



## **END OF WELL REPORT**

**Prepared For:**

**EnCana Oil & Gas (USA) Inc  
Ruhl 1D-32H-B264  
H&P 278  
Weld County, CO**

***Prepared By:***

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project: DJ Wattenberg  
Site: S32-T2N-R64W (Newnam/Ruhl)  
Well: Ruhl 1D-32H-B264  
lbore: Hz  
esign: Plan 3



### WELL DETAILS: Ruhl 1D-32H-B264

| Northing   | Easting    | Latitude  | Longitude   |
|------------|------------|-----------|-------------|
| 1281152.13 | 3259134.30 | 40.101439 | -104.573633 |

KB @ 4955.00ft (No KB) 4955.00

Plan: Plan 3 (Ruhl 1D-32H-B264/Hz)

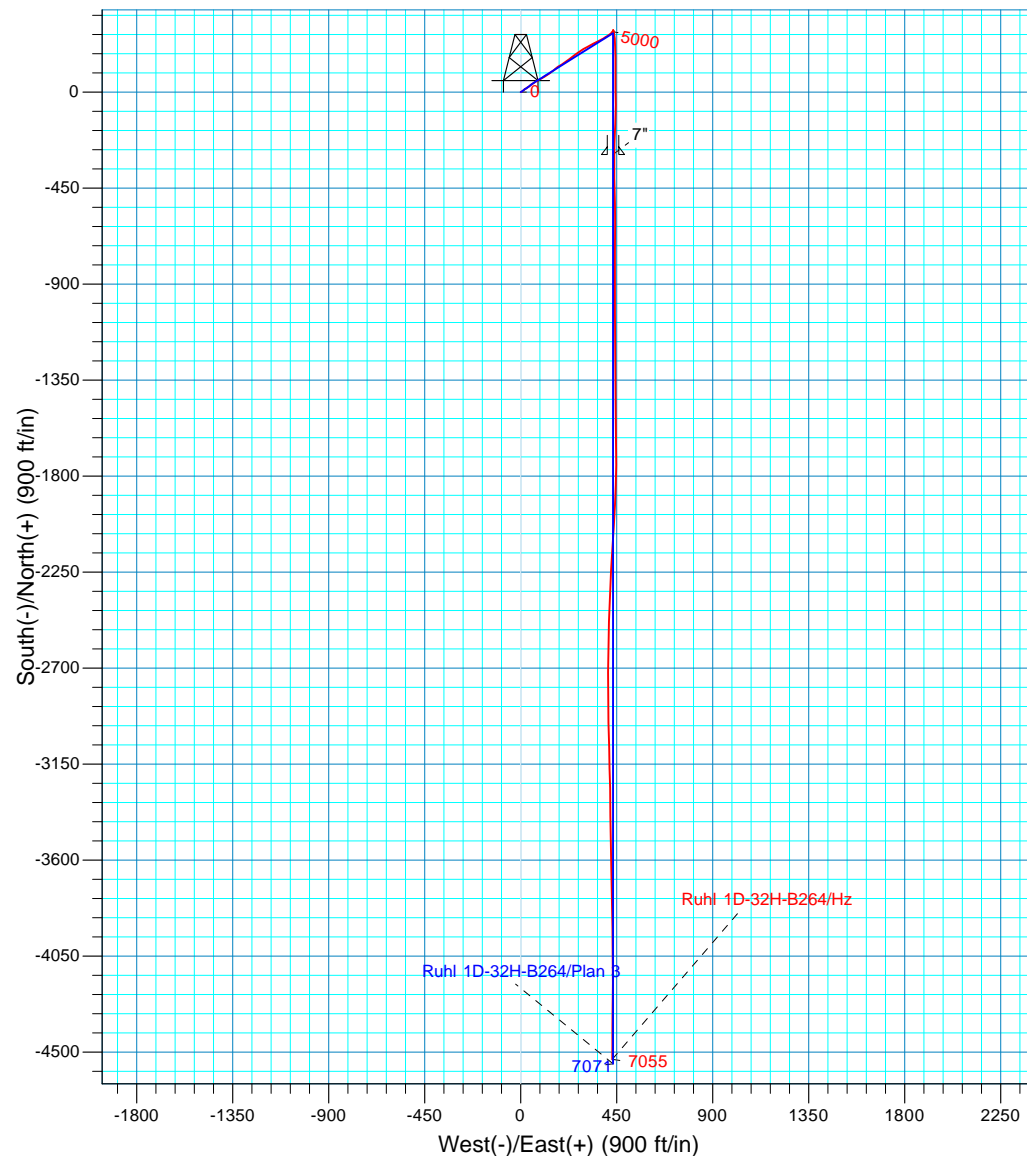
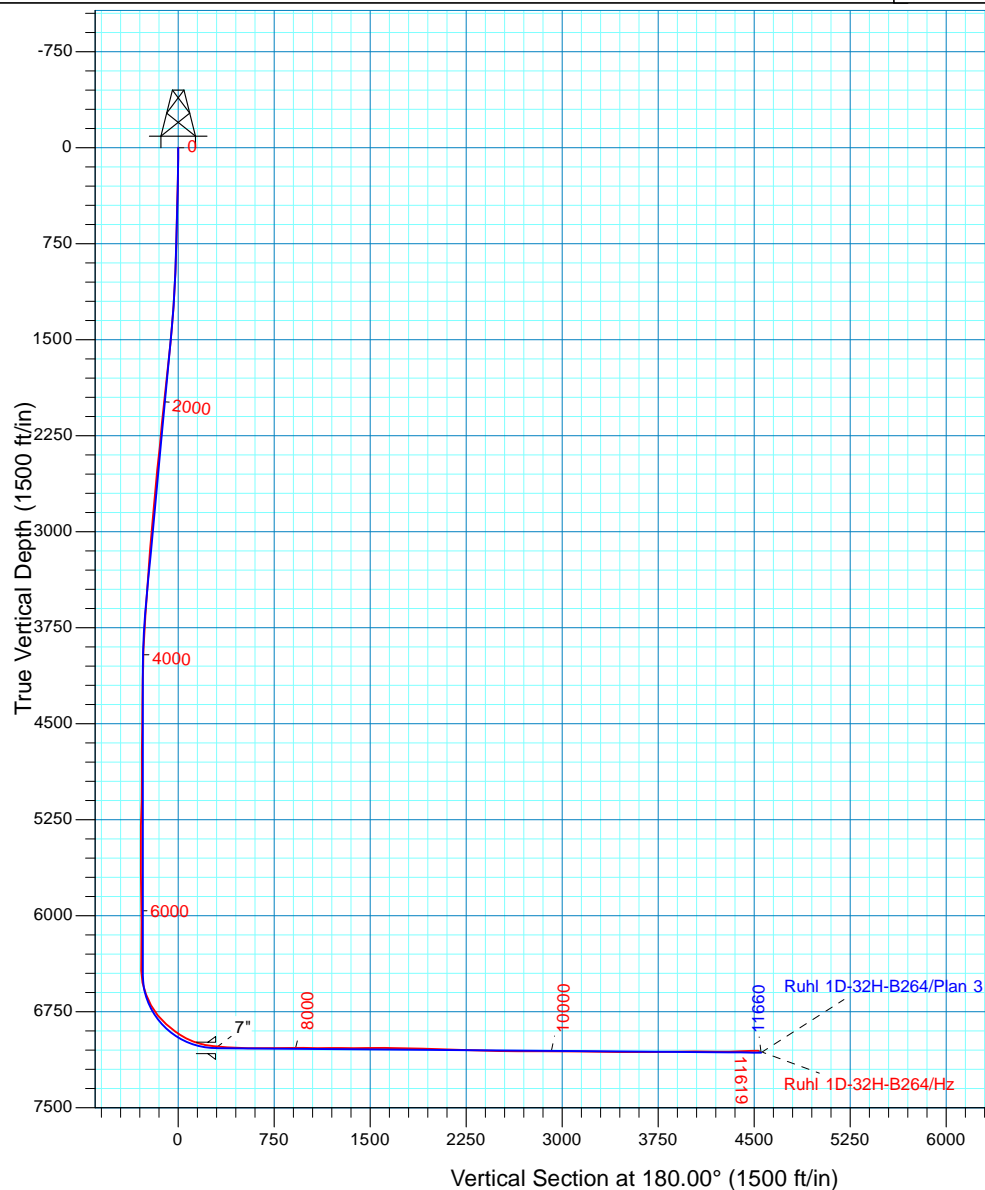
Created By: Claudia Birge  
Date: 13:35, January 13 2015

PROJECT DETAILS: DJ Wattenberg

Geodetic System: US State Plane 1983  
Datum: North American Datum 1983  
Ellipsoid: GRS 1980  
Zone: Colorado Northern Zone

System Datum: Mean Sea Level  
Local North: True

**T M**  
Azimuths to True North  
Magnetic North: 8.37°  
  
Magnetic Field  
Strength: 52514.8snT  
Dip Angle: 66.71°  
Date: 12/3/2014  
Model: BGGM2014





## **EnCana Oil & Gas (USA)**

**DJ Wattenberg  
S32-T2N-R64W (Newnam/Ruhl)  
Ruhl 1D-32H-B264**

**Hz**

**Design: Hz**

## **Standard Survey Report**

**13 January, 2015**





|                  |                            |                                     |                        |
|------------------|----------------------------|-------------------------------------|------------------------|
| <b>Company:</b>  | EnCana Oil & Gas (USA)     | <b>Local Co-ordinate Reference:</b> | Well Ruhl 1D-32H-B264  |
| <b>Project:</b>  | DJ Wattenberg              | <b>TVD Reference:</b>               | KB @ 4955.00ft (No KB) |
| <b>Site:</b>     | S32-T2N-R64W (Newnam/Ruhl) | <b>MD Reference:</b>                | KB @ 4955.00ft (No KB) |
| <b>Well:</b>     | Ruhl 1D-32H-B264           | <b>North Reference:</b>             | True                   |
| <b>Wellbore:</b> | Hz                         | <b>Survey Calculation Method:</b>   | Minimum Curvature      |
| <b>Design:</b>   | Hz                         | <b>Database:</b>                    | Casper District        |

|                    |                                |                      |                |
|--------------------|--------------------------------|----------------------|----------------|
| <b>Project</b>     | DJ Wattenberg, Weld County, CO |                      |                |
| <b>Map System:</b> | US State Plane 1983            | <b>System Datum:</b> | Mean Sea Level |
| <b>Geo Datum:</b>  | North American Datum 1983      |                      |                |
| <b>Map Zone:</b>   | Colorado Northern Zone         |                      |                |

|                              |                            |                          |                   |
|------------------------------|----------------------------|--------------------------|-------------------|
| <b>Site</b>                  | S32-T2N-R64W (Newnam/Ruhl) |                          |                   |
| <b>Site Position:</b>        |                            | <b>Northing:</b>         | 1,281,148.07 usft |
| <b>From:</b>                 | Lat/Long                   | <b>Easting:</b>          | 3,257,728.03 usft |
| <b>Position Uncertainty:</b> | 0.00 ft                    | <b>Slot Radius:</b>      | 13.200 in         |
|                              |                            | <b>Latitude:</b>         | 40.101468         |
|                              |                            | <b>Longitude:</b>        | -104.578660       |
|                              |                            | <b>Grid Convergence:</b> | 0.60 °            |

|                             |                  |                            |                                    |
|-----------------------------|------------------|----------------------------|------------------------------------|
| <b>Well</b>                 | Ruhl 1D-32H-B264 |                            |                                    |
| <b>Well Position</b>        | <b>+N-S</b>      | 0.00 ft                    | <b>Northing:</b> 1,281,152.13 usft |
|                             | <b>+E-W</b>      | 0.00 ft                    | <b>Easting:</b> 3,259,134.30 usft  |
| <b>Position Uncertainty</b> | 0.00 ft          | <b>Wellhead Elevation:</b> | 0.00 ft                            |
|                             |                  | <b>Latitude:</b>           | 40.101439                          |
|                             |                  | <b>Longitude:</b>          | -104.573633                        |
|                             |                  | <b>Ground Level:</b>       | 4,955.00 ft                        |

|                  |                   |                    |                        |                      |                            |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Hz                |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b> | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | BGGM2014          | 12/3/2014          | 8.37                   | 66.71                | 52,515                     |

|                          |                              |                  |                  |                      |      |
|--------------------------|------------------------------|------------------|------------------|----------------------|------|
| <b>Design</b>            | Hz                           |                  |                  |                      |      |
| <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             | 180.00               |      |

|                       |                |                               |                  |                              |  |
|-----------------------|----------------|-------------------------------|------------------|------------------------------|--|
| <b>Survey Program</b> | <b>Date</b>    | 1/11/2015                     |                  |                              |  |
| <b>From (ft)</b>      | <b>To (ft)</b> | <b>Survey (Wellbore)</b>      | <b>Tool Name</b> | <b>Description</b>           |  |
| 245.00                | 1,152.00       | Survey #1 - Surface (Hz)      | SDI MWD          | SDI MWD - Standard ver 1.0.1 |  |
| 1,267.00              | 7,377.00       | Survey #2 - Intermediate (Hz) | SDI MWD          | SDI MWD - Standard ver 1.0.1 |  |
| 7,514.00              | 11,619.00      | Survey #3 - Lateral (Hz)      | SDI MWD          | SDI MWD - Standard ver 1.0.1 |  |

|                            |                        |                    |                            |                  |                  |                              |                              |                             |                            |  |
|----------------------------|------------------------|--------------------|----------------------------|------------------|------------------|------------------------------|------------------------------|-----------------------------|----------------------------|--|
| <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 (°/100ft)</b> | <b>Build Rate (°/100ft)</b> | <b>Turn Rate (°/100ft)</b> |  |
| 0.00                       | 0.00                   | 0.00               | 0.00                       | 0.00             | 0.00             | 0.00                         | 0.00                         | 0.00                        | 0.00                       |  |
| 245.00                     | 2.35                   | 62.54              | 244.93                     | 2.32             | 4.46             | -2.32                        | 0.96                         | 0.96                        | 0.00                       |  |
| <b>1st SDI MWD Survey</b>  |                        |                    |                            |                  |                  |                              |                              |                             |                            |  |
| 336.00                     | 3.34                   | 57.09              | 335.82                     | 4.62             | 8.34             | -4.62                        | 1.13                         | 1.09                        | -5.99                      |  |
| 427.00                     | 2.52                   | 49.47              | 426.70                     | 7.36             | 12.08            | -7.36                        | 1.00                         | -0.90                       | -8.37                      |  |
| 519.00                     | 2.14                   | 46.49              | 518.62                     | 9.85             | 14.87            | -9.85                        | 0.43                         | -0.41                       | -3.24                      |  |
| 608.00                     | 1.81                   | 42.83              | 607.57                     | 12.03            | 17.03            | -12.03                       | 0.40                         | -0.37                       | -4.11                      |  |
| 698.00                     | 1.65                   | 62.20              | 697.53                     | 13.68            | 19.14            | -13.68                       | 0.67                         | -0.18                       | 21.52                      |  |
| 789.00                     | 2.91                   | 63.43              | 788.46                     | 15.32            | 22.37            | -15.32                       | 1.39                         | 1.38                        | 1.35                       |  |



|                  |                            |                                     |                        |
|------------------|----------------------------|-------------------------------------|------------------------|
| <b>Company:</b>  | EnCana Oil & Gas (USA)     | <b>Local Co-ordinate Reference:</b> | Well Ruhl 1D-32H-B264  |
| <b>Project:</b>  | DJ Wattenberg              | <b>TVD Reference:</b>               | KB @ 4955.00ft (No KB) |
| <b>Site:</b>     | S32-T2N-R64W (Newnam/Ruhl) | <b>MD Reference:</b>                | KB @ 4955.00ft (No KB) |
| <b>Well:</b>     | Ruhl 1D-32H-B264           | <b>North Reference:</b>             | True                   |
| <b>Wellbore:</b> | Hz                         | <b>Survey Calculation Method:</b>   | Minimum Curvature      |
| <b>Design:</b>   | Hz                         | <b>Database:</b>                    | Casper District        |

Survey

| Measured Depth (ft)                | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|------------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 879.00                             | 4.03            | 50.76       | 878.29              | 18.34      | 26.86      | -18.34                | 1.50                  | 1.24                 | -14.08              |
| 970.00                             | 3.96            | 57.15       | 969.07              | 22.07      | 31.98      | -22.07                | 0.49                  | -0.08                | 7.02                |
| 1,060.00                           | 4.83            | 53.04       | 1,058.80            | 26.03      | 37.61      | -26.03                | 1.03                  | 0.97                 | -4.57               |
| 1,152.00                           | 6.24            | 53.08       | 1,150.37            | 31.37      | 44.71      | -31.37                | 1.53                  | 1.53                 | 0.04                |
| <b>Last SDI MWD Surface Survey</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 1,267.00                           | 6.23            | 53.54       | 1,264.69            | 38.83      | 54.72      | -38.83                | 0.04                  | -0.01                | 0.40                |
| <b>1st SDI MWD Inter. Survey</b>   |                 |             |                     |            |            |                       |                       |                      |                     |
| 1,450.00                           | 10.93           | 61.07       | 1,445.60            | 53.13      | 77.91      | -53.13                | 2.64                  | 2.57                 | 4.11                |
| 1,631.00                           | 11.28           | 58.38       | 1,623.21            | 70.71      | 108.00     | -70.71                | 0.35                  | 0.19                 | -1.49               |
| 1,812.00                           | 11.00           | 56.34       | 1,800.80            | 89.56      | 137.45     | -89.56                | 0.27                  | -0.15                | -1.13               |
| 1,993.00                           | 9.40            | 48.68       | 1,978.94            | 108.90     | 162.92     | -108.90               | 1.16                  | -0.88                | -4.23               |
| 2,173.00                           | 9.83            | 58.22       | 2,156.43            | 126.70     | 187.03     | -126.70               | 0.92                  | 0.24                 | 5.30                |
| 2,357.00                           | 10.31           | 54.95       | 2,337.59            | 144.42     | 213.86     | -144.42               | 0.41                  | 0.26                 | -1.78               |
| 2,540.00                           | 9.51            | 53.12       | 2,517.86            | 162.90     | 239.36     | -162.90               | 0.47                  | -0.44                | -1.00               |
| 2,721.00                           | 8.81            | 51.60       | 2,696.55            | 180.49     | 262.18     | -180.49               | 0.41                  | -0.39                | -0.84               |
| 2,902.00                           | 9.21            | 59.10       | 2,875.32            | 196.53     | 285.47     | -196.53               | 0.68                  | 0.22                 | 4.14                |
| 3,083.00                           | 10.68           | 61.69       | 3,053.60            | 211.93     | 312.67     | -211.93               | 0.85                  | 0.81                 | 1.43                |
| 3,266.00                           | 9.69            | 61.98       | 3,233.71            | 227.21     | 341.19     | -227.21               | 0.54                  | -0.54                | 0.16                |
| 3,448.00                           | 8.07            | 62.95       | 3,413.53            | 240.21     | 366.09     | -240.21               | 0.89                  | -0.89                | 0.53                |
| 3,628.00                           | 7.62            | 60.25       | 3,591.84            | 251.88     | 387.71     | -251.88               | 0.32                  | -0.25                | -1.50               |
| 3,814.00                           | 6.15            | 55.80       | 3,776.50            | 263.60     | 406.66     | -263.60               | 0.84                  | -0.79                | -2.39               |
| 4,003.00                           | 3.06            | 55.96       | 3,964.86            | 272.12     | 419.21     | -272.12               | 1.63                  | -1.63                | 0.08                |
| 4,193.00                           | 1.38            | 29.93       | 4,154.72            | 276.94     | 424.56     | -276.94               | 1.01                  | -0.88                | -13.70              |
| 4,382.00                           | 0.72            | 44.63       | 4,343.69            | 279.76     | 426.53     | -279.76               | 0.37                  | -0.35                | 7.78                |
| 4,571.00                           | 0.59            | 28.65       | 4,532.67            | 281.45     | 427.83     | -281.45               | 0.12                  | -0.07                | -8.46               |
| 4,761.00                           | 1.48            | 81.69       | 4,722.65            | 282.67     | 430.73     | -282.67               | 0.64                  | 0.47                 | 27.92               |
| 4,952.00                           | 0.46            | 94.62       | 4,913.62            | 282.96     | 433.93     | -282.96               | 0.54                  | -0.53                | 6.77                |
| 5,141.00                           | 1.45            | 348.40      | 5,102.60            | 285.24     | 434.21     | -285.24               | 0.87                  | 0.52                 | -56.20              |
| 5,331.00                           | 1.61            | 344.58      | 5,292.53            | 290.17     | 433.01     | -290.17               | 0.10                  | 0.08                 | -2.01               |
| 5,521.00                           | 0.86            | 171.58      | 5,482.51            | 291.33     | 432.51     | -291.33               | 1.30                  | -0.39                | -91.05              |
| 5,710.00                           | 0.59            | 68.00       | 5,671.50            | 290.30     | 433.62     | -290.30               | 0.61                  | -0.14                | -54.80              |
| 5,900.00                           | 1.24            | 205.45      | 5,861.49            | 288.81     | 433.65     | -288.81               | 0.91                  | 0.34                 | 72.34               |
| 6,090.00                           | 0.20            | 98.62       | 6,051.47            | 286.90     | 433.09     | -286.90               | 0.69                  | -0.55                | -56.23              |
| 6,279.00                           | 0.81            | 26.79       | 6,240.46            | 288.04     | 434.02     | -288.04               | 0.41                  | 0.32                 | -38.01              |
| 6,469.00                           | 0.46            | 120.18      | 6,430.46            | 288.86     | 435.28     | -288.86               | 0.50                  | -0.18                | 49.15               |
| 6,564.00                           | 12.37           | 167.44      | 6,524.70            | 278.70     | 437.83     | -278.70               | 12.70                 | 12.54                | 49.75               |
| 6,659.00                           | 20.78           | 176.56      | 6,615.69            | 251.89     | 441.06     | -251.89               | 9.24                  | 8.85                 | 9.60                |
| 6,753.00                           | 28.64           | 177.47      | 6,701.01            | 212.68     | 443.06     | -212.68               | 8.37                  | 8.36                 | 0.97                |
| 6,848.00                           | 38.82           | 179.69      | 6,779.92            | 160.02     | 444.23     | -160.02               | 10.79                 | 10.72                | 2.34                |
| 6,943.00                           | 49.36           | 180.22      | 6,848.06            | 94.01      | 444.25     | -94.01                | 11.10                 | 11.09                | 0.56                |
| 7,037.00                           | 53.39           | 179.22      | 6,906.72            | 20.59      | 444.63     | -20.59                | 4.37                  | 4.29                 | -1.06               |
| 7,132.00                           | 62.30           | 179.80      | 6,957.23            | -59.75     | 445.30     | 59.75                 | 9.39                  | 9.38                 | 0.61                |
| 7,227.00                           | 72.31           | 182.22      | 6,993.84            | -147.26    | 443.69     | 147.26                | 10.79                 | 10.54                | 2.55                |
| 7,322.00                           | 80.59           | 182.40      | 7,016.08            | -239.46    | 439.97     | 239.46                | 8.72                  | 8.72                 | 0.19                |



|                  |                            |                                     |                        |
|------------------|----------------------------|-------------------------------------|------------------------|
| <b>Company:</b>  | EnCana Oil & Gas (USA)     | <b>Local Co-ordinate Reference:</b> | Well Ruhl 1D-32H-B264  |
| <b>Project:</b>  | DJ Wattenberg              | <b>TVD Reference:</b>               | KB @ 4955.00ft (No KB) |
| <b>Site:</b>     | S32-T2N-R64W (Newnam/Ruhl) | <b>MD Reference:</b>                | KB @ 4955.00ft (No KB) |
| <b>Well:</b>     | Ruhl 1D-32H-B264           | <b>North Reference:</b>             | True                   |
| <b>Wellbore:</b> | Hz                         | <b>Survey Calculation Method:</b>   | Minimum Curvature      |
| <b>Design:</b>   | Hz                         | <b>Database:</b>                    | Casper District        |

Survey

| Measured Depth (ft)               | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N-S (ft) | +E-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|-----------------------------------|-----------------|-------------|---------------------|-----------|-----------|-----------------------|-----------------------|----------------------|---------------------|
| 7,377.00                          | 84.46           | 180.03      | 7,023.24            | -293.97   | 438.82    | 293.97                | 8.23                  | 7.04                 | -4.31               |
| <b>Last SDI MWD Inter. Survey</b> |                 |             |                     |           |           |                       |                       |                      |                     |
| 7,514.00                          | 89.13           | 178.89      | 7,030.89            | -430.71   | 440.11    | 430.71                | 3.51                  | 3.41                 | -0.83               |
| <b>1st SDI MWD Lateral Survey</b> |                 |             |                     |           |           |                       |                       |                      |                     |
| 7,605.00                          | 88.32           | 179.30      | 7,032.92            | -521.67   | 441.54    | 521.67                | 1.00                  | -0.89                | 0.45                |
| 7,697.00                          | 89.70           | 179.50      | 7,034.51            | -613.65   | 442.51    | 613.65                | 1.52                  | 1.50                 | 0.22                |
| 7,791.00                          | 90.10           | 180.08      | 7,034.67            | -707.65   | 442.85    | 707.65                | 0.75                  | 0.43                 | 0.62                |
| 7,886.00                          | 89.26           | 180.31      | 7,035.20            | -802.65   | 442.53    | 802.65                | 0.92                  | -0.88                | 0.24                |
| 7,981.00                          | 89.23           | 180.24      | 7,036.46            | -897.64   | 442.07    | 897.64                | 0.08                  | -0.03                | -0.07               |
| 8,075.00                          | 90.77           | 179.99      | 7,036.46            | -991.64   | 441.88    | 991.64                | 1.66                  | 1.64                 | -0.27               |
| 8,170.00                          | 90.91           | 180.05      | 7,035.06            | -1,086.62 | 441.85    | 1,086.62              | 0.16                  | 0.15                 | 0.06                |
| 8,265.00                          | 89.80           | 179.65      | 7,034.47            | -1,181.62 | 442.10    | 1,181.62              | 1.24                  | -1.17                | -0.42               |
| 8,360.00                          | 89.76           | 179.58      | 7,034.84            | -1,276.62 | 442.74    | 1,276.62              | 0.08                  | -0.04                | -0.07               |
| 8,454.00                          | 89.93           | 179.11      | 7,035.09            | -1,370.61 | 443.81    | 1,370.61              | 0.53                  | 0.18                 | -0.50               |
| 8,549.00                          | 90.20           | 178.47      | 7,034.99            | -1,465.59 | 445.82    | 1,465.59              | 0.73                  | 0.28                 | -0.67               |
| 8,643.00                          | 90.87           | 179.42      | 7,034.11            | -1,559.57 | 447.55    | 1,559.57              | 1.24                  | 0.71                 | 1.01                |
| 8,738.00                          | 90.17           | 179.70      | 7,033.25            | -1,654.56 | 448.28    | 1,654.56              | 0.79                  | -0.74                | 0.29                |
| 8,832.00                          | 88.05           | 180.48      | 7,034.71            | -1,748.54 | 448.13    | 1,748.54              | 2.40                  | -2.26                | 0.83                |
| 8,927.00                          | 87.28           | 182.19      | 7,038.58            | -1,843.43 | 445.92    | 1,843.43              | 1.97                  | -0.81                | 1.80                |
| 9,022.00                          | 88.39           | 182.99      | 7,042.16            | -1,938.27 | 441.63    | 1,938.27              | 1.44                  | 1.17                 | 0.84                |
| 9,116.00                          | 89.46           | 182.72      | 7,043.93            | -2,032.13 | 436.95    | 2,032.13              | 1.17                  | 1.14                 | -0.29               |
| 9,211.00                          | 87.79           | 184.39      | 7,046.21            | -2,126.92 | 431.06    | 2,126.92              | 2.49                  | -1.76                | 1.76                |
| 9,306.00                          | 88.06           | 183.57      | 7,049.65            | -2,221.62 | 424.47    | 2,221.62              | 0.91                  | 0.28                 | -0.86               |
| 9,401.00                          | 88.32           | 182.19      | 7,052.65            | -2,316.45 | 419.70    | 2,316.45              | 1.48                  | 0.27                 | -1.45               |
| 9,495.00                          | 88.15           | 181.62      | 7,055.54            | -2,410.36 | 416.58    | 2,410.36              | 0.63                  | -0.18                | -0.61               |
| 9,590.00                          | 89.50           | 180.91      | 7,057.49            | -2,505.31 | 414.48    | 2,505.31              | 1.61                  | 1.42                 | -0.75               |
| 9,685.00                          | 88.96           | 181.90      | 7,058.77            | -2,600.27 | 412.15    | 2,600.27              | 1.19                  | -0.57                | 1.04                |
| 9,780.00                          | 90.34           | 180.73      | 7,059.35            | -2,695.24 | 409.97    | 2,695.24              | 1.90                  | 1.45                 | -1.23               |
| 9,874.00                          | 90.03           | 180.05      | 7,059.05            | -2,789.24 | 409.33    | 2,789.24              | 0.80                  | -0.33                | -0.72               |
| 9,969.00                          | 88.93           | 178.15      | 7,059.91            | -2,884.22 | 410.82    | 2,884.22              | 2.31                  | -1.16                | -2.00               |
| 10,064.00                         | 89.77           | 178.92      | 7,060.99            | -2,979.18 | 413.25    | 2,979.18              | 1.20                  | 0.88                 | 0.81                |
| 10,159.00                         | 90.03           | 179.01      | 7,061.15            | -3,074.16 | 414.97    | 3,074.16              | 0.29                  | 0.27                 | 0.09                |
| 10,254.00                         | 89.46           | 178.60      | 7,061.57            | -3,169.14 | 416.95    | 3,169.14              | 0.74                  | -0.60                | -0.43               |
| 10,348.00                         | 88.52           | 178.65      | 7,063.23            | -3,263.10 | 419.21    | 3,263.10              | 1.00                  | -1.00                | 0.05                |
| 10,443.00                         | 89.03           | 179.60      | 7,065.26            | -3,358.06 | 420.66    | 3,358.06              | 1.13                  | 0.54                 | 1.00                |
| 10,538.00                         | 90.54           | 179.45      | 7,065.62            | -3,453.06 | 421.44    | 3,453.06              | 1.60                  | 1.59                 | -0.16               |
| 10,632.00                         | 88.92           | 178.18      | 7,066.06            | -3,547.03 | 423.39    | 3,547.03              | 2.19                  | -1.72                | -1.35               |
| 10,728.00                         | 90.37           | 178.65      | 7,066.66            | -3,642.99 | 426.04    | 3,642.99              | 1.59                  | 1.51                 | 0.49                |
| 10,822.00                         | 91.14           | 179.43      | 7,065.42            | -3,736.97 | 427.62    | 3,736.97              | 1.17                  | 0.82                 | 0.83                |
| 10,917.00                         | 91.61           | 179.15      | 7,063.14            | -3,831.93 | 428.79    | 3,831.93              | 0.58                  | 0.49                 | -0.29               |
| 11,012.00                         | 90.10           | 179.61      | 7,061.72            | -3,926.91 | 429.82    | 3,926.91              | 1.66                  | -1.59                | 0.48                |
| 11,107.00                         | 89.40           | 179.27      | 7,062.13            | -4,021.91 | 430.75    | 4,021.91              | 0.82                  | -0.74                | -0.36               |
| 11,201.00                         | 90.00           | 179.51      | 7,062.63            | -4,115.90 | 431.75    | 4,115.90              | 0.69                  | 0.64                 | 0.26                |



|                  |                            |                                     |                        |
|------------------|----------------------------|-------------------------------------|------------------------|
| <b>Company:</b>  | EnCana Oil & Gas (USA)     | <b>Local Co-ordinate Reference:</b> | Well Ruhl 1D-32H-B264  |
| <b>Project:</b>  | DJ Wattenberg              | <b>TVD Reference:</b>               | KB @ 4955.00ft (No KB) |
| <b>Site:</b>     | S32-T2N-R64W (Newnam/Ruhl) | <b>MD Reference:</b>                | KB @ 4955.00ft (No KB) |
| <b>Well:</b>     | Ruhl 1D-32H-B264           | <b>North Reference:</b>             | True                   |
| <b>Wellbore:</b> | Hz                         | <b>Survey Calculation Method:</b>   | Minimum Curvature      |
| <b>Design:</b>   | Hz                         | <b>Database:</b>                    | Casper District        |

#### Survey

| Measured Depth (ft)        | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100ft) | Build Rate (°/100ft) | Turn Rate (°/100ft) |
|----------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-----------------------|----------------------|---------------------|
| 11,296.00                  | 89.60           | 179.89      | 7,062.96            | -4,210.90  | 432.25     | 4,210.90              | 0.58                  | -0.42                | 0.40                |
| 11,391.00                  | 91.27           | 181.01      | 7,062.24            | -4,305.89  | 431.50     | 4,305.89              | 2.12                  | 1.76                 | 1.18                |
| 11,485.00                  | 92.12           | 180.44      | 7,059.46            | -4,399.84  | 430.31     | 4,399.84              | 1.09                  | 0.90                 | -0.61               |
| 11,555.00                  | 91.71           | 180.17      | 7,057.12            | -4,469.80  | 429.94     | 4,469.80              | 0.70                  | -0.59                | -0.39               |
| <b>Last SDI MWD Survey</b> |                 |             |                     |            |            |                       |                       |                      |                     |
| 11,619.00                  | 91.71           | 180.17      | 7,055.21            | -4,533.77  | 429.75     | 4,533.77              | 0.00                  | 0.00                 | 0.00                |
| <b>Projection to TD</b>    |                 |             |                     |            |            |                       |                       |                      |                     |

#### Design Annotations

| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            | Comment                     |
|---------------------|---------------------|-------------------|------------|-----------------------------|
|                     |                     | +N/-S (ft)        | +E/-W (ft) |                             |
| 245.00              | 244.93              | 2.32              | 4.46       | 1st SDI MWD Survey          |
| 1,152.00            | 1,150.37            | 31.37             | 44.71      | Last SDI MWD Surface Survey |
| 1,267.00            | 1,264.69            | 38.83             | 54.72      | 1st SDI MWD Inter. Survey   |
| 7,377.00            | 7,023.24            | -293.97           | 438.82     | Last SDI MWD Inter. Survey  |
| 7,514.00            | 7,030.89            | -430.71           | 440.11     | 1st SDI MWD Lateral Survey  |
| 11,555.00           | 7,057.12            | -4,469.80         | 429.94     | Last SDI MWD Survey         |
| 11,619.00           | 7,055.21            | -4,533.77         | 429.75     | Projection to TD            |

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





**JOB NO.:** 232819  
**COMPANY:** EnCana Oil & Gas USA  
**LOCATION:** Ruhl  
**RIG NAME:** HP 278  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Ruhl 1D 32H-B264  
**Lead Directional :** Paul Turner (10972 )

**Report Time:** 2400 1 of 2  
**API JOB #** 05-123-40282-00  
**WORK ORDER#**  
**FIELD:** Wattenberg  
**Township:** 2N  
**Range/Section** 64W 32  
**Company Man** Randy / Joe  
**2nd Dir Hand :** Ben Ezeaku ( 10012 )

**From Thursday, December 11, 2014 at 0000 to Thursday, December 11, 2014 at 2400**

| DAILY TOTALS    |        |    | ASSEMBLY TOTALS     |                    |            |           |            |            |          |                 |          |         |  |  |
|-----------------|--------|----|---------------------|--------------------|------------|-----------|------------|------------|----------|-----------------|----------|---------|--|--|
| Start Depth     | 129.00 |    | BHA #               | Motor SN / R.S. SN | Slide Ftg  | Slide Hrs | Rotate Ftg | Rotate Hrs | Circ Hrs | D & C Hrs       | BHA Ftg  | Avg ROP |  |  |
| End Depth       | 852.00 |    | 1                   | 836                | 177.00     | 0.92      | 915.00     | 2.92       | 1.42     | 5.25            | 1,092.00 | 211.35  |  |  |
| Below Rot Hrs.  | 4.67   |    |                     |                    |            |           |            |            |          |                 |          |         |  |  |
| Total Drilled:  | 723.00 |    | Drilling Parameters |                    | Mud Record |           | Bit Record |            |          | Current BHA # 1 |          |         |  |  |
| Avg. Total ROP: | 289.20 |    |                     |                    |            |           |            |            |          |                 |          |         |  |  |
| Slide Footage:  | 74.00  |    | WOB:                | 24                 | Weight:    | 0         | Bit No:    | 1          |          |                 |          |         |  |  |
| Slide Hours     | 0.42   |    | Rot Wt:             | 0                  | Visc:      | 0         | Model      | DP 606S    |          |                 |          |         |  |  |
| Avg. Slide ROP: | 177.60 |    | Pick UP:            | 0                  | Chlorides: | 0         | SN.:       | 7032254    |          |                 |          |         |  |  |
| Rotate Footage: | 649.00 |    | Slack Off:          | 0                  | YP:        | 0         | MFG.       | BAKER      |          |                 |          |         |  |  |
| Rotary Hours    | 2.08   |    | SPP:                | 1240               | PV:        | 0         | Type       | PDC        |          |                 |          |         |  |  |
| Avg. Rot ROP:   | 311.52 |    | Flow:               | 0 - 537            | PH:        | 0         | IADC       |            |          |                 |          |         |  |  |
| Circ Hours      | 0.08   |    | SPM:                | 140                | GAS:       | 0         | JETS       | 9-12       |          |                 |          |         |  |  |
| Ream Hours      | 0.00   |    | Rot. RPM            | 50 - 50            | SAND:      | 0         | TFA:       | 0.994      |          |                 |          |         |  |  |
| Rotary Hrs%:    | 83.33  |    | Mot RPM:            | 50 - 50            | WL:        | 0         | Hole ID:   | 12.25      |          |                 |          |         |  |  |
| Slide Hrs%:     | 16.67  |    | Incl. In:           | 0                  | SOLID:     | 0         | Bit Hrs:   | 3.83       |          |                 |          |         |  |  |
| Rotary Ftg%:    | 89.76  |    | Azm. In:            | 0                  | BHT°:      | 0         | Bit Ftg:   | 1092.00    |          |                 |          |         |  |  |
| Slide Ftg%:     | 10.24  |    | Incl. Out:          | 0                  | Flow T°:   | 0         | PUMPS      |            |          |                 |          |         |  |  |
| cASING          |        |    | Azm. Out:           | 0                  | Oil %:     | 0         | Liner      | 0          | 0        |                 |          |         |  |  |
| Size            | Lb/Ft  | MD | COST BREAKDOWN      |                    |            |           | Stroke     |            |          | 0               | 0        |         |  |  |
|                 |        |    |                     |                    |            |           | Effic.     |            |          | 95.00%          | 95.00%   |         |  |  |
|                 |        |    |                     |                    |            |           | Gal/Stk    |            |          | 0.00            | 0.00     |         |  |  |
|                 |        |    |                     |                    |            |           | BBL/Stk    |            |          | 0.000           | 0.000    |         |  |  |

#### GENERAL COMMENT

| Start Time | End Time | Hours | Start Depth | End Depth | Delta Depth | ROP    | Activity Code  | COMMENT                                  |
|------------|----------|-------|-------------|-----------|-------------|--------|----------------|--|
| 00:00      | 19:00    | 19.00 | 0           | 0         | 0           | .00    | Standby        | StandBy                                  |
| 19:00      | 19:15    | 0.25  | 0           | 0         | 0           | .00    | Other          | JSA with Rig Crew                        |
| 19:15      | 19:45    | 0.50  | 0           | 125       | 125         | 250.00 | Change BHA     | Change BHA                               |
| 19:45      | 20:20    | 0.58  | 125         | 129       | 4           | 6.86   | TIH            | TIH                                      |
| 20:20      | 20:35    | 0.25  | 129         | 159       | 30          | 120.00 | Drilling       | TIH                                      |
| 20:35      | 20:40    | 0.08  | 159         | 174       | 15          | 180.00 | Sliding        |  |
| 20:40      | 20:55    | 0.25  | 174         | 174       | 0           | .00    | Connection     | Connection                               |
| 20:55      | 21:10    | 0.25  | 174         | 217       | 43          | 172.00 | Drilling       | Drilling - (WOB:4;GPM :499;RPM:50)       |
| 21:10      | 21:15    | 0.08  | 217         | 217       | 0           | .00    | MWD Survey     | MWD Survey@0° Inc 0° Azm 0.0000001°      |
| 21:15      | 21:20    | 0.08  | 217         | 237       | 20          | 240.00 | Sliding        | Sliding - (WOB:4;GPM :499;TFO:45M))      |
| 21:20      | 21:40    | 0.33  | 237         | 308       | 71          | 213.00 | Drilling       | Drilling - (WOB:4;GPM :499;RPM:50)       |
| 21:40      | 21:45    | 0.08  | 308         | 308       | 0           | .00    | Survey & Conn. | Survey & Conn.@245° Inc 2.35° Azm 62.54° |
| 21:45      | 21:50    | 0.08  | 308         | 323       | 15          | 180.00 | Sliding        | Sliding - (WOB:12;GPM :499;TFO:15M))     |
| 21:50      | 22:05    | 0.25  | 323         | 399       | 76          | 304.00 | Drilling       | Drilling - (WOB:9;GPM :499;RPM:50)       |

| Start Time | End Time | Hours | Start Depth | End Depth | Delta Depth | ROP    | Activity Code  | COMMENT                                  |
|------------|----------|-------|-------------|-----------|-------------|--------|----------------|--|
| 22:05      | 22:15    | 0.17  | 399         | 399       | 0           | .00    | Survey & Conn. | Survey & Conn.@336' Inc 3.34° Azm 57.09° |
| 22:15      | 22:20    | 0.08  | 399         | 411       | 12          | 144.00 | Sliding        | Sliding - (WOB:12;GPM :537;TFO:300M))    |
| 22:20      | 22:35    | 0.25  | 411         | 490       | 79          | 316.00 | Drilling       | Drilling - (WOB:14;GPM :499;RPM:50)      |
| 22:35      | 22:40    | 0.08  | 490         | 490       | 0           | .00    | Survey & Conn. | Survey & Conn.@427' Inc 2.52° Azm 49.47° |
| 22:40      | 22:55    | 0.25  | 490         | 582       | 92          | 368.00 | Drilling       | Drilling - (WOB:14;GPM :499;RPM:50)      |
| 22:55      | 23:00    | 0.08  | 582         | 582       | 0           | .00    | Survey & Conn. | Survey & Conn.@519' Inc 2.14° Azm 46.49° |
| 23:00      | 23:15    | 0.25  | 582         | 671       | 89          | 356.00 | Drilling       | Drilling - (WOB:24;GPM :537;RPM:50)      |
| 23:15      | 23:20    | 0.08  | 671         | 671       | 0           | .00    | Survey & Conn. | Survey & Conn.@608' Inc 1.81° Azm 42.83° |
| 23:20      | 23:25    | 0.08  | 671         | 683       | 12          | 144.00 | Sliding        | Sliding - (WOB:18;GPM :537;TFO:105M))    |
| 23:25      | 23:40    | 0.25  | 683         | 852       | 169         | 676.00 | Drilling       | Drilling - (WOB:24;GPM :537;RPM:50)      |



**JOB NO.:** 232819  
**COMPANY:** EnCana Oil & Gas USA  
**LOCATION:** Ruhl  
**RIG NAME:** HP 278  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Ruhl 1D 32H-B264  
**Lead Directional :** Paul Turner (10972 )

**Report Time:** 2400 **2 of 2**  
**API JOB #** 05-123-40282-00  
**WORK ORDER#**  
**FIELD:** Wattenberg  
**Township:** 2N  
**Range/Section** 64W 32  
**Company Man** Randy / Joe  
**2nd Dir Hand :** Ben Ezeaku ( 10012 )

**From Friday, December 12, 2014 at 0000 to Friday, December 12, 2014 at 2400**

| DAILY TOTALS    |        |    | ASSEMBLY TOTALS     |                    |            |           |            |            |          |                 |          |         |
|-----------------|--------|----|---------------------|--------------------|------------|-----------|------------|------------|----------|-----------------|----------|---------|
| Start Depth     | 129.00 |    | BHA #               | Motor SN / R.S. SN | Slide Ftg  | Slide Hrs | Rotate Ftg | Rotate Hrs | Circ Hrs | D & C Hrs       | BHA Ftg  | Avg ROP |
| End Depth       | 852.00 |    | 1                   | 836                | 177.00     | 0.92      | 915.00     | 2.92       | 1.42     | 5.25            | 1,092.00 | 211.35  |
| Below Rot Hrs.  | 4.67   |    |                     |                    |            |           |            |            |          |                 |          |         |
| Total Drilled:  | 723.00 |    | Drilling Parameters |                    | Mud Record |           | Bit Record |            |          | Current BHA # 1 |          |         |
| Avg. Total ROP: | 289.20 |    |                     |                    |            |           |            |            |          |                 |          |         |
| Slide Footage:  | 74.00  |    | WOB:                | 25                 | Weight:    | 0         | Bit No:    | 1          |          |                 |          |         |
| Slide Hours     | 0.42   |    | Rot Wt:             | 0                  | Visc:      | 0         | Model      | DP 606S    |          |                 |          |         |
| Avg. Slide ROP: | 177.60 |    | Pick UP:            | 0                  | Chlorides: | 0         | SN.:       | 7032254    |          |                 |          |         |
| Rotate Footage: | 649.00 |    | Slack Off:          | 0                  | YP:        | 0         | MFG.       | BAKER      |          |                 |          |         |
| Rotary Hours    | 2.08   |    | SPP:                | 1240               | PV:        | 0         | Type       | PDC        |          |                 |          |         |
| Avg. Rot ROP:   | 311.52 |    | Flow:               | 537 - 537          | PH:        | 0         | IADC       |            |          |                 |          |         |
| Circ Hours      | 0.08   |    | SPM:                | 140                | GAS:       | 0         | JETS       | 9-12       |          |                 |          |         |
| Ream Hours      | 0.00   |    | Rot. RPM            | 50 - 50            | SAND:      | 0         | TFA:       | 0.994      |          |                 |          |         |
| Rotary Hrs%:    | 83.33  |    | Mot RPM:            | 50 - 50            | WL:        | 0         | Hole ID:   | 12.25      |          |                 |          |         |
| Slide Hrs%:     | 16.67  |    | Incl. In:           | 0                  | SOLID:     | 0         | Bit Hrs:   | 3.83       |          |                 |          |         |
| Rotary Ftg%:    | 89.76  |    | Azm. In:            | 0                  | BHT°:      | 0         | Bit Ftg:   | 1092.00    |          |                 |          |         |
| Slide Ftg%:     | 10.24  |    | Incl. Out:          | 0                  | Flow T°:   | 0         | PUMPS      |            |          |                 |          |         |
| cASING          |        |    | Azm. Out:           | 0                  | Oil %:     | 0         |            |            |          |                 |          |         |
| Size            | Lb/Ft  | MD | COST BREAKDOWN      |                    |            |           | Liner      | 0          | 0        |                 |          |         |
|                 |        |    |                     |                    |            |           | Stroke     | 0          | 0        |                 |          |         |
|                 |        |    |                     |                    |            |           | Effic.     | 95.00%     | 95.00%   |                 |          |         |
|                 |        |    |                     |                    |            |           | Gal/Stk    | 0.00       | 0.00     |                 |          |         |
|                 |        |    |                     |                    |            |           | BBL/Stk    | 0.000      | 0.000    |                 |          |         |

#### GENERAL COMMENT

| Start Time | End Time | Hours | Start Depth | End Depth | Delta Depth | ROP    | Activity Code  | COMMENT                                   |
|------------|----------|-------|-------------|-----------|-------------|--------|----------------|---|
| 00:00      | 00:05    | 0.08  | 852         | 867       | 15          | 180.00 | Sliding        | Sliding - (WOB:18;GPM :537;TFO:30M))      |
| 00:05      | 00:15    | 0.17  | 867         | 942       | 75          | 450.00 | Drilling       | Drilling - (WOB:25;GPM :537;RPM:50)       |
| 00:15      | 00:20    | 0.08  | 942         | 942       | 0           | .00    | Survey & Conn. | Survey & Conn.@879' Inc 4.03° Azm 50.76°  |
| 00:20      | 00:25    | 0.08  | 942         | 950       | 8           | 96.00  | Sliding        | Sliding - (WOB:18;GPM :537;TFO:135M))     |
| 00:25      | 00:35    | 0.17  | 950         | 1033      | 83          | 498.00 | Drilling       | Drilling - (WOB:25;GPM :537;RPM:50)       |
| 00:35      | 00:40    | 0.08  | 1033        | 1033      | 0           | .00    | Survey & Conn. | Survey & Conn.@970' Inc 3.96° Azm 57.15°  |
| 00:40      | 00:50    | 0.17  | 1033        | 1068      | 35          | 210.00 | Sliding        | Sliding - (WOB:18;GPM :537;TFO:60M))      |
| 00:50      | 01:05    | 0.25  | 1068        | 1123      | 55          | 220.00 | Drilling       | Drilling - (WOB:25;GPM :537;RPM:50)       |
| 01:05      | 01:10    | 0.08  | 1123        | 1123      | 0           | .00    | Survey & Conn. | Survey & Conn.@1060' Inc 4.83° Azm 53.04° |
| 01:10      | 01:20    | 0.17  | 1123        | 1168      | 45          | 270.00 | Sliding        | Sliding - (WOB:18;GPM :537;TFO:60M))      |
| 01:20      | 01:25    | 0.08  | 1168        | 1215      | 47          | 564.00 | Drilling       | Drilling - (WOB:25;GPM :537;RPM:50)       |
| 01:25      | 01:30    | 0.08  | 1215        | 1215      | 0           | .00    | Survey & Conn. | Survey & Conn.@1152' Inc 6.24° Azm 53.08° |
| 01:30      | 01:40    | 0.17  | 1215        | 1221      | 6           | 36.00  | Drilling       | Drilling - (WOB:25;GPM :537;RPM:50)       |
| 01:40      | 03:00    | 1.33  | 1221        | 1221      | 0           | .00    | Circulating    | Circulating / Wiper Trip                  |

| Start Time | End Time | Hours | Start Depth | End Depth | Delta Depth | ROP | Activity Code | COMMENT  |
|------------|----------|-------|-------------|-----------|-------------|-----|---------------|----------|
| 03:00      | 04:00    | 1.00  | 1221        | 1221      | 0           | .00 | POOH          | POOH     |
| 04:00      | 04:40    | 0.67  | 1221        | 1221      | 0           | .00 | Change BHA    | Rack BHA |
| 04:40      | 24:00    | 19.33 | 1221        | 1221      | 0           | .00 | Standby       | Standby  |



**JOB NO.:** 241125  
**COMPANY:** EnCana Oil & Gas USA  
**LOCATION:** Ruhl  
**RIG NAME:** HP 278  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Ruhl 1D-32H-B264  
**Lead Directional :** Steven Schlamp (10800)

**Report Time:** 2400 **1 of 8**  
**API JOB #** 05-123-40282-00  
**WORK ORDER#** 241125  
**FIELD:** Wattenberg  
**Township:** 2N  
**Range/Section** 64W 32  
**Company Man** Randy / Joe  
**2nd Dir Hand :** Ben Ezeaku (10012)

**From Sunday, January 04, 2015 at 0000 to Sunday, January 04, 2015 at 2400**

| DAILY TOTALS    |         |    | ASSEMBLY TOTALS     |                    |            |           |            |              |          |                 |          |         |
|-----------------|---------|----|---------------------|--------------------|------------|-----------|------------|--------------|----------|-----------------|----------|---------|
| Start Depth     | 1221.00 |    | BHA #               | Motor SN / R.S. SN | Slide Ftg  | Slide Hrs | Rotate Ftg | Rotate Hrs   | Circ Hrs | D & C Hrs       | BHA Ftg  | Avg ROP |
| End Depth       | 1461.00 |    | 1                   | 6694               | 783.00     | 8.75      | 5,421.00   | 22.50        | 6.00     | 37.25           | 6,214.00 | 169.86  |
| Below Rot Hrs.  | 8.00    |    |                     |                    |            |           |            |              |          |                 |          |         |
| Total Drilled:  | 240.00  |    | Drilling Parameters |                    | Mud Record |           | Bit Record |              |          | Current BHA # 1 |          |         |
| Avg. Total ROP: | 115.20  |    |                     |                    |            |           |            |              |          |                 |          |         |
| Slide Footage:  | 27.00   |    | WOB:                | 24                 | Weight:    | 0         | Bit No:    | 1            |          |                 |          |         |
| Slide Hours     | 0.17    |    | Rot Wt:             | 57                 | Visc:      | 0         | Model      | Smith SDi611 |          |                 |          |         |
| Avg. Slide ROP: | 162.00  |    | Pick UP:            | 57                 | Chlorides: | 0         | SN.:       | JK8488       |          |                 |          |         |
| Rotate Footage: | 213.00  |    | Slack Off:          | 53                 | YP:        | 0         | MFG.       | SMITH        |          |                 |          |         |
| Rotary Hours    | 1.92    |    | SPP:                | 1778               | PV:        | 0         | Type       | PDC          |          |                 |          |         |
| Avg. Rot ROP:   | 111.13  |    | Flow:               | 0 - 537            | PH:        | 0         | IADC       |              |          |                 |          |         |
| Circ Hours      | 0.25    |    | SPM:                | 140                | GAS:       | 0         | JETS       | 6-13         |          |                 |          |         |
| Ream Hours      | 0.00    |    | Rot. RPM            | 30 - 60            | SAND:      | 0         | TFA:       | 0.777        |          |                 |          |         |
| Rotary Hrs%:    | 92.00   |    | Mot RPM:            | 50 - 60            | WL:        | 0         | Hole ID:   | 8.75         |          |                 |          |         |
| Slide Hrs%:     | 8.00    |    | Incl. In:           | 0                  | SOLID:     | 0         | Bit Hrs:   | 31.25        |          |                 |          |         |
| Rotary Ftg%:    | 88.75   |    | Azm. In:            | 0                  | BHT°:      | 0         | Bit Ftg:   | 6204.00      |          |                 |          |         |
| Slide Ftg%:     | 11.25   |    | Incl. Out:          | 0                  | Flow T°:   | 0         | PUMPS      |              |          |                 |          |         |
| cASING          |         |    | Azm. Out:           | 0                  | Oil %:     | 0         | Liner      | 0            | 0        |                 |          |         |
| Size            | Lb/Ft   | MD | COST BREAKDOWN      |                    |            |           | Stroke     | 0            | 0        |                 |          |         |
|                 |         |    |                     |                    |            |           | Effic.     | 95.00%       | 95.00%   |                 |          |         |
|                 |         |    |                     |                    |            |           | Gal/Stk    | 0.00         | 0.00     |                 |          |         |
|                 |         |    |                     |                    |            |           | BBL/Stk    | 0.000        | 0.000    |                 |          |         |

| Start Time | End Time | Hours | Start Depth | End Depth | Delta Depth | ROP    | Activity Code | COMMENT                               |
|------------|----------|-------|-------------|-----------|-------------|--------|---------------|---------------------------------------|
| 23:45      | 23:50    | 0.08  | 1416        | 1416      | 0           | .00    | MWD Survey    | MWD Survey@1267' Inc 6.23° Azm 53.54° |
| 23:50      | 23:55    | 0.08  | 1416        | 1428      | 12          | 144.00 | Sliding       | Sliding - (WOB:18;GPM :537;TFO:30R))  |
| 23:55      | 24:00    | 0.08  | 1428        | 1461      | 33          | 396.00 | Drilling      | Drilling - (WOB:24;GPM :537;RPM:60)   |



**JOB NO.:** 241125  
**COMPANY:** EnCana Oil & Gas USA  
**LOCATION:** Ruhl  
**RIG NAME:** HP 278  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Ruhl 1D-32H-B264  
**Lead Directional :** Steven Schlamp (10800)

**Report Time:** 2400 **2 of 8**  
**API JOB #** 05-123-40282-00  
**WORK ORDER#** 241125  
**FIELD:** Wattenberg  
**Township:** 2N  
**Range/Section** 64W 32  
**Company Man** Randy / Quiz  
**2nd Dir Hand :** Ben Ezeaku (10012)

**From Monday, January 05, 2015 at 0000 to Monday, January 05, 2015 at 2400**

| DAILY TOTALS    |         |    | ASSEMBLY TOTALS     |                    |            |           |            |              |          |   |          |         |
|-----------------|---------|----|---------------------|--------------------|------------|-----------|------------|--------------|----------|---|----------|---------|
| Start Depth     | 1461.00 |    | BHA #               | Motor SN / R.S. SN | Slide Ftg  | Slide Hrs | Rotate Ftg | Rotate Hrs   | Circ Hrs | D & C Hrs   | BHA Ftg  | Avg ROP |
| End Depth       | 4011.00 |    | 1                   | 6694               | 783.00     | 8.75      | 5,421.00   | 22.50        | 6.00     | 37.25   | 6,214.00 | 169.86  |
| Below Rot Hrs.  | 24.00   |    |                     |                    |            |           |            |              |          |   |          |         |
| Total Drilled:  | 2550.00 |    | Drilling Parameters |                    | Mud Record |           | Bit Record |              |          | Current BHA # 1<br>Smith SDi611<br>6.75 SDI Motor<br>6 1/2" NMPC<br>6 1/2" PRT Cleated Flex<br>6 1/2" NMDC Flex<br>6 1/2" Steel X-Over<br>10 Stnds. DP (30 Jnts)<br>30 Stnds. (90 Jnts.) HWDP |          |         |
| Avg. Total ROP: | 297.09  |    |                     |                    |            |           |            |              |          |   |          |         |
| Slide Footage:  | 103.00  |    | WOB:                | 30                 | Weight:    | 0         | Bit No:    | 1            |          |   |          |         |
| Slide Hours     | 1.00    |    | Rot Wt:             | 98                 | Visc:      | 0         | Model      | Smith SDi611 |          |   |          |         |
| Avg. Slide ROP: | 103.00  |    | Pick UP:            | 107                | Chlorides: | 0         | SN.:       | JK8488       |          |   |          |         |
| Rotate Footage: | 2447.00 |    | Slack Off:          | 91                 | YP:        | 0         | MFG.       | SMITH        |          |   |          |         |
| Rotary Hours    | 7.58    |    | SPP:                | 3750               | PV:        | 0         | Type       | PDC          |          |   |          |         |
| Avg. Rot ROP:   | 322.68  |    | Flow:               | 537 - 600          | PH:        | 0         | IADC       |              |          |   |          |         |
| Circ Hours      | 0.08    |    | SPM:                | 156                | GAS:       | 0         | JETS       | 6-13         |          |   |          |         |
| Ream Hours      | 0.00    |    | Rot. RPM            | 60 - 60            | SAND:      | 0         | TFA:       | 0.777        |          |   |          |         |
| Rotary Hrs%:    | 88.35   |    | Mot RPM:            | 60 - 60            | WL:        | 0         | Hole ID:   | 8.75         |          |   |          |         |
| Slide Hrs%:     | 11.65   |    | Incl. In:           | 0                  | SOLID:     | 0         | Bit Hrs:   | 31.25        |          |   |          |         |
| Rotary Ftg%:    | 95.96   |    | Azm. In:            | 0                  | BHT°:      | 0         | Bit Ftg:   | 6204.00      |          |   |          |         |
| Slide Ftg%:     | 4.04    |    | Incl. Out:          | 0                  | Flow T°:   | 0         | PUMPS      |              |          |   |          |         |
| cASING          |         |    | Azm. Out:           | 0                  | Oil %:     | 0         | Liner      | 0            | 0        |   |          |         |
| Size            | Lb/Ft   | MD | COST BREAKDOWN      |                    |            |           | Stroke     | 0            | 0        |   |          |         |
|                 |         |    |                     |                    |            |           | Effic.     | 95.00%       | 95.00%   |   |          |         |
|                 |         |    |                     |                    |            |           | Gal/Stk    | 0.00         | 0.00     |   |          |         |
|                 |         |    |                     |                    |            |           | BBL/Stk    | 0.000        | 0.000    |   |          |         |



| Start Time | End Time | Hours | Start Depth | End Depth | Delta Depth | ROP    | Activity Code  | COMMENT   |
|------------|----------|-------|-------------|-----------|-------------|--------|----------------|---|
| 02:50      | 02:55    | 0.08  | 2051        | 2059      | 8           | 96.00  | Sliding        | Sliding - (WOB:22;GPM :537;TFO:90R))                |
| 02:55      | 03:05    | 0.17  | 2059        | 2127      | 68          | 408.00 | Drilling       | Drilling - (WOB:26;GPM :537;RPM:60)                 |
| 03:05      | 15:30    | 12.42 | 2127        | 2127      | 0           | .00    | Rig repair     | Rig repair - washout on Standpipe/ POOH to the shoe |
| 15:30      | 16:10    | 0.67  | 2127        | 2127      | 0           | .00    | TIH            | TIH   |
| 16:10      | 16:15    | 0.08  | 2127        | 2143      | 16          | 192.00 | Drilling       | Drilling - (WOB:26;GPM :598;RPM:60)                 |
| 16:15      | 16:25    | 0.17  | 2143        | 2143      | 0           | .00    | Survey & Conn. | Survey & Conn.@1993' Inc 9.4° Azm 48.68°            |
| 16:25      | 16:30    | 0.08  | 2143        | 2150      | 7           | 84.00  | Sliding        | Sliding - (WOB:22;GPM :598;TFO:60R))                |
| 16:30      | 16:45    | 0.25  | 2150        | 2231      | 81          | 324.00 | Drilling       | Drilling - (WOB:26;GPM :598;RPM:60)                 |
| 16:45      | 16:50    | 0.08  | 2231        | 2231      | 0           | .00    | Survey & Conn. | Survey & Conn.@2173' Inc 9.83° Azm 58.22°           |
| 16:50      | 16:55    | 0.08  | 2231        | 2236      | 5           | 60.00  | Sliding        | Sliding - (WOB:22;GPM :598;TFO:0R))                 |
| 16:55      | 17:20    | 0.42  | 2236        | 2415      | 179         | 429.60 | Drilling       | Drilling - (WOB:26;GPM :598;RPM:60)                 |
| 17:20      | 17:30    | 0.17  | 2415        | 2415      | 0           | .00    | Survey & Conn. | Survey & Conn.@2357' Inc 10.31° Azm 54.95°          |
| 17:30      | 18:00    | 0.50  | 2415        | 2598      | 183         | 366.00 | Drilling       | Drilling - (WOB:26;GPM :598;RPM:60)                 |
| 18:00      | 18:05    | 0.08  | 2598        | 2598      | 0           | .00    | Survey & Conn. | Survey & Conn.@2540' Inc 9.51° Azm 53.12°           |
| 18:05      | 18:35    | 0.50  | 2598        | 2779      | 181         | 362.00 | Drilling       | Drilling - (WOB:28;GPM :598;RPM:60)                 |
| 18:35      | 18:45    | 0.17  | 2779        | 2779      | 0           | .00    | Survey & Conn. | Survey & Conn.@2721' Inc 8.81° Azm 51.6°            |
| 18:45      | 18:50    | 0.08  | 2779        | 2791      | 12          | 144.00 | Sliding        | Sliding - (WOB:24;GPM :598;TFO:30R))                |
| 18:50      | 19:30    | 0.67  | 2791        | 2960      | 169         | 253.50 | Drilling       | Drilling - (WOB:28;GPM :598;RPM:60)                 |
| 19:30      | 19:40    | 0.17  | 2960        | 2960      | 0           | .00    | Survey & Conn. | Survey & Conn.@2902' Inc 9.21° Azm 59.1°            |
| 19:40      | 19:55    | 0.25  | 2960        | 3052      | 92          | 368.00 | Drilling       | Drilling - (WOB:28;GPM :598;RPM:60)                 |
| 19:55      | 20:00    | 0.08  | 3052        | 3065      | 13          | 156.00 | Sliding        | Sliding - (WOB:24;GPM :598;TFO:0R))                 |
| 20:00      | 20:20    | 0.33  | 3065        | 3141      | 76          | 228.00 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)                 |
| 20:20      | 20:25    | 0.08  | 3141        | 3141      | 0           | .00    | Survey & Conn. | Survey & Conn.@3083' Inc 10.68° Azm 61.69°          |
| 20:25      | 20:50    | 0.42  | 3141        | 3324      | 183         | 439.20 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)                 |
| 20:50      | 21:00    | 0.17  | 3324        | 3324      | 0           | .00    | Survey & Conn. | Survey & Conn.@3266' Inc 9.69° Azm 61.98°           |
| 21:00      | 21:35    | 0.58  | 3324        | 3506      | 182         | 312.00 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)                 |
| 21:35      | 21:45    | 0.17  | 3506        | 3506      | 0           | .00    | Survey & Conn. | Survey & Conn.@3448' Inc 8.07° Azm 62.95°           |
| 21:45      | 21:50    | 0.08  | 3506        | 3518      | 12          | 144.00 | Sliding        | Sliding - (WOB:24;GPM :598;TFO:15L))                |
| 21:50      | 22:25    | 0.58  | 3518        | 3686      | 168         | 288.00 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)                 |
| 22:25      | 22:35    | 0.17  | 3686        | 3686      | 0           | .00    | Survey & Conn. | Survey & Conn.@3628' Inc 7.62° Azm 60.25°           |
| 22:35      | 22:40    | 0.08  | 3686        | 3692      | 6           | 72.00  | Sliding        | Sliding - (WOB:24;GPM :598;TFO:15L)                 |
| 22:40      | 23:15    | 0.58  | 3692        | 3872      | 180         | 308.57 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)                 |
| 23:15      | 23:25    | 0.17  | 3872        | 3872      | 0           | .00    | Survey & Conn. | Survey & Conn.@3814' Inc 6.15° Azm 55.8°            |
| 23:25      | 23:30    | 0.08  | 3872        | 3882      | 10          | 120.00 | Sliding        | Sliding - (WOB:24;GPM :598;TFO:180))                |
| 23:30      | 23:45    | 0.25  | 3882        | 3966      | 84          | 336.00 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)                 |
| 23:45      | 23:50    | 0.08  | 3966        | 3974      | 8           | 96.00  | Sliding        | Sliding - (WOB:24;GPM :598;TFO:90R))                |
| 23:50      | 24:00    | 0.17  | 3974        | 4011      | 37          | 222.00 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)                 |





**JOB NO.:** 241125  
**COMPANY:** EnCana Oil & Gas USA  
**LOCATION:** Ruhl  
**RIG NAME:** HP 278  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Ruhl 1D-32H-B264  
**Lead Directional :** Steven Schlamp (10800)

**Report Time:** 2400 **3 of 8**  
**API JOB #** 05-123-40282-00  
**WORK ORDER#** 241125  
**FIELD:** Wattenberg  
**Township:** 2N  
**Range/Section** 64W 32  
**Company Man** Randy / Quiz  
**2nd Dir Hand :** Ben Ezeaku (10012)

**From Tuesday, January 06, 2015 at 0000 to Tuesday, January 06, 2015 at 2400**

| DAILY TOTALS    |         |    | ASSEMBLY TOTALS     |                    |            |           |            |              |          |                 |          |         |
|-----------------|---------|----|---------------------|--------------------|------------|-----------|------------|--------------|----------|-----------------|----------|---------|
| Start Depth     | 4011.00 |    | BHA #               | Motor SN / R.S. SN | Slide Ftg  | Slide Hrs | Rotate Ftg | Rotate Hrs   | Circ Hrs | D & C Hrs       | BHA Ftg  | Avg ROP |
| End Depth       | 6300.00 |    | 1                   | 6694               | 783.00     | 8.75      | 5,421.00   | 22.50        | 6.00     | 37.25           | 6,214.00 | 169.86  |
| Below Rot Hrs.  | 24.00   |    |                     |                    |            |           |            |              |          |                 |          |         |
| Total Drilled:  | 2289.00 |    | Drilling Parameters |                    | Mud Record |           | Bit Record |              |          | Current BHA # 1 |          |         |
| Avg. Total ROP: | 256.71  |    |                     |                    |            |           |            |              |          |                 |          |         |
| Slide Footage:  | 62.00   |    | WOB:                | 30                 | Weight:    | 0         | Bit No:    | 1            |          |                 |          |         |
| Slide Hours     | 0.83    |    | Rot Wt:             | 132                | Visc:      | 0         | Model      | Smith SDi611 |          |                 |          |         |
| Avg. Slide ROP: | 74.40   |    | Pick UP:            | 151                | Chlorides: | 0         | SN.:       | JK8488       |          |                 |          |         |
| Rotate Footage: | 2227.00 |    | Slack Off:          | 118                | YP:        | 0         | MFG.       | SMITH        |          |                 |          |         |
| Rotary Hours    | 8.08    |    | SPP:                | 4550               | PV:        | 0         | Type       | PDC          |          |                 |          |         |
| Avg. Rot ROP:   | 275.51  |    | Flow:               | 499 - 600          | PH:        | 0         | IADC       |              |          |                 |          |         |
| Circ Hours      | 0.00    |    | SPM:                | 130                | GAS:       | 0         | JETS       | 6-13         |          |                 |          |         |
| Ream Hours      | 0.00    |    | Rot. RPM            | 60 - 60            | SAND:      | 0         | TFA:       | 0.777        |          |                 |          |         |
| Rotary Hrs%:    | 90.65   |    | Mot RPM:            | 60 - 60            | WL:        | 0         | Hole ID:   | 8.75         |          |                 |          |         |
| Slide Hrs%:     | 9.35    |    | Incl. In:           | 0                  | SOLID:     | 0         | Bit Hrs:   | 31.25        |          |                 |          |         |
| Rotary Ftg%:    | 97.29   |    | Azm. In:            | 0                  | BHT°:      | 0         | Bit Ftg:   | 6204.00      |          |                 |          |         |
| Slide Ftg%:     | 2.71    |    | Incl. Out:          | 0                  | Flow T°:   | 0         | PUMPS      |              |          |                 |          |         |
| cASING          |         |    | Azm. Out:           | 0                  | Oil %:     | 0         |            |              |          |                 |          |         |
| Size            | Lb/Ft   | MD | COST BREAKDOWN      |                    |            |           | Liner      | 0            | 0        |                 |          |         |
|                 |         |    |                     |                    |            |           | Stroke     | 0            | 0        |                 |          |         |
|                 |         |    |                     |                    |            |           | Effic.     | 95.00%       | 95.00%   |                 |          |         |
|                 |         |    |                     |                    |            |           | Gal/Stk    | 0.00         | 0.00     |                 |          |         |
|                 |         |    |                     |                    |            |           | BBL/Stk    | 0.000        | 0.000    |                 |          |         |

### GENERAL COMMENT

| Start Time | End Time | Hours | Start Depth | End Depth | Delta Depth | ROP    | Activity Code  | COMMENT                                   |
|------------|----------|-------|-------------|-----------|-------------|--------|----------------|---|
| 00:00      | 00:10    | 0.17  | 4011        | 4061      | 50          | 300.00 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)       |
| 00:10      | 00:20    | 0.17  | 4061        | 4061      | 0           | .00    | Survey & Conn. | Survey & Conn.@4003' Inc 3.06° Azm 55.96° |
| 00:20      | 00:25    | 0.08  | 4061        | 4068      | 7           | 84.00  | Sliding        | Sliding - (WOB:24;GPM :600;TFO:180))      |
| 00:25      | 00:50    | 0.42  | 4068        | 4251      | 183         | 439.20 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)       |
| 00:50      | 01:05    | 0.25  | 4251        | 4251      | 0           | .00    | Survey & Conn. | Survey & Conn.@4193' Inc 1.38° Azm 29.93° |
| 01:05      | 01:30    | 0.42  | 4251        | 4345      | 94          | 225.60 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)       |
| 01:30      | 01:35    | 0.08  | 4345        | 4355      | 10          | 120.00 | Sliding        | Sliding - (WOB:24;GPM :600;TFO:210M))     |
| 01:35      | 01:45    | 0.17  | 4355        | 4440      | 85          | 510.00 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)       |
| 01:45      | 02:00    | 0.25  | 4440        | 4440      | 0           | .00    | Survey & Conn. | Survey & Conn.@4382' Inc 0.72° Azm 44.63° |
| 02:00      | 02:25    | 0.42  | 4440        | 4629      | 189         | 453.60 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)       |
| 02:25      | 02:35    | 0.17  | 4629        | 4629      | 0           | .00    | Survey & Conn. | Survey & Conn.@4571' Inc 0.59° Azm 28.65° |
| 02:35      | 03:00    | 0.42  | 4629        | 4724      | 95          | 228.00 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)       |
| 03:00      | 03:05    | 0.08  | 4724        | 4732      | 8           | 96.00  | Sliding        | Sliding - (WOB:24;GPM :600;TFO:150M))     |
| 03:05      | 03:30    | 0.42  | 4732        | 4819      | 87          | 208.80 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)       |

| Start Time | End Time | Hours | Start Depth | End Depth | Delta Depth | ROP    | Activity Code  | COMMENT                                    |
|------------|----------|-------|-------------|-----------|-------------|--------|----------------|--|
| 03:30      | 03:35    | 0.08  | 4819        | 4819      | 0           | .00    | Survey & Conn. | Survey & Conn.@4761' Inc 1.48° Azm 81.69°  |
| 03:35      | 03:40    | 0.08  | 4819        | 4826      | 7           | 84.00  | Sliding        | Sliding - (WOB:28;GPM :600;TFO:210M))      |
| 03:40      | 05:15    | 1.58  | 4826        | 5199      | 373         | 235.58 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)        |
| 05:15      | 05:25    | 0.17  | 5199        | 5199      | 0           | .00    | Survey & Conn. | Survey & Conn.@5141' Inc 1.45° Azm 348.4°  |
| 05:25      | 05:30    | 0.08  | 5199        | 5207      | 8           | 96.00  | Sliding        | Sliding - (WOB:28;GPM :600;TFO:210M))      |
| 05:30      | 06:25    | 0.92  | 5207        | 5389      | 182         | 198.55 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)        |
| 06:25      | 06:35    | 0.17  | 5389        | 5389      | 0           | .00    | Survey & Conn. | Survey & Conn.@5331' Inc 1.61° Azm 344.58° |
| 06:35      | 06:50    | 0.25  | 5389        | 5401      | 12          | 48.00  | Sliding        | Sliding - (WOB:28;GPM :600;TFO:180M))      |
| 06:50      | 07:30    | 0.67  | 5401        | 5579      | 178         | 267.00 | Drilling       | Drilling - (WOB:30;GPM :600;RPM:60)        |
| 07:30      | 07:35    | 0.08  | 5579        | 5579      | 0           | .00    | Survey & Conn. | Survey & Conn.@5521' Inc 0.86° Azm 171.58° |
| 07:35      | 08:15    | 0.67  | 5579        | 5768      | 189         | 283.50 | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)        |
| 08:15      | 08:20    | 0.08  | 5768        | 5768      | 0           | .00    | Survey & Conn. | Survey & Conn.@5710' Inc 0.59° Azm 68°     |
| 08:20      | 08:30    | 0.17  | 5768        | 5778      | 10          | 60.00  | Sliding        | Sliding - (WOB:28;GPM :600;TFO:165M))      |
| 08:30      | 09:10    | 0.67  | 5778        | 5958      | 180         | 270.00 | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)        |
| 09:10      | 09:15    | 0.08  | 5958        | 5958      | 0           | .00    | Survey & Conn. | Survey & Conn.@5900' Inc 1.24° Azm 205.45° |
| 09:15      | 09:55    | 0.67  | 5958        | 6150      | 192         | 288.00 | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)        |
| 09:55      | 10:00    | 0.08  | 6150        | 6150      | 0           | .00    | Survey & Conn. | Survey & Conn.@6090' Inc 0.2° Azm 98.62°   |
| 10:00      | 10:30    | 0.50  | 6150        | 6300      | 150         | 300.00 | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)        |
| 10:30      | 12:30    | 2.00  | 6300        | 6300      | 0           | .00    | Other          | Troubleshoot pressure loss                 |
| 12:30      | 15:15    | 2.75  | 6300        | 6300      | 0           | .00    | POOH           | TOOH to casing shoe                        |
| 15:15      | 20:45    | 5.50  | 6300        | 6300      | 0           | .00    | Rig repair     | Rig repair Washout                         |
| 20:45      | 22:10    | 1.42  | 6300        | 6300      | 0           | .00    | TIH            | TIH to 2683'                               |
| 22:10      | 22:20    | 0.17  | 6300        | 6300      | 0           | .00    | Other          | Surface Test MWD                           |
| 22:20      | 24:00    | 1.67  | 6300        | 6300      | 0           | .00    | TIH            | TIH  |



**JOB NO.:** 241125  
**COMPANY:** EnCana Oil & Gas USA  
**LOCATION:** Ruhl  
**RIG NAME:** HP 278  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Ruhl 1D-32H-B264  
**Lead Directional :** Steven Schlamp (10800)

**Report Time:** 2400 **4 of 8**  
**API JOB #** 05-123-40282-00  
**WORK ORDER#** 241125  
**FIELD:** Wattenberg  
**Township:** 2N  
**Range/Section** 64W 32  
**Company Man** Randy / Quiz  
**2nd Dir Hand :** Ben Ezeaku (10012)

**From Wednesday, January 07, 2015 at 0000 to Wednesday, January 07, 2015 at 2400**

| DAILY TOTALS    |         |    | ASSEMBLY TOTALS     |                    |            |           |            |              |          |                 |          |         |
|-----------------|---------|----|---------------------|--------------------|------------|-----------|------------|--------------|----------|-----------------|----------|---------|
| Start Depth     | 6300.00 |    | BHA #               | Motor SN / R.S. SN | Slide Ftg  | Slide Hrs | Rotate Ftg | Rotate Hrs   | Circ Hrs | D & C Hrs       | BHA Ftg  | Avg ROP |
| End Depth       | 7435.00 |    | 1                   | 6694               | 783.00     | 8.75      | 5,421.00   | 22.50        | 6.00     | 37.25           | 6,214.00 | 169.86  |
| Below Rot Hrs.  | 24.00   |    |                     |                    |            |           |            |              |          |                 |          |         |
| Total Drilled:  | 1135.00 |    | Drilling Parameters |                    | Mud Record |           | Bit Record |              |          | Current BHA # 1 |          |         |
| Avg. Total ROP: | 93.29   |    |                     |                    |            |           |            |              |          |                 |          |         |
| Slide Footage:  | 591.00  |    | WOB:                | 30                 | Weight:    | 0         | Bit No:    | 1            |          |                 |          |         |
| Slide Hours     | 6.75    |    | Rot Wt:             | 132                | Visc:      | 0         | Model      | Smith SDi611 |          |                 |          |         |
| Avg. Slide ROP: | 87.56   |    | Pick UP:            | 151                | Chlorides: | 0         | SN.:       | JK8488       |          |                 |          |         |
| Rotate Footage: | 544.00  |    | Slack Off:          | 118                | YP:        | 0         | MFG.       | SMITH        |          |                 |          |         |
| Rotary Hours    | 5.42    |    | SPP:                | 4215               | PV:        | 0         | Type       | PDC          |          |                 |          |         |
| Avg. Rot ROP:   | 100.43  |    | Flow:               | 499 - 499          | PH:        | 0         | IADC       |              |          |                 |          |         |
| Circ Hours      | 5.17    |    | SPM:                | 130                | GAS:       | 0         | JETS       | 6-13         |          |                 |          |         |
| Ream Hours      | 0.00    |    | Rot. RPM            | 60 - 60            | SAND:      | 0         | TFA:       | 0.777        |          |                 |          |         |
| Rotary Hrs%:    | 44.52   |    | Mot RPM:            | 60 - 60            | WL:        | 0         | Hole ID:   | 8.75         |          |                 |          |         |
| Slide Hrs%:     | 55.48   |    | Incl. In:           | 0                  | SOLID:     | 0         | Bit Hrs:   | 31.25        |          |                 |          |         |
| Rotary Ftg%:    | 47.93   |    | Azm. In:            | 0                  | BHT°:      | 0         | Bit Ftg:   | 6204.00      |          |                 |          |         |
| Slide Ftg%:     | 52.07   |    | Incl. Out:          | 88.69              | Flow T°:   | 0         | PUMPS      |              |          |                 |          |         |
| cASING          |         |    | Azm. Out:           | 180                | Oil %:     | 0         |            |              |          |                 |          |         |
| Size            | Lb/Ft   | MD | COST BREAKDOWN      |                    |            |           | Liner      | 0            | 0        |                 |          |         |
|                 |         |    |                     |                    |            |           | Stroke     | 0            | 0        |                 |          |         |
|                 |         |    |                     |                    |            |           | Effic.     | 95.00%       | 95.00%   |                 |          |         |
|                 |         |    |                     |                    |            |           | Gal/Stk    | 0.00         | 0.00     |                 |          |         |
|                 |         |    |                     |                    |            |           | BBL/Stk    | 0.000        | 0.000    |                 |          |         |

**GENERAL COMMENT**

| Start Time | End Time | Hours | Start Depth | End Depth | Delta Depth | ROP    | Activity Code  | COMMENT                                    |
|------------|----------|-------|-------------|-----------|-------------|--------|----------------|--|
| 00:00      | 00:35    | 0.58  | 6300        | 6300      | 0           | .00    | TIH            | TIH  |
| 00:35      | 00:45    | 0.17  | 6300        | 6300      | 0           | .00    | MWD Survey     | MWD Survey@6279' Inc 0.81° Azm 26.79°      |
| 00:45      | 01:35    | 0.83  | 6300        | 6337      | 37          | 44.40  | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)        |
| 01:35      | 02:00    | 0.42  | 6337        | 6337      | 0           | .00    | Other          | Heat up MWDns Transducer                   |
| 02:00      | 02:15    | 0.25  | 6337        | 6337      | 0           | .00    | Survey & Conn. | Survey & Conn.@6279' Inc 0.81° Azm 26.79°  |
| 02:15      | 02:30    | 0.25  | 6337        | 6347      | 10          | 40.00  | Sliding        | Sliding - (WOB:28;GPM :499;TFO:180M))      |
| 02:30      | 03:05    | 0.58  | 6347        | 6432      | 85          | 145.71 | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)        |
| 03:05      | 03:10    | 0.08  | 6432        | 6432      | 0           | .00    | MWD Survey     | MWD Survey@6279' Inc 0.81° Azm 26.79°      |
| 03:10      | 03:25    | 0.25  | 6432        | 6485      | 53          | 212.00 | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)        |
| 03:25      | 04:20    | 0.92  | 6485        | 6485      | 0           | .00    | Other          | Trough @ 180 till Sweep is out of Shakers  |
| 04:20      | 04:55    | 0.58  | 6485        | 6527      | 42          | 72.00  | Sliding        | Sliding - (WOB:28;GPM :499;TFO:180M))      |
| 04:55      | 05:05    | 0.17  | 6527        | 6527      | 0           | .00    | Survey & Conn. | Survey & Conn.@6469' Inc 0.46° Azm 120.18° |
| 05:05      | 05:40    | 0.58  | 6527        | 6595      | 68          | 116.57 | Sliding        | Sliding - (WOB:28;GPM :499;TFO:180M))      |
| 05:40      | 06:00    | 0.33  | 6595        | 6622      | 27          | 81.00  | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)        |

| Start Time | End Time | Hours | Start Depth | End Depth | Delta Depth | ROP    | Activity Code  | COMMENT                                     |
|------------|----------|-------|-------------|-----------|-------------|--------|----------------|---|
| 06:00      | 06:05    | 0.08  | 6622        | 6622      | 0           | .00    | Survey & Conn. | Survey & Conn.@6564' Inc 12.37° Azm 167.44° |
| 06:05      | 06:40    | 0.58  | 6622        | 6675      | 53          | 90.86  | Sliding        | Sliding - (WOB:28;GPM :499;TFO:180M))       |
| 06:40      | 07:10    | 0.50  | 6675        | 6717      | 42          | 84.00  | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)         |
| 07:10      | 07:15    | 0.08  | 6717        | 6717      | 0           | .00    | Survey & Conn. | Survey & Conn.@6659' Inc 20.78° Azm 176.56° |
| 07:15      | 07:55    | 0.67  | 6717        | 6777      | 60          | 90.00  | Sliding        | Sliding - (WOB:28;GPM :499;TFO:180M))       |
| 07:55      | 08:15    | 0.33  | 6777        | 6811      | 34          | 102.00 | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)         |
| 08:15      | 08:20    | 0.08  | 6811        | 6811      | 0           | .00    | Survey & Conn. | Survey & Conn.@6753' Inc 28.64° Azm 177.47° |
| 08:20      | 08:50    | 0.50  | 6811        | 6874      | 63          | 126.00 | Sliding        | Sliding - (WOB:28;GPM :499;TFO:15R))        |
| 08:50      | 09:10    | 0.33  | 6874        | 6906      | 32          | 96.00  | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)         |
| 09:10      | 09:15    | 0.08  | 6906        | 6906      | 0           | .00    | Survey & Conn. | Survey & Conn.@6848' Inc 38.82° Azm 179.69° |
| 09:15      | 09:45    | 0.50  | 6906        | 6961      | 55          | 110.00 | Sliding        | Sliding - (WOB:28;GPM :499;TFO:15R))        |
| 09:45      | 10:05    | 0.33  | 6961        | 7001      | 40          | 120.00 | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)         |
| 10:05      | 10:10    | 0.08  | 7001        | 7001      | 0           | .00    | Survey & Conn. | Survey & Conn.@6943' Inc 49.36° Azm 180.22° |
| 10:10      | 10:35    | 0.42  | 7001        | 7001      | 0           | .00    | Other          | 4 point roll test                           |
| 10:35      | 10:40    | 0.08  | 7001        | 7016      | 15          | 180.00 | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)         |
| 10:40      | 11:10    | 0.50  | 7016        | 7060      | 44          | 88.00  | Sliding        | Sliding - (WOB:28;GPM :499;TFO:15R))        |
| 11:10      | 11:35    | 0.42  | 7060        | 7095      | 35          | 84.00  | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)         |
| 11:35      | 11:40    | 0.08  | 7095        | 7095      | 0           | .00    | Survey & Conn. | Survey & Conn.@7037' Inc 53.39° Azm 179.22° |
| 11:40      | 12:25    | 0.75  | 7095        | 7160      | 65          | 86.67  | Sliding        | Sliding - (WOB:28;GPM :499;TFO:15R))        |
| 12:25      | 12:50    | 0.42  | 7160        | 7190      | 30          | 72.00  | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)         |
| 12:50      | 12:55    | 0.08  | 7190        | 7190      | 0           | .00    | Survey & Conn. | Survey & Conn.@7132' Inc 62.3° Azm 179.8°   |
| 12:55      | 13:40    | 0.75  | 7190        | 7247      | 57          | 76.00  | Sliding        | Sliding - (WOB:28;GPM :499;TFO:30R))        |
| 13:40      | 14:00    | 0.33  | 7247        | 7285      | 38          | 114.00 | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)         |
| 14:00      | 14:05    | 0.08  | 7285        | 7285      | 0           | .00    | Survey & Conn. | Survey & Conn.@7227' Inc 72.31° Azm 182.22° |
| 14:05      | 14:45    | 0.67  | 7285        | 7333      | 48          | 72.00  | Sliding        | Sliding - (WOB:28;GPM :499;TFO:0L))         |
| 14:45      | 15:10    | 0.42  | 7333        | 7380      | 47          | 112.80 | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)         |
| 15:10      | 15:15    | 0.08  | 7380        | 7380      | 0           | .00    | Survey & Conn. | Survey & Conn.@7377' Inc 84.46° Azm 180.03° |
| 15:15      | 15:40    | 0.42  | 7380        | 7406      | 26          | 62.40  | Sliding        | Sliding - (WOB:28;GPM :499;TFO:0L)          |
| 15:40      | 15:55    | 0.25  | 7406        | 7435      | 29          | 116.00 | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)         |
| 15:55      | 16:00    | 0.08  | 7435        | 7435      | 0           | .00    | MWD Survey     | MWD Survey@7377' Inc 84.46° Azm 180.03°     |
| 16:00      | 20:50    | 4.83  | 7435        | 7435      | 0           | .00    | Circulating    | Circulating - Clean up Cycle                |
| 20:50      | 24:00    | 3.17  | 7435        | 7435      | 0           | .00    | POOH           | POOH  |



**JOB NO.:** 241125  
**COMPANY:** EnCana Oil & Gas USA  
**LOCATION:** Ruhl  
**RIG NAME:** HP 278  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Ruhl 1D-32H-B264  
**Lead Directional :** Steven Schlamp (10800)

**Report Time:** 2400 **5 of 8**  
**API JOB #** 05-123-40282-00  
**WORK ORDER#** 241125  
**FIELD:** Wattenberg  
**Township:** 2N  
**Range/Section** 64W 32  
**Company Man** Randy / Quiz  
**2nd Dir Hand :** Ben Ezeaku (10012)

**From Thursday, January 08, 2015 at 0000 to Thursday, January 08, 2015 at 2400**

| DAILY TOTALS    |       |    | ASSEMBLY TOTALS     |                    |            |           |            |              |  |           |          |         |  |  |  |  |  |
|-----------------|-------|----|---------------------|--------------------|------------|-----------|------------|--------------|--|-----------|----------|---------|--|--|--|--|--|
| Start Depth     | 0.00  |    | BHA #               | Motor SN / R.S. SN | Slide Ftg  | Slide Hrs | Rotate Ftg | Rotate Hrs   | Circ Hrs   | D & C Hrs | BHA Ftg  | Avg ROP |  |  |  |  |  |
| End Depth       | 0.00  |    | 1                   | 6694               | 783.00     | 8.75      | 5,421.00   | 22.50        | 6.00   | 37.25     | 6,214.00 | 169.86  |  |  |  |  |  |
| Below Rot Hrs.  | 1.75  |    |                     |                    |            |           |            |              |  |           |          |         |  |  |  |  |  |
| Total Drilled:  | 0.00  |    | Drilling Parameters |                    | Mud Record |           | Bit Record |              | Current BHA # 1  |           |          |         |  |  |  |  |  |
| Avg. Total ROP: | NA    |    |                     |                    |            |           |            |              |  |           |          |         |  |  |  |  |  |
| Slide Footage:  | 0.00  |    | WOB:                | 30                 | Weight:    | 0         | Bit No:    | 1            | Smith SDi611<br>6.75 SDI Motor<br>6 1/2" NMPC<br>6 1/2" PRT Cleated Flex<br>6 1/2" NMDC Flex<br>6 1/2" Steel X-Over<br>10 Stnds. DP (30 Jnts)<br>30 Stnds. (90 Jnts.) HWDP |           |          |         |  |  |  |  |  |
| Slide Hours     | 0.00  |    | Rot Wt:             | 132                | Visc:      | 0         | Model      | Smith SDi611 |  |           |          |         |  |  |  |  |  |
| Avg. Slide ROP: | NA    |    | Pick UP:            | 151                | Chlorides: | 0         | SN.:       | JK8488       |  |           |          |         |  |  |  |  |  |
| Rotate Footage: | 0.00  |    | Slack Off:          | 118                | YP:        | 0         | MFG.       | SMITH        |  |           |          |         |  |  |  |  |  |
| Rotary Hours    | 0.00  |    | SPP:                | 4215               | PV:        | 0         | Type       | PDC          |  |           |          |         |  |  |  |  |  |
| Avg. Rot ROP:   | NA    |    | Flow:               | 499 - 499          | PH:        | 0         | IADC       |              |  |           |          |         |  |  |  |  |  |
| Circ Hours      | 0.00  |    | SPM:                | 130                | GAS:       | 0         | JETS       | 6-13         |  |           |          |         |  |  |  |  |  |
| Ream Hours      | 0.00  |    | Rot. RPM            | -                  | SAND:      | 0         | TFA:       | 0.777        |  |           |          |         |  |  |  |  |  |
| Rotary Hrs%:    | NA    |    | Mot RPM:            | -                  | WL:        | 0         | Hole ID:   | 8.75         |  |           |          |         |  |  |  |  |  |
| Slide Hrs%:     | NA    |    | Incl. In:           | 88.69              | SOLID:     | 0         | Bit Hrs:   | 31.25        |  |           |          |         |  |  |  |  |  |
| Rotary Ftg%:    | NA    |    | Azm. In:            | 180                | BHT°:      | 0         | Bit Ftg:   | 6204.00      |  |           |          |         |  |  |  |  |  |
| Slide Ftg%:     | NA    |    | Incl. Out:          | 88.69              | Flow T°:   | 0         | PUMPS      |              |  |           |          |         |  |  |  |  |  |
| cASING          |       |    | Azm. Out:           | 180                | Oil %:     | 0         | Liner      | 0            | 0  |           |          |         |  |  |  |  |  |
| Size            | Lb/Ft | MD | COST BREAKDOWN      |                    |            |           |            |              | Stroke   | 0         | 0        |         |  |  |  |  |  |
|                 |       |    |                     |                    |            |           |            |              | Effic.   | 95.00%    | 95.00%   |         |  |  |  |  |  |
|                 |       |    |                     |                    |            |           |            |              | Gal/Stk  | 0.00      | 0.00     |         |  |  |  |  |  |
|                 |       |    |                     |                    |            |           |            |              | BBL/Stk  | 0.000     | 0.000    |         |  |  |  |  |  |

**GENERAL COMMENT**

| Start Time | End Time | Hours | Start Depth | End Depth | Delta Depth | ROP | Activity Code | COMMENT                             |
|------------|----------|-------|-------------|-----------|-------------|-----|---------------|-------------------------------------|
| 00:00      | 00:30    | 0.50  | 7435        | 7435      | 0           | .00 | POOH          | POOH                                |
| 00:30      | 00:40    | 0.17  | 7435        | 7435      | 0           | .00 | Other         | JSA with Rig Crew                   |
| 00:40      | 01:45    | 1.08  | 7435        | 7435      | 0           | .00 | Change BHA    | Lay down BHA                        |
| 01:45      | 24:00    | 22.25 | 7435        | 7435      | 0           | .00 | Standby       | Standby - Running Casing and Cement |



**JOB NO.:** 241125  
**COMPANY:** EnCana Oil & Gas USA  
**LOCATION:** Ruhl  
**RIG NAME:** HP 278  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Ruhl 1D-32H-B264  
**Lead Directional :** Steven Schlamp (10800)

**Report Time:** 2400 **6 of 8**  
**API JOB #** 05-123-40282-00  
**WORK ORDER#** 241125  
**FIELD:** Wattenberg  
**Township:** 2N  
**Range/Section** 64W 32  
**Company Man** Randy / Joe  
**2nd Dir Hand :** Ben Ezeaku (10012)

**From Friday, January 09, 2015 at 0000 to Friday, January 09, 2015 at 2400**

| DAILY TOTALS    |         |    | ASSEMBLY TOTALS  |                   |   |           |  |            |   |           |          |         |
|-----------------|---------|----|--|-------------------|---|-----------|--|------------|---|-----------|----------|---------|
| Start Depth     | 7435.00 |    | BHA #  | Motor SN / R.S SN | Slide Ftg   | Slide Hrs | Rotate Ftg   | Rotate Hrs | Circ Hrs  | D & C Hrs | BHA Ftg  | Avg ROP |
| End Depth       | 8234.00 |    | 2  | 084               | 266.00  | 4.58      | 3,838.00   | 16.58      | 3.83  | 25.00     | 4,104.00 | 165.26  |
| Below Rot Hrs.  | 15.67   |    |  |                   |   |           |  |            |   |           |          |         |
| Total Drilled:  | 719.00  |    | <b>Drilling Parameters</b><br>WOB: 30<br>Rot Wt: 149<br>Pick UP: 178<br>Slack Off: 120<br>SPP: 3915<br>Flow: 0 - 300<br>SPM: 78<br>Rot. RPM 60 - 90<br>Mot RPM: 90 - 90<br>Incl. In: 88.69<br>Azm. In: 180<br>Incl. Out: 90.77<br>Azm. Out: 179.99 |                   | <b>Mud Record</b><br>Weight: 0<br>Visc: 0<br>Chlorides: 0<br>YP: 0<br>PV: 0<br>PH: 0<br>GAS: 0<br>SAND: 0<br>WL: 0<br>SOLID: 0<br>BHT °: 0<br>Flow T °: 0<br>Oil %: 0 |           | <b>Bit Record</b><br>Bit No: 2<br>Model U516S<br>SN.: 26514<br>MFG. Ulterra<br>Type PDC<br>IADC<br>JETS 5-16<br>TFA: 0.981<br>Hole ID: 6.125<br>Bit Hrs: 21.17<br>Bit Ftg: 4104.00 |            | <b>Current BHA # 2</b><br>U516S<br>4.75" Hunting Drill Motor<br>4.75 NM Pony<br>4 3/4" NMDC<br>4 3/4" Pulser Sub<br>4 3/4" NMDC<br>4.75 NM Pony<br>5" Steel XO<br>1 Std. HWDP (3 Jnts.)<br>18 Stnds. DP (54 Jnts.)<br>NOV SS/Agitator<br>4 Stnds. (12 Jnts.) 4" DP<br>1 Jnt 4" HWDP<br>14 Stnds. (42 Jnts.) 4" DP<br>1 Jnt. 4" HWDP<br>14 Stnds. DP (42 Jnts.)<br>30 Stnds. (90 Jnts.) HWDP |           |          |         |
| Avg. Total ROP: | 200.65  |    |  |                   |   |           |  |            |   |           |          |         |
| Slide Footage:  | 36.00   |    |  |                   |   |           |  |            |   |           |          |         |
| Slide Hours     | 0.25    |    |  |                   |   |           |  |            |   |           |          |         |
| Avg. Slide ROP: | 144.00  |    |  |                   |   |           |  |            |   |           |          |         |
| Rotate Footage: | 683.00  |    |  |                   |   |           |  |            |   |           |          |         |
| Rotary Hours    | 3.33    |    |  |                   |   |           |  |            |   |           |          |         |
| Avg. Rot ROP:   | 204.90  |    |  |                   |   |           |  |            |   |           |          |         |
| Circ Hours      | 1.33    |    |  |                   |   |           |  |            |   |           |          |         |
| Ream Hours      | 0.00    |    |  |                   |   |           |  |            |   |           |          |         |
| Rotary Hrs%:    | 93.02   |    |  |                   |   |           |  |            |   |           |          |         |
| Slide Hrs%:     | 6.98    |    |  |                   |   |           |  |            |   |           |          |         |
| Rotary Ftg%:    | 94.99   |    |  |                   |   |           |  |            |   |           |          |         |
| Slide Ftg%:     | 5.01    |    |  |                   |   |           |  |            |   |           |          |         |
| <b>cASING</b>   |         |    |  |                   |   |           |  |            |   |           |          |         |
| Size            | Lb/Ft   | MD |  |                   |   |           |  |            |   |           |          |         |
|                 |         |    |  |                   |   |           |  |            |   |           |          |         |
|                 |         |    |  |                   |   |           |  |            |   |           |          |         |
|                 |         |    |  |                   |   |           |  |            |   |           |          |         |
|                 |         |    |  |                   |   |           |  |            |   |           |          |         |
|                 |         |    |  |                   |   |           |  |            |   |           |          |         |
|                 |         |    |  |                   |   |           |  |            |   |           |          |         |
|                 |         |    |  |                   |   |           |  |            |   |           |          |         |
|                 |         |    |  |                   |   |           |  |            |   |           |          |         |
|                 |         |    |  |                   |   |           |  |            |   |           |          |         |
|                 |         |    |  |                   |   |           |  |            |   |           |          |         |
|                 |         |    |  |                   |   |           |  |            |   |           |          |         |
|                 |         |    |  |                   |   |           |  |            |   |           |          |         |
|                 |         |    |  |                   |   |           |  |            |   |           |          |         |
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| Start Time | End Time | Hours | Start Depth | End Depth | Delta Depth | ROP    | Activity Code  | COMMENT                                     |
|------------|----------|-------|-------------|-----------|-------------|--------|----------------|---|
| 19:25      | 19:35    | 0.17  | 7488        | 7488      | 0           | .00    | MWD Survey     | MWD Survey@7377' Inc 84.46° Azm 180.03°     |
| 19:35      | 20:10    | 0.58  | 7488        | 7578      | 90          | 154.29 | Drilling       | Drilling - (WOB:30;GPM :499;RPM:60)         |
| 20:10      | 20:15    | 0.08  | 7578        | 7578      | 0           | .00    | Survey & Conn. | Survey & Conn.@7514' Inc 89.13° Azm 178.89° |
| 20:15      | 20:35    | 0.33  | 7578        | 7669      | 91          | 273.00 | Drilling       | Drilling - (WOB:27;GPM :300;RPM:90)         |
| 20:35      | 20:45    | 0.17  | 7669        | 7669      | 0           | .00    | Survey & Conn. | Survey & Conn.@7605' Inc 88.32° Azm 179.3°  |
| 20:45      | 20:50    | 0.08  | 7669        | 7683      | 14          | 168.00 | Sliding        | Sliding - (WOB:28;GPM :300;TFO:0L))         |
| 20:50      | 21:15    | 0.42  | 7683        | 7761      | 78          | 187.20 | Drilling       | Drilling - (WOB:27;GPM :300;RPM:90)         |
| 21:15      | 21:25    | 0.17  | 7761        | 7761      | 0           | .00    | Survey & Conn. | Survey & Conn.@7697' Inc 89.7° Azm 179.5°   |
| 21:25      | 21:30    | 0.08  | 7761        | 7769      | 8           | 96.00  | Sliding        | Sliding - (WOB:28;GPM :300;TFO:0L))         |
| 21:30      | 22:00    | 0.50  | 7769        | 7855      | 86          | 172.00 | Drilling       | Drilling - (WOB:30;GPM :300;RPM:90)         |
| 22:00      | 22:10    | 0.17  | 7855        | 7855      | 0           | .00    | Survey & Conn. | Survey & Conn.@7791' Inc 90.1° Azm 180.08°  |
| 22:10      | 22:35    | 0.42  | 7855        | 7950      | 95          | 228.00 | Drilling       | Drilling - (WOB:30;GPM :300;RPM:90)         |
| 22:35      | 22:40    | 0.08  | 7950        | 7950      | 0           | .00    | Survey & Conn. | Survey & Conn.@7886' Inc 89.26° Azm 180.31° |
| 22:40      | 22:55    | 0.25  | 7950        | 8045      | 95          | 380.00 | Drilling       | Drilling - (WOB:30;GPM :300;RPM:90)         |
| 22:55      | 23:05    | 0.17  | 8045        | 8045      | 0           | .00    | Survey & Conn. | Survey & Conn.@7981' Inc 89.23° Azm 180.24° |
| 23:05      | 23:10    | 0.08  | 8045        | 8059      | 14          | 168.00 | Sliding        | Sliding - (WOB:28;GPM :300;TFO:0R))         |
| 23:10      | 23:35    | 0.42  | 8059        | 8139      | 80          | 192.00 | Drilling       | Drilling - (WOB:30;GPM :300;RPM:90)         |
| 23:35      | 23:40    | 0.08  | 8139        | 8139      | 0           | .00    | Survey & Conn. | Survey & Conn.@8075' Inc 90.77° Azm 179.99° |
| 23:40      | 24:00    | 0.33  | 8139        | 8234      | 95          | 285.00 | Drilling       | Drilling - (WOB:30;GPM :300;RPM:90)         |



**JOB NO.:** 241125  
**COMPANY:** EnCana Oil & Gas USA  
**LOCATION:** Ruhl  
**RIG NAME:** HP 278  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Ruhl 1D-32H-B264  
**Lead Directional :** Steven Schlamp (10800)

**Report Time:** 2400 **7 of 8**  
**API JOB #** 05-123-40282-00  
**WORK ORDER#** 241125  
**FIELD:** Wattenberg  
**Township:** 2N  
**Range/Section** 64W 32  
**Company Man** Randy / Joe  
**2nd Dir Hand :** Ben Ezeaku (10012)

**From Saturday, January 10, 2015 at 0000 to Saturday, January 10, 2015 at 2400**

| DAILY TOTALS    |          |    | ASSEMBLY TOTALS     |                    |            |           |            |            |   |  |          |         |
|-----------------|----------|----|---------------------|--------------------|------------|-----------|------------|------------|---|--|----------|---------|
| Start Depth     | 8234.00  |    | BHA #               | Motor SN / R.S. SN | Slide Ftg  | Slide Hrs | Rotate Ftg | Rotate Hrs | Circ Hrs  | D & C Hrs  | BHA Ftg  | Avg ROP |
| End Depth       | 11619.00 |    | 2                   | 084                | 266.00     | 4.58      | 3,838.00   | 16.58      | 3.83  | 25.00  | 4,104.00 | 165.26  |
| Below Rot Hrs.  | 24.00    |    |                     |                    |            |           |            |            |   |  |          |         |
| Total Drilled:  | 3385.00  |    | Drilling Parameters |                    | Mud Record |           | Bit Record |            | Current BHA # 2   |  |          |         |
| Avg. Total ROP: | 192.51   |    |                     |                    |            |           |            |            |   |  |          |         |
| Slide Footage:  | 230.00   |    | WOB:                | 35                 | Weight:    | 0         | Bit No:    | 2          | U516S<br>4.75" Hunting Drill Motor<br>4.75 NM Pony<br>4 3/4" NMDC<br>4 3/4" Pulser Sub<br>4 3/4" NMDC<br>4.75 NM Pony<br>5" Steel XO<br>1 Std. HWDP (3 Jnts.)<br>18 Stnds. DP (54 Jnts.)<br>NOV SS/Agitator<br>4 Stnds. (12 Jnts.) 4" DP<br>1 Jnt 4" HWDP<br>14 Stnds. (42 Jnts.) 4" DP<br>1 Jnt. 4" HWDP<br>14 Stnds. DP (42 Jnts.)<br>30 Stnds. (90 Jnts.) HWDP |  |          |         |
| Slide Hours     | 4.33     |    | Rot Wt:             | 139                | Visc:      | 0         | Model      | U516S      |   |  |          |         |
| Avg. Slide ROP: | 53.08    |    | Pick UP:            | 220                | Chlorides: | 0         | SN.:       | 26514      |   |  |          |         |
| Rotate Footage: | 3155.00  |    | Slack Off:          | 60                 | YP:        | 0         | MFG.       | Ultrerra   |   |  |          |         |
| Rotary Hours    | 13.25    |    | SPP:                | 4400               | PV:        | 0         | Type       | PDC        |   |  |          |         |
| Avg. Rot ROP:   | 238.11   |    | Flow:               | 276 - 300          | PH:        | 0         | IADC       |            |   |  |          |         |
| Circ Hours      | 2.50     |    | SPM:                | 72                 | GAS:       | 0         | JETS       | 5-16       |   |  |          |         |
| Ream Hours      | 0.00     |    | Rot. RPM            | 90 - 90            | SAND:      | 0         | TFA:       | 0.981      |   |  |          |         |
| Rotary Hrs%:    | 75.36    |    | Mot RPM:            | 90 - 90            | WL:        | 0         | Hole ID:   | 6.125      |   |  |          |         |
| Slide Hrs%:     | 24.64    |    | Incl. In:           | 90.77              | SOLID:     | 0         | Bit Hrs:   | 21.17      |   |  |          |         |
| Rotary Ftg%:    | 93.21    |    | Azm. In:            | 179.99             | BHT °:     | 0         | Bit Ftg:   | 4104.00    |   |  |          |         |
| Slide Ftg%:     | 6.79     |    | Incl. Out:          | 0                  | Flow T °:  | 0         | PUMPS      |            |   |  |          |         |
| cASING          |          |    | Azm. Out:           | 0                  | Oil %:     | 0         |            |            |   |  |          |         |
| Size            | Lb/Ft    | MD | COST BREAKDOWN      |                    |            |           | Liner      | 0          | 0   | Effic. 95.00% 95.00%<br>Gal/Stk 0.00 0.00<br>BBL/Stk 0.000 0.000 |          |         |
|                 |          |    |                     |                    |            |           | Stroke     | 0          | 0   |  |          |         |
|                 |          |    |                     |                    |            |           |            |            |   |  |          |         |



| Start Time | End Time | Hours | Start Depth | End Depth | Delta Depth | ROP    | Activity Code  | COMMENT                                      |
|------------|----------|-------|-------------|-----------|-------------|--------|----------------|--|
| 02:45      | 03:10    | 0.42  | 8721        | 8802      | 81          | 194.40 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 03:10      | 03:20    | 0.17  | 8802        | 8802      | 0           | .00    | Survey & Conn. | Survey & Conn.@8738' Inc 90.17° Azm 179.7°   |
| 03:20      | 03:30    | 0.17  | 8802        | 8819      | 17          | 102.00 | Sliding        | Sliding - (WOB:36;GPM :300;TFO:180))         |
| 03:30      | 03:50    | 0.33  | 8819        | 8896      | 77          | 231.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 03:50      | 04:00    | 0.17  | 8896        | 8896      | 0           | .00    | Survey & Conn. | Survey & Conn.@8832' Inc 88.05° Azm 180.48°  |
| 04:00      | 04:10    | 0.17  | 8896        | 8905      | 9           | 54.00  | Sliding        | Sliding - (WOB:36;GPM :300;TFO:75R))         |
| 04:10      | 04:30    | 0.33  | 8905        | 8991      | 86          | 258.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 04:30      | 04:50    | 0.33  | 8991        | 9005      | 14          | 42.00  | Sliding        | Sliding - (WOB:36;GPM :300;TFO:15R))         |
| 04:50      | 05:10    | 0.33  | 9005        | 9086      | 81          | 243.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 05:10      | 05:25    | 0.25  | 9086        | 9086      | 0           | .00    | Survey & Conn. | Survey & Conn.@9022' Inc 88.39° Azm 182.99°  |
| 05:25      | 05:30    | 0.08  | 9086        | 9096      | 10          | 120.00 | Sliding        | Sliding - (WOB:36;GPM :300;TFO:15R))         |
| 05:30      | 05:55    | 0.42  | 9096        | 9180      | 84          | 201.60 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 05:55      | 06:00    | 0.08  | 9180        | 9180      | 0           | .00    | Survey & Conn. | Survey & Conn.@9116' Inc 89.46° Azm 182.72°  |
| 06:00      | 06:20    | 0.33  | 9180        | 9275      | 95          | 285.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 06:20      | 06:25    | 0.08  | 9275        | 9275      | 0           | .00    | Survey & Conn. | Survey & Conn.@9211' Inc 87.79° Azm 184.39°  |
| 06:25      | 07:15    | 0.83  | 9275        | 9370      | 95          | 114.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 07:15      | 07:20    | 0.08  | 9370        | 9370      | 0           | .00    | Survey & Conn. | Survey & Conn.@9306' Inc 88.06° Azm 183.57°  |
| 07:20      | 07:30    | 0.17  | 9370        | 9382      | 12          | 72.00  | Sliding        | Sliding - (WOB:36;GPM :300;TFO:15R))         |
| 07:30      | 07:50    | 0.33  | 9382        | 9465      | 83          | 249.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 07:50      | 07:55    | 0.08  | 9465        | 9465      | 0           | .00    | Survey & Conn. | Survey & Conn.@9401' Inc 88.32° Azm 182.19°  |
| 07:55      | 08:10    | 0.25  | 9465        | 9477      | 12          | 48.00  | Sliding        | Sliding - (WOB:36;GPM :300;TFO:60L))         |
| 08:10      | 08:30    | 0.33  | 9477        | 9559      | 82          | 246.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 08:30      | 08:35    | 0.08  | 9559        | 9559      | 0           | .00    | Survey & Conn. | Survey & Conn.@9495' Inc 88.15° Azm 181.62°  |
| 08:35      | 08:45    | 0.17  | 9559        | 9573      | 14          | 84.00  | Sliding        | Sliding - (WOB:36;GPM :300;TFO:45L))         |
| 08:45      | 09:05    | 0.33  | 9573        | 9654      | 81          | 243.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 09:05      | 09:10    | 0.08  | 9654        | 9654      | 0           | .00    | Survey & Conn. | Survey & Conn.@9590' Inc 89.5° Azm 180.91°   |
| 09:10      | 09:35    | 0.42  | 9654        | 9749      | 95          | 228.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 09:35      | 09:40    | 0.08  | 9749        | 9749      | 0           | .00    | Survey & Conn. | Survey & Conn.@9685' Inc 88.96° Azm 181.9°   |
| 09:40      | 09:55    | 0.25  | 9749        | 9764      | 15          | 60.00  | Sliding        | Sliding - (WOB:36;GPM :300;TFO:15L))         |
| 09:55      | 10:15    | 0.33  | 9764        | 9844      | 80          | 240.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 10:15      | 10:20    | 0.08  | 9844        | 9844      | 0           | .00    | Survey & Conn. | Survey & Conn.@9780' Inc 90.34° Azm 180.73°  |
| 10:20      | 10:30    | 0.17  | 9844        | 9851      | 7           | 42.00  | Sliding        | Sliding - (WOB:36;GPM :300;TFO:45L))         |
| 10:30      | 10:45    | 0.25  | 9851        | 9938      | 87          | 348.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 10:45      | 10:50    | 0.08  | 9938        | 9938      | 0           | .00    | Survey & Conn. | Survey & Conn.@9874' Inc 90.03° Azm 180.05°  |
| 10:50      | 11:10    | 0.33  | 9938        | 10033     | 95          | 285.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 11:10      | 11:15    | 0.08  | 10033       | 10033     | 0           | .00    | Survey & Conn. | Survey & Conn.@9969' Inc 88.93° Azm 178.15°  |
| 11:15      | 11:30    | 0.25  | 10033       | 10046     | 13          | 52.00  | Sliding        | Sliding - (WOB:36;GPM :300;TFO:30R))         |
| 11:30      | 11:50    | 0.33  | 10046       | 10128     | 82          | 246.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 11:50      | 11:55    | 0.08  | 10128       | 10128     | 0           | .00    | Survey & Conn. | Survey & Conn.@10064' Inc 89.77° Azm 178.92° |
| 11:55      | 12:10    | 0.25  | 10128       | 10223     | 95          | 380.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 12:10      | 12:15    | 0.08  | 10223       | 10223     | 0           | .00    | Survey & Conn. | Survey & Conn.@10159' Inc 90.03° Azm 179.01° |
| 12:15      | 12:35    | 0.33  | 10223       | 10318     | 95          | 285.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 12:35      | 12:40    | 0.08  | 10318       | 10318     | 0           | .00    | Survey & Conn. | Survey & Conn.@10254' Inc 89.46° Azm 178.6°  |
| 12:40      | 13:05    | 0.42  | 10318       | 10412     | 94          | 225.60 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 13:05      | 13:10    | 0.08  | 10412       | 10412     | 0           | .00    | Survey & Conn. | Survey & Conn.@10348' Inc 88.52° Azm 178.65° |
| 13:10      | 13:25    | 0.25  | 10412       | 10426     | 14          | 56.00  | Sliding        | Sliding - (WOB:36;GPM :300;TFO:30R))         |
| 13:25      | 13:55    | 0.50  | 10426       | 10507     | 81          | 162.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 13:55      | 14:00    | 0.08  | 10507       | 10507     | 0           | .00    | Survey & Conn. | Survey & Conn.@10443' Inc 89.03° Azm 179.6°  |

| Start Time | End Time | Hours | Start Depth | End Depth | Delta Depth | ROP    | Activity Code  | COMMENT                                      |
|------------|----------|-------|-------------|-----------|-------------|--------|----------------|--|
| 14:00      | 14:20    | 0.33  | 10507       | 10523     | 16          | 48.00  | Sliding        | Sliding - (WOB:36;GPM :300;TFO:15R)          |
| 14:20      | 14:40    | 0.33  | 10523       | 10602     | 79          | 237.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 14:40      | 14:45    | 0.08  | 10602       | 10602     | 0           | .00    | Survey & Conn. | Survey & Conn.@10538' Inc 90.54° Azm 179.45° |
| 14:45      | 15:00    | 0.25  | 10602       | 10696     | 94          | 376.00 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 15:00      | 15:05    | 0.08  | 10696       | 10696     | 0           | .00    | Survey & Conn. | Survey & Conn.@10632' Inc 88.92° Azm 178.18° |
| 15:05      | 15:30    | 0.42  | 10696       | 10711     | 15          | 36.00  | Sliding        | Sliding - (WOB:36;GPM :300;TFO:15R))         |
| 15:30      | 15:55    | 0.42  | 10711       | 10792     | 81          | 194.40 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 15:55      | 16:00    | 0.08  | 10792       | 10792     | 0           | .00    | Survey & Conn. | Survey & Conn.@10728' Inc 90.37° Azm 178.65° |
| 16:00      | 16:25    | 0.42  | 10792       | 10886     | 94          | 225.60 | Drilling       | Drilling - (WOB:32;GPM :300;RPM:90)          |
| 16:25      | 16:30    | 0.08  | 10886       | 10886     | 0           | .00    | Survey & Conn. | Survey & Conn.@10822' Inc 91.14° Azm 179.43° |
| 16:30      | 16:45    | 0.25  | 10886       | 10981     | 95          | 380.00 | Drilling       | Drilling - (WOB:35;GPM :276;RPM:90)          |
| 16:45      | 16:50    | 0.08  | 10981       | 10981     | 0           | .00    | Survey & Conn. | Survey & Conn.@10917' Inc 91.61° Azm 179.15° |
| 16:50      | 17:05    | 0.25  | 10981       | 10991     | 10          | 40.00  | Sliding        | Sliding - (WOB:36;GPM :300;TFO:30R))         |
| 17:05      | 17:30    | 0.42  | 10991       | 11076     | 85          | 204.00 | Drilling       | Drilling - (WOB:35;GPM :276;RPM:90)          |
| 17:30      | 17:35    | 0.08  | 11076       | 11076     | 0           | .00    | Survey & Conn. | Survey & Conn.@11012' Inc 90.1° Azm 179.61°  |
| 17:35      | 18:00    | 0.42  | 11076       | 11171     | 95          | 228.00 | Drilling       | Drilling - (WOB:35;GPM :276;RPM:90)          |
| 18:00      | 18:10    | 0.17  | 11171       | 11171     | 0           | .00    | Survey & Conn. | Survey & Conn.@11107' Inc 89.4° Azm 179.27°  |
| 18:10      | 18:30    | 0.33  | 11171       | 11181     | 10          | 30.00  | Sliding        | Sliding - (WOB:36;GPM :300;TFO:180)          |
| 18:30      | 18:50    | 0.33  | 11181       | 11265     | 84          | 252.00 | Drilling       | Drilling - (WOB:35;GPM :276;RPM:90)          |
| 18:50      | 18:55    | 0.08  | 11265       | 11265     | 0           | .00    | Survey & Conn. | Survey & Conn.@11201' Inc 90° Azm 179.51°    |
| 18:55      | 19:20    | 0.42  | 11265       | 11360     | 95          | 228.00 | Drilling       | Drilling - (WOB:35;GPM :276;RPM:90)          |
| 19:20      | 19:30    | 0.17  | 11360       | 11360     | 0           | .00    | Survey & Conn. | Survey & Conn.@11296' Inc 89.6° Azm 179.89°  |
| 19:30      | 19:50    | 0.33  | 11360       | 11370     | 10          | 30.00  | Sliding        | Sliding - (WOB:36;GPM :300;TFO:180)          |
| 19:50      | 20:10    | 0.33  | 11370       | 11455     | 85          | 255.00 | Drilling       | Drilling - (WOB:35;GPM :276;RPM:90)          |
| 20:10      | 20:20    | 0.17  | 11455       | 11455     | 0           | .00    | Survey & Conn. | Survey & Conn.@11391' Inc 91.27° Azm 181.01° |
| 20:20      | 20:45    | 0.42  | 11455       | 11549     | 94          | 225.60 | Drilling       | Drilling - (WOB:35;GPM :276;RPM:90)          |
| 20:45      | 20:55    | 0.17  | 11549       | 11549     | 0           | .00    | Survey & Conn. | Survey & Conn.@11485' Inc 92.12° Azm 180.44° |
| 20:55      | 21:20    | 0.42  | 11549       | 11619     | 70          | 168.00 | Drilling       | Drilling - (WOB:35;GPM :276;RPM:90)          |
| 21:20      | 21:30    | 0.17  | 11619       | 11619     | 0           | .00    | Survey & Conn. | Survey & Conn.@11555' Inc 91.71° Azm 180.17° |
| 21:30      | 24:00    | 2.50  | 11619       | 11619     | 0           | .00    | Circulating    | Circulating / Clean up Cycle                 |



**JOB NO.:** 241125  
**COMPANY:** EnCana Oil & Gas USA  
**LOCATION:** Ruhl  
**RIG NAME:** HP 278  
**STATE:** Colorado  
**COUNTY:** Weld  
**WELL NAME:** Ruhl 1D-32H-B264  
**Lead Directional :** Steven Schlamp (10800)

**Report Time:** 2400 **8 of 8**  
**API JOB #** 05-123-40282-00  
**WORK ORDER#** 241125  
**FIELD:** Wattenberg  
**Township:** 2N  
**Range/Section** 64W 32  
**Company Man** Randy / Joe  
**2nd Dir Hand :** Ben Ezeaku (10012)

**From Sunday, January 11, 2015 at 0000 to Sunday, January 11, 2015 at 2400**

| DAILY TOTALS    |          |    | ASSEMBLY TOTALS |                    |           |           |            |            |          |           |          |         |
|-----------------|----------|----|-----------------|--------------------|-----------|-----------|------------|------------|----------|-----------|----------|---------|
| Start Depth     | 8234.00  |    | BHA #           | Motor SN / R.S. SN | Slide Ftg | Slide Hrs | Rotate Ftg | Rotate Hrs | Circ Hrs | D & C Hrs | BHA Ftg  | Avg ROP |
| End Depth       | 11619.00 |    | 2               | 084                | 266.00    | 4.58      | 3,838.00   | 16.58      | 3.83     | 25.00     | 4,104.00 | 165.26  |
| Below Rot Hrs.  | 24.00    |    |                 |                    |           |           |            |            |          |           |          |         |
| Total Drilled:  | 3385.00  |    |                 |                    |           |           |            |            |          |           |          |         |
| Avg. Total ROP: | 192.51   |    |                 |                    |           |           |            |            |          |           |          |         |
| Slide Footage:  | 230.00   |    |                 |                    |           |           |            |            |          |           |          |         |
| Slide Hours     | 4.33     |    |                 |                    |           |           |            |            |          |           |          |         |
| Avg. Slide ROP: | 53.08    |    |                 |                    |           |           |            |            |          |           |          |         |
| Rotate Footage: | 3155.00  |    |                 |                    |           |           |            |            |          |           |          |         |
| Rotary Hours    | 13.25    |    |                 |                    |           |           |            |            |          |           |          |         |
| Avg. Rot ROP:   | 238.11   |    |                 |                    |           |           |            |            |          |           |          |         |
| Circ Hours      | 2.50     |    |                 |                    |           |           |            |            |          |           |          |         |
| Ream Hours      | 0.00     |    |                 |                    |           |           |            |            |          |           |          |         |
| Rotary Hrs%:    | 75.36    |    |                 |                    |           |           |            |            |          |           |          |         |
| Slide Hrs%:     | 24.64    |    |                 |                    |           |           |            |            |          |           |          |         |
| Rotary Ftg%:    | 93.21    |    |                 |                    |           |           |            |            |          |           |          |         |
| Slide Ftg%:     | 6.79     |    |                 |                    |           |           |            |            |          |           |          |         |
| cASING          |          |    |                 |                    |           |           |            |            |          |           |          |         |
| Size            | Lb/Ft    | MD |                 |                    |           |           |            |            |          |           |          |         |
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**GENERAL COMMENT**

| Start Time | End Time | Hours | Start Depth | End Depth | Delta Depth | ROP | Activity Code | COMMENT              |
|------------|----------|-------|-------------|-----------|-------------|-----|---------------|----------------------|
| 00:00      | 08:00    | 8.00  | 11619       | 11619     | 0           | .00 | POOH          | POOH                 |
| 08:00      | 08:10    | 0.17  | 11619       | 11619     | 0           | .00 | Other         | JSA with Rig Crew    |
| 08:10      | 08:40    | 0.50  | 11619       | 11619     | 0           | .00 | Change BHA    | Lay down Bit & Motor |
| 08:40      | 24:00    | 15.33 | 11619       | 11619     | 0           | .00 | Standby       | Standby              |

## BHA # 1

## PDT

JOB NO.: 232819      Work Order:  
 COMPANY: EnCana Oil & Gas USA  
 LOCATION: Ruhl  
 RIG NAME: HP 278  
 STATE: Colorado  
 COUNTY: Weld  
 WELL NAME: Ruhl 1D 32H-B264

FIELD: Wattenberg  
 Township: 2N  
 SECT. RANGE: 32      64W  
 Lead DD: Paul Turner (10972)  
 Co. Man: Randy / Joe  
 BHA TYPE: Steerable Assembly  
 BHA WT: 12443      Wt @ Jars: N/A

| Time and Depths                | MOTOR DATA                 | Drilling Parameters  |
|--------------------------------|----------------------------|----------------------|
| Date In: 11-Dec-14 @ 19:15     | SDI Drill Motor            | SO/PU: 0 - 0 / 0-0   |
| Date Out: 12-Dec-14 @ 04:40    | MFG.: SDI                  | Rot Strg Wt: 0-0     |
| Hrs In Hole: 9.08              | Pad OD: 8.27               | WOB: 4 - 25          |
| Start Depth: 129.00            | NB Stab: 0                 | TORQ: 2 - 10         |
| End Depth: 1221.00             | Bit to Bend: 6.9           | SPP: 890 - 1240      |
| Total Drilled: 1092.00         | Bent Hsg/Sub°: 2.25 / 2.25 | Motor RPM: 68 - 86   |
| Avg. Total ROP: 284.87         | Lobe/Stage: 7/8 / 4        | Rotary RPM: 50 - 50  |
| Circ Hrs: Tot/Only 5.25 / 1.42 | Rev/GAL: 0.16              | Flow Rate: 422 - 537 |
| Percent Slide: 16.21           | Rotor Jet: 0               | Avg Diff:            |
| Percent Hrs: 23.91             | Prop BUR:                  | Stall Pres.:         |
| Slide Hours: .92               | Act BUR:                   | Off Bot Pres.:       |
| Total Sliding: 177.00          |                            |                      |
| Avg. Slide ROP: 193.09         |                            |                      |
| Percent Rotary: 83.79          |                            |                      |
| Percent Hrs: 76.09             |                            |                      |
| Rotary Hours: 2.92             |                            |                      |
| Total Rotary: 915.00           |                            |                      |
| Avg. Rotary ROP: 313.71        |                            |                      |
| Reason POOH: TD                |                            |                      |

| MWD Spacing | Gamma: 0 | Restiv: 0 | Sensor: 0 | Last Casing            |
|-------------|----------|-----------|-----------|------------------------|
|             | GYRO: 0  | DNSC: 0   | Sonic: 0  | Shoe @:      Hanger @: |

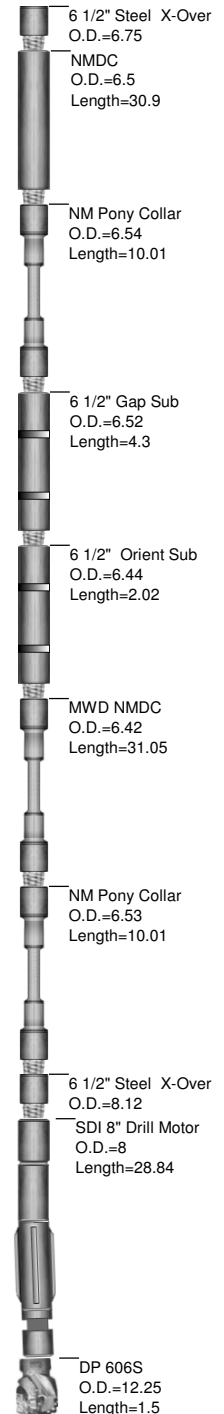
INC IN: .0      INC OUT: .0      AZM IN: .00      AZM OUT: .00

- SDI 8" Drill Motor 7/8 4.0stg 2.25FBH  
 - Speed Ratio: 0.16RPG  
 - Max Flow: 900 GPM  
 - Max Diff: 900  
 - EM TFO: 342.5  
 - Gyro TFO: N/A

- Bit to Sensor: 60.90'  
 - Bit to Survey: 63'  
 - Bit to Gyro: N/A

## BHA Detail

| Description         | Serial # | I.D. | O.D.  | Length | Sum    | Top Conn   | MFG.  |
|---------------------|----------|------|-------|--------|--------|------------|-------|
| DP 606S             | 7032254  |      | 12.25 | 1.50   | 1.50   | 6 5/8 REGP | BAKER |
| SDI 8" Drill Motor  | 836      |      | 8     | 28.84  | 30.34  | 6 5/8 REGB | SDI   |
| 6 1/2" Steel X-Over | 1-858    | 3.25 | 8.12  | 4.04   | 34.38  | 4 1/2 XHB  | SDI   |
| NM Pony Collar      | 125-074  | 3.37 | 6.53  | 10.01  | 44.39  | 4 1/2 XHB  | SDI   |
| MWD NMDC            | 122-969  | 3.25 | 6.42  | 31.05  | 75.44  | 4 1/2 XHB  | SDI   |
| 6 1/2" Orient Sub   | 8-741    | 3.31 | 6.44  | 2.02   | 77.46  | 4 1/2 XHB  | SDI   |
| 6 1/2" Gap Sub      | 69-911   | 3    | 6.52  | 4.30   | 81.76  | 4 1/2 XHB  | SDI   |
| NM Pony Collar      | 125-412  | 3.25 | 6.54  | 10.01  | 91.77  | 4 1/2 XHB  | SDI   |
| NMDC                | DR 9338  | 3.25 | 6.5   | 30.90  | 122.67 | 4 1/2 XHB  | OTHER |
| 6 1/2" Steel X-Over | SD11583  | 3.25 | 6.75  | 3.04   | 125.71 | XT39B      | SDI   |





**JOB NO.:** 232819  
**COMPANY:** EnCana Oil & Gas USA  
**LOCATION:** Ruhl  
**RIG NAME:** HP 278  
**STATE:** Colorado  
**COUNTY:** Country  
**WELL NAME:** Ruhl 1D 32H-B264

**FIELD:** Wattenberg  
**Township:** 2N  
**Range** 64W

**MOTOR INFORMATION**

**Desc:** SDI Drill Motor  
**Bent Hsg/Sub:** 2.25/ 2.25 **Bit to Bend:** 6.9  
**Pad OD:** 8.27 **NB Stab:**

**Slide Report for BHA # 1**

Note: Surveys listed are interpolated from the actual surveys

| # | Date   | Drill Mode | Start Time | End Time | Hours | Start MD | End MD | Depth Drilled | WOB | ROP   | RPM | Surf. Torque | Flow Rate | SPP  | TFO  | INC  | AZM   | DLS  | Note |
|---|--------|------------|------------|----------|-------|----------|--------|---------------|-----|-------|-----|--------------|-----------|------|------|------|-------|------|------|
| 1 | 11-Dec | Drilling   | 20:20      | 20:35    | 0.25  | 129      | 159    | 30            | 4   | 120.0 | 50  | 2            | 422       | 890  |      | 5.30 | 0.00  | 3.34 |      |
| 1 | 11-Dec | Sliding    | 20:35      | 20:40    | 0.08  | 159      | 174    | 15            | 4   | 180.0 | 50  | 2            | 422       | 890  | 45M  | 5.80 | 0.00  | 3.34 |      |
| 1 | 11-Dec | Drilling   | 20:55      | 21:10    | 0.25  | 174      | 217    | 43            | 4   | 172.0 | 50  | 2            | 422       | 890  |      | 7.24 | 0.00  | 3.34 |      |
| 1 | 11-Dec | Sliding    | 21:15      | 21:20    | 0.08  | 217      | 237    | 20            | 4   | 240.0 | 50  | 2            | 422       | 890  | 45M  | 7.91 | 0.00  | 3.34 |      |
| 1 | 11-Dec | Drilling   | 21:20      | 21:40    | 0.33  | 237      | 308    | 71            | 4   | 213.0 | 50  | 2            | 422       | 890  |      | 2.35 | 62.54 | 0.00 |      |
| 1 | 11-Dec | Sliding    | 21:45      | 21:50    | 0.08  | 308      | 323    | 15            | 12  | 180.0 | 50  | 4            | 499       | 890  | 15M  | 2.35 | 62.54 | 0.00 |      |
| 1 | 11-Dec | Drilling   | 21:50      | 22:05    | 0.25  | 323      | 399    | 76            | 9   | 304.0 | 50  | 4            | 499       | 890  |      | 3.34 | 57.09 | 0.00 |      |
| 1 | 11-Dec | Sliding    | 22:15      | 22:20    | 0.08  | 399      | 411    | 12            | 12  | 144.0 | 50  | 6            | 537       | 1240 | 300M | 3.34 | 57.09 | 0.00 |      |
| 1 | 11-Dec | Drilling   | 22:20      | 22:35    | 0.25  | 411      | 490    | 79            | 14  | 316.0 | 50  | 6            | 537       | 1240 |      | 2.52 | 49.47 | 0.00 |      |
| 1 | 11-Dec | Drilling   | 22:40      | 22:55    | 0.25  | 490      | 582    | 92            | 14  | 368.0 | 50  | 9            | 537       | 1240 |      | 2.14 | 46.49 | 0.00 |      |
| 1 | 11-Dec | Drilling   | 23:00      | 23:15    | 0.25  | 582      | 671    | 89            | 24  | 356.0 | 50  | 10           | 537       | 1240 |      | 1.81 | 42.83 | 0.00 |      |
| 1 | 11-Dec | Sliding    | 23:20      | 23:25    | 0.08  | 671      | 683    | 12            | 18  | 144.0 | 50  | 10           | 537       | 1240 | 105M | 1.81 | 42.83 | 0.00 |      |
| 1 | 11-Dec | Drilling   | 23:25      | 23:40    | 0.25  | 683      | 852    | 169           | 24  | 676.0 | 50  | 10           | 537       | 1240 |      | 2.91 | 63.43 | 0.00 |      |
| 1 | 12-Dec | Sliding    | 00:00      | 00:05    | 0.08  | 852      | 867    | 15            | 18  | 180.0 | 50  | 10           | 537       | 1240 | 30M  | 2.91 | 63.43 | 0.00 |      |
| 1 | 12-Dec | Drilling   | 00:05      | 00:15    | 0.17  | 867      | 942    | 75            | 25  | 450.0 | 50  | 10           | 537       | 1240 |      | 4.03 | 50.76 | 0.00 |      |
| 1 | 12-Dec | Sliding    | 00:20      | 00:25    | 0.08  | 942      | 950    | 8             | 18  | 96.0  | 50  | 10           | 537       | 1240 | 135M | 4.03 | 50.76 | 0.00 |      |
| 1 | 12-Dec | Drilling   | 00:25      | 00:35    | 0.17  | 950      | 1033   | 83            | 25  | 498.0 | 50  | 10           | 537       | 1240 |      | 4.48 | 57.15 | 0.82 |      |
| 1 | 12-Dec | Sliding    | 00:40      | 00:50    | 0.17  | 1033     | 1068   | 35            | 18  | 210.0 | 50  | 10           | 537       | 1240 | 60M  | 4.89 | 53.04 | 0.80 |      |
| 1 | 12-Dec | Drilling   | 00:50      | 01:05    | 0.25  | 1068     | 1123   | 55            | 25  | 220.0 | 50  | 10           | 537       | 1240 |      | 5.34 | 53.04 | 0.80 |      |
| 1 | 12-Dec | Sliding    | 01:10      | 01:20    | 0.17  | 1123     | 1168   | 45            | 18  | 270.0 | 50  | 10           | 537       | 1240 | 60M  | 0.00 | 0.00  | 0.00 |      |
| 1 | 12-Dec | Drilling   | 01:20      | 01:25    | 0.08  | 1168     | 1215   | 47            | 25  | 564.0 | 50  | 10           | 537       | 1240 |      | 0.00 | 0.00  | 0.00 |      |
| 1 | 12-Dec | Drilling   | 01:30      | 01:40    | 0.17  | 1215     | 1221   | 6             | 25  | 36.0  | 50  | 10           | 537       | 1240 |      | 0.00 | 0.00  | 0.00 |      |

**Total Drilled:** 1092 **Avg. Total ROP:** 284.87

**DEPTH% - TIME %**

**Total Rotary Drilled:** 915 **Avg. Rotary ROP:** 313.71 **Percent Rotary:** 83.79 - 76.09

**Total Drilled Sliding:** 177 **Avg. Slide ROP:** 193.09 **Percent Slide:** 16.21 - 23.91



## BHA # 1

## PDT

JOB NO.: 241125 Work Order: 241125  
 COMPANY: EnCana Oil & Gas USA  
 LOCATION: Ruhl  
 RIG NAME: HP 278  
 STATE: Colorado  
 COUNTY: Weld  
 WELL NAME: Ruhl 1D-32H-B264

FIELD: Wattenberg  
 Township: 2N  
 SECT. RANGE: 32 64W  
 Lead DD: Steven Schlamp (10800)  
 Co. Man: Randy / Quiz  
 BHA TYPE: Steerable Assembly  
 BHA WT: 110663 Wt @ Jars: N/A

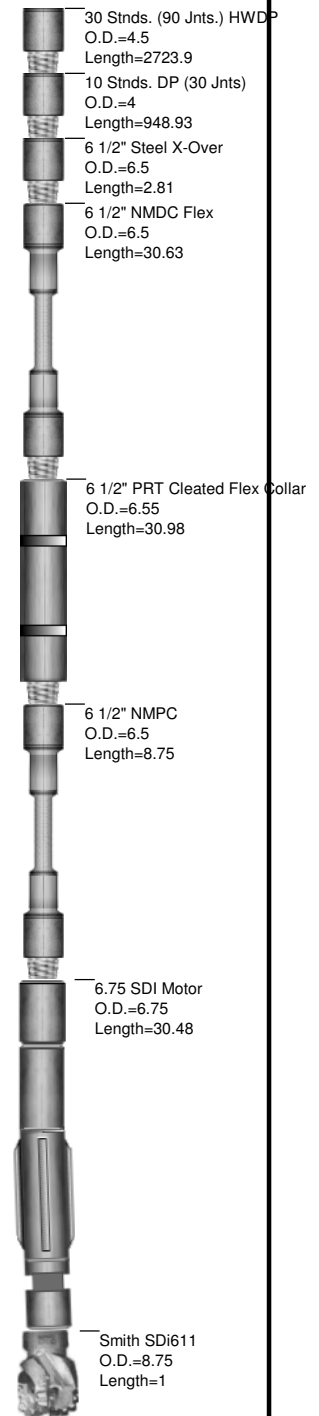
| Time and Depths                                 |                   | MOTOR DATA       |           | Drilling Parameters  |                 |
|---|-------------------|------------------|-----------|----------------------|-----------------|
| Date In:  | 04-Jan-15 @ 16:10 | 6.75 Drill Motor |           | SO/PU:               | 0 - 118 / 0-151 |
| Date Out:                                       | 08-Jan-15 @ 01:45 | MFG.: SDI        |           | Rot Strg Wt:         | 0-132           |
| Hrs In Hole:                                    | 81.58             | Pad OD:          | 7.25      | WOB:                 | 3 - 30          |
| Start Depth:                                    | 1221.00           | NB Stab:         | 0         | TORQ:                | 2 - 9.2         |
| End Depth:                                      | 7435.00           | Bit to Bend:     | 2.5       | SPP:                 | 980 - 4550      |
| Total Drilled:                                  | 6214.00           | Bent Hsg/Sub°:   | 1.83 /    | Motor RPM:           | 145 - 174       |
| Avg. Total ROP:                                 | 195.72            | Lobe/Stage:      | 7/8 / 6.4 | Rotary RPM:          | 30 - 60         |
| Circ Hrs: Tot/Only                              | 37.25 / 5.50      | Rev/GAL:         | 0.29      | Flow Rate:           | 460 - 600       |
| Percent Slide:                                  | 12.60             | Rotor Jet:       | 0         | Avg Diff:            |                 |
| Percent Hrs:                                    | 27.56             | Prop BUR:        |           | Stall Pres.:         |                 |
| Slide Hours:                                    | 8.75              | Act BUR:         |           | Off Bot Pres.:       |                 |
| Total Sliding:                                  | 783.00            | Mud Data         |           | Bit Record           |                 |
| Avg. Slide ROP:                                 | 89.49             | Type             |           | SMITH / Smith SDI611 |                 |
| Percent Rotary:                                 | 87.40             | WT:              | 0         | GAS:                 | 0               |
| Percent Hrs:                                    | 72.44             | Vis:             | 0         | PV:                  | 0               |
| Rotary Hours:                                   | 23.00             | WL:              | 0         | PH:                  | 0               |
| Total Rotary:                                   | 5431.00           | SOL:             | 0         | SAND:                | 0               |
| Avg. Rotary ROP:                                | 236.13            | Oil %:           | 0         | T °:                 | 0               |
| Reason POOH:                                    | TD                | Chlor:           | 0         | YP:                  | 0               |
| MWD Spacing                                     | Gamma: 0          | Restiv: 0        | Sensor: 0 | Last Casing          |                 |
|   | GYRO: 0           | DNSC: 0          | Sonic: 0  | Shoe @: Hanger @:    |                 |
| INC IN: .0 INC OUT: .0 AZM IN: .00 AZM OUT: .00 |                   |                  |           |                      |                 |

- SDI Titan TD 6.75" Drill Motor 7/8 6.4stg 1.83FBH  
 - Speed Ratio: 0.29RPG  
 - TFO:

- Bit to Sensor - 55.74'  
 - Bit to Survey - 58'  
 - Bit to Gamma - 36.57'  
 - Bit to Resistivity -45.07'

## BHA Detail

| Description                    | Serial # | I.D.   | O.D. | Length   | Sum     | Top Conn   | MFG.  |
|--------------------------------|----------|--------|------|----------|---------|------------|-------|
| Smith SDI611                   | JK8488   |        | 8.75 | 1.00     | 1.00    | 4 1/2 REGP | SMITH |
| 6.75 SDI Motor                 | 6694     | 2.0    | 6.75 | 30.48    | 31.48   | 4 1/2 XHB  | SDI   |
| 6 1/2" NMPC                    | 33769    | 2.8125 | 6.5  | 8.75     | 40.23   | 4 1/2 XHB  | SDI   |
| 6 1/2" PRT Cleated Flex Collar | 182-005  | 3.3125 | 6.55 | 30.98    | 71.21   | 4 1/2 REGB | SDI   |
| 6 1/2" NMDC Flex               | 122-333F | 3.25   | 6.5  | 30.63    | 101.84  | 4 1/2 XHB  | SDI   |
| 6 1/2" Steel X-Over            | 108284   | 2.75   | 6.5  | 2.81     | 104.65  | 4 1/2 XHB  | SDI   |
| 10 Stnds. DP (30 Jnts)         | RIG111   | 3.25   | 4    | 948.93   | 1053.58 | XT39B      | Other |
| 30 Stnds. (90 Jnts.) HWD       | RIG123   | 2.88   | 4.5  | 2,723.90 | 3777.48 | XT39B      | Other |





**JOB NO.:** 241125  
**COMPANY:** EnCana Oil & Gas USA  
**LOCATION:** Ruhl  
**RIG NAME:** HP 278  
**STATE:** Colorado  
**COUNTY:** Country  
**WELL NAME:** Ruhl 1D-32H-B264

**FIELD:** Wattenberg  
**Township:** 2N  
**Range** 64W

**MOTOR INFORMATION**

**Desc:** 6.75 Drill Motor  
**Bent Hsg/Sub:** 1.83/ 0 **Bit to Bend:** 2.5  
**Pad OD:** 7.25 **NB Stab:**

**Slide Report for BHA # 1**

Note: Surveys listed are interpolated from the actual surveys

| # | Date  | Drill Mode | Start Time | End Time | Hours | Start MD | End MD | Depth Drilled | WOB | ROP   | RPM | Surf. Torque | Flow Rate | SPP  | TFO | INC   | AZM   | DLS  | Note |
|---|-------|------------|------------|----------|-------|----------|--------|---------------|-----|-------|-----|--------------|-----------|------|-----|-------|-------|------|------|
| 1 | 4-Jan | Drilling   | 22:00      | 22:35    | 0.58  | 1231     | 1234   | 3             | 3   | 5.1   | 30  | 2            | 460       | 980  |     | 6.24  | 53.08 | 0.00 |      |
| 1 | 4-Jan | Drilling   | 22:45      | 23:05    | 0.33  | 1234     | 1325   | 91            | 3   | 273.0 | 50  | 2            | 460       | 980  |     | 6.23  | 53.54 | 0.00 |      |
| 1 | 4-Jan | Sliding    | 23:15      | 23:20    | 0.08  | 1325     | 1340   | 15            | 18  | 180.0 | 50  | 3            | 537       | 1778 | 30R | 6.23  | 53.54 | 0.00 |      |
| 1 | 4-Jan | Drilling   | 23:20      | 23:45    | 0.42  | 1340     | 1416   | 76            | 24  | 182.4 | 60  | 3            | 537       | 1778 |     | 6.23  | 53.54 | 0.00 |      |
| 1 | 4-Jan | Sliding    | 23:50      | 23:55    | 0.08  | 1416     | 1428   | 12            | 18  | 144.0 | 60  | 3            | 537       | 1778 | 30R | 6.23  | 53.54 | 0.00 |      |
| 1 | 4-Jan | Drilling   | 23:55      | 24:00    | 0.08  | 1428     | 1461   | 33            | 24  | 396.0 | 60  | 3            | 537       | 1778 |     | 10.93 | 61.07 | 0.00 |      |
| 1 | 5-Jan | Drilling   | 00:00      | 00:05    | 0.08  | 1461     | 1508   | 47            | 24  | 564.0 | 60  | 3            | 537       | 1778 |     | 10.93 | 61.07 | 0.00 |      |
| 1 | 5-Jan | Drilling   | 00:15      | 01:00    | 0.75  | 1508     | 1689   | 181           | 24  | 241.3 | 60  | 3            | 537       | 1778 |     | 11.28 | 58.38 | 0.00 |      |
| 1 | 5-Jan | Drilling   | 01:10      | 01:25    | 0.25  | 1689     | 1780   | 91            | 24  | 364.0 | 60  | 3            | 537       | 1778 |     | 11.28 | 58.38 | 0.00 |      |
| 1 | 5-Jan | Sliding    | 01:30      | 01:35    | 0.08  | 1780     | 1788   | 8             | 18  | 96.0  | 60  | 3            | 537       | 1778 | 180 | 11.28 | 58.38 | 0.00 |      |
| 1 | 5-Jan | Drilling   | 01:35      | 01:50    | 0.25  | 1788     | 1870   | 82            | 24  | 328.0 | 60  | 3            | 537       | 1778 |     | 11.00 | 56.34 | 0.00 |      |
| 1 | 5-Jan | Sliding    | 02:05      | 02:10    | 0.08  | 1870     | 1877   | 7             | 18  | 84.0  | 60  | 3            | 537       | 1778 | 180 | 11.00 | 56.34 | 0.00 |      |
| 1 | 5-Jan | Drilling   | 02:10      | 02:25    | 0.25  | 1877     | 1961   | 84            | 26  | 336.0 | 60  | 3            | 537       | 1778 |     | 11.00 | 56.34 | 0.00 |      |
| 1 | 5-Jan | Sliding    | 02:25      | 02:30    | 0.08  | 1961     | 1968   | 7             | 18  | 84.0  | 60  | 3            | 537       | 1778 | 180 | 11.00 | 56.34 | 0.00 |      |
| 1 | 5-Jan | Drilling   | 02:30      | 02:45    | 0.25  | 1968     | 2051   | 83            | 26  | 332.0 | 60  | 3.2          | 598       | 2325 |     | 9.40  | 48.68 | 0.00 |      |
| 1 | 5-Jan | Sliding    | 02:50      | 02:55    | 0.08  | 2051     | 2059   | 8             | 22  | 96.0  | 60  | 3.2          | 598       | 2325 | 90R | 9.40  | 48.68 | 0.00 |      |
| 1 | 5-Jan | Drilling   | 02:55      | 03:05    | 0.17  | 2059     | 2127   | 68            | 26  | 408.0 | 60  | 3.2          | 598       | 2325 |     | 9.40  | 48.68 | 0.00 |      |
| 1 | 5-Jan | Drilling   | 16:10      | 16:15    | 0.08  | 2127     | 2143   | 16            | 26  | 192.0 | 60  | 3.2          | 598       | 2325 |     | 9.40  | 48.68 | 0.00 |      |
| 1 | 5-Jan | Sliding    | 16:25      | 16:30    | 0.08  | 2143     | 2150   | 7             | 22  | 84.0  | 60  | 3.2          | 598       | 2325 | 60R | 9.40  | 48.68 | 0.00 |      |
| 1 | 5-Jan | Drilling   | 16:30      | 16:45    | 0.25  | 2150     | 2231   | 81            | 26  | 324.0 | 60  | 3.2          | 598       | 2700 |     | 9.83  | 58.22 | 0.00 |      |
| 1 | 5-Jan | Sliding    | 16:50      | 16:55    | 0.08  | 2231     | 2236   | 5             | 22  | 60.0  | 60  | 3.2          | 598       | 2700 | 0R  | 9.83  | 58.22 | 0.00 |      |
| 1 | 5-Jan | Drilling   | 16:55      | 17:20    | 0.42  | 2236     | 2415   | 179           | 26  | 429.6 | 60  | 3.2          | 598       | 2700 |     | 10.31 | 54.95 | 0.00 |      |
| 1 | 5-Jan | Drilling   | 17:30      | 18:00    | 0.50  | 2415     | 2598   | 183           | 26  | 366.0 | 60  | 3.2          | 598       | 2700 |     | 9.51  | 53.12 | 0.00 |      |
| 1 | 5-Jan | Drilling   | 18:05      | 18:35    | 0.50  | 2598     | 2779   | 181           | 28  | 362.0 | 60  | 3.2          | 598       | 2700 |     | 8.81  | 51.60 | 0.00 |      |
| 1 | 5-Jan | Sliding    | 18:45      | 18:50    | 0.08  | 2779     | 2791   | 12            | 24  | 144.0 | 60  | 3.2          | 598       | 2700 | 30R | 8.81  | 51.60 | 0.00 |      |
| 1 | 5-Jan | Drilling   | 18:50      | 19:30    | 0.67  | 2791     | 2960   | 169           | 28  | 253.5 | 60  | 3.2          | 598       | 2700 |     | 9.21  | 59.10 | 0.00 |      |

# Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

| # | Date  | Drill Mode | Start Time | End Time | Hours | Start MD | End MD | Depth Drilled | WOB | ROP   | RPM | Surf. Torque | Flow Rate | SPP  | TFO  | INC   | AZM    | DLS  | Note |
|---|-------|------------|------------|----------|-------|----------|--------|---------------|-----|-------|-----|--------------|-----------|------|------|-------|--------|------|------|
| 1 | 5-Jan | Drilling   | 19:40      | 19:55    | 0.25  | 2960     | 3052   | 92            | 28  | 368.0 | 60  | 3.2          | 598       | 2700 |      | 9.21  | 59.10  | 0.00 |      |
| 1 | 5-Jan | Sliding    | 19:55      | 20:00    | 0.08  | 3052     | 3065   | 13            | 24  | 156.0 | 60  | 3.2          | 598       | 2700 | 0R   | 9.21  | 59.10  | 0.00 |      |
| 1 | 5-Jan | Drilling   | 20:00      | 20:20    | 0.33  | 3065     | 3141   | 76            | 30  | 228.0 | 60  | 5.5          | 600       | 3100 |      | 10.68 | 61.69  | 0.00 |      |
| 1 | 5-Jan | Drilling   | 20:25      | 20:50    | 0.42  | 3141     | 3324   | 183           | 30  | 439.2 | 60  | 5.5          | 600       | 3100 |      | 9.69  | 61.98  | 0.00 |      |
| 1 | 5-Jan | Drilling   | 21:00      | 21:35    | 0.58  | 3324     | 3506   | 182           | 30  | 312.0 | 60  | 5.5          | 600       | 3100 |      | 8.07  | 62.95  | 0.00 |      |
| 1 | 5-Jan | Sliding    | 21:45      | 21:50    | 0.08  | 3506     | 3518   | 12            | 24  | 144.0 | 60  | 5.5          | 598       | 3100 | 15L  | 8.07  | 62.95  | 0.00 |      |
| 1 | 5-Jan | Drilling   | 21:50      | 22:25    | 0.58  | 3518     | 3686   | 168           | 30  | 288.0 | 60  | 6.2          | 600       | 3150 |      | 7.62  | 60.25  | 0.00 |      |
| 1 | 5-Jan | Sliding    | 22:35      | 22:40    | 0.08  | 3686     | 3692   | 6             | 24  | 72.0  | 60  | 6.2          | 598       | 3750 | 15L  | 7.62  | 60.25  | 0.00 |      |
| 1 | 5-Jan | Drilling   | 22:40      | 23:15    | 0.58  | 3692     | 3872   | 180           | 30  | 308.6 | 60  | 6.2          | 600       | 3750 |      | 6.15  | 55.80  | 0.00 |      |
| 1 | 5-Jan | Sliding    | 23:25      | 23:30    | 0.08  | 3872     | 3882   | 10            | 24  | 120.0 | 60  | 6.2          | 598       | 3750 | 180  | 6.15  | 55.80  | 0.00 |      |
| 1 | 5-Jan | Drilling   | 23:30      | 23:45    | 0.25  | 3882     | 3966   | 84            | 30  | 336.0 | 60  | 6.2          | 600       | 3750 |      | 6.15  | 55.80  | 0.00 |      |
| 1 | 5-Jan | Sliding    | 23:45      | 23:50    | 0.08  | 3966     | 3974   | 8             | 24  | 96.0  | 60  | 6.2          | 598       | 3750 | 90R  | 6.15  | 55.80  | 0.00 |      |
| 1 | 5-Jan | Drilling   | 23:50      | 24:00    | 0.17  | 3974     | 4011   | 37            | 30  | 222.0 | 60  | 6.2          | 600       | 3750 |      | 3.06  | 55.96  | 0.00 |      |
| 1 | 6-Jan | Drilling   | 00:00      | 00:10    | 0.17  | 4011     | 4061   | 50            | 30  | 300.0 | 60  | 6.4          | 600       | 3775 |      | 3.06  | 55.96  | 0.00 |      |
| 1 | 6-Jan | Sliding    | 00:20      | 00:25    | 0.08  | 4061     | 4068   | 7             | 24  | 84.0  | 60  | 6.4          | 600       | 3775 | 180  | 3.06  | 55.96  | 0.00 |      |
| 1 | 6-Jan | Drilling   | 00:25      | 00:50    | 0.42  | 4068     | 4251   | 183           | 30  | 439.2 | 60  | 6.4          | 600       | 3775 |      | 1.38  | 29.93  | 0.00 |      |
| 1 | 6-Jan | Drilling   | 01:05      | 01:30    | 0.42  | 4251     | 4345   | 94            | 30  | 225.6 | 60  | 6.4          | 600       | 3775 |      | 1.38  | 29.93  | 0.00 |      |
| 1 | 6-Jan | Sliding    | 01:30      | 01:35    | 0.08  | 4345     | 4355   | 10            | 24  | 120.0 | 60  | 6.4          | 600       | 3775 | 210M | 1.38  | 29.93  | 0.00 |      |
| 1 | 6-Jan | Drilling   | 01:35      | 01:45    | 0.17  | 4355     | 4440   | 85            | 30  | 510.0 | 60  | 6.4          | 600       | 3775 |      | 0.72  | 44.63  | 0.00 |      |
| 1 | 6-Jan | Drilling   | 02:00      | 02:25    | 0.42  | 4440     | 4629   | 189           | 30  | 453.6 | 60  | 6.4          | 600       | 3775 |      | 0.59  | 28.65  | 0.00 |      |
| 1 | 6-Jan | Drilling   | 02:35      | 03:00    | 0.42  | 4629     | 4724   | 95            | 30  | 228.0 | 60  | 6.4          | 600       | 3775 |      | 0.59  | 28.65  | 0.00 |      |
| 1 | 6-Jan | Sliding    | 03:00      | 03:05    | 0.08  | 4724     | 4732   | 8             | 24  | 96.0  | 60  | 6.4          | 600       | 3775 | 150M | 0.59  | 28.65  | 0.00 |      |
| 1 | 6-Jan | Drilling   | 03:05      | 03:30    | 0.42  | 4732     | 4819   | 87            | 30  | 208.8 | 60  | 6.4          | 600       | 3775 |      | 1.48  | 81.69  | 0.00 |      |
| 1 | 6-Jan | Sliding    | 03:35      | 03:40    | 0.08  | 4819     | 4826   | 7             | 28  | 84.0  | 60  | 6.4          | 600       | 3775 | 210M | 1.48  | 81.69  | 0.00 |      |
| 1 | 6-Jan | Drilling   | 03:40      | 05:15    | 1.58  | 4826     | 5199   | 373           | 30  | 235.6 | 60  | 6.4          | 600       | 3775 |      | 1.45  | 348.40 | 0.00 |      |
| 1 | 6-Jan | Sliding    | 05:25      | 05:30    | 0.08  | 5199     | 5207   | 8             | 28  | 96.0  | 60  | 6.4          | 600       | 3775 | 180M | 1.45  | 348.40 | 0.00 |      |
| 1 | 6-Jan | Drilling   | 05:30      | 06:25    | 0.92  | 5207     | 5389   | 182           | 30  | 198.5 | 60  | 6.4          | 600       | 3775 |      | 1.61  | 344.58 | 0.00 |      |
| 1 | 6-Jan | Sliding    | 06:35      | 06:50    | 0.25  | 5389     | 5401   | 12            | 28  | 48.0  | 60  | 6.4          | 600       | 3775 | 165M | 1.61  | 344.58 | 0.00 |      |
| 1 | 6-Jan | Drilling   | 06:50      | 07:30    | 0.67  | 5401     | 5579   | 178           | 30  | 267.0 | 60  | 6.4          | 600       | 3775 |      | 0.86  | 171.58 | 0.00 |      |
| 1 | 6-Jan | Drilling   | 07:35      | 08:15    | 0.67  | 5579     | 5768   | 189           | 30  | 283.5 | 60  | 9.2          | 499       | 4550 |      | 0.59  | 68.00  | 0.00 |      |
| 1 | 6-Jan | Sliding    | 08:20      | 08:30    | 0.17  | 5768     | 5778   | 10            | 28  | 60.0  | 60  | 9.2          | 600       | 4550 | 180M | 0.59  | 68.00  | 0.00 |      |
| 1 | 6-Jan | Drilling   | 08:30      | 09:10    | 0.67  | 5778     | 5958   | 180           | 30  | 270.0 | 60  | 9.2          | 499       | 4550 |      | 1.24  | 205.45 | 0.00 |      |
| 1 | 6-Jan | Drilling   | 09:15      | 09:55    | 0.67  | 5958     | 6150   | 192           | 30  | 288.0 | 60  | 9.2          | 499       | 4550 |      | 0.20  | 98.62  | 0.00 |      |
| 1 | 6-Jan | Drilling   | 10:00      | 10:30    | 0.50  | 6150     | 6300   | 150           | 30  | 300.0 | 60  | 9.2          | 499       | 4550 |      | 0.81  | 26.79  | 0.00 |      |
| 1 | 7-Jan | Drilling   | 00:45      | 01:35    | 0.83  | 6300     | 6337   | 37            | 30  | 44.4  | 60  | 9.2          | 499       | 4550 |      | 0.81  | 26.79  | 0.00 |      |



# Slide Report for BHA # 1

Note: Surveys listed are interpolated from the actual surveys

| # | Date  | Drill Mode | Start Time | End Time | Hours | Start MD | End MD | Depth Drilled | WOB | ROP   | RPM | Surf. Torque | Flow Rate | SPP  | TFO  | INC   | AZM    | DLS  | Note |
|---|-------|------------|------------|----------|-------|----------|--------|---------------|-----|-------|-----|--------------|-----------|------|------|-------|--------|------|------|
| 1 | 7-Jan | Sliding    | 02:15      | 02:30    | 0.25  | 6337     | 6347   | 10            | 28  | 40.0  | 60  | 9.2          | 499       | 4550 | 180M | 0.81  | 26.79  | 0.00 |      |
| 1 | 7-Jan | Drilling   | 02:30      | 03:05    | 0.58  | 6347     | 6432   | 85            | 30  | 145.7 | 60  | 9.2          | 499       | 4215 |      | 0.81  | 26.79  | 0.00 |      |
| 1 | 7-Jan | Drilling   | 03:10      | 03:25    | 0.25  | 6432     | 6485   | 53            | 30  | 212.0 | 60  | 9.2          | 499       | 4215 |      | 0.46  | 120.18 | 0.00 |      |
| 1 | 7-Jan | Sliding    | 04:20      | 04:55    | 0.58  | 6485     | 6527   | 42            | 28  | 72.0  | 60  | 9.2          | 499       | 4215 | 180M | 0.46  | 120.18 | 0.00 |      |
| 1 | 7-Jan | Sliding    | 05:05      | 05:40    | 0.58  | 6527     | 6595   | 68            | 28  | 116.6 | 60  | 9.2          | 499       | 4215 | 180M | 12.37 | 167.44 | 0.00 |      |
| 1 | 7-Jan | Drilling   | 05:40      | 06:00    | 0.33  | 6595     | 6622   | 27            | 30  | 81.0  | 60  | 9.2          | 499       | 4215 |      | 12.37 | 167.44 | 0.00 |      |
| 1 | 7-Jan | Sliding    | 06:05      | 06:40    | 0.58  | 6622     | 6675   | 53            | 28  | 90.9  | 60  | 9.2          | 499       | 4215 | 30R  | 20.78 | 176.56 | 0.00 |      |
| 1 | 7-Jan | Drilling   | 06:40      | 07:10    | 0.50  | 6675     | 6717   | 42            | 30  | 84.0  | 60  | 9.2          | 499       | 4215 |      | 20.78 | 176.56 | 0.00 |      |
| 1 | 7-Jan | Sliding    | 07:15      | 07:55    | 0.67  | 6717     | 6777   | 60            | 28  | 90.0  | 60  | 9.2          | 499       | 4215 | 30R  | 28.64 | 177.47 | 0.00 |      |
| 1 | 7-Jan | Drilling   | 07:55      | 08:15    | 0.33  | 6777     | 6811   | 34            | 30  | 102.0 | 60  | 9.2          | 499       | 4215 |      | 28.64 | 177.47 | 0.00 |      |
| 1 | 7-Jan | Sliding    | 08:20      | 08:50    | 0.50  | 6811     | 6874   | 63            | 28  | 126.0 | 60  | 9.2          | 499       | 4215 | 15R  | 38.82 | 179.69 | 0.00 |      |
| 1 | 7-Jan | Drilling   | 08:50      | 09:10    | 0.33  | 6874     | 6906   | 32            | 30  | 96.0  | 60  | 9.2          | 499       | 4215 |      | 38.82 | 179.69 | 0.00 |      |
| 1 | 7-Jan | Sliding    | 09:15      | 09:45    | 0.50  | 6906     | 6961   | 55            | 28  | 110.0 | 60  | 9.2          | 499       | 4215 | 15R  | 49.36 | 180.22 | 0.00 |      |
| 1 | 7-Jan | Drilling   | 09:45      | 10:05    | 0.33  | 6961     | 7001   | 40            | 30  | 120.0 | 60  | 9.2          | 499       | 4215 |      | 49.36 | 180.22 | 0.00 |      |
| 1 | 7-Jan | Drilling   | 10:35      | 10:40    | 0.08  | 7001     | 7016   | 15            | 30  | 180.0 | 60  | 9.2          | 499       | 4215 |      | 49.36 | 180.22 | 0.00 |      |
| 1 | 7-Jan | Sliding    | 10:40      | 11:10    | 0.50  | 7016     | 7060   | 44            | 28  | 88.0  | 60  | 9.2          | 499       | 4215 | 15R  | 53.39 | 179.22 | 0.00 |      |
| 1 | 7-Jan | Drilling   | 11:10      | 11:35    | 0.42  | 7060     | 7095   | 35            | 30  | 84.0  | 60  | 9.2          | 499       | 4215 |      | 53.39 | 179.22 | 0.00 |      |
| 1 | 7-Jan | Sliding    | 11:40      | 12:25    | 0.75  | 7095     | 7160   | 65            | 28  | 86.7  | 60  | 9.2          | 499       | 4215 | 30R  | 62.30 | 179.80 | 0.00 |      |
| 1 | 7-Jan | Drilling   | 12:25      | 12:50    | 0.42  | 7160     | 7190   | 30            | 30  | 72.0  | 60  | 9.2          | 499       | 4215 |      | 62.30 | 179.80 | 0.00 |      |
| 1 | 7-Jan | Sliding    | 12:55      | 13:40    | 0.75  | 7190     | 7247   | 57            | 28  | 76.0  | 60  | 9.2          | 499       | 4215 | 15R  | 72.31 | 182.22 | 0.00 |      |
| 1 | 7-Jan | Drilling   | 13:40      | 14:00    | 0.33  | 7247     | 7285   | 38            | 30  | 114.0 | 60  | 9.2          | 499       | 4215 |      | 72.31 | 182.22 | 0.00 |      |
| 1 | 7-Jan | Sliding    | 14:05      | 14:45    | 0.67  | 7285     | 7333   | 48            | 28  | 72.0  | 60  | 9.2          | 499       | 4215 | 0L   | 80.59 | 182.40 | 0.00 |      |
| 1 | 7-Jan | Drilling   | 14:45      | 15:10    | 0.42  | 7333     | 7380   | 47            | 30  | 112.8 | 60  | 9.2          | 499       | 4215 |      | 84.46 | 180.03 | 0.00 |      |
| 1 | 7-Jan | Sliding    | 15:15      | 15:40    | 0.42  | 7380     | 7406   | 26            | 28  | 62.4  | 60  | 9.2          | 499       | 4215 | 0L   | 84.46 | 180.03 | 0.00 |      |
| 1 | 7-Jan | Drilling   | 15:40      | 15:55    | 0.25  | 7406     | 7435   | 29            | 30  | 116.0 | 60  | 9.2          | 499       | 4215 |      | 84.46 | 180.03 | 0.00 |      |

**Total Drilled:**

6214

**Avg. Total ROP:**

195.72

**DEPTH% - TIME %**

**Total Rotary Drilled:**

5431

**Avg. Rotary ROP:**

236.13

**Percent Rotary:**

87.40 - 72.44

**Total Drilled Sliding:**

783

**Avg. Slide ROP:**

89.49

**Percent Slide:**

12.60 - 27.56

**BHA # 2****PDT**

JOB NO.: 241125      Work Order: 241125  
 COMPANY: EnCana Oil & Gas USA  
 LOCATION: Ruhl  
 RIG NAME: HP 278  
 STATE: Colorado  
 COUNTY: Weld  
 WELL NAME: Ruhl 1D-32H-B264

FIELD: Wattenberg  
 Township: 2N  
 SECT. RANGE: 32      64W  
 Lead DD: Steven Schlamp (10800)  
 Co. Man: Randy / Joe  
 BHA TYPE: Steerable Assembly  
 BHA WT: -1961439      Wt @ Jars: N/A

| Time and Depths    |                   | MOTOR DATA       |           | Drilling Parameters    |                    |
|--------------------|-------------------|------------------|-----------|------------------------|--------------------|
| Date In:           | 09-Jan-15 @ 08:30 | 4.75 Drill Motor |           | SO/PU:                 | 60 - 120 / 151-220 |
| Date Out:          | 11-Jan-15 @ 08:40 | MFG.: Hunting    |           | Rot Strg Wt:           | 132-149            |
| Hrs In Hole:       | 48.17             | Pad OD:          | 5.125     | WOB:                   | 18 - 36            |
| Start Depth:       | 7435.00           | NB Stab:         | 0         | TORQ:                  | 8.2 - 15           |
| End Depth:         | 11619.00          | Bit to Bend:     | 5.05      | SPP:                   | 2700 - 4600        |
| Total Drilled:     | 4104.00           | Bent Hsg/Sub°:   | 1.5 / 1.5 | Motor RPM:             | No Rev/Gal Input   |
| Avg. Total ROP:    | 193.89            | Lobe/Stage:      | 5.6 / 8.3 | Rotary RPM:            | 60 - 90            |
| Circ Hrs: Tot/Only | 25.00 / 3.83      | Rev/GAL:         | 0         | Flow Rate:             | 276 - 300          |
| Percent Slide:     | 6.48              | Rotor Jet:       | 0         | Avg Diff:              |                    |
| Percent Hrs:       | 21.65             | Prop BUR:        |           | Stall Pres.:           |                    |
| Slide Hours:       | 4.58              | Act BUR:         |           | Off Bot Pres.:         |                    |
| Total Sliding:     | 266.00            | Mud Data         |           | Bit Record             |                    |
| Avg. Slide ROP:    | 58.04             | Type             |           | Ulterra / U516S        |                    |
| Percent Rotary:    | 93.52             | WT:              | 0         | GAS:                   | 0                  |
| Percent Hrs:       | 78.35             | Vis:             | 0         | PV:                    | 0                  |
| Rotary Hours:      | 16.58             | WL:              | 0         | PH:                    | 0                  |
| Total Rotary:      | 3838.00           | SOL:             | 0         | SAND:                  | 0                  |
| Avg. Rotary ROP:   | 231.44            | Oil %:           | 0         | T °:                   | 0                  |
| Reason POOH:       | TD                | Chlor:           | 0         | YP:                    | 0                  |
| MWD Spacing        | Gamma: 0          | Restiv: 0        | Sensor: 0 | Last Casing            |                    |
|                    | GYRO: 0           | DNSC: 7344       | Sonic: 0  | Shoe @:      Hanger @: |                    |

INC IN: .0      INC OUT: .0      AZM IN: .00      AZM OUT: .00

- 5.00" Hunting 5/6 8.3stg Drill Motor 1.50FBH  
 - Speed Ratio: 1.00RPG  
 - TFO: 174.84


- Bit to Sensor - 61.82 '  
 - Bit to Survey - 64.00 '  
 - Bit to Gamma - 53.18'

**BHA Detail**

| Description                | Serial #  | I.D. | O.D.  | Length   | Sum     | Top Conn   | MFG.    |
|----------------------------|-----------|------|-------|----------|---------|------------|---------|
| U516S                      | 26514     |      | 6.125 | 1.00     | 1.00    | 3 1/2 REGP | Ulterra |
| 4.75" Hunting Drill Motor  | 084       |      | 4.75  | 29.35    | 30.35   | 3 1/2 IFB  | HUNTING |
| 4.75 NM Pony               | 51707     | 2.75 | 4.75  | 9.94     | 40.29   | 3 1/2 IFB  | OTHER   |
| 4 3/4" NMDC                | DR28956   | 2.75 | 4.75  | 31.14    | 71.43   | 3 1/2 IFB  | SDI     |
| 4 3/4" Pulser Sub          | 65-105    | 2.75 | 4.75  | 5.52     | 76.95   | 3 1/2 IFB  | SDI     |
| 4 3/4" NMDC                | DR28964   | 2.75 | 4.75  | 31.15    | 108.10  | 3 1/2 IFB  | SDI     |
| 4.75 NM Pony               | 52833     | 2.75 | 4.75  | 10.52    | 118.62  | 3 1/2 IFB  | OTHER   |
| 5" Steel XO                | 107235    | 2.75 | 4.75  | 1.54     | 120.16  | XT39B      | SDI     |
| 1 Stnd. HWDP (3 Jnts.)     | RIG222    | 2.88 | 4     | 91.61    | 211.77  | XT39B      | Other   |
| 18 Stnds. DP (54 Jnts.)    | RIG789    | 3.25 | 4     | 1,706.34 | 1918.11 | XT39B      | Other   |
| NOV SS/Agitator            | 1375416-1 | 3.25 | 4.94  | 22.16    | 1940.27 | XT39B      | NOV     |
| 4 Stnds. (12 Jnts.) 4" DP  | 789       | 3.25 | 4     | 379.91   | 2320.18 | XT39B      | Other   |
| 1 Jnt 4" HWDP              | 456       | 3.25 | 4     | 30.58    | 2350.76 | XT39B      | Other   |
| 14 Stnds. (42 Jnts.) 4" DP | ABC       | 3.25 | 4     | 1,327.69 | 3678.45 | XT39B      | Other   |

WinSURV II BHA Report - License: NP2553

| BHA Detail                |          |      |      |          |         |          |       |
|---------------------------|----------|------|------|----------|---------|----------|-------|
| Description               | Serial # | I.D. | O.D. | Length   | Sum     | Top Conn | MFG.  |
| 1 Jnt. 4" HWDP            | 123      | 3.25 | 4    | 30.55    | 3709.00 | XT39B    | Other |
| 14 Stnds. DP (42 Jnts.)   | RIG456   | 3.25 | 4    | 1,327.65 | 5036.65 | XT39B    | Other |
| 30 Stnds. (90 Jnts.) HWDP | RIG123   | 2.88 | 4.5  | 2,724.42 | 7761.07 | XT39B    | Other |



30 Stnds. (90 Jnts.) HWDP  
O.D.=4.5

14 Stnds. DP (42 Jnts.)  
O.D.=4

1 Jnt. 4" HWDP  
O.D.=4

14 Stnds. (42 Jnts.) 4" DP  
O.D.=4

1 Jnt 4" HWDP  
O.D.=4

4 Stnds. (12 Jnts.) 4" DP  
O.D.=4

NOV SS/Agitator  
O.D.=4.94

18 Stnds. DP (54 Jnts.)  
O.D.=4

1 Stnd. HWDP (3 Jnts.)  
O.D.=4

5" Steel XO  
O.D.=4.75

4.75 NM Pony  
O.D.=4.75  
Length=10.52

4 3/4" NMDC  
O.D.=4.75  
Length=31.15

4 3/4" Pulser Sub  
O.D.=4.75  
Length=5.52

4 3/4" NMDC  
O.D.=4.75  
Length=31.14

4.75 NM Pony  
O.D.=4.75  
Length=9.94

4.75" Hunting Drill Motor  
O.D.=4.75  
Length=29.35

U516S  
O.D.=6.125

**WinSURV II BHA Report - License: NP2553**



**JOB NO.:** 241125  
**COMPANY:** EnCana Oil & Gas USA  
**LOCATION:** Ruhl  
**RIG NAME:** HP 278  
**STATE:** Colorado  
**COUNTY:** Country  
**WELL NAME:** Ruhl 1D-32H-B264

**FIELD:** Wattenberg  
**Township:** 2N  
**Range** 64W

#### MOTOR INFORMATION

**Desc:** 4.75 Drill Motor  
**Bent Hsg/Sub:** 1.5 / 1.5 **Bit to Bend:** 5.05  
**Pad OD:** 5.125 **NB Stab:**

## Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

| # | Date   | Drill Mode | Start Time | End Time | Hours | Start MD | End MD | Depth Drilled | WOB | ROP   | RPM | Surf. Torque | Flow Rate | SPP  | TFO  | INC   | AZM    | DLS  | Note |
|---|--------|------------|------------|----------|-------|----------|--------|---------------|-----|-------|-----|--------------|-----------|------|------|-------|--------|------|------|
| 2 | 9-Jan  | Drilling   | 16:50      | 16:55    | 0.08  | 7435     | 7445   | 10            | 22  | 120.0 | 60  | 9.2          | 298       | 2700 |      | 84.46 | 180.03 | 0.00 |      |
| 2 | 9-Jan  | Drilling   | 19:00      | 19:25    | 0.42  | 7445     | 7488   | 43            | 30  | 103.2 | 60  | 9.2          | 298       | 2950 |      | 84.46 | 180.03 | 0.00 |      |
| 2 | 9-Jan  | Drilling   | 19:35      | 20:10    | 0.58  | 7488     | 7578   | 90            | 30  | 154.3 | 60  | 9.2          | 298       | 2950 |      | 89.13 | 178.89 | 0.00 |      |
| 2 | 9-Jan  | Drilling   | 20:15      | 20:35    | 0.33  | 7578     | 7669   | 91            | 27  | 273.0 | 90  | 8.2          | 300       | 3915 |      | 88.32 | 179.30 | 0.00 |      |
| 2 | 9-Jan  | Sliding    | 20:45      | 20:50    | 0.08  | 7669     | 7683   | 14            | 28  | 168.0 | 90  | 8.2          | 300       | 3915 | 0L   | 88.32 | 179.30 | 0.00 |      |
| 2 | 9-Jan  | Drilling   | 20:50      | 21:15    | 0.42  | 7683     | 7761   | 78            | 27  | 187.2 | 90  | 8.2          | 300       | 3915 |      | 89.70 | 179.50 | 0.00 |      |
| 2 | 9-Jan  | Sliding    | 21:25      | 21:30    | 0.08  | 7761     | 7769   | 8             | 28  | 96.0  | 90  | 8.2          | 300       | 3915 | 0L   | 89.70 | 179.50 | 0.00 |      |
| 2 | 9-Jan  | Drilling   | 21:30      | 22:00    | 0.50  | 7769     | 7855   | 86            | 30  | 172.0 | 90  | 9.5          | 300       | 3915 |      | 90.10 | 180.08 | 0.00 |      |
| 2 | 9-Jan  | Drilling   | 22:10      | 22:35    | 0.42  | 7855     | 7950   | 95            | 30  | 228.0 | 90  | 9.5          | 300       | 3915 |      | 89.26 | 180.31 | 0.00 |      |
| 2 | 9-Jan  | Drilling   | 22:40      | 22:55    | 0.25  | 7950     | 8045   | 95            | 30  | 380.0 | 90  | 9.5          | 300       | 3915 |      | 89.23 | 180.24 | 0.00 |      |
| 2 | 9-Jan  | Sliding    | 23:05      | 23:10    | 0.08  | 8045     | 8059   | 14            | 28  | 168.0 | 90  | 9.5          | 300       | 3915 | 0R   | 89.23 | 180.24 | 0.00 |      |
| 2 | 9-Jan  | Drilling   | 23:40      | 24:00    | 0.33  | 8139     | 8234   | 95            | 30  | 285.0 | 90  | 9.5          | 300       | 3915 |      | 90.91 | 180.05 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 00:10      | 00:20    | 0.17  | 8234     | 8242   | 8             | 32  | 48.0  | 90  | 9.5          | 300       | 3915 | 170R | 90.91 | 180.05 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 00:20      | 00:40    | 0.33  | 8242     | 8329   | 87            | 30  | 261.0 | 90  | 9.5          | 300       | 3915 |      | 89.80 | 179.65 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 00:45      | 01:05    | 0.33  | 8329     | 8424   | 95            | 30  | 285.0 | 90  | 9.5          | 300       | 4285 |      | 89.76 | 179.58 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 01:10      | 01:30    | 0.33  | 8424     | 8518   | 94            | 30  | 282.0 | 90  | 10.5         | 300       | 4285 |      | 89.93 | 179.11 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 01:35      | 01:55    | 0.33  | 8518     | 8613   | 95            | 30  | 285.0 | 90  | 10.5         | 300       | 4285 |      | 90.20 | 178.47 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 02:05      | 02:10    | 0.08  | 8613     | 8623   | 10            | 36  | 120.0 | 90  | 10.5         | 300       | 4285 | 120R | 90.20 | 178.47 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 02:10      | 02:30    | 0.33  | 8623     | 8707   | 84            | 30  | 252.0 | 90  | 10.5         | 300       | 4285 |      | 90.87 | 179.42 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 02:35      | 02:45    | 0.17  | 8707     | 8721   | 14            | 36  | 84.0  | 90  | 12           | 300       | 4435 | 170R | 90.87 | 179.42 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 02:45      | 03:10    | 0.42  | 8721     | 8802   | 81            | 32  | 194.4 | 90  | 12.5         | 300       | 4435 |      | 90.17 | 179.70 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 03:20      | 03:30    | 0.17  | 8802     | 8819   | 17            | 36  | 102.0 | 90  | 12.5         | 300       | 4435 | 180  | 90.17 | 179.70 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 03:30      | 03:50    | 0.33  | 8819     | 8896   | 77            | 32  | 231.0 | 90  | 12.5         | 300       | 4435 |      | 88.05 | 180.48 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 04:00      | 04:10    | 0.17  | 8896     | 8905   | 9             | 36  | 54.0  | 90  | 12.5         | 300       | 4435 | 75R  | 88.05 | 180.48 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 04:10      | 04:30    | 0.33  | 8905     | 8991   | 86            | 32  | 258.0 | 90  | 12.5         | 300       | 4435 |      | 87.28 | 182.19 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 04:30      | 04:50    | 0.33  | 8991     | 9005   | 14            | 36  | 42.0  | 90  | 12.5         | 300       | 4435 | 15R  | 87.28 | 182.19 | 0.00 |      |

# Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

| # | Date   | Drill Mode | Start Time | End Time | Hours | Start MD | End MD | Depth Drilled | WOB | ROP   | RPM | Surf. Torque | Flow Rate | SPP  | TFO | INC   | AZM    | DLS  | Note |
|---|--------|------------|------------|----------|-------|----------|--------|---------------|-----|-------|-----|--------------|-----------|------|-----|-------|--------|------|------|
| 2 | 10-Jan | Drilling   | 04:50      | 05:10    | 0.33  | 9005     | 9086   | 81            | 32  | 243.0 | 90  | 12.5         | 300       | 4435 |     | 88.39 | 182.99 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 05:25      | 05:30    | 0.08  | 9086     | 9096   | 10            | 36  | 120.0 | 90  | 12.5         | 300       | 4435 | 15R | 88.39 | 182.99 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 05:30      | 05:55    | 0.42  | 9096     | 9180   | 84            | 32  | 201.6 | 90  | 12.5         | 300       | 4435 |     | 89.46 | 182.72 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 06:00      | 06:20    | 0.33  | 9180     | 9275   | 95            | 32  | 285.0 | 90  | 12.5         | 300       | 4435 |     | 87.79 | 184.39 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 06:25      | 07:15    | 0.83  | 9275     | 9370   | 95            | 32  | 114.0 | 90  | 12.5         | 300       | 4435 |     | 88.06 | 183.57 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 07:20      | 07:30    | 0.17  | 9370     | 9382   | 12            | 36  | 72.0  | 90  | 12.5         | 300       | 4435 | 60L | 88.06 | 183.57 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 07:30      | 07:50    | 0.33  | 9382     | 9465   | 83            | 32  | 249.0 | 90  | 12.5         | 300       | 4435 |     | 88.32 | 182.19 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 07:55      | 08:10    | 0.25  | 9465     | 9477   | 12            | 36  | 48.0  | 90  | 12.5         | 300       | 4435 | 45L | 88.32 | 182.19 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 08:10      | 08:30    | 0.33  | 9477     | 9559   | 82            | 32  | 246.0 | 90  | 12.5         | 300       | 4435 |     | 88.15 | 181.62 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 08:35      | 08:45    | 0.17  | 9559     | 9573   | 14            | 36  | 84.0  | 90  | 12.5         | 300       | 4435 | 15L | 88.15 | 181.62 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 08:45      | 09:05    | 0.33  | 9573     | 9654   | 81            | 32  | 243.0 | 90  | 12.5         | 300       | 4435 |     | 89.50 | 180.91 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 09:10      | 09:35    | 0.42  | 9654     | 9749   | 95            | 32  | 228.0 | 90  | 12.5         | 300       | 4435 |     | 88.96 | 181.90 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 09:40      | 09:55    | 0.25  | 9749     | 9764   | 15            | 36  | 60.0  | 90  | 12.5         | 300       | 4435 | 45L | 88.96 | 181.90 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 09:55      | 10:15    | 0.33  | 9764     | 9844   | 80            | 32  | 240.0 | 90  | 12.5         | 300       | 4435 |     | 90.34 | 180.73 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 10:20      | 10:30    | 0.17  | 9844     | 9851   | 7             | 36  | 42.0  | 90  | 12.5         | 300       | 4435 | 75L | 90.34 | 180.73 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 10:30      | 10:45    | 0.25  | 9851     | 9938   | 87            | 32  | 348.0 | 90  | 12.5         | 300       | 4435 |     | 90.03 | 180.05 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 10:50      | 11:10    | 0.33  | 9938     | 10033  | 95            | 32  | 285.0 | 90  | 12.5         | 300       | 4435 |     | 88.93 | 178.15 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 11:15      | 11:30    | 0.25  | 10033    | 10046  | 13            | 36  | 52.0  | 90  | 13.9         | 300       | 4600 | 30R | 88.93 | 178.15 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 11:30      | 11:50    | 0.33  | 10046    | 10128  | 82            | 32  | 246.0 | 90  | 13.9         | 300       | 4600 |     | 89.77 | 178.92 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 11:55      | 12:10    | 0.25  | 10128    | 10223  | 95            | 32  | 380.0 | 90  | 13.9         | 300       | 4600 |     | 90.03 | 179.01 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 12:15      | 12:35    | 0.33  | 10223    | 10318  | 95            | 32  | 285.0 | 90  | 13.9         | 300       | 4600 |     | 89.46 | 178.60 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 12:40      | 13:05    | 0.42  | 10318    | 10412  | 94            | 32  | 225.6 | 90  | 13.9         | 300       | 4600 |     | 88.52 | 178.65 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 13:10      | 13:25    | 0.25  | 10412    | 10426  | 14            | 36  | 56.0  | 90  | 13.9         | 300       | 4600 | 15R | 88.52 | 178.65 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 13:25      | 13:55    | 0.50  | 10426    | 10507  | 81            | 32  | 162.0 | 90  | 13.9         | 300       | 4600 |     | 89.03 | 179.60 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 14:00      | 14:20    | 0.33  | 10507    | 10523  | 16            | 36  | 48.0  | 90  | 13.9         | 300       | 4600 | 15R | 89.03 | 179.60 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 14:20      | 14:40    | 0.33  | 10523    | 10602  | 79            | 32  | 237.0 | 90  | 13.9         | 300       | 4600 |     | 90.54 | 179.45 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 14:45      | 15:00    | 0.25  | 10602    | 10696  | 94            | 32  | 376.0 | 90  | 13.9         | 300       | 4600 |     | 88.92 | 178.18 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 15:05      | 15:30    | 0.42  | 10696    | 10711  | 15            | 36  | 36.0  | 90  | 13.9         | 300       | 4600 | 30R | 88.92 | 178.18 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 15:30      | 15:55    | 0.42  | 10711    | 10792  | 81            | 32  | 194.4 | 90  | 13.9         | 300       | 4600 |     | 90.37 | 178.65 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 16:00      | 16:25    | 0.42  | 10792    | 10886  | 94            | 32  | 225.6 | 90  | 13.9         | 300       | 4600 |     | 91.14 | 179.43 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 16:30      | 16:45    | 0.25  | 10886    | 10981  | 95            | 35  | 380.0 | 90  | 15           | 276       | 4400 |     | 91.61 | 179.15 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 16:50      | 17:05    | 0.25  | 10981    | 10991  | 10            | 36  | 40.0  | 90  | 15           | 300       | 4400 | 180 | 91.61 | 179.15 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 17:05      | 17:30    | 0.42  | 10991    | 11076  | 85            | 35  | 204.0 | 90  | 15           | 276       | 4400 |     | 90.10 | 179.61 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 17:35      | 18:00    | 0.42  | 11076    | 11171  | 95            | 35  | 228.0 | 90  | 15           | 276       | 4400 |     | 89.40 | 179.27 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 18:10      | 18:30    | 0.33  | 11171    | 11181  | 10            | 36  | 30.0  | 90  | 15           | 300       | 4400 | 180 | 89.40 | 179.27 | 0.00 |      |

# Slide Report for BHA # 2

Note: Surveys listed are interpolated from the actual surveys

| # | Date   | Drill Mode | Start Time | End Time | Hours | Start MD | End MD | Depth Drilled | WOB | ROP   | RPM | Surf. Torque | Flow Rate | SPP  | TFO | INC   | AZM    | DLS  | Note |
|---|--------|------------|------------|----------|-------|----------|--------|---------------|-----|-------|-----|--------------|-----------|------|-----|-------|--------|------|------|
| 2 | 10-Jan | Drilling   | 18:30      | 18:50    | 0.33  | 11181    | 11265  | 84            | 35  | 252.0 | 90  | 15           | 276       | 4400 |     | 90.00 | 179.51 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 18:55      | 19:20    | 0.42  | 11265    | 11360  | 95            | 35  | 228.0 | 90  | 14.5         | 276       | 4400 |     | 89.60 | 179.89 | 0.00 |      |
| 2 | 10-Jan | Sliding    | 19:30      | 19:50    | 0.33  | 11360    | 11370  | 10            | 36  | 30.0  | 90  | 14.5         | 300       | 4400 | 180 | 89.60 | 179.89 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 19:50      | 20:10    | 0.33  | 11370    | 11455  | 85            | 35  | 255.0 | 90  | 14.5         | 276       | 4400 |     | 91.27 | 181.01 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 20:20      | 20:45    | 0.42  | 11455    | 11549  | 94            | 35  | 225.6 | 90  | 14.5         | 276       | 4400 |     | 92.12 | 180.44 | 0.00 |      |
| 2 | 10-Jan | Drilling   | 20:55      | 21:20    | 0.42  | 11549    | 11619  | 70            | 35  | 168.0 | 90  | 14.5         | 276       | 4400 |     | 91.71 | 180.17 | 0.00 |      |

**Total Drilled:** 4104 **Avg. Total ROP:** 193.89

**DEPTH% - TIME %**

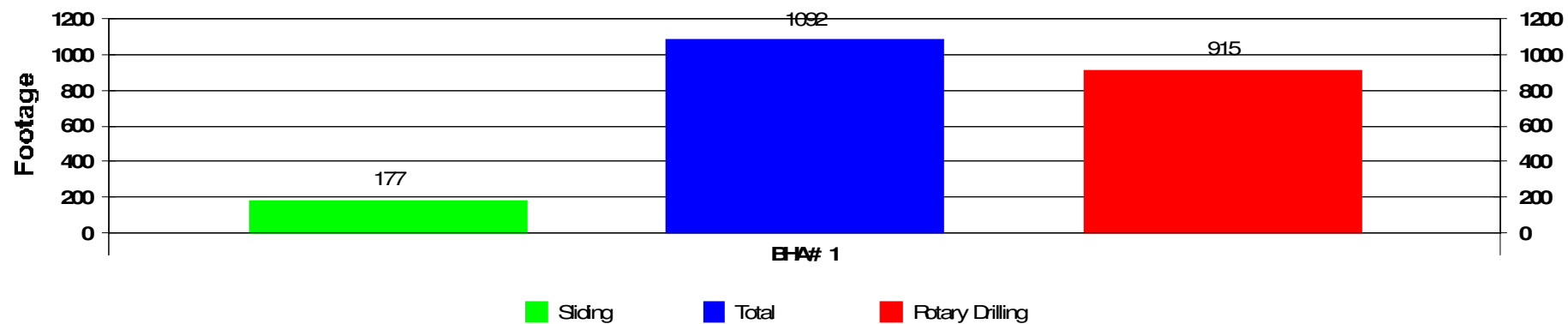
**Total Rotary Drilled:** 3838 **Avg. Rotary ROP:** 231.44 **Percent Rotary:** 93.52 - 78.35

**Total Drilled Sliding:** 266 **Avg. Slide ROP:** 58.04 **Percent Slide:** 6.48 - 21.65

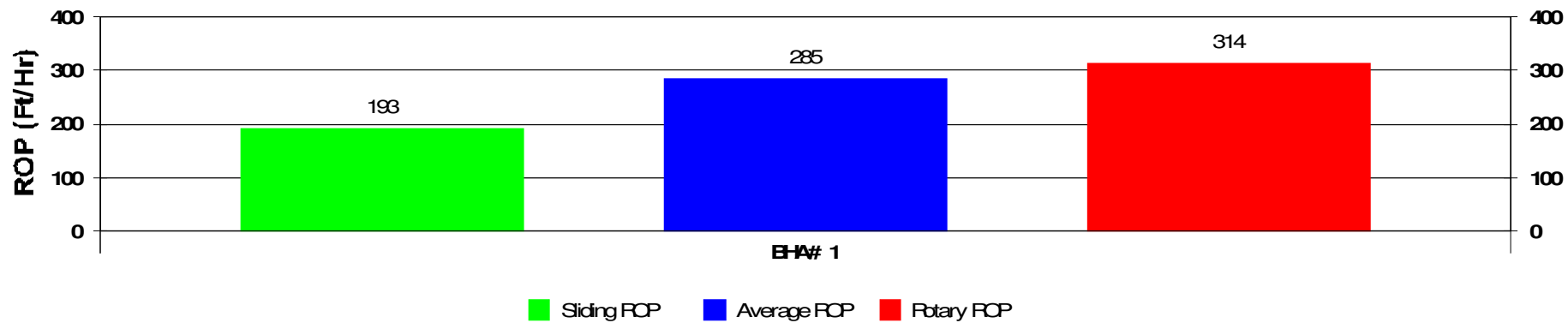


|            |                      |           |            |        |
|------------|----------------------|-----------|------------|--------|
| JOB NO.:   | 232819               | FIELD:    | Wattenberg |        |
| COMPANY:   | EnCana Oil & Gas USA | Township: | 2N         |        |
| LOCATION:  | Ruhl                 | SECT\     | RANGE:     | 32 64W |
| RIG NAME:  | HP 278               | COMMENT   |            |        |
| STATE:     | Colorado             |           |            |        |
| COUNTY:    | Weld                 |           |            |        |
| WELL NAME: | Ruhl 1D 32H-B264     |           |            |        |

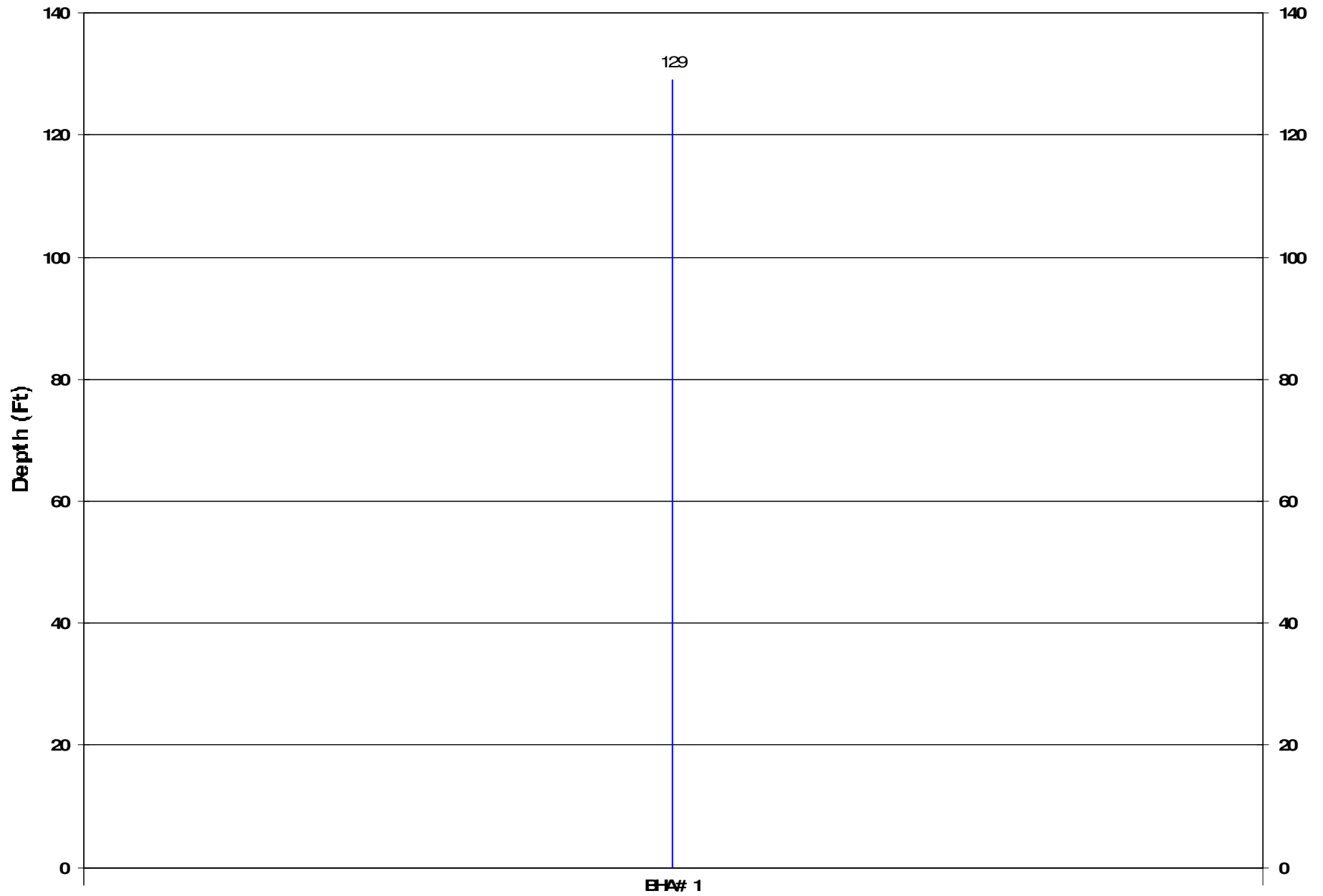
### Footage Drilled with BHA



### ROP vs BHA

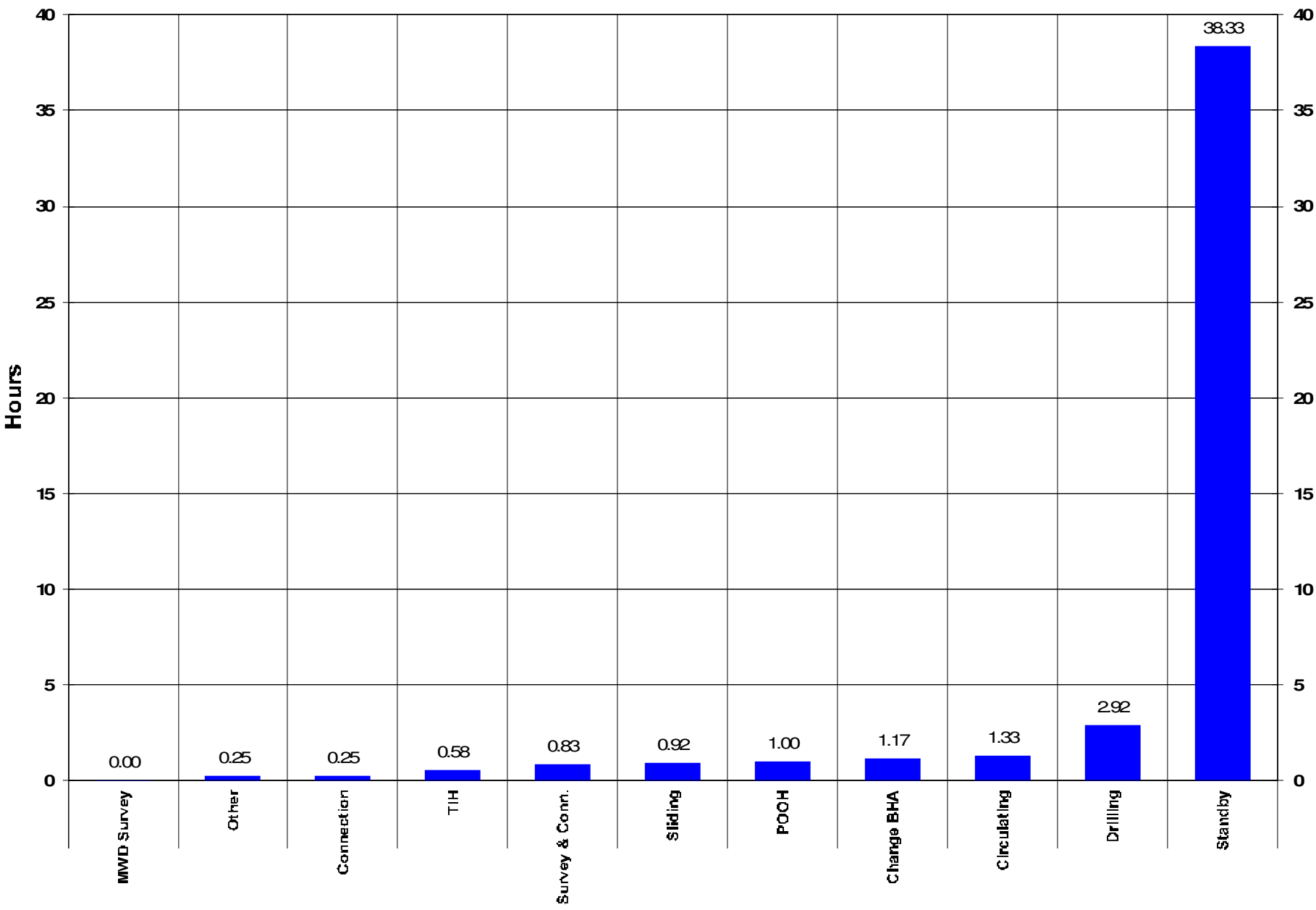


# Depth vs BHA

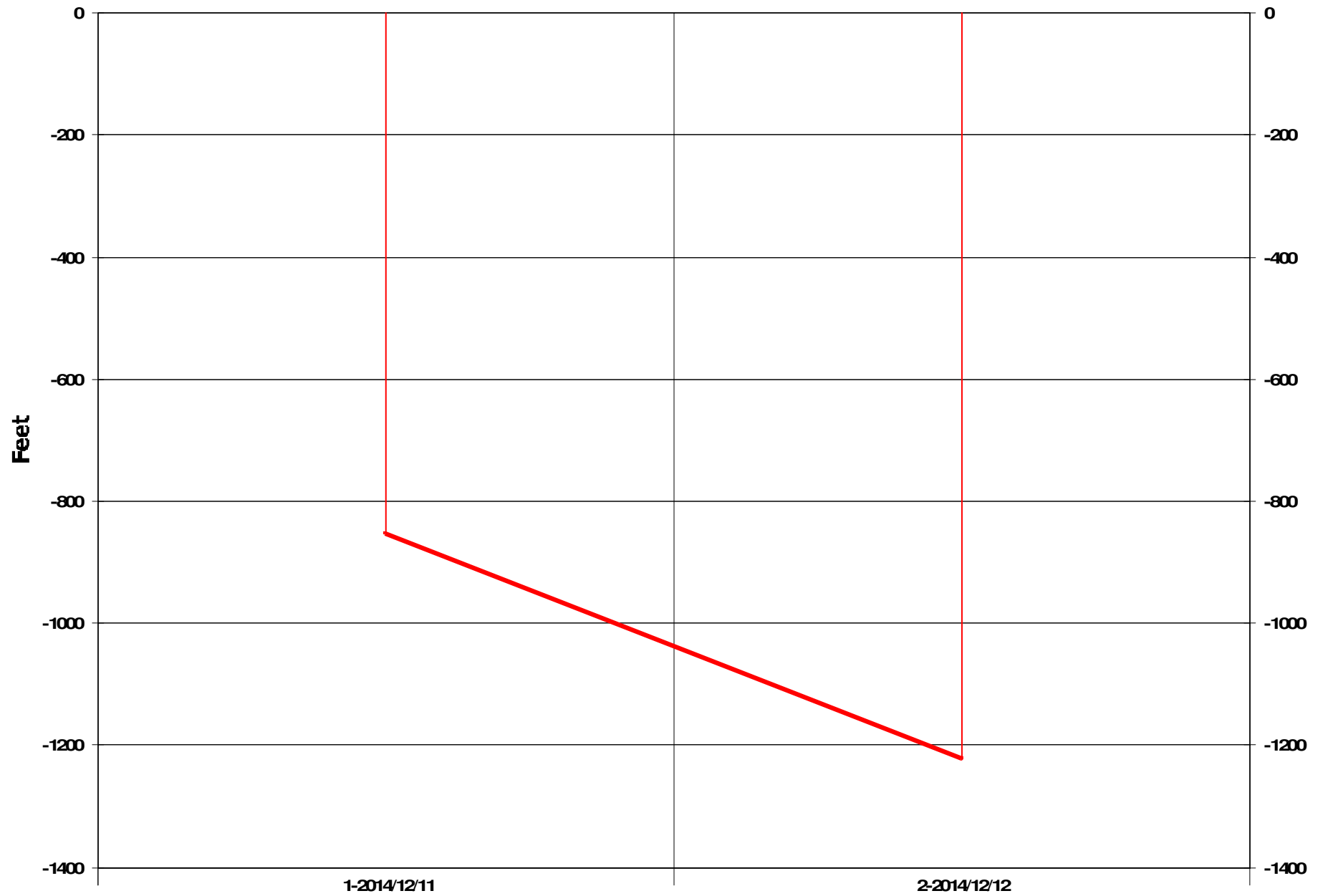




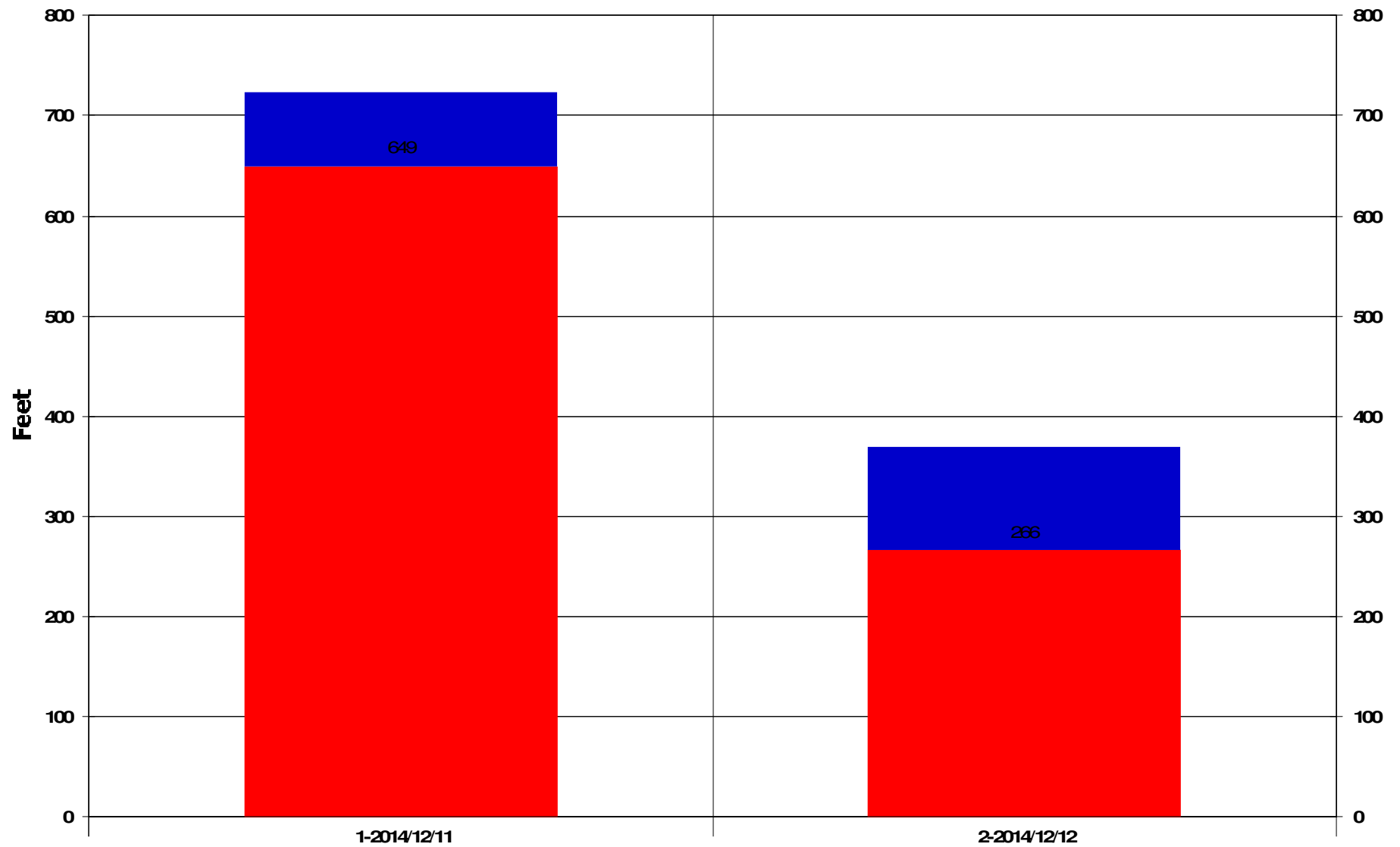
Activity Histogram



# Measured Depth vs Days

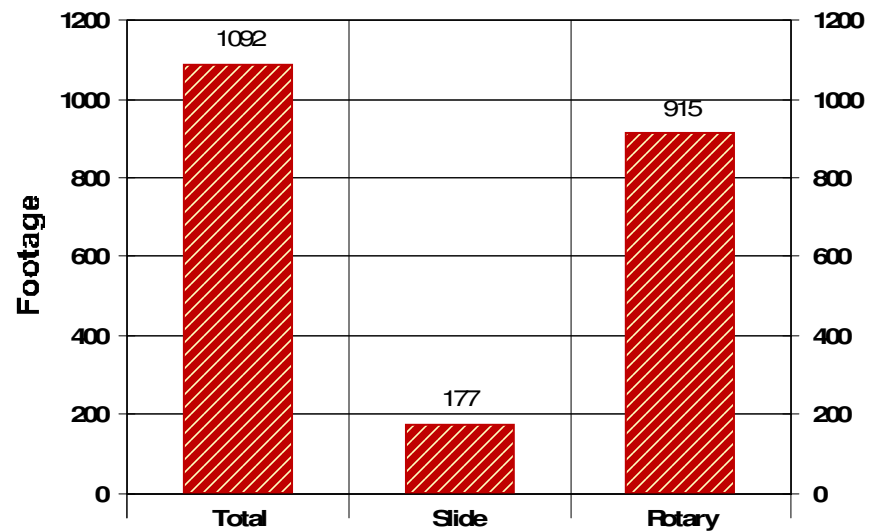


## Daily Footage

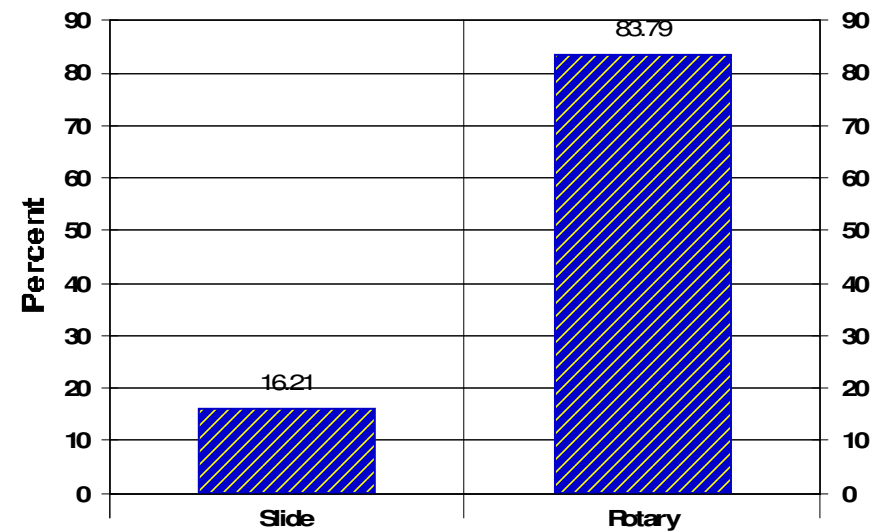


Rotary Drilling Siding

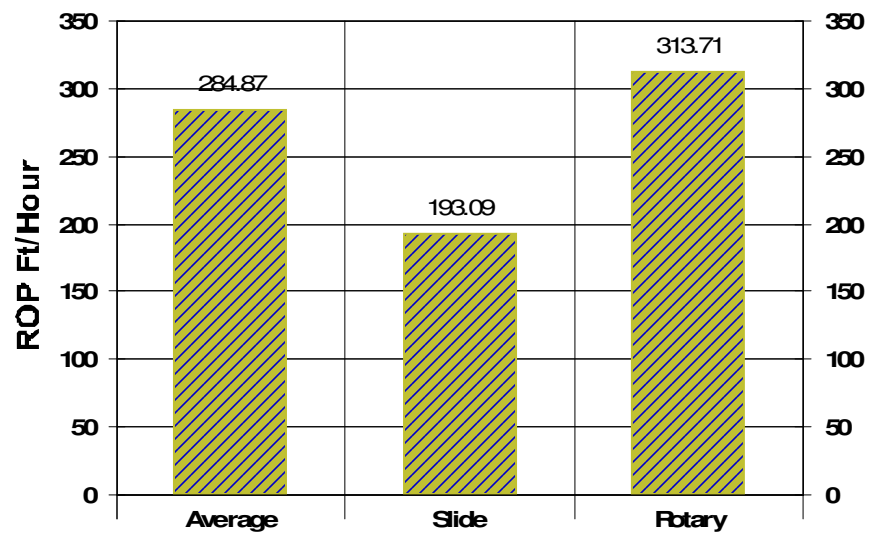
Footage Drilled Totals



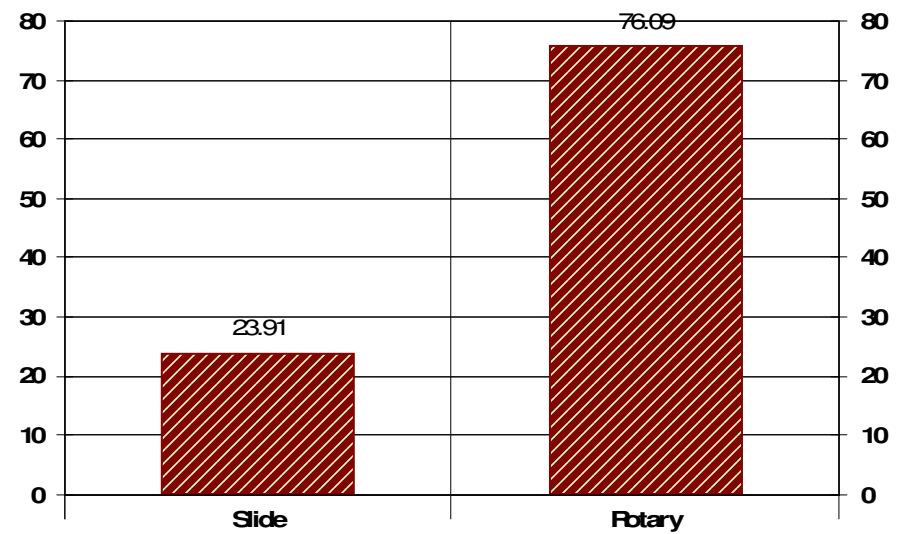
Footage Percent



Rate of Penetration Totals



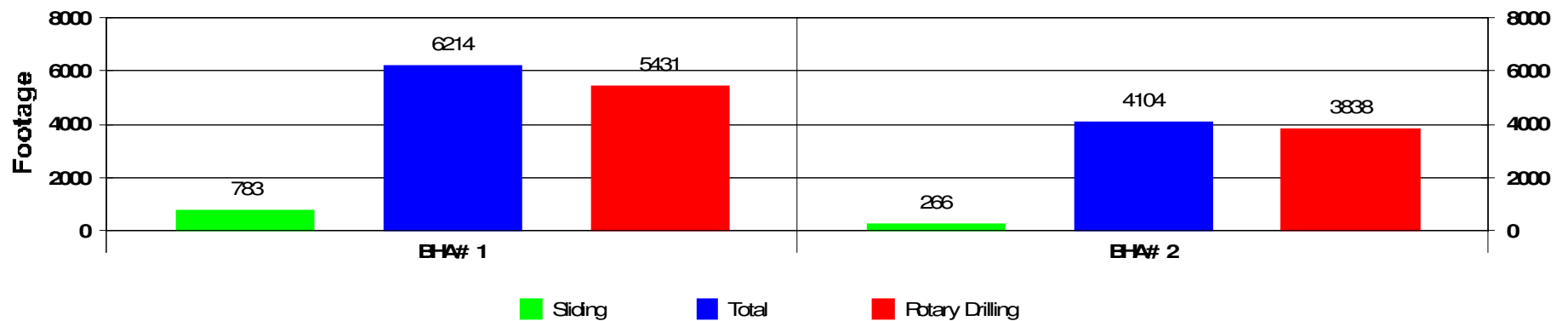
Time Percent



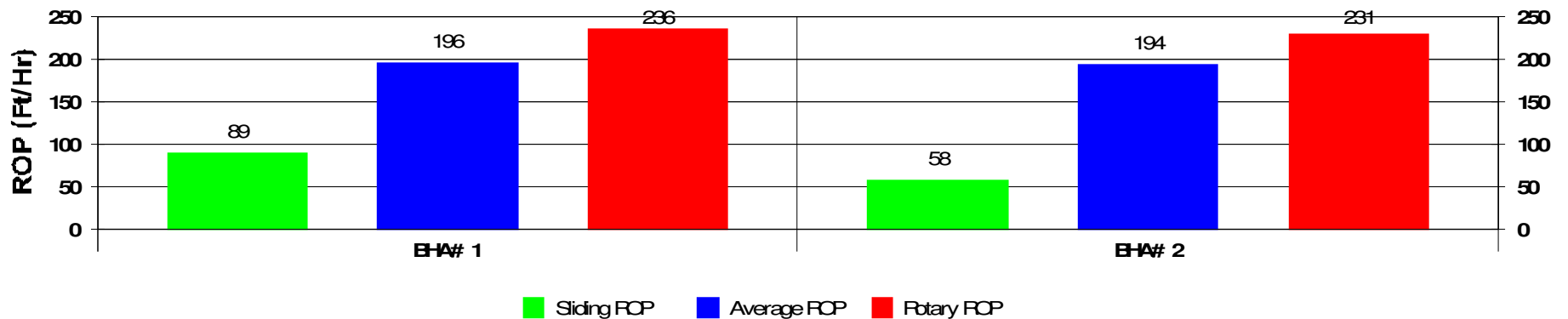


|            |                      |                |            |     |
|------------|----------------------|----------------|------------|-----|
| JOB NO.:   | 241125               | FIELD:         | Wattenberg |     |
| COMPANY:   | EnCana Oil & Gas USA | Township:      | 2N         |     |
| LOCATION:  | Ruhl                 | SECT\          | RANGE: 32  | 64W |
| RIG NAME:  | HP 278               | COMMENT        |            |     |
| STATE:     | Colorado             | AFE # 13179003 |            |     |
| COUNTY:    | Weld                 |                |            |     |
| WELL NAME: | Ruhl 1D-32H-B264     |                |            |     |

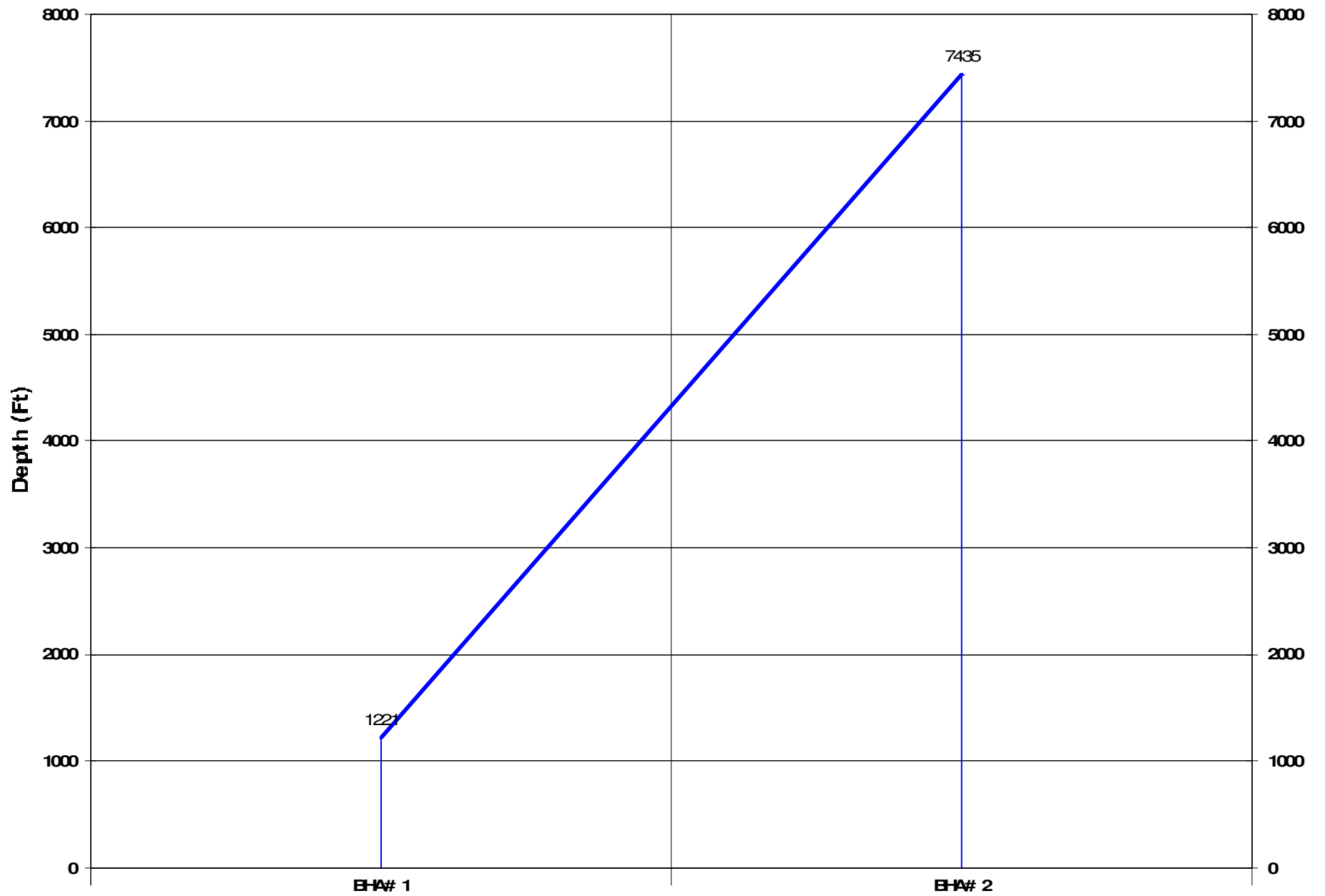
### Footage Drilled with BHA



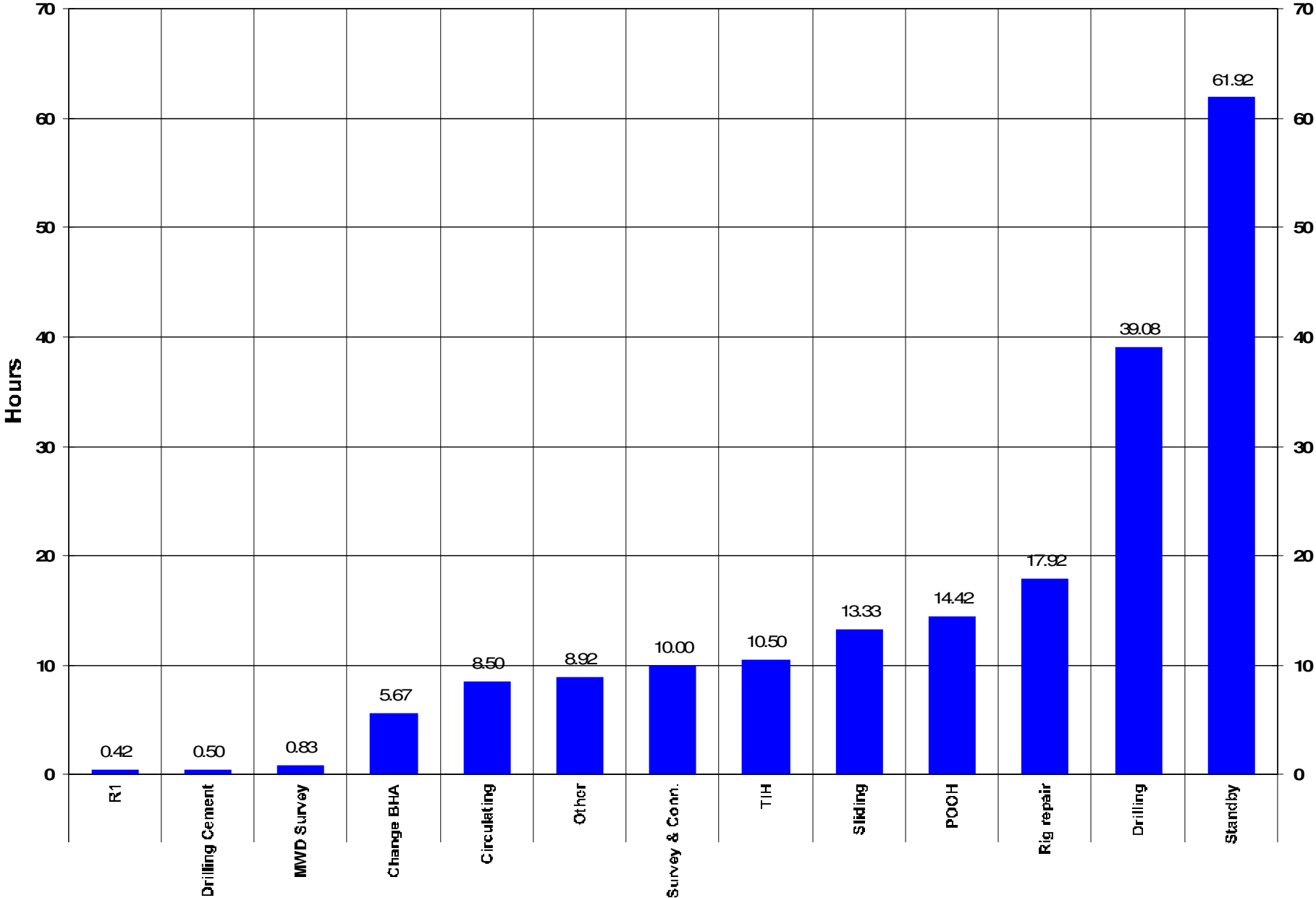
### ROP vs BHA



# Depth vs BHA

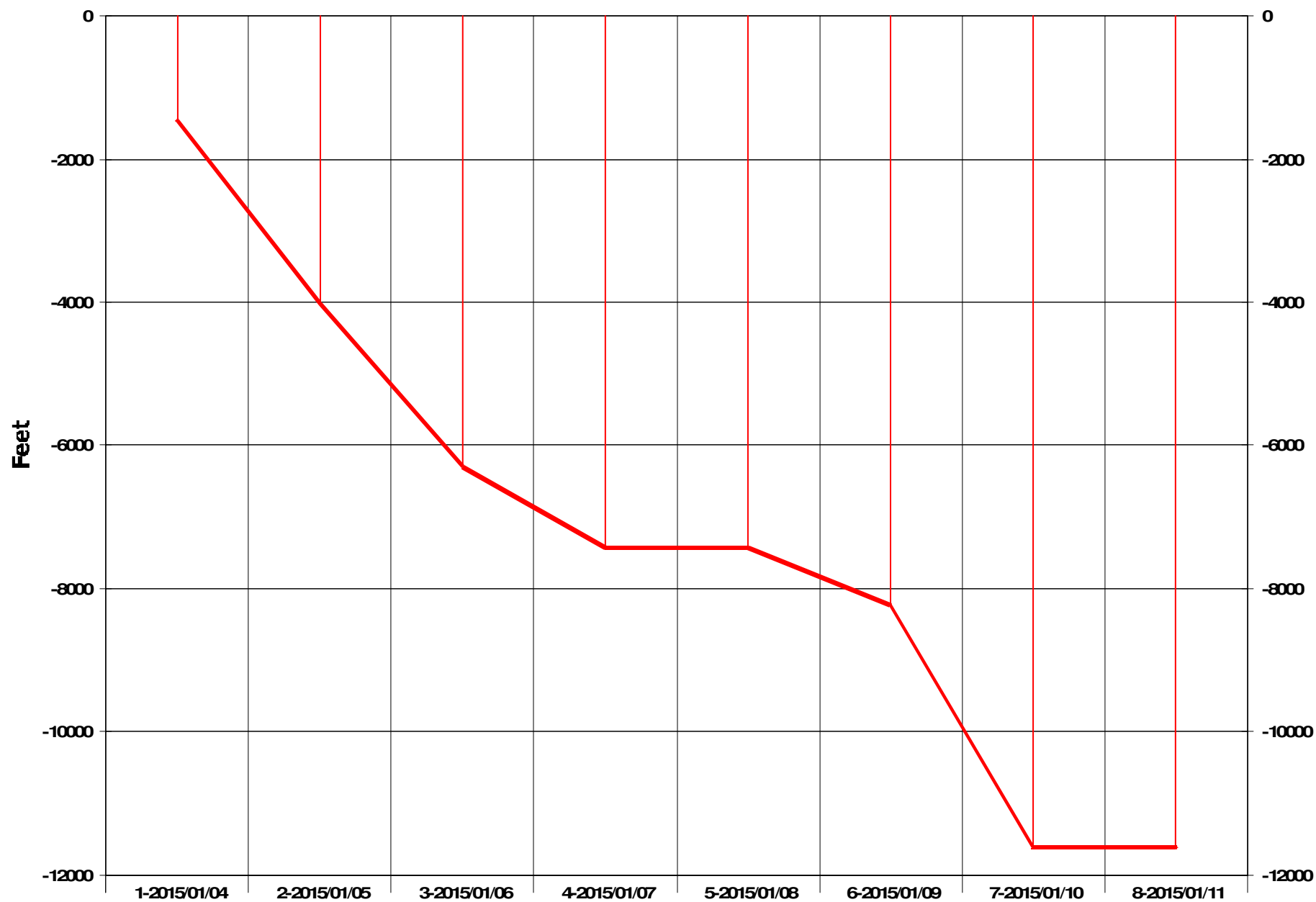


Activity Hstograph

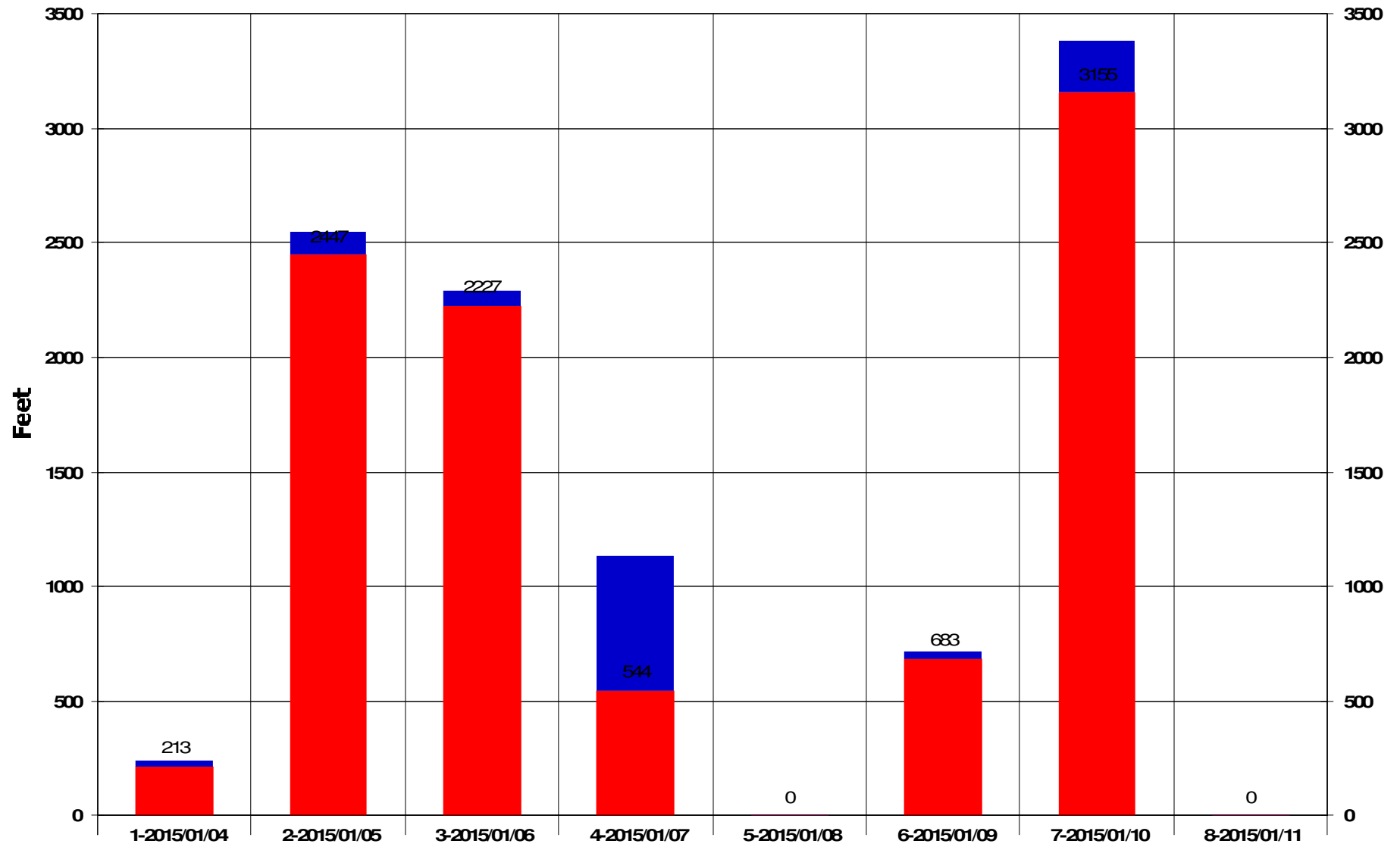




Measured Depth vs Days

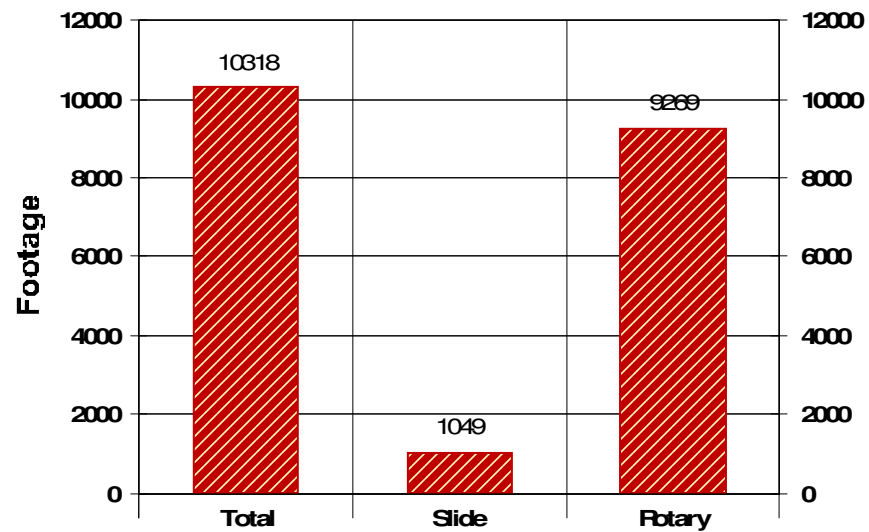


## Daily Footage

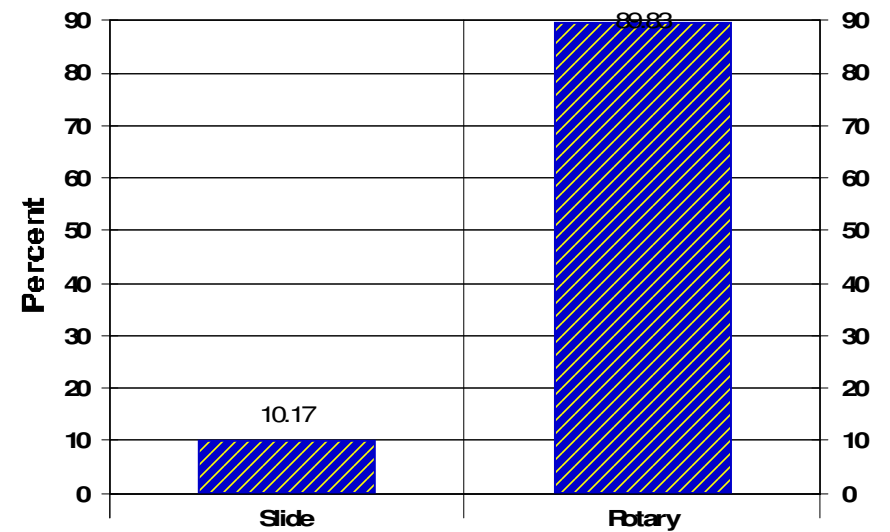


Rotary Drilling Siding

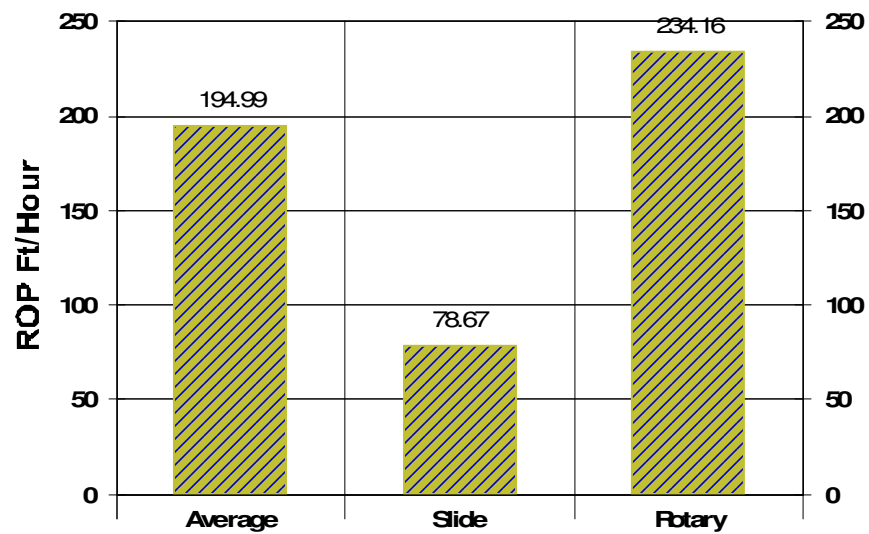
Footage Drilled Totals



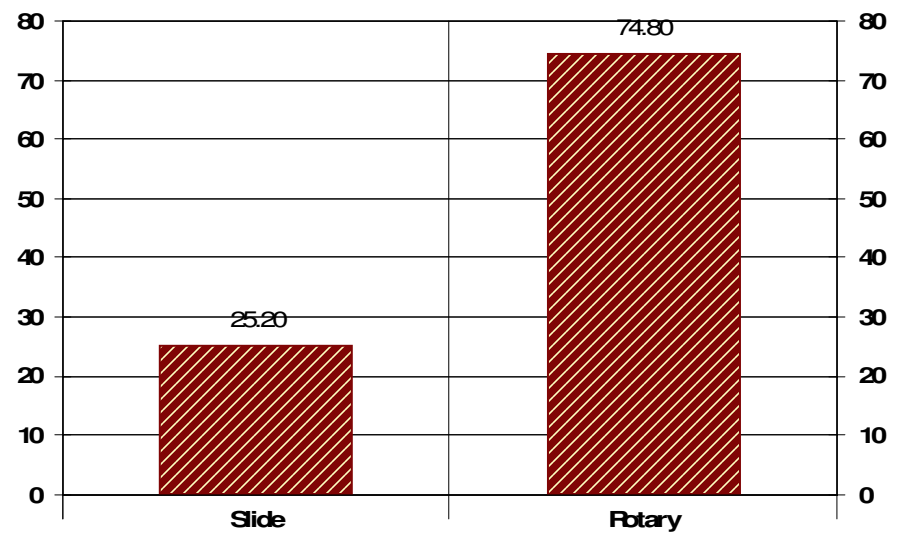
Footage Percent



Rate of Penetration Totals



Time Percent





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