

| | | | | | |
|-------------------------------|----------------|----------------|----------------|----------------|--|
| Max Tool Temp (degF) / Source | 100.62 / PCM | 128.73 / PCM | 144.54 / PCM | 146.84 / PCM | |
| Rm @ Max Tool Temp (degF) | N/A @ 100.62 | N/A @ 128.73 | N/A @ 144.54 | N/A @ 146.84 | |
| Lead MWD Engineer | John Blair | John Blair | Jared Howton | John Blair | |
| Customer Representative | Tyrome Russell | Tyrone Russell | Tyrone Russell | Tyrone Russell | |

SENSOR INFORMATION

Downhole Processor Information

| | | | | | |
|---------------------------|-----------------|-----------------|-----------------|-----------------|--|
| Tool Type | PCM | PCM | PCM | PCM | |
| Software Version | 5.76 | 5.76 | 5.76 | 5.76 | |
| Sub Serial Number | 11812725 | 11619281 | 11619281 | 11595279 | |
| Insert Serial Number | 11680736 | 11620306 | 11680736 | 11620306 | |
| Date and Time Initialized | 17-Feb-12 02:49 | 10-Mar-12 19:44 | 17-Mar-12 06:04 | 25-Mar-12 06:20 | |
| Date and Time Read | 19-Feb-12 23:44 | 19-Mar-12 06:27 | 23-Mar-12 18:56 | 06-Apr-12 04:39 | |
| ECMB SW Version | N/A | N/A | N/A | N/A | |

Directional Sensor Information

| | | | | | |
|------------------------|----------|----------|----------|----------|--|
| Tool Type | PCDC | PCDC | PCDC | PCDC | |
| Distance From Bit (ft) | 64.37 | 65.30 | 57.66 | 46.52 | |
| Software Version | 6.21 | 6.21 | 6.21 | 6.21 | |
| Sub Serial Number | 11812725 | 11619281 | 11619281 | 11595279 | |
| Sonde Serial Number | 11477997 | 11833024 | 11477997 | 11833024 | |
| Sensor ID Number | N/A | N/A | N/A | N/A | |
| Toolface Offset (deg) | 120.44 | 20.73 | 197.57 | 263.85 | |

Gamma Ray Sensor Information

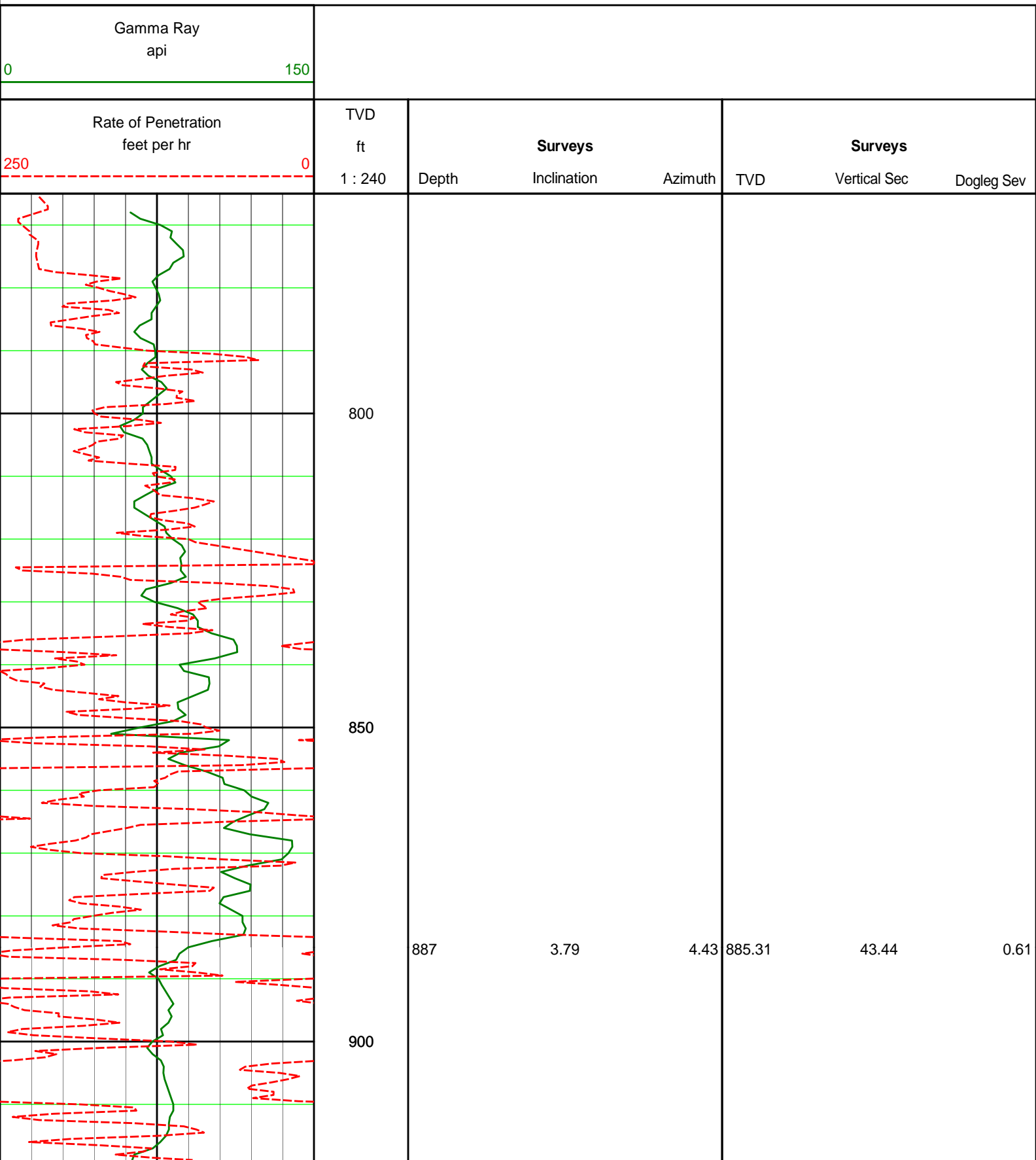
| | | | | | |
|------------------------------|-----|----------|----------|----------|--|
| Tool Type | N/A | PCG | PCG | PCG | |
| Distance From Bit (ft) | N/A | 60.60 | 52.49 | 51.11 | |
| Recorded Sample Period (sec) | N/A | 10 | 10 | 10 | |
| Software Version | N/A | 8.15 | 8.15 | 8.15 | |
| Sub Serial Number | N/A | 11619281 | 11619281 | 11595279 | |
| Insert/Sonde Serial Number | N/A | 11293413 | 11120602 | 11293413 | |

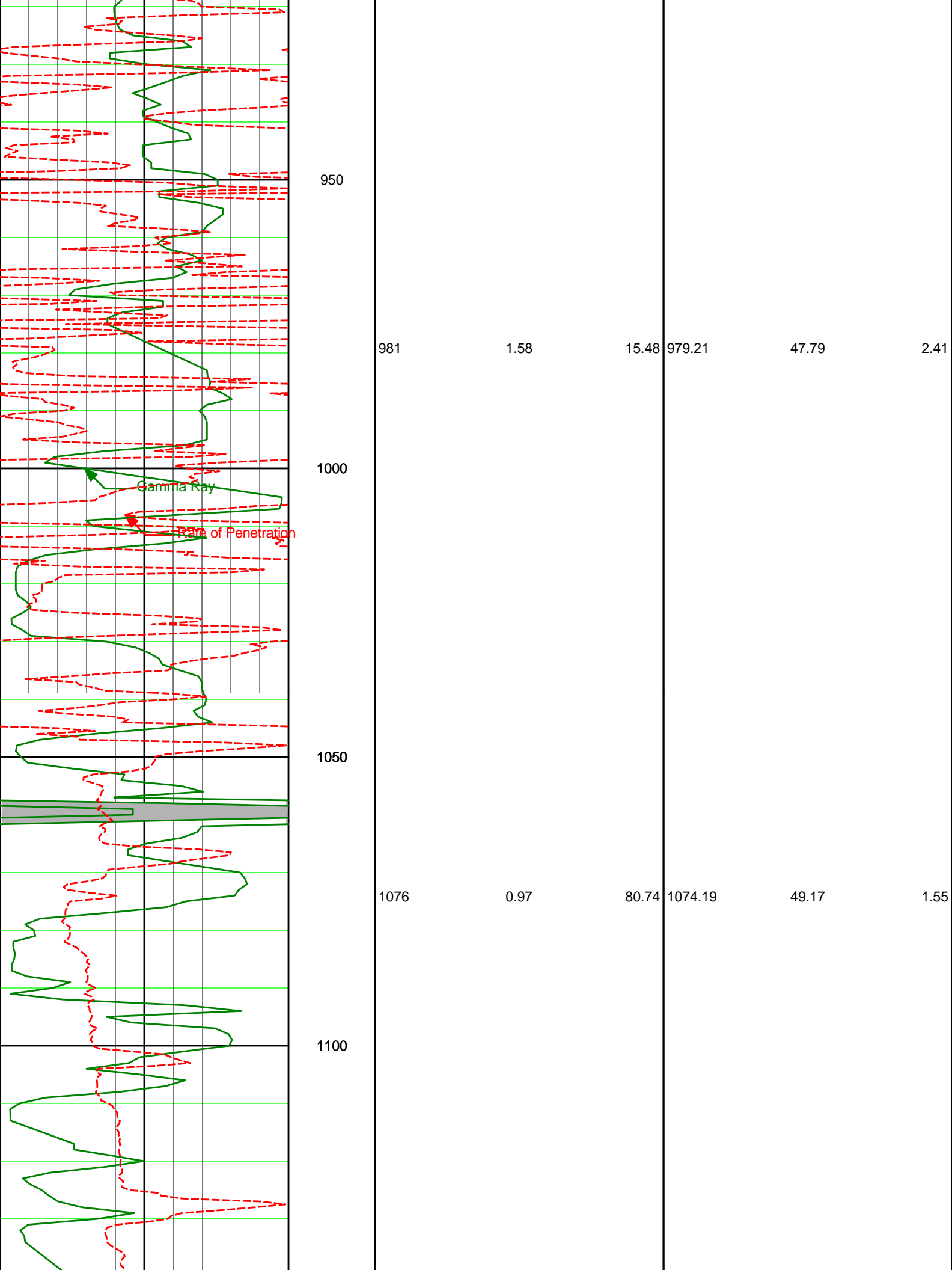
REMARKS

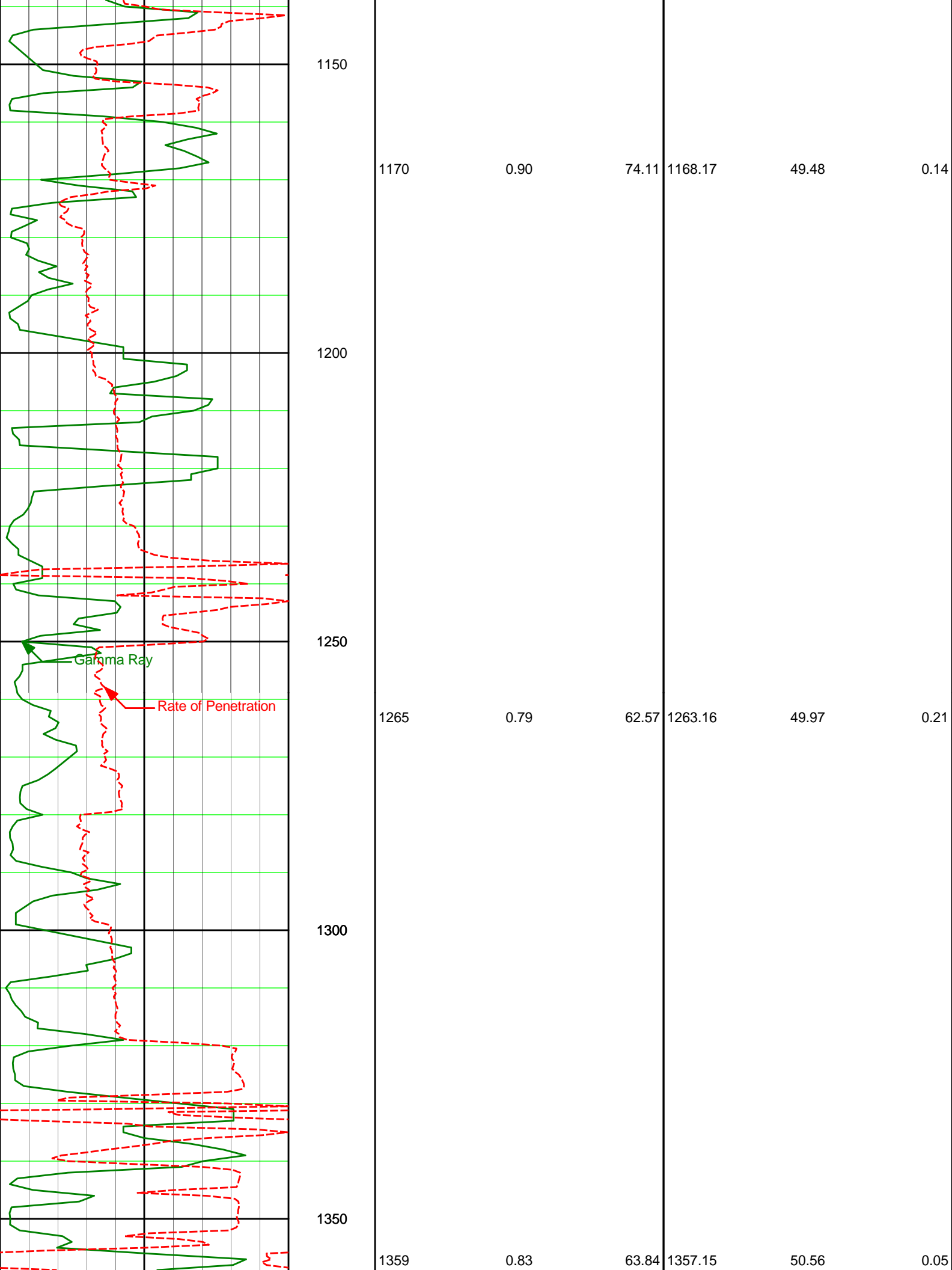
1. All depths are calibrated to the driller's pipe tally and are measured from the rotary table.
2. No depth corrections have been made for pipe stretch or compression.
3. All data presented is recorded (memory data) unless otherwise stated.
4. The following smoothing parameters have been applied to the data:
 - ROP: 1.0 ft interval, 3.0 ft coercion distance.
 - GAMMA: 0.5 ft interval, 0.6 ft coercion distance.
5. Runs 400 and 500 were reamer runs only, no MWD.

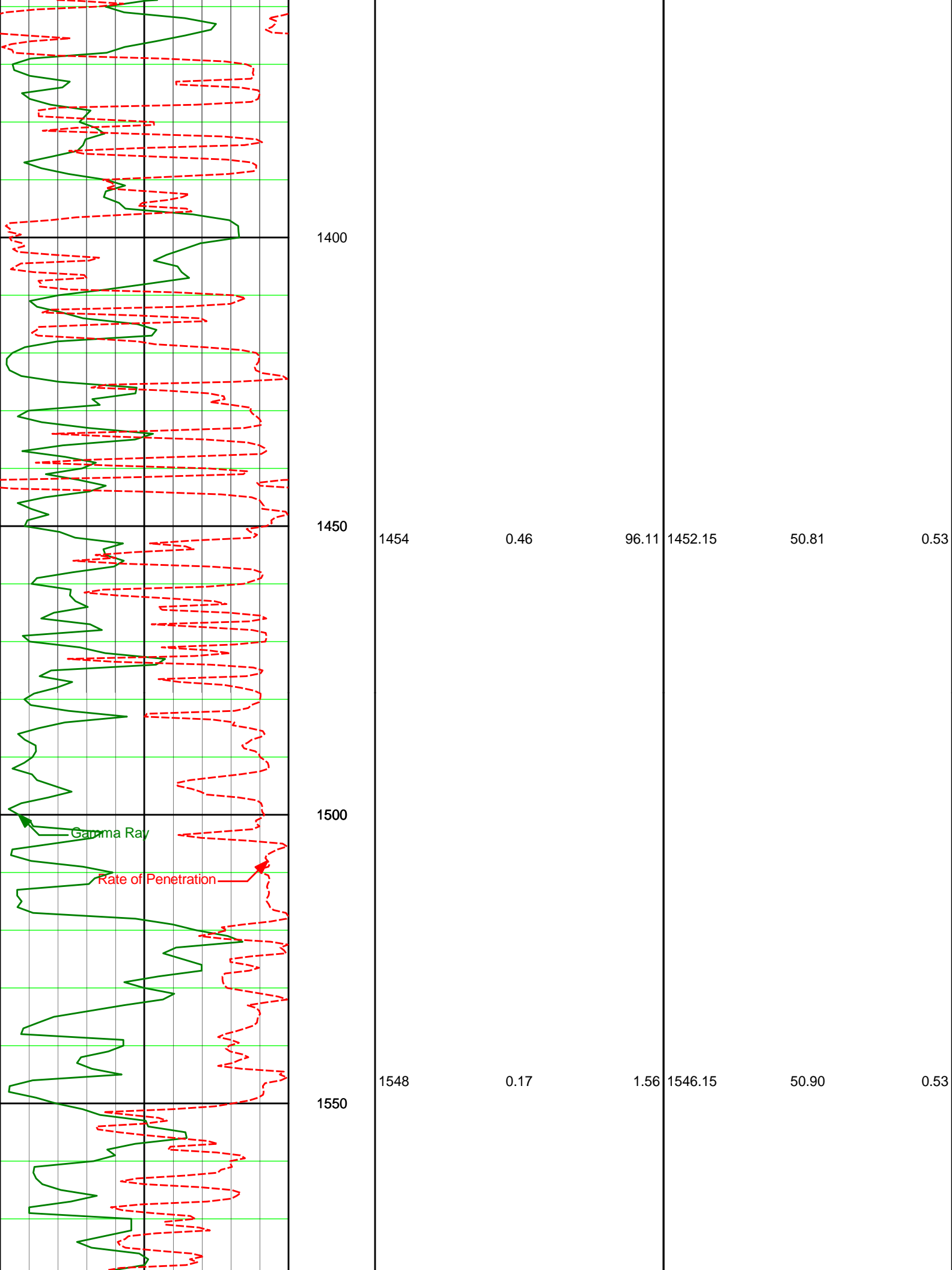
WARRANTY

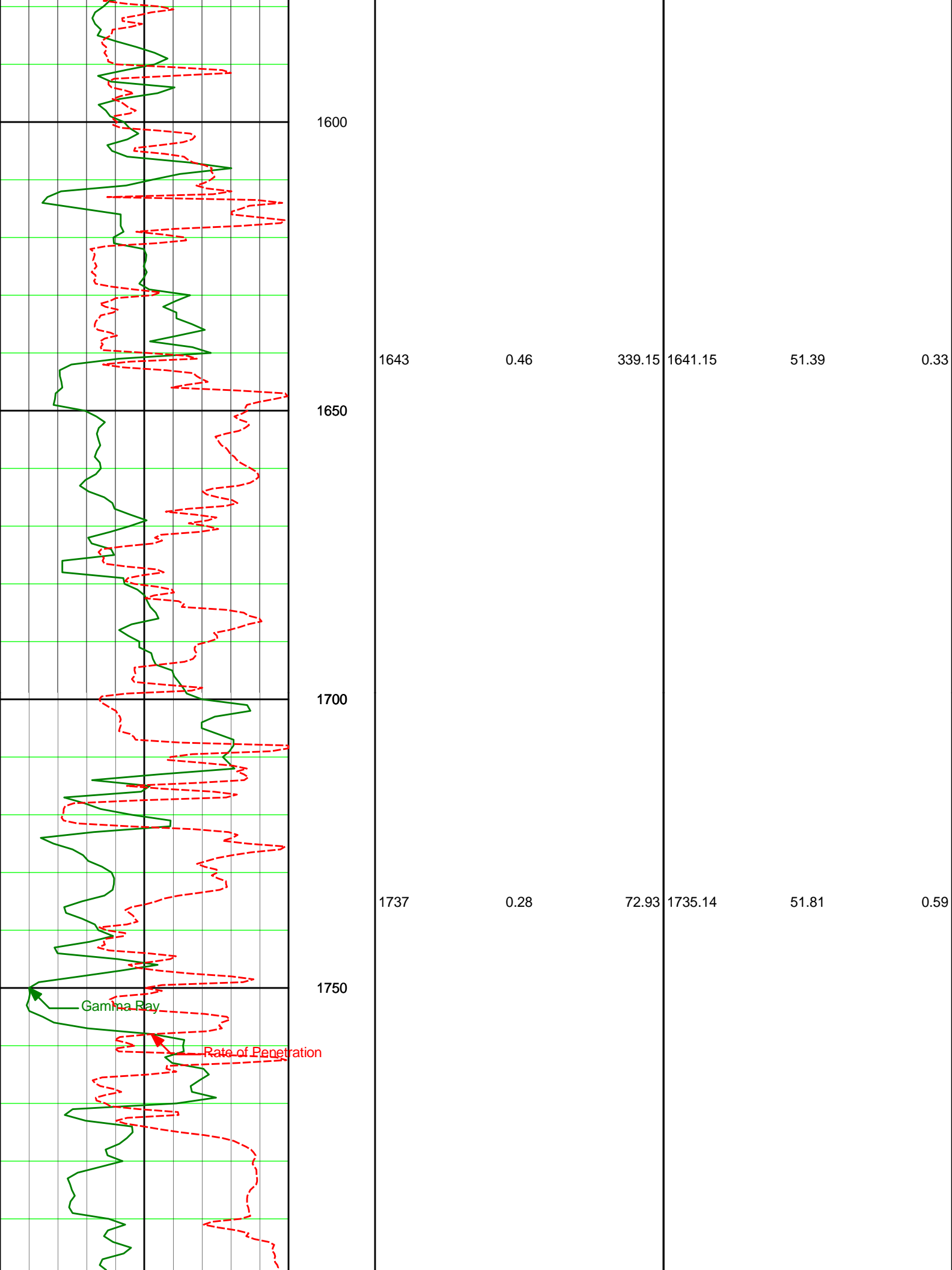
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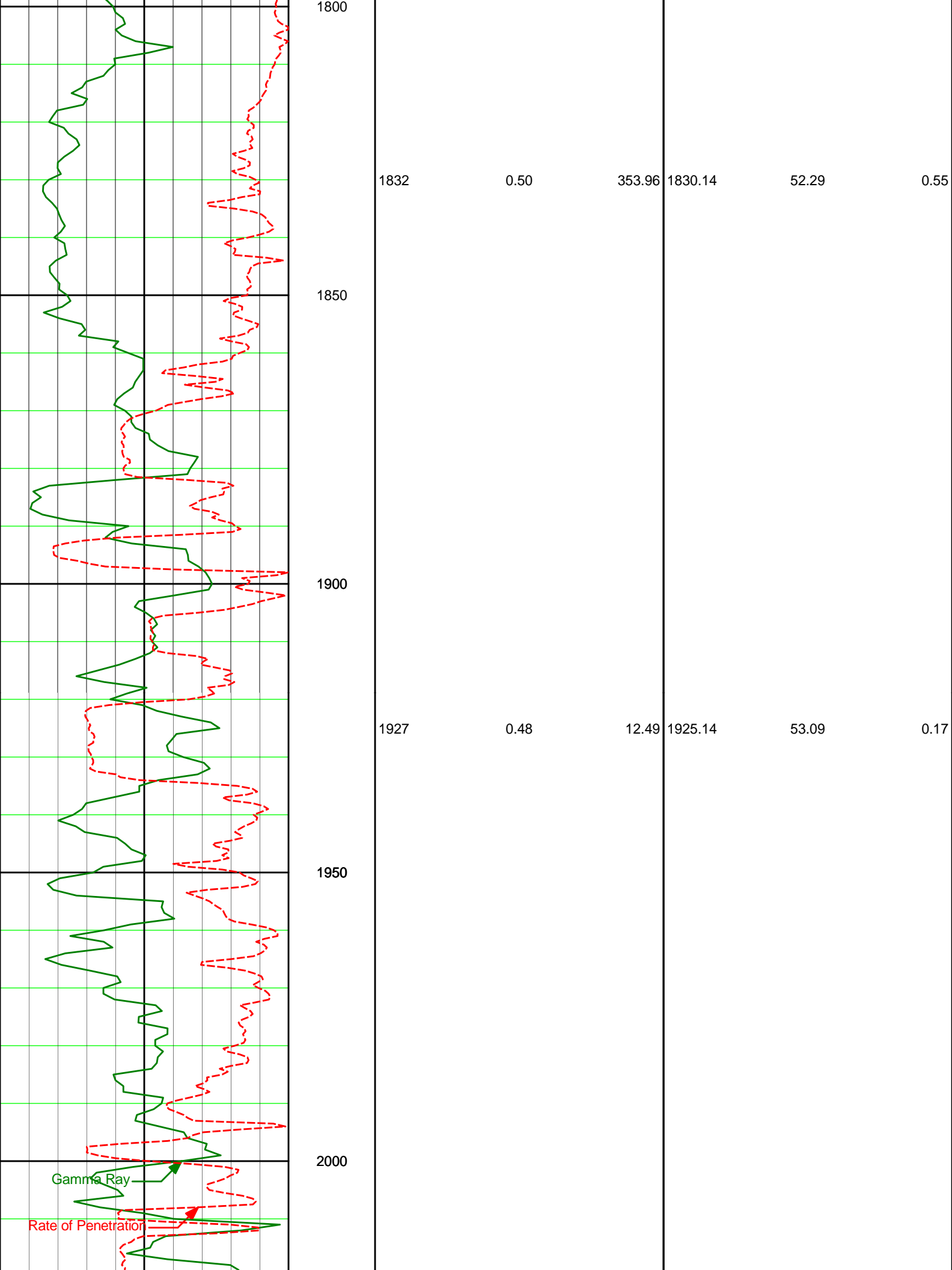


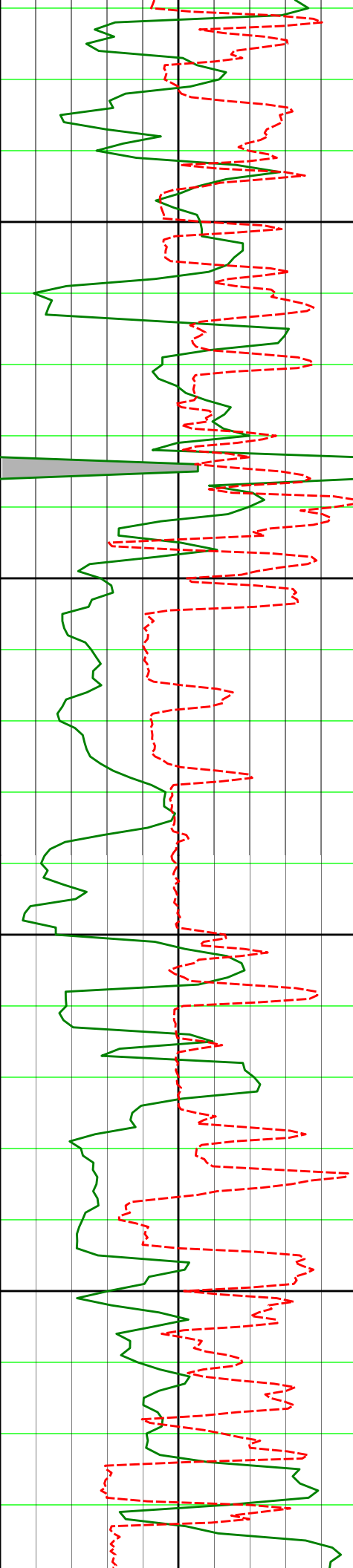












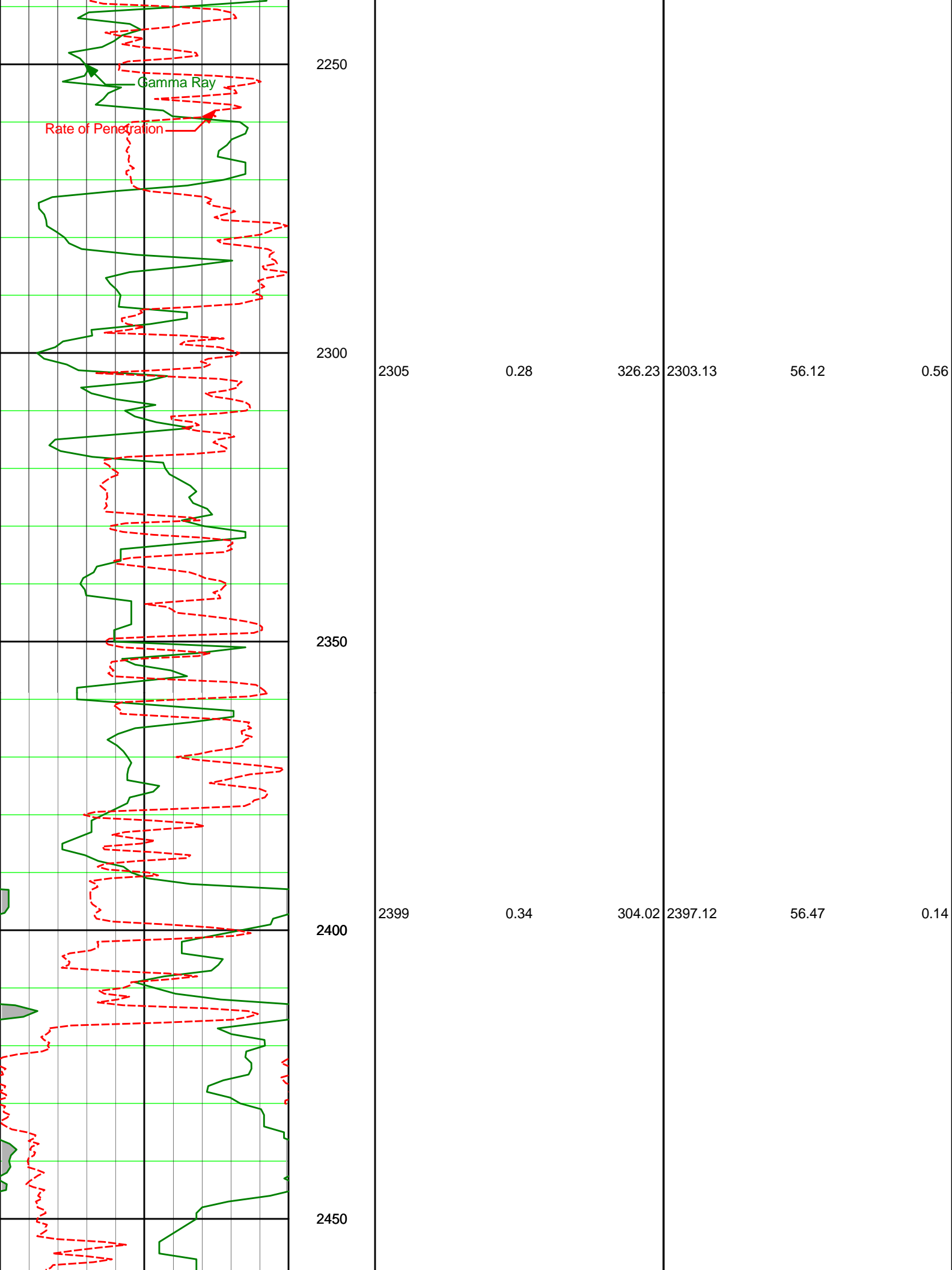
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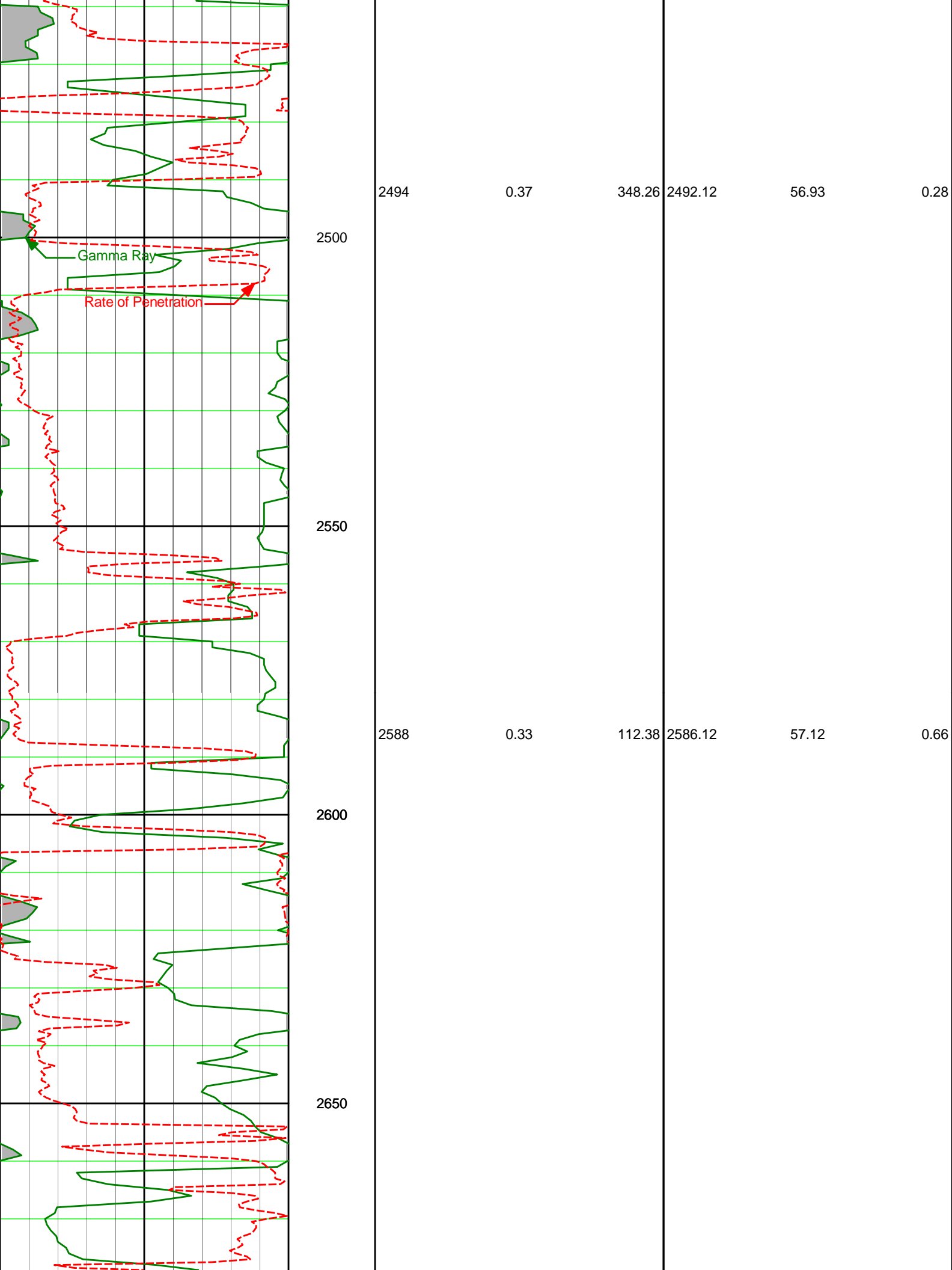
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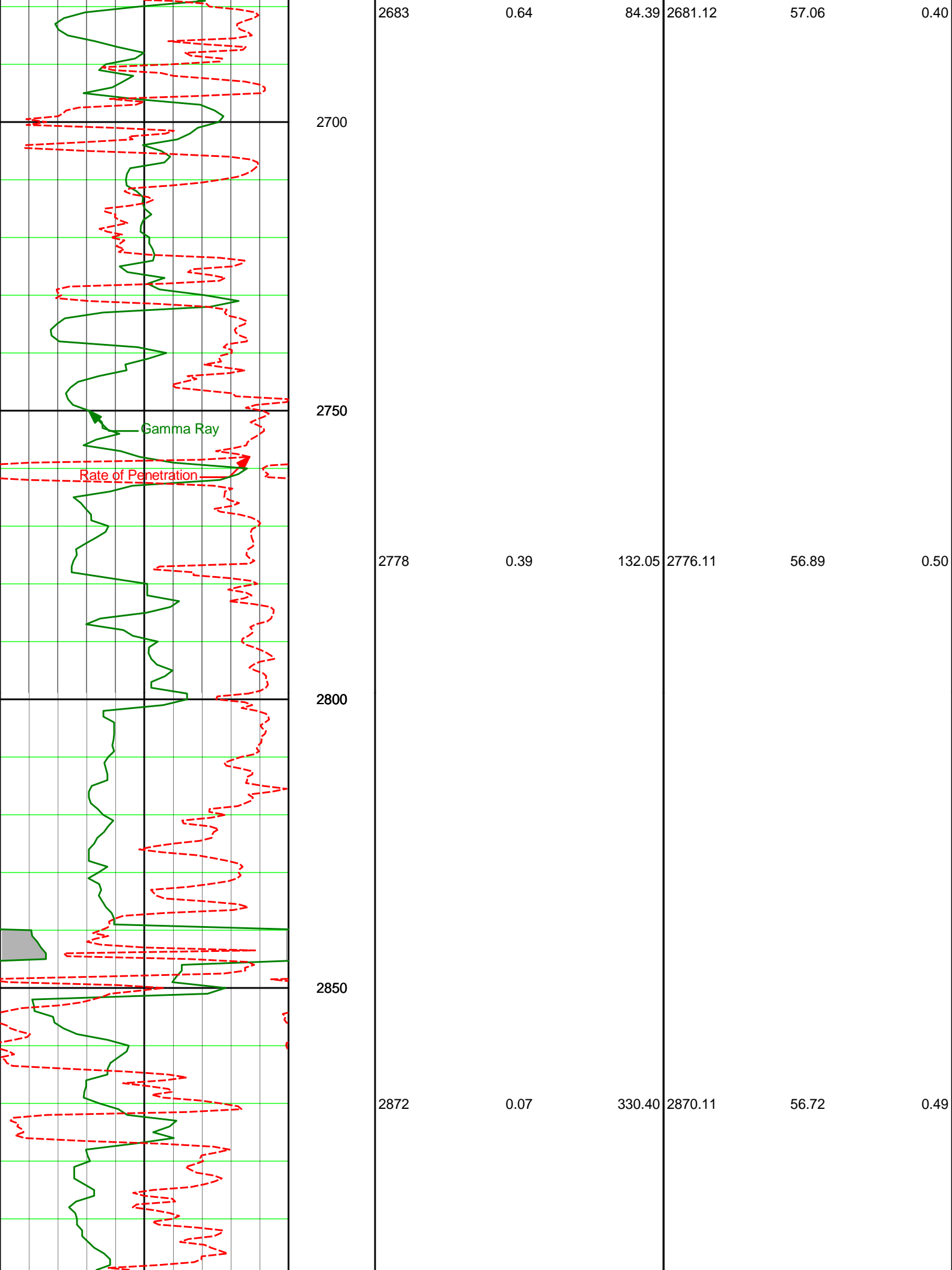
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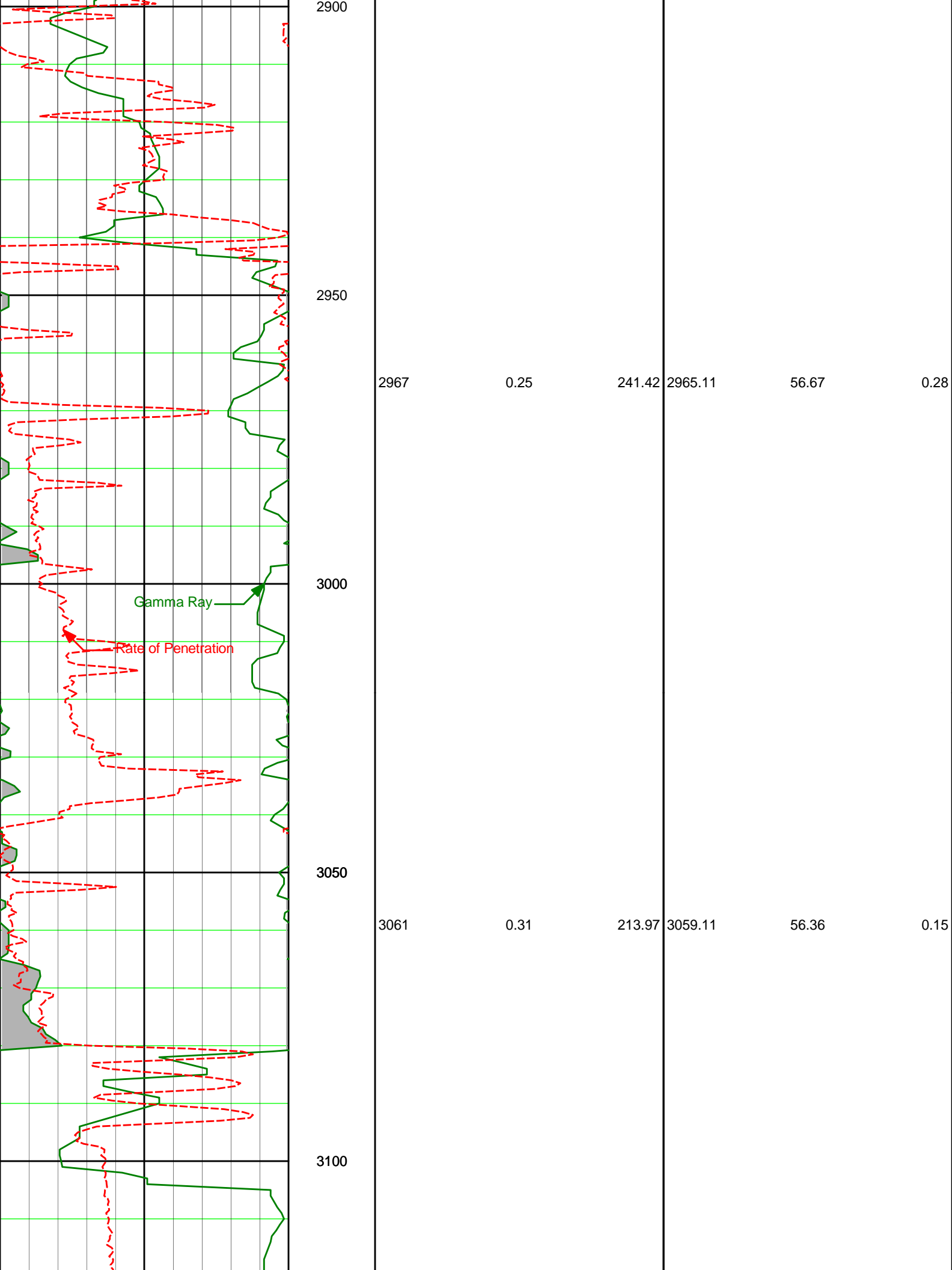
2200

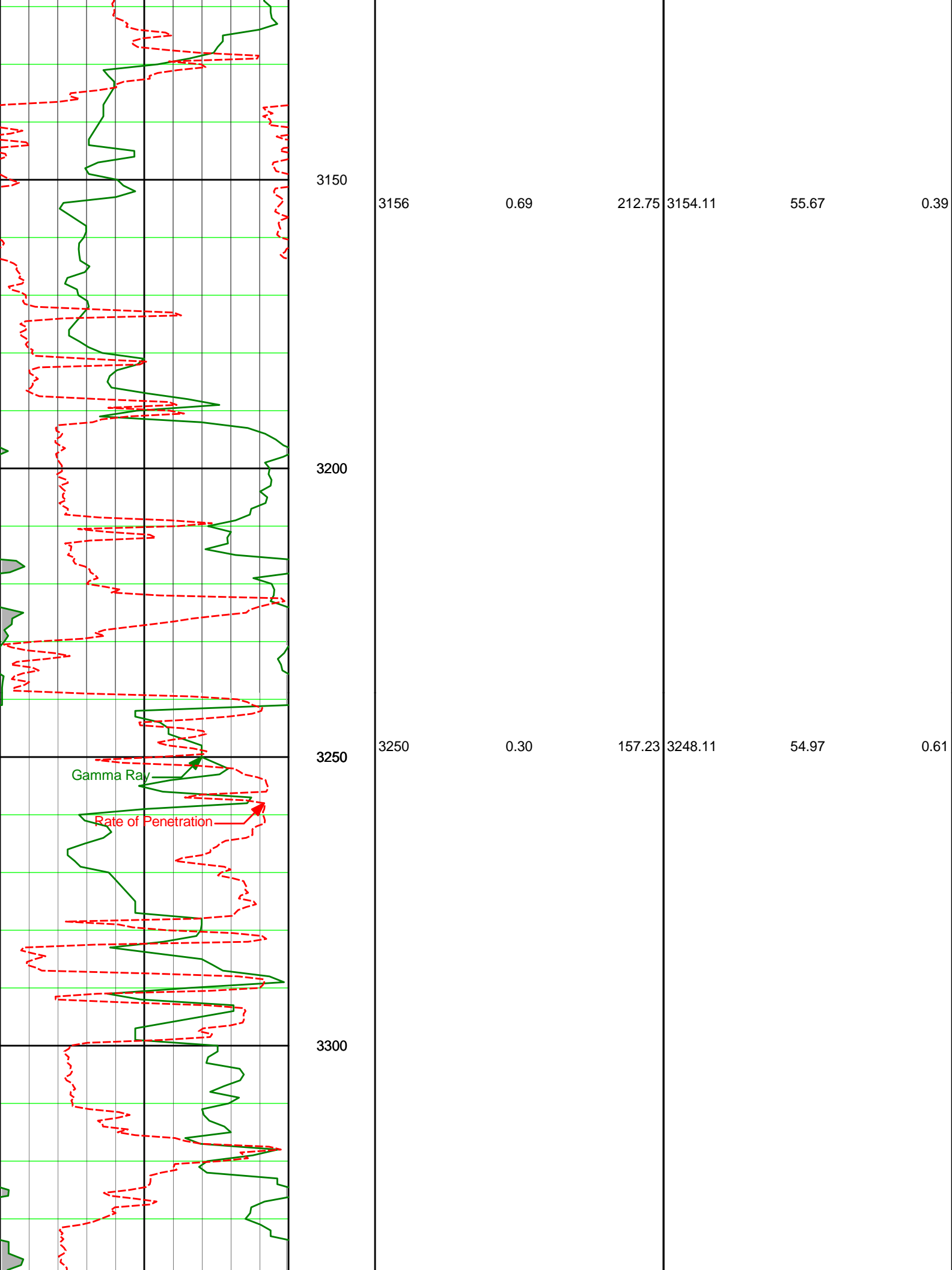
| | | | | | |
|------|------|-------|---------|-------|------|
| 2021 | 0.33 | 21.82 | 2019.14 | 53.73 | 0.17 |
| 2116 | 0.56 | 19.19 | 2114.13 | 54.42 | 0.24 |
| 2210 | 0.67 | 14.27 | 2208.13 | 55.38 | 0.14 |











3150

3156

0.69

212.75

3154.11

55.67

0.39

3200

3250

3250

0.30

157.23

3248.11

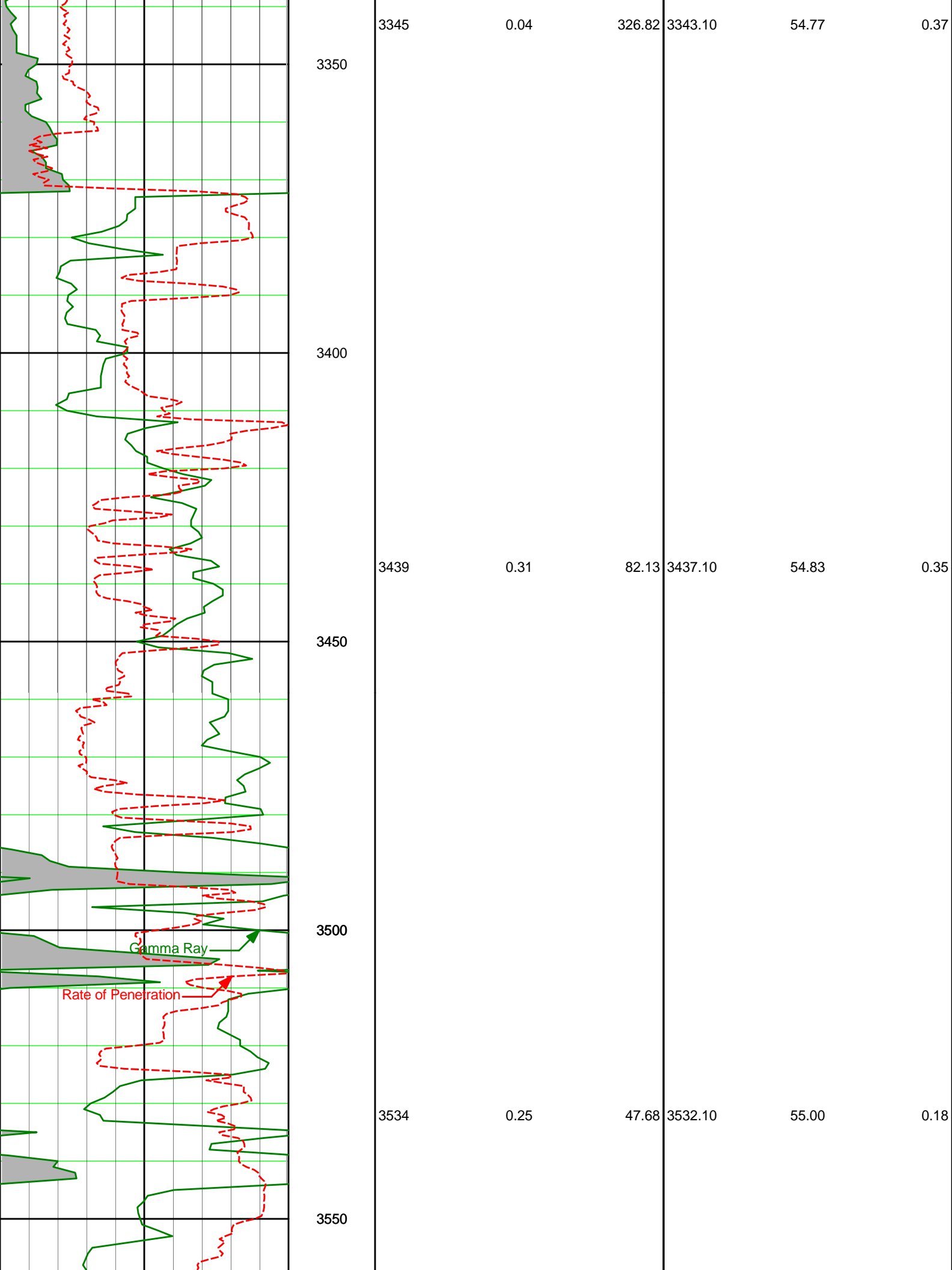
54.97

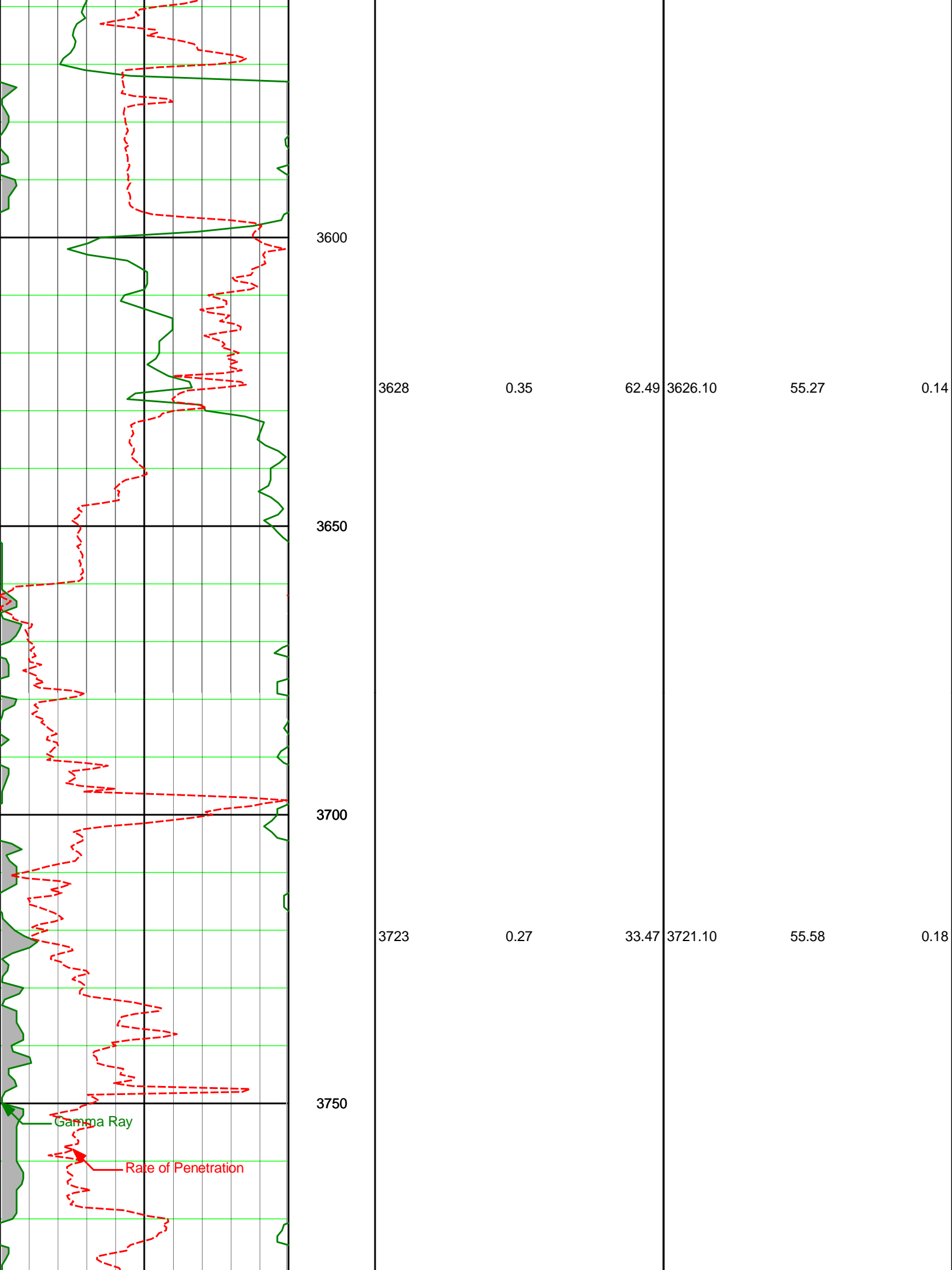
0.61

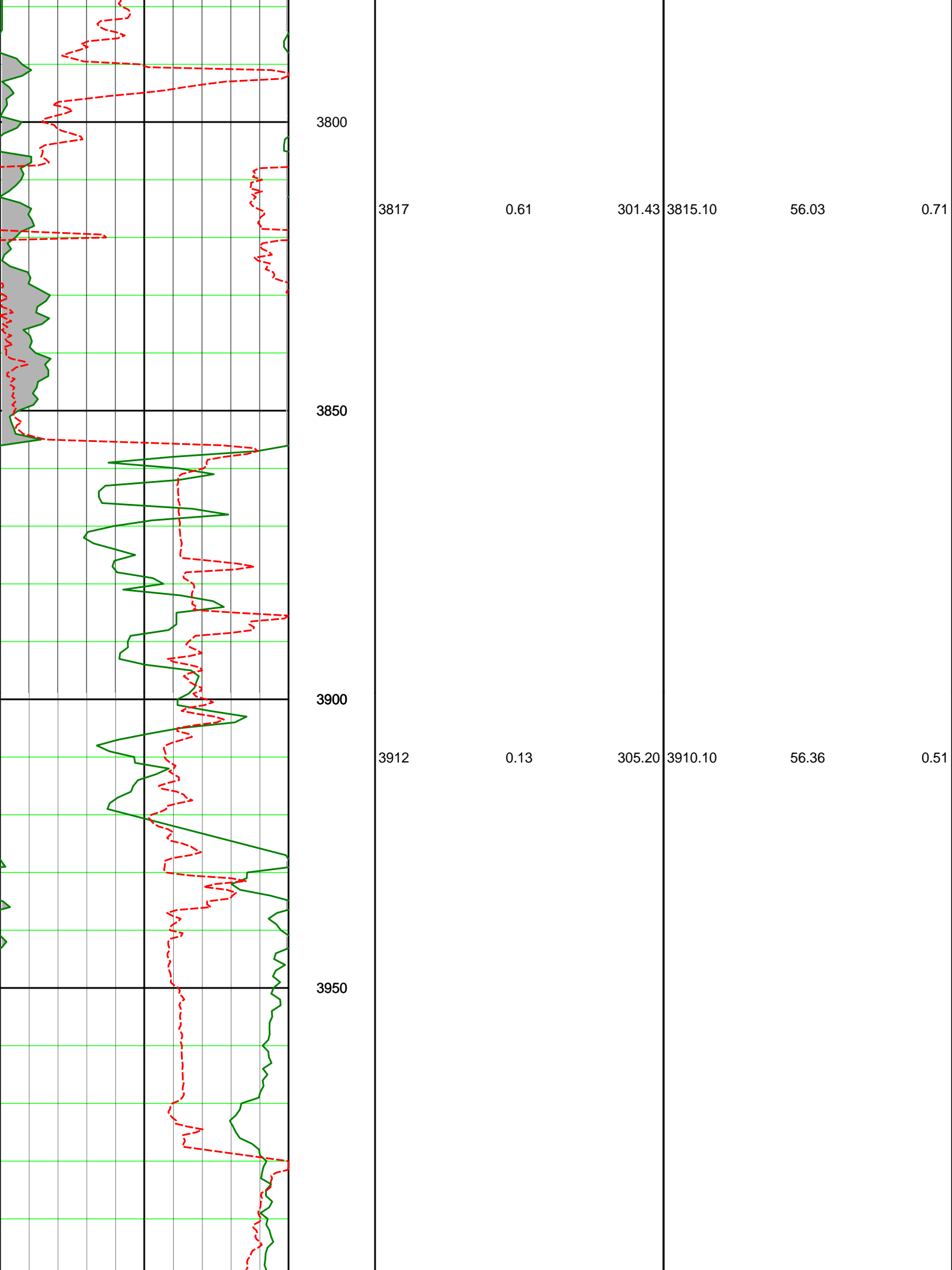
3300

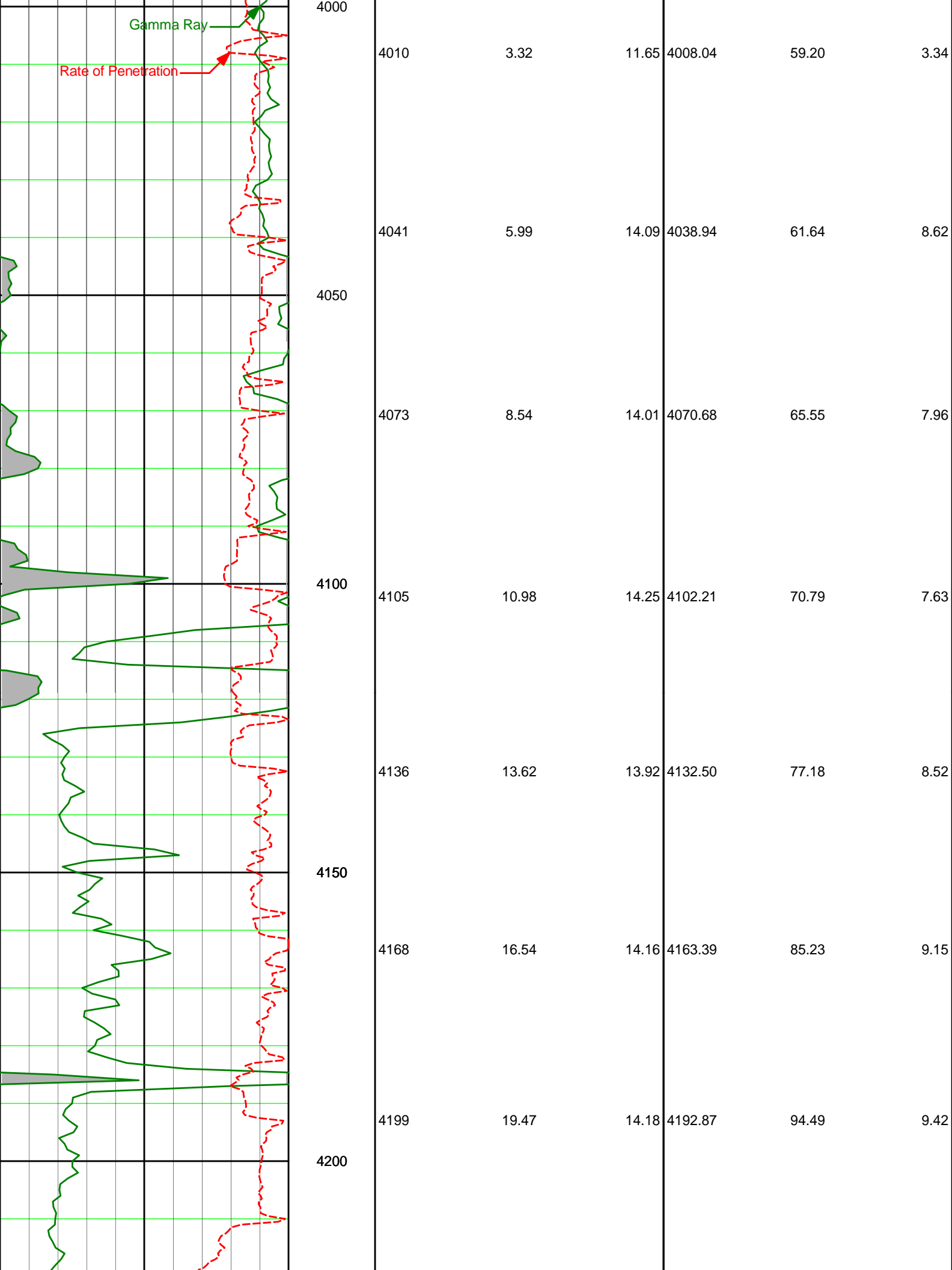
Gamma Ray

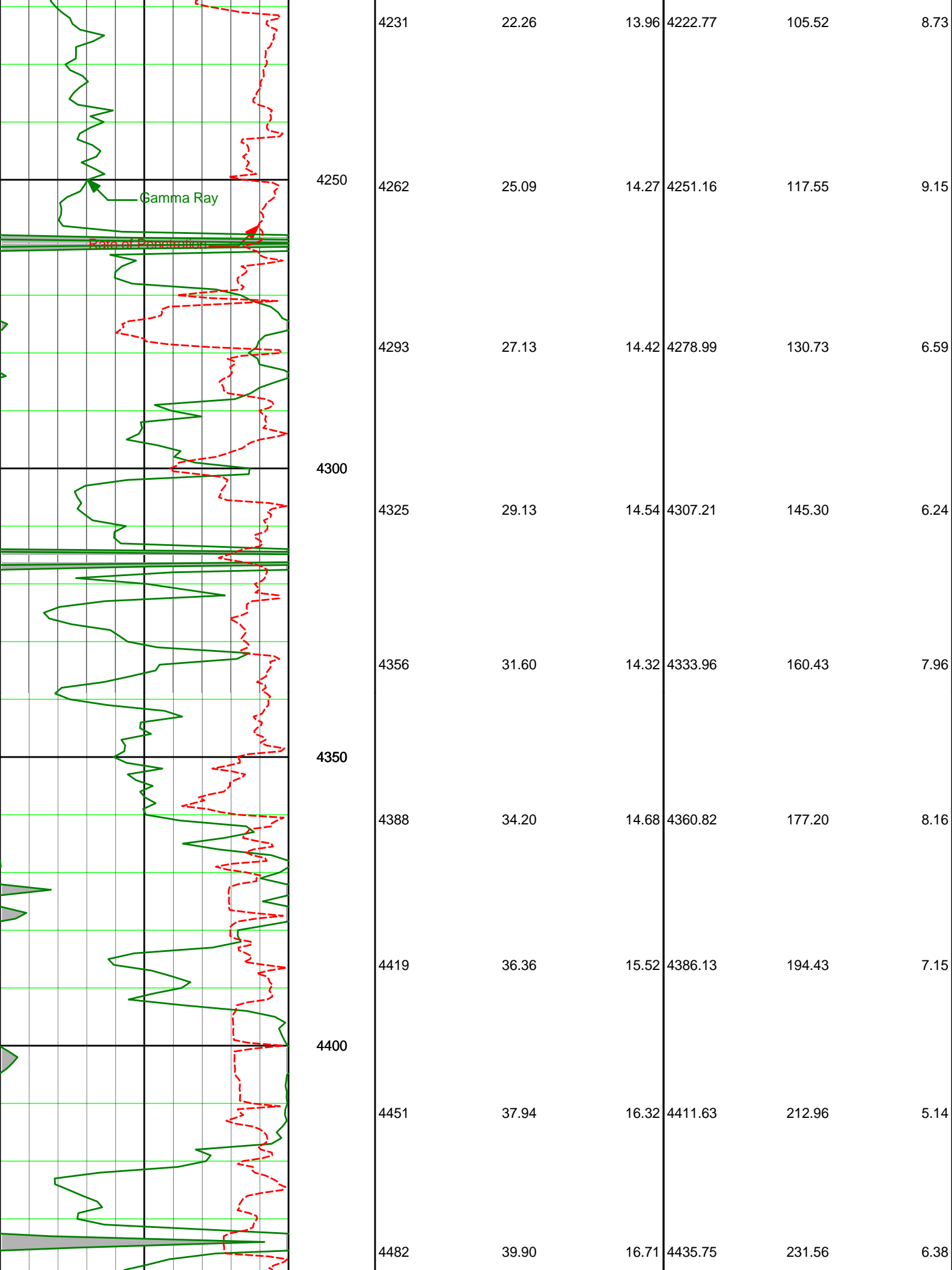
Rate of Penetration

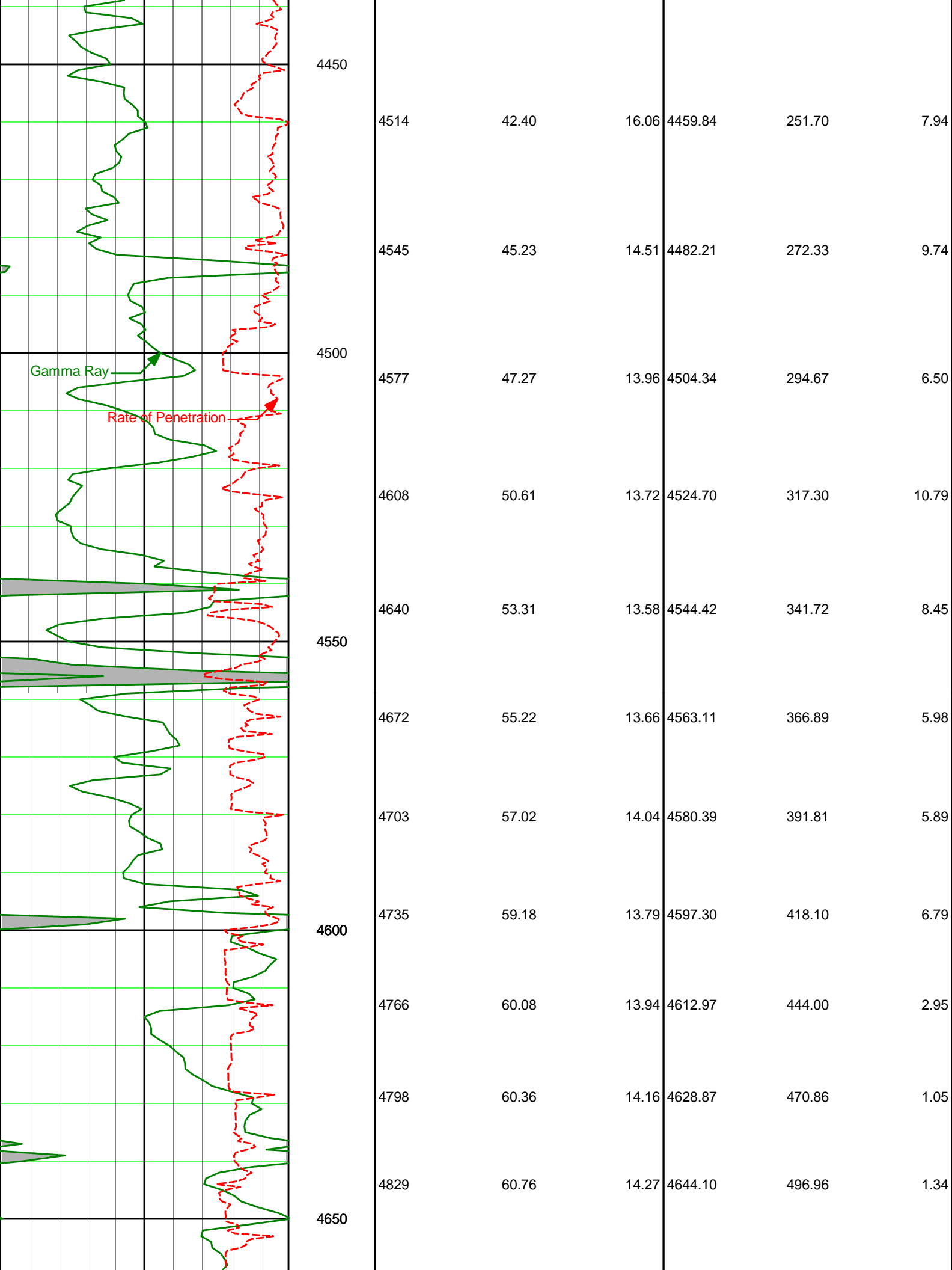


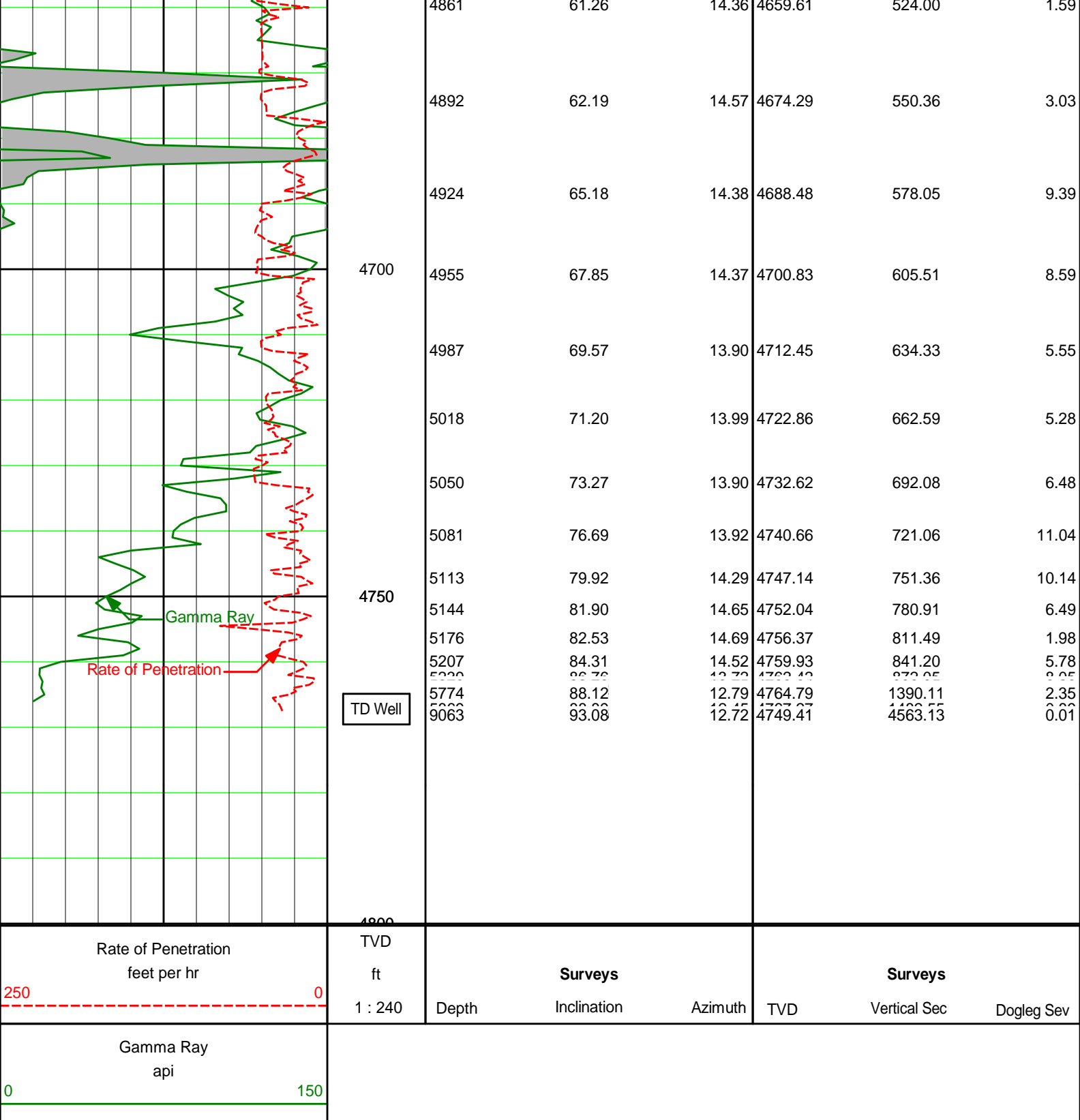












HALLIBURTON

DIRECTIONAL SURVEY REPORT

Shell Exploration _Production
 Albright Croft Farms 3407 15-1H
 Wildcat
 Harper Kansas
 U.S.A.

OK-XX-0009199272

MWD Surveys from 208' to 9013'. The final survey at 9063' is a straight line projection from the last MWD survey at 9013'.

| | | | | | | | |
|---------|---------|--------|---------|-----------|----------|---------|--------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 N | 0.00 E | 0.00 | TIE-IN |
| 208.00 | 0.42 | 86.12 | 208.00 | 0.05 N | 0.76 E | 0.04 | 0.20 |
| 303.00 | 1.27 | 5.32 | 302.99 | 1.12 N | 1.21 E | 1.11 | 1.34 |
| 334.00 | 1.66 | 358.20 | 333.98 | 1.91 N | 1.22 E | 1.90 | 1.40 |
| 365.00 | 2.49 | 6.81 | 364.96 | 3.03 N | 1.29 E | 3.02 | 2.84 |
| 395.00 | 3.16 | 355.28 | 394.92 | 4.50 N | 1.30 E | 4.49 | 2.91 |
| 433.00 | 3.75 | 1.68 | 432.85 | 6.79 N | 1.25 E | 6.77 | 1.86 |
| 464.00 | 4.24 | 2.14 | 463.78 | 8.94 N | 1.32 E | 8.93 | 1.58 |
| 495.00 | 4.70 | 5.57 | 494.68 | 11.35 N | 1.49 E | 11.34 | 1.72 |
| 526.00 | 4.77 | 3.41 | 525.58 | 13.90 N | 1.69 E | 13.88 | 0.62 |
| 549.00 | 5.15 | 353.03 | 548.49 | 15.88 N | 1.62 E | 15.87 | 4.23 |
| 579.00 | 5.48 | 348.90 | 578.36 | 18.63 N | 1.18 E | 18.61 | 1.68 |
| 610.00 | 5.54 | 344.11 | 609.22 | 21.52 N | 0.48 E | 21.51 | 1.50 |
| 702.00 | 5.16 | 349.14 | 700.82 | 29.85 N | 1.51 W | 29.87 | 0.66 |
| 743.00 | 4.36 | 355.12 | 741.68 | 33.21 N | 1.99 W | 33.23 | 2.28 |
| 887.00 | 3.79 | 4.43 | 885.31 | 43.42 N | 2.09 W | 43.44 | 0.61 |
| 981.00 | 1.58 | 15.48 | 979.21 | 47.77 N | 1.50 W | 47.79 | 2.41 |
| 1076.00 | 0.97 | 80.74 | 1074.19 | 49.16 N | 0.36 W | 49.17 | 1.55 |
| 1170.00 | 0.90 | 74.11 | 1168.17 | 49.49 N | 1.13 E | 49.48 | 0.14 |
| 1265.00 | 0.79 | 62.57 | 1263.16 | 50.00 N | 2.42 E | 49.97 | 0.21 |
| 1359.00 | 0.83 | 63.84 | 1357.15 | 50.60 N | 3.61 E | 50.56 | 0.05 |
| 1454.00 | 0.46 | 96.11 | 1452.15 | 50.86 N | 4.61 E | 50.81 | 0.53 |
| 1548.00 | 0.17 | 1.56 | 1546.15 | 50.96 N | 4.99 E | 50.90 | 0.53 |
| 1643.00 | 0.46 | 339.15 | 1641.15 | 51.45 N | 4.86 E | 51.39 | 0.33 |
| 1737.00 | 0.28 | 72.93 | 1735.14 | 51.87 N | 4.94 E | 51.81 | 0.59 |
| 1832.00 | 0.50 | 353.96 | 1830.14 | 52.35 N | 5.12 E | 52.29 | 0.55 |
| 1927.00 | 0.48 | 12.49 | 1925.14 | 53.15 N | 5.16 E | 53.09 | 0.17 |
| 2021.00 | 0.33 | 21.82 | 2019.14 | 53.79 N | 5.35 E | 53.73 | 0.17 |
| 2116.00 | 0.56 | 19.19 | 2114.13 | 54.48 N | 5.60 E | 54.42 | 0.24 |
| 2210.00 | 0.67 | 14.27 | 2208.13 | 55.45 N | 5.89 E | 55.38 | 0.14 |
| 2305.00 | 0.28 | 326.23 | 2303.13 | 56.19 N | 5.90 E | 56.12 | 0.56 |
| 2399.00 | 0.34 | 304.02 | 2397.12 | 56.53 N | 5.54 E | 56.47 | 0.14 |
| 2494.00 | 0.37 | 348.26 | 2492.12 | 56.99 N | 5.24 E | 56.93 | 0.28 |
| 2588.00 | 0.33 | 112.38 | 2586.12 | 57.19 N | 5.44 E | 57.12 | 0.66 |
| 2683.00 | 0.64 | 84.39 | 2681.12 | 57.13 N | 6.22 E | 57.06 | 0.40 |
| 2778.00 | 0.39 | 132.05 | 2776.11 | 56.97 N | 6.98 E | 56.89 | 0.50 |
| 2872.00 | 0.07 | 330.40 | 2870.11 | 56.80 N | 7.19 E | 56.72 | 0.49 |
| 2967.00 | 0.25 | 241.42 | 2965.11 | 56.75 N | 6.98 E | 56.67 | 0.28 |
| 3061.00 | 0.31 | 213.97 | 3059.11 | 56.44 N | 6.65 E | 56.36 | 0.15 |
| 3156.00 | 0.69 | 212.75 | 3154.11 | 55.75 N | 6.20 E | 55.67 | 0.39 |
| 3250.00 | 0.30 | 157.23 | 3248.11 | 55.04 N | 6.00 E | 54.97 | 0.61 |
| 3345.00 | 0.04 | 326.82 | 3343.10 | 54.84 N | 6.07 E | 54.77 | 0.37 |
| 3439.00 | 0.31 | 82.13 | 3437.10 | 54.91 N | 6.30 E | 54.83 | 0.35 |
| 3534.00 | 0.25 | 47.68 | 3532.10 | 55.08 N | 6.71 E | 55.00 | 0.18 |
| 3628.00 | 0.35 | 62.49 | 3626.10 | 55.35 N | 7.12 E | 55.27 | 0.14 |
| 3723.00 | 0.27 | 33.47 | 3721.10 | 55.67 N | 7.50 E | 55.58 | 0.18 |
| 3817.00 | 0.61 | 301.43 | 3815.10 | 56.11 N | 7.19 E | 56.03 | 0.71 |
| 3912.00 | 0.13 | 305.20 | 3910.10 | 56.43 N | 6.68 E | 56.36 | 0.51 |
| 4010.00 | 3.32 | 11.65 | 4008.04 | 59.28 N | 7.16 E | 59.20 | 3.34 |
| 4041.00 | 5.99 | 14.09 | 4038.94 | 61.73 N | 7.74 E | 61.64 | 8.62 |
| 4073.00 | 8.54 | 14.01 | 4070.68 | 65.65 N | 8.72 E | 65.55 | 7.96 |
| 4105.00 | 10.98 | 14.25 | 4102.21 | 70.91 N | 10.04 E | 70.79 | 7.63 |
| 4136.00 | 13.62 | 13.92 | 4132.50 | 77.31 N | 11.65 E | 77.18 | 8.52 |
| 4168.00 | 16.54 | 14.16 | 4163.39 | 85.39 N | 13.67 E | 85.23 | 9.15 |
| 4199.00 | 19.47 | 14.18 | 4192.87 | 94.68 N | 16.01 E | 94.49 | 9.42 |
| 4231.00 | 22.26 | 13.96 | 4222.77 | 105.73 N | 18.78 E | 105.52 | 8.73 |
| 4262.00 | 25.09 | 14.27 | 4251.16 | 117.80 N | 21.82 E | 117.55 | 9.15 |
| 4293.00 | 27.13 | 14.42 | 4278.99 | 131.02 N | 25.20 E | 130.73 | 6.59 |
| 4325.00 | 29.13 | 14.54 | 4307.21 | 145.63 N | 28.97 E | 145.30 | 6.24 |
| 4356.00 | 31.60 | 14.32 | 4333.96 | 160.80 N | 32.88 E | 160.43 | 7.96 |
| 4388.00 | 34.20 | 14.68 | 4360.82 | 177.63 N | 37.23 E | 177.20 | 8.16 |
| 4419.00 | 36.36 | 15.52 | 4386.13 | 194.91 N | 41.90 E | 194.43 | 7.15 |
| 4451.00 | 37.94 | 16.32 | 4411.63 | 213.50 N | 47.20 E | 212.96 | 5.14 |
| 4482.00 | 39.90 | 16.71 | 4435.75 | 232.17 N | 52.74 E | 231.56 | 6.38 |
| 4514.00 | 42.40 | 16.06 | 4459.84 | 252.37 N | 58.67 E | 251.70 | 7.94 |
| 4545.00 | 45.23 | 14.51 | 4482.21 | 273.07 N | 64.32 E | 272.33 | 9.74 |
| 4577.00 | 47.27 | 13.96 | 4504.34 | 295.47 N | 70.00 E | 294.67 | 6.50 |
| 4608.00 | 50.61 | 13.72 | 4524.70 | 318.17 N | 75.59 E | 317.30 | 10.79 |
| 4640.00 | 53.31 | 13.58 | 4544.42 | 342.65 N | 81.54 E | 341.72 | 8.45 |
| 4672.00 | 55.22 | 13.66 | 4563.11 | 367.90 N | 87.66 E | 366.89 | 5.98 |
| 4703.00 | 57.02 | 14.04 | 4580.39 | 392.88 N | 93.82 E | 391.81 | 5.89 |
| 4735.00 | 59.48 | 13.73 | 4597.39 | 419.35 N | 100.35 E | 418.40 | 6.78 |
| 4767.00 | 61.54 | 13.42 | 4614.11 | 447.37 N | 107.25 E | 445.89 | 7.77 |
| 4799.00 | 63.20 | 13.11 | 4630.39 | 475.95 N | 114.45 E | 473.38 | 8.86 |
| 4831.00 | 64.52 | 12.80 | 4646.39 | 505.17 N | 121.95 E | 500.87 | 10.04 |
| 4863.00 | 65.40 | 12.50 | 4661.99 | 535.05 N | 129.75 E | 528.36 | 11.32 |
| 4895.00 | 65.84 | 12.20 | 4677.19 | 565.59 N | 137.85 E | 555.85 | 12.70 |
| 4927.00 | 65.84 | 11.90 | 4691.99 | 596.79 N | 146.25 E | 583.34 | 14.18 |
| 4959.00 | 65.39 | 11.60 | 4706.39 | 628.65 N | 154.95 E | 610.83 | 15.76 |
| 4991.00 | 64.51 | 11.30 | 4720.39 | 661.17 N | 163.95 E | 638.32 | 17.44 |
| 5023.00 | 63.10 | 11.00 | 4733.99 | 694.37 N | 173.25 E | 665.81 | 19.22 |
| 5055.00 | 61.16 | 10.70 | 4747.19 | 728.25 N | 182.85 E | 693.30 | 21.10 |
| 5087.00 | 58.69 | 10.40 | 4760.39 | 762.81 N | 192.75 E | 720.79 | 23.08 |
| 5119.00 | 55.70 | 10.10 | 4773.19 | 797.95 N | 202.95 E | 748.28 | 25.16 |
| 5151.00 | 52.19 | 9.80 | 4785.59 | 833.67 N | 213.45 E | 775.77 | 27.34 |
| 5183.00 | 48.16 | 9.50 | 4797.59 | 869.97 N | 224.15 E | 803.26 | 29.62 |
| 5215.00 | 43.61 | 9.20 | 4809.19 | 906.85 N | 235.05 E | 830.75 | 32.00 |
| 5247.00 | 38.54 | 8.90 | 4820.39 | 944.31 N | 246.15 E | 858.24 | 34.48 |
| 5279.00 | 32.95 | 8.60 | 4831.19 | 982.35 N | 257.45 E | 885.73 | 37.06 |
| 5311.00 | 26.84 | 8.30 | 4841.59 | 1020.97 N | 268.95 E | 913.22 | 39.74 |
| 5343.00 | 20.21 | 8.00 | 4851.59 | 1060.17 N | 280.65 E | 940.71 | 42.52 |
| 5375.00 | 13.06 | 7.70 | 4861.19 | 1100.05 N | 292.55 E | 968.20 | 45.40 |
| 5407.00 | 5.39 | 7.40 | 4870.39 | 1140.61 N | 304.65 E | 995.69 | 48.38 |
| 5439.00 | -1.70 | 7.10 | 4879.19 | 1182.85 N | 316.95 E | 1023.18 | 51.46 |
| 5471.00 | -7.11 | 6.80 | 4887.59 | 1225.77 N | 329.45 E | 1050.67 | 54.64 |
| 5503.00 | -12.84 | 6.50 | 4895.59 | 1269.37 N | 342.15 E | 1078.16 | 57.92 |
| 5535.00 | -18.89 | 6.20 | 4903.19 | 1313.65 N | 355.05 E | 1105.65 | 61.30 |
| 5567.00 | -25.26 | 5.90 | 4910.39 | 1358.61 N | 368.15 E | 1133.14 | 64.78 |
| 5600.00 | -31.95 | 5.60 | 4917.19 | 1404.25 N | 381.45 E | 1160.63 | 68.36 |
| 5632.00 | -38.96 | 5.30 | 4923.59 | 1450.57 N | 394.95 E | 1188.12 | 72.04 |
| 5664.00 | -46.29 | 5.00 | 4929.59 | 1497.57 N | 408.65 E | 1215.61 | 75.82 |
| 5696.00 | -53.94 | 4.70 | 4935.19 | 1545.25 N | 422.55 E | 1243.10 | 79.70 |
| 5728.00 | -61.91 | 4.40 | 4940.39 | 1593.61 N | 436.65 E | 1270.59 | 83.68 |
| 5760.00 | -70.20 | 4.10 | 4945.19 | 1642.65 N | 450.95 E | 1298.08 | 87.76 |
| 5792.00 | -78.81 | 3.80 | 4949.59 | 1692.37 N | 465.45 E | 1325.57 | 91.94 |
| 5824.00 | -87.74 | 3.50 | 4953.59 | 1742.77 N | 480.15 E | 1353.06 | 96.22 |
| 5856.00 | -96.99 | 3.20 | 4957.19 | 1793.85 N | 495.05 E | 1380.55 | 100.60 |
| 5888.00 | -106.56 | 2.90 | 4960.39 | 1845.61 N | 510.15 E | 1408.04 | 105.08 |
| 5920.00 | -116.45 | 2.60 | 4963.19 | 1898.05 N | 525.45 E | 1435.53 | 109.66 |
| 5952.00 | -126.66 | 2.30 | 4965.59 | 1951.17 N | 540.95 E | 1463.02 | 114.34 |
| 5984.00 | -137.19 | 2.00 | 4967.59 | 2004.97 N | 556.65 E | 1490.51 | 119.12 |
| 6016.00 | -148.04 | 1.70 | 4969.19 | 2059.45 N | 572.55 E | 1518.00 | 124.00 |
| 6048.00 | -159.21 | 1.40 | 4970.39 | 2114.61 N | 588.65 E | 1545.49 | 129.08 |
| 6080.00 | -170.70 | 1.10 | 4971.19 | 2170.45 N | 604.95 E | 1573.08 | 134.36 |
| 6112.00 | -182.51 | 0.80 | 4971.59 | 2226.97 N | 621.45 E | 1600.57 | 139.84 |
| 6144.00 | -194.64 | 0.50 | 4971.59 | 2284.17 N | 638.15 E | 1628.06 | 145.52 |
| 6176.00 | -207.09 | 0.20 | 4971.19 | 2342.05 N | 655.05 E | 1655.55 | 151.40 |
| 6208.00 | -219.86 | 0.00 | 4970.39 | 2400.61 N | 672.15 E | 1683.04 | 157.48 |
| 6240.00 | -232.95 | -0.20 | 4969.19 | 2459.85 N | 689.45 E | 1710.53 | 163.76 |
| 6272.00 | -246.36 | -0.40 | 4967.59 | 2519.77 N | 706.95 E | 1738.02 | 170.24 |
| 6304.00 | -260.09 | -0.60 | 4965.59 | 2580.37 N | 724.65 E | 1765.51 | 176.92 |
| 6336.00 | -274.14 | -0.80 | 4963.19 | 2641.65 N | 742.55 E | 1793.00 | 183.80 |
| 6368.00 | -288.51 | -1.00 | 4960.39 | 2703.61 N | 760.65 E | 1820.49 | 190.88 |
| 6400.00 | -303.20 | -1.20 | 4957.19 | 2766.25 N | 778.95 E | 1848.08 | 198.16 |
| 6432.00 | -318.21 | -1.40 | 4953.59 | 2829.57 N | 797.45 E | 1875.57 | 205.64 |
| 6464.00 | -333.54 | -1.60 | 4949.59 | 2893.57 N | 816.15 E | 1903.06 | 213.32 |
| 6496.00 | -349.29 | -1.80 | 4945.19 | 2958.25 N | 835.05 E | 1930.55 | 221.20 |
| 6528.00 | -365.46 | -2.00 | 4940.39 | 3023.61 N | 854.15 E | 1958.04 | 229.28 |
| 6560.00 | -382.05 | -2.20 | 4935.19 | 3089.65 N | 873.45 E | 1985.53 | 237.56 |
| 6592.00 | -399.06 | -2.40 | 4929.59 | 3156.37 N | 892.95 E | 2013.02 | 246.04 |
| 6624.00 | -416.49 | -2.60 | 4923.59 | 3223.77 N | 912.65 E | 2040.51 | 254.72 |
| 6656.00 | -434.34 | -2.80 | 4917.19 | 3291.85 N | 932.55 E | 2068.00 | 263.60 |
| 6688.00 | -452.61 | -3.00 | 4910.39 | 3360.61 N | 952.65 E | 2095.49 | 272.68 |
| 6720.00 | -471.30 | -3.20 | 4903.19 | 3430.05 N | 972.95 E | 2123.08 | 281.96 |
| 6752.00 | -490.41 | -3.40 | 4895.59 | 3500.17 N | | | |

| | | | | | | | |
|---------|-------|-------|---------|-----------|-----------|---------|-------|
| 4735.00 | 59.18 | 13.94 | 4597.30 | 419.25 N | 100.35 E | 418.10 | 6.79 |
| 4766.00 | 60.08 | 13.94 | 4612.97 | 445.22 N | 106.76 E | 444.00 | 2.95 |
| 4798.00 | 60.36 | 14.16 | 4628.87 | 472.16 N | 113.50 E | 470.86 | 1.05 |
| 4829.00 | 60.76 | 14.27 | 4644.10 | 498.33 N | 120.13 E | 496.96 | 1.34 |
| 4861.00 | 61.26 | 14.36 | 4659.61 | 525.45 N | 127.05 E | 524.00 | 1.59 |
| 4892.00 | 62.19 | 14.57 | 4674.29 | 551.89 N | 133.86 E | 550.36 | 3.03 |
| 4924.00 | 65.18 | 14.38 | 4688.48 | 579.66 N | 141.03 E | 578.05 | 9.39 |
| 4955.00 | 67.85 | 14.37 | 4700.83 | 607.20 N | 148.09 E | 605.51 | 8.59 |
| 4987.00 | 69.57 | 13.90 | 4712.45 | 636.11 N | 155.37 E | 634.33 | 5.55 |
| 5018.00 | 71.20 | 13.99 | 4722.86 | 664.45 N | 162.41 E | 662.59 | 5.28 |
| 5050.00 | 73.27 | 13.90 | 4732.62 | 694.02 N | 169.75 E | 692.08 | 6.48 |
| 5081.00 | 76.69 | 13.92 | 4740.66 | 723.08 N | 176.95 E | 721.06 | 11.04 |
| 5113.00 | 79.92 | 14.29 | 4747.14 | 753.47 N | 184.59 E | 751.36 | 10.14 |
| 5144.00 | 81.90 | 14.65 | 4752.04 | 783.11 N | 192.23 E | 780.91 | 6.49 |
| 5176.00 | 82.53 | 14.69 | 4756.37 | 813.78 N | 200.26 E | 811.49 | 1.98 |
| 5207.00 | 84.31 | 14.52 | 4759.93 | 843.58 N | 208.02 E | 841.20 | 5.78 |
| 5239.00 | 86.76 | 13.72 | 4762.42 | 874.51 N | 215.81 E | 872.05 | 8.05 |
| 5270.00 | 88.70 | 13.75 | 4763.64 | 904.60 N | 223.16 E | 902.05 | 6.26 |
| 5302.00 | 89.29 | 13.88 | 4764.20 | 935.67 N | 230.80 E | 933.04 | 1.88 |
| 5333.00 | 89.69 | 14.30 | 4764.47 | 965.74 N | 238.35 E | 963.02 | 1.88 |
| 5370.00 | 90.06 | 14.34 | 4764.55 | 1001.59 N | 247.50 E | 998.76 | 1.00 |
| 5466.00 | 90.62 | 14.51 | 4763.99 | 1094.56 N | 271.41 E | 1091.46 | 0.61 |
| 5497.00 | 90.96 | 13.77 | 4763.56 | 1124.62 N | 278.99 E | 1121.43 | 2.62 |
| 5528.00 | 90.77 | 13.55 | 4763.09 | 1154.74 N | 286.31 E | 1151.47 | 0.93 |
| 5558.00 | 90.25 | 13.45 | 4762.83 | 1183.91 N | 293.31 E | 1180.56 | 1.78 |
| 5589.00 | 89.35 | 13.74 | 4762.94 | 1214.04 N | 300.59 E | 1210.61 | 3.03 |
| 5620.00 | 89.54 | 13.59 | 4763.24 | 1244.16 N | 307.92 E | 1240.64 | 0.76 |
| 5651.00 | 89.75 | 13.54 | 4763.43 | 1274.29 N | 315.19 E | 1270.69 | 0.72 |
| 5681.00 | 90.22 | 13.41 | 4763.44 | 1303.47 N | 322.18 E | 1299.79 | 1.60 |
| 5774.00 | 88.12 | 12.79 | 4764.79 | 1394.03 N | 343.26 E | 1390.11 | 2.35 |
| 5869.00 | 88.89 | 12.45 | 4767.27 | 1486.71 N | 364.01 E | 1482.55 | 0.89 |
| 5963.00 | 90.00 | 11.71 | 4768.18 | 1578.62 N | 383.67 E | 1574.23 | 1.42 |
| 6057.00 | 90.83 | 11.28 | 4767.49 | 1670.73 N | 402.40 E | 1666.13 | 1.00 |
| 6152.00 | 90.65 | 11.99 | 4766.27 | 1763.77 N | 421.56 E | 1758.95 | 0.77 |
| 6246.00 | 90.89 | 12.49 | 4765.00 | 1855.62 N | 441.49 E | 1850.58 | 0.59 |
| 6341.00 | 91.26 | 13.31 | 4763.21 | 1948.21 N | 462.69 E | 1942.92 | 0.95 |
| 6435.00 | 90.56 | 14.96 | 4761.72 | 2039.35 N | 485.65 E | 2033.79 | 1.91 |
| 6530.00 | 90.09 | 14.90 | 4761.18 | 2131.14 N | 510.12 E | 2125.31 | 0.49 |
| 6625.00 | 91.39 | 14.14 | 4759.95 | 2223.09 N | 533.94 E | 2216.99 | 1.58 |
| 6719.00 | 90.06 | 15.00 | 4758.77 | 2314.06 N | 557.59 E | 2307.69 | 1.68 |
| 6814.00 | 89.78 | 15.03 | 4758.89 | 2405.82 N | 582.20 E | 2399.16 | 0.29 |
| 6908.00 | 90.86 | 14.73 | 4758.36 | 2496.66 N | 606.33 E | 2489.73 | 1.19 |
| 7003.00 | 89.54 | 15.60 | 4758.03 | 2588.35 N | 631.19 E | 2581.14 | 1.67 |
| 7097.00 | 90.31 | 15.52 | 4758.16 | 2678.90 N | 656.40 E | 2671.40 | 0.83 |
| 7192.00 | 88.80 | 15.85 | 4758.90 | 2770.36 N | 682.08 E | 2762.57 | 1.63 |
| 7287.00 | 89.41 | 15.40 | 4760.38 | 2861.84 N | 707.66 E | 2853.75 | 0.80 |
| 7381.00 | 90.34 | 14.83 | 4760.58 | 2952.58 N | 732.18 E | 2944.22 | 1.16 |
| 7476.00 | 88.36 | 15.77 | 4761.66 | 3044.20 N | 757.24 E | 3035.56 | 2.30 |
| 7570.00 | 89.14 | 15.59 | 4763.71 | 3134.68 N | 782.65 E | 3125.74 | 0.84 |
| 7665.00 | 90.65 | 15.42 | 4763.89 | 3226.22 N | 808.04 E | 3216.99 | 1.60 |
| 7759.00 | 92.10 | 14.69 | 4761.64 | 3316.97 N | 832.45 E | 3307.46 | 1.72 |
| 7854.00 | 91.11 | 15.77 | 4758.98 | 3408.59 N | 857.40 E | 3398.80 | 1.54 |
| 7948.00 | 89.60 | 16.95 | 4758.39 | 3498.78 N | 883.88 E | 3488.69 | 2.04 |
| 8043.00 | 91.21 | 17.54 | 4757.73 | 3589.50 N | 912.04 E | 3579.09 | 1.80 |
| 8137.00 | 89.17 | 17.27 | 4757.42 | 3679.19 N | 940.16 E | 3668.46 | 2.19 |
| 8232.00 | 90.03 | 17.17 | 4758.08 | 3769.93 N | 968.28 E | 3758.88 | 0.92 |
| 8326.00 | 90.86 | 16.81 | 4757.35 | 3859.83 N | 995.74 E | 3848.46 | 0.97 |
| 8421.00 | 89.72 | 15.23 | 4756.86 | 3951.13 N | 1021.95 E | 3939.47 | 2.05 |
| 8515.00 | 90.31 | 13.83 | 4756.84 | 4042.12 N | 1045.53 E | 4030.19 | 1.62 |
| 8610.00 | 88.86 | 13.01 | 4757.53 | 4134.53 N | 1067.58 E | 4122.34 | 1.75 |
| 8704.00 | 89.66 | 12.48 | 4758.75 | 4226.20 N | 1088.31 E | 4213.78 | 1.02 |
| 8799.00 | 90.62 | 12.80 | 4758.51 | 4318.90 N | 1109.10 E | 4306.24 | 1.07 |
| 8893.00 | 91.45 | 12.34 | 4756.82 | 4410.63 N | 1129.55 E | 4397.73 | 1.01 |
| 8988.00 | 92.72 | 12.36 | 4753.36 | 4503.37 N | 1149.86 E | 4490.24 | 1.34 |
| 9013.00 | 93.08 | 12.72 | 4752.10 | 4527.74 N | 1155.28 E | 4514.55 | 2.04 |
| 9063.00 | 93.08 | 12.72 | 4749.41 | 4576.44 N | 1166.27 E | 4563.13 | 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 359.36 DEGREES (TRUE)

A TOTAL CORRECTION OF 4.75 DEG FROM MAGNETIC NORTH TO TRUE NORTH HAS BEEN APPLIED

A TOTAL CORRECTION OF 4.75 DEG FROM MAGNETIC NORTH TO TRUE NORTH HAS BEEN APPLIED

HORIZONTAL DISPLACEMENT IS RELATIVE TO THE WELL HEAD.
HORIZONTAL DISPLACEMENT(CLOSURE) AT 9063.00 FEET
IS 4722.71 FEET ALONG 14.30 DEGREES (TRUE)

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