

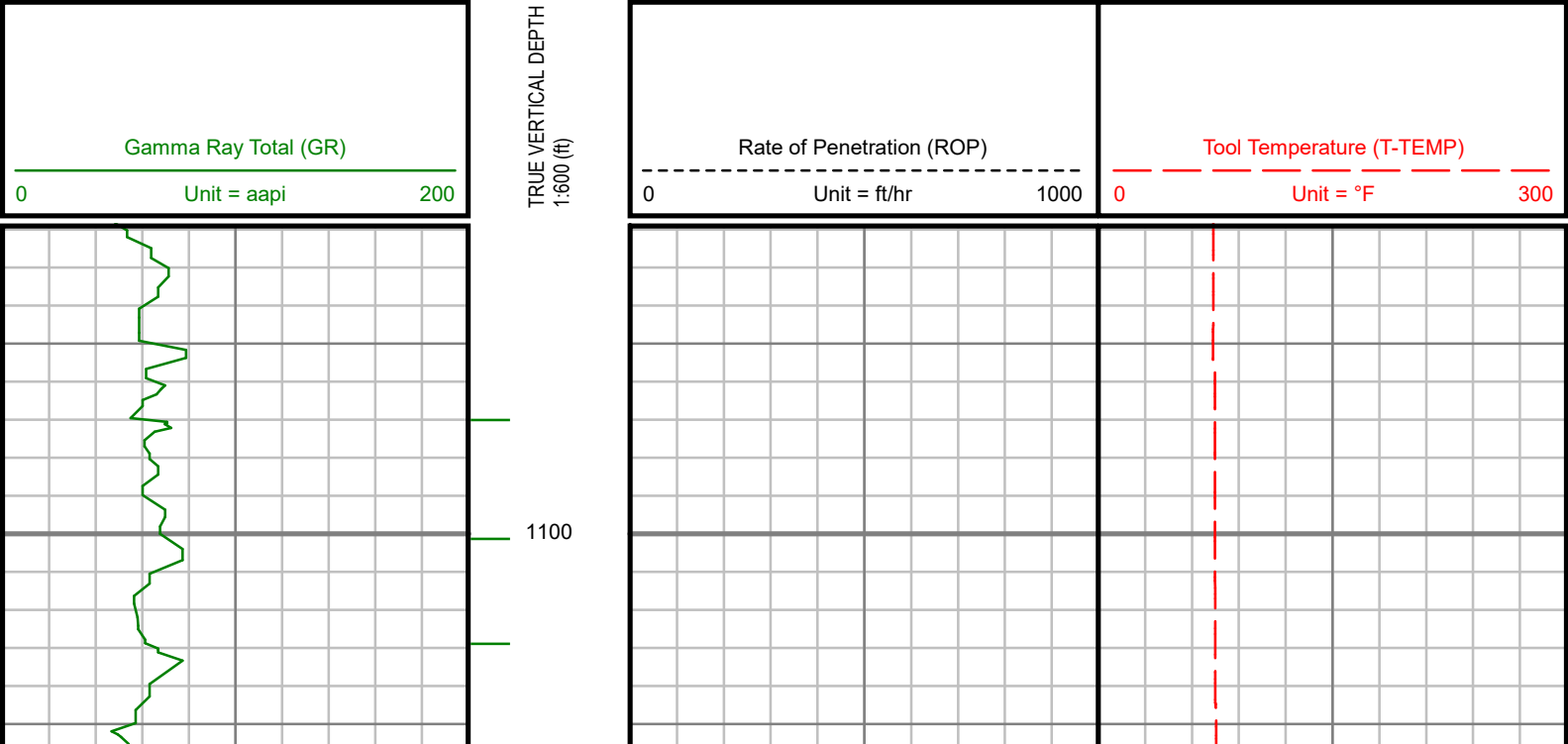
2" = 100' TVD

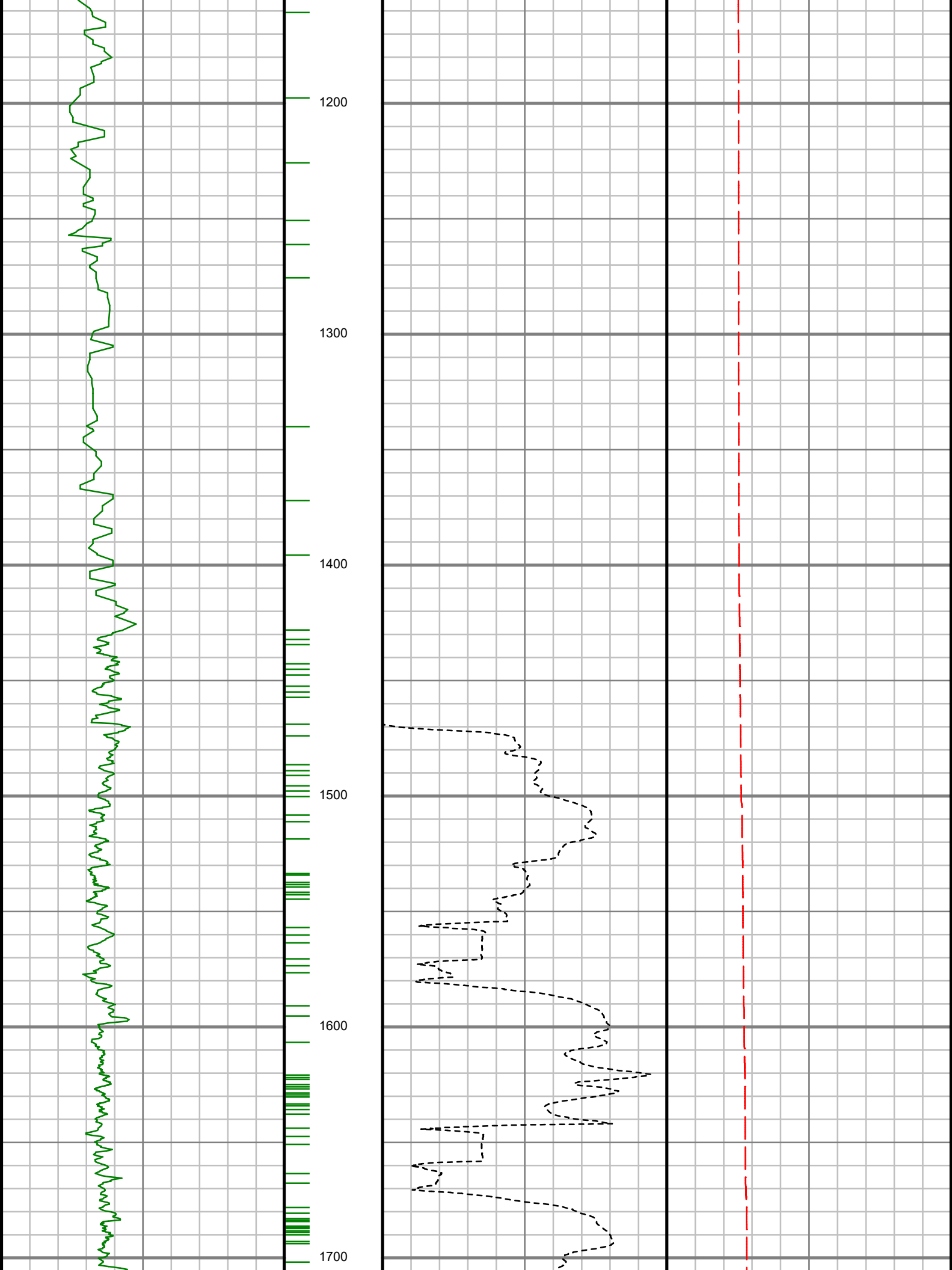
|  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
| COMPANY : HIGHPOINT RESOURCES                  |  |  |  |  |  |  |  |  |  |
| WELL : ANSCHUTZ EQUUS FARMS FED 05-61-34-5764B |  |  |  |  |  |  |  |  |  |
| FIELD : WATTENBERG                             |  |  |  |  |  |  |  |  |  |
| COUNTY : WELD                                  |  |  |  |  |  |  |  |  |  |
| STATE : COLORADO                               |  |  |  |  |  |  |  |  |  |
| COUNTRY : U.S.A.                               |  |  |  |  |  |  |  |  |  |
| UWI : 05-123-48186                             |  |  |  |  |  |  |  |  |  |
| WELL LOCATION                                  |  |  |  |  |  |  |  |  |  |
| LAT:40°21'17.020"N LONG:104°11'11.220"W        |  |  |  |  |  |  |  |  |  |
| N:1374779.27 ft E:3366068.19 ft                |  |  |  |  |  |  |  |  |  |
| SEC:34   |  |  |  |  |  |  |  |  |  |
| TWP:5N   |  |  |  |  |  |  |  |  |  |
| RANGE:61W                                      |  |  |  |  |  |  |  |  |  |
| OTHER SERVICES                                 |  |  |  |  |  |  |  |  |  |
| NAD83  |  |  |  |  |  |  |  |  |  |
| DIRECTIONAL                                    |  |  |  |  |  |  |  |  |  |
| ROP  |  |  |  |  |  |  |  |  |  |
| DEPTH REF. : RKB                               |  |  |  |  |  |  |  |  |  |
| REF. HEIGHT : 16.500 ft                        |  |  |  |  |  |  |  |  |  |
| RKB to Ground Level                            |  |  |  |  |  |  |  |  |  |
| GROUND LEVEL : 4479.600 ft                     |  |  |  |  |  |  |  |  |  |
| G.L. to MEAN SEA LEVEL                         |  |  |  |  |  |  |  |  |  |
| BOREHOLE RECORD                                |  |  |  |  |  |  |  |  |  |
| DEVIATION RECORD                               |  |  |  |  |  |  |  |  |  |
| HOLE SIZE in                                   |  |  |  |  |  |  |  |  |  |
| FROM ft  |  |  |  |  |  |  |  |  |  |
| TO ft  |  |  |  |  |  |  |  |  |  |
| INCLINATION deg                                |  |  |  |  |  |  |  |  |  |
| FROM ft  |  |  |  |  |  |  |  |  |  |
| TO ft  |  |  |  |  |  |  |  |  |  |
| 9.625  |  |  |  |  |  |  |  |  |  |
| 0  |  |  |  |  |  |  |  |  |  |
| 1019.95  |  |  |  |  |  |  |  |  |  |
| 0 - 5  |  |  |  |  |  |  |  |  |  |
| 0  |  |  |  |  |  |  |  |  |  |
| 1146   |  |  |  |  |  |  |  |  |  |
| 6.5  |  |  |  |  |  |  |  |  |  |
| 1019.95  |  |  |  |  |  |  |  |  |  |
| 6429   |  |  |  |  |  |  |  |  |  |
| 5 - 22   |  |  |  |  |  |  |  |  |  |
| 1146   |  |  |  |  |  |  |  |  |  |
| 2145   |  |  |  |  |  |  |  |  |  |
| 2145   |  |  |  |  |  |  |  |  |  |
| 3738   |  |  |  |  |  |  |  |  |  |
| 6.125  |  |  |  |  |  |  |  |  |  |
| 6429   |  |  |  |  |  |  |  |  |  |
| 16069  |  |  |  |  |  |  |  |  |  |
| 22   |  |  |  |  |  |  |  |  |  |
| 2145   |  |  |  |  |  |  |  |  |  |
| 3738   |  |  |  |  |  |  |  |  |  |
| 4867   |  |  |  |  |  |  |  |  |  |
| 22 - 0   |  |  |  |  |  |  |  |  |  |
| 3738   |  |  |  |  |  |  |  |  |  |
| 4867   |  |  |  |  |  |  |  |  |  |
| 0  |  |  |  |  |  |  |  |  |  |
| 4867   |  |  |  |  |  |  |  |  |  |
| 5434   |  |  |  |  |  |  |  |  |  |
| 6373   |  |  |  |  |  |  |  |  |  |
| 0 - 90   |  |  |  |  |  |  |  |  |  |
| 5434   |  |  |  |  |  |  |  |  |  |
| 6373   |  |  |  |  |  |  |  |  |  |
| 90   |  |  |  |  |  |  |  |  |  |
| 6373   |  |  |  |  |  |  |  |  |  |
| 16069  |  |  |  |  |  |  |  |  |  |
| CASING RECORD                                  |  |  |  |  |  |  |  |  |  |
| CASING SIZE in                                 |  |  |  |  |  |  |  |  |  |
| FROM ft  |  |  |  |  |  |  |  |  |  |
| TO ft  |  |  |  |  |  |  |  |  |  |
| 9.625  |  |  |  |  |  |  |  |  |  |
| 0  |  |  |  |  |  |  |  |  |  |
| 1019.95  |  |  |  |  |  |  |  |  |  |
| 6.5  |  |  |  |  |  |  |  |  |  |
| 1019.95  |  |  |  |  |  |  |  |  |  |
| 6429   |  |  |  |  |  |  |  |  |  |
| DRILLING CO.: CADE                             |  |  |  |  |  |  |  |  |  |
| RIG: 24  |  |  |  |  |  |  |  |  |  |
| LWD UNIT NO.: KIT PRT PFDISTRICD: CASPER       |  |  |  |  |  |  |  |  |  |
| SPUD DATE: 01/12/2019                          |  |  |  |  |  |  |  |  |  |
| LWD START DATE: 04/10/2019                     |  |  |  |  |  |  |  |  |  |
| LWD END DATE: 04/17/2019                       |  |  |  |  |  |  |  |  |  |
| DEPTH: 1019 ft                                 |  |  |  |  |  |  |  |  |  |
| DEPTH: 16069 ft                                |  |  |  |  |  |  |  |  |  |
| TOTAL DEPTH: 16069 ft                          |  |  |  |  |  |  |  |  |  |

|  |
|--|
| Remarks  |
| HIGHPOINT RESOURCES AFE# 20408D  |
| SCIENTIFIC DRILLING INTERNATIONAL JOB# OP.017844   |
|  |
| ALL REFERENCES IN THE DEPTH TRACK ARE AT BIT DEPTH.  |
| ALL DATA IS MEMORY DATA UNLESS STATED OTHERWISE.   |
|  |
| FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO GAMMA RAY TOTAL CURVE                            |
| FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO RATE OF PENETRATION CURVE                        |
| FLAT AVERAGE FILTER OF 1.00 FT APPLIED TO TOOL TEMPERATURE CURVE                           |
|  |
| RUN #1: MWD / GAMMA RAY / PRT LOGGING RUN  |
| SENSORS S/N: PULSER = 128-197 / CONT = 151 / MWD EYE = 1491 / GAMMA RAY = 1484 / PRT = 345 |
| BIT TO SENSOR OFFSETS: SURVEY = 54.03 FT. / GAMMA RAY = 37.44 FT. / PRT = 43.18 FT.        |
|  |
| RUN #2: MWD / GAMMA RAY / PRT LOGGING RUN  |
| SENSORS S/N: PULSER = 128-121 / CONT = 303 / MWD EYE = 1806 / GAMMA RAY = 1291 / PRT = 368 |
| BIT TO SENSOR OFFSETS: SURVEY = 54.03 FT. / GAMMA RAY = 37.44 FT. / PRT = 43.18 FT.        |
|  |
| RUN #3: MWD / GAMMA RAY LOGGING RUN  |
| SENSORS S/N: PULSER = 78-277 / CONT = 151 / MWD EYE = 1156 / GAMMA RAY = 1484              |
| BIT TO SENSOR OFFSETS: SURVEY = 53.9 FT. / GAMMA RAY = 49.9 FT.                            |
|  |
| MNEMONICS LIST:  |
| GR = GAMMA RAY TOTAL   |
| ROP = RATE OF PENETRATION  |
| T-TEMP = TOOL TEMPERATURE  |

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

HIGHPOINT RESOURCES  
ANSCHUTZ EQUUS FARMS FED 05-61-34-5764B  
WATTENBERG FIELD  
WELD COUNTY, COLORADO  
API # 05-123-48186







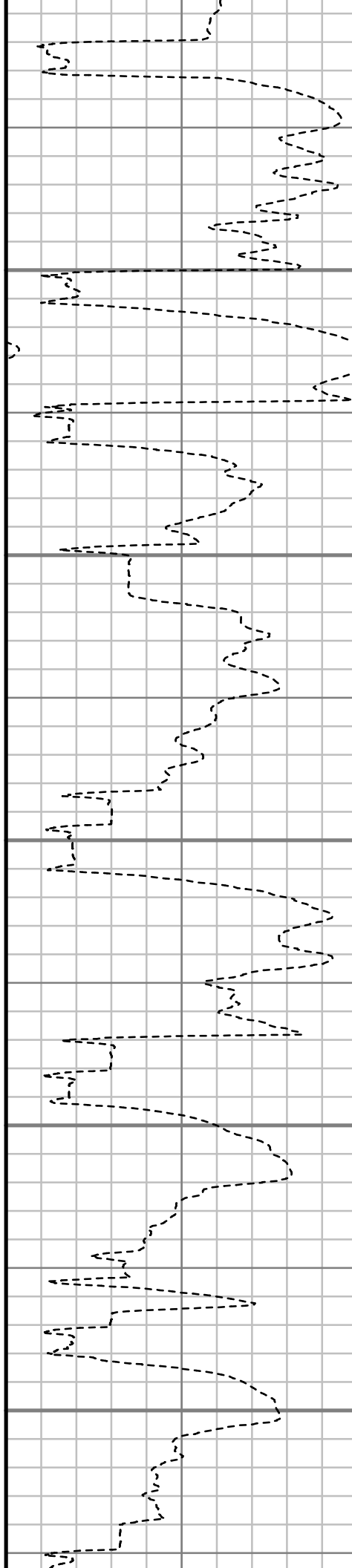
1800

1900

2000

2100

2200





2300

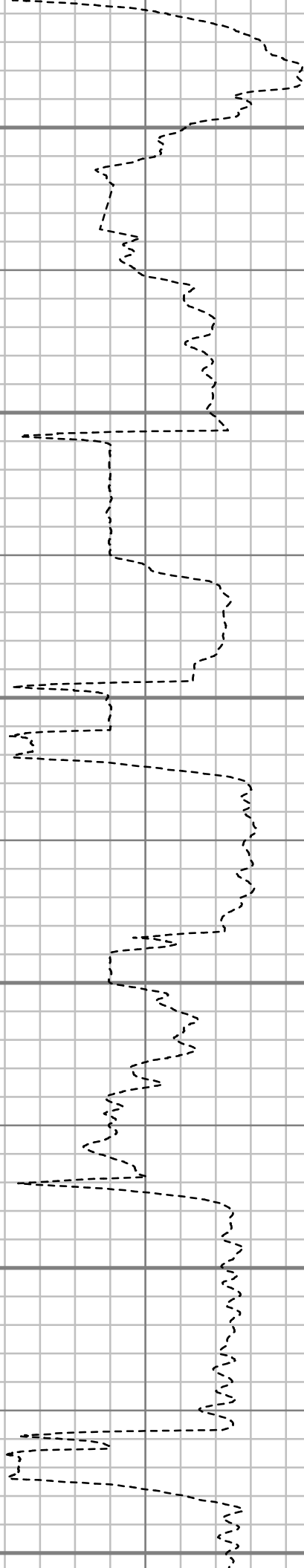
2400

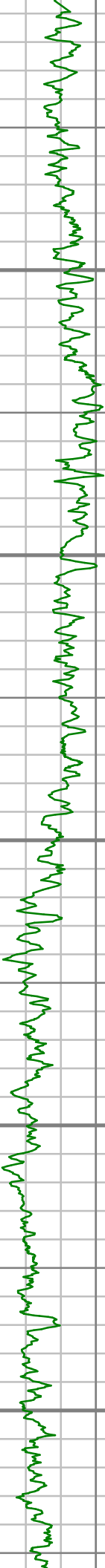
2500

2600

2700

2800





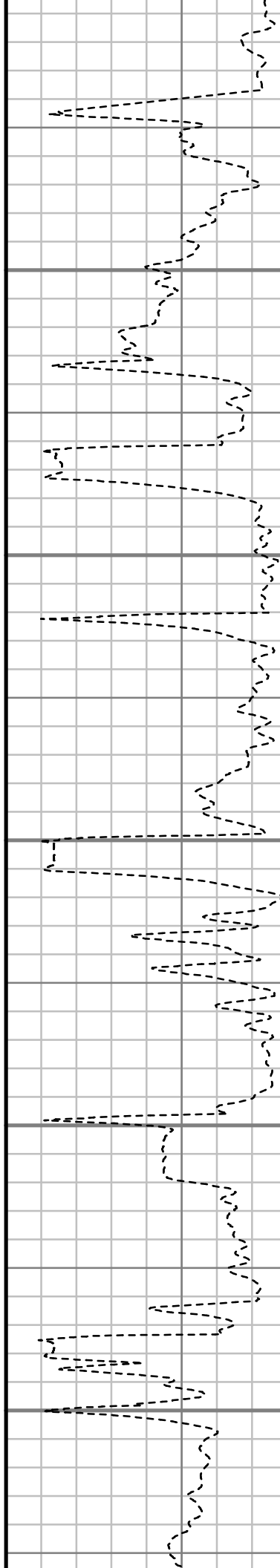
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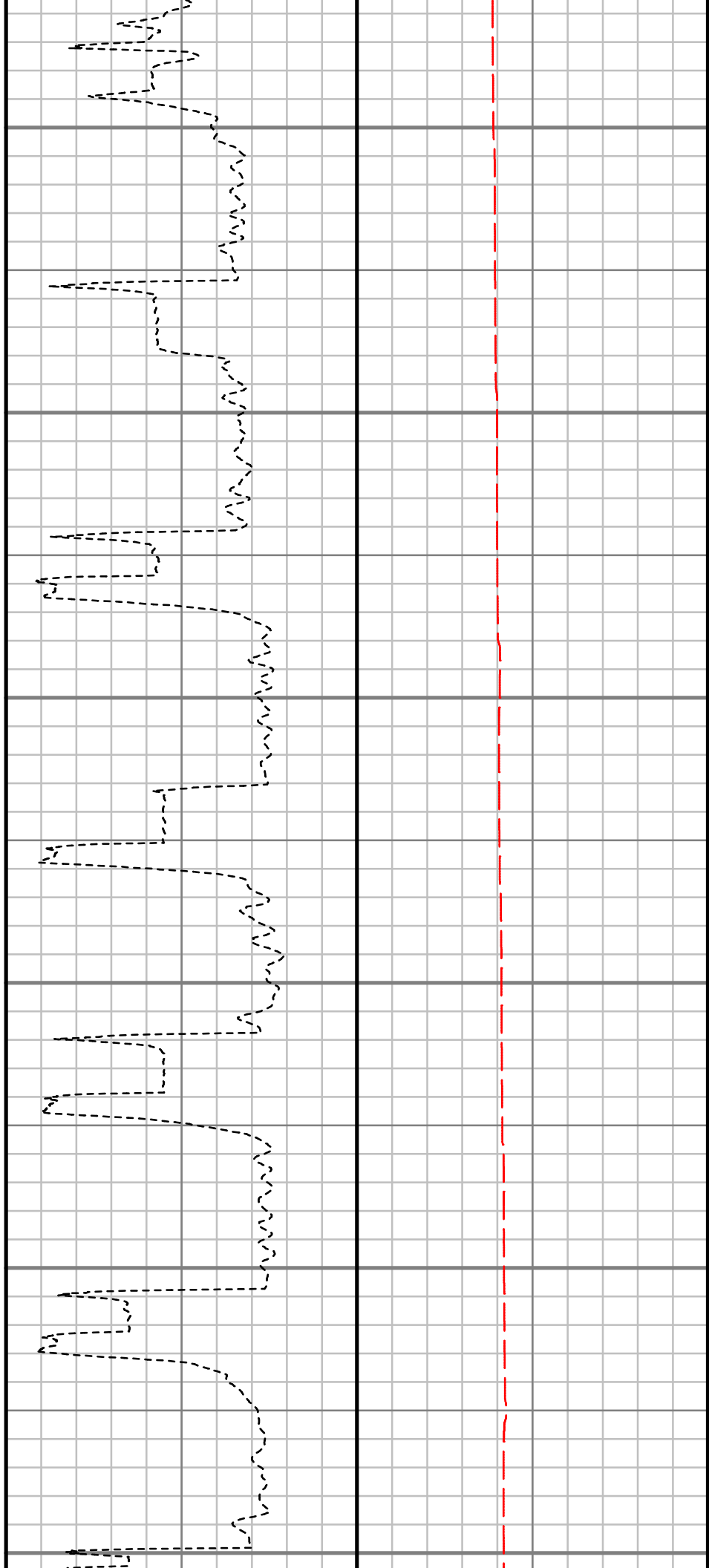
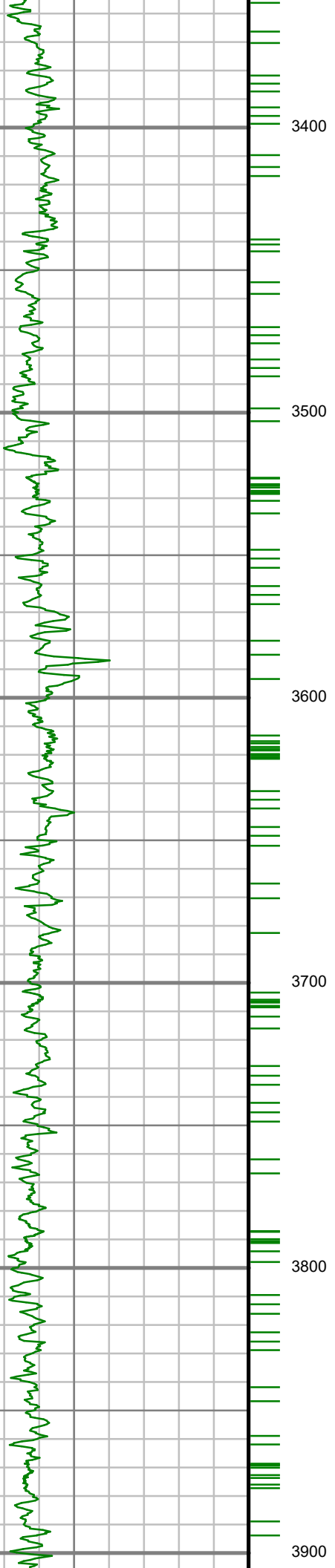
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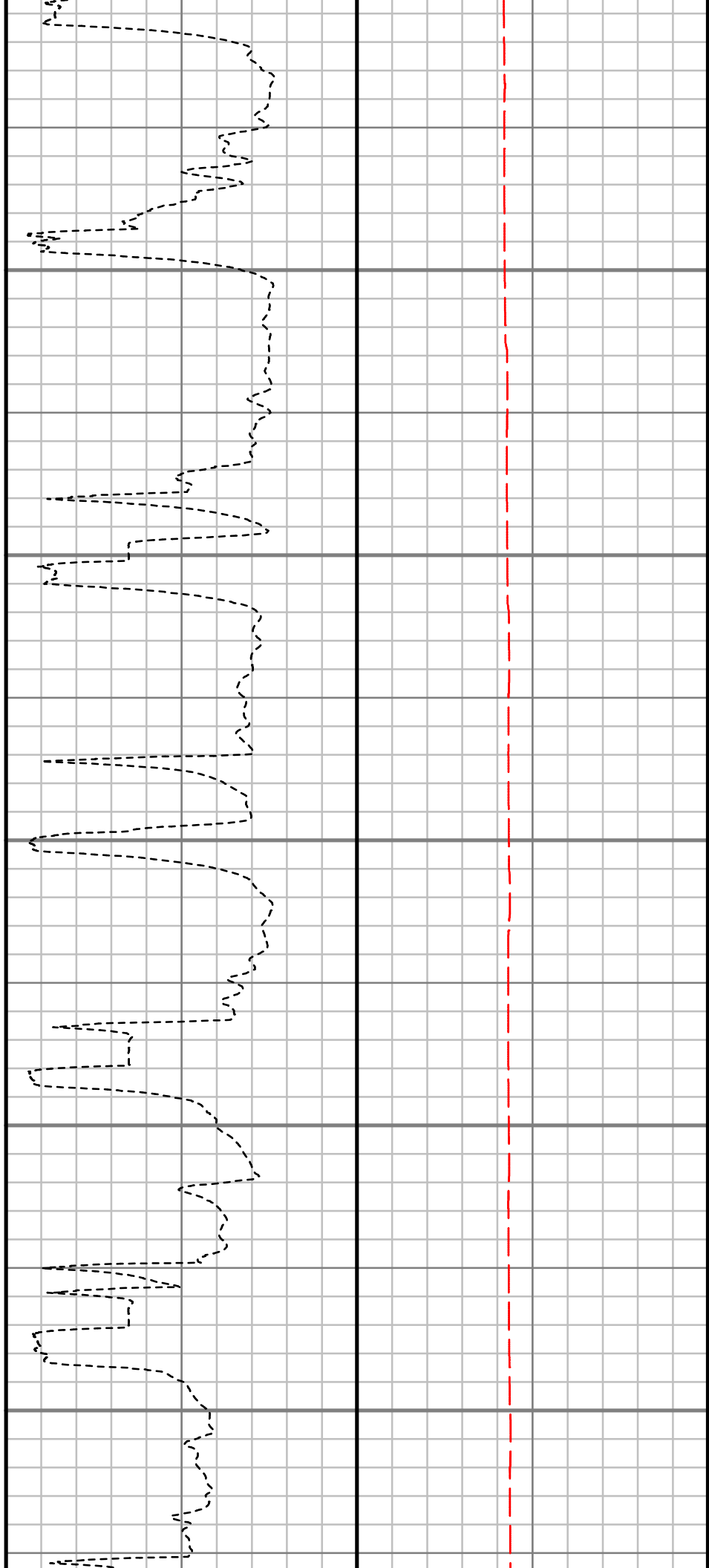
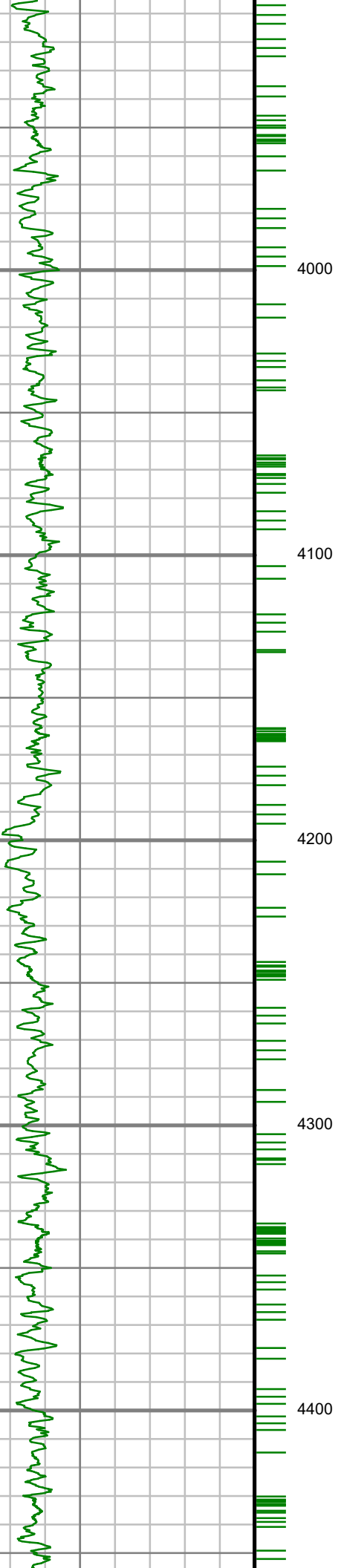
3100

3200

3300









4500

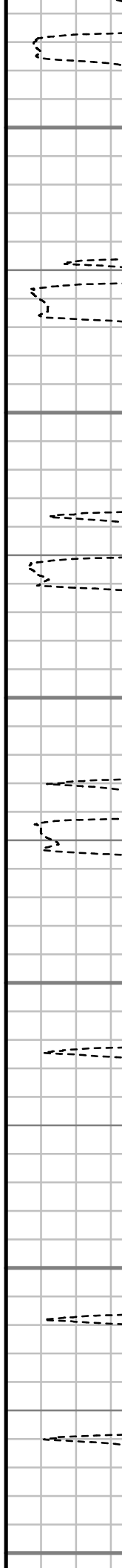
4600

4700

4800

4900

5000





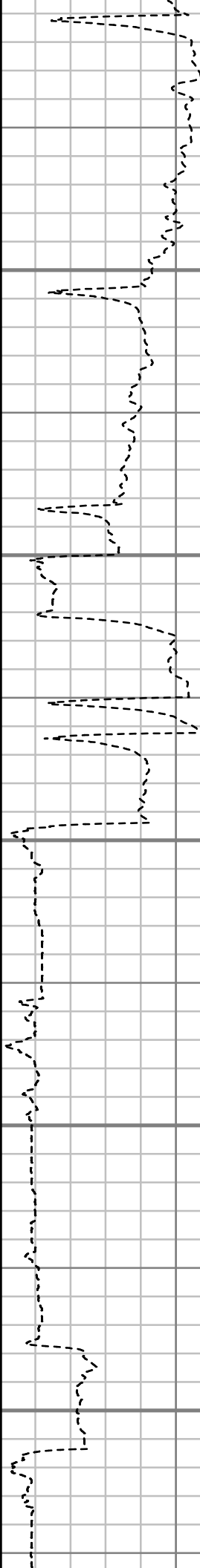
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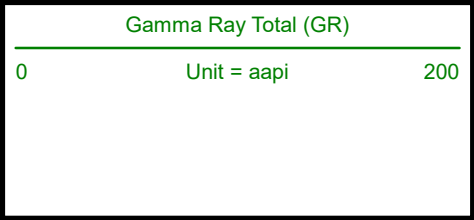
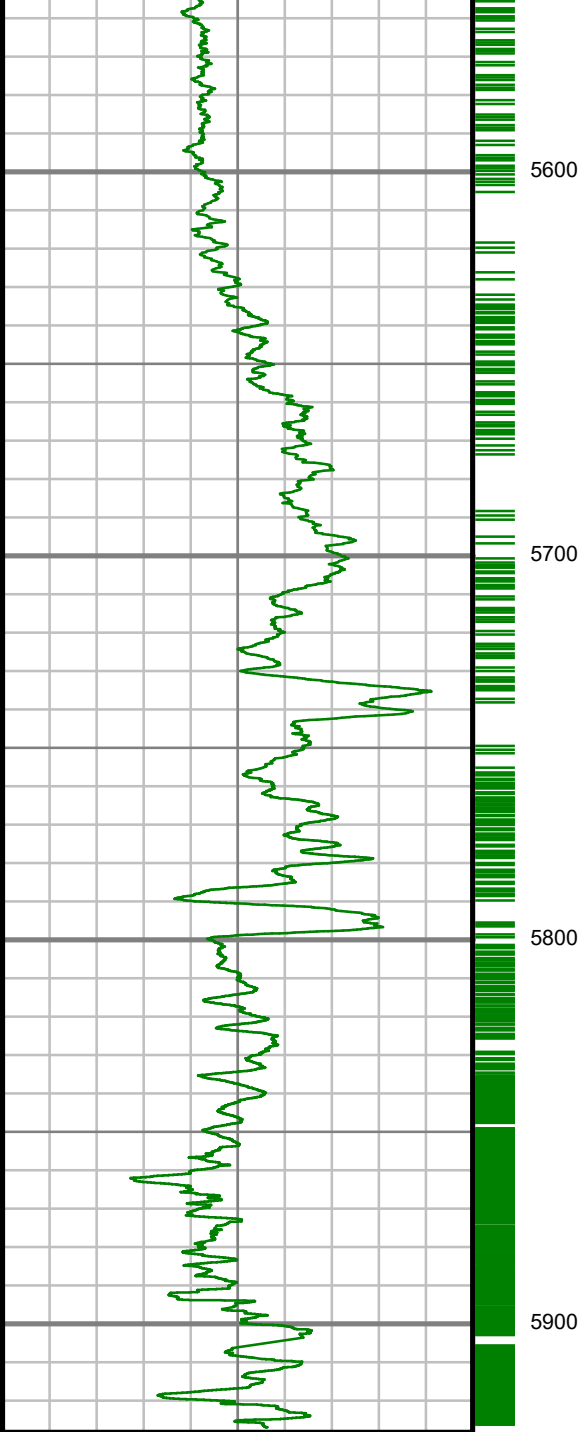
5200

5300

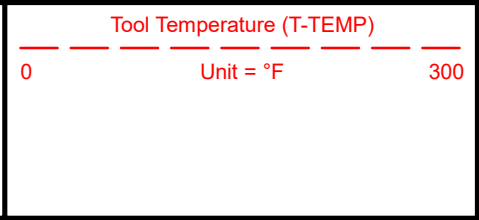
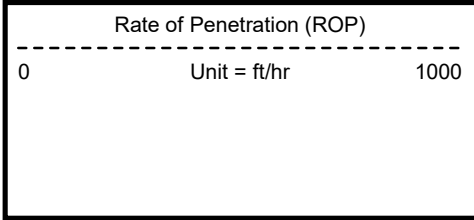
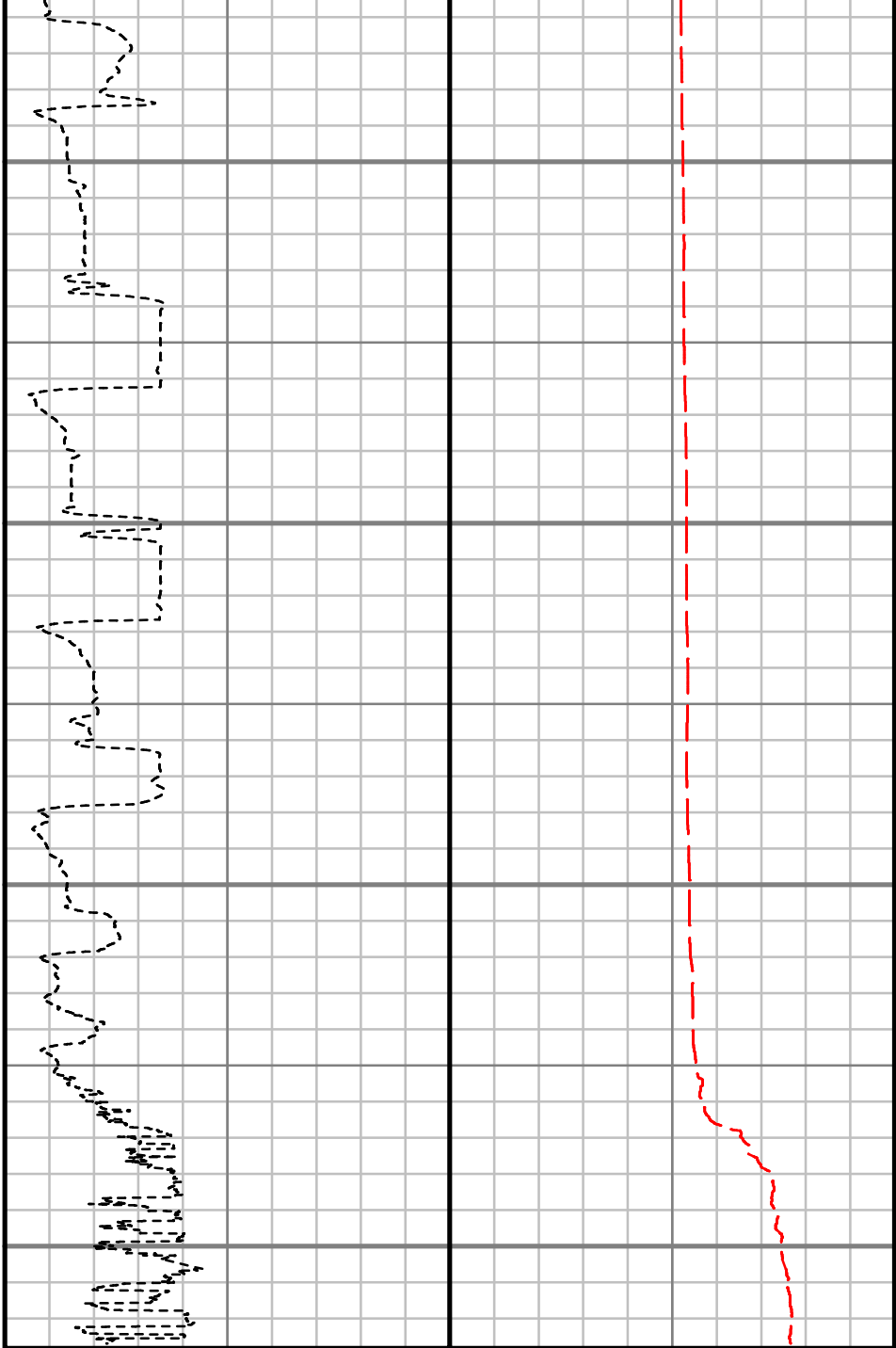
5400

5500





TRUE VERTICAL DEPTH  
1:600 (ft)



# SURVEY REPORT

ANSCHUTZ EQUUS FARMS FED 05-61-34-5764B

COMPUTED SURVEYS

CUSTOMER HIGHPOINT RESOURCES  
PROJECT ANSCHUTZ EQUUS FARMS FED  
05-61-34-5764B  
FIELD WATTENBERG

## WELL INFORMATION

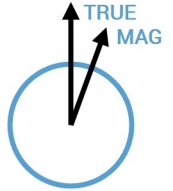
Lat/Long 40° 21' 17.02" N, 104° 11' 11.22" W  
Northing 1,374,779.27 ft  
Easting 3,366,068.19 ft  
UWI 05-123-48186

## MAP INFORMATION

North Reference True North  
Grid Correction  
System US State Plane 1983  
Datum North American Datum 1983 (GRS 1980)  
Map Zone Colorado North: 0501

## VERTICAL SECTION REFERENCE

+N/-S 0 ft  
+E/-W 0 ft  
Proposal Direction 269.77°  
Calculation Method Minimum Curvature



## GEOMAGNETIC REFERENCE INFORMATION

Local Gravity: 999.110 mG [computed]

| MD           | MODEL    | DATE        | DECLINATION | MAG TO TRUE |
|--------------|----------|-------------|-------------|-------------|
| 970-16013 ft | HDGM2018 | 06 Apr 2019 | 8.10°       | add 8.1°    |

## WELL NOTES

## OPERATORS

A. FARQUHAR, M. BAILY

| MD<br>ft | Inc<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | +N/-S<br>ft | +E/-W<br>ft | DLS<br>°/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 969.50   | 5.36       | 162.38      | 967.75    | -19.52   | -41.27      | 19.69       | Invalid        |
| 1056.00  | 7.22       | 172.77      | 1053.73   | -21.39   | -50.51      | 21.60       | 2.51           |
| 1146.00  | 9.70       | 170.93      | 1142.74   | -23.25   | -63.61      | 23.50       | 2.78           |
| 1238.00  | 12.07      | 170.46      | 1233.08   | -25.99   | -80.76      | 26.32       | 2.57           |
| 1328.00  | 12.63      | 165.97      | 1321.00   | -29.86   | -99.58      | 30.27       | 1.24           |
| 1419.00  | 14.04      | 160.17      | 1409.55   | -35.94   | -119.62     | 36.42       | 2.14           |
| 1509.00  | 15.16      | 157.57      | 1496.64   | -44.05   | -140.77     | 44.62       | 1.43           |
| 1600.00  | 15.87      | 160.03      | 1584.33   | -52.75   | -163.46     | 53.41       | 1.07           |
| 1691.00  | 18.29      | 154.64      | 1671.31   | -63.01   | -188.06     | 63.78       | 3.17           |
| 1781.00  | 17.86      | 150.31      | 1756.87   | -75.80   | -212.81     | 76.66       | 1.57           |
| 1872.00  | 19.00      | 154.20      | 1843.21   | -89.05   | -238.27     | 90.02       | 1.84           |
| 1963.00  | 19.63      | 155.54      | 1929.09   | -101.72  | -265.52     | 102.79      | 0.84           |
| 2054.00  | 20.60      | 159.53      | 2014.54   | -113.53  | -294.43     | 114.72      | 1.85           |
| 2145.00  | 21.94      | 159.95      | 2099.34   | -124.83  | -325.39     | 126.15      | 1.49           |
| 2236.00  | 21.83      | 161.29      | 2183.78   | -135.96  | -357.39     | 137.41      | 0.56           |
| 2327.00  | 22.94      | 162.29      | 2267.93   | -146.65  | -390.31     | 148.23      | 1.29           |
| 2421.00  | 22.77      | 162.62      | 2354.55   | -157.51  | -425.12     | 159.23      | 0.23           |
| 2515.00  | 22.26      | 160.40      | 2441.38   | -168.78  | -459.26     | 170.64      | 1.05           |
| 2609.00  | 22.37      | 166.47      | 2528.35   | -178.80  | -493.43     | 180.80      | 2.45           |
| 2703.00  | 21.72      | 163.05      | 2615.49   | -187.91  | -527.46     | 190.05      | 1.53           |

| MD<br>ft | Inc<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | +N/-S<br>ft | +E/-W<br>ft | DLS<br>%/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 2798.00  | 20.53      | 162.52      | 2704.10   | -197.91  | -560.16     | 200.18      | 1.27           |
| 2892.00  | 22.13      | 161.45      | 2791.66   | -208.36  | -592.68     | 210.77      | 1.75           |
| 2986.00  | 21.14      | 158.91      | 2879.03   | -219.97  | -625.28     | 222.50      | 1.45           |
| 3080.00  | 20.30      | 161.37      | 2966.95   | -231.15  | -656.55     | 233.81      | 1.29           |
| 3175.00  | 20.24      | 160.23      | 3056.07   | -241.85  | -687.63     | 244.64      | 0.42           |
| 3269.00  | 22.04      | 164.50      | 3143.75   | -251.93  | -719.93     | 254.85      | 2.52           |
| 3362.00  | 22.85      | 162.28      | 3229.70   | -261.96  | -753.94     | 265.01      | 1.26           |
| 3457.00  | 23.74      | 164.59      | 3316.96   | -272.51  | -789.95     | 275.71      | 1.34           |
| 3551.00  | 23.14      | 162.96      | 3403.21   | -282.80  | -825.84     | 286.15      | 0.94           |
| 3645.00  | 22.88      | 162.14      | 3489.73   | -293.68  | -860.90     | 297.16      | 0.44           |
| 3738.00  | 21.10      | 160.68      | 3575.96   | -304.63  | -893.91     | 308.25      | 2.00           |
| 3832.00  | 19.46      | 162.12      | 3664.13   | -314.91  | -924.79     | 318.66      | 1.82           |
| 3927.00  | 18.52      | 162.53      | 3753.95   | -324.18  | -954.24     | 328.05      | 1.01           |
| 4020.00  | 17.52      | 159.25      | 3842.40   | -333.46  | -981.41     | 337.44      | 1.53           |
| 4114.00  | 15.14      | 158.57      | 3932.60   | -342.86  | -1006.07    | 346.94      | 2.54           |
| 4208.00  | 14.77      | 159.18      | 4023.41   | -351.51  | -1028.70    | 355.68      | 0.43           |
| 4302.00  | 12.75      | 153.95      | 4114.71   | -360.25  | -1049.22    | 364.50      | 2.52           |
| 4396.00  | 11.61      | 156.66      | 4206.60   | -368.48  | -1067.23    | 372.80      | 1.36           |
| 4490.00  | 10.77      | 160.97      | 4298.81   | -375.02  | -1084.22    | 379.41      | 1.26           |
| 4585.00  | 8.93       | 166.50      | 4392.41   | -379.57  | -1099.78    | 384.03      | 2.18           |

| MD<br>ft | Inc<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | +N/-S<br>ft | +E/-W<br>ft | DLS<br>%/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 4679.00  | 7.61       | 163.20      | 4485.43   | -383.02  | -1112.83    | 387.53      | 1.49           |
| 4773.00  | 5.21       | 165.84      | 4578.84   | -385.82  | -1122.93    | 390.37      | 2.57           |
| 4867.00  | 3.69       | 171.87      | 4672.55   | -387.27  | -1130.07    | 391.85      | 1.69           |
| 4961.00  | 1.89       | 133.98      | 4766.44   | -388.79  | -1134.14    | 393.39      | 2.65           |
| 5055.00  | 1.74       | 138.27      | 4860.39   | -390.84  | -1136.27    | 395.45      | 0.21           |
| 5149.00  | 1.37       | 127.36      | 4954.36   | -392.68  | -1138.02    | 397.29      | 0.50           |
| 5244.00  | 1.81       | 124.88      | 5049.32   | -394.80  | -1139.56    | 399.42      | 0.47           |
| 5339.00  | 1.58       | 120.67      | 5144.28   | -397.16  | -1141.09    | 401.78      | 0.28           |
| 5434.00  | 1.75       | 288.50      | 5239.27   | -396.90  | -1141.30    | 401.53      | 3.49           |
| 5528.00  | 7.98       | 275.21      | 5332.88   | -389.04  | -1140.25    | 393.66      | 6.68           |
| 5622.00  | 20.58      | 278.78      | 5423.80   | -366.14  | -1137.12    | 370.75      | 13.43          |
| 5716.00  | 26.69      | 276.33      | 5509.88   | -328.82  | -1132.27    | 333.41      | 6.58           |
| 5811.00  | 35.03      | 270.53      | 5591.38   | -280.26  | -1129.66    | 284.84      | 9.31           |
| 5904.00  | 43.45      | 271.50      | 5663.34   | -221.50  | -1128.57    | 226.07      | 9.08           |
| 5998.00  | 50.23      | 268.07      | 5727.61   | -152.99  | -1128.94    | 157.57      | 7.68           |
| 6092.00  | 60.22      | 265.51      | 5781.16   | -76.00   | -1133.36    | 80.59       | 10.86          |
| 6186.00  | 70.48      | 268.84      | 5820.32   | 9.22     | -1137.46    | -4.62       | 11.37          |
| 6281.00  | 78.96      | 268.12      | 5845.34   | 100.76   | -1139.91    | -96.14      | 8.96           |
| 6373.00  | 89.66      | 267.75      | 5854.44   | 192.12   | -1143.21    | -187.50     | 11.64          |
| 6495.00  | 88.19      | 267.83      | 5856.73   | 314.02   | -1147.91    | -309.38     | 1.21           |

| MD<br>ft | Inc<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | +N/-S<br>ft | +E/-W<br>ft | DLS<br>°/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 6588.00  | 88.56      | 269.72      | 5859.37   | 406.97   | -1149.90    | -402.32     | 2.07           |
| 6682.00  | 88.25      | 270.38      | 5861.99   | 500.93   | -1149.83    | -496.28     | 0.78           |
| 6776.00  | 89.36      | 271.40      | 5863.94   | 594.89   | -1148.36    | -590.24     | 1.61           |
| 6869.00  | 89.83      | 271.94      | 5864.60   | 687.84   | -1145.65    | -683.20     | 0.77           |
| 6932.00  | 89.30      | 271.30      | 5865.07   | 750.80   | -1143.86    | -746.17     | 1.33           |
| 6963.00  | 88.93      | 271.34      | 5865.56   | 781.78   | -1143.15    | -777.16     | 1.20           |
| 7057.00  | 89.53      | 269.56      | 5866.82   | 875.77   | -1142.41    | -871.15     | 1.99           |
| 7150.00  | 91.65      | 269.34      | 5865.87   | 968.75   | -1143.30    | -964.13     | 2.29           |
| 7243.00  | 91.34      | 269.20      | 5863.45   | 1061.72  | -1144.49    | -1057.09    | 0.36           |
| 7337.00  | 91.78      | 268.95      | 5860.89   | 1155.68  | -1146.00    | -1151.05    | 0.54           |
| 7430.00  | 90.10      | 268.84      | 5859.37   | 1248.65  | -1147.80    | -1244.01    | 1.81           |
| 7525.00  | 88.86      | 269.34      | 5860.23   | 1343.64  | -1149.31    | -1338.99    | 1.41           |
| 7618.00  | 87.82      | 268.78      | 5862.93   | 1436.59  | -1150.83    | -1431.94    | 1.27           |
| 7712.00  | 88.99      | 269.95      | 5865.55   | 1530.55  | -1151.87    | -1525.90    | 1.76           |
| 7805.00  | 89.23      | 270.63      | 5866.99   | 1623.53  | -1151.40    | -1618.88    | 0.77           |
| 7900.00  | 88.15      | 269.88      | 5869.16   | 1718.50  | -1150.98    | -1713.85    | 1.37           |
| 7994.00  | 90.03      | 270.30      | 5870.65   | 1812.48  | -1150.83    | -1807.84    | 2.05           |
| 8088.00  | 89.93      | 269.86      | 5870.67   | 1906.48  | -1150.70    | -1901.84    | 0.48           |
| 8182.00  | 89.40      | 269.77      | 5871.22   | 2000.48  | -1151.01    | -1995.84    | 0.58           |
| 8275.00  | 88.62      | 268.61      | 5872.83   | 2093.46  | -1152.32    | -2088.81    | 1.49           |

| MD<br>ft | Inc<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | +N/-S<br>ft | +E/-W<br>ft | DLS<br>°/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 8369.00  | 89.66      | 269.16      | 5874.24   | 2187.44  | -1154.14    | -2182.78    | 1.25           |
| 8463.00  | 90.24      | 268.75      | 5874.32   | 2281.43  | -1155.86    | -2276.76    | 0.75           |
| 8557.00  | 90.10      | 267.92      | 5874.04   | 2375.40  | -1158.59    | -2370.72    | 0.89           |
| 8651.00  | 90.34      | 270.47      | 5873.69   | 2469.38  | -1159.91    | -2464.71    | 2.72           |
| 8746.00  | 89.70      | 270.01      | 5873.66   | 2564.38  | -1159.51    | -2559.70    | 0.83           |
| 8839.00  | 88.56      | 269.34      | 5875.07   | 2657.36  | -1160.04    | -2652.69    | 1.42           |
| 8934.00  | 89.97      | 269.27      | 5876.30   | 2752.35  | -1161.19    | -2747.67    | 1.48           |
| 9028.00  | 89.33      | 268.57      | 5876.87   | 2846.34  | -1162.96    | -2841.65    | 1.01           |
| 9122.00  | 89.97      | 270.82      | 5877.45   | 2940.33  | -1163.46    | -2935.64    | 2.49           |
| 9216.00  | 89.87      | 269.64      | 5877.59   | 3034.33  | -1163.08    | -3029.64    | 1.26           |
| 9310.00  | 89.66      | 269.60      | 5877.98   | 3128.32  | -1163.71    | -3123.64    | 0.22           |
| 9404.00  | 90.17      | 267.37      | 5878.11   | 3222.29  | -1166.19    | -3217.60    | 2.42           |
| 9498.00  | 90.37      | 269.74      | 5877.67   | 3316.27  | -1168.56    | -3311.56    | 2.53           |
| 9591.00  | 90.84      | 270.06      | 5876.69   | 3409.26  | -1168.72    | -3404.56    | 0.61           |
| 9685.00  | 90.84      | 272.14      | 5875.31   | 3503.22  | -1166.92    | -3498.52    | 2.21           |
| 9779.00  | 89.16      | 271.49      | 5875.31   | 3597.16  | -1163.95    | -3592.47    | 1.91           |
| 9872.00  | 89.19      | 271.34      | 5876.65   | 3690.11  | -1161.65    | -3685.43    | 0.17           |
| 9964.00  | 89.36      | 271.44      | 5877.81   | 3782.06  | -1159.42    | -3777.40    | 0.21           |
| 10057.00 | 90.60      | 272.30      | 5877.83   | 3875.00  | -1156.39    | -3870.35    | 1.62           |
| 10150.00 | 88.46      | 270.54      | 5878.59   | 3967.95  | -1154.08    | -3963.31    | 2.98           |

| MD<br>ft | Inc<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | +N/-S<br>ft | +E/-W<br>ft | DLS<br>°/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 10243.00 | 88.35      | 270.05      | 5881.18   | 4060.91  | -1153.61    | -4056.27    | 0.54           |
| 10336.00 | 87.68      | 269.77      | 5884.39   | 4153.85  | -1153.76    | -4149.21    | 0.78           |
| 10430.00 | 88.32      | 270.23      | 5887.67   | 4247.79  | -1153.76    | -4243.15    | 0.84           |
| 10524.00 | 89.80      | 270.68      | 5889.22   | 4341.77  | -1153.01    | -4337.14    | 1.64           |
| 10618.00 | 89.83      | 270.15      | 5889.52   | 4435.76  | -1152.33    | -4431.13    | 0.56           |
| 10709.00 | 89.73      | 269.76      | 5889.86   | 4526.76  | -1152.40    | -4522.13    | 0.44           |
| 10800.00 | 89.60      | 270.00      | 5890.40   | 4617.76  | -1152.59    | -4613.13    | 0.30           |
| 10891.00 | 88.42      | 268.83      | 5891.97   | 4708.74  | -1153.52    | -4704.11    | 1.82           |
| 10981.00 | 88.79      | 268.52      | 5894.16   | 4798.70  | -1155.60    | -4794.06    | 0.54           |
| 11072.00 | 89.67      | 269.91      | 5895.39   | 4889.68  | -1156.85    | -4885.04    | 1.81           |
| 11164.00 | 90.47      | 268.95      | 5895.28   | 4981.68  | -1157.77    | -4977.03    | 1.36           |
| 11254.00 | 90.27      | 268.16      | 5894.70   | 5071.66  | -1160.03    | -5067.00    | 0.90           |
| 11345.00 | 90.07      | 269.46      | 5894.43   | 5162.64  | -1161.92    | -5157.98    | 1.44           |
| 11436.00 | 89.56      | 269.81      | 5894.72   | 5253.64  | -1162.50    | -5248.98    | 0.68           |
| 11527.00 | 89.50      | 270.07      | 5895.47   | 5344.64  | -1162.59    | -5339.97    | 0.29           |
| 11618.00 | 89.70      | 270.11      | 5896.11   | 5435.63  | -1162.45    | -5430.97    | 0.23           |
| 11708.00 | 89.77      | 270.10      | 5896.53   | 5525.63  | -1162.28    | -5520.97    | 0.08           |
| 11800.00 | 88.43      | 269.70      | 5897.98   | 5617.62  | -1162.45    | -5612.96    | 1.52           |
| 11890.00 | 89.19      | 269.33      | 5899.85   | 5707.59  | -1163.21    | -5702.93    | 0.95           |
| 11981.00 | 89.43      | 268.89      | 5900.95   | 5798.58  | -1164.62    | -5793.91    | 0.56           |

| MD<br>ft | Inc<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | +N/-S<br>ft | +E/-W<br>ft | DLS<br>°/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 12071.00 | 89.80      | 269.22      | 5901.55   | 5888.57  | -1166.11    | -5883.90    | 0.55           |
| 12162.00 | 88.79      | 268.33      | 5902.67   | 5979.55  | -1168.06    | -5974.87    | 1.48           |
| 12253.00 | 90.81      | 270.60      | 5902.99   | 6070.54  | -1168.91    | -6065.85    | 3.34           |
| 12343.00 | 89.66      | 270.56      | 5902.63   | 6160.53  | -1168.01    | -6155.85    | 1.27           |
| 12434.00 | 89.40      | 270.59      | 5903.37   | 6251.51  | -1167.10    | -6246.84    | 0.30           |
| 12525.00 | 91.27      | 270.56      | 5902.84   | 6342.50  | -1166.19    | -6337.83    | 2.06           |
| 12616.00 | 90.50      | 269.17      | 5901.43   | 6433.49  | -1166.41    | -6428.82    | 1.74           |
| 12707.00 | 90.34      | 269.00      | 5900.76   | 6524.48  | -1167.86    | -6519.80    | 0.26           |
| 12799.00 | 89.56      | 268.20      | 5900.84   | 6616.46  | -1170.11    | -6611.77    | 1.21           |
| 12889.00 | 87.41      | 267.37      | 5903.22   | 6706.36  | -1173.59    | -6701.67    | 2.56           |
| 12983.00 | 88.89      | 269.95      | 5906.25   | 6800.29  | -1175.79    | -6795.58    | 3.16           |
| 13076.00 | 88.96      | 269.38      | 5907.99   | 6893.27  | -1176.34    | -6888.56    | 0.61           |
| 13170.00 | 90.10      | 269.21      | 5908.76   | 6987.26  | -1177.50    | -6982.55    | 1.23           |
| 13264.00 | 91.17      | 269.70      | 5907.72   | 7081.25  | -1178.39    | -7076.54    | 1.26           |
| 13359.00 | 90.47      | 269.72      | 5906.35   | 7176.24  | -1178.87    | -7171.53    | 0.74           |
| 13453.00 | 91.58      | 269.33      | 5904.67   | 7270.23  | -1179.64    | -7265.51    | 1.25           |
| 13547.00 | 90.57      | 269.95      | 5902.91   | 7364.21  | -1180.23    | -7359.49    | 1.26           |
| 13641.00 | 91.81      | 269.13      | 5900.96   | 7458.18  | -1180.99    | -7453.46    | 1.58           |
| 13735.00 | 89.63      | 268.85      | 5899.77   | 7552.16  | -1182.65    | -7547.44    | 2.34           |
| 13829.00 | 88.73      | 270.14      | 5901.12   | 7646.15  | -1183.47    | -7641.42    | 1.68           |

| MD<br>ft | Inc<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | +N/-S<br>ft | +E/-W<br>ft | DLS<br>°/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 13922.00 | 88.45      | 269.76      | 5903.41   | 7739.12  | -1183.55    | -7734.39    | 0.50           |
| 14015.00 | 88.96      | 270.45      | 5905.51   | 7832.09  | -1183.38    | -7827.37    | 0.92           |
| 14108.00 | 89.46      | 271.62      | 5906.79   | 7925.06  | -1181.69    | -7920.34    | 1.37           |
| 14201.00 | 89.53      | 271.09      | 5907.60   | 8018.02  | -1179.49    | -8013.31    | 0.57           |
| 14294.00 | 89.70      | 271.03      | 5908.23   | 8110.99  | -1177.77    | -8106.29    | 0.19           |
| 14387.00 | 89.93      | 270.86      | 5908.53   | 8203.97  | -1176.24    | -8199.28    | 0.31           |
| 14480.00 | 90.17      | 270.42      | 5908.45   | 8296.96  | -1175.21    | -8292.27    | 0.54           |
| 14572.00 | 90.74      | 270.54      | 5907.72   | 8388.95  | -1174.44    | -8384.27    | 0.63           |
| 14665.00 | 89.33      | 269.95      | 5907.66   | 8481.95  | -1174.05    | -8477.26    | 1.64           |
| 14757.00 | 89.76      | 269.94      | 5908.39   | 8573.94  | -1174.14    | -8569.26    | 0.47           |
| 14850.00 | 89.43      | 269.94      | 5909.04   | 8666.94  | -1174.24    | -8662.26    | 0.36           |
| 14942.00 | 89.60      | 270.08      | 5909.83   | 8758.94  | -1174.22    | -8754.25    | 0.24           |
| 15035.00 | 88.46      | 270.99      | 5911.40   | 8851.91  | -1173.35    | -8847.23    | 1.57           |
| 15128.00 | 87.95      | 270.58      | 5914.32   | 8944.85  | -1172.07    | -8940.18    | 0.70           |
| 15221.00 | 89.03      | 271.06      | 5916.76   | 9037.80  | -1170.74    | -9033.14    | 1.27           |
| 15313.00 | 88.93      | 271.59      | 5918.40   | 9129.75  | -1168.61    | -9125.10    | 0.59           |
| 15407.00 | 88.02      | 271.31      | 5920.90   | 9223.68  | -1166.23    | -9219.03    | 1.01           |
| 15499.00 | 89.03      | 269.87      | 5923.27   | 9315.63  | -1165.29    | -9310.99    | 1.91           |
| 15592.00 | 88.59      | 269.88      | 5925.20   | 9408.61  | -1165.49    | -9403.97    | 0.47           |
| 15685.00 | 89.87      | 271.06      | 5926.45   | 9501.59  | -1164.73    | -9496.96    | 1.87           |

| MD<br>ft | Inc<br>deg | Azim<br>deg | TVD<br>ft | VS<br>ft | +N/-S<br>ft | +E/-W<br>ft | DLS<br>°/100ft |
|----------|------------|-------------|-----------|----------|-------------|-------------|----------------|
| 15779.00 | 89.93      | 269.95      | 5926.62   | 9595.59  | -1163.90    | -9590.95    | 1.19           |
| 15873.00 | 89.83      | 268.68      | 5926.81   | 9689.58  | -1165.02    | -9684.94    | 1.36           |
| 15966.00 | 90.50      | 268.71      | 5926.54   | 9782.56  | -1167.15    | -9777.92    | 0.72           |
| 16013.00 | 90.67      | 268.52      | 5926.06   | 9829.55  | -1168.28    | -9824.90    | 0.53           |



Scientific Drilling

GAMMA RAY

2" = 100' TVD