

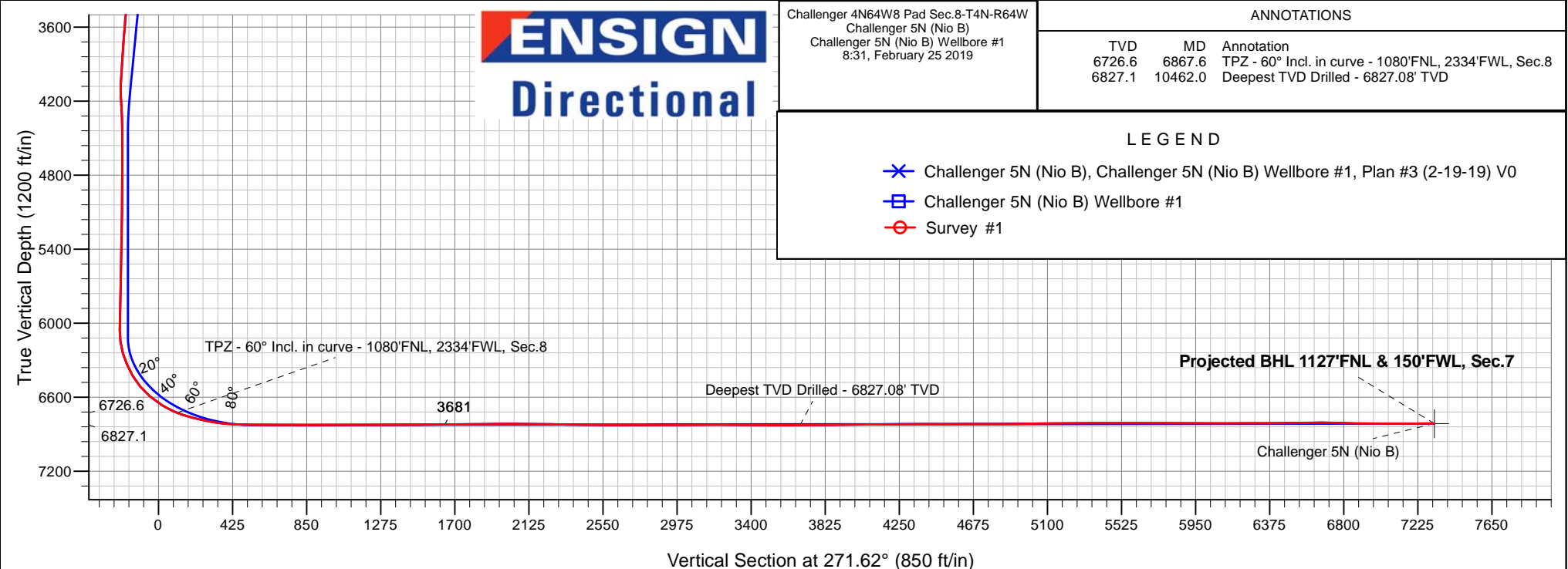
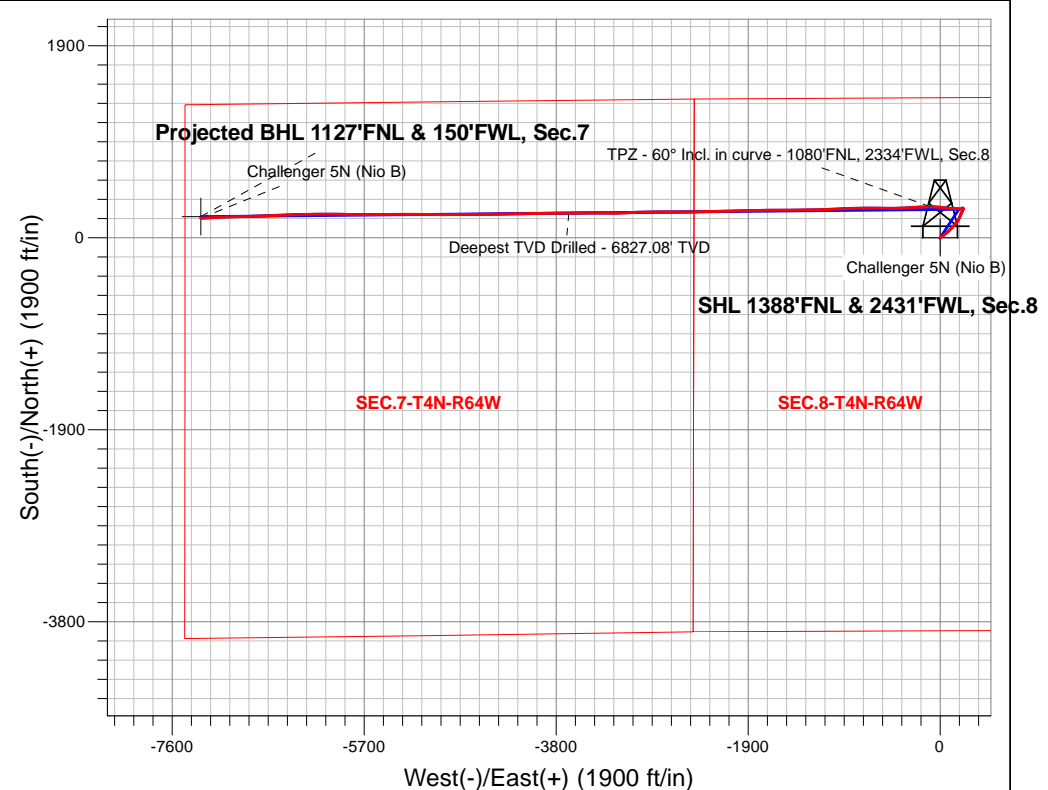
# PDC Energy Inc. DJ Basin

Well Name: **Challenger 5N (Nio B)**

Surface Location: Challenger 4N64W8 Pad Sec.8-T4N-R64W  
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone  
Ground Elevation: 4775.0  
+N/-S +E/-W Northing Easting Latitude Longitude Slot  
0.0 0.0 1364520.653257809.71 40.330320 -104.575260  
WELL @ 4798.0ft

## FINAL SURVEY

**Projected Bottom Hole Location**  
**14,105'MD 6814'TVD 192'N & 7317'W of SHL**  
**90.45 degree Incl @ 266.89 degree AZM**





## **PDC Energy Inc. DJ Basin**

**SEC.8-T4N-R64W**

**Challenger 4N64W8 Pad Sec.8-T4N-R64W**

**Challenger 5N (Nio B)**

**Challenger 5N (Nio B) Wellbore #1**

**Survey: Survey #1**

## **Standard Survey Report**

**25 February, 2019**

|                  |                                      |                                     |                            |
|------------------|--------------------------------------|-------------------------------------|----------------------------|
| <b>Company:</b>  | PDC Energy Inc. DJ Basin             | <b>Local Co-ordinate Reference:</b> | Well Challenger 5N (Nio B) |
| <b>Project:</b>  | SEC.8-T4N-R64W                       | <b>TVD Reference:</b>               | WELL @ 4798.0ft            |
| <b>Site:</b>     | Challenger 4N64W8 Pad Sec.8-T4N-R64W | <b>MD Reference:</b>                | WELL @ 4798.0ft            |
| <b>Well:</b>     | Challenger 5N (Nio B)                | <b>North Reference:</b>             | True                       |
| <b>Wellbore:</b> | Challenger 5N (Nio B) Wellbore #1    | <b>Survey Calculation Method:</b>   | Minimum Curvature          |
| <b>Design:</b>   | Challenger 5N (Nio B) Wellbore #1    | <b>Database:</b>                    | US_EDM                     |

|                    |                                       |                      |                             |
|--------------------|---------------------------------------|----------------------|-----------------------------|
| <b>Project</b>     | SEC.8-T4N-R64W, Weld County, Colorado |                      |                             |
| <b>Map System:</b> | US State Plane 1983                   | <b>System Datum:</b> | Mean Sea Level              |
| <b>Geo Datum:</b>  | North American Datum 1983             |                      | Using Well Reference Point  |
| <b>Map Zone:</b>   | Colorado Northern Zone                |                      | Using geodetic scale factor |

|                       |                                      |              |                   |                   |             |
|-----------------------|--------------------------------------|--------------|-------------------|-------------------|-------------|
| Site                  | Challenger 4N64W8 Pad Sec.8-T4N-R64W |              |                   |                   |             |
| Site Position:        |                                      | Northing:    | 1,364,578.94 usft | Latitude:         | 40.330480   |
| From:                 | Lat/Long                             | Easting:     | 3,257,809.10 usft | Longitude:        | -104.575260 |
| Position Uncertainty: | 0.0 ft                               | Slot Radius: | 13-3/16 "         | Grid Convergence: | 0.60 °      |

| Well                 | Challenger 5N (Nio B) |        |                     |                   |               |             |
|----------------------|-----------------------|--------|---------------------|-------------------|---------------|-------------|
| Well Position        | +N/-S                 | 0.0 ft | Northing:           | 1,364,520.65 usft | Latitude:     | 40.330320   |
|                      | +E/-W                 | 0.0 ft | Easting:            | 3,257,809.71 usft | Longitude:    | -104.575260 |
| Position Uncertainty |                       | 0.0 ft | Wellhead Elevation: | 0.0 ft            | Ground Level: | 4,775.0 ft  |

|                  |                                   |                    |                        |                      |                            |
|------------------|-----------------------------------|--------------------|------------------------|----------------------|----------------------------|
| <b>Wellbore</b>  | Challenger 5N (Nio B) Wellbore #1 |                    |                        |                      |                            |
| <b>Magnetics</b> | <b>Model Name</b>                 | <b>Sample Date</b> | <b>Declination (°)</b> | <b>Dip Angle (°)</b> | <b>Field Strength (nT)</b> |
|                  | HDGM                              | 2/19/2019          | 8.17                   | 66.82                | 52,172                     |

|                          |                                   |                   |                   |                      |     |
|--------------------------|-----------------------------------|-------------------|-------------------|----------------------|-----|
| <b>Design</b>            | Challenger 5N (Nio B) Wellbore #1 |                   |                   |                      |     |
| <b>Audit Notes:</b>      |                                   |                   |                   |                      |     |
| <b>Version:</b>          | 1.0                               | <b>Phase:</b>     | ACTUAL            | <b>Tie On Depth:</b> | 0.0 |
| <b>Vertical Section:</b> | <b>Depth From (TVD) (ft)</b>      | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b> | <b>Direction (°)</b> |     |
|                          | 0.0                               | 0.0               | 0.0               | 271.62               |     |

|                       |                |  |                  |                    |  |
|-----------------------|----------------|--|------------------|--------------------|--|
| <b>Survey Program</b> | <b>Date</b>    | 2/25/2019                                |                  |                    |  |
| <b>From (ft)</b>      | <b>To (ft)</b> | <b>Survey (Wellbore)</b>                 | <b>Tool Name</b> | <b>Description</b> |  |
| 155.0                 | 14,105.0       | Survey #1 (Challenger 5N (Nio B) Wellbor | MWD              | MWD - Standard     |  |

|   |                        |                    |                            |                   |                   |                              |                                |                               |                              |  |
|---|------------------------|--------------------|----------------------------|-------------------|-------------------|------------------------------|--------------------------------|-------------------------------|------------------------------|--|
| <b>Survey</b>                             |                        |                    |                            |                   |                   |                              |                                |                               |                              |  |
| <b>Measured Depth (ft)</b>                | <b>Inclination (°)</b> | <b>Azimuth (°)</b> | <b>Vertical Depth (ft)</b> | <b>+N/-S (ft)</b> | <b>+E/-W (ft)</b> | <b>Vertical Section (ft)</b> | <b>Dogleg Rate (°/100usft)</b> | <b>Build Rate (°/100usft)</b> | <b>Turn Rate (°/100usft)</b> |  |
| 0.0                                       | 0.00                   | 0.00               | 0.0                        | 0.0               | 0.0               | 0.0                          | 0.00                           | 0.00                          | 0.00                         |  |
| 1.0                                       | 0.00                   | 185.30             | 1.0                        | 0.0               | 0.0               | 0.0                          | 0.26                           | 0.26                          | 0.00                         |  |
| <b>SHL 1388'FNL &amp; 2431'FWL, Sec.8</b> |                        |                    |                            |                   |                   |                              |                                |                               |                              |  |
| 155.0                                     | 0.40                   | 185.30             | 155.0                      | -0.5              | 0.0               | 0.0                          | 0.26                           | 0.26                          | 0.00                         |  |
| 250.0                                     | 0.50                   | 202.90             | 250.0                      | -1.3              | -0.2              | 0.2                          | 0.18                           | 0.11                          | 18.53                        |  |
| 345.0                                     | 0.50                   | 211.00             | 345.0                      | -2.0              | -0.6              | 0.6                          | 0.07                           | 0.00                          | 8.53                         |  |
| 441.0                                     | 0.50                   | 253.40             | 441.0                      | -2.5              | -1.2              | 1.2                          | 0.38                           | 0.00                          | 44.17                        |  |
| 536.0                                     | 0.40                   | 233.00             | 536.0                      | -2.8              | -1.9              | 1.8                          | 0.20                           | -0.11                         | -21.47                       |  |
| 631.0                                     | 0.50                   | 237.60             | 631.0                      | -3.2              | -2.5              | 2.4                          | 0.11                           | 0.11                          | 4.84                         |  |
| 726.0                                     | 0.30                   | 210.70             | 726.0                      | -3.6              | -3.0              | 2.9                          | 0.28                           | -0.21                         | -28.32                       |  |
| 821.0                                     | 0.60                   | 231.10             | 821.0                      | -4.2              | -3.5              | 3.4                          | 0.35                           | 0.32                          | 21.47                        |  |

|                  |                                      |                                     |                            |
|------------------|--------------------------------------|-------------------------------------|----------------------------|
| <b>Company:</b>  | PDC Energy Inc. DJ Basin             | <b>Local Co-ordinate Reference:</b> | Well Challenger 5N (Nio B) |
| <b>Project:</b>  | SEC.8-T4N-R64W                       | <b>TVD Reference:</b>               | WELL @ 4798.0ft            |
| <b>Site:</b>     | Challenger 4N64W8 Pad Sec.8-T4N-R64W | <b>MD Reference:</b>                | WELL @ 4798.0ft            |
| <b>Well:</b>     | Challenger 5N (Nio B)                | <b>North Reference:</b>             | True                       |
| <b>Wellbore:</b> | Challenger 5N (Nio B) Wellbore #1    | <b>Survey Calculation Method:</b>   | Minimum Curvature          |
| <b>Design:</b>   | Challenger 5N (Nio B) Wellbore #1    | <b>Database:</b>                    | US_EDM                     |

| Survey              |                 |             |                     |           |           |                       |                         |                        |                       |
|---------------------|-----------------|-------------|---------------------|-----------|-----------|-----------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (ft) | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N-S (ft) | +E-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 917.0               | 0.70            | 223.70      | 917.0               | -4.9      | -4.3      | 4.2                   | 0.14                    | 0.10                   | -7.71                 |
| 1,012.0             | 0.20            | 122.00      | 1,012.0             | -5.4      | -4.6      | 4.4                   | 0.81                    | -0.53                  | -107.05               |
| 1,106.0             | 0.40            | 51.20       | 1,106.0             | -5.3      | -4.2      | 4.0                   | 0.41                    | 0.21                   | -75.32                |
| 1,200.0             | 0.10            | 44.70       | 1,200.0             | -5.0      | -3.9      | 3.7                   | 0.32                    | -0.32                  | -6.91                 |
| 1,296.0             | 0.20            | 42.50       | 1,296.0             | -4.8      | -3.7      | 3.5                   | 0.10                    | 0.10                   | -2.29                 |
| 1,391.0             | 1.00            | 31.90       | 1,391.0             | -4.0      | -3.1      | 3.0                   | 0.85                    | 0.84                   | -11.16                |
| 1,485.0             | 1.80            | 43.20       | 1,484.9             | -2.3      | -1.7      | 1.6                   | 0.90                    | 0.85                   | 12.02                 |
| 1,638.0             | 1.60            | 41.90       | 1,637.9             | 1.1       | 1.4       | -1.4                  | 0.13                    | -0.13                  | -0.85                 |
| 1,784.0             | 3.09            | 42.60       | 1,783.7             | 5.5       | 5.4       | -5.3                  | 1.02                    | 1.02                   | 0.48                  |
| 1,865.0             | 5.02            | 58.61       | 1,864.5             | 9.0       | 9.9       | -9.7                  | 2.74                    | 2.38                   | 19.77                 |
| 1,960.0             | 7.42            | 64.91       | 1,959.0             | 13.7      | 19.0      | -18.6                 | 2.62                    | 2.53                   | 6.63                  |
| 2,054.0             | 9.73            | 52.66       | 2,051.9             | 21.1      | 30.8      | -30.2                 | 3.12                    | 2.46                   | -13.03                |
| 2,148.0             | 9.26            | 52.00       | 2,144.6             | 30.6      | 43.1      | -42.2                 | 0.51                    | -0.50                  | -0.70                 |
| 2,243.0             | 9.21            | 50.27       | 2,238.4             | 40.2      | 55.0      | -53.8                 | 0.30                    | -0.05                  | -1.82                 |
| 2,338.0             | 8.64            | 48.99       | 2,332.3             | 49.7      | 66.2      | -64.8                 | 0.64                    | -0.60                  | -1.35                 |
| 2,433.0             | 8.31            | 48.09       | 2,426.2             | 59.0      | 76.7      | -75.0                 | 0.37                    | -0.35                  | -0.95                 |
| 2,527.0             | 7.79            | 47.91       | 2,519.3             | 67.8      | 86.5      | -84.5                 | 0.55                    | -0.55                  | -0.19                 |
| 2,622.0             | 10.01           | 42.94       | 2,613.1             | 78.1      | 96.9      | -94.6                 | 2.47                    | 2.34                   | -5.23                 |
| 2,718.0             | 10.77           | 42.89       | 2,707.6             | 90.8      | 108.7     | -106.1                | 0.79                    | 0.79                   | -0.05                 |
| 2,813.0             | 10.71           | 42.66       | 2,800.9             | 103.8     | 120.7     | -117.7                | 0.08                    | -0.06                  | -0.24                 |
| 2,908.0             | 10.66           | 42.09       | 2,894.3             | 116.8     | 132.6     | -129.2                | 0.12                    | -0.05                  | -0.60                 |
| 3,029.0             | 9.93            | 41.16       | 3,013.3             | 133.0     | 146.9     | -143.1                | 0.62                    | -0.60                  | -0.77                 |
| 3,125.0             | 9.76            | 42.83       | 3,107.9             | 145.2     | 157.9     | -153.7                | 0.35                    | -0.18                  | 1.74                  |
| 3,220.0             | 10.03           | 37.83       | 3,201.5             | 157.6     | 168.5     | -163.9                | 0.95                    | 0.28                   | -5.26                 |
| 3,316.0             | 11.04           | 25.89       | 3,295.9             | 172.5     | 177.6     | -172.7                | 2.50                    | 1.05                   | -12.44                |
| 3,411.0             | 10.28           | 26.11       | 3,389.2             | 188.3     | 185.3     | -179.9                | 0.80                    | -0.80                  | 0.23                  |
| 3,507.0             | 9.78            | 25.98       | 3,483.8             | 203.3     | 192.7     | -186.8                | 0.52                    | -0.52                  | -0.14                 |
| 3,603.0             | 8.47            | 25.92       | 3,578.5             | 217.0     | 199.3     | -193.1                | 1.36                    | -1.36                  | -0.06                 |
| 3,699.0             | 7.83            | 22.37       | 3,673.6             | 229.4     | 204.9     | -198.3                | 0.85                    | -0.67                  | -3.70                 |
| 3,794.0             | 7.47            | 23.69       | 3,767.7             | 241.0     | 209.8     | -202.9                | 0.42                    | -0.38                  | 1.39                  |
| 3,890.0             | 7.50            | 22.62       | 3,862.9             | 252.5     | 214.8     | -207.5                | 0.15                    | 0.03                   | -1.11                 |
| 3,986.0             | 7.30            | 21.58       | 3,958.1             | 264.0     | 219.4     | -211.8                | 0.25                    | -0.21                  | -1.08                 |
| 4,082.0             | 7.35            | 20.08       | 4,053.3             | 275.4     | 223.8     | -215.9                | 0.21                    | 0.05                   | -1.56                 |
| 4,176.0             | 6.19            | 349.73      | 4,146.7             | 286.1     | 224.9     | -216.7                | 3.95                    | -1.23                  | -32.29                |
| 4,271.0             | 3.64            | 312.20      | 4,241.4             | 293.1     | 221.8     | -213.4                | 4.19                    | -2.68                  | -39.51                |
| 4,367.0             | 1.92            | 224.65      | 4,337.3             | 294.0     | 218.4     | -210.0                | 4.21                    | -1.79                  | -91.20                |
| 4,462.0             | 1.67            | 199.09      | 4,432.2             | 291.6     | 216.8     | -208.5                | 0.87                    | -0.26                  | -26.91                |
| 4,557.0             | 1.53            | 188.08      | 4,527.2             | 289.0     | 216.2     | -207.9                | 0.35                    | -0.15                  | -11.59                |
| 4,653.0             | 1.35            | 182.97      | 4,623.2             | 286.6     | 215.9     | -207.7                | 0.23                    | -0.19                  | -5.32                 |
| 4,749.0             | 0.89            | 170.44      | 4,719.2             | 284.8     | 216.0     | -207.9                | 0.54                    | -0.48                  | -13.05                |
| 4,844.0             | 0.29            | 138.91      | 4,814.1             | 283.9     | 216.3     | -208.2                | 0.70                    | -0.63                  | -33.19                |
| 4,939.0             | 0.44            | 25.90       | 4,909.1             | 284.0     | 216.6     | -208.5                | 0.65                    | 0.16                   | -118.96               |
| 5,035.0             | 0.37            | 98.60       | 5,005.1             | 284.3     | 217.1     | -208.9                | 0.50                    | -0.07                  | 75.73                 |

|                  |                                      |                                     |                            |
|------------------|--------------------------------------|-------------------------------------|----------------------------|
| <b>Company:</b>  | PDC Energy Inc. DJ Basin             | <b>Local Co-ordinate Reference:</b> | Well Challenger 5N (Nio B) |
| <b>Project:</b>  | SEC.8-T4N-R64W                       | <b>TVD Reference:</b>               | WELL @ 4798.0ft            |
| <b>Site:</b>     | Challenger 4N64W8 Pad Sec.8-T4N-R64W | <b>MD Reference:</b>                | WELL @ 4798.0ft            |
| <b>Well:</b>     | Challenger 5N (Nio B)                | <b>North Reference:</b>             | True                       |
| <b>Wellbore:</b> | Challenger 5N (Nio B) Wellbore #1    | <b>Survey Calculation Method:</b>   | Minimum Curvature          |
| <b>Design:</b>   | Challenger 5N (Nio B) Wellbore #1    | <b>Database:</b>                    | US_EDM                     |

| Survey   |                 |             |                     |            |            |                       |                         |                        |                       |
|--|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (ft)                                  | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 5,130.0  | 0.66            | 80.89       | 5,100.1             | 284.3      | 217.9      | -209.8                | 0.34                    | 0.31                   | -18.64                |
| 5,226.0  | 0.75            | 105.98      | 5,196.1             | 284.3      | 219.1      | -210.9                | 0.33                    | 0.09                   | 26.14                 |
| 5,321.0  | 0.75            | 75.35       | 5,291.1             | 284.2      | 220.3      | -212.1                | 0.42                    | 0.00                   | -32.24                |
| 5,417.0  | 0.71            | 116.18      | 5,387.1             | 284.1      | 221.4      | -213.3                | 0.53                    | -0.04                  | 42.53                 |
| 5,513.0  | 0.67            | 103.89      | 5,483.1             | 283.7      | 222.5      | -214.4                | 0.16                    | -0.04                  | -12.80                |
| 5,608.0  | 0.83            | 122.30      | 5,578.1             | 283.2      | 223.6      | -215.5                | 0.30                    | 0.17                   | 19.38                 |
| 5,704.0  | 0.91            | 108.04      | 5,674.1             | 282.6      | 224.9      | -216.8                | 0.24                    | 0.08                   | -14.85                |
| 5,799.0  | 0.90            | 81.19       | 5,769.1             | 282.5      | 226.4      | -218.3                | 0.44                    | -0.01                  | -28.26                |
| 5,894.0  | 1.00            | 58.68       | 5,864.1             | 283.1      | 227.8      | -219.7                | 0.40                    | 0.11                   | -23.69                |
| 5,990.0  | 1.03            | 52.12       | 5,960.1             | 284.0      | 229.2      | -221.1                | 0.12                    | 0.03                   | -6.83                 |
| 6,085.0  | 1.00            | 64.40       | 6,055.0             | 284.9      | 230.6      | -222.5                | 0.23                    | -0.03                  | 12.93                 |
| 6,181.0  | 5.47            | 267.73      | 6,150.9             | 285.1      | 226.8      | -218.6                | 6.67                    | 4.66                   | -163.20               |
| 6,277.0  | 12.05           | 267.98      | 6,245.7             | 284.6      | 212.2      | -204.1                | 6.85                    | 6.85                   | 0.26                  |
| 6,372.0  | 16.84           | 271.48      | 6,337.7             | 284.6      | 188.5      | -180.4                | 5.12                    | 5.04                   | 3.68                  |
| 6,468.0  | 23.17           | 270.99      | 6,427.9             | 285.2      | 155.7      | -147.6                | 6.60                    | 6.59                   | -0.51                 |
| 6,563.0  | 29.96           | 275.55      | 6,512.8             | 287.9      | 113.4      | -105.2                | 7.46                    | 7.15                   | 4.80                  |
| 6,659.0  | 39.52           | 277.21      | 6,591.6             | 294.0      | 59.1       | -50.7                 | 10.01                   | 9.96                   | 1.73                  |
| 6,754.0  | 48.42           | 274.80      | 6,659.9             | 300.8      | -6.4       | 15.0                  | 9.53                    | 9.37                   | -2.54                 |
| 6,849.0  | 57.72           | 271.04      | 6,716.9             | 304.5      | -82.2      | 90.8                  | 10.29                   | 9.79                   | -3.96                 |
| 6,867.6  | 60.00           | 270.44      | 6,726.6             | 304.7      | -98.1      | 106.7                 | 12.55                   | 12.25                  | -3.21                 |
| TPZ - 60° Incl. in curve - 1080'FNL, 2334'FWL, Sec.8 |                 |             |                     |            |            |                       |                         |                        |                       |
| 6,944.0  | 69.38           | 268.24      | 6,759.2             | 303.9      | -167.1     | 175.6                 | 12.55                   | 12.28                  | -2.88                 |
| 7,040.0  | 73.33           | 266.37      | 6,789.9             | 299.6      | -257.9     | 266.3                 | 4.51                    | 4.11                   | -1.95                 |
| 7,135.0  | 80.56           | 265.63      | 6,811.3             | 293.1      | -350.2     | 358.4                 | 7.65                    | 7.61                   | -0.78                 |
| 7,230.0  | 87.16           | 270.34      | 6,821.5             | 289.8      | -444.5     | 452.5                 | 8.52                    | 6.95                   | 4.96                  |
| 7,317.9  | 89.25           | 270.65      | 6,824.2             | 290.6      | -532.4     | 540.4                 | 2.40                    | 2.38                   | 0.35                  |
| LPL 1112'FNL & 1900'FWL, Sec.8                       |                 |             |                     |            |            |                       |                         |                        |                       |
| 7,326.0  | 89.44           | 270.68      | 6,824.3             | 290.7      | -540.4     | 548.5                 | 2.40                    | 2.38                   | 0.35                  |
| 7,421.0  | 89.13           | 270.36      | 6,825.5             | 291.6      | -635.4     | 643.4                 | 0.47                    | -0.33                  | -0.34                 |
| 7,516.0  | 89.87           | 269.30      | 6,826.3             | 291.3      | -730.4     | 738.4                 | 1.36                    | 0.78                   | -1.12                 |
| 7,611.0  | 89.95           | 268.73      | 6,826.5             | 289.6      | -825.4     | 833.3                 | 0.61                    | 0.08                   | -0.60                 |
| 7,705.0  | 89.88           | 268.39      | 6,826.6             | 287.3      | -919.4     | 927.2                 | 0.37                    | -0.07                  | -0.36                 |
| 7,800.0  | 90.11           | 267.66      | 6,826.6             | 284.0      | -1,014.3   | 1,022.0               | 0.81                    | 0.24                   | -0.77                 |
| 7,895.0  | 90.46           | 267.31      | 6,826.2             | 279.8      | -1,109.2   | 1,116.7               | 0.52                    | 0.37                   | -0.37                 |
| 7,990.0  | 90.85           | 266.92      | 6,825.1             | 275.1      | -1,204.1   | 1,211.4               | 0.58                    | 0.41                   | -0.41                 |
| 8,085.0  | 89.73           | 269.94      | 6,824.6             | 272.5      | -1,299.1   | 1,306.3               | 3.39                    | -1.18                  | 3.18                  |
| 8,180.0  | 90.15           | 269.91      | 6,824.7             | 272.3      | -1,394.1   | 1,401.2               | 0.44                    | 0.44                   | -0.03                 |
| 8,275.0  | 90.59           | 269.60      | 6,824.1             | 271.9      | -1,489.1   | 1,496.2               | 0.57                    | 0.46                   | -0.33                 |
| 8,370.0  | 90.79           | 269.55      | 6,822.9             | 271.2      | -1,584.0   | 1,591.1               | 0.22                    | 0.21                   | -0.05                 |
| 8,464.0  | 90.98           | 269.34      | 6,821.5             | 270.3      | -1,678.0   | 1,685.0               | 0.30                    | 0.20                   | -0.22                 |
| 8,560.0  | 90.96           | 268.99      | 6,819.9             | 268.9      | -1,774.0   | 1,780.9               | 0.37                    | -0.02                  | -0.36                 |
| 8,654.0  | 90.97           | 268.45      | 6,818.3             | 266.8      | -1,868.0   | 1,874.8               | 0.57                    | 0.01                   | -0.57                 |
| 8,749.0  | 91.08           | 268.15      | 6,816.6             | 264.0      | -1,962.9   | 1,969.6               | 0.34                    | 0.12                   | -0.32                 |
| 8,844.0  | 89.09           | 269.48      | 6,816.4             | 262.0      | -2,057.9   | 2,064.5               | 2.52                    | -2.09                  | 1.40                  |

|                  |                                      |                                     |                            |
|------------------|--------------------------------------|-------------------------------------|----------------------------|
| <b>Company:</b>  | PDC Energy Inc. DJ Basin             | <b>Local Co-ordinate Reference:</b> | Well Challenger 5N (Nio B) |
| <b>Project:</b>  | SEC.8-T4N-R64W                       | <b>TVD Reference:</b>               | WELL @ 4798.0ft            |
| <b>Site:</b>     | Challenger 4N64W8 Pad Sec.8-T4N-R64W | <b>MD Reference:</b>                | WELL @ 4798.0ft            |
| <b>Well:</b>     | Challenger 5N (Nio B)                | <b>North Reference:</b>             | True                       |
| <b>Wellbore:</b> | Challenger 5N (Nio B) Wellbore #1    | <b>Survey Calculation Method:</b>   | Minimum Curvature          |
| <b>Design:</b>   | Challenger 5N (Nio B) Wellbore #1    | <b>Database:</b>                    | US_EDM                     |

| Survey                             |                 |             |                     |            |            |                       |                         |                        |                       |
|------------------------------------|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (ft)                | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 8,939.0                            | 88.96           | 269.65      | 6,818.1             | 261.3      | -2,152.9   | 2,159.4               | 0.23                    | -0.14                  | 0.18                  |
| 9,034.0                            | 88.93           | 268.70      | 6,819.8             | 259.9      | -2,247.8   | 2,254.3               | 1.00                    | -0.03                  | -1.00                 |
| 9,130.0                            | 88.73           | 267.92      | 6,821.8             | 257.1      | -2,343.8   | 2,350.1               | 0.84                    | -0.21                  | -0.81                 |
| 9,224.0                            | 88.50           | 267.54      | 6,824.0             | 253.4      | -2,437.7   | 2,443.9               | 0.47                    | -0.24                  | -0.40                 |
| 9,319.0                            | 89.53           | 270.77      | 6,825.7             | 252.0      | -2,532.6   | 2,538.8               | 3.57                    | 1.08                   | 3.40                  |
| 9,414.0                            | 89.73           | 270.86      | 6,826.3             | 253.3      | -2,627.6   | 2,633.8               | 0.23                    | 0.21                   | 0.09                  |
| 9,509.0                            | 89.87           | 270.14      | 6,826.6             | 254.2      | -2,722.6   | 2,728.7               | 0.77                    | 0.15                   | -0.76                 |
| 9,605.0                            | 90.11           | 269.58      | 6,826.6             | 253.9      | -2,818.6   | 2,824.7               | 0.63                    | 0.25                   | -0.58                 |
| 9,700.0                            | 90.24           | 268.72      | 6,826.3             | 252.5      | -2,913.6   | 2,919.6               | 0.92                    | 0.14                   | -0.91                 |
| 9,795.0                            | 90.43           | 267.82      | 6,825.8             | 249.7      | -3,008.6   | 3,014.4               | 0.97                    | 0.20                   | -0.95                 |
| 9,890.0                            | 90.98           | 266.87      | 6,824.6             | 245.3      | -3,103.5   | 3,109.2               | 1.16                    | 0.58                   | -1.00                 |
| 9,986.0                            | 89.97           | 270.21      | 6,823.8             | 242.8      | -3,199.4   | 3,205.0               | 3.63                    | -1.05                  | 3.48                  |
| 10,081.0                           | 89.18           | 270.30      | 6,824.5             | 243.2      | -3,294.4   | 3,300.0               | 0.84                    | -0.83                  | 0.09                  |
| 10,176.0                           | 89.42           | 269.93      | 6,825.7             | 243.4      | -3,389.4   | 3,394.9               | 0.46                    | 0.25                   | -0.39                 |
| 10,271.0                           | 89.72           | 270.26      | 6,826.4             | 243.6      | -3,484.4   | 3,489.9               | 0.47                    | 0.32                   | 0.35                  |
| 10,366.0                           | 89.64           | 270.03      | 6,826.9             | 243.8      | -3,579.4   | 3,584.9               | 0.26                    | -0.08                  | -0.24                 |
| 10,462.0                           | 90.18           | 269.68      | 6,827.1             | 243.6      | -3,675.4   | 3,680.8               | 0.67                    | 0.56                   | -0.36                 |
| Deepest TVD Drilled - 6827.08' TVD |                 |             |                     |            |            |                       |                         |                        |                       |
| 10,558.0                           | 90.60           | 269.13      | 6,826.4             | 242.6      | -3,771.4   | 3,776.7               | 0.72                    | 0.44                   | -0.57                 |
| 10,653.0                           | 90.52           | 269.06      | 6,825.5             | 241.1      | -3,866.4   | 3,871.6               | 0.11                    | -0.08                  | -0.07                 |
| 10,748.0                           | 91.31           | 268.75      | 6,824.0             | 239.3      | -3,961.3   | 3,966.5               | 0.89                    | 0.83                   | -0.33                 |
| 10,843.0                           | 91.60           | 268.37      | 6,821.6             | 236.9      | -4,056.3   | 4,061.4               | 0.50                    | 0.31                   | -0.40                 |
| 10,939.0                           | 90.49           | 269.48      | 6,819.8             | 235.1      | -4,152.2   | 4,157.2               | 1.64                    | -1.16                  | 1.16                  |
| 11,034.0                           | 89.85           | 269.91      | 6,819.5             | 234.6      | -4,247.2   | 4,252.2               | 0.81                    | -0.67                  | 0.45                  |
| 11,130.0                           | 90.29           | 269.02      | 6,819.4             | 233.7      | -4,343.2   | 4,348.1               | 1.03                    | 0.46                   | -0.93                 |
| 11,226.0                           | 90.27           | 268.68      | 6,819.0             | 231.7      | -4,439.2   | 4,444.0               | 0.35                    | -0.02                  | -0.35                 |
| 11,321.0                           | 90.28           | 268.04      | 6,818.5             | 229.0      | -4,534.2   | 4,538.8               | 0.67                    | 0.01                   | -0.67                 |
| 11,416.0                           | 90.35           | 270.25      | 6,818.0             | 227.6      | -4,629.1   | 4,633.7               | 2.33                    | 0.07                   | 2.33                  |
| 11,511.0                           | 90.35           | 270.45      | 6,817.4             | 228.2      | -4,724.1   | 4,728.7               | 0.21                    | 0.00                   | 0.21                  |
| 11,607.0                           | 90.29           | 270.07      | 6,816.9             | 228.6      | -4,820.1   | 4,824.7               | 0.40                    | -0.06                  | -0.40                 |
| 11,702.0                           | 90.86           | 269.88      | 6,815.9             | 228.6      | -4,915.1   | 4,919.6               | 0.63                    | 0.60                   | -0.20                 |
| 11,798.0                           | 91.63           | 269.95      | 6,813.8             | 228.4      | -5,011.1   | 5,015.6               | 0.81                    | 0.80                   | 0.07                  |
| 11,893.0                           | 90.53           | 270.92      | 6,812.0             | 229.2      | -5,106.1   | 5,110.5               | 1.54                    | -1.16                  | 1.02                  |
| 11,989.0                           | 89.72           | 269.86      | 6,811.8             | 229.8      | -5,202.1   | 5,206.5               | 1.39                    | -0.84                  | -1.10                 |
| 12,084.0                           | 90.05           | 269.41      | 6,812.0             | 229.2      | -5,297.1   | 5,301.5               | 0.59                    | 0.35                   | -0.47                 |
| 12,179.0                           | 91.05           | 269.38      | 6,811.1             | 228.2      | -5,392.1   | 5,396.4               | 1.05                    | 1.05                   | -0.03                 |
| 12,275.0                           | 89.89           | 270.54      | 6,810.3             | 228.1      | -5,488.1   | 5,492.3               | 1.71                    | -1.21                  | 1.21                  |
| 12,370.0                           | 89.84           | 269.95      | 6,810.5             | 228.5      | -5,583.1   | 5,587.3               | 0.62                    | -0.05                  | -0.62                 |
| 12,465.0                           | 90.65           | 269.35      | 6,810.1             | 228.0      | -5,678.1   | 5,682.2               | 1.06                    | 0.85                   | -0.63                 |
| 12,560.0                           | 89.17           | 271.30      | 6,810.3             | 228.5      | -5,773.0   | 5,777.2               | 2.58                    | -1.56                  | 2.05                  |
| 12,655.0                           | 89.34           | 270.94      | 6,811.5             | 230.4      | -5,868.0   | 5,872.2               | 0.42                    | 0.18                   | -0.38                 |
| 12,750.0                           | 89.55           | 270.38      | 6,812.4             | 231.5      | -5,963.0   | 5,967.2               | 0.63                    | 0.22                   | -0.59                 |
| 12,845.0                           | 90.09           | 269.99      | 6,812.7             | 231.8      | -6,058.0   | 6,062.1               | 0.70                    | 0.57                   | -0.41                 |

|                  |                                      |                                     |                            |
|------------------|--------------------------------------|-------------------------------------|----------------------------|
| <b>Company:</b>  | PDC Energy Inc. DJ Basin             | <b>Local Co-ordinate Reference:</b> | Well Challenger 5N (Nio B) |
| <b>Project:</b>  | SEC.8-T4N-R64W                       | <b>TVD Reference:</b>               | WELL @ 4798.0ft            |
| <b>Site:</b>     | Challenger 4N64W8 Pad Sec.8-T4N-R64W | <b>MD Reference:</b>                | WELL @ 4798.0ft            |
| <b>Well:</b>     | Challenger 5N (Nio B)                | <b>North Reference:</b>             | True                       |
| <b>Wellbore:</b> | Challenger 5N (Nio B) Wellbore #1    | <b>Survey Calculation Method:</b>   | Minimum Curvature          |
| <b>Design:</b>   | Challenger 5N (Nio B) Wellbore #1    | <b>Database:</b>                    | US_EDM                     |

| Survey                                  |                 |             |                     |            |            |                       |                         |                        |                       |  |
|---|-----------------|-------------|---------------------|------------|------------|-----------------------|-------------------------|------------------------|-----------------------|--|
| Measured Depth (ft)                     | Inclination (°) | Azimuth (°) | Vertical Depth (ft) | +N/-S (ft) | +E/-W (ft) | Vertical Section (ft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |  |
| 12,941.0                                | 90.30           | 269.46      | 6,812.4             | 231.3      | -6,154.0   | 6,158.1               | 0.59                    | 0.22                   | -0.55                 |  |
| 13,036.0                                | 90.31           | 269.03      | 6,811.9             | 230.1      | -6,249.0   | 6,253.0               | 0.45                    | 0.01                   | -0.45                 |  |
| 13,132.0                                | 90.39           | 268.53      | 6,811.3             | 228.0      | -6,345.0   | 6,348.9               | 0.53                    | 0.08                   | -0.52                 |  |
| 13,227.0                                | 90.85           | 268.43      | 6,810.3             | 225.5      | -6,439.9   | 6,443.7               | 0.50                    | 0.48                   | -0.11                 |  |
| 13,323.0                                | 90.76           | 267.74      | 6,808.9             | 222.3      | -6,535.9   | 6,539.5               | 0.72                    | -0.09                  | -0.72                 |  |
| 13,419.0                                | 91.21           | 266.85      | 6,807.3             | 217.8      | -6,631.7   | 6,635.3               | 1.04                    | 0.47                   | -0.93                 |  |
| 13,514.0                                | 87.97           | 268.20      | 6,808.0             | 213.6      | -6,726.6   | 6,730.0               | 3.69                    | -3.41                  | 1.42                  |  |
| 13,609.0                                | 87.54           | 267.86      | 6,811.7             | 210.4      | -6,821.5   | 6,824.7               | 0.58                    | -0.45                  | -0.36                 |  |
| 13,705.0                                | 89.43           | 268.98      | 6,814.2             | 207.7      | -6,917.4   | 6,920.5               | 2.29                    | 1.97                   | 1.17                  |  |
| 13,801.0                                | 89.97           | 268.40      | 6,814.7             | 205.5      | -7,013.4   | 7,016.4               | 0.83                    | 0.56                   | -0.60                 |  |
| 13,895.0                                | 90.03           | 267.80      | 6,814.7             | 202.4      | -7,107.4   | 7,110.2               | 0.64                    | 0.06                   | -0.64                 |  |
| 13,991.0                                | 90.25           | 267.18      | 6,814.5             | 198.2      | -7,203.3   | 7,206.0               | 0.69                    | 0.23                   | -0.65                 |  |
| 14,046.0                                | 90.45           | 266.89      | 6,814.2             | 195.4      | -7,258.2   | 7,260.8               | 0.64                    | 0.36                   | -0.53                 |  |
| 14,103.9                                | 90.45           | 266.89      | 6,813.7             | 192.2      | -7,316.0   | 7,318.5               | 0.00                    | 0.00                   | 0.00                  |  |
| Projected BHL 1127'FNL & 150'FWL, Sec.7 |                 |             |                     |            |            |                       |                         |                        |                       |  |
| 14,105.0                                | 90.45           | 266.89      | 6,813.7             | 192.2      | -7,317.1   | 7,319.6               | 0.00                    | 0.00                   | 0.00                  |  |

| Design Targets   |               |              |          |            |            |                 |                |           |             |  |
|--|---------------|--------------|----------|------------|------------|-----------------|----------------|-----------|-------------|--|
| Target Name  | Dip Angle (°) | Dip Dir. (°) | TVD (ft) | +N/-S (ft) | +E/-W (ft) | Northing (usft) | Easting (usft) | Latitude  | Longitude   |  |
| - hit/miss target  |               |              |          |            |            |                 |                |           |             |  |
| - Shape  |               |              |          |            |            |                 |                |           |             |  |
| SHL 1388'FNL & 2431'F  | 0.00          | 0.00         | 1.0      | 0.0        | 0.0        | 1,364,520.66    | 3,257,809.71   | 40.330320 | -104.575260 |  |
| - survey hits target center  |               |              |          |            |            |                 |                |           |             |  |
| - Point  |               |              |          |            |            |                 |                |           |             |  |
| Projected BHL 1127'FNL   | 0.00          | 0.00         | 6,815.0  | 207.5      | -7,316.9   | 1,364,651.88    | 3,250,491.41   | 40.330887 | -104.601504 |  |
| - survey misses target center by 15.4ft at 14103.9ft MD (6813.7 TVD, 192.2 N, -7316.0 E) |               |              |          |            |            |                 |                |           |             |  |
| - Point  |               |              |          |            |            |                 |                |           |             |  |

| Survey Annotations  |                     |                   |            |  |  |
|---------------------|---------------------|-------------------|------------|--|--|
| Measured Depth (ft) | Vertical Depth (ft) | Local Coordinates |            |  |  |
|                     |                     | +N/-S (ft)        | +E/-W (ft) | Comment  |  |
| 6,867.6             | 6,726.6             | 304.7             | -98.1      | TPZ - 60° Incl. in curve - 1080'FNL, 2334'FWL, Sec.8 |  |
| 10,462.0            | 6,827.1             | 243.6             | -3,675.4   | Deepest TVD Drilled - 6827.08' TVD                   |  |

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