

5" = 100' FEET MD

COMPANY : ANADARKO E&P ONSHORE LLC
WELL : LAND FED 29N-29HZ
FIELD : WATTENBERG
COUNTY : WELD
STATE : COLORADO
COUNTRY : U.S.A.
UWI : 0512342393

COMPANY : ANADARKO E&P ONSHORE LLC
WELL : LAND FED 29N-29HZ
FIELD : WATTENBERG
COUNTY : WELD
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COUNTRY : U.S.A.
UWI : 0512342393

WELL LOCATION

LAT:40.0990270°N LONG:104.8056270°W
N:114562852.90 ft E:1694772.31 ft

SEC:32

TWP:2N

RANGE:66W

OTHER SERVICES

DIRECTIONAL
ROP

DEPTH REF. : RKB

REF. HEIGHT : 20.000 ft

GROUND LEVEL : 4899.000 ft

G.L. to MEAN SEA LEVEL

BOREHOLE RECORD

DEVIATION RECORD

| HOLE SIZE in | FROM ft | TO ft | INCLINATION deg | FROM ft | TO ft |
|--------------|---------|-------|-----------------|---------|-------|
|--------------|---------|-------|-----------------|---------|-------|

| | | | | | |
|------|---|------|--------|---|------|
| 13.5 | 0 | 1900 | 0 - 10 | 0 | 2837 |
|------|---|------|--------|---|------|

| | | | | | |
|-----|------|--|--------|------|------|
| 8.5 | 1900 | | 10 - 0 | 2837 | 4158 |
|-----|------|--|--------|------|------|

| | | | | | |
|--|--|--|---|------|------|
| | | | 0 | 4158 | 6604 |
|--|--|--|---|------|------|

| | | | | | |
|--|--|--|--------|------|------|
| | | | 0 - 90 | 6604 | 8112 |
|--|--|--|--------|------|------|

| | | | | | |
|--|--|--|---------|------|------|
| | | | 89 - 92 | 8112 | XXXX |
|--|--|--|---------|------|------|

CASING RECORD

| CASING SIZE in | FROM ft | TO ft |
|----------------|---------|-------|
|----------------|---------|-------|

| | | |
|-------|---|------|
| 9.625 | 0 | 1900 |
|-------|---|------|

DRILLING CO. : PRECISION

RIG : 461

LWD UNIT NO. : RWD-00282-CDISTRICT : CASPER

SPUD DATE : 06/09/2016

LWD START DATE : 06/09/2016

DEPTH : 1900 ft

LWD END DATE :

TOTAL DEPTH :

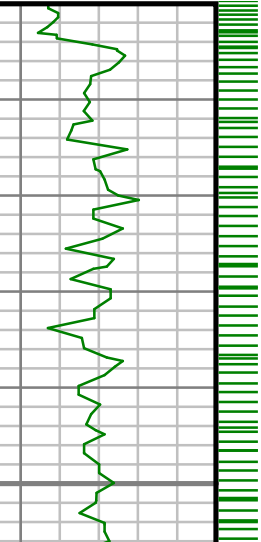
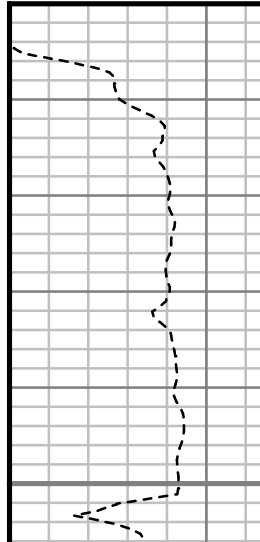
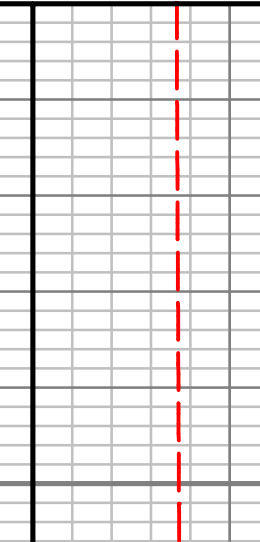
Run Data

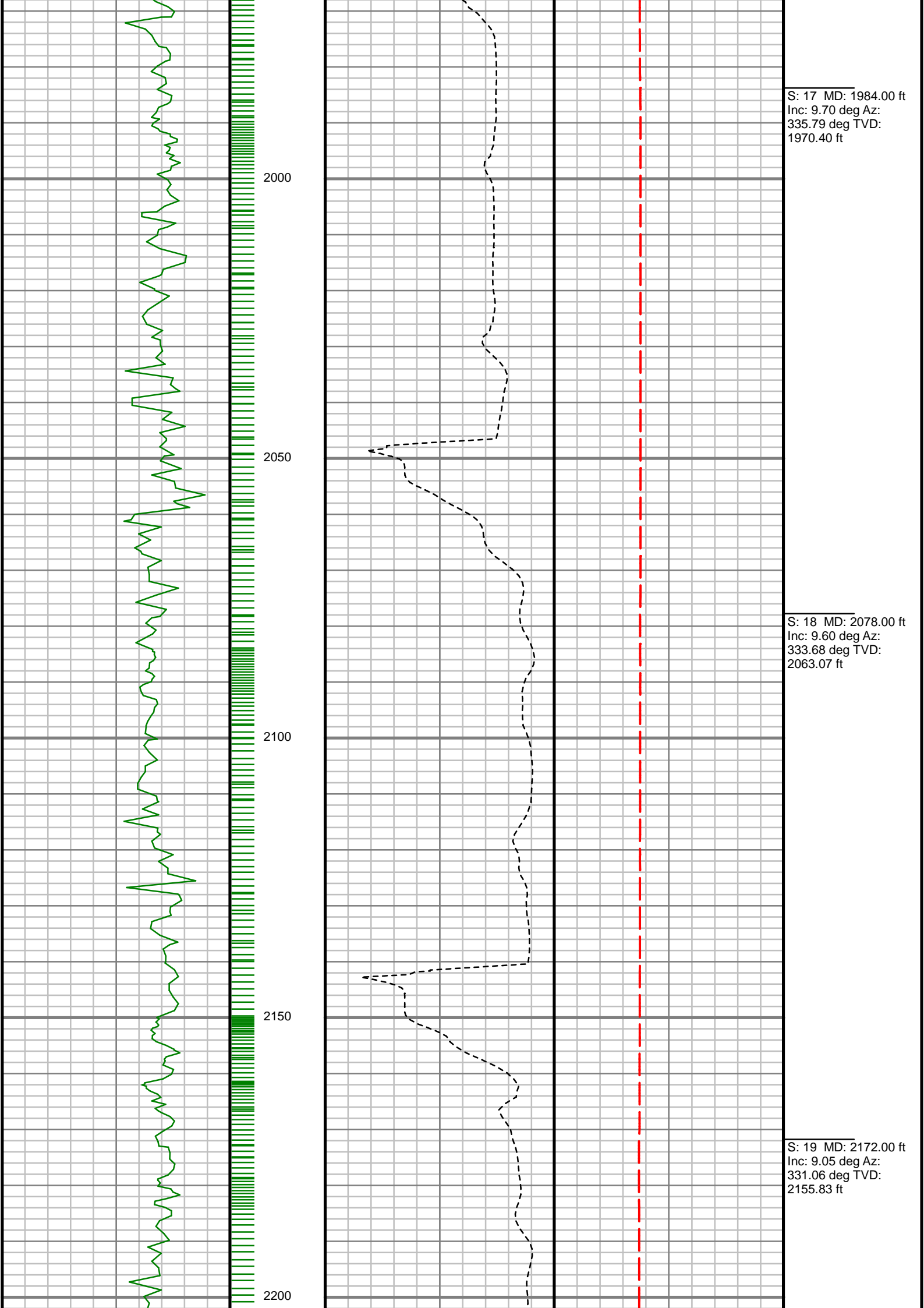
| RUN NUMBER | 1 | 2 | 3 | | | |
|-----------------------|------------|------------|------------|--|--|--|
| START DATE | 06/09/2016 | 06/11/2016 | 06/13/2016 | | | |
| START TIME | 1830 | 1200 | 03:00 | | | |
| END DATE | 06/11/2016 | 06/13/2016 | 06/13/2016 | | | |
| END TIME | 1200 | 0300 | 0130 | | | |
| DEPTH IN (ft) | 1900 | 9071 | 12092 | | | |
| DEPTH OUT (ft) | 9071 | 12092 | 12985 | | | |
| LOG TOP (ft) | 1900 | 9071 | 12034 | | | |
| LOG BOTTOM (ft) | 9071 | 12034 | 12927 | | | |
| HOLE SIZE (in) | 8.5 | 8.5 | 8.5 | | | |
| MUD DATA @ (ft) | 7404 | 11178 | 11954 | | | |
| MUD TYPE | OIL-BASED | OIL-BASED | OIL-BASED | | | |
| DENSITY (lb / gal) | 9.5 | 9.7 | 9.7 | | | |
| VISCOSITY (s / qt) | 52 | 76 | 66 | | | |
| pH | - | - | - | | | |
| FLUID LOSS (cm3 / 30) | 7.8 | 3 @ 250 | 5 @ 250 | | | |
| SALINITY (ppm) | - | - | - | | | |
| Rm (ohmm @ deg F) | - | - | - | | | |
| Rmf (ohmm @ deg F) | - | - | - | | | |
| MAX TEMP (deg F) | 194 | 223 | 220 | | | |
| Rm @ MAX TEMP (ohmm) | - | - | - | | | |
| LWD ENGINEER #1 | J. MEYERS | J. MEYERS | Z. BROWN | | | |
| LWD ENGINEER #2 | Z. BROWN | Z. BROWN | C. WRIGHT | | | |
| LWD ENGINEER #3 | - | C. WRIGHT | - | | | |
| LOG WITNESS #1 | - | - | - | | | |
| LOG WITNESS #2 | - | - | - | | | |

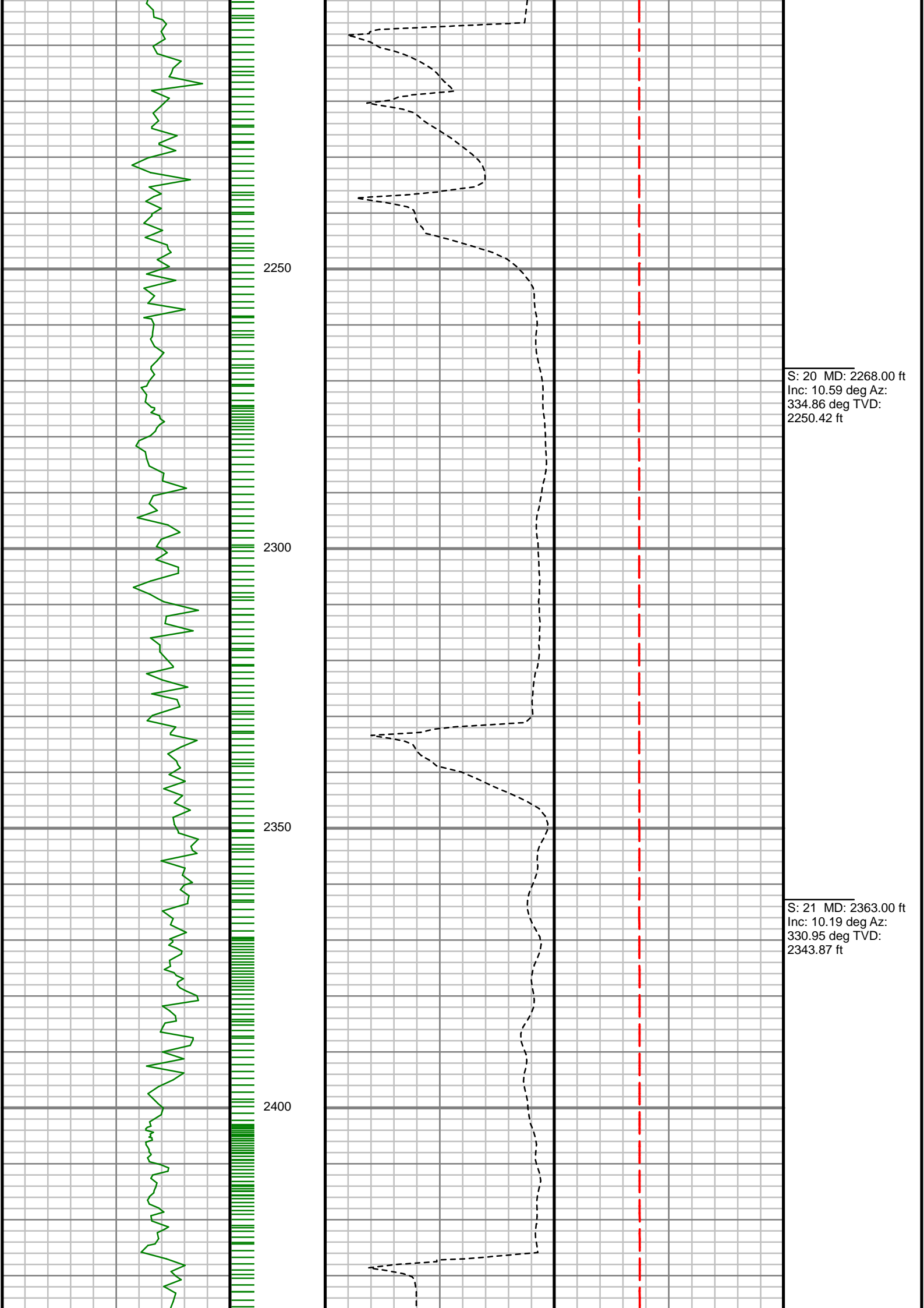
| Remarks |
|--|
| ANADARKO E&P ONSHORE LLC PRODUCTION AFE# 2122894 |
| SCIENTIFIC DRILLING INTERNATIONAL JOB# 365882 |
| |
| ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH. |
| ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE. |
| |
| FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY CURVE |
| FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE |
| FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO TOOL TEMPERATURE CURVE |
| |
| RUN # 1: MWD / GAMMA RAY LOGGING RUN |
| SENSORS S/N: PULSER = 128-094 / CONT = 862 / MWD EYE = 0797 / GAMMA RAY = 1264 |
| BIT TO SENSOR OFFSETS: SURVEY = 65.35 FT. / GAMMA RAY = 57.10 FT. |
| |
| RUN # 2: MWD / GAMMA RAY LOGGING RUN |
| SENSORS S/N: PULSER = 128-392 / CONT = 715 / MWD EYE = 0645 / GAMMA RAY = 1106 |
| BIT TO SENSOR OFFSETS: SURVEY = 66.26 FT. / GAMMA RAY = 58.01 FT. |
| |
| RUN # 3: MWD / GAMMA RAY LOGGING RUN |
| SENSORS S/N: PULSER = 128-392 / CONT = 715 / MWD EYE = 0645 / GAMMA RAY = 1106 |
| BIT TO SENSOR OFFSETS: SURVEY = 65.36 FT. / GAMMA RAY = 57.11 FT. |
| |
| MNEMONICS LIST: |
| GR = GAMMA RAY |
| ROP = RATE OF PENETRATION |
| T-TEMP = TOOL TEMPERATURE |

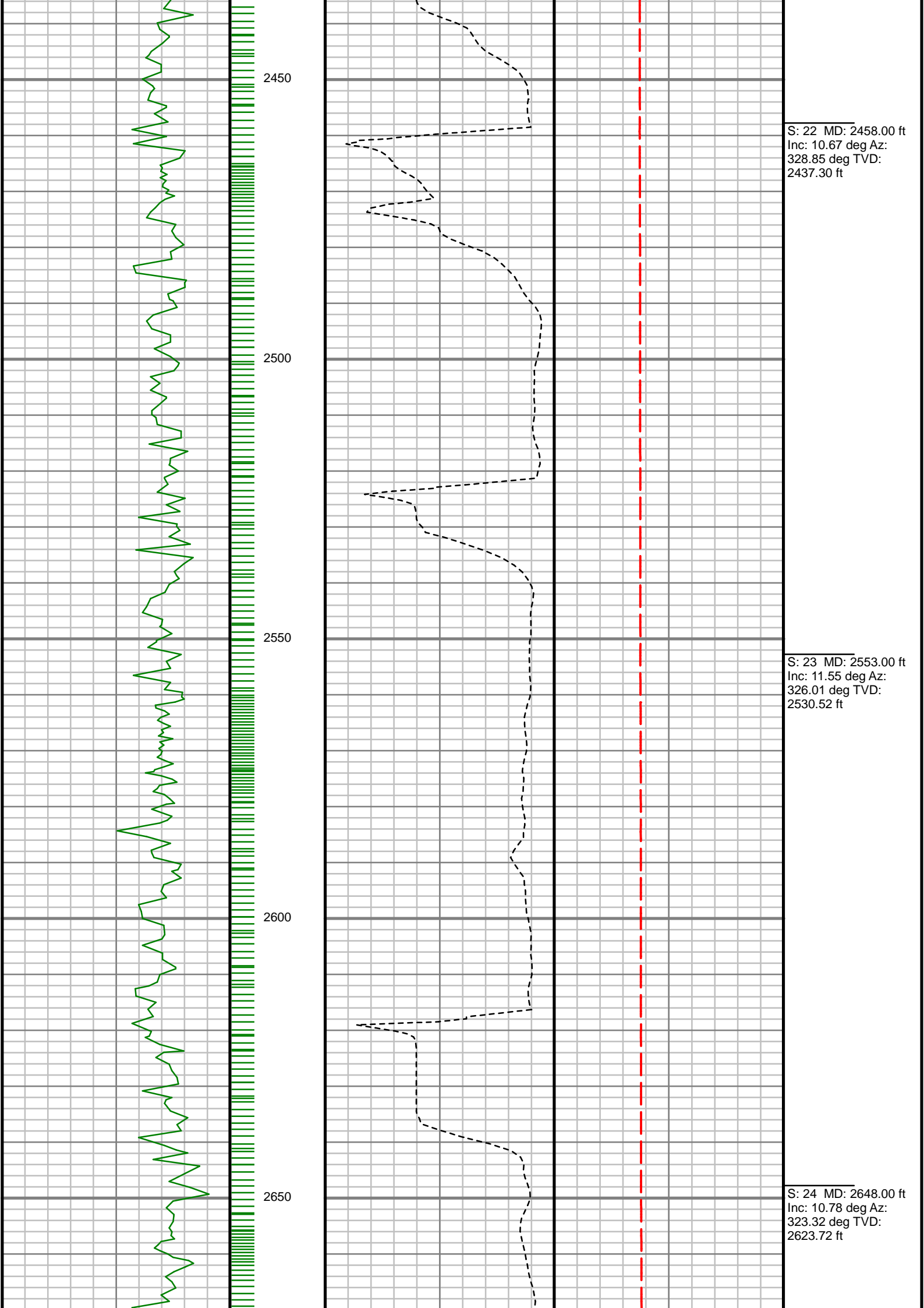
All interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions as set out in our current price schedule.

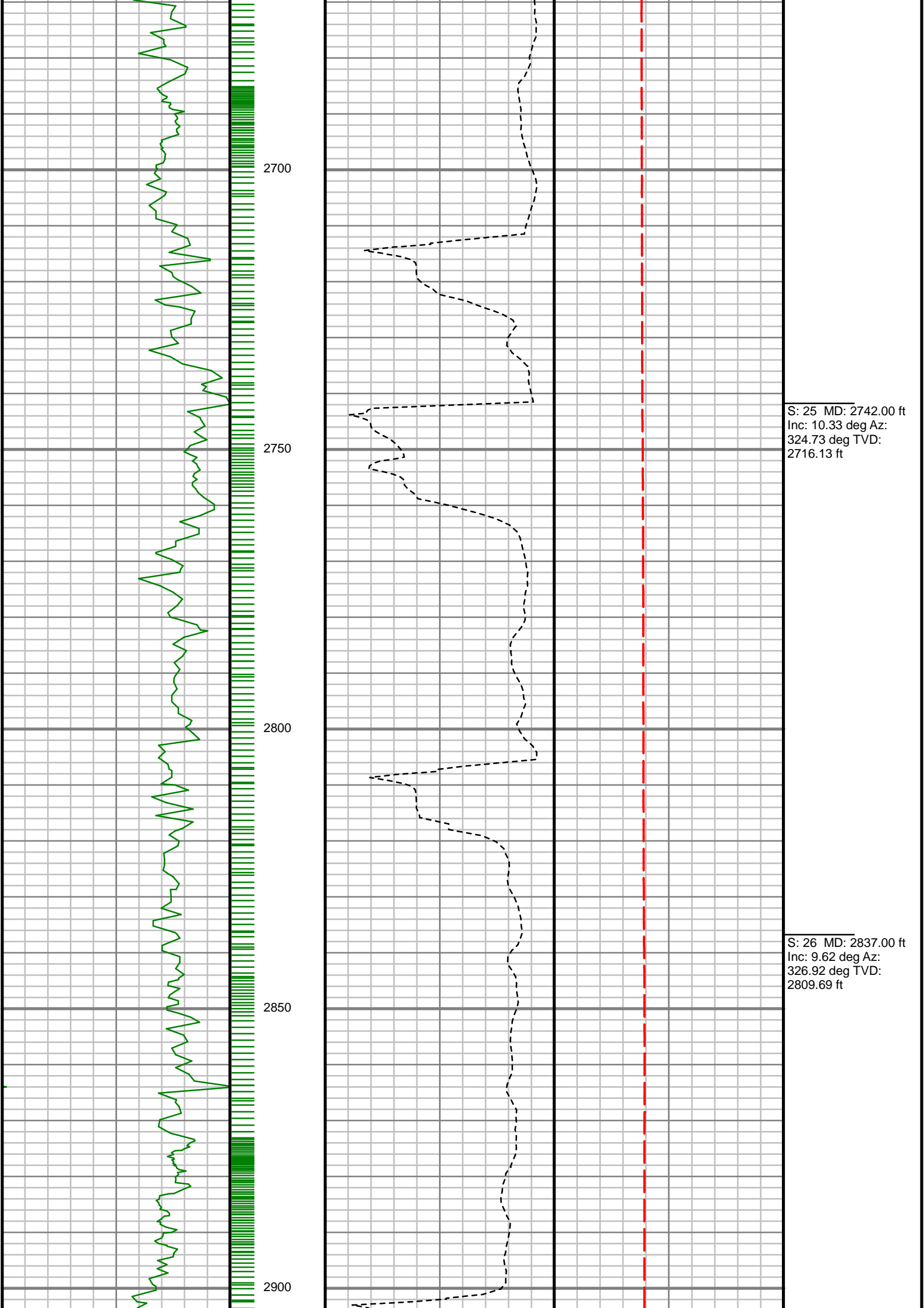
ANADARKO E&P ONSHORE LLC
 LAND FED 29N-29HZ
 WATTENBERG FIELD
 WELD COUNTY, COLORADO
 05123423930000

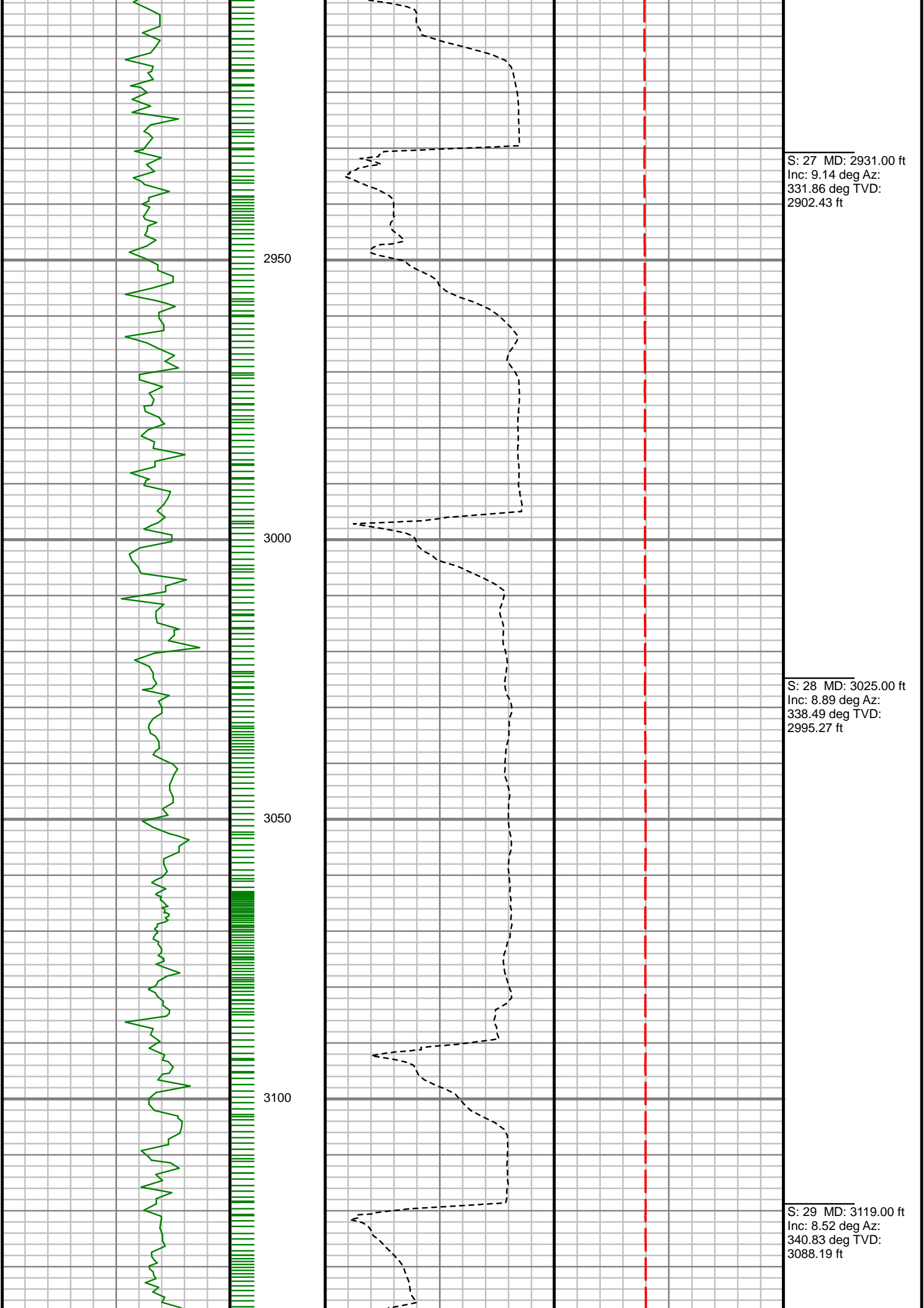
| <p>Gamma Ray (GR)</p> <hr/> <p>0 Unit = aapi 150</p> | <p>MEASURED DEPTH</p> <p>1:240 (ft)</p> | <p>Rate of Penetration (ROP)</p> <hr/> <p>0 Unit = ft/hr 1000</p> | <p>Tool Temperature (T-TEMP)</p> <hr/> <p>0 Unit = °F 300</p> | <p>Comments</p> |
|---|---|---|--|-----------------|
|  | <p>1950</p> |  |  | <p></p> |

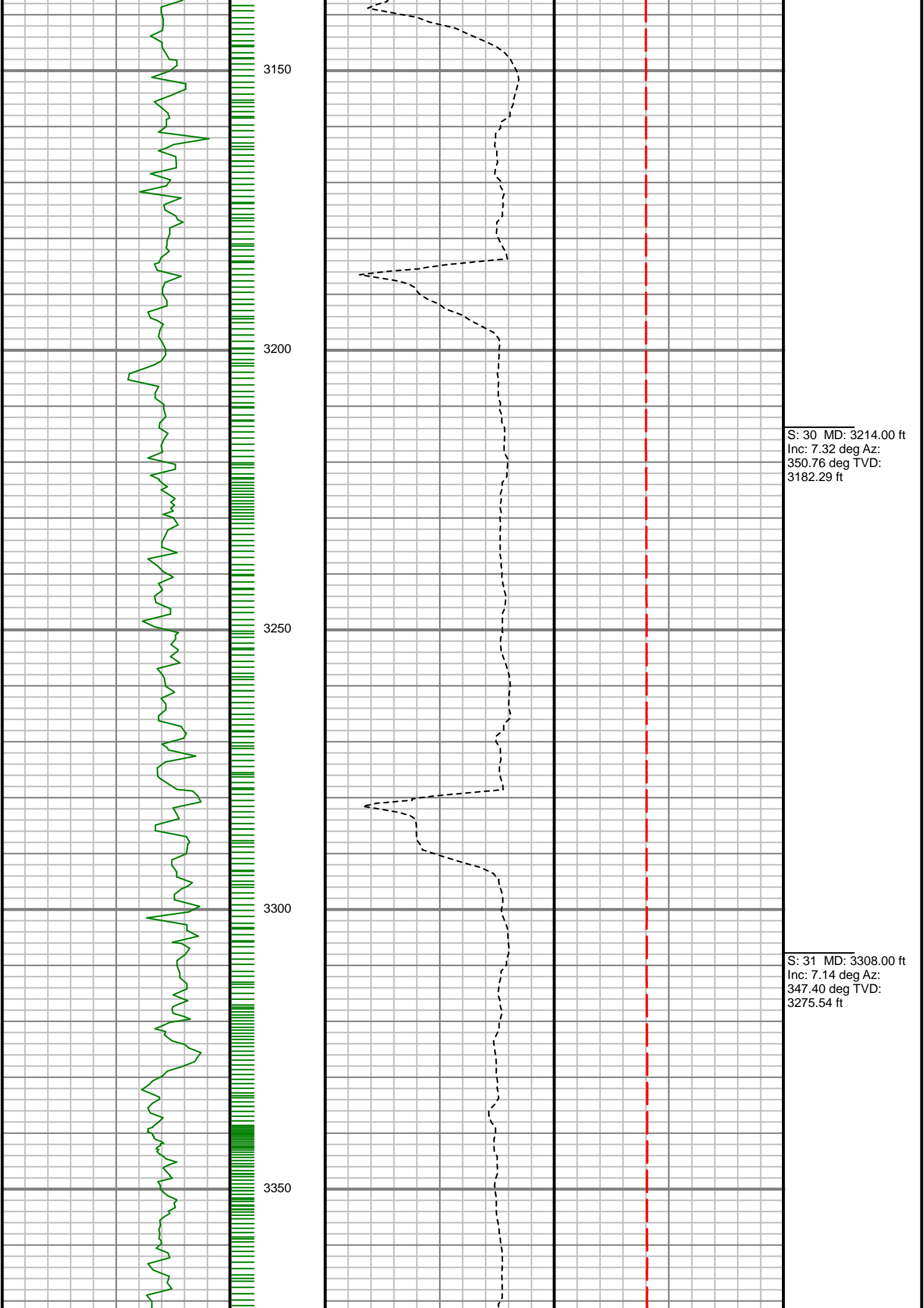


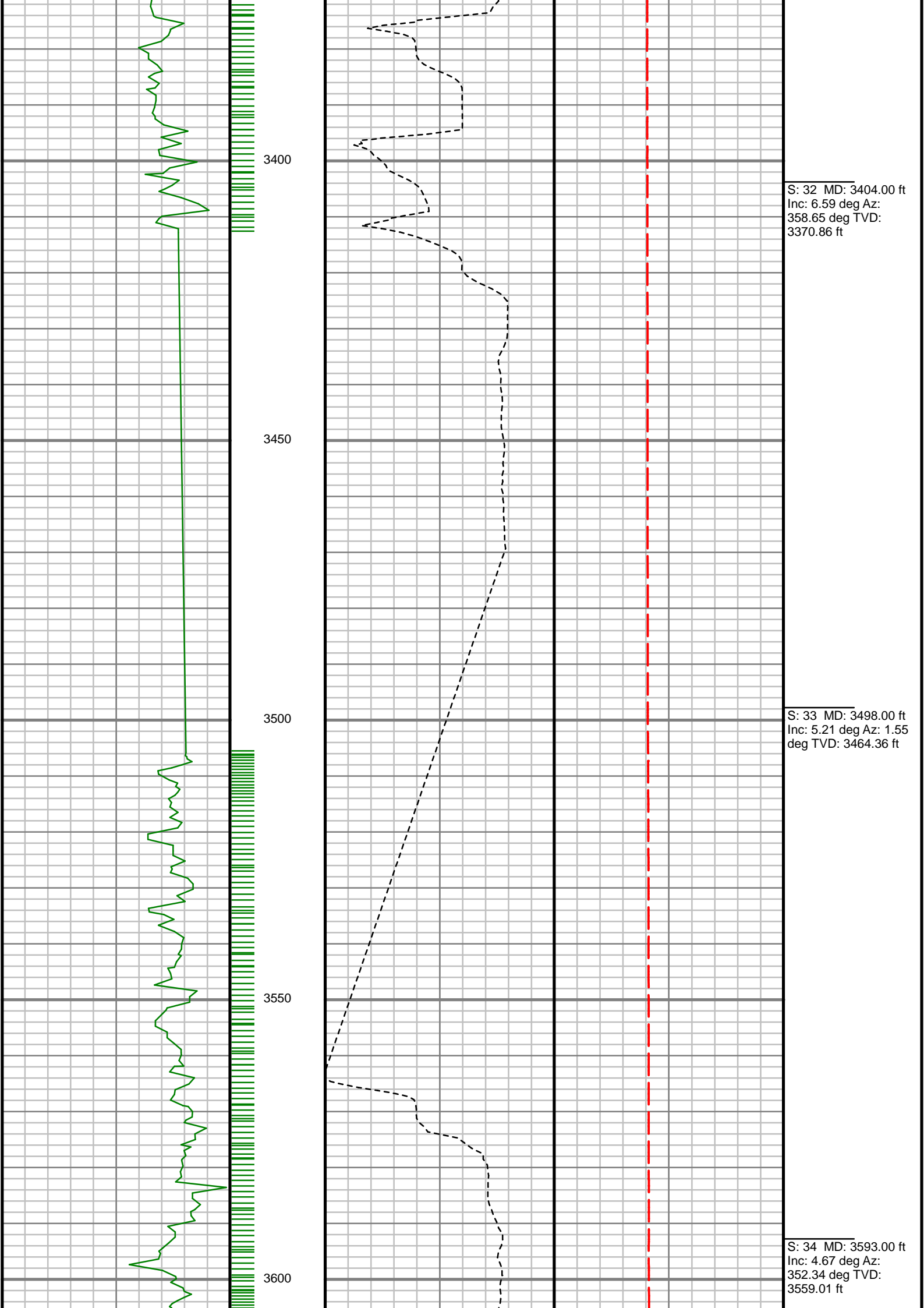


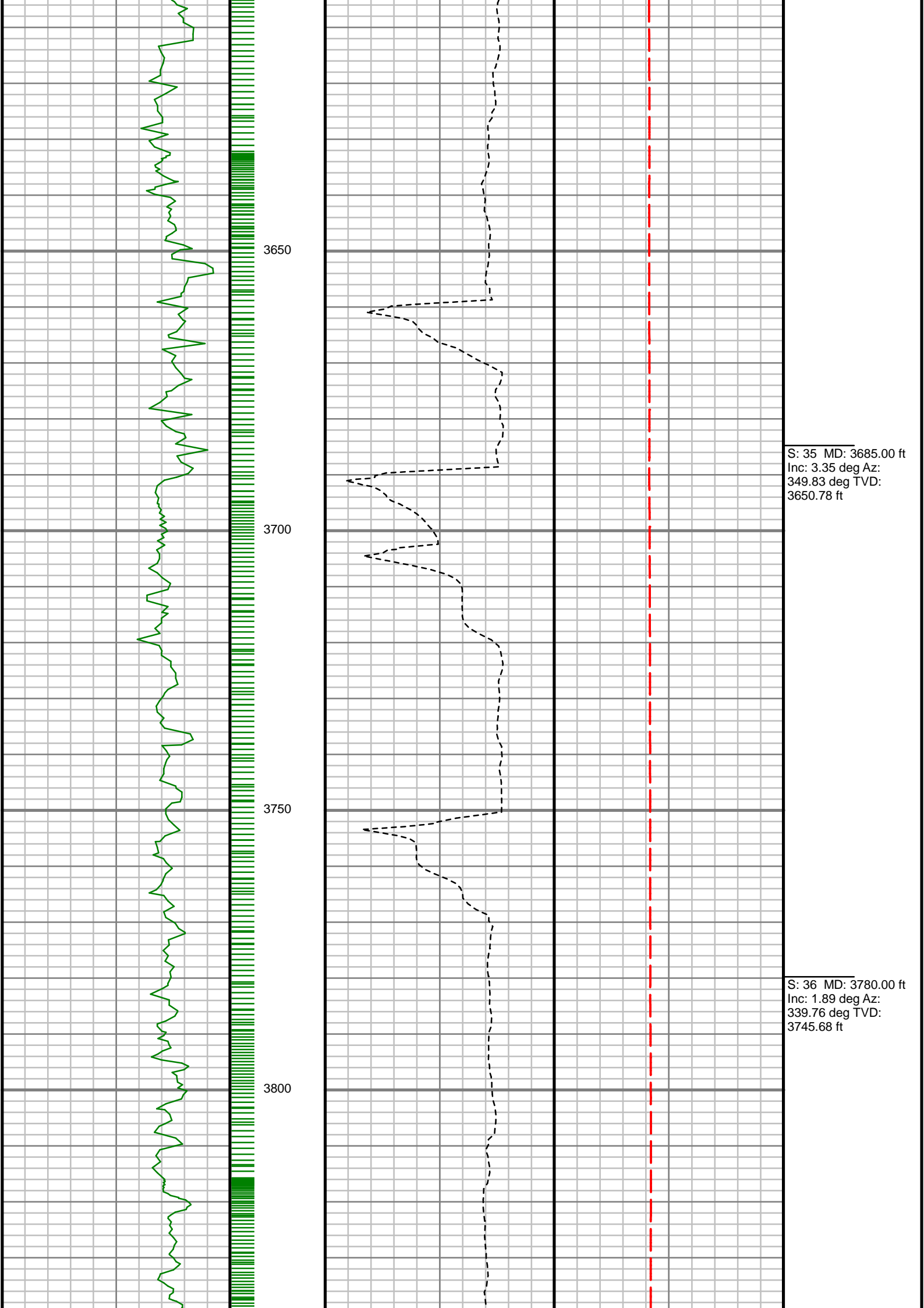


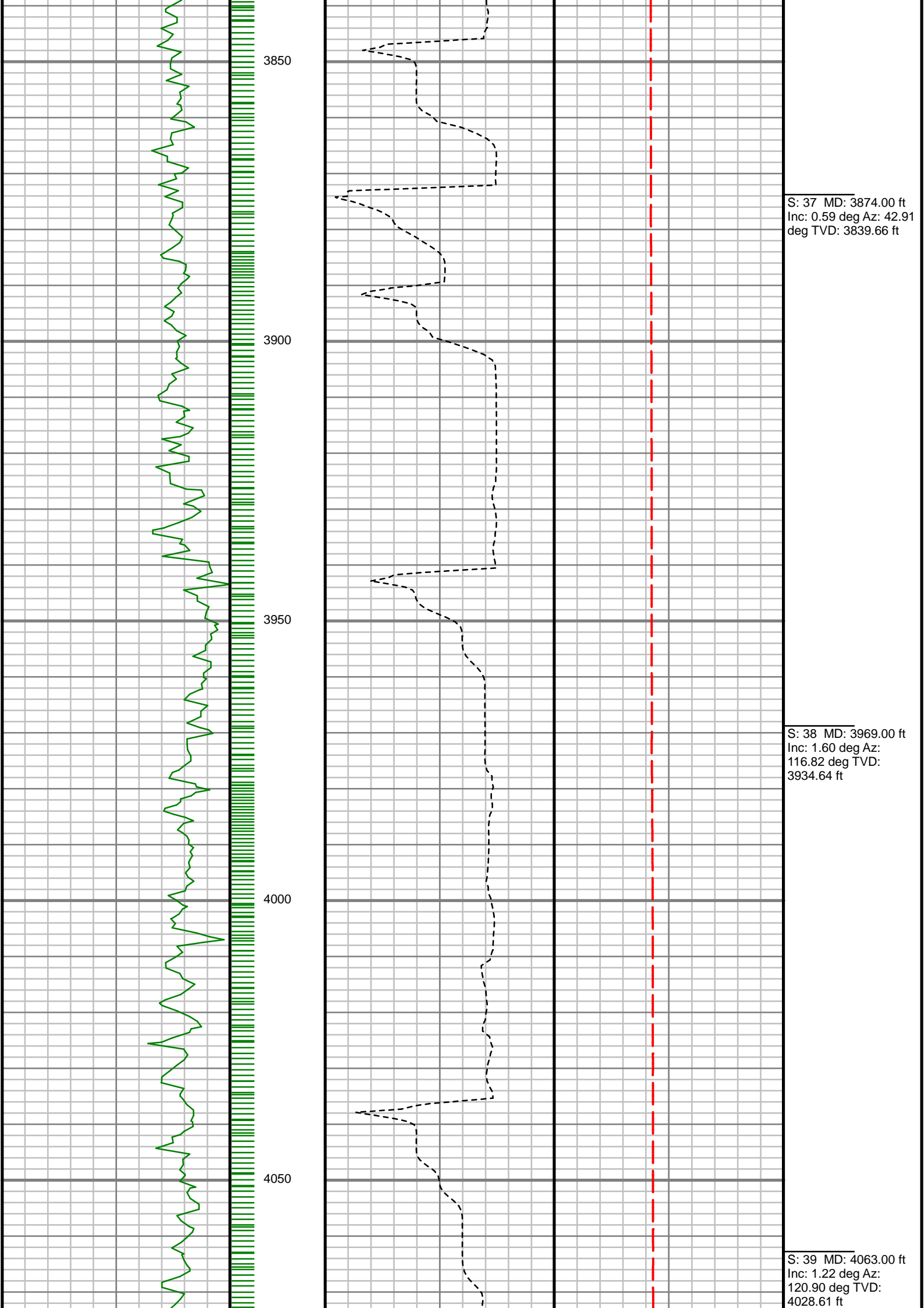


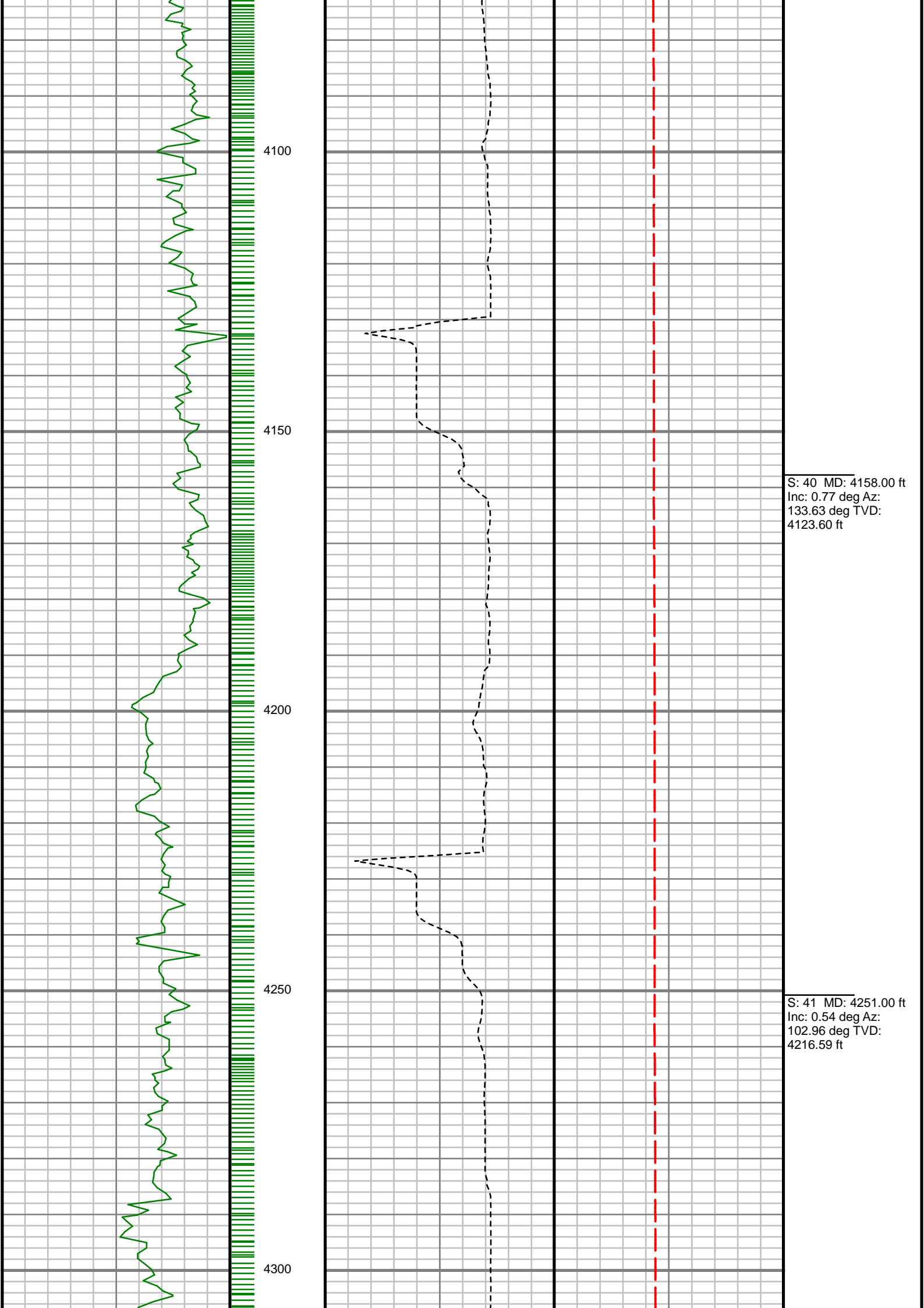






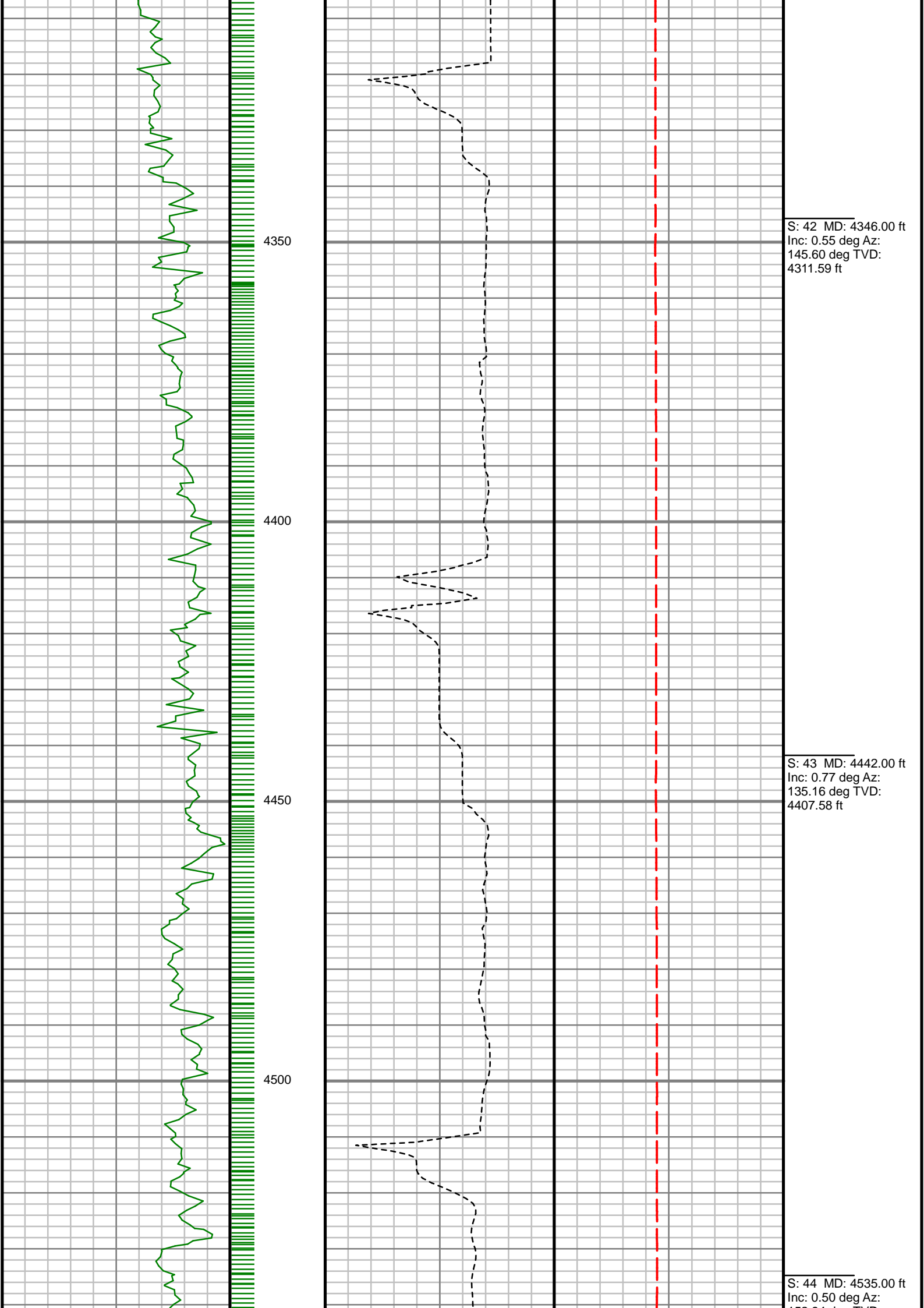






S: 40 MD: 4158.00 ft
Inc: 0.77 deg Az:
133.63 deg TVD:
4123.60 ft

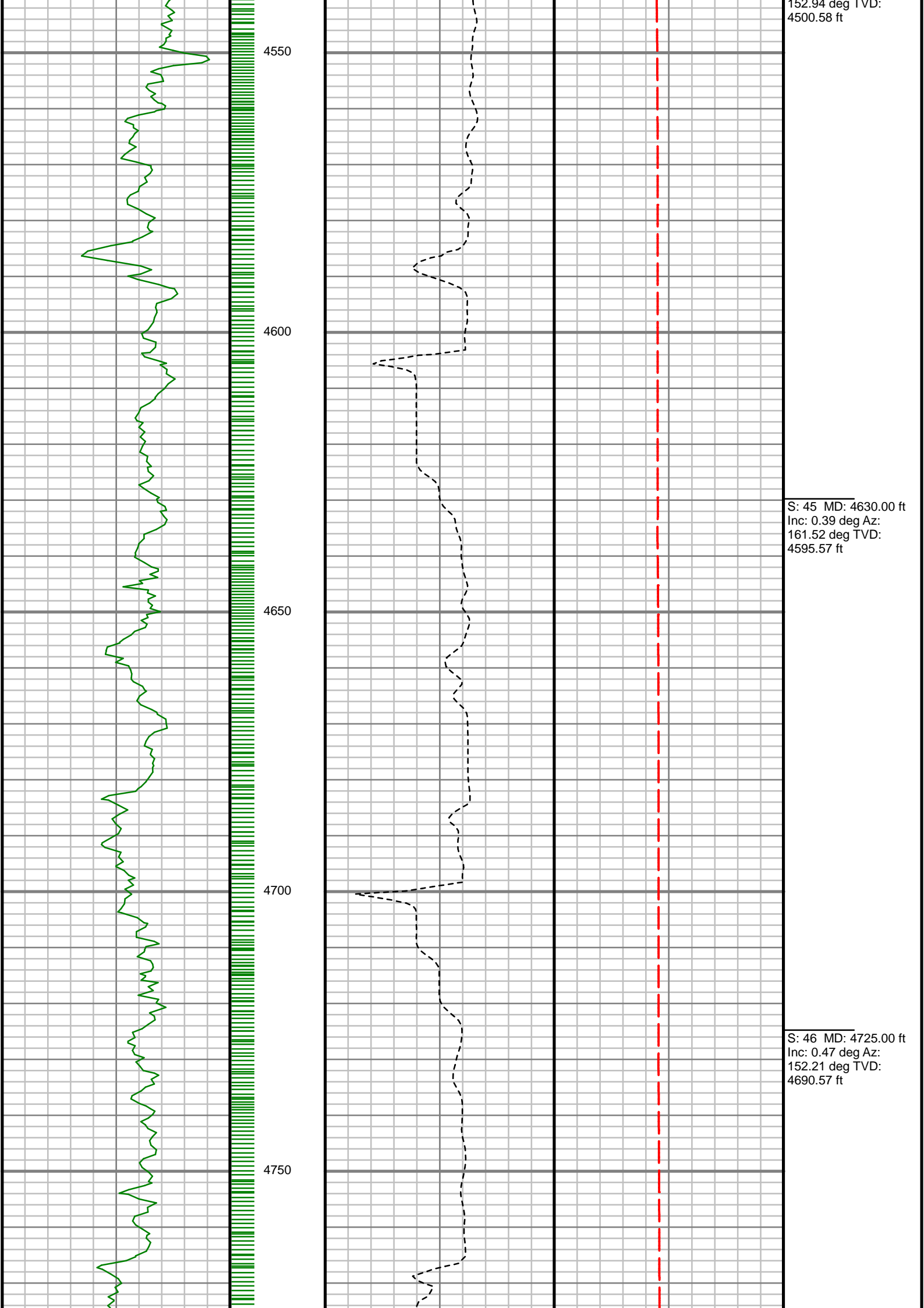
S: 41 MD: 4251.00 ft
Inc: 0.54 deg Az:
102.96 deg TVD:
4216.59 ft

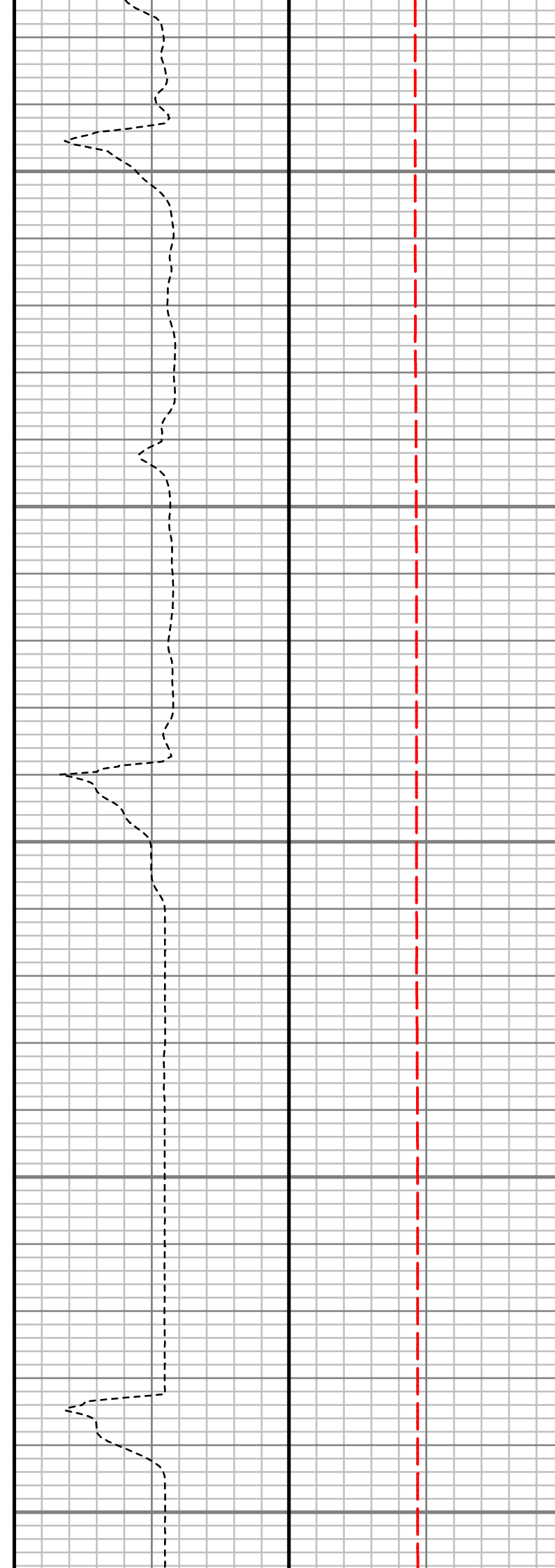
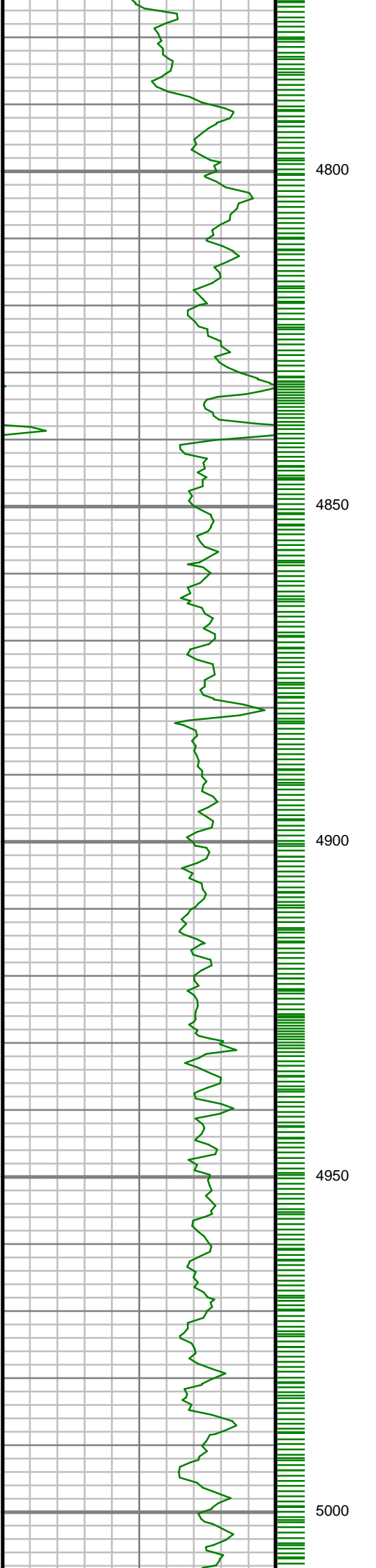


S: 42 MD: 4346.00 ft
Inc: 0.55 deg Az:
145.60 deg TVD:
4311.59 ft

S: 43 MD: 4442.00 ft
Inc: 0.77 deg Az:
135.16 deg TVD:
4407.58 ft

S: 44 MD: 4535.00 ft
Inc: 0.50 deg Az:

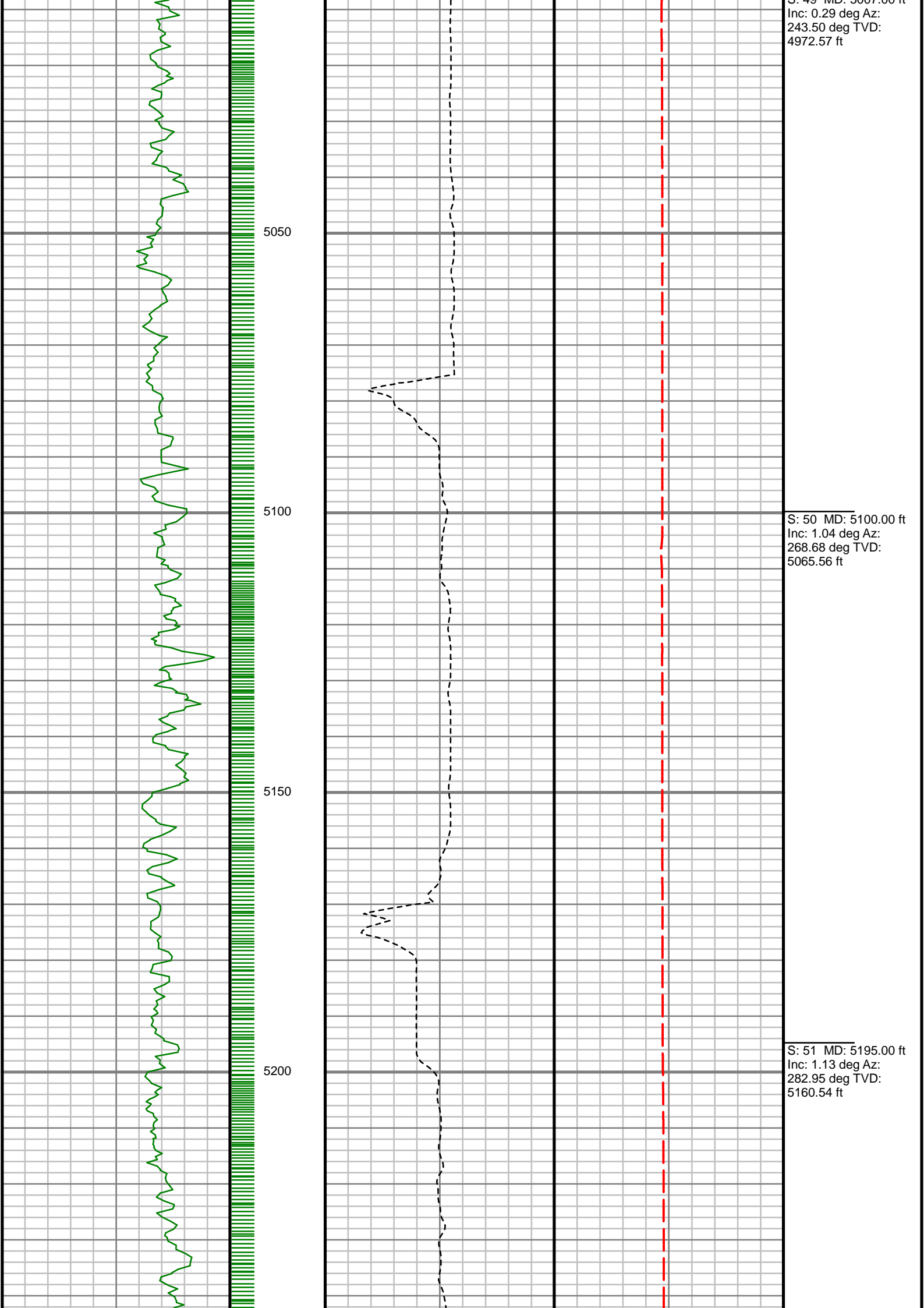




S: 47 MD: 4819.00 ft
Inc: 0.31 deg Az:
170.65 deg TVD:
4784.57 ft

S: 48 MD: 4914.00 ft
Inc: 0.20 deg Az:
218.73 deg TVD:
4879.57 ft

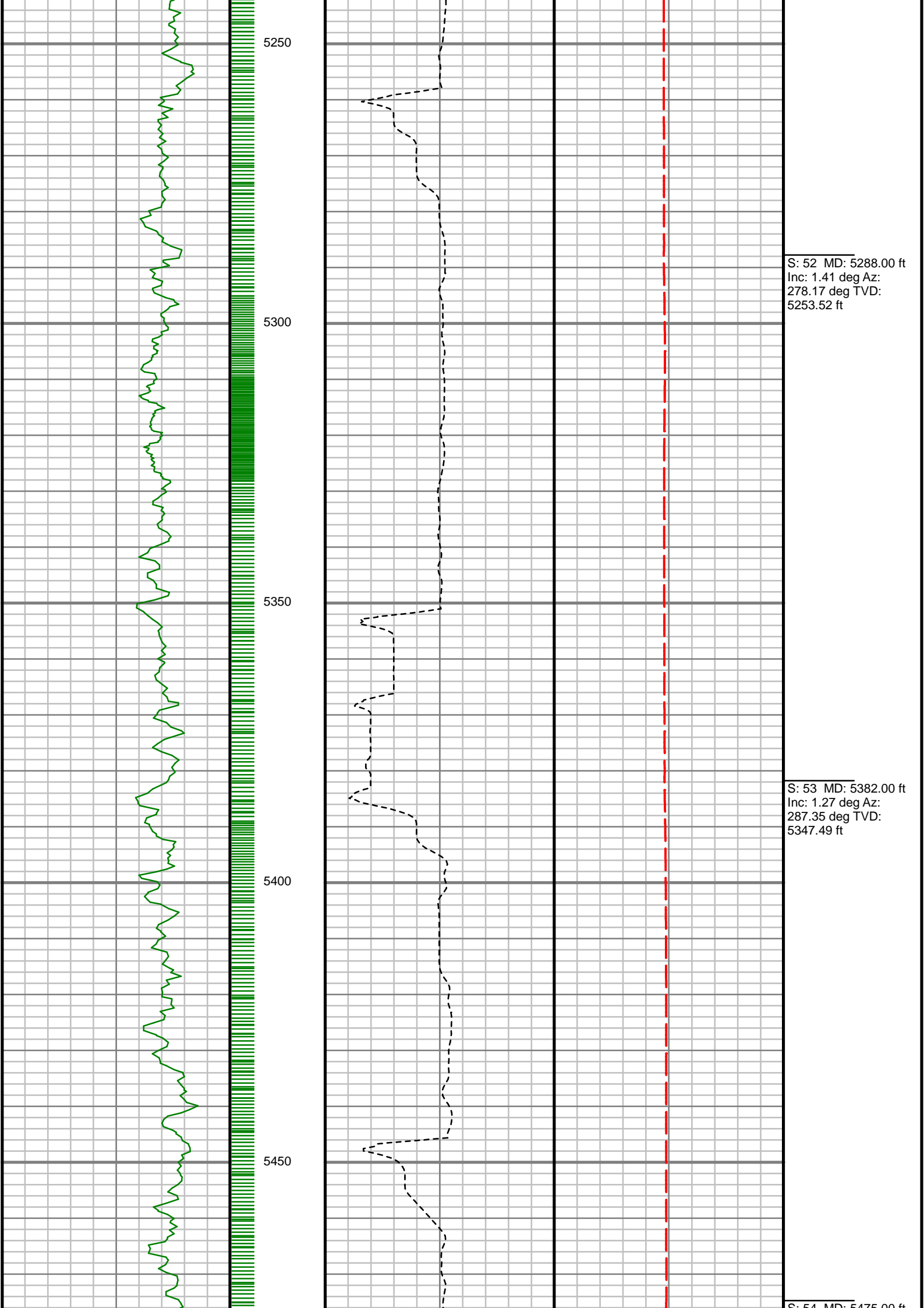
S: 49 MD: 5007.00 ft

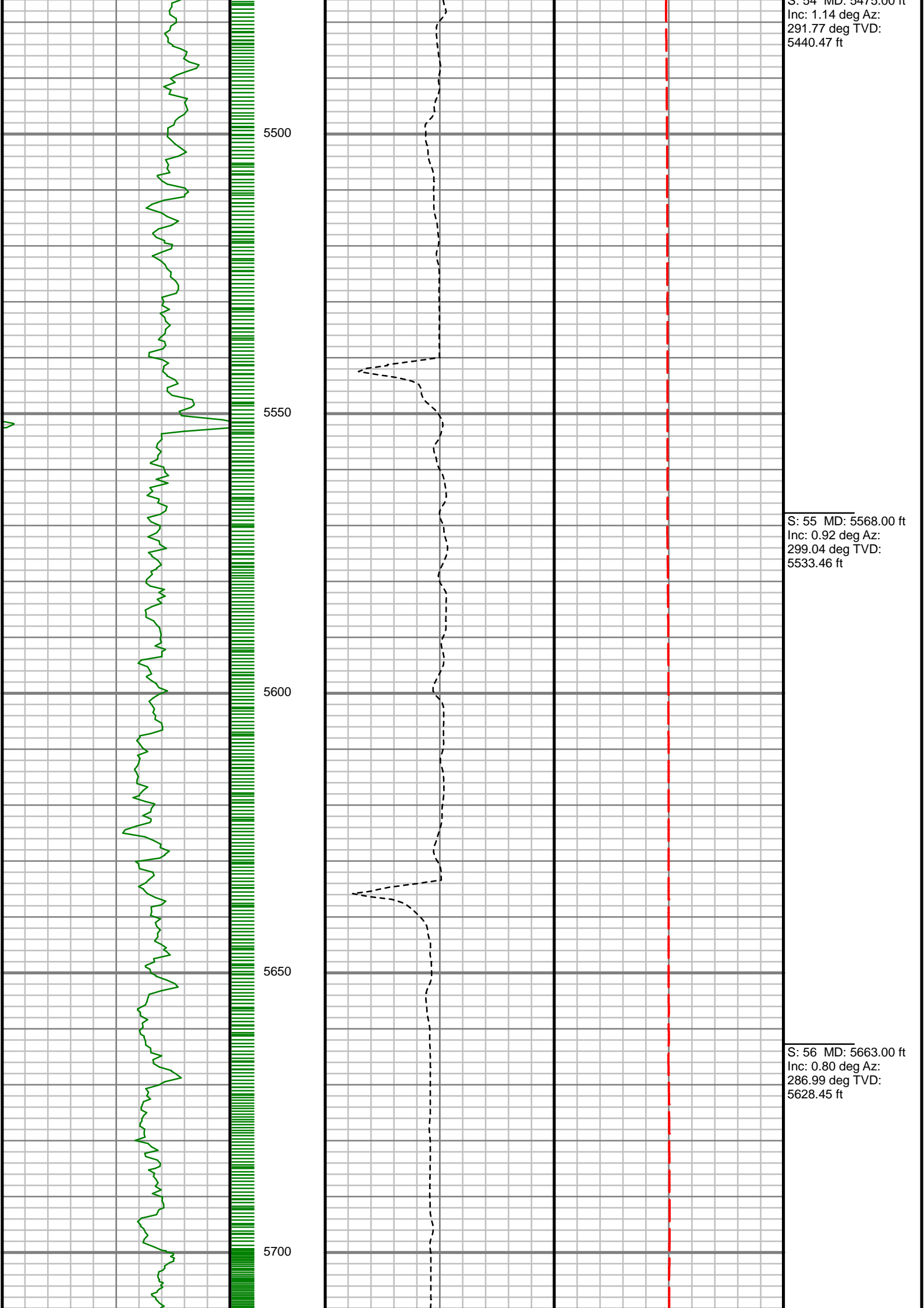


S: 49 MD: 5097.00 ft
Inc: 0.29 deg Az:
243.50 deg TVD:
4972.57 ft

S: 50 MD: 5100.00 ft
Inc: 1.04 deg Az:
268.68 deg TVD:
5065.56 ft

S: 51 MD: 5195.00 ft
Inc: 1.13 deg Az:
282.95 deg TVD:
5160.54 ft

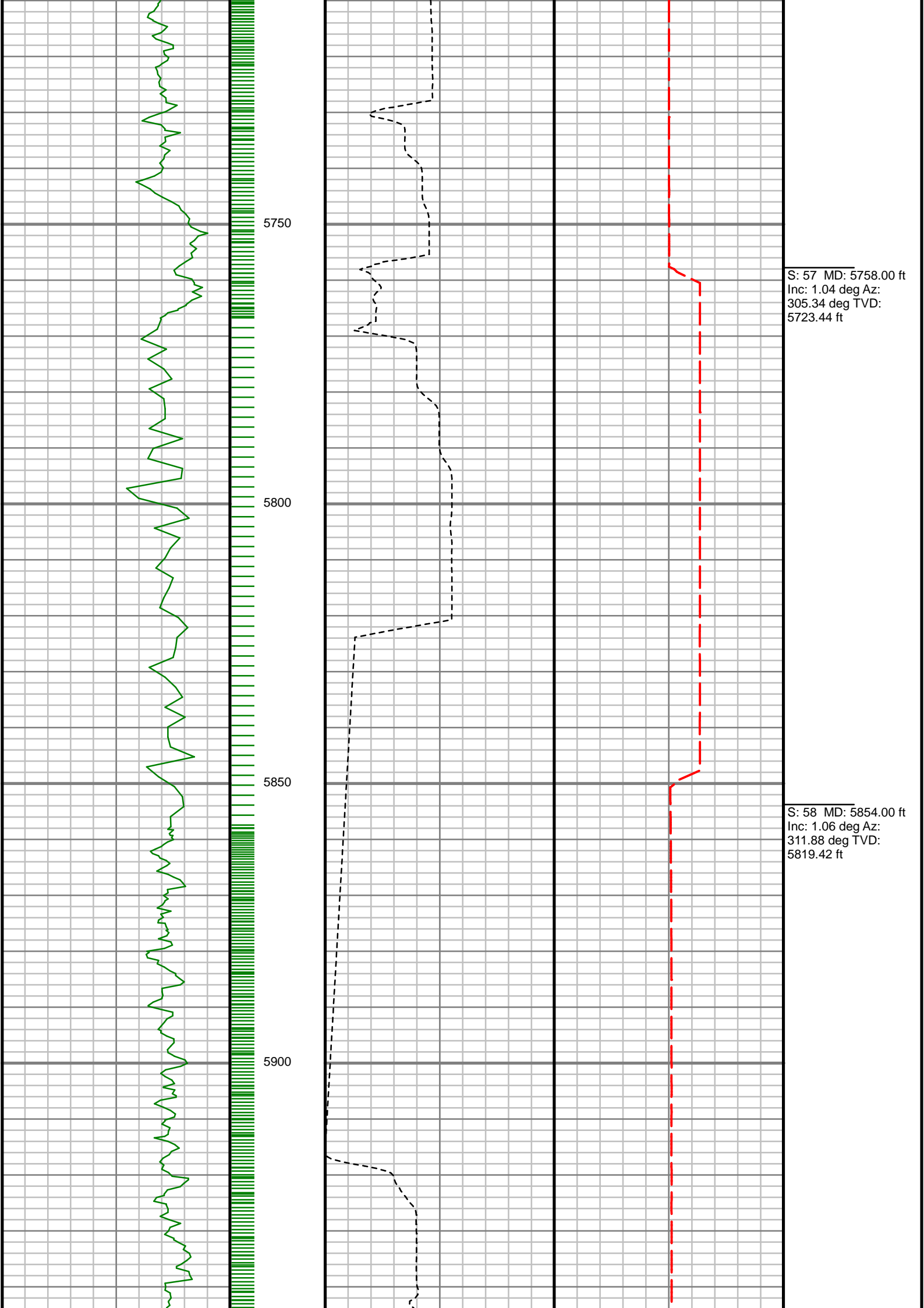




S: 34 MD: 5473.00 ft
Inc: 1.14 deg Az:
291.77 deg TVD:
5440.47 ft

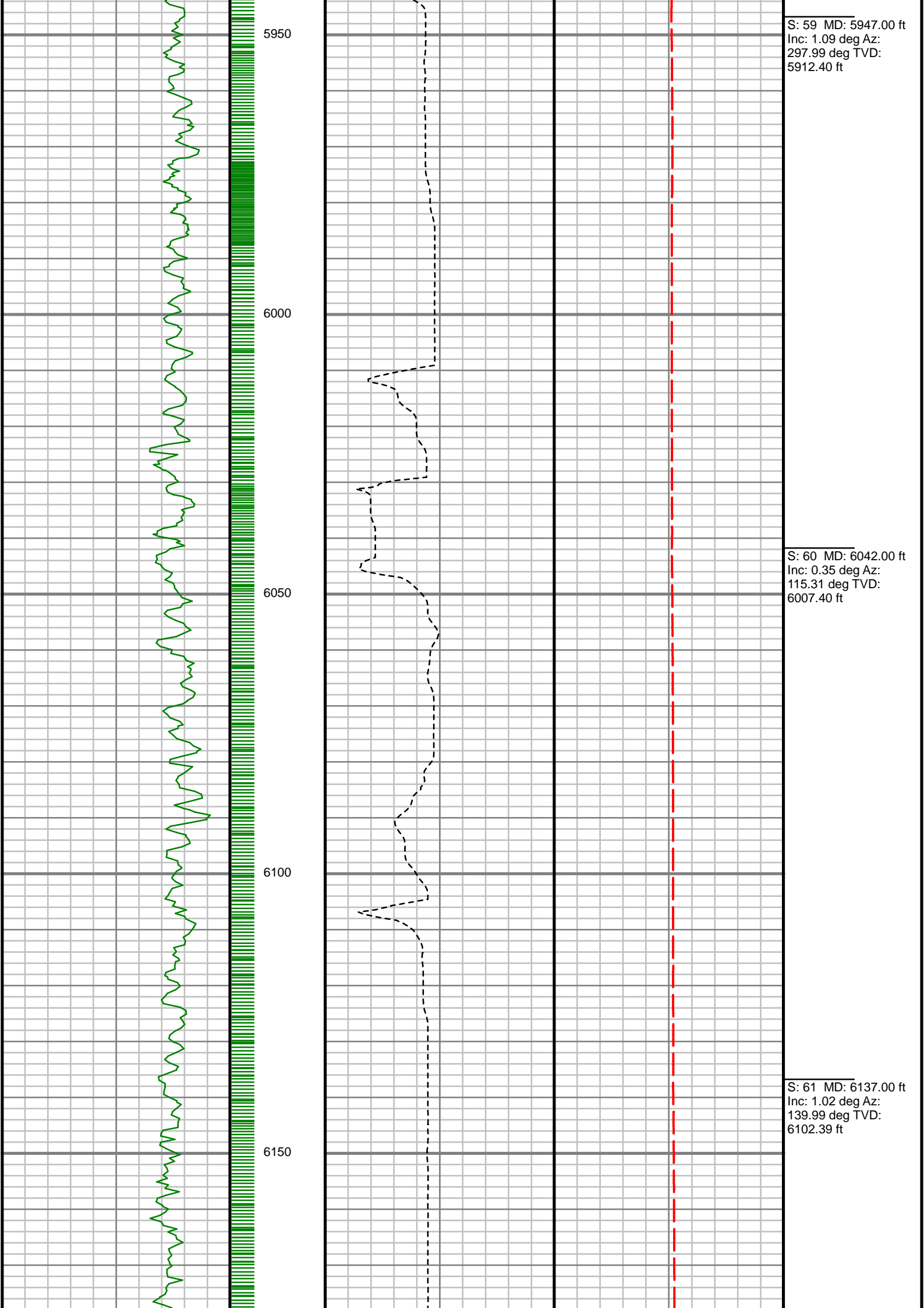
S: 55 MD: 5568.00 ft
Inc: 0.92 deg Az:
299.04 deg TVD:
5533.46 ft

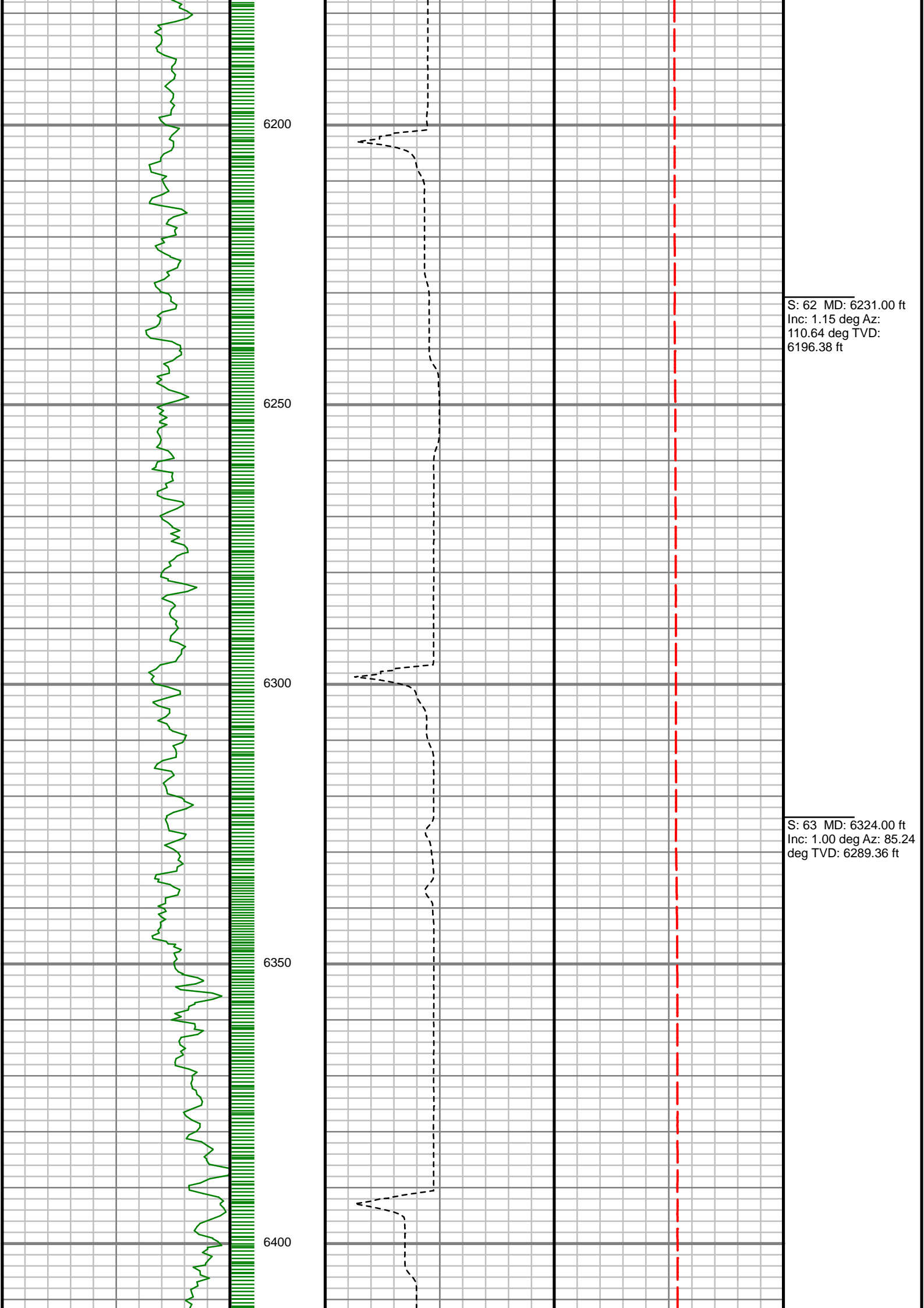
S: 56 MD: 5663.00 ft
Inc: 0.80 deg Az:
286.99 deg TVD:
5628.45 ft

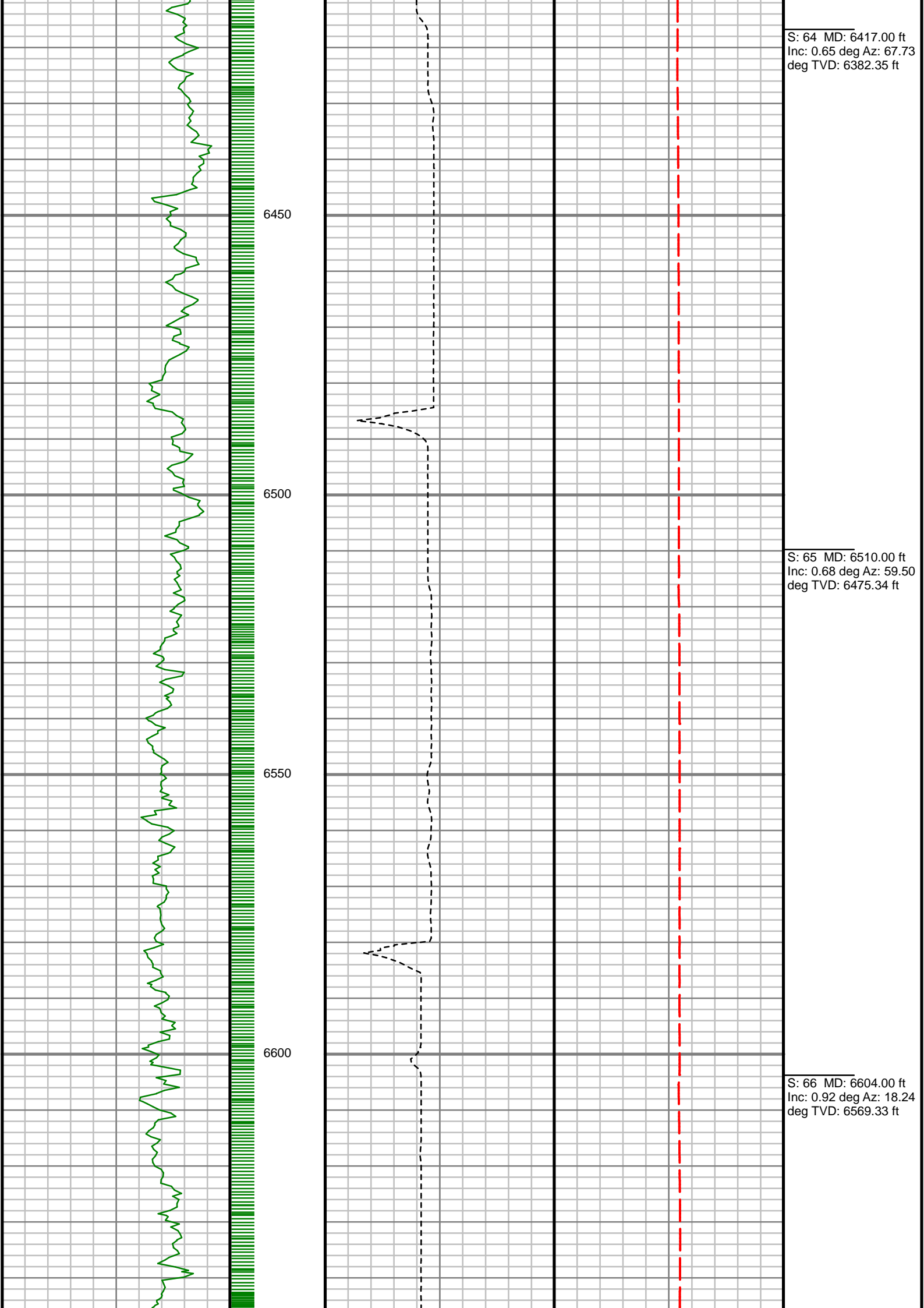


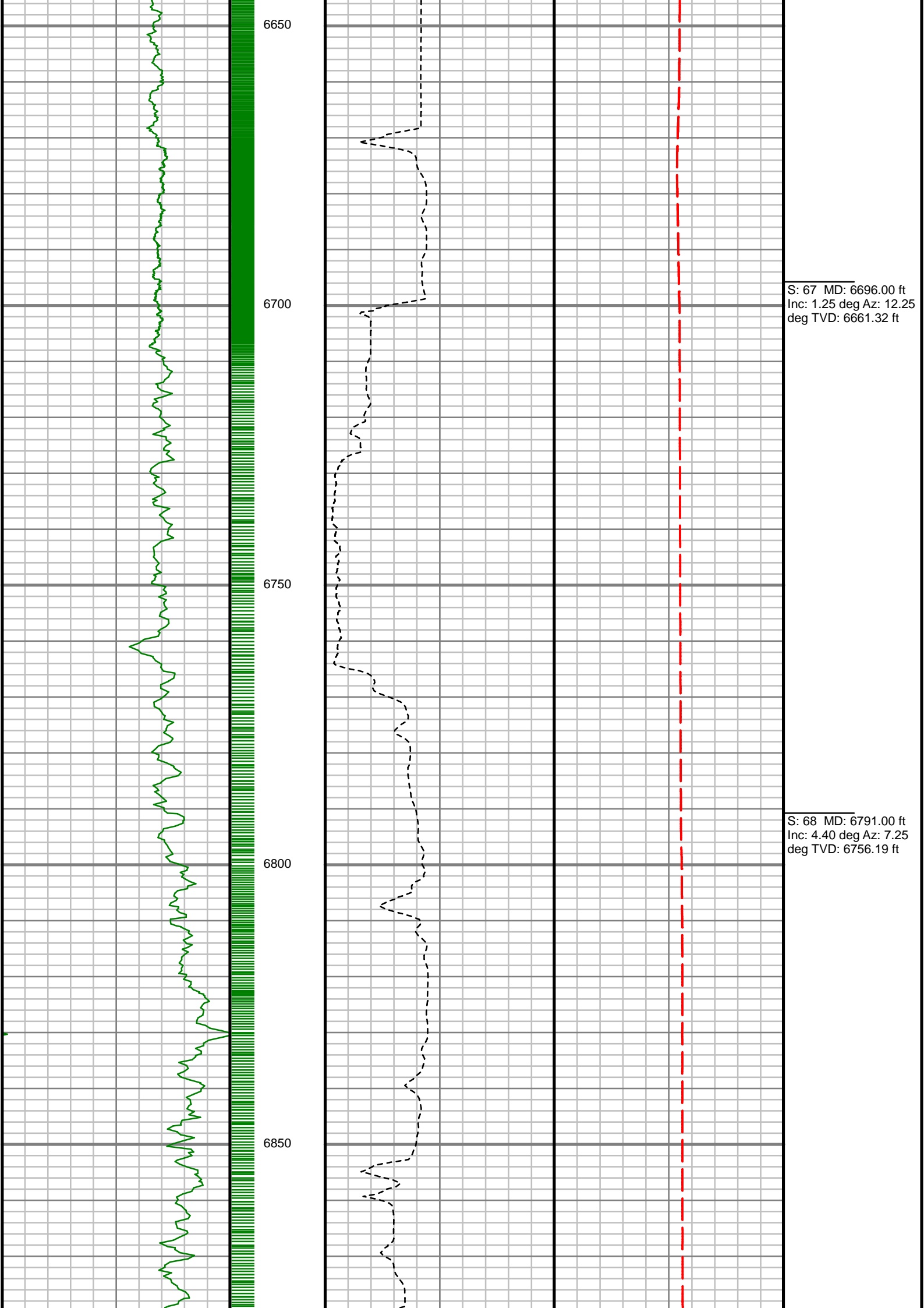
S: 57 MD: 5758.00 ft
Inc: 1.04 deg Az:
305.34 deg TVD:
5723.44 ft

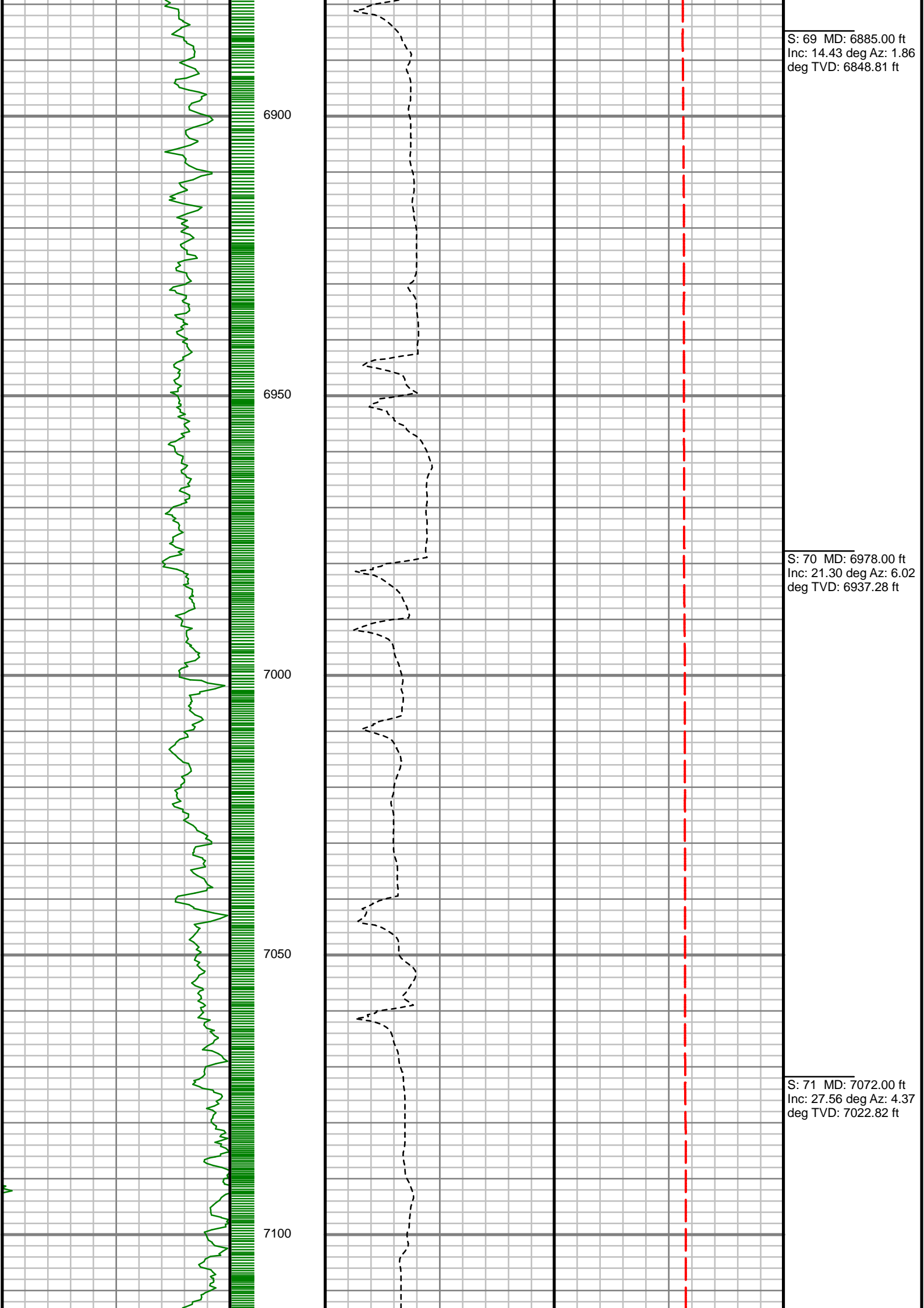
S: 58 MD: 5854.00 ft
Inc: 1.06 deg Az:
311.88 deg TVD:
5819.42 ft

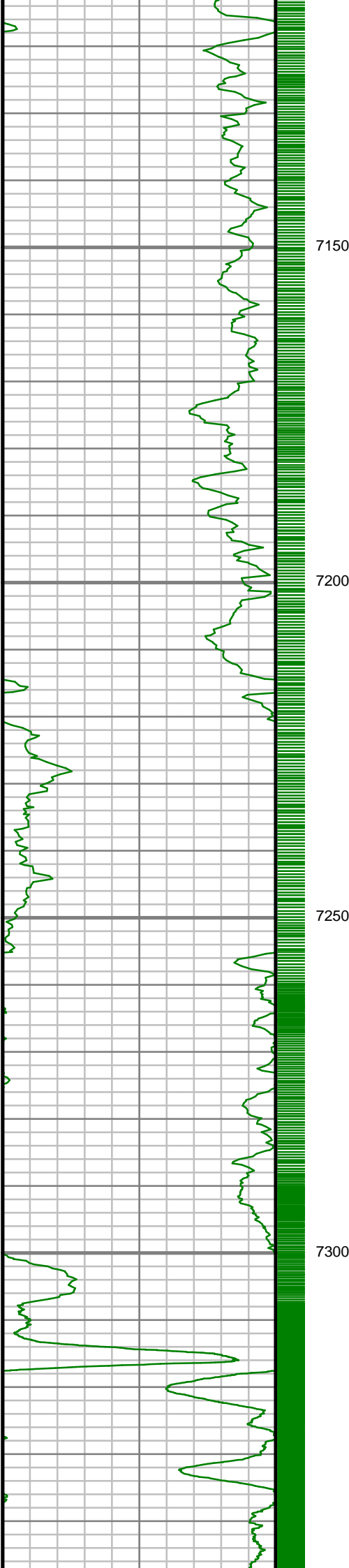












7150

7200

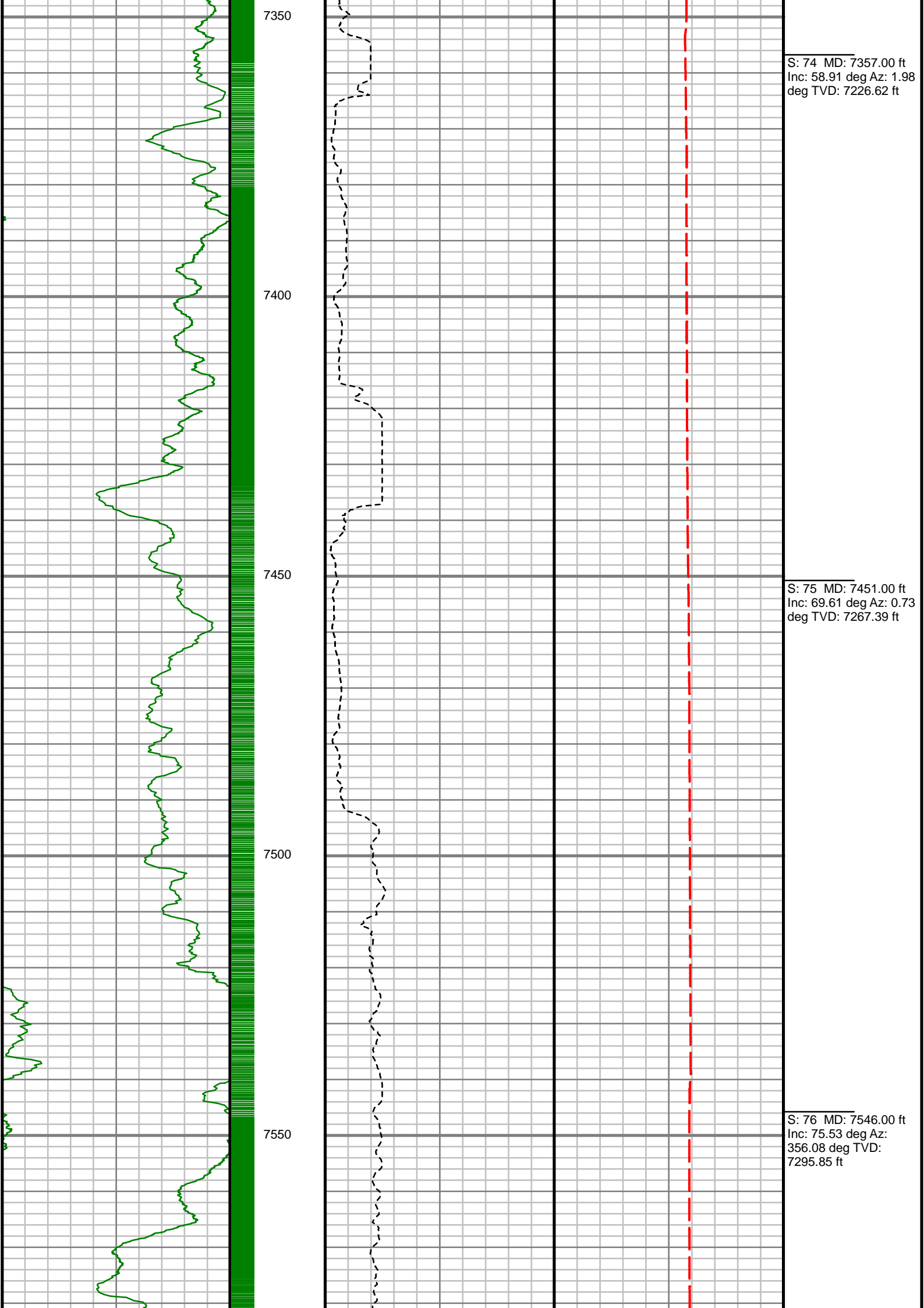
7250

7300



S: 72 MD: 7166.00 ft
Inc: 37.78 deg Az: 0.82
deg TVD: 7101.85 ft

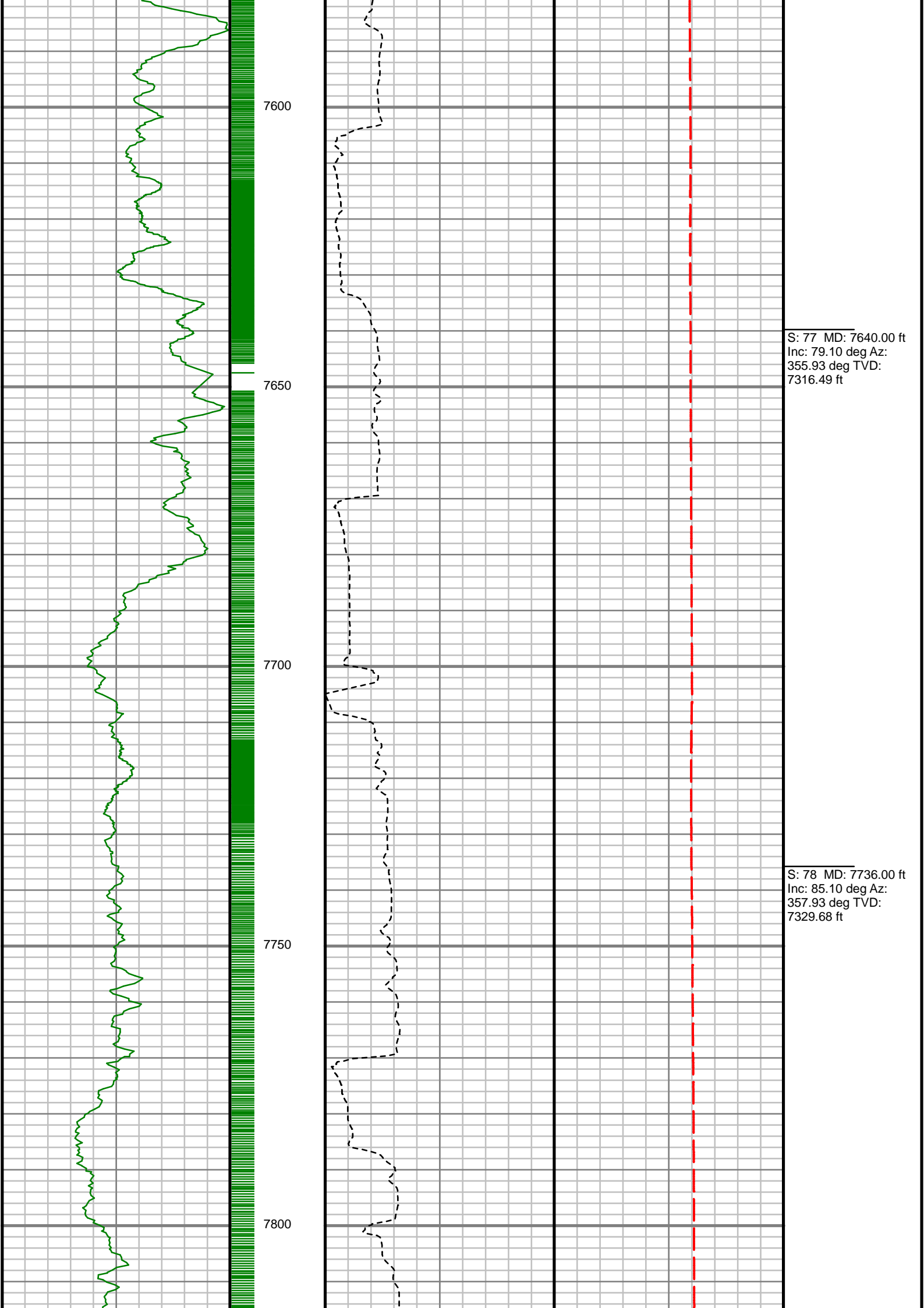
S: 73 MD: 7261.00 ft
Inc: 49.46 deg Az: 1.23
deg TVD: 7170.51 ft

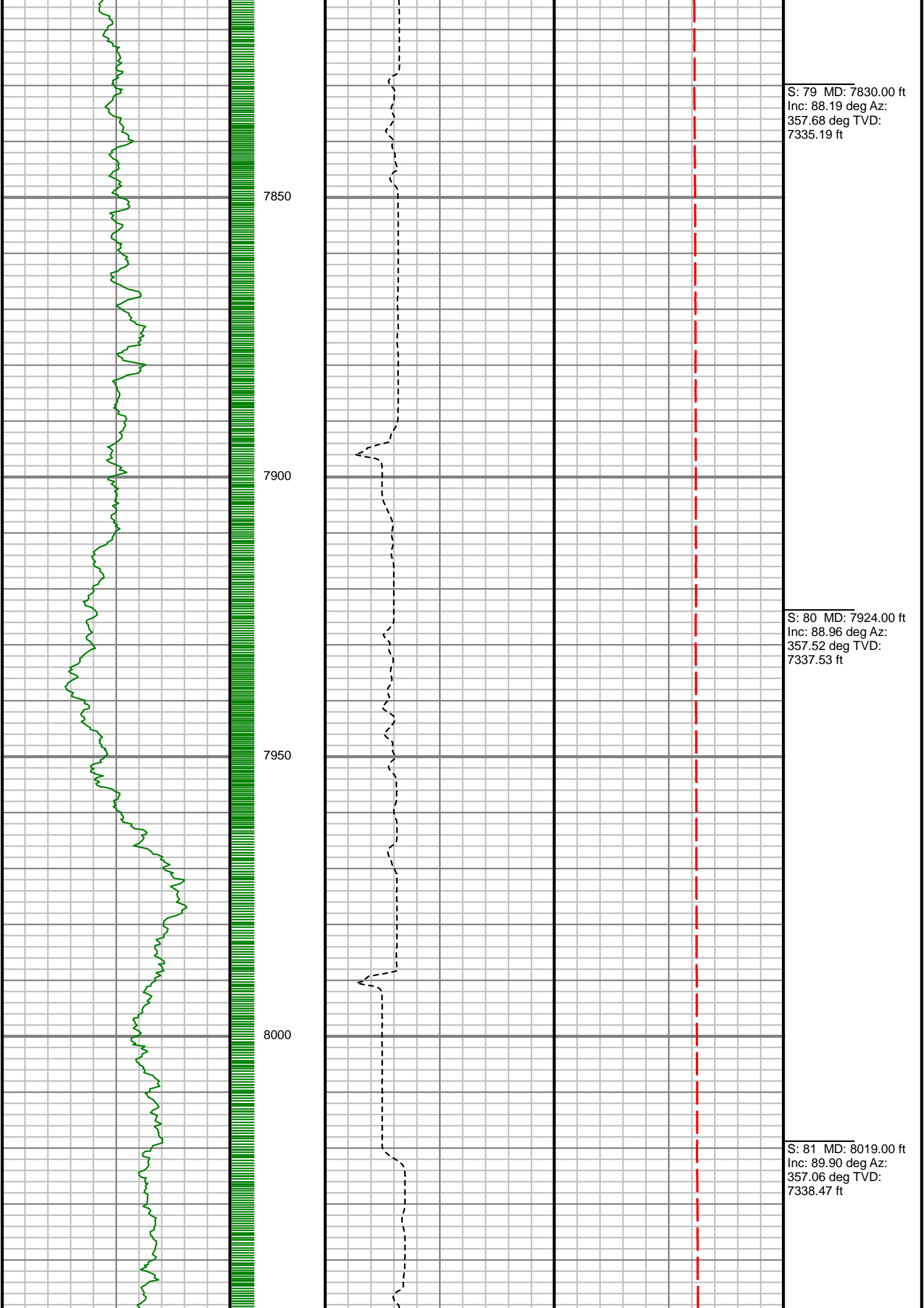


S: 74 MD: 7357.00 ft
Inc: 58.91 deg Az: 1.98
deg TVD: 7226.62 ft

S: 75 MD: 7451.00 ft
Inc: 69.61 deg Az: 0.73
deg TVD: 7267.39 ft

S: 76 MD: 7546.00 ft
Inc: 75.53 deg Az: 356.08
deg TVD: 7295.85 ft

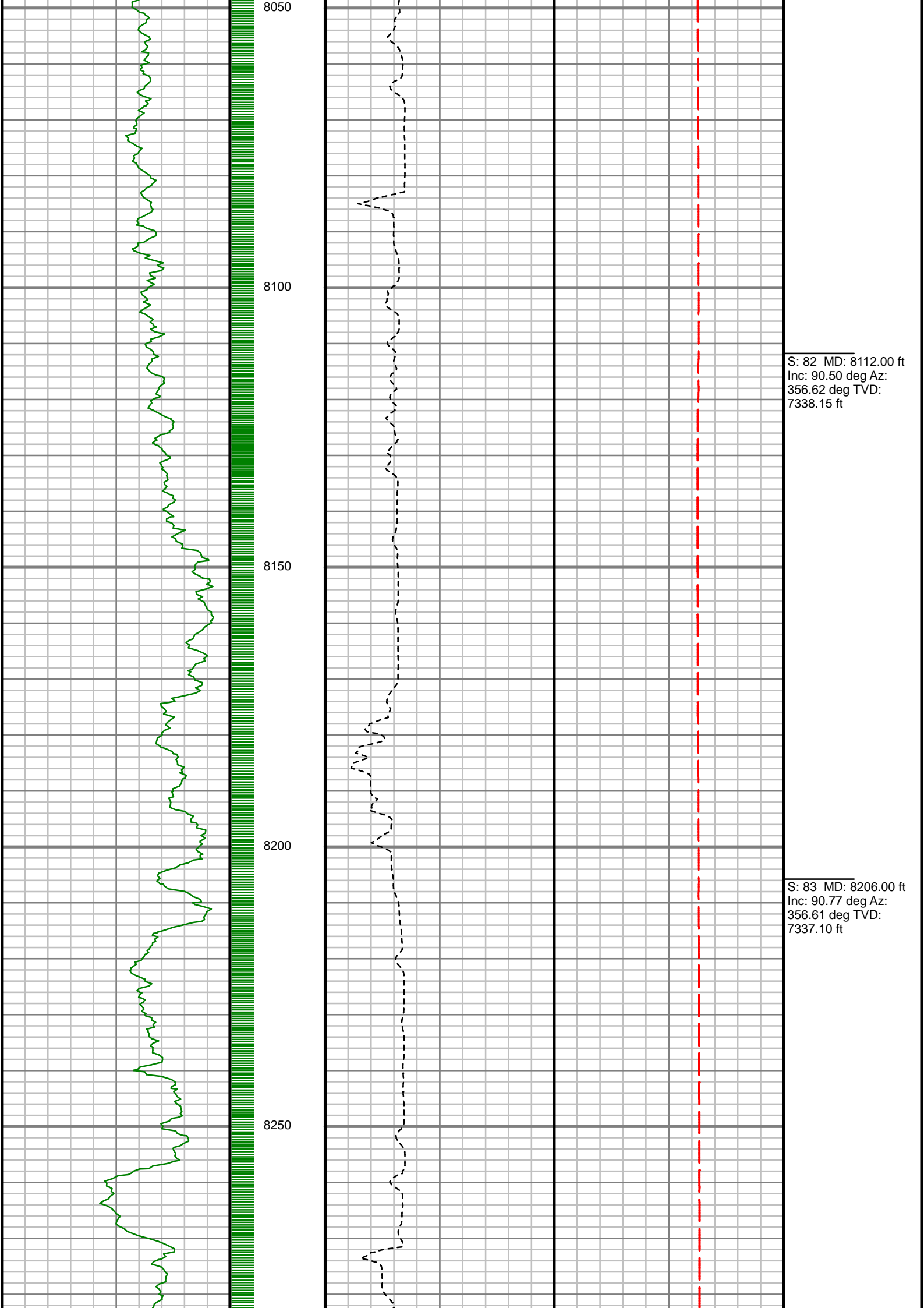


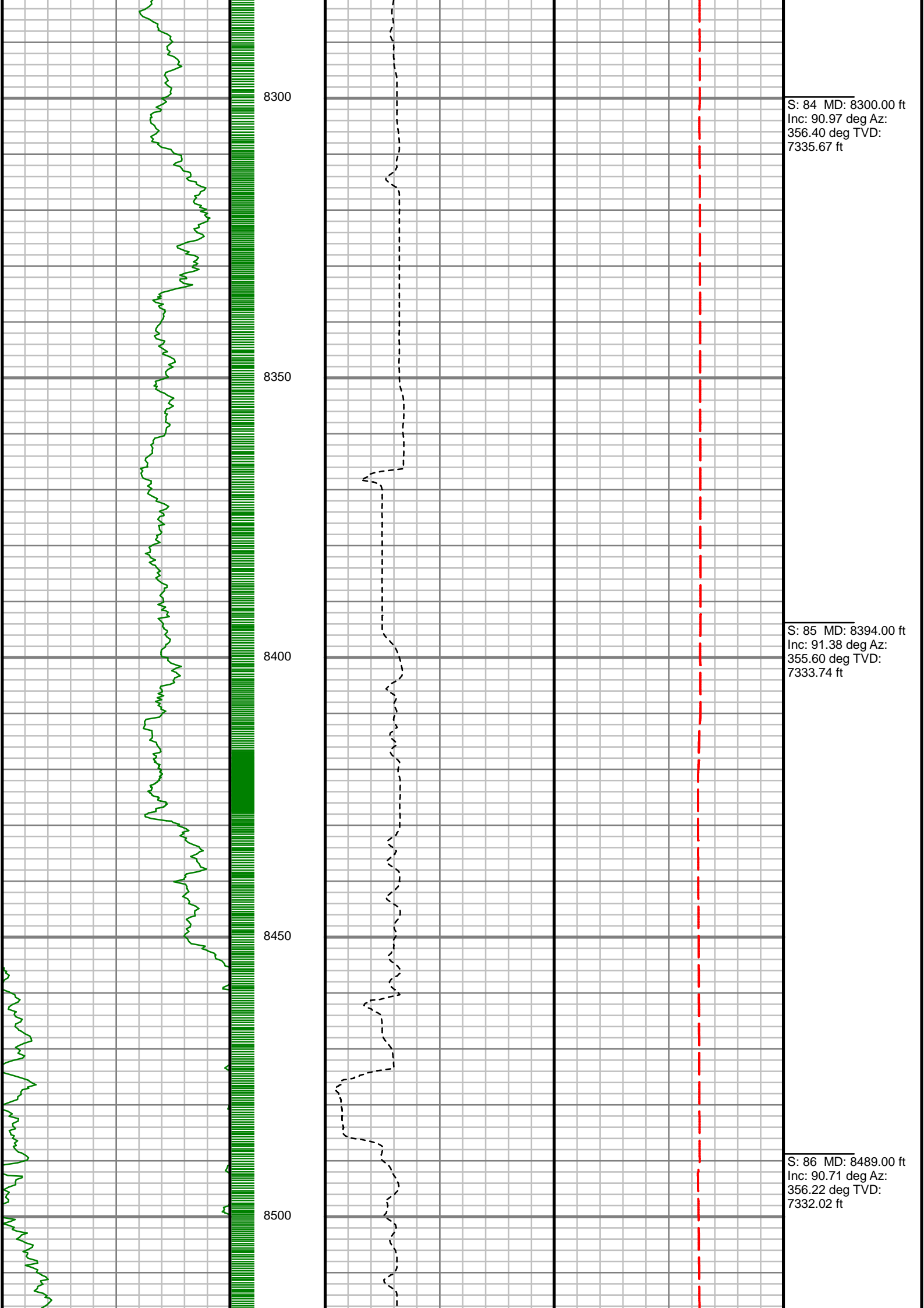


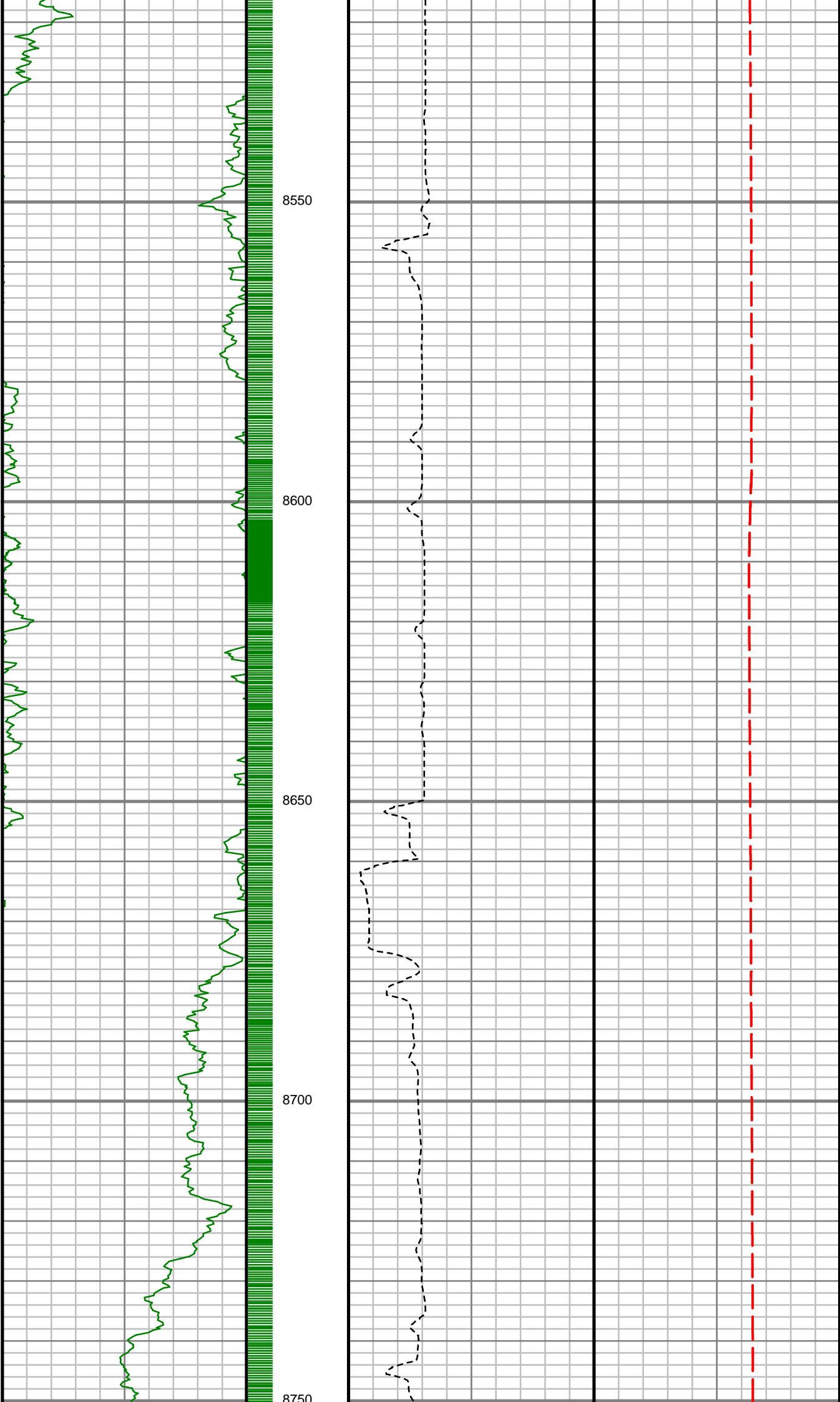
S: 79 MD: 7830.00 ft
Inc: 88.19 deg Az:
357.68 deg TVD:
7335.19 ft

S: 80 MD: 7924.00 ft
Inc: 88.96 deg Az:
357.52 deg TVD:
7337.53 ft

S: 81 MD: 8019.00 ft
Inc: 89.90 deg Az:
357.06 deg TVD:
7338.47 ft

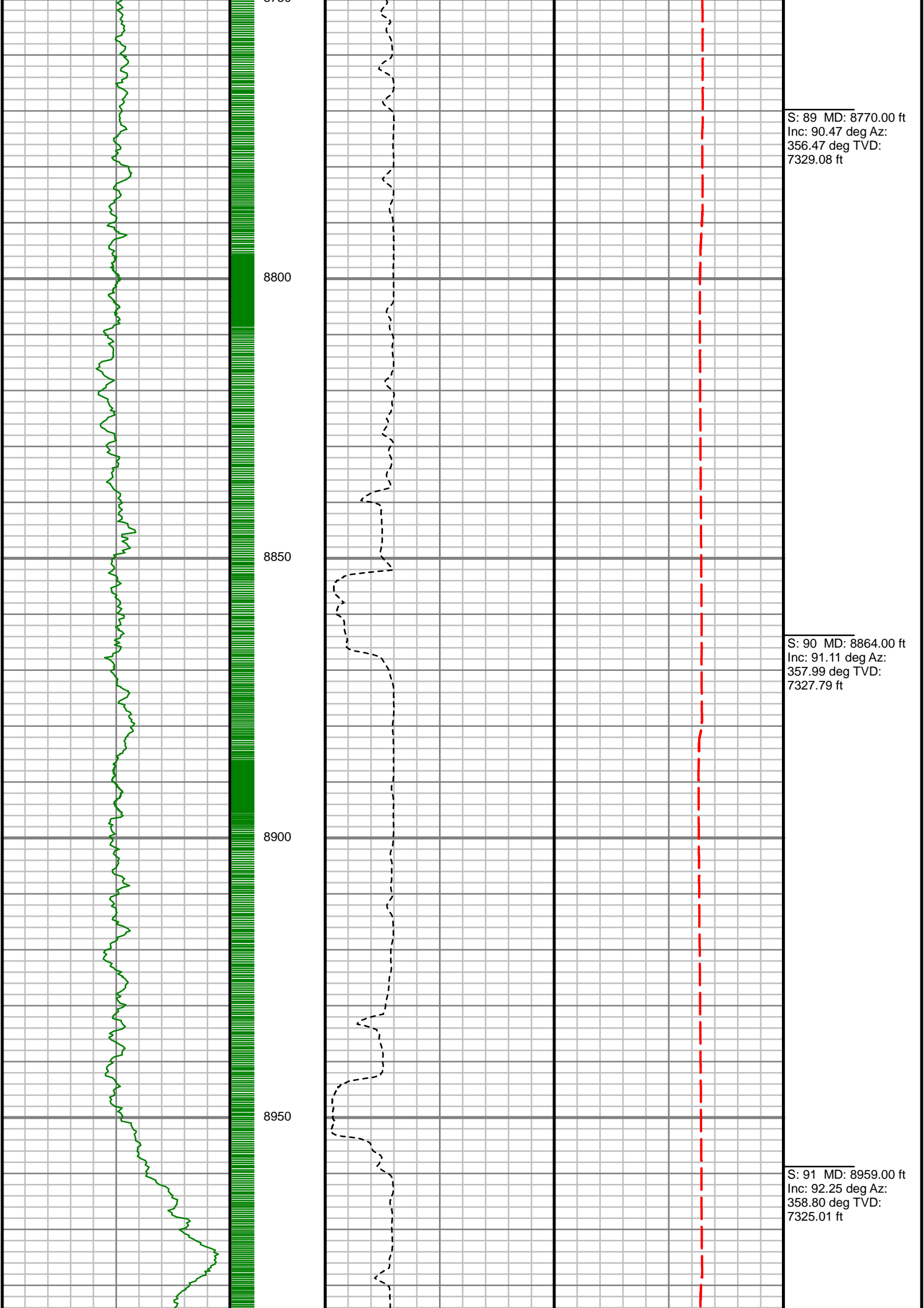






S: 87 MD: 8583.00 ft
Inc: 90.97 deg Az:
355.36 deg TVD:
7330.64 ft

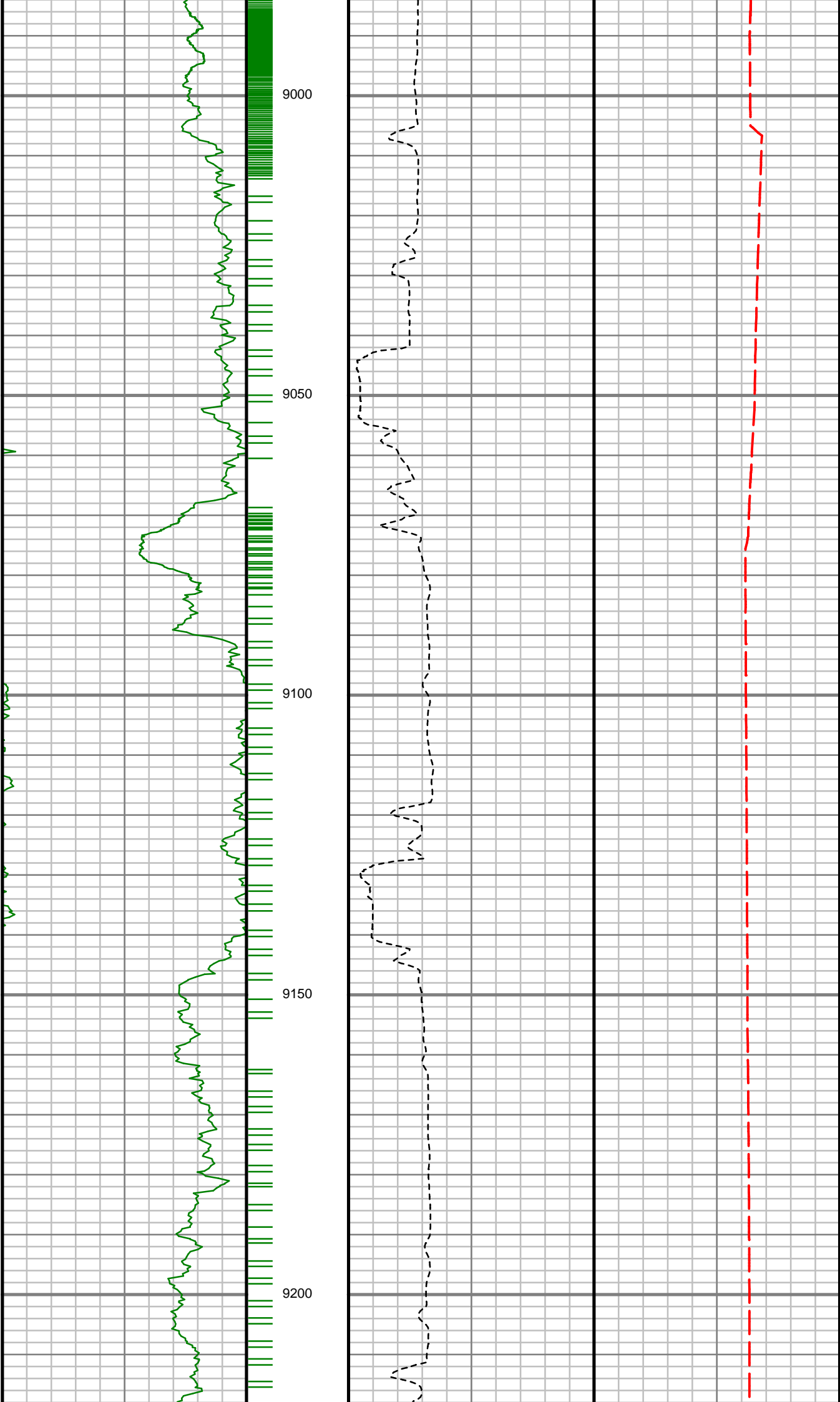
S: 88 MD: 8676.00 ft
Inc: 90.23 deg Az:
357.16 deg TVD:
7329.66 ft



S: 89 MD: 8770.00 ft
Inc: 90.47 deg Az:
356.47 deg TVD:
7329.08 ft

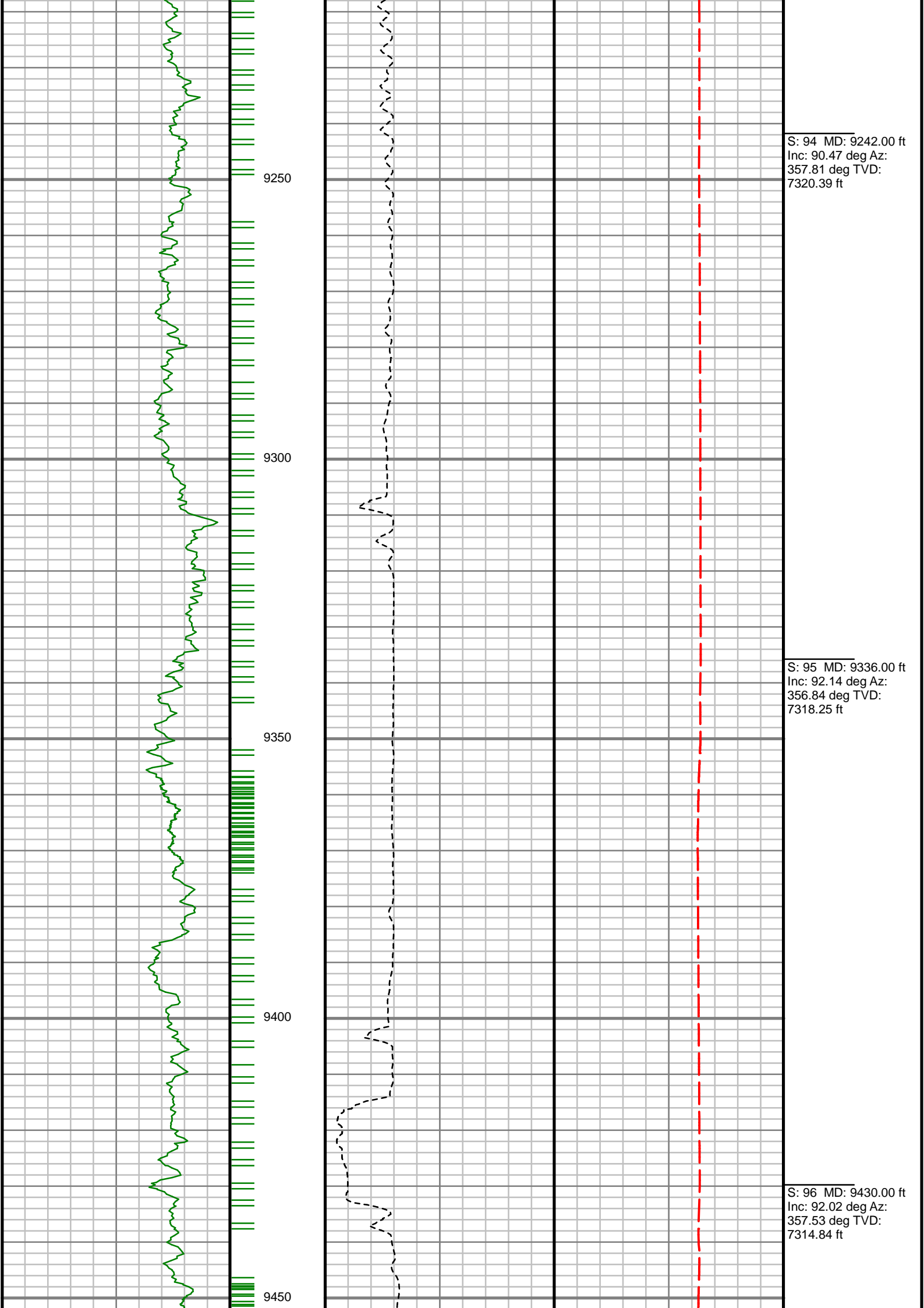
S: 90 MD: 8864.00 ft
Inc: 91.11 deg Az:
357.99 deg TVD:
7327.79 ft

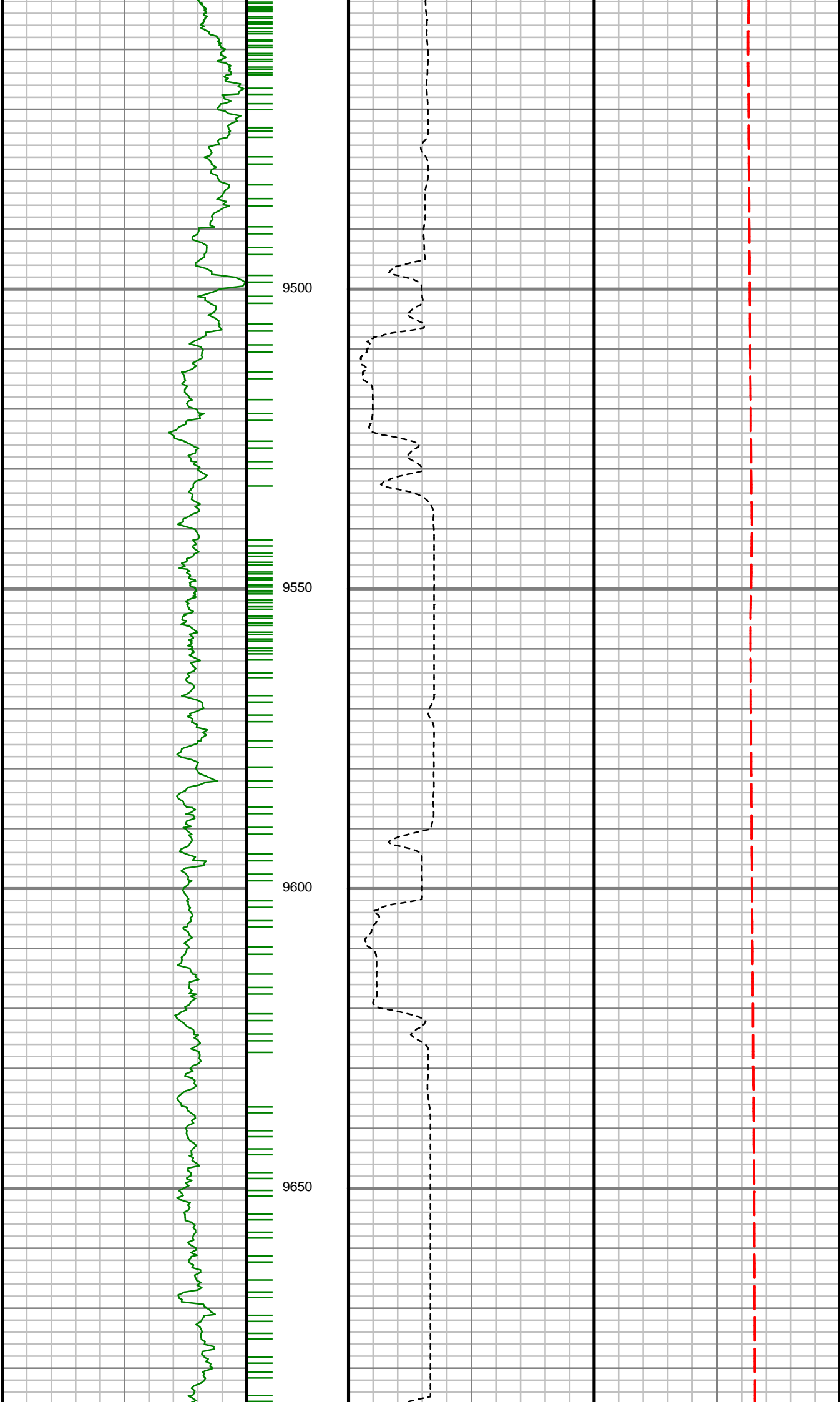
S: 91 MD: 8959.00 ft
Inc: 92.25 deg Az:
358.80 deg TVD:
7325.01 ft



S: 92 MD: 9054.00 ft
Inc: 91.44 deg Az:
358.24 deg TVD:
7321.95 ft

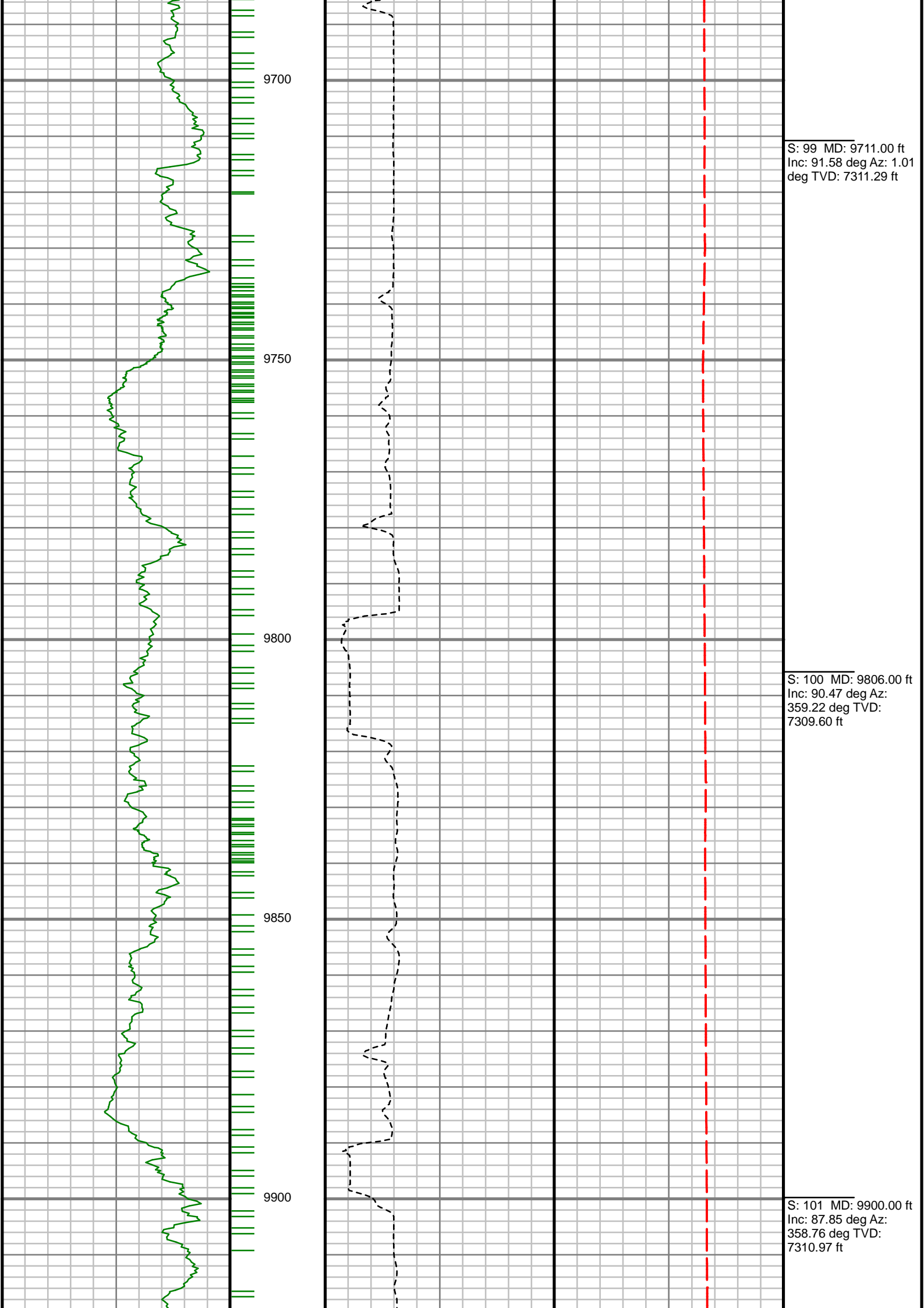
S: 93 MD: 9147.00 ft
Inc: 90.00 deg Az:
358.51 deg TVD:
7320.78 ft

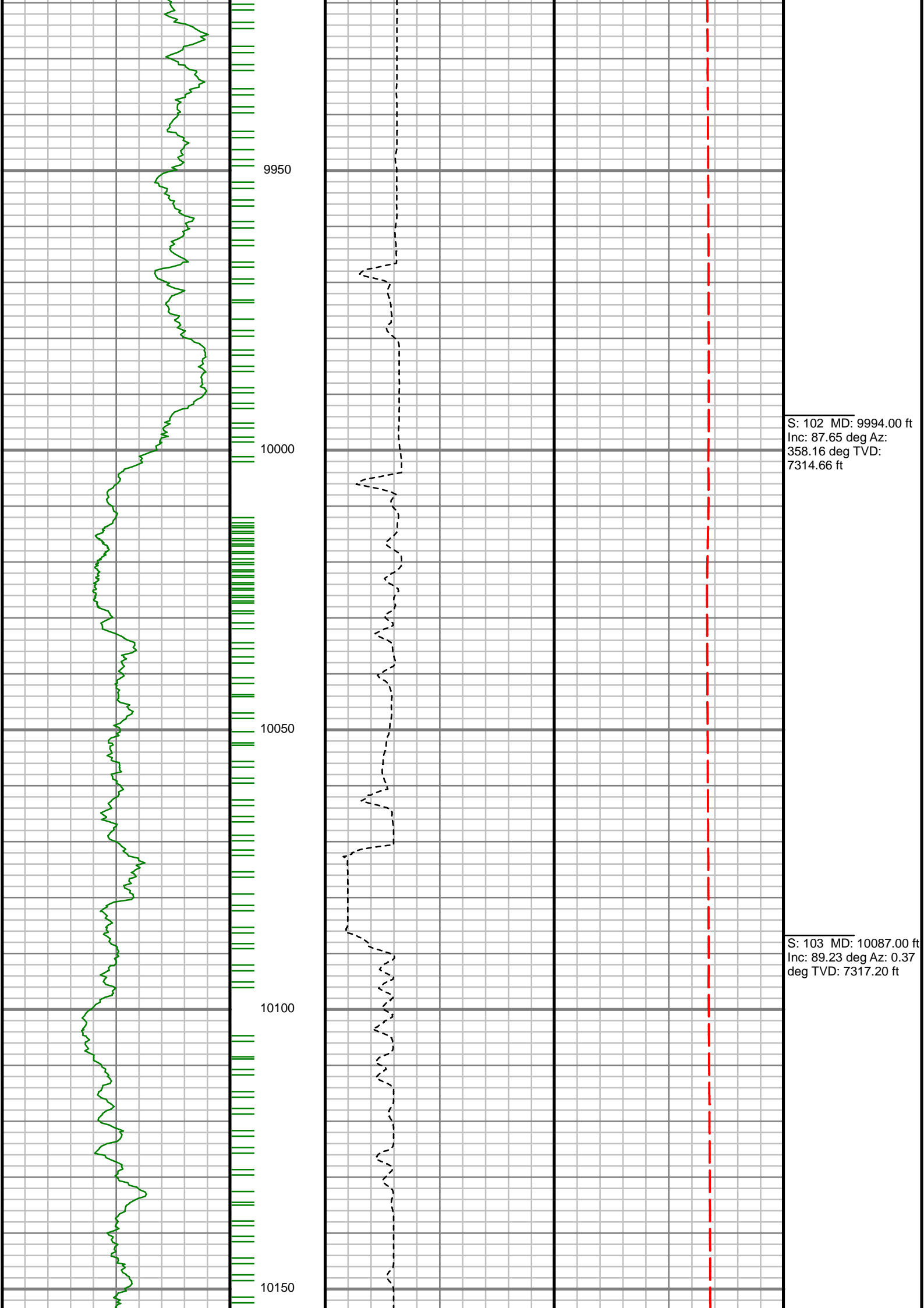


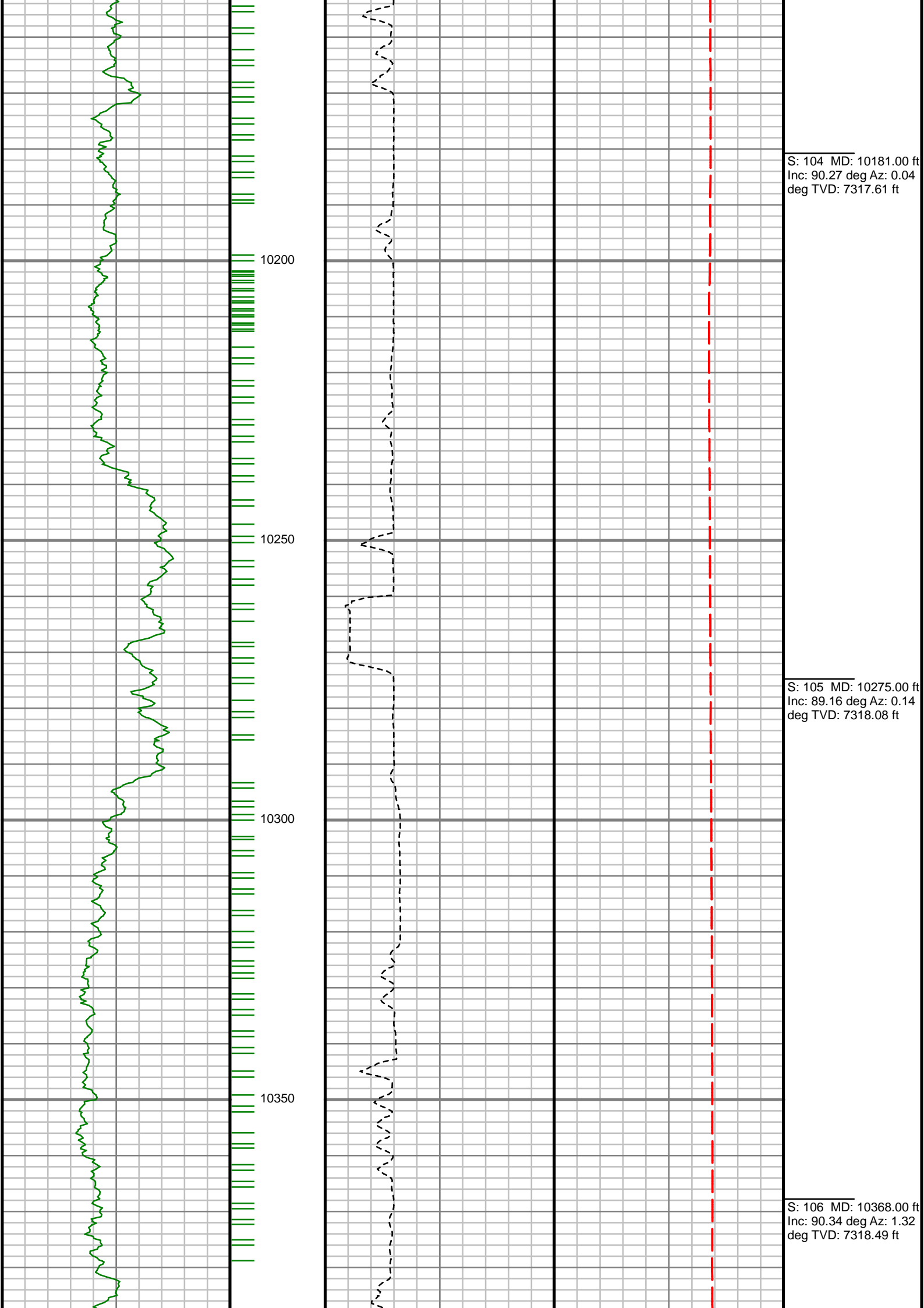


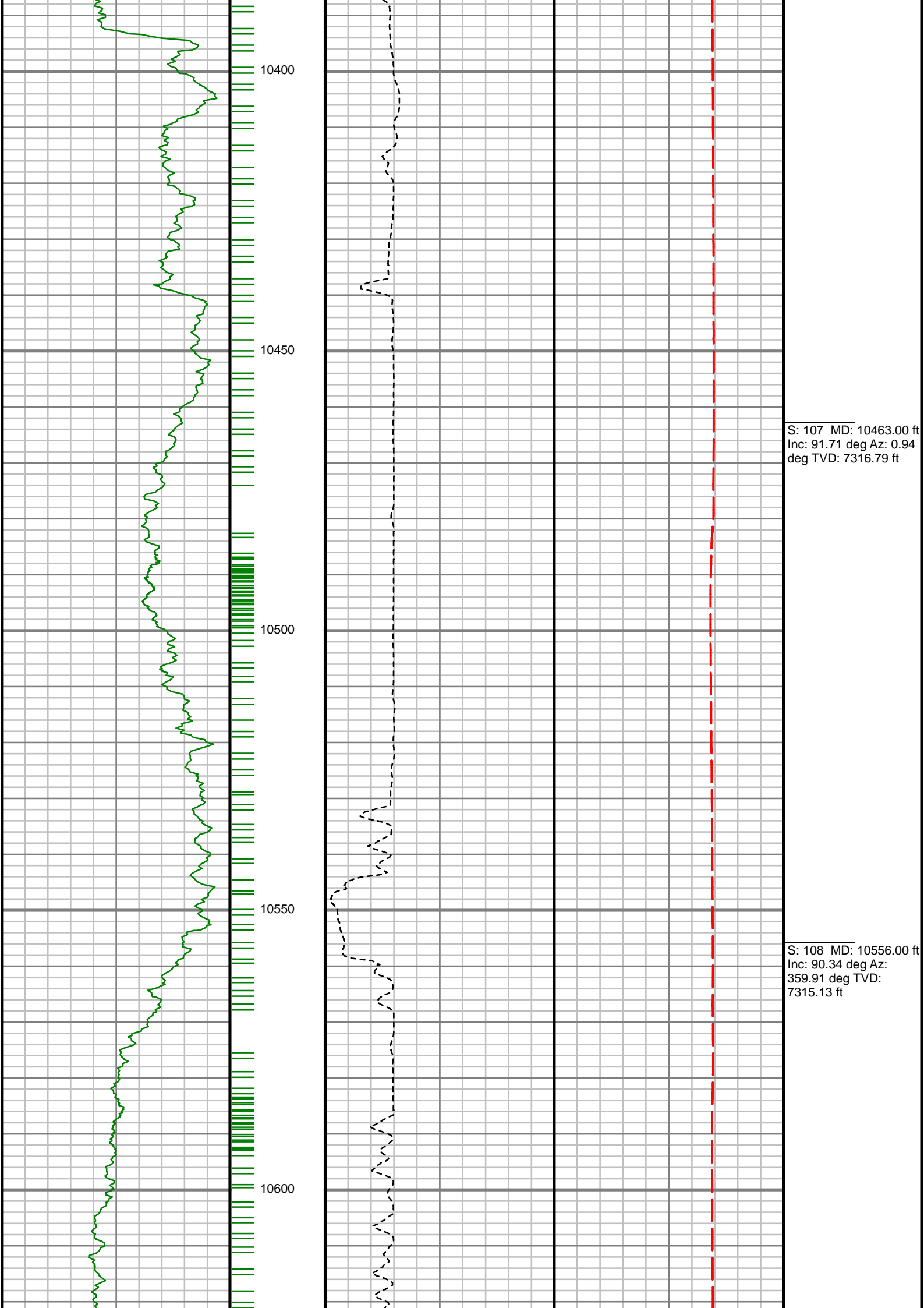
S: 97 MD: 9525.00 ft
Inc: 90.37 deg Az:
357.95 deg TVD:
7312.86 ft

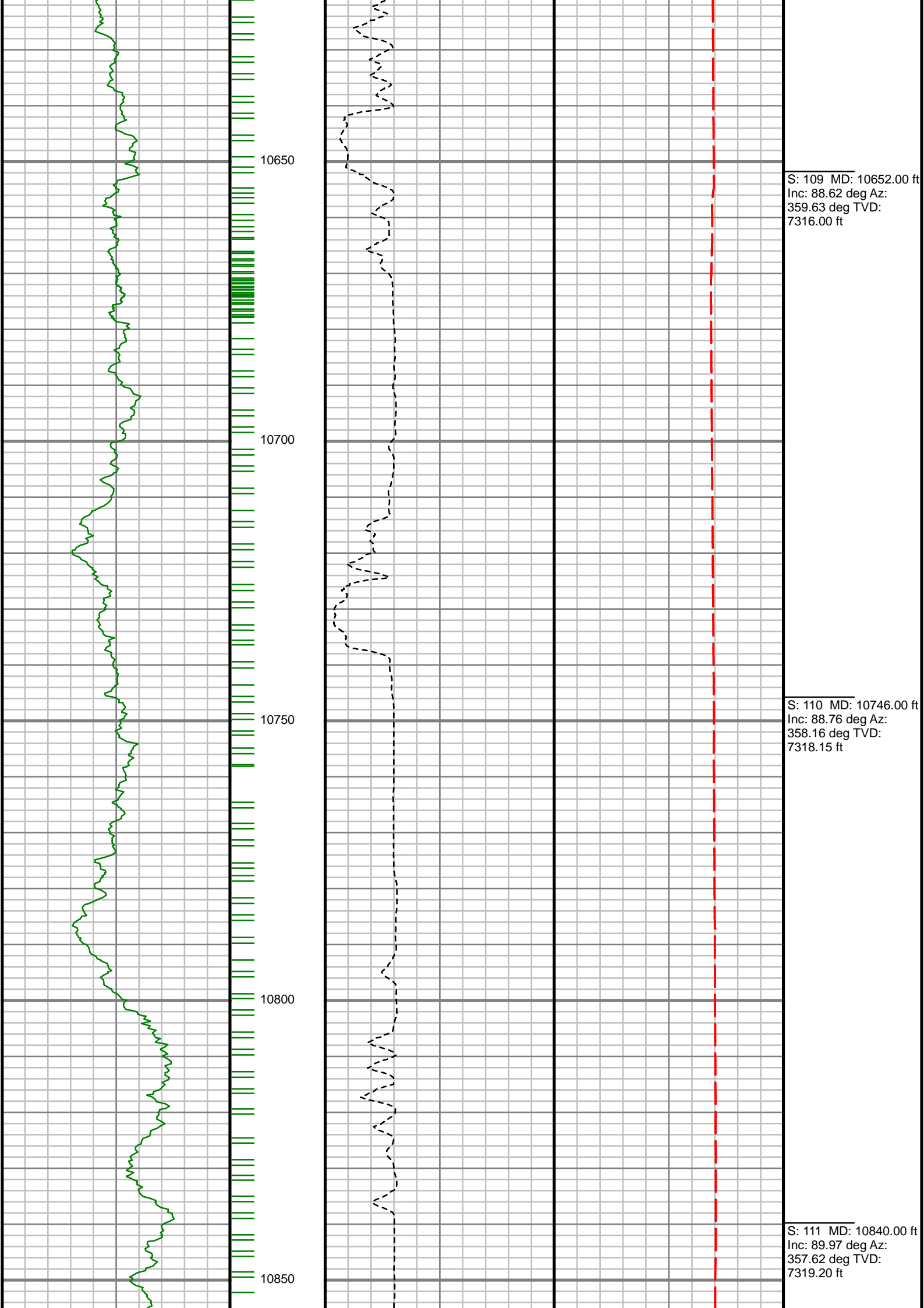
S: 98 MD: 9619.00 ft
Inc: 90.00 deg Az: 0.16
deg TVD: 7312.56 ft

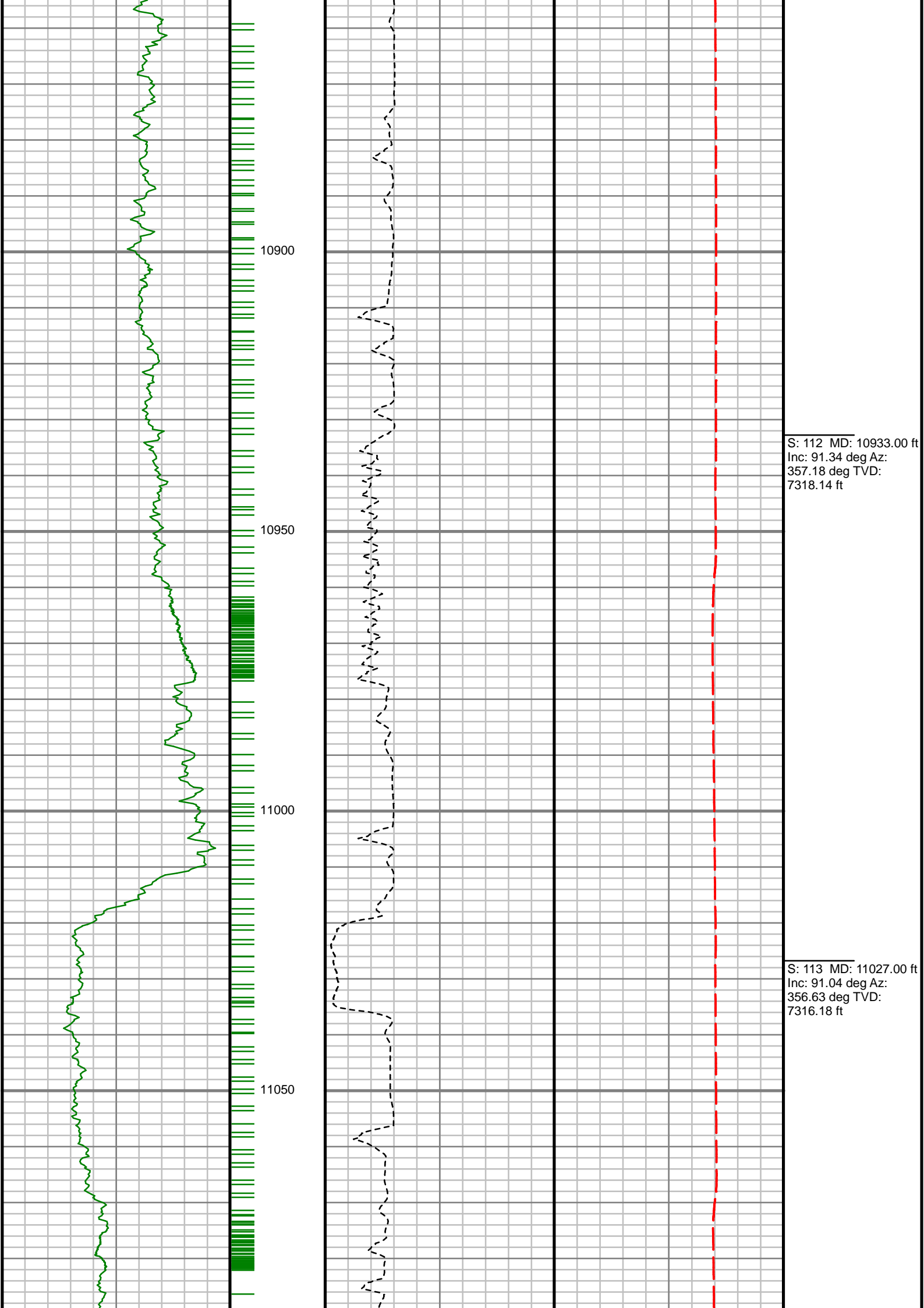


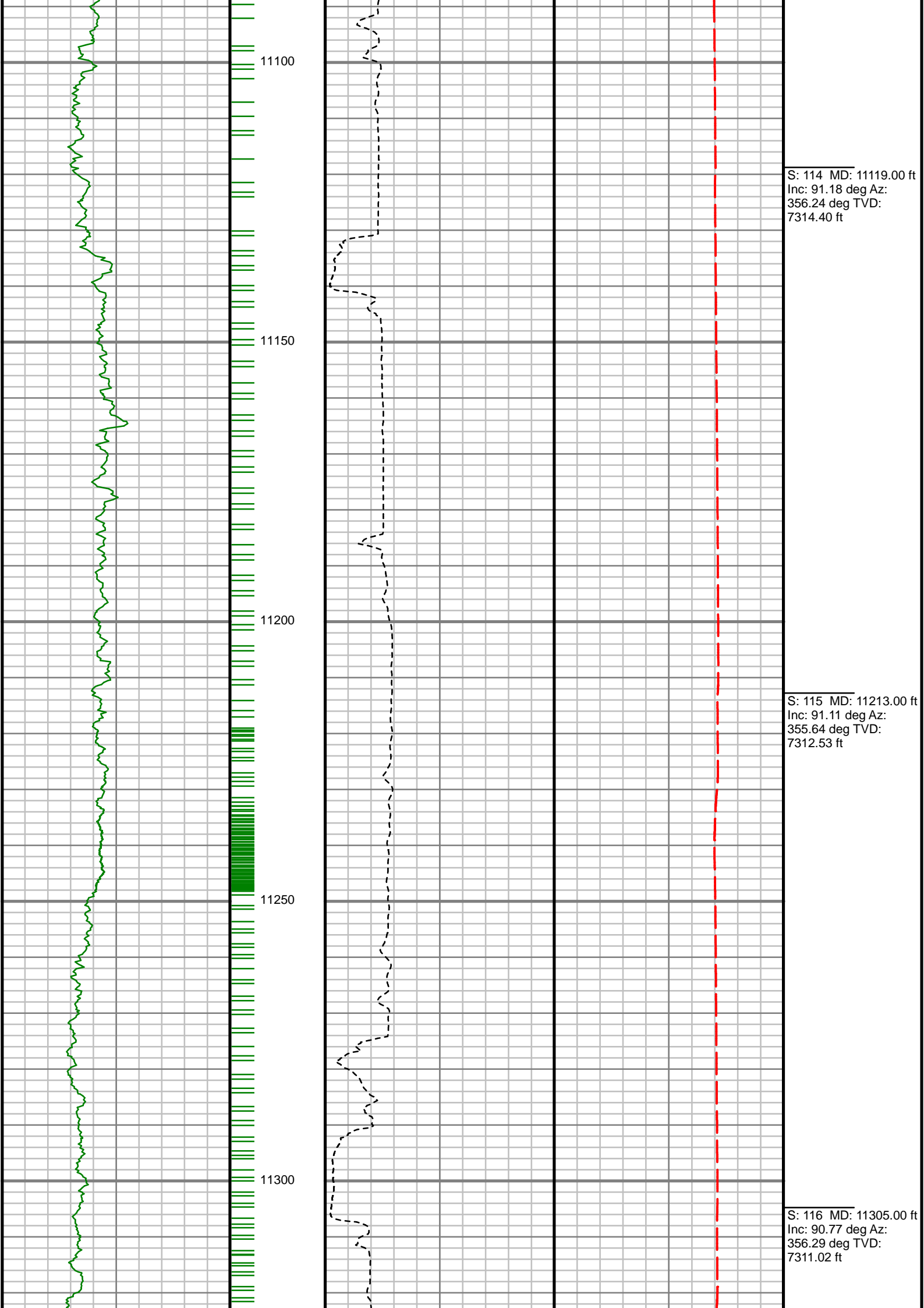


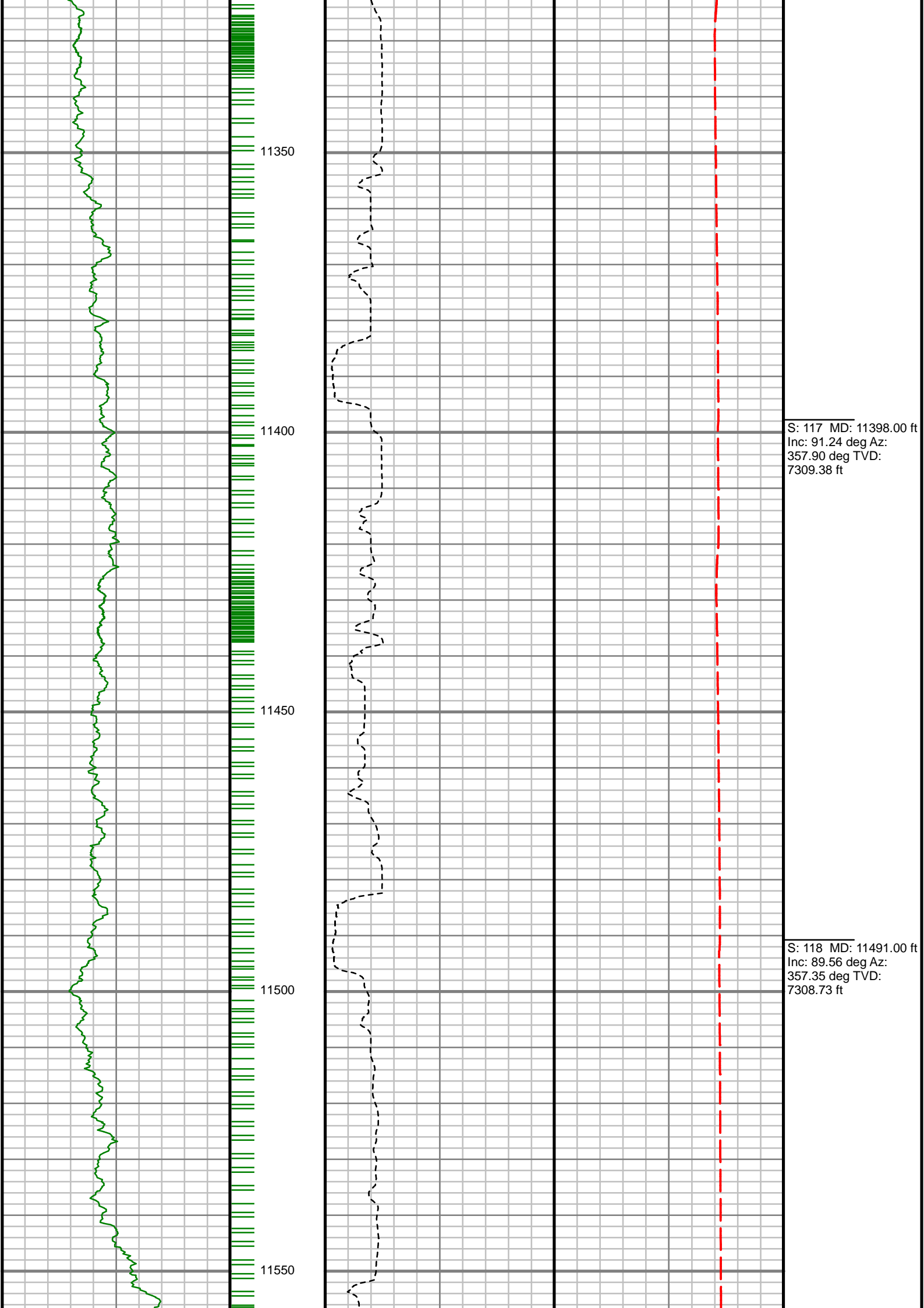


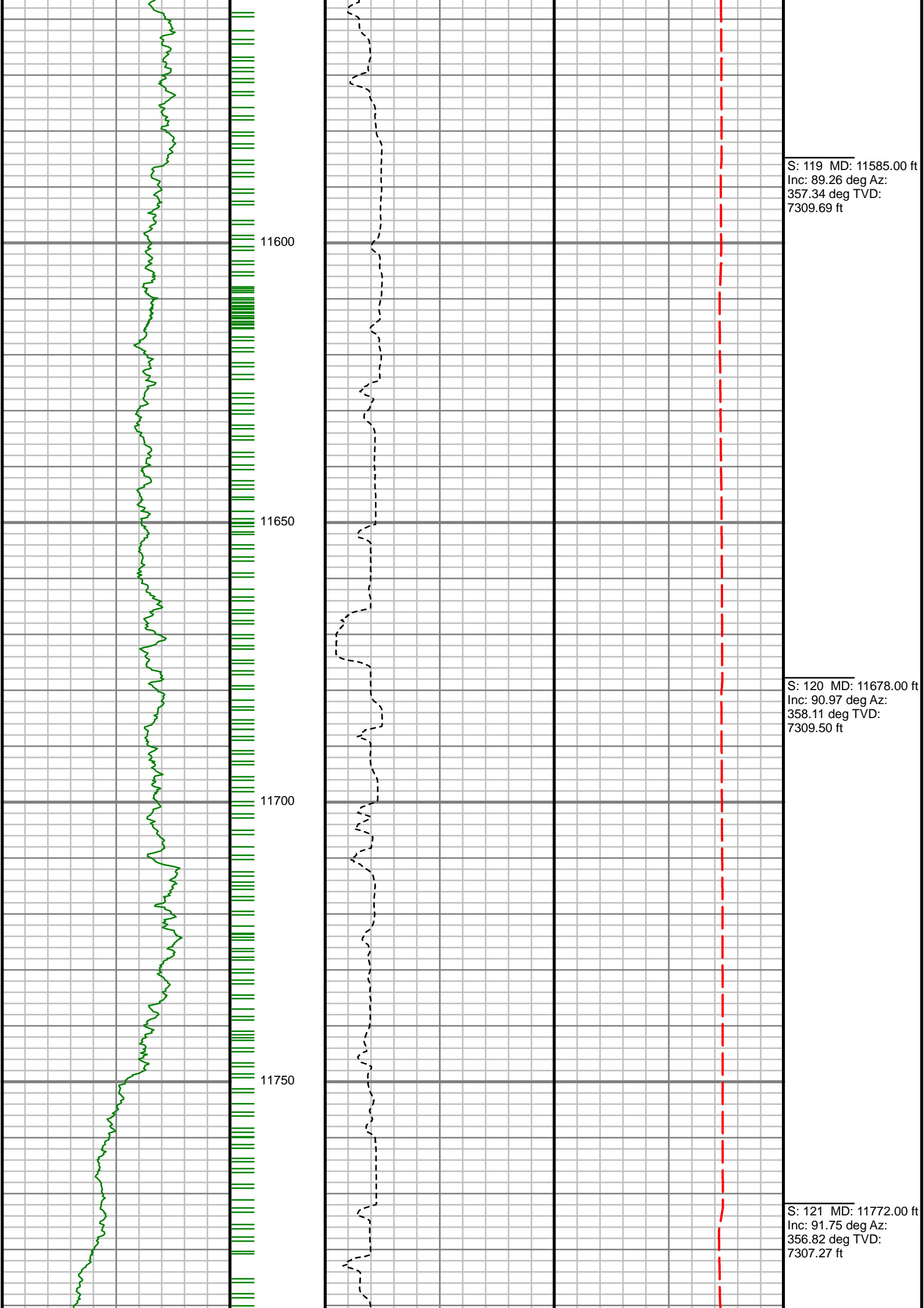


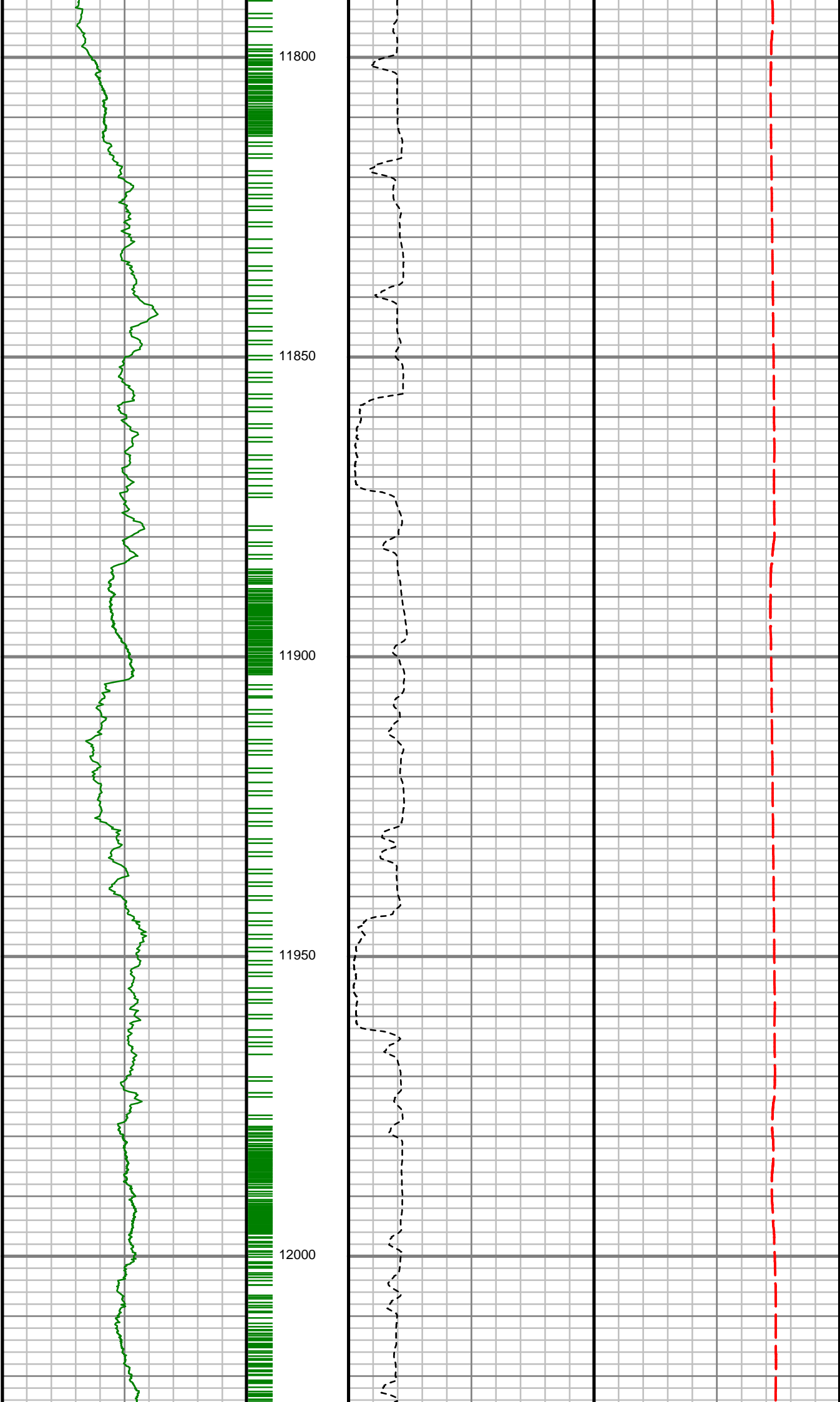






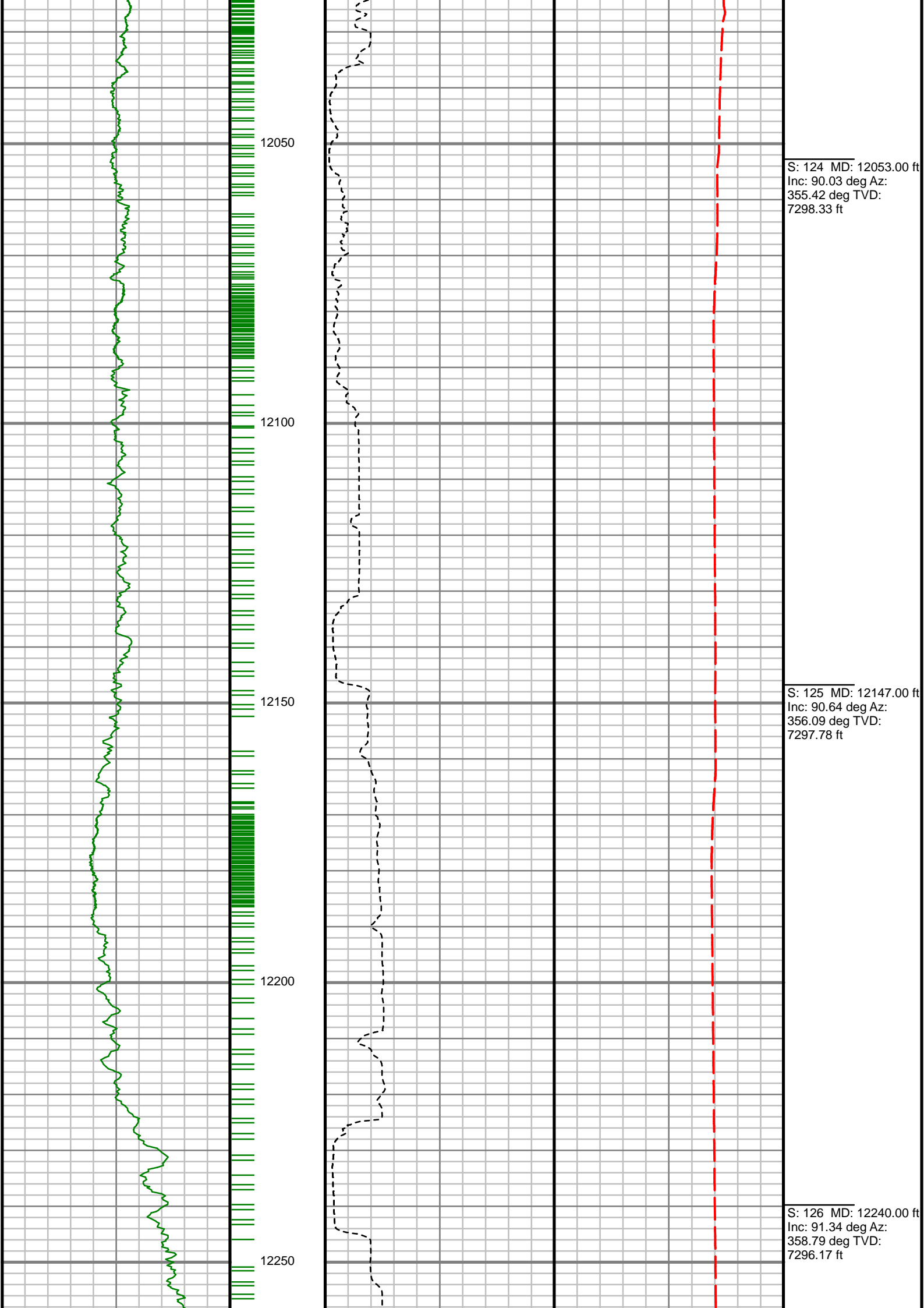


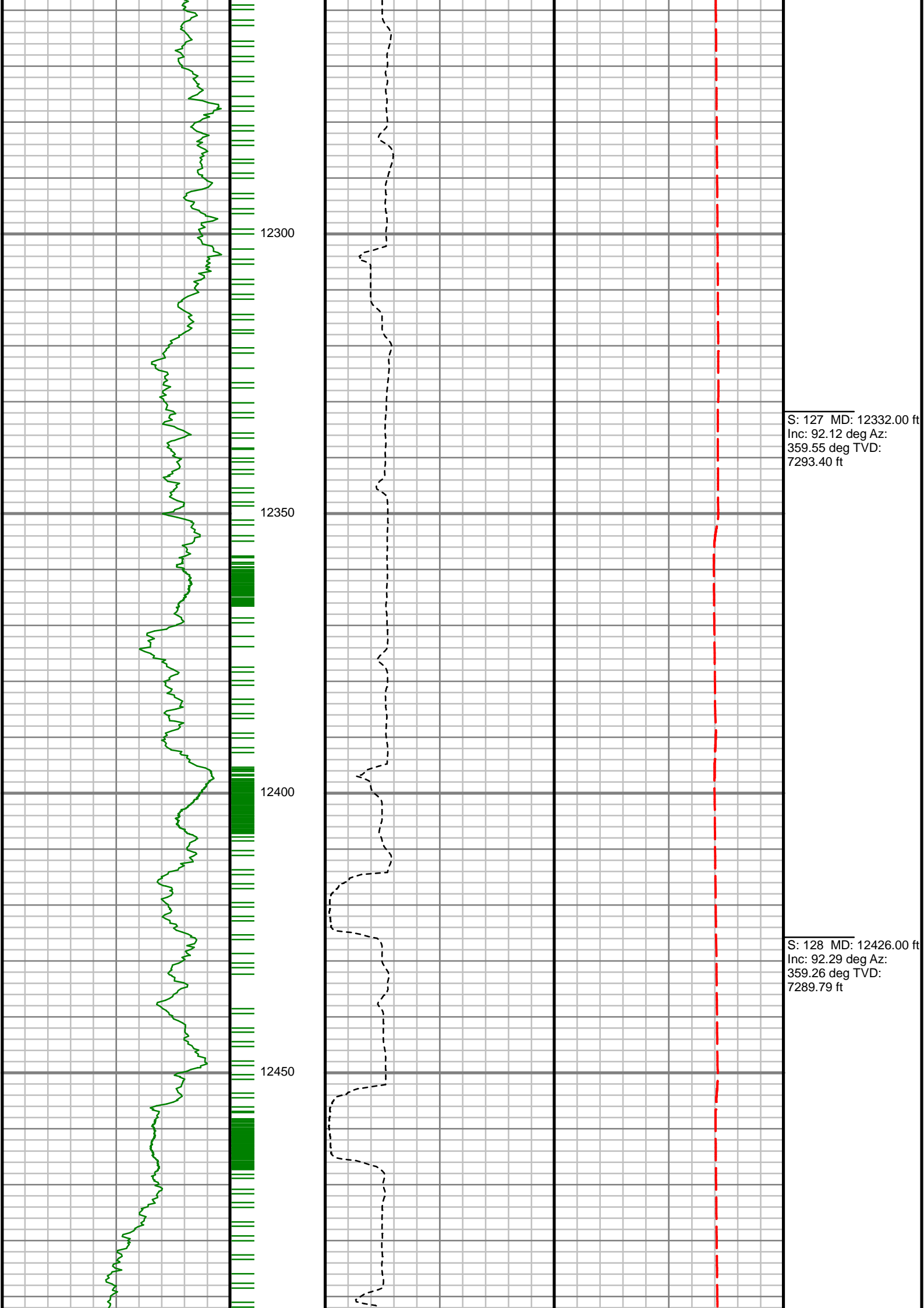


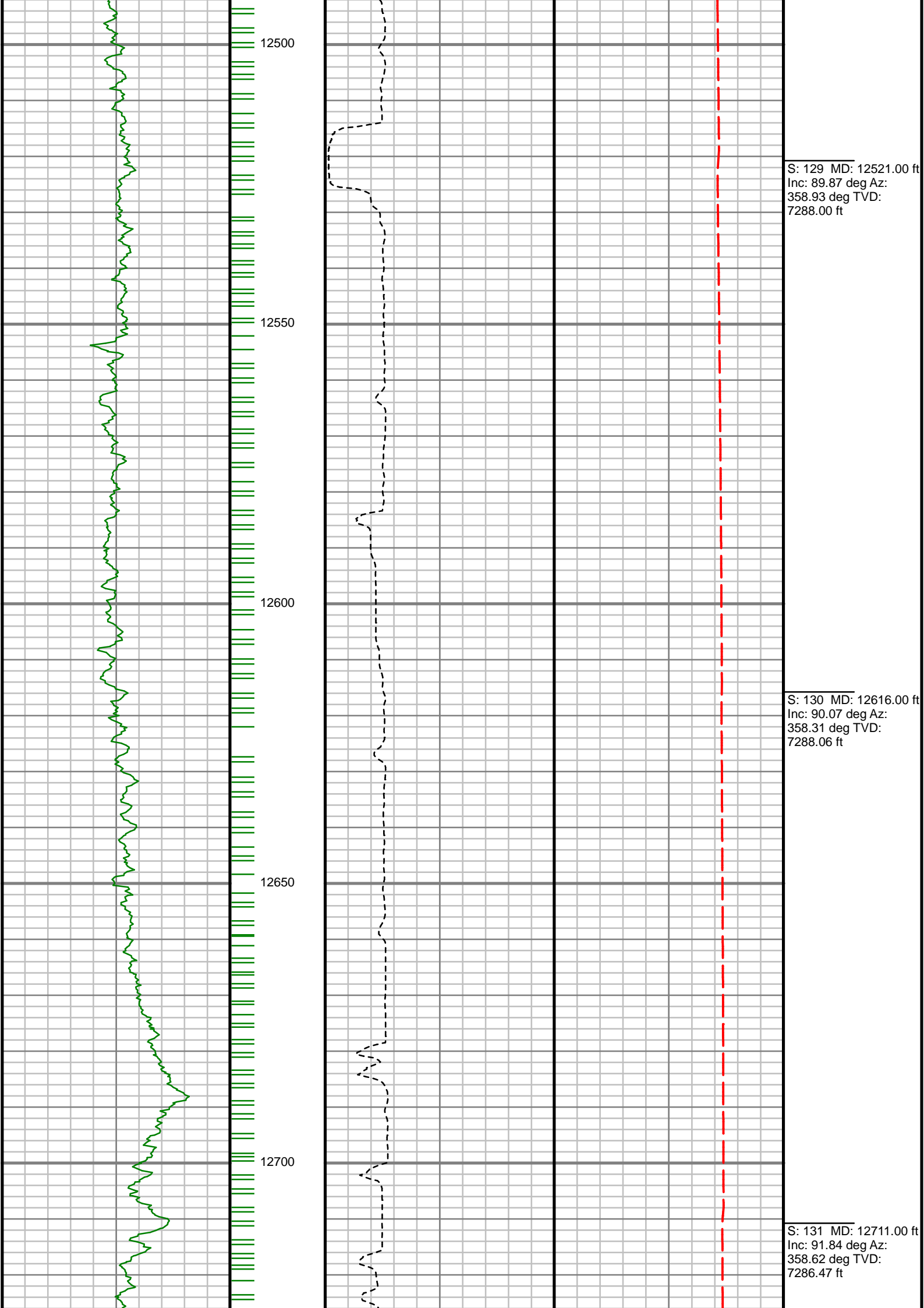


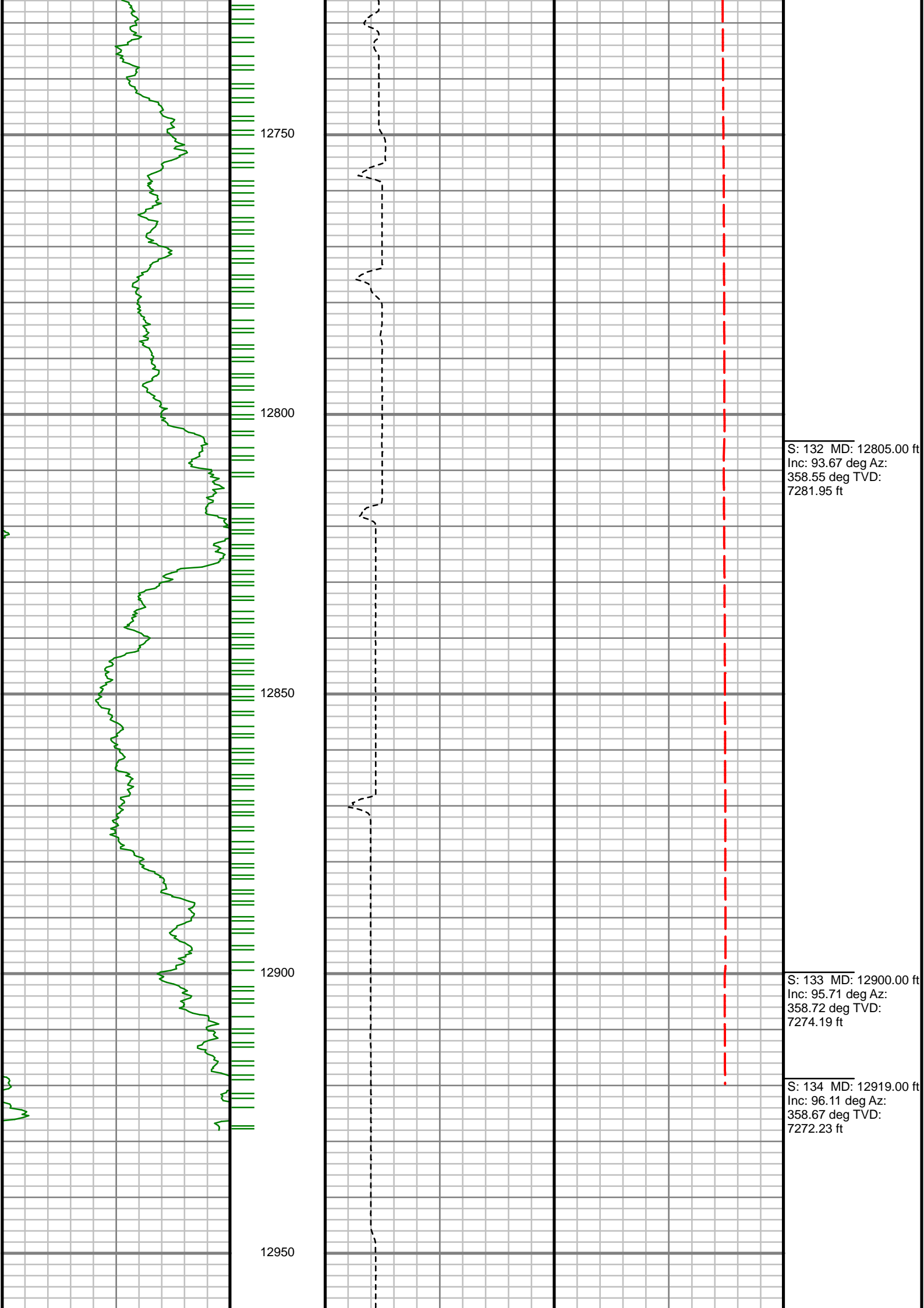
S: 122 MD: 11865.00 ft
Inc: 92.69 deg Az:
356.91 deg TVD:
7303.67 ft

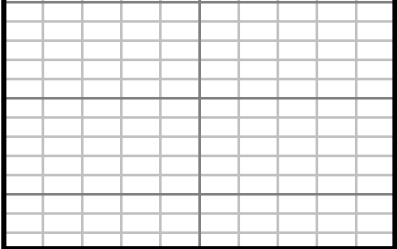
S: 123 MD: 11958.00 ft
Inc: 91.91 deg Az:
356.80 deg TVD:
7299.94 ft





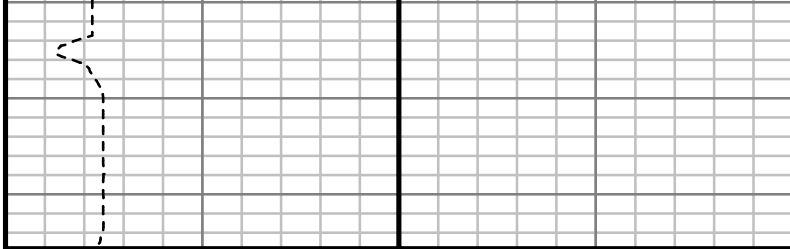






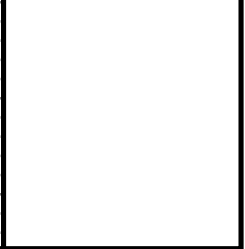
| Gamma Ray (GR) | | |
|----------------|-------------|-----|
| 0 | Unit = aapi | 150 |

MEASURED DEPTH
1:240 (ft)



| Rate of Penetration (ROP) | | |
|---------------------------|--------------|------|
| <hr/> | | |
| 0 | Unit = ft/hr | 1000 |

| Tool Temperature (T-TEMP) | | |
|---------------------------|-----------|-----|
| <hr/> | | |
| 0 | Unit = °F | 300 |



| |
|----------|
| Comments |
|----------|

Comments

SURVEY REPORT

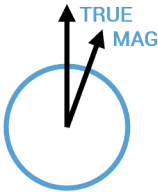
LAND FED 29N-29HZ LAND FED 29N-29HZ

CUSTOMER ANADARKO E&P ONSHORE LLC
PROJECT LAND FED
FIELD WATTENBERG

WELL INFORMATION
Lat/Long 40.099027° N, 104.805627° W
Northing 114,562,852.9 ft
Easting 1,694,772.31 ft
UWI 0512342393

MAP INFORMATION
North Reference True North
Grid Correction System Universal Transverse Mercator (US Survey Feet)
Datum North American Datum 1983 (GRS 1980)
Map Zone Zone 13N (108 W to 102 W)

VERTICAL SECTION REFERENCE
+N/-S 0 ft
+E/-W 0 ft
Proposal Direction 358.11°
Calculation Method Minimum Curvature



GEOMAGNETIC REFERENCE INFORMATION Local Gravity: 999.046 mG [computed]

| MD | MODEL | DATE | DECLINATION | MAG TO TRUE |
|---------------|---------------------|-------------|-------------|-------------|
| 0-3405 ft | ANADARKO MAG VAR | 07 Jun 2016 | 8.34° | add 8.34° |
| 3405-5759 ft | ANADARKO MAG VAR | 07 Jun 2016 | 8.36° | add 8.36° |
| 5759-12919 ft | ANADARKO MAG VAR | 07 Jun 2016 | 8.38° | add 8.38° |

WELL NOTES

OPERATORS

| MD ft | Inc deg | Azim deg | TVD ft | VS ft | +N/-S ft | +E/-W ft | DLS °/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | Invalid |
| 213.00 | 0.40 | 226.22 | 213.00 | -0.50 | -0.51 | -0.54 | 0.19 |
| 307.00 | 0.65 | 223.20 | 306.99 | -1.09 | -1.13 | -1.14 | 0.27 |
| 495.00 | 1.39 | 309.35 | 494.97 | -0.34 | -0.46 | -3.63 | 0.79 |
| 589.00 | 2.24 | 324.01 | 588.92 | 1.93 | 1.75 | -5.59 | 1.02 |
| 683.00 | 2.05 | 330.58 | 682.86 | 4.94 | 4.70 | -7.50 | 0.33 |
| 777.00 | 2.06 | 334.88 | 776.80 | 7.99 | 7.69 | -9.04 | 0.16 |
| 871.00 | 3.40 | 327.92 | 870.69 | 11.95 | 11.58 | -11.24 | 1.47 |
| 1059.00 | 6.07 | 341.22 | 1058.04 | 26.28 | 25.72 | -17.40 | 1.53 |
| 1153.00 | 6.32 | 339.56 | 1151.49 | 35.94 | 35.27 | -20.81 | 0.33 |
| 1247.00 | 6.53 | 339.43 | 1244.90 | 45.91 | 45.13 | -24.49 | 0.22 |
| 1341.00 | 7.66 | 337.51 | 1338.18 | 56.84 | 55.92 | -28.77 | 1.23 |
| 1434.00 | 10.26 | 338.34 | 1430.03 | 70.44 | 69.35 | -34.20 | 2.80 |
| 1528.00 | 11.18 | 338.67 | 1522.39 | 86.91 | 85.62 | -40.60 | 0.98 |
| 1624.00 | 10.98 | 338.73 | 1616.60 | 104.31 | 102.81 | -47.30 | 0.21 |
| 1719.00 | 11.23 | 338.45 | 1709.82 | 121.56 | 119.84 | -53.98 | 0.27 |
| 1814.00 | 10.69 | 336.74 | 1803.09 | 138.47 | 136.54 | -60.86 | 0.66 |
| 1984.00 | 9.70 | 335.79 | 1970.40 | 166.40 | 164.09 | -72.96 | 0.59 |
| 2078.00 | 9.60 | 333.68 | 2063.07 | 180.87 | 178.34 | -79.68 | 0.39 |
| 2172.00 | 9.05 | 331.06 | 2155.83 | 194.59 | 191.83 | -86.73 | 0.74 |

| MD ft | Inc deg | Azim deg | TVD ft | VS ft | +N/-S ft | +E/-W ft | DLS °/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 2268.00 | 10.59 | 334.86 | 2250.42 | 209.41 | 206.42 | -94.13 | 1.74 |
| 2363.00 | 10.19 | 330.95 | 2343.87 | 224.91 | 221.67 | -101.92 | 0.85 |
| 2458.00 | 10.67 | 328.85 | 2437.30 | 240.06 | 236.54 | -110.55 | 0.64 |
| 2553.00 | 11.55 | 326.01 | 2530.52 | 255.79 | 251.96 | -120.42 | 1.09 |
| 2648.00 | 10.78 | 323.32 | 2623.72 | 271.15 | 266.97 | -131.04 | 0.98 |
| 2742.00 | 10.33 | 324.73 | 2716.13 | 285.41 | 280.91 | -141.16 | 0.55 |
| 2837.00 | 9.62 | 326.92 | 2809.69 | 299.32 | 294.52 | -150.42 | 0.84 |
| 2931.00 | 9.14 | 331.86 | 2902.43 | 312.73 | 307.68 | -158.23 | 1.00 |
| 3025.00 | 8.89 | 338.49 | 2995.27 | 326.27 | 321.02 | -164.41 | 1.13 |
| 3119.00 | 8.52 | 340.83 | 3088.19 | 339.77 | 334.36 | -169.36 | 0.55 |
| 3214.00 | 7.32 | 350.76 | 3182.29 | 352.48 | 346.98 | -172.65 | 1.92 |
| 3308.00 | 7.14 | 347.40 | 3275.54 | 364.16 | 358.59 | -174.88 | 0.49 |
| 3404.00 | 6.59 | 358.65 | 3370.86 | 375.53 | 369.92 | -176.32 | 1.51 |
| 3498.00 | 5.21 | 1.55 | 3464.36 | 385.19 | 379.58 | -176.33 | 1.49 |
| 3593.00 | 4.67 | 352.34 | 3559.01 | 393.35 | 387.73 | -176.72 | 1.01 |
| 3685.00 | 3.35 | 349.83 | 3650.78 | 399.73 | 394.09 | -177.70 | 1.45 |
| 3780.00 | 1.89 | 339.76 | 3745.68 | 403.96 | 398.29 | -178.73 | 1.61 |
| 3874.00 | 0.59 | 42.91 | 3839.66 | 405.77 | 400.09 | -178.94 | 1.81 |
| 3969.00 | 1.60 | 116.82 | 3934.64 | 405.48 | 399.85 | -177.42 | 1.63 |
| 4063.00 | 1.22 | 120.90 | 4028.61 | 404.31 | 398.74 | -175.39 | 0.42 |

| MD ft | Inc deg | Azim deg | TVD ft | VS ft | +N/-S ft | +E/-W ft | DLS °/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 4158.00 | 0.77 | 133.63 | 4123.60 | 403.30 | 397.78 | -174.05 | 0.53 |
| 4251.00 | 0.54 | 102.96 | 4216.59 | 402.74 | 397.25 | -173.17 | 0.44 |
| 4346.00 | 0.55 | 145.60 | 4311.59 | 402.24 | 396.77 | -172.48 | 0.42 |
| 4442.00 | 0.77 | 135.16 | 4407.58 | 401.38 | 395.93 | -171.76 | 0.27 |
| 4535.00 | 0.50 | 152.94 | 4500.58 | 400.55 | 395.13 | -171.14 | 0.36 |
| 4630.00 | 0.39 | 161.52 | 4595.57 | 399.87 | 394.45 | -170.84 | 0.14 |
| 4725.00 | 0.47 | 152.21 | 4690.57 | 399.21 | 393.80 | -170.56 | 0.11 |
| 4819.00 | 0.31 | 170.65 | 4784.57 | 398.61 | 393.21 | -170.34 | 0.21 |
| 4914.00 | 0.20 | 218.73 | 4879.57 | 398.23 | 392.82 | -170.41 | 0.24 |
| 5007.00 | 0.29 | 243.50 | 4972.57 | 398.01 | 392.59 | -170.72 | 0.14 |
| 5100.00 | 1.04 | 268.68 | 5065.56 | 397.92 | 392.47 | -171.77 | 0.85 |
| 5195.00 | 1.13 | 282.95 | 5160.54 | 398.17 | 392.66 | -173.55 | 0.30 |
| 5288.00 | 1.41 | 278.17 | 5253.52 | 398.60 | 393.02 | -175.58 | 0.33 |
| 5382.00 | 1.27 | 287.35 | 5347.49 | 399.15 | 393.50 | -177.72 | 0.28 |
| 5475.00 | 1.14 | 291.77 | 5440.47 | 399.86 | 394.15 | -179.56 | 0.17 |
| 5568.00 | 0.92 | 299.04 | 5533.46 | 400.61 | 394.86 | -181.07 | 0.27 |
| 5663.00 | 0.80 | 286.99 | 5628.45 | 401.22 | 395.42 | -182.37 | 0.23 |
| 5758.00 | 1.04 | 305.34 | 5723.44 | 401.96 | 396.11 | -183.71 | 0.40 |
| 5854.00 | 1.06 | 311.88 | 5819.42 | 403.10 | 397.21 | -185.09 | 0.13 |
| 5947.00 | 1.09 | 297.99 | 5912.40 | 404.14 | 398.20 | -186.51 | 0.28 |

| MD ft | Inc deg | Azim deg | TVD ft | VS ft | +N/-S ft | +E/-W ft | DLS °/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 6042.00 | 0.35 | 115.31 | 6007.40 | 404.46 | 398.50 | -187.04 | 1.51 |
| 6137.00 | 1.02 | 139.99 | 6102.39 | 403.66 | 397.73 | -186.24 | 0.76 |
| 6231.00 | 1.15 | 110.64 | 6196.38 | 402.64 | 396.76 | -184.82 | 0.60 |
| 6324.00 | 1.00 | 85.24 | 6289.36 | 402.32 | 396.50 | -183.14 | 0.53 |
| 6417.00 | 0.65 | 67.73 | 6382.35 | 402.54 | 396.76 | -181.84 | 0.46 |
| 6510.00 | 0.68 | 59.50 | 6475.34 | 402.99 | 397.24 | -180.88 | 0.11 |
| 6604.00 | 0.92 | 18.24 | 6569.33 | 403.97 | 398.24 | -180.16 | 0.65 |
| 6696.00 | 1.25 | 12.25 | 6661.32 | 405.63 | 399.92 | -179.72 | 0.38 |
| 6791.00 | 4.40 | 7.25 | 6756.19 | 410.24 | 404.55 | -179.04 | 3.32 |
| 6885.00 | 14.43 | 1.86 | 6848.81 | 425.52 | 419.87 | -178.20 | 10.70 |
| 6978.00 | 21.30 | 6.02 | 6937.28 | 453.85 | 448.28 | -176.05 | 7.51 |
| 7072.00 | 27.56 | 4.37 | 7022.82 | 492.41 | 486.98 | -172.60 | 6.70 |
| 7166.00 | 37.78 | 0.82 | 7101.85 | 542.92 | 537.59 | -170.52 | 11.07 |
| 7261.00 | 49.46 | 1.23 | 7170.51 | 608.26 | 603.00 | -169.32 | 12.29 |
| 7357.00 | 58.91 | 1.98 | 7226.62 | 685.87 | 680.73 | -167.11 | 9.87 |
| 7451.00 | 69.61 | 0.73 | 7267.39 | 770.28 | 765.25 | -165.16 | 11.45 |
| 7546.00 | 75.53 | 356.08 | 7295.85 | 860.85 | 855.78 | -167.74 | 7.79 |
| 7640.00 | 79.10 | 355.93 | 7316.49 | 952.48 | 947.25 | -174.13 | 3.80 |
| 7736.00 | 85.10 | 357.93 | 7329.68 | 1047.50 | 1042.15 | -179.21 | 6.58 |
| 7830.00 | 88.19 | 357.68 | 7335.19 | 1141.32 | 1135.91 | -182.81 | 3.30 |

| MD ft | Inc deg | Azim deg | TVD ft | VS ft | +N/-S ft | +E/-W ft | DLS °/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 7924.00 | 88.96 | 357.52 | 7337.53 | 1235.29 | 1229.80 | -186.75 | 0.84 |
| 8019.00 | 89.90 | 357.06 | 7338.47 | 1330.27 | 1324.69 | -191.24 | 1.10 |
| 8112.00 | 90.50 | 356.62 | 7338.15 | 1423.25 | 1417.54 | -196.37 | 0.80 |
| 8206.00 | 90.77 | 356.61 | 7337.10 | 1517.21 | 1511.37 | -201.93 | 0.29 |
| 8300.00 | 90.97 | 356.40 | 7335.67 | 1611.16 | 1605.19 | -207.65 | 0.31 |
| 8394.00 | 91.38 | 355.60 | 7333.74 | 1705.08 | 1698.94 | -214.20 | 0.95 |
| 8489.00 | 90.71 | 356.22 | 7332.02 | 1799.99 | 1793.68 | -220.97 | 0.96 |
| 8583.00 | 90.97 | 355.36 | 7330.64 | 1893.90 | 1887.42 | -227.87 | 0.96 |
| 8676.00 | 90.23 | 357.16 | 7329.66 | 1986.85 | 1980.21 | -233.94 | 2.08 |
| 8770.00 | 90.47 | 356.47 | 7329.08 | 2080.82 | 2074.06 | -239.17 | 0.77 |
| 8864.00 | 91.11 | 357.99 | 7327.79 | 2174.80 | 2167.94 | -243.71 | 1.76 |
| 8959.00 | 92.25 | 358.80 | 7325.01 | 2269.75 | 2262.86 | -246.37 | 1.47 |
| 9054.00 | 91.44 | 358.24 | 7321.95 | 2364.70 | 2357.78 | -248.82 | 1.03 |
| 9147.00 | 90.00 | 358.51 | 7320.78 | 2457.69 | 2450.73 | -251.46 | 1.58 |
| 9242.00 | 90.47 | 357.81 | 7320.39 | 2552.69 | 2545.68 | -254.51 | 0.88 |
| 9336.00 | 92.14 | 356.84 | 7318.25 | 2646.65 | 2639.55 | -258.89 | 2.06 |
| 9430.00 | 92.02 | 357.53 | 7314.84 | 2740.57 | 2733.37 | -263.51 | 0.74 |
| 9525.00 | 90.37 | 357.95 | 7312.86 | 2835.55 | 2828.27 | -267.26 | 1.79 |
| 9619.00 | 90.00 | 0.16 | 7312.56 | 2929.53 | 2922.25 | -268.81 | 2.38 |
| 9711.00 | 91.58 | 1.01 | 7311.29 | 3021.43 | 3014.24 | -267.87 | 1.95 |

| MD ft | Inc deg | Azim deg | TVD ft | VS ft | +N/-S ft | +E/-W ft | DLS °/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 9806.00 | 90.47 | 359.22 | 7309.60 | 3116.35 | 3109.22 | -267.69 | 2.21 |
| 9900.00 | 87.85 | 358.76 | 7310.97 | 3210.32 | 3203.18 | -269.35 | 2.82 |
| 9994.00 | 87.65 | 358.16 | 7314.66 | 3304.25 | 3297.08 | -271.87 | 0.67 |
| 10087.00 | 89.23 | 0.37 | 7317.20 | 3397.19 | 3390.02 | -273.06 | 2.92 |
| 10181.00 | 90.27 | 0.04 | 7317.61 | 3491.12 | 3484.02 | -272.73 | 1.16 |
| 10275.00 | 89.16 | 0.14 | 7318.08 | 3585.06 | 3578.02 | -272.58 | 1.18 |
| 10368.00 | 90.34 | 1.32 | 7318.49 | 3677.96 | 3671.01 | -271.39 | 1.79 |
| 10463.00 | 91.71 | 0.94 | 7316.79 | 3772.81 | 3765.97 | -269.51 | 1.51 |
| 10556.00 | 90.34 | 359.91 | 7315.13 | 3865.72 | 3858.95 | -268.81 | 1.85 |
| 10652.00 | 88.62 | 359.63 | 7316.00 | 3961.67 | 3954.94 | -269.19 | 1.81 |
| 10746.00 | 88.76 | 358.16 | 7318.15 | 4055.63 | 4048.90 | -271.00 | 1.58 |
| 10840.00 | 89.97 | 357.62 | 7319.20 | 4149.62 | 4142.82 | -274.46 | 1.41 |
| 10933.00 | 91.34 | 357.18 | 7318.14 | 4242.61 | 4235.72 | -278.68 | 1.55 |
| 11027.00 | 91.04 | 356.63 | 7316.18 | 4336.57 | 4329.56 | -283.75 | 0.68 |
| 11119.00 | 91.18 | 356.24 | 7314.40 | 4428.51 | 4421.37 | -289.47 | 0.45 |
| 11213.00 | 91.11 | 355.64 | 7312.53 | 4522.42 | 4515.11 | -296.13 | 0.64 |
| 11305.00 | 90.77 | 356.29 | 7311.02 | 4614.35 | 4606.87 | -302.60 | 0.80 |
| 11398.00 | 91.24 | 357.90 | 7309.38 | 4707.31 | 4699.73 | -307.31 | 1.80 |
| 11491.00 | 89.56 | 357.35 | 7308.73 | 4800.30 | 4792.65 | -311.16 | 1.90 |
| 11585.00 | 89.26 | 357.34 | 7309.69 | 4894.29 | 4886.54 | -315.52 | 0.32 |

| MD ft | Inc deg | Azim deg | TVD ft | VS ft | +N/-S ft | +E/-W ft | DLS °/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 11678.00 | 90.97 | 358.11 | 7309.50 | 4987.28 | 4979.46 | -319.21 | 2.02 |
| 11772.00 | 91.75 | 356.82 | 7307.27 | 5081.25 | 5073.34 | -323.37 | 1.61 |
| 11865.00 | 92.69 | 356.91 | 7303.67 | 5174.16 | 5166.13 | -328.46 | 1.01 |
| 11958.00 | 91.91 | 356.80 | 7299.94 | 5267.06 | 5258.92 | -333.56 | 0.84 |
| 12053.00 | 90.03 | 355.42 | 7298.33 | 5361.98 | 5353.68 | -340.00 | 2.45 |
| 12147.00 | 90.64 | 356.09 | 7297.78 | 5455.90 | 5447.42 | -346.96 | 0.96 |
| 12240.00 | 91.34 | 358.79 | 7296.17 | 5548.87 | 5540.30 | -351.11 | 3.00 |
| 12332.00 | 92.12 | 359.55 | 7293.40 | 5640.81 | 5632.25 | -352.45 | 1.18 |
| 12426.00 | 92.29 | 359.26 | 7289.79 | 5734.72 | 5726.17 | -353.43 | 0.35 |
| 12521.00 | 89.87 | 358.93 | 7288.00 | 5829.68 | 5821.14 | -354.93 | 2.57 |
| 12616.00 | 90.07 | 358.31 | 7288.06 | 5924.67 | 5916.11 | -357.21 | 0.69 |
| 12711.00 | 91.84 | 358.62 | 7286.47 | 6019.65 | 6011.06 | -359.75 | 1.90 |
| 12805.00 | 93.67 | 358.55 | 7281.95 | 6113.54 | 6104.92 | -362.07 | 1.94 |
| 12900.00 | 95.71 | 358.72 | 7274.19 | 6208.21 | 6199.57 | -364.33 | 2.15 |
| 12919.00 | 96.11 | 358.67 | 7272.23 | 6227.11 | 6218.46 | -364.76 | 2.15 |

5" = 100' FEET MD