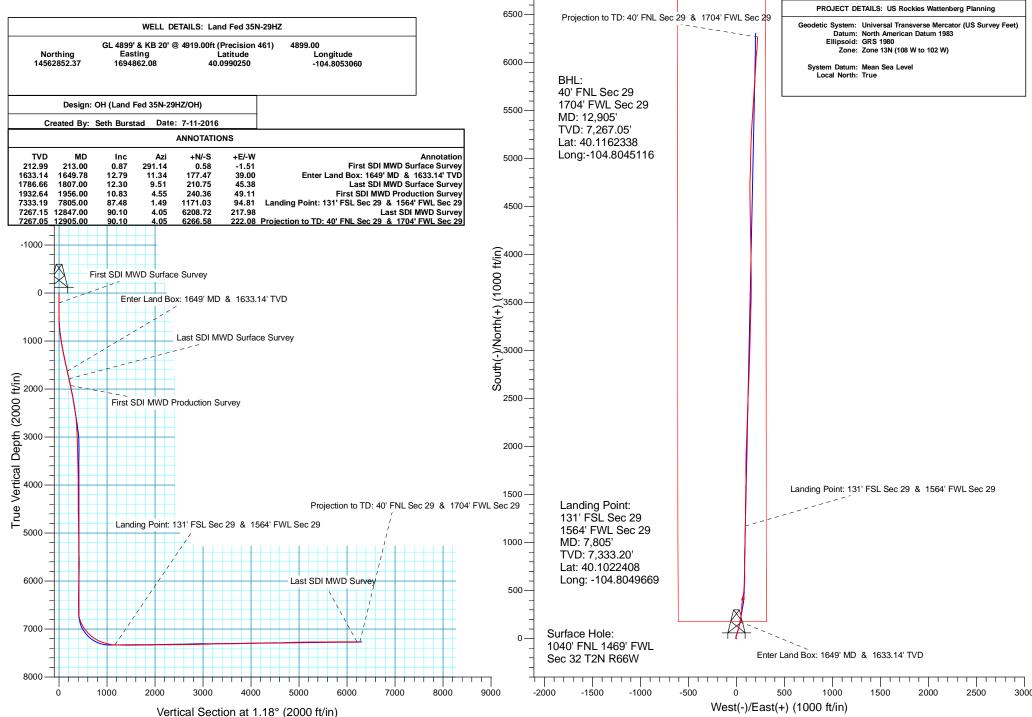


Project: US Rockies Wattenberg Planning Site: Land 18-32HZ Pad 2N-66W-32

Well: Land Fed 35N-29HZ

Wellbore: OH Design: OH







## **US ROCKIES REGION PLANNING**

US Rockies Wattenberg Planning Land 18-32HZ Pad 2N-66W-32 Land Fed 35N-29HZ

ОН

Design: OH

# **Standard Survey Report**

11 July, 2016





Survey Report



Company: US ROCKIES REGION PLANNING

Project: US Rockies Wattenberg Planning
Site: Land 18-32HZ Pad 2N-66W-32

Well: Land Fed 35N-29HZ

Wellbore: OH
Design: OH

Geo Datum: Map Zone: Local Co-ordinate Reference:

TVD Reference: GL 4899' & KB 20' @ 4919.00ft (Precision 461)

MD Reference: GL 4899' & KB 20' @ 4919.00ft (Precision 461)

Well Land Fed 35N-29HZ

North Reference: Tru

Survey Calculation Method: Minimum Curvature

Database: Denver Sales Office

Project US Rockies Wattenberg Planning

Map System: Universal Transverse Mercator (US Survey Feet) System:

North American Datum 1983 Zone 13N (108 W to 102 W) System Datum: Mean Sea Level

Stelli Datulli. Meali Sea Lev

Site Land 18-32HZ Pad 2N-66W-32, Site Center: Land Fed 30C-29HZ

Northing: 14,562,853.50 usft 40.0990290 Site Position: Latitude: From: Lat/Long Easting: 1,694,712.19 usft Longitude: -104.8058420 0.00 ft 0.13 ° **Position Uncertainty:** Slot Radius: 13.200 in **Grid Convergence:** 

| Well                 | Land Fed 35I | N-29HZ, 1040' FNL | . 1469' FWL Sec 32 T2N R | 66W                |               |              |
|----------------------|--------------|-------------------|--------------------------|--------------------|---------------|--------------|
| Well Position        | +N/-S        | 0.00 ft           | Northing:                | 14,562,852.37 usft | Latitude:     | 40.0990250   |
|                      | +E/-W        | 0.00 ft           | Easting:                 | 1,694,862.08 usft  | Longitude:    | -104.8053060 |
| Position Uncertainty |              | 0.00 ft           | Wellhead Elevation:      | 0.00 ft            | Ground Level: | 4,899.00 ft  |

| Wellbore  | ОН           |             |                    |                  |                        |
|-----------|--------------|-------------|--------------------|------------------|------------------------|
| Magnetics | Model Name   | Sample Date | Declination<br>(°) | Dip Angle<br>(°) | Field Strength<br>(nT) |
|           | User Defined | 5/18/2016   | 8.34               | 66.69            | 52,586                 |
|           | User Defined | 7/4/2016    | 8.34               | 66.70            | 52,601                 |

| Design            | OH  |                  |        |               |           |      |
|-------------------|-----|------------------|--------|---------------|-----------|------|
| Audit Notes:      |     |                  |        |               |           |      |
| Version:          | 1.0 | Phase:           | ACTUAL | Tie On Depth: |           | 0.00 |
| Vertical Section: |     | Depth From (TVD) | +N/-S  | +E/-W         | Direction |      |
|                   |     | (ft)             | (ft)   | (ft)          | (°)       |      |
|                   |     | 0.00             | 0.00   | 0.00          | 1.18      |      |

| Survey Program     | Date 7/11/2016   |   |
|--------------------|--|---|
| From<br>(ft)       | To<br>(ft) Survey (Wellbore)   | Tool Name Description   |
| 213.00<br>1,956.00 | 1,807.00 Survey #1 - Surface (OH)<br>12,905.00 Survey #2 - Production (OH) | APC_ISCWSA REV 2 MWD+ Fixed:v2:crustal field declination APC_ISCWSA REV 2 MWD+ Fixed:v2:crustal field declination |

| urvey                     |                        |                |                           |               |               |                             |                               |                              |                             |
|---------------------------|------------------------|----------------|---------------------------|---------------|---------------|-----------------------------|-------------------------------|------------------------------|-----------------------------|
| Measured<br>Depth<br>(ft) | Inclination<br>(°)     | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
| 0.00                      | 0.00                   | 0.00           | 0.00                      | 0.00          | 0.00          | 0.00                        | 0.00                          | 0.00                         | 0.00                        |
| 213.00                    | 0.87                   | 291.14         | 212.99                    | 0.58          | -1.51         | 0.55                        | 0.41                          | 0.41                         | 0.00                        |
| First SDI M               | <b>WD Surface Surv</b> | rey            |                           |               |               |                             |                               |                              |                             |
| 307.00                    | 1.12                   | 297.57         | 306.98                    | 1.27          | -2.99         | 1.20                        | 0.29                          | 0.27                         | 6.84                        |
| 401.00                    | 0.92                   | 298.01         | 400.96                    | 2.05          | -4.47         | 1.95                        | 0.21                          | -0.21                        | 0.47                        |
| 495.00                    | 1.23                   | 354.98         | 494.95                    | 3.40          | -5.22         | 3.30                        | 1.13                          | 0.33                         | 60.61                       |
| 589.00                    | 2.82                   | 12.18          | 588.89                    | 6.67          | -4.82         | 6.57                        | 1.79                          | 1.69                         | 18.30                       |
| 683.00                    | 3.93                   | 9.59           | 682.72                    | 12.11         | -3.80         | 12.03                       | 1.19                          | 1.18                         | -2.76                       |



Survey Report



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Wellbore: OH
Design: OH

Local Co-ordinate Reference:

TVD Reference: MD Reference:

Database:

North Reference: Survey Calculation Method: Well Land Fed 35N-29HZ

GL 4899' & KB 20' @ 4919.00ft (Precision 461) GL 4899' & KB 20' @ 4919.00ft (Precision 461)

True

: Minimum Curvature
Denver Sales Office

| rvey |                           |                    |                |                           |               |               |                             |                               |                              |                             |
|------|---------------------------|--------------------|----------------|---------------------------|---------------|---------------|-----------------------------|-------------------------------|------------------------------|-----------------------------|
|      |                           |                    |                | Vertical                  |               |               | Vantiani                    | Danian                        | Btu                          | <b>T</b>                    |
|      | Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft) | +E/-W<br>(ft) | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
|      |                           |                    |                |                           |               |               |                             |                               | ` '                          |                             |
|      | 777.00                    | 5.55               | 9.57           | 776.40                    | 19.77         | -2.51         | 19.71                       | 1.72                          | 1.72                         | -0.02                       |
|      | 871.00                    | 7.44               | 14.09          | 869.79                    | 30.15         | -0.27         | 30.14                       | 2.08                          | 2.01                         | 4.81                        |
|      | 965.00                    | 8.58               | 19.12          | 962.87                    | 42.68         | 3.51          | 42.74                       | 1.42                          | 1.21                         | 5.35                        |
|      | 1,059.00                  | 9.91               | 18.95          | 1,055.65                  | 56.96         | 8.43          | 57.12                       | 1.42                          | 1.41                         | -0.18                       |
|      | 1,153.00                  | 11.87              | 16.33          | 1,147.95                  | 73.89         | 13.78         | 74.15                       | 2.15                          | 2.09                         | -2.79                       |
|      | 1,247.00                  | 12.22              | 15.88          | 1,239.88                  | 92.73         | 19.22         | 93.11                       | 0.39                          | 0.37                         | -0.48                       |
|      | 1,341.00                  | 11.91              | 13.98          | 1,331.81                  | 111.71        | 24.28         | 112.19                      | 0.54                          | -0.33                        | -2.02                       |
|      | 1,434.00                  | 12.30              | 13.17          | 1,422.74                  | 130.67        | 28.86         | 131.24                      | 0.46                          | 0.42                         | -0.87                       |
|      | 1,404.00                  | 12.50              | 10.17          |                           | 130.07        | 20.00         | 101.24                      |                               |                              |                             |
|      | 1,528.00                  | 13.01              | 12.47          | 1,514.46                  | 150.75        | 33.43         | 151.41                      | 0.77                          | 0.76                         | -0.74                       |
|      | 1,624.00                  | 12.94              | 11.32          | 1,608.01                  | 171.84        | 37.87         | 172.59                      | 0.28                          | -0.07                        | -1.20                       |
|      | 1,649.78                  | 12.79              | 11.34          | 1,633.14                  | 177.47        | 39.00         | 178.24                      | 0.59                          | -0.59                        | 0.07                        |
|      | Enter Land B              | Box: 1649' MD &    | 1633.14' TVD   |                           |               |               |                             |                               |                              |                             |
|      | 1,719.00                  | 12.38              | 11.39          | 1,700.70                  | 192.26        | 41.97         | 193.08                      | 0.59                          | -0.59                        | 0.07                        |
|      | 1,807.00                  | 12.30              | 9.51           | 1,786.66                  | 210.75        | 45.38         | 211.64                      | 0.47                          | -0.09                        | -2.14                       |
|      | Last SDI MW               | D Surface Surve    | еу             |                           |               |               |                             |                               |                              |                             |
|      | 1,956.00                  | 10.83              | 4.55           | 1,932.64                  | 240.36        | 49.11         | 241.32                      | 1.19                          | -0.99                        | -3.33                       |
|      |                           | /D Production S    |                | .,002.01                  | 2.0.00        |               |                             |                               | 0.00                         | 0.00                        |
|      | 2,050.00                  | 11.59              | 5.75           | 2,024.84                  | 258.56        | 50.76         | 259.55                      | 0.85                          | 0.81                         | 1.28                        |
|      | 2,145.00                  | 12.18              | 6.93           | 2,117.81                  | 278.00        | 52.92         | 279.03                      | 0.67                          | 0.62                         | 1.24                        |
|      | ,                         |                    |                |                           |               |               |                             |                               |                              |                             |
|      | 2,240.00                  | 10.78              | 4.77           | 2,210.90                  | 296.80        | 54.87         | 297.87                      | 1.54                          | -1.47                        | -2.27                       |
|      | 2,335.00                  | 9.89               | 1.49           | 2,304.36                  | 313.81        | 55.82         | 314.90                      | 1.12                          | -0.94                        | -3.45                       |
|      | 2,430.00                  | 8.46               | 0.12           | 2,398.15                  | 328.96        | 56.05         | 330.04                      | 1.52                          | -1.51                        | -1.44                       |
|      | 2,525.00                  | 7.20               | 359.07         | 2,492.26                  | 341.90        | 55.97         | 342.98                      | 1.33                          | -1.33                        | -1.11                       |
|      | 2,620.00                  | 6.15               | 15.22          | 2,586.62                  | 352.76        | 57.21         | 353.87                      | 2.25                          | -1.11                        | 17.00                       |
|      | 2,714.00                  | 4.62               | 10.54          | 2,680.20                  | 361.34        | 59.22         | 362.49                      | 1.69                          | -1.63                        | -4.98                       |
|      | 2,809.00                  | 3.94               | 8.51           | 2,774.94                  | 368.33        | 60.40         | 369.50                      | 0.73                          | -0.72                        | -2.14                       |
|      | _,000.00                  | 0.0.               | 0.01           | _,                        | 000.00        | 00.10         | 000.00                      | 00                            | 5                            |                             |
|      | 2,903.00                  | 2.92               | 2.87           | 2,868.77                  | 373.92        | 61.00         | 375.09                      | 1.14                          | -1.09                        | -6.00                       |
|      | 2,997.00                  | 2.96               | 2.34           | 2,962.64                  | 378.73        | 61.22         | 379.91                      | 0.05                          | 0.04                         | -0.56                       |
|      | 3,092.00                  | 2.43               | 355.30         | 3,057.54                  | 383.19        | 61.16         | 384.37                      | 0.66                          | -0.56                        | -7.41                       |
|      | 3,186.00                  | 2.44               | 4.76           | 3,151.46                  | 387.17        | 61.16         | 388.35                      | 0.43                          | 0.01                         | 10.06                       |
|      | 3,281.00                  | 1.64               | 358.49         | 3,246.39                  | 390.55        | 61.29         | 391.73                      | 0.87                          | -0.84                        | -6.60                       |
|      | 3,376.00                  | 1.52               | 1.54           | 3,341.36                  | 393.16        | 61.29         | 394.34                      | 0.15                          | -0.13                        | 3.21                        |
|      | 3,470.00                  | 1.61               | 351.57         | 3,435.32                  | 395.72        | 61.13         | 396.89                      | 0.30                          | 0.10                         | -10.61                      |
|      | 3,565.00                  | 0.83               | 325.37         | 3,530.30                  | 397.60        | 60.54         | 398.77                      | 0.99                          | -0.82                        | -27.58                      |
|      | 3,657.00                  | 0.62               | 322.87         | 3,622.29                  | 398.55        | 59.86         | 399.70                      | 0.99                          | -0.82                        | -2.72                       |
|      | 3,752.00                  | 0.84               | 335.95         | 3,717.29                  | 399.59        | 59.80         | 400.73                      | 0.23                          | 0.23                         | 13.77                       |
|      | 0,702.00                  | 0.04               | 555.55         | 5,111.23                  | 333.33        | 33.21         | 700.73                      | 0.29                          | 0.23                         | 13.77                       |
|      | 3,846.00                  | 0.48               | 318.86         | 3,811.28                  | 400.52        | 58.73         | 401.64                      | 0.43                          | -0.38                        | -18.18                      |
|      | 3,941.00                  | 0.20               | 286.80         | 3,906.28                  | 400.87        | 58.31         | 401.98                      | 0.35                          | -0.29                        | -33.75                      |
|      | 4,035.00                  | 1.29               | 62.63          | 4,000.27                  | 401.40        | 59.09         | 402.53                      | 1.53                          | 1.16                         | 144.50                      |
|      | 4,130.00                  | 1.16               | 77.35          | 4,095.25                  | 402.10        | 60.98         | 403.27                      | 0.36                          | -0.14                        | 15.49                       |
|      | 4,223.00                  | 0.72               | 88.65          | 4,188.24                  | 402.32        | 62.48         | 403.53                      | 0.51                          | -0.47                        | 12.15                       |
|      | 4,319.00                  | 0.74               | 62.70          | 4,284.23                  | 402.62        | 63.64         | 403.85                      | 0.34                          | 0.02                         | -27.03                      |
|      | 4,414.00                  | 2.00               | 66.61          | 4,379.20                  | 403.56        | 65.70         | 404.83                      | 1.33                          | 1.33                         | 4.12                        |
|      | 4,507.00                  | 2.34               | 82.30          | 4,472.13                  | 404.46        | 69.07         | 405.80                      | 0.73                          | 0.37                         | 16.87                       |



Survey Report



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Project: US Rockies Wattenberg Planning

Site: Land 18-32HZ Pad 2N-66W-32

Well: Land Fed 35N-29HZ

Wellbore: OH
Design: OH

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference: Well Land Fed 35N-29HZ

GL 4899' & KB 20' @ 4919.00ft (Precision 461) GL 4899' & KB 20' @ 4919.00ft (Precision 461)

True

Survey Calculation Method: Minimum Curvature

Database: Denver Sales Office

| Measured<br>Depth<br>(ft) | Inclination<br>(°) | Azimuth<br>(°) | Vertical<br>Depth<br>(ft) | +N/-S<br>(ft)        | +E/-W<br>(ft)  | Vertical<br>Section<br>(ft) | Dogleg<br>Rate<br>(°/100usft) | Build<br>Rate<br>(°/100usft) | Turn<br>Rate<br>(°/100usft) |
|---------------------------|--------------------|----------------|---------------------------|----------------------|----------------|-----------------------------|-------------------------------|------------------------------|-----------------------------|
| 4,602.00                  | 2.19               | 89.32          | 4,567.06                  | 404.74               | 72.81          | 406.16                      | 0.33                          | -0.16                        | 7.39                        |
| 4,697.00                  | 2.51               | 79.16          | 4,661.98                  | 405.15               | 76.67          | 406.65                      | 0.55                          | 0.34                         | -10.69                      |
| 4,791.00                  | 2.19               | 48.14          | 4,755.91                  | 406.74               | 80.03          | 408.30                      | 1.38                          | -0.34                        | -33.00                      |
| 4,886.00                  | 2.19               | 19.70          | 4,850.84                  | 409.66               | 81.99          | 411.26                      | 1.13                          | 0.00                         | -29.94                      |
| 4,979.00                  | 1.24               | 318.56         | 4,943.80                  | 412.09               | 81.93          | 413.69                      | 2.07                          | -1.02                        | -65.74                      |
| 5,072.00                  | 1.50               | 292.93         | 5,036.78                  | 413.32               | 80.14          | 414.88                      | 0.71                          | 0.28                         | -27.56                      |
| 5,167.00                  | 2.35               | 290.84         | 5,131.72                  | 414.49               | 77.17          | 416.00                      | 0.90                          | 0.89                         | -2.20                       |
| 5,261.00                  | 2.29               | 292.92         | 5,225.65                  | 415.91               | 73.64          | 417.34                      | 0.11                          | -0.06                        | 2.21                        |
| 5,355.00                  | 2.13               | 286.09         | 5,319.58                  | 417.13               | 70.23          | 418.48                      | 0.33                          | -0.17                        | -7.27                       |
| 5,449.00                  | 1.19               | 289.05         | 5,413.54                  | 417.93               | 67.63          | 419.23                      | 1.00                          | -1.00                        | 3.15                        |
| 5,542.00                  | 1.30               | 299.41         | 5,506.51                  | 418.76               | 65.80          | 420.03                      | 0.27                          | 0.12                         | 11.14                       |
| 5,637.00                  | 1.39               | 309.60         | 5,601.49                  | 420.03               | 63.97          | 421.25                      | 0.27                          | 0.09                         | 10.73                       |
| 5,733.00                  | 1.38               | 292.55         | 5,697.46                  | 421.21               | 62.01          | 422.40                      | 0.43                          | -0.01                        | -17.76                      |
| 5,828.00                  | 0.78               | 232.15         | 5,792.45                  | 421.25               | 60.44          | 422.41                      | 1.27                          | -0.63                        | -63.58                      |
| 5,922.00                  | 1.21               | 201.13         | 5,886.43                  | 419.94               | 59.58          | 421.07                      | 0.72                          | 0.46                         | -33.00                      |
| 6,016.00                  | 1.93               | 193.18         | 5,980.40                  | 417.47               | 58.86          | 418.59                      | 0.80                          | 0.77                         | -8.46                       |
| 6,111.00                  | 1.76               | 186.57         | 6,075.35                  | 414.46               | 58.33          | 415.57                      | 0.29                          | -0.18                        | -6.96                       |
| 6,205.00                  | 1.20               | 179.40         | 6,169.31                  | 412.04               | 58.17          | 413.15                      | 0.63                          | -0.60                        | -7.63                       |
| 6,298.00                  | 0.69               | 164.24         | 6,262.30                  | 410.53               | 58.34          | 411.64                      | 0.61                          | -0.55                        | -16.30                      |
| 6,392.00                  | 0.36               | 71.35          | 6,356.30                  | 410.08               | 58.77          | 411.20                      | 0.84                          | -0.35                        | -98.82                      |
| 6,484.00                  | 0.67               | 71.07          | 6,448.30                  | 410.35               | 59.55          | 411.49                      | 0.34                          | 0.34                         | -0.30                       |
| 6,578.00                  | 0.96               | 76.85          | 6,542.29                  | 410.70               | 60.84          | 411.87                      | 0.32                          | 0.31                         | 6.15                        |
| 6,671.00                  | 0.69               | 52.80          | 6,635.28                  | 411.22               | 62.04          | 412.41                      | 0.47                          | -0.29                        | -25.86                      |
| 6,765.00                  | 8.49               | 10.68          | 6,728.91                  | 418.39               | 63.78          | 419.62                      | 8.50                          | 8.30                         | -44.81                      |
| 6,859.00                  | 19.40              | 14.25          | 6,820.00                  | 440.41               | 68.93          | 441.74                      | 11.64                         | 11.61                        | 3.80                        |
| 6,952.00                  | 27.70              | 8.23           | 6,905.19                  | 476.84               | 75.84          | 478.30                      | 9.28                          | 8.92                         | -6.47                       |
| 7,046.00                  | 34.71              | 3.96           | 6,985.55                  | 525.23               | 80.82          | 526.78                      | 7.82                          | 7.46                         | -4.54                       |
| 7,140.00                  | 42.52              | 3.45           | 7,058.95                  | 583.73               | 84.59          | 585.34                      | 8.32                          | 8.31                         | -0.54                       |
| 7,236.00                  | 48.28              | 0.11           | 7,126.33                  | 652.00               | 86.61          | 653.65                      | 6.49                          | 6.00                         | -3.48                       |
| 7,331.00                  | 54.06              | 357.75         | 7,185.88                  | 725.95               | 85.16          | 727.55                      | 6.38                          | 6.08                         | -2.48                       |
| 7,426.00                  | 63.41              | 359.92         | 7,235.13                  | 807.05               | 83.59          | 808.60                      | 10.03                         | 9.84                         | 2.28                        |
| 7,520.00                  | 71.55              | 2.44           | 7,271.11                  | 893.78               | 85.43          | 895.35                      | 9.01                          | 8.66                         | 2.68                        |
| 7,615.00                  | 75.61              | 2.16           | 7,297.96                  | 984.81               | 89.09          | 986.43                      | 4.28                          | 4.27                         | -0.29                       |
| 7,710.00                  | 77.04              | 1.70           | 7,320.42                  | 1,077.06             | 92.20          | 1,078.73                    | 1.58                          | 1.51                         | -0.48                       |
| 7,805.00                  | 87.48              | 1.49           | 7,333.20                  | 1,171.03             | 94.81          | 1,172.73                    | 10.99                         | 10.99                        | -0.22                       |
| _                         | nt: 131' FSL Sec   |                | 7,337.03                  | 1 264 04             | 06.03          | 1 266 65                    | 1.62                          | 0.30                         | 1.50                        |
| 7,899.00<br>7,993.00      | 87.85<br>88.99     | 0.00<br>1.04   | 7,337.03<br>7,339.62      | 1,264.94<br>1,358.90 | 96.03<br>96.88 | 1,266.65<br>1,360.60        | 1.63<br>1.64                  | 0.39<br>1.21                 | -1.59<br>1.11               |
| 8,086.00                  | 90.67              | 0.13           | 7,339.89                  | 1,451.89             | 97.83          | 1,453.59                    | 2.05                          | 1.81                         | -0.98                       |
| 8,180.00                  | 91.68              | 1.56           | 7,337.97                  | 1,545.85             | 99.22          | 1,547.57                    | 1.86                          | 1.07                         | 1.52                        |
| 8,274.00                  | 89.87              | 359.56         | 7,336.69                  | 1,639.83             | 100.14         | 1,641.55                    | 2.87                          | -1.93                        | -2.13                       |
| 8,368.00                  | 89.76              | 359.18         | 7,337.00                  | 1,733.83             | 99.10          | 1,735.50                    | 0.42                          | -0.12                        | -0.40                       |
| 8,463.00                  | 90.71              | 0.51           | 7,336.61                  | 1,828.82             | 98.85          | 1,830.47                    | 1.72                          | 1.00                         | 1.40                        |



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GL 4899' & KB 20' @ 4919.00ft (Precision 461) GL 4899' & KB 20' @ 4919.00ft (Precision 461)

True

Minimum Curvature
Denver Sales Office

| rvey |                   |             |              |                   |                      |        |                     |                |               |              |
|------|-------------------|-------------|--------------|-------------------|----------------------|--------|---------------------|----------------|---------------|--------------|
| _    |                   |             |              |                   |                      |        |                     |                |               | _            |
| '    | Measured<br>Depth | Inclination | Azimuth      | Vertical<br>Depth | +N/-S                | +E/-W  | Vertical<br>Section | Dogleg<br>Rate | Build<br>Rate | Turn<br>Rate |
|      | (ft)              | (°)         | (°)          | (ft)              | (ft)                 | (ft)   | (ft)                | (°/100usft)    | (°/100usft)   | (°/100usft)  |
|      | 8,557.00          | 91.28       | 2.55         | 7,334.98          | 1,922.77             | 101.36 | 1,924.45            | 2.25           | 0.61          | 2.17         |
|      | 8,650.00          | 90.74       | 2.05         | 7,333.34          | 2,015.68             | 105.09 | 2,017.42            | 0.79           | -0.58         | -0.54        |
|      | 8,744.00          | 90.03       | 1.89         | 7,332.70          | 2,109.62             | 108.32 | 2,111.40            | 0.77           | -0.76         | -0.17        |
|      | 8,838.00          | 91.51       | 1.27         | 7,331.44          | 2,203.57             | 110.91 | 2,205.39            | 1.71           | 1.57          | -0.66        |
|      | 9,028.00          | 89.50       | 2.78         | 7,329.77          | 2,393.43             | 117.62 | 2,395.35            | 1.32           | -1.06         | 0.79         |
|      | 9,122.00          | 89.76       | 1.87         | 7,330.37          | 2,487.35             | 121.44 | 2,489.32            | 1.01           | 0.28          | -0.97        |
|      | 9,216.00          | 91.78       | 1.69         | 7,329.11          | 2,581.29             | 124.36 | 2,583.31            | 2.16           | 2.15          | -0.19        |
|      | 9,311.00          | 91.18       | 2.31         | 7,326.66          | 2,676.20             | 127.67 | 2,678.26            | 0.91           | -0.63         | 0.65         |
|      | 9,404.00          | 90.40       | 3.36         | 7,325.37          | 2,769.08             | 132.27 | 2,771.21            | 1.41           | -0.84         | 1.13         |
|      | 9,499.00          | 92.02       | 2.29         | 7,323.37          | 2,863.94             | 136.95 | 2,866.15            | 2.04           | 1.71          | -1.13        |
|      | 9,499.00          | 92.02       | 2.29         | 1,323.31          | 2,003.94             | 130.95 | 2,000.15            | 2.04           | 1.71          | -1.13        |
|      | 9,593.00          | 91.68       | 1.11         | 7,320.33          | 2,957.84             | 139.74 | 2,960.09            | 1.31           | -0.36         | -1.26        |
|      | 9,686.00          | 91.71       | 0.90         | 7,317.58          | 3,050.79             | 141.37 | 3,053.05            | 0.23           | 0.03          | -0.23        |
|      | 9,780.00          | 91.42       | 0.79         | 7,315.02          | 3,144.74             | 142.76 | 3,147.02            | 0.33           | -0.31         | -0.12        |
|      | 9,874.00          | 91.15       | 2.00         | 7,312.91          | 3,238.69             | 145.04 | 3,240.99            | 1.32           | -0.29         | 1.29         |
|      | 9,968.00          | 90.67       | 1.53         | 7,311.41          | 3,332.63             | 147.94 | 3,334.97            | 0.71           | -0.51         | -0.50        |
|      | 10,061.00         | 89.76       | 1.24         | 7,311.07          | 3,425.60             | 150.19 | 3,427.97            | 1.03           | -0.98         | -0.31        |
|      | 10,155.00         | 89.36       | 1.53         | 7,311.79          | 3,519.57             | 152.46 | 3,521.97            | 0.53           | -0.43         | 0.31         |
|      | 10,249.00         | 91.28       | 0.24         | 7,311.26          | 3,613.55             | 153.91 | 3,615.96            | 2.46           | 2.04          | -1.37        |
|      | 10,343.00         | 91.68       | 359.96       | 7,308.83          | 3,707.52             | 154.07 | 3,709.91            | 0.52           | 0.43          | -0.30        |
|      | 10,437.00         | 91.68       | 359.25       | 7,306.08          | 3,801.48             | 153.43 | 3,803.83            | 0.75           | 0.00          | -0.76        |
|      | 10 521 00         | 04.00       | 250.20       | 7 202 22          | 2 005 42             | 450.04 | 2 007 74            | 0.45           | 0.00          | 0.45         |
|      | 10,531.00         | 91.68       | 359.39       | 7,303.32          | 3,895.43             | 152.31 | 3,897.74            | 0.15           | 0.00          | 0.15         |
|      | 10,626.00         | 91.72       | 359.27       | 7,300.50          | 3,990.38             | 151.20 | 3,992.65            | 0.13           | 0.04          | -0.13        |
|      | 10,720.00         | 92.09       | 359.45       | 7,297.38          | 4,084.33             | 150.15 | 4,086.55            | 0.44           | 0.39          | 0.19         |
|      | 10,814.00         | 92.15       | 358.89       | 7,293.90          | 4,178.25             | 148.79 | 4,180.43            | 0.60           | 0.06          | -0.60        |
|      | 10,907.00         | 90.81       | 359.03       | 7,291.50          | 4,271.20             | 147.10 | 4,273.33            | 1.45           | -1.44         | 0.15         |
|      | 11,001.00         | 90.50       | 358.76       | 7,290.43          | 4,365.18             | 145.29 | 4,367.25            | 0.44           | -0.33         | -0.29        |
|      | 11,094.00         | 90.57       | 359.03       | 7,289.56          | 4,458.16             | 143.50 | 4,460.17            | 0.30           | 0.08          | 0.29         |
|      | 11,280.00         | 91.32       | 0.17         | 7,286.49          | 4,644.12             | 142.20 | 4,646.07            | 0.73           | 0.40          | 0.61         |
|      | 11,372.00         | 91.08       | 0.82         | 7,284.56          | 4,736.10             | 142.99 | 4,738.04            | 0.75           | -0.26         | 0.71         |
|      | 11,466.00         | 91.25       | 1.46         | 7,282.65          | 4,830.06             | 144.86 | 4,832.02            | 0.70           | 0.18          | 0.68         |
|      | 11,559.00         | 91.91       | 1.72         | 7,280.09          | 4,922.99             | 147.44 | 4,924.98            | 0.76           | 0.71          | 0.28         |
|      | 11,653.00         | 91.45       | 0.75         | 7,277.33          | 5,016.93             | 149.47 | 5,018.94            | 1.14           | -0.49         | -1.03        |
|      | 11,746.00         | 91.08       | 1.58         | 7,277.33          | 5,109.88             | 151.36 | 5,111.92            | 0.98           | -0.40         | 0.89         |
|      | 11,840.00         | 91.00       | 2.63         | 7,273.46          | 5,203.80             | 154.81 | 5,205.89            | 1.12           | 0.06          | 1.12         |
|      | 11,932.00         | 89.23       | 2.89         | 7,273.46          | 5,203.60             | 159.24 | 5,205.89            | 2.10           | -2.08         | 0.28         |
|      | 11,832.00         | 09.23       | 2.09         | 1,213.10          | 5,235.03             | 109.24 | 5,281.00            | 2.10           | -2.00         | 0.26         |
|      | 12,027.00         | 90.70       | 3.18         | 7,273.22          | 5,390.55             | 164.27 | 5,392.79            | 1.58           | 1.55          | 0.31         |
|      | 12,121.00         | 89.46       | 3.31         | 7,273.09          | 5,484.40             | 169.59 | 5,486.73            | 1.33           | -1.32         | 0.14         |
|      | 12,215.00         | 90.27       | 4.29         | 7,273.31          | 5,578.19             | 175.82 | 5,580.63            | 1.35           | 0.86          | 1.04         |
|      | 12,307.00         | 90.67       | 3.98         | 7,272.55          | 5,669.95             | 182.45 | 5,672.50            | 0.55           | 0.43          | -0.34        |
|      | 12,400.00         | 91.68       | 3.93         | 7,270.65          | 5,762.71             | 188.87 | 5,765.37            | 1.09           | 1.09          | -0.05        |
|      | 12,495.00         | 90.70       | 3.85         | 7,268.67          | 5,857.47             | 195.31 | 5,860.25            | 1.04           | -1.03         | -0.08        |
|      | 12,590.00         | 89.93       | 3.05         | 7,268.15          | 5,952.29             | 201.03 | 5,955.17            | 1.17           | -0.81         | -0.84        |
|      | 12,590.00         | 90.00       | 3.62         | 7,268.21          | 6,047.13             | 201.03 | 6,050.17            | 0.60           | 0.07          | 0.60         |
|      | 12,685.00         | 90.00       | 3.62<br>4.29 | 7,268.21          | 6,047.13<br>6,140.90 | 213.04 | 6,143.99            | 1.04           | 0.07          | 0.60         |



Survey Report



Company: US ROCKIES REGION PLANNING

Project: US Rockies Wattenberg Planning
Site: Land 18-32HZ Pad 2N-66W-32

Well: Land Fed 35N-29HZ

Wellbore: OH
Design: OH

Local Co-ordinate Reference:

TVD Reference:
MD Reference:

MD Reference:
North Reference:

Survey Calculation Method: Database:

Well Land Fed 35N-29HZ

GL 4899' & KB 20' @ 4919.00ft (Precision 461)

GL 4899' & KB 20' @ 4919.00ft (Precision 461)

True

Minimum Curvature
Denver Sales Office

| n <b>Azimuth</b> (°) | Vertical Depth (ft) 7,267,15 | +N/-S<br>(ft)                                   | +E/-W<br>(ft)                           | Vertical<br>Section<br>(ft)             | Dogleg<br>Rate<br>(°/100usft)           | Build<br>Rate<br>(°/100usft)            | Turn<br>Rate<br>(°/100usft) |
|----------------------|------------------------------|---|---|---|---|---|-----------------------------|
| 10 4.0               | 7 267 15                     | C 000 70  | 0.47.00                                 |   |   |   |                             |
| 10 4.0               | 5 1,201.13                   | 6,208.72  | 217.98                                  | 6,211.89                                | 0.96                                    | -0.90                                   | -0.35                       |
|                      |                              |   |   |   |   |   |                             |
| 10 4.09              | 5 7,267.05                   | 6,266.58  | 222.08                                  | 6,269.82                                | 0.00                                    | 0.00                                    | 0.00                        |
| Sec 29 & 1704        | 1' FWL Sec 29                |   |   |   |   |   |                             |
|                      |                              | 10 4.05 7,267.05<br>L Sec 29 & 1704' FWL Sec 29 | , | , | , | , |                             |

| Design Annotations       |              |                           |                             |   |
|--------------------------|--------------|---------------------------|-----------------------------|---|
| Measure<br>Depth<br>(ft) |              | Local Co<br>+N/-S<br>(ft) | oordinates<br>+E/-W<br>(ft) | Comment   |
| 213                      | .00 212.99   | 0.58                      | -1.51                       | First SDI MWD Surface Survey                        |
| 1,649                    | .78 1,633.14 | 177.47                    | 39.00                       | Enter Land Box: 1649' MD & 1633.14' TVD             |
| 1,807                    | .00 1,786.66 | 210.75                    | 45.38                       | Last SDI MWD Surface Survey                         |
| 1,956                    | .00 1,932.64 | 240.36                    | 49.11                       | First SDI MWD Production Survey                     |
| 7,805                    | .00 7,333.20 | 1,171.03                  | 94.81                       | Landing Point: 131' FSL Sec 29 & 1564' FWL Sec 29   |
| 12,847                   | .00 7,267.15 | 6,208.72                  | 217.98                      | Last SDI MWD Survey                                 |
| 12,905                   | .00 7,267.05 | 6,266.58                  | 222.08                      | Projection to TD: 40' FNL Sec 29 & 1704' FWL Sec 29 |

| Checked By: | Approved By: | Date: |
|-------------|--------------|-------|