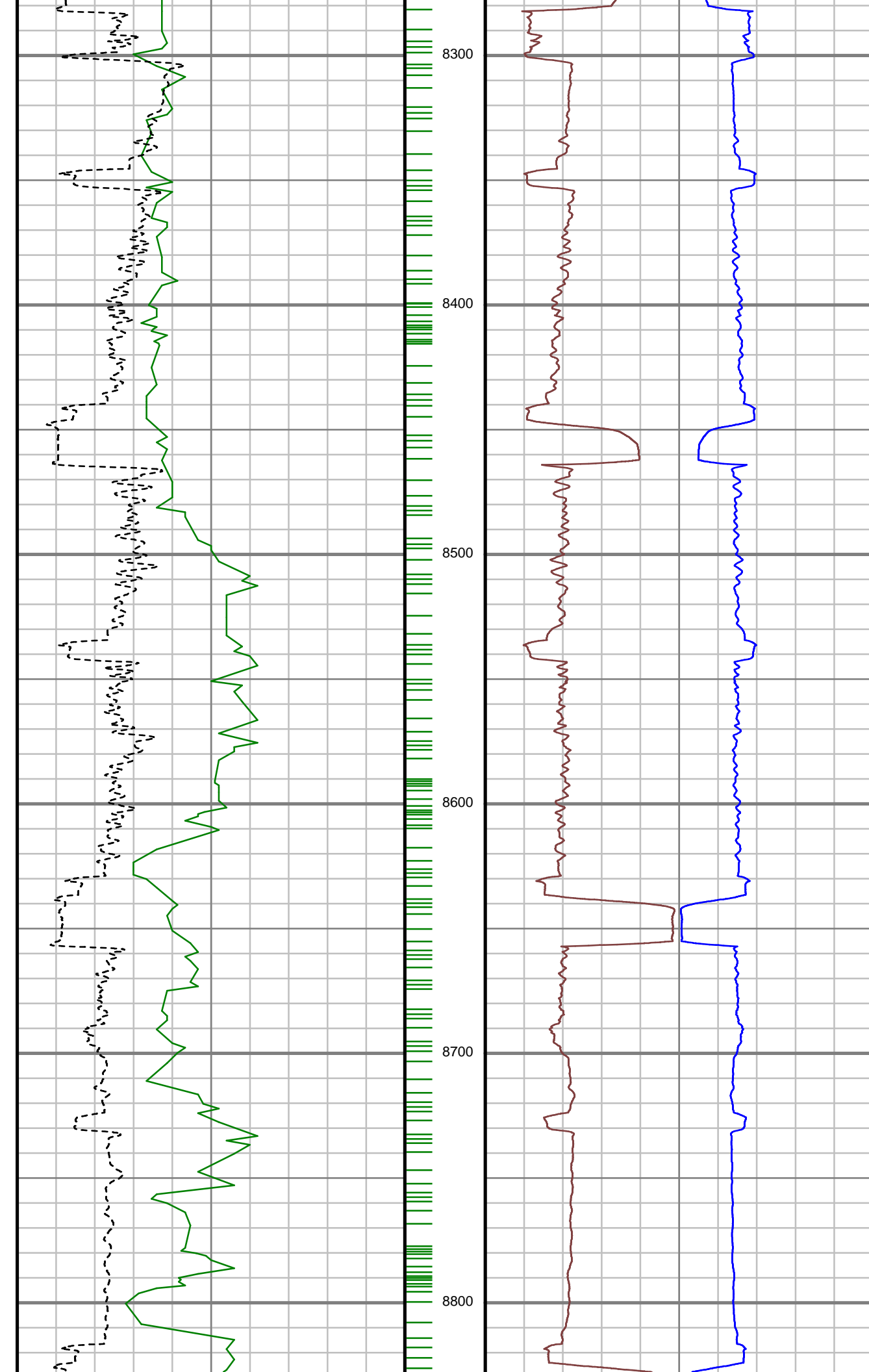
S: 76 MD: 7911.00 ft Inc:  
91.36 deg Az: 90.16 deg  
TVD: 6188.98 ft

S: 77 MD: 8005.00 ft Inc:  
89.43 deg Az: 90.25 deg  
TVD: 6188.33 ft

S: 78 MD: 8100.00 ft Inc:  
90.75 deg Az: 90.86 deg  
TVD: 6188.18 ft

S: 79 MD: 8194.00 ft Inc:  
87.49 deg Az: 90.33 deg  
TVD: 6189.63 ft





S: 80 MD: 8288.00 ft Inc:  
89.96 deg Az: 91.04 deg  
TVD: 6191.72 ft

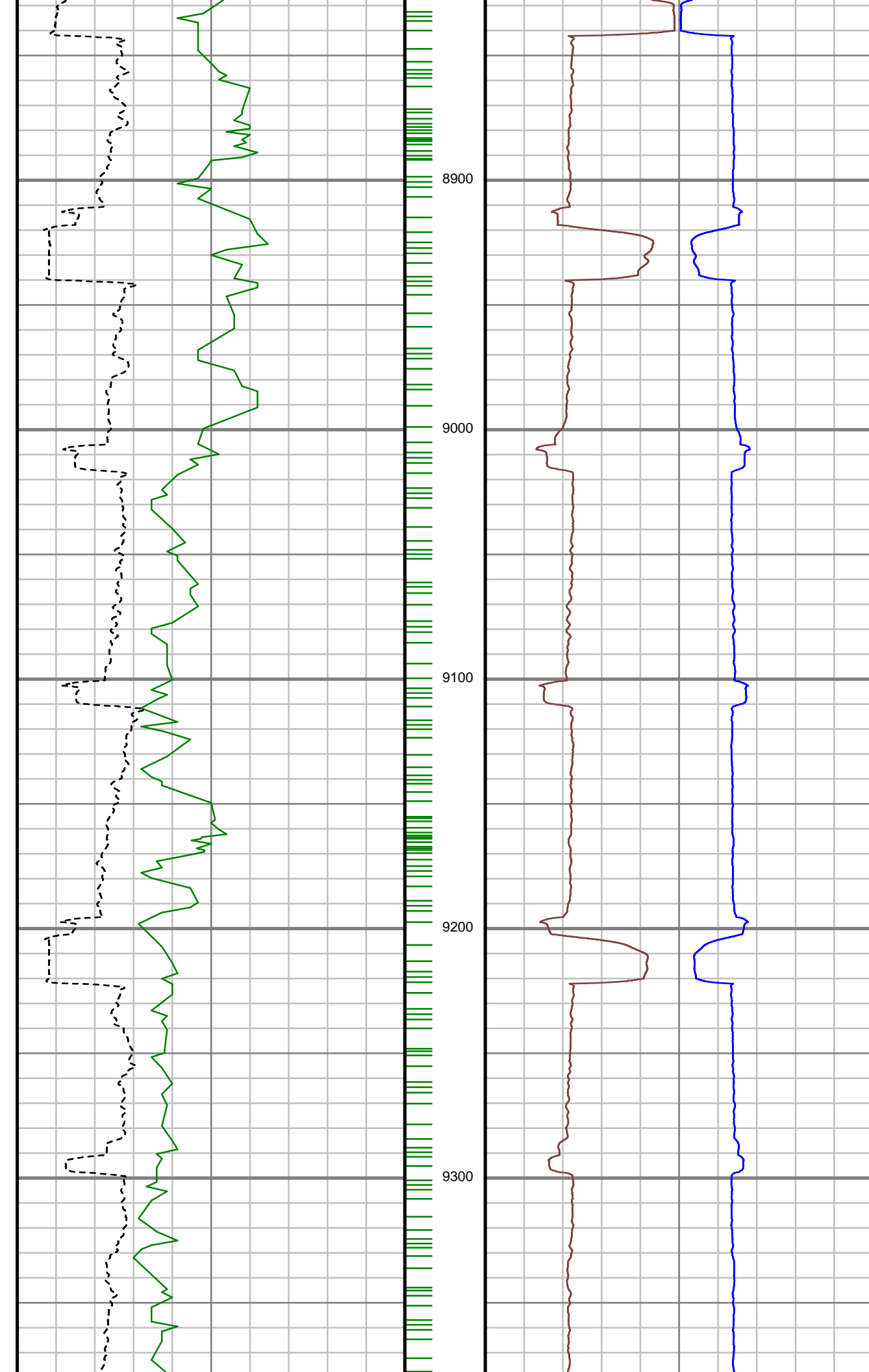
S: 81 MD: 8382.00 ft Inc:  
89.69 deg Az: 89.19 deg  
TVD: 6192.01 ft

S: 82 MD: 8477.00 ft Inc:  
91.01 deg Az: 92.53 deg  
TVD: 6191.42 ft

S: 83 MD: 8571.00 ft Inc:  
91.89 deg Az: 92.36 deg  
TVD: 6189.04 ft

S: 84 MD: 8665.00 ft Inc:  
90.40 deg Az: 90.42 deg  
TVD: 6187.17 ft

S: 85 MD: 8760.00 ft Inc:  
91.28 deg Az: 89.63 deg  
TVD: 6185.78 ft



S: 86 MD: 8853.00 ft Inc:  
91.10 deg Az: 88.49 deg  
TVD: 6183.86 ft

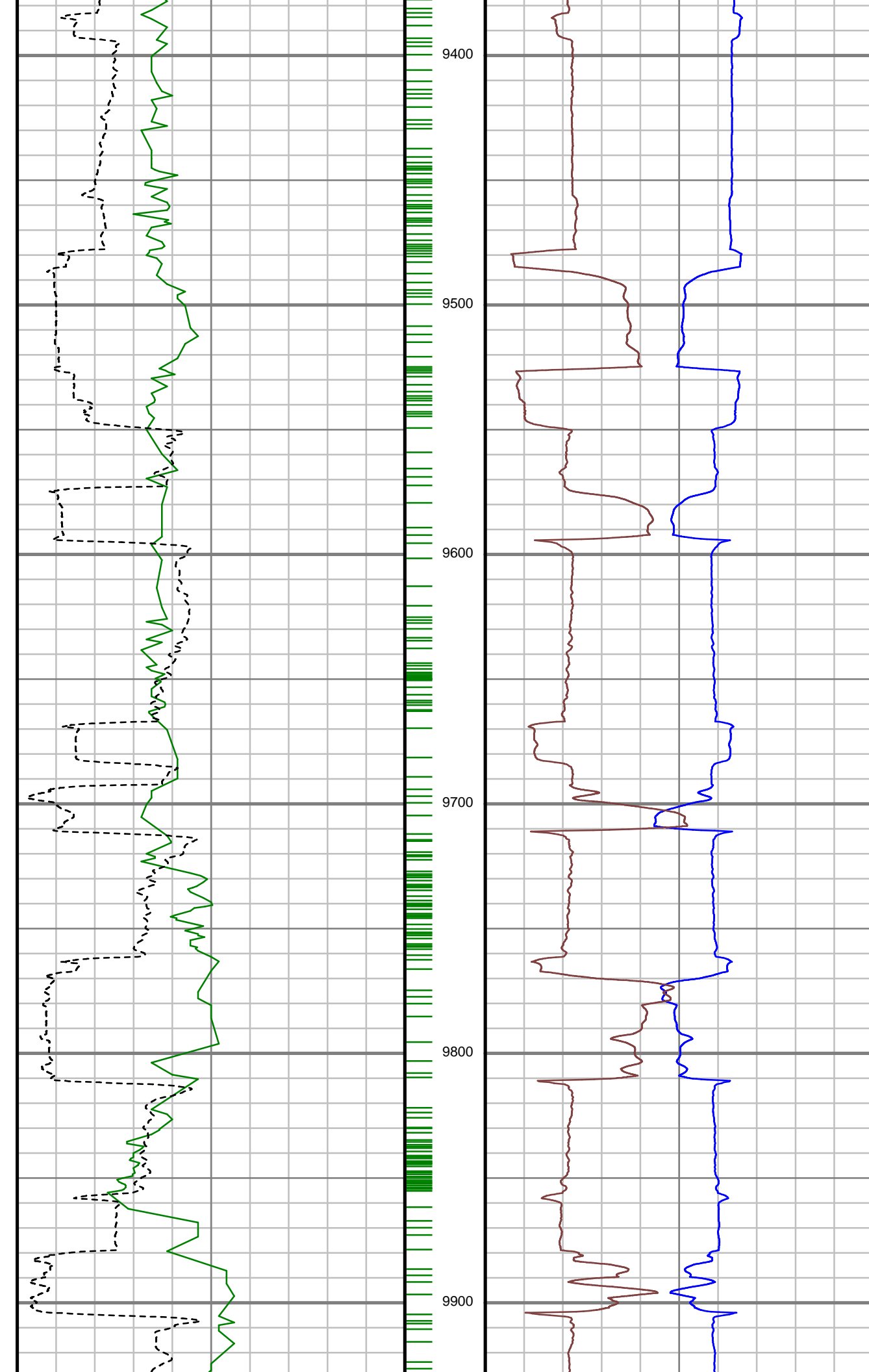
S: 87 MD: 8948.00 ft Inc:  
89.69 deg Az: 88.22 deg  
TVD: 6183.20 ft

S: 88 MD: 9042.00 ft Inc:  
89.78 deg Az: 87.96 deg  
TVD: 6183.63 ft

S: 89 MD: 9137.00 ft Inc:  
89.19 deg Az: 87.59 deg  
TVD: 6184.48 ft

S: 90 MD: 9232.00 ft Inc:  
90.92 deg Az: 90.51 deg  
TVD: 6184.38 ft

S: 91 MD: 9325.00 ft Inc:  
90.13 deg Az: 91.21 deg  
TVD: 6183.53 ft



S: 92 MD: 9420.00 ft Inc:  
89.87 deg Az: 94.99 deg  
TVD: 6183.53 ft

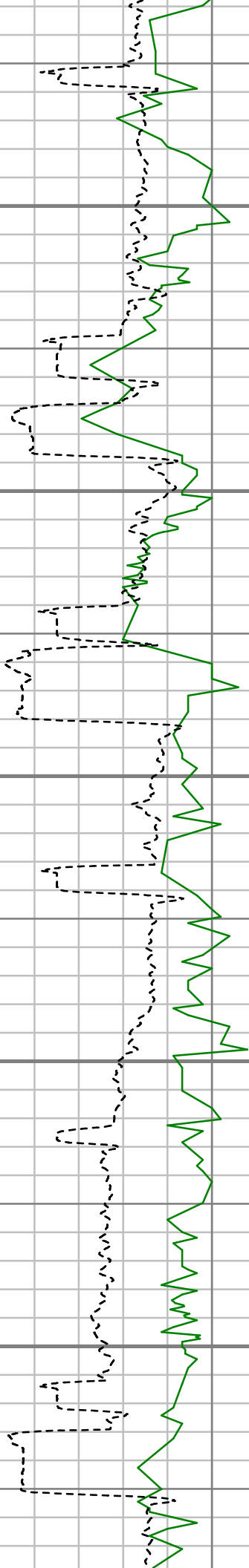
S: 93 MD: 9514.00 ft Inc:  
90.13 deg Az: 92.71 deg  
TVD: 6183.53 ft

S: 94 MD: 9609.00 ft Inc:  
90.57 deg Az: 90.16 deg  
TVD: 6182.94 ft

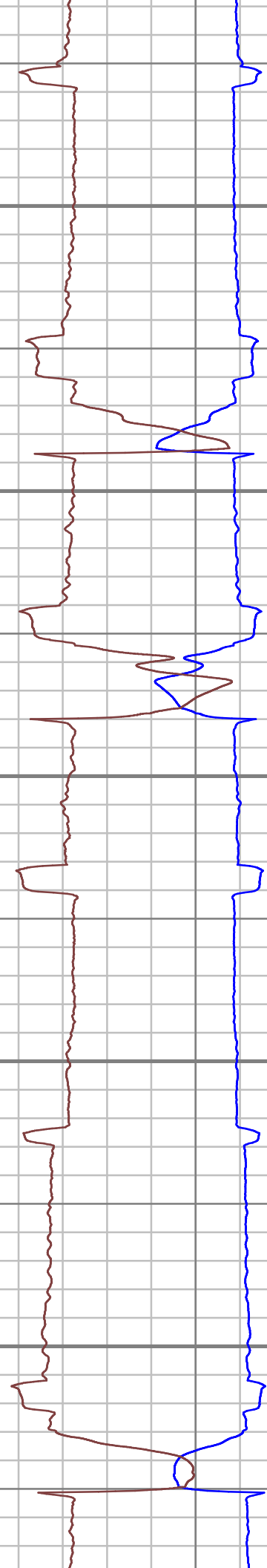
S: 95 MD: 9703.00 ft Inc:  
91.19 deg Az: 93.06 deg  
TVD: 6181.50 ft

S: 96 MD: 9798.00 ft Inc:  
89.87 deg Az: 89.02 deg  
TVD: 6180.63 ft

S: 97 MD: 9892.00 ft Inc:  
88.90 deg Az: 87.61 deg  
TVD: 6181.64 ft



10000  
10100  
10200  
10300  
10400



S: 98 MD: 9987.00 ft Inc:  
88.11 deg Az: 87.17 deg  
TVD: 6184.11 ft

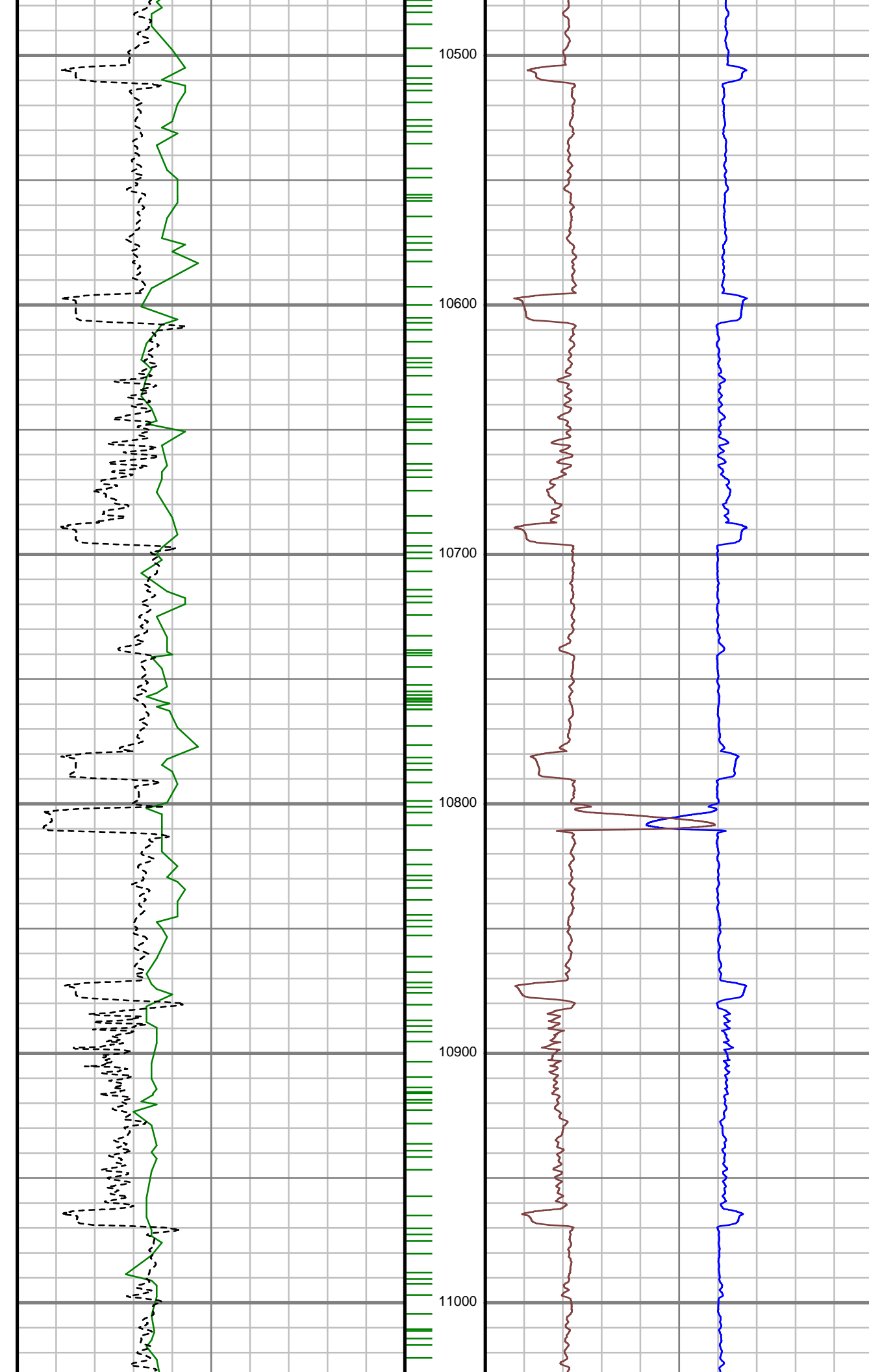
S: 99 MD: 10081.00 ft  
Inc: 88.81 deg Az: 87.35  
deg TVD: 6186.64 ft

S: 100 MD: 10172.00 ft  
Inc: 91.01 deg Az: 87.52  
deg TVD: 6186.78 ft

S: 101 MD: 10264.00 ft  
Inc: 91.10 deg Az: 88.05  
deg TVD: 6185.08 ft

S: 102 MD: 10356.00 ft  
Inc: 91.98 deg Az: 87.70  
deg TVD: 6182.61 ft

S: 103 MD: 10447.00 ft  
Inc: 90.31 deg Az: 88.75  
deg TVD: 6180.80 ft



S: 104 MD: 10539.00 ft  
Inc: 91.10 deg Az: 89.02  
deg TVD: 6179.67 ft

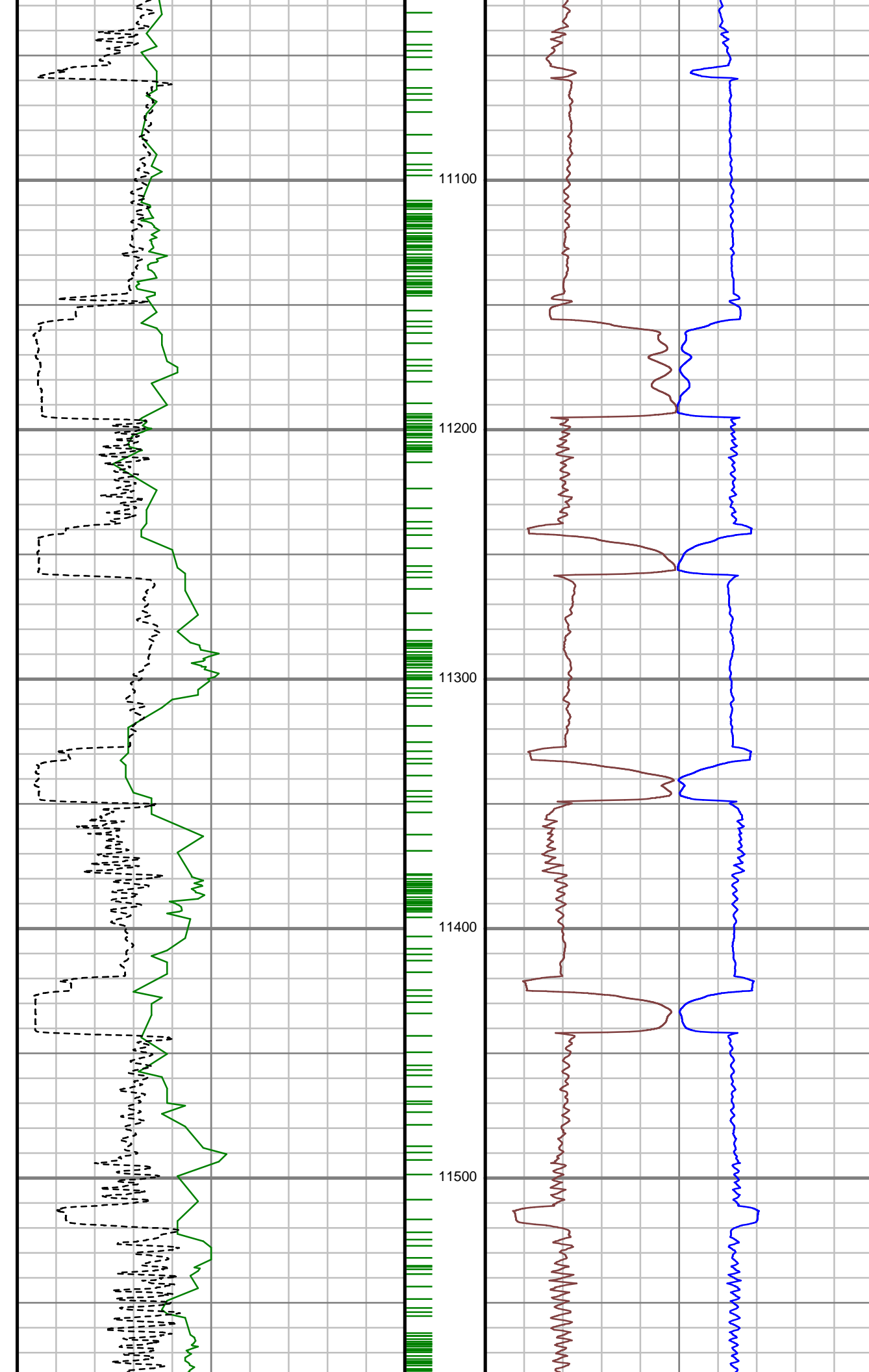
S: 105 MD: 10630.00 ft  
Inc: 90.48 deg Az: 88.66  
deg TVD: 6178.41 ft

S: 106 MD: 10722.00 ft  
Inc: 90.13 deg Az: 88.58  
deg TVD: 6177.92 ft

S: 107 MD: 10813.00 ft  
Inc: 90.92 deg Az: 89.19  
deg TVD: 6177.08 ft

S: 108 MD: 10904.00 ft  
Inc: 90.48 deg Az: 88.84  
deg TVD: 6175.96 ft

S: 109 MD: 10996.00 ft  
Inc: 90.66 deg Az: 87.08  
deg TVD: 6175.04 ft



S: 110 MD: 11087.00 ft  
Inc: 90.84 deg Az: 84.71  
deg TVD: 6173.86 ft

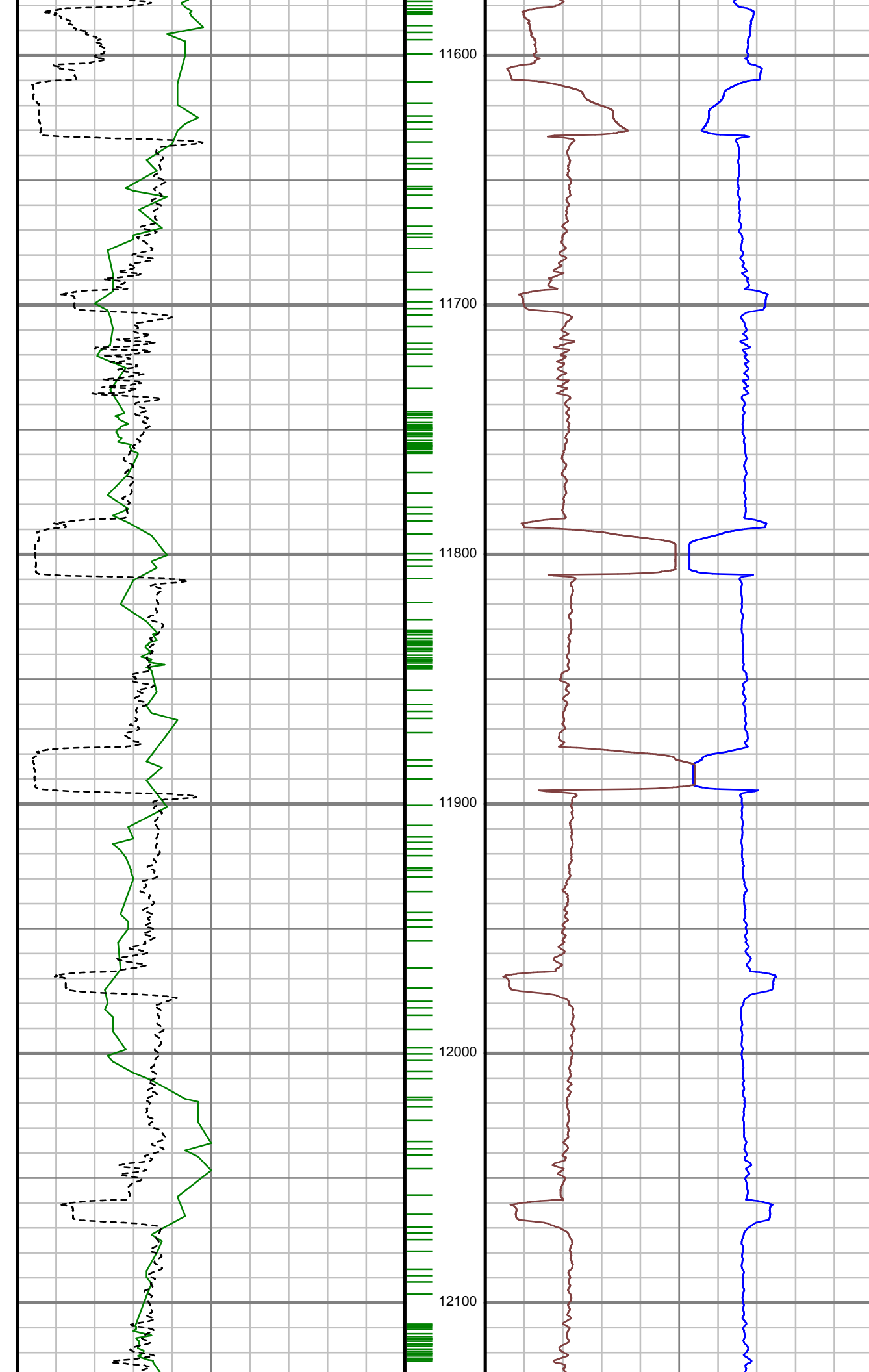
S: 111 MD: 11179.00 ft  
Inc: 91.54 deg Az: 86.29  
deg TVD: 6171.95 ft

S: 112 MD: 11271.00 ft  
Inc: 91.98 deg Az: 88.84  
deg TVD: 6169.13 ft

S: 113 MD: 11362.00 ft  
Inc: 89.34 deg Az: 89.02  
deg TVD: 6168.08 ft

S: 114 MD: 11454.00 ft  
Inc: 90.75 deg Az: 89.98  
deg TVD: 6168.01 ft

S: 115 MD: 11545.00 ft  
Inc: 90.22 deg Az: 88.40  
deg TVD: 6167.24 ft



S: 116 MD: 11637.00 ft  
Inc: 91.36 deg Az: 92.18  
deg TVD: 6165.97 ft

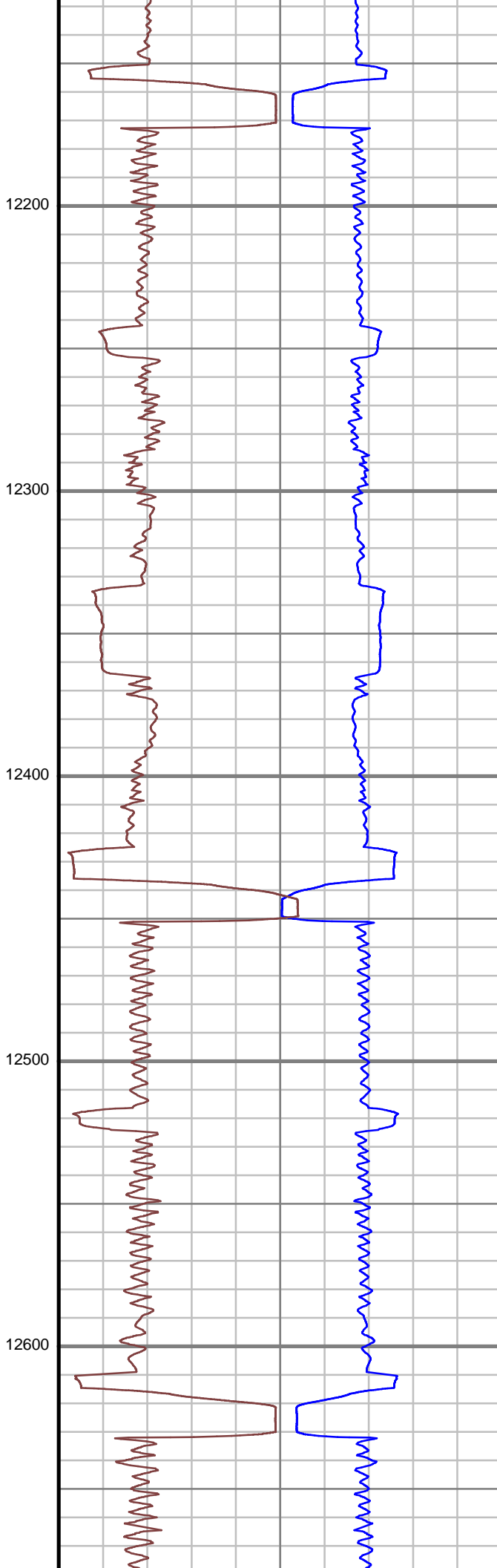
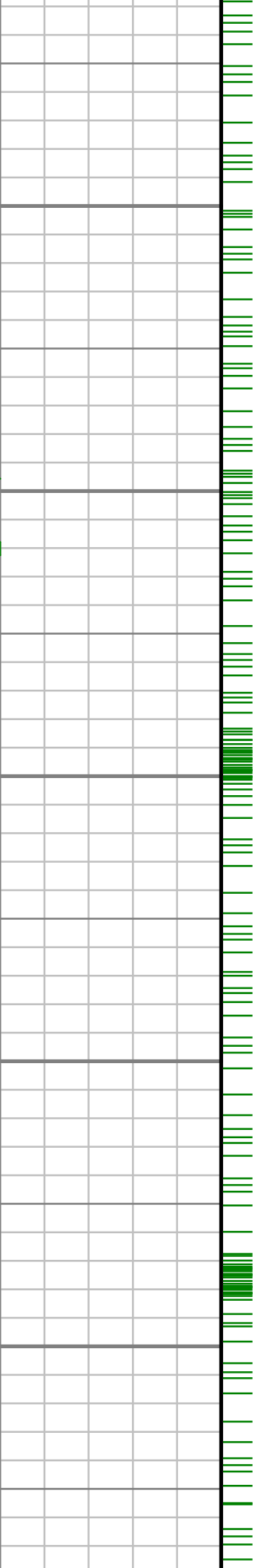
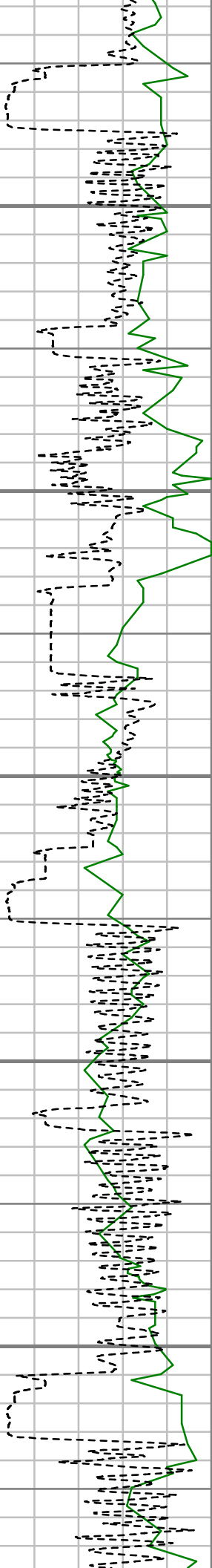
S: 117 MD: 11728.00 ft  
Inc: 92.07 deg Az: 92.00  
deg TVD: 6163.25 ft

S: 118 MD: 11819.00 ft  
Inc: 91.45 deg Az: 91.04  
deg TVD: 6160.45 ft

S: 119 MD: 11911.00 ft  
Inc: 89.96 deg Az: 88.14  
deg TVD: 6159.32 ft

S: 120 MD: 12002.00 ft  
Inc: 89.87 deg Az: 88.58  
deg TVD: 6159.46 ft

S: 121 MD: 12094.00 ft  
Inc: 89.60 deg Az: 88.66  
deg TVD: 6159.89 ft



S: 122 MD: 12185.00 ft  
Inc: 91.71 deg Az: 89.02  
deg TVD: 6158.84 ft

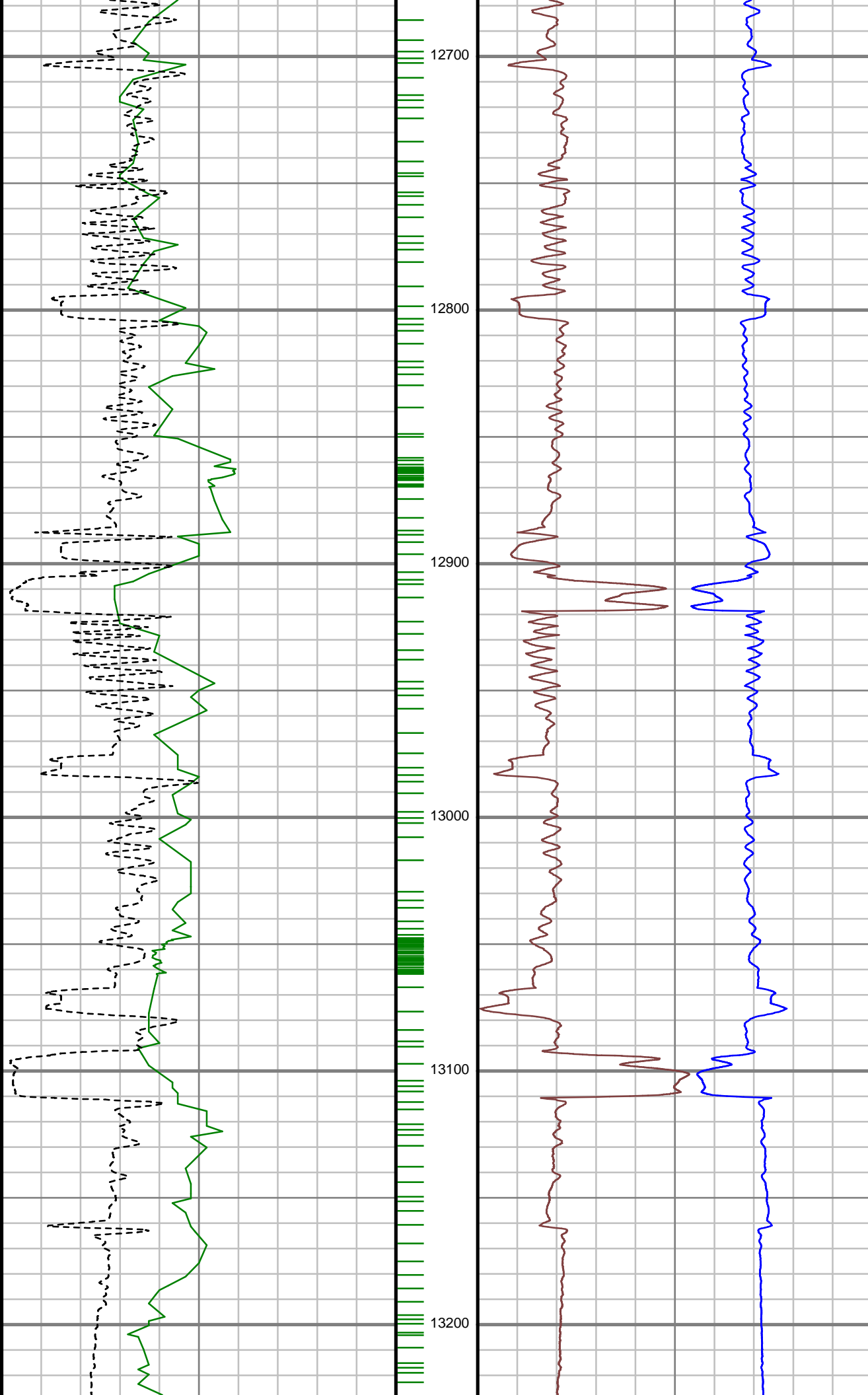
S: 123 MD: 12277.00 ft  
Inc: 90.84 deg Az: 88.31  
deg TVD: 6156.79 ft

S: 124 MD: 12369.00 ft  
Inc: 90.48 deg Az: 88.66  
deg TVD: 6155.73 ft

S: 125 MD: 12461.00 ft  
Inc: 91.89 deg Az: 89.54  
deg TVD: 6153.83 ft

S: 126 MD: 12553.00 ft  
Inc: 92.24 deg Az: 89.81  
deg TVD: 6150.51 ft

S: 127 MD: 12644.00 ft  
Inc: 90.40 deg Az: 89.81  
deg TVD: 6148.42 ft



S: 128 MD: 12736.00 ft  
Inc: 90.66 deg Az: 89.81  
deg TVD: 6147.57 ft

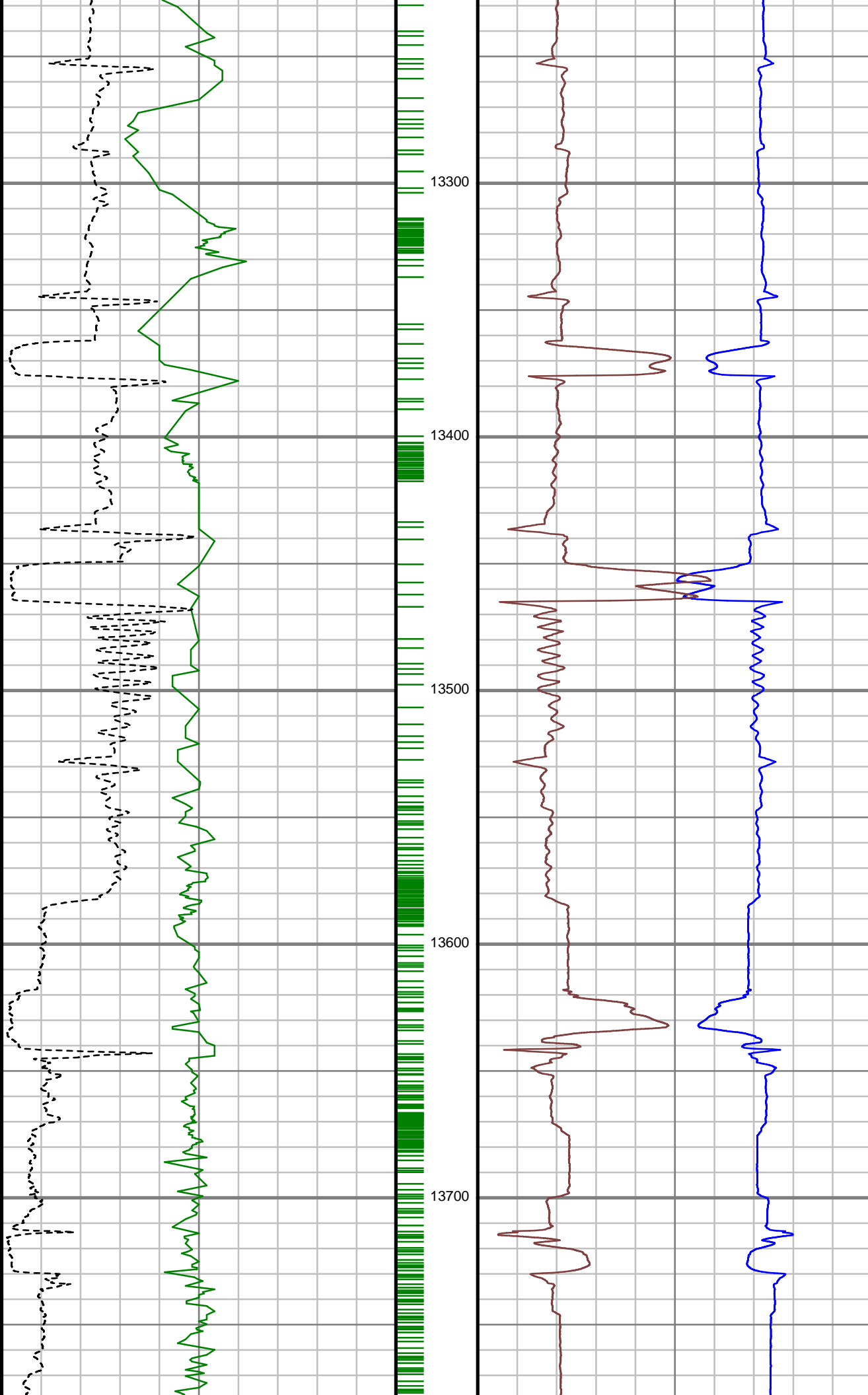
S: 129 MD: 12827.00 ft  
Inc: 91.63 deg Az: 89.45  
deg TVD: 6145.75 ft

S: 130 MD: 12919.00 ft  
Inc: 90.57 deg Az: 89.72  
deg TVD: 6143.99 ft

S: 131 MD: 13010.00 ft  
Inc: 91.19 deg Az: 89.37  
deg TVD: 6142.59 ft

S: 132 MD: 13101.00 ft  
Inc: 90.04 deg Az: 90.16  
deg TVD: 6141.62 ft

S: 133 MD: 13193.00 ft  
Inc: 89.25 deg Az: 89.98  
deg TVD: 6142.18 ft



S: 134 MD: 13284.00 ft  
Inc: 88.99 deg Az: 90.25  
deg TVD: 6143.58 ft

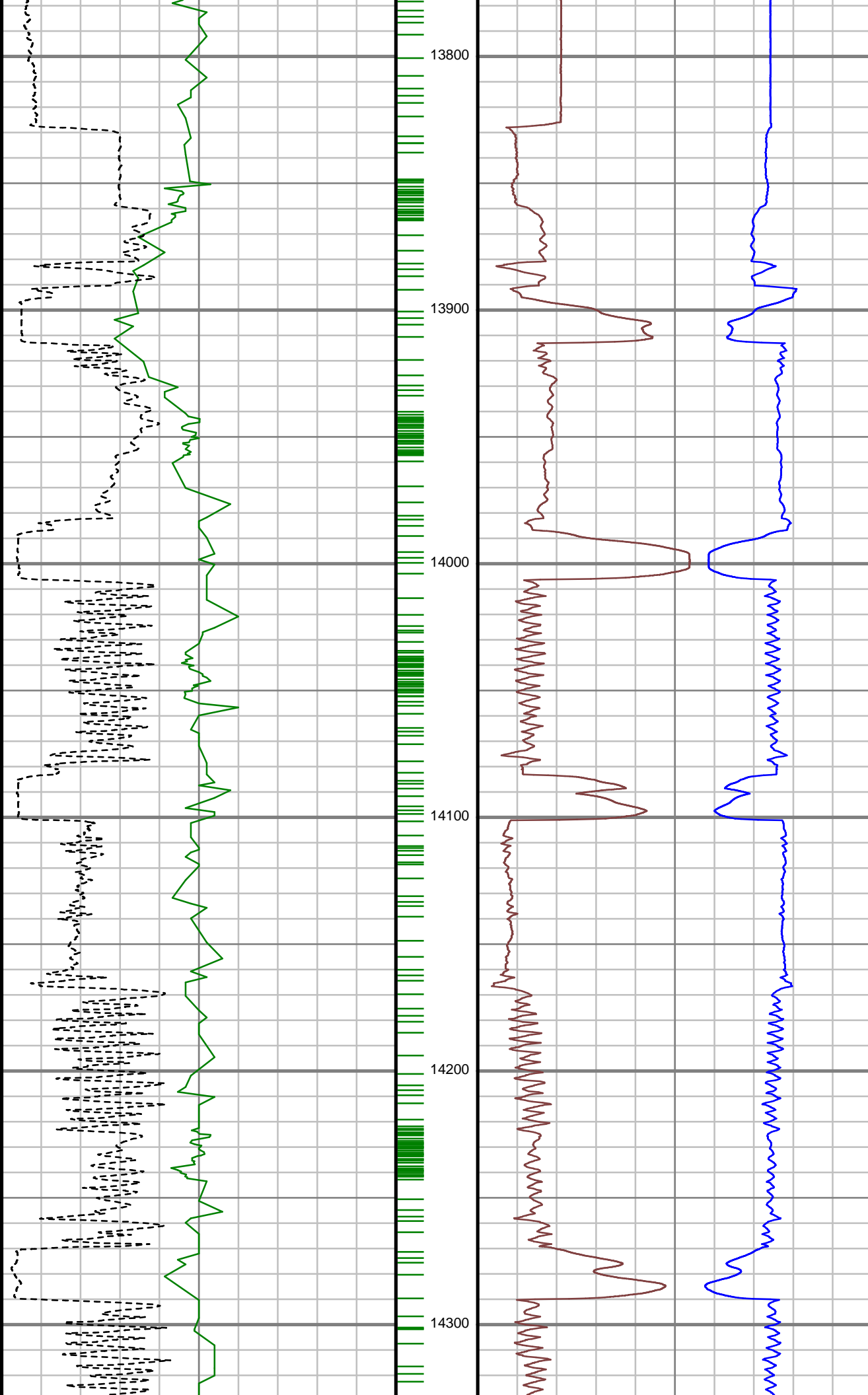
S: 135 MD: 13376.00 ft  
Inc: 89.43 deg Az: 89.63  
deg TVD: 6144.85 ft

S: 136 MD: 13467.00 ft  
Inc: 90.57 deg Az: 88.93  
deg TVD: 6144.85 ft

S: 137 MD: 13559.00 ft  
Inc: 90.97 deg Az: 92.54  
deg TVD: 6143.61 ft

S: 138 MD: 13650.00 ft  
Inc: 89.78 deg Az: 90.77  
deg TVD: 6143.01 ft

S: 139 MD: 13742.00 ft  
Inc: 91.19 deg Az: 90.07  
deg TVD: 6142.23 ft



S: 140 MD: 13834.00 ft  
Inc: 91.80 deg Az: 89.63  
deg TVD: 6139.83 ft

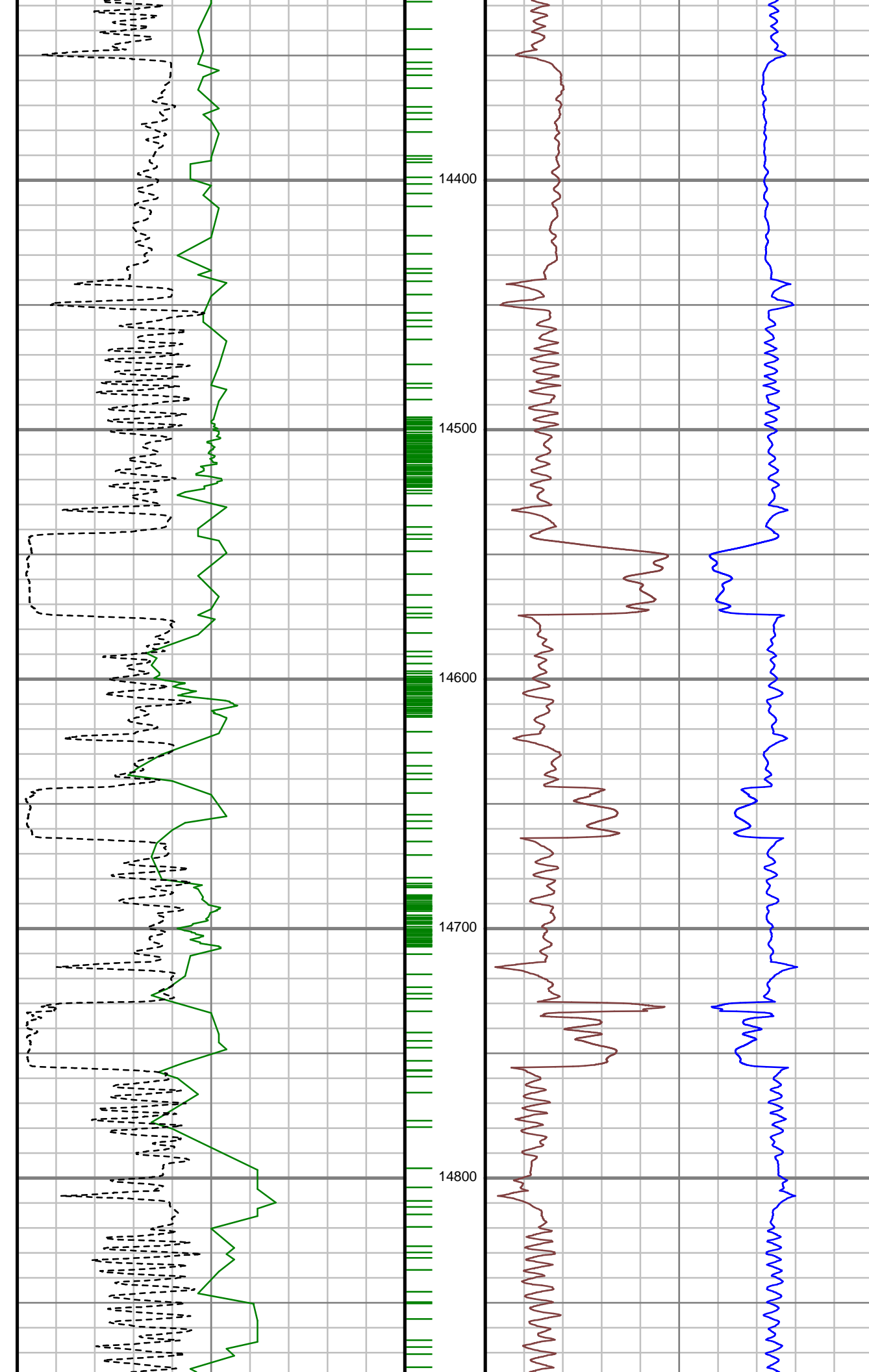
S: 141 MD: 13925.00 ft  
Inc: 88.99 deg Az: 88.84  
deg TVD: 6139.20 ft

S: 142 MD: 14017.00 ft  
Inc: 89.87 deg Az: 86.73  
deg TVD: 6140.12 ft

S: 143 MD: 14108.00 ft  
Inc: 91.19 deg Az: 88.93  
deg TVD: 6139.28 ft

S: 144 MD: 14200.00 ft  
Inc: 90.13 deg Az: 86.82  
deg TVD: 6138.22 ft

S: 145 MD: 14291.00 ft  
Inc: 91.71 deg Az: 88.49  
deg TVD: 6136.76 ft



S: 146 MD: 14383.00 ft  
Inc: 91.36 deg Az: 88.05  
deg TVD: 6134.29 ft

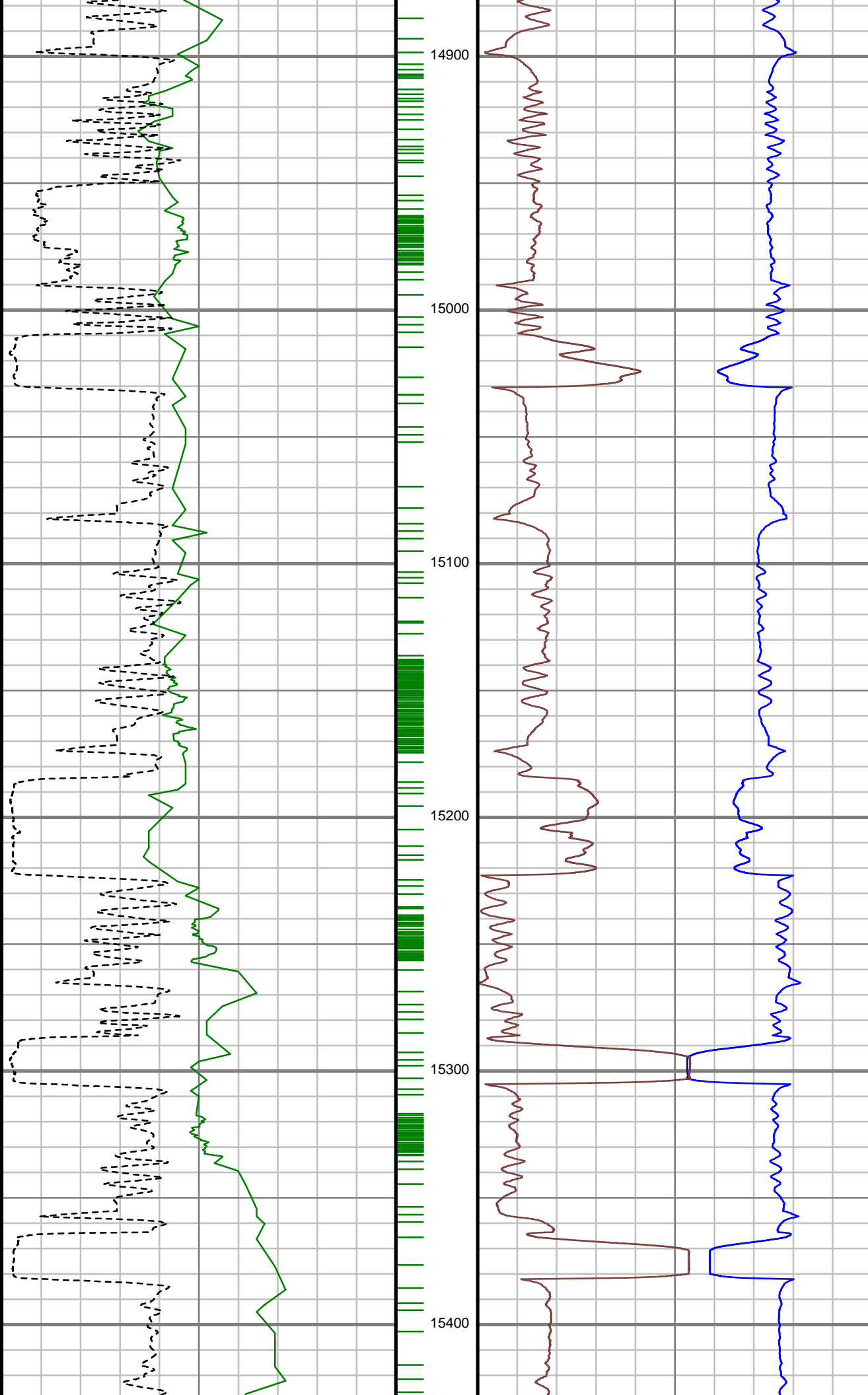
S: 147 MD: 14474.00 ft  
Inc: 90.75 deg Az: 85.41  
deg TVD: 6132.61 ft

S: 148 MD: 14565.00 ft  
Inc: 91.54 deg Az: 87.17  
deg TVD: 6130.80 ft

S: 149 MD: 14657.00 ft  
Inc: 91.54 deg Az: 88.22  
deg TVD: 6128.33 ft

S: 150 MD: 14749.00 ft  
Inc: 91.10 deg Az: 89.45  
deg TVD: 6126.21 ft

S: 151 MD: 14840.00 ft  
Inc: 91.36 deg Az: 89.28  
deg TVD: 6124.25 ft



S: 152 MD: 14932.00 ft  
Inc: 91.54 deg Az: 88.31  
deg TVD: 6121.92 ft

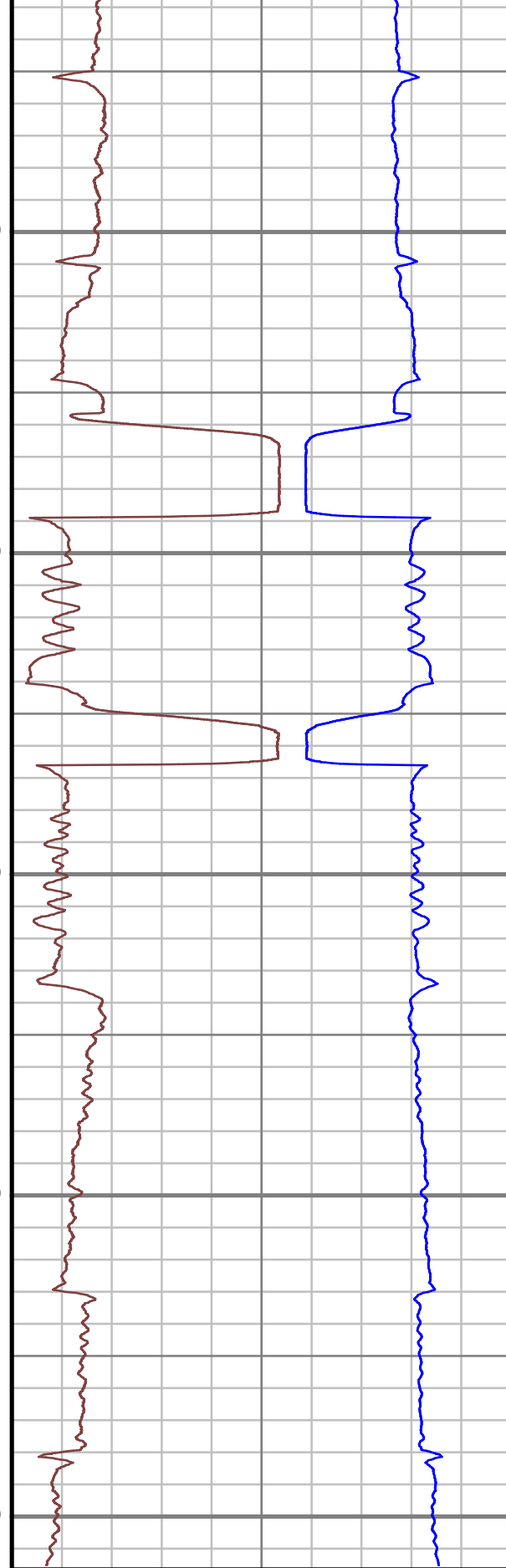
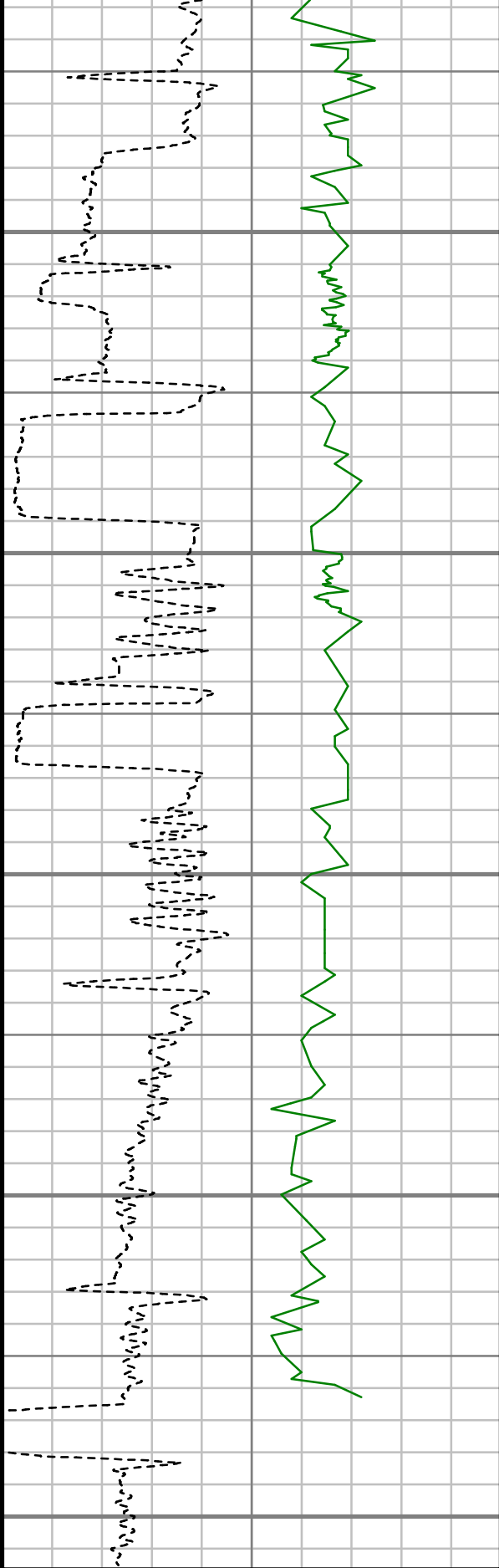
S: 153 MD: 15024.00 ft  
Inc: 91.10 deg Az: 89.89  
deg TVD: 6119.80 ft

S: 154 MD: 15115.00 ft  
Inc: 89.43 deg Az: 86.47  
deg TVD: 6119.39 ft

S: 155 MD: 15206.00 ft  
Inc: 88.64 deg Az: 89.37  
deg TVD: 6120.92 ft

S: 156 MD: 15298.00 ft  
Inc: 88.90 deg Az: 91.04  
deg TVD: 6122.90 ft

S: 157 MD: 15393.00 ft  
Inc: 91.19 deg Az: 92.27  
deg TVD: 6122.83 ft



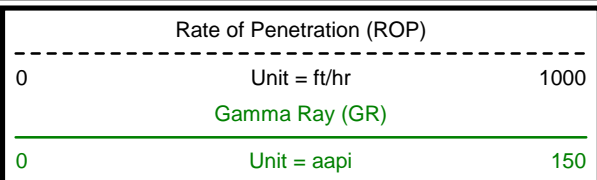
S: 158 MD: 15487.00 ft  
 Inc: 90.92 deg Az: 94.82 deg TVD: 6121.09 ft

S: 159 MD: 15582.00 ft  
 Inc: 89.78 deg Az: 92.79 deg TVD: 6120.51 ft

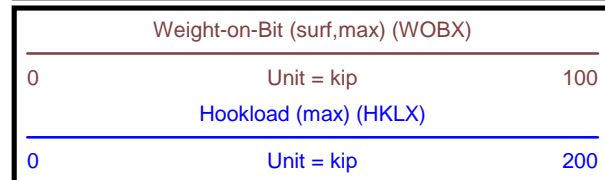
S: 160 MD: 15676.00 ft  
 Inc: 90.92 deg Az: 91.39 deg TVD: 6119.93 ft

S: 161 MD: 15771.00 ft  
 Inc: 90.40 deg Az: 90.95 deg TVD: 6118.84 ft

S: 162 MD: 15858.00 ft  
 Inc: 89.50 deg Az: 90.22 deg TVD: 6118.92 ft



MEASURED DEPTH  
 1:600 (ft)



Comments

**CUSTOMER** BILL BARRETT CORPORATION  
**PROJECT** ANSCHUTZ EQUUS FARMS  
 4-62-9-3340B2  
**FIELD** WATTENBERG

**WELL INFORMATION**

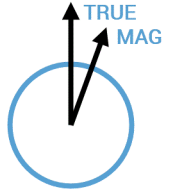
Lat/Long 40° 19' 33.081" N, 104° 20' 18.668" W  
 Northing 1,363,670.97 ft  
 Easting 3,323,829.02 ft  
 UWI 05-123-42153

**MAP INFORMATION**

North Reference True North  
 Grid Correction  
 System US State Plane 1983  
 Datum North American Datum 1983 (GRS 1980)  
 Map Zone Colorado North: 0501

**VERTICAL SECTION REFERENCE**

+N/-S 0 ft  
 +E/-W 0 ft  
 Proposal Direction 89.30°  
 Calculation Method Minimum Curvature



**GEOMAGNETIC REFERENCE INFORMATION**

Local Gravity: 999.102 mG [computed]

MD	MODEL	DATE	DECLINATION	MAG TO TRUE
800-15858 ft	BGGM2015	02 Feb 2016	8.24°	add 8.24°

**WELL NOTES**

**OPERATORS**

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	0.62	263.65	885.00	-0.45	-0.05	-0.45	0.72	85.00
976.00	1.58	251.35	975.98	-2.14	-0.51	-2.13	1.09	91.00
1067.00	3.25	242.56	1066.90	-5.64	-2.10	-5.61	1.88	91.00
1159.00	4.22	232.98	1158.70	-10.70	-5.34	-10.63	1.25	92.00
1251.00	4.66	233.86	1250.42	-16.47	-9.58	-16.36	0.48	92.00
1342.00	4.40	232.01	1341.14	-22.26	-13.91	-22.09	0.33	91.00
1434.00	4.04	234.21	1432.89	-27.72	-17.98	-27.50	0.42	92.00
1525.00	3.78	235.62	1523.68	-32.84	-21.55	-32.58	0.31	91.00
1617.00	3.69	235.35	1615.48	-37.82	-24.95	-37.52	0.10	92.00
1708.00	3.61	221.20	1706.30	-42.17	-28.77	-41.82	0.99	91.00
1799.00	4.48	236.76	1797.08	-47.08	-32.87	-46.68	1.54	91.00
1891.00	4.48	232.19	1888.79	-52.98	-37.05	-52.53	0.39	92.00
1982.00	4.57	229.03	1979.51	-58.58	-41.61	-58.08	0.29	91.00
2074.00	4.04	223.22	2071.25	-63.63	-46.37	-63.07	0.74	92.00
2166.00	4.92	237.29	2162.97	-69.23	-50.87	-68.61	1.52	92.00
2257.00	4.48	236.32	2253.66	-75.53	-54.96	-74.86	0.49	91.00
2349.00	3.96	231.75	2345.41	-81.06	-58.92	-80.35	0.68	92.00

<b>MD</b>	<b>Inc</b>	<b>Azim</b>	<b>TVD</b>	<b>VS</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>DLS</b>	<b>Course Length</b>
<b>ft</b>	<b>deg</b>	<b>deg</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>°/100ft</b>	<b>ft</b>
2444.00	3.69	225.77	2440.20	-85.88	-63.08	-85.11	0.50	95.00
2538.00	4.40	231.84	2533.97	-90.93	-67.42	-90.12	0.87	94.00
2633.00	3.96	232.98	2628.72	-96.46	-71.64	-95.60	0.47	95.00
2727.00	4.03	234.41	2722.49	-101.78	-75.51	-100.87	0.13	94.00
2822.00	3.43	232.28	2817.29	-106.79	-79.19	-105.83	0.64	95.00
2917.00	2.90	223.40	2912.14	-110.73	-82.68	-109.73	0.76	95.00
3011.00	3.34	228.23	3006.00	-114.45	-86.23	-113.41	0.54	94.00
3105.00	3.43	232.80	3099.84	-118.78	-89.76	-117.69	0.30	94.00
3199.00	3.08	221.03	3193.69	-122.72	-93.36	-121.58	0.80	94.00
3294.00	3.43	242.03	3288.54	-126.94	-96.62	-125.77	1.30	95.00
3388.00	4.75	241.15	3382.30	-132.87	-99.81	-131.66	1.40	94.00
3483.00	5.63	245.64	3476.91	-140.60	-103.63	-139.35	1.02	95.00
3577.00	4.75	246.16	3570.52	-148.40	-107.11	-147.11	0.94	94.00
3671.00	4.22	246.95	3664.23	-155.18	-110.03	-153.85	0.57	94.00
3766.00	3.61	250.73	3759.01	-161.24	-112.39	-159.88	0.70	95.00
3860.00	3.08	263.04	3852.85	-166.56	-113.67	-165.18	0.94	94.00
3955.00	3.34	261.81	3947.70	-171.84	-114.37	-170.45	0.29	95.00
4050.00	2.99	270.51	4042.56	-177.06	-114.74	-175.67	0.63	95.00

<b>MD</b>	<b>Inc</b>	<b>Azim</b>	<b>TVD</b>	<b>VS</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>DLS</b>	<b>Course Length</b>
<b>ft</b>	<b>deg</b>	<b>deg</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>°/100ft</b>	<b>ft</b>
4144.00	2.73	262.25	4136.44	-181.73	-115.02	-180.33	0.52	94.00
4237.00	3.69	247.57	4229.30	-186.70	-116.46	-185.29	1.36	93.00
4332.00	2.90	249.24	4324.14	-191.80	-118.48	-190.37	0.84	95.00
4426.00	3.61	252.93	4417.99	-196.88	-120.19	-195.42	0.78	94.00
4520.00	3.69	242.56	4511.80	-202.41	-122.46	-200.93	0.71	94.00
4615.00	4.84	232.89	4606.53	-208.37	-126.28	-206.84	1.42	95.00
4709.00	5.28	225.60	4700.17	-214.68	-131.70	-213.09	0.83	94.00
4803.00	4.48	216.90	4793.83	-220.05	-137.66	-218.39	1.15	94.00
4897.00	4.13	214.17	4887.56	-224.23	-143.40	-222.49	0.43	94.00
4991.00	2.81	215.58	4981.39	-227.53	-148.08	-225.74	1.41	94.00
5086.00	2.29	218.92	5076.29	-230.12	-151.45	-228.29	0.58	95.00
5181.00	0.97	163.37	5171.26	-231.11	-153.70	-229.25	2.01	95.00
5275.00	1.23	156.52	5265.24	-230.50	-155.38	-228.62	0.31	94.00
5370.00	0.53	275.96	5360.23	-230.54	-156.27	-228.65	1.64	95.00
5464.00	0.97	270.86	5454.22	-231.76	-156.22	-229.87	0.47	94.00
5558.00	0.35	251.79	5548.22	-232.83	-156.29	-230.94	0.69	94.00
5652.00	0.53	277.72	5642.22	-233.53	-156.33	-231.64	0.28	94.00
5746.00	4.57	90.07	5736.13	-230.21	-156.27	-228.32	5.42	94.00

<b>MD</b>	<b>Inc</b>	<b>Azim</b>	<b>TVD</b>	<b>VS</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>DLS</b>	<b>Course Length</b>
<b>ft</b>	<b>deg</b>	<b>deg</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>°/100ft</b>	<b>ft</b>
5841.00	16.36	87.79	5829.38	-212.99	-155.76	-211.11	12.41	95.00
5935.00	27.00	89.63	5916.61	-178.33	-155.11	-176.45	11.34	94.00
6030.00	36.76	88.05	5997.19	-128.23	-154.00	-126.36	10.31	95.00
6124.00	46.08	87.43	6067.60	-66.14	-151.52	-64.29	9.93	94.00
6218.00	53.82	89.28	6128.05	5.74	-149.52	7.57	8.37	94.00
6312.00	70.35	89.28	6171.91	88.52	-148.48	90.34	17.59	94.00
6406.00	85.30	88.14	6191.68	180.13	-146.39	181.94	15.95	94.00
6459.00	86.97	88.05	6195.26	233.00	-144.63	234.78	3.16	53.00
6590.00	89.34	90.60	6199.48	363.91	-143.08	365.69	2.66	131.00
6684.00	89.52	89.63	6200.42	457.90	-143.27	459.68	1.05	94.00
6779.00	90.66	89.63	6200.27	552.89	-142.66	554.68	1.20	95.00
6874.00	89.78	89.19	6199.91	647.89	-141.68	649.67	1.03	95.00
6968.00	89.78	88.66	6200.27	741.89	-139.92	743.65	0.56	94.00
7062.00	90.04	86.99	6200.41	835.85	-136.36	837.58	1.80	94.00
7157.00	88.81	87.52	6201.36	930.79	-131.82	932.47	1.41	95.00
7251.00	89.60	87.70	6202.66	1024.73	-127.90	1026.37	0.86	94.00
7345.00	90.31	89.19	6202.73	1118.72	-125.35	1120.34	1.76	94.00
7439.00	89.52	89.45	6202.88	1212.72	-124.23	1214.33	0.89	94.00

<b>MD</b>	<b>Inc</b>	<b>Azim</b>	<b>TVD</b>	<b>VS</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>DLS</b>	<b>Course Length</b>
<b>ft</b>	<b>deg</b>	<b>deg</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>°/100ft</b>	<b>ft</b>
7534.00	91.45	89.10	6202.08	1307.71	-123.04	1309.31	2.07	95.00
7628.00	91.63	88.58	6199.55	1401.67	-121.14	1403.26	0.59	94.00
7722.00	92.51	88.14	6196.16	1495.60	-118.44	1497.16	1.05	94.00
7817.00	92.42	90.51	6192.08	1590.51	-117.32	1592.06	2.50	95.00
7911.00	91.36	90.16	6188.98	1684.44	-117.87	1686.00	1.18	94.00
8005.00	89.43	90.25	6188.33	1778.42	-118.20	1780.00	2.06	94.00
8100.00	90.75	90.86	6188.18	1873.39	-119.12	1874.99	1.53	95.00
8194.00	87.49	90.33	6189.63	1967.35	-120.10	1968.96	3.51	94.00
8288.00	89.96	91.04	6191.72	2061.29	-121.22	2062.92	2.72	94.00
8382.00	89.69	89.19	6192.01	2155.27	-121.41	2156.92	1.98	94.00
8477.00	91.01	92.53	6191.42	2250.22	-122.84	2251.89	3.78	95.00
8571.00	91.89	92.36	6189.04	2344.05	-126.84	2345.77	0.95	94.00
8665.00	90.40	90.42	6187.17	2437.96	-129.12	2439.72	2.60	94.00
8760.00	91.28	89.63	6185.78	2532.94	-129.16	2534.71	1.24	95.00
8853.00	91.10	88.49	6183.86	2625.92	-127.64	2627.67	1.24	93.00
8948.00	89.69	88.22	6183.20	2720.90	-124.91	2722.63	1.51	95.00
9042.00	89.78	87.96	6183.63	2814.88	-121.78	2816.58	0.30	94.00
9137.00	89.19	87.59	6184.48	2909.84	-118.09	2911.50	0.73	95.00

<b>MD</b>	<b>Inc</b>	<b>Azim</b>	<b>TVD</b>	<b>VS</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>DLS</b>	<b>Course Length</b>
<b>ft</b>	<b>deg</b>	<b>deg</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>°/100ft</b>	<b>ft</b>
9232.00	90.92	90.51	6184.38	3004.82	-116.51	3006.47	3.58	95.00
9325.00	90.13	91.21	6183.53	3097.79	-117.91	3099.46	1.14	93.00
9420.00	89.87	94.99	6183.53	3192.56	-123.05	3194.30	3.99	95.00
9514.00	90.13	92.71	6183.53	3286.26	-129.36	3288.08	2.45	94.00
9609.00	90.57	90.16	6182.94	3381.18	-131.74	3383.04	2.72	95.00
9703.00	91.19	93.06	6181.50	3475.08	-134.37	3476.98	3.15	94.00
9798.00	89.87	89.02	6180.63	3570.01	-136.09	3571.94	4.48	95.00
9892.00	88.90	87.61	6181.64	3663.99	-133.33	3665.89	1.82	94.00
9987.00	88.11	87.17	6184.11	3758.90	-129.00	3760.76	0.95	95.00
10081.00	88.81	87.35	6186.64	3852.81	-124.50	3854.62	0.77	94.00
10172.00	91.01	87.52	6186.78	3943.76	-120.43	3945.52	2.42	91.00
10264.00	91.10	88.05	6185.08	4035.71	-116.87	4037.44	0.58	92.00
10356.00	91.98	87.70	6182.61	4127.65	-113.46	4129.34	1.03	92.00
10447.00	90.31	88.75	6180.80	4218.61	-110.64	4220.27	2.17	91.00
10539.00	91.10	89.02	6179.67	4310.60	-108.85	4312.25	0.91	92.00
10630.00	90.48	88.66	6178.41	4401.58	-107.01	4403.22	0.78	91.00
10722.00	90.13	88.58	6177.92	4493.58	-104.79	4495.19	0.39	92.00
10813.00	90.92	89.19	6177.08	4584.57	-103.02	4586.17	1.10	91.00

<b>MD</b>	<b>Inc</b>	<b>Azim</b>	<b>TVD</b>	<b>VS</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>DLS</b>	<b>Course Length</b>
<b>ft</b>	<b>deg</b>	<b>deg</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>°/100ft</b>	<b>ft</b>
10904.00	90.48	88.84	6175.96	4675.56	-101.46	4677.15	0.62	91.00
10996.00	90.66	87.08	6175.04	4767.53	-98.18	4769.08	1.92	92.00
11087.00	90.84	84.71	6173.86	4858.35	-91.67	4859.83	2.61	91.00
11179.00	91.54	86.29	6171.95	4950.13	-84.45	4951.53	1.88	92.00
11271.00	91.98	88.84	6169.13	5042.03	-80.55	5043.39	2.81	92.00
11362.00	89.34	89.02	6168.08	5133.02	-78.84	5134.36	2.91	91.00
11454.00	90.75	89.98	6168.01	5225.01	-78.04	5226.36	1.86	92.00
11545.00	90.22	88.40	6167.24	5316.01	-76.75	5317.34	1.83	91.00
11637.00	91.36	92.18	6165.97	5407.97	-77.22	5409.31	4.29	92.00
11728.00	92.07	92.00	6163.25	5498.82	-80.54	5500.21	0.80	91.00
11819.00	91.45	91.04	6160.45	5589.70	-82.95	5591.13	1.26	91.00
11911.00	89.96	88.14	6159.32	5681.68	-82.29	5683.11	3.55	92.00
12002.00	89.87	88.58	6159.46	5772.67	-79.68	5774.08	0.49	91.00
12094.00	89.60	88.66	6159.89	5864.66	-77.46	5866.05	0.30	92.00
12185.00	91.71	89.02	6158.84	5955.65	-75.62	5957.02	2.35	91.00
12277.00	90.84	88.31	6156.79	6047.62	-73.48	6048.97	1.22	92.00
12369.00	90.48	88.66	6155.73	6139.60	-71.05	6140.93	0.54	92.00
12461.00	91.89	89.54	6153.83	6231.58	-69.61	6232.90	1.80	92.00

<b>MD</b>	<b>Inc</b>	<b>Azim</b>	<b>TVD</b>	<b>VS</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>DLS</b>	<b>Course Length</b>
<b>ft</b>	<b>deg</b>	<b>deg</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>°/100ft</b>	<b>ft</b>
12553.00	92.24	89.81	6150.51	6323.52	-69.09	6324.83	0.48	92.00
12644.00	90.40	89.81	6148.42	6414.49	-68.78	6415.81	2.03	91.00
12736.00	90.66	89.81	6147.57	6506.48	-68.47	6507.80	0.29	92.00
12827.00	91.63	89.45	6145.75	6597.46	-67.88	6598.78	1.13	91.00
12919.00	90.57	89.72	6143.99	6689.44	-67.22	6690.76	1.18	92.00
13010.00	91.19	89.37	6142.59	6780.43	-66.50	6781.75	0.78	91.00
13101.00	90.04	90.16	6141.62	6871.42	-66.13	6872.74	1.53	91.00
13193.00	89.25	89.98	6142.18	6963.41	-66.24	6964.73	0.88	92.00
13284.00	88.99	90.25	6143.58	7054.39	-66.42	7055.72	0.41	91.00
13376.00	89.43	89.63	6144.85	7146.37	-66.32	7147.71	0.82	92.00
13467.00	90.57	88.93	6144.85	7237.37	-65.18	7238.70	1.47	91.00
13559.00	90.97	92.54	6143.61	7329.32	-66.35	7330.67	3.95	92.00
13650.00	89.78	90.77	6143.01	7420.23	-68.98	7421.63	2.34	91.00
13742.00	91.19	90.07	6142.23	7512.21	-69.66	7513.62	1.71	92.00
13834.00	91.80	89.63	6139.83	7604.17	-69.42	7605.59	0.82	92.00
13925.00	88.99	88.84	6139.20	7695.16	-68.20	7696.57	3.21	91.00
14017.00	89.87	86.73	6140.12	7787.12	-64.65	7788.49	2.48	92.00
14108.00	91.19	88.93	6139.28	7878.08	-61.20	7879.41	2.82	91.00

<b>MD</b>	<b>Inc</b>	<b>Azim</b>	<b>TVD</b>	<b>VS</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>DLS</b>	<b>Course Length</b>
<b>ft</b>	<b>deg</b>	<b>deg</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>ft</b>	<b>°/100ft</b>	<b>ft</b>
14200.00	90.13	86.82	6138.22	7970.03	-57.79	7971.33	2.56	92.00
14291.00	91.71	88.49	6136.76	8060.98	-54.06	8062.24	2.53	91.00
14383.00	91.36	88.05	6134.29	8152.93	-51.28	8154.16	0.61	92.00
14474.00	90.75	85.41	6132.61	8243.81	-46.09	8244.99	2.97	91.00
14565.00	91.54	87.17	6130.80	8334.67	-40.21	8335.78	2.12	91.00
14657.00	91.54	88.22	6128.33	8426.60	-36.51	8427.67	1.15	92.00
14749.00	91.10	89.45	6126.21	8518.57	-34.65	8519.63	1.42	92.00
14840.00	91.36	89.28	6124.25	8609.55	-33.64	8610.60	0.35	91.00
14932.00	91.54	88.31	6121.92	8701.51	-31.71	8702.55	1.07	92.00
15024.00	91.10	89.89	6119.80	8793.48	-30.27	8794.51	1.78	92.00
15115.00	89.43	86.47	6119.39	8884.45	-27.38	8885.45	4.19	91.00
15206.00	88.64	89.37	6120.92	8975.40	-24.08	8976.36	3.30	91.00
15298.00	88.90	91.04	6122.90	9067.36	-24.40	9068.34	1.84	92.00
15393.00	91.19	92.27	6122.83	9162.27	-27.14	9163.29	2.73	95.00
15487.00	90.92	94.82	6121.09	9255.99	-32.94	9257.09	2.73	94.00
15582.00	89.78	92.79	6120.51	9350.69	-39.25	9351.87	2.44	95.00
15676.00	90.92	91.39	6119.93	9444.57	-42.68	9445.80	1.93	94.00
15771.00	90.40	90.95	6118.84	9539.52	-44.62	9540.77	0.72	95.00

<b>MD</b> ft	<b>Inc</b> deg	<b>Azim</b> deg	<b>TVD</b> ft	<b>VS</b> ft	<b>+N/-S</b> ft	<b>+E/-W</b> ft	<b>DLS</b> °/100ft	<b>Course Length</b> ft
15858.00	89.50	90.22	6118.92	9626.49	-45.51	9627.77	1.33	87.00

<b>MD</b> ft	<b>Inc</b> deg	<b>Azim</b> deg	<b>TVD</b> ft	<b>VS</b> ft	<b>+N/-S</b> ft	<b>+E/-W</b> ft	<b>DLS</b> °/100ft	<b>Course Length</b> ft
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GAMMA RAY

2" = 100' FEET MD