

WELL DETAILS: Land 15N-32HZ

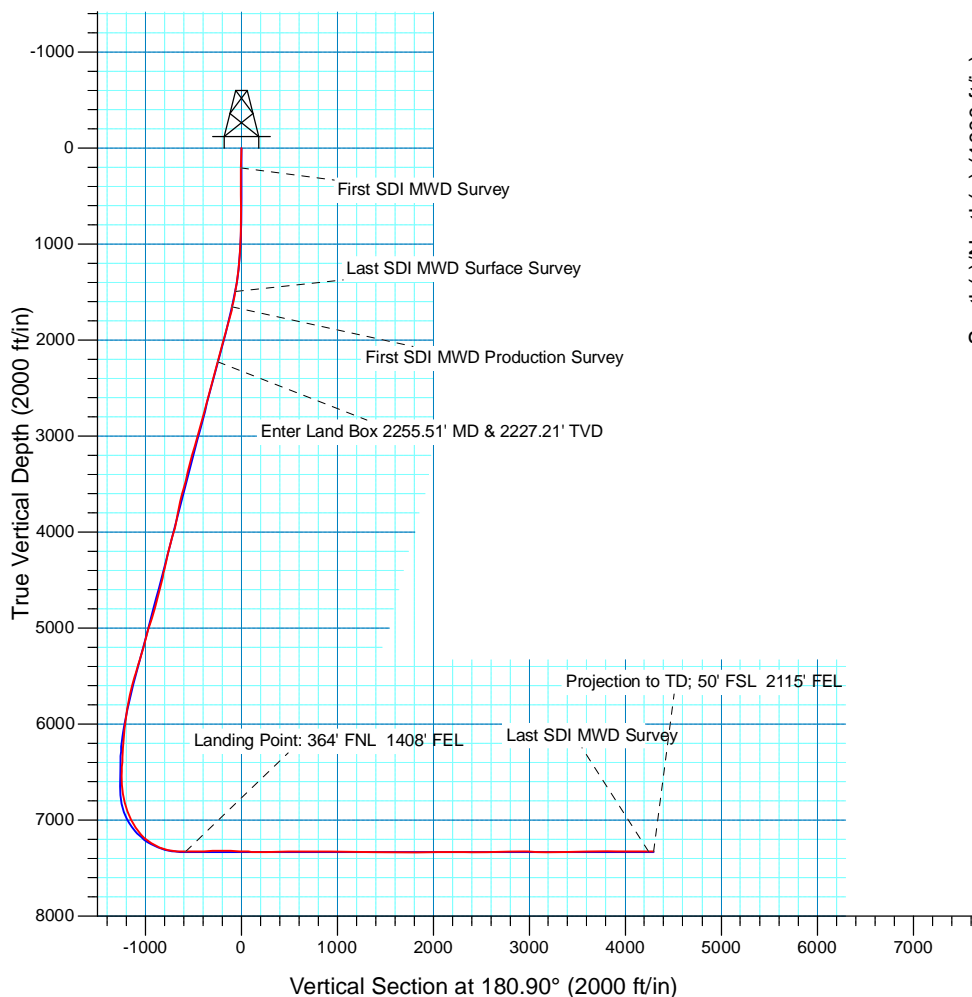
GL 4913' & KB 20' @ 4933.00ft (Precision 461) 4913.00  
 Northing 14562948.47 Easting 1696966.49 Latitude 40.0992760 Longitude -104.7977800

Design: OH (Land 15N-32HZ/OH)

Created By: Seth Burstad Date: 7-26-2016

ANNOTATIONS

| TVD     | MD       | Inc   | Azi    | +N/-S    | +E/-W   | Annotation                                |
|---------|----------|-------|--------|----------|---------|---|
| 210.00  | 210.00   | 0.51  | 39.57  | 0.72     | 0.60    | First SDI MWD Survey                      |
| 1497.31 | 1501.00  | 10.05 | 345.97 | 59.87    | -16.72  | Last SDI MWD Surface Survey               |
| 1655.83 | 1663.00  | 13.74 | 351.40 | 92.53    | -23.12  | First SDI MWD Production Survey           |
| 2227.21 | 2255.51  | 15.19 | 347.12 | 243.43   | -64.84  | Enter Land Box 2255.51' MD & 2227.21' TVD |
| 7328.81 | 7878.00  | 90.47 | 179.64 | 583.00   | -312.43 | Landing Point: 364' FNL 1408' FEL         |
| 7332.75 | 12700.00 | 89.16 | 178.35 | -4236.71 | -386.03 | Last SDI MWD Survey                       |
| 7333.54 | 12754.00 | 89.16 | 178.35 | -4290.68 | -384.47 | Projection to TD: 50' FSL 2115' FEL       |



Point: 364' FNL 1408' FEL

Enter Land Box 2255.51' MD & 2227.21' TVD

PROJECT DETAILS: US Rockies Wattenberg Planning

Geodetic System: Universal Transverse Mercator (US Survey Feet)  
 Datum: North American Datum 1983  
 Ellipsoid: GRS 1980  
 Zone: Zone 13N (108 W to 102 W)

System Datum: Mean Sea Level  
 Local North: True

Landing Point:  
 364' FNL  
 1408' FEL  
 MD: 7,878"  
 TVD: 7,328.81'  
 Lat: 40.1008770  
 Long: -104.7988972

Surface Hole:  
 947' FNL 1720' FEL  
 Sec 32 T2N R66W

South(-)/North(+) (1000 ft/in)

BHL:  
 50' FSL  
 2115' FEL  
 MD: 12,754'  
 TVD: 7,333.54'  
 Lat: 40.0874933  
 Long: -104.7991546

Projection to TD: 50' FSL 2115' FEL

West(-)/East(+) (1000 ft/in)



# **US ROCKIES REGION PLANNING**

**US Rockies Wattenberg Planning**

**Land 17-32HZ Pad, 2N-66W-32**

**Land 15N-32HZ**

**OH**

**Design: OH**

## **Standard Survey Report**

**26 July, 2016**



|                  |                                |                                     |   |
|------------------|--------------------------------|-------------------------------------|---|
| <b>Company:</b>  | US ROCKIES REGION PLANNING     | <b>Local Co-ordinate Reference:</b> | Well Land 15N-32HZ                            |
| <b>Project:</b>  | US Rockies Wattenberg Planning | <b>TVD Reference:</b>               | GL 4913' & KB 20' @ 4933.00ft (Precision 461) |
| <b>Site:</b>     | Land 17-32HZ Pad, 2N-66W-32    | <b>MD Reference:</b>                | GL 4913' & KB 20' @ 4933.00ft (Precision 461) |
| <b>Well:</b>     | Land 15N-32HZ                  | <b>North Reference:</b>             | True  |
| <b>Wellbore:</b> | OH                             | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Design:</b>   | OH                             | <b>Database:</b>                    | Denver Sales Office                           |

|                    |  |                      |                |
|--------------------|--|----------------------|----------------|
| <b>Project</b>     | US Rockies Wattenberg Planning                 |                      |                |
| <b>Map System:</b> | Universal Transverse Mercator (US Survey Feet) | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983                      |                      |                |
| <b>Map Zone:</b>   | Zone 13N (108 W to 102 W)                      |                      |                |

|                              |  |                     |                    |                                 |
|------------------------------|--|---------------------|--------------------|---------------------------------|
| <b>Site</b>                  | Land 17-32HZ Pad, 2N-66W-32, Site Center : Land 14C-32HZ |                     |                    |                                 |
| <b>Site Position:</b>        |  | <b>Northing:</b>    | 14,562,948.00 usft | <b>Latitude:</b> 40.0992750     |
| <b>From:</b>                 | Lat/Long   | <b>Easting:</b>     | 1,696,921.75 usft  | <b>Longitude:</b> -104.7979400  |
| <b>Position Uncertainty:</b> | 0.00 ft  | <b>Slot Radius:</b> | 13.200 in          | <b>Grid Convergence:</b> 0.13 ° |

|                             |   |         |                            |                    |
|-----------------------------|---|---------|----------------------------|--------------------|
| <b>Well</b>                 | Land 15N-32HZ, 947' FNL 1720' FEL Sec 32 T2N R66W |         |                            |                    |
| <b>Well Position</b>        | <b>+N/-S</b>                                      | 0.00 ft | <b>Northing:</b>           | 14,562,948.46 usft |
|                             | <b>+E/-W</b>                                      | 0.00 ft | <b>Easting:</b>            | 1,696,966.49 usft  |
| <b>Position Uncertainty</b> | 0.00 ft   |         | <b>Wellhead Elevation:</b> | 0.00 ft            |
|                             |   |         | <b>Ground Level:</b>       | 4,913.00 ft        |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | OH                |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | User Defined      | 7/21/2016          | 8.30                   | 66.69                | 52,566                     |

|                          |                              |                   |                   |                      |      |
|--------------------------|------------------------------|-------------------|-------------------|----------------------|------|
| <b>Design</b>            | OH                           |                   |                   |                      |      |
| <b>Audit Notes:</b>      |                              |                   |                   |                      |      |
| <b>Version:</b>          | 1.0                          | <b>Phase:</b>     | ACTUAL            | <b>Tie On Depth:</b> | 0.00 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b> | <b>Direction (°)</b> |      |
|                          | 0.00                         | 0.00              | 0.00              | 180.90               |      |

|                       |                |                             |  |                    |  |
|-----------------------|----------------|-----------------------------|--|--------------------|--|
| <b>Survey Program</b> | <b>Date</b>    | 7/26/2016                   |  |                    |  |
| <b>From (ft)</b>      | <b>To (ft)</b> | <b>Survey (Wellbore)</b>    | <b>Tool Name</b>   | <b>Description</b> |  |
| 210.00                | 1,508.00       | Survey #1 - Surface (OH)    | APC_ISCWSA REV 2 MWD+ Fixed:v2:crustal field declination |                    |  |
| 1,663.00              | 12,754.00      | Survey #2 - Production (OH) | APC_ISCWSA REV 2 MWD+ Fixed:v2:crustal field declination |                    |  |

|                             |                        |                    |                            |                   |                   |                              |                                |                               |                              |  |
|-----------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|------------------------------|--------------------------------|-------------------------------|------------------------------|--|
| <b>Survey</b>               |                        |                    |                            |                   |                   |                              |                                |                               |                              |  |
| <b>Measured Depth (ft)</b>  | <b>Inclination (°)</b> | <b>Azimuth (°)</b> | <b>Vertical Depth (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b> | <b>Vertical Section (ft)</b> | <b>Dogleg Rate (°/100usft)</b> | <b>Build Rate (°/100usft)</b> | <b>Turn Rate (°/100usft)</b> |  |
| 0.00                        | 0.00                   | 0.00               | 0.00                       | 0.00              | 0.00              | 0.00                         | 0.00                           | 0.00                          | 0.00                         |  |
| 210.00                      | 0.51                   | 39.57              | 210.00                     | 0.72              | 0.60              | -0.73                        | 0.24                           | 0.24                          | 0.00                         |  |
| <b>First SDI MWD Survey</b> |                        |                    |                            |                   |                   |                              |                                |                               |                              |  |
| 303.00                      | 0.33                   | 52.36              | 302.99                     | 1.20              | 1.07              | -1.22                        | 0.22                           | -0.19                         | 13.75                        |  |
| 397.00                      | 0.53                   | 74.49              | 396.99                     | 1.48              | 1.70              | -1.51                        | 0.27                           | 0.21                          | 23.54                        |  |
| 490.00                      | 0.37                   | 72.85              | 489.99                     | 1.69              | 2.41              | -1.73                        | 0.17                           | -0.17                         | -1.76                        |  |
| 583.00                      | 0.85                   | 91.49              | 582.98                     | 1.76              | 3.38              | -1.81                        | 0.55                           | 0.52                          | 20.04                        |  |
| 677.00                      | 0.66                   | 97.88              | 676.98                     | 1.67              | 4.62              | -1.74                        | 0.22                           | -0.20                         | 6.80                         |  |
| 770.00                      | 0.17                   | 119.31             | 769.97                     | 1.53              | 5.27              | -1.61                        | 0.54                           | -0.53                         | 23.04                        |  |
| 864.00                      | 1.48                   | 305.22             | 863.96                     | 2.16              | 4.40              | -2.23                        | 1.75                           | 1.39                          | -185.20                      |  |

|                  |                                |                                     |   |
|------------------|--------------------------------|-------------------------------------|---|
| <b>Company:</b>  | US ROCKIES REGION PLANNING     | <b>Local Co-ordinate Reference:</b> | Well Land 15N-32HZ                            |
| <b>Project:</b>  | US Rockies Wattenberg Planning | <b>TVD Reference:</b>               | GL 4913' & KB 20' @ 4933.00ft (Precision 461) |
| <b>Site:</b>     | Land 17-32HZ Pad, 2N-66W-32    | <b>MD Reference:</b>                | GL 4913' & KB 20' @ 4933.00ft (Precision 461) |
| <b>Well:</b>     | Land 15N-32HZ                  | <b>North Reference:</b>             | True  |
| <b>Wellbore:</b> | OH                             | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Design:</b>   | OH                             | <b>Database:</b>                    | Denver Sales Office                           |

| Survey                                    |                 |             |                     |            |            |                       |                         |                        |                       |
|---|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (ft)                       | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 957.00                                    | 2.95            | 314.25      | 956.89              | 4.52       | 1.70       | -4.55                 | 1.62                    | 1.58                   | 9.71                  |
| 1,050.00                                  | 3.51            | 329.60      | 1,049.75            | 8.65       | -1.45      | -8.62                 | 1.10                    | 0.60                   | 16.51                 |
| 1,144.00                                  | 4.94            | 335.54      | 1,143.49            | 14.81      | -4.59      | -14.74                | 1.59                    | 1.52                   | 6.32                  |
| 1,239.00                                  | 6.56            | 344.64      | 1,238.01            | 23.77      | -7.72      | -23.64                | 1.95                    | 1.71                   | 9.58                  |
| 1,334.00                                  | 7.64            | 345.12      | 1,332.28            | 35.10      | -10.78     | -34.93                | 1.14                    | 1.14                   | 0.51                  |
| 1,429.00                                  | 8.87            | 347.45      | 1,426.29            | 48.36      | -13.99     | -48.13                | 1.34                    | 1.29                   | 2.45                  |
| 1,501.00                                  | 10.05           | 345.97      | 1,497.31            | 59.87      | -16.72     | -59.60                | 1.67                    | 1.63                   | -2.06                 |
| Last SDI MWD Surface Survey               |                 |             |                     |            |            |                       |                         |                        |                       |
| 1,508.00                                  | 10.16           | 345.84      | 1,504.20            | 61.06      | -17.02     | -60.78                | 1.67                    | 1.64                   | -1.80                 |
| 1,663.00                                  | 13.74           | 351.40      | 1,655.83            | 92.53      | -23.12     | -92.15                | 2.42                    | 2.31                   | 3.59                  |
| First SDI MWD Production Survey           |                 |             |                     |            |            |                       |                         |                        |                       |
| 1,757.00                                  | 16.11           | 345.39      | 1,746.65            | 116.19     | -28.08     | -115.73               | 3.01                    | 2.52                   | -6.39                 |
| 1,850.00                                  | 15.82           | 340.94      | 1,836.07            | 140.66     | -35.47     | -140.08               | 1.35                    | -0.31                  | -4.78                 |
| 1,944.00                                  | 15.30           | 343.06      | 1,926.63            | 164.63     | -43.27     | -163.93               | 0.82                    | -0.55                  | 2.26                  |
| 2,038.00                                  | 16.14           | 346.54      | 2,017.11            | 189.20     | -49.92     | -188.40               | 1.34                    | 0.89                   | 3.70                  |
| 2,131.00                                  | 14.23           | 341.76      | 2,106.86            | 212.63     | -56.51     | -211.72               | 2.45                    | -2.05                  | -5.14                 |
| 2,226.00                                  | 15.26           | 346.55      | 2,198.74            | 235.88     | -63.07     | -234.86               | 1.68                    | 1.08                   | 5.04                  |
| 2,255.51                                  | 15.19           | 347.12      | 2,227.21            | 243.43     | -64.84     | -242.38               | 0.56                    | -0.24                  | 1.93                  |
| Enter Land Box 2255.51' MD & 2227.21' TVD |                 |             |                     |            |            |                       |                         |                        |                       |
| 2,320.00                                  | 15.04           | 348.38      | 2,289.47            | 259.86     | -68.41     | -258.76               | 0.56                    | -0.23                  | 1.96                  |
| 2,414.00                                  | 15.37           | 347.47      | 2,380.18            | 283.97     | -73.57     | -282.78               | 0.43                    | 0.35                   | -0.97                 |
| 2,507.00                                  | 16.31           | 347.61      | 2,469.65            | 308.76     | -79.04     | -307.48               | 1.01                    | 1.01                   | 0.15                  |
| 2,603.00                                  | 15.49           | 347.58      | 2,561.97            | 334.44     | -84.69     | -333.07               | 0.85                    | -0.85                  | -0.03                 |
| 2,697.00                                  | 15.36           | 346.81      | 2,652.59            | 358.82     | -90.23     | -357.36               | 0.26                    | -0.14                  | -0.82                 |
| 2,791.00                                  | 15.39           | 346.83      | 2,743.22            | 383.09     | -95.92     | -381.53               | 0.03                    | 0.03                   | 0.02                  |
| 2,885.00                                  | 17.06           | 347.82      | 2,833.48            | 408.71     | -101.67    | -407.06               | 1.80                    | 1.78                   | 1.05                  |
| 2,979.00                                  | 16.71           | 347.74      | 2,923.42            | 435.40     | -107.45    | -433.65               | 0.37                    | -0.37                  | -0.09                 |
| 3,075.00                                  | 14.87           | 345.78      | 3,015.80            | 460.83     | -113.40    | -458.99               | 2.00                    | -1.92                  | -2.04                 |
| 3,170.00                                  | 15.57           | 342.74      | 3,107.47            | 484.82     | -120.18    | -482.87               | 1.12                    | 0.74                   | -3.20                 |
| 3,265.00                                  | 15.61           | 344.47      | 3,198.97            | 509.31     | -127.39    | -507.25               | 0.49                    | 0.04                   | 1.82                  |
| 3,358.00                                  | 16.38           | 343.22      | 3,288.37            | 533.92     | -134.52    | -531.74               | 0.91                    | 0.83                   | -1.34                 |
| 3,452.00                                  | 15.38           | 345.71      | 3,378.78            | 558.69     | -141.43    | -556.40               | 1.29                    | -1.06                  | 2.65                  |
| 3,547.00                                  | 14.71           | 341.68      | 3,470.53            | 582.35     | -148.33    | -579.95               | 1.31                    | -0.71                  | -4.24                 |
| 3,641.00                                  | 14.31           | 340.97      | 3,561.53            | 604.66     | -155.87    | -602.14               | 0.47                    | -0.43                  | -0.76                 |
| 3,736.00                                  | 15.13           | 338.59      | 3,653.41            | 627.30     | -164.22    | -624.65               | 1.07                    | 0.86                   | -2.51                 |
| 3,830.00                                  | 12.89           | 337.29      | 3,744.61            | 648.40     | -172.75    | -645.61               | 2.41                    | -2.38                  | -1.38                 |
| 3,925.00                                  | 11.40           | 333.85      | 3,837.48            | 666.60     | -180.98    | -663.68               | 1.74                    | -1.57                  | -3.62                 |
| 4,020.00                                  | 14.06           | 339.15      | 3,930.14            | 685.82     | -189.22    | -682.76               | 3.06                    | 2.80                   | 5.58                  |
| 4,113.00                                  | 16.29           | 346.14      | 4,019.90            | 709.04     | -196.37    | -705.87               | 3.10                    | 2.40                   | 7.52                  |
| 4,208.00                                  | 16.55           | 346.17      | 4,111.03            | 735.12     | -202.80    | -731.84               | 0.27                    | 0.27                   | 0.03                  |
| 4,302.00                                  | 13.77           | 345.96      | 4,201.75            | 758.98     | -208.71    | -755.60               | 2.96                    | -2.96                  | -0.22                 |
| 4,395.00                                  | 12.40           | 340.56      | 4,292.33            | 779.13     | -214.72    | -775.66               | 1.97                    | -1.47                  | -5.81                 |
| 4,489.00                                  | 15.25           | 340.19      | 4,383.60            | 800.28     | -222.27    | -796.69               | 3.03                    | 3.03                   | -0.39                 |
| 4,584.00                                  | 13.28           | 341.18      | 4,475.67            | 822.37     | -230.03    | -818.65               | 2.09                    | -2.07                  | 1.04                  |

|                  |                                |                                     |   |
|------------------|--------------------------------|-------------------------------------|---|
| <b>Company:</b>  | US ROCKIES REGION PLANNING     | <b>Local Co-ordinate Reference:</b> | Well Land 15N-32HZ                            |
| <b>Project:</b>  | US Rockies Wattenberg Planning | <b>TVD Reference:</b>               | GL 4913' & KB 20' @ 4933.00ft (Precision 461) |
| <b>Site:</b>     | Land 17-32HZ Pad, 2N-66W-32    | <b>MD Reference:</b>                | GL 4913' & KB 20' @ 4933.00ft (Precision 461) |
| <b>Well:</b>     | Land 15N-32HZ                  | <b>North Reference:</b>             | True  |
| <b>Wellbore:</b> | OH                             | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Design:</b>   | OH                             | <b>Database:</b>                    | Denver Sales Office                           |

| Survey                            |                 |             |                     |            |            |                       |                         |                        |                       |
|-----------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (ft)               | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 4,679.00                          | 14.00           | 348.13      | 4,568.00            | 843.94     | -235.91    | -840.13               | 1.88                    | 0.76                   | 7.32                  |
| 4,773.00                          | 13.28           | 347.24      | 4,659.34            | 865.60     | -240.63    | -861.71               | 0.80                    | -0.77                  | -0.95                 |
| 4,867.00                          | 16.46           | 348.50      | 4,750.18            | 889.19     | -245.67    | -885.22               | 3.40                    | 3.38                   | 1.34                  |
| 4,961.00                          | 16.56           | 346.42      | 4,840.31            | 915.26     | -251.47    | -911.19               | 0.64                    | 0.11                   | -2.21                 |
| 5,056.00                          | 19.39           | 348.45      | 4,930.66            | 943.87     | -257.81    | -939.71               | 3.05                    | 2.98                   | 2.14                  |
| 5,150.00                          | 17.31           | 349.03      | 5,019.88            | 972.89     | -263.60    | -968.63               | 2.22                    | -2.21                  | 0.62                  |
| 5,244.00                          | 14.30           | 344.60      | 5,110.32            | 997.82     | -269.34    | -993.47               | 3.45                    | -3.20                  | -4.71                 |
| 5,339.00                          | 17.30           | 344.74      | 5,201.72            | 1,022.77   | -276.18    | -1,018.30             | 3.16                    | 3.16                   | 0.15                  |
| 5,431.00                          | 17.54           | 342.90      | 5,289.50            | 1,049.21   | -283.86    | -1,044.63             | 0.65                    | 0.26                   | -2.00                 |
| 5,525.00                          | 16.28           | 344.79      | 5,379.43            | 1,075.47   | -291.48    | -1,070.76             | 1.46                    | -1.34                  | 2.01                  |
| 5,618.00                          | 15.45           | 350.56      | 5,468.90            | 1,100.27   | -296.93    | -1,095.47             | 1.92                    | -0.89                  | 6.20                  |
| 5,711.00                          | 16.97           | 351.76      | 5,558.20            | 1,125.92   | -300.91    | -1,121.06             | 1.67                    | 1.63                   | 1.29                  |
| 5,805.00                          | 15.05           | 351.15      | 5,648.55            | 1,151.56   | -304.75    | -1,146.63             | 2.05                    | -2.04                  | -0.65                 |
| 5,900.00                          | 10.59           | 347.13      | 5,741.16            | 1,172.27   | -308.60    | -1,167.27             | 4.78                    | -4.69                  | -4.23                 |
| 5,994.00                          | 8.50            | 344.46      | 5,833.85            | 1,187.38   | -312.38    | -1,182.33             | 2.27                    | -2.22                  | -2.84                 |
| 6,090.00                          | 8.87            | 354.20      | 5,928.76            | 1,201.58   | -315.03    | -1,196.49             | 1.58                    | 0.39                   | 10.15                 |
| 6,185.00                          | 7.04            | 350.77      | 6,022.84            | 1,214.62   | -316.70    | -1,209.49             | 1.99                    | -1.93                  | -3.61                 |
| 6,279.00                          | 4.13            | 350.37      | 6,116.38            | 1,223.64   | -318.19    | -1,218.49             | 3.10                    | -3.10                  | -0.43                 |
| 6,373.00                          | 5.29            | 351.21      | 6,210.06            | 1,231.26   | -319.42    | -1,226.09             | 1.24                    | 1.23                   | 0.89                  |
| 6,467.00                          | 4.01            | 348.25      | 6,303.75            | 1,238.76   | -320.75    | -1,233.57             | 1.38                    | -1.36                  | -3.15                 |
| 6,562.00                          | 2.75            | 346.54      | 6,398.58            | 1,244.23   | -321.96    | -1,239.02             | 1.33                    | -1.33                  | -1.80                 |
| 6,658.00                          | 1.68            | 322.43      | 6,494.51            | 1,247.59   | -323.36    | -1,242.35             | 1.45                    | -1.11                  | -25.11                |
| 6,753.00                          | 0.62            | 297.98      | 6,589.49            | 1,248.93   | -324.66    | -1,243.68             | 1.20                    | -1.12                  | -25.74                |
| 6,846.00                          | 7.15            | 173.69      | 6,682.26            | 1,243.41   | -324.47    | -1,238.16             | 8.08                    | 7.02                   | -133.65               |
| 6,941.00                          | 13.43           | 174.94      | 6,775.69            | 1,226.52   | -322.84    | -1,221.30             | 6.61                    | 6.61                   | 1.32                  |
| 7,034.00                          | 17.98           | 180.15      | 6,865.20            | 1,201.40   | -321.93    | -1,196.19             | 5.12                    | 4.89                   | 5.60                  |
| 7,128.00                          | 21.54           | 188.14      | 6,953.66            | 1,169.79   | -324.41    | -1,164.55             | 4.75                    | 3.79                   | 8.50                  |
| 7,222.00                          | 28.35           | 180.13      | 7,038.87            | 1,130.33   | -326.91    | -1,125.06             | 8.07                    | 7.24                   | -8.52                 |
| 7,316.00                          | 39.34           | 174.02      | 7,116.84            | 1,078.21   | -323.84    | -1,072.99             | 12.23                   | 11.69                  | -6.50                 |
| 7,411.00                          | 46.25           | 174.49      | 7,186.51            | 1,014.03   | -317.40    | -1,008.92             | 7.28                    | 7.27                   | 0.49                  |
| 7,506.00                          | 59.02           | 179.01      | 7,244.06            | 938.82     | -313.39    | -933.78               | 13.96                   | 13.44                  | 4.76                  |
| 7,600.00                          | 66.05           | 181.26      | 7,287.40            | 855.48     | -313.64    | -850.44               | 7.77                    | 7.48                   | 2.39                  |
| 7,693.00                          | 78.11           | 179.42      | 7,315.96            | 767.16     | -314.11    | -762.13               | 13.10                   | 12.97                  | -1.98                 |
| 7,785.00                          | 87.69           | 179.42      | 7,327.32            | 675.97     | -313.19    | -670.97               | 10.41                   | 10.41                  | 0.00                  |
| 7,878.00                          | 90.47           | 179.64      | 7,328.81            | 583.00     | -312.43    | -578.02               | 3.00                    | 2.99                   | 0.24                  |
| Landing Point: 364' FNL 1408' FEL |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,973.00                          | 91.21           | 178.43      | 7,327.42            | 488.02     | -310.83    | -483.08               | 1.49                    | 0.78                   | -1.27                 |
| 8,067.00                          | 89.97           | 179.56      | 7,326.45            | 394.05     | -309.18    | -389.14               | 1.78                    | -1.32                  | 1.20                  |
| 8,162.00                          | 91.07           | 179.17      | 7,325.59            | 299.06     | -308.12    | -294.18               | 1.23                    | 1.16                   | -0.41                 |
| 8,255.00                          | 90.94           | 181.44      | 7,323.96            | 206.08     | -308.62    | -201.21               | 2.44                    | -0.14                  | 2.44                  |
| 8,349.00                          | 87.11           | 179.28      | 7,325.56            | 112.12     | -309.21    | -107.25               | 4.68                    | -4.07                  | -2.30                 |
| 8,442.00                          | 87.55           | 181.02      | 7,329.89            | 19.22      | -309.45    | -14.36                | 1.93                    | 0.47                   | 1.87                  |
| 8,536.00                          | 87.72           | 181.03      | 7,333.77            | -74.68     | -311.13    | 79.56                 | 0.18                    | 0.18                   | 0.01                  |

|                  |                                |                                     |   |
|------------------|--------------------------------|-------------------------------------|---|
| <b>Company:</b>  | US ROCKIES REGION PLANNING     | <b>Local Co-ordinate Reference:</b> | Well Land 15N-32HZ                            |
| <b>Project:</b>  | US Rockies Wattenberg Planning | <b>TVD Reference:</b>               | GL 4913' & KB 20' @ 4933.00ft (Precision 461) |
| <b>Site:</b>     | Land 17-32HZ Pad, 2N-66W-32    | <b>MD Reference:</b>                | GL 4913' & KB 20' @ 4933.00ft (Precision 461) |
| <b>Well:</b>     | Land 15N-32HZ                  | <b>North Reference:</b>             | True  |
| <b>Wellbore:</b> | OH                             | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Design:</b>   | OH                             | <b>Database:</b>                    | Denver Sales Office                           |

| Survey              |                 |             |                     |            |            |                       |                         |                        |                       |  |
|---------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |  |
| 8,630.00            | 89.70           | 181.78      | 7,335.88            | -168.63    | -313.44    | 173.53                | 2.25                    | 2.11                   | 0.80                  |  |
| 8,725.00            | 90.80           | 181.70      | 7,335.47            | -263.58    | -316.32    | 268.52                | 1.16                    | 1.16                   | -0.08                 |  |
| 8,819.00            | 91.24           | 182.02      | 7,333.80            | -357.51    | -319.37    | 362.49                | 0.58                    | 0.47                   | 0.34                  |  |
| 8,913.00            | 91.01           | 181.39      | 7,331.95            | -451.45    | -322.17    | 456.46                | 0.71                    | -0.24                  | -0.67                 |  |
| 9,007.00            | 90.07           | 180.52      | 7,331.06            | -545.43    | -323.74    | 550.45                | 1.36                    | -1.00                  | -0.93                 |  |
| 9,101.00            | 90.70           | 180.39      | 7,330.43            | -639.43    | -324.48    | 644.45                | 0.68                    | 0.67                   | -0.14                 |  |
| 9,196.00            | 91.38           | 181.39      | 7,328.71            | -734.40    | -325.96    | 739.43                | 1.27                    | 0.72                   | 1.05                  |  |
| 9,289.00            | 90.44           | 182.46      | 7,327.23            | -827.33    | -329.08    | 832.40                | 1.53                    | -1.01                  | 1.15                  |  |
| 9,384.00            | 88.86           | 182.24      | 7,327.81            | -922.25    | -332.98    | 927.37                | 1.68                    | -1.66                  | -0.23                 |  |
| 9,477.00            | 88.83           | 182.21      | 7,329.69            | -1,015.16  | -336.59    | 1,020.32              | 0.05                    | -0.03                  | -0.03                 |  |
| 9,572.00            | 88.36           | 182.86      | 7,332.02            | -1,110.04  | -340.79    | 1,115.25              | 0.84                    | -0.49                  | 0.68                  |  |
| 9,666.00            | 88.96           | 182.20      | 7,334.21            | -1,203.92  | -344.94    | 1,209.19              | 0.95                    | 0.64                   | -0.70                 |  |
| 9,759.00            | 89.36           | 182.05      | 7,335.58            | -1,296.85  | -348.38    | 1,302.16              | 0.46                    | 0.43                   | -0.16                 |  |
| 9,853.00            | 88.99           | 182.13      | 7,336.93            | -1,390.77  | -351.81    | 1,396.13              | 0.40                    | -0.39                  | 0.09                  |  |
| 9,948.00            | 88.49           | 181.80      | 7,339.02            | -1,485.69  | -355.07    | 1,491.09              | 0.63                    | -0.53                  | -0.35                 |  |
| 10,042.00           | 89.43           | 180.07      | 7,340.73            | -1,579.66  | -356.60    | 1,585.07              | 2.09                    | 1.00                   | -1.84                 |  |
| 10,135.00           | 90.50           | 180.48      | 7,340.78            | -1,672.66  | -357.05    | 1,678.06              | 1.23                    | 1.15                   | 0.44                  |  |
| 10,229.00           | 90.97           | 180.36      | 7,339.58            | -1,766.65  | -357.74    | 1,772.05              | 0.52                    | 0.50                   | -0.13                 |  |
| 10,322.00           | 90.57           | 180.41      | 7,338.33            | -1,859.64  | -358.36    | 1,865.04              | 0.43                    | -0.43                  | 0.05                  |  |
| 10,416.00           | 88.76           | 180.83      | 7,338.88            | -1,953.63  | -359.38    | 1,959.03              | 1.98                    | -1.93                  | 0.45                  |  |
| 10,510.00           | 90.00           | 181.23      | 7,339.89            | -2,047.60  | -361.07    | 2,053.02              | 1.39                    | 1.32                   | 0.43                  |  |
| 10,602.00           | 92.15           | 181.27      | 7,338.17            | -2,139.56  | -363.08    | 2,145.00              | 2.34                    | 2.34                   | 0.04                  |  |
| 10,695.00           | 91.24           | 181.35      | 7,335.42            | -2,232.49  | -365.20    | 2,237.95              | 0.98                    | -0.98                  | 0.09                  |  |
| 10,789.00           | 89.29           | 180.67      | 7,334.98            | -2,326.47  | -366.86    | 2,331.95              | 2.20                    | -2.07                  | -0.72                 |  |
| 10,882.00           | 88.72           | 180.53      | 7,336.60            | -2,419.45  | -367.83    | 2,424.93              | 0.63                    | -0.61                  | -0.15                 |  |
| 10,975.00           | 90.00           | 181.43      | 7,337.64            | -2,512.43  | -369.42    | 2,517.92              | 1.68                    | 1.38                   | 0.97                  |  |
| 11,068.00           | 91.31           | 182.23      | 7,336.57            | -2,605.37  | -372.39    | 2,610.90              | 1.65                    | 1.41                   | 0.86                  |  |
| 11,161.00           | 91.44           | 181.30      | 7,334.34            | -2,698.30  | -375.25    | 2,703.86              | 1.01                    | 0.14                   | -1.00                 |  |
| 11,255.00           | 90.13           | 180.45      | 7,333.05            | -2,792.28  | -376.69    | 2,797.85              | 1.66                    | -1.39                  | -0.90                 |  |
| 11,349.00           | 90.30           | 180.50      | 7,332.70            | -2,886.28  | -377.47    | 2,891.85              | 0.19                    | 0.18                   | 0.05                  |  |
| 11,442.00           | 88.62           | 178.64      | 7,333.58            | -2,979.26  | -376.77    | 2,984.81              | 2.69                    | -1.81                  | -2.00                 |  |
| 11,535.00           | 89.06           | 178.71      | 7,335.46            | -3,072.22  | -374.62    | 3,077.72              | 0.48                    | 0.47                   | 0.08                  |  |
| 11,630.00           | 89.90           | 178.67      | 7,336.32            | -3,167.19  | -372.45    | 3,172.65              | 0.89                    | 0.88                   | -0.04                 |  |
| 11,724.00           | 90.30           | 178.23      | 7,336.16            | -3,261.15  | -369.91    | 3,266.56              | 0.63                    | 0.43                   | -0.47                 |  |
| 11,818.00           | 90.60           | 179.69      | 7,335.42            | -3,355.13  | -368.20    | 3,360.50              | 1.59                    | 0.32                   | 1.55                  |  |
| 11,910.00           | 91.88           | 179.98      | 7,333.43            | -3,447.11  | -367.94    | 3,452.46              | 1.43                    | 1.39                   | 0.32                  |  |
| 12,003.00           | 91.71           | 182.04      | 7,330.52            | -3,540.04  | -369.57    | 3,545.41              | 2.22                    | -0.18                  | 2.22                  |  |
| 12,096.00           | 89.56           | 182.38      | 7,329.49            | -3,632.96  | -373.16    | 3,638.38              | 2.34                    | -2.31                  | 0.37                  |  |
| 12,191.00           | 89.40           | 182.15      | 7,330.35            | -3,727.88  | -376.91    | 3,733.35              | 0.29                    | -0.17                  | -0.24                 |  |
| 12,284.00           | 89.43           | 181.83      | 7,331.30            | -3,820.82  | -380.14    | 3,826.32              | 0.35                    | 0.03                   | -0.34                 |  |
| 12,377.00           | 89.83           | 181.44      | 7,331.90            | -3,913.78  | -382.80    | 3,919.31              | 0.60                    | 0.43                   | -0.42                 |  |
| 12,472.00           | 90.03           | 181.48      | 7,332.01            | -4,008.75  | -385.22    | 4,014.31              | 0.21                    | 0.21                   | 0.04                  |  |
| 12,567.00           | 90.13           | 181.01      | 7,331.88            | -4,103.73  | -387.28    | 4,109.31              | 0.51                    | 0.11                   | -0.49                 |  |

|                  |                                |                                     |   |
|------------------|--------------------------------|-------------------------------------|---|
| <b>Company:</b>  | US ROCKIES REGION PLANNING     | <b>Local Co-ordinate Reference:</b> | Well Land 15N-32HZ                            |
| <b>Project:</b>  | US Rockies Wattenberg Planning | <b>TVD Reference:</b>               | GL 4913' & KB 20' @ 4933.00ft (Precision 461) |
| <b>Site:</b>     | Land 17-32HZ Pad, 2N-66W-32    | <b>MD Reference:</b>                | GL 4913' & KB 20' @ 4933.00ft (Precision 461) |
| <b>Well:</b>     | Land 15N-32HZ                  | <b>North Reference:</b>             | True  |
| <b>Wellbore:</b> | OH                             | <b>Survey Calculation Method:</b>   | Minimum Curvature                             |
| <b>Design:</b>   | OH                             | <b>Database:</b>                    | Denver Sales Office                           |

| Survey                                     |                 |             |                     |            |            |                       |                         |                        |                       |
|--|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (ft)                        | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 12,662.00                                  | 89.40           | 178.67      | 7,332.27            | -4,198.72  | -387.02    | 4,204.28              | 2.58                    | -0.77                  | -2.46                 |
| 12,700.00                                  | 89.16           | 178.35      | 7,332.75            | -4,236.71  | -386.03    | 4,242.25              | 1.05                    | -0.63                  | -0.84                 |
| <b>Last SDI MWD Survey</b>                 |                 |             |                     |            |            |                       |                         |                        |                       |
| 12,754.00                                  | 89.16           | 178.35      | 7,333.54            | -4,290.68  | -384.47    | 4,296.19              | 0.00                    | 0.00                   | 0.00                  |
| <b>Projection to TD; 50' FSL 2115' FEL</b> |                 |             |                     |            |            |                       |                         |                        |                       |

| Design Annotations  |                     |                   |            |   |
|---------------------|---------------------|-------------------|------------|---|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            | Comment                                   |
|                     |                     | +N/-S (ft)        | +E/-W (ft) |   |
| 210.00              | 210.00              | 0.72              | 0.60       | First SDI MWD Survey                      |
| 1,501.00            | 1,497.31            | 59.87             | -16.72     | Last SDI MWD Surface Survey               |
| 1,663.00            | 1,655.83            | 92.53             | -23.12     | First SDI MWD Production Survey           |
| 2,255.51            | 2,227.21            | 243.43            | -64.84     | Enter Land Box 2255.51' MD & 2227.21' TVD |
| 7,878.00            | 7,328.81            | 583.00            | -312.43    | Landing Point: 364' FNL 1408' FEL         |
| 12,700.00           | 7,332.75            | -4,236.71         | -386.03    | Last SDI MWD Survey                       |
| 12,754.00           | 7,333.54            | -4,290.68         | -384.47    | Projection to TD; 50' FSL 2115' FEL       |

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_