

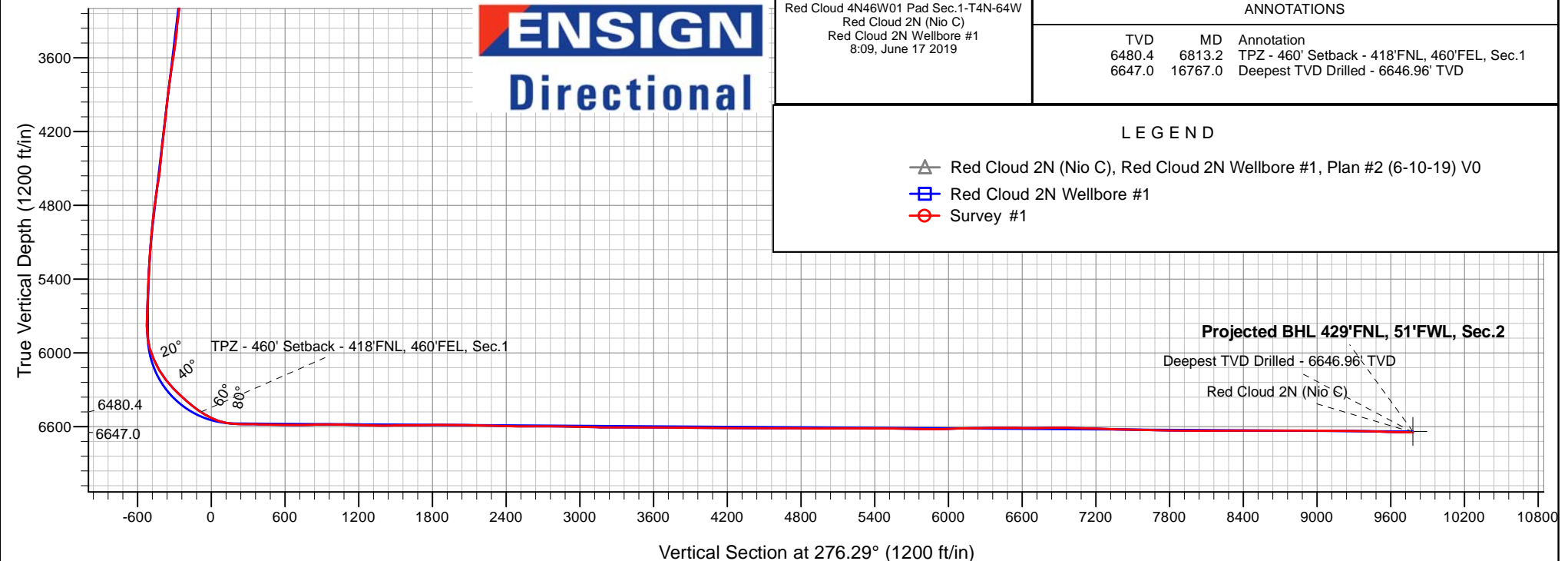
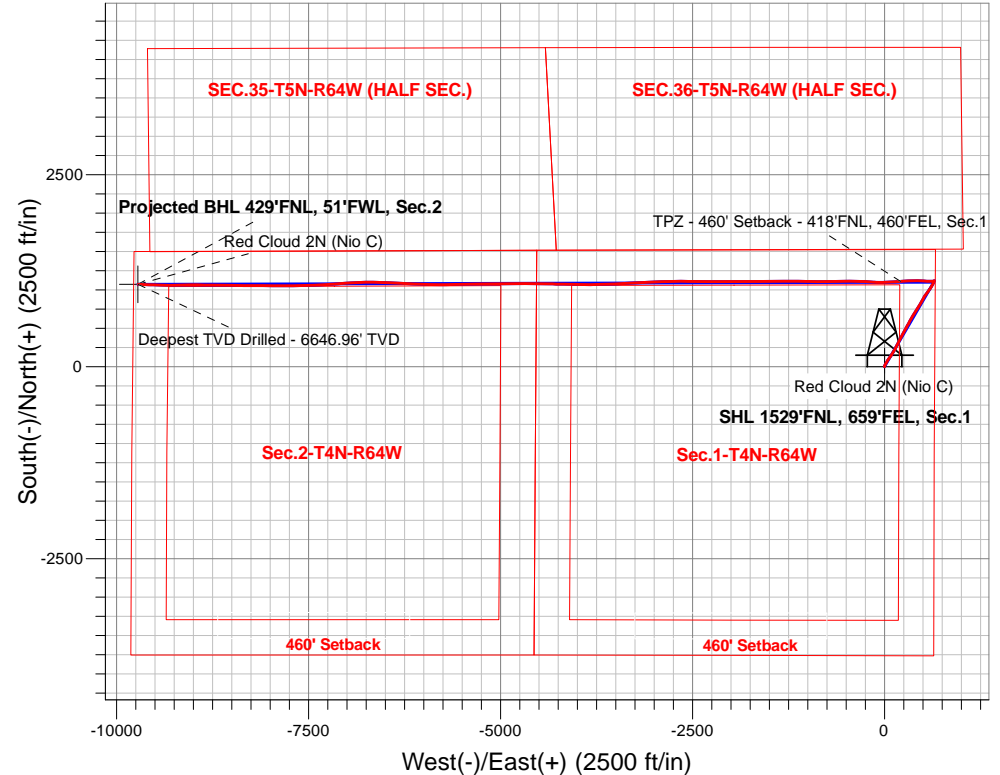
PDC Energy Inc. DJ Basin

Well Name: **Red Cloud 2N (Nio C)**

Surface Location: Red Cloud 4N46W01 Pad Sec.1-T4N-64W
North American Datum 1983 , US State Plane 1983, Colorado Northern Zone
Ground Elevation: 4602.0
+N/-S +E/-W Northing Easting Latitude Longitude Slot
0.0 0.0 1369932.703280990.22 40.344482 -104.491900
Original Well Elev WELL @ 4625.0ft (Original Well Elev)

FINAL SURVEY

Projected Bottom Hole Location
16,767'MD 6647'TVD 1073'N & 9721'W of SHL
89.43 degree Incl @ 272.46 degree AZM





PDC Energy Inc. DJ Basin

SEC.1-T4N-R64W

Red Cloud 4N46W01 Pad Sec.1-T4N-64W

Red Cloud 2N (Nio C)

Red Cloud 2N Wellbore #1

Survey: Survey #1

Standard Survey Report

17 June, 2019

| | | | |
|------------------|-------------------------------------|-------------------------------------|--------------------------------------|
| Company: | PDC Energy Inc. DJ Basin | Local Co-ordinate Reference: | Well Red Cloud 2N (Nio C) |
| Project: | SEC.1-T4N-R64W | TVD Reference: | WELL @ 4625.0ft (Original Well Elev) |
| Site: | Red Cloud 4N46W01 Pad Sec.1-T4N-64W | MD Reference: | WELL @ 4625.0ft (Original Well Elev) |
| Well: | Red Cloud 2N (Nio C) | North Reference: | True |
| Wellbore: | Red Cloud 2N Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Red Cloud 2N Wellbore #1 | Database: | US_EDM |

| | | | |
|--------------------|---------------------------------|----------------------|-----------------------------|
| Project | SEC.1-T4N-R64W, Weld County, CO | | |
| Map System: | US State Plane 1983 | System Datum: | Mean Sea Level |
| Geo Datum: | North American Datum 1983 | | Using Well Reference Point |
| Map Zone: | Colorado Northern Zone | | Using geodetic scale factor |

| | | | | | |
|-----------------------|-------------------------------------|--------------|-------------------|-------------------|-------------|
| Site | Red Cloud 4N46W01 Pad Sec.1-T4N-64W | | | | |
| Site Position: | | Northing: | 1,369,932.80 usft | Latitude: | 40.344481 |
| From: | Lat/Long | Easting: | 3,281,020.19 usft | Longitude: | -104.491793 |
| Position Uncertainty: | 0.0 ft | Slot Radius: | 13-3/16 " | Grid Convergence: | 0.65 ° |

| Well | Red Cloud 2N (Nio C) | | | | | |
|----------------------|----------------------|--------|---------------------|-------------------|---------------|-------------|
| Well Position | +N/-S | 0.0 ft | Northing: | 1,369,932.71 usft | Latitude: | 40.344482 |
| | +E/-W | 0.0 ft | Easting: | 3,280,990.22 usft | Longitude: | -104.491900 |
| Position Uncertainty | | 0.0 ft | Wellhead Elevation: | 0.0 ft | Ground Level: | 4,602.0 ft |

| | | | | | |
|------------------|--------------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | Red Cloud 2N Wellbore #1 | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | HDGM | 6/10/2019 | 8.08 | 66.88 | 52,147 |

| | | | | | |
|--------------------------|------------------------------|-------------------|-------------------|----------------------|-----|
| Design | Red Cloud 2N Wellbore #1 | | | | |
| Audit Notes: | | | | | |
| Version: | 1.0 | Phase: | ACTUAL | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) (ft) | +N/-S (ft) | +E/-W (ft) | Direction (°) | |
| | 0.0 | 0.0 | 0.0 | 276.29 | |

| | | | | | |
|-----------------------|----------------|--------------------------------------|------------------|--------------------|--|
| Survey Program | Date | 6/17/2019 | | | |
| From (ft) | To (ft) | Survey (Wellbore) | Tool Name | Description | |
| 155.0 | 16,767.0 | Survey #1 (Red Cloud 2N Wellbore #1) | MWD | MWD - Standard | |

| | | | | | | | | | | |
|-------------------------------------|------------------------|--------------------|----------------------------|-------------------|-------------------|------------------------------|--------------------------------|-------------------------------|------------------------------|--|
| 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) | |
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 1.0 | 0.01 | 329.02 | 1.0 | 0.0 | 0.0 | 0.0 | 0.66 | 0.66 | 0.00 | |
| SHL 1529'FNL, 659'FEL, Sec.1 | | | | | | | | | | |
| 155.0 | 1.02 | 329.02 | 155.0 | 1.2 | -0.7 | 0.8 | 0.66 | 0.66 | 0.00 | |
| 250.0 | 0.81 | 327.13 | 250.0 | 2.5 | -1.5 | 1.8 | 0.22 | -0.22 | -1.99 | |
| 346.0 | 0.86 | 329.29 | 346.0 | 3.7 | -2.2 | 2.6 | 0.06 | 0.05 | 2.25 | |
| 441.0 | 2.49 | 6.78 | 440.9 | 6.3 | -2.4 | 3.0 | 1.98 | 1.72 | 39.46 | |
| 536.0 | 4.83 | 27.58 | 535.7 | 11.9 | -0.3 | 1.6 | 2.79 | 2.46 | 21.89 | |
| 630.0 | 6.31 | 29.46 | 629.3 | 19.9 | 4.1 | -1.9 | 1.59 | 1.57 | 2.00 | |
| 725.0 | 8.43 | 29.73 | 723.5 | 30.5 | 10.1 | -6.7 | 2.23 | 2.23 | 0.28 | |
| 821.0 | 9.28 | 30.00 | 818.3 | 43.3 | 17.5 | -12.6 | 0.89 | 0.89 | 0.28 | |

| | | | |
|------------------|-------------------------------------|-------------------------------------|--------------------------------------|
| Company: | PDC Energy Inc. DJ Basin | Local Co-ordinate Reference: | Well Red Cloud 2N (Nio C) |
| Project: | SEC.1-T4N-R64W | TVD Reference: | WELL @ 4625.0ft (Original Well Elev) |
| Site: | Red Cloud 4N46W01 Pad Sec.1-T4N-64W | MD Reference: | WELL @ 4625.0ft (Original Well Elev) |
| Well: | Red Cloud 2N (Nio C) | North Reference: | True |
| Wellbore: | Red Cloud 2N Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Red Cloud 2N Wellbore #1 | Database: | 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) |
| 915.0 | 9.13 | 29.50 | 911.1 | 56.4 | 24.9 | -18.6 | 0.18 | -0.16 | -0.53 |
| 1,010.0 | 10.52 | 31.67 | 1,004.7 | 70.3 | 33.2 | -25.3 | 1.51 | 1.46 | 2.28 |
| 1,106.0 | 11.60 | 33.79 | 1,099.0 | 85.8 | 43.2 | -33.5 | 1.20 | 1.13 | 2.21 |
| 1,201.0 | 13.33 | 34.50 | 1,191.7 | 102.8 | 54.7 | -43.1 | 1.83 | 1.82 | 0.75 |
| 1,296.0 | 14.71 | 34.99 | 1,283.9 | 121.7 | 67.8 | -54.1 | 1.46 | 1.45 | 0.52 |
| 1,392.0 | 15.49 | 34.12 | 1,376.6 | 142.3 | 82.0 | -65.9 | 0.85 | 0.81 | -0.91 |
| 1,487.0 | 14.18 | 33.25 | 1,468.4 | 162.5 | 95.5 | -77.1 | 1.40 | -1.38 | -0.92 |
| 1,635.0 | 12.51 | 30.92 | 1,612.4 | 191.4 | 113.7 | -92.0 | 1.19 | -1.13 | -1.57 |
| 1,771.0 | 14.90 | 31.40 | 1,744.5 | 219.0 | 130.4 | -105.6 | 1.76 | 1.76 | 0.35 |
| 1,865.0 | 16.98 | 28.54 | 1,834.9 | 241.4 | 143.2 | -115.9 | 2.36 | 2.21 | -3.04 |
| 1,960.0 | 16.27 | 26.84 | 1,925.9 | 265.4 | 155.8 | -125.8 | 0.91 | -0.75 | -1.79 |
| 2,055.0 | 15.89 | 24.15 | 2,017.2 | 289.2 | 167.2 | -134.5 | 0.88 | -0.40 | -2.83 |
| 2,151.0 | 15.06 | 24.90 | 2,109.7 | 312.5 | 177.8 | -142.5 | 0.89 | -0.86 | 0.78 |
| 2,245.0 | 17.55 | 28.60 | 2,199.9 | 336.0 | 189.7 | -151.7 | 2.87 | 2.65 | 3.94 |
| 2,339.0 | 17.83 | 28.58 | 2,289.5 | 361.1 | 203.4 | -162.6 | 0.30 | 0.30 | -0.02 |
| 2,434.0 | 16.63 | 27.34 | 2,380.2 | 385.9 | 216.6 | -173.0 | 1.32 | -1.26 | -1.31 |
| 2,529.0 | 15.75 | 27.69 | 2,471.5 | 409.4 | 228.8 | -182.6 | 0.93 | -0.93 | 0.37 |
| 2,623.0 | 15.46 | 27.04 | 2,562.0 | 431.9 | 240.5 | -191.7 | 0.36 | -0.31 | -0.69 |
| 2,718.0 | 15.14 | 26.62 | 2,653.6 | 454.2 | 251.8 | -200.5 | 0.36 | -0.34 | -0.44 |
| 2,812.0 | 14.96 | 25.72 | 2,744.4 | 476.2 | 262.5 | -208.8 | 0.31 | -0.19 | -0.96 |
| 2,907.0 | 16.81 | 31.20 | 2,835.8 | 499.0 | 275.0 | -218.6 | 2.51 | 1.95 | 5.77 |
| 3,001.0 | 16.77 | 31.31 | 2,925.8 | 522.2 | 289.1 | -230.1 | 0.05 | -0.04 | 0.12 |
| 3,095.0 | 16.02 | 29.97 | 3,016.0 | 545.0 | 302.6 | -241.0 | 0.89 | -0.80 | -1.43 |
| 3,189.0 | 14.95 | 28.25 | 3,106.5 | 566.9 | 314.8 | -250.8 | 1.24 | -1.14 | -1.83 |
| 3,284.0 | 17.48 | 29.19 | 3,197.8 | 590.2 | 327.6 | -260.9 | 2.68 | 2.66 | 0.99 |
| 3,379.0 | 16.63 | 28.40 | 3,288.6 | 614.6 | 341.0 | -271.6 | 0.93 | -0.89 | -0.83 |
| 3,474.0 | 15.57 | 27.06 | 3,379.9 | 637.9 | 353.3 | -281.2 | 1.18 | -1.12 | -1.41 |
| 3,570.0 | 17.31 | 31.53 | 3,471.9 | 661.5 | 366.6 | -291.9 | 2.24 | 1.81 | 4.66 |
| 3,664.0 | 18.33 | 32.74 | 3,561.4 | 685.9 | 381.9 | -304.4 | 1.15 | 1.09 | 1.29 |
| 3,760.0 | 18.56 | 32.27 | 3,652.5 | 711.5 | 398.2 | -317.8 | 0.29 | 0.24 | -0.49 |
| 3,855.0 | 17.93 | 32.10 | 3,742.7 | 736.7 | 414.1 | -330.8 | 0.67 | -0.66 | -0.18 |
| 3,950.0 | 16.79 | 31.82 | 3,833.4 | 760.7 | 429.1 | -343.1 | 1.20 | -1.20 | -0.29 |
| 4,045.0 | 16.02 | 31.10 | 3,924.5 | 783.6 | 443.1 | -354.5 | 0.84 | -0.81 | -0.76 |
| 4,140.0 | 15.17 | 31.80 | 4,016.0 | 805.4 | 456.4 | -365.4 | 0.92 | -0.89 | 0.74 |
| 4,234.0 | 14.17 | 31.53 | 4,106.9 | 825.7 | 468.9 | -375.6 | 1.07 | -1.06 | -0.29 |
| 4,330.0 | 15.07 | 29.89 | 4,199.8 | 846.5 | 481.3 | -385.6 | 1.03 | 0.94 | -1.71 |
| 4,425.0 | 16.54 | 29.31 | 4,291.2 | 869.0 | 494.0 | -395.8 | 1.56 | 1.55 | -0.61 |
| 4,615.0 | 13.81 | 27.78 | 4,474.6 | 912.6 | 517.8 | -414.7 | 1.45 | -1.44 | -0.81 |
| 4,711.0 | 16.19 | 37.28 | 4,567.3 | 933.4 | 531.3 | -425.8 | 3.56 | 2.48 | 9.90 |
| 4,806.0 | 15.96 | 37.73 | 4,658.6 | 954.3 | 547.3 | -439.4 | 0.28 | -0.24 | 0.47 |
| 4,901.0 | 15.28 | 36.78 | 4,750.1 | 974.7 | 562.8 | -452.6 | 0.76 | -0.72 | -1.00 |
| 4,996.0 | 14.83 | 36.86 | 4,841.9 | 994.4 | 577.6 | -465.1 | 0.47 | -0.47 | 0.08 |
| 5,090.0 | 14.10 | 34.23 | 4,932.9 | 1,013.5 | 591.2 | -476.6 | 1.04 | -0.78 | -2.80 |

| | | | |
|------------------|-------------------------------------|-------------------------------------|--------------------------------------|
| Company: | PDC Energy Inc. DJ Basin | Local Co-ordinate Reference: | Well Red Cloud 2N (Nio C) |
| Project: | SEC.1-T4N-R64W | TVD Reference: | WELL @ 4625.0ft (Original Well Elev) |
| Site: | Red Cloud 4N46W01 Pad Sec.1-T4N-64W | MD Reference: | WELL @ 4625.0ft (Original Well Elev) |
| Well: | Red Cloud 2N (Nio C) | North Reference: | True |
| Wellbore: | Red Cloud 2N Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Red Cloud 2N Wellbore #1 | Database: | 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) |
| 5,185.0 | 12.17 | 30.90 | 5,025.4 | 1,031.7 | 602.9 | -486.2 | 2.18 | -2.03 | -3.51 |
| 5,280.0 | 10.84 | 28.85 | 5,118.5 | 1,048.1 | 612.4 | -493.8 | 1.46 | -1.40 | -2.16 |
| 5,375.0 | 9.29 | 27.94 | 5,212.0 | 1,062.7 | 620.3 | -500.0 | 1.64 | -1.63 | -0.96 |
| 5,469.0 | 7.96 | 27.46 | 5,304.9 | 1,075.2 | 626.8 | -505.2 | 1.42 | -1.41 | -0.51 |
| 5,564.0 | 7.68 | 26.00 | 5,399.1 | 1,086.7 | 632.6 | -509.7 | 0.36 | -0.29 | -1.54 |
| 5,659.0 | 6.92 | 27.29 | 5,493.3 | 1,097.5 | 638.0 | -513.9 | 0.82 | -0.80 | 1.36 |
| 5,755.0 | 5.97 | 31.28 | 5,588.7 | 1,106.9 | 643.3 | -518.1 | 1.09 | -0.99 | 4.16 |
| 5,850.0 | 5.32 | 34.29 | 5,683.2 | 1,114.8 | 648.3 | -522.2 | 0.75 | -0.68 | 3.17 |
| 5,945.0 | 0.83 | 218.33 | 5,778.1 | 1,117.9 | 650.4 | -523.9 | 6.47 | -4.73 | -185.22 |
| 6,040.0 | 6.81 | 247.77 | 5,872.9 | 1,115.2 | 644.7 | -518.6 | 6.42 | 6.29 | 30.99 |
| 6,136.0 | 16.70 | 267.13 | 5,966.8 | 1,112.3 | 625.6 | -499.9 | 10.95 | 10.30 | 20.17 |
| 6,231.0 | 24.08 | 271.45 | 6,055.7 | 1,112.2 | 592.6 | -467.1 | 7.92 | 7.77 | 4.55 |
| 6,326.0 | 30.26 | 273.28 | 6,140.2 | 1,114.0 | 549.3 | -423.8 | 6.56 | 6.51 | 1.93 |
| 6,421.0 | 38.49 | 276.72 | 6,218.6 | 1,118.9 | 495.9 | -370.3 | 8.90 | 8.66 | 3.62 |
| 6,516.0 | 43.30 | 268.96 | 6,290.4 | 1,121.7 | 433.9 | -308.3 | 7.36 | 5.06 | -8.17 |
| 6,611.0 | 47.63 | 267.18 | 6,357.0 | 1,119.4 | 366.3 | -241.3 | 4.75 | 4.56 | -1.87 |
| 6,706.0 | 52.22 | 267.86 | 6,418.2 | 1,116.3 | 293.6 | -169.5 | 4.86 | 4.83 | 0.72 |
| 6,801.0 | 56.19 | 265.23 | 6,473.7 | 1,111.6 | 216.8 | -93.6 | 4.74 | 4.18 | -2.77 |
| 6,813.2 | 56.97 | 265.37 | 6,480.4 | 1,110.8 | 206.6 | -83.6 | 6.44 | 6.38 | 1.11 |
| TPZ - 460' Setback - 418'FNL, 460'FEL, Sec.1 | | | | | | | | | |
| 6,896.0 | 62.25 | 266.23 | 6,522.3 | 1,105.5 | 135.4 | -13.4 | 6.44 | 6.38 | 1.04 |
| 6,991.0 | 73.84 | 267.58 | 6,557.8 | 1,100.8 | 47.6 | 73.4 | 12.27 | 12.20 | 1.42 |
| 7,087.0 | 84.66 | 269.18 | 6,575.7 | 1,098.2 | -46.6 | 166.7 | 11.39 | 11.27 | 1.67 |
| 7,110.8 | 85.89 | 270.30 | 6,577.6 | 1,098.1 | -70.3 | 190.3 | 6.96 | 5.16 | 4.69 |
| LPL 430'FNL, 737'FEL, Sec.1 | | | | | | | | | |
| 7,182.0 | 89.57 | 273.62 | 6,580.4 | 1,100.5 | -141.4 | 261.2 | 6.96 | 5.17 | 4.67 |
| 7,278.0 | 89.41 | 274.33 | 6,581.3 | 1,107.2 | -237.1 | 357.1 | 0.76 | -0.17 | 0.74 |
| 7,373.0 | 88.03 | 271.86 | 6,583.4 | 1,112.3 | -332.0 | 451.9 | 2.98 | -1.45 | -2.60 |
| 7,498.0 | 89.29 | 269.79 | 6,586.3 | 1,114.1 | -456.9 | 576.3 | 1.94 | 1.01 | -1.66 |
| 7,593.0 | 89.34 | 268.19 | 6,587.5 | 1,112.4 | -551.9 | 670.5 | 1.68 | 0.05 | -1.68 |
| 7,688.0 | 91.33 | 268.87 | 6,586.9 | 1,110.0 | -646.8 | 764.6 | 2.21 | 2.09 | 0.72 |
| 7,784.0 | 92.27 | 269.29 | 6,583.9 | 1,108.4 | -742.8 | 859.8 | 1.07 | 0.98 | 0.44 |
| 7,880.0 | 89.84 | 270.35 | 6,582.1 | 1,108.1 | -838.7 | 955.2 | 2.76 | -2.53 | 1.10 |
| 7,976.0 | 88.97 | 270.58 | 6,583.1 | 1,108.9 | -934.7 | 1,050.7 | 0.94 | -0.91 | 0.24 |
| 8,071.0 | 88.42 | 271.68 | 6,585.3 | 1,110.8 | -1,029.7 | 1,145.3 | 1.29 | -0.58 | 1.16 |
| 8,167.0 | 88.79 | 270.76 | 6,587.6 | 1,112.8 | -1,125.6 | 1,240.9 | 1.03 | 0.39 | -0.96 |
| 8,262.0 | 87.77 | 271.02 | 6,590.5 | 1,114.3 | -1,220.6 | 1,335.4 | 1.11 | -1.07 | 0.27 |
| 8,358.0 | 91.17 | 268.92 | 6,591.4 | 1,114.3 | -1,316.6 | 1,430.8 | 4.16 | 3.54 | -2.19 |
| 8,453.0 | 90.76 | 269.14 | 6,589.8 | 1,112.7 | -1,411.5 | 1,525.0 | 0.49 | -0.43 | 0.23 |
| 8,549.0 | 90.53 | 269.29 | 6,588.7 | 1,111.3 | -1,507.5 | 1,620.3 | 0.29 | -0.24 | 0.16 |
| 8,644.0 | 90.43 | 269.44 | 6,587.9 | 1,110.3 | -1,602.5 | 1,714.6 | 0.19 | -0.11 | 0.16 |
| 8,739.0 | 90.30 | 269.60 | 6,587.3 | 1,109.5 | -1,697.5 | 1,808.9 | 0.22 | -0.14 | 0.17 |
| 8,835.0 | 89.97 | 269.32 | 6,587.1 | 1,108.6 | -1,793.5 | 1,904.2 | 0.45 | -0.34 | -0.29 |
| 8,930.0 | 89.55 | 269.60 | 6,587.5 | 1,107.7 | -1,888.5 | 1,998.5 | 0.53 | -0.44 | 0.29 |

| | | | |
|------------------|-------------------------------------|-------------------------------------|--------------------------------------|
| Company: | PDC Energy Inc. DJ Basin | Local Co-ordinate Reference: | Well Red Cloud 2N (Nio C) |
| Project: | SEC.1-T4N-R64W | TVD Reference: | WELL @ 4625.0ft (Original Well Elev) |
| Site: | Red Cloud 4N46W01 Pad Sec.1-T4N-64W | MD Reference: | WELL @ 4625.0ft (Original Well Elev) |
| Well: | Red Cloud 2N (Nio C) | North Reference: | True |
| Wellbore: | Red Cloud 2N Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Red Cloud 2N Wellbore #1 | Database: | 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) |
| 9,025.0 | 89.31 | 269.75 | 6,588.4 | 1,107.2 | -1,983.5 | 2,092.9 | 0.30 | -0.25 | 0.16 |
| 9,121.0 | 88.74 | 270.23 | 6,590.1 | 1,107.1 | -2,079.5 | 2,188.3 | 0.78 | -0.59 | 0.50 |
| 9,216.0 | 88.29 | 270.11 | 6,592.5 | 1,107.4 | -2,174.4 | 2,282.7 | 0.49 | -0.47 | -0.13 |
| 9,311.0 | 87.69 | 270.35 | 6,595.8 | 1,107.8 | -2,269.4 | 2,377.2 | 0.68 | -0.63 | 0.25 |
| 9,407.0 | 89.57 | 270.75 | 6,598.1 | 1,108.7 | -2,365.3 | 2,472.6 | 2.00 | 1.96 | 0.42 |
| 9,502.0 | 90.27 | 270.61 | 6,598.3 | 1,109.8 | -2,460.3 | 2,567.2 | 0.75 | 0.74 | -0.15 |
| 9,598.0 | 89.99 | 270.85 | 6,598.1 | 1,111.1 | -2,556.3 | 2,662.7 | 0.38 | -0.29 | 0.25 |
| 9,693.0 | 89.51 | 270.74 | 6,598.5 | 1,112.4 | -2,651.3 | 2,757.3 | 0.52 | -0.51 | -0.12 |
| 9,789.0 | 89.64 | 268.21 | 6,599.2 | 1,111.5 | -2,747.3 | 2,852.6 | 2.64 | 0.14 | -2.64 |
| 9,884.0 | 88.90 | 268.31 | 6,600.4 | 1,108.6 | -2,842.3 | 2,946.7 | 0.79 | -0.78 | 0.11 |
| 9,980.0 | 88.69 | 268.03 | 6,602.4 | 1,105.6 | -2,938.2 | 3,041.7 | 0.36 | -0.22 | -0.29 |
| 10,075.0 | 88.24 | 267.94 | 6,605.0 | 1,102.2 | -3,033.1 | 3,135.6 | 0.48 | -0.47 | -0.09 |
| 10,171.0 | 90.27 | 266.14 | 6,606.2 | 1,097.3 | -3,128.9 | 3,230.4 | 2.83 | 2.11 | -1.88 |
| 10,266.0 | 89.74 | 266.53 | 6,606.2 | 1,091.2 | -3,223.7 | 3,323.9 | 0.69 | -0.56 | 0.41 |
| 10,362.0 | 89.22 | 266.66 | 6,607.1 | 1,085.5 | -3,319.6 | 3,418.6 | 0.56 | -0.54 | 0.14 |
| 10,457.0 | 89.45 | 268.29 | 6,608.2 | 1,081.3 | -3,414.5 | 3,512.4 | 1.73 | 0.24 | 1.72 |
| 10,553.0 | 90.82 | 267.54 | 6,607.9 | 1,077.8 | -3,510.4 | 3,607.4 | 1.63 | 1.43 | -0.78 |
| 10,649.0 | 90.27 | 268.53 | 6,607.0 | 1,074.5 | -3,606.3 | 3,702.4 | 1.18 | -0.57 | 1.03 |
| 10,839.0 | 88.62 | 268.76 | 6,608.9 | 1,070.0 | -3,796.3 | 3,890.7 | 0.88 | -0.87 | 0.12 |
| 10,935.0 | 89.83 | 269.94 | 6,610.2 | 1,068.9 | -3,892.3 | 3,986.0 | 1.76 | 1.26 | 1.23 |
| 11,031.0 | 89.56 | 272.03 | 6,610.7 | 1,070.6 | -3,988.2 | 4,081.6 | 2.20 | -0.28 | 2.18 |
| 11,126.0 | 89.15 | 270.76 | 6,611.7 | 1,072.9 | -4,083.2 | 4,176.2 | 1.40 | -0.43 | -1.34 |
| 11,222.0 | 89.82 | 271.48 | 6,612.6 | 1,074.8 | -4,179.2 | 4,271.8 | 1.02 | 0.70 | 0.75 |
| 11,318.0 | 89.14 | 270.95 | 6,613.5 | 1,076.8 | -4,275.1 | 4,367.4 | 0.90 | -0.71 | -0.55 |
| 11,413.0 | 90.43 | 269.85 | 6,613.8 | 1,077.5 | -4,370.1 | 4,461.9 | 1.78 | 1.36 | -1.16 |
| 11,508.0 | 90.08 | 270.96 | 6,613.4 | 1,078.1 | -4,465.1 | 4,556.4 | 1.23 | -0.37 | 1.17 |
| 11,604.0 | 90.12 | 270.72 | 6,613.2 | 1,079.6 | -4,561.1 | 4,652.0 | 0.25 | 0.04 | -0.25 |
| 11,700.0 | 89.64 | 270.52 | 6,613.5 | 1,080.6 | -4,657.1 | 4,747.5 | 0.54 | -0.50 | -0.21 |
| 11,890.0 | 88.99 | 269.82 | 6,615.7 | 1,081.2 | -4,847.1 | 4,936.4 | 0.50 | -0.34 | -0.37 |
| 11,986.0 | 90.76 | 270.23 | 6,615.9 | 1,081.2 | -4,943.1 | 5,031.8 | 1.89 | 1.84 | 0.43 |
| 12,081.0 | 90.58 | 270.06 | 6,614.8 | 1,081.4 | -5,038.1 | 5,126.3 | 0.26 | -0.19 | -0.18 |
| 12,177.0 | 89.69 | 269.11 | 6,614.6 | 1,080.7 | -5,134.1 | 5,221.6 | 1.36 | -0.93 | -0.99 |
| 12,272.0 | 89.90 | 268.59 | 6,614.9 | 1,078.8 | -5,229.1 | 5,315.8 | 0.59 | 0.22 | -0.55 |
| 12,368.0 | 89.80 | 268.67 | 6,615.2 | 1,076.5 | -5,325.0 | 5,411.0 | 0.13 | -0.10 | 0.08 |
| 12,463.0 | 90.13 | 267.77 | 6,615.2 | 1,073.6 | -5,420.0 | 5,505.0 | 1.01 | 0.35 | -0.95 |
| 12,559.0 | 88.91 | 268.95 | 6,616.0 | 1,070.8 | -5,515.9 | 5,600.1 | 1.77 | -1.27 | 1.23 |
| 12,654.0 | 88.99 | 269.99 | 6,617.8 | 1,070.0 | -5,610.9 | 5,694.4 | 1.10 | 0.08 | 1.09 |
| 12,750.0 | 88.22 | 268.84 | 6,620.1 | 1,069.0 | -5,706.9 | 5,789.7 | 1.44 | -0.80 | -1.20 |
| 12,846.0 | 90.78 | 270.06 | 6,621.0 | 1,068.1 | -5,802.9 | 5,885.0 | 2.95 | 2.67 | 1.27 |
| 12,942.0 | 91.61 | 271.87 | 6,619.0 | 1,069.7 | -5,898.8 | 5,980.5 | 2.07 | 0.86 | 1.89 |
| 13,037.0 | 91.59 | 271.86 | 6,616.3 | 1,072.8 | -5,993.7 | 6,075.2 | 0.02 | -0.02 | -0.01 |
| 13,133.0 | 91.31 | 272.25 | 6,613.9 | 1,076.2 | -6,089.7 | 6,170.9 | 0.50 | -0.29 | 0.41 |
| 13,228.0 | 90.73 | 272.53 | 6,612.2 | 1,080.2 | -6,184.6 | 6,265.7 | 0.68 | -0.61 | 0.29 |

| | | | |
|------------------|-------------------------------------|-------------------------------------|--------------------------------------|
| Company: | PDC Energy Inc. DJ Basin | Local Co-ordinate Reference: | Well Red Cloud 2N (Nio C) |
| Project: | SEC.1-T4N-R64W | TVD Reference: | WELL @ 4625.0ft (Original Well Elev) |
| Site: | Red Cloud 4N46W01 Pad Sec.1-T4N-64W | MD Reference: | WELL @ 4625.0ft (Original Well Elev) |
| Well: | Red Cloud 2N (Nio C) | North Reference: | True |
| Wellbore: | Red Cloud 2N Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Red Cloud 2N Wellbore #1 | Database: | 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) |
| 13,325.0 | 90.50 | 272.67 | 6,611.1 | 1,084.6 | -6,281.4 | 6,362.5 | 0.28 | -0.24 | 0.14 |
| 13,420.0 | 90.17 | 272.63 | 6,610.6 | 1,089.0 | -6,376.3 | 6,457.3 | 0.35 | -0.35 | -0.04 |
| 13,515.0 | 89.48 | 272.99 | 6,610.9 | 1,093.6 | -6,471.2 | 6,552.1 | 0.82 | -0.73 | 0.38 |
| 13,611.0 | 89.04 | 273.23 | 6,612.1 | 1,098.8 | -6,567.1 | 6,648.0 | 0.52 | -0.46 | 0.25 |
| 13,707.0 | 90.94 | 269.71 | 6,612.1 | 1,101.3 | -6,663.0 | 6,743.6 | 4.17 | 1.98 | -3.67 |
| 13,802.0 | 91.41 | 268.22 | 6,610.2 | 1,099.6 | -6,758.0 | 6,837.8 | 1.64 | 0.49 | -1.57 |
| 13,898.0 | 88.94 | 267.37 | 6,609.9 | 1,095.9 | -6,853.9 | 6,932.7 | 2.72 | -2.57 | -0.89 |
| 13,994.0 | 88.86 | 267.03 | 6,611.7 | 1,091.2 | -6,949.8 | 7,027.5 | 0.36 | -0.08 | -0.35 |
| 14,090.0 | 88.40 | 266.61 | 6,614.0 | 1,085.9 | -7,045.6 | 7,122.2 | 0.65 | -0.48 | -0.44 |
| 14,185.0 | 87.87 | 266.20 | 6,617.1 | 1,079.9 | -7,140.4 | 7,215.7 | 0.71 | -0.56 | -0.43 |
| 14,280.0 | 88.19 | 265.61 | 6,620.4 | 1,073.1 | -7,235.1 | 7,309.1 | 0.71 | 0.34 | -0.62 |
| 14,376.0 | 88.51 | 265.05 | 6,623.2 | 1,065.3 | -7,330.7 | 7,403.3 | 0.67 | 0.33 | -0.58 |
| 14,472.0 | 88.70 | 267.87 | 6,625.5 | 1,059.4 | -7,426.5 | 7,497.9 | 2.94 | 0.20 | 2.94 |
| 14,568.0 | 89.15 | 268.10 | 6,627.3 | 1,056.0 | -7,522.4 | 7,592.8 | 0.53 | 0.47 | 0.24 |
| 14,663.0 | 88.71 | 269.94 | 6,629.1 | 1,054.4 | -7,617.4 | 7,687.1 | 1.99 | -0.46 | 1.94 |
| 14,758.0 | 88.90 | 270.25 | 6,631.1 | 1,054.6 | -7,712.4 | 7,781.5 | 0.38 | 0.20 | 0.33 |
| 14,853.0 | 89.29 | 269.70 | 6,632.6 | 1,054.5 | -7,807.3 | 7,875.9 | 0.71 | 0.41 | -0.58 |
| 14,949.0 | 89.82 | 269.27 | 6,633.3 | 1,053.7 | -7,903.3 | 7,971.2 | 0.71 | 0.55 | -0.45 |
| 15,045.0 | 89.36 | 271.49 | 6,634.0 | 1,054.3 | -7,999.3 | 8,066.7 | 2.36 | -0.48 | 2.31 |
| 15,140.0 | 89.80 | 270.72 | 6,634.7 | 1,056.1 | -8,094.3 | 8,161.3 | 0.93 | 0.46 | -0.81 |
| 15,235.0 | 90.50 | 269.84 | 6,634.4 | 1,056.6 | -8,189.3 | 8,255.8 | 1.18 | 0.74 | -0.93 |
| 15,330.0 | 91.34 | 269.31 | 6,632.9 | 1,055.9 | -8,284.3 | 8,350.1 | 1.05 | 0.88 | -0.56 |
| 15,425.0 | 89.91 | 270.96 | 6,631.9 | 1,056.1 | -8,379.3 | 8,444.5 | 2.30 | -1.51 | 1.74 |
| 15,521.0 | 89.67 | 271.58 | 6,632.2 | 1,058.2 | -8,475.2 | 8,540.2 | 0.69 | -0.25 | 0.65 |
| 15,616.0 | 90.13 | 271.25 | 6,632.4 | 1,060.6 | -8,570.2 | 8,634.8 | 0.60 | 0.48 | -0.35 |
| 15,712.0 | 90.87 | 270.90 | 6,631.6 | 1,062.4 | -8,666.2 | 8,730.4 | 0.85 | 0.77 | -0.36 |
| 15,807.0 | 88.92 | 270.61 | 6,631.7 | 1,063.6 | -8,761.2 | 8,825.0 | 2.08 | -2.05 | -0.31 |
| 15,902.0 | 89.16 | 270.36 | 6,633.3 | 1,064.4 | -8,856.2 | 8,919.5 | 0.36 | 0.25 | -0.26 |
| 15,997.0 | 89.54 | 270.15 | 6,634.4 | 1,064.9 | -8,951.2 | 9,013.9 | 0.46 | 0.40 | -0.22 |
| 16,093.0 | 89.66 | 269.61 | 6,635.1 | 1,064.7 | -9,047.2 | 9,109.3 | 0.58 | 0.13 | -0.56 |
| 16,189.0 | 89.81 | 269.11 | 6,635.5 | 1,063.6 | -9,143.1 | 9,204.6 | 0.54 | 0.16 | -0.52 |
| 16,285.0 | 89.50 | 268.73 | 6,636.1 | 1,061.8 | -9,239.1 | 9,299.8 | 0.51 | -0.32 | -0.40 |
| 16,380.0 | 88.68 | 270.80 | 6,637.6 | 1,061.4 | -9,334.1 | 9,394.2 | 2.34 | -0.86 | 2.18 |
| 16,475.0 | 88.36 | 271.21 | 6,640.0 | 1,063.1 | -9,429.1 | 9,488.8 | 0.55 | -0.34 | 0.43 |
| 16,571.0 | 87.94 | 271.33 | 6,643.1 | 1,065.2 | -9,525.0 | 9,584.4 | 0.45 | -0.44 | 0.13 |
| 16,666.0 | 88.91 | 272.56 | 6,645.8 | 1,068.4 | -9,619.9 | 9,679.0 | 1.65 | 1.02 | 1.29 |
| 16,709.0 | 89.43 | 272.46 | 6,646.4 | 1,070.3 | -9,662.9 | 9,721.9 | 1.23 | 1.21 | -0.23 |
| 16,767.0 | 89.43 | 272.46 | 6,647.0 | 1,072.8 | -9,720.8 | 9,779.8 | 0.00 | 0.00 | 0.00 |
| Deepest TVD Drilled - 6646.96' TVD - Projected BHL 429°FNL, 51°FNL, Sec.2 | | | | | | | | | |

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|------------------|-------------------------------------|-------------------------------------|--------------------------------------|
| Company: | PDC Energy Inc. DJ Basin | Local Co-ordinate Reference: | Well Red Cloud 2N (Nio C) |
| Project: | SEC.1-T4N-R64W | TVD Reference: | WELL @ 4625.0ft (Original Well Elev) |
| Site: | Red Cloud 4N46W01 Pad Sec.1-T4N-64W | MD Reference: | WELL @ 4625.0ft (Original Well Elev) |
| Well: | Red Cloud 2N (Nio C) | North Reference: | True |
| Wellbore: | Red Cloud 2N Wellbore #1 | Survey Calculation Method: | Minimum Curvature |
| Design: | Red Cloud 2N Wellbore #1 | Database: | US_EDM |

| Design Targets | | | | | | | | | |
|--|-----------|----------|---------|---------|----------|--------------|--------------|-----------|-------------|
| Target Name | Dip Angle | Dip Dir. | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
| - hit/miss target | (°) | (°) | (ft) | (ft) | (ft) | (usft) | (usft) | | |
| - Shape | | | | | | | | | |
| SHL 1529'FNL, 659'FEL | 0.00 | 0.00 | 1.0 | 0.0 | 0.0 | 1,369,932.71 | 3,280,990.22 | 40.344482 | -104.491900 |
| - survey hits target center | | | | | | | | | |
| - Point | | | | | | | | | |
| Projected BHL 429'FNL, | 0.00 | 0.00 | 6,640.0 | 1,072.3 | -9,721.6 | 1,370,894.34 | 3,271,257.52 | 40.347420 | -104.526777 |
| - survey misses target center by 7.0ft at 16767.0ft MD (6647.0 TVD, 1072.8 N, -9720.8 E) | | | | | | | | | |
| - Point | | | | | | | | | |

| Survey Annotations | | | | |
|--------------------|----------------|-------------------|------------|--|
| Measured Depth | Vertical Depth | Local Coordinates | | Comment |
| (ft) | (ft) | +N/-S (ft) | +E/-W (ft) | |
| 6,813.2 | 6,480.4 | 1,110.8 | 206.6 | TPZ - 460' Setback - 418'FNL, 460'FEL, Sec.1 |
| 16,767.0 | 6,647.0 | 1,072.8 | -9,720.8 | Deepest TVD Drilled - 6646.96' TVD |

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