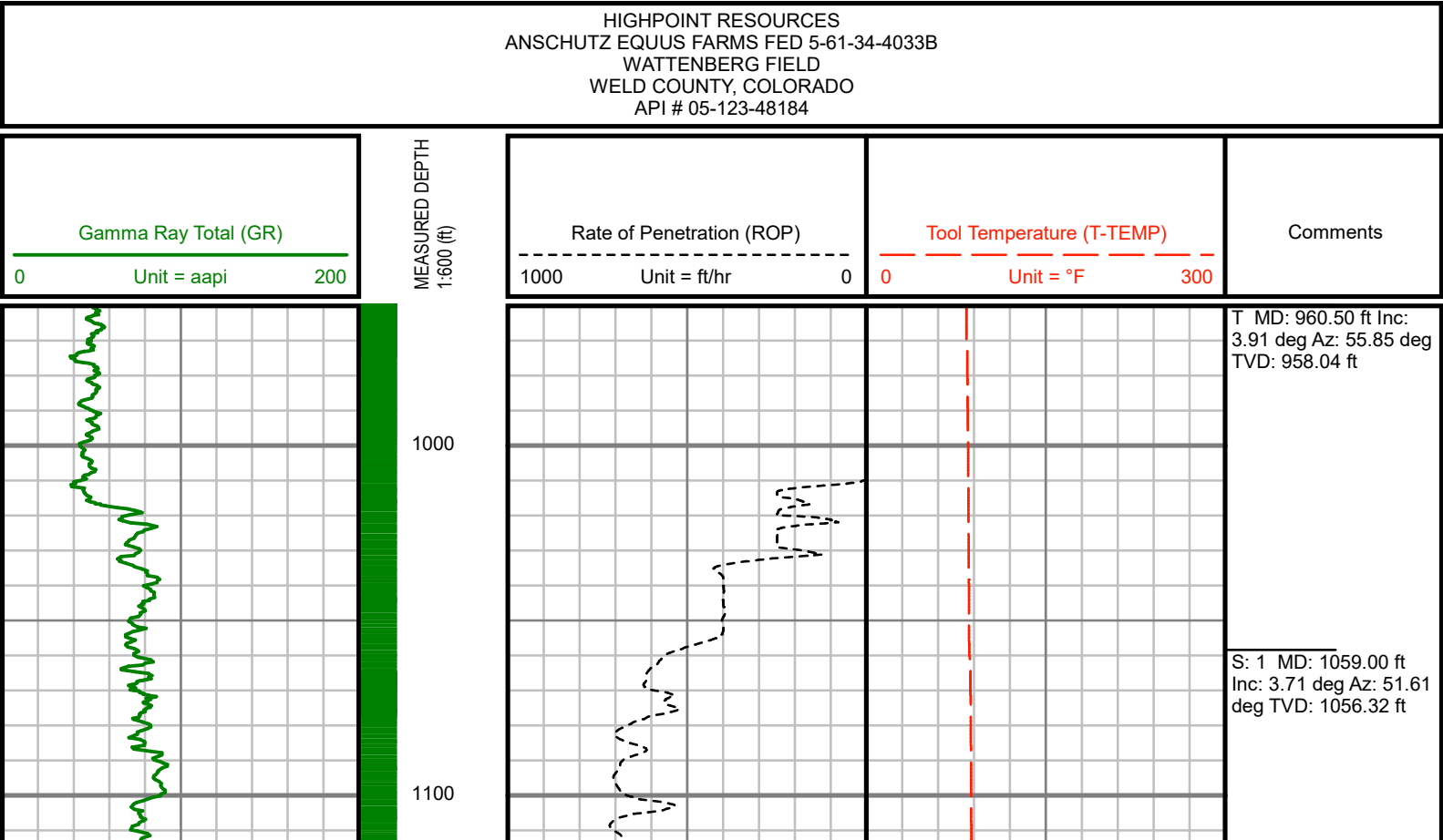
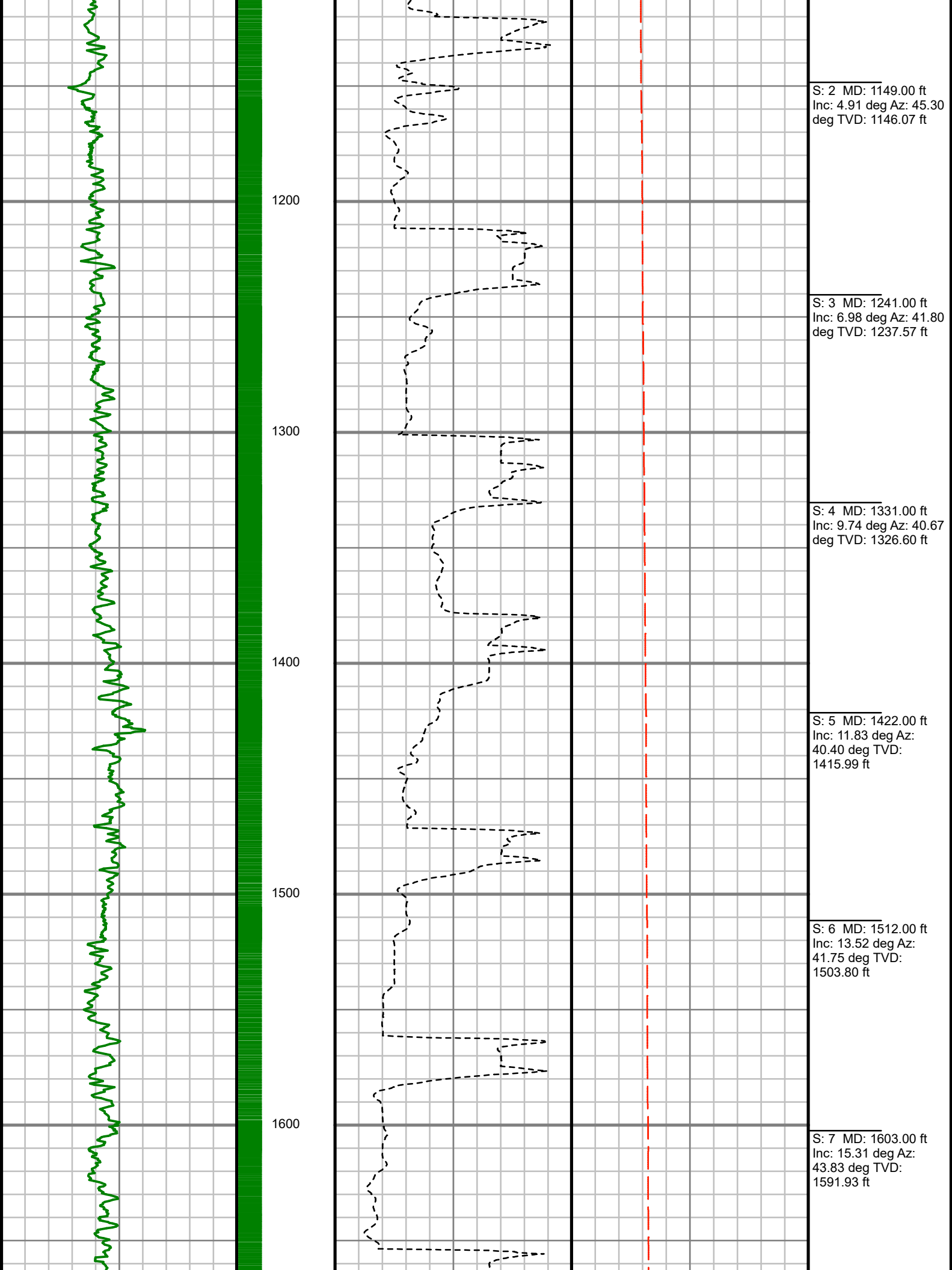
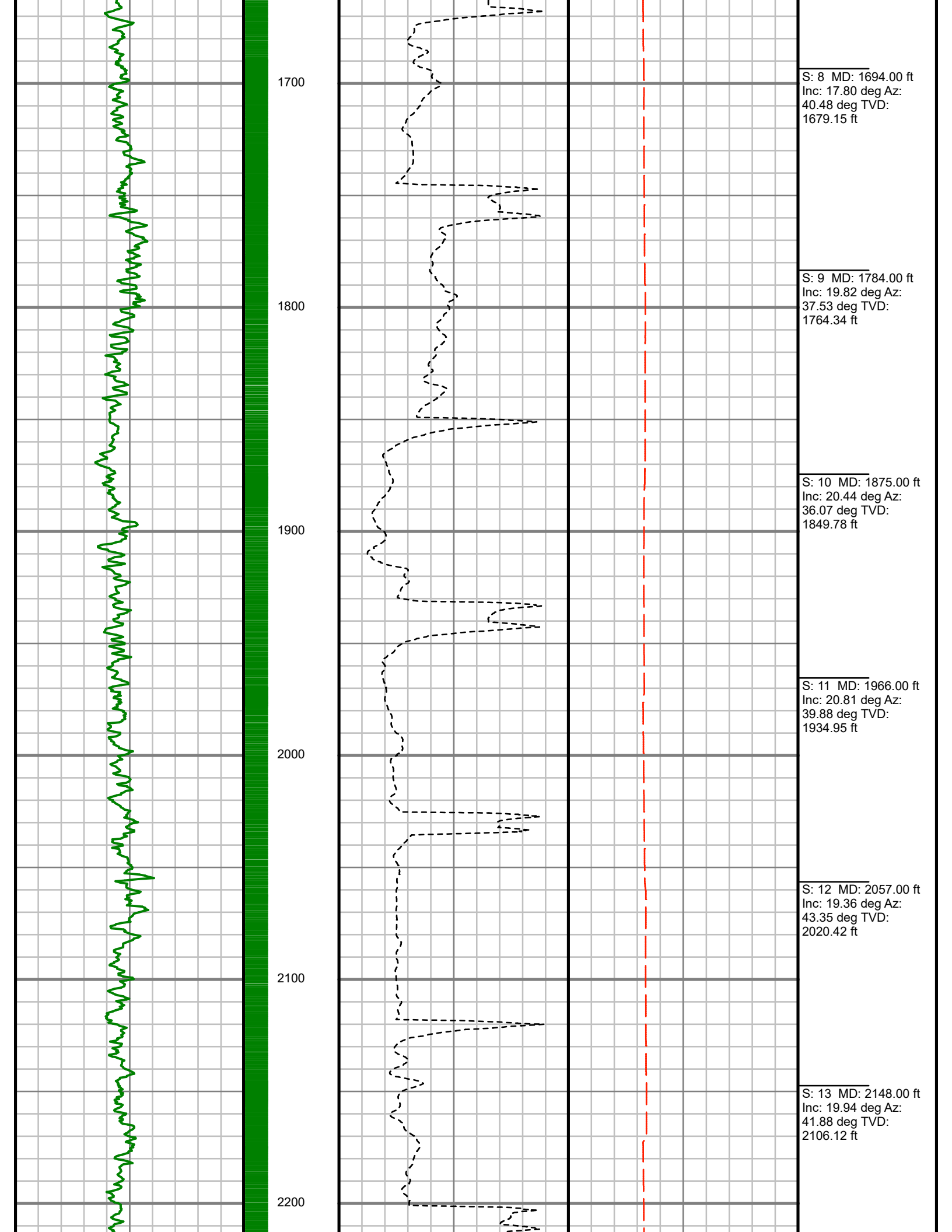


Remarks
HIGHPOINT RESOURCES AFE# 20405D
SCIENTIFIC DRILLING INTERNATIONAL JOB# OP.017064
ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.
ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY TOTAL CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE
FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO TOOL TEMPERATURE CURVE
RUN #1: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 128-171 / CONT = 303 / MWD EYE = 1450 / GAMMA RAY = 1291
BIT TO SENSOR OFFSETS: SURVEY = 59.83 FT. / GAMMA RAY = 55.83 FT.
RUN #2: MWD / GAMMA RAY LOGGING RUN
SENSORS S/N: PULSER = 78-242 / CONT = 150 / MWD EYE = 1806 / GAMMA RAY = 1484
BIT TO SENSOR OFFSETS: SURVEY = 56.25 FT. / GAMMA RAY = 52.25 FT.
MNEMONICS LIST:
GR = GAMMA RAY TOTAL
ROP = RATE OF PENETRATION
T-TEMP = TOOL TEMPERATURE

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.









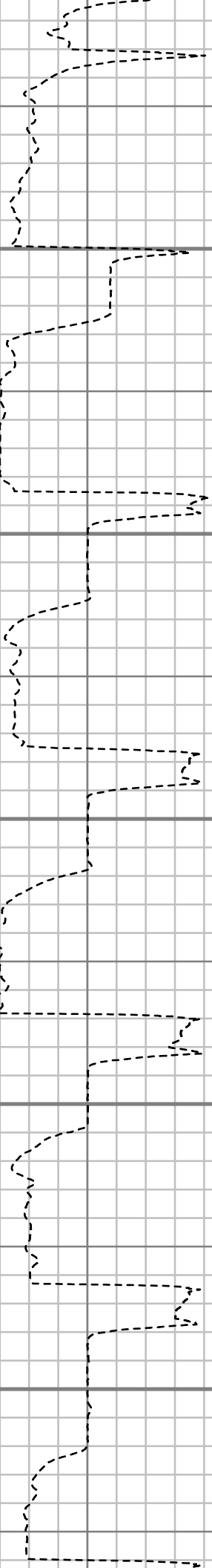
2300

2400

2500

2600

2700



S: 14 MD: 2239.00 ft
Inc: 20.32 deg Az:
43.34 deg TVD:
2191.56 ft

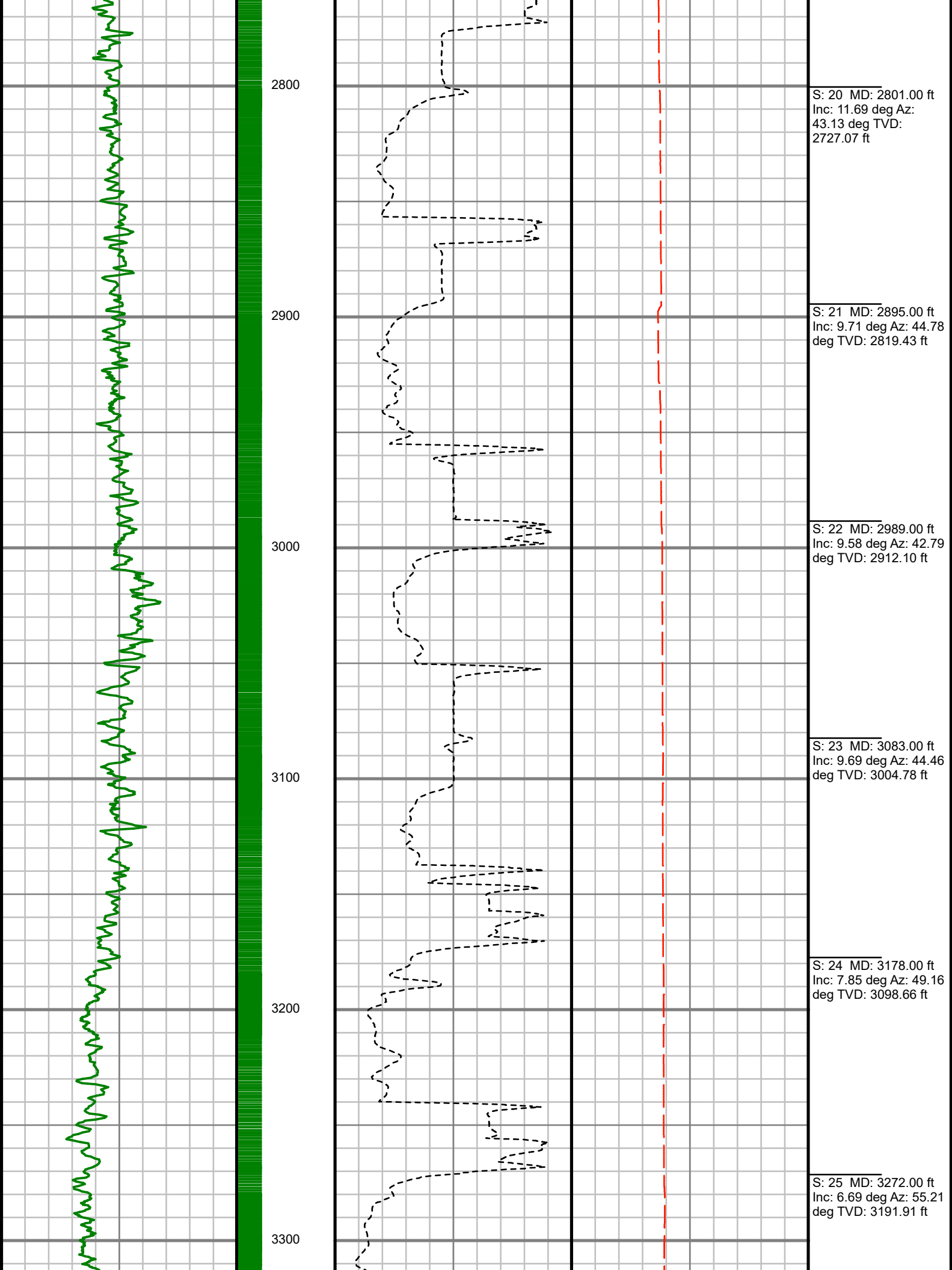
S: 15 MD: 2330.00 ft
Inc: 20.54 deg Az:
42.56 deg TVD:
2276.84 ft

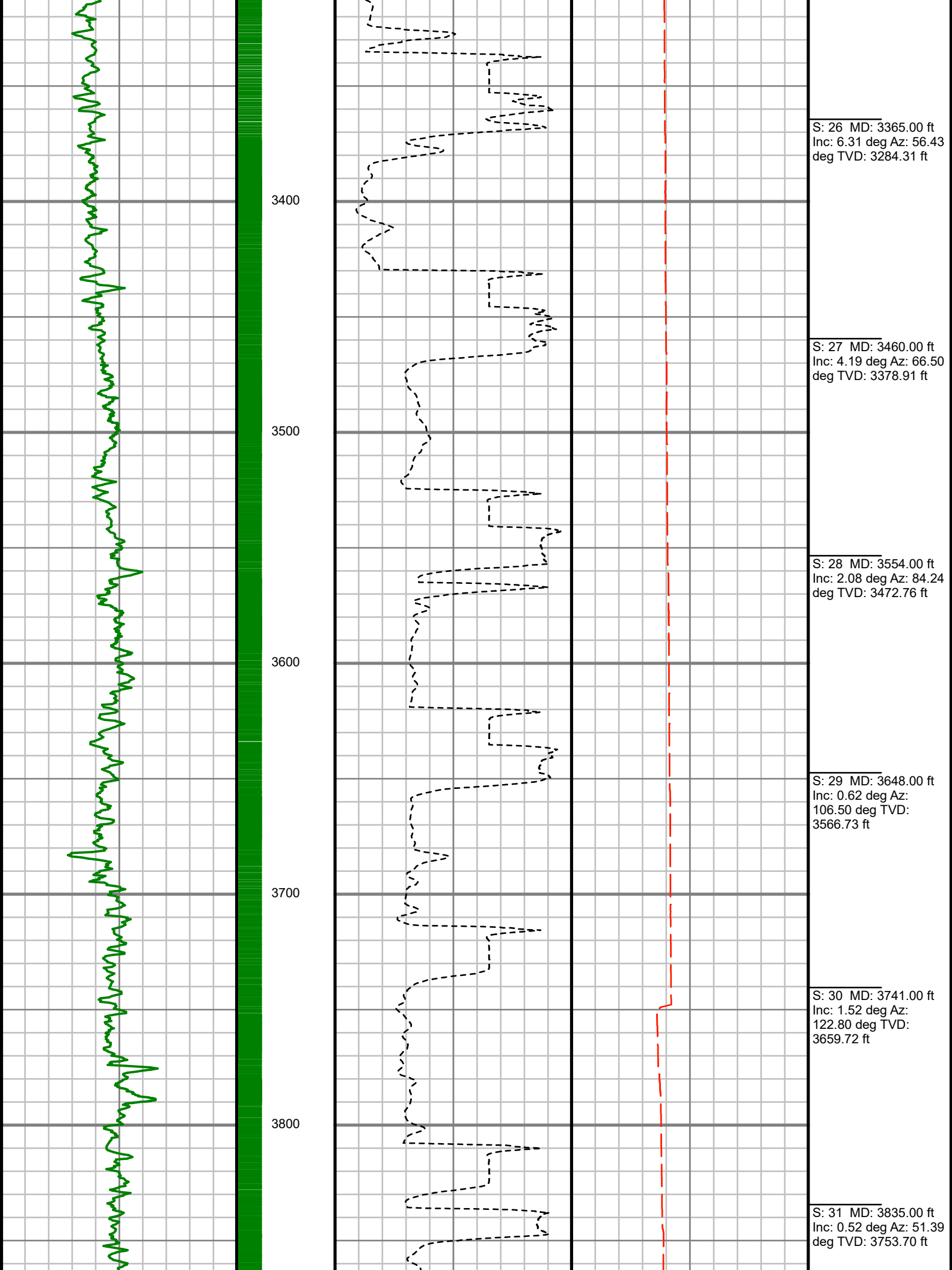
S: 16 MD: 2424.00 ft
Inc: 20.19 deg Az:
38.59 deg TVD:
2364.97 ft

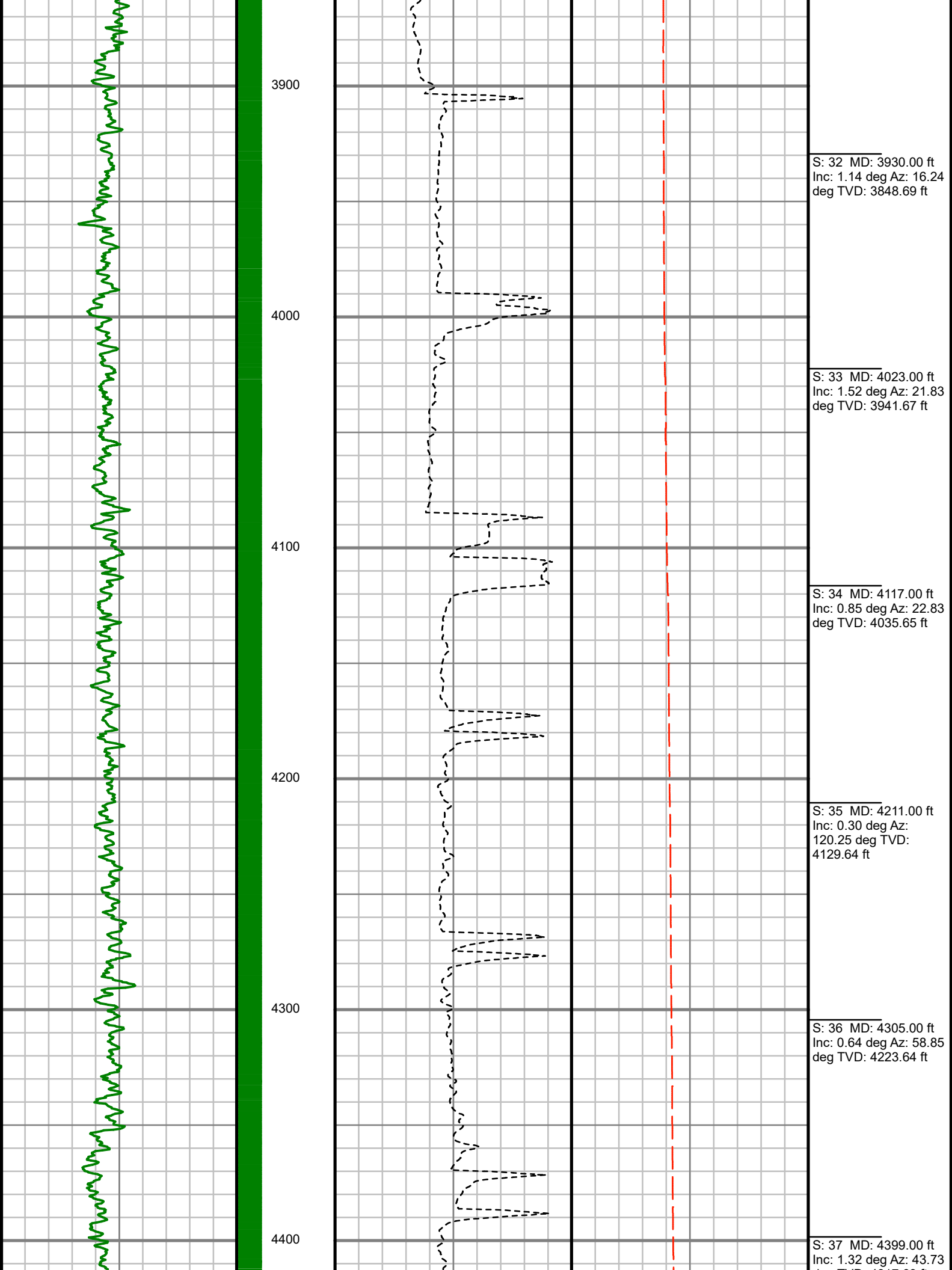
S: 17 MD: 2518.00 ft
Inc: 18.33 deg Az:
35.85 deg TVD:
2453.71 ft

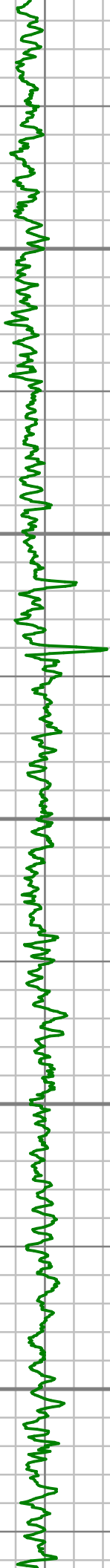
S: 18 MD: 2612.00 ft
Inc: 15.89 deg Az:
35.68 deg TVD:
2543.54 ft

S: 19 MD: 2706.00 ft
Inc: 13.77 deg Az:
41.09 deg TVD:
2634.41 ft









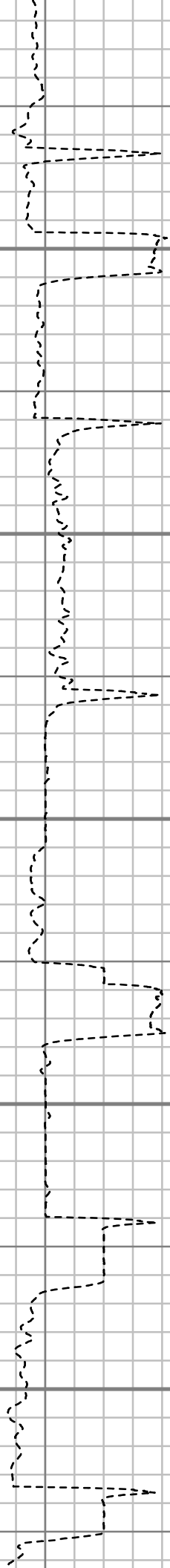
4500

4600

4700

4800

4900



deg TVD: 4317.63 ft

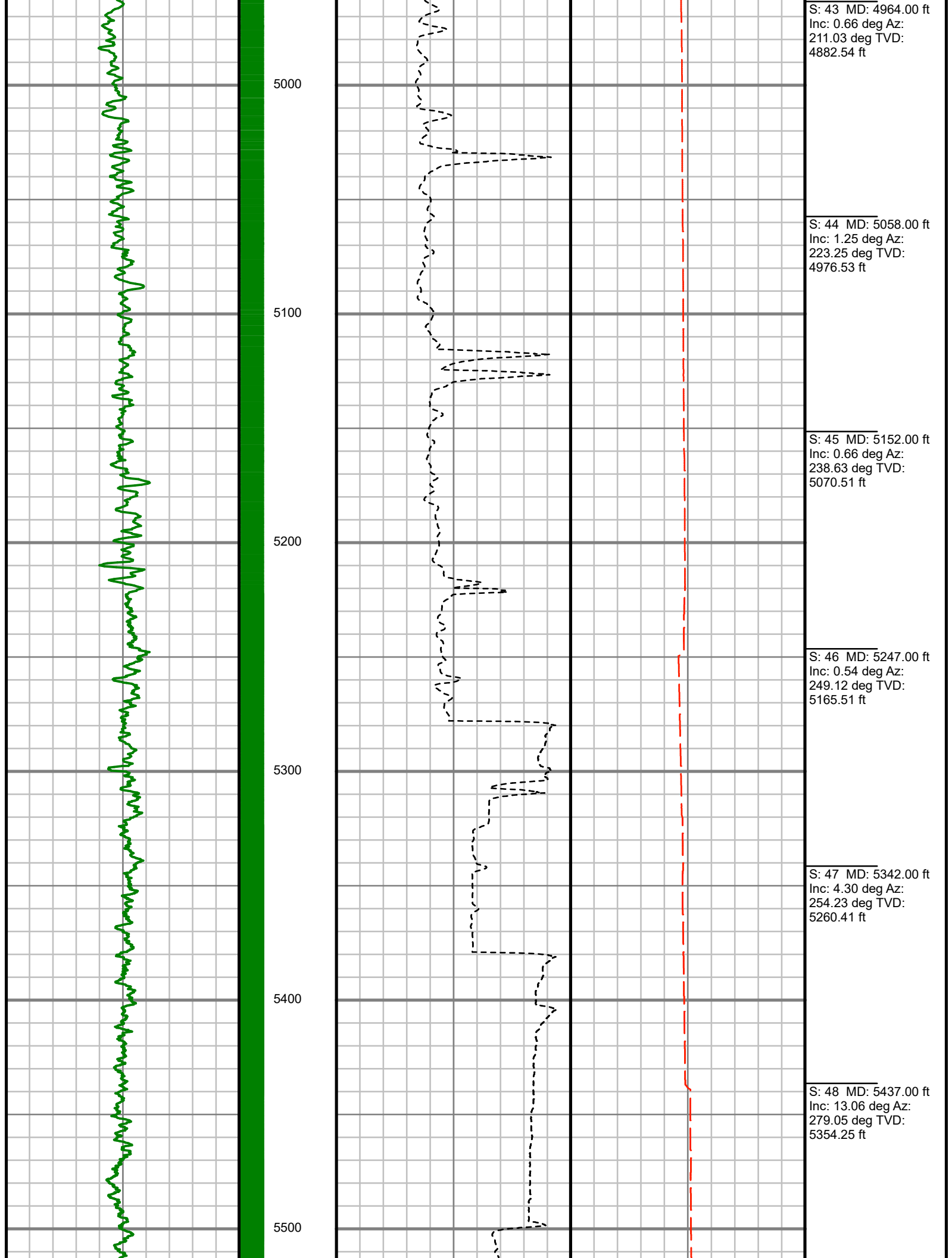
S: 38 MD: 4493.00 ft
Inc: 1.06 deg Az: 4.76
deg TVD: 4411.61 ft

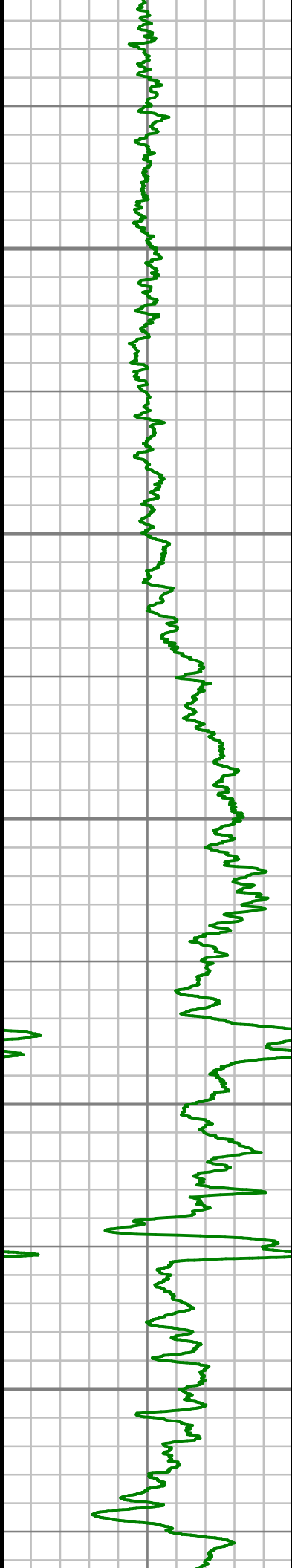
S: 39 MD: 4588.00 ft
Inc: 1.29 deg Az:
338.99 deg TVD:
4506.59 ft

S: 40 MD: 4682.00 ft
Inc: 1.52 deg Az:
343.60 deg TVD:
4600.56 ft

S: 41 MD: 4776.00 ft
Inc: 0.58 deg Az:
202.60 deg TVD:
4694.55 ft

S: 42 MD: 4870.00 ft
Inc: 0.71 deg Az:
171.53 deg TVD:
4788.55 ft





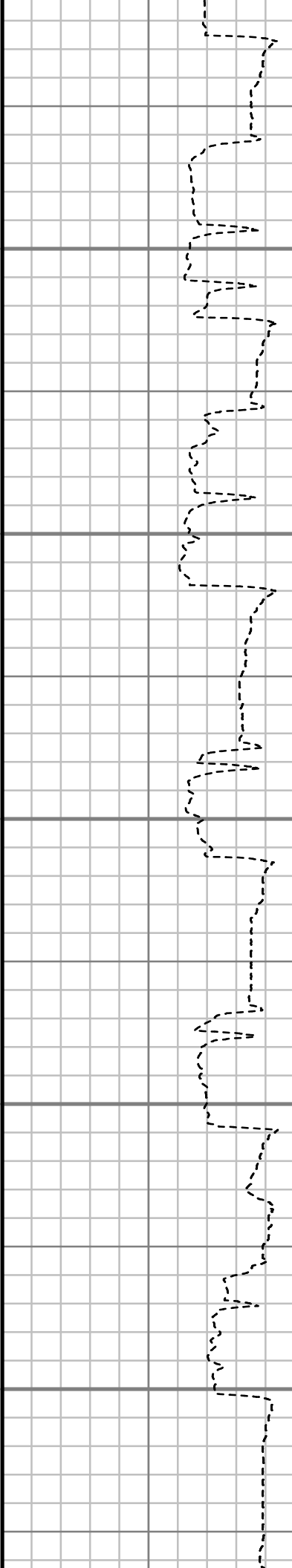
5600

5700

5800

5900

6000



S: 49 MD: 5531.00 ft
Inc: 24.53 deg Az:
278.38 deg TVD:
5443.09 ft

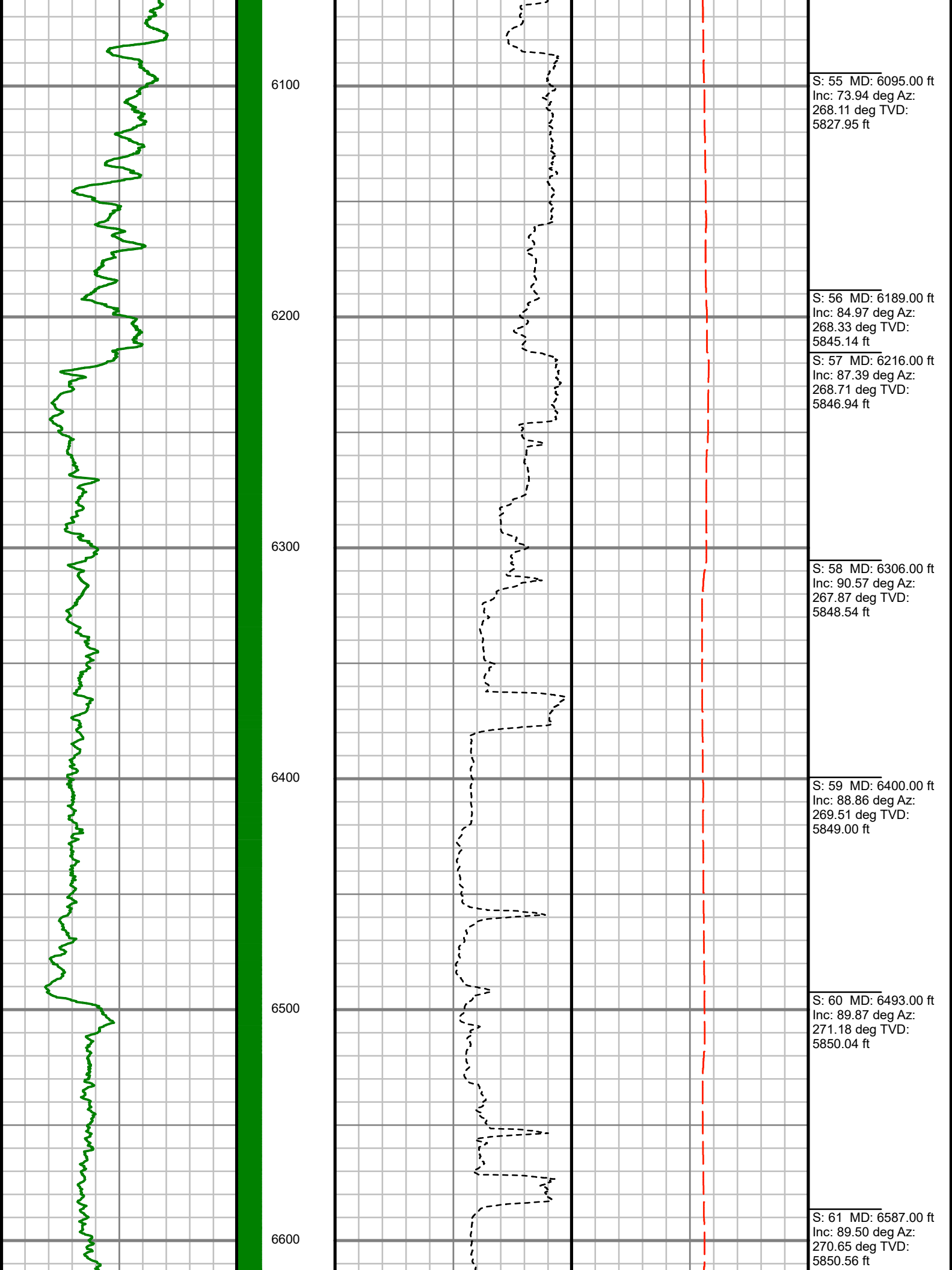
S: 50 MD: 5625.00 ft
Inc: 29.03 deg Az:
273.82 deg TVD:
5527.00 ft

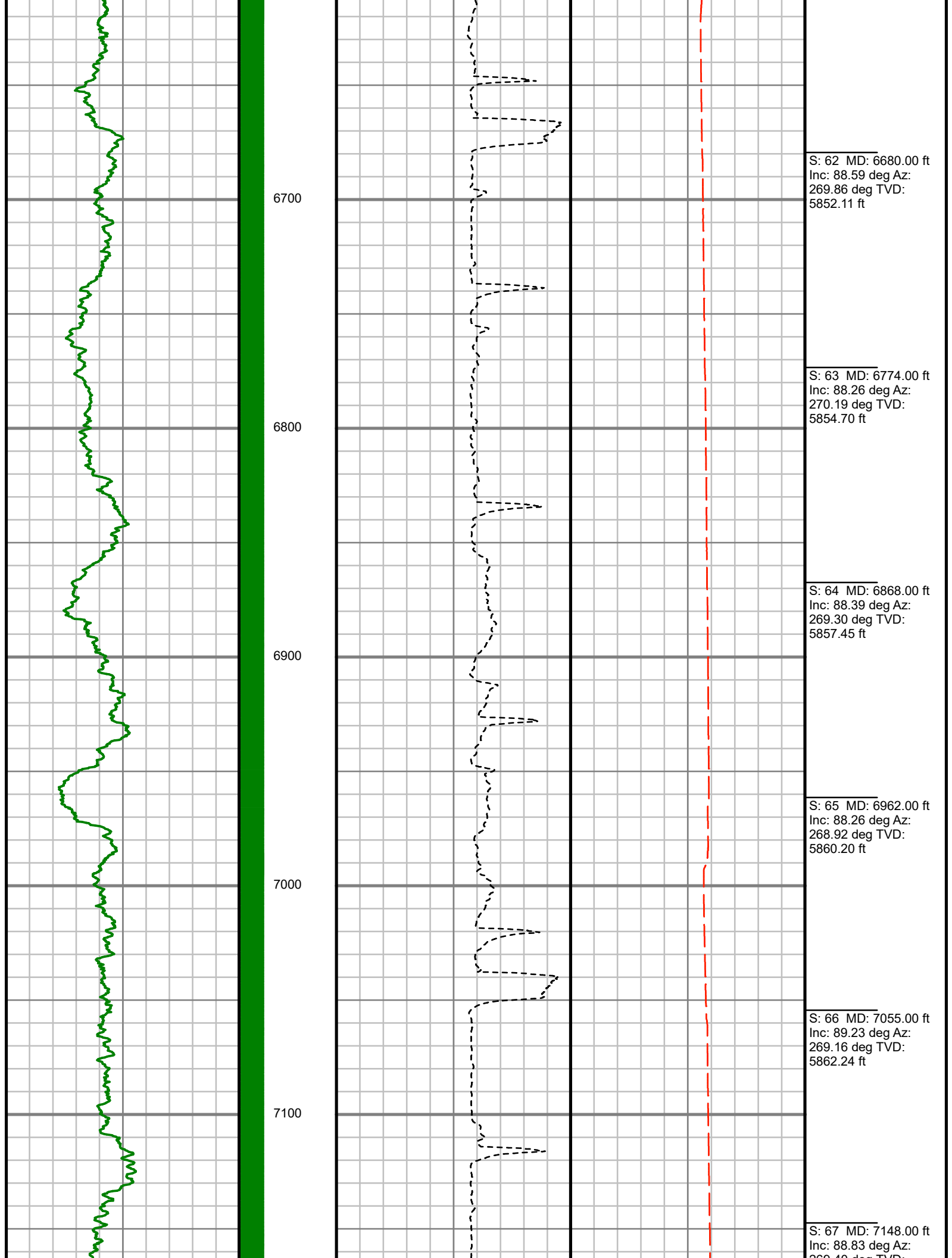
S: 51 MD: 5719.00 ft
Inc: 33.86 deg Az:
272.67 deg TVD:
5607.17 ft

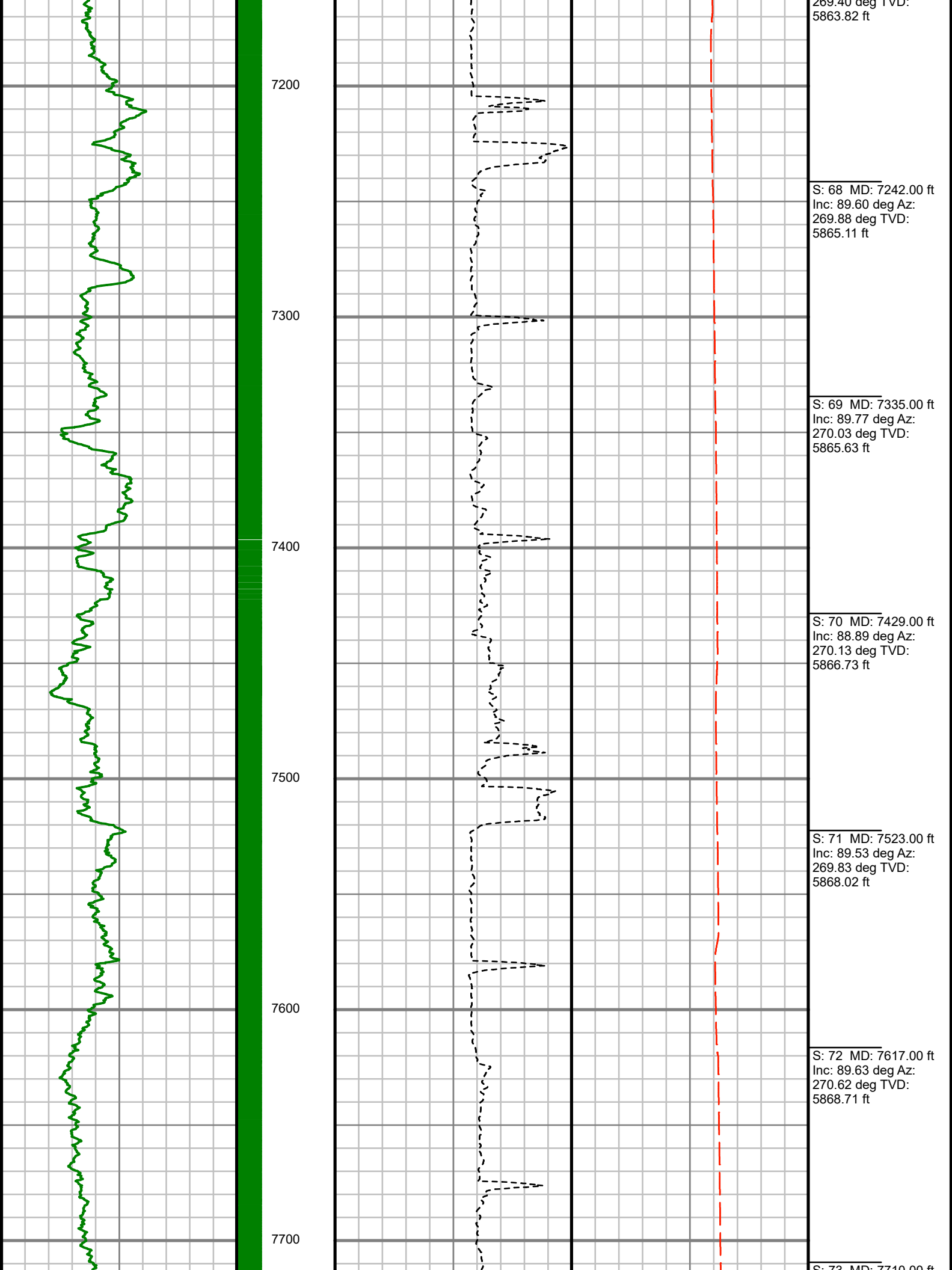
S: 52 MD: 5814.00 ft
Inc: 44.21 deg Az:
269.05 deg TVD:
5680.88 ft

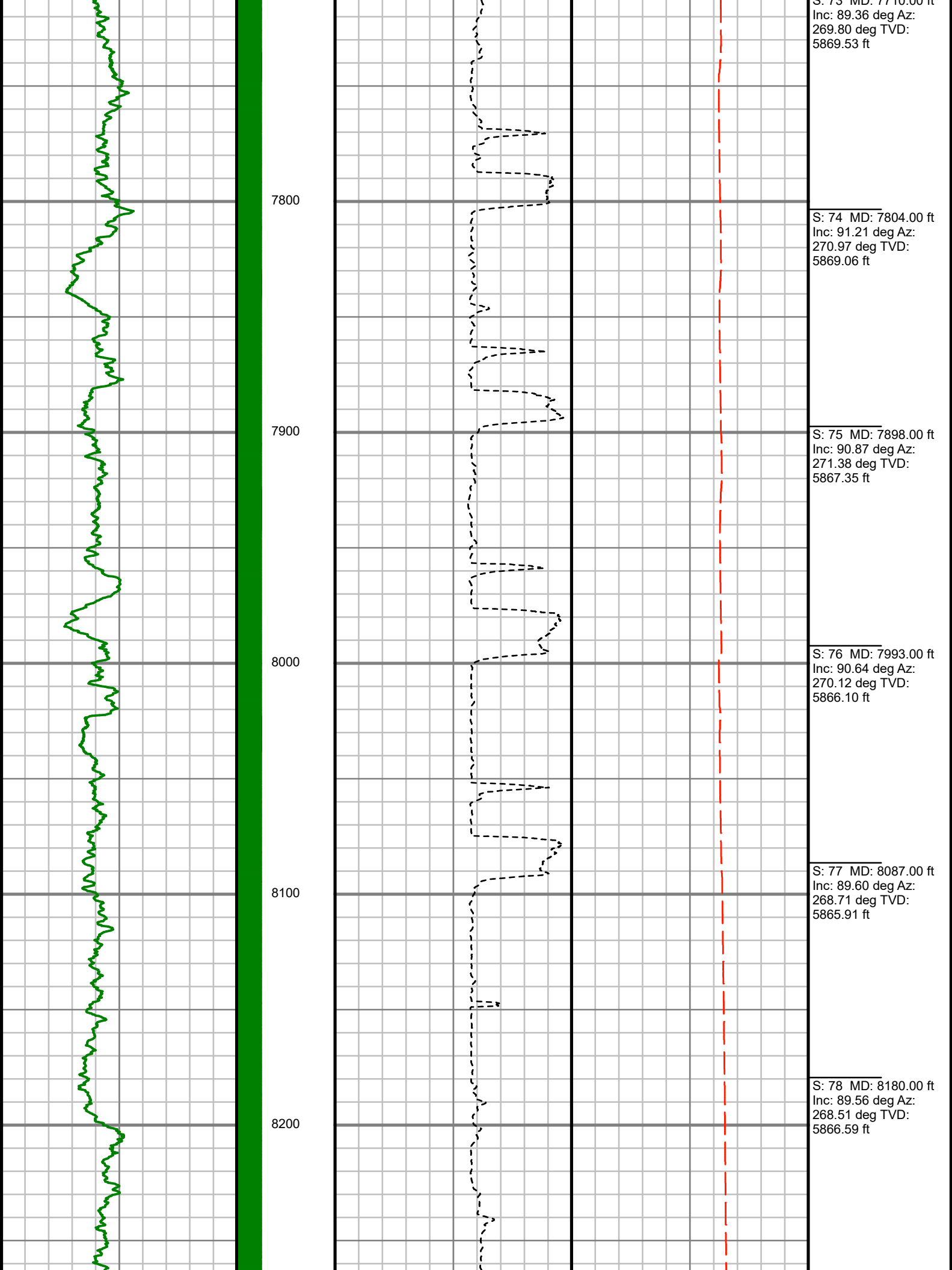
S: 53 MD: 5907.00 ft
Inc: 54.24 deg Az:
265.93 deg TVD:
5741.54 ft

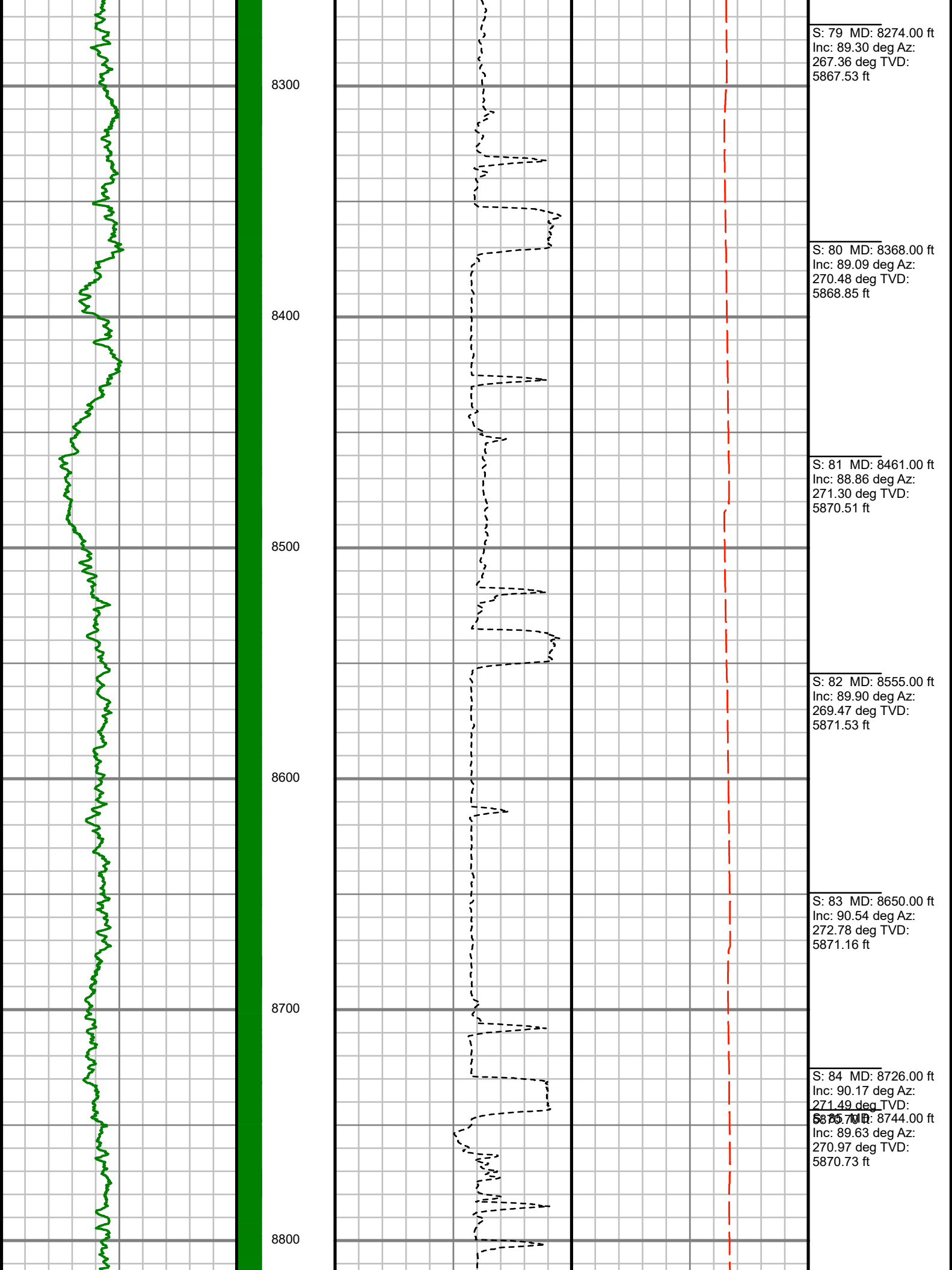
S: 54 MD: 6001.00 ft
Inc: 60.89 deg Az:
266.76 deg TVD:
5791.93 ft

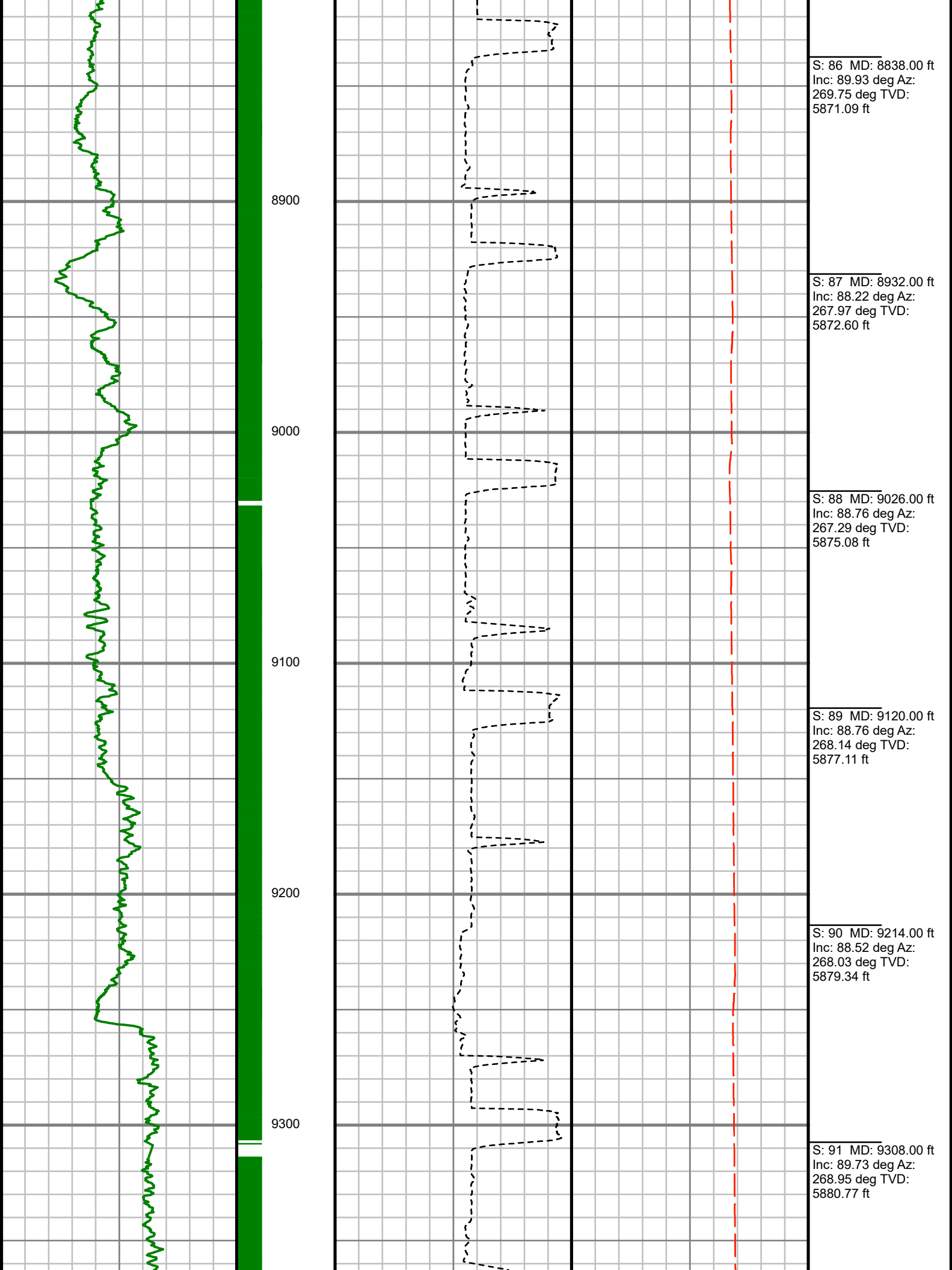


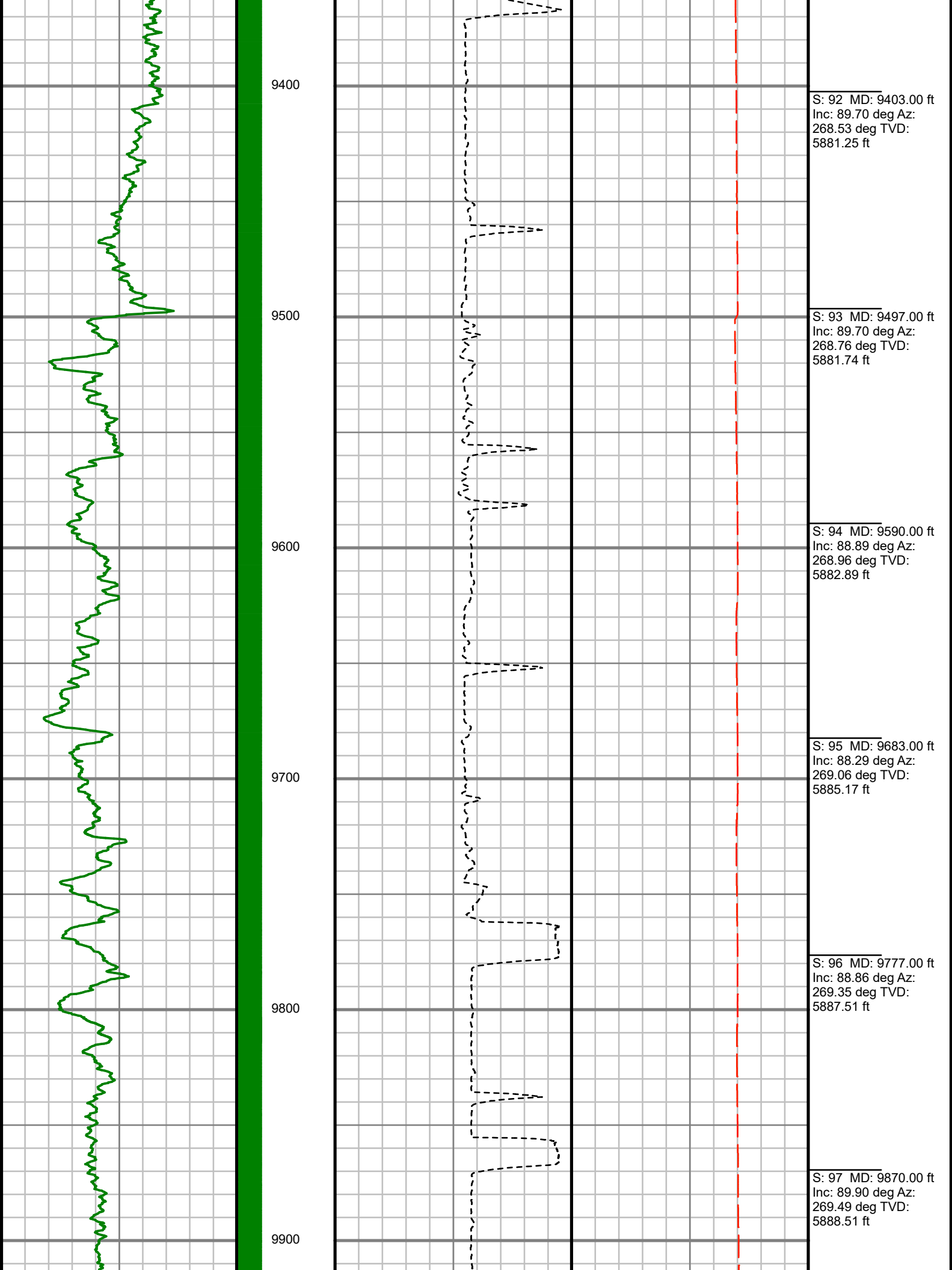


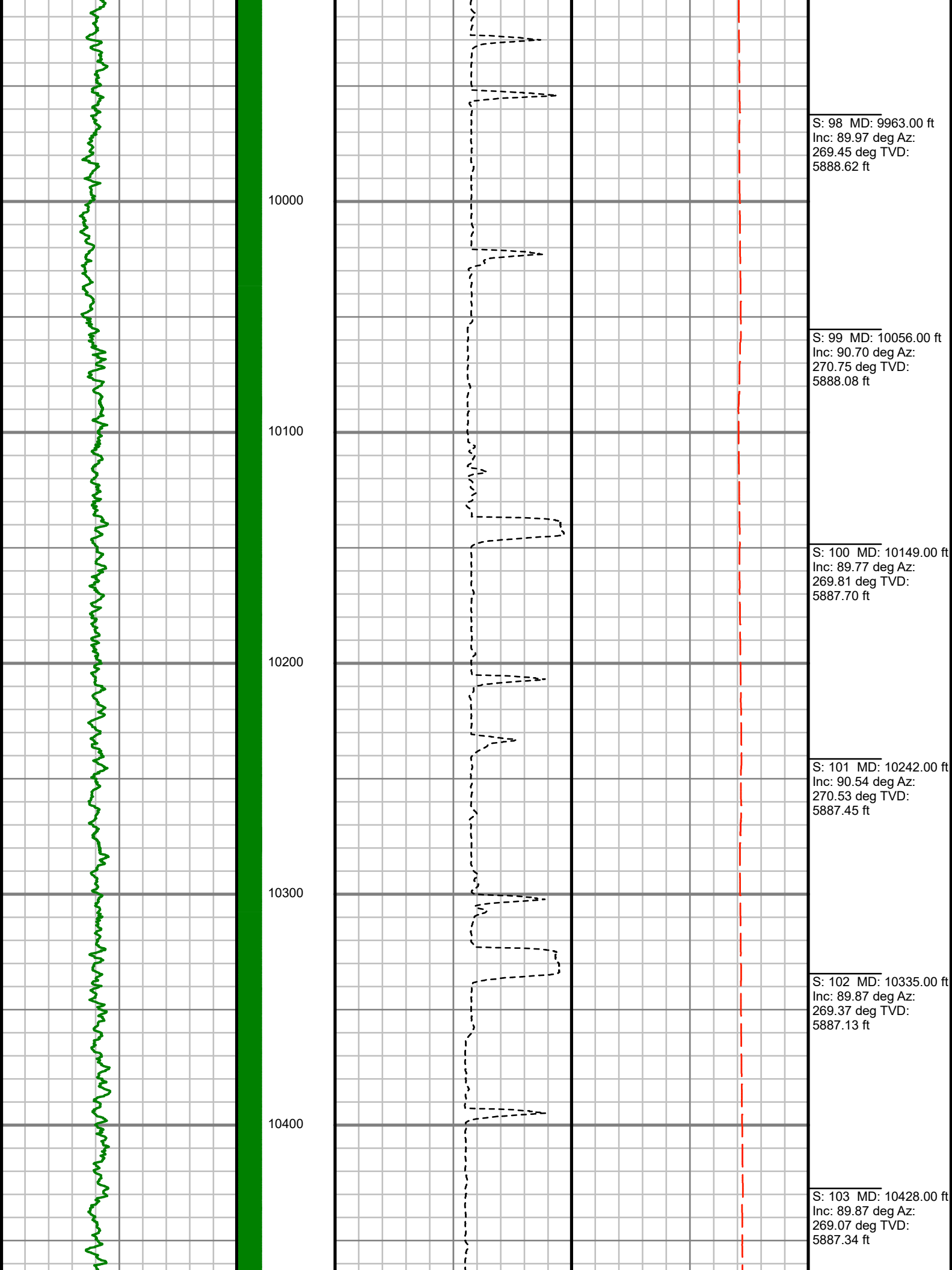


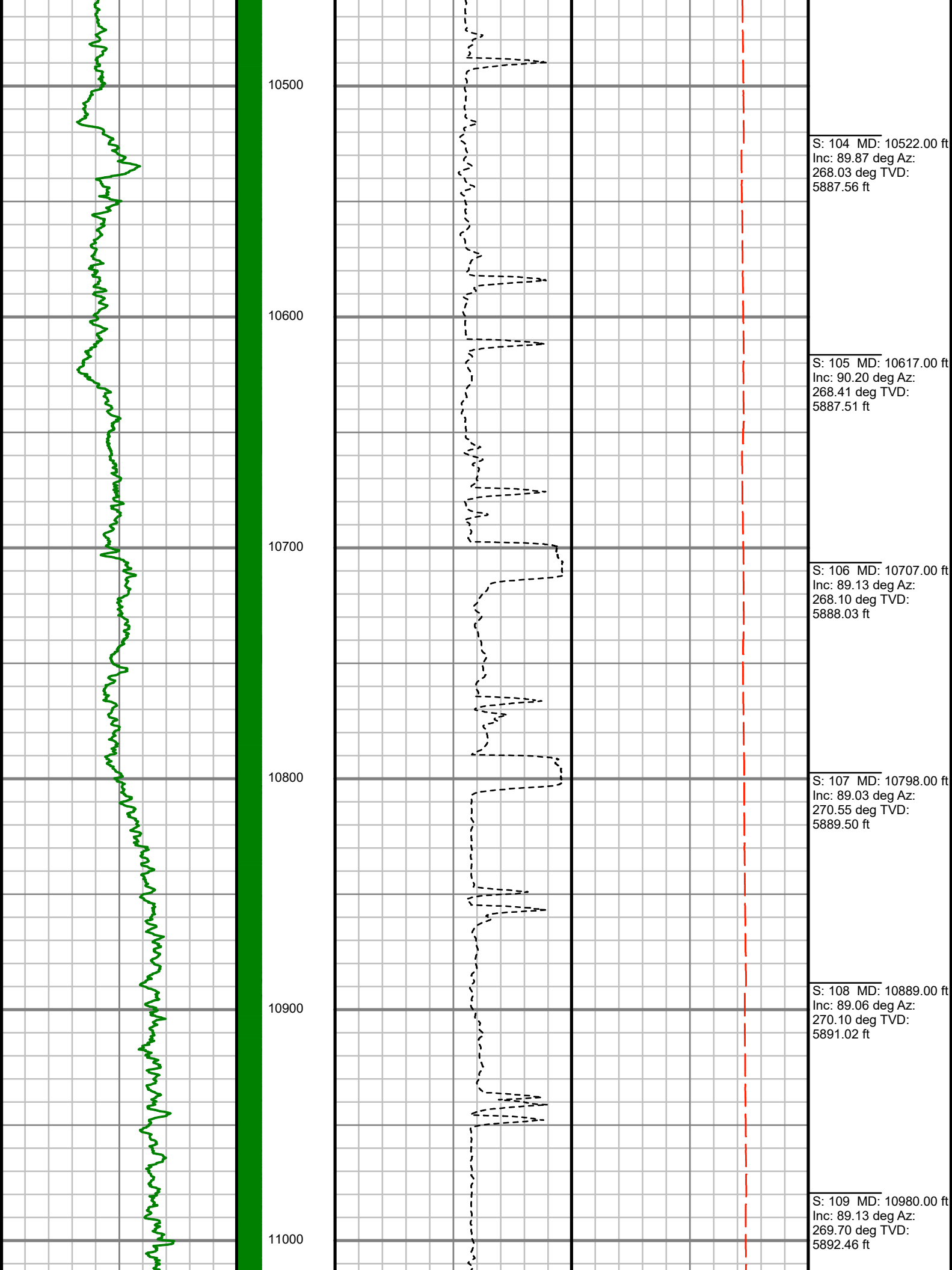


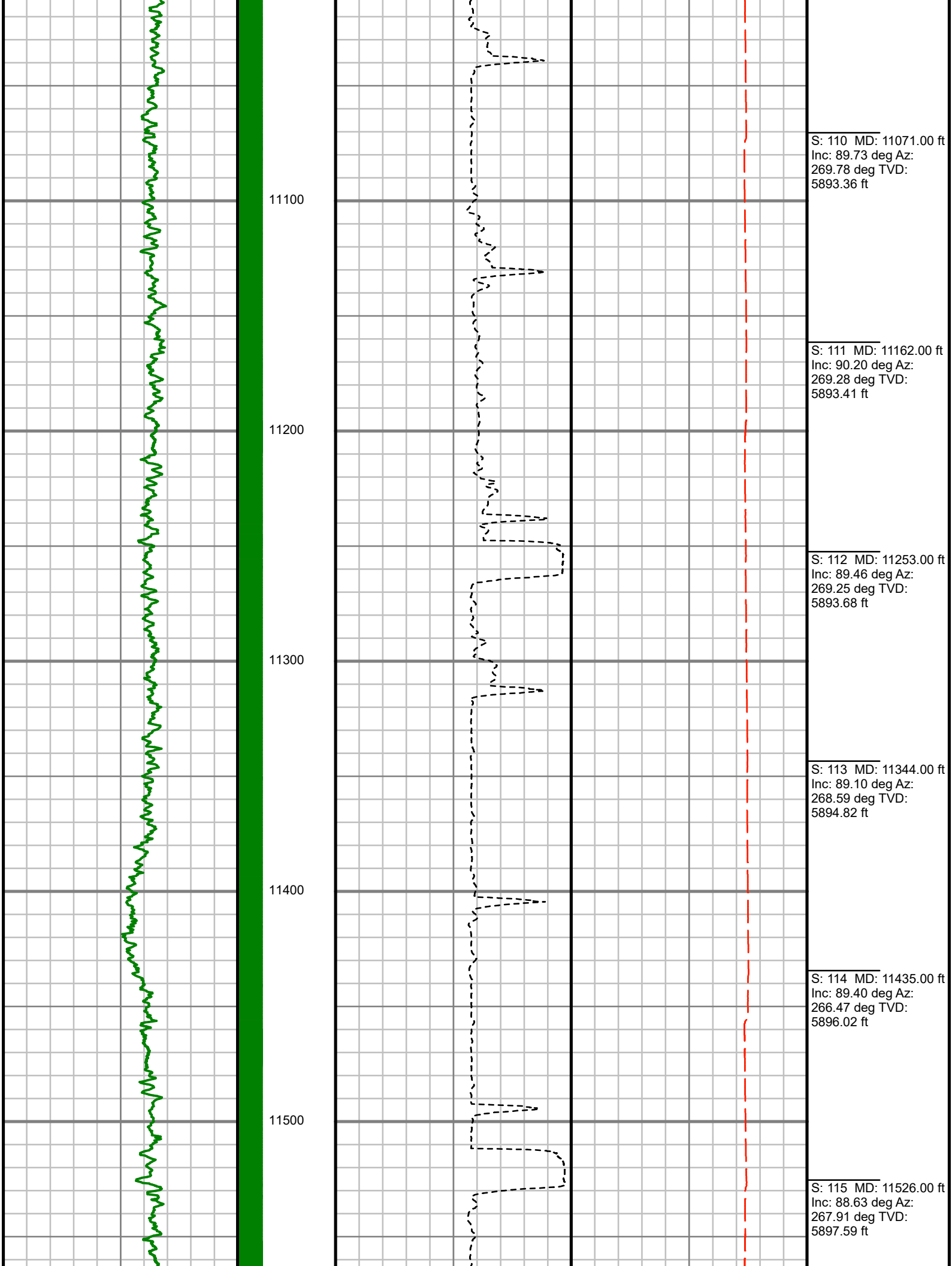


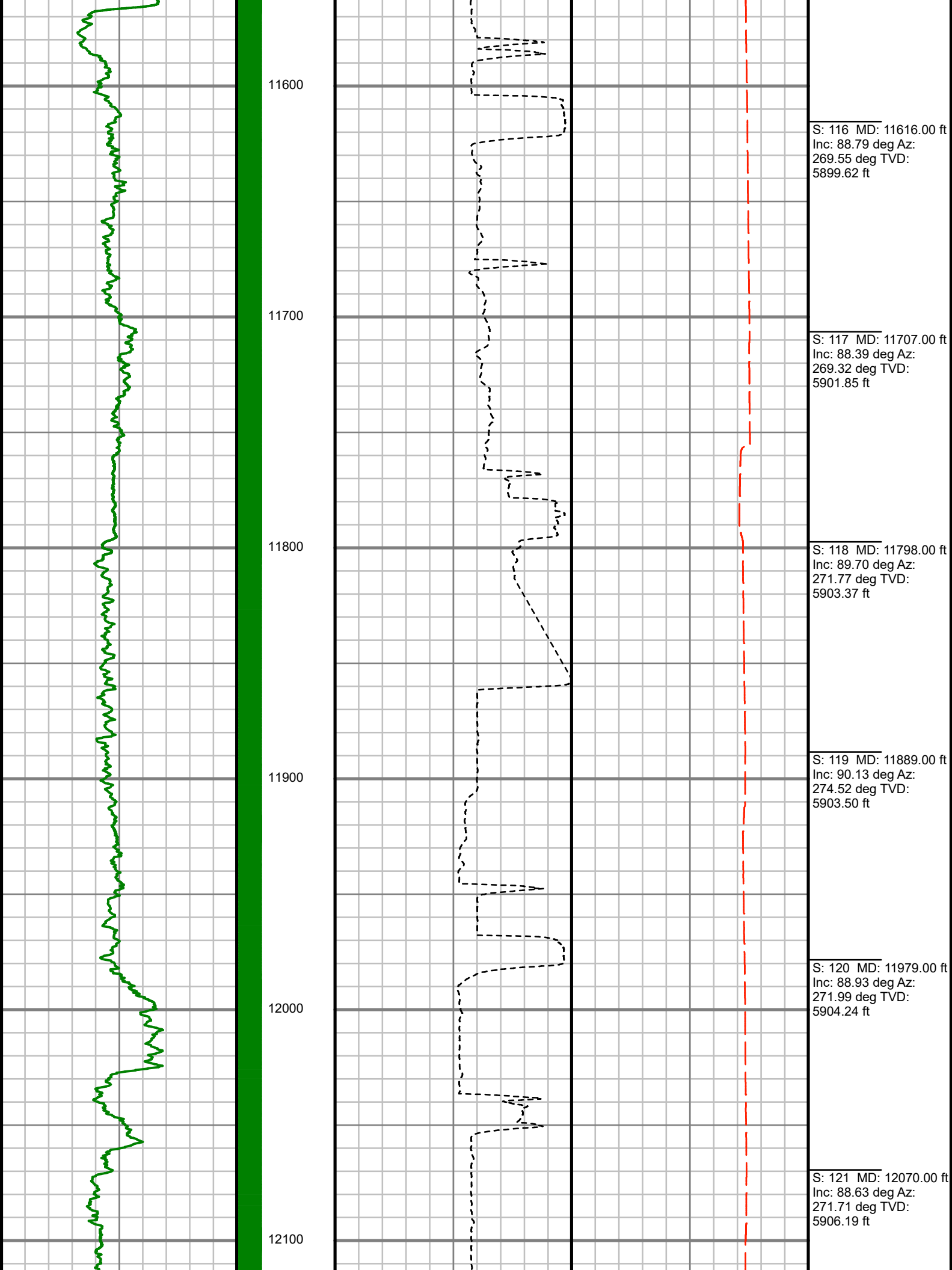


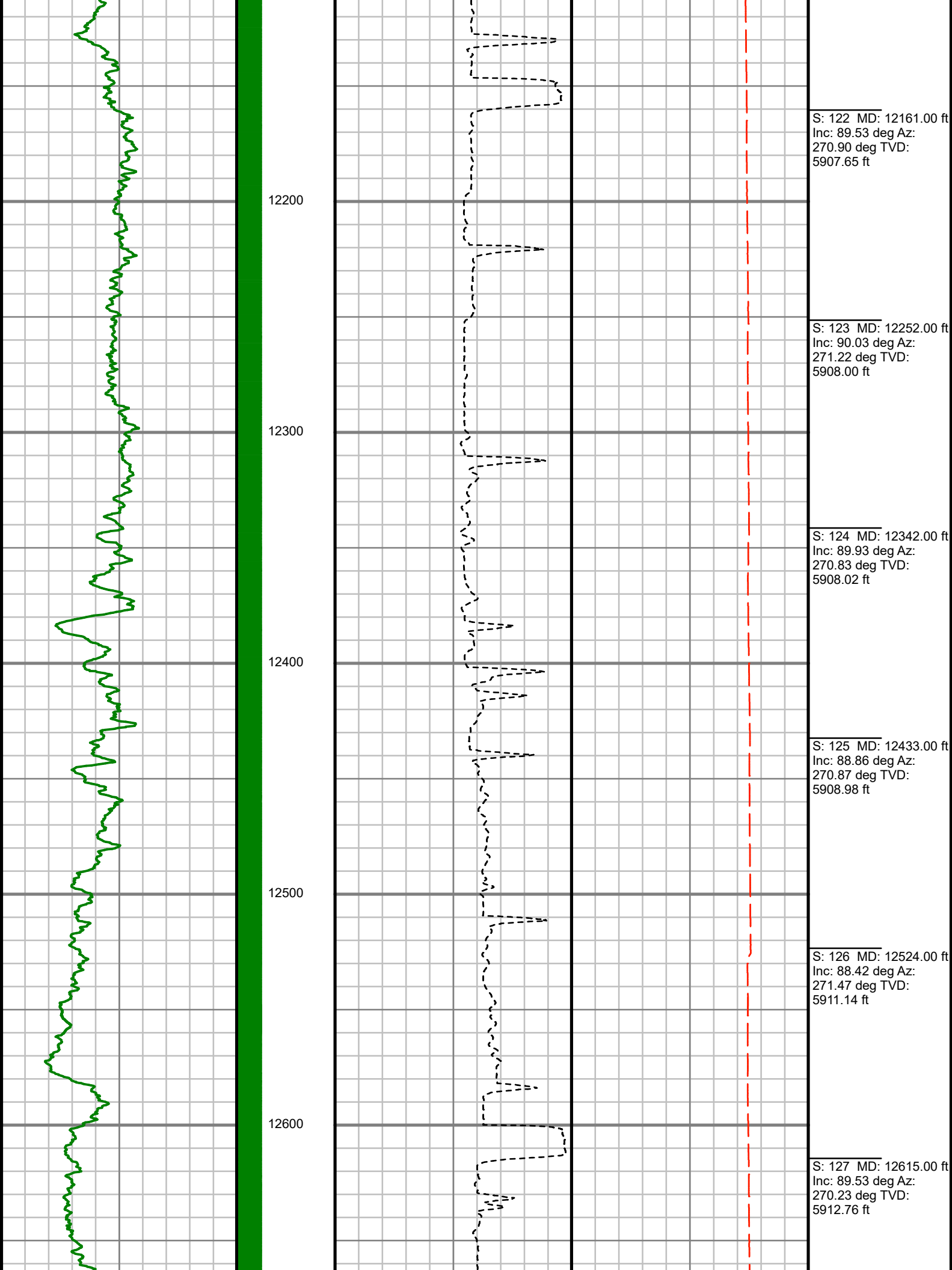


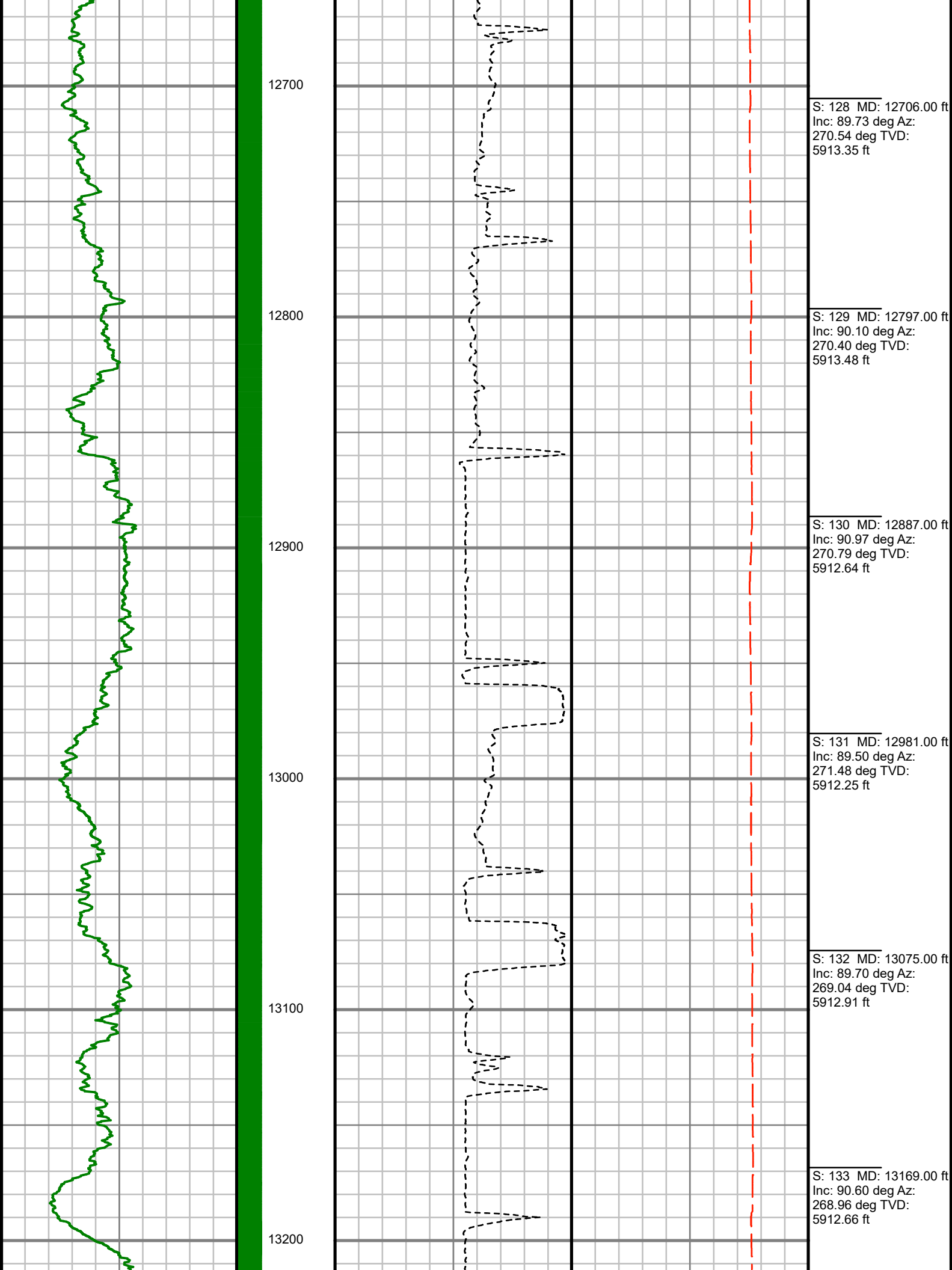


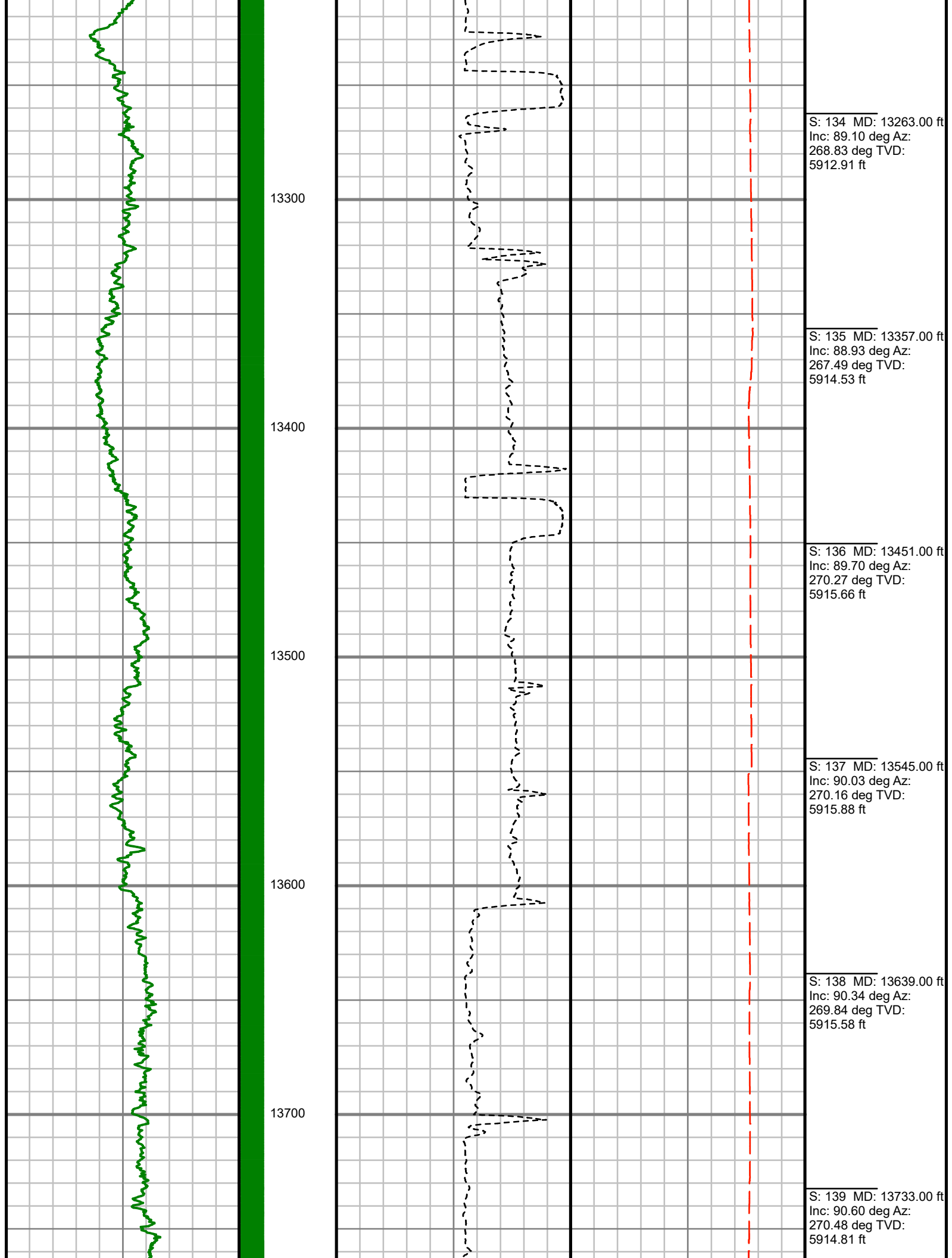


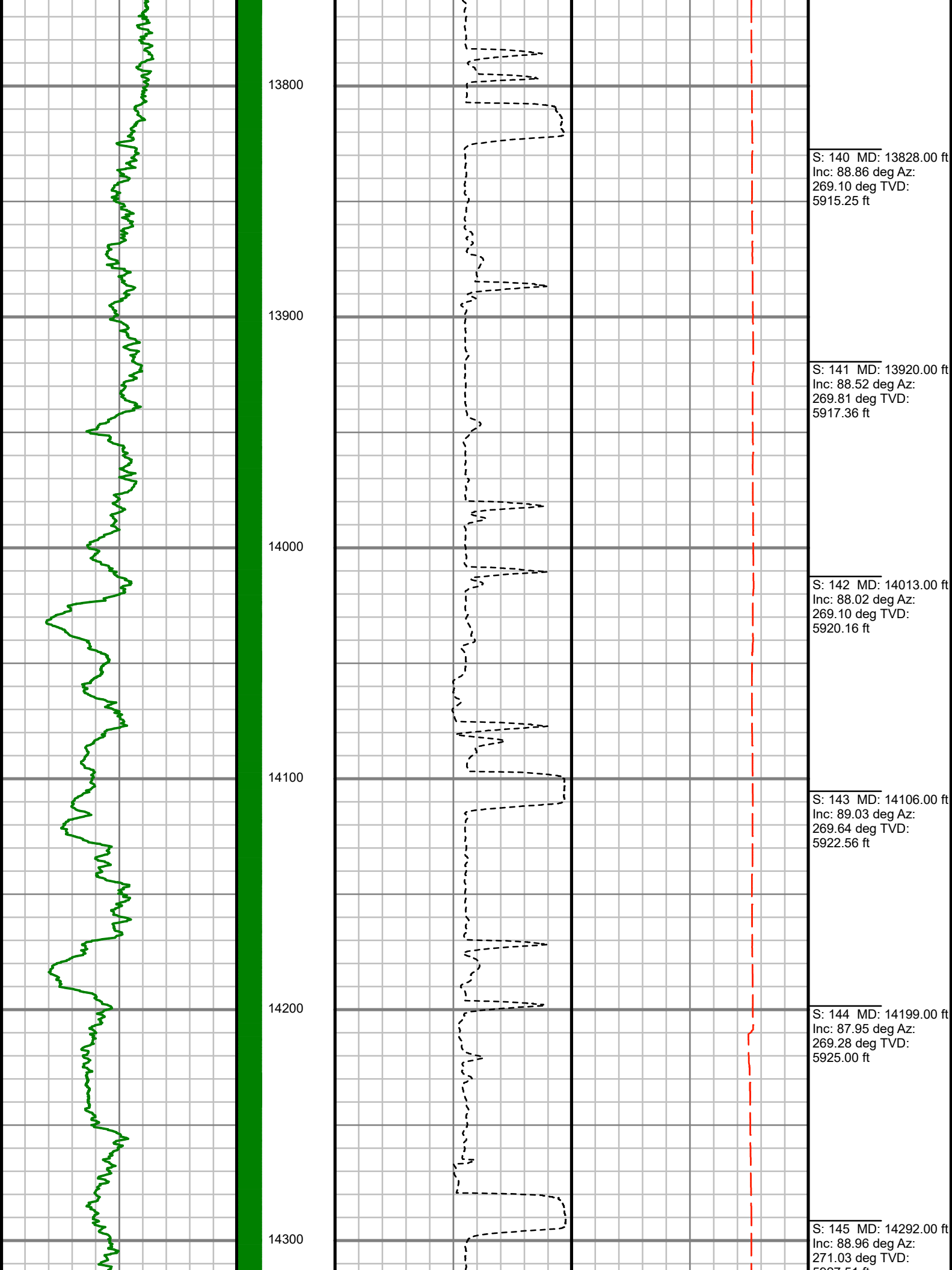


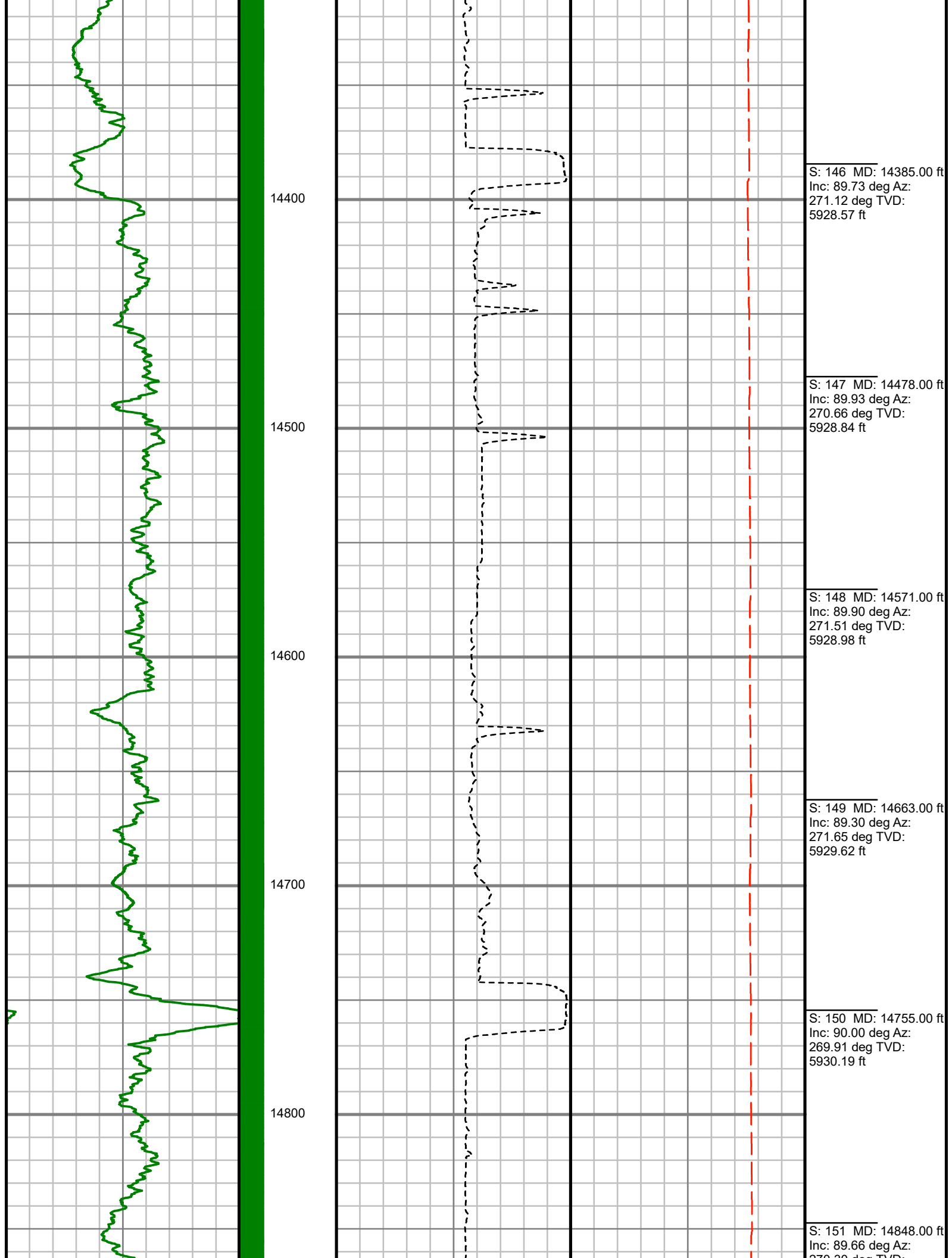


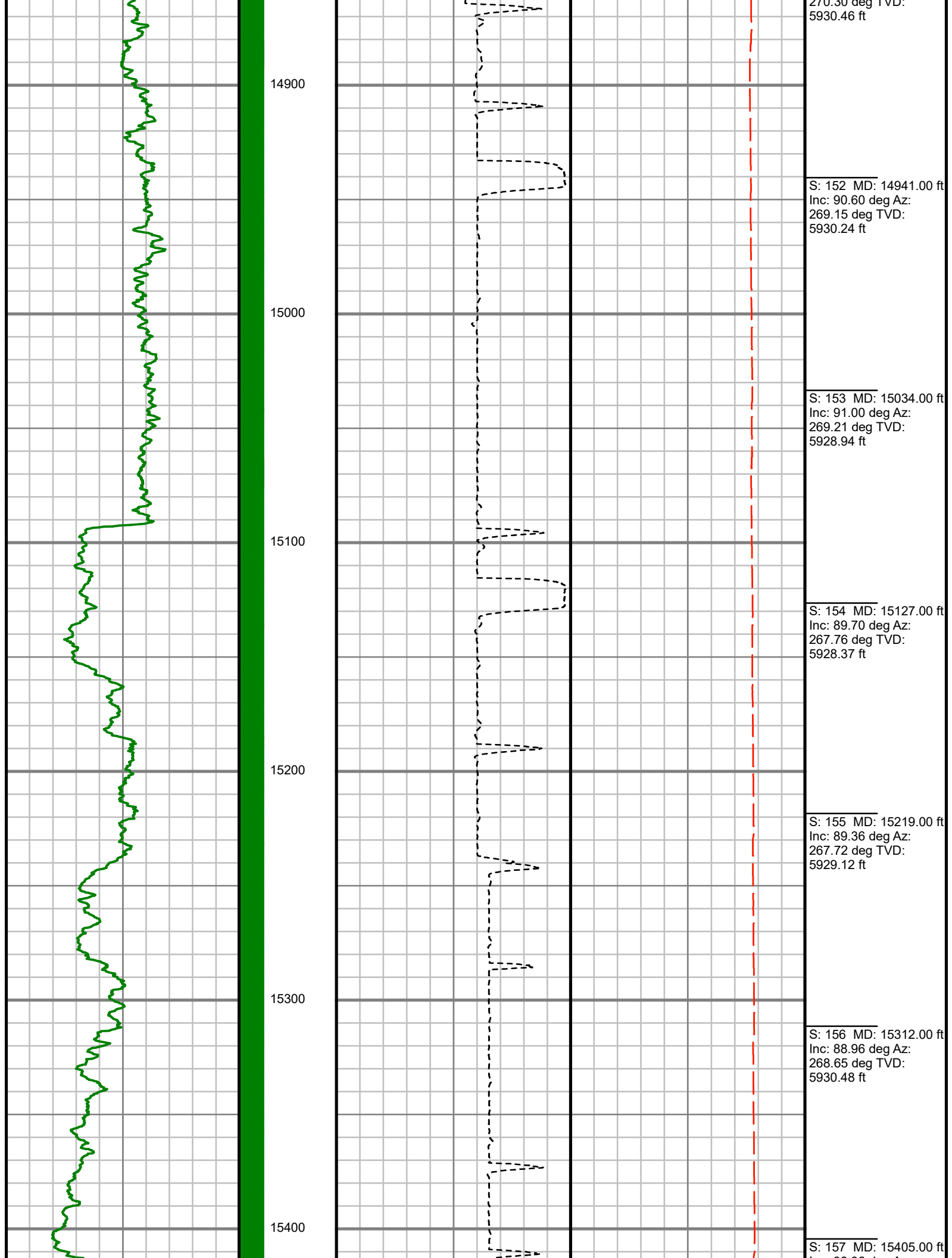


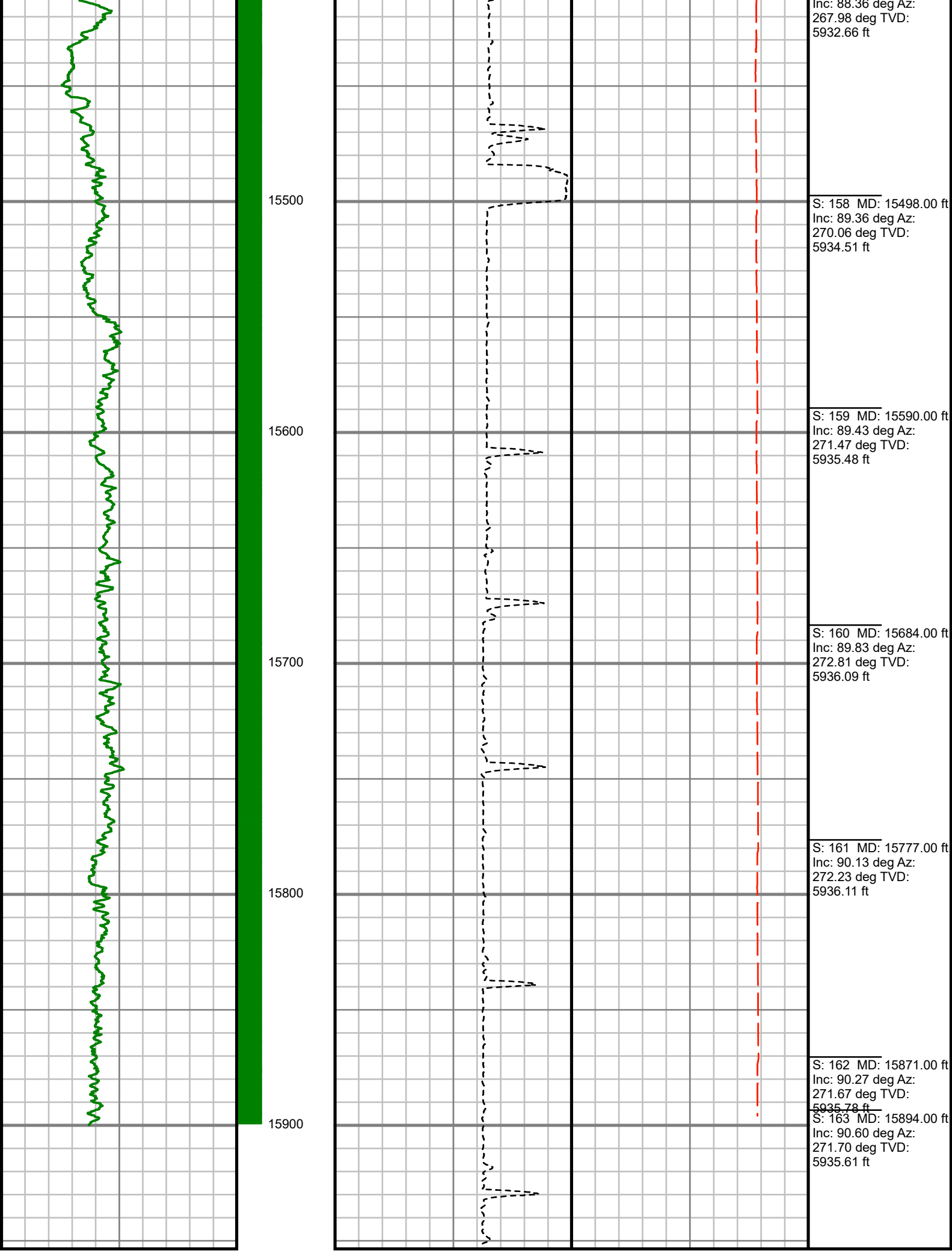












Gamma Ray Total (GR)

MD

Rate of Penetration (ROP)

Tool Temperature (T-TEMP)

Gamma Ray Total (GR)		
0	Unit = aapi	200

MEASURED DEPTH
500 (ft)

Rate of Penetration (ROP)		
1000	Unit = ft/hr	0

Tool Temperature (T-TEMP)		
0	Unit = °F	300

Comments

SURVEY REPORT

ANSCHUTZ EQUUS FARMS FED 5-61-34-4033B

COMPUTED SURVEYS

CUSTOMER HIGHPOINT RESOURCES
PROJECT ANSCHUTZ EQUUS FARMS FED
5-61-34-4033B
FIELD WATTENBERG

WELL INFORMATION

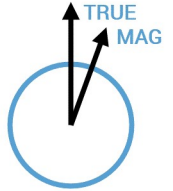
Lat/Long 40° 21' 17.02" N, 104° 11' 11.79" W
Northing 1,374,778.62 ft
Easting 3,366,024.07 ft
UWI 05-123-48184

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 269.74°
Calculation Method Minimum Curvature



GEOMAGNETIC REFERENCE INFORMATION

Local Gravity: 999.110 mG [computed]

MD	MODEL	DATE	DECLINATION	MAG TO TRUE
961-15894 ft	HDGM2018	06 Mar 2019	8.10°	add 8.1°

WELL NOTES

OPERATORS

A. FARQUHAR, M. BAILY, M. SMITH, P. FLAVIUS

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
960.50	3.91	55.85	958.04	-41.33	29.34	41.20	Invalid
1059.00	3.71	51.61	1056.32	-46.63	33.21	46.48	0.35
1149.00	4.91	45.30	1146.07	-51.67	37.72	51.50	1.43
1241.00	6.98	41.80	1237.57	-58.22	44.66	58.02	2.28
1331.00	9.74	40.67	1326.60	-66.88	54.51	66.63	3.07
1422.00	11.83	40.40	1415.99	-77.99	67.45	77.69	2.30
1512.00	13.52	41.75	1503.80	-91.04	82.33	90.68	1.91
1603.00	15.31	43.83	1591.93	-106.52	98.93	106.08	2.04
1694.00	17.80	40.48	1679.15	-123.97	118.19	123.44	2.93
1784.00	19.82	37.53	1764.34	-142.30	140.75	141.67	2.47
1875.00	20.44	36.07	1849.78	-161.16	165.83	160.42	0.88
1966.00	20.81	39.88	1934.95	-180.99	191.08	180.14	1.53
2057.00	19.36	43.35	2020.42	-201.82	214.46	200.86	2.06
2148.00	19.94	41.88	2106.12	-222.64	236.98	221.58	0.83
2239.00	20.32	43.34	2191.56	-243.94	260.02	242.78	0.69
2330.00	20.54	42.56	2276.84	-265.69	283.27	264.42	0.38
2424.00	20.19	38.59	2364.97	-287.07	308.09	285.69	1.52
2518.00	18.33	35.85	2453.71	-305.96	332.75	304.47	2.20
2612.00	15.89	35.68	2543.54	-322.22	355.18	320.63	2.60
2706.00	13.77	41.09	2634.41	-337.17	374.07	335.49	2.69

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
2801.00	11.69	43.13	2727.07	-351.25	389.62	349.51	2.24
2895.00	9.71	44.78	2819.43	-363.40	402.20	361.60	2.13
2989.00	9.58	42.79	2912.10	-374.35	413.56	372.50	0.38
3083.00	9.69	44.46	3004.78	-385.25	424.94	383.35	0.32
3178.00	7.85	49.16	3098.66	-395.80	434.89	393.85	2.07
3272.00	6.69	55.21	3191.91	-405.19	442.21	403.21	1.47
3365.00	6.31	56.43	3284.31	-413.92	448.13	411.92	0.44
3460.00	4.19	66.50	3378.91	-421.48	452.40	419.45	2.42
3554.00	2.08	84.24	3472.76	-426.33	453.95	424.30	2.44
3648.00	0.62	106.50	3566.73	-428.52	453.97	426.49	1.62
3741.00	1.52	122.80	3659.72	-430.04	453.16	428.01	1.00
3835.00	0.52	51.39	3753.70	-431.42	452.75	429.39	1.53
3930.00	1.14	16.24	3848.69	-432.02	453.93	429.99	0.81
4023.00	1.52	21.83	3941.67	-432.75	455.96	430.71	0.43
4117.00	0.85	22.83	4035.65	-433.49	457.75	431.44	0.72
4211.00	0.30	120.25	4129.64	-433.98	458.27	431.92	1.00
4305.00	0.64	58.85	4223.64	-434.64	458.42	432.59	0.60
4399.00	1.32	43.73	4317.63	-435.85	459.47	433.79	0.77
4493.00	1.06	4.76	4411.61	-436.68	461.12	434.61	0.88
4588.00	1.29	338.99	4506.59	-436.37	462.99	434.30	0.60

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
4682.00	1.52	343.60	4600.56	-435.65	465.17	433.57	0.27
4776.00	0.58	202.60	4694.55	-435.12	465.92	433.03	2.14
4870.00	0.71	171.53	4788.55	-435.02	464.90	432.94	0.39
4964.00	0.66	211.03	4882.54	-434.82	463.86	432.74	0.50
5058.00	1.25	223.25	4976.53	-433.84	462.66	431.76	0.66
5152.00	0.66	238.63	5070.51	-432.67	461.63	430.60	0.68
5247.00	0.54	249.12	5165.51	-431.78	461.18	429.72	0.17
5342.00	4.30	254.23	5260.41	-427.93	460.06	425.87	3.96
5437.00	13.06	279.05	5354.25	-413.87	460.78	411.81	9.82
5531.00	24.53	278.38	5443.09	-384.00	465.30	381.91	12.20
5625.00	29.03	273.82	5527.00	-341.93	469.67	339.83	5.26
5719.00	33.86	272.67	5607.17	-293.00	472.41	290.88	5.17
5814.00	44.21	269.05	5680.88	-233.28	473.09	231.16	11.15
5907.00	54.24	265.93	5741.54	-163.02	469.87	160.92	11.09
6001.00	60.89	266.76	5791.93	-83.87	464.84	81.78	7.11
6095.00	73.94	268.11	5827.95	2.66	461.01	-4.73	13.94
6189.00	84.97	268.33	5845.14	94.90	458.15	-96.96	11.74
6216.00	87.39	268.71	5846.94	121.83	457.45	-123.88	9.09
6306.00	90.57	267.87	5848.54	211.78	454.76	-213.82	3.65
6400.00	88.86	269.51	5849.00	305.75	452.61	-307.79	2.52

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS %/100ft
6493.00	89.87	271.18	5850.04	398.74	453.17	-400.77	2.10
6587.00	89.50	270.65	5850.56	492.72	454.67	-494.76	0.69
6680.00	88.59	269.86	5852.11	585.70	455.08	-587.74	1.29
6774.00	88.26	270.19	5854.70	679.66	455.12	-681.71	0.50
6868.00	88.39	269.30	5857.45	773.62	454.70	-775.67	0.96
6962.00	88.26	268.92	5860.20	867.57	453.24	-869.61	0.43
7055.00	89.23	269.16	5862.24	960.54	451.69	-962.58	1.08
7148.00	88.83	269.40	5863.82	1053.53	450.52	-1055.56	0.50
7242.00	89.60	269.88	5865.11	1147.52	449.93	-1149.54	0.97
7335.00	89.77	270.03	5865.63	1240.51	449.86	-1242.54	0.24
7429.00	88.89	270.13	5866.73	1334.50	449.99	-1336.54	0.93
7523.00	89.53	269.83	5868.02	1428.49	449.95	-1430.53	0.75
7617.00	89.63	270.62	5868.71	1522.49	450.32	-1524.52	0.86
7710.00	89.36	269.80	5869.53	1615.48	450.66	-1617.52	0.93
7804.00	91.21	270.97	5869.06	1709.47	451.29	-1711.51	2.33
7898.00	90.87	271.38	5867.35	1803.42	453.22	-1805.47	0.56
7993.00	90.64	270.12	5866.10	1898.40	454.47	-1900.45	1.35
8087.00	89.60	268.71	5865.91	1992.39	453.50	-1994.45	1.87
8180.00	89.56	268.51	5866.59	2085.37	451.25	-2087.42	0.21
8274.00	89.30	267.36	5867.53	2179.32	447.86	-2181.35	1.25

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS %/100ft
8368.00	89.09	270.48	5868.85	2273.29	446.10	-2275.31	3.32
8461.00	88.86	271.30	5870.51	2366.25	447.54	-2368.28	0.91
8555.00	89.90	269.47	5871.53	2460.24	448.17	-2462.27	2.24
8650.00	90.54	272.78	5871.16	2555.19	450.02	-2557.24	3.55
8726.00	90.17	271.49	5870.70	2631.12	452.85	-2633.18	1.76
8744.00	89.63	270.97	5870.73	2649.12	453.24	-2651.18	4.14
8838.00	89.93	269.75	5871.09	2743.11	453.83	-2745.17	1.34
8932.00	88.22	267.97	5872.60	2837.08	451.97	-2839.14	2.63
9026.00	88.76	267.29	5875.08	2930.98	448.08	-2933.02	0.92
9120.00	88.76	268.14	5877.11	3024.90	444.33	-3026.92	0.91
9214.00	88.52	268.03	5879.34	3118.83	441.20	-3120.85	0.28
9308.00	89.73	268.95	5880.77	3212.80	438.72	-3214.80	1.62
9403.00	89.70	268.53	5881.25	3307.78	436.64	-3309.77	0.44
9497.00	89.70	268.76	5881.74	3401.76	434.42	-3403.75	0.24
9590.00	88.89	268.96	5882.89	3494.75	432.57	-3496.72	0.89
9683.00	88.29	269.06	5885.17	3587.71	430.97	-3589.68	0.66
9777.00	88.86	269.35	5887.51	3681.68	429.66	-3683.64	0.68
9870.00	89.90	269.49	5888.51	3774.67	428.72	-3776.63	1.13
9963.00	89.97	269.45	5888.62	3867.67	427.86	-3869.62	0.08
10056.00	90.70	270.75	5888.08	3960.66	428.02	-3962.62	1.61

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS %/100ft
10149.00	89.77	269.81	5887.70	4053.65	428.47	-4055.62	1.43
10242.00	90.54	270.53	5887.45	4146.65	428.75	-4148.61	1.13
10335.00	89.87	269.37	5887.13	4239.65	428.67	-4241.61	1.44
10428.00	89.87	269.07	5887.34	4332.64	427.40	-4334.60	0.33
10522.00	89.87	268.03	5887.56	4426.62	425.02	-4428.57	1.10
10617.00	90.20	268.41	5887.51	4521.59	422.07	-4523.52	0.53
10707.00	89.13	268.10	5888.03	4611.55	419.33	-4613.48	1.24
10798.00	89.03	270.55	5889.50	4702.53	418.26	-4704.45	2.69
10889.00	89.06	270.10	5891.02	4793.51	418.78	-4795.44	0.50
10980.00	89.13	269.70	5892.46	4884.50	418.62	-4886.43	0.44
11071.00	89.73	269.78	5893.36	4975.50	418.21	-4977.42	0.67
11162.00	90.20	269.28	5893.41	5066.50	417.46	-5068.42	0.76
11253.00	89.46	269.25	5893.68	5157.49	416.28	-5159.41	0.81
11344.00	89.10	268.59	5894.82	5248.47	414.56	-5250.39	0.83
11435.00	89.40	266.47	5896.02	5339.39	410.65	-5341.29	2.35
11526.00	88.63	267.91	5897.59	5430.29	406.19	-5432.16	1.79
11616.00	88.79	269.55	5899.62	5520.25	404.20	-5522.12	1.84
11707.00	88.39	269.32	5901.85	5611.22	403.30	-5613.08	0.51
11798.00	89.70	271.77	5903.37	5702.19	404.17	-5704.06	3.06
11889.00	90.13	274.52	5903.50	5793.02	409.16	-5794.91	3.06

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS %/100ft
11979.00	88.93	271.99	5904.24	5882.84	414.27	-5884.75	3.11
12070.00	88.63	271.71	5906.19	5973.75	417.20	-5975.69	0.45
12161.00	89.53	270.90	5907.65	6064.71	419.28	-6066.65	1.33
12252.00	90.03	271.22	5908.00	6155.68	420.96	-6157.63	0.65
12342.00	89.93	270.83	5908.02	6245.66	422.58	-6247.62	0.44
12433.00	88.86	270.87	5908.98	6336.64	423.93	-6338.60	1.18
12524.00	88.42	271.47	5911.14	6427.58	425.79	-6429.56	0.82
12615.00	89.53	270.23	5912.76	6518.55	427.15	-6520.53	1.83
12706.00	89.73	270.54	5913.35	6609.54	427.76	-6611.52	0.41
12797.00	90.10	270.40	5913.48	6700.53	428.51	-6702.52	0.43
12887.00	90.97	270.79	5912.64	6790.52	429.45	-6792.51	1.06
12981.00	89.50	271.48	5912.25	6884.48	431.30	-6886.49	1.73
13075.00	89.70	269.04	5912.91	6978.47	431.73	-6980.48	2.60
13169.00	90.60	268.96	5912.66	7072.46	430.09	-7074.46	0.97
13263.00	89.10	268.83	5912.91	7166.45	428.28	-7168.44	1.61
13357.00	88.93	267.49	5914.53	7260.40	425.26	-7262.38	1.44
13451.00	89.70	270.27	5915.66	7354.37	423.42	-7356.34	3.07
13545.00	90.03	270.16	5915.88	7448.37	423.77	-7450.34	0.37
13639.00	90.34	269.84	5915.58	7542.36	423.77	-7544.34	0.47
13733.00	90.60	270.48	5914.81	7636.36	424.04	-7638.34	0.74

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
13828.00	88.86	269.10	5915.25	7731.35	423.69	-7733.33	2.34
13920.00	88.52	269.81	5917.36	7823.32	422.82	-7825.30	0.85
14013.00	88.02	269.10	5920.16	7916.28	421.93	-7918.25	0.93
14106.00	89.03	269.64	5922.56	8009.25	420.91	-8011.21	1.23
14199.00	87.95	269.28	5925.00	8102.21	420.03	-8104.18	1.22
14292.00	88.96	271.03	5927.51	8195.17	420.29	-8197.14	2.18
14385.00	89.73	271.12	5928.57	8288.14	422.03	-8290.11	0.83
14478.00	89.93	270.66	5928.84	8381.12	423.47	-8383.10	0.54
14571.00	89.90	271.51	5928.98	8474.09	425.23	-8476.09	0.92
14663.00	89.30	271.65	5929.62	8566.04	427.76	-8568.05	0.67
14755.00	90.00	269.91	5930.19	8658.02	429.01	-8660.03	2.04
14848.00	89.66	270.30	5930.46	8751.02	429.18	-8753.03	0.55
14941.00	90.60	269.15	5930.24	8844.02	428.73	-8846.03	1.59
15034.00	91.00	269.21	5928.94	8937.00	427.40	-8939.01	0.44
15127.00	89.70	267.76	5928.37	9029.97	424.94	-9031.97	2.09
15219.00	89.36	267.72	5929.12	9121.91	421.31	-9123.90	0.37
15312.00	88.96	268.65	5930.48	9214.87	418.36	-9216.84	1.09
15405.00	88.36	267.98	5932.66	9307.81	415.62	-9309.77	0.97
15498.00	89.36	270.06	5934.51	9400.78	414.03	-9402.73	2.49
15590.00	89.43	271.47	5935.48	9492.76	415.27	-9494.72	1.54

MD ft	Inc deg	Azim deg	TVD ft	VS ft	+N/-S ft	+E/-W ft	DLS °/100ft
15684.00	89.83	272.81	5936.09	9586.67	418.78	-9588.65	1.48
15777.00	90.13	272.23	5936.11	9679.56	422.86	-9681.56	0.71
15871.00	90.27	271.67	5935.78	9773.49	426.06	-9775.50	0.61
15894.00	90.60	271.70	5935.61	9796.48	426.74	-9798.49	1.46



Scientific Drilling

GAMMA RAY

2" = 100' MD