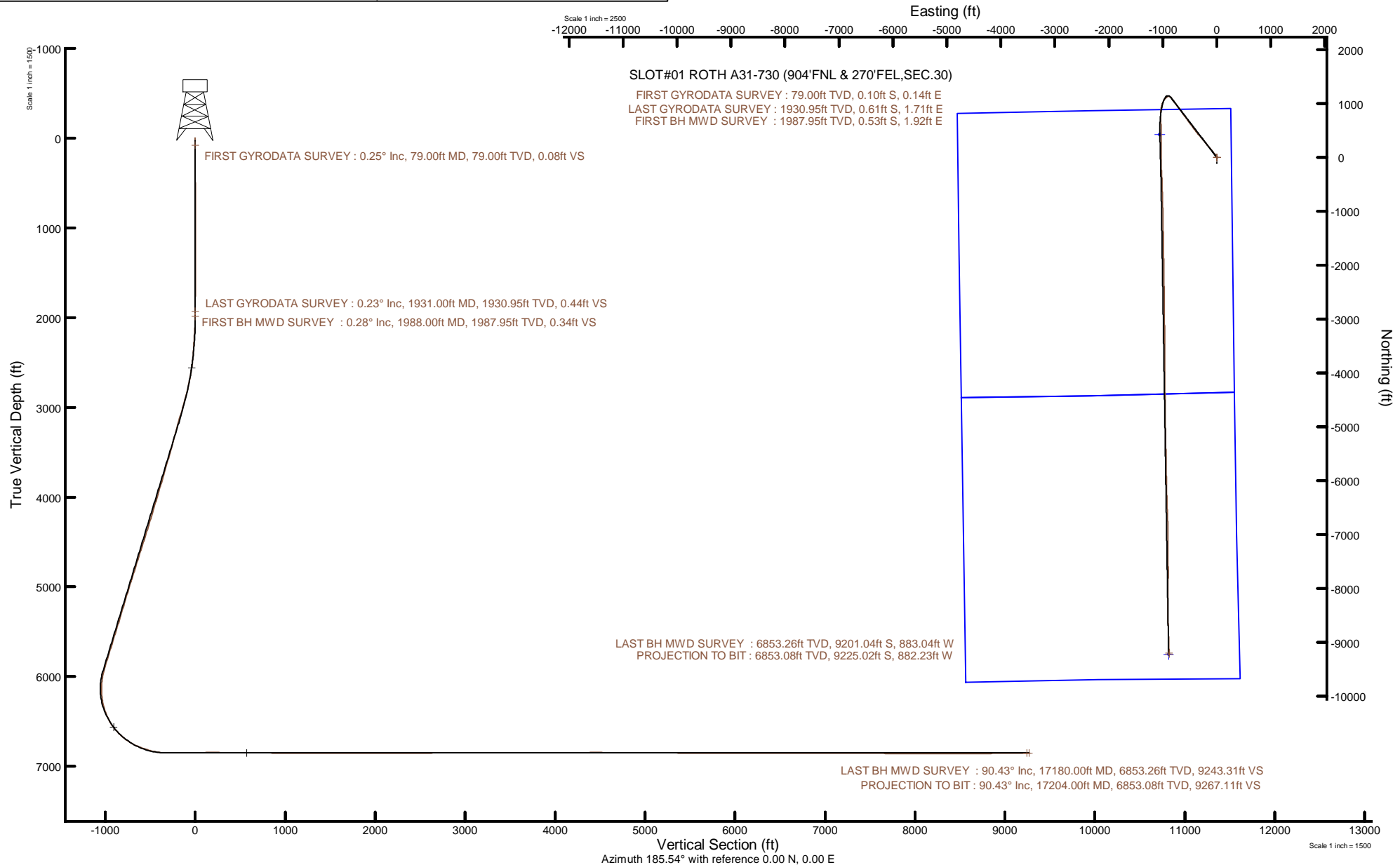


# NOBLE ENERGY, INC



Location: COLORADO Slot: SLOT#01 ROTH A31-730 (904°FNL & 270°FEL, SEC.30)  
Field: WELD COUNTY (NOBLE NAD 83 GRID) Well: ROTH A31-730  
Facility: SEC.30-T06N-R64W Wellbore: ROTH A31-730 PWB

|  |  |
|--|--|
| Plot reference wellpath is ROTH A31-730 PWP Rev-A.0  | Grid System: NAD83 / Lambert Colorado SP, Northern Zone (501), US feet |
| True vertical depths are referenced to H&P 517 (30) (KB)                                       | North Reference: Grid north  |
| Reference wellpath measured depths are referenced to H&P 517 (30) (KB)                         | Scale: True distance   |
| H&P 517 (30) (KB) to Mean Sea Level: 4728 feet   | Coordinates are in feet referenced to Slot                             |
| Mean Sea Level to Mud line (At Slot: SLOT#01 ROTH A31-730 (904°FNL & 270°FEL, SEC.30)): 0 feet | Depths are in feet   |
| Offset wellpath MDs are referenced to each path's default MD datum                             | Created by: painsetr on 2021-10-28; Database: WellArchitectDB          |



## REFERENCE WELLPATH IDENTIFICATION

|          |   |          |                  |
|----------|---|----------|------------------|
| Operator | NOBLE ENERGY, INC                               | Well     | ROTH A31-730     |
| Field    | WELD COUNTY (NOBLE NAD 83 GRID)                 | API      | 0512351331       |
| Facility | SEC.30-T06N-R64W                                | Wellbore | ROTH A31-730 AWB |
| Slot     | SLOT#01 ROTH A31-730 (904'FNL & 270'FEL,SEC.30) |          |                  |

## REPORT SETUP INFORMATION

|                     |   |                  |                           |
|---------------------|---|------------------|---------------------------|
| Projection System   | NAD83 / Lambert Colorado SP, Northern Zone (501), US feet | Software System  | WellArchitect® 6.0        |
| North Reference     | Grid  | User             | Painsetr                  |
| Scale               | 0.999964  | Report Generated | 10/28/2021 at 11:28:30 AM |
| Convergence at slot | 0.59° East  | Database         | WellArchitectDB           |

## WELLPATH LOCATION

|                       | Local coordinates |          | Grid coordinates |                 | Geographic coordinates |               |
|-----------------------|-------------------|----------|------------------|-----------------|------------------------|---------------|
|                       | North[ft]         | East[ft] | Easting[US ft]   | Northing[US ft] | Latitude               | Longitude     |
| Slot Location         | 112.94            | -1.17    | 3254695.01       | 1412363.14      | 40.4617300°            | -104.5846600° |
| Facility Reference Pt |                   |          | 3254696.18       | 1412250.21      | 40.4614200°            | -104.5846600° |
| Field Reference Pt    |                   |          | 3000000.00       | 4454105.15      | 48.7761986°            | -105.5000000° |

## WELLPATH DATUM

|                          |                    |  |                   |
|--------------------------|--------------------|--|-------------------|
| Calculation method       | Minimum curvature  | H&P 517 (30') (KB) to Facility Vertical Datum  | 4728.00ft         |
| Horizontal Reference Pt  | Slot               | H&P 517 (30') (KB) to Mean Sea Level   | 4728.00ft         |
| Vertical Reference Pt    | H&P 517 (30') (KB) | H&P 517 (30') (KB) to Mud Line at Slot (SLOT#01 ROTH A31-730 (904'FNL & 270'FEL,SEC.30)) | 4728.00ft         |
| MD Reference Pt          | H&P 517 (30') (KB) | Section Origin   | N 0.00, E 0.00 ft |
| Field Vertical Reference | Mean Sea Level     | Section Azimuth  | 185.54°           |

## REFERENCE WELLPATH IDENTIFICATION

|          |   |          |                  |
|----------|---|----------|------------------|
| Operator | NOBLE ENERGY, INC                               | Well     | ROTH A31-730     |
| Field    | WELD COUNTY (NOBLE NAD 83 GRID)                 | API      | 0512351331       |
| Facility | SEC.30-T06N-R64W                                | Wellbore | ROTH A31-730 AWB |
| Slot     | SLOT#01 ROTH A31-730 (904'FNL & 270'FEL,SEC.30) |          |                  |

## WELLPATH DATA (182 stations)

| MD<br>[ft] | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Vert Sect<br>[ft] | North<br>[ft] | East<br>[ft] | Grid East<br>[US ft] | Grid North<br>[US ft] | Latitude   | Longitude    | DLS<br>°/100ft | Comments              |
|------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------------|-----------------------|------------|--------------|----------------|-----------------------|
| 0.00       | 0.000              | 123.670        | 0.00        | 0.00              | 0.00          | 0.00         | 3254695.01           | 1412363.14            | 40.4617300 | -104.5846600 | 0.00           |                       |
| 79.00      | 0.250              | 123.670        | 79.00       | 0.08              | -0.10         | 0.14         | 3254695.16           | 1412363.05            | 40.4617297 | -104.5846595 | 0.32           | FIRST GYRODATA SURVEY |
| 173.00     | 0.400              | 145.690        | 173.00      | 0.43              | -0.48         | 0.50         | 3254695.51           | 1412362.66            | 40.4617287 | -104.5846582 | 0.20           |                       |
| 264.00     | 0.340              | 89.110         | 264.00      | 0.64              | -0.74         | 0.95         | 3254695.96           | 1412362.40            | 40.4617279 | -104.5846566 | 0.39           |                       |
| 358.00     | 0.500              | 102.350        | 357.99      | 0.66              | -0.82         | 1.63         | 3254696.64           | 1412362.32            | 40.4617277 | -104.5846542 | 0.20           |                       |
| 453.00     | 0.480              | 129.740        | 452.99      | 0.93              | -1.16         | 2.34         | 3254697.35           | 1412361.98            | 40.4617267 | -104.5846516 | 0.25           |                       |
| 547.00     | 0.460              | 91.420         | 546.99      | 1.13              | -1.43         | 3.02         | 3254698.03           | 1412361.72            | 40.4617260 | -104.5846492 | 0.33           |                       |
| 642.00     | 0.340              | 106.870        | 641.99      | 1.16              | -1.52         | 3.67         | 3254698.68           | 1412361.62            | 40.4617257 | -104.5846469 | 0.17           |                       |
| 737.00     | 0.250              | 105.020        | 736.98      | 1.25              | -1.65         | 4.14         | 3254699.15           | 1412361.49            | 40.4617253 | -104.5846452 | 0.10           |                       |
| 831.00     | 0.340              | 97.020         | 830.98      | 1.29              | -1.74         | 4.61         | 3254699.63           | 1412361.40            | 40.4617251 | -104.5846435 | 0.11           |                       |
| 926.00     | 0.200              | 142.410        | 925.98      | 1.42              | -1.91         | 5.00         | 3254700.01           | 1412361.24            | 40.4617246 | -104.5846421 | 0.26           |                       |
| 1020.00    | 0.090              | 164.150        | 1019.98     | 1.60              | -2.11         | 5.12         | 3254700.13           | 1412361.03            | 40.4617241 | -104.5846417 | 0.13           |                       |
| 1115.00    | 0.370              | 187.270        | 1114.98     | 1.98              | -2.48         | 5.10         | 3254700.11           | 1412360.66            | 40.4617230 | -104.5846418 | 0.30           |                       |
| 1209.00    | 0.300              | 215.700        | 1208.98     | 2.50              | -2.98         | 4.91         | 3254699.93           | 1412360.16            | 40.4617217 | -104.5846424 | 0.19           |                       |
| 1304.00    | 0.430              | 222.990        | 1303.98     | 2.99              | -3.45         | 4.53         | 3254699.54           | 1412359.69            | 40.4617204 | -104.5846439 | 0.15           |                       |
| 1398.00    | 0.580              | 271.890        | 1397.97     | 3.30              | -3.69         | 3.81         | 3254698.82           | 1412359.45            | 40.4617198 | -104.5846464 | 0.47           |                       |
| 1493.00    | 0.620              | 280.240        | 1492.97     | 3.29              | -3.58         | 2.82         | 3254697.84           | 1412359.56            | 40.4617201 | -104.5846500 | 0.10           |                       |
| 1587.00    | 0.680              | 303.900        | 1586.96     | 2.99              | -3.18         | 1.86         | 3254696.87           | 1412359.96            | 40.4617212 | -104.5846534 | 0.29           |                       |
| 1682.00    | 0.820              | 342.680        | 1681.96     | 2.09              | -2.22         | 1.19         | 3254696.20           | 1412360.92            | 40.4617239 | -104.5846558 | 0.54           |                       |
| 1777.00    | 0.550              | 22.490         | 1776.95     | 1.03              | -1.15         | 1.16         | 3254696.18           | 1412361.99            | 40.4617268 | -104.5846559 | 0.56           |                       |
| 1871.00    | 0.220              | 60.940         | 1870.95     | 0.49              | -0.64         | 1.49         | 3254696.51           | 1412362.50            | 40.4617282 | -104.5846547 | 0.43           |                       |
| 1931.00    | 0.230              | 100.720        | 1930.95     | 0.44              | -0.61         | 1.71         | 3254696.73           | 1412362.53            | 40.4617283 | -104.5846539 | 0.26           | LAST GYRODATA SURVEY  |
| 1988.00    | 0.280              | 44.450         | 1987.95     | 0.34              | -0.53         | 1.92         | 3254696.93           | 1412362.61            | 40.4617285 | -104.5846531 | 0.43           | FIRST BH MWD SURVEY   |
| 2083.00    | 4.290              | 39.480         | 2082.85     | -2.79             | 2.38          | 4.34         | 3254699.36           | 1412365.52            | 40.4617364 | -104.5846443 | 4.22           |                       |
| 2177.00    | 4.240              | 37.350         | 2176.59     | -8.66             | 7.86          | 8.69         | 3254703.70           | 1412371.00            | 40.4617513 | -104.5846285 | 0.18           |                       |
| 2272.00    | 4.260              | 310.710        | 2271.41     | -13.68            | 12.95         | 8.14         | 3254703.16           | 1412376.09            | 40.4617653 | -104.5846303 | 6.14           |                       |
| 2367.00    | 8.180              | 305.380        | 2365.83     | -19.08            | 19.17         | -0.04        | 3254694.97           | 1412382.31            | 40.4617826 | -104.5846594 | 4.17           |                       |
| 2461.00    | 8.500              | 318.380        | 2458.85     | -27.13            | 28.24         | -10.11       | 3254684.90           | 1412391.38            | 40.4618078 | -104.5846953 | 2.03           |                       |
| 2556.00    | 11.360             | 321.430        | 2552.42     | -38.62            | 40.80         | -20.61       | 3254674.40           | 1412403.94            | 40.4618426 | -104.5847326 | 3.06           |                       |
| 2650.00    | 13.860             | 322.140        | 2644.14     | -53.45            | 56.93         | -33.29       | 3254661.72           | 1412420.07            | 40.4618872 | -104.5847775 | 2.66           |                       |

### REFERENCE WELLPATH IDENTIFICATION

|          |   |          |                  |
|----------|---|----------|------------------|
| Operator | NOBLE ENERGY, INC                               | Well     | ROTH A31-730     |
| Field    | WELD COUNTY (NOBLE NAD 83 GRID)                 | API      | 0512351331       |
| Facility | SEC.30-T06N-R64W                                | Wellbore | ROTH A31-730 AWB |
| Slot     | SLOT#01 ROTH A31-730 (904'FNL & 270'FEL,SEC.30) |          |                  |

### WELLPATH DATA (182 stations)

| MD<br>[ft] | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Vert Sect<br>[ft] | North<br>[ft] | East<br>[ft] | Grid East<br>[US ft] | Grid North<br>[US ft] | Latitude   | Longitude    | DLS<br>[°/100ft] | Comments |
|------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------------|-----------------------|------------|--------------|------------------|----------|
| 2745.00    | 16.010             | 321.490        | 2735.93     | -71.14            | 76.17         | -48.44       | 3254646.58           | 1412439.31            | 40.4619404 | -104.5848312 | 2.27             |          |
| 2839.00    | 19.510             | 319.860        | 2825.43     | -91.43            | 98.32         | -66.63       | 3254628.38           | 1412461.46            | 40.4620017 | -104.5848958 | 3.76             |          |
| 2934.00    | 21.640             | 318.460        | 2914.37     | -114.45           | 123.56        | -88.48       | 3254606.54           | 1412486.70            | 40.4620716 | -104.5849734 | 2.30             |          |
| 3029.00    | 21.960             | 321.400        | 3002.58     | -139.13           | 150.56        | -111.18      | 3254583.84           | 1412513.69            | 40.4621464 | -104.5850539 | 1.20             |          |
| 3123.00    | 21.850             | 321.580        | 3089.79     | -164.34           | 178.00        | -133.01      | 3254562.01           | 1412541.13            | 40.4622223 | -104.5851314 | 0.14             |          |
| 3217.00    | 20.670             | 321.340        | 3177.39     | -188.82           | 204.66        | -154.25      | 3254540.77           | 1412567.79            | 40.4622961 | -104.5852067 | 1.26             |          |
| 3311.00    | 20.380             | 320.480        | 3265.43     | -212.28           | 230.24        | -175.03      | 3254519.99           | 1412593.37            | 40.4623669 | -104.5852804 | 0.45             |          |
| 3406.00    | 22.010             | 320.680        | 3354.00     | -236.59           | 256.77        | -196.83      | 3254498.19           | 1412619.90            | 40.4624403 | -104.5853578 | 1.72             |          |
| 3501.00    | 21.880             | 319.930        | 3442.11     | -261.59           | 284.09        | -219.51      | 3254475.51           | 1412647.22            | 40.4625160 | -104.5854383 | 0.33             |          |
| 3595.00    | 21.780             | 321.360        | 3529.37     | -286.35           | 311.11        | -241.67      | 3254453.35           | 1412674.24            | 40.4625908 | -104.5855169 | 0.58             |          |
| 3689.00    | 22.010             | 320.910        | 3616.59     | -311.40           | 338.41        | -263.67      | 3254431.35           | 1412701.53            | 40.4626663 | -104.5855950 | 0.30             |          |
| 3784.00    | 22.620             | 319.890        | 3704.48     | -336.84           | 366.20        | -286.66      | 3254408.36           | 1412729.32            | 40.4627432 | -104.5856766 | 0.76             |          |
| 3878.00    | 22.570             | 318.840        | 3791.26     | -361.85           | 393.60        | -310.18      | 3254384.84           | 1412756.73            | 40.4628191 | -104.5857601 | 0.43             |          |
| 3973.00    | 22.470             | 320.540        | 3879.02     | -387.19           | 421.35        | -333.72      | 3254361.30           | 1412784.47            | 40.4628959 | -104.5858436 | 0.69             |          |
| 4067.00    | 22.400             | 319.370        | 3965.91     | -412.30           | 448.81        | -356.80      | 3254338.23           | 1412811.93            | 40.4629720 | -104.5859255 | 0.48             |          |
| 4162.00    | 22.310             | 323.570        | 4053.77     | -438.24           | 477.05        | -379.30      | 3254315.73           | 1412840.18            | 40.4630501 | -104.5860053 | 1.68             |          |
| 4256.00    | 22.380             | 321.690        | 4140.72     | -464.42           | 505.45        | -400.99      | 3254294.04           | 1412868.57            | 40.4631287 | -104.5860822 | 0.76             |          |
| 4351.00    | 22.290             | 322.070        | 4228.59     | -490.54           | 533.85        | -423.27      | 3254271.76           | 1412896.97            | 40.4632073 | -104.5861612 | 0.18             |          |
| 4446.00    | 22.180             | 325.080        | 4316.53     | -517.26           | 562.77        | -444.61      | 3254250.42           | 1412925.89            | 40.4632872 | -104.5862369 | 1.20             |          |
| 4540.00    | 22.880             | 322.550        | 4403.35     | -544.13           | 591.83        | -465.88      | 3254229.15           | 1412954.94            | 40.4633676 | -104.5863122 | 1.27             |          |
| 4635.00    | 23.170             | 323.610        | 4490.79     | -571.54           | 621.53        | -488.20      | 3254206.83           | 1412984.65            | 40.4634498 | -104.5863913 | 0.53             |          |
| 4730.00    | 22.780             | 325.160        | 4578.25     | -599.46           | 651.67        | -509.79      | 3254185.24           | 1413014.79            | 40.4635331 | -104.5864678 | 0.76             |          |
| 4824.00    | 22.680             | 324.900        | 4664.95     | -627.08           | 681.44        | -530.61      | 3254164.42           | 1413044.55            | 40.4636154 | -104.5865415 | 0.15             |          |
| 4918.00    | 22.890             | 323.520        | 4751.62     | -654.41           | 710.96        | -551.90      | 3254143.13           | 1413074.08            | 40.4636970 | -104.5866169 | 0.61             |          |
| 5013.00    | 22.530             | 322.700        | 4839.25     | -681.49           | 740.30        | -573.92      | 3254121.12           | 1413103.41            | 40.4637782 | -104.5866950 | 0.50             |          |
| 5108.00    | 22.730             | 323.950        | 4926.94     | -708.56           | 769.61        | -595.75      | 3254099.29           | 1413132.73            | 40.4638592 | -104.5867723 | 0.55             |          |
| 5202.00    | 22.790             | 323.700        | 5013.62     | -735.71           | 798.97        | -617.21      | 3254077.83           | 1413162.08            | 40.4639404 | -104.5868484 | 0.12             |          |
| 5297.00    | 22.140             | 324.550        | 5101.41     | -762.93           | 828.38        | -638.49      | 3254056.55           | 1413191.49            | 40.4640217 | -104.5869237 | 0.76             |          |
| 5391.00    | 21.170             | 324.220        | 5188.77     | -789.05           | 856.58        | -658.68      | 3254036.35           | 1413219.69            | 40.4640997 | -104.5869953 | 1.04             |          |
| 5486.00    | 22.730             | 322.230        | 5276.88     | -815.29           | 885.01        | -679.96      | 3254015.08           | 1413248.11            | 40.4641783 | -104.5870707 | 1.82             |          |

### REFERENCE WELLPATH IDENTIFICATION

|          |   |          |                  |
|----------|---|----------|------------------|
| Operator | NOBLE ENERGY, INC                               | Well     | ROTH A31-730     |
| Field    | WELD COUNTY (NOBLE NAD 83 GRID)                 | API      | 0512351331       |
| Facility | SEC.30-T06N-R64W                                | Wellbore | ROTH A31-730 AWB |
| Slot     | SLOT#01 ROTH A31-730 (904'FNL & 270'FEL,SEC.30) |          |                  |

### WELLPATH DATA (182 stations)

| MD<br>[ft] | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Vert Sect<br>[ft] | North<br>[ft] | East<br>[ft] | Grid East<br>[US ft] | Grid North<br>[US ft] | Latitude   | Longitude    | DLS<br>[°/100ft] | Comments |
|------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------------|-----------------------|------------|--------------|------------------|----------|
| 5580.00    | 21.730             | 323.130        | 5363.90     | -841.36           | 913.28        | -701.52      | 3253993.52           | 1413276.39            | 40.4642566 | -104.5871471 | 1.12             |          |
| 5675.00    | 22.660             | 323.930        | 5451.86     | -868.03           | 942.15        | -722.85      | 3253972.19           | 1413305.25            | 40.4643364 | -104.5872227 | 1.03             |          |
| 5769.00    | 22.310             | 323.570        | 5538.71     | -894.83           | 971.14        | -744.10      | 3253950.94           | 1413334.24            | 40.4644166 | -104.5872980 | 0.40             |          |
| 5864.00    | 22.440             | 322.530        | 5626.56     | -921.50           | 1000.04       | -765.84      | 3253929.20           | 1413363.14            | 40.4644965 | -104.5873750 | 0.44             |          |
| 5958.00    | 22.730             | 322.630        | 5713.35     | -947.92           | 1028.71       | -787.78      | 3253907.26           | 1413391.81            | 40.4645758 | -104.5874528 | 0.31             |          |
| 6053.00    | 22.570             | 323.250        | 5801.02     | -974.85           | 1057.90       | -809.83      | 3253885.22           | 1413421.00            | 40.4646566 | -104.5875310 | 0.30             |          |
| 6147.00    | 22.680             | 323.790        | 5887.79     | -1001.72          | 1086.98       | -831.33      | 3253863.72           | 1413450.08            | 40.4647370 | -104.5876072 | 0.25             |          |
| 6242.00    | 15.420             | 323.100        | 5977.53     | -1024.74          | 1111.89       | -849.75      | 3253845.29           | 1413474.99            | 40.4648059 | -104.5876725 | 7.65             |          |
| 6337.00    | 15.420             | 295.530        | 6069.23     | -1038.40          | 1127.45       | -868.76      | 3253826.29           | 1413490.55            | 40.4648491 | -104.5877402 | 7.65             |          |
| 6431.00    | 15.690             | 269.530        | 6159.90     | -1041.34          | 1132.74       | -892.78      | 3253802.27           | 1413495.84            | 40.4648643 | -104.5878263 | 7.36             |          |
| 6526.00    | 16.220             | 244.590        | 6251.34     | -1033.17          | 1126.94       | -917.63      | 3253777.41           | 1413490.03            | 40.4648491 | -104.5879158 | 7.18             |          |
| 6620.00    | 20.560             | 230.000        | 6340.57     | -1014.62          | 1110.68       | -942.16      | 3253752.89           | 1413473.77            | 40.4648051 | -104.5880046 | 6.70             |          |
| 6715.00    | 25.380             | 216.290        | 6428.07     | -985.18           | 1083.51       | -967.02      | 3253728.03           | 1413446.61            | 40.4647313 | -104.5880949 | 7.55             |          |
| 6810.00    | 32.510             | 205.880        | 6511.21     | -943.67           | 1044.05       | -990.26      | 3253704.79           | 1413407.15            | 40.4646236 | -104.5881799 | 9.17             |          |
| 6905.00    | 39.750             | 198.390        | 6587.92     | -890.02           | 992.17        | -1011.02     | 3253684.03           | 1413355.27            | 40.4644818 | -104.5882564 | 8.92             |          |
| 6999.00    | 47.650             | 191.810        | 6655.86     | -826.06           | 929.52        | -1027.65     | 3253667.40           | 1413292.62            | 40.4643103 | -104.5883185 | 9.69             |          |
| 7093.00    | 55.520             | 185.270        | 6714.26     | -752.62           | 856.78        | -1038.34     | 3253656.71           | 1413219.88            | 40.4641110 | -104.5883596 | 9.98             |          |
| 7188.00    | 64.310             | 178.000        | 6761.89     | -670.79           | 774.76        | -1040.45     | 3253654.60           | 1413137.87            | 40.4638859 | -104.5883702 | 11.37            |          |
| 7282.00    | 70.540             | 177.780        | 6797.96     | -584.81           | 688.07        | -1037.25     | 3253657.80           | 1413051.18            | 40.4636479 | -104.5883619 | 6.63             |          |
| 7377.00    | 75.220             | 179.670        | 6825.92     | -494.69           | 597.33        | -1035.25     | 3253659.80           | 1412960.45            | 40.4633988 | -104.5883581 | 5.28             |          |
| 7471.00    | 82.500             | 179.650        | 6844.06     | -403.00           | 505.16        | -1034.70     | 3253660.35           | 1412868.29            | 40.4631458 | -104.5883595 | 7.74             |          |
| 7566.00    | 90.460             | 179.670        | 6849.89     | -308.76           | 410.42        | -1034.14     | 3253660.91           | 1412773.55            | 40.4628857 | -104.5883610 | 8.38             |          |
| 7661.00    | 90.460             | 180.200        | 6849.13     | -214.21           | 315.42        | -1034.03     | 3253661.02           | 1412678.55            | 40.4626250 | -104.5883641 | 0.56             |          |
| 7755.00    | 91.080             | 179.750        | 6847.87     | -120.66           | 221.43        | -1033.99     | 3253661.06           | 1412584.57            | 40.4623670 | -104.5883674 | 0.81             |          |
| 7850.00    | 90.060             | 179.420        | 6846.92     | -26.18            | 126.44        | -1033.30     | 3253661.75           | 1412489.58            | 40.4621063 | -104.5883685 | 1.13             |          |
| 7944.00    | 90.490             | 180.380        | 6846.47     | 67.36             | 32.44         | -1033.14     | 3253661.91           | 1412395.58            | 40.4618483 | -104.5883714 | 1.12             |          |
| 8039.00    | 90.370             | 179.100        | 6845.76     | 161.87            | -62.55        | -1032.71     | 3253662.34           | 1412300.59            | 40.4615875 | -104.5883733 | 1.35             |          |
| 8134.00    | 89.450             | 177.980        | 6845.91     | 256.16            | -157.52       | -1030.29     | 3253664.76           | 1412205.63            | 40.4613268 | -104.5883681 | 1.53             |          |
| 8229.00    | 89.200             | 177.030        | 6847.03     | 350.22            | -252.42       | -1026.15     | 3253668.90           | 1412110.73            | 40.4610662 | -104.5883568 | 1.03             |          |
| 8323.00    | 88.740             | 176.190        | 6848.72     | 443.07            | -346.24       | -1020.60     | 3253674.46           | 1412016.92            | 40.4608085 | -104.5883403 | 1.02             |          |

### REFERENCE WELLPATH IDENTIFICATION

|          |   |          |                  |
|----------|---|----------|------------------|
| Operator | NOBLE ENERGY, INC                               | Well     | ROTH A31-730     |
| Field    | WELD COUNTY (NOBLE NAD 83 GRID)                 | API      | 0512351331       |
| Facility | SEC.30-T06N-R64W                                | Wellbore | ROTH A31-730 AWB |
| Slot     | SLOT#01 ROTH A31-730 (904'FNL & 270'FEL,SEC.30) |          |                  |

### WELLPATH DATA (182 stations)

| MD<br>[ft] | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Vert Sect<br>[ft] | North<br>[ft] | East<br>[ft] | Grid East<br>[US ft] | Grid North<br>[US ft] | Latitude   | Longitude    | DLS<br>[°/100ft] | Comments |
|------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------------|-----------------------|------------|--------------|------------------|----------|
| 8418.00    | 90.000             | 178.620        | 6849.76     | 537.10            | -441.13       | -1016.30     | 3253678.76           | 1411922.03            | 40.4605480 | -104.5883283 | 2.88             |          |
| 8607.00    | 89.540             | 178.000        | 6850.52     | 724.60            | -630.04       | -1010.72     | 3253684.33           | 1411733.13            | 40.4600293 | -104.5883153 | 0.41             |          |
| 8701.00    | 89.820             | 178.760        | 6851.04     | 817.86            | -724.00       | -1008.07     | 3253686.99           | 1411639.17            | 40.4597713 | -104.5883092 | 0.86             |          |
| 8796.00    | 89.540             | 178.220        | 6851.57     | 912.14            | -818.97       | -1005.56     | 3253689.49           | 1411544.21            | 40.4595106 | -104.5883037 | 0.64             |          |
| 8890.00    | 89.630             | 178.250        | 6852.26     | 1005.38           | -912.92       | -1002.67     | 3253692.38           | 1411450.26            | 40.4592526 | -104.5882968 | 0.10             |          |
| 9079.00    | 89.290             | 178.910        | 6854.04     | 1192.98           | -1101.85      | -997.98      | 3253697.07           | 1411261.33            | 40.4587339 | -104.5882869 | 0.39             |          |
| 9174.00    | 89.510             | 179.710        | 6855.03     | 1287.41           | -1196.84      | -996.84      | 3253698.21           | 1411166.35            | 40.4584732 | -104.5882863 | 0.87             |          |
| 9268.00    | 89.880             | 178.700        | 6855.53     | 1380.83           | -1290.83      | -995.54      | 3253699.52           | 1411072.36            | 40.4582152 | -104.5882851 | 1.14             |          |
| 9363.00    | 90.000             | 179.210        | 6855.63     | 1475.21           | -1385.81      | -993.80      | 3253701.25           | 1410977.38            | 40.4579544 | -104.5882824 | 0.55             |          |
| 9457.00    | 90.650             | 179.600        | 6855.10     | 1568.67           | -1479.80      | -992.83      | 3253702.22           | 1410883.40            | 40.4576964 | -104.5882824 | 0.81             |          |
| 9551.00    | 90.340             | 178.930        | 6854.29     | 1662.10           | -1573.79      | -991.62      | 3253703.43           | 1410789.41            | 40.4574384 | -104.5882815 | 0.79             |          |
| 9646.00    | 90.340             | 179.150        | 6853.72     | 1756.49           | -1668.78      | -990.03      | 3253705.02           | 1410694.43            | 40.4571777 | -104.5882793 | 0.23             |          |
| 9741.00    | 89.720             | 178.300        | 6853.67     | 1850.82           | -1763.75      | -987.92      | 3253707.14           | 1410599.46            | 40.4569169 | -104.5882752 | 1.11             |          |
| 9835.00    | 90.550             | 179.280        | 6853.45     | 1944.17           | -1857.73      | -985.93      | 3253709.12           | 1410505.48            | 40.4566589 | -104.5882716 | 1.37             |          |
| 9929.00    | 90.520             | 179.240        | 6852.57     | 2037.60           | -1951.72      | -984.72      | 3253710.33           | 1410411.50            | 40.4564009 | -104.5882707 | 0.05             |          |
| 10024.00   | 89.880             | 178.470        | 6852.24     | 2131.95           | -2046.69      | -982.82      | 3253712.23           | 1410316.52            | 40.4561402 | -104.5882674 | 1.05             |          |
| 10119.00   | 90.000             | 179.210        | 6852.34     | 2226.30           | -2141.67      | -980.89      | 3253714.16           | 1410221.55            | 40.4558794 | -104.5882640 | 0.79             |          |
| 10213.00   | 90.060             | 178.750        | 6852.29     | 2319.69           | -2235.66      | -979.22      | 3253715.83           | 1410127.57            | 40.4556214 | -104.5882614 | 0.49             |          |
| 10308.00   | 90.250             | 179.760        | 6852.03     | 2414.12           | -2330.65      | -977.99      | 3253717.06           | 1410032.58            | 40.4553607 | -104.5882605 | 1.08             |          |
| 10403.00   | 90.060             | 178.890        | 6851.78     | 2508.56           | -2425.64      | -976.87      | 3253718.18           | 1409937.59            | 40.4550999 | -104.5882600 | 0.94             |          |
| 10497.00   | 90.370             | 179.380        | 6851.43     | 2601.97           | -2519.63      | -975.45      | 3253719.60           | 1409843.61            | 40.4548419 | -104.5882583 | 0.62             |          |
| 10592.00   | 90.430             | 178.820        | 6850.76     | 2696.37           | -2614.62      | -973.96      | 3253721.09           | 1409748.63            | 40.4545811 | -104.5882565 | 0.59             |          |
| 10687.00   | 90.120             | 179.650        | 6850.31     | 2790.79           | -2709.60      | -972.69      | 3253722.36           | 1409653.64            | 40.4543204 | -104.5882554 | 0.93             |          |
| 10781.00   | 90.430             | 180.100        | 6849.85     | 2884.33           | -2803.60      | -972.48      | 3253722.57           | 1409559.65            | 40.4540624 | -104.5882582 | 0.58             |          |
| 10876.00   | 90.000             | 179.250        | 6849.50     | 2978.84           | -2898.60      | -971.94      | 3253723.11           | 1409464.65            | 40.4538016 | -104.5882598 | 1.00             |          |
| 11065.00   | 90.250             | 179.190        | 6849.09     | 3166.69           | -3087.58      | -969.37      | 3253725.68           | 1409275.68            | 40.4532828 | -104.5882575 | 0.14             |          |
| 11159.00   | 90.030             | 179.420        | 6848.86     | 3260.13           | -3181.57      | -968.23      | 3253726.82           | 1409181.69            | 40.4530248 | -104.5882569 | 0.34             |          |
| 11254.00   | 90.220             | 179.720        | 6848.65     | 3354.62           | -3276.57      | -967.52      | 3253727.53           | 1409086.70            | 40.4527641 | -104.5882578 | 0.37             |          |
| 11349.00   | 90.180             | 179.660        | 6848.32     | 3449.12           | -3371.57      | -967.00      | 3253728.05           | 1408991.70            | 40.4525033 | -104.5882595 | 0.08             |          |
| 11443.00   | 90.310             | 179.900        | 6847.92     | 3542.65           | -3465.57      | -966.64      | 3253728.41           | 1408897.71            | 40.4522453 | -104.5882617 | 0.29             |          |

### REFERENCE WELLPATH IDENTIFICATION

|          |   |          |                  |
|----------|---|----------|------------------|
| Operator | NOBLE ENERGY, INC                               | Well     | ROTH A31-730     |
| Field    | WELD COUNTY (NOBLE NAD 83 GRID)                 | API      | 0512351331       |
| Facility | SEC.30-T06N-R64W                                | Wellbore | ROTH A31-730 AWB |
| Slot     | SLOT#01 ROTH A31-730 (904'FNL & 270'FEL,SEC.30) |          |                  |

### WELLPATH DATA (182 stations)

| MD<br>[ft] | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Vert Sect<br>[ft] | North<br>[ft] | East<br>[ft] | Grid East<br>[US ft] | Grid North<br>[US ft] | Latitude   | Longitude    | DLS<br>[°/100ft] | Comments |
|------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------------|-----------------------|------------|--------------|------------------|----------|
| 11538.00   | 90.220             | 179.320        | 6847.48     | 3637.14           | -3560.56      | -966.00      | 3253729.05           | 1408802.71            | 40.4519845 | -104.5882628 | 0.62             |          |
| 11632.00   | 89.880             | 179.340        | 6847.39     | 3730.59           | -3654.56      | -964.90      | 3253730.15           | 1408708.72            | 40.4517265 | -104.5882624 | 0.36             |          |
| 11727.00   | 90.120             | 178.910        | 6847.39     | 3824.99           | -3749.55      | -963.45      | 3253731.60           | 1408613.74            | 40.4514658 | -104.5882607 | 0.52             |          |
| 11821.00   | 90.580             | 179.990        | 6846.82     | 3918.46           | -3843.54      | -962.54      | 3253732.51           | 1408519.75            | 40.4512078 | -104.5882609 | 1.25             |          |
| 11916.00   | 90.060             | 179.660        | 6846.29     | 4012.99           | -3938.54      | -962.25      | 3253732.80           | 1408424.76            | 40.4509470 | -104.5882634 | 0.65             |          |
| 12010.00   | 89.780             | 179.680        | 6846.42     | 4106.50           | -4032.53      | -961.71      | 3253733.34           | 1408330.76            | 40.4506890 | -104.5882649 | 0.30             |          |
| 12105.00   | 90.060             | 179.900        | 6846.55     | 4201.02           | -4127.53      | -961.36      | 3253733.69           | 1408235.77            | 40.4504282 | -104.5882671 | 0.37             |          |
| 12199.00   | 90.090             | 180.520        | 6846.43     | 4294.61           | -4221.53      | -961.71      | 3253733.34           | 1408141.77            | 40.4501702 | -104.5882719 | 0.66             |          |
| 12294.00   | 90.340             | 179.180        | 6846.07     | 4389.14           | -4316.53      | -961.46      | 3253733.59           | 1408046.78            | 40.4499095 | -104.5882745 | 1.43             |          |
| 12388.00   | 89.750             | 179.250        | 6846.00     | 4482.57           | -4410.52      | -960.17      | 3253734.88           | 1407952.79            | 40.4496515 | -104.5882733 | 0.63             |          |
| 12483.00   | 89.720             | 179.490        | 6846.44     | 4577.02           | -4505.51      | -959.13      | 3253735.92           | 1407857.80            | 40.4493907 | -104.5882731 | 0.25             |          |
| 12577.00   | 89.910             | 179.740        | 6846.74     | 4670.52           | -4599.51      | -958.50      | 3253736.55           | 1407763.81            | 40.4491327 | -104.5882743 | 0.33             |          |
| 12672.00   | 89.540             | 179.280        | 6847.20     | 4764.99           | -4694.51      | -957.68      | 3253737.37           | 1407668.82            | 40.4488719 | -104.5882749 | 0.62             |          |
| 12766.00   | 89.970             | 180.370        | 6847.60     | 4858.52           | -4788.50      | -957.40      | 3253737.65           | 1407574.82            | 40.4486139 | -104.5882773 | 1.25             |          |
| 12861.00   | 89.510             | 178.360        | 6848.03     | 4952.97           | -4883.49      | -956.34      | 3253738.71           | 1407479.84            | 40.4483532 | -104.5882770 | 2.17             |          |
| 12955.00   | 89.510             | 178.530        | 6848.84     | 5046.24           | -4977.45      | -953.79      | 3253741.26           | 1407385.88            | 40.4480952 | -104.5882713 | 0.18             |          |
| 13050.00   | 89.750             | 178.970        | 6849.45     | 5140.58           | -5072.43      | -951.72      | 3253743.33           | 1407290.91            | 40.4478345 | -104.5882674 | 0.53             |          |
| 13144.00   | 89.480             | 178.960        | 6850.08     | 5233.96           | -5166.41      | -950.02      | 3253745.03           | 1407196.93            | 40.4475765 | -104.5882648 | 0.29             |          |
| 13238.00   | 89.540             | 178.790        | 6850.88     | 5327.32           | -5260.39      | -948.18      | 3253746.87           | 1407102.95            | 40.4473185 | -104.5882616 | 0.19             |          |
| 13333.00   | 89.630             | 178.170        | 6851.57     | 5421.60           | -5355.35      | -945.66      | 3253749.39           | 1407007.99            | 40.4470578 | -104.5882561 | 0.66             |          |
| 13427.00   | 89.910             | 179.300        | 6851.95     | 5514.93           | -5449.33      | -943.58      | 3253751.47           | 1406914.02            | 40.4467998 | -104.5882521 | 1.24             |          |
| 13522.00   | 90.250             | 180.590        | 6851.82     | 5609.48           | -5544.32      | -943.49      | 3253751.56           | 1406819.03            | 40.4465390 | -104.5882553 | 1.40             |          |
| 13616.00   | 90.090             | 179.380        | 6851.54     | 5703.04           | -5638.32      | -943.47      | 3253751.58           | 1406725.04            | 40.4462810 | -104.5882587 | 1.30             |          |
| 13711.00   | 89.720             | 178.210        | 6851.70     | 5797.38           | -5733.30      | -941.47      | 3253753.58           | 1406630.06            | 40.4460203 | -104.5882550 | 1.29             |          |
| 13805.00   | 89.660             | 178.020        | 6852.20     | 5890.59           | -5827.25      | -938.38      | 3253756.67           | 1406536.12            | 40.4457623 | -104.5882473 | 0.21             |          |
| 13900.00   | 89.660             | 178.590        | 6852.77     | 5984.83           | -5922.20      | -935.57      | 3253759.48           | 1406441.16            | 40.4455016 | -104.5882408 | 0.60             |          |
| 13994.00   | 89.780             | 178.170        | 6853.23     | 6078.10           | -6016.16      | -932.91      | 3253762.14           | 1406347.21            | 40.4452436 | -104.5882347 | 0.46             |          |
| 14089.00   | 90.060             | 179.680        | 6853.36     | 6172.46           | -6111.14      | -931.13      | 3253763.92           | 1406252.23            | 40.4449829 | -104.5882318 | 1.62             |          |
| 14183.00   | 89.540             | 178.230        | 6853.69     | 6265.84           | -6205.13      | -929.41      | 3253765.64           | 1406158.25            | 40.4447249 | -104.5882291 | 1.64             |          |
| 14278.00   | 89.750             | 178.710        | 6854.28     | 6360.12           | -6300.09      | -926.88      | 3253768.17           | 1406063.29            | 40.4444642 | -104.5882235 | 0.55             |          |



### REFERENCE WELLPATH IDENTIFICATION

|          |   |          |                  |
|----------|---|----------|------------------|
| Operator | NOBLE ENERGY, INC                               | Well     | ROTH A31-730     |
| Field    | WELD COUNTY (NOBLE NAD 83 GRID)                 | API      | 0512351331       |
| Facility | SEC.30-T06N-R64W                                | Wellbore | ROTH A31-730 AWB |
| Slot     | SLOT#01 ROTH A31-730 (904'FNL & 270'FEL,SEC.30) |          |                  |

### WELLPATH DATA (182 stations)

| MD<br>[ft] | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Vert Sect<br>[ft] | North<br>[ft] | East<br>[ft] | Grid East<br>[US ft] | Grid North<br>[US ft] | Latitude   | Longitude    | DLS<br>[°/100ft] | Comments |
|------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------------|-----------------------|------------|--------------|------------------|----------|
| 14373.00   | 89.480             | 177.370        | 6854.92     | 6454.30           | -6395.03      | -923.63      | 3253771.42           | 1405968.36            | 40.4442035 | -104.5882153 | 1.44             |          |
| 14467.00   | 90.280             | 178.500        | 6855.11     | 6547.47           | -6488.97      | -920.24      | 3253774.81           | 1405874.42            | 40.4439456 | -104.5882066 | 1.47             |          |
| 14562.00   | 90.250             | 178.490        | 6854.67     | 6641.76           | -6583.93      | -917.75      | 3253777.30           | 1405779.46            | 40.4436848 | -104.5882012 | 0.03             |          |
| 14656.00   | 89.420             | 177.150        | 6854.94     | 6734.90           | -6677.86      | -914.17      | 3253780.88           | 1405685.54            | 40.4434269 | -104.5881918 | 1.68             |          |
| 14751.00   | 89.820             | 176.970        | 6855.57     | 6828.86           | -6772.73      | -909.30      | 3253785.75           | 1405590.67            | 40.4431664 | -104.5881778 | 0.46             |          |
| 14845.00   | 90.060             | 177.760        | 6855.67     | 6921.91           | -6866.63      | -904.98      | 3253790.07           | 1405496.77            | 40.4429085 | -104.5881657 | 0.88             |          |
| 14940.00   | 89.970             | 180.800        | 6855.65     | 7016.33           | -6961.61      | -903.78      | 3253791.27           | 1405401.79            | 40.4426478 | -104.5881650 | 3.20             |          |
| 15035.00   | 90.120             | 180.630        | 6855.57     | 7110.99           | -7056.61      | -904.97      | 3253790.08           | 1405306.80            | 40.4423871 | -104.5881727 | 0.24             |          |
| 15129.00   | 89.910             | 180.330        | 6855.55     | 7204.63           | -7150.60      | -905.75      | 3253789.29           | 1405212.81            | 40.4421291 | -104.5881790 | 0.39             |          |
| 15224.00   | 90.120             | 179.290        | 6855.52     | 7299.15           | -7245.60      | -905.44      | 3253789.61           | 1405117.82            | 40.4418684 | -104.5881814 | 1.12             |          |
| 15318.00   | 89.970             | 179.650        | 6855.45     | 7392.63           | -7339.60      | -904.57      | 3253790.48           | 1405023.82            | 40.4416104 | -104.5881818 | 0.41             |          |
| 15413.00   | 89.970             | 179.520        | 6855.50     | 7487.11           | -7434.60      | -903.88      | 3253791.17           | 1404928.83            | 40.4413496 | -104.5881828 | 0.14             |          |
| 15507.00   | 89.630             | 179.470        | 6855.83     | 7580.59           | -7528.59      | -903.05      | 3253791.99           | 1404834.84            | 40.4410916 | -104.5881833 | 0.37             |          |
| 15602.00   | 89.940             | 179.650        | 6856.18     | 7675.08           | -7623.59      | -902.32      | 3253792.72           | 1404739.85            | 40.4408308 | -104.5881842 | 0.38             |          |
| 15696.00   | 89.820             | 179.450        | 6856.38     | 7768.56           | -7717.58      | -901.59      | 3253793.46           | 1404645.85            | 40.4405728 | -104.5881850 | 0.25             |          |
| 15791.00   | 89.820             | 181.380        | 6856.68     | 7863.18           | -7812.58      | -902.27      | 3253792.77           | 1404550.86            | 40.4403121 | -104.5881910 | 2.03             |          |
| 15886.00   | 89.970             | 181.410        | 6856.85     | 7957.93           | -7907.55      | -904.59      | 3253790.46           | 1404455.90            | 40.4400515 | -104.5882028 | 0.16             |          |
| 15980.00   | 89.780             | 181.220        | 6857.06     | 8051.68           | -8001.52      | -906.74      | 3253788.30           | 1404361.92            | 40.4397936 | -104.5882140 | 0.29             |          |
| 16074.00   | 89.570             | 180.160        | 6857.59     | 8145.34           | -8095.51      | -907.88      | 3253787.17           | 1404267.94            | 40.4395357 | -104.5882216 | 1.15             |          |
| 16169.00   | 90.000             | 181.400        | 6857.95     | 8240.01           | -8190.50      | -909.17      | 3253785.88           | 1404172.95            | 40.4392750 | -104.5882297 | 1.38             |          |
| 16264.00   | 90.180             | 179.550        | 6857.80     | 8334.63           | -8285.49      | -909.96      | 3253785.09           | 1404077.96            | 40.4390143 | -104.5882361 | 1.96             |          |
| 16358.00   | 90.180             | 179.130        | 6857.50     | 8428.08           | -8379.49      | -908.87      | 3253786.17           | 1403983.98            | 40.4387563 | -104.5882356 | 0.45             |          |
| 16453.00   | 90.060             | 178.530        | 6857.30     | 8522.43           | -8474.47      | -906.93      | 3253788.11           | 1403889.00            | 40.4384955 | -104.5882322 | 0.64             |          |
| 16548.00   | 89.570             | 178.830        | 6857.61     | 8616.75           | -8569.44      | -904.75      | 3253790.30           | 1403794.03            | 40.4382348 | -104.5882278 | 0.60             |          |
| 16642.00   | 90.430             | 177.210        | 6857.61     | 8709.94           | -8663.38      | -901.50      | 3253793.55           | 1403700.09            | 40.4379768 | -104.5882196 | 1.95             |          |
| 16737.00   | 90.650             | 178.650        | 6856.72     | 8804.10           | -8758.31      | -898.07      | 3253796.98           | 1403605.17            | 40.4377162 | -104.5882108 | 1.53             |          |
| 16831.00   | 90.460             | 178.370        | 6855.81     | 8897.39           | -8852.28      | -895.62      | 3253799.42           | 1403511.21            | 40.4374582 | -104.5882055 | 0.36             |          |
| 16926.00   | 90.590             | 177.730        | 6854.93     | 8991.57           | -8947.22      | -892.39      | 3253802.66           | 1403416.27            | 40.4371975 | -104.5881974 | 0.69             |          |
| 17020.00   | 90.310             | 178.100        | 6854.20     | 9084.74           | -9041.15      | -888.97      | 3253806.08           | 1403322.34            | 40.4369396 | -104.5881886 | 0.49             |          |
| 17114.00   | 90.310             | 177.670        | 6853.69     | 9177.90           | -9135.09      | -885.50      | 3253809.55           | 1403228.41            | 40.4366817 | -104.5881796 | 0.46             |          |



### REFERENCE WELLPATH IDENTIFICATION

|          |   |          |                  |
|----------|---|----------|------------------|
| Operator | NOBLE ENERGY, INC                               | Well     | ROTH A31-730     |
| Field    | WELD COUNTY (NOBLE NAD 83 GRID)                 | API      | 0512351331       |
| Facility | SEC.30-T06N-R64W                                | Wellbore | ROTH A31-730 AWB |
| Slot     | SLOT#01 ROTH A31-730 (904'FNL & 270'FEL,SEC.30) |          |                  |

### WELLPATH DATA (182 stations) † = interpolated, ‡ = extrapolated station

| MD<br>[ft] | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Vert Sect<br>[ft] | North<br>[ft] | East<br>[ft] | Grid East<br>[US ft] | Grid North<br>[US ft] | Latitude   | Longitude    | DLS<br>[°/100ft] | Comments           |
|------------|--------------------|----------------|-------------|-------------------|---------------|--------------|----------------------|-----------------------|------------|--------------|------------------|--------------------|
| 17180.00   | 90.430             | 178.060        | 6853.26     | 9243.31           | -9201.04      | -883.04      | 3253812.00           | 1403162.46            | 40.4365006 | -104.5881732 | 0.62             | LAST BH MWD SURVEY |
| 17204.00‡  | 90.430             | 178.060        | 6853.08     | 9267.11           | -9225.02      | -882.23      | 3253812.82           | 1403138.47            | 40.4364347 | -104.5881712 | 0.00             | PROJECTION TO BIT  |

### TARGETS

| Name  | TVD<br>[ft] | North<br>[ft] | East<br>[ft] | Grid East<br>[US ft] | Grid North<br>[US ft] | Latitude   | Longitude    | Shape   |
|---|-------------|---------------|--------------|----------------------|-----------------------|------------|--------------|---------|
| SEC.30-T06N-R64W                                      | 25.00       | 1363.70       | -2829.21     | 3251865.91           | 1413726.79            | 40.4655527 | -104.5947767 | polygon |
| 2D Polygon: dimensions not calculated                 |             |               |              |                      |                       |            |              |         |
| SEC.31-T06N-R64W                                      | 25.00       | 1363.70       | -2829.21     | 3251865.91           | 1413726.79            | 40.4655527 | -104.5947767 | polygon |
| 2D Polygon: dimensions not calculated                 |             |               |              |                      |                       |            |              |         |
| ROTH A31-730 BHL REV-1<br>(460'FSL & 1319'FEL,SEC.31) | 6851.00     | -9226.47      | -894.14      | 3253800.91           | 1403137.03            | 40.4364311 | -104.5882140 | point   |
| ROTH A31-730 TPZ REV-1(460'FNL<br>& 1320'FEL,SEC.30)  | 6851.00     | 427.16        | -1055.91     | 3253639.15           | 1412790.29            | 40.4629323 | -104.5884386 | point   |

### WELLPATH COMPOSITION - Ref Wellbore: ROTH A31-730 AWB Ref Wellpath: ROTH A31-730 AWP

| Start MD<br>[ft] | End MD<br>[ft] | Positional Uncertainty Model  | Log Name/Comment                                  | Wellbore         | Survey Date |
|------------------|----------------|-------------------------------|---|------------------|-------------|
| 0.00             | 1931.00        | Gyrodatta 2015 - GC+DROP+COND | Gyrodatta 2015 - GC+DROP+COND 13-1/2" <79 - 1931> | ROTH A31-730 AWB | 9/30/2021   |
| 1931.00          | 17204.00       | OWSG MWD rev2 (MS+IFR1)       | OWSG MWD rev2 (MS+IFR1) 8-1/2" <1988 - 17180>     | ROTH A31-730 AWB | 9/30/2021   |

## REFERENCE WELLPATH IDENTIFICATION

|          |   |          |                  |
|----------|---|----------|------------------|
| Operator | NOBLE ENERGY, INC                               | Well     | ROTH A31-730     |
| Field    | WELD COUNTY (NOBLE NAD 83 GRID)                 | API      | 0512351331       |
| Facility | SEC.30-T06N-R64W                                | Wellbore | ROTH A31-730 AWB |
| Slot     | SLOT#01 ROTH A31-730 (904'FNL & 270'FEL,SEC.30) |          |                  |

## WELLPATH COMMENTS

| MD<br>[ft] | Inclination<br>[°] | Azimuth<br>[°] | TVD<br>[ft] | Comment               |
|------------|--------------------|----------------|-------------|-----------------------|
| 79.00      | 0.250              | 123.670        | 79.00       | FIRST GYRODATA SURVEY |
| 1931.00    | 0.230              | 100.720        | 1930.95     | LAST GYRODATA SURVEY  |
| 1988.00    | 0.280              | 44.450         | 1987.95     | FIRST BH MWD SURVEY   |
| 17180.00   | 90.430             | 178.060        | 6853.26     | LAST BH MWD SURVEY    |
| 17204.00   | 90.430             | 178.060        | 6853.08     | PROJECTION TO BIT     |