

| | | |
|------------|---|------------------------|
| Company | : | Extraction Oil & Gas |
| Rig | : | Patterson 901 |
| Well | : | NORTHWEST A S20-25-13N |
| Field | : | Broomfield County, CO |
| Country | : | USA |
| API Number | : | 05-014-20784/906084150 |

| LOCATION | |
|----------------|----------------------|
| Latitude : | 39° 58' 59.49" North |
| Longitude : | 105° 0' 45.83" West |
| UTM Easting = | 3,136,543.400 usft |
| UTM Northing = | 1,237,098.910 usft |

Other Services

Permanent Datum : Ground Level Elevation : 5314.00 ft

Log Measured From : Drill Floor 29.00 ft Above Permanent Datum

Drilling Measured From : Drill Floor

| | |
|----|------------|
| KB | N/A |
| DF | 5343.00 ft |
| GL | 5314.00 ft |
| WD | N/A |

| | | | |
|----------------|----------------------------------|-----------------------|----------------------------|
| Depth Logged | : 1,600.00 ft To 21,517.00 ft | Unit No. : | Job No. : CA-XX-0906084150 |
| Date Logged | : 04-Jan-20 To 09-Jan-20 | | |
| Total Depth MD | : 21,517.00 ft TVD : 7,966.32 ft | Plot Type : Final | |
| Spud Date | : 04-Jan-20 | Plot Date : 29-Jan-20 | |

[illegible]



| WELL INFORMATION | | | | | |
|----------------------------------|-------------------|-------------------|-------------------|--|--|
| MWD Run Number | 100 | 200 | 300 | | |
| Date run completed | 06-Jan-20 | 09-Jan-20 | 09-Jan-20 | | |
| Rig Bit Number | 0100 | 0200 | 0300 | | |
| Bit Size (in) | 8.750 | 8.500 | 8.500 | | |
| Tool Nominal OD (in) | 6.750 | 6.750 | 6.500 | | |
| Log Start Depth (MD, ft) | 1,600.00 | 11,072.00 | 19,927.00 | | |
| Log End Depth (MD, ft) | 11,072.00 | 19,927.00 | 21,517.00 | | |
| Drill or Wipe | Drill | Drill | Drill | | |
| Drill/Wipe Start Date and Time | 04-Jan-20 22:00 | 06-Jan-20 18:00 | 08-Jan-20 19:00 | | |
| Drill/Wipe End Date and Time | 06-Jan-20 00:30 | 08-Jan-20 04:30 | 09-Jan-20 02:30 | | |
| Min Inc (deg) @ Depth (MD, ft) | 0.44 @ 1,555.00 | 89.07 @ 12,917.00 | 89.75 @ 21,005.00 | | |
| Max Inc (deg) @ Depth (MD, ft) | 92.26 @ 10,970.00 | 91.17 @ 16,918.00 | 91.23 @ 21,481.00 | | |
| Bit TFA(in2) / Bit Type | 0.74 / PDC | 0.74 / PDC | 0.74 / PDC | | |
| Flow Rate (gpm) | 650.00 | 630.00 | 650.00 | | |
| Max AV (fpm) / CV (fpm) @ MWD | 566.0 / 301.0 | 596.0 / 343.0 | 596.0 / 345.0 | | |
| Fluid Type | Mineral Oil Bas | Mineral Oil Bas | Mineral Oil Bas | | |
| Density (ppg) / Viscosity (spqt) | 9.60 / 42.00 | 9.70 / 46.00 | 9.70 / 46.00 | | |
| Filtrate CL (ppm) | 41,500.00 | 43,000.00 | 43,000.00 | | |
| pH / API Filtrate (mptm) | N/A / 17 | N/A / 2 | N/A / 17 | | |
| PV (cP) / YP (lhf2) | 14 / 8.00 | 19 / 8.00 | 19 / 9.00 | | |
| % Solids / % Sand | 9 / 0 | 12 / 0 | 12 / 0 | | |
| % Oil / Oil:Water Ratio | 68.50 / 77:23 | 67 / 76:24 | 66 / 75:25 | | |
| Rm @ Measured Temp (degF) | N/A @ N/A | N/A @ N/A | N/A @ N/A | | |
| Rmf @ Measured Temp (degF) | N/A @ N/A | N/A @ N/A | N/A @ N/A | | |

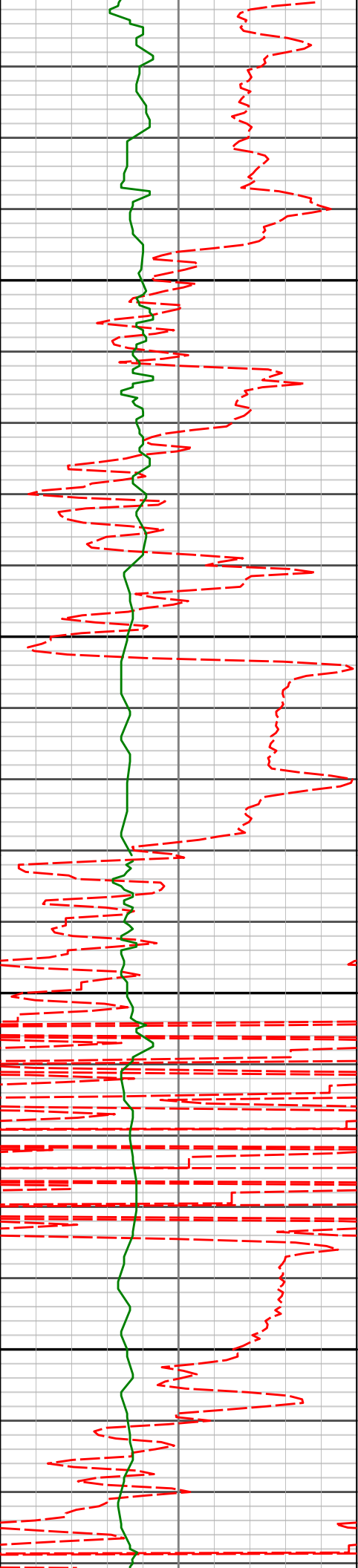
| | | | | | |
|---|--------------|--------------|--------------|--|--|
| Rmc @ Measured Temp (degF) | N/A @ N/A | N/A @ N/A | N/A @ N/A | | |
| Max Tool Temp (degF) / Source | 266.00 / EMT | 276.00 / PWD | 266.00 / PWD | | |
| Rm @ Max Tool Temp (degF) | N/A @ 266.00 | N/A @ 276.00 | N/A @ 266.00 | | |
| Lead MWD Engineer | N/A | N/A | N/A | | |
| Customer Representative | N/A | N/A | N/A | | |
| | | | | | |
| SENSOR INFORMATION | | | | | |
| | | | | | |
| Downhole Processor Information | | | | | |
| Tool Type | EMT-DTU | EMT-DTU | EMT-DTU | | |
| Software Version | 4.48 | 8.12A | 8.12A | | |
| Sub Serial Number | | | | | |
| Insert Serial Number | | | | | |
| Date and Time Initialized | N/A | N/A | N/A | | |
| Date and Time Read | N/A | N/A | N/A | | |
| ECMB SW Version | N/A | N/A | N/A | | |
| | | | | | |
| Directional Sensor Information | | | | | |
| Tool Type | PCDC | iCruise DM | iCruise DM | | |
| Distance From Bit (ft) | 50.00 | 17 | 17 | | |
| Software Version | 6.43 | 3.7 | 3.7 | | |
| Sub Serial Number | 123456 | | | | |
| Sonde Serial Number | 12934811 | | | | |
| Sensor ID Number | N/A | | | | |
| Toolface Offset (deg) | 302.78 | | | | |
| | | | | | |
| Gamma Ray Sensor Information | | | | | |
| Tool Type | PCG | iCruise GM | iCruise GM | | |
| Distance From Bit (ft) | 52.79 | 12 | 12 | | |
| Recorded Sample Period (sec) | 10 | 10 | 10 | | |
| Software Version | 8.15 | 3.06 | 3.06 | | |
| Sub Serial Number | 123456 | | | | |
| Insert/Sonde Serial Number | 11579760 | | | | |
| | | | | | |
| Rotary Steerable Information | | | | | |
| Tool Type | | iCruise | iCruise | | |
| Distance From Bit (ft) | | 6.15 | 5.85 | | |
| Software Version | | 3.44 | 3.44 | | |
| Sub Serial Number | | | | | |
| | | | | | |
| REMARKS | | | | | |
| <p>1. All depths are calibrated to the driller's pipe tally and are measured depth measured from the drill floor.</p> <p>2. No depth corrections have been made for pipe stretch or compression.</p> <p>3. All data presented is recorded (Tool memory data) unless otherwise stated.</p> <p>4. Environmental parameters used to process gamma ray are as follows:</p> <p>Hole Size: 8.75 in and 8.50 in. Mud weight: 9.6 - 9.9 ppm</p> <p>5. The following smoothing parameters have been applied to the data:</p> <p>Main Log 1:240 (5"):</p> | | | | | |

- 6. Gaps in gamma data are from detection issues
- 7. Gaps in ROP are from Block Height Calibration.
- 7. Insite version 9.2.0

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 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.

5" MD Log (1:240)

| | | | | | | | | |
|---|--|--|-------|-------|---------|----------|--------|------|
| PCG Gamma Ray BCorr (PGRC) api | | | | | | | | |
| 0300 | | | | | | | | |
| | | | | | | | | |
| Avg Rate of Penetration (ROPA) feet per hr | | MD 1 : 240 ft | Depth | Inc | Azi | TVD | V/S | Temp |
| 2K0 | | 1550' | 1555' | 0.44° | 176.23° | 1554.72' | -2.40' | |
|  | |  Casing Shoe @ 1580' MD | | | | | | |
| | | 1600' | | | | | | |
| | | <Run 100> | | | | | | |



1650'

1700'

1750'

1800'

1643'

0.65°

189.96°

1642.72'

-1.58'

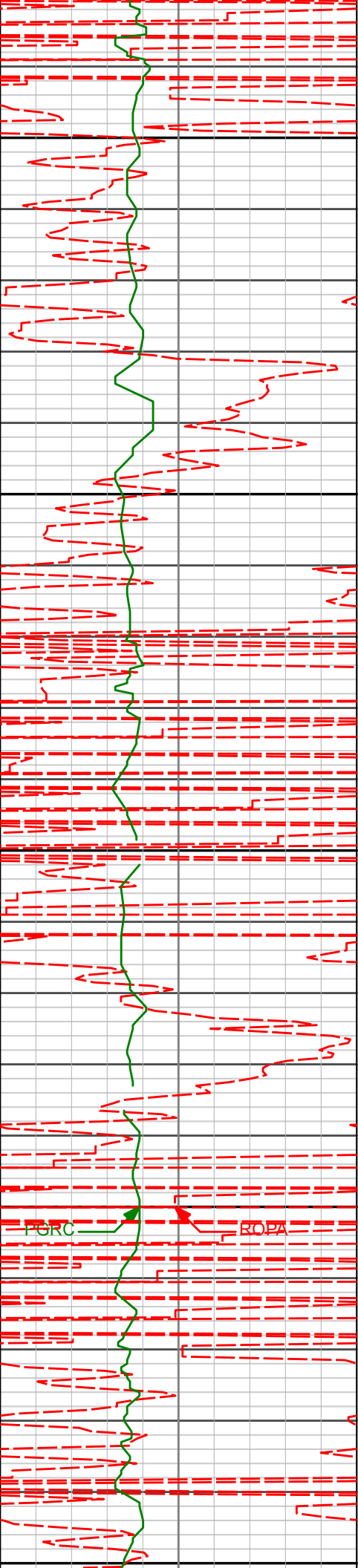
1737'

2.25°

317.14°

1736.69'

-2.08'



1850'

1900'

1950'

2000'

2050'

1832'

6.93°

303.39°

1831.37'

-5.14'

1927'

9.05°

296.61°

1925.44'

-8.92'

91.4°F

91.4°F

2022'

8.67°

296.98°

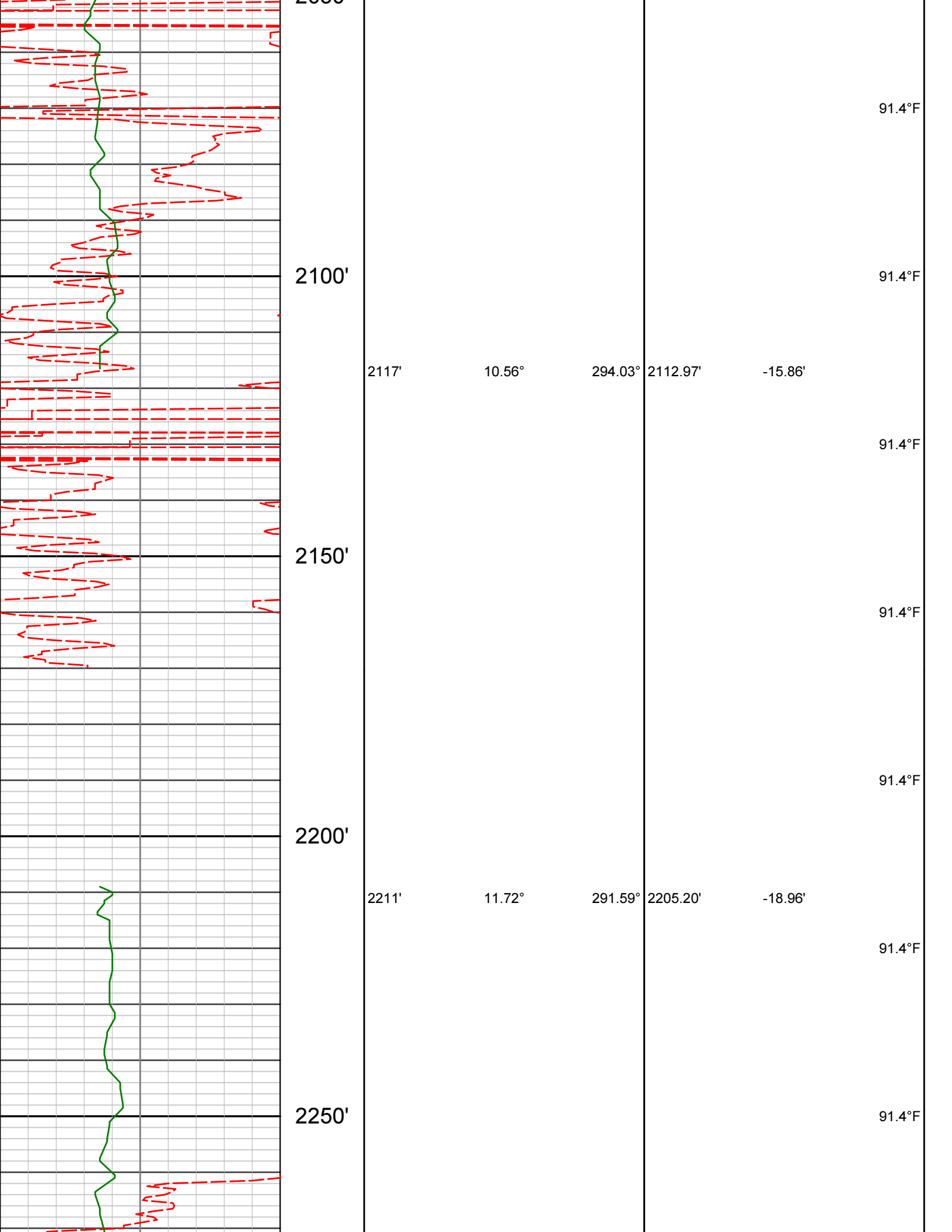
2019.31'

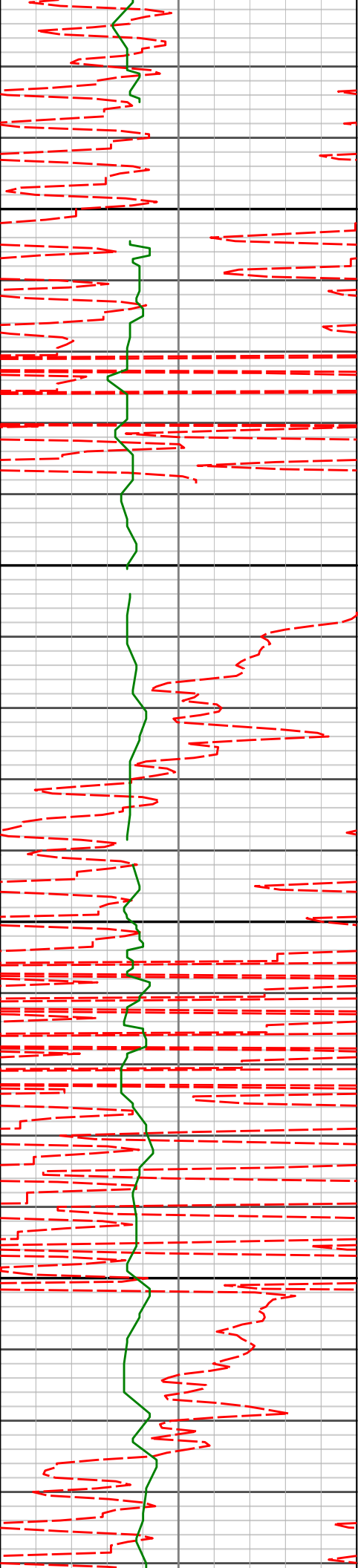
-12.43'

91.4°F

PGRC

ROPA





91.4°F

2300'

2307'

13.30°

290.20°

2298.92'

-21.84'

2350'

2400'

2402'

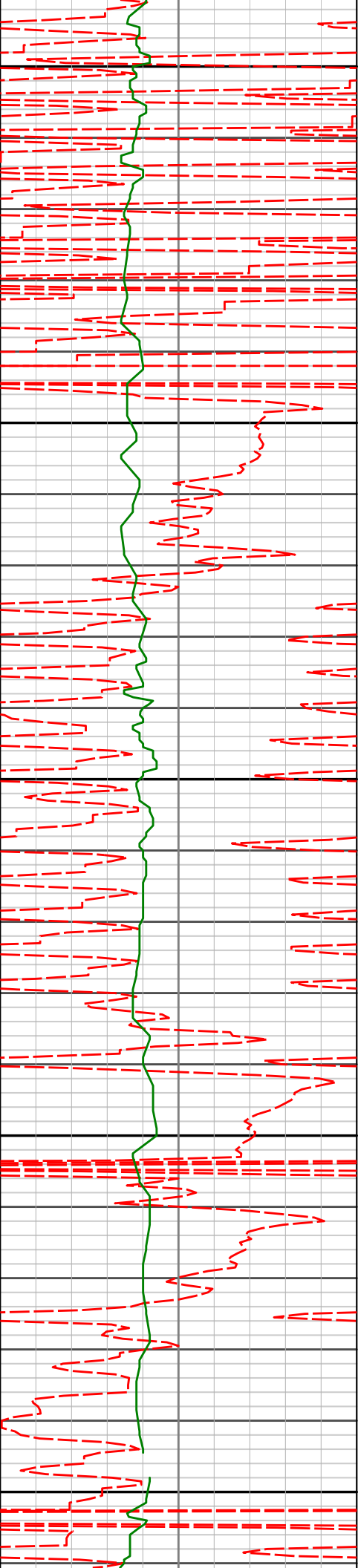
15.04°

293.56°

2391.02'

-25.51'

2450'



2500'

2550'

2600'

2650'

2700'

2496'

16.51°

292.21°

2481.48'

-29.93'

2591'

18.11°

292.77°

2572.18'

-34.65'

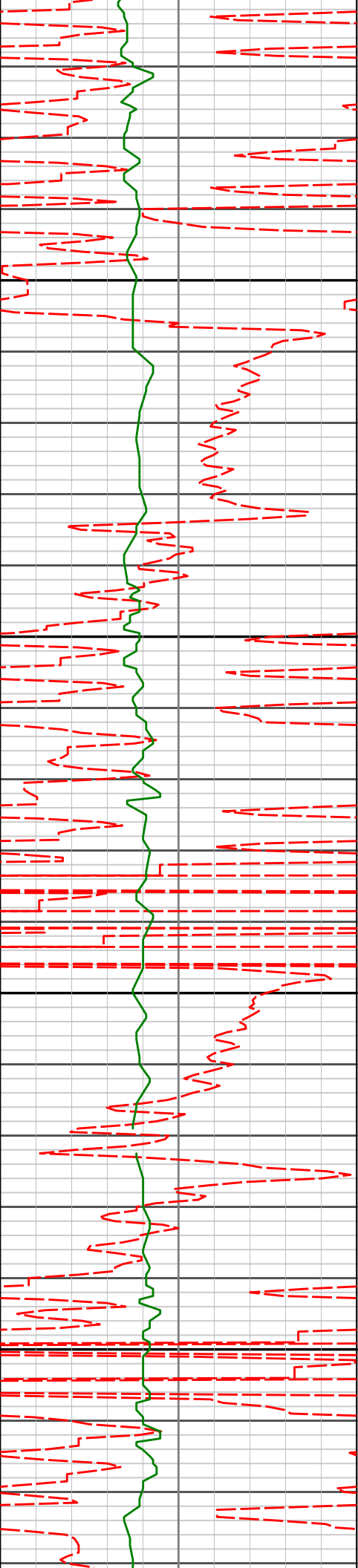
2705'

18.70°

292.94°

2680.35'

-40.87'



2750'

2800'

2850'

2900'

2800'

22.08°

295.62°

2769.38'

-47.47'

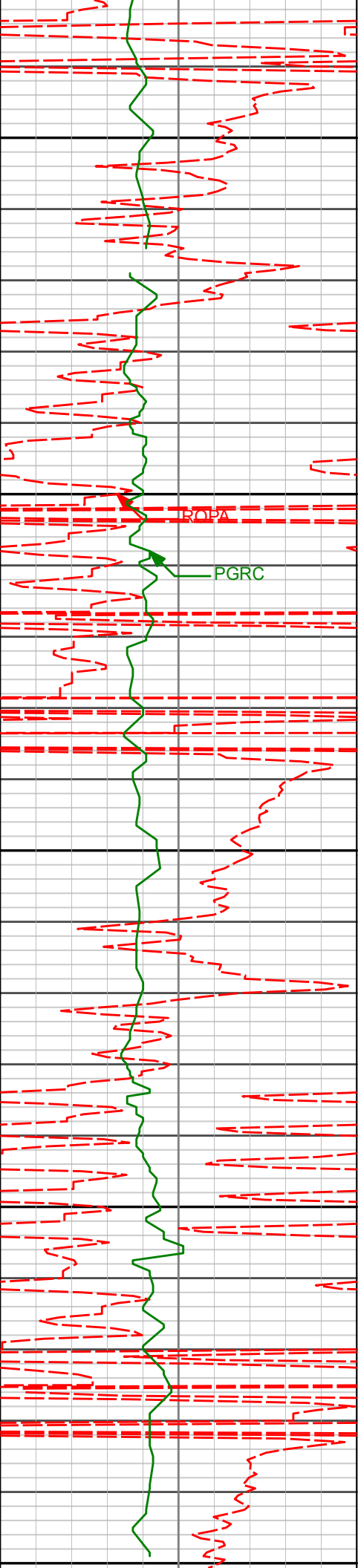
2893'

24.84°

298.52°

2854.69'

-56.58'



2950'

2987'

25.63°

298.66°

2939.72'

-67.42'

3000'

ROPA

PGRC

3050'

3083'

28.41°

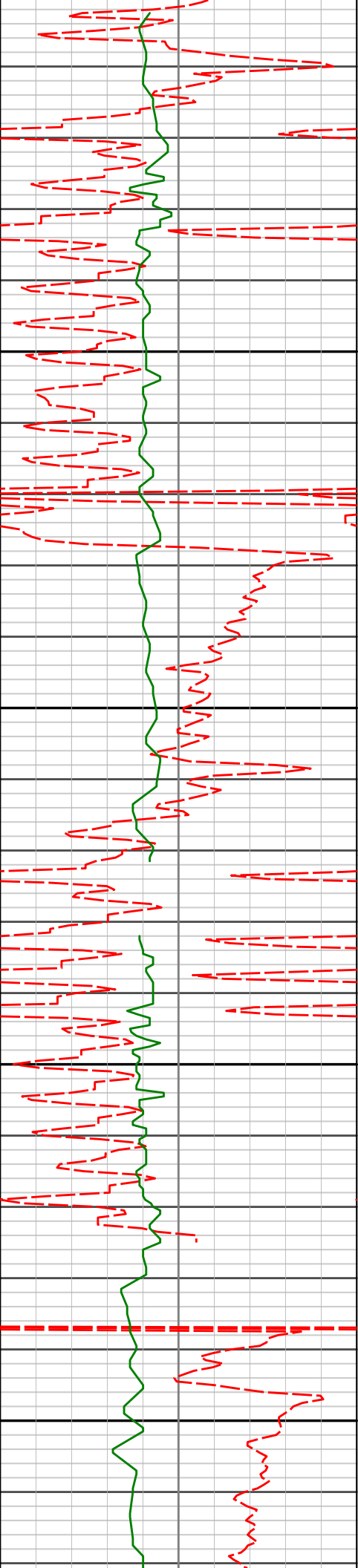
298.89°

3025.23'

-79.36'

3100'

3150'



3177'

30.53°

298.25°

3107.06'

-91.84'

3200'

3250'

3272'

32.30°

290.72°

3188.16'

-101.69'

3300'

3350'

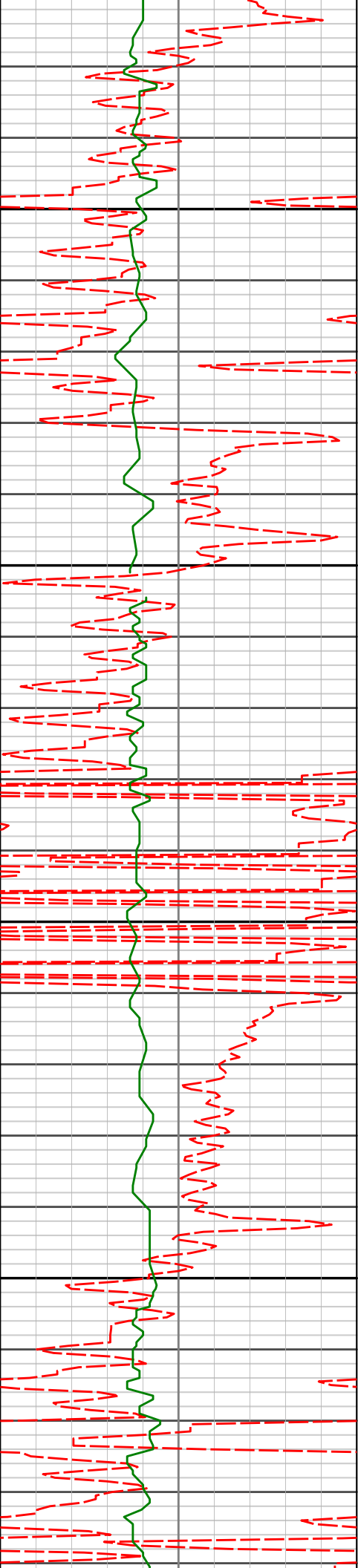
3366'

35.11°

292.45°

3266.35'

-109.60'



3400'

3450'

3500'

3550'

3461'

37.99°

293.43°

3342.66'

-119.48'

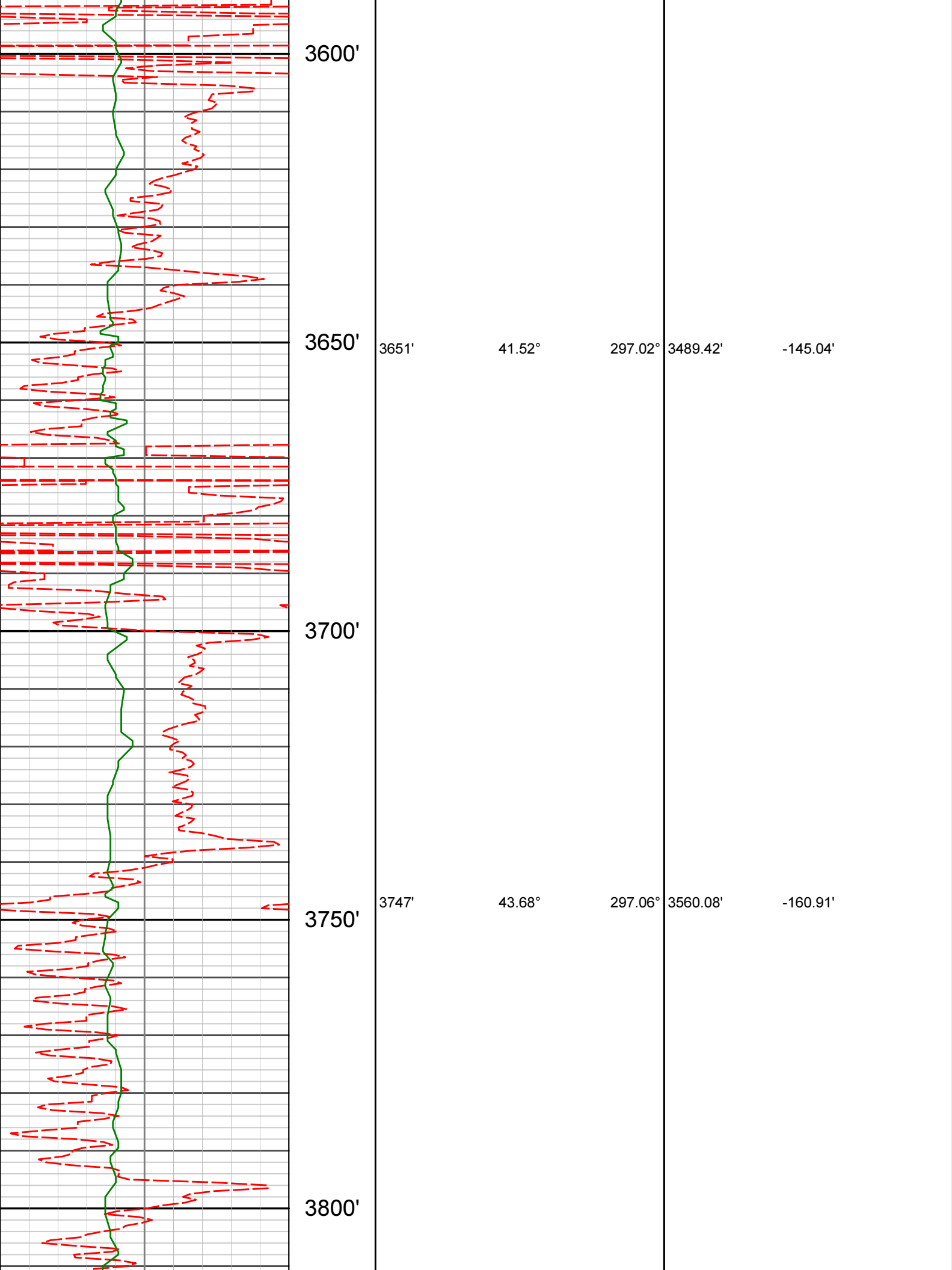
3556'

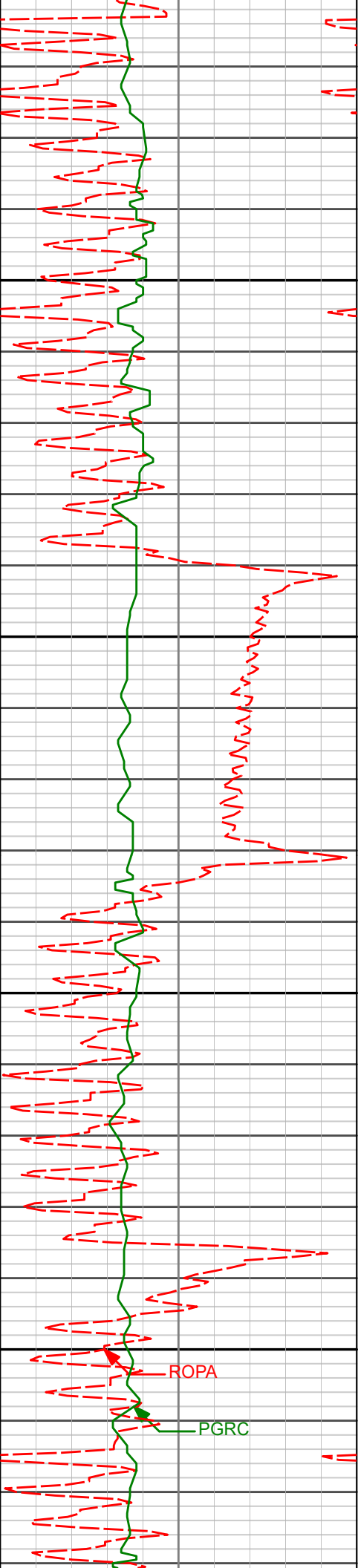
39.09°

294.97°

3416.97'

-131.09'





| | | | | |
|-------|--------|---------|----------|----------|
| 3842' | 40.74° | 297.19° | 3630.43' | -176.60' |
|-------|--------|---------|----------|----------|

3850'

3900'

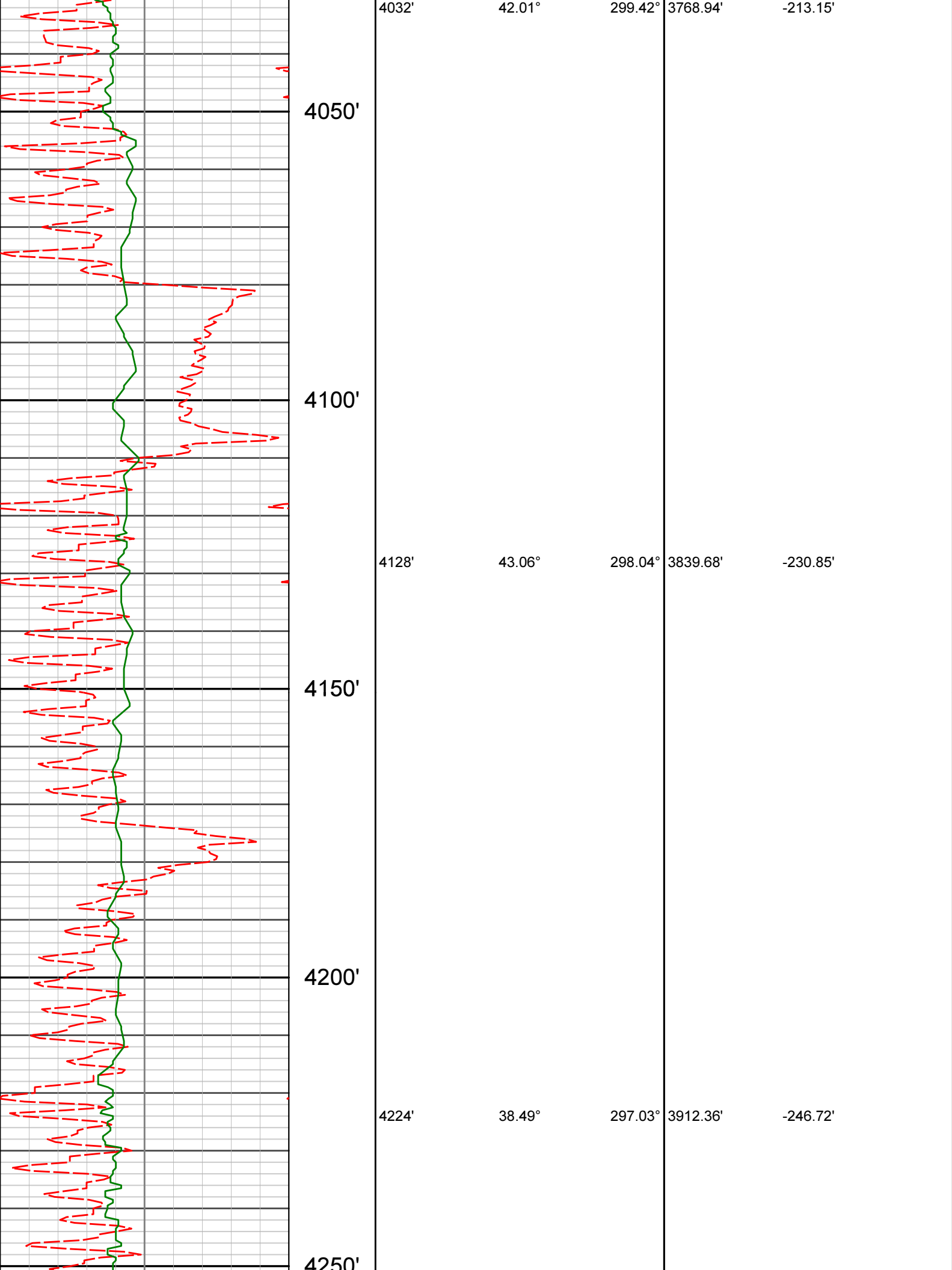
| | | | | |
|-------|--------|---------|----------|----------|
| 3937' | 45.01° | 300.07° | 3700.05' | -194.18' |
|-------|--------|---------|----------|----------|

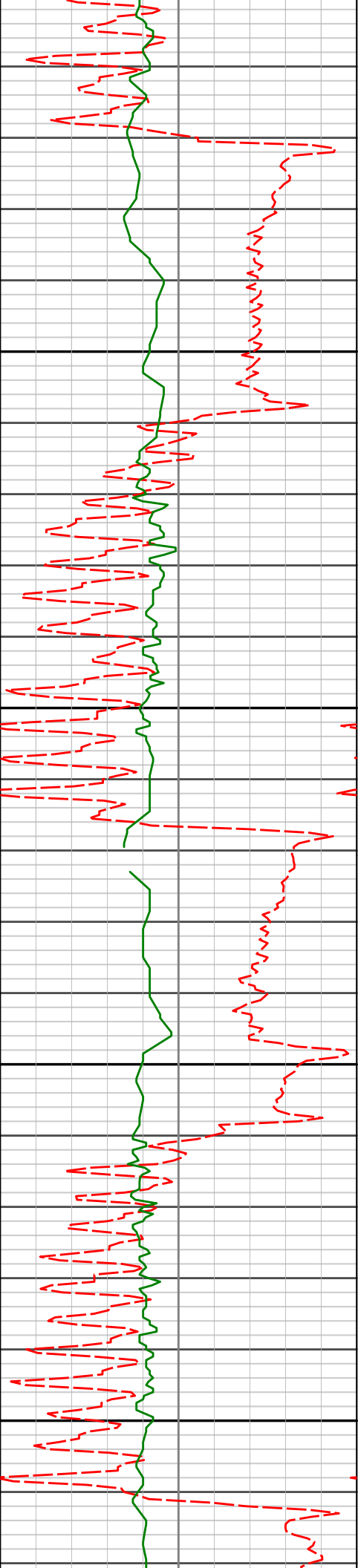
3950'

4000'

ROPA

PGRC





4200'

4300'

4319'

40.55°

298.47°

3985.64'

-262.23'

4350'

4400'

4414'

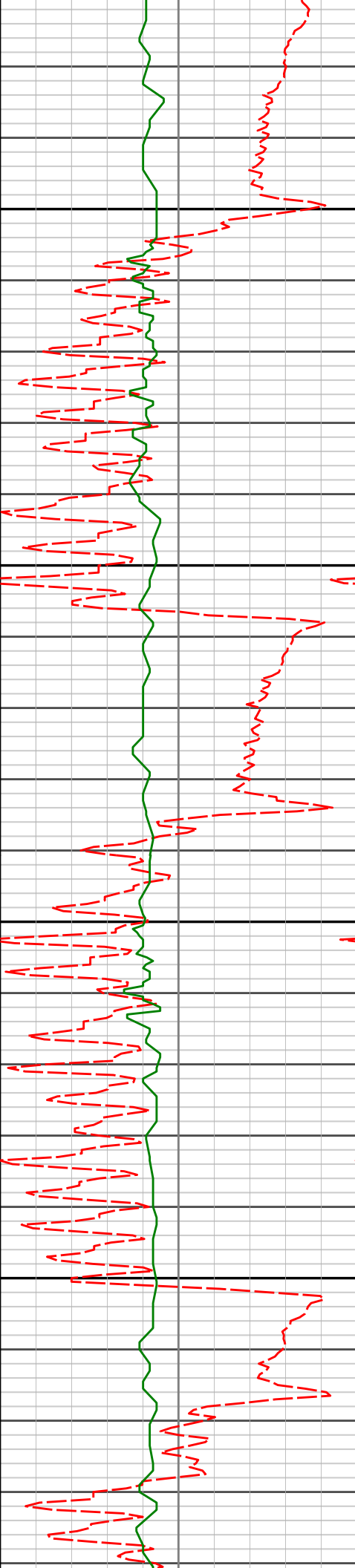
43.02°

297.55°

4056.47'

-278.72'

4450'



4500'

4509'

44.06°

297.75°

4125.33'

-295.38'

4550'

4600'

4604'

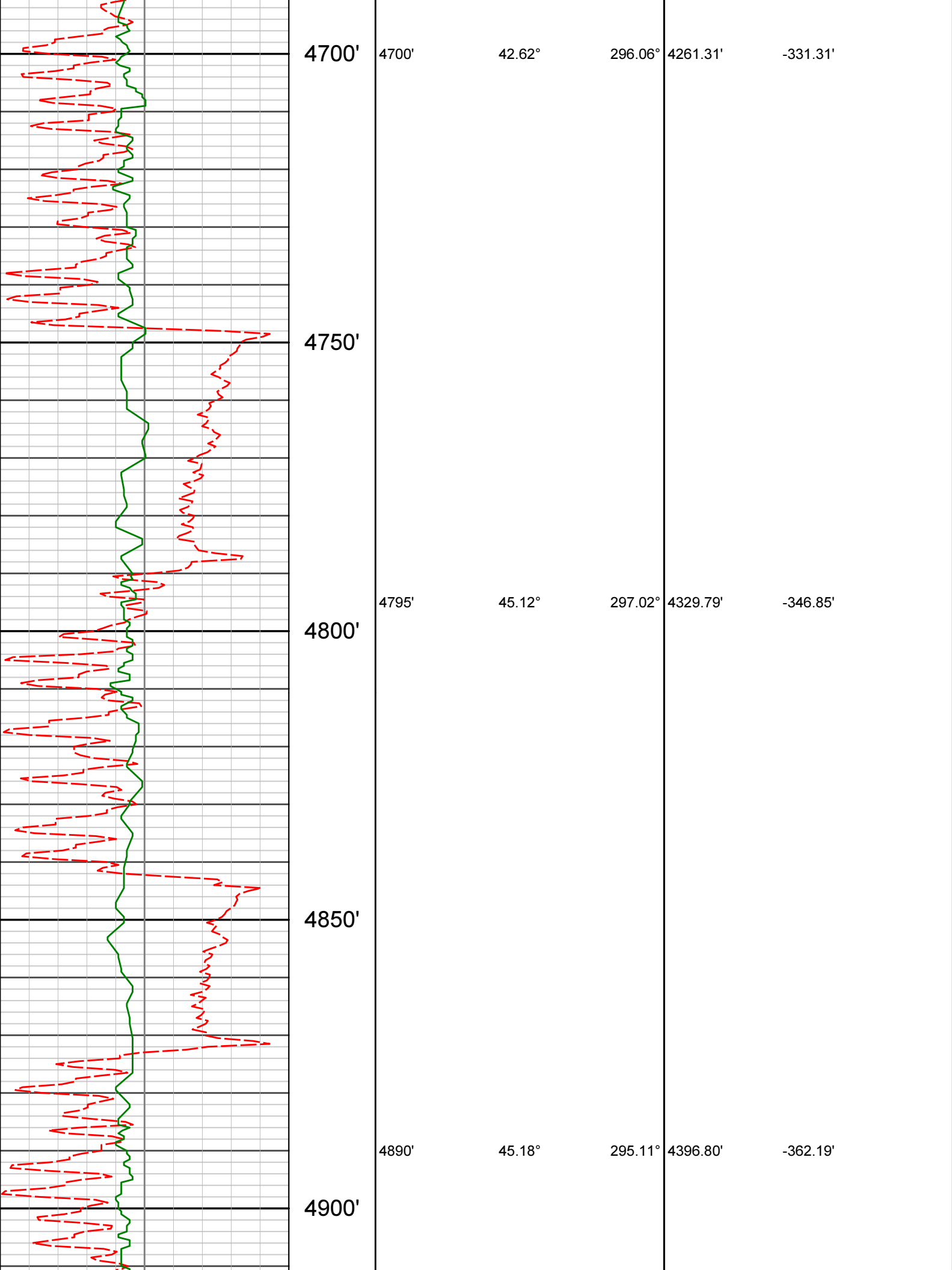
45.88°

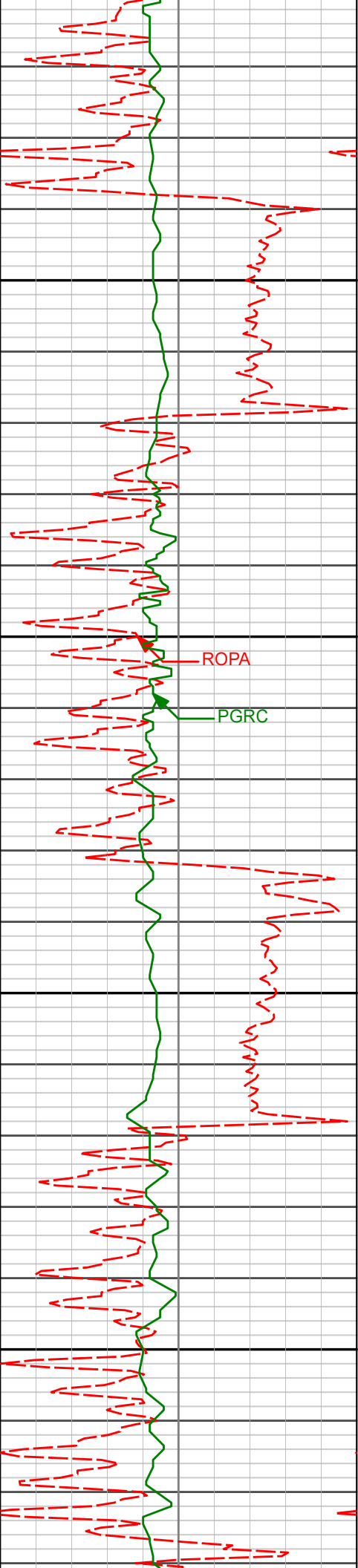
299.90°

4192.54'

-313.83'

4650'





4950'

4985'

46.42°

294.17°

4463.03'

-376.04'

5000'

ROPA

PGRC

5050'

5080'

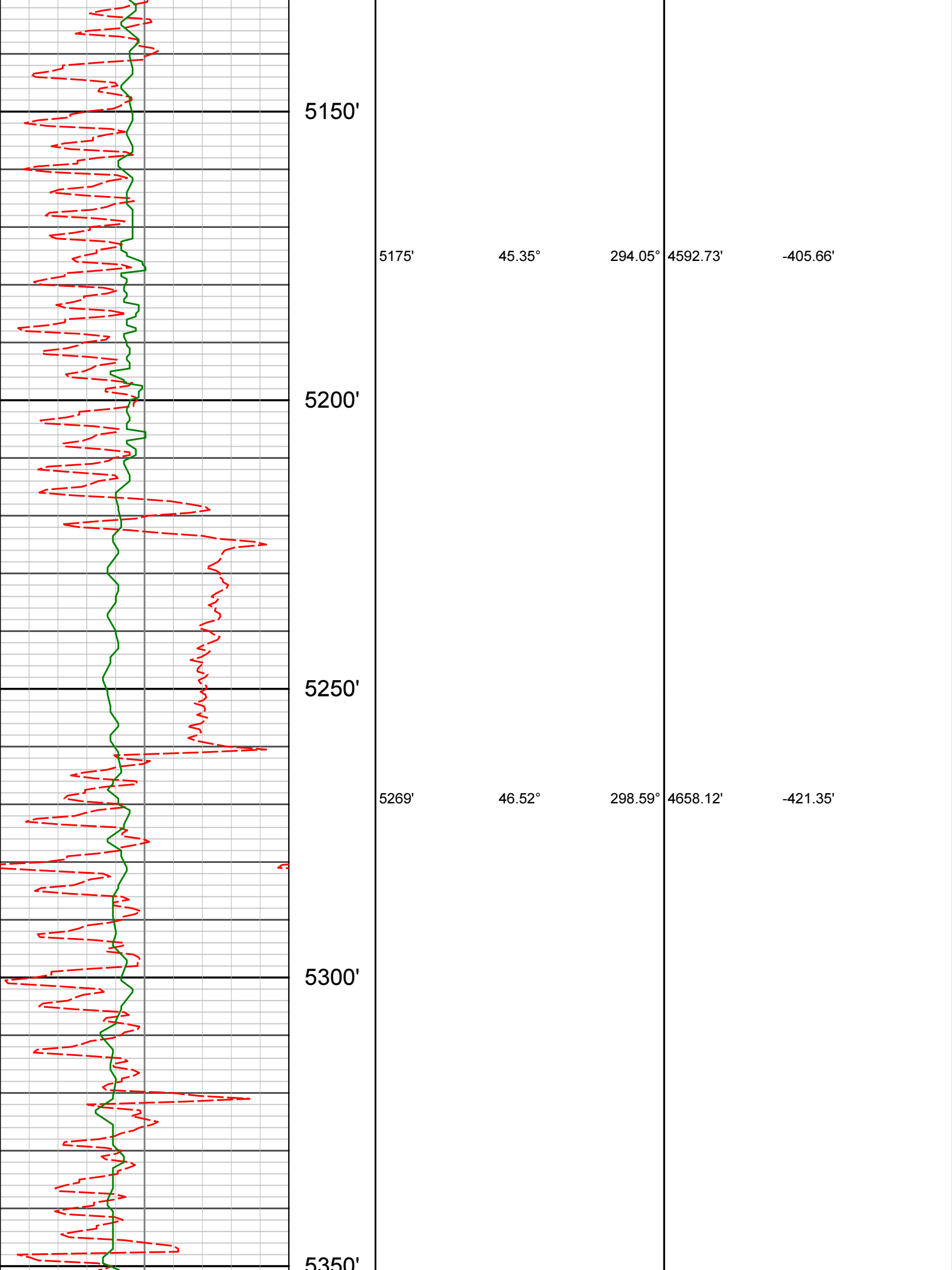
48.01°

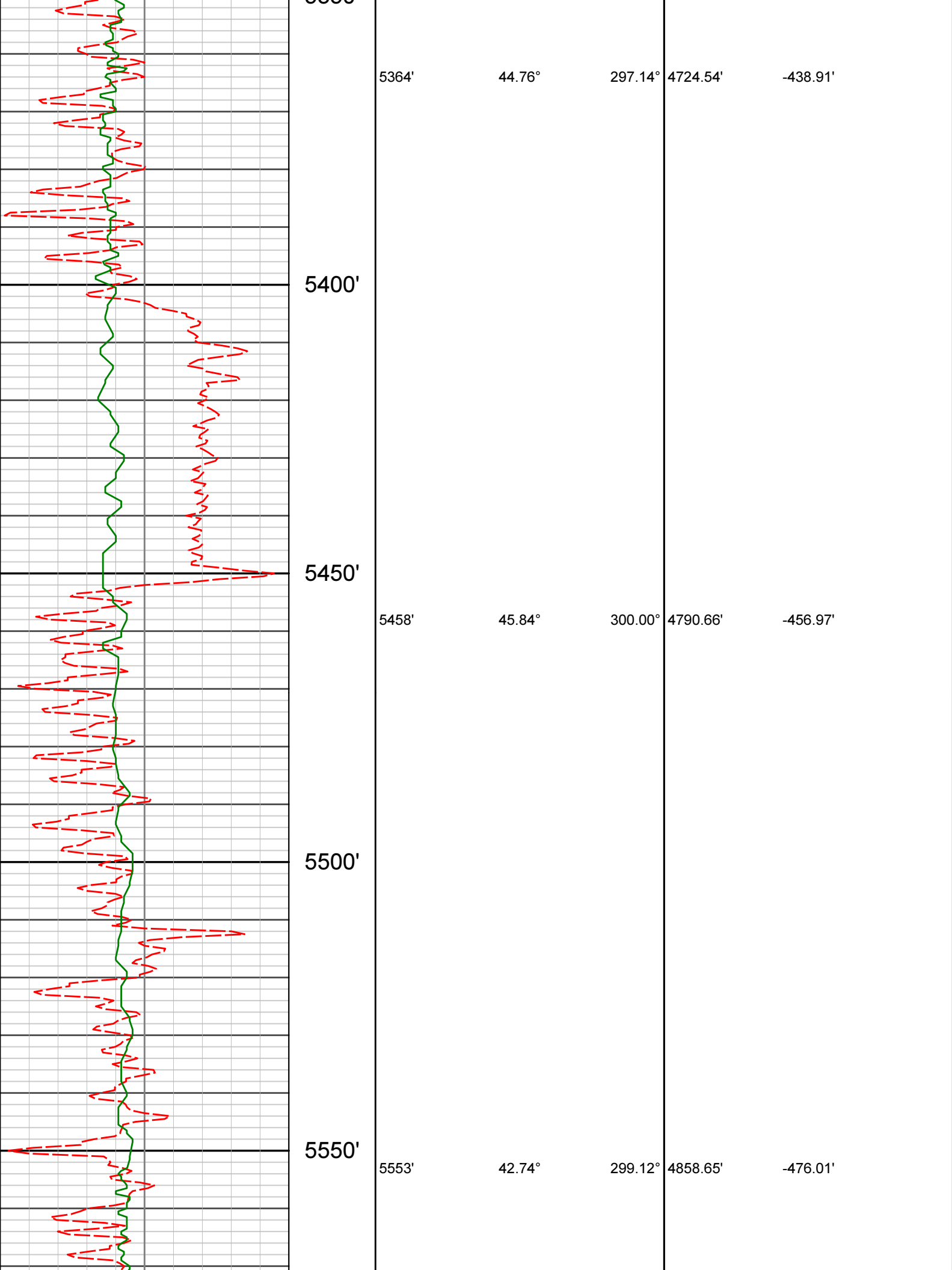
296.28°

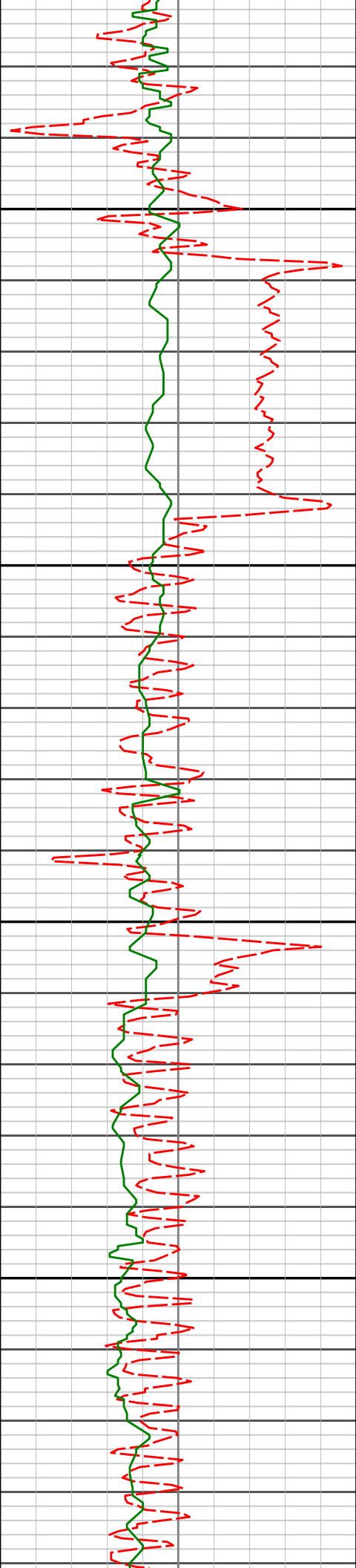
4527.56'

-390.95'

5100'







5600'

5650'

5700'

5750'

5648'

45.28°

301.63°

4926.98'

-495.86'

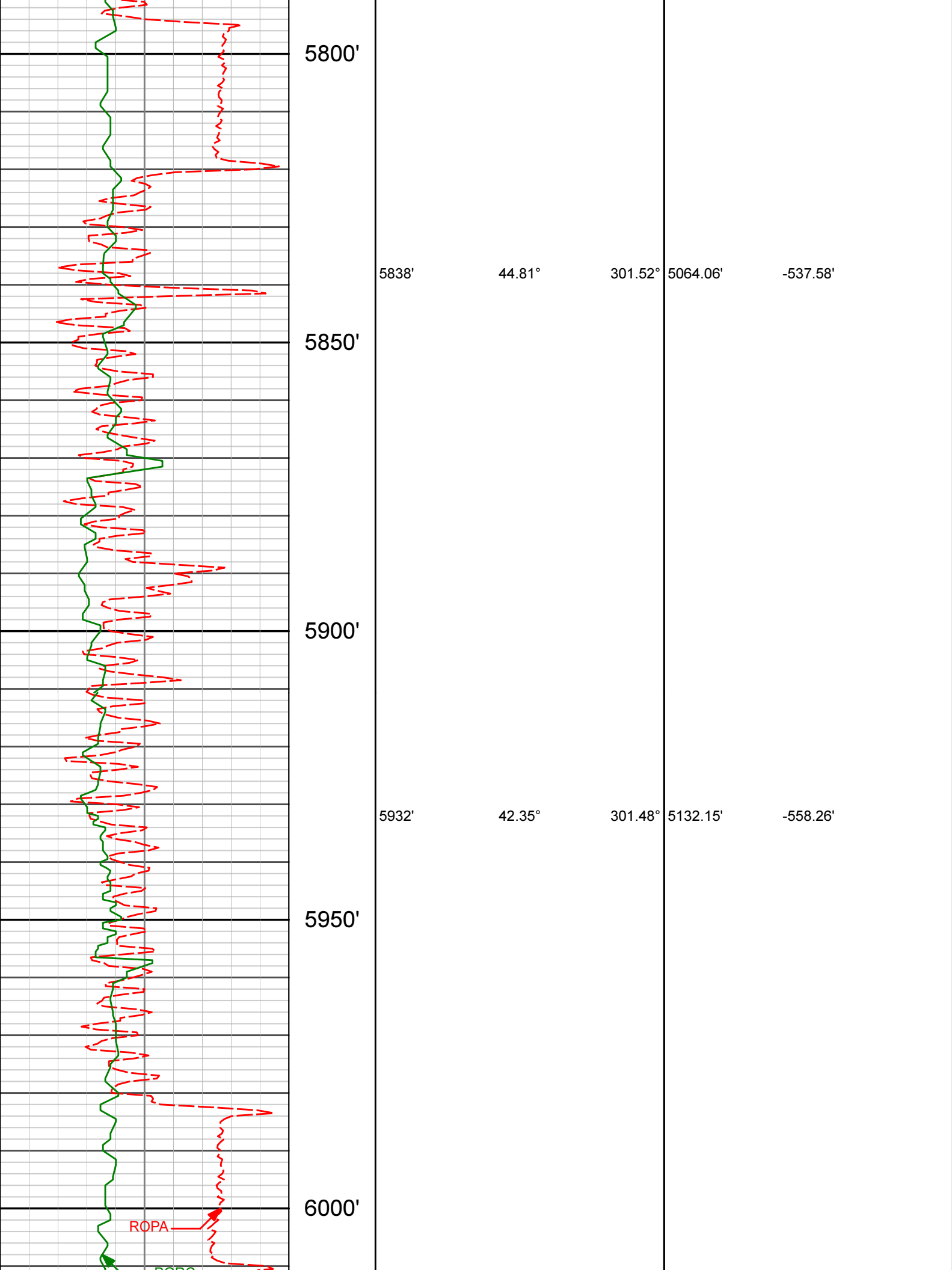
5743'

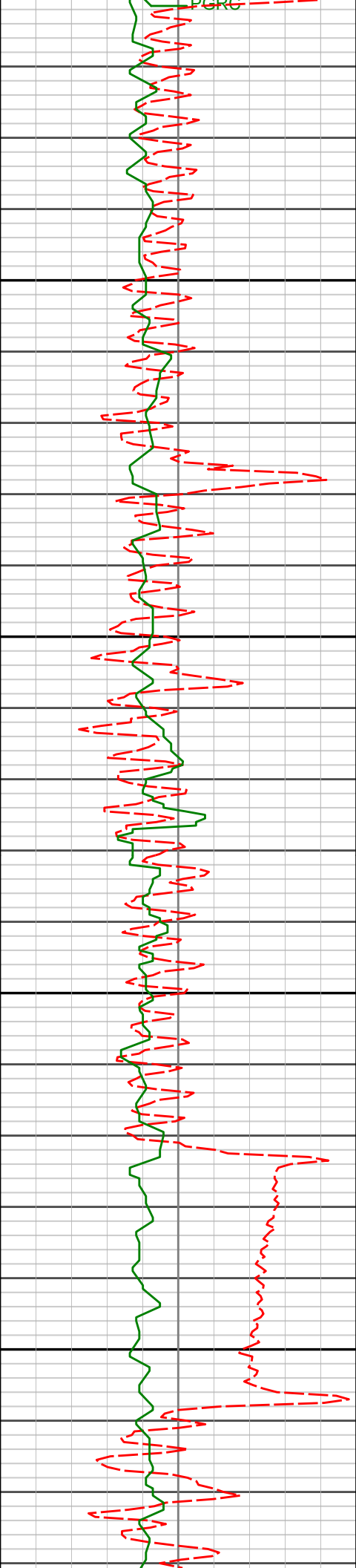
42.59°

301.19°

4995.38'

-516.80'





6050'

6100'

6150'

6200'

6027'

44.62°

301.33°

5201.07'

-579.01'

6122'

41.91°

301.09°

5270.24'

-599.48'

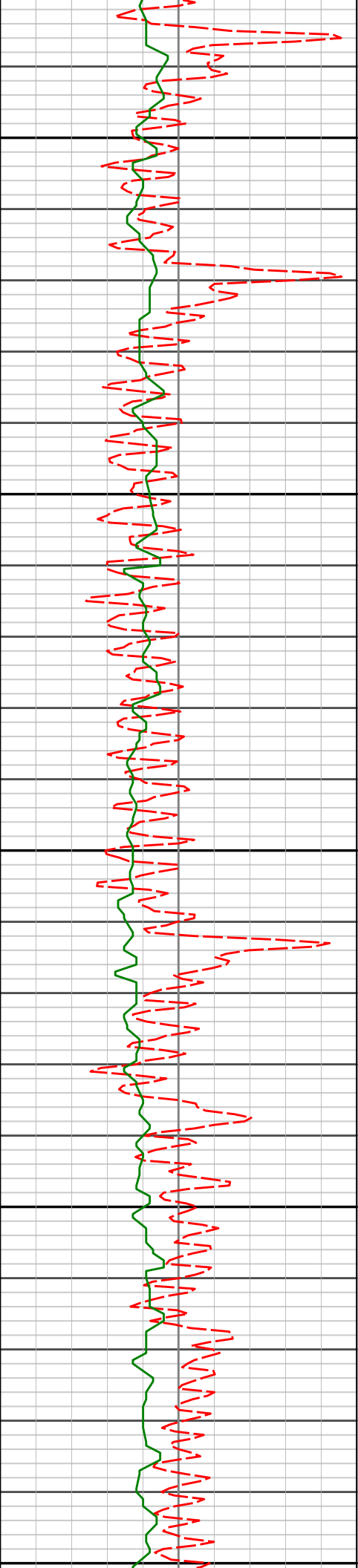
6218'

42.70°

301.34°

5341.24'

-619.79'



6250'

6300'

6350'

6400'

6450'

6313'

39.43°

300.66°

5412.86'

-639.19'

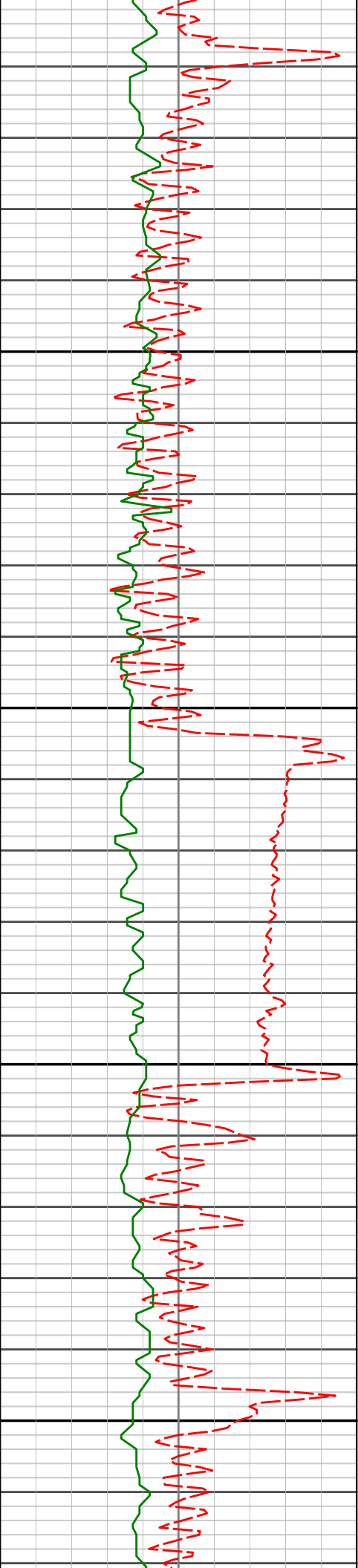
6407'

36.24°

299.80°

5487.09'

-656.38'



6500'

6550'

6600'

6650'

6502'

32.92°

298.24°

5565.29'

-671.38'

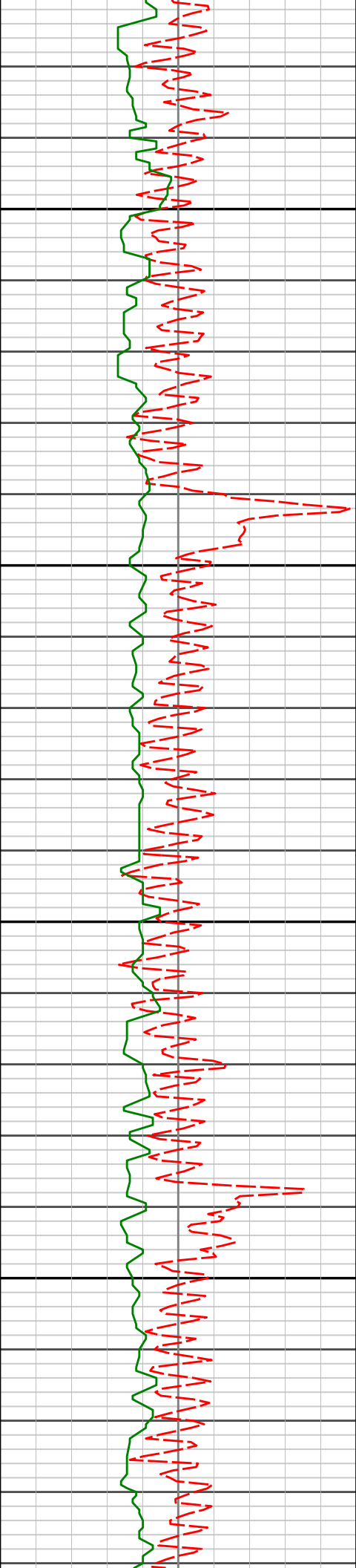
6598'

36.20°

296.12°

5644.34'

-684.77'



6700'

6750'

6800'

6850'

6692'

34.23°

294.95°

5721.14'

-696.64'

6788'

30.38°

293.87°

5802.26'

-706.91'

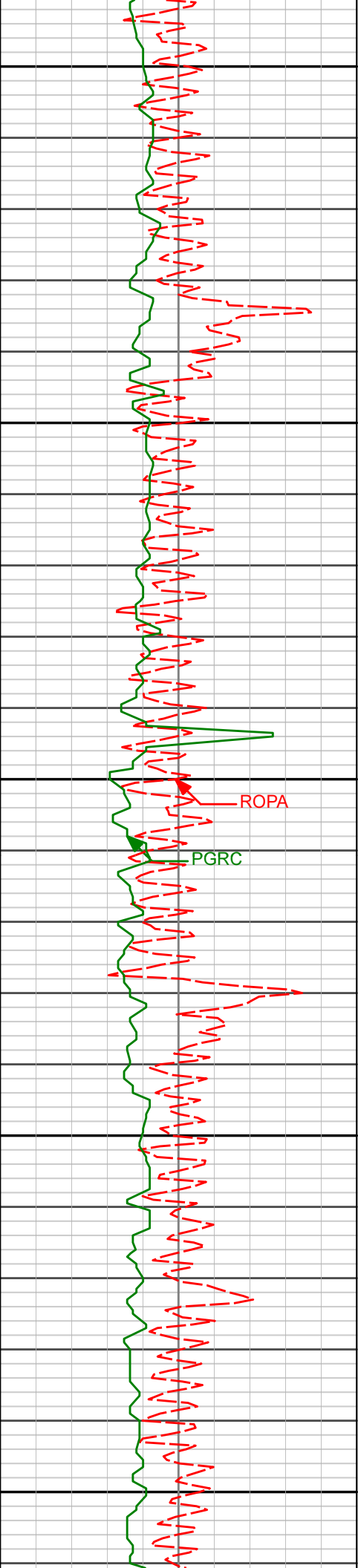
6883'

26.31°

292.62°

5885.86'

-715.04'



6900'

6950'

7000'

7050'

7100'

6977'

22.35°

291.02°

5971.49'

-721.08'

ROPA

PGRC

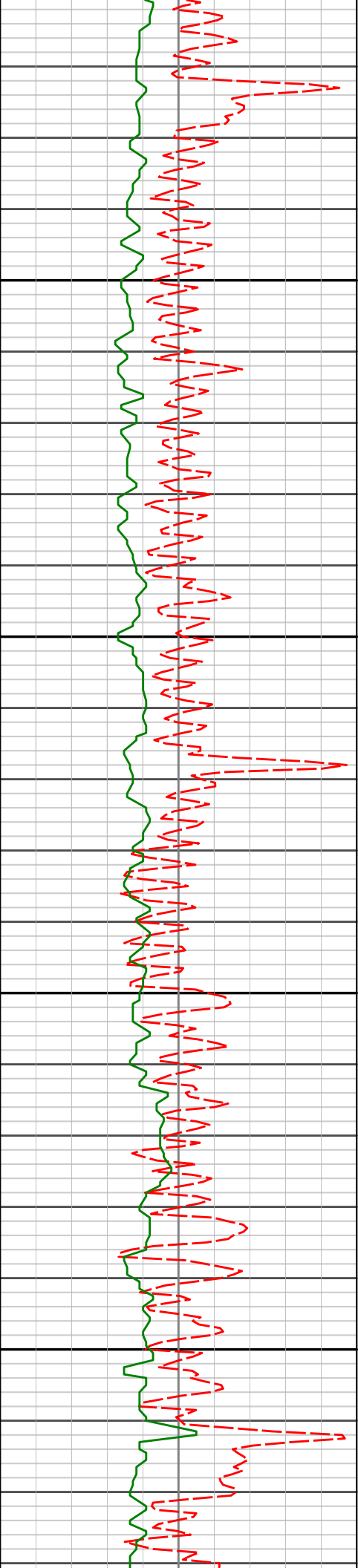
7073'

19.31°

289.13°

6061.21'

-725.38'



7150'

7200'

7250'

7300'

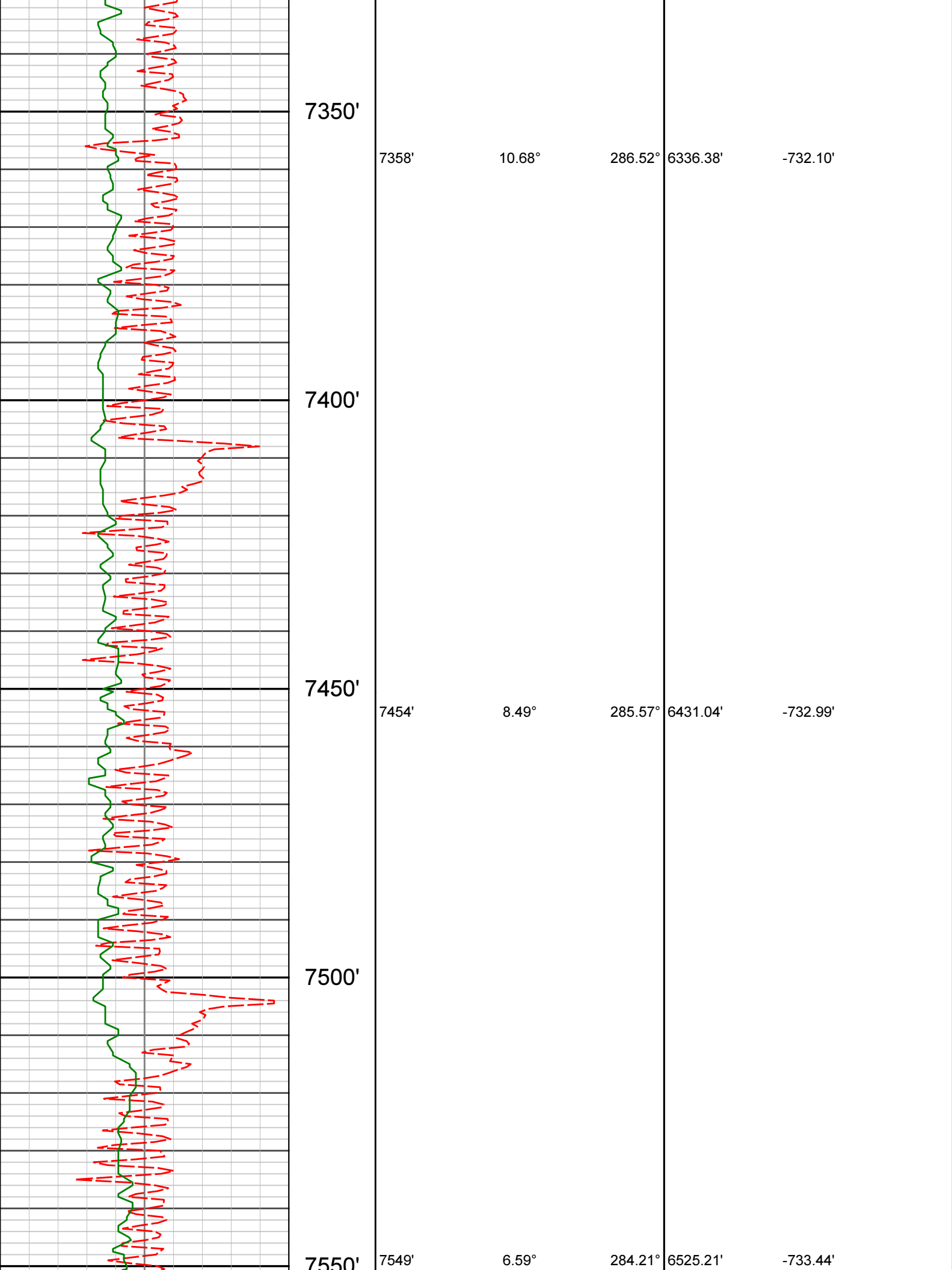
7263'

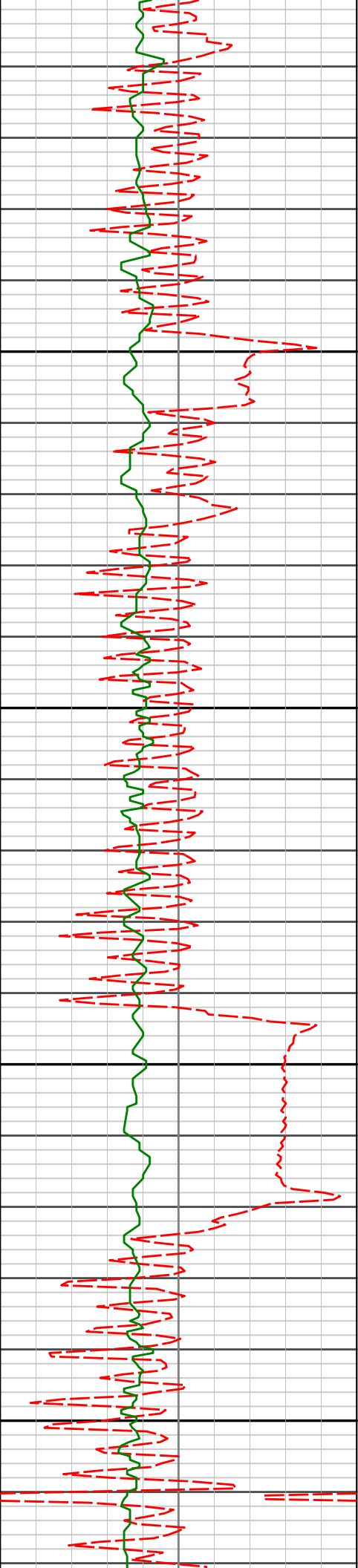
13.33°

287.69°

6243.47'

-730.63'





7630'

7600'

7650'

7700'

7750'

7644'

5.27°

283.34°

6619.70'

-733.60'

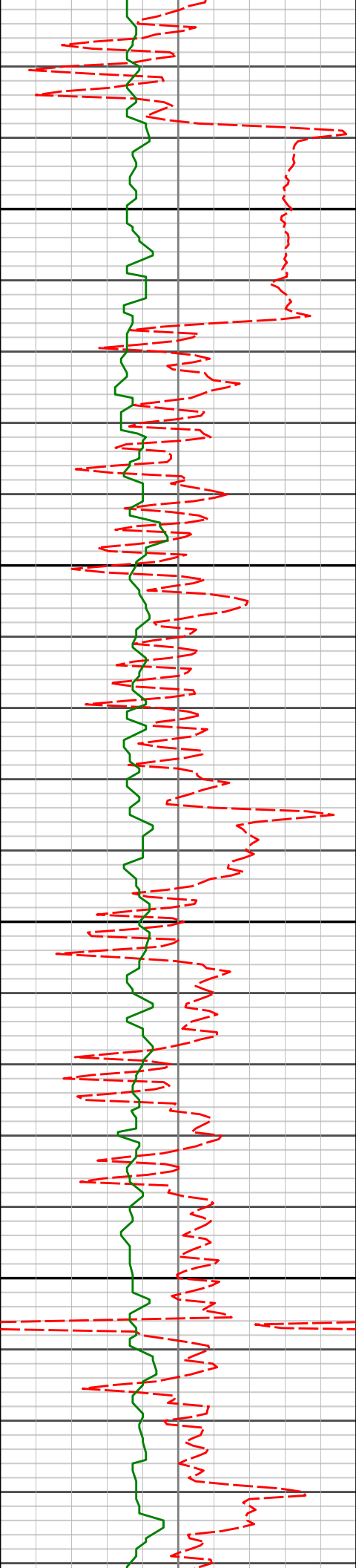
7739'

2.60°

303.12°

6714.47'

-734.38'



7800'

7834'

1.86°

230.31°

6809.42'

-733.91'

7850'

7900'

7929'

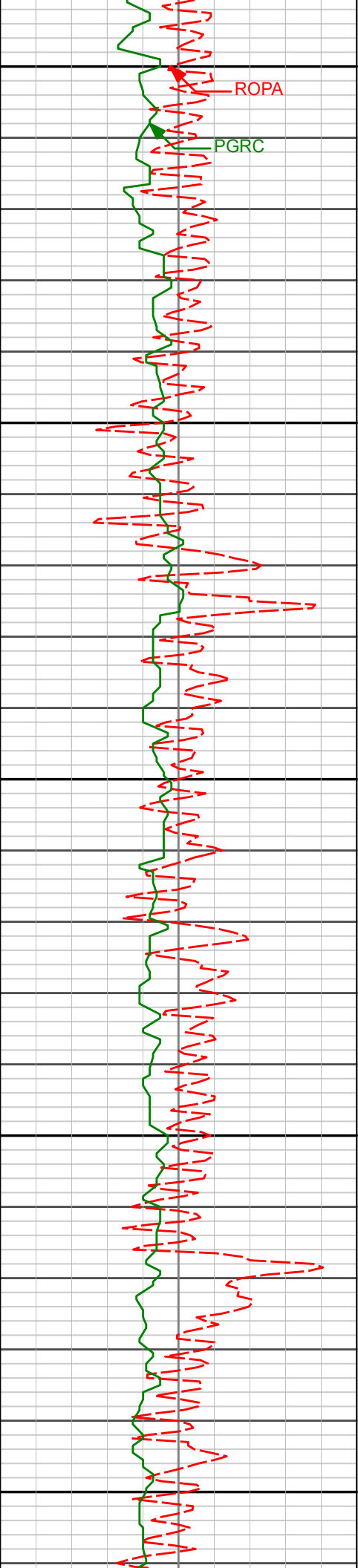
1.65°

220.22°

6904.37'

-731.47'

7950'



8000'

ROPA

PGRC

8024'

1.25°

208.92°

6999.34'

-729.25'

8050'

8100'

8119'

1.13°

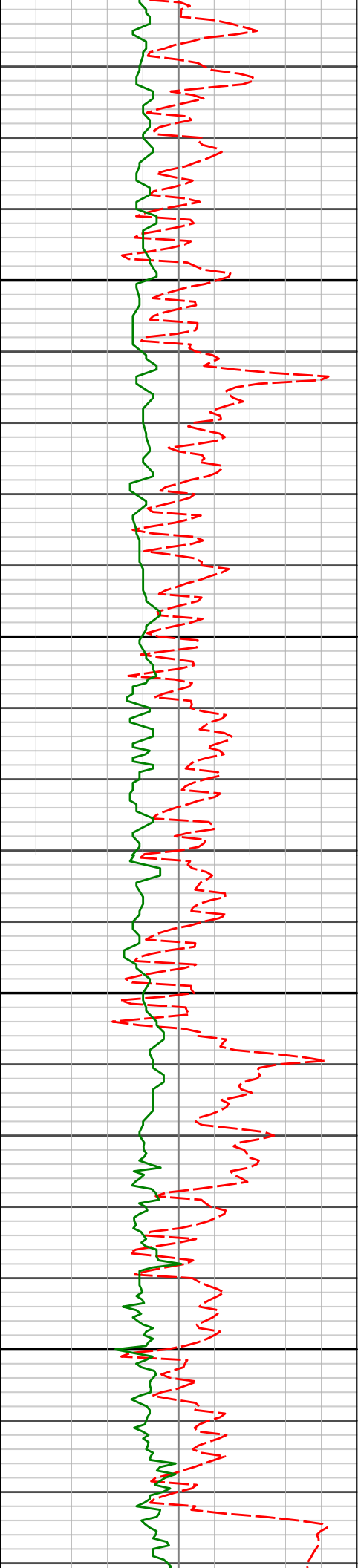
191.30°

7094.32'

-727.33'

8150'

8200'



8214'

0.83°

182.02°

7189.31'

-725.72'

8250'

8300'

8309'

0.75°

168.27°

7284.30'

-724.48'

8350'

8400'

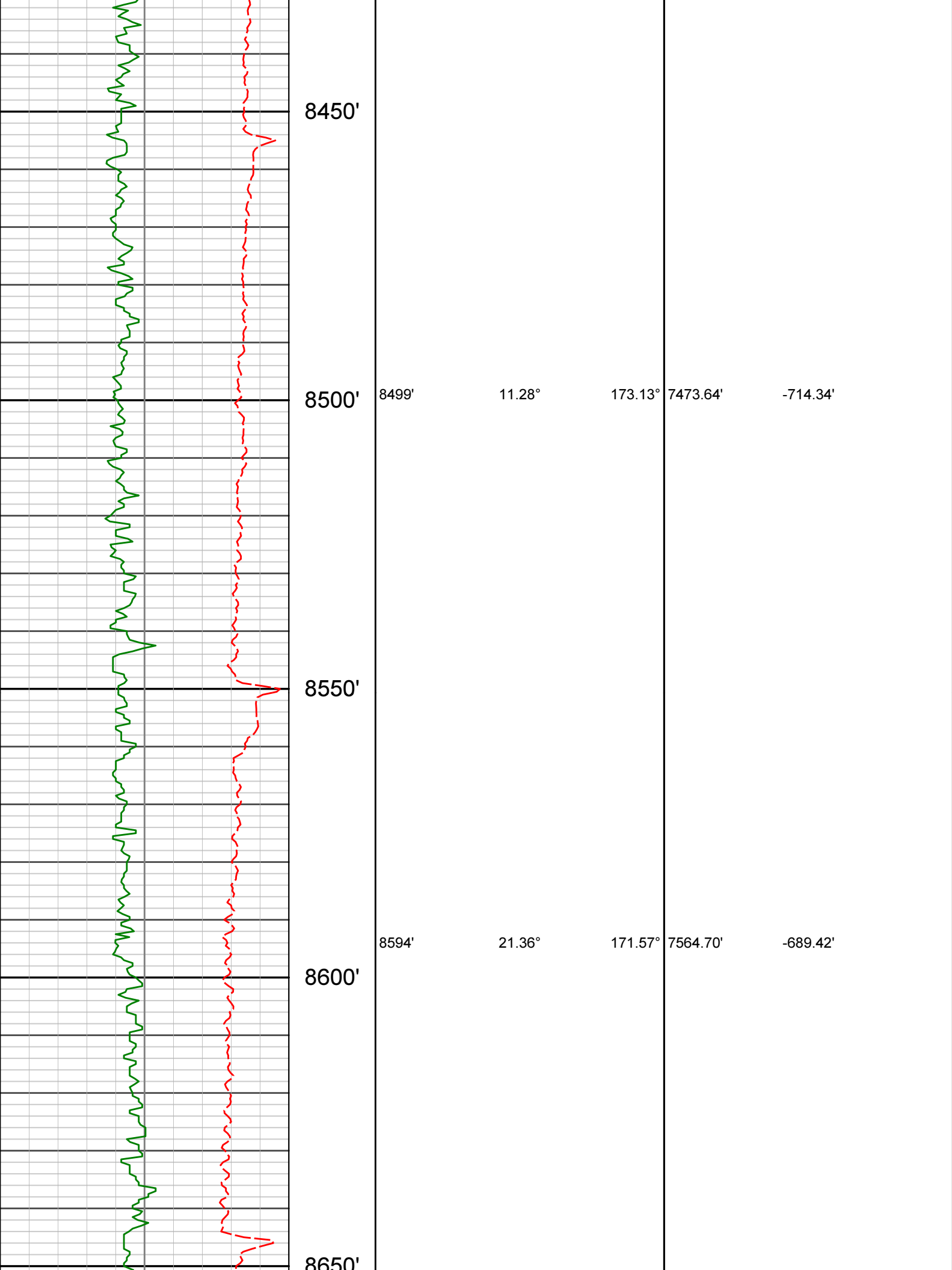
8404'

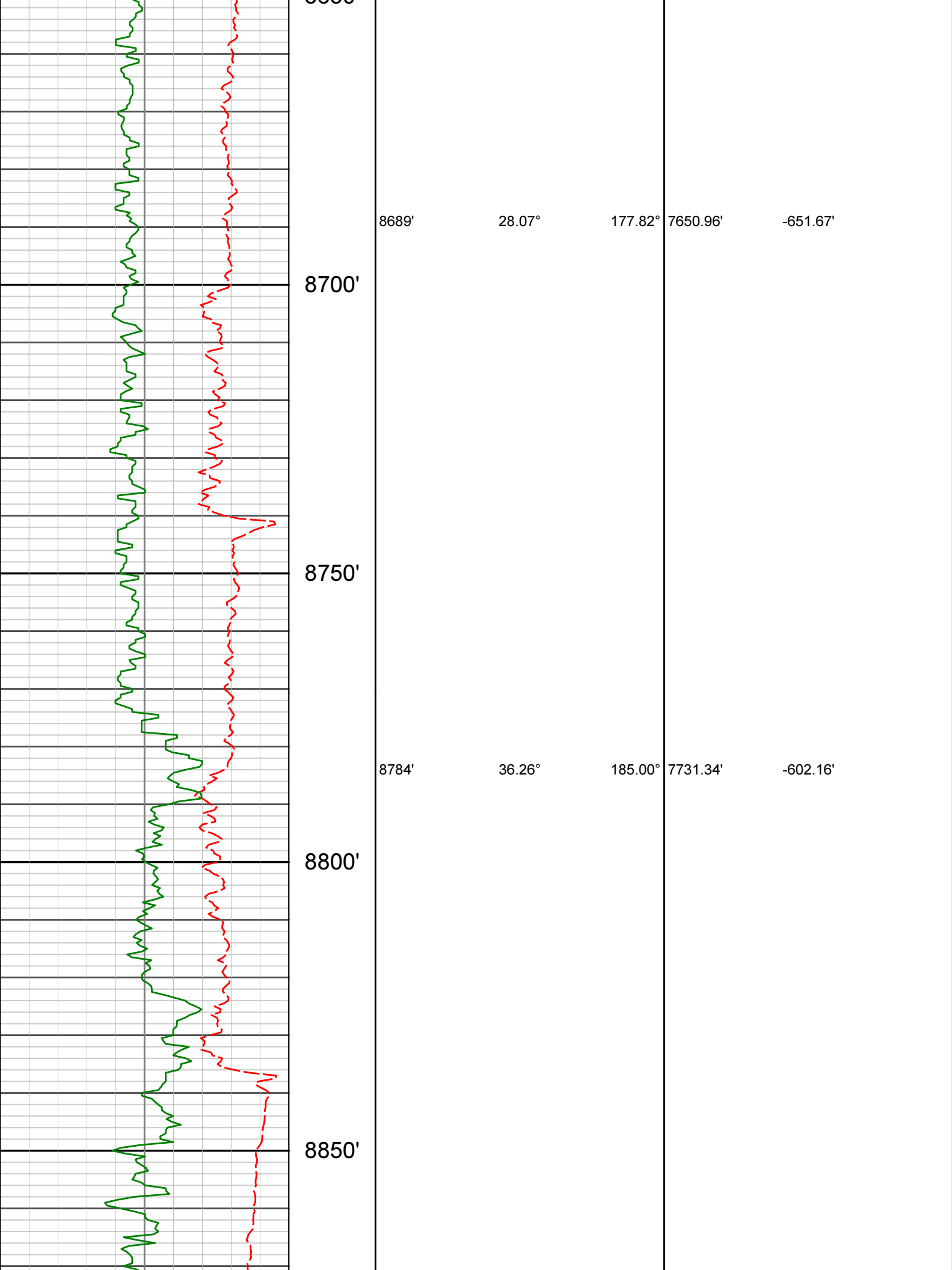
0.75°

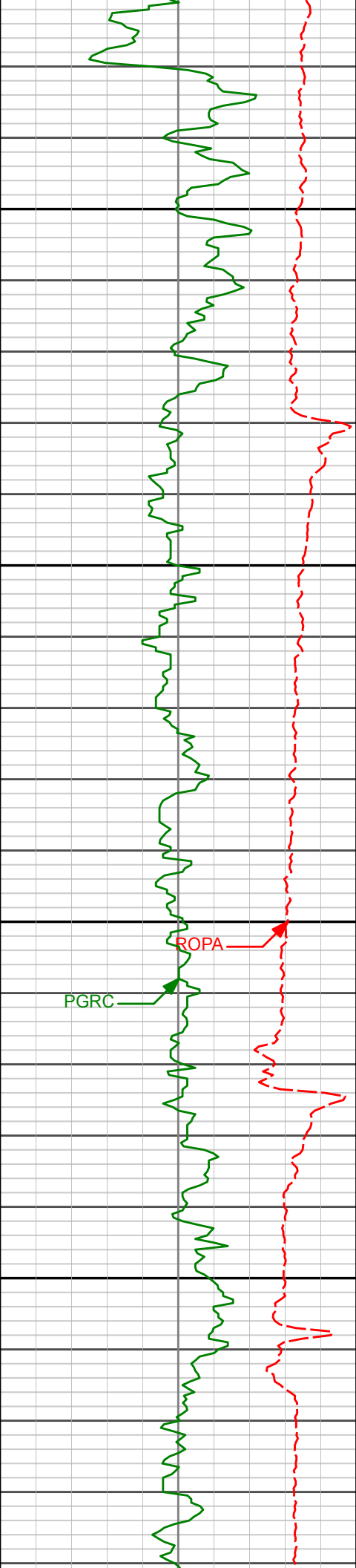
143.61°

7379.29'

-723.51'







8879'

45.37°

179.00°

7803.20'

-541.37'

8900'

8950'

8974'

60.09°

174.93°

7860.58'

-468.97'

9000'

PGRC

ROPA

9050'

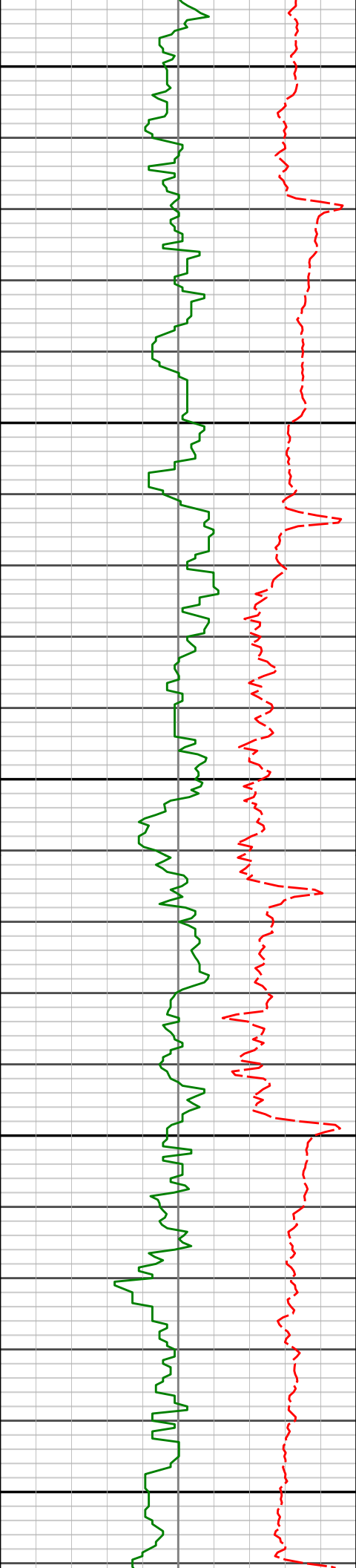
9069'

67.97°

183.24°

7902.20'

-386.14'



9100'

9150'

9200'

9250'

9300'

9165'

75.78°

181.99°

7932.05'

-296.45'

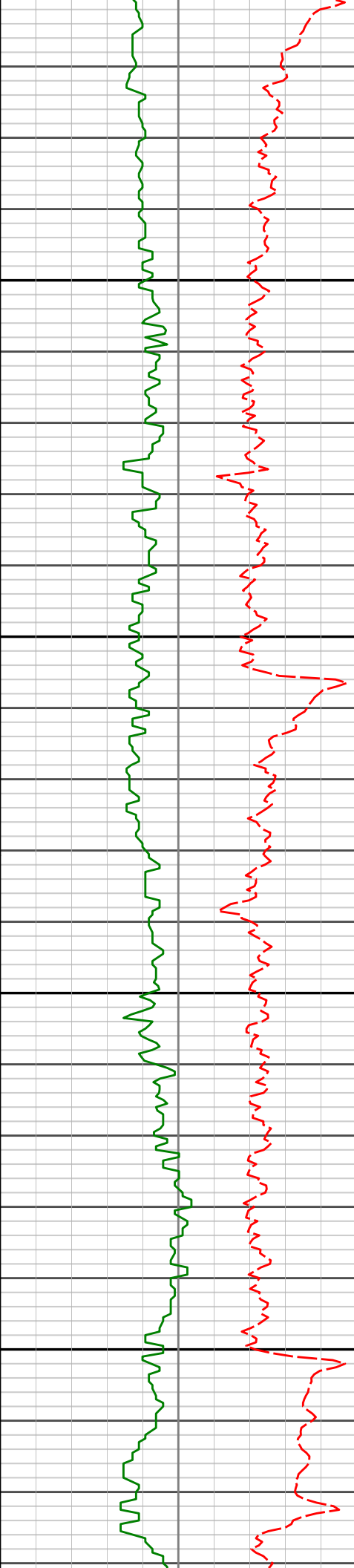
9259'

79.55°

180.89°

7952.13'

-206.47'



9350'

9354'

87.65°

177.67°

7962.71'

-114.81'

9400'

9450'

9450'

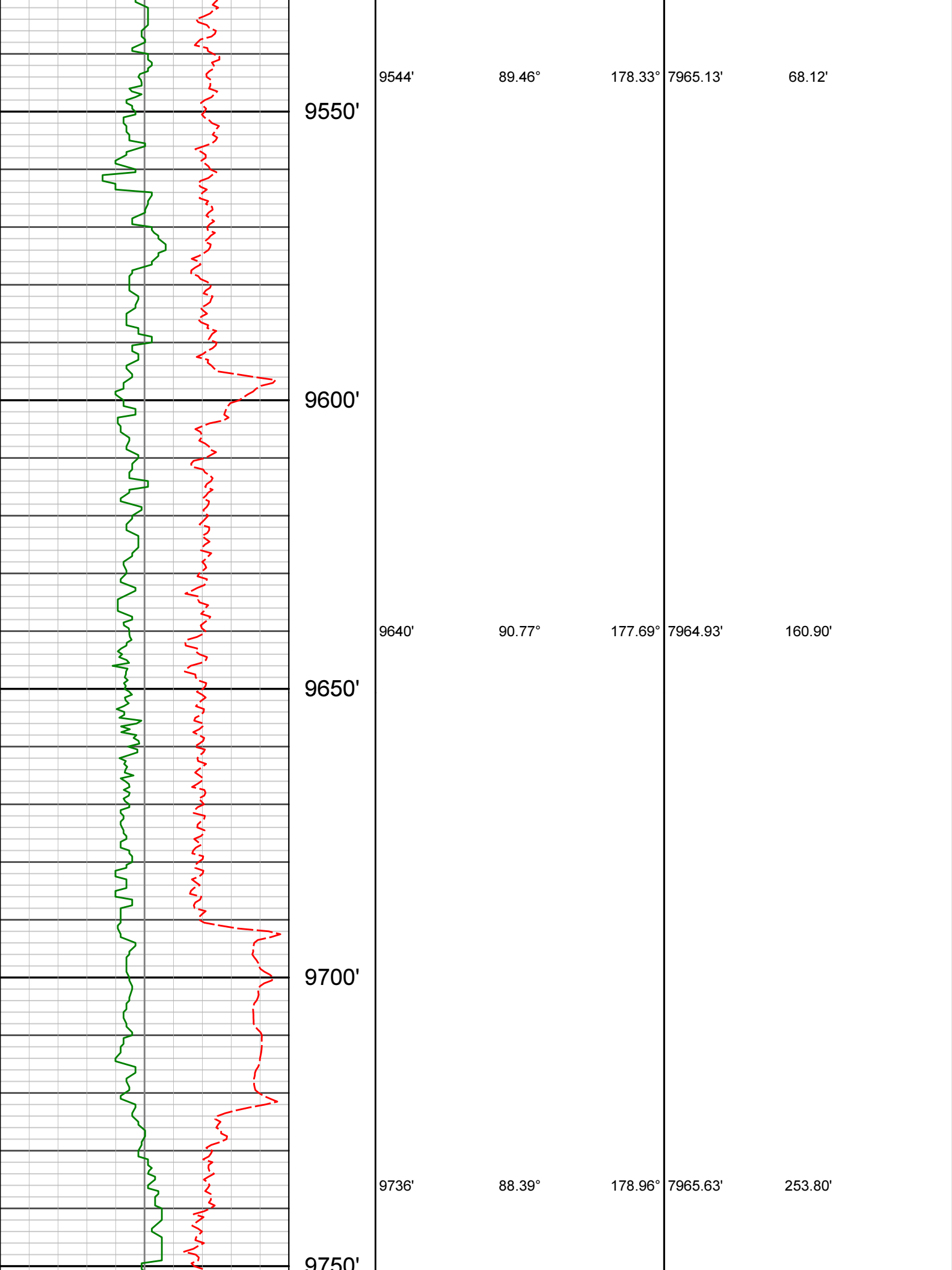
90.00°

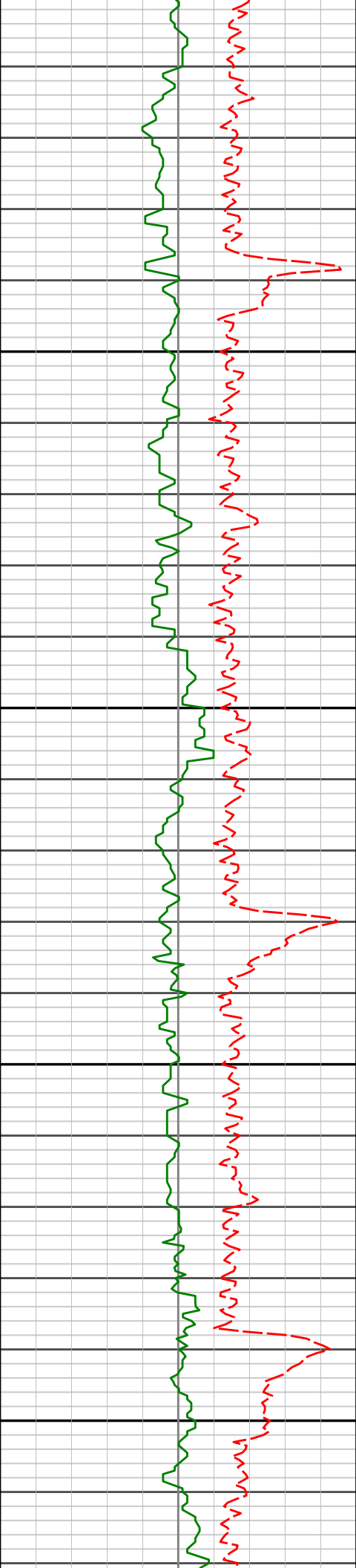
176.52°

7964.69'

-22.47'

9500'





9750'

9800'

9829'

9850'

9900'

9924'

9950'

89.06°

89.83°

178.97°

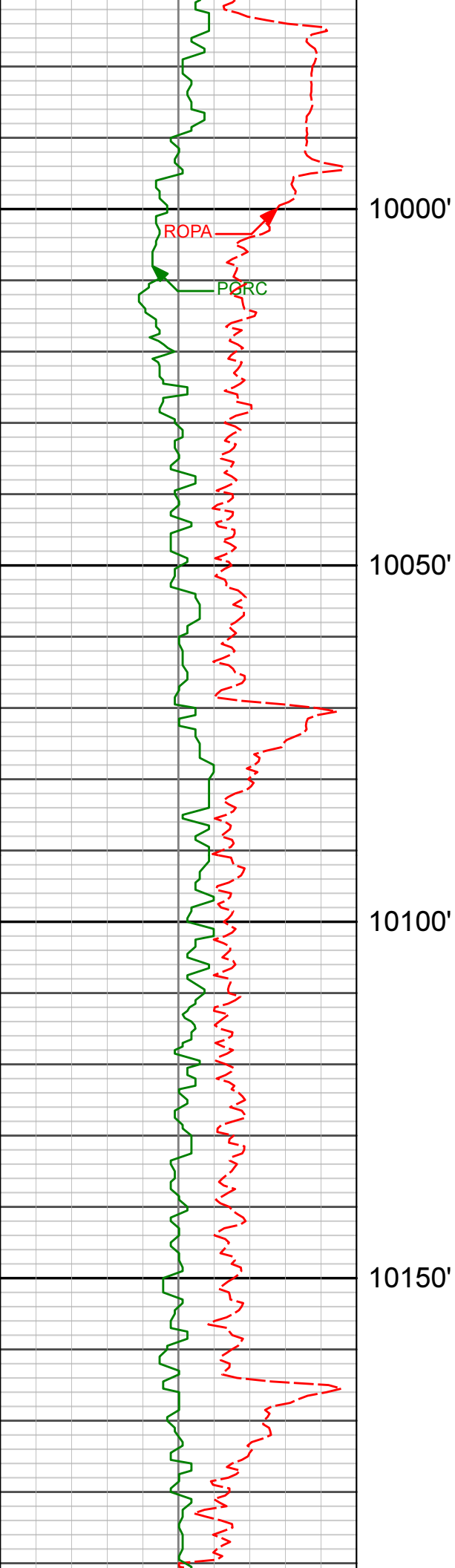
178.81°

7967.71'

7968.62'

344.04'

436.21'



10020'

88.89°

180.58°

7969.69'

529.66'

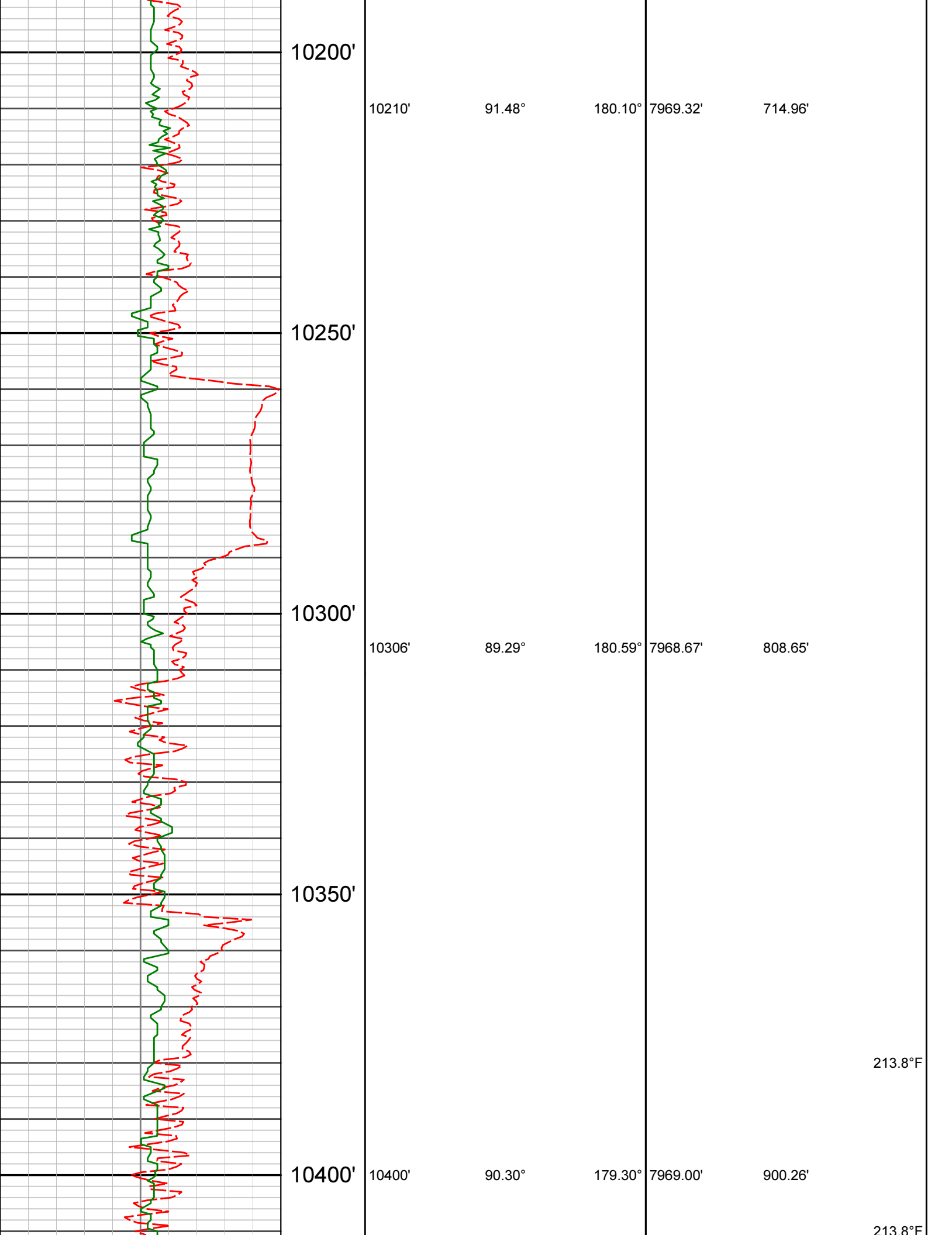
10115'

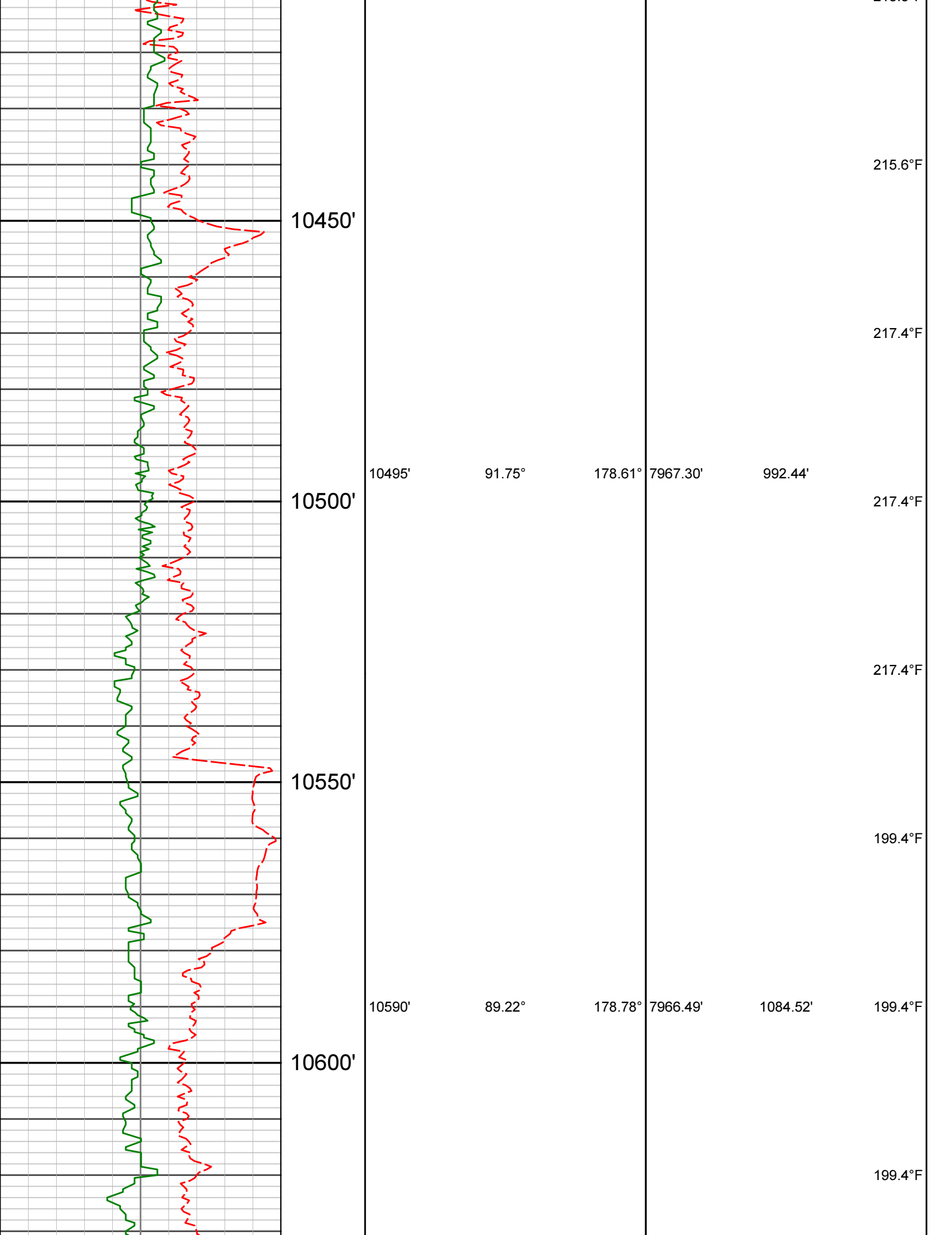
90.03°

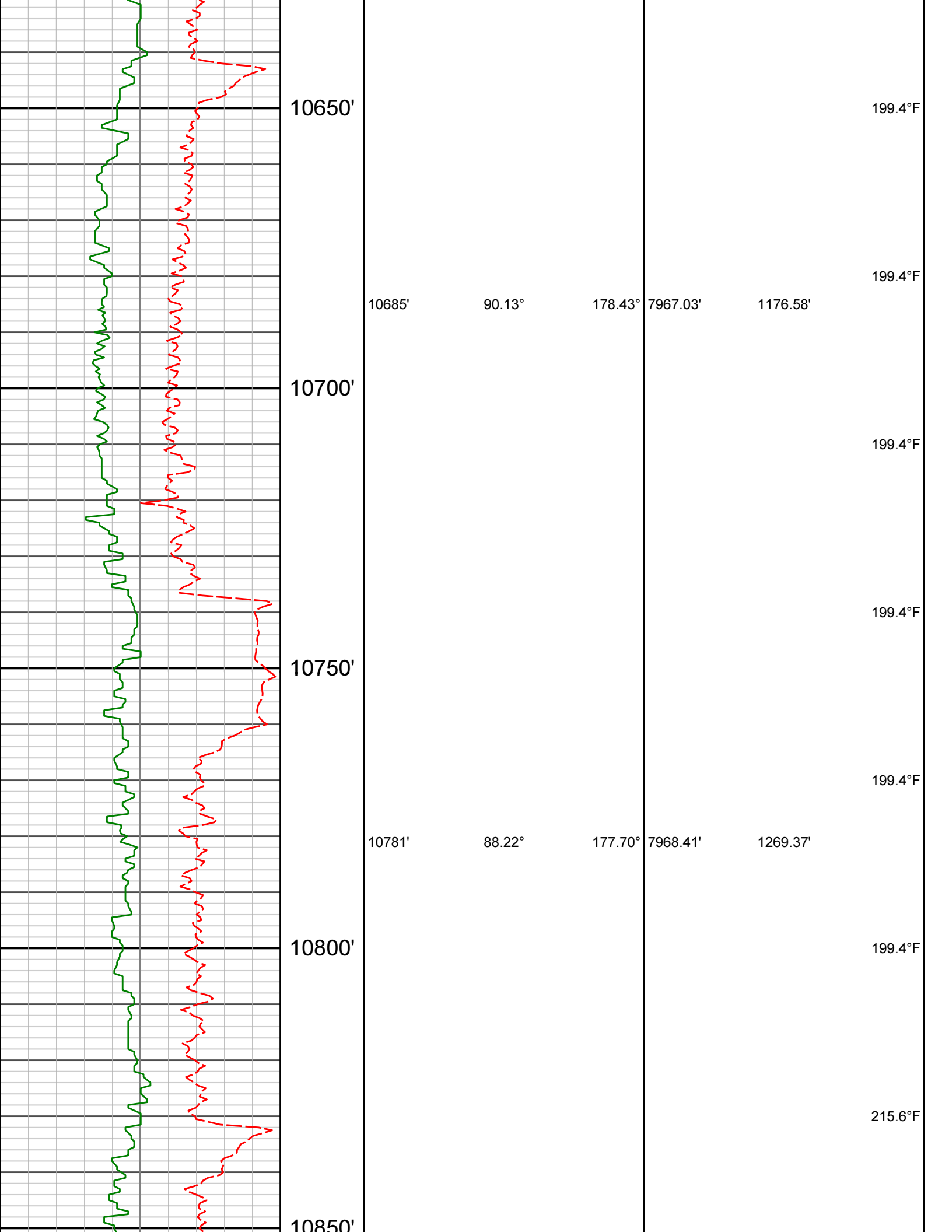
179.94°

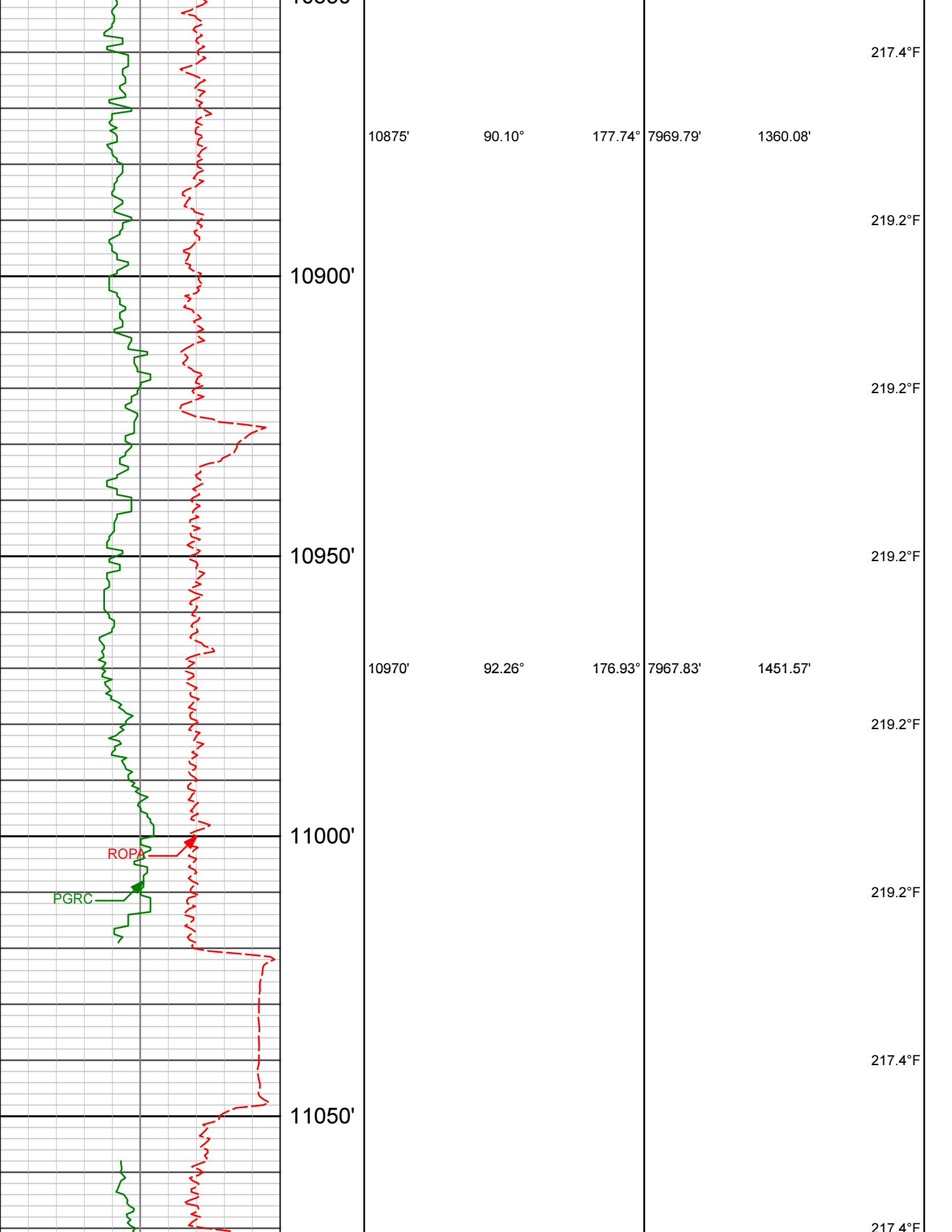
7970.58'

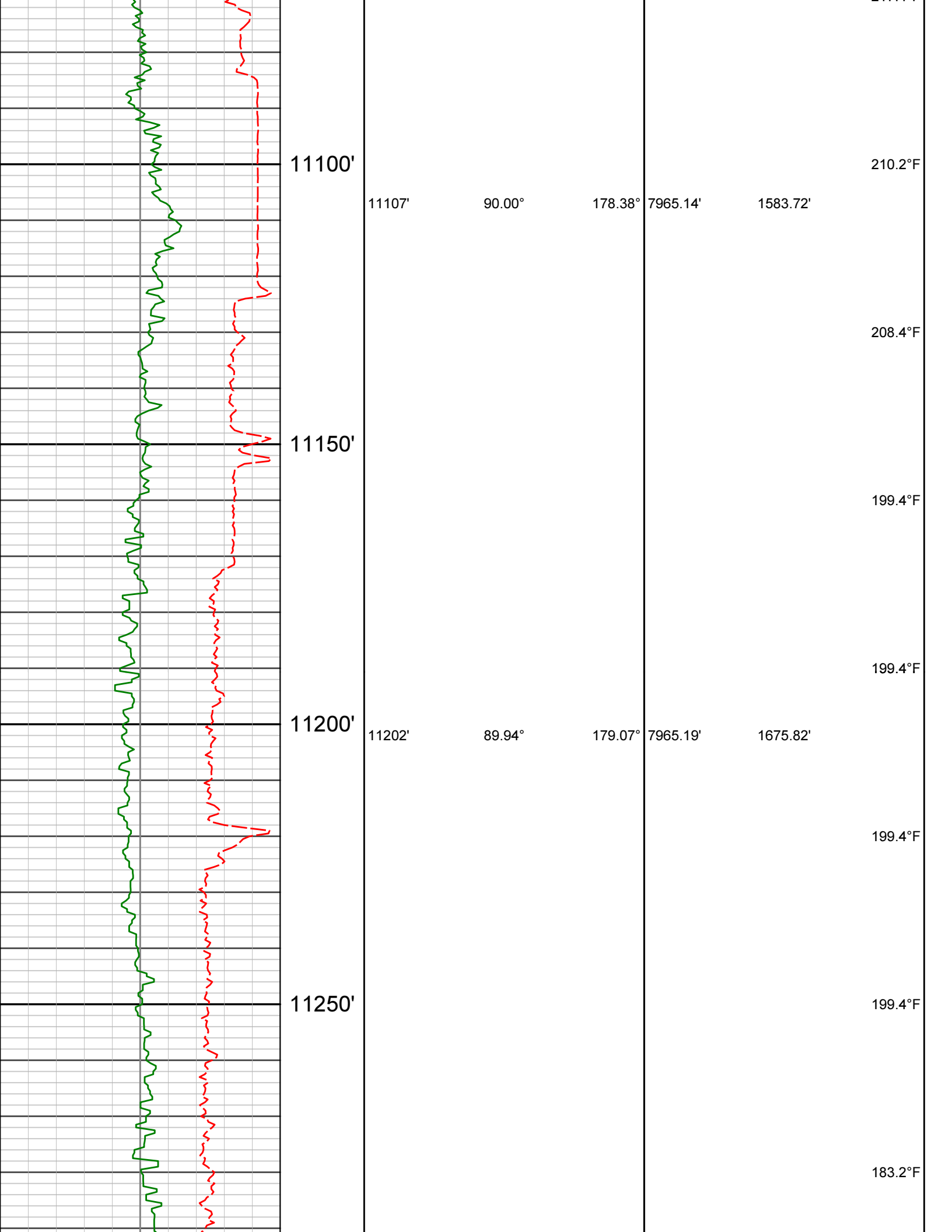
622.36'

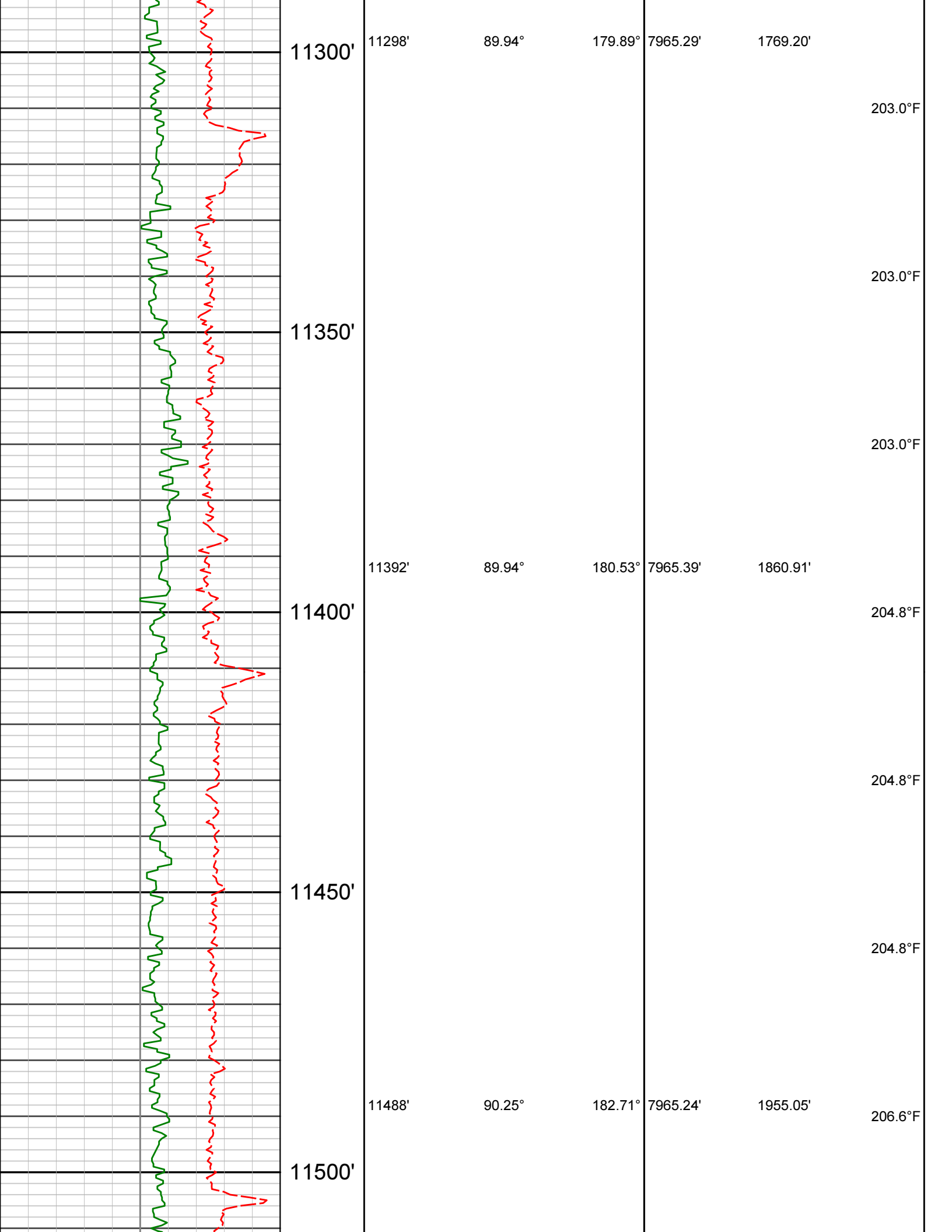


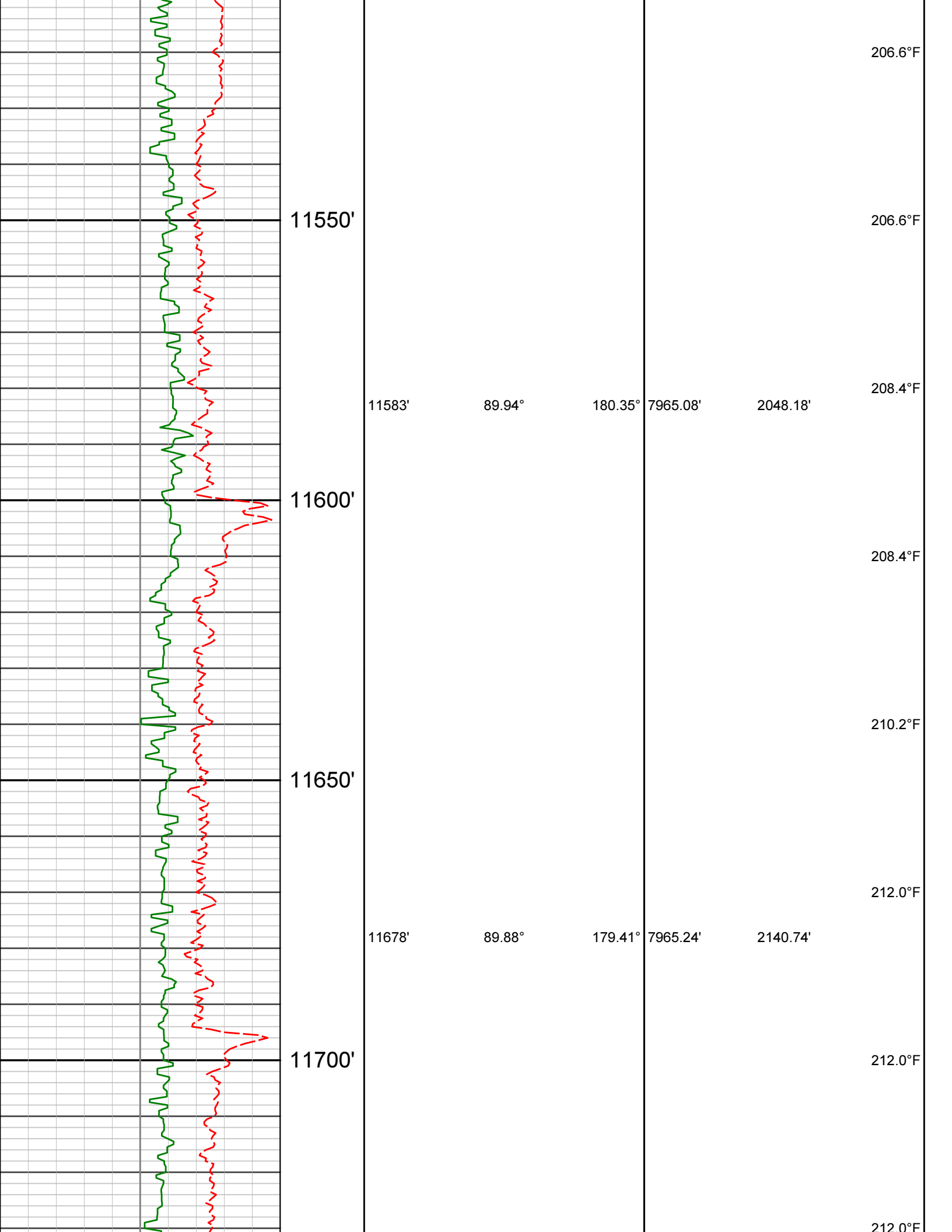


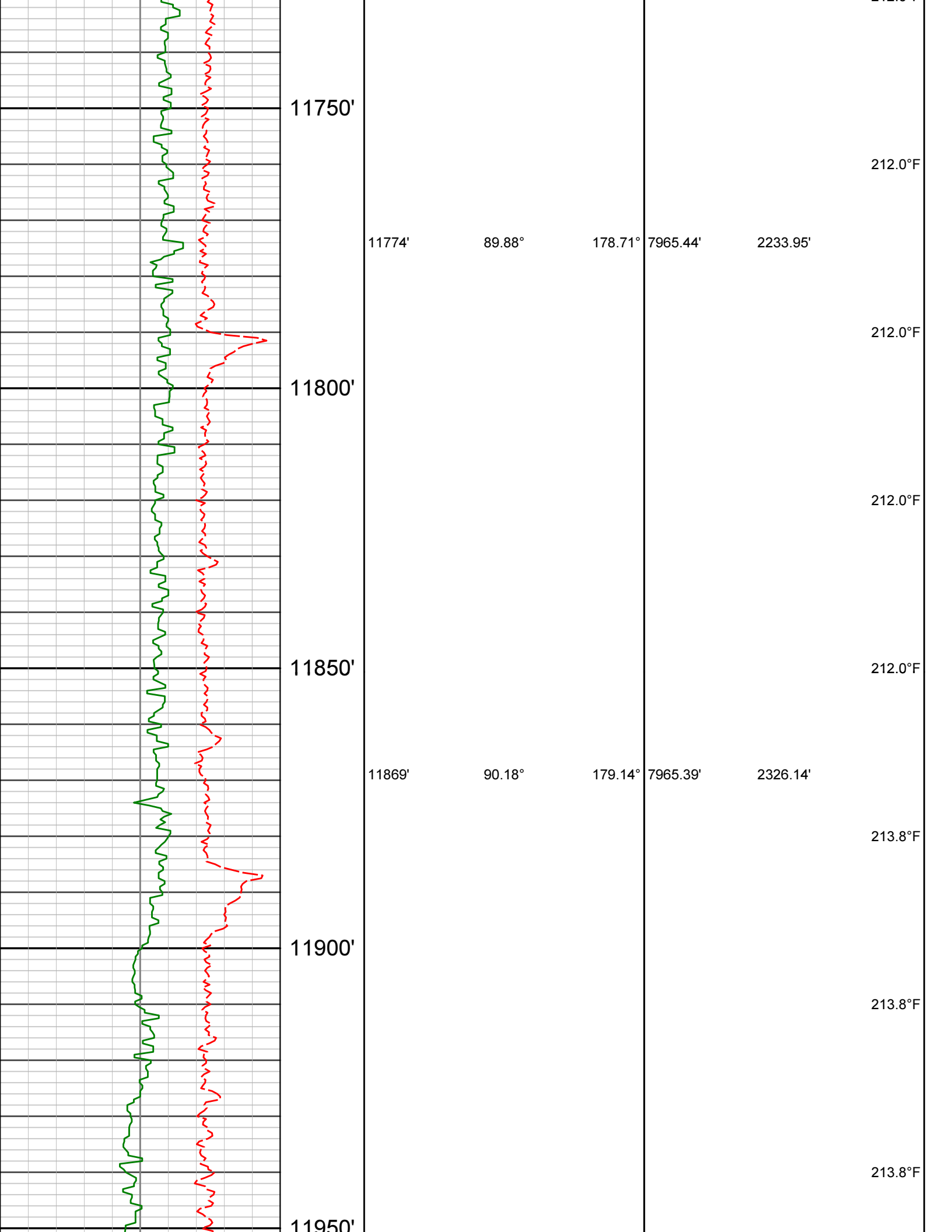


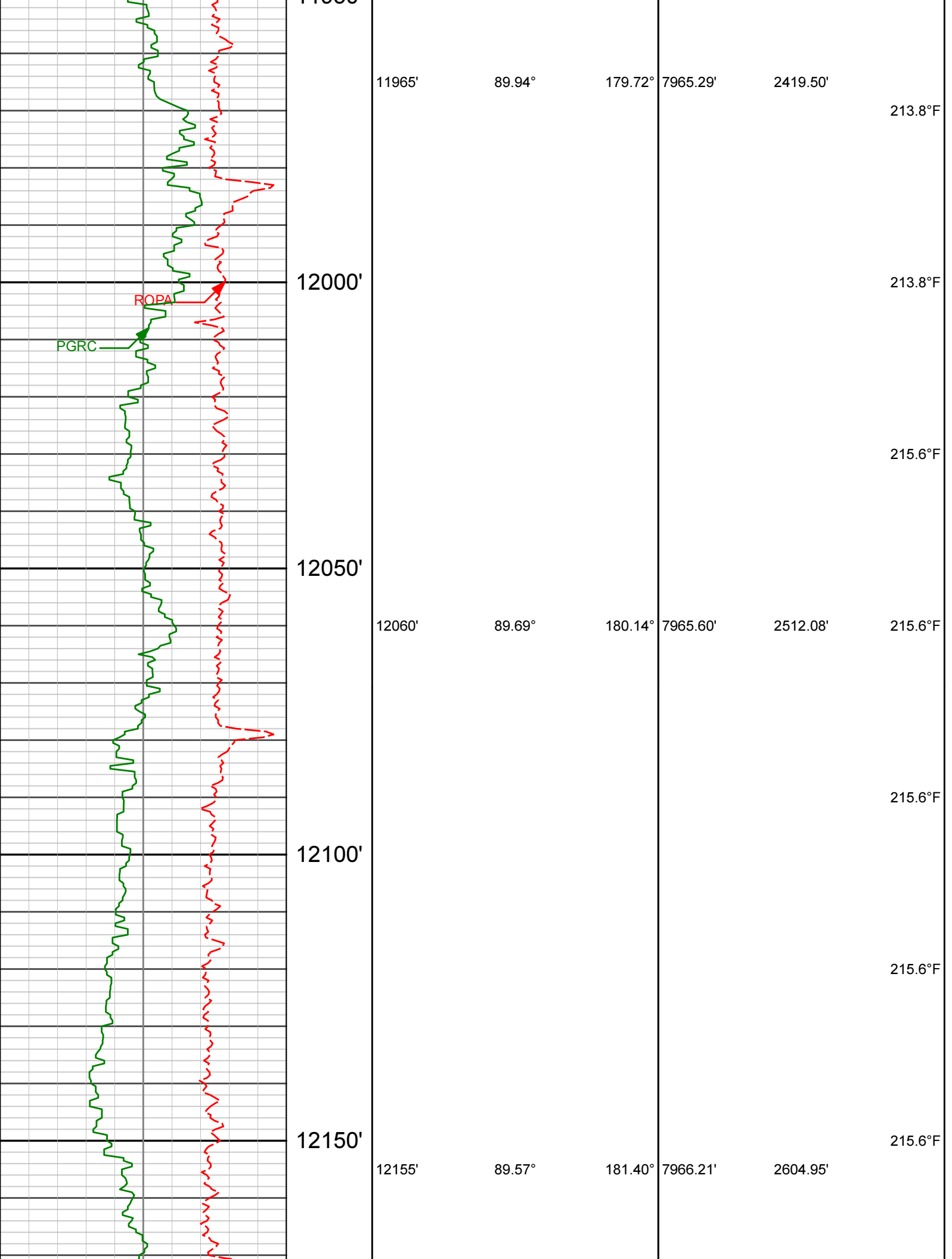


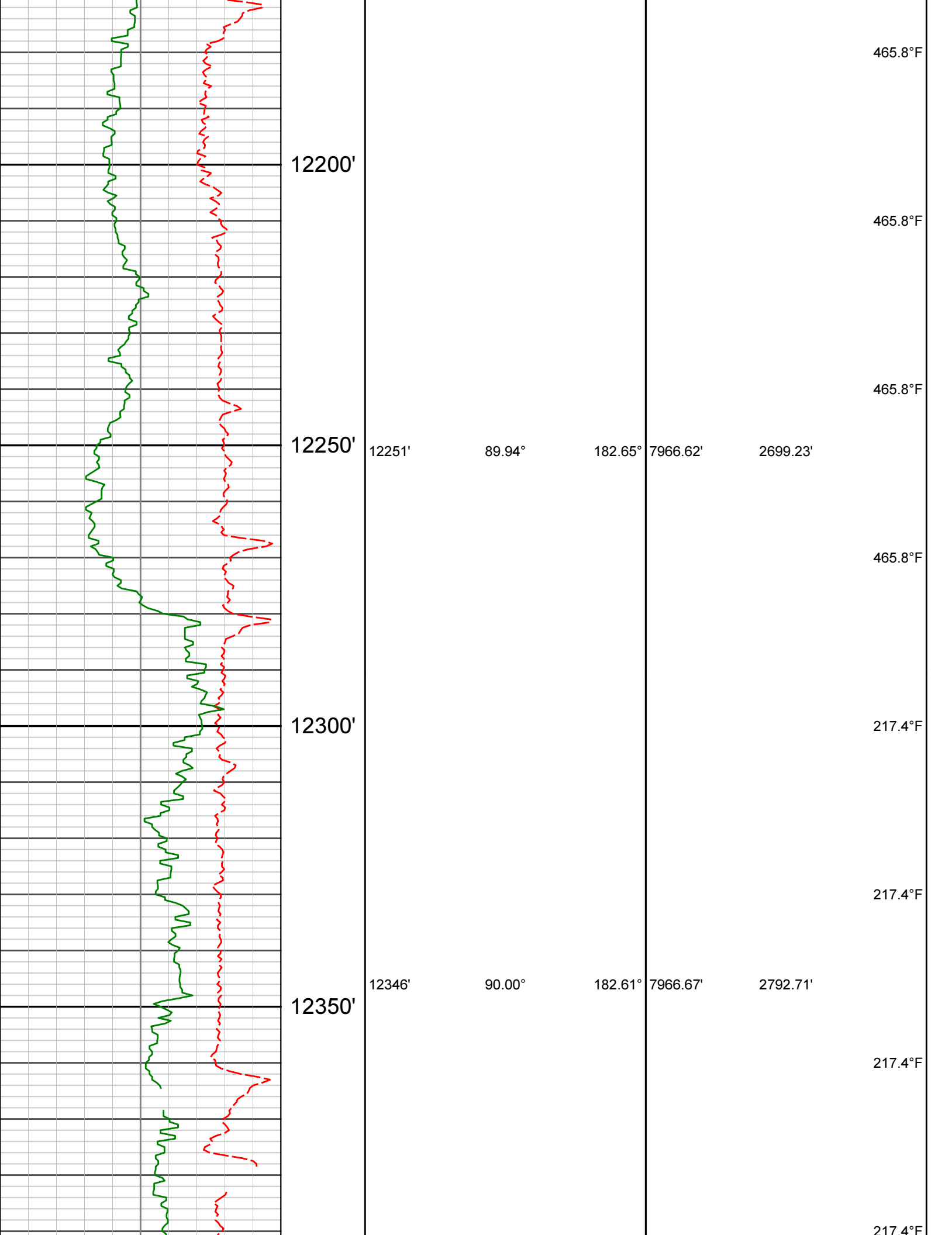


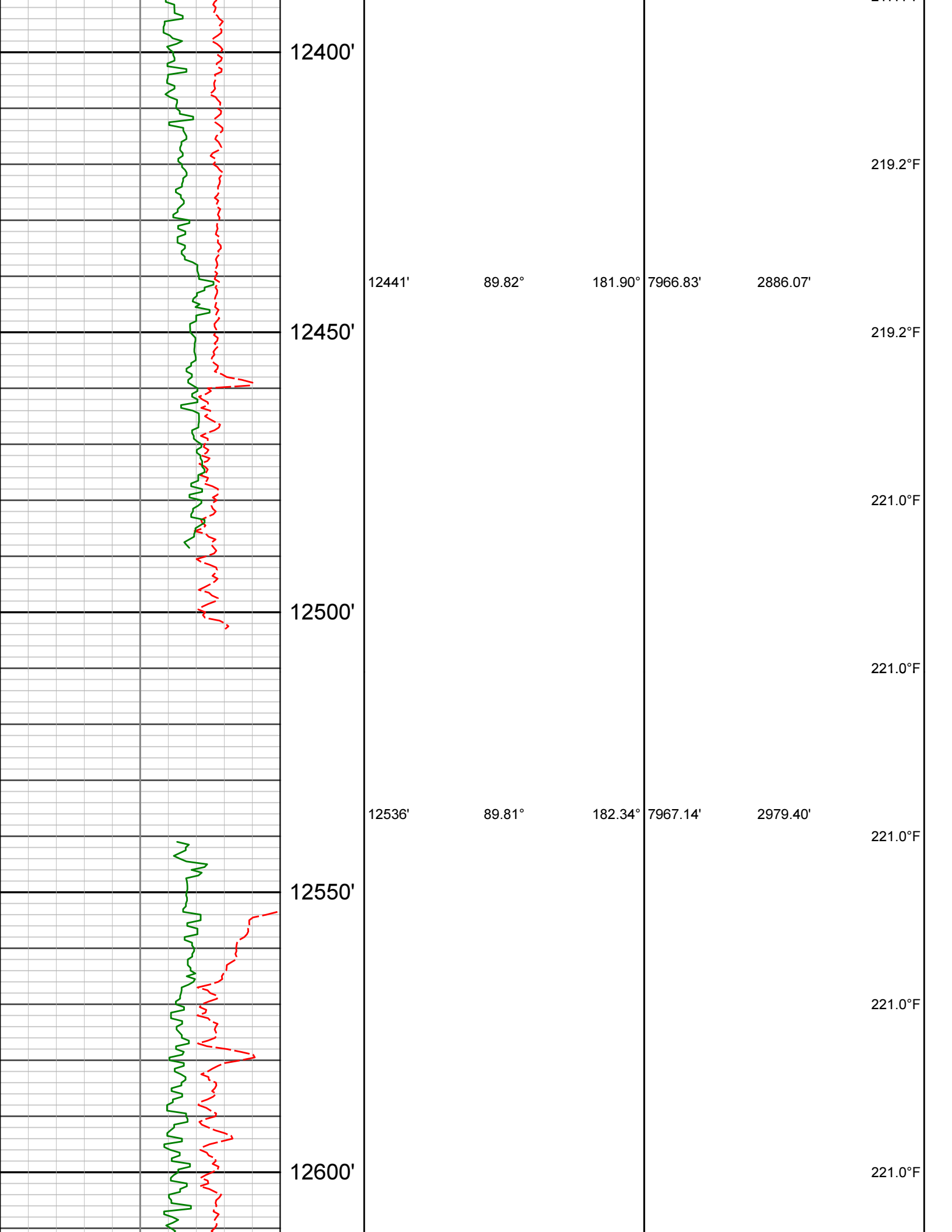


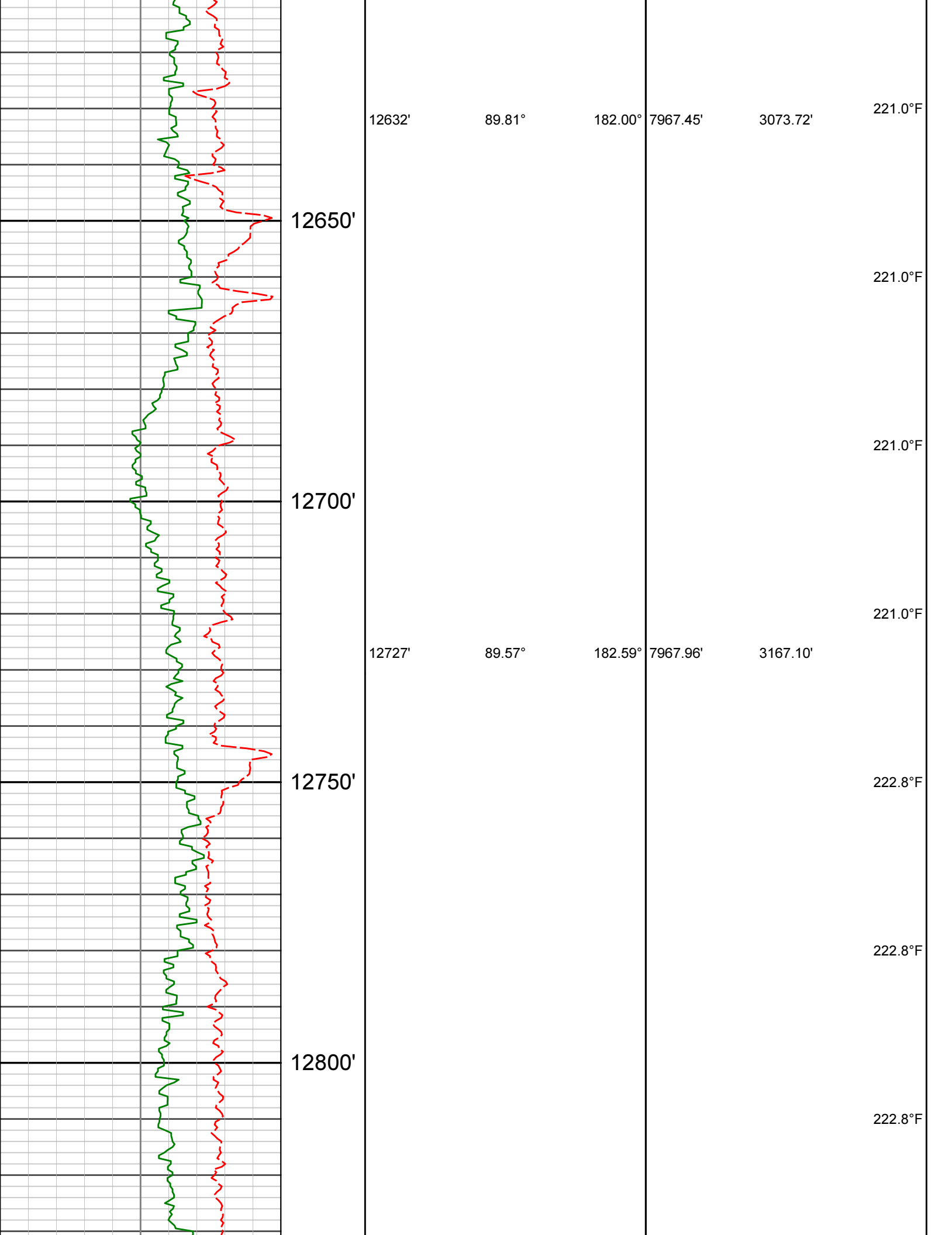


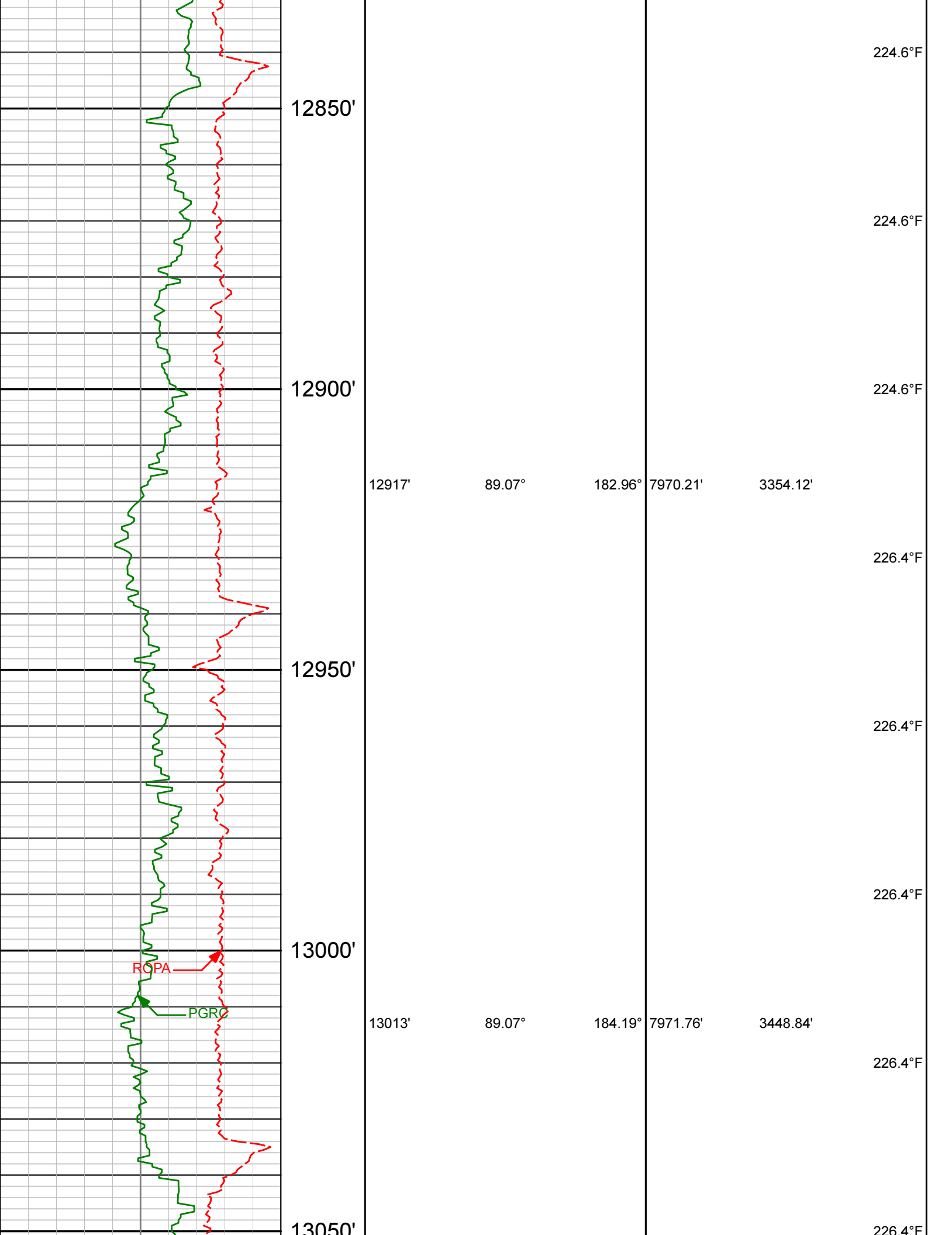


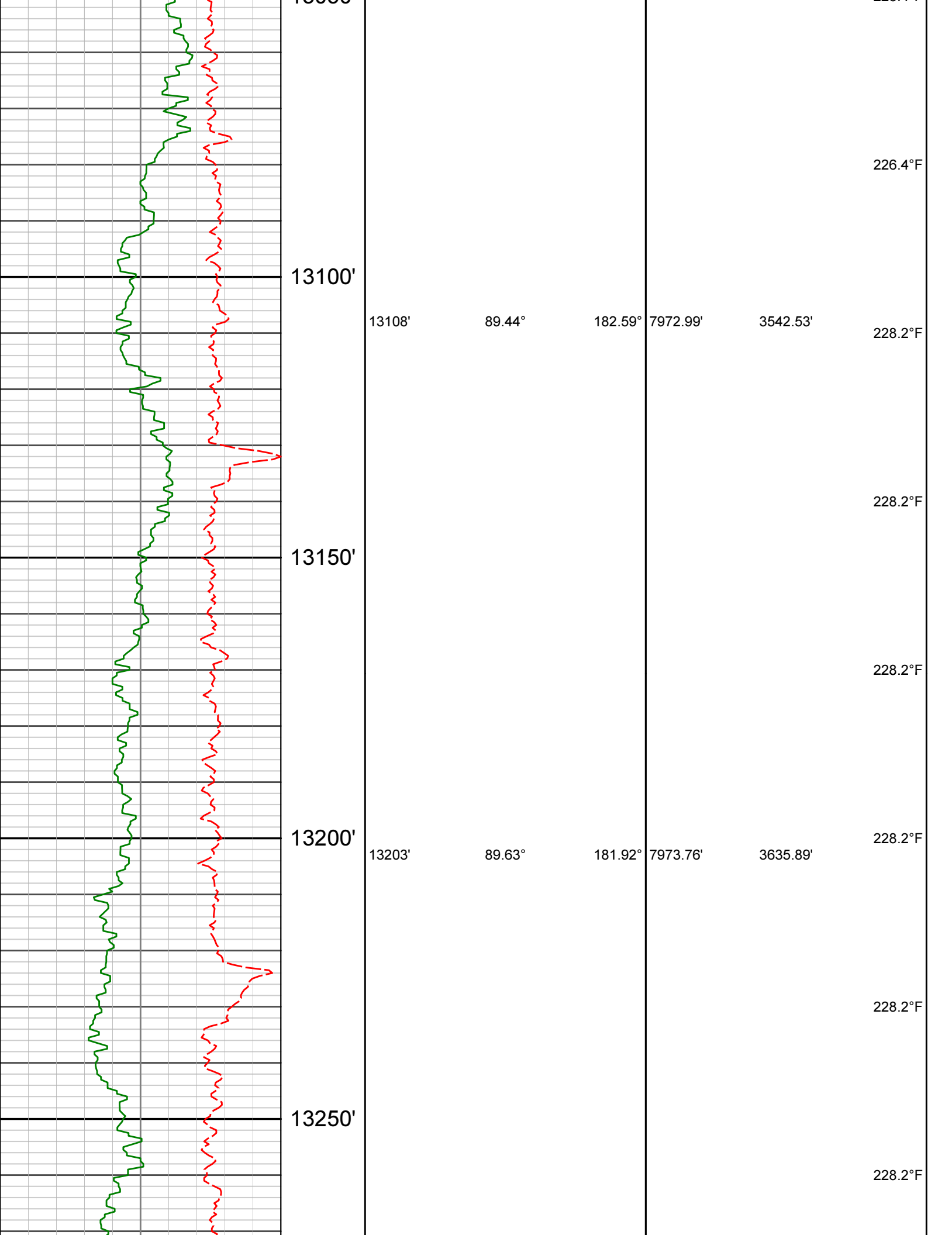


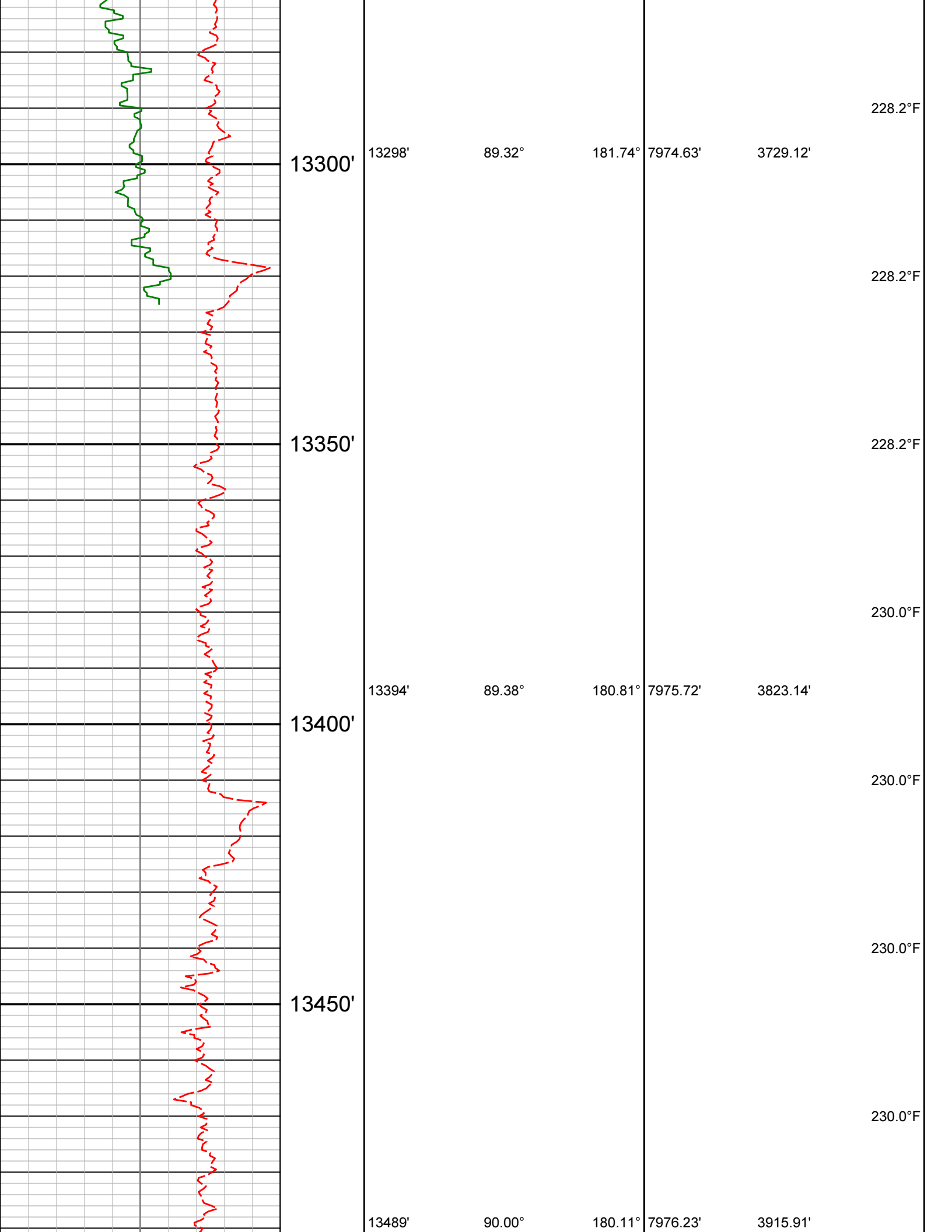


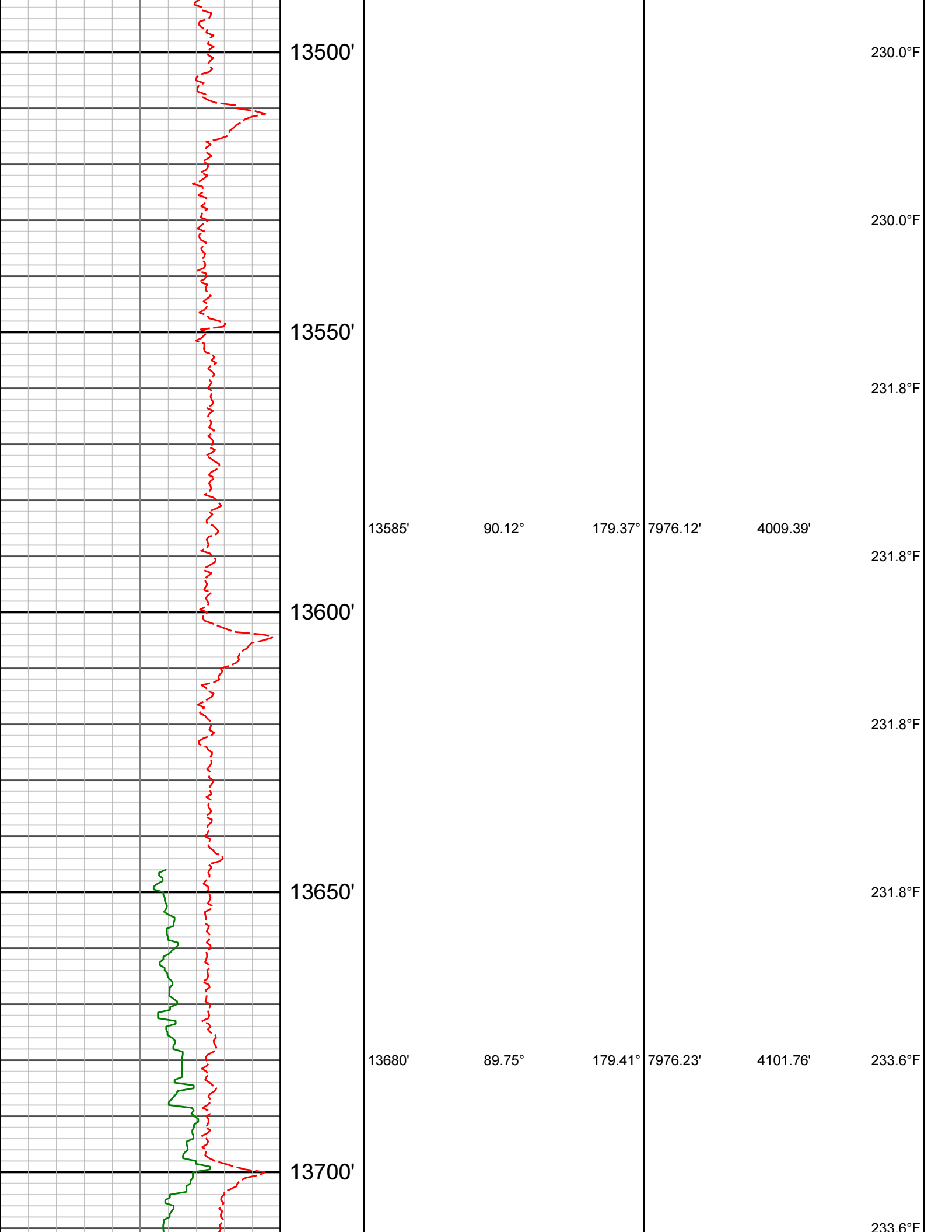


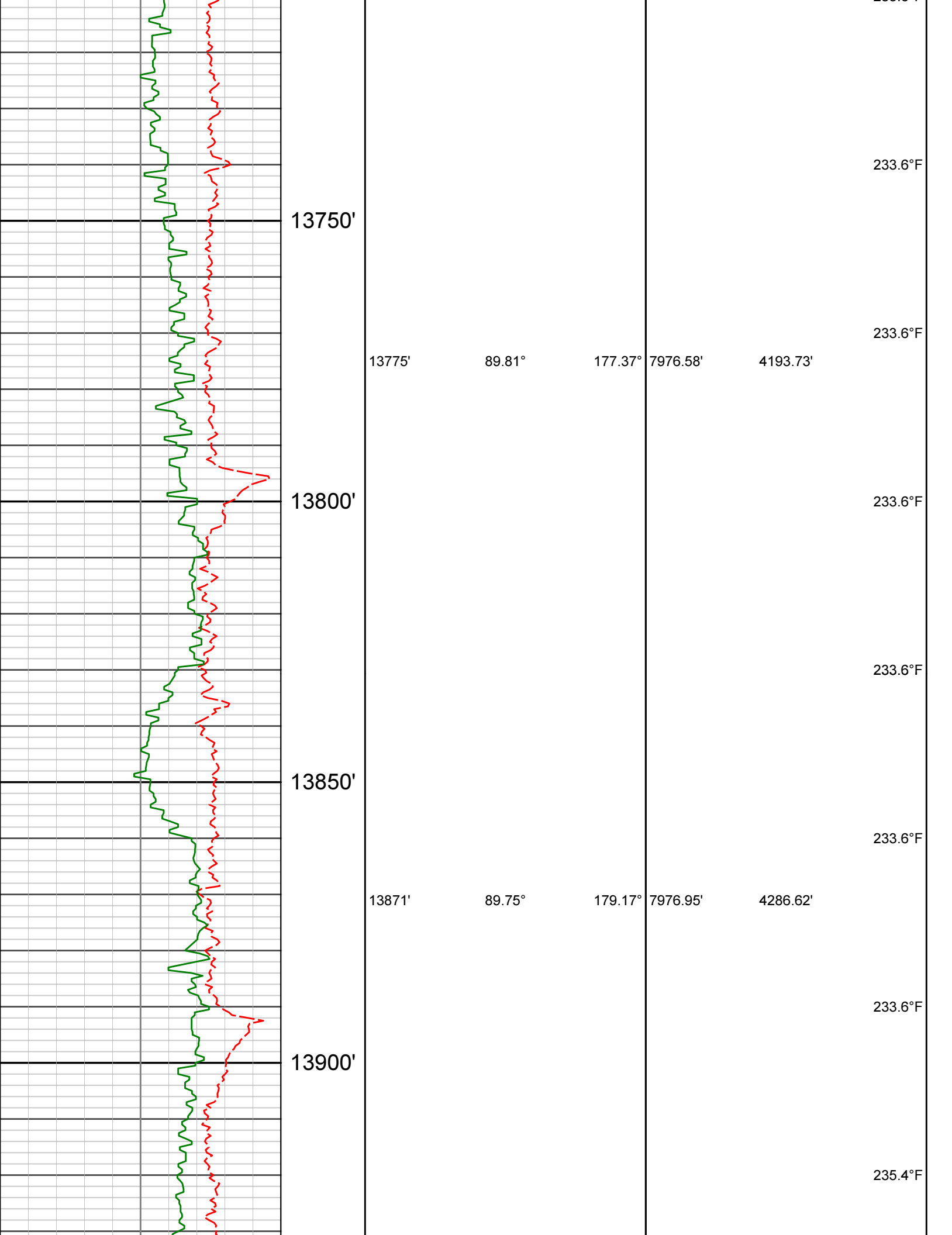


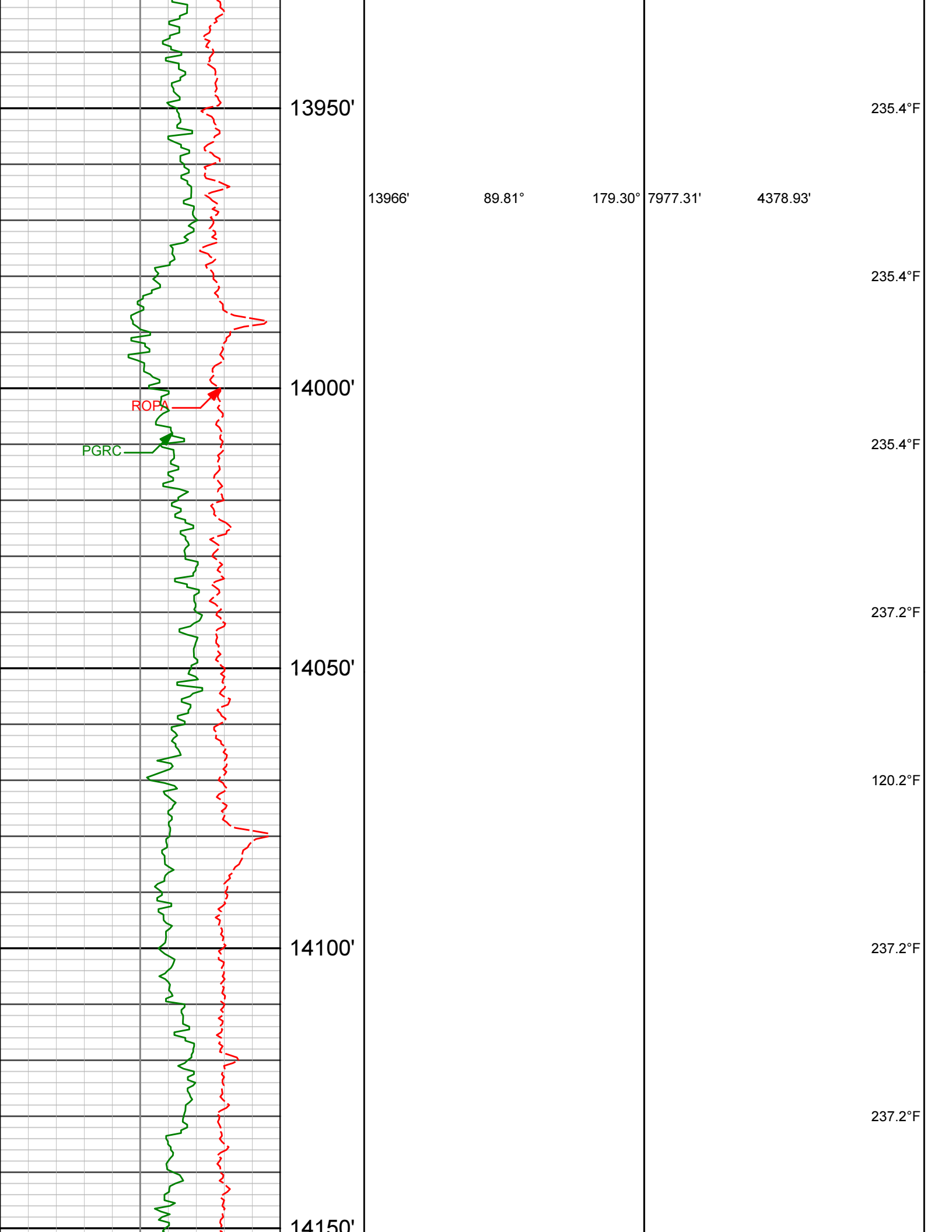


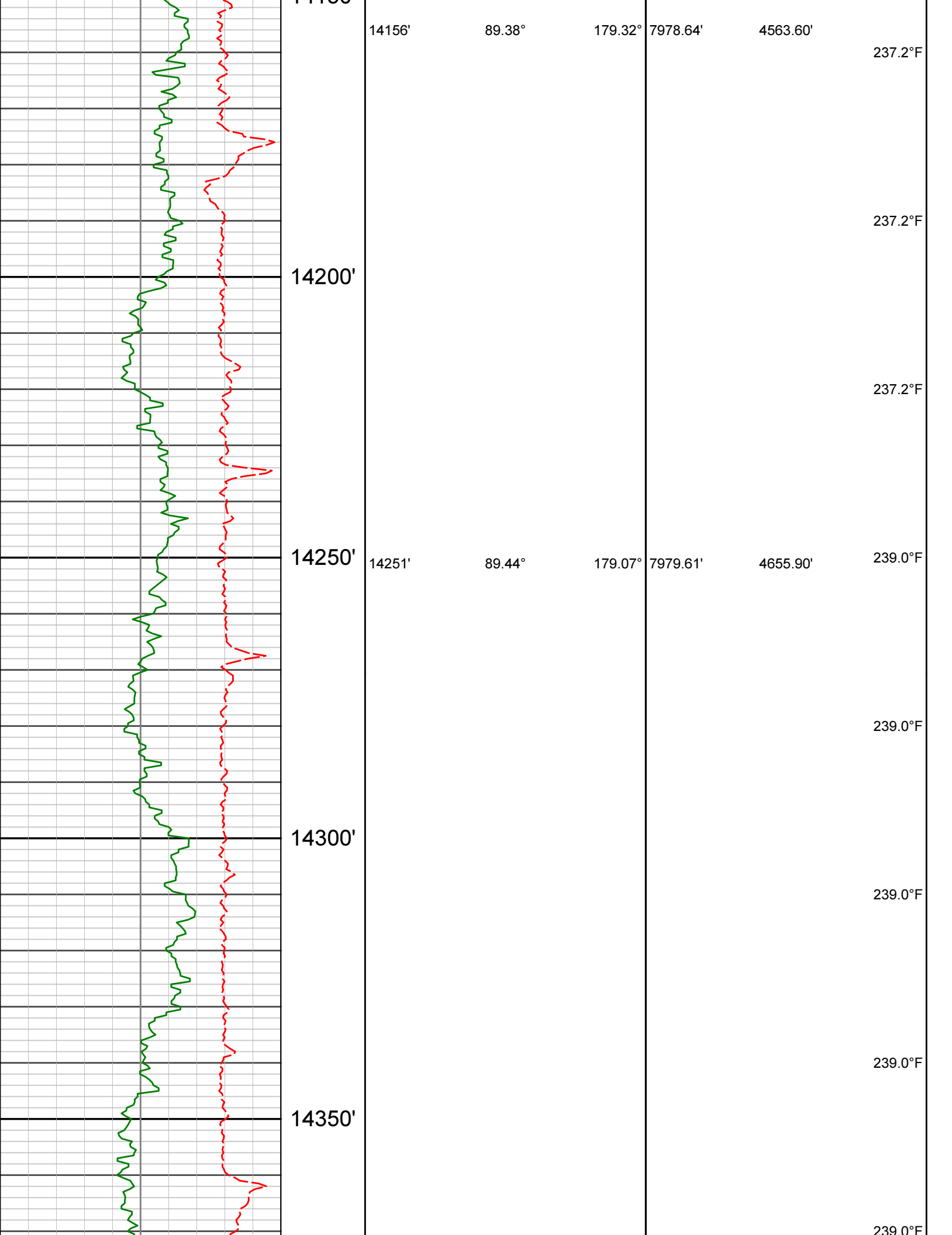


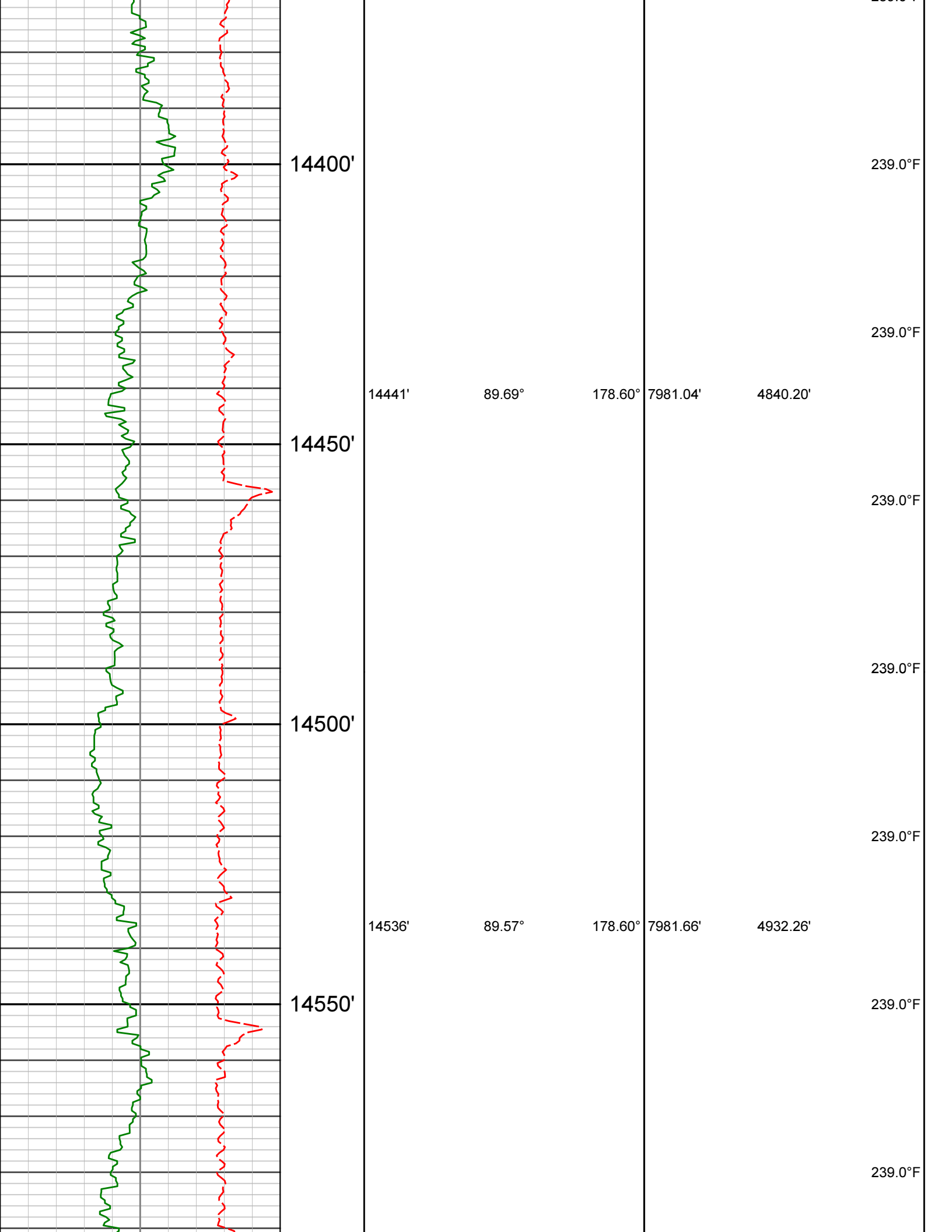


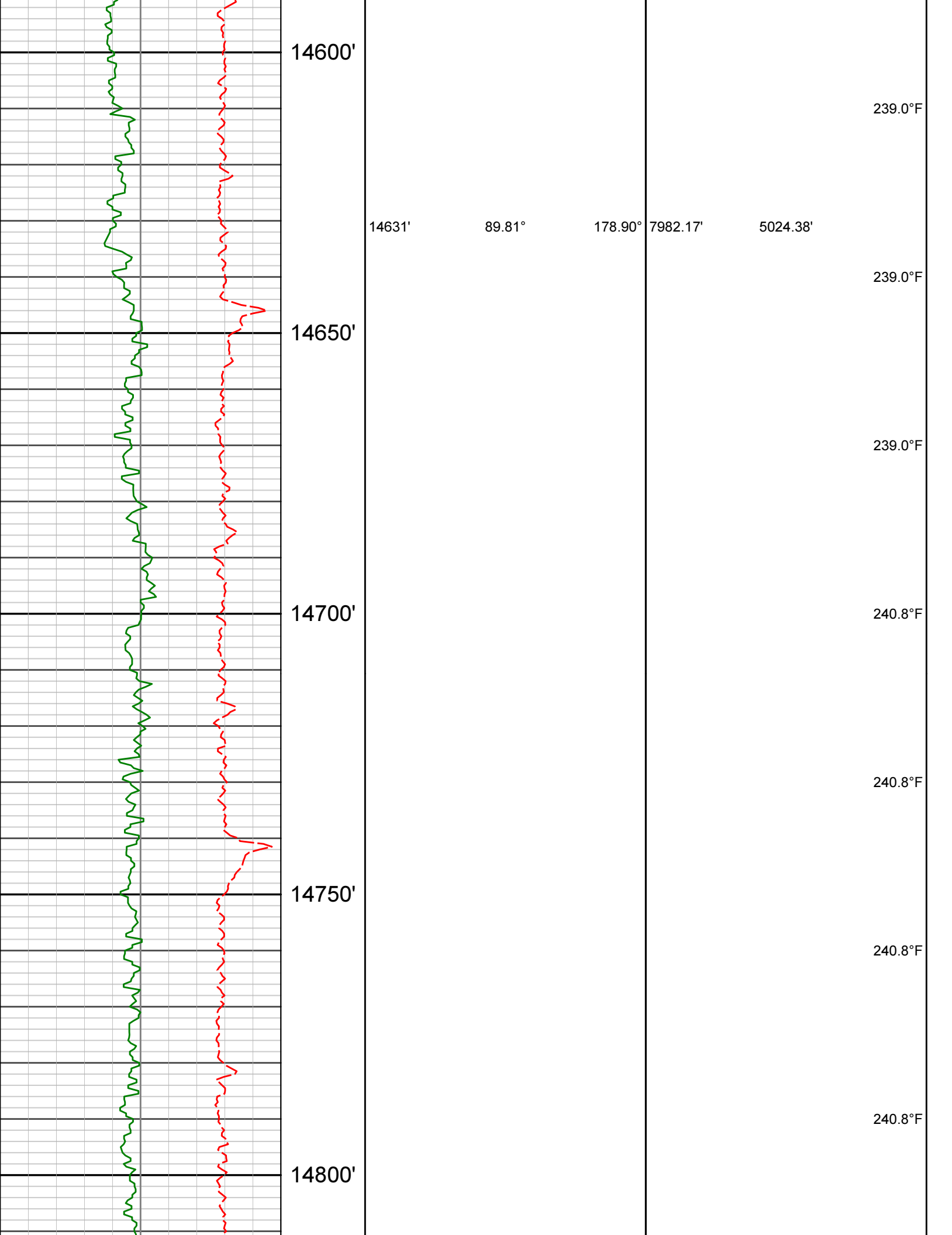


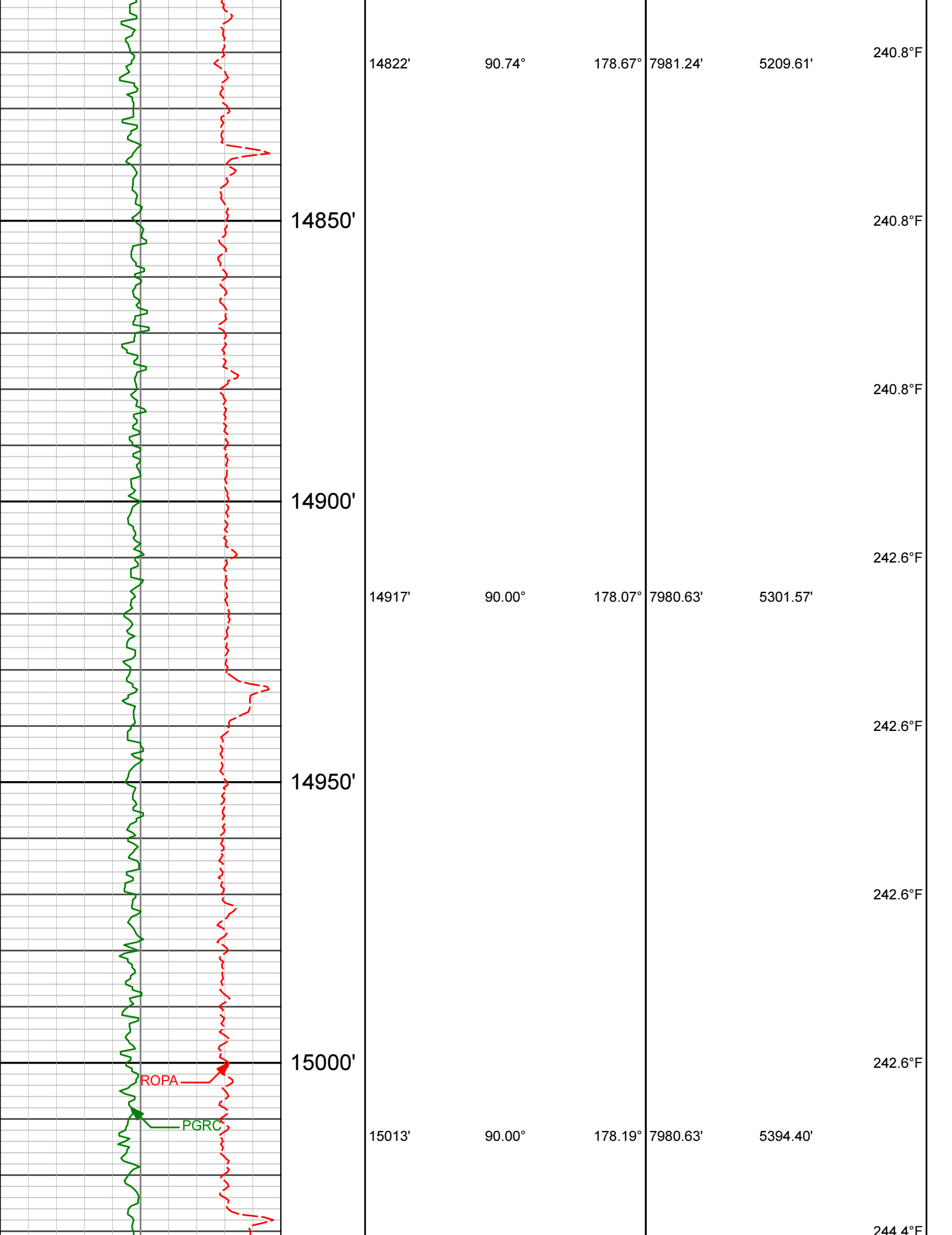


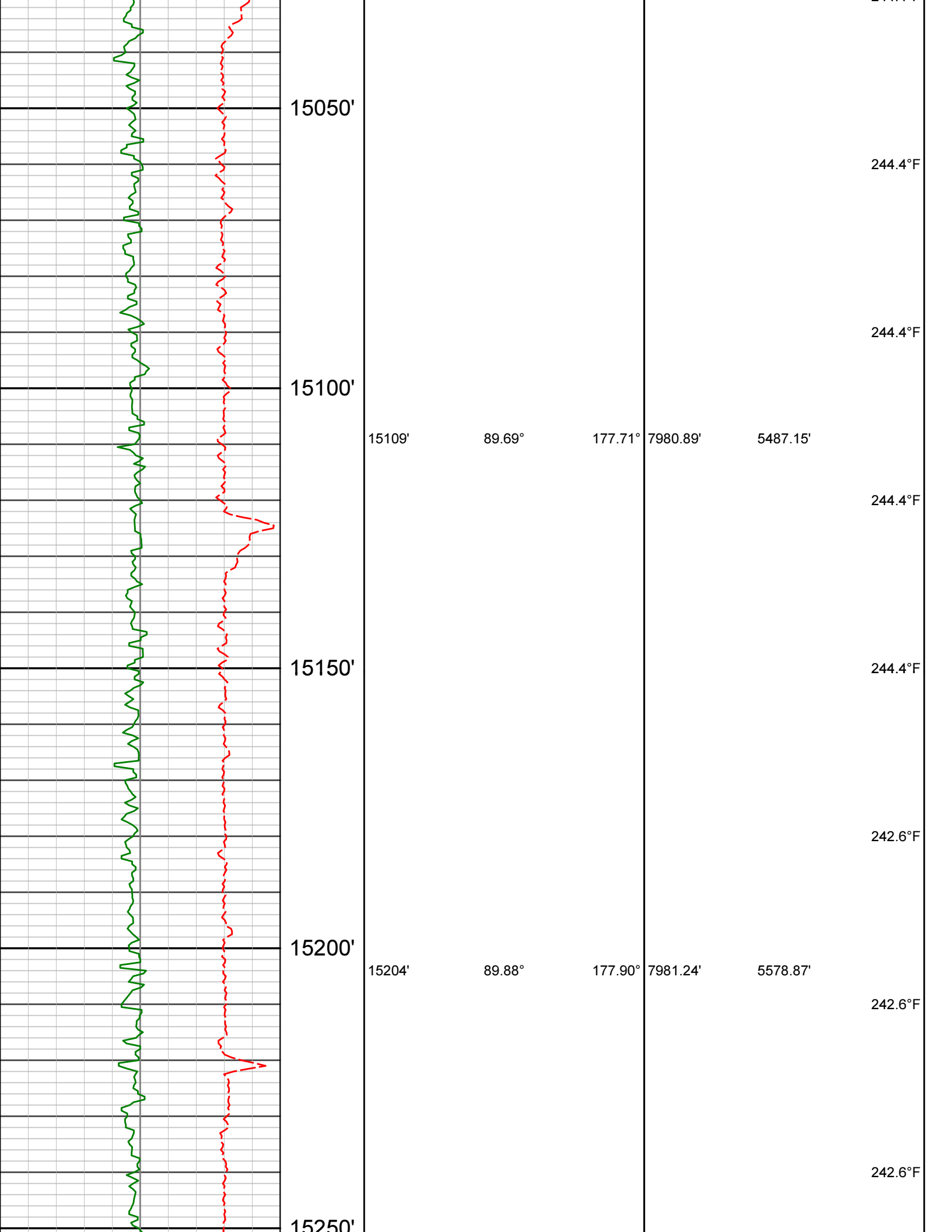


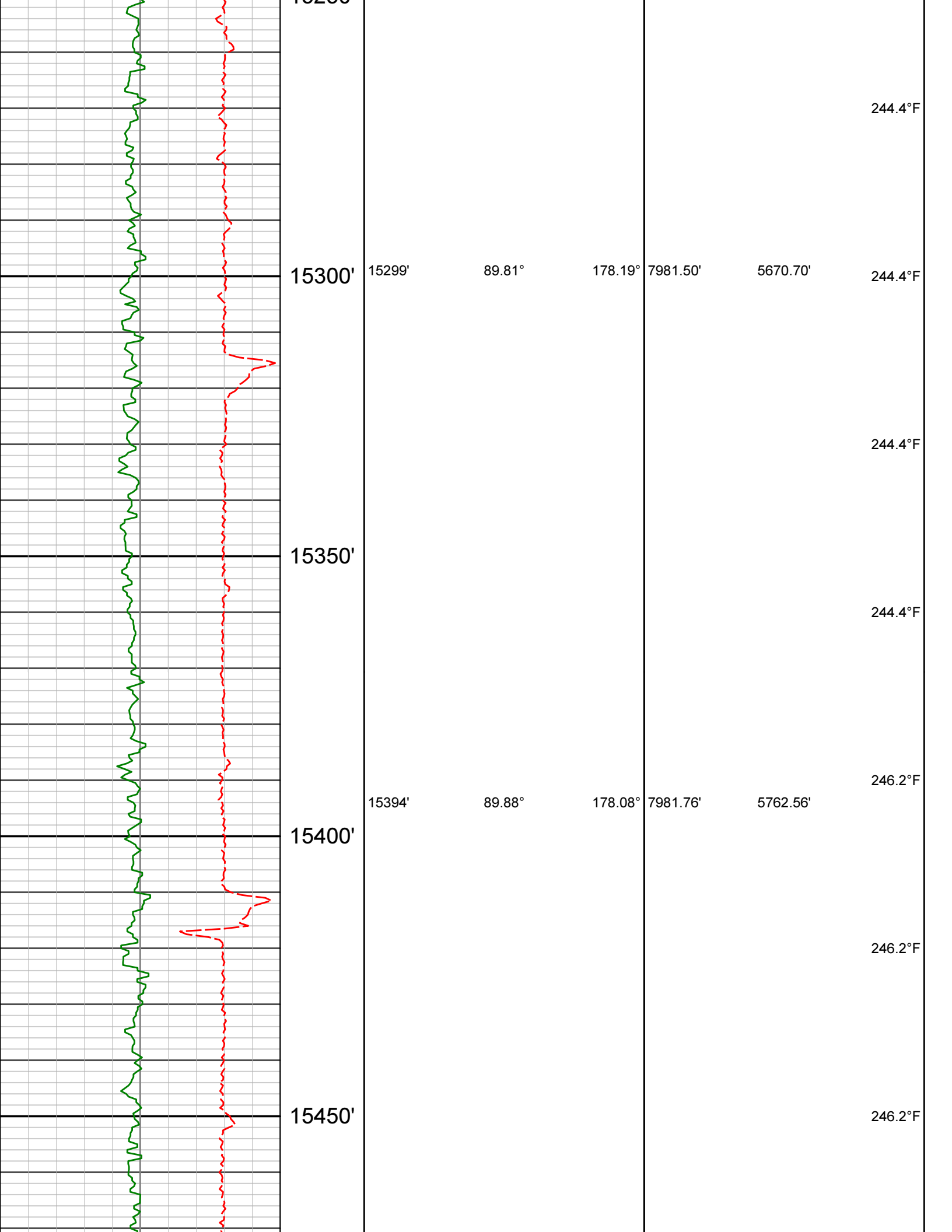


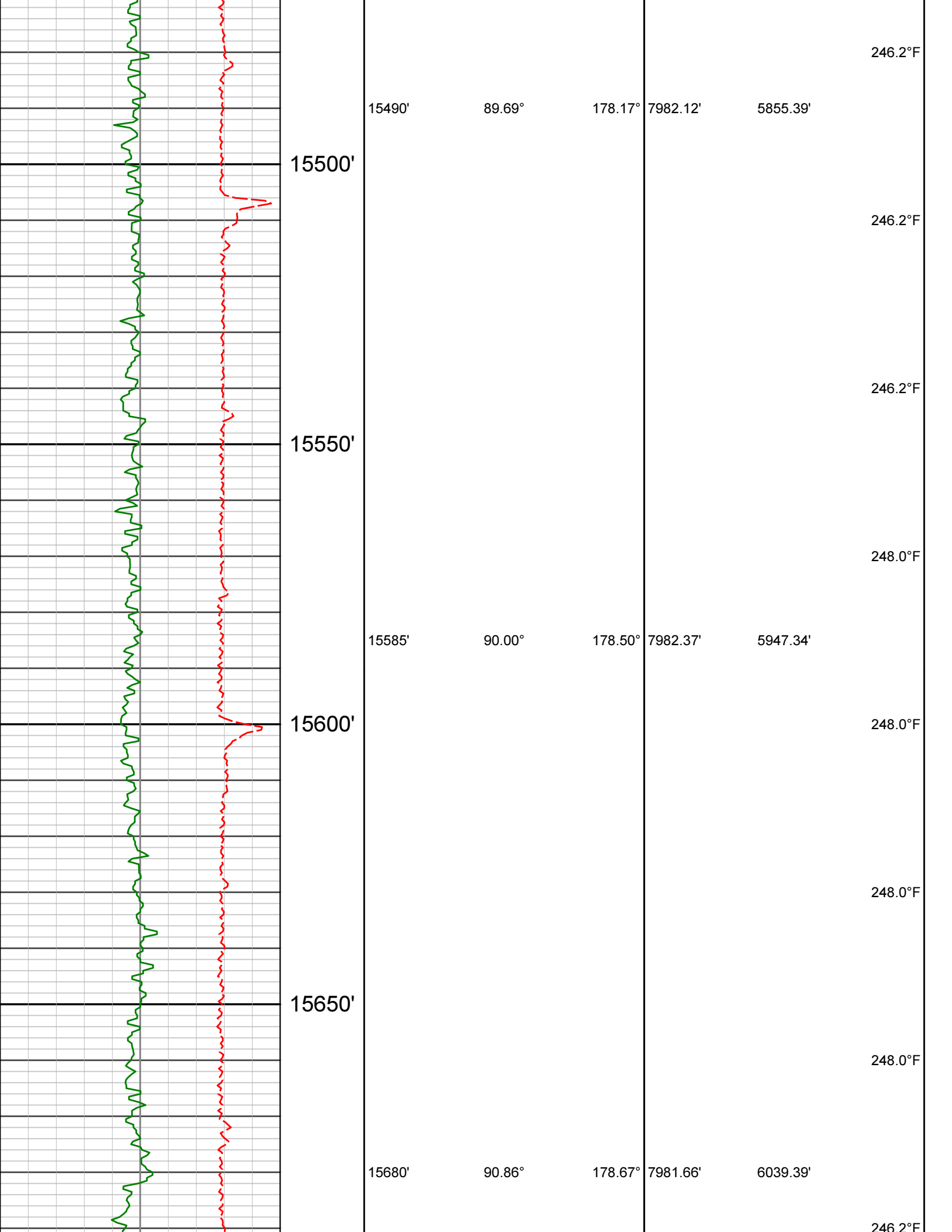


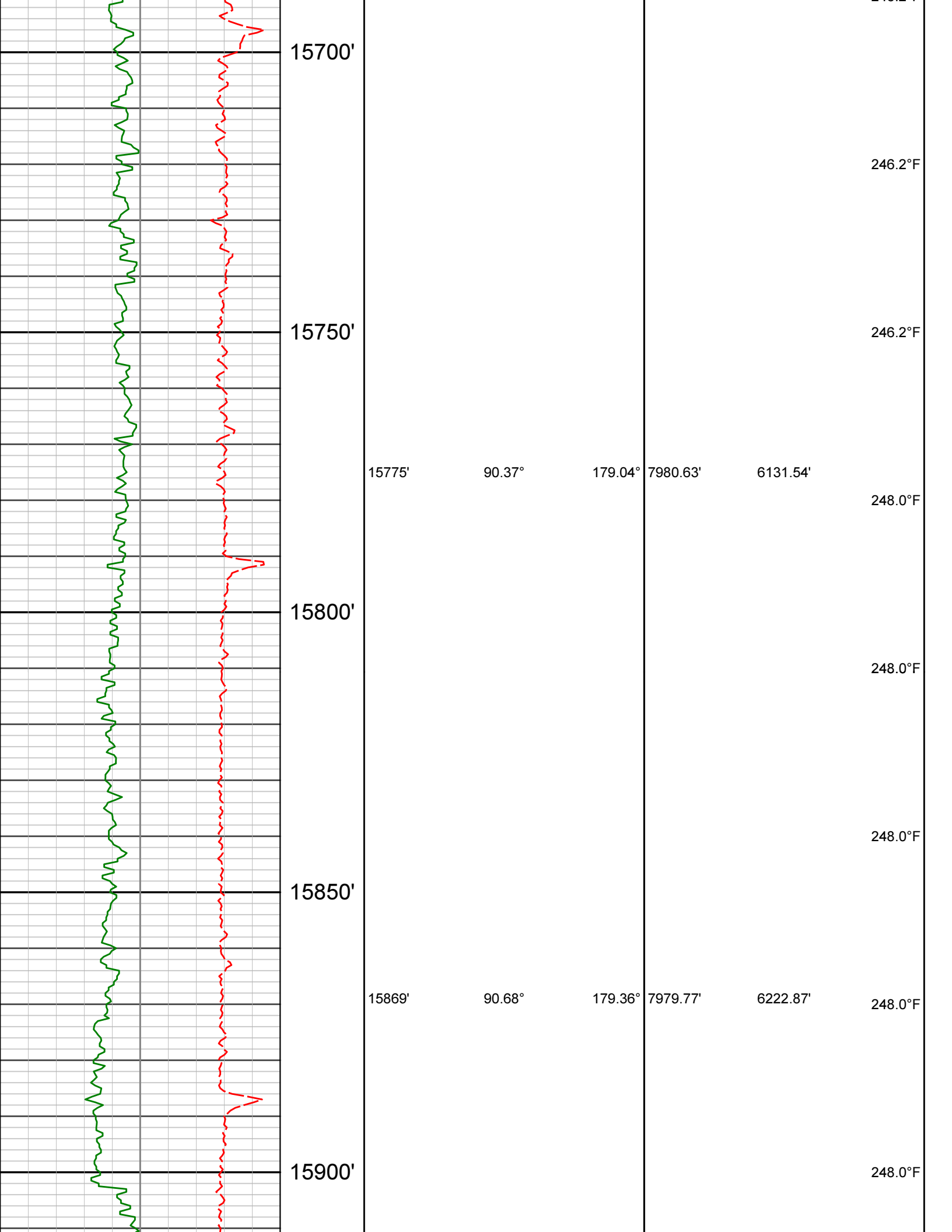


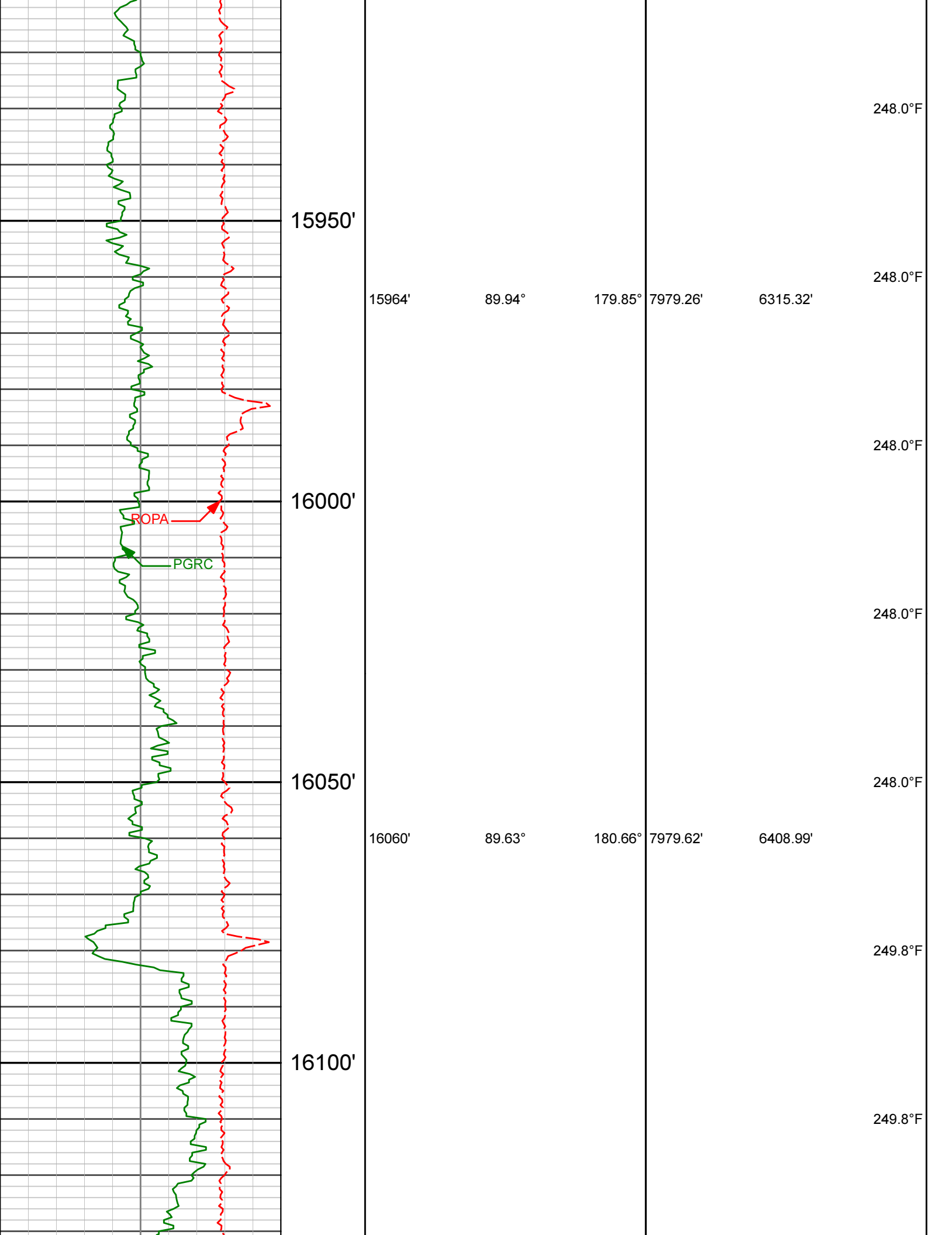


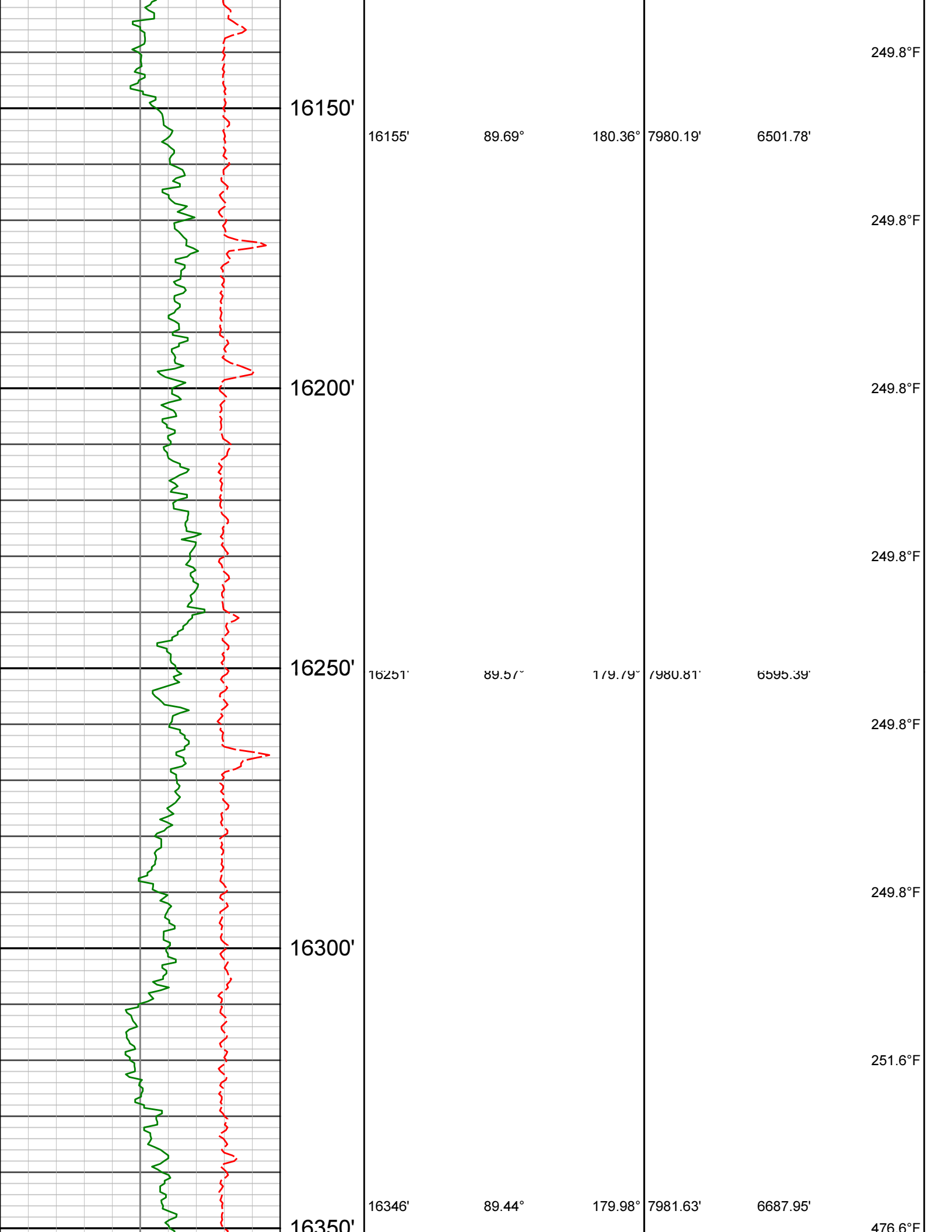


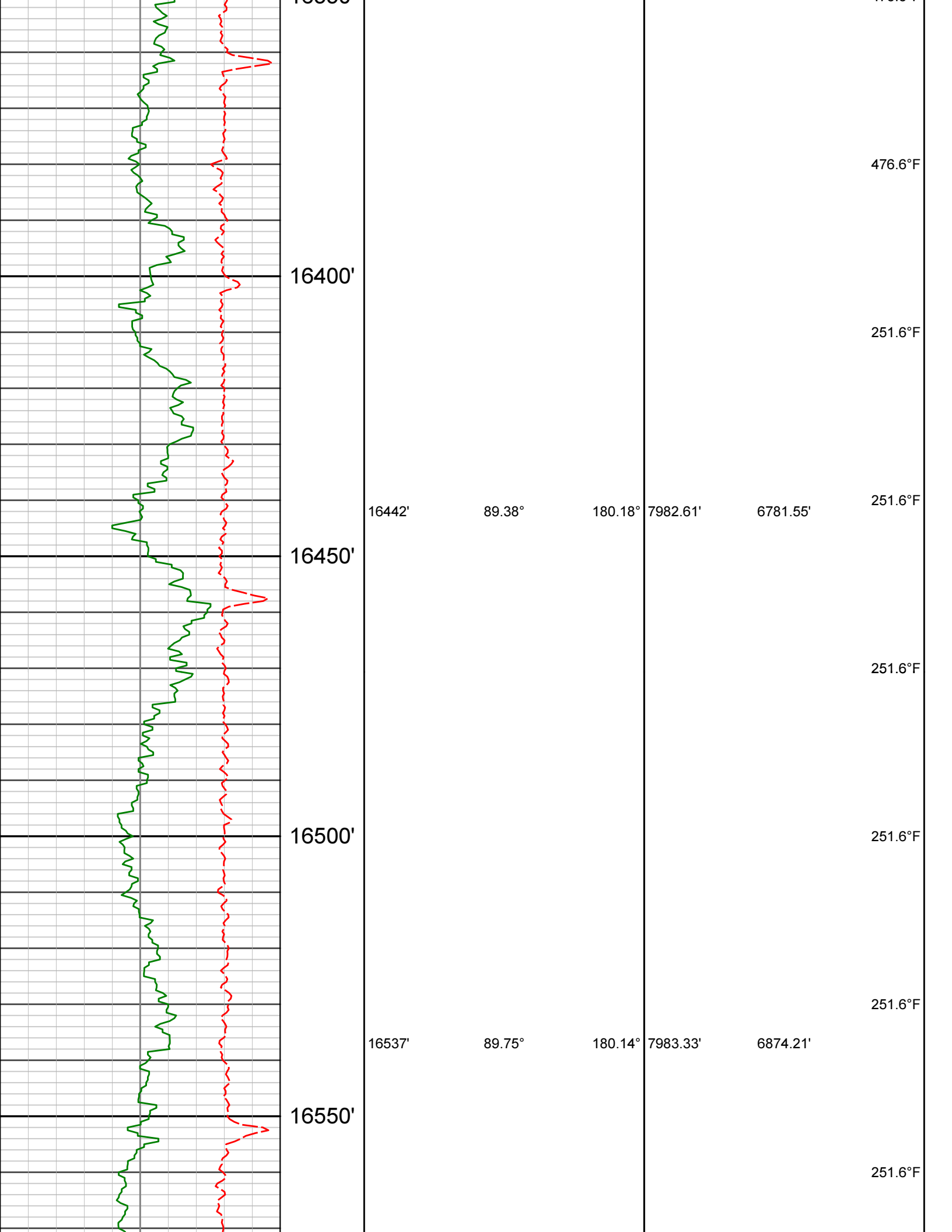


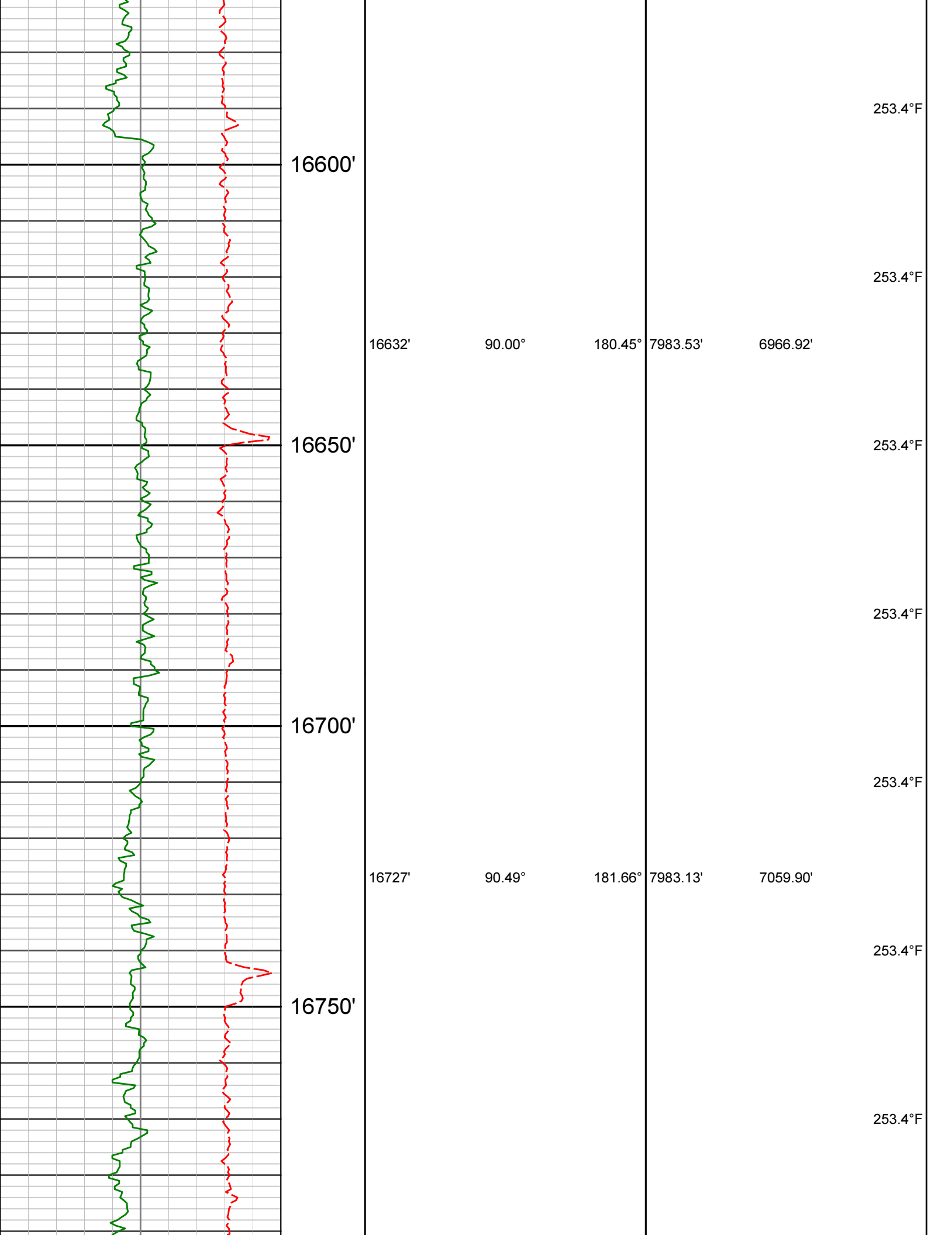


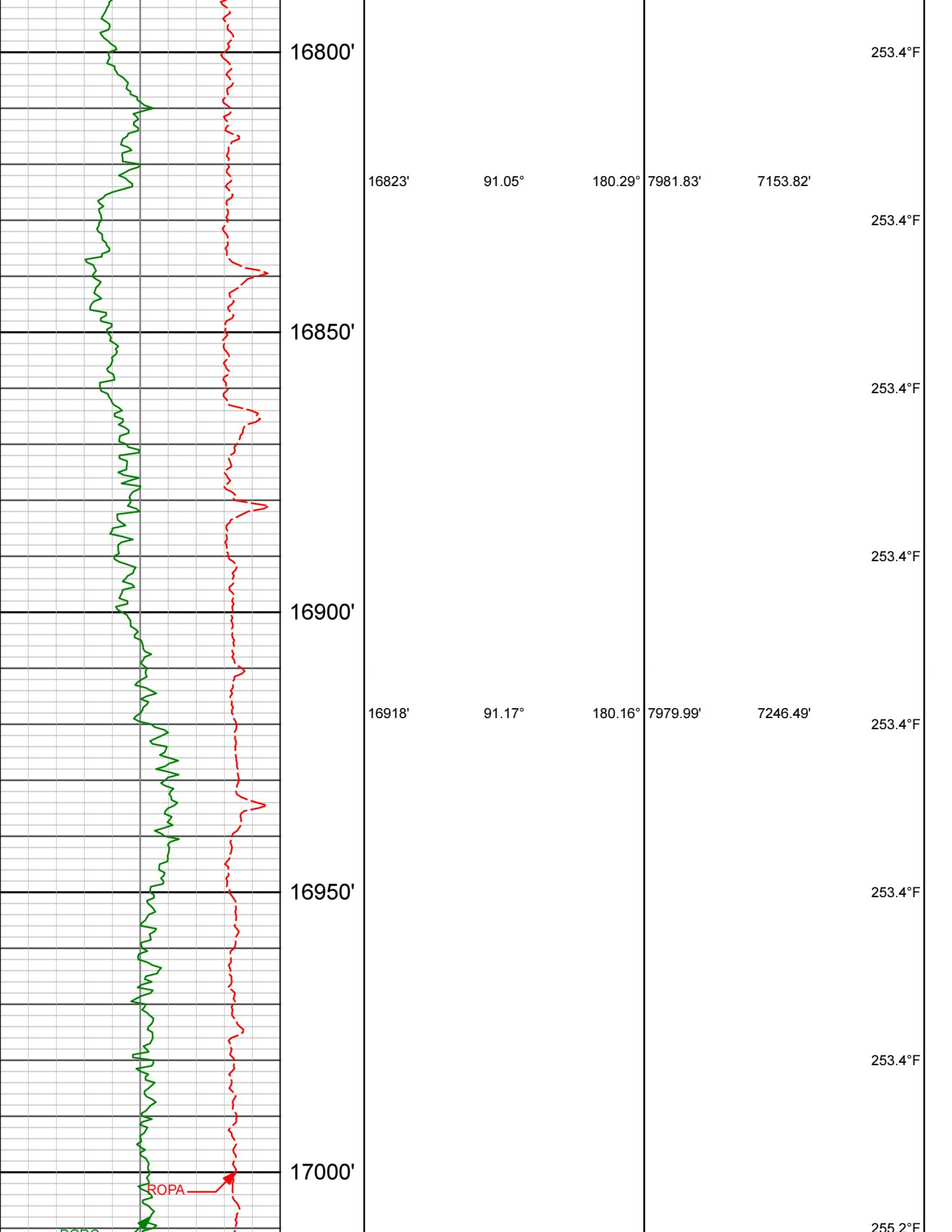


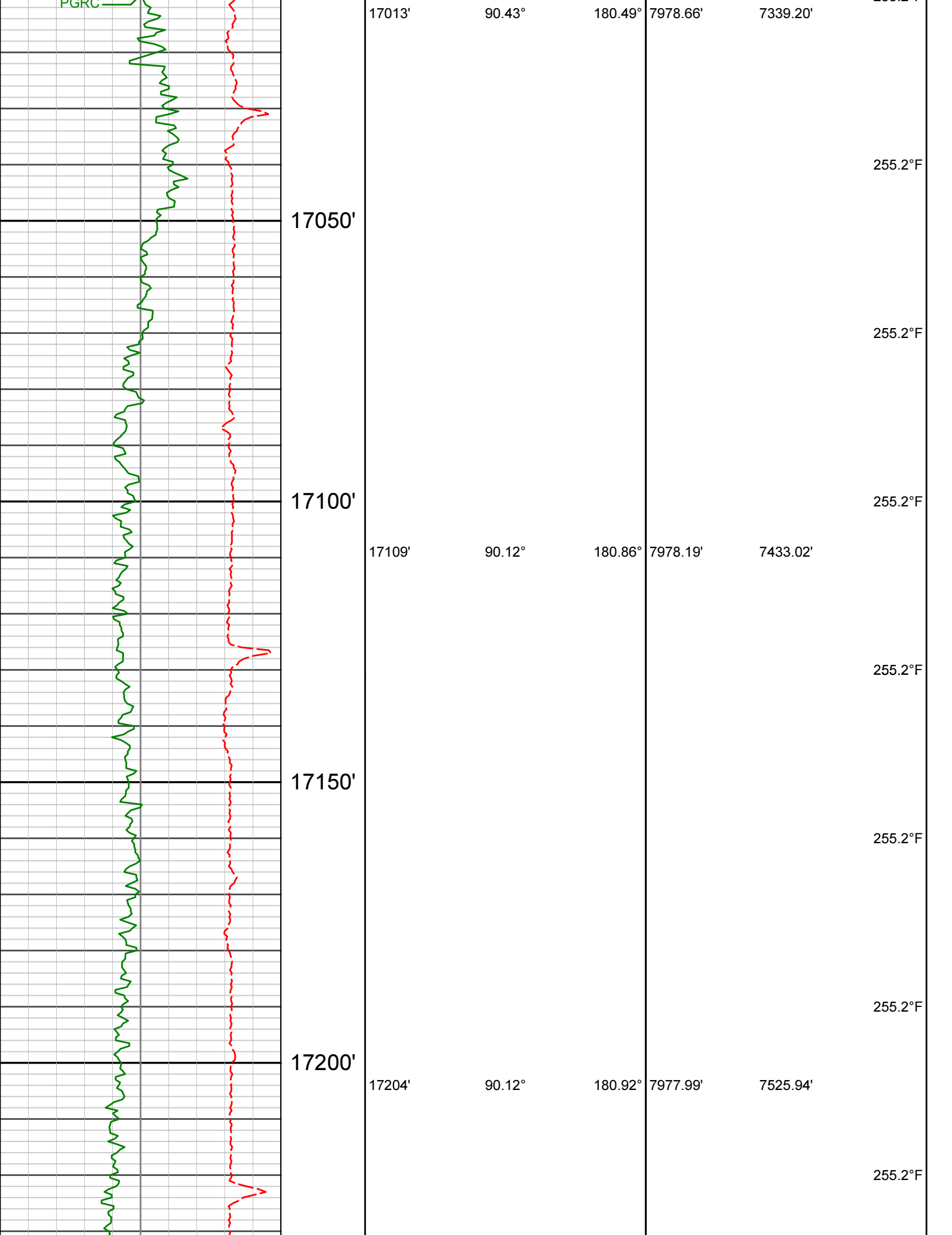


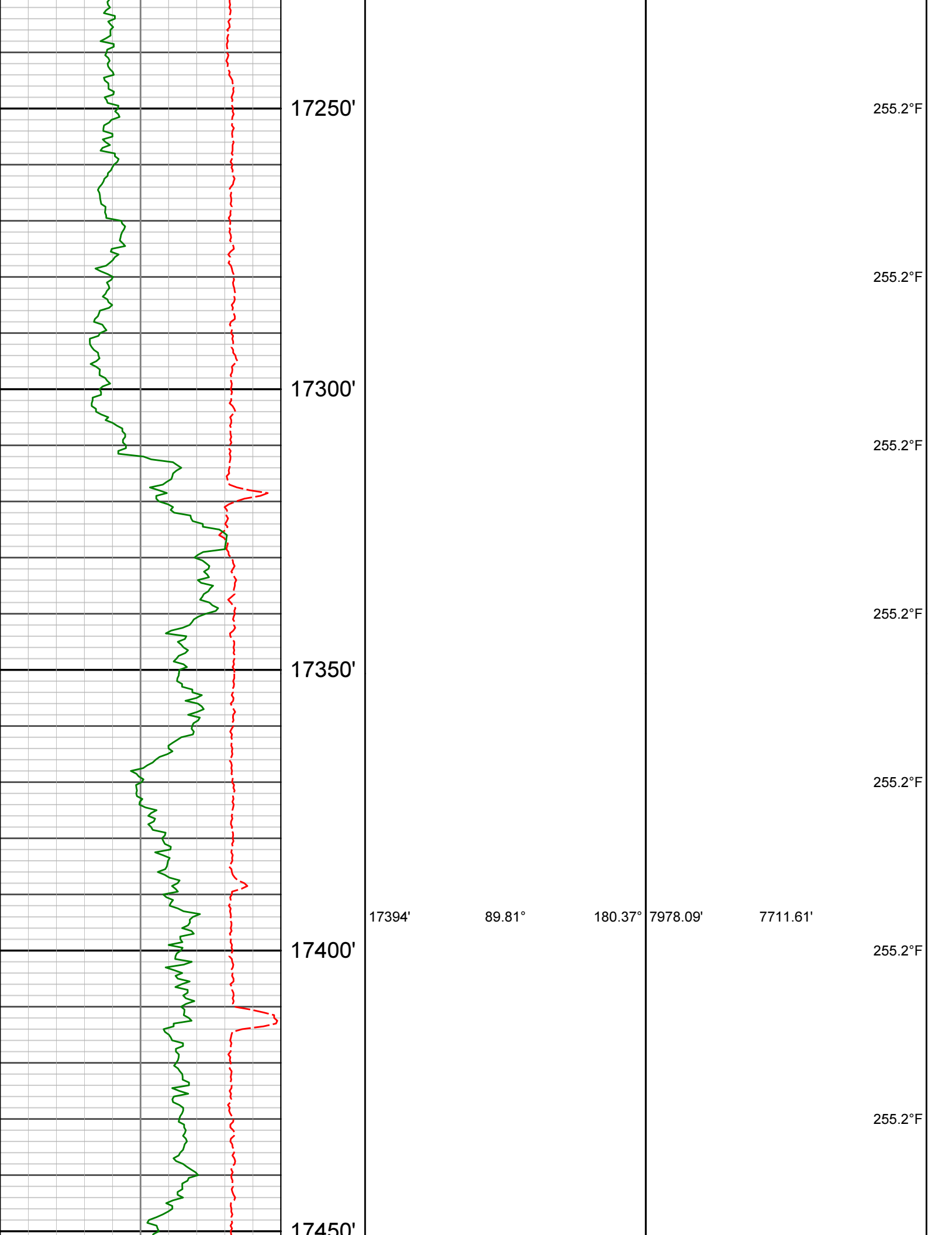


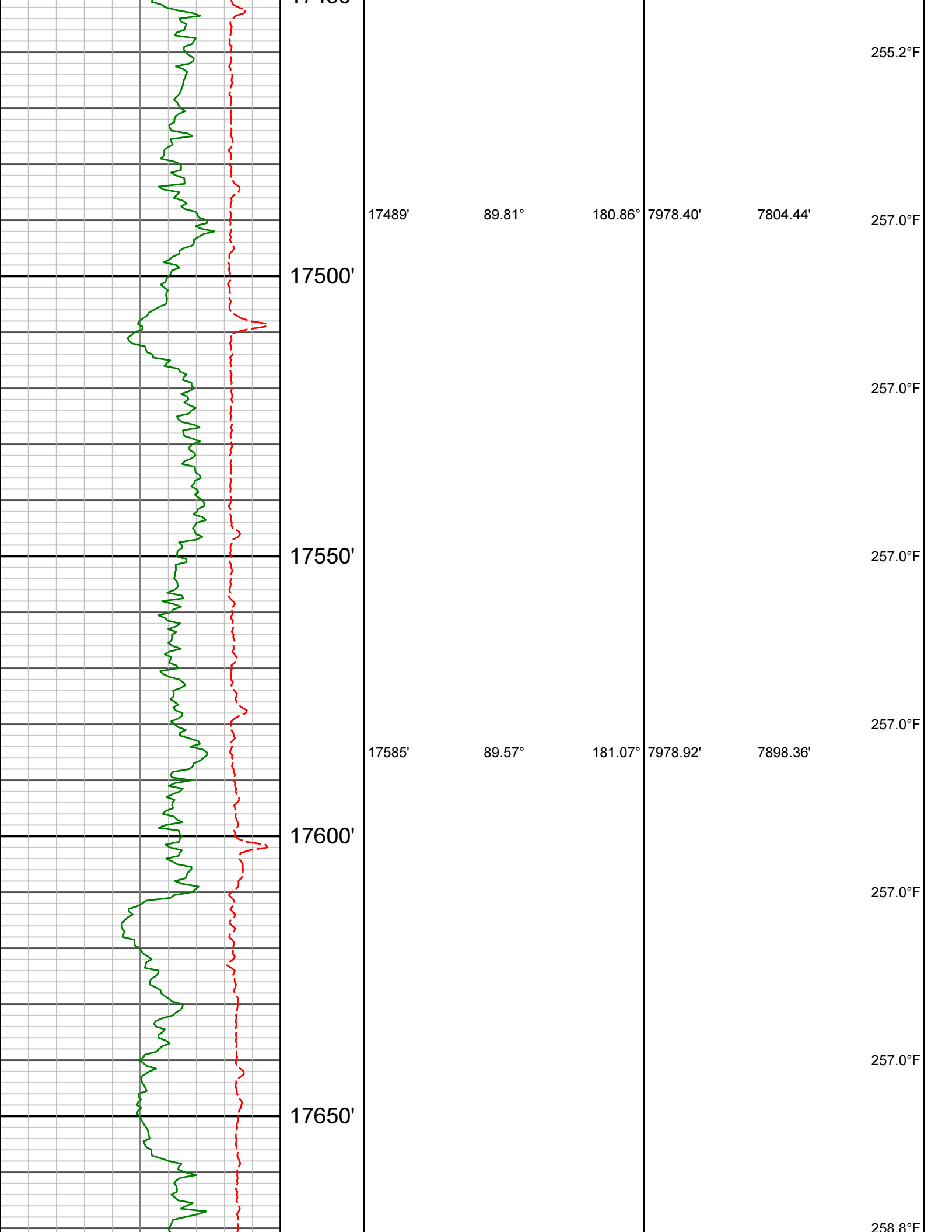


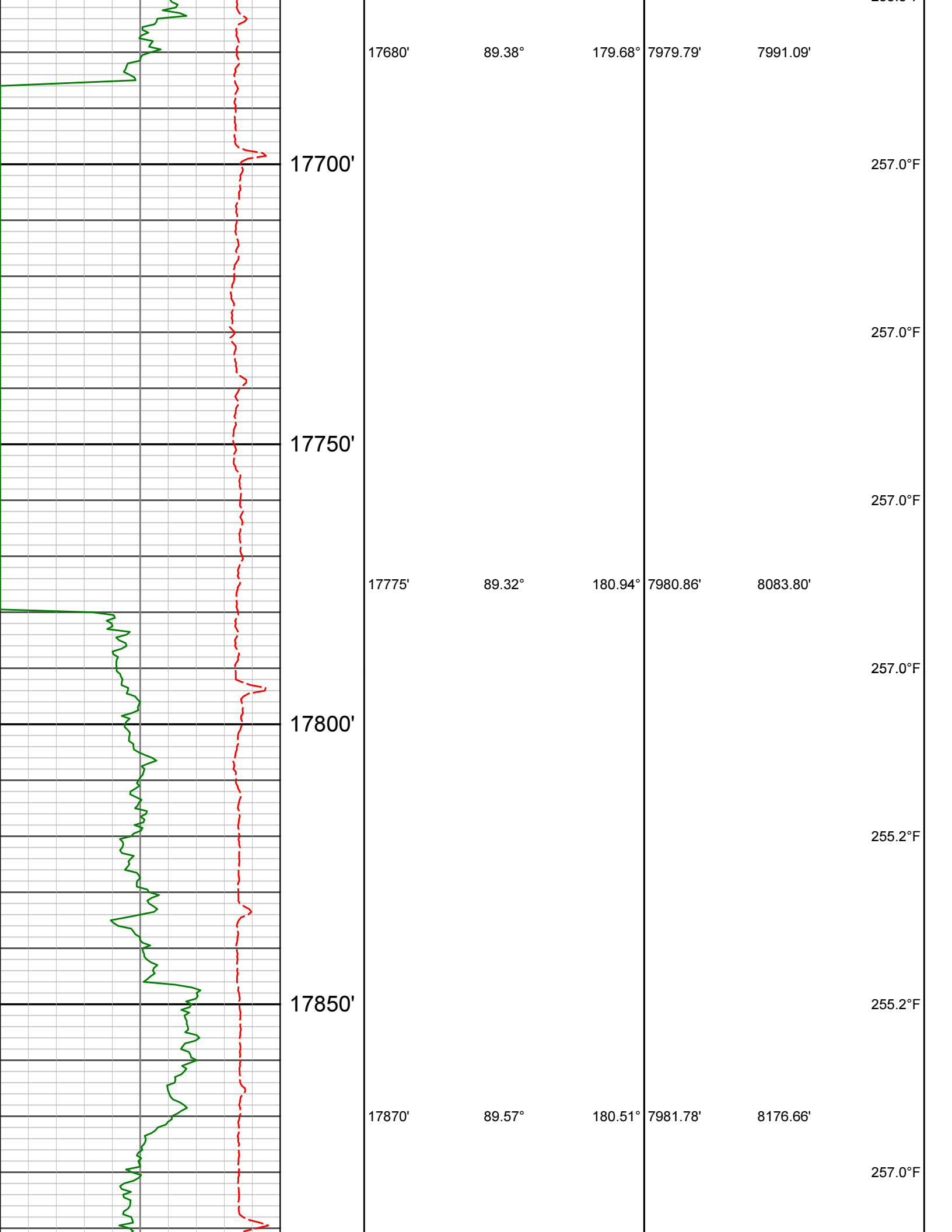


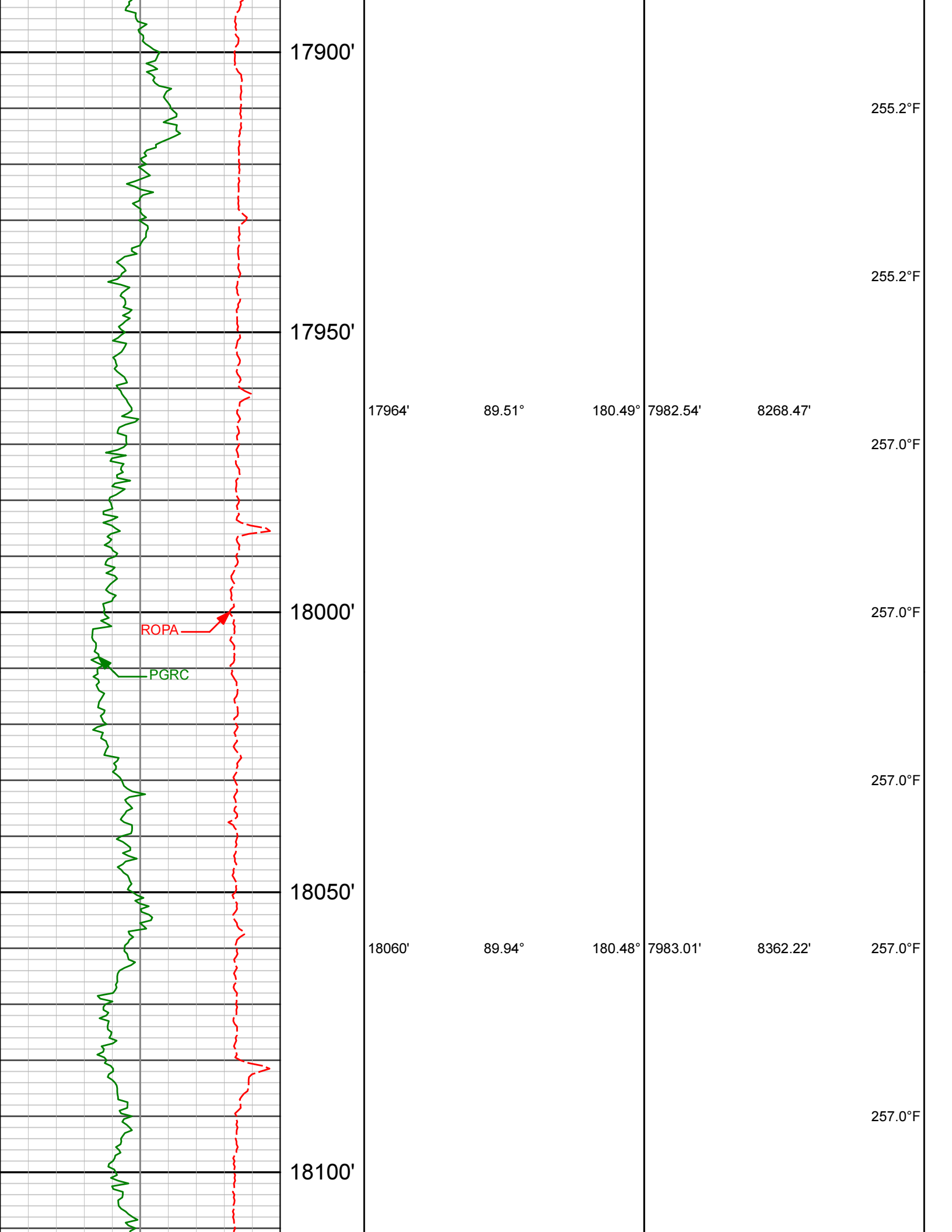


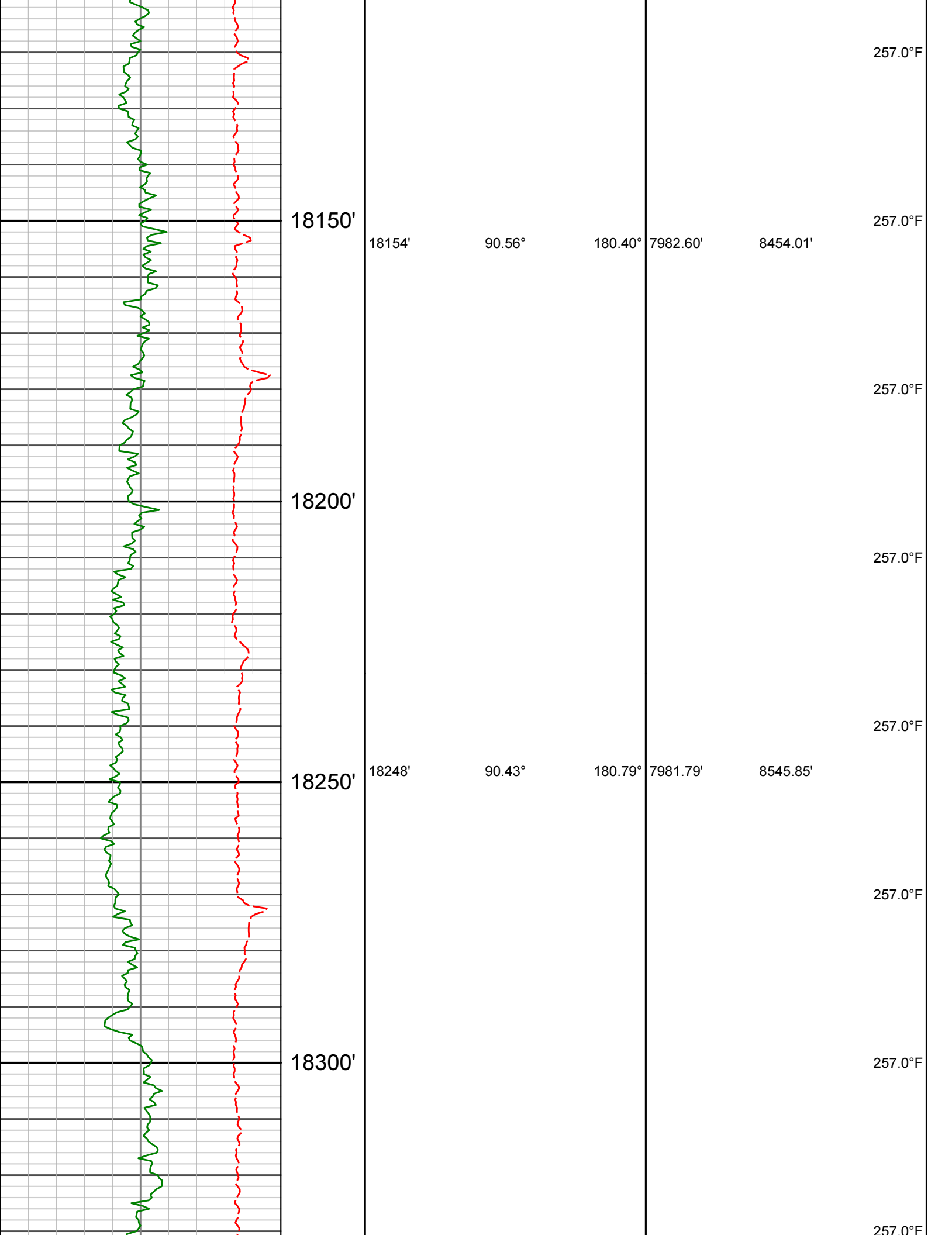


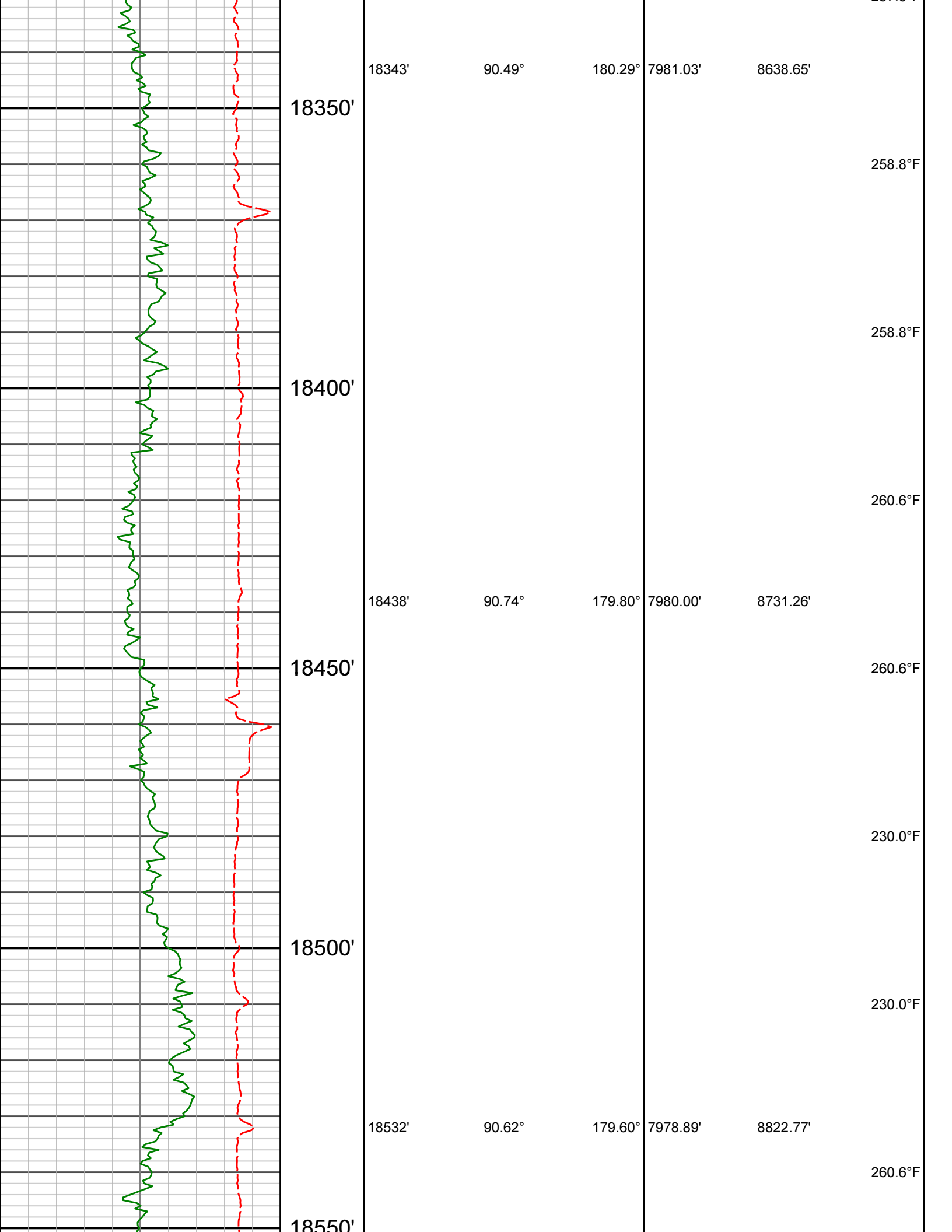


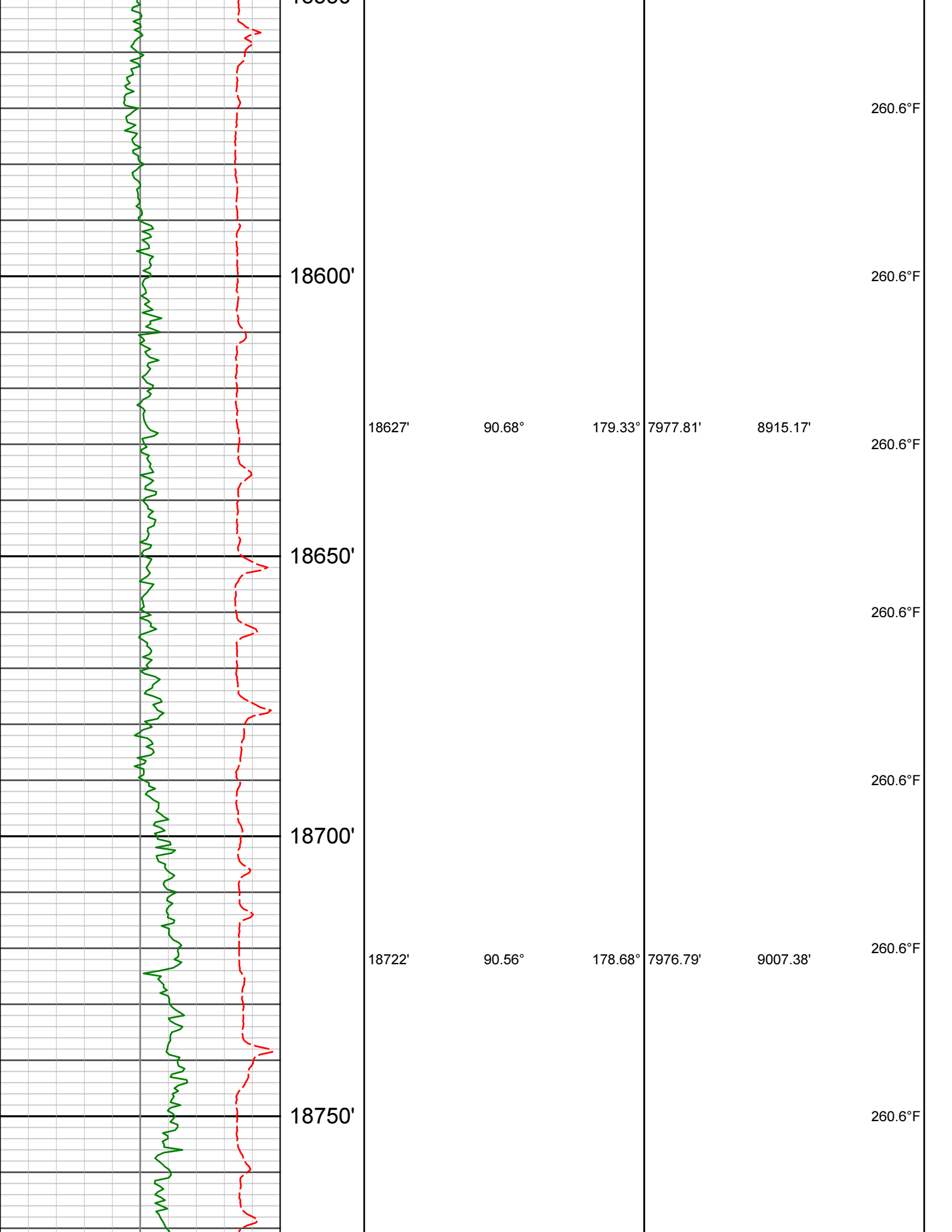


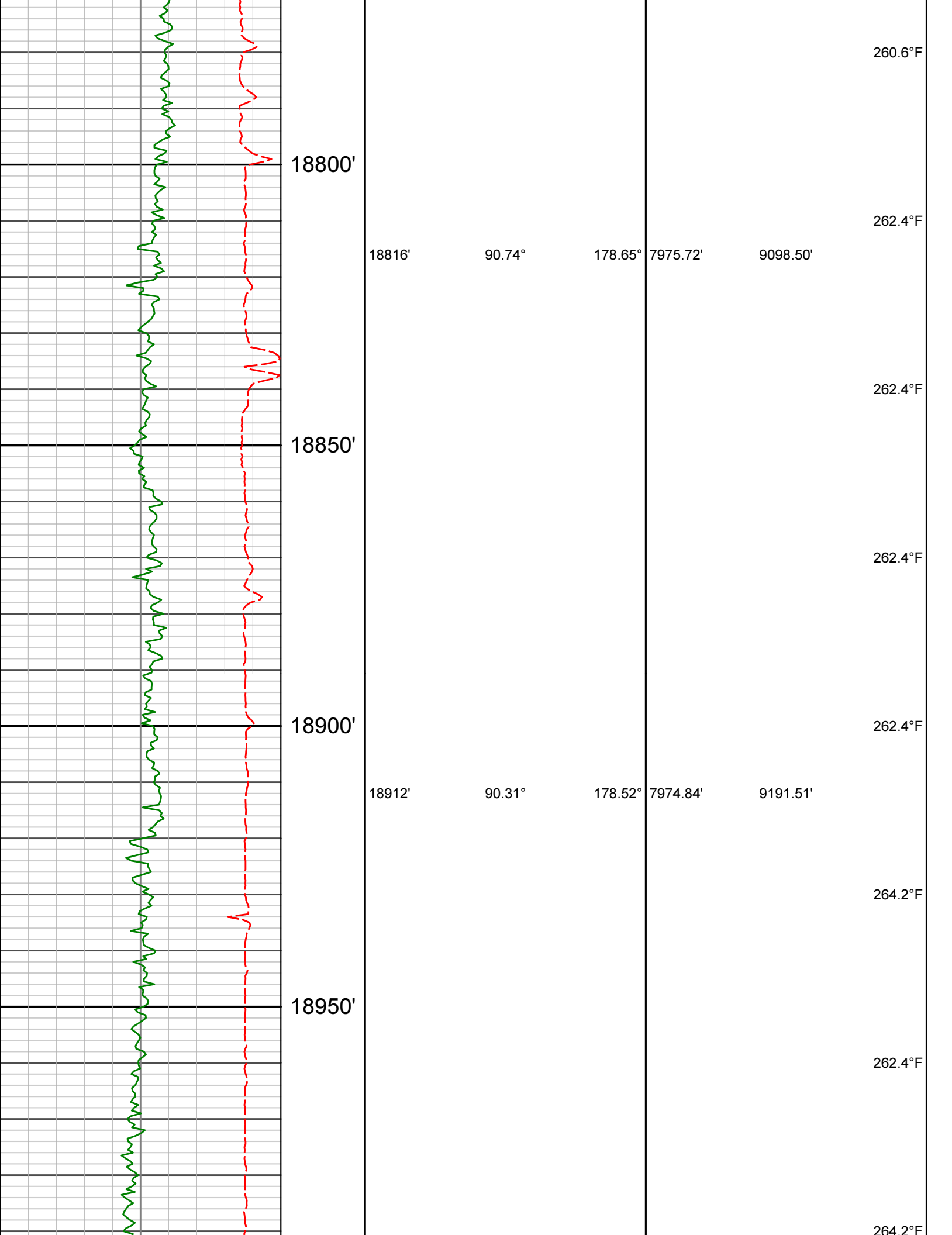


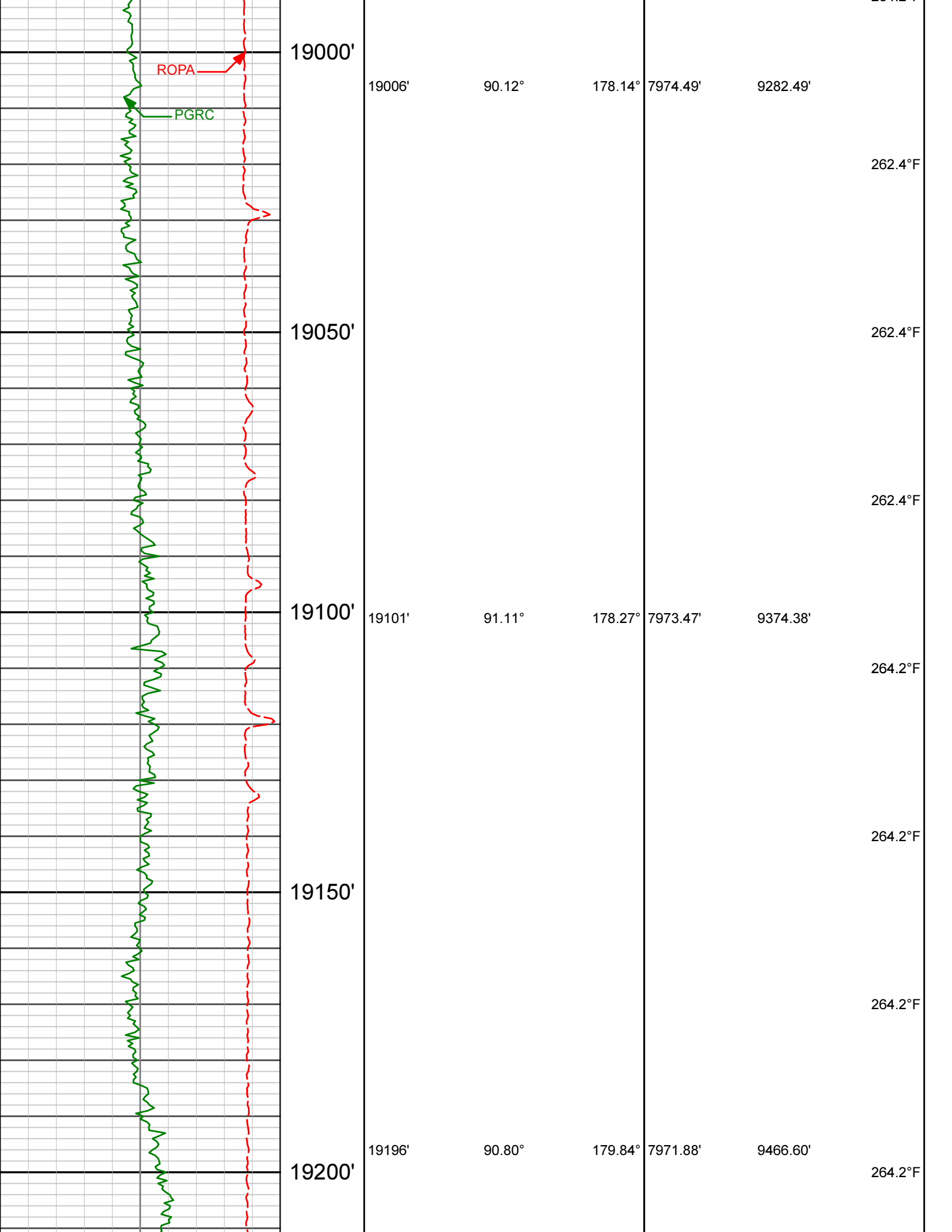


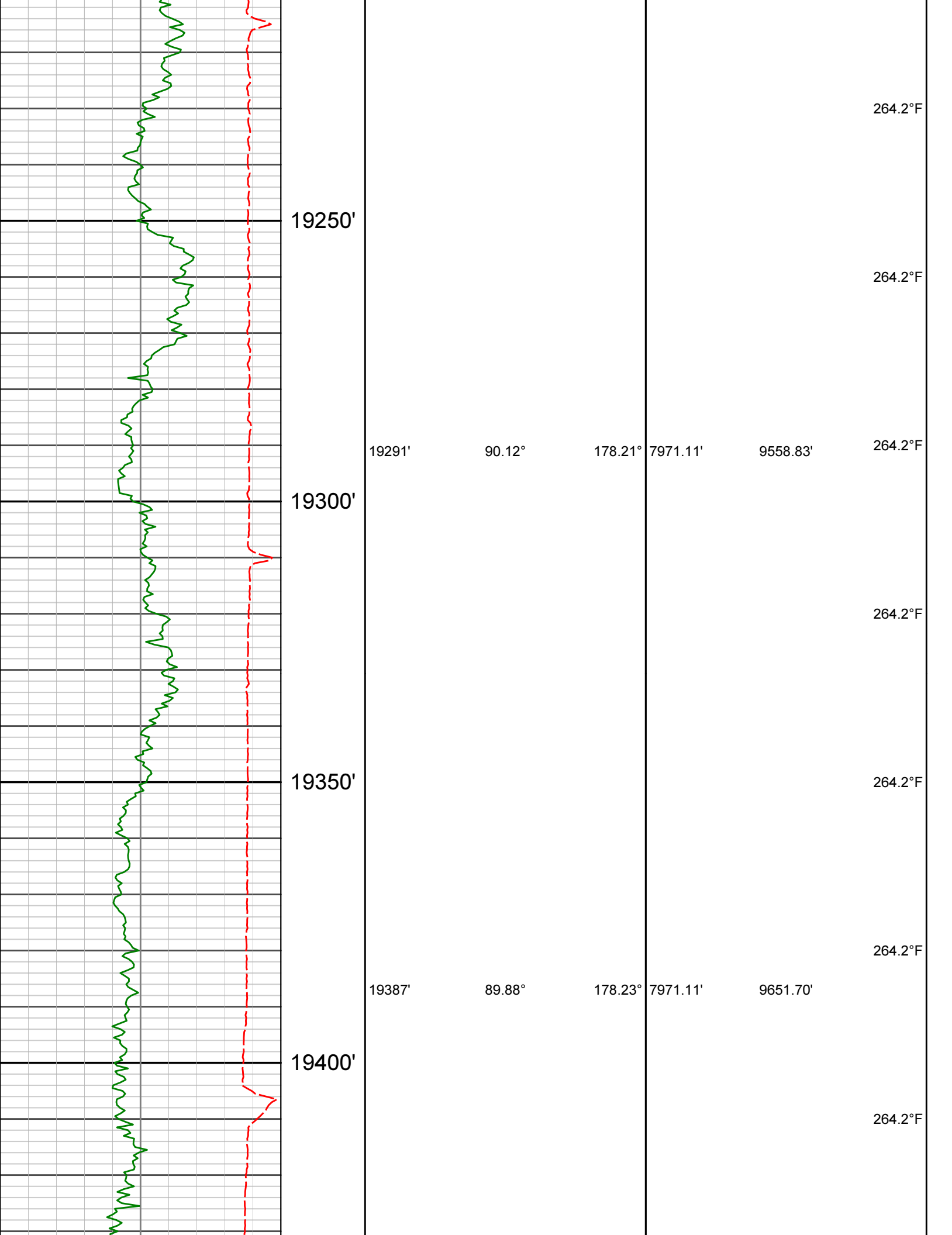


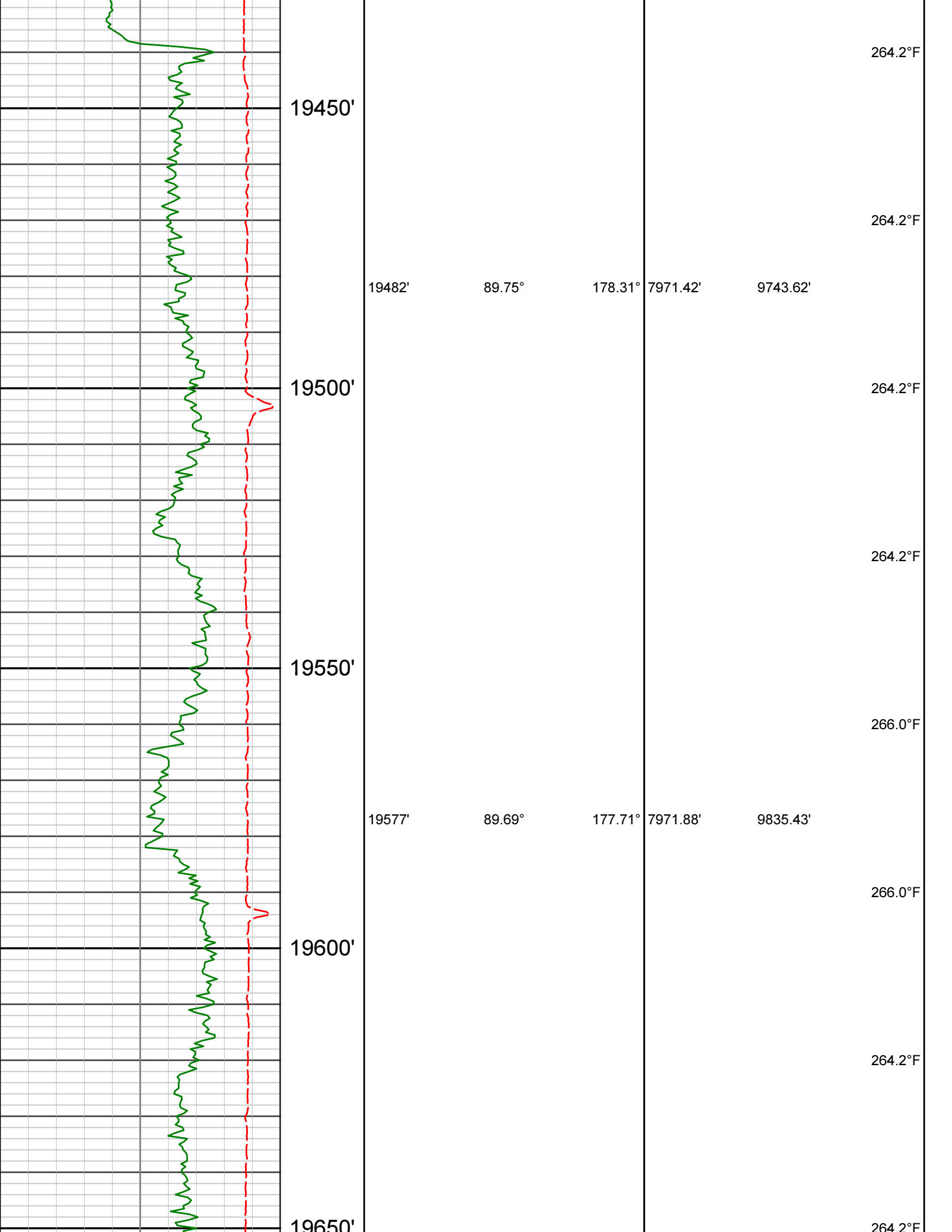


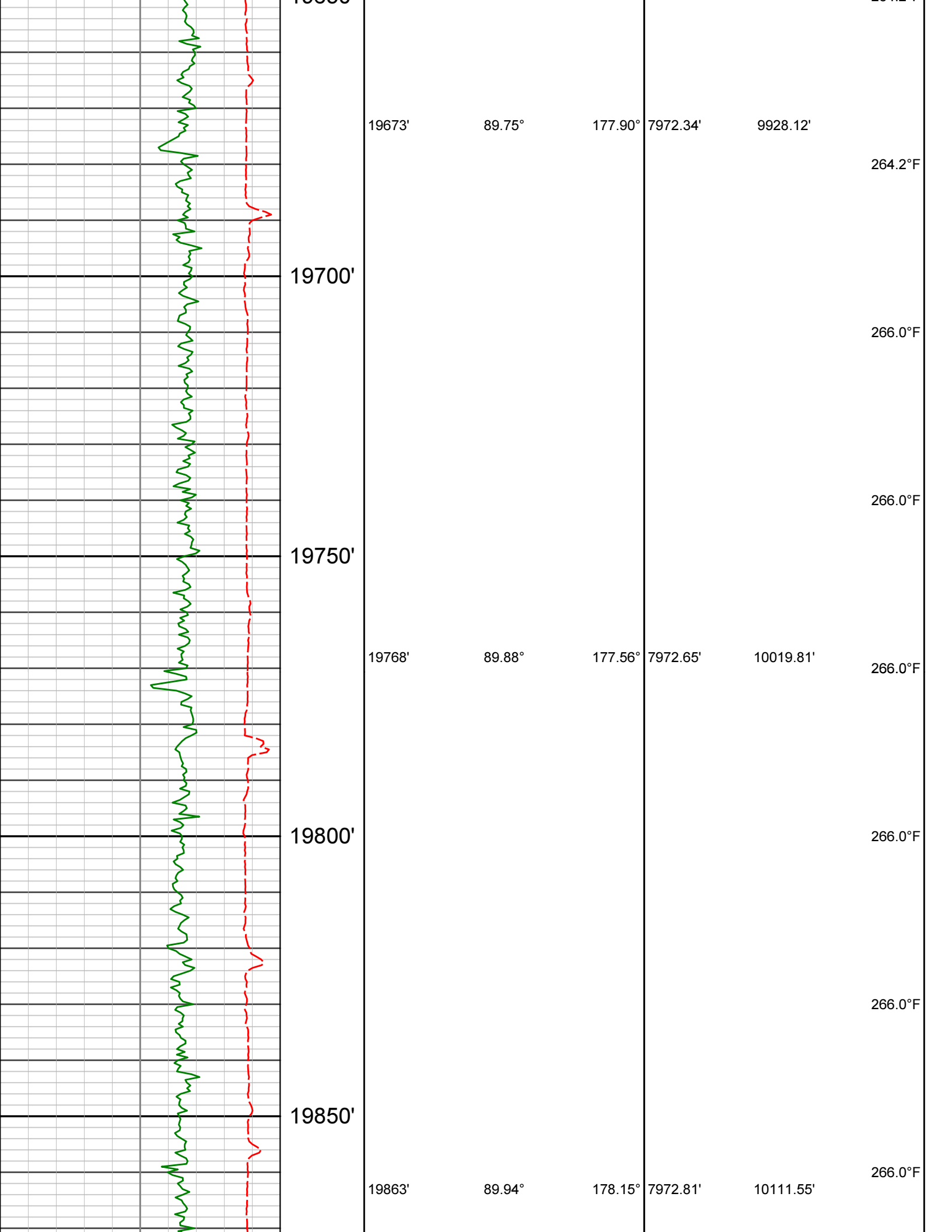


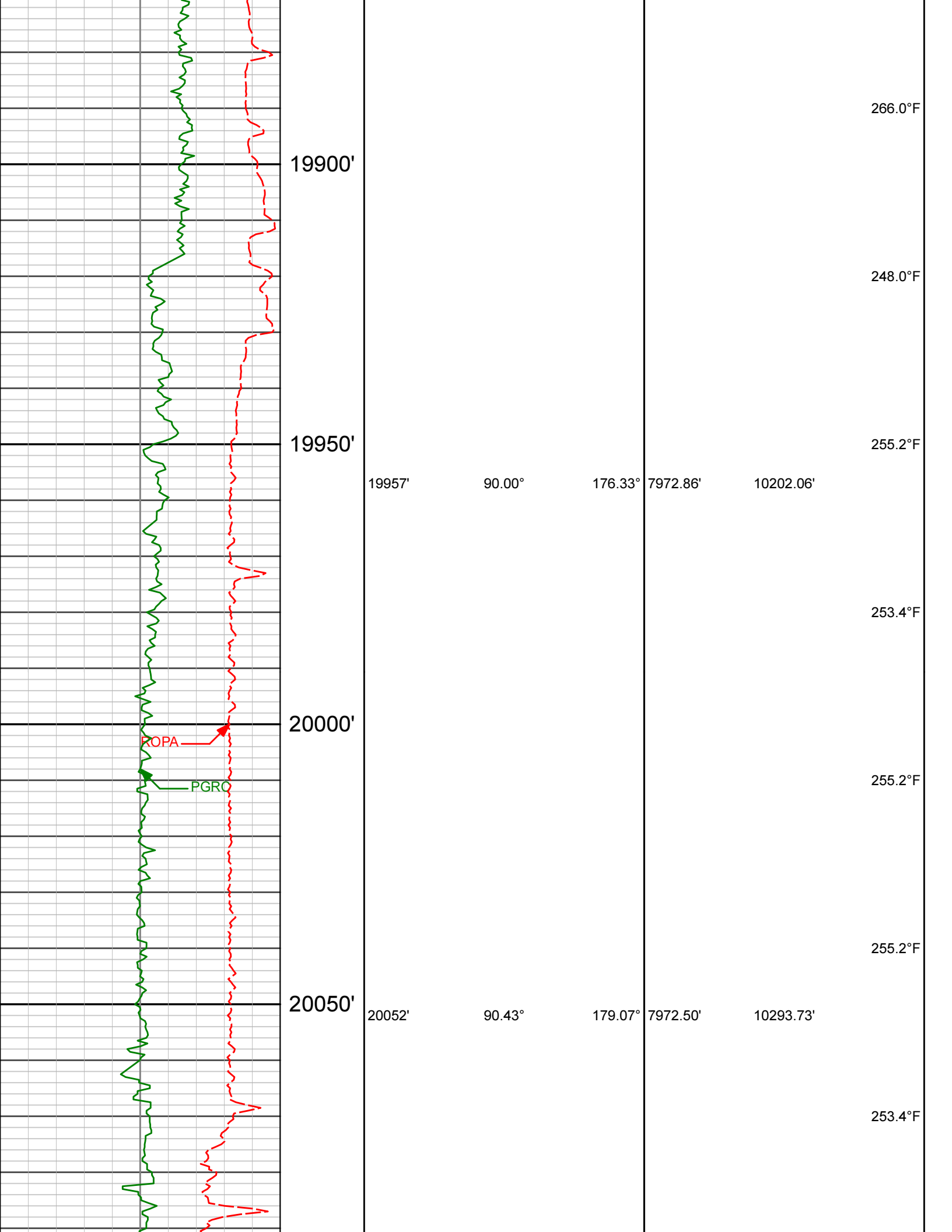


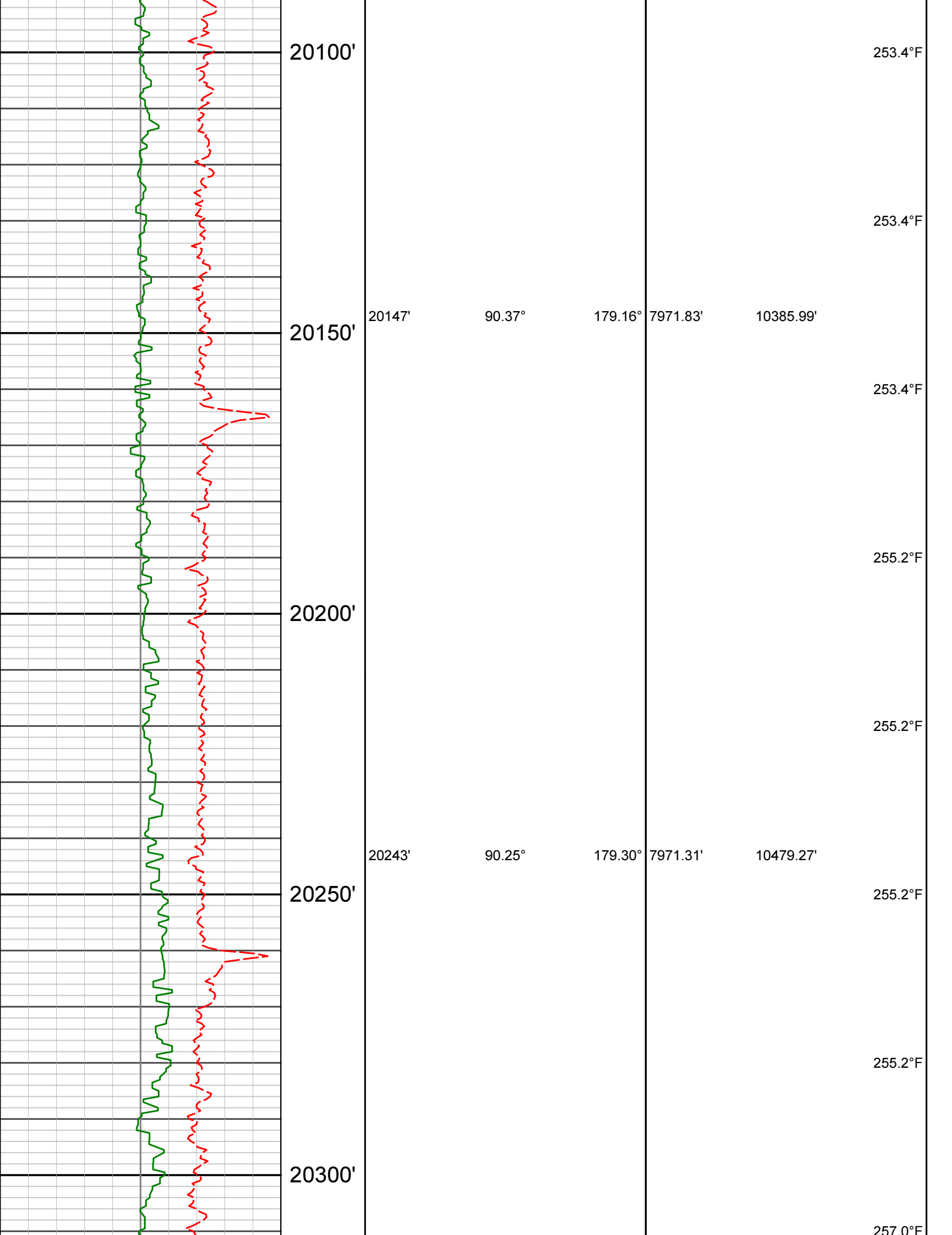


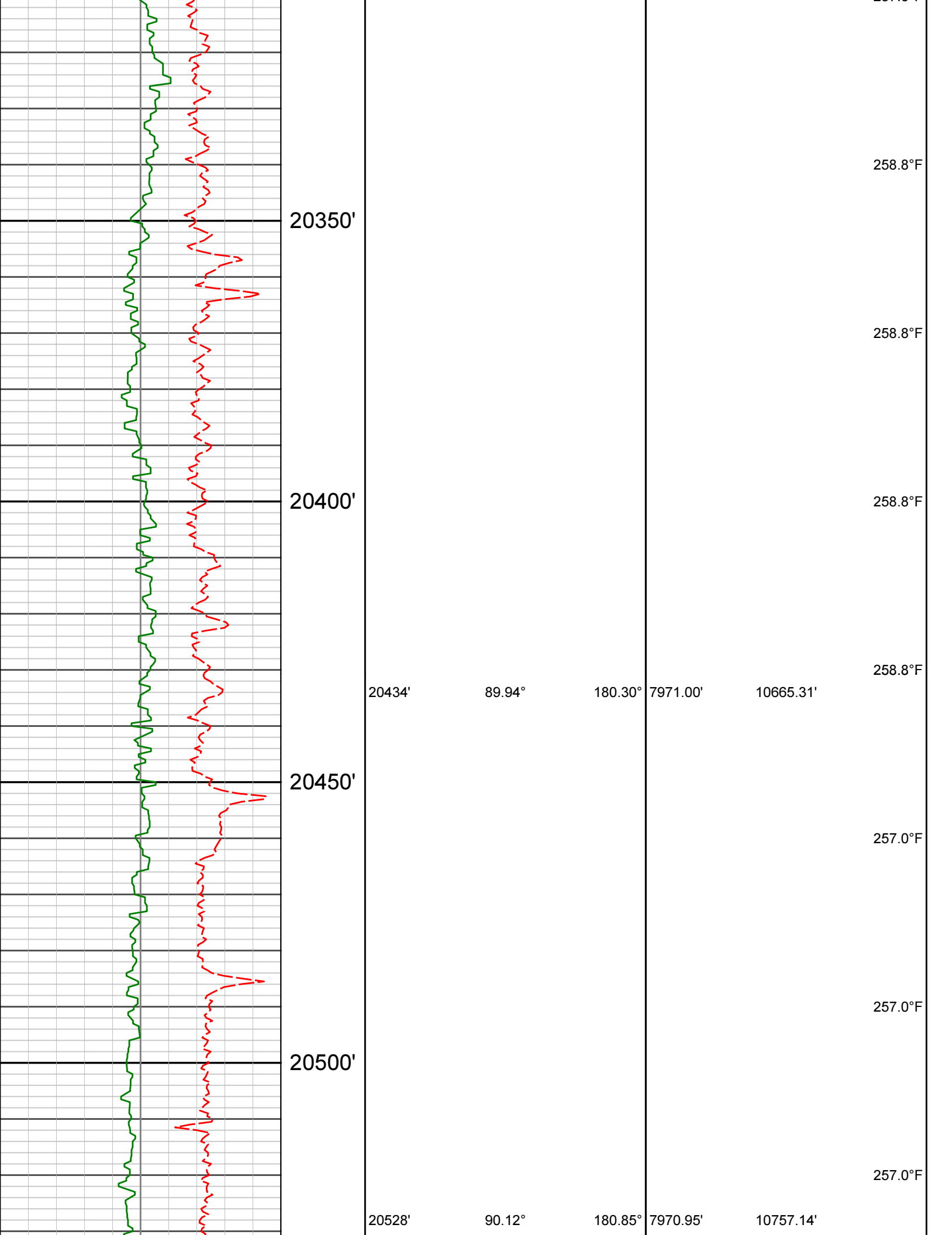


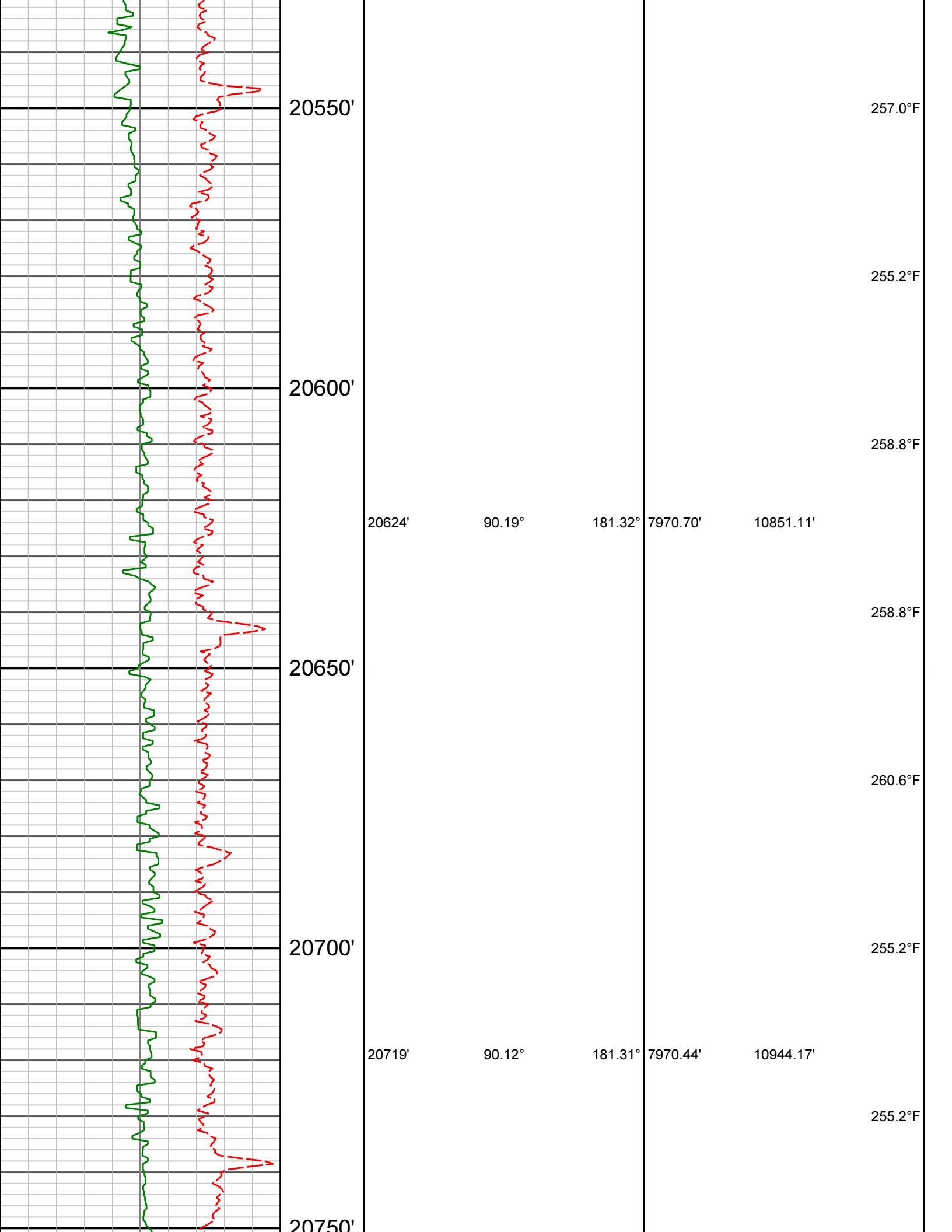


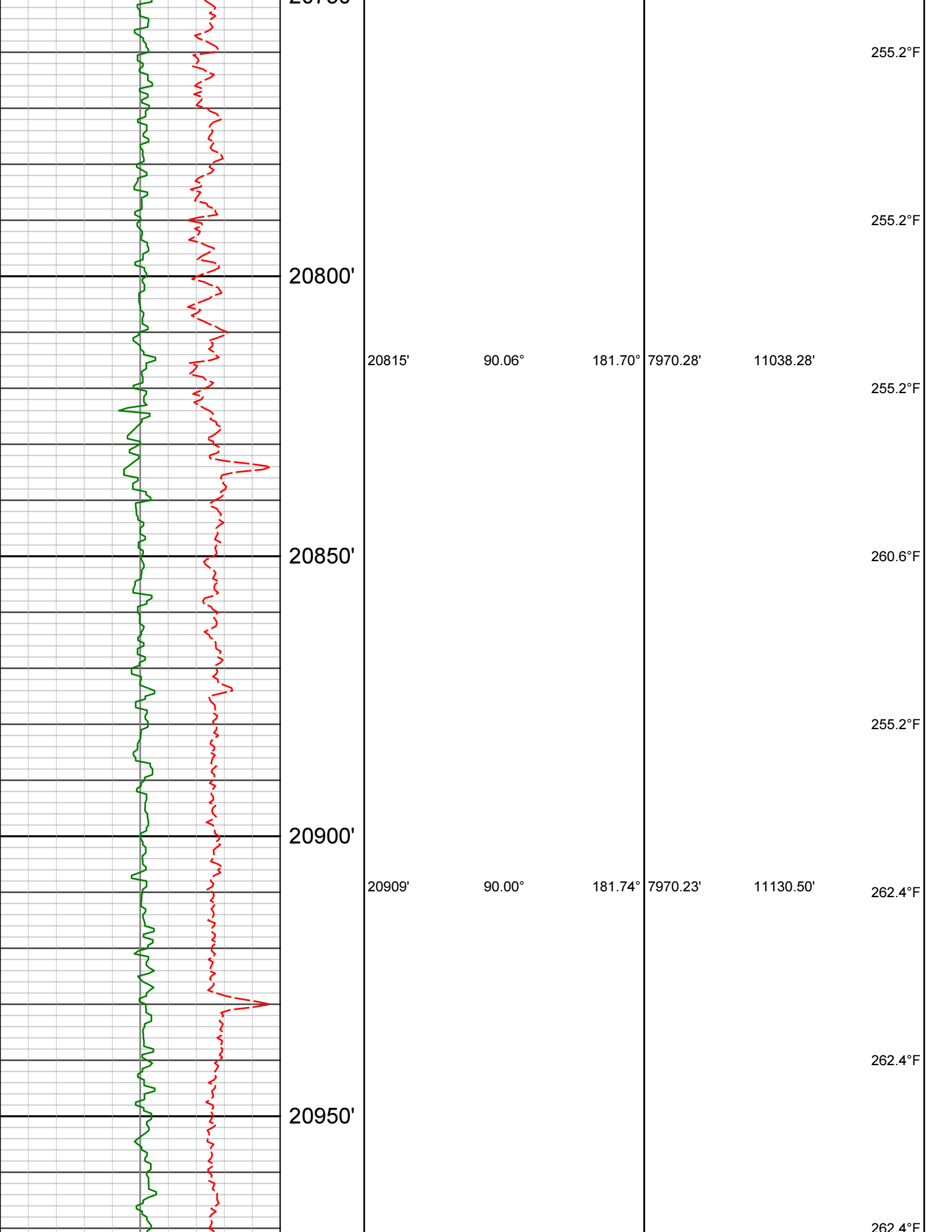


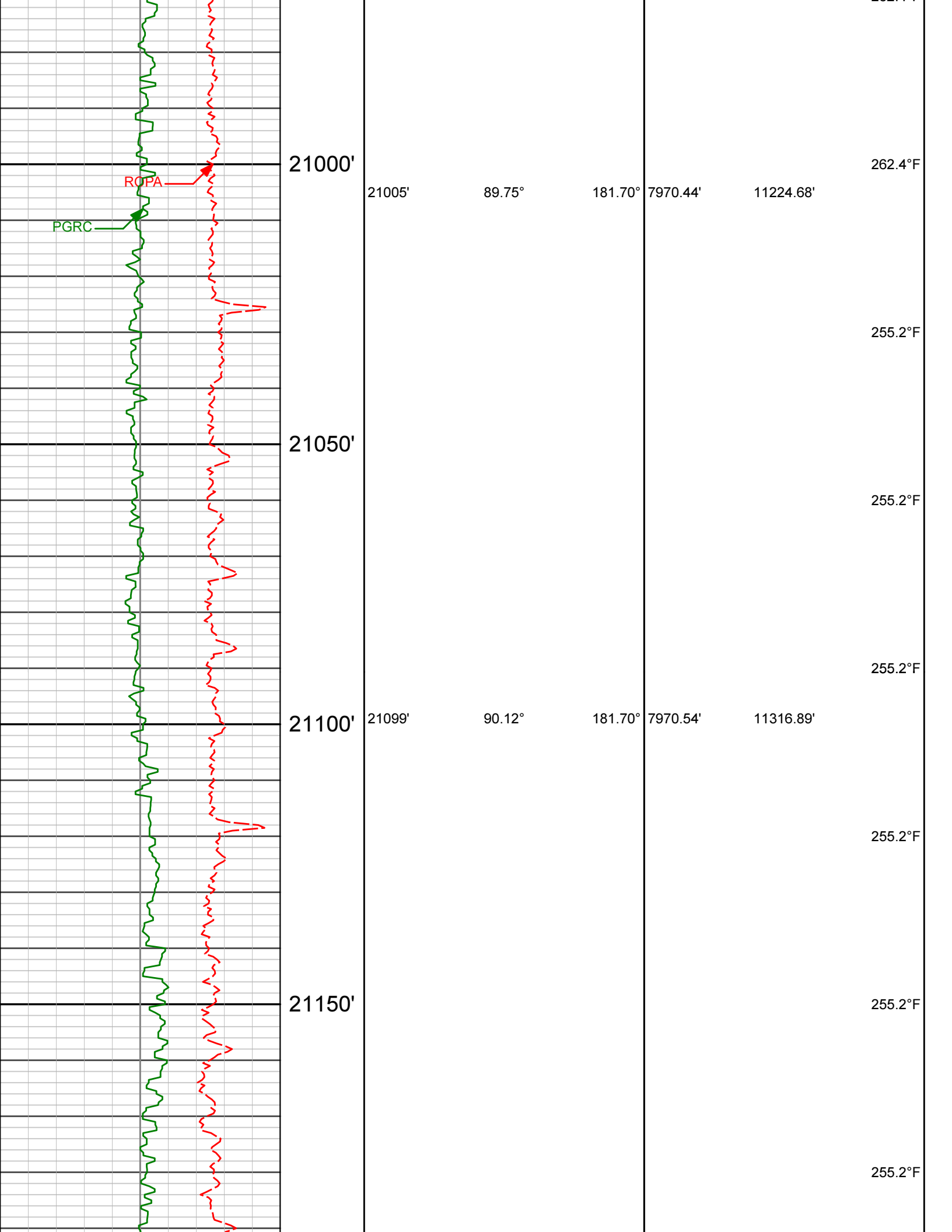


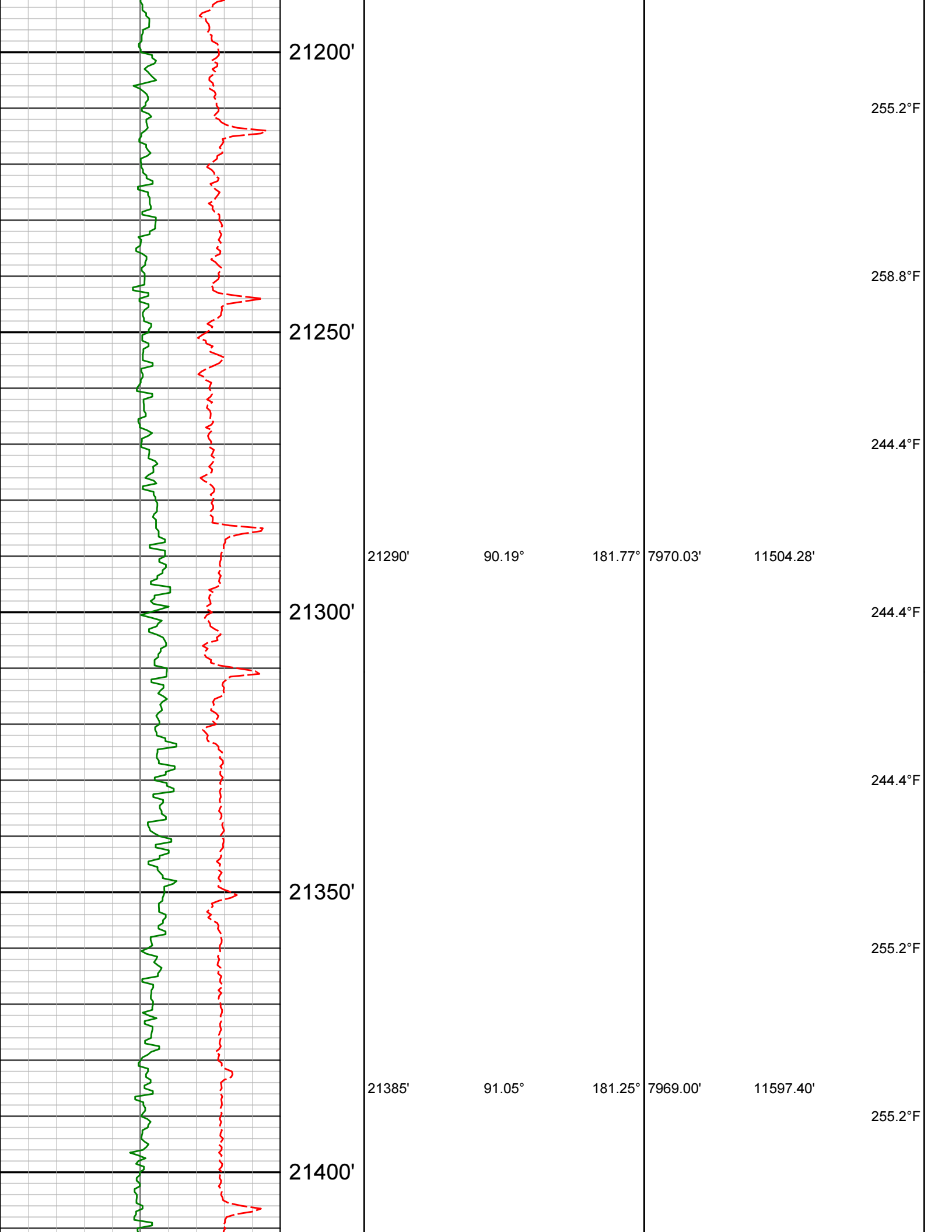


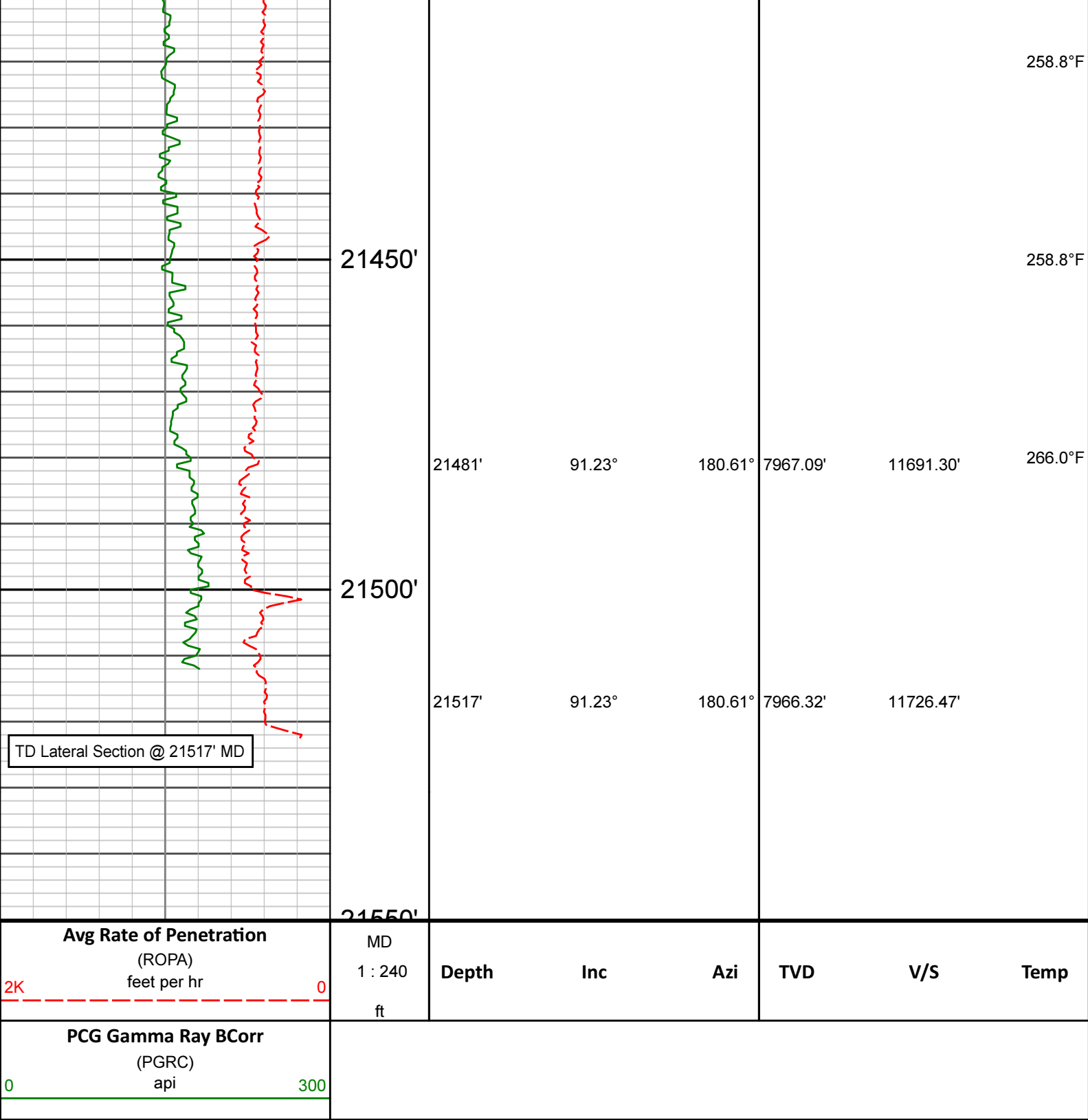












HALLIBURTON

DIRECTIONAL SURVEY REPORT

Extraction Oil _Gas
NORTHWEST A S20-25-13N
Broomfield County, CO
Broomfield Colorado
USA

| <i>Measured Depth (feet)</i> | <i>Inclination (degrees)</i> | <i>Direction (degrees)</i> | <i>Vertical Depth (feet)</i> | <i>Latitude (feet)</i> | <i>Departure (feet)</i> | <i>Vertical Section (feet)</i> | <i>Dogleg (deg/100ft)</i> |
|--------------------------------------|----------------------------------|--------------------------------|--------------------------------------|----------------------------|-----------------------------|--|-------------------------------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 N | 0.00 E | 0.00 | TIE-IN |
| 131.00 | 0.66 | 270.58 | 131.00 | 0.01 N | 0.75 W | 0.16 | 0.50 |
| 223.00 | 0.80 | 276.00 | 222.99 | 0.08 N | 1.92 W | 0.35 | 0.17 |
| 314.00 | 0.75 | 283.09 | 313.98 | 0.28 N | 3.13 W | 0.43 | 0.12 |
| 403.00 | 0.71 | 274.02 | 402.97 | 0.45 N | 4.25 W | 0.51 | 0.14 |
| 492.00 | 1.33 | 60.47 | 491.97 | 1.00 N | 3.90 W | -0.10 | 2.20 |
| 582.00 | 1.37 | 74.57 | 581.94 | 1.80 N | 1.96 W | -1.32 | 0.37 |
| 672.00 | 0.97 | 82.94 | 671.92 | 2.18 N | 0.16 W | -2.09 | 0.48 |
| 761.00 | 1.64 | 90.43 | 760.90 | 2.26 N | 1.86 E | -2.62 | 0.78 |
| 851.00 | 1.81 | 84.70 | 850.86 | 2.39 N | 4.56 E | -3.34 | 0.27 |
| 940.00 | 1.55 | 89.99 | 939.82 | 2.52 N | 7.16 E | -4.05 | 0.34 |
| 1029.00 | 1.33 | 87.88 | 1028.79 | 2.55 N | 9.40 E | -4.59 | 0.25 |
| 1118.00 | 1.46 | 81.88 | 1117.77 | 2.75 N | 11.55 E | -5.26 | 0.22 |
| 1208.00 | 1.10 | 128.99 | 1207.75 | 2.37 N | 13.36 E | -5.29 | 1.19 |
| 1297.00 | 0.62 | 154.20 | 1296.74 | 1.40 N | 14.23 E | -4.54 | 0.67 |
| 1386.00 | 0.84 | 141.94 | 1385.73 | 0.45 N | 14.85 E | -3.75 | 0.30 |
| 1477.00 | 0.53 | 158.78 | 1476.72 | 0.47 S | 15.41 E | -2.99 | 0.40 |
| 1555.00 | 0.44 | 176.23 | 1554.72 | 1.10 S | 15.56 E | -2.40 | 0.22 |
| 1643.00 | 0.65 | 189.96 | 1642.72 | 1.93 S | 15.49 E | -1.58 | 0.28 |
| 1737.00 | 2.25 | 317.14 | 1736.69 | 1.10 S | 14.15 E | -2.08 | 2.87 |
| 1832.00 | 6.93 | 303.39 | 1831.37 | 3.42 N | 8.09 E | -5.14 | 5.02 |
| 1927.00 | 9.05 | 296.61 | 1925.44 | 9.92 N | 3.38 W | -8.92 | 2.44 |
| 2022.00 | 8.67 | 296.98 | 2019.31 | 16.52 N | 16.44 W | -12.43 | 0.40 |
| 2117.00 | 10.56 | 294.03 | 2112.97 | 23.31 N | 30.77 W | -15.86 | 2.05 |
| 2211.00 | 11.72 | 291.59 | 2205.20 | 30.33 N | 47.51 W | -18.96 | 1.33 |
| 2307.00 | 13.30 | 290.20 | 2298.92 | 37.73 N | 66.94 W | -21.84 | 1.68 |
| 2402.00 | 15.04 | 293.56 | 2391.02 | 46.43 N | 88.50 W | -25.51 | 2.02 |
| 2496.00 | 16.51 | 292.21 | 2481.48 | 56.36 N | 112.04 W | -29.93 | 1.61 |
| 2591.00 | 18.11 | 292.77 | 2572.18 | 67.17 N | 138.15 W | -34.65 | 1.70 |
| 2705.00 | 18.70 | 292.94 | 2680.35 | 81.15 N | 171.31 W | -40.87 | 0.52 |
| 2800.00 | 22.08 | 295.62 | 2769.38 | 94.82 N | 201.44 W | -47.47 | 3.70 |
| 2893.00 | 24.84 | 298.52 | 2854.69 | 111.71 N | 234.38 W | -56.58 | 3.21 |
| 2987.00 | 25.63 | 298.66 | 2939.72 | 130.89 N | 269.57 W | -67.42 | 0.84 |
| 3083.00 | 28.41 | 298.89 | 3025.23 | 151.88 N | 307.79 W | -79.36 | 2.90 |
| 3177.00 | 30.53 | 298.25 | 3107.06 | 173.99 N | 348.41 W | -91.84 | 2.28 |
| 3272.00 | 32.30 | 290.72 | 3188.16 | 194.40 N | 393.43 W | -101.69 | 4.53 |
| 3366.00 | 35.11 | 292.45 | 3266.35 | 213.62 N | 441.92 W | -109.60 | 3.16 |
| 3461.00 | 37.99 | 293.43 | 3342.66 | 235.68 N | 494.01 W | -119.48 | 3.09 |
| 3556.00 | 39.09 | 294.97 | 3416.97 | 259.95 N | 547.99 W | -131.09 | 1.54 |
| 3651.00 | 41.52 | 297.02 | 3489.42 | 286.90 N | 603.20 W | -145.04 | 2.91 |
| 3747.00 | 43.68 | 297.06 | 3560.08 | 316.44 N | 661.07 W | -160.91 | 2.26 |
| 3842.00 | 40.74 | 297.19 | 3630.43 | 345.53 N | 717.87 W | -176.60 | 3.10 |
| 3937.00 | 45.01 | 300.07 | 3700.05 | 376.55 N | 774.55 W | -194.18 | 4.95 |
| 4032.00 | 42.01 | 299.42 | 3768.94 | 409.01 N | 831.32 W | -213.15 | 3.20 |
| 4128.00 | 43.06 | 298.04 | 3839.68 | 440.20 N | 888.23 W | -230.85 | 1.47 |
| 4224.00 | 38.49 | 297.03 | 3912.36 | 469.19 N | 943.80 W | -246.72 | 4.82 |
| 4319.00 | 40.55 | 298.47 | 3985.64 | 497.35 N | 997.29 W | -262.23 | 2.38 |
| 4414.00 | 43.02 | 297.55 | 4056.47 | 527.06 N | 1053.18 W | -278.72 | 2.68 |
| 4509.00 | 44.06 | 297.75 | 4125.33 | 557.43 N | 1111.15 W | -295.38 | 1.10 |
| 4604.00 | 45.88 | 299.90 | 4192.54 | 589.82 N | 1169.95 W | -313.83 | 2.50 |
| 4700.00 | 42.62 | 296.06 | 4261.31 | 621.29 N | 1229.05 W | -331.31 | 4.40 |
| 4795.00 | 45.12 | 297.02 | 4329.79 | 650.71 N | 1287.93 W | -346.85 | 2.73 |
| 4890.00 | 45.18 | 295.11 | 4396.80 | 680.30 N | 1348.43 W | -362.19 | 1.43 |
| 4985.00 | 46.42 | 294.17 | 4463.03 | 708.68 N | 1410.33 W | -376.04 | 1.49 |
| 5080.00 | 48.01 | 296.28 | 4527.56 | 738.41 N | 1473.39 W | -390.95 | 2.33 |
| 5175.00 | 45.35 | 294.05 | 4592.73 | 767.82 N | 1535.92 W | -405.66 | 3.28 |
| 5269.00 | 46.52 | 298.59 | 4658.12 | 797.77 N | 1596.42 W | -421.35 | 3.69 |
| 5364.00 | 44.76 | 297.14 | 4724.54 | 829.53 N | 1656.46 W | -438.91 | 2.15 |
| 5458.00 | 45.84 | 300.00 | 4790.66 | 861.49 N | 1715.12 W | -456.97 | 2.45 |
| 5553.00 | 42.74 | 299.12 | 4858.65 | 894.23 N | 1772.81 W | -476.01 | 3.33 |

NORTHWEST A S20-25-13N

| Measured Depth (feet) | Inclination (degrees) | Direction (degrees) | Vertical Depth (feet) | Latitude (feet) | Departure (feet) | Vertical Section (feet) | Dogleg (deg/100ft) |
|-----------------------------|--------------------------|------------------------|-----------------------------|--------------------|---------------------|-------------------------------|-----------------------|
| 5648.00 | 45.28 | 301.63 | 4926.98 | 927.62 N | 1829.72 W | -495.86 | 3.25 |
| 5743.00 | 42.59 | 301.19 | 4995.38 | 961.98 N | 1885.97 W | -516.80 | 2.85 |
| 5838.00 | 44.81 | 301.52 | 5064.06 | 996.13 N | 1942.01 W | -537.58 | 2.34 |
| 5932.00 | 42.35 | 301.48 | 5132.15 | 1029.99 N | 1997.26 W | -558.26 | 2.62 |
| 6027.00 | 44.62 | 301.33 | 5201.07 | 1064.06 N | 2053.05 W | -579.01 | 2.40 |
| 6122.00 | 41.91 | 301.09 | 5270.24 | 1097.80 N | 2108.73 W | -599.48 | 2.86 |
| 6218.00 | 42.70 | 301.34 | 5341.24 | 1131.29 N | 2163.99 W | -619.79 | 0.84 |
| 6313.00 | 39.43 | 300.66 | 5412.86 | 1163.44 N | 2217.47 W | -639.19 | 3.47 |
| 6407.00 | 36.24 | 299.80 | 5487.09 | 1192.48 N | 2267.27 W | -656.38 | 3.44 |
| 6502.00 | 32.92 | 298.24 | 5565.29 | 1218.65 N | 2314.40 W | -671.38 | 3.61 |
| 6598.00 | 36.20 | 296.12 | 5644.34 | 1243.49 N | 2362.85 W | -684.77 | 3.63 |
| 6692.00 | 34.23 | 294.95 | 5721.14 | 1266.86 N | 2411.75 W | -696.64 | 2.21 |
| 6788.00 | 30.38 | 293.87 | 5802.26 | 1288.08 N | 2458.45 W | -706.91 | 4.05 |
| 6883.00 | 26.31 | 292.62 | 5885.86 | 1305.91 N | 2499.87 W | -715.04 | 4.33 |
| 6977.00 | 22.35 | 291.02 | 5971.49 | 1320.33 N | 2535.80 W | -721.08 | 4.27 |
| 7073.00 | 19.31 | 289.13 | 6061.21 | 1332.08 N | 2567.84 W | -725.38 | 3.24 |
| 7263.00 | 13.33 | 287.69 | 6243.47 | 1349.05 N | 2618.43 W | -730.63 | 3.15 |
| 7358.00 | 10.68 | 286.52 | 6336.38 | 1354.88 N | 2637.31 W | -732.10 | 2.80 |
| 7454.00 | 8.49 | 285.57 | 6431.04 | 1359.31 N | 2652.66 W | -732.99 | 2.29 |
| 7549.00 | 6.59 | 284.21 | 6525.21 | 1362.53 N | 2664.70 W | -733.44 | 2.00 |
| 7644.00 | 5.27 | 283.34 | 6619.70 | 1364.88 N | 2674.24 W | -733.60 | 1.39 |
| 7739.00 | 2.60 | 303.12 | 6714.47 | 1367.06 N | 2680.29 W | -734.38 | 3.12 |
| 7834.00 | 1.86 | 230.31 | 6809.42 | 1367.26 N | 2683.28 W | -733.91 | 2.85 |
| 7929.00 | 1.65 | 220.22 | 6904.37 | 1365.23 N | 2685.35 W | -731.47 | 0.39 |
| 8024.00 | 1.25 | 208.92 | 6999.34 | 1363.28 N | 2686.73 W | -729.25 | 0.52 |
| 8119.00 | 1.13 | 191.30 | 7094.32 | 1361.45 N | 2687.42 W | -727.33 | 0.40 |
| 8214.00 | 0.83 | 182.02 | 7189.31 | 1359.85 N | 2687.62 W | -725.72 | 0.36 |
| 8309.00 | 0.75 | 168.27 | 7284.30 | 1358.56 N | 2687.52 W | -724.48 | 0.21 |
| 8404.00 | 0.75 | 143.61 | 7379.29 | 1357.45 N | 2687.03 W | -723.51 | 0.34 |
| 8499.00 | 11.28 | 173.13 | 7473.64 | 1347.70 N | 2685.55 W | -714.34 | 11.19 |
| 8594.00 | 21.36 | 171.57 | 7564.70 | 1321.30 N | 2681.89 W | -689.42 | 10.62 |
| 8689.00 | 28.07 | 177.82 | 7650.96 | 1281.80 N | 2678.50 W | -651.67 | 7.57 |
| 8784.00 | 36.26 | 185.00 | 7731.34 | 1231.38 N | 2680.11 W | -602.16 | 9.50 |
| 8879.00 | 45.37 | 179.00 | 7803.20 | 1169.44 N | 2681.97 W | -541.37 | 10.43 |
| 8974.00 | 60.09 | 174.93 | 7860.58 | 1094.19 N | 2677.72 W | -468.97 | 15.87 |
| 9069.00 | 67.97 | 183.24 | 7902.20 | 1008.96 N | 2676.57 W | -386.14 | 11.42 |
| 9165.00 | 75.78 | 181.99 | 7932.05 | 917.89 N | 2680.71 W | -296.45 | 8.23 |
| 9259.00 | 79.55 | 180.89 | 7952.13 | 826.11 N | 2683.00 W | -206.47 | 4.17 |
| 9354.00 | 87.65 | 177.67 | 7962.71 | 731.80 N | 2681.79 W | -114.81 | 9.16 |
| 9450.00 | 90.00 | 176.52 | 7964.69 | 635.95 N | 2676.92 W | -22.47 | 2.73 |
| 9544.00 | 89.46 | 178.33 | 7965.13 | 542.05 N | 2672.70 W | 68.12 | 2.01 |
| 9640.00 | 90.77 | 177.69 | 7964.93 | 446.11 N | 2669.36 W | 160.90 | 1.52 |
| 9736.00 | 88.39 | 178.96 | 7965.63 | 350.16 N | 2666.56 W | 253.80 | 2.81 |
| 9829.00 | 89.06 | 178.97 | 7967.71 | 257.20 N | 2664.87 W | 344.04 | 0.72 |
| 9924.00 | 89.83 | 178.81 | 7968.62 | 162.23 N | 2663.03 W | 436.21 | 0.83 |
| 10020.00 | 88.89 | 180.58 | 7969.69 | 66.24 N | 2662.52 W | 529.66 | 2.09 |
| 10115.00 | 90.03 | 179.94 | 7970.58 | 28.75 S | 2662.95 W | 622.36 | 1.38 |
| 10210.00 | 91.48 | 180.10 | 7969.32 | 123.74 S | 2662.98 W | 714.96 | 1.53 |
| 10306.00 | 89.29 | 180.59 | 7968.67 | 219.73 S | 2663.56 W | 808.65 | 2.33 |
| 10400.00 | 90.30 | 179.30 | 7969.00 | 313.73 S | 2663.46 W | 900.26 | 1.74 |
| 10495.00 | 91.75 | 178.61 | 7967.30 | 408.70 S | 2661.72 W | 992.44 | 1.69 |
| 10590.00 | 89.22 | 178.78 | 7966.49 | 503.66 S | 2659.55 W | 1084.52 | 2.66 |
| 10685.00 | 90.13 | 178.43 | 7967.03 | 598.63 S | 2657.24 W | 1176.58 | 1.02 |
| 10781.00 | 88.22 | 177.70 | 7968.41 | 694.56 S | 2654.00 W | 1269.37 | 2.14 |
| 10875.00 | 90.10 | 177.74 | 7969.79 | 788.47 S | 2650.26 W | 1360.08 | 2.01 |

NORTHWEST A S20-25-13N

| <i>Measured Depth (feet)</i> | <i>Inclination (degrees)</i> | <i>Direction (degrees)</i> | <i>Vertical Depth (feet)</i> | <i>Latitude (feet)</i> | <i>Departure (feet)</i> | <i>Vertical Section (feet)</i> | <i>Dogleg (deg/100ft)</i> |
|--------------------------------------|----------------------------------|--------------------------------|--------------------------------------|----------------------------|-----------------------------|--|-------------------------------|
| 10970.00 | 92.26 | 176.93 | 7967.83 | 883.34 S | 2645.86 W | 1451.57 | 2.42 |
| 11107.00 | 90.00 | 178.38 | 7965.14 | 1020.19 S | 2640.25 W | 1583.72 | 1.95 |
| 11202.00 | 89.94 | 179.07 | 7965.19 | 1115.16 S | 2638.14 W | 1675.82 | 0.73 |
| 11298.00 | 89.94 | 179.89 | 7965.29 | 1211.16 S | 2637.27 W | 1769.20 | 0.86 |
| 11392.00 | 89.94 | 180.53 | 7965.39 | 1305.16 S | 2637.61 W | 1860.91 | 0.67 |
| 11488.00 | 90.25 | 182.71 | 7965.24 | 1401.11 S | 2640.32 W | 1955.05 | 2.30 |
| 11583.00 | 89.94 | 180.35 | 7965.08 | 1496.07 S | 2642.86 W | 2048.18 | 2.50 |
| 11678.00 | 89.88 | 179.41 | 7965.24 | 1591.07 S | 2642.66 W | 2140.74 | 1.00 |
| 11774.00 | 89.88 | 178.71 | 7965.44 | 1687.06 S | 2641.08 W | 2233.95 | 0.73 |
| 11869.00 | 90.18 | 179.14 | 7965.39 | 1782.04 S | 2639.30 W | 2326.14 | 0.56 |
| 11965.00 | 89.94 | 179.72 | 7965.29 | 1878.03 S | 2638.35 W | 2419.50 | 0.65 |
| 12060.00 | 89.69 | 180.14 | 7965.60 | 1973.03 S | 2638.24 W | 2512.08 | 0.51 |
| 12155.00 | 89.57 | 181.40 | 7966.21 | 2068.02 S | 2639.51 W | 2604.95 | 1.33 |
| 12251.00 | 89.94 | 182.65 | 7966.62 | 2163.96 S | 2642.91 W | 2699.23 | 1.35 |
| 12346.00 | 90.00 | 182.61 | 7966.67 | 2258.86 S | 2647.27 W | 2792.71 | 0.08 |
| 12441.00 | 89.82 | 181.90 | 7966.83 | 2353.78 S | 2651.01 W | 2886.07 | 0.77 |
| 12536.00 | 89.81 | 182.34 | 7967.14 | 2448.72 S | 2654.52 W | 2979.40 | 0.46 |
| 12632.00 | 89.81 | 182.00 | 7967.45 | 2544.65 S | 2658.16 W | 3073.72 | 0.35 |
| 12727.00 | 89.57 | 182.59 | 7967.96 | 2639.57 S | 2661.96 W | 3167.10 | 0.67 |
| 12917.00 | 89.07 | 182.96 | 7970.21 | 2829.33 S | 2671.15 W | 3354.12 | 0.32 |
| 13013.00 | 89.07 | 184.19 | 7971.76 | 2925.13 S | 2677.13 W | 3448.84 | 1.29 |
| 13108.00 | 89.44 | 182.59 | 7972.99 | 3019.96 S | 2682.74 W | 3542.53 | 1.73 |
| 13203.00 | 89.63 | 181.92 | 7973.76 | 3114.88 S | 2686.47 W | 3635.89 | 0.73 |
| 13298.00 | 89.32 | 181.74 | 7974.63 | 3209.83 S | 2689.50 W | 3729.12 | 0.37 |
| 13394.00 | 89.38 | 180.81 | 7975.72 | 3305.80 S | 2691.64 W | 3823.14 | 0.97 |
| 13489.00 | 90.00 | 180.11 | 7976.23 | 3400.79 S | 2692.40 W | 3915.91 | 0.98 |
| 13585.00 | 90.12 | 179.37 | 7976.12 | 3496.79 S | 2691.97 W | 4009.39 | 0.78 |
| 13680.00 | 89.75 | 179.41 | 7976.23 | 3591.78 S | 2690.96 W | 4101.76 | 0.39 |
| 13775.00 | 89.81 | 177.37 | 7976.58 | 3686.74 S | 2688.29 W | 4193.73 | 2.14 |
| 13871.00 | 89.75 | 179.17 | 7976.95 | 3782.69 S | 2685.40 W | 4286.62 | 1.88 |
| 13966.00 | 89.81 | 179.30 | 7977.31 | 3877.68 S | 2684.13 W | 4378.93 | 0.14 |
| 14156.00 | 89.38 | 179.32 | 7978.64 | 4067.66 S | 2681.84 W | 4563.60 | 0.23 |
| 14251.00 | 89.44 | 179.07 | 7979.61 | 4162.65 S | 2680.51 W | 4655.90 | 0.27 |
| 14441.00 | 89.69 | 178.60 | 7981.04 | 4352.60 S | 2676.65 W | 4840.20 | 0.28 |
| 14536.00 | 89.57 | 178.60 | 7981.66 | 4447.57 S | 2674.33 W | 4932.26 | 0.13 |
| 14631.00 | 89.81 | 178.90 | 7982.17 | 4542.55 S | 2672.27 W | 5024.38 | 0.41 |
| 14822.00 | 90.74 | 178.67 | 7981.24 | 4733.50 S | 2668.21 W | 5209.61 | 0.50 |
| 14917.00 | 90.00 | 178.07 | 7980.63 | 4828.46 S | 2665.51 W | 5301.57 | 1.00 |
| 15013.00 | 90.00 | 178.19 | 7980.63 | 4924.41 S | 2662.38 W | 5394.40 | 0.12 |
| 15109.00 | 89.69 | 177.71 | 7980.89 | 5020.35 S | 2658.94 W | 5487.15 | 0.59 |
| 15204.00 | 89.88 | 177.90 | 7981.24 | 5115.28 S | 2655.31 W | 5578.87 | 0.28 |
| 15299.00 | 89.81 | 178.19 | 7981.50 | 5210.22 S | 2652.07 W | 5670.70 | 0.31 |
| 15394.00 | 89.88 | 178.08 | 7981.76 | 5305.17 S | 2648.98 W | 5762.56 | 0.13 |
| 15490.00 | 89.69 | 178.17 | 7982.12 | 5401.12 S | 2645.84 W | 5855.39 | 0.22 |
| 15585.00 | 90.00 | 178.50 | 7982.37 | 5496.08 S | 2643.09 W | 5947.34 | 0.48 |
| 15680.00 | 90.86 | 178.67 | 7981.66 | 5591.05 S | 2640.74 W | 6039.39 | 0.93 |
| 15775.00 | 90.37 | 179.04 | 7980.63 | 5686.02 S | 2638.84 W | 6131.54 | 0.65 |
| 15869.00 | 90.68 | 179.36 | 7979.77 | 5780.01 S | 2637.53 W | 6222.87 | 0.47 |
| 15964.00 | 89.94 | 179.85 | 7979.26 | 5875.00 S | 2636.88 W | 6315.32 | 0.94 |
| 16060.00 | 89.63 | 180.66 | 7979.62 | 5971.00 S | 2637.31 W | 6408.99 | 0.91 |
| 16155.00 | 89.69 | 180.36 | 7980.19 | 6065.99 S | 2638.16 W | 6501.78 | 0.32 |
| 16251.00 | 89.57 | 179.79 | 7980.81 | 6161.99 S | 2638.30 W | 6595.39 | 0.61 |
| 16346.00 | 89.44 | 179.98 | 7981.63 | 6256.99 S | 2638.11 W | 6687.95 | 0.24 |
| 16442.00 | 89.38 | 180.18 | 7982.61 | 6352.98 S | 2638.24 W | 6781.55 | 0.22 |
| 16537.00 | 89.75 | 180.14 | 7983.33 | 6447.98 S | 2638.51 W | 6874.21 | 0.39 |

NORTHWEST A S20-25-13N

| <i>Measured Depth (feet)</i> | <i>Inclination (degrees)</i> | <i>Direction (degrees)</i> | <i>Vertical Depth (feet)</i> | <i>Latitude (feet)</i> | <i>Departure (feet)</i> | <i>Vertical Section (feet)</i> | <i>Dogleg (deg/100ft)</i> |
|--------------------------------------|----------------------------------|--------------------------------|--------------------------------------|----------------------------|-----------------------------|--|-------------------------------|
| 16632.00 | 90.00 | 180.45 | 7983.53 | 6542.98 S | 2639.00 W | 6966.92 | 0.42 |
| 16727.00 | 90.49 | 181.66 | 7983.13 | 6637.96 S | 2640.76 W | 7059.90 | 1.37 |
| 16823.00 | 91.05 | 180.29 | 7981.83 | 6733.93 S | 2642.39 W | 7153.82 | 1.54 |
| 16918.00 | 91.17 | 180.16 | 7979.99 | 6828.91 S | 2642.76 W | 7246.49 | 0.19 |
| 17013.00 | 90.43 | 180.49 | 7978.66 | 6923.90 S | 2643.29 W | 7339.20 | 0.85 |
| 17109.00 | 90.12 | 180.86 | 7978.19 | 7019.89 S | 2644.42 W | 7433.02 | 0.50 |
| 17204.00 | 90.12 | 180.92 | 7977.99 | 7114.88 S | 2645.89 W | 7525.94 | 0.06 |
| 17394.00 | 89.81 | 180.37 | 7978.09 | 7304.87 S | 2648.02 W | 7711.61 | 0.33 |
| 17489.00 | 89.81 | 180.86 | 7978.40 | 7399.86 S | 2649.04 W | 7804.44 | 0.52 |
| 17585.00 | 89.57 | 181.07 | 7978.92 | 7495.85 S | 2650.66 W | 7898.36 | 0.34 |
| 17680.00 | 89.38 | 179.68 | 7979.79 | 7590.84 S | 2651.28 W | 7991.09 | 1.48 |
| 17775.00 | 89.32 | 180.94 | 7980.86 | 7685.83 S | 2651.79 W | 8083.80 | 1.33 |
| 17870.00 | 89.57 | 180.51 | 7981.78 | 7780.82 S | 2652.99 W | 8176.66 | 0.52 |
| 17964.00 | 89.51 | 180.49 | 7982.54 | 7874.81 S | 2653.81 W | 8268.47 | 0.07 |
| 18060.00 | 89.94 | 180.48 | 7983.01 | 7970.81 S | 2654.63 W | 8362.22 | 0.45 |
| 18154.00 | 90.56 | 180.40 | 7982.60 | 8064.80 S | 2655.35 W | 8454.01 | 0.66 |
| 18248.00 | 90.43 | 180.79 | 7981.79 | 8158.79 S | 2656.33 W | 8545.85 | 0.43 |
| 18343.00 | 90.49 | 180.29 | 7981.03 | 8253.79 S | 2657.23 W | 8638.65 | 0.53 |
| 18438.00 | 90.74 | 179.80 | 7980.00 | 8348.78 S | 2657.30 W | 8731.26 | 0.58 |
| 18532.00 | 90.62 | 179.60 | 7978.89 | 8442.77 S | 2656.81 W | 8822.77 | 0.26 |
| 18627.00 | 90.68 | 179.33 | 7977.81 | 8537.76 S | 2655.92 W | 8915.17 | 0.28 |
| 18722.00 | 90.56 | 178.68 | 7976.79 | 8632.74 S | 2654.28 W | 9007.38 | 0.70 |
| 18816.00 | 90.74 | 178.65 | 7975.72 | 8726.71 S | 2652.09 W | 9098.50 | 0.20 |
| 18912.00 | 90.31 | 178.52 | 7974.84 | 8822.68 S | 2649.72 W | 9191.51 | 0.47 |
| 19006.00 | 90.12 | 178.14 | 7974.49 | 8916.64 S | 2646.99 W | 9282.49 | 0.45 |
| 19101.00 | 91.11 | 178.27 | 7973.47 | 9011.58 S | 2644.01 W | 9374.38 | 1.05 |
| 19196.00 | 90.80 | 179.84 | 7971.88 | 9106.55 S | 2642.45 W | 9466.60 | 1.68 |
| 19291.00 | 90.12 | 178.21 | 7971.11 | 9201.53 S | 2640.83 W | 9558.83 | 1.86 |
| 19387.00 | 89.88 | 178.23 | 7971.11 | 9297.49 S | 2637.85 W | 9651.70 | 0.26 |
| 19482.00 | 89.75 | 178.31 | 7971.42 | 9392.44 S | 2634.98 W | 9743.62 | 0.15 |
| 19577.00 | 89.69 | 177.71 | 7971.88 | 9487.38 S | 2631.69 W | 9835.43 | 0.63 |
| 19673.00 | 89.75 | 177.90 | 7972.34 | 9583.31 S | 2628.01 W | 9928.12 | 0.21 |
| 19768.00 | 89.88 | 177.56 | 7972.65 | 9678.24 S | 2624.25 W | 10019.81 | 0.39 |
| 19863.00 | 89.94 | 178.15 | 7972.81 | 9773.17 S | 2620.69 W | 10111.55 | 0.63 |
| 19957.00 | 90.00 | 176.33 | 7972.86 | 9867.06 S | 2616.17 W | 10202.06 | 1.93 |
| 20052.00 | 90.43 | 179.07 | 7972.50 | 9961.97 S | 2612.36 W | 10293.73 | 2.92 |
| 20147.00 | 90.37 | 179.16 | 7971.83 | 10056.96 S | 2610.89 W | 10385.99 | 0.11 |
| 20243.00 | 90.25 | 179.30 | 7971.31 | 10152.95 S | 2609.60 W | 10479.27 | 0.20 |
| 20434.00 | 89.94 | 180.30 | 7971.00 | 10343.94 S | 2608.94 W | 10665.31 | 0.55 |
| 20528.00 | 90.12 | 180.85 | 7970.95 | 10437.94 S | 2609.89 W | 10757.14 | 0.62 |
| 20624.00 | 90.19 | 181.32 | 7970.70 | 10533.92 S | 2611.70 W | 10851.11 | 0.49 |
| 20719.00 | 90.12 | 181.31 | 7970.44 | 10628.90 S | 2613.88 W | 10944.17 | 0.07 |
| 20815.00 | 90.06 | 181.70 | 7970.28 | 10724.86 S | 2616.41 W | 11038.28 | 0.41 |
| 20909.00 | 90.00 | 181.74 | 7970.23 | 10818.82 S | 2619.23 W | 11130.50 | 0.08 |
| 21005.00 | 89.75 | 181.70 | 7970.44 | 10914.78 S | 2622.11 W | 11224.68 | 0.26 |
| 21099.00 | 90.12 | 181.70 | 7970.54 | 11008.73 S | 2624.90 W | 11316.89 | 0.39 |
| 21290.00 | 90.19 | 181.77 | 7970.03 | 11199.65 S | 2630.70 W | 11504.28 | 0.05 |
| 21385.00 | 91.05 | 181.25 | 7969.00 | 11294.61 S | 2633.21 W | 11597.40 | 1.06 |
| 21481.00 | 91.23 | 180.61 | 7967.09 | 11390.57 S | 2634.76 W | 11691.30 | 0.69 |
| 21517.00 | 91.23 | 180.61 | 7966.32 | 11426.56 S | 2635.15 W | 11726.47 | 0.01 |

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 192.90 DEGREES (TRUE)
A TOTAL CORRECTION OF 8.26 DEG FROM MAGNETIC NORTH TO TRUE NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 21517.00 FEET
IS 11726.48 FEET ALONG 192.99 DEGREES (TRUE)

Final survey is a projection to bit.