



1 : 600 / 1 : 240

WELL INFORMATION					
MWD Run Number	100	200			
Date run completed	17-Apr-15	27-Apr-15			
Rig Bit Number	2	0200			
Bit Size (in)	8.750	6.125			
Tool Nominal OD (in)	6.750	4.750			
Log Start Depth (MD, ft)	698.00	6,406.00			
Log End Depth (MD, ft)	5,615.00	10,343.00			
Drill or Wipe	Drill	Drill			
Drill/Wipe Start Date and Time	16-Apr-15 19:24	25-Apr-15 16:00			
Drill/Wipe End Date and Time	17-Apr-15 14:00	27-Apr-15 03:00			
Min Inc (deg) @ Depth (MD, ft)	0.66 @ 5,410.00	84.19 @ 6,424.00			
Max Inc (deg) @ Depth (MD, ft)	15.57 @ 5,505.00	92.10 @ 8,217.00			
Bit TFA(in2) / Bit Type	1.21 / PDC	0.65 / PDC			
Flow Rate (gpm)	591.72	299.10			
Max AV (fpm) / CV (fpm) @ MWD	N/A / N/A	N/A / N/A			
Fluid Type	Fresh Water Gel	Fresh Water Gel			
Density (ppg) / Viscosity (spqt)	9.47 / 28.00	10.30 / 43.00			
Filtrate CL (ppm)	1,200.00	16,000.00			
pH / Fluid Loss (mptm)	8.50 / 50	9.20 / 9			
PV (cP) / YP (lhf2)	7 / 7.00	12 / 9.00			
% Solids / % Sand	0.50 / 0.10	4 / 0.30			
% Oil / Oil:Water Ratio	N/A / N/A	N/A / N/A			
Rm @ Measured Temp (degF)	N/A @ N/A	N/A @ N/A			
Rmf @ Measured Temp (degF)	N/A @ N/A	N/A @ N/A			
Rmc @ Measured Temp (degF)	N/A @ N/A	N/A @ N/A			
Max Tool Temp (in F) / S	127.50 / PCM	210.00 / PCM			

Max Tool Temp (degF) / Source	137.50 / PCM	212.92 / PCM			
Rm @ Max Tool Temp (degF)	N/A @ N/A	N/A @ N/A			
Lead MWD Engineer	Paul Kock	Adam Sampson			
Customer Representative	Justin Fields	Mike Pino			

SENSOR INFORMATION

Downhole Processor Information

Tool Type	PCM	PCM			
Software Version	5.93	5.93			
Sub Serial Number	246473	12301676			
Insert Serial Number	11619996	11619996			
Date and Time Initialized	16-Apr-15 00:40	24-Apr-15 20:43			
Date and Time Read	18-Apr-15 10:22	27-Apr-15 09:40			
ECMB SW Version	N/A	N/A			

Directional Sensor Information

Tool Type	PCDC	PCDC			
Distance From Bit (ft)	55.00	68.00			
Software Version	6.33	6.21			
Sub Serial Number	246473	12301676			
Sonde Serial Number	11638623	11833222			
Sensor ID Number	N/A	N/A			
Toolface Offset (deg)	5.40	310.60			

Gamma Ray Sensor Information

Tool Type	PCG	PCG			
Distance From Bit (ft)	48.51	61.31			
Recorded Sample Period (sec)	10	10			
Software Version	8.15	8.15			
Sub Serial Number	246473	12301676			
Insert/Sonde Serial Number	12071280	11579787			

REMARKS

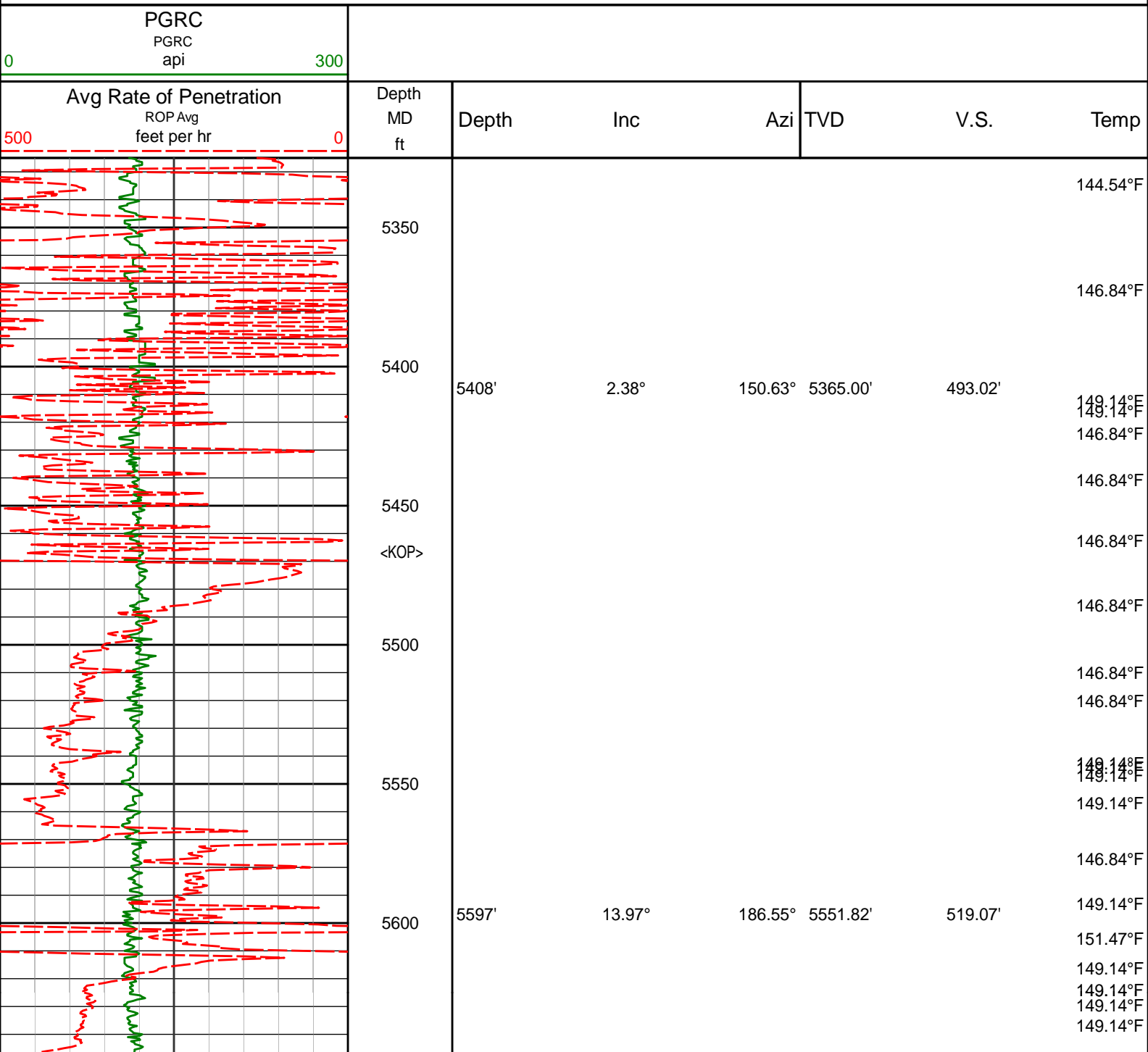
1. All depths are calibrated to the driller's pipe tally and are measured from the Rig drill floor.
2. No depth corrections have been made for pipe stretch or compression.
3. All data presented is recorded (memory data) unless otherwise stated.
 - ROPA: Average Rate of Penetration is real time data.
 - PGRC: Smooth Pressure Case Gamma Ray Borehole corrected is recorded data.
4. The following smoothing parameters have been applied to the data:
 - All ROP in logs - 0.5 ft interval, 1.2 ft coercion distance.
 - Gamma in 2" (1:600) logs - 1 ft interval, 3 ft coercion distance.
 - Gamma in 5" (1:240) logs - 0.5 ft interval, 0.6 ft coercion distance.
5. INSITE version 8.1.10.

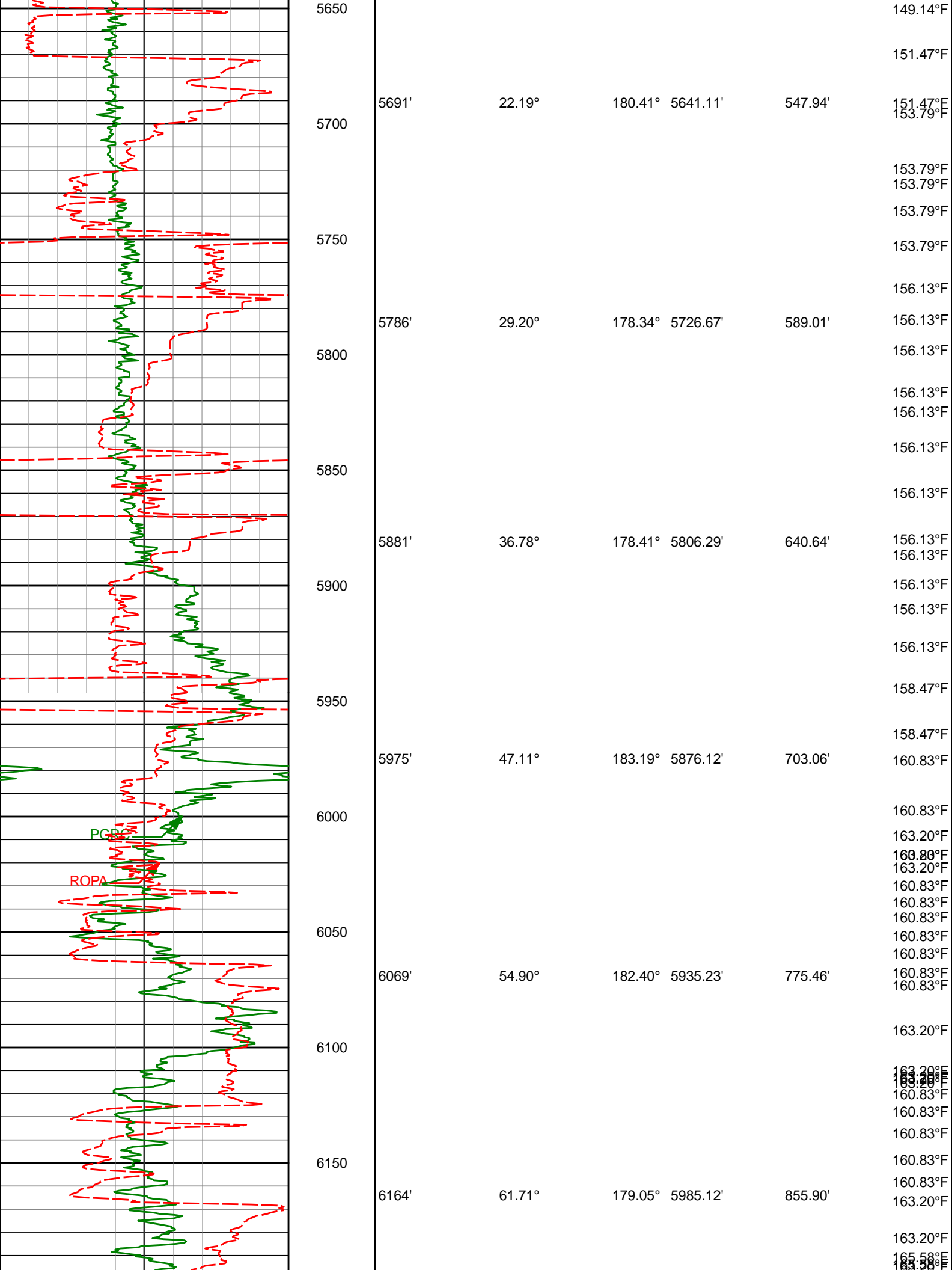
WARRANTY

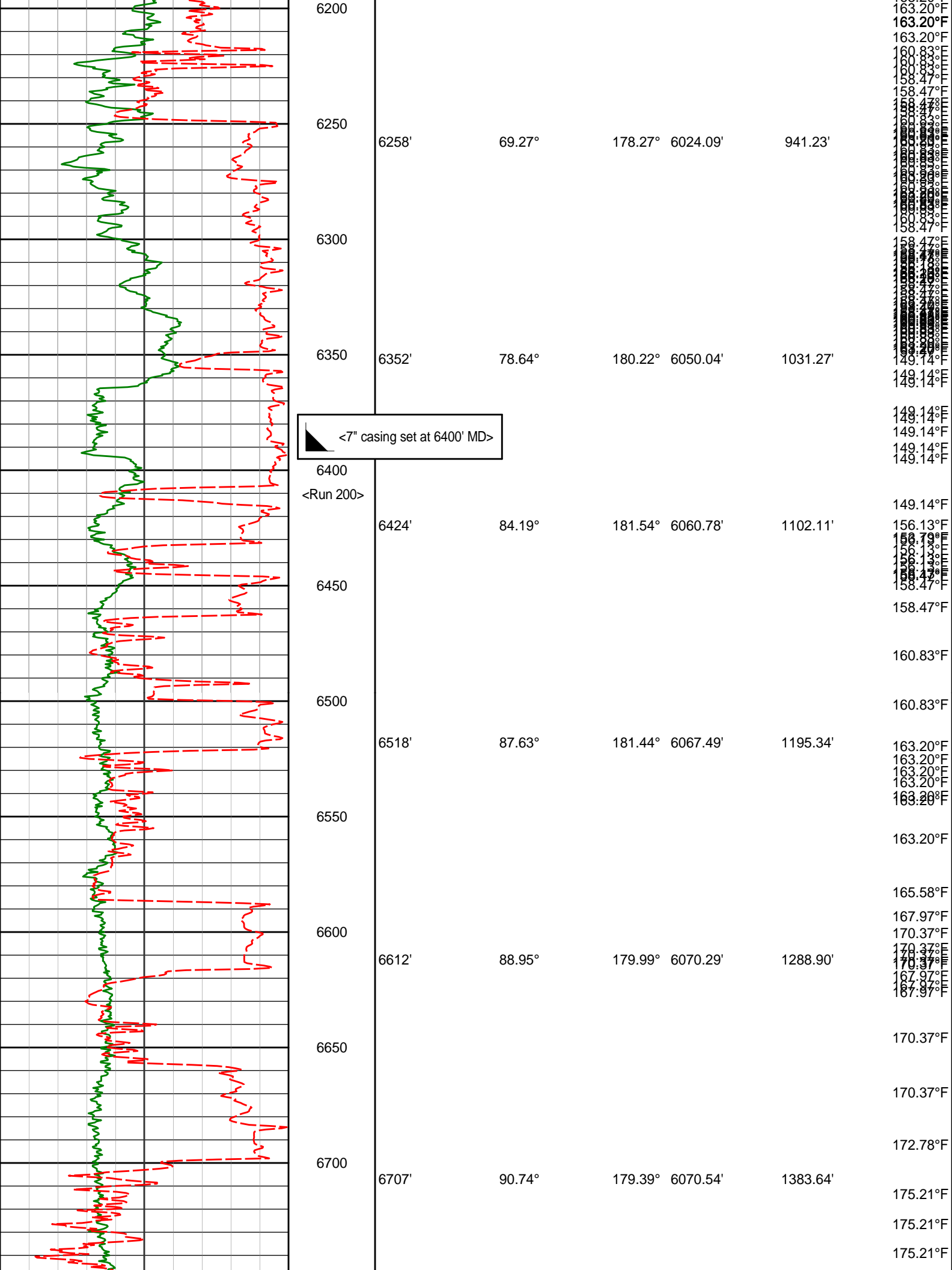
HALLIBURTON WILL USE ITS BEST EFFORTS TO FURNISH CUSTOMERS WITH ACCURATE INFORMATION AND INTERPRETATIONS THAT ARE PART OF, AND INCIDENT TO, THE SERVICES PROVIDED. HOWEVER, HALLIBURTON CANNOT AND DOES NOT WARRANT THE ACCURACY OR CORRECTNESS OF SUCH INFORMATION AND INTERPRETATIONS, UNDER NO CIRCUMSTANCES.

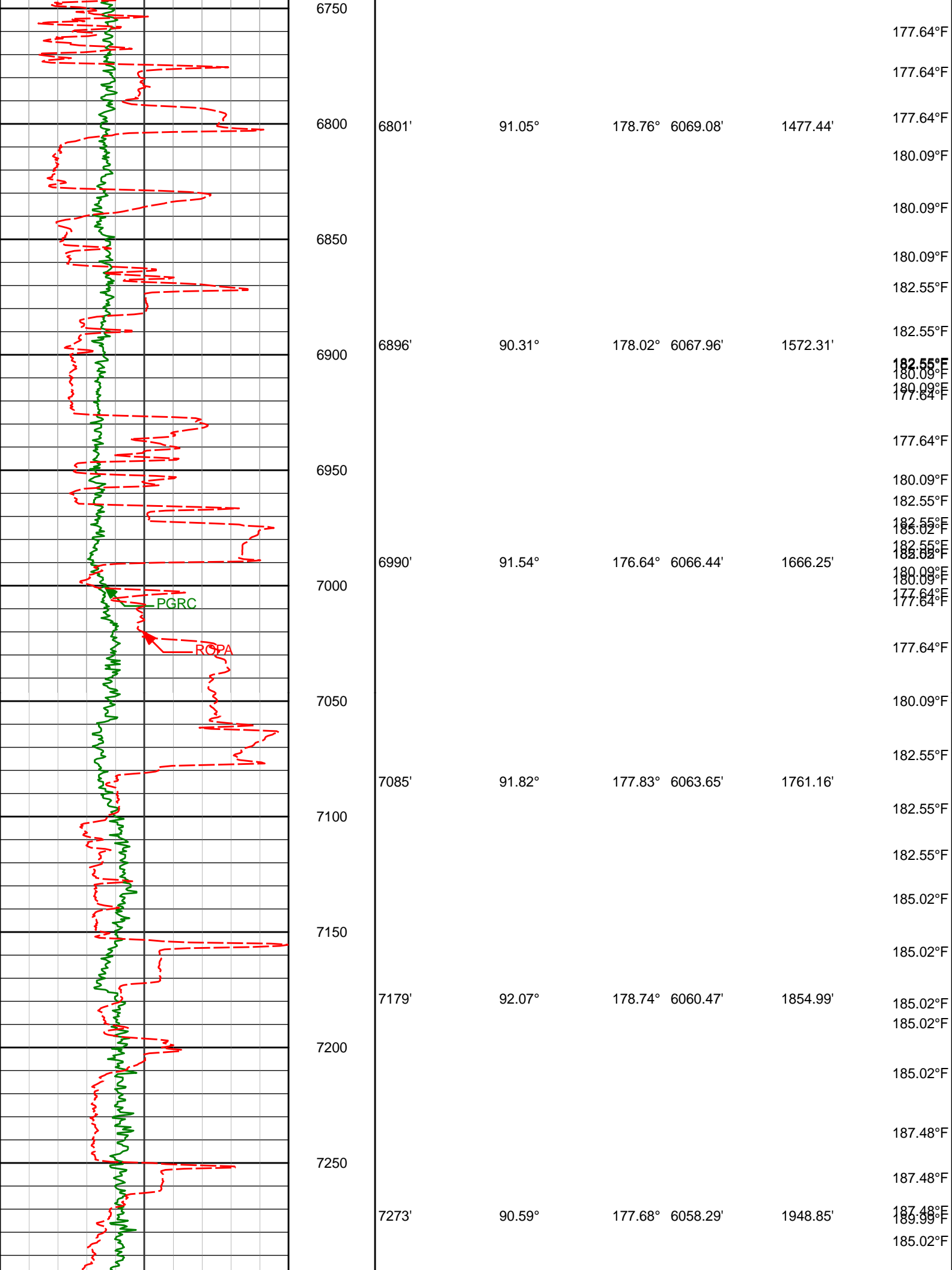
WARRANT THE ACCURACY OR CORRECTNESS OF SUCH INFORMATION AND INTERPRETATIONS. UNDER NO CIRCUMSTANCES SHOULD ANY SUCH INFORMATION OR INTERPRETATION BE RELIED UPON AS THE SOLE BASIS FOR ANY DRILLING, COMPLETION, PRODUCTION, OR FINANCIAL DECISION OR ANY PROCEDURE INVOLVING ANY RISK TO THE SAFETY OF ANY DRILLING VENTURE, DRILLING RIG OR ITS CREW OR ANY OTHER THIRD PARTY. THE CUSTOMER HAS FULL RESPONSIBILITY FOR ALL DRILLING, COMPLETION AND PRODUCTION OPERATION. HALLIBURTON MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE SERVICES RENDERED. IN NO EVENT WILL HALLIBURTON BE LIABLE FOR FAILURE TO OBTAIN ANY PARTICULAR RESULTS OR FOR ANY DAMAGES, INCLUDING, BUT NOT LIMITED TO, INDIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES, RESULTING FROM THE USE OF ANY INFORMATION OR INTERPRETATION PROVIDED BY HALLIBURTON.

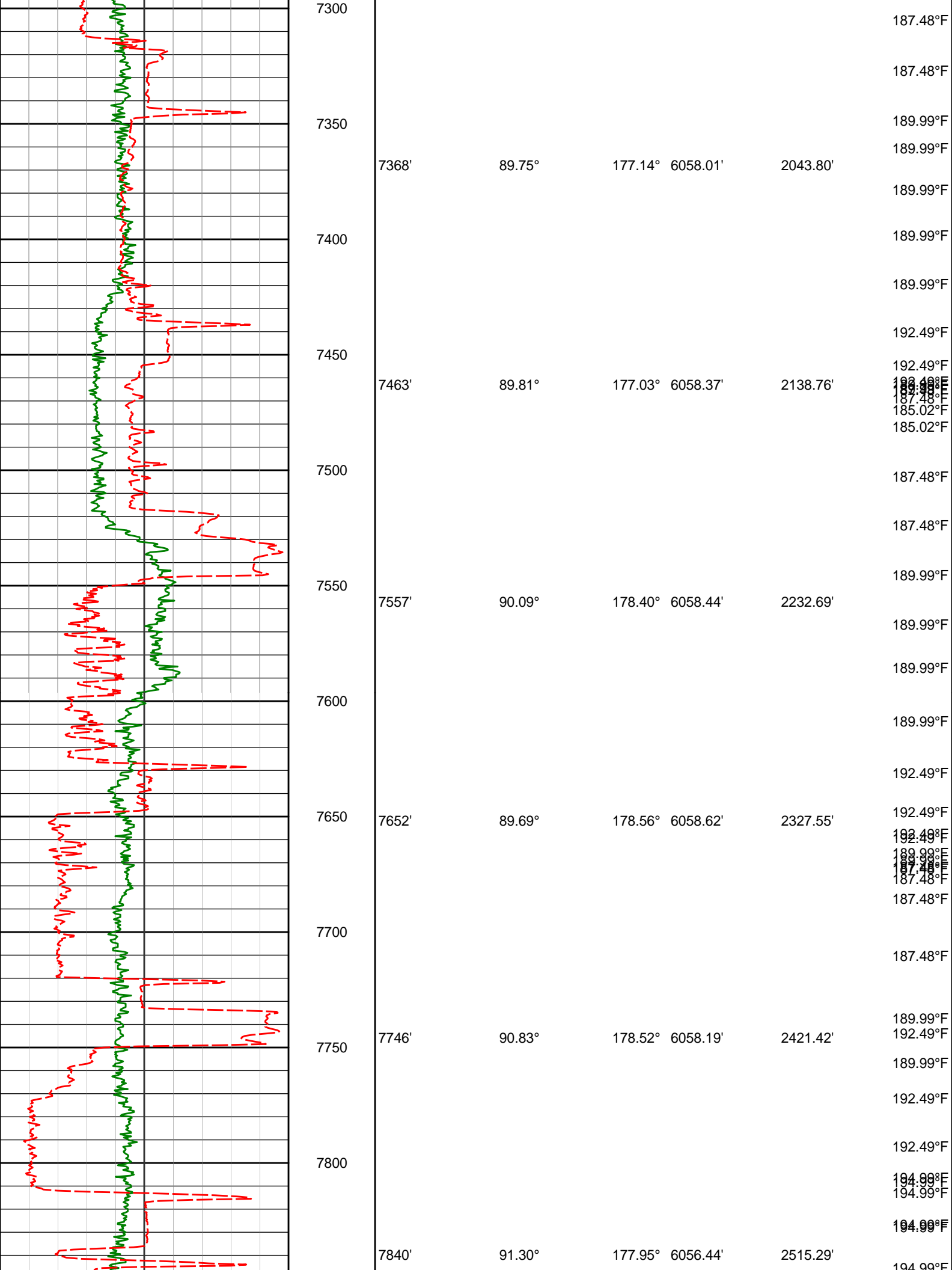
MD Detail 1:600 Scale

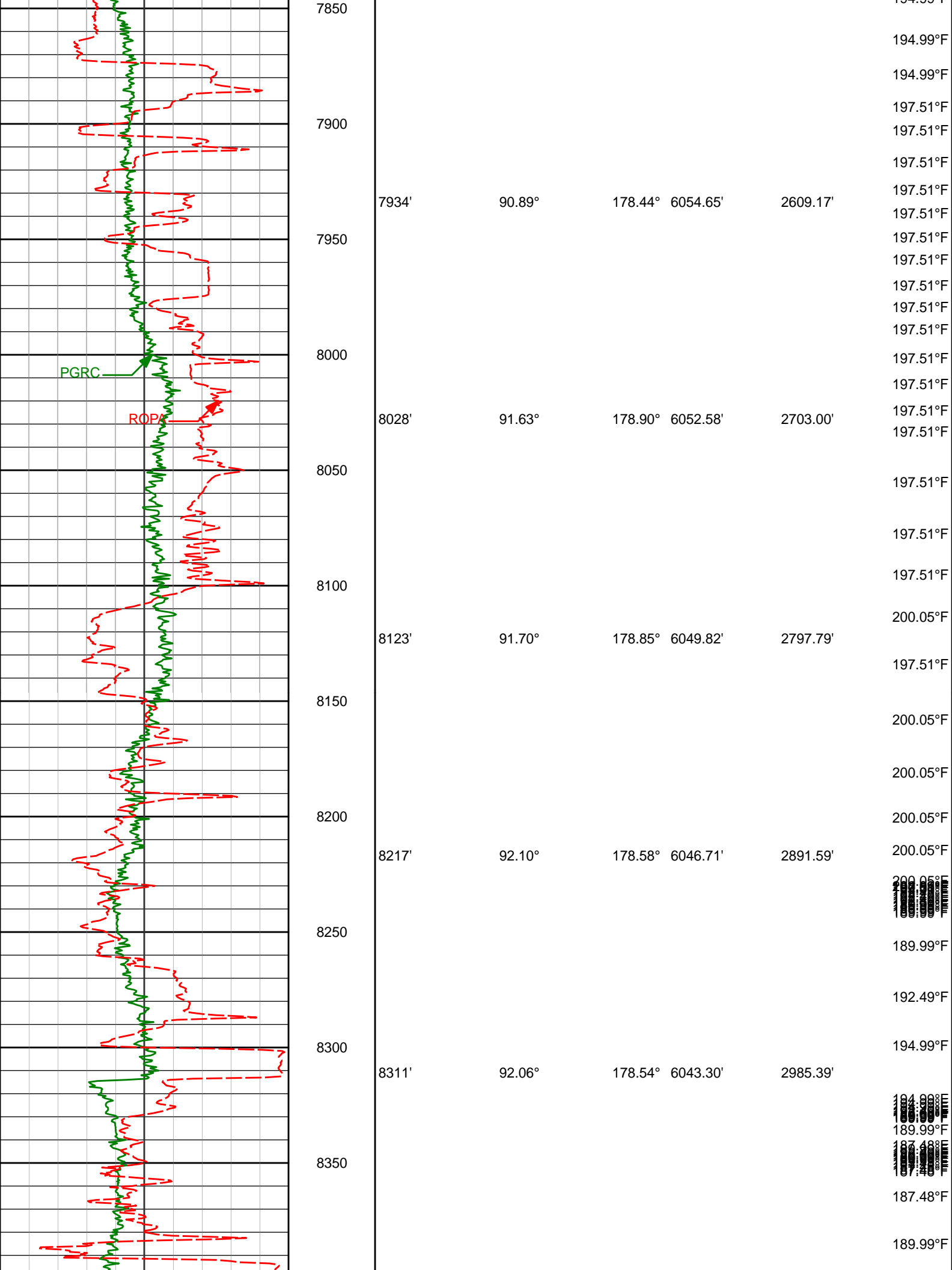


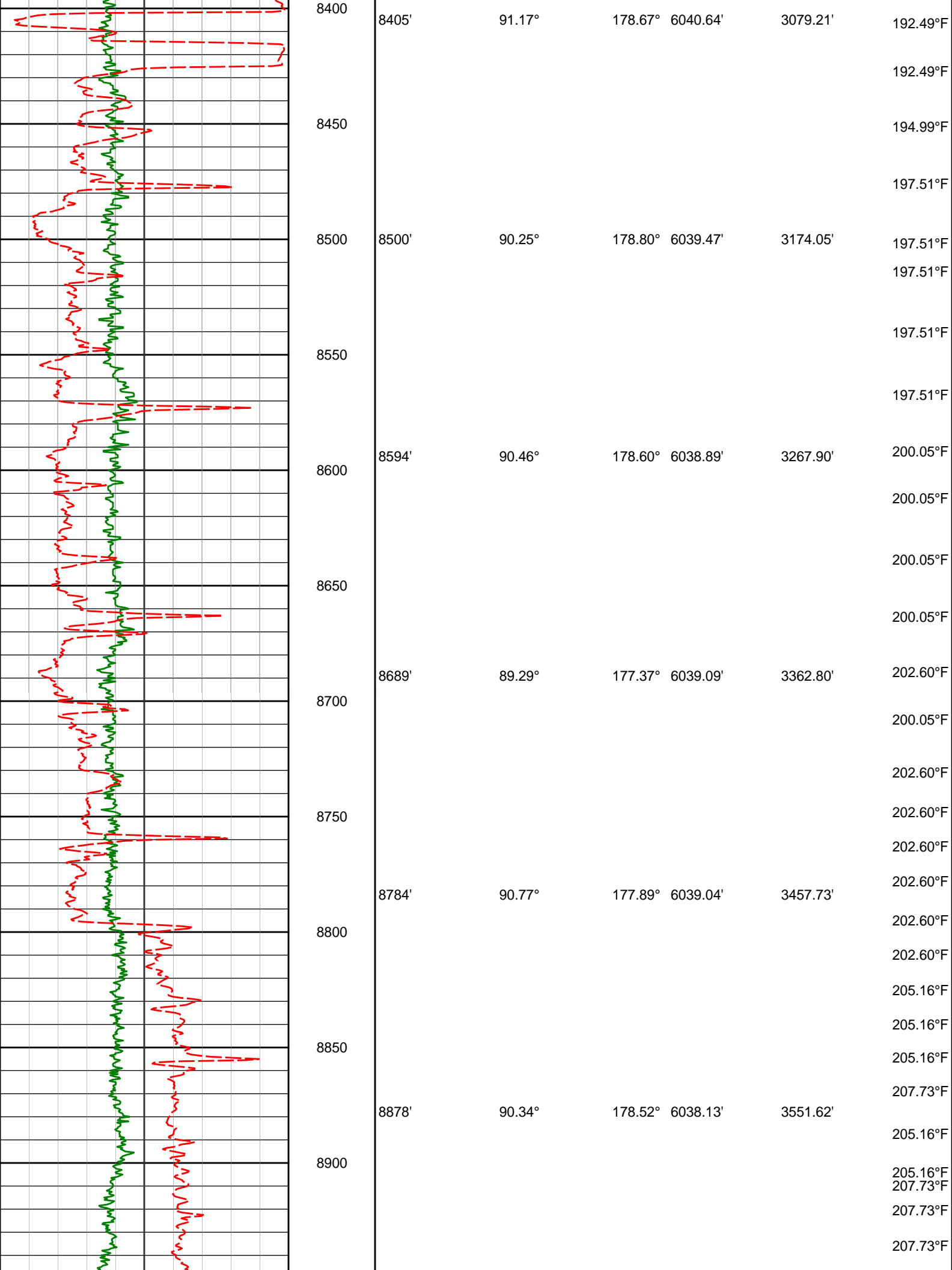


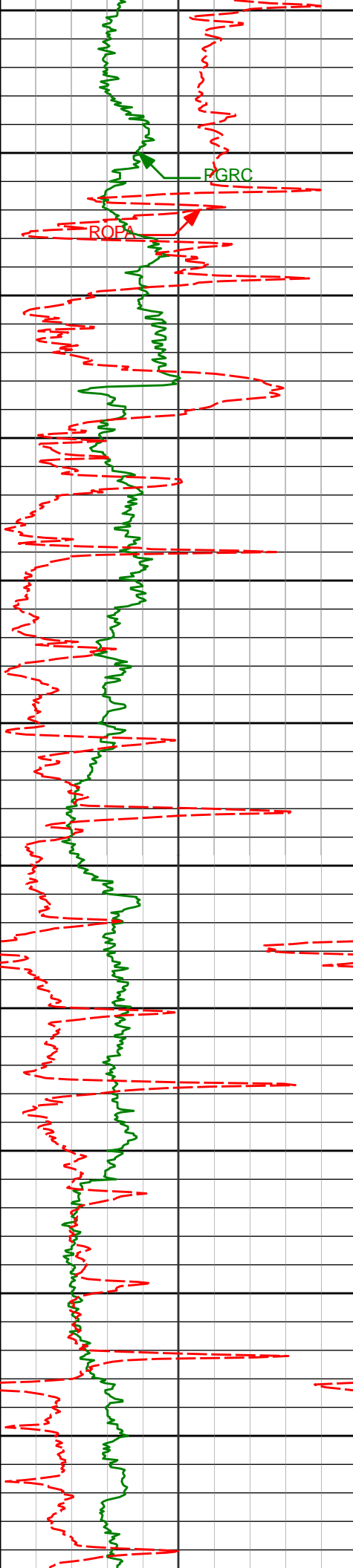


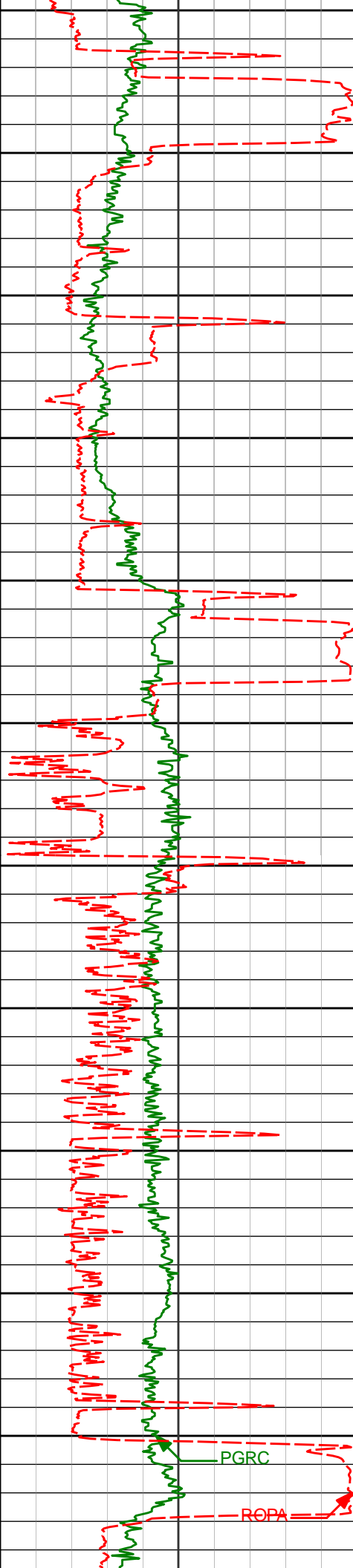




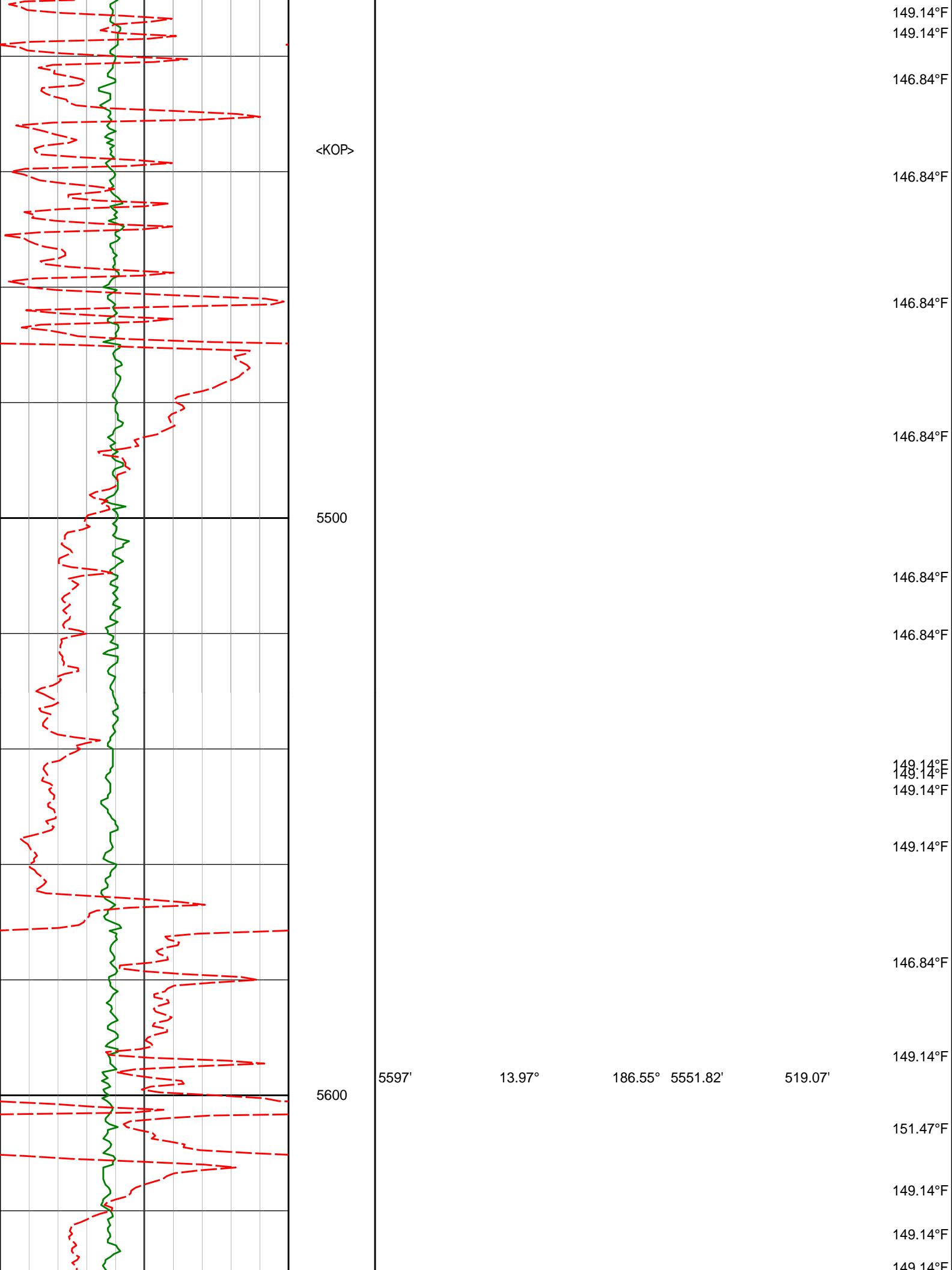


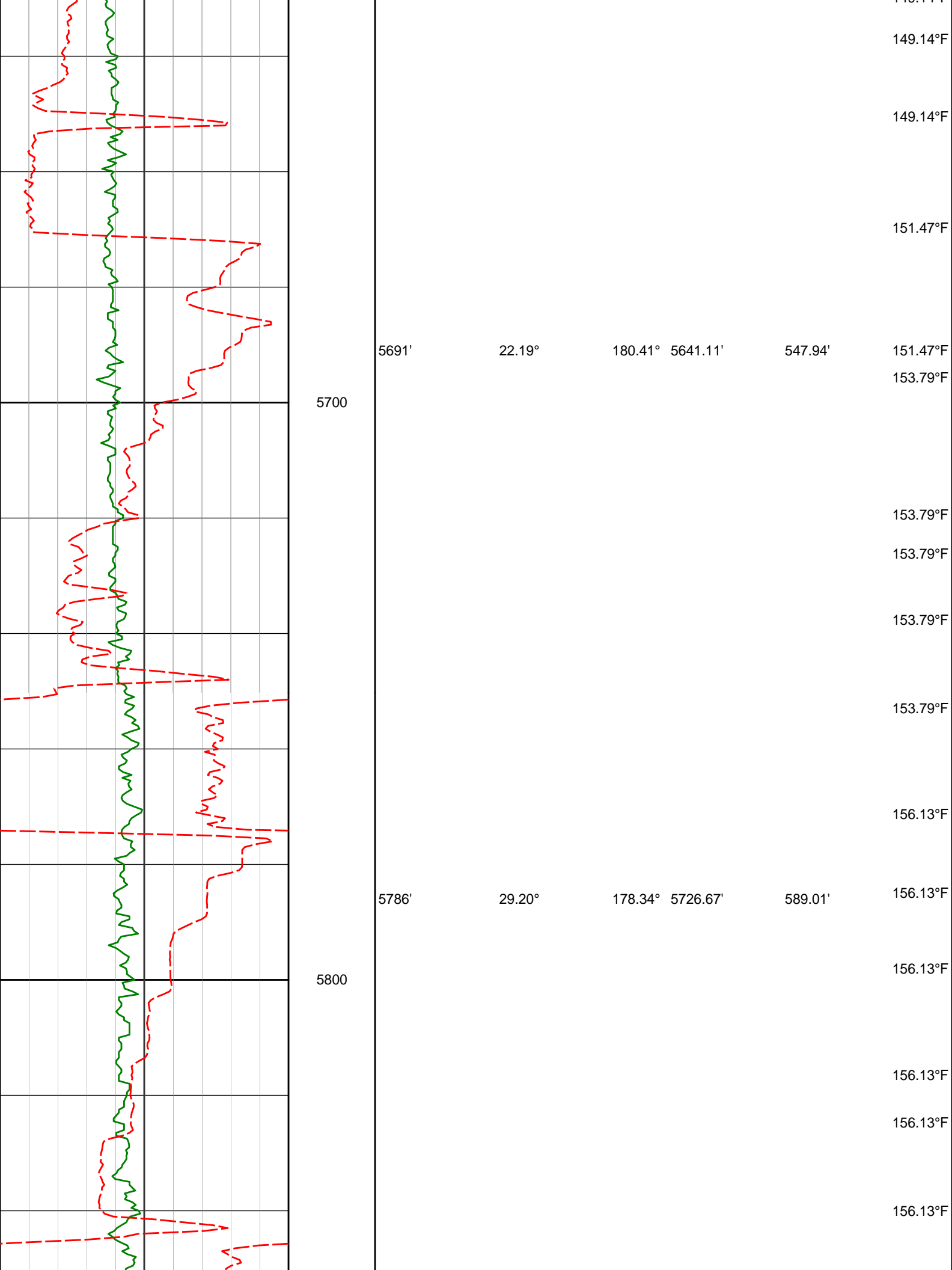


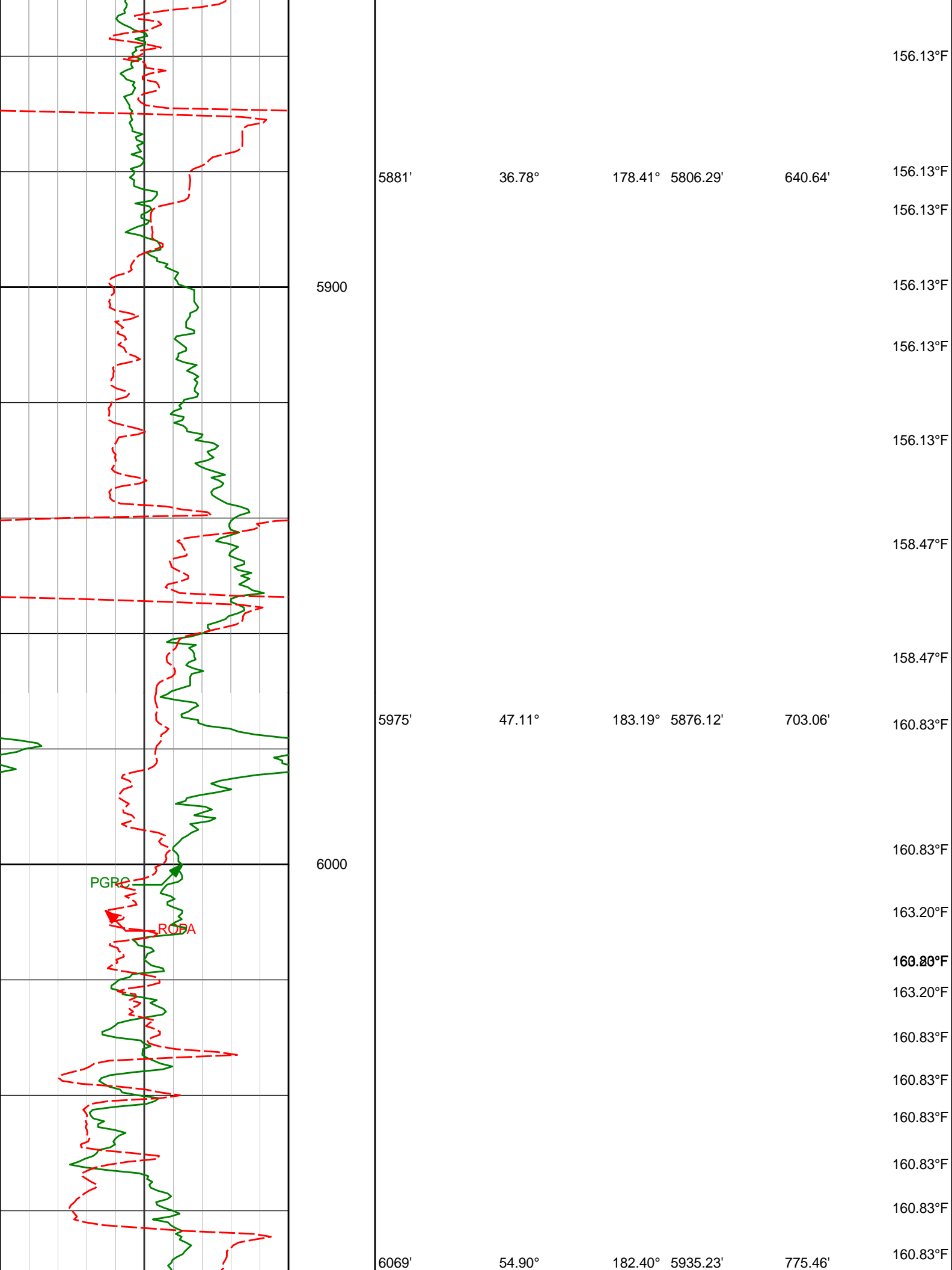


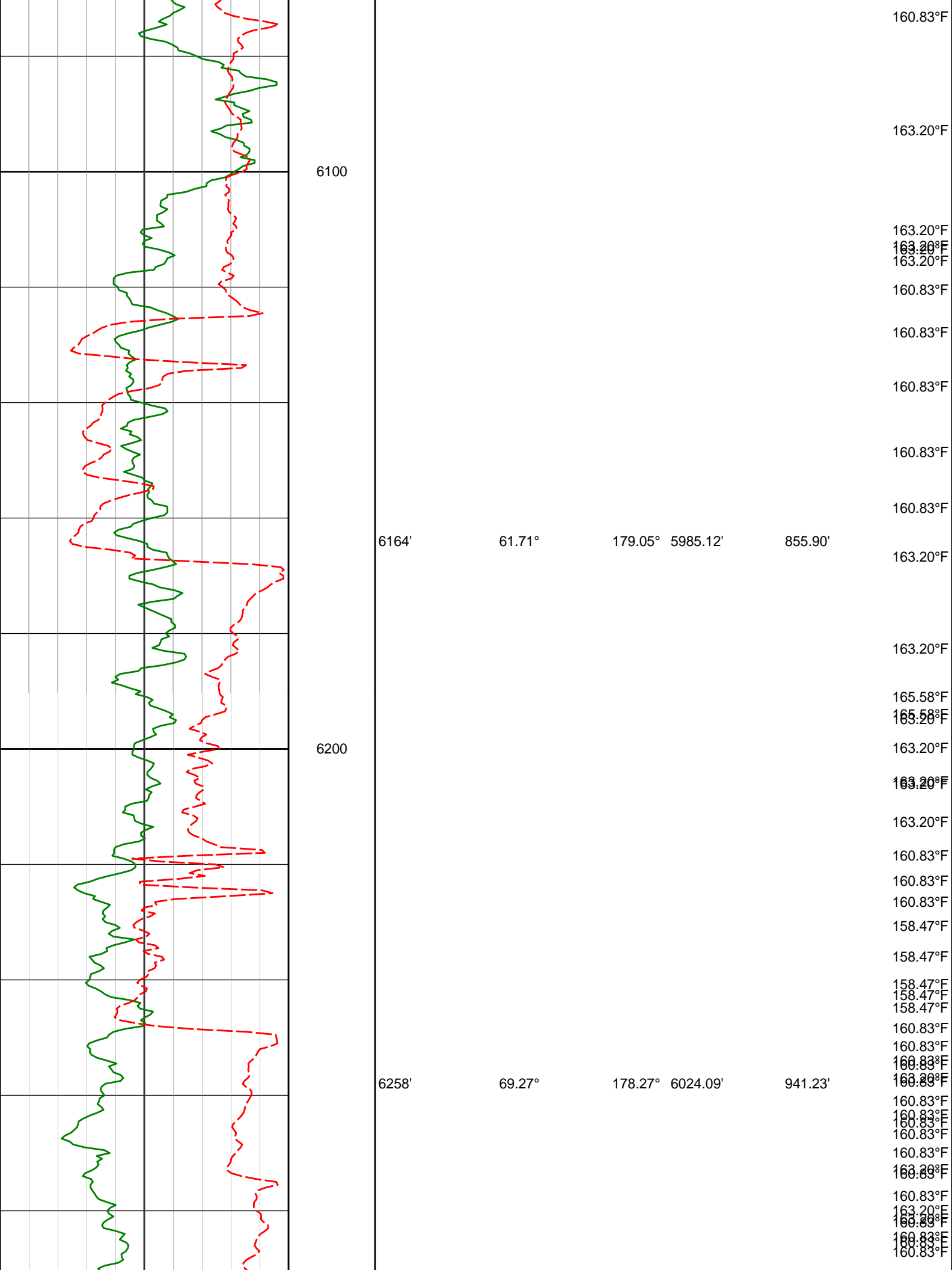


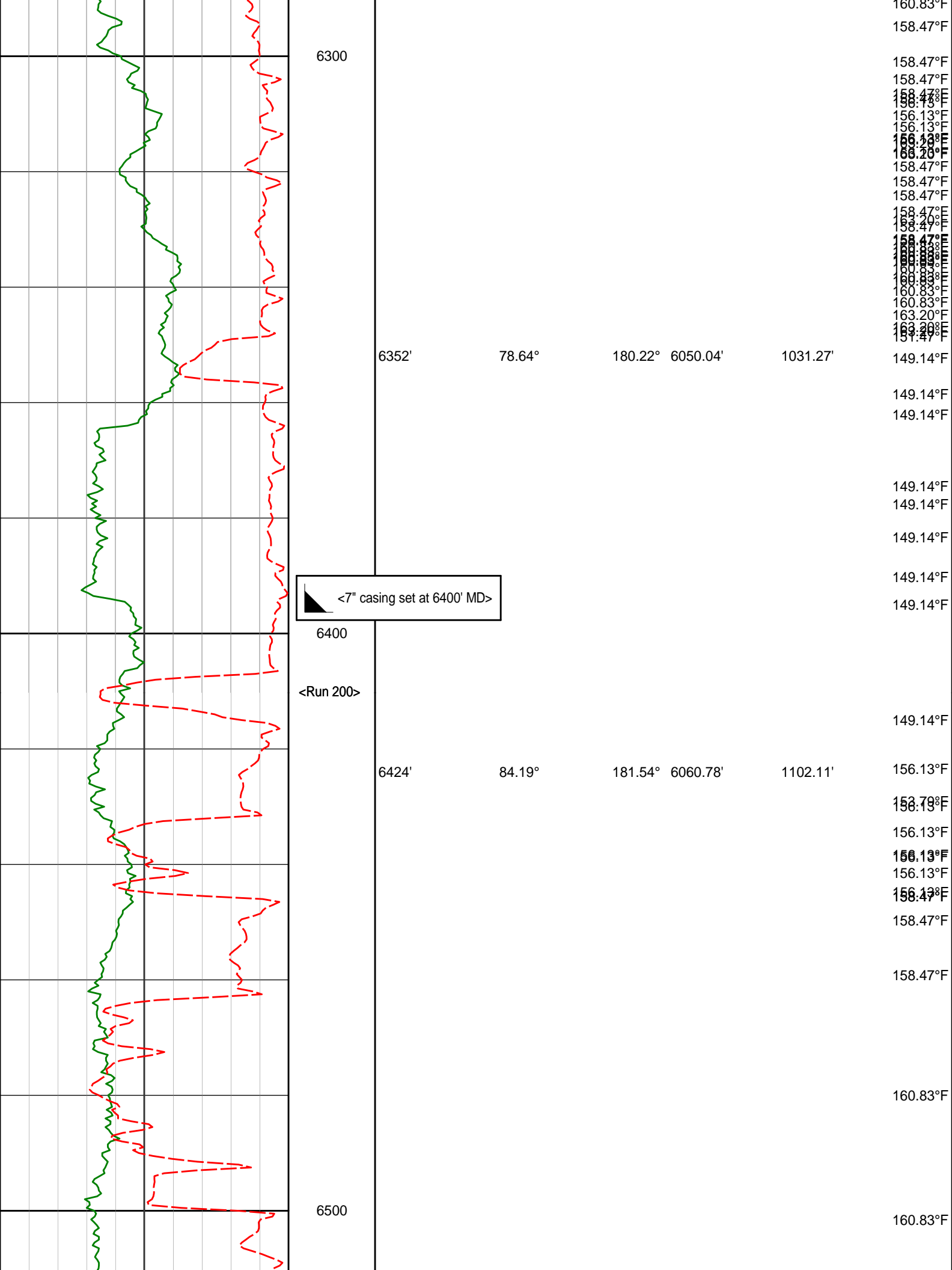
9540'	90.49°	177.48°	6032.82'	4212.97'	200.05°F
9550					202.60°F
					202.60°F
9600					205.16°F
9635'	90.92°	177.24°	6031.64'	4307.91'	207.73°F
9650					194.99°F
9700					197.51°F
9729'	90.49°	177.27°	6030.48'	4401.86'	200.05°F
9750					202.60°F
					202.60°F
					205.16°F
9800					205.16°F
9824'	89.66°	176.13°	6030.35'	4496.83'	207.73°F
9850					207.73°F
					207.73°F
9900					207.73°F
9919'	90.80°	175.84°	6029.97'	4591.83'	207.73°F
9950					197.51°F
10000					200.05°F
10013'	88.92°	175.61°	6030.20'	4685.82'	202.60°F
					202.60°F

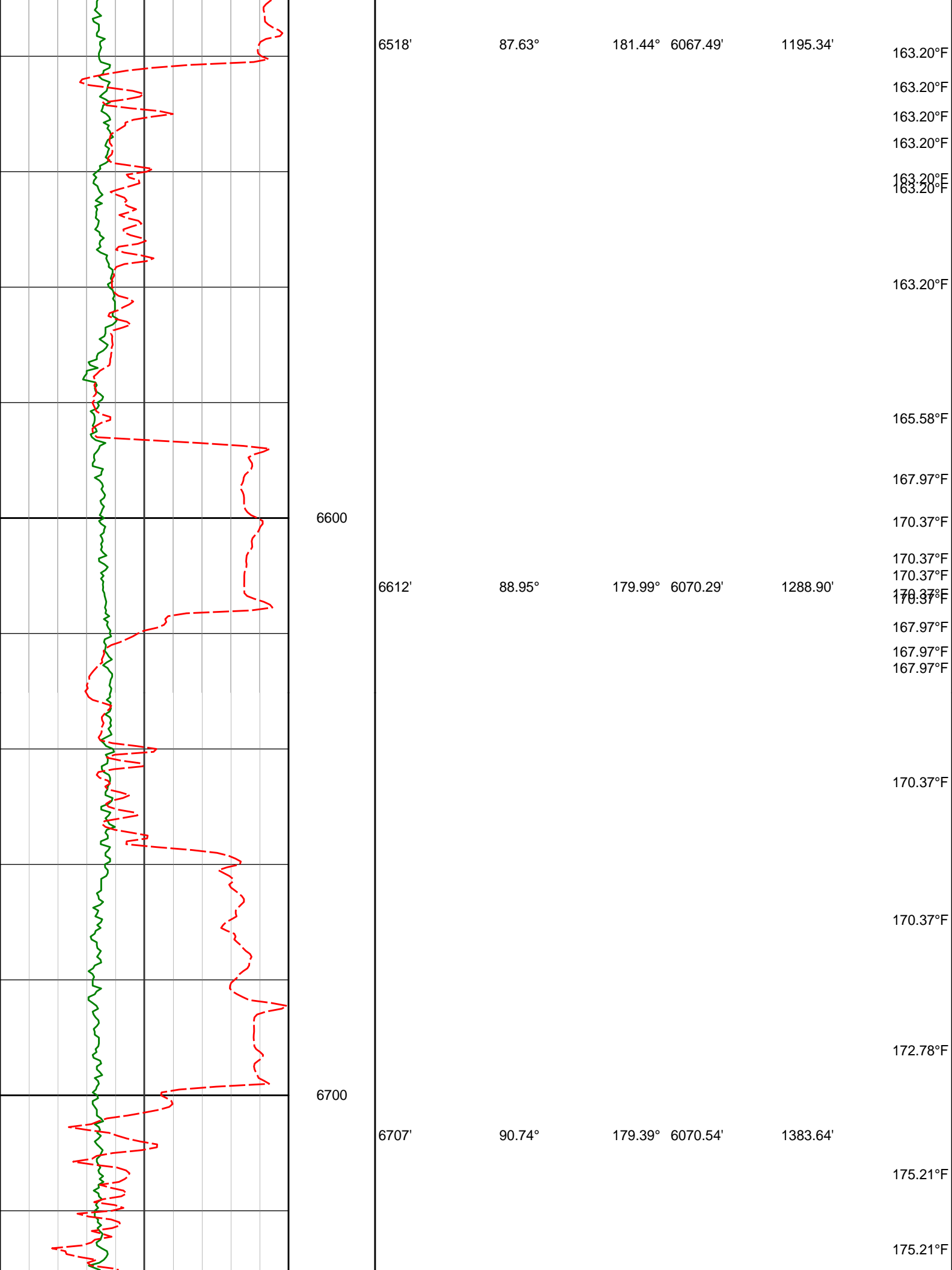


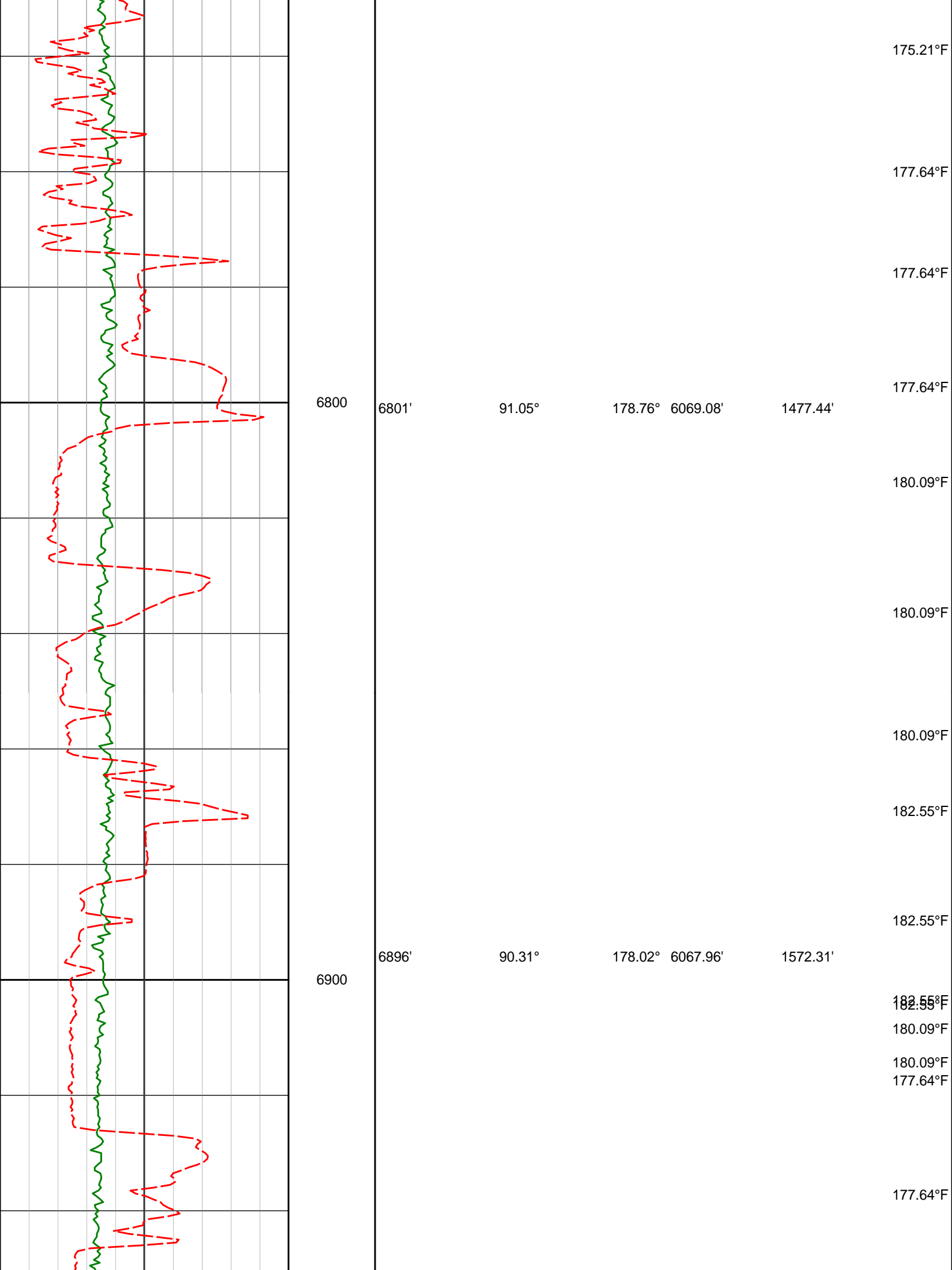


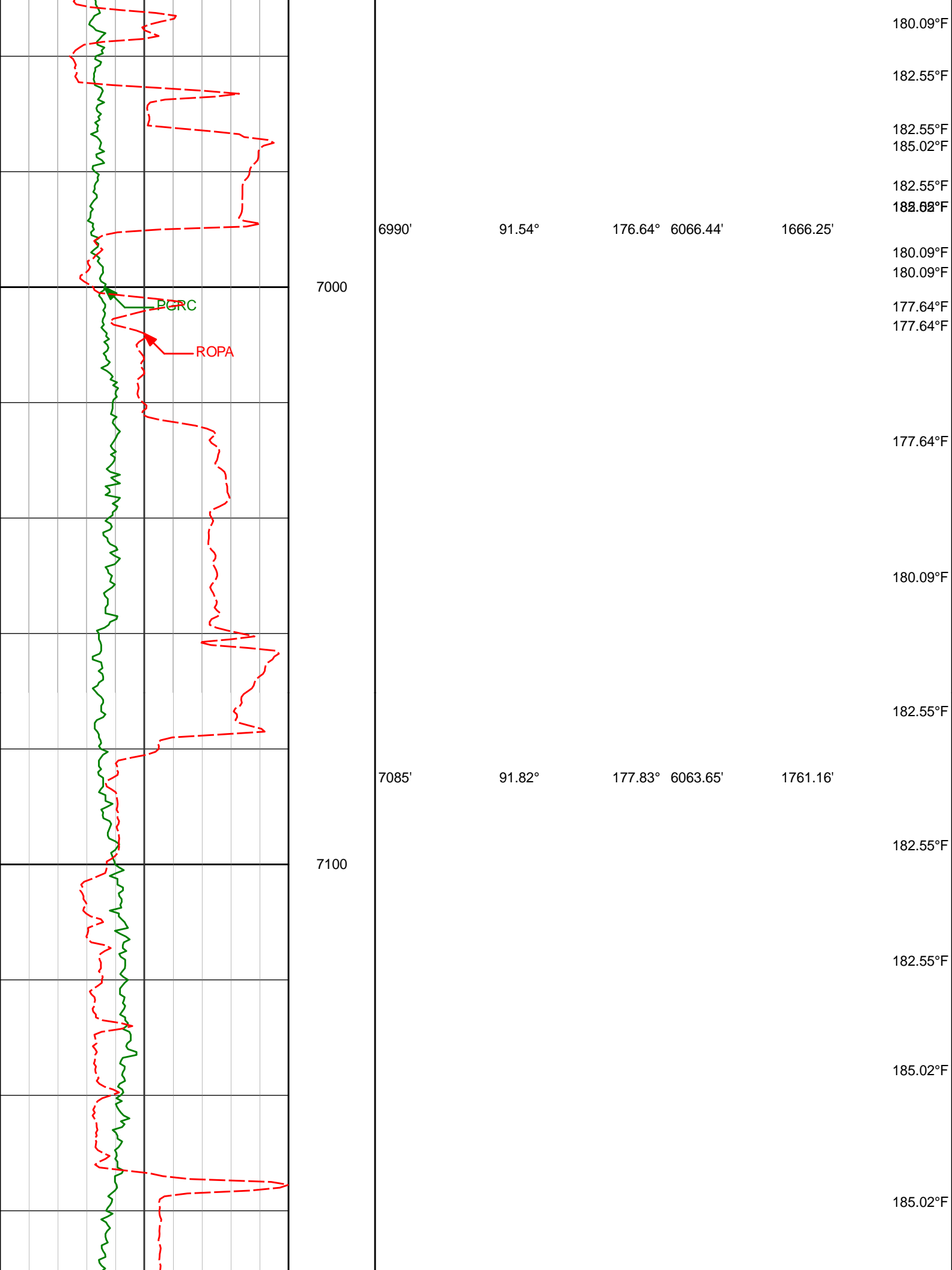


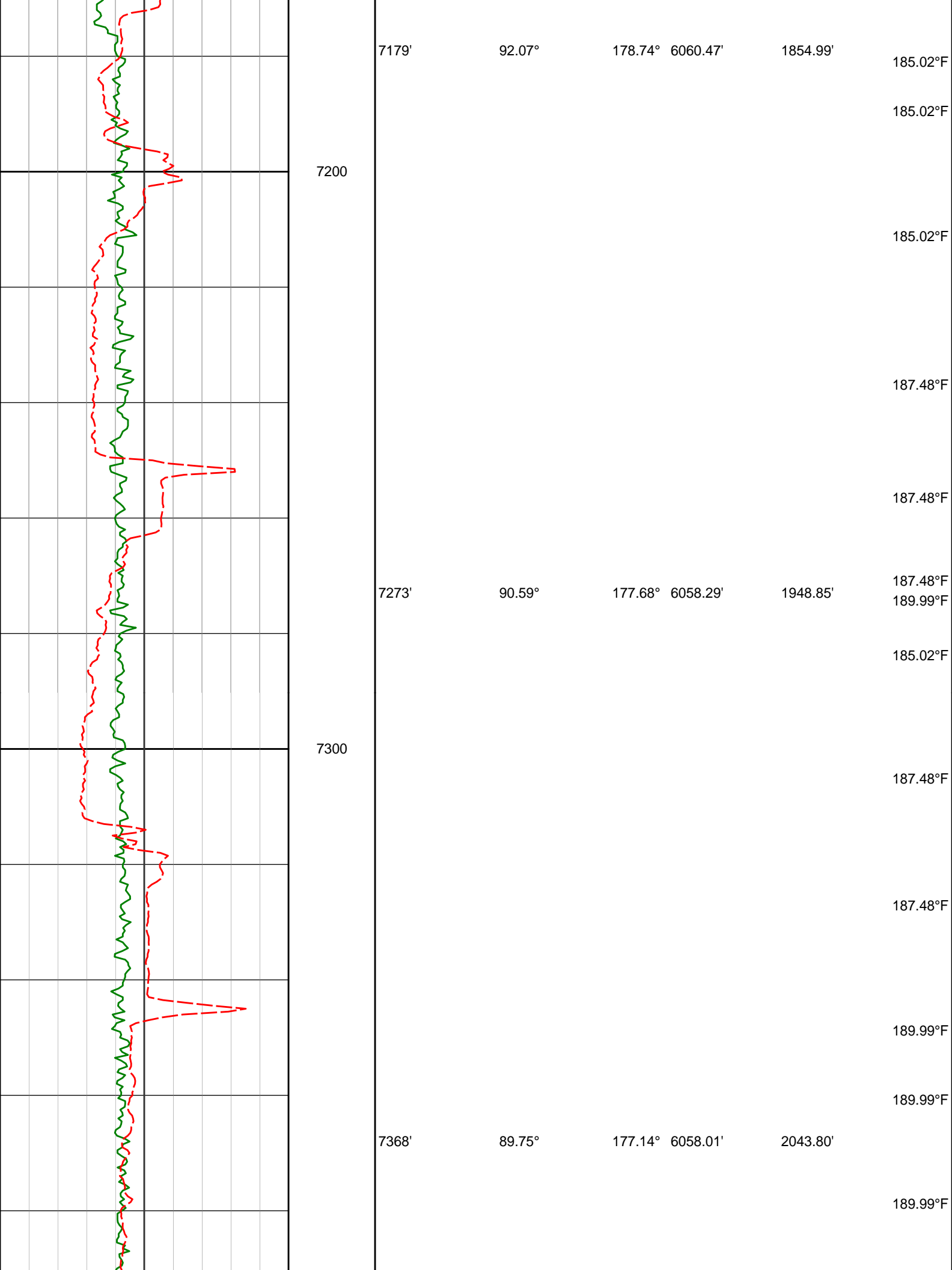


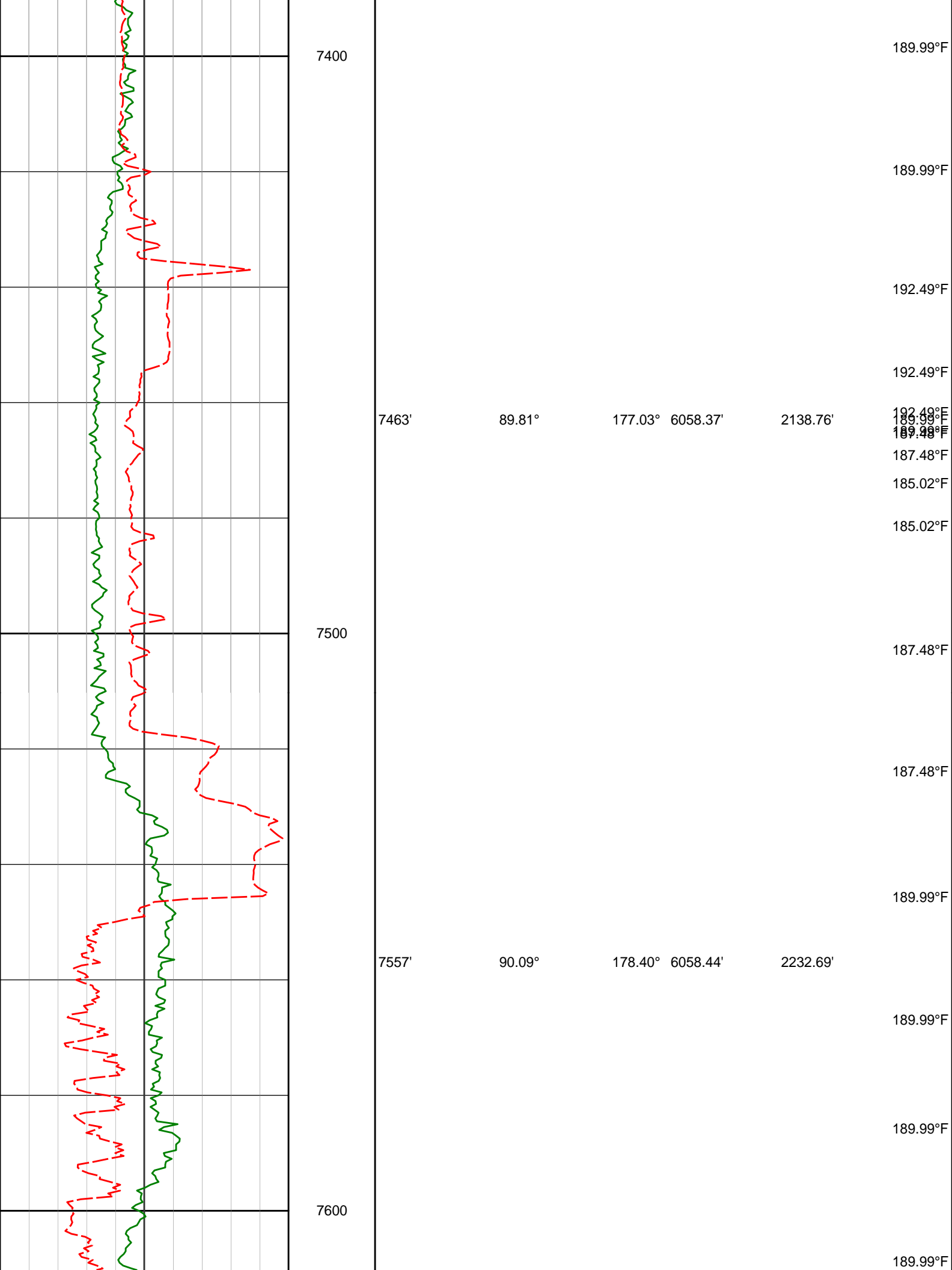


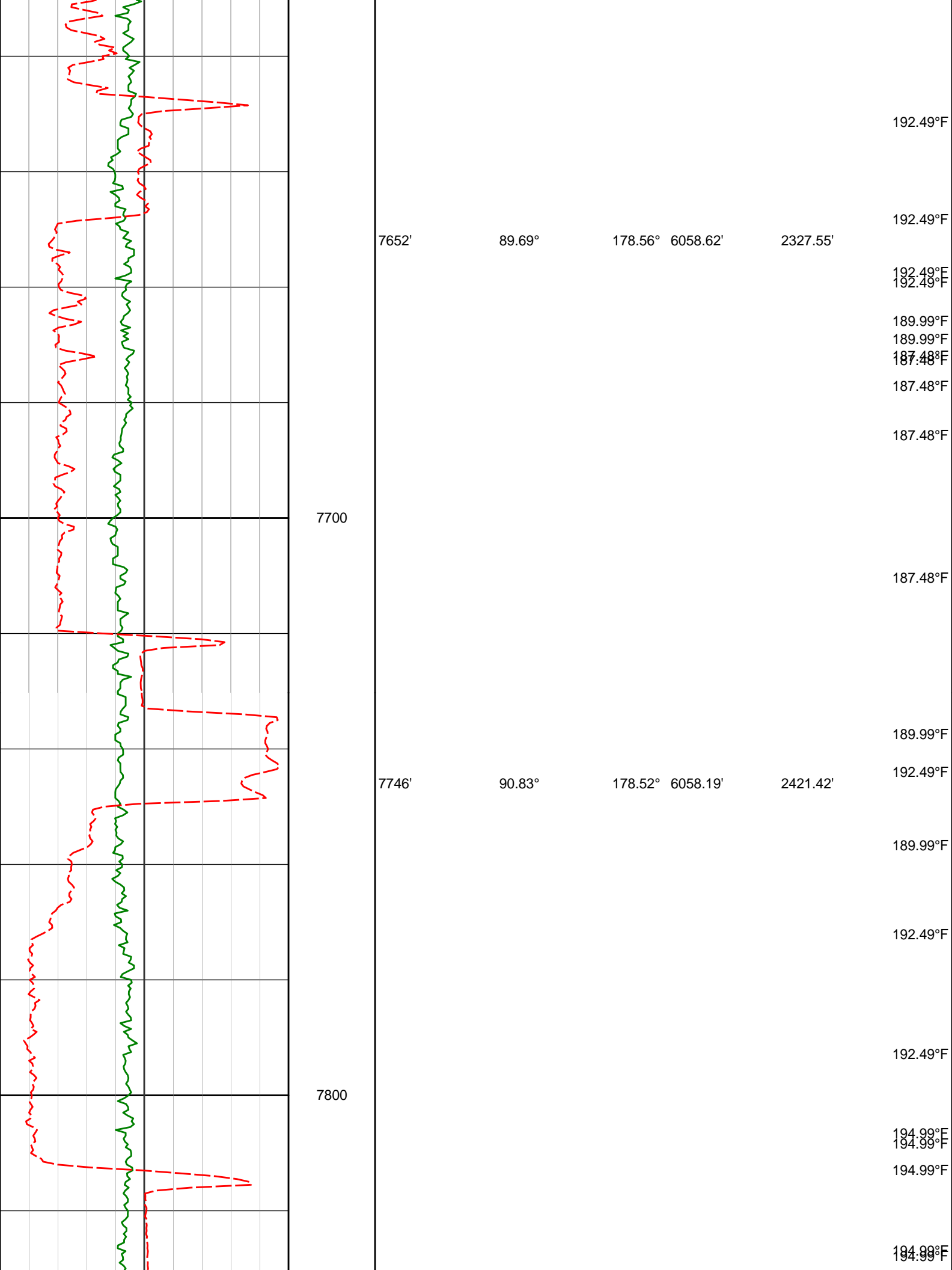


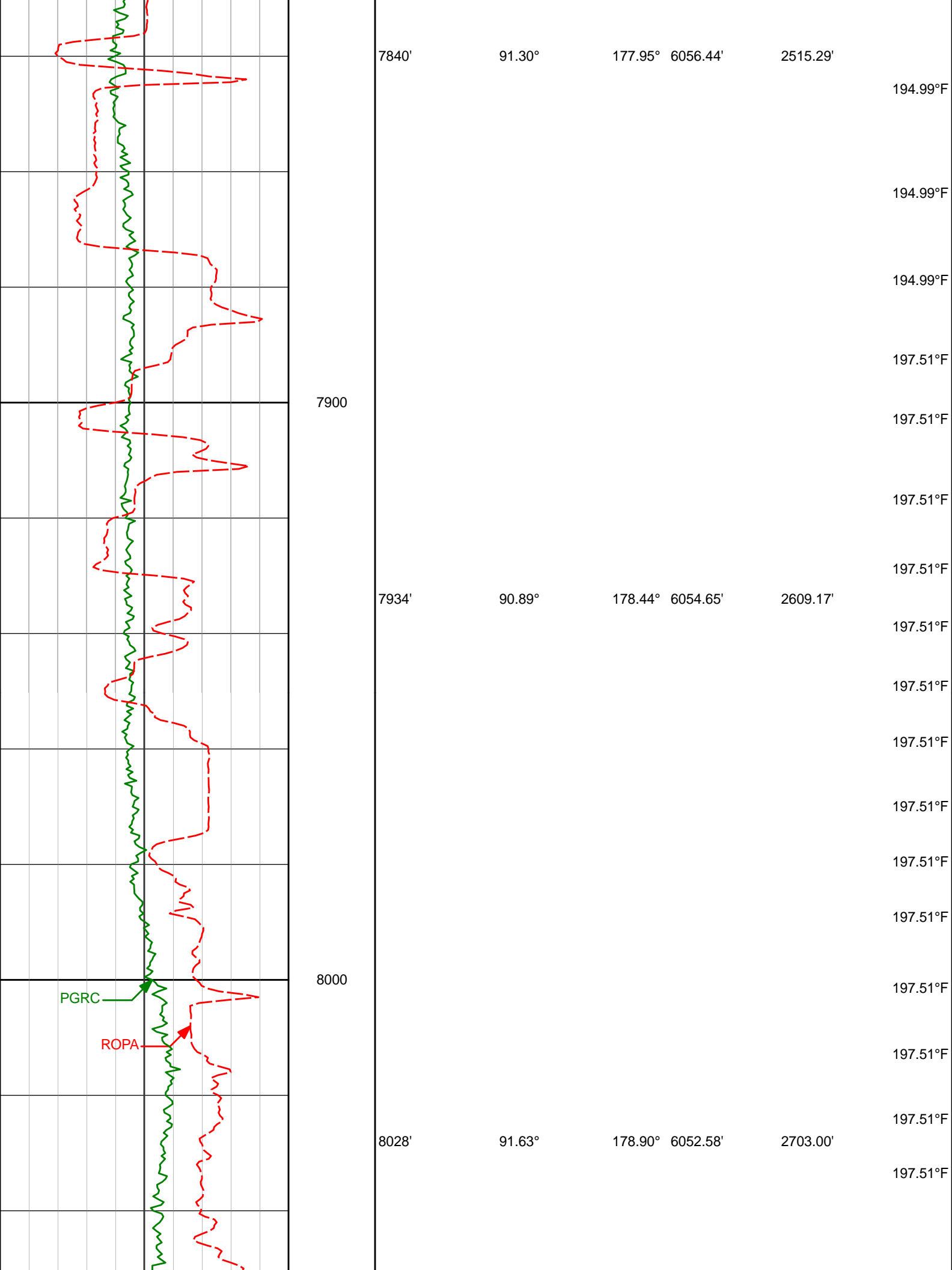


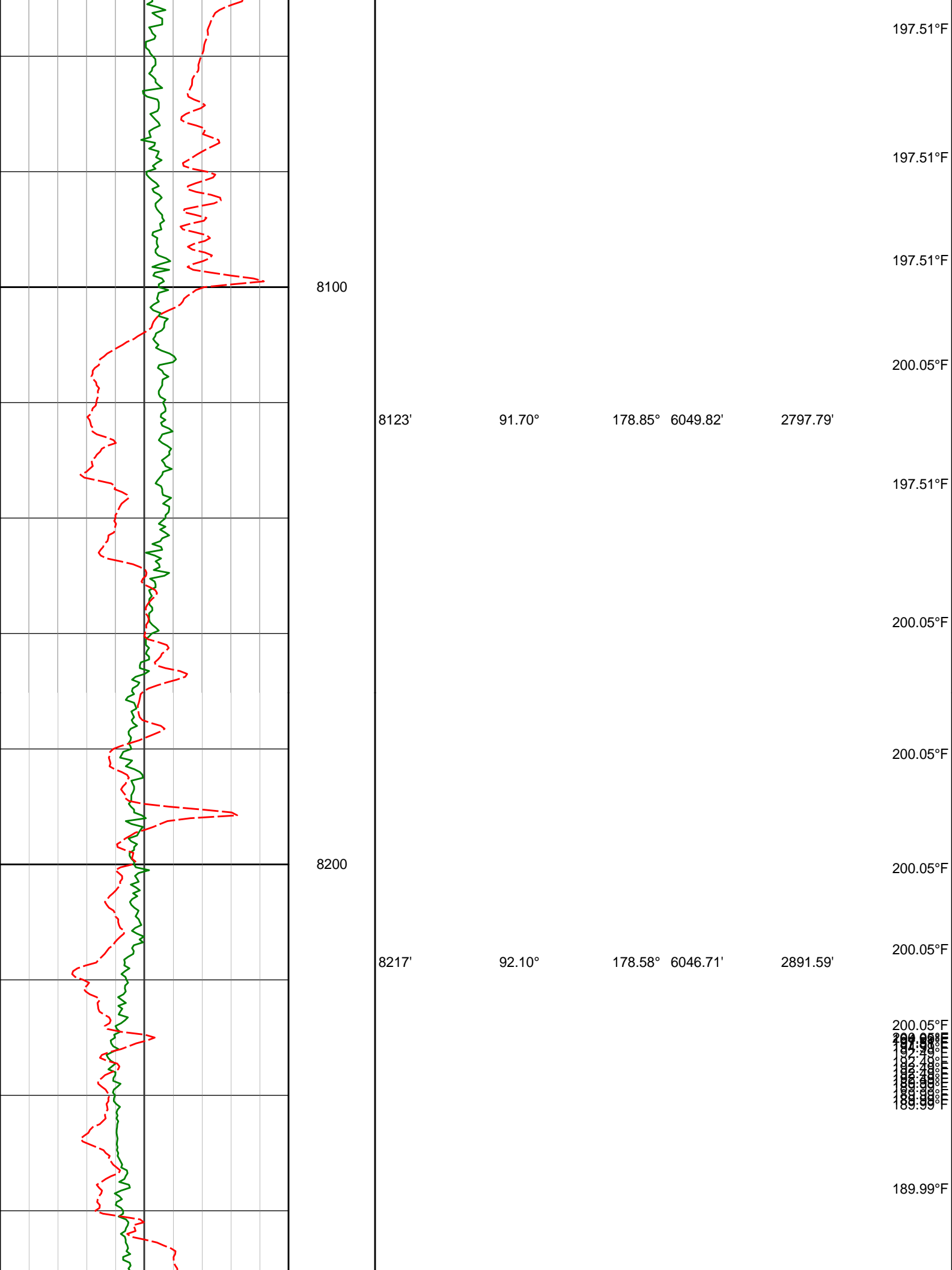


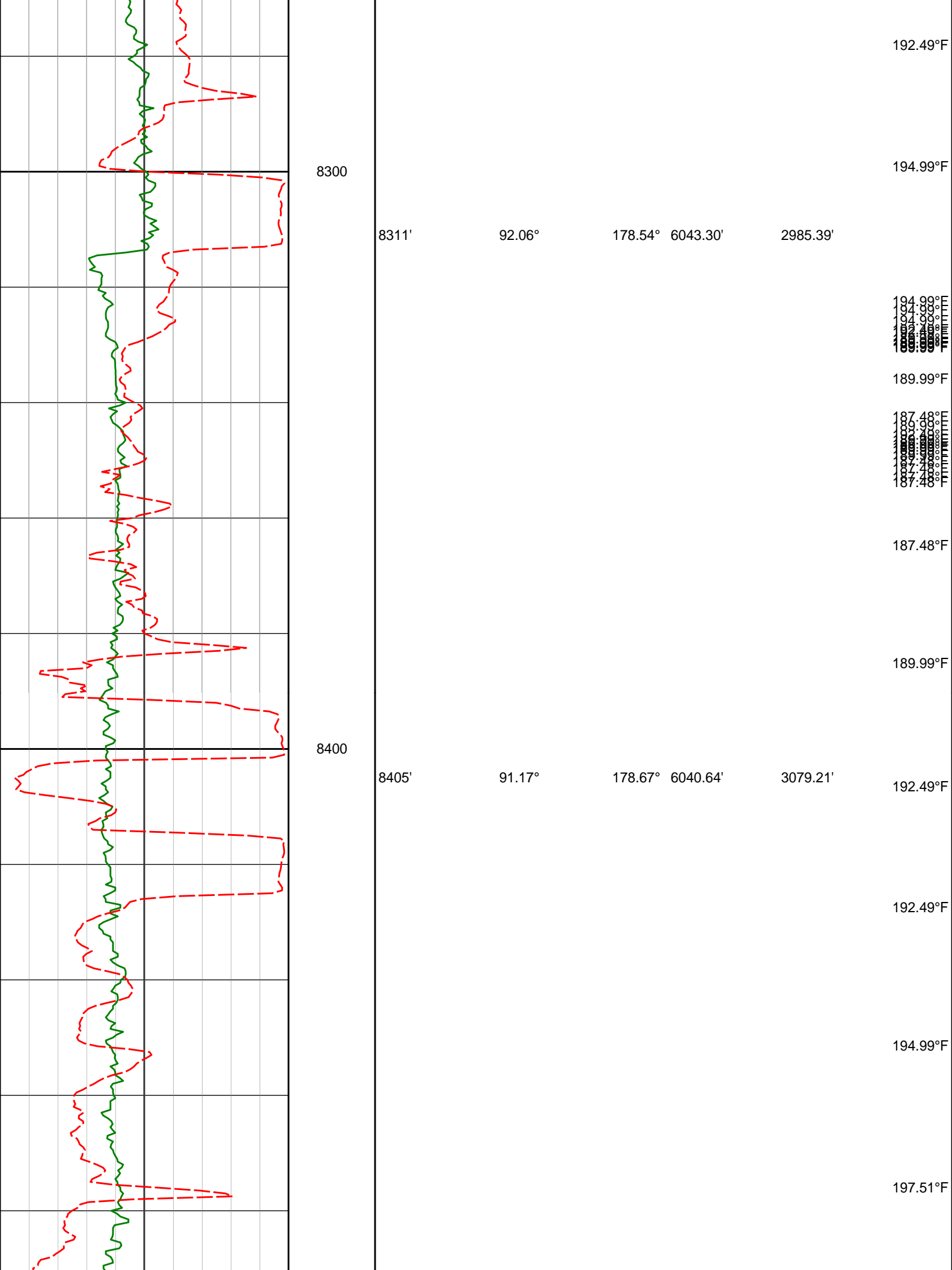


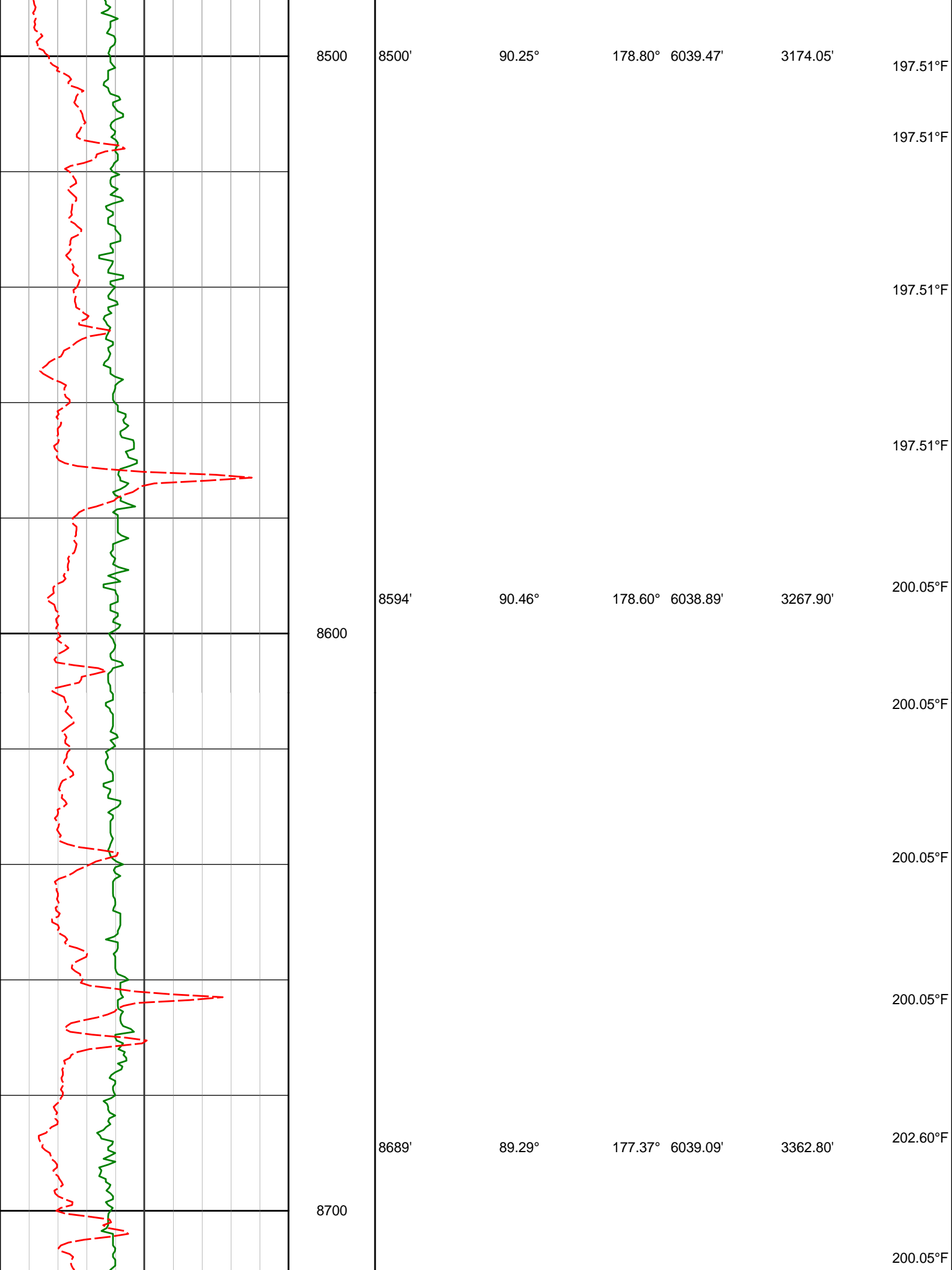


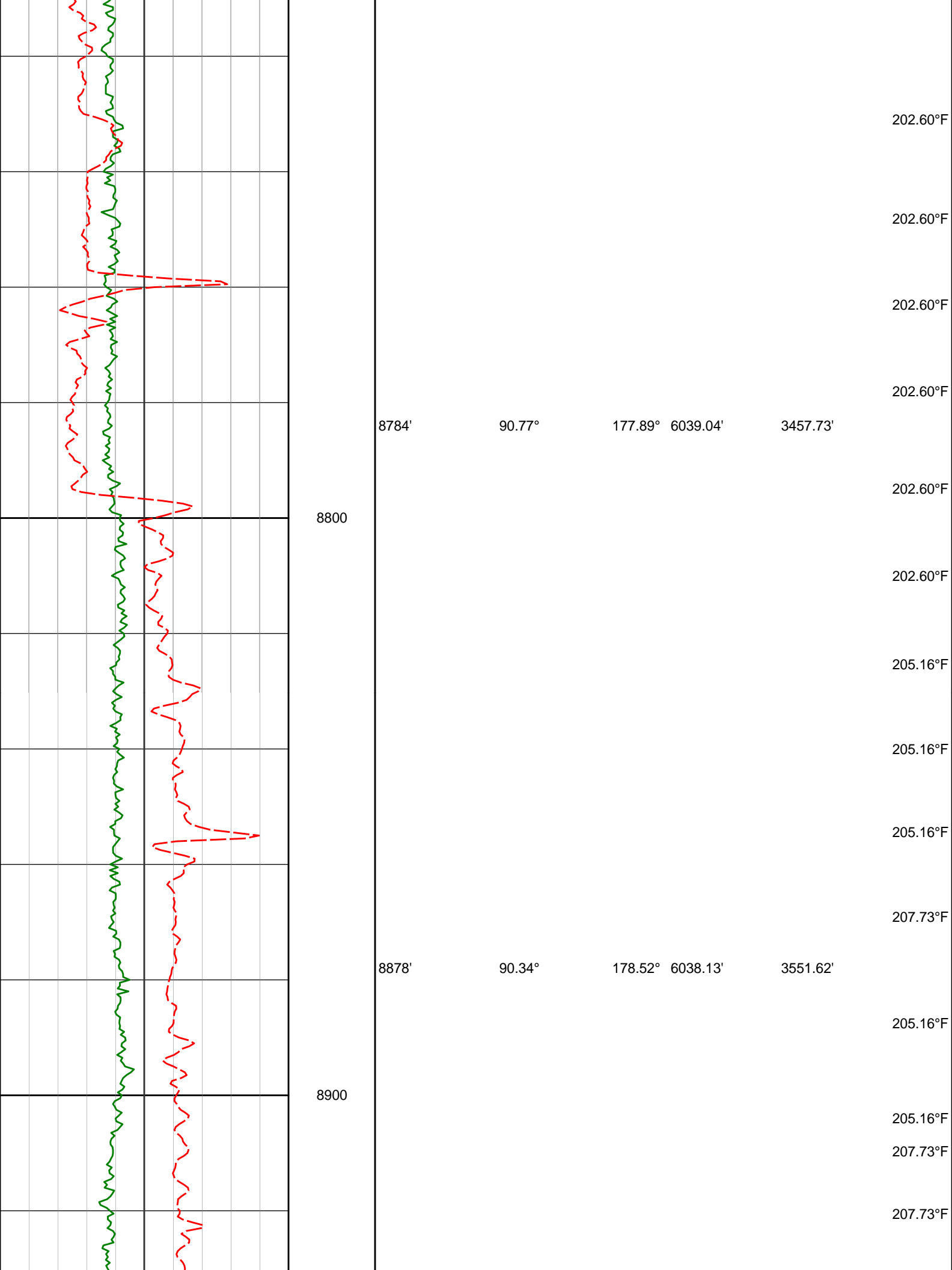


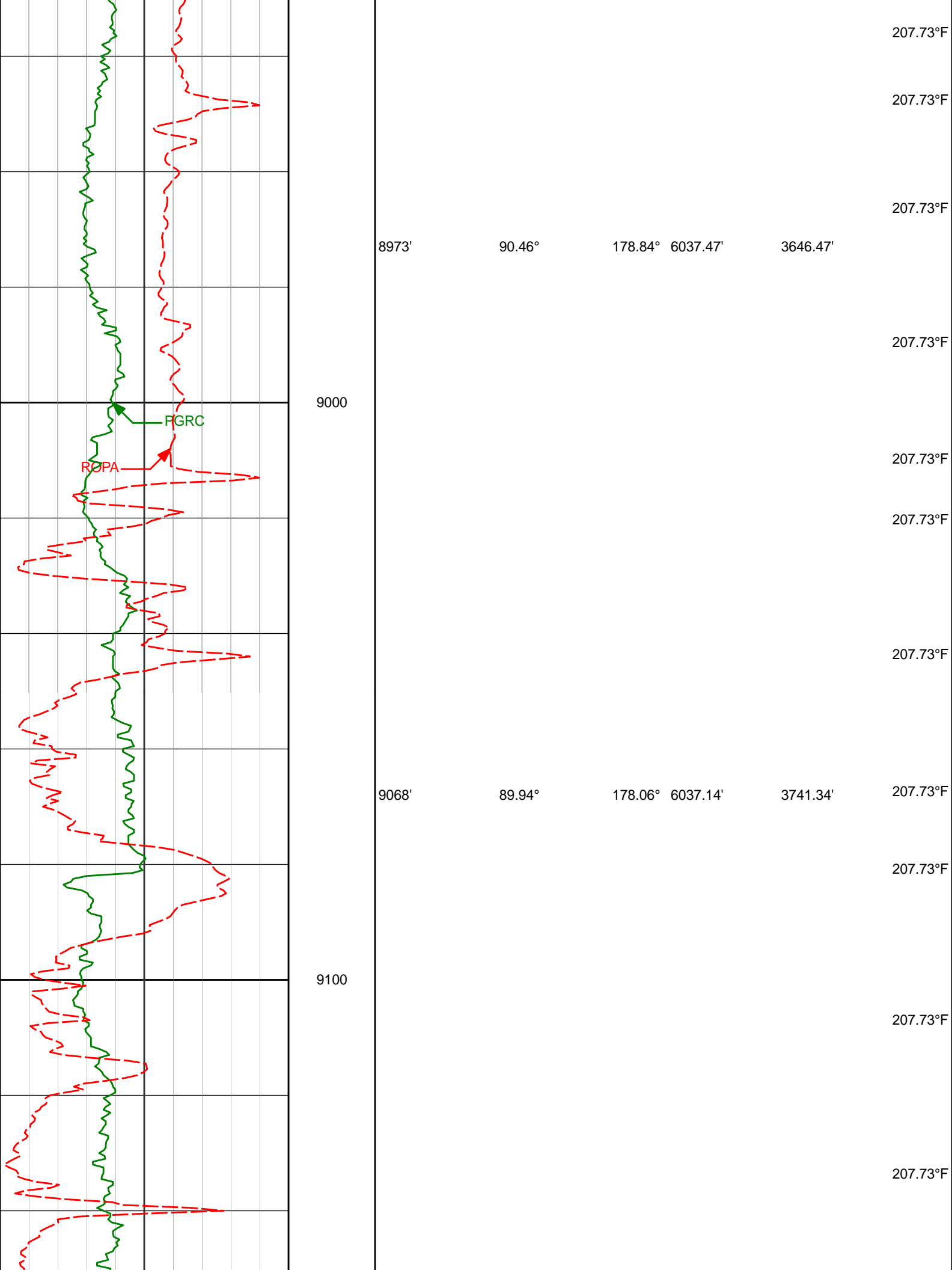


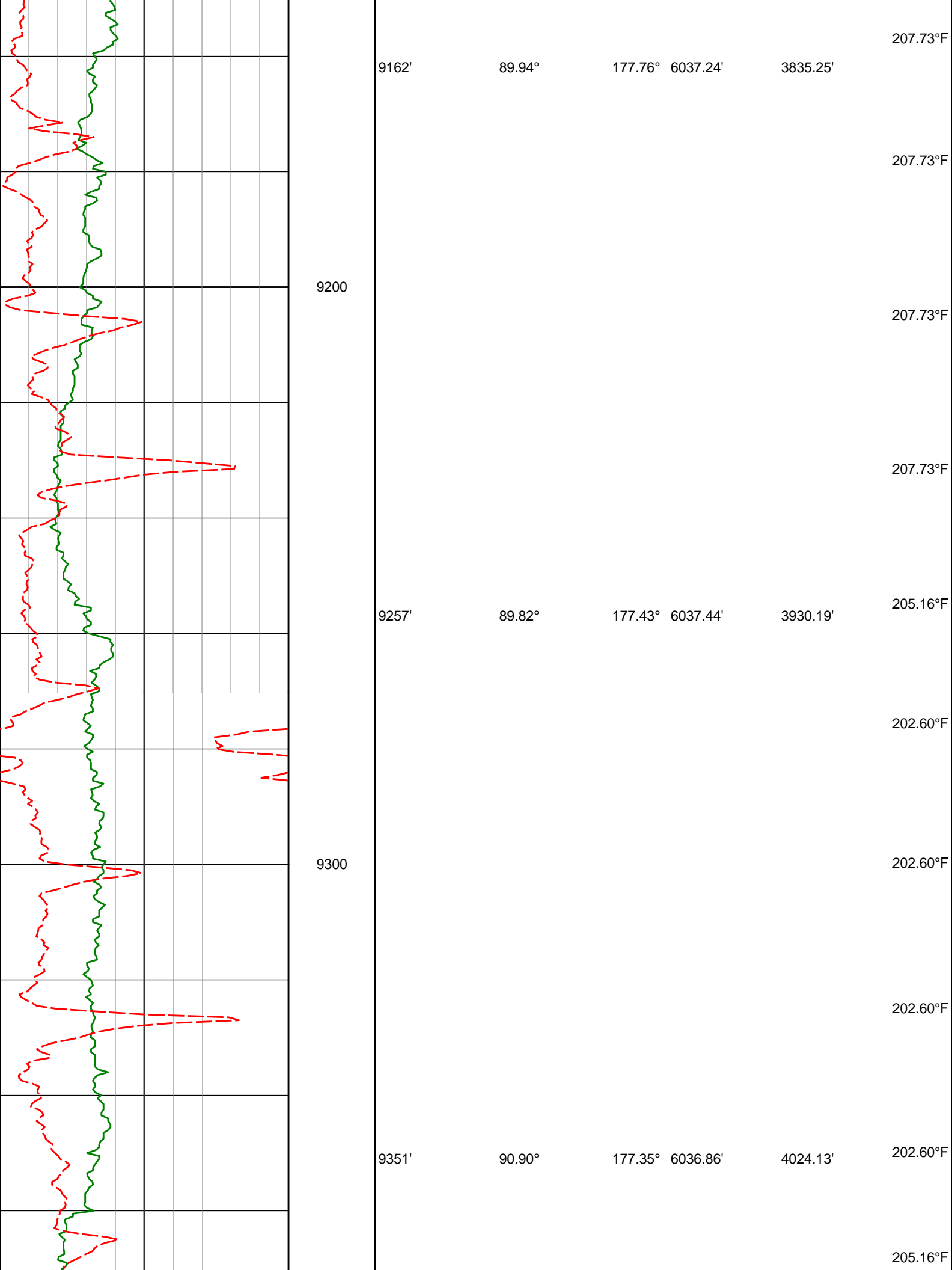


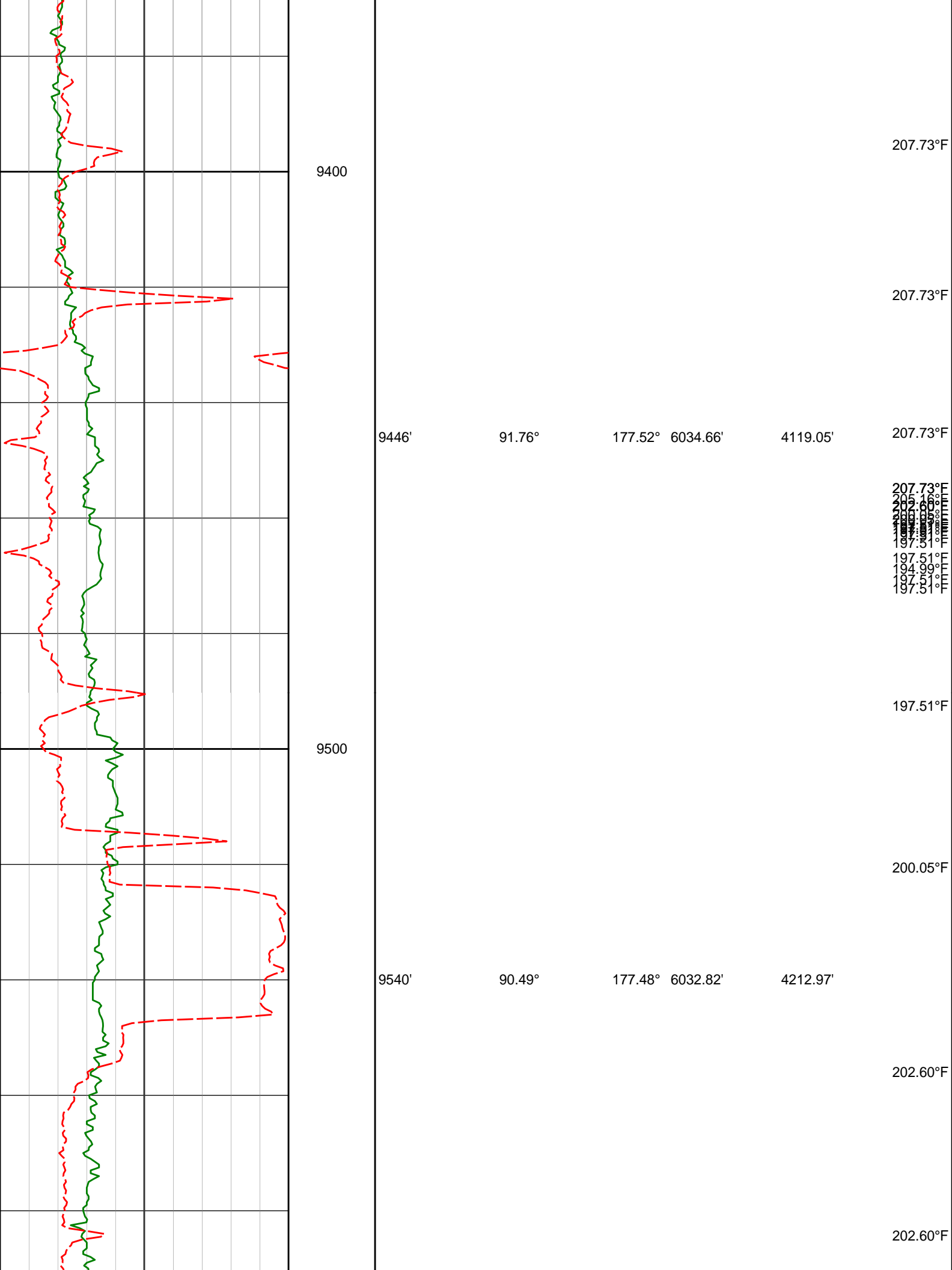


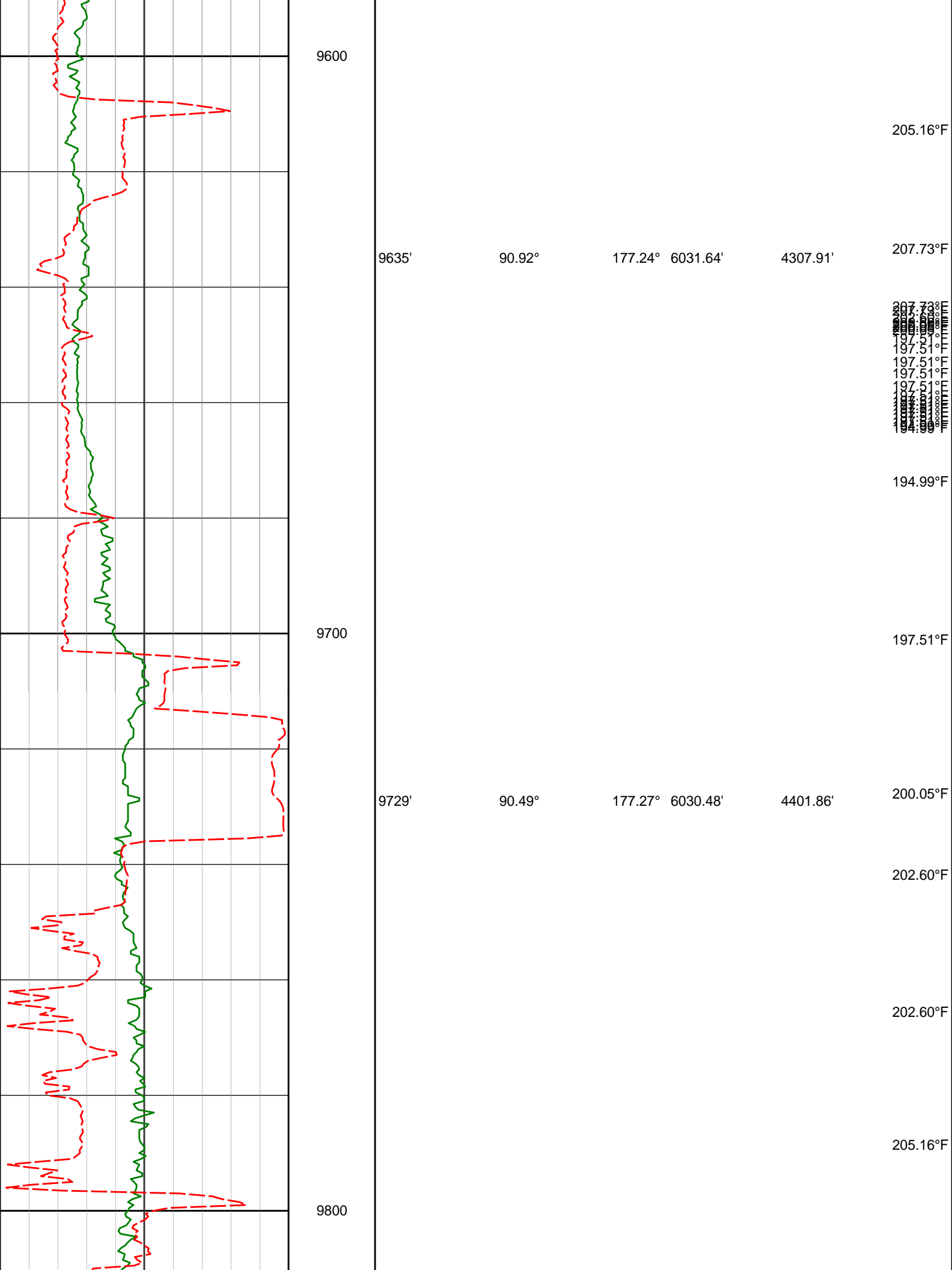


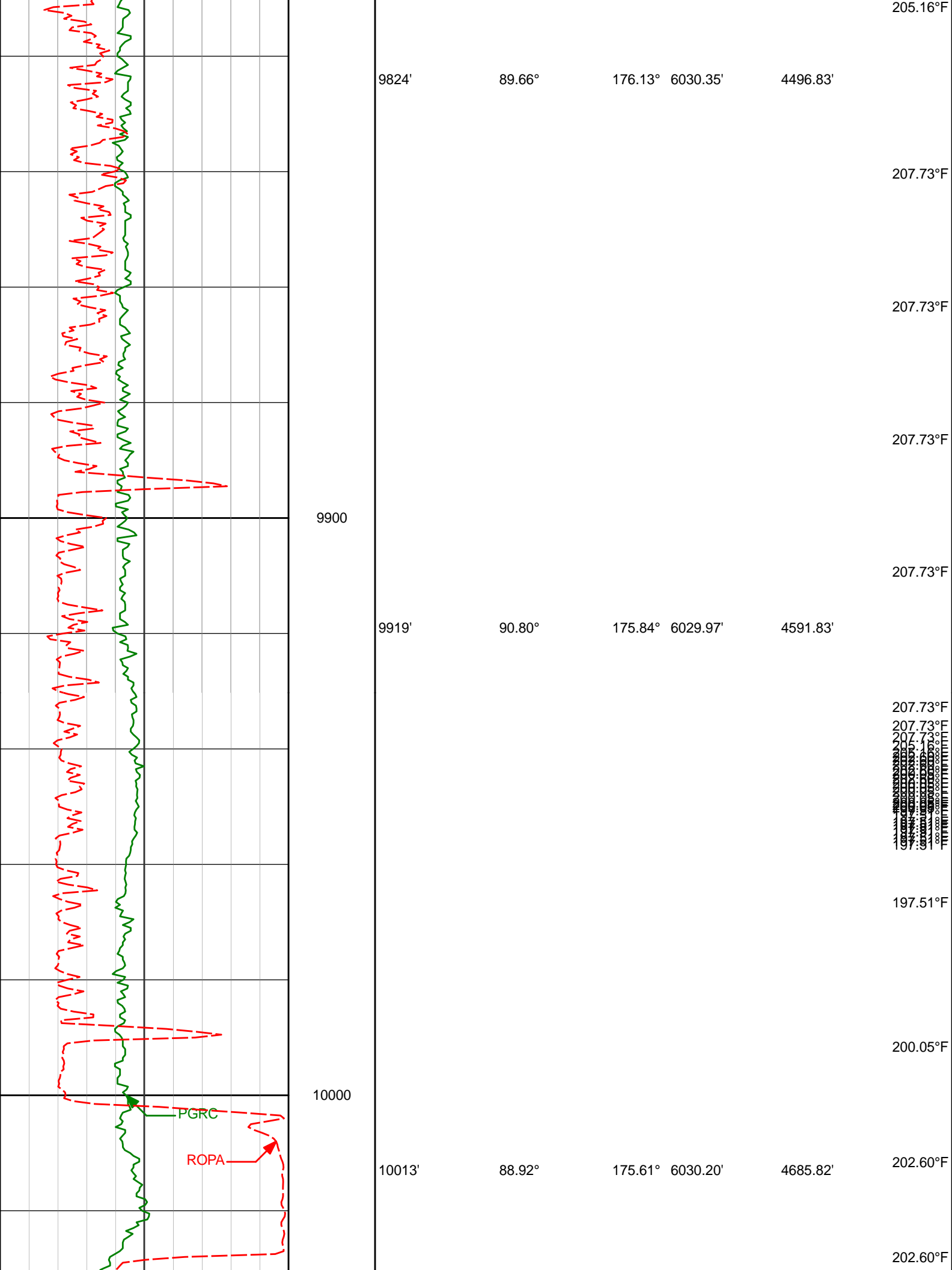


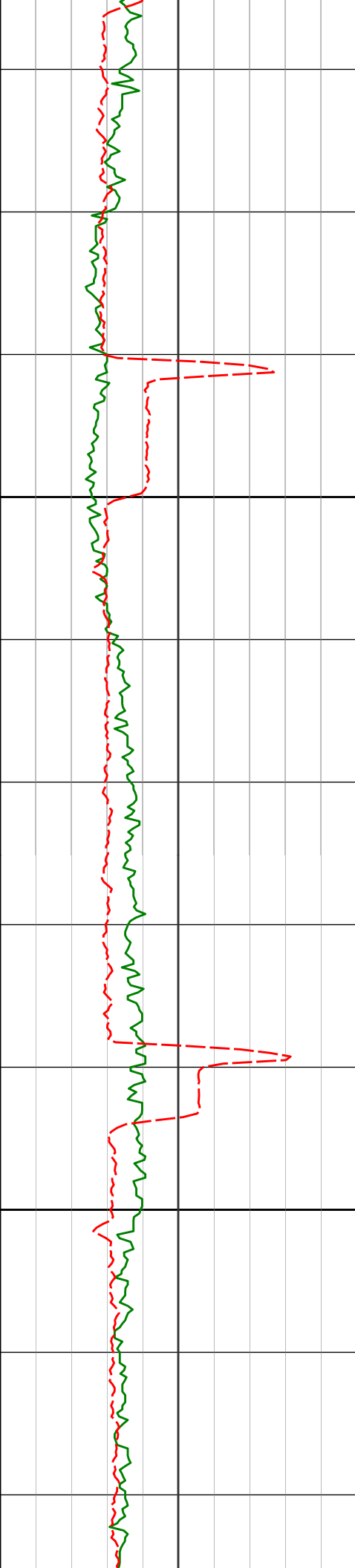












10100

10107'

89.07°

175.51° 6031.84'

4779.81'

10200

10202'

89.20°

175.24° 6033.27'

4874.79'

205.16°F

207.73°F

207.73°F

207.73°F

207.73°F

210.31°F

210.31°F

207.73°F

202.60°F

205.16°F

202.60°F

200.05°F

210.31°F

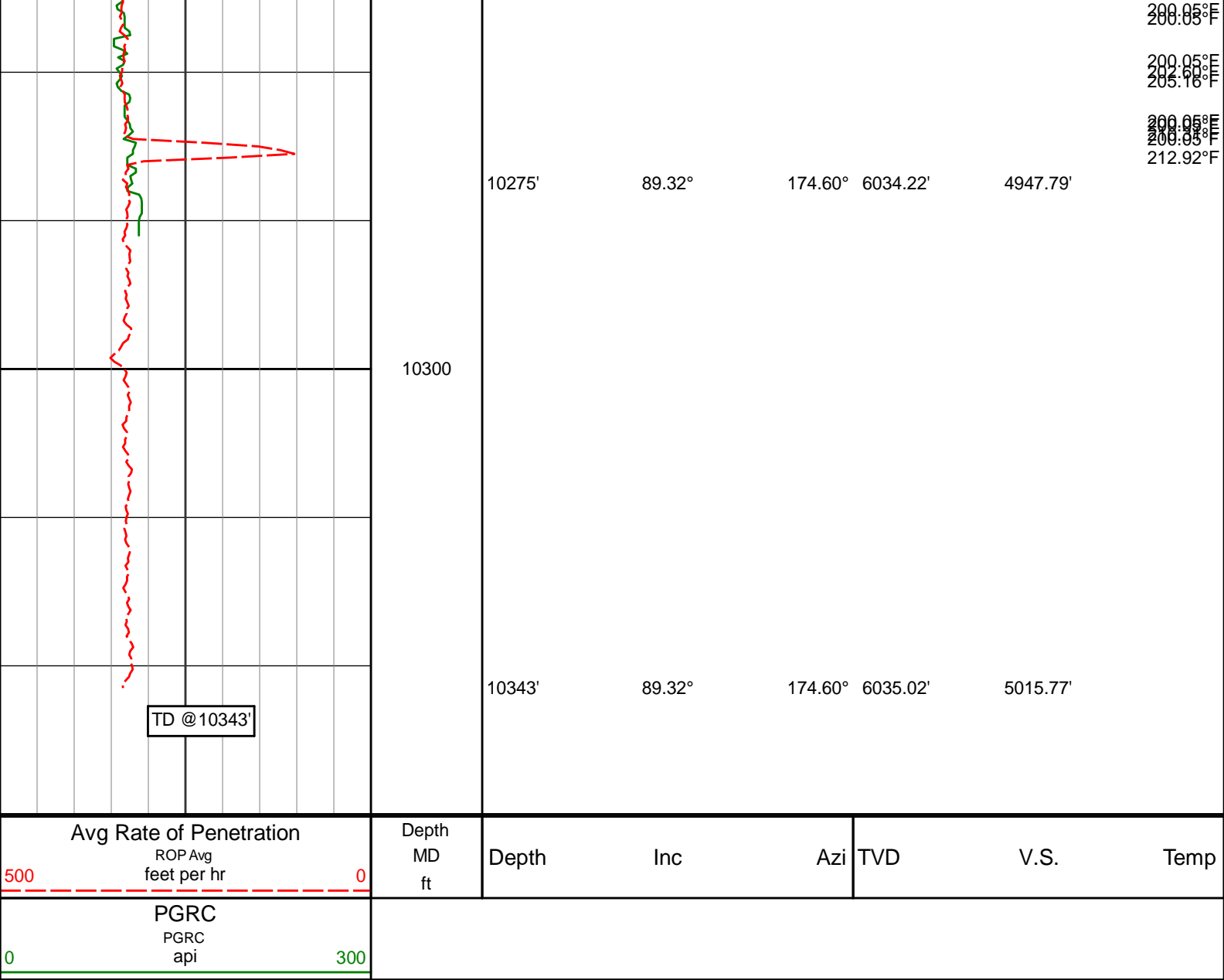
202.60°F

205.16°F

200.05°F

207.73°F

210.31°F



Avg Rate of Penetration ROP Avg feet per hr		Depth MD ft	Depth	Inc	Azi	TVD	V.S.	Temp						
500	0													
PGRC PGRC api														
0	300													

HALLIBURTON

DIRECTIONAL SURVEY REPORT

Noble Energy
Gleason LC35-715
Wattenberg
Weld Colorado
USA
CA-XX-0902231117

Measured Depth (feet)	Inclination (degrees)	Direction (degrees)	Vertical Depth (feet)	Latitude (feet)	Departure (feet)	Vertical Section (feet)	Dogleg (deg/100ft)
0.00	0.00	0.00	0.00	0.00 N	0.00 E	0.00	TIE-IN
250.00	0.50	17.36	250.00	1.04 N	0.33 E	-1.01	0.20
500.00	0.99	17.36	499.97	4.14 N	1.30 E	-4.03	0.20
727.00	1.44	17.36	726.92	8.74 N	2.73 E	-8.50	0.20
822.00	1.32	17.77	821.90	10.93 N	3.43 E	-10.63	0.13
916.00	0.68	78.80	915.88	12.07 N	4.30 E	-11.70	1.23
1105.00	1.39	277.02	1104.87	12.57 N	3.12 E	-12.29	1.08
1198.00	4.04	242.52	1197.76	11.20 N	0.91 W	-11.23	3.23
1290.00	6.28	231.07	1289.38	6.54 N	7.70 W	-7.13	2.66
1382.00	7.52	208.83	1380.73	1.90 S	14.52 W	0.75	3.18
1475.00	8.48	194.82	1472.83	13.86 S	19.21 W	12.30	2.33

1567.00	9.09	174.00	1563.78	27.65 S	20.18 W	25.97	3.50
1752.00	9.30	157.04	1746.44	55.94 S	12.83 W	54.76	1.46
1937.00	8.18	140.52	1929.31	79.87 S	1.37 E	79.73	1.48
2119.00	8.40	145.60	2109.42	100.83 S	17.12 E	101.87	0.42
2302.00	10.11	151.16	2290.03	125.93 S	32.42 E	128.10	1.05
2579.00	9.69	144.96	2562.91	166.31 S	57.52 E	170.33	0.41
2763.00	9.67	145.22	2744.30	191.67 S	75.22 E	197.01	0.03
2858.00	9.59	146.96	2837.96	204.86 S	84.09 E	210.86	0.32
2952.00	9.50	145.57	2930.66	217.82 S	92.74 E	224.46	0.26
3046.00	8.98	146.70	3023.44	230.35 S	101.15 E	237.62	0.59
3141.00	8.09	145.59	3117.38	242.06 S	109.00 E	249.91	0.95
3235.00	7.49	141.61	3210.52	252.32 S	116.54 E	260.74	0.85
3330.00	8.92	145.38	3304.54	263.24 S	124.57 E	272.25	1.60
3425.00	8.96	143.41	3398.39	275.23 S	133.17 E	284.89	0.32
3519.00	8.86	142.68	3491.26	286.87 S	141.92 E	297.18	0.16
3614.00	8.79	141.85	3585.13	298.39 S	150.83 E	309.37	0.15
3708.00	8.89	141.37	3678.01	309.71 S	159.80 E	321.36	0.14
3802.00	9.52	148.29	3770.81	322.00 S	168.42 E	334.30	1.35
3896.00	9.62	148.37	3863.50	335.30 S	176.63 E	348.21	0.11
4085.00	8.26	143.39	4050.20	359.66 S	193.02 E	373.78	0.83
4179.00	7.78	140.78	4143.28	370.01 S	201.07 E	384.73	0.65
4273.00	8.73	152.30	4236.31	381.25 S	208.40 E	396.52	2.03
4367.00	8.82	152.01	4329.21	393.93 S	215.10 E	409.69	0.11
4462.00	8.24	150.31	4423.16	406.28 S	221.89 E	422.54	0.66
4556.00	8.01	149.06	4516.22	417.75 S	228.59 E	434.50	0.31
4651.00	7.26	145.42	4610.37	428.36 S	235.40 E	445.62	0.93
4746.00	6.23	143.45	4704.71	437.45 S	241.88 E	455.19	1.11
4840.00	5.53	138.00	4798.22	444.91 S	247.95 E	463.11	0.96
4935.00	4.81	134.52	4892.83	451.10 S	253.85 E	469.74	0.83
5030.00	4.47	134.21	4987.52	456.48 S	259.35 E	475.54	0.35
5124.00	3.24	156.51	5081.31	461.47 S	263.03 E	480.80	2.04
5219.00	2.62	151.84	5176.19	465.85 S	265.13 E	485.33	0.69
5313.00	2.59	152.27	5270.09	469.62 S	267.13 E	489.25	0.04
5408.00	2.38	150.63	5365.00	473.24 S	269.10 E	493.02	0.23
5597.00	13.97	186.55	5551.82	499.43 S	268.42 E	519.07	6.41
5691.00	22.19	180.41	5641.11	528.50 S	267.00 E	547.94	8.97
5786.00	29.20	178.34	5726.67	569.66 S	267.54 E	589.01	7.44
5881.00	36.78	178.41	5806.29	621.34 S	269.00 E	640.64	7.98
5975.00	47.11	183.19	5876.12	684.04 S	267.87 E	703.06	11.49
6069.00	54.90	182.40	5935.23	756.95 S	264.33 E	775.46	8.31
6164.00	61.71	179.05	5985.12	837.71 S	263.39 E	855.90	7.77
6258.00	69.27	178.27	6024.09	923.16 S	265.41 E	941.23	8.07
6352.00	78.64	180.22	6050.04	1013.38 S	266.56 E	1031.27	10.17
6424.00	84.19	181.54	6060.78	1084.54 S	265.45 E	1102.11	7.91
6518.00	87.63	181.44	6067.49	1178.25 S	263.01 E	1195.34	3.66
6612.00	88.95	179.99	6070.29	1272.20 S	261.84 E	1288.90	2.09
6707.00	90.74	179.39	6070.54	1367.19 S	262.36 E	1383.64	1.98
6801.00	91.05	178.76	6069.08	1461.17 S	263.88 E	1477.44	0.75
6896.00	90.31	178.02	6067.96	1556.12 S	266.55 E	1572.31	1.10
6990.00	91.54	176.64	6066.44	1650.00 S	270.93 E	1666.25	1.97
7085.00	91.82	177.83	6063.65	1744.85 S	275.51 E	1761.16	1.29
7179.00	92.07	178.74	6060.47	1838.75 S	278.32 E	1854.99	0.99
7273.00	90.59	177.68	6058.29	1932.68 S	281.26 E	1948.85	1.94
7368.00	89.75	177.14	6058.01	2027.58 S	285.56 E	2043.80	1.04
7463.00	89.81	177.03	6058.37	2122.46 S	290.39 E	2138.76	0.13
7557.00	90.09	178.40	6058.44	2216.38 S	294.14 E	2232.69	1.48
7652.00	89.69	178.56	6058.62	2311.34 S	296.66 E	2327.55	0.46
7746.00	90.83	178.52	6058.19	2405.31 S	299.06 E	2421.42	1.21
7840.00	91.30	177.95	6056.44	2499.25 S	301.95 E	2515.29	0.78
7934.00	90.89	178.44	6054.65	2593.19 S	304.91 E	2609.17	0.67
8028.00	91.63	178.90	6052.58	2687.14 S	307.10 E	2703.00	0.93
8123.00	91.70	178.85	6049.82	2782.08 S	308.96 E	2797.79	0.09
8217.00	92.10	178.58	6046.71	2876.00 S	311.07 E	2891.59	0.51
8311.00	92.06	178.54	6043.30	2969.91 S	313.43 E	2985.39	0.05
8405.00	91.17	178.67	6040.64	3063.84 S	315.72 E	3079.21	0.96
8500.00	90.25	178.80	6039.47	3158.81 S	317.82 E	3174.05	0.98
8594.00	90.46	178.60	6038.89	3252.79 S	319.95 E	3267.90	0.31
8689.00	89.29	177.37	6039.09	3347.72 S	323.29 E	3362.80	1.79
8784.00	90.77	177.89	6039.04	3442.64 S	327.22 E	3457.73	1.65
8878.00	90.34	178.52	6038.13	3536.59 S	330.16 E	3551.62	0.81
8973.00	90.46	178.84	6037.47	3631.56 S	332.35 E	3646.47	0.36
9068.00	89.94	178.06	6037.14	3726.53 S	334.93 E	3741.34	0.99
9162.00	89.94	177.76	6037.24	3820.46 S	338.36 E	3835.25	0.31
9257.00	89.82	177.43	6037.44	3915.38 S	342.35 E	3930.19	0.37
9351.00	90.90	177.35	6036.86	4009.28 S	346.63 E	4024.13	1.15

9331.00	90.98	177.33	6030.80	4883.28 S	348.83 E	4024.13	1.13
9446.00	91.76	177.52	6034.66	4104.16 S	350.88 E	4119.05	0.92
9540.00	90.49	177.48	6032.82	4198.05 S	354.97 E	4212.97	1.34
9635.00	90.92	177.24	6031.64	4292.94 S	359.35 E	4307.91	0.52
9729.00	90.49	177.27	6030.48	4386.82 S	363.85 E	4401.86	0.46
9824.00	89.66	176.13	6030.35	4481.66 S	369.32 E	4496.83	1.49
9919.00	90.80	175.84	6029.97	4576.43 S	375.98 E	4591.83	1.24
10013.00	88.92	175.61	6030.20	4670.16 S	382.99 E	4685.82	2.02
10107.00	89.07	175.51	6031.84	4763.86 S	390.27 E	4779.81	0.19
10202.00	89.20	175.24	6033.27	4858.54 S	397.93 E	4874.79	0.31
10275.00	89.32	174.60	6034.22	4931.25 S	404.39 E	4947.79	0.89
10343.00	89.32	174.60	6035.02	4998.94 S	410.79 E	5015.77	0.00

CALCULATION BASED ON MINIMUM CURVATURE METHOD

**SURVEY COORDINATES RELATIVE TO WELL SYSTEM REFERENCE POINT
TVD VALUES GIVEN RELATIVE TO DRILLING MEASUREMENT POINT**

**VERTICAL SECTION RELATIVE TO WELL HEAD
VERTICAL SECTION IS COMPUTED ALONG A DIRECTION OF 175.47 DEGREES (GRID)
A TOTAL CORRECTION OF 7.02 DEG FROM MAGNETIC NORTH TO GRID NORTH HAS BEEN APPLIED**

**HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 10343.00 FEET
IS 5015.79 FEET ALONG 175.30 DEGREES (GRID)**

Survey at 250' and 500' were extrapolated between surface and the first survey

Last survey is a projection from 10275 ft MD to TD at 10343 ft MD.