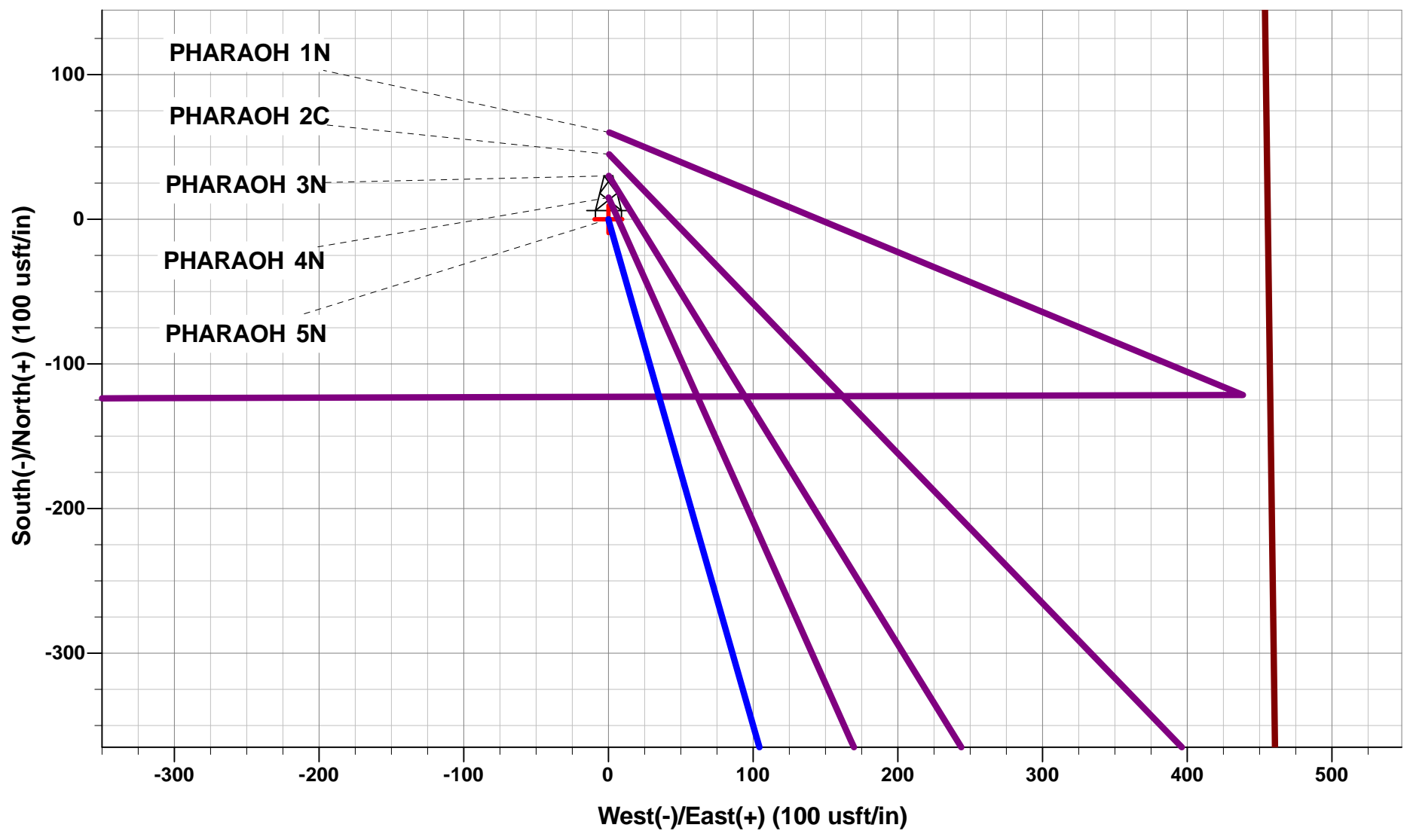




Project: WELD COUNTY, COLORADO (TRUE)  
Site: NE SE SEC. 36 T5N R64W 6th P.M. (PHARAOH)  
Well: PHARAOH 5N  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #3

| ANNOTATIONS |          |       |        |          |           |          |          |                                       |  |
|-------------|----------|-------|--------|----------|-----------|----------|----------|---------------------------------------|--|
| TVD         | MD       | Inc   | Azi    | +N/-S    | +E/-W     | VSect    | Dep      | Annotation                            |  |
| 0.00        | 0.00     | 0.00  | 0.00   | 0.00     | 0.00      | 0.00     | 0.00     | SHL: 1653ft FSL & 456ft FEL of Sec 36 |  |
| 300.00      | 300.00   | 0.00  | 0.00   | 0.00     | 0.00      | 0.00     | 0.00     | START NUDGE (2°/100ft BUR)            |  |
| 1114.46     | 1125.85  | 16.52 | 164.04 | -113.66  | 32.50     | -15.61   | 118.21   | EOB TO 16.52° INC                     |  |
| 4795.34     | 4965.16  | 16.52 | 164.04 | -1163.12 | 332.57    | -159.78  | 1209.73  | END OF TANGENT                        |  |
| 5609.80     | 5791.01  | 0.00  | 0.00   | -1276.78 | 365.07    | -175.39  | 1327.95  | EOD TO VERTICAL                       |  |
| 5809.80     | 5991.01  | 0.00  | 0.00   | -1276.78 | 365.07    | -175.39  | 1327.95  | KOP (8°/100ft BUR)                    |  |
| 6526.00     | 7116.75  | 90.06 | 269.84 | -1278.78 | -351.86   | 534.20   | 2044.88  | EP: 375ft FSL & 825ft FEL of Sec 36   |  |
| 6516.00     | 16832.70 | 90.06 | 269.84 | -1305.51 | -10067.77 | 10150.58 | 11760.83 | BHL: 375ft FSL & 50ft FWL of Sec 35   |  |

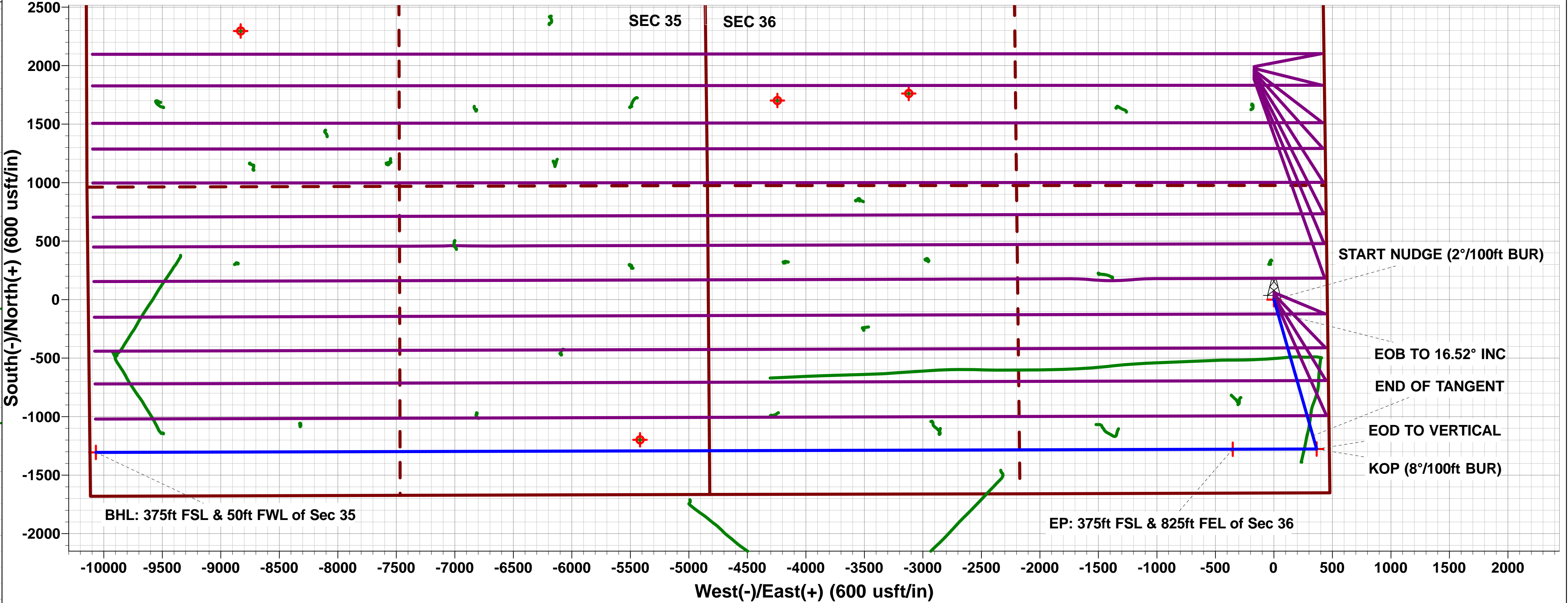
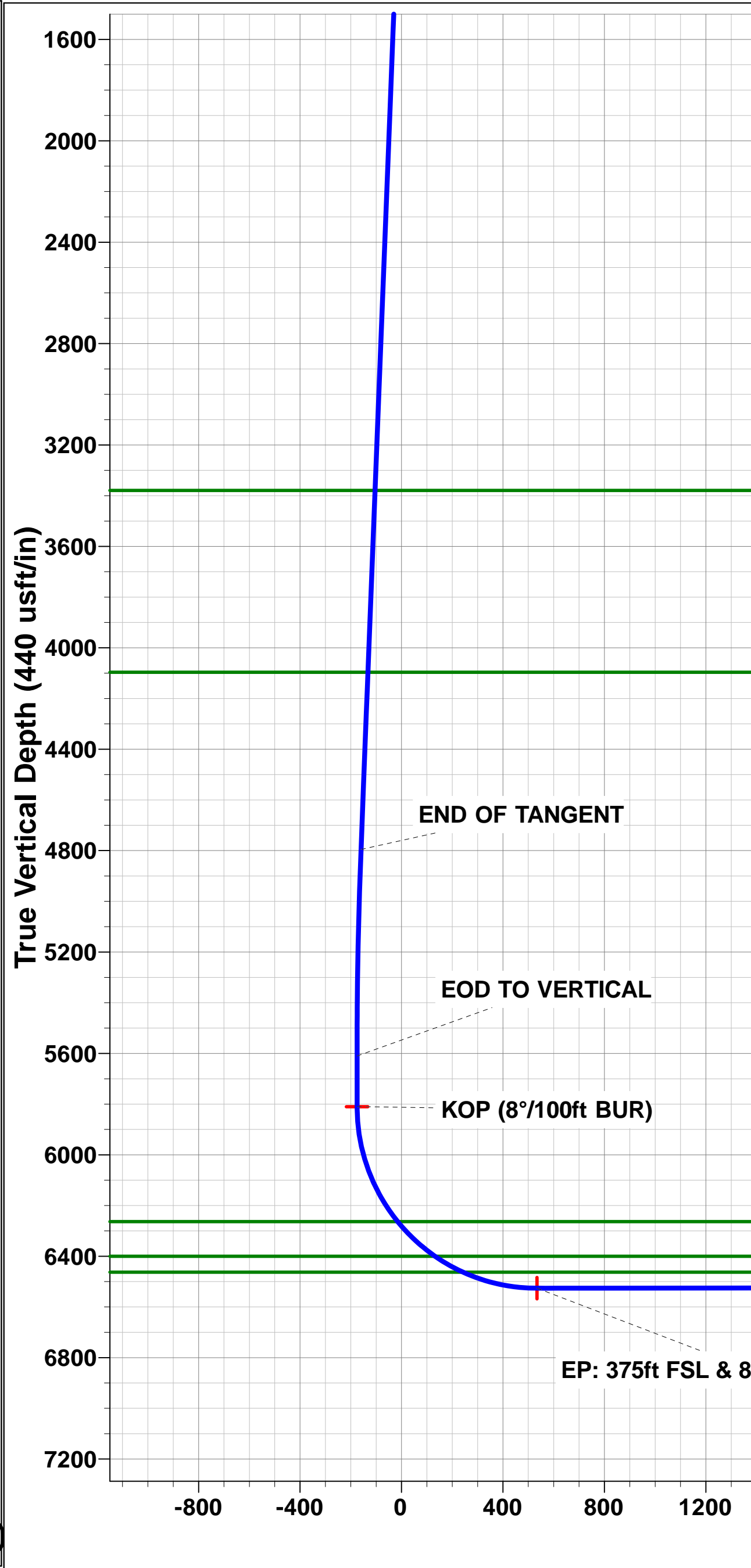
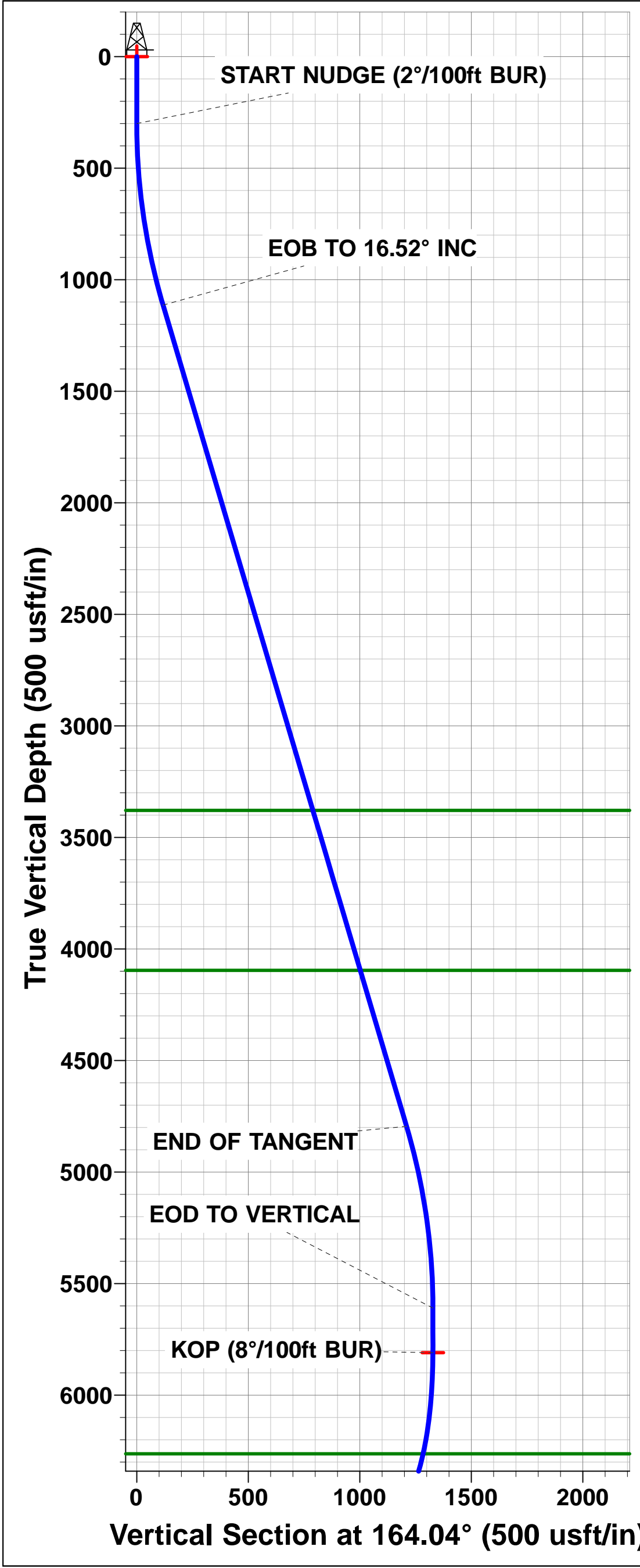
| WELLBORE TARGET DETAILS (LAT/LONG) |         |          |           |           |             |
|------------------------------------|---------|----------|-----------|-----------|-------------|
| Name                               | TVD     | +N/-S    | +E/-W     | Latitude  | Longitude   |
| KOP - PHARAOH 5N (P3)              | 5809.80 | -1276.78 | 365.07    | 40.349716 | -104.488605 |
| EP - PHARAOH 5N (P3)               | 6526.00 | -1278.78 | -351.87   | 40.349710 | -104.491177 |
| BHL - PHARAOH 5N (P3)              | 6516.00 | -1305.51 | -10067.77 | 40.349631 | -104.526035 |
| SHL - PHARAOH 5N (P3)              | 0.00    | 0.00     | 0.00      | 40.353220 | -104.489915 |
| Point                              |         |          |           |           |             |



PROPOSED LOCAL COORDINATES:  
SHL: 1653ft FSL & 456ft FEL of Sec 36  
EP: 375ft FSL & 825ft FEL of Sec 36  
BHL: 375ft FSL & 50ft FWL of Sec 35

**Azimuths to True North**  
Magnetic North: 7.99°

**Magnetic Field**  
Strength: 52321.2snT  
Dip Angle: 66.84°  
Date: 19/02/2018  
Model: IGRF2015



# **PDC ENERGY**

**WELD COUNTY, COLORADO (TRUE)**

**NE SE SEC. 36 T5N R64W 6th P.M. (PHARAOH)**

**PHARAOH 5N**

**ORIGINAL WELLBORE**

**PROPOSAL #3**

## **Anticollision Report**

**08 May, 2018**



## Anticollision Report



|                           |   |                                     |   |
|---------------------------|---|-------------------------------------|---|
| <b>Company:</b>           | PDC ENERGY                                | <b>Local Co-ordinate Reference:</b> | Well PHARAOH 5N                           |
| <b>Project:</b>           | WELD COUNTY, COLORADO (TRUE)              | <b>TVD Reference:</b>               | KB-EST @ 4616.00usft (Original Well Elev) |
| <b>Reference Site:</b>    | NE SE SEC. 36 T5N R64W 6th P.M. (PHARAOH) | <b>MD Reference:</b>                | KB-EST @ 4616.00usft (Original Well Elev) |
| <b>Site Error:</b>        | 0.00 usft                                 | <b>North Reference:</b>             | True                                      |
| <b>Reference Well:</b>    | PHARAOH 5N                                | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>        | 0.00 usft                                 | <b>Output errors are at</b>         | 2.00 sigma                                |
| <b>Reference Wellbore</b> | ORIGINAL WELLBORE                         | <b>Database:</b>                    | EDM 5000.1 Single User Db                 |
| <b>Reference Design:</b>  | PROPOSAL #3                               | <b>Offset TVD Reference:</b>        | Offset Datum                              |

|                                     |   |                       |                     |
|-------------------------------------|---|-----------------------|---------------------|
| <b>Reference</b>                    | PROPOSAL #3   |                       |                     |
| <b>Filter type:</b>                 | NO GLOBAL FILTER: Using user defined selection & filtering criteria |                       |                     |
| <b>Interpolation Method:</b>        | MD + Stations Interval 100.00usft                                   | <b>Error Model:</b>   | ISCWSA              |
| <b>Depth Range:</b>                 | Unlimited   | <b>Scan Method:</b>   | Closest Approach 3D |
| <b>Results Limited by:</b>          | Maximum center-center distance of 10,000.00 usft                    | <b>Error Surface:</b> | Elliptical Conic    |
| <b>Warning Levels Evaluated at:</b> | 2.00 Sigma  | <b>Casing Method:</b> | Not applied         |

|                            |                  |                                 |                  |                    |
|----------------------------|------------------|---------------------------------|------------------|--------------------|
| <b>Survey Tool Program</b> | <b>Date</b>      | 08/05/2018                      |                  |                    |
| <b>From (usft)</b>         | <b>To (usft)</b> | <b>Survey (Wellbore)</b>        | <b>Tool Name</b> | <b>Description</b> |
| 0.00                       | 16,832.70        | PROPOSAL #3 (ORIGINAL WELLBORE) | MWD              | MWD - Standard     |

| Summary   |                                 |                              |                                 |                                  |                   |                     |
|---|---------------------------------|------------------------------|---------------------------------|----------------------------------|-------------------|---------------------|
| Site Name   | Reference Measured Depth (usft) | Offset Measured Depth (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Separation Factor | Warning             |
| NE SE SEC. 36 T5N R64W 6th P.M. (PHARAOH)           |                                 |                              |                                 |                                  |                   |                     |
| PHARAOH 1N - ORIGINAL WELLBORE - PROPOSAL #         | 300.00                          | 300.00                       | 60.02                           | 58.95                            | 55.980            | CC, ES              |
| PHARAOH 1N - ORIGINAL WELLBORE - PROPOSAL #         | 16,832.70                       | 16,850.69                    | 1,156.87                        | 580.05                           | 2.006             | SF                  |
| PHARAOH 2C - ORIGINAL WELLBORE - PROPOSAL #         | 300.00                          | 300.00                       | 45.00                           | 43.93                            | 41.971            | CC, ES              |
| PHARAOH 2C - ORIGINAL WELLBORE - PROPOSAL #         | 16,832.70                       | 16,927.29                    | 876.30                          | 305.48                           | 1.535             | SF                  |
| PHARAOH 3N - ORIGINAL WELLBORE - PROPOSAL #         | 300.00                          | 300.00                       | 30.02                           | 28.95                            | 28.005            | CC                  |
| PHARAOH 3N - ORIGINAL WELLBORE - PROPOSAL #         | 16,832.70                       | 16,824.25                    | 585.02                          | 7.80                             | 1.014             | Level 2, ES, SF     |
| PHARAOH 4N - ORIGINAL WELLBORE - PROPOSAL #         | 300.00                          | 300.00                       | 15.01                           | 13.94                            | 14.001            | CC                  |
| PHARAOH 4N - ORIGINAL WELLBORE - PROPOSAL #         | 16,832.70                       | 16,935.27                    | 294.45                          | -266.43                          | 0.525             | Level 1, ES, SF     |
| SE NE SEC. 36 T5N R64W 6th P.M. (PYRAMID)           |                                 |                              |                                 |                                  |                   |                     |
| ABDN VERT HOSHIKO #1 - Wellbore #1 - Wellbore #1    | 12,237.82                       | 6,517.11                     | 1,561.25                        | 1,400.70                         | 9.724             | CC                  |
| ABDN VERT HOSHIKO #1 - Wellbore #1 - Wellbore #1    | 12,300.00                       | 6,516.95                     | 1,562.49                        | 1,400.20                         | 9.628             | ES                  |
| ABDN VERT HOSHIKO #1 - Wellbore #1 - Wellbore #1    | 12,700.00                       | 6,515.90                     | 1,628.23                        | 1,454.75                         | 9.386             | SF                  |
| ABDN VERT ROTHE STATE B #36-15 - Wellbore #1 - W    | 8,095.50                        | 6,489.17                     | 174.17                          | 127.79                           | 3.755             | CC                  |
| ABDN VERT ROTHE STATE B #36-15 - Wellbore #1 - W    | 8,100.00                        | 6,488.95                     | 174.23                          | 127.74                           | 3.747             | ES, SF              |
| ABDN VERT ROTHE STATE B #36-16 - Wellbore #1 - W    | 7,046.74                        | 6,494.27                     | 441.45                          | 418.68                           | 19.385            | CC                  |
| ABDN VERT ROTHE STATE B #36-16 - Wellbore #1 - W    | 7,050.00                        | 6,494.50                     | 441.47                          | 418.64                           | 19.340            | ES                  |
| ABDN VERT ROTHE STATE B #36-16 - Wellbore #1 - W    | 7,200.00                        | 6,492.96                     | 467.16                          | 441.68                           | 18.338            | SF                  |
| ABDN VERT STATE #1-36 - Wellbore #1 - Design #1     | 11,000.00                       | 6,496.00                     | 2,991.07                        | 2,737.16                         | 11.780            | CC                  |
| ABDN VERT STATE #1-36 - Wellbore #1 - Design #1     | 11,100.00                       | 6,495.89                     | 2,992.75                        | 2,736.05                         | 11.659            | ES                  |
| ABDN VERT STATE #1-36 - Wellbore #1 - Design #1     | 12,000.00                       | 6,494.97                     | 3,153.83                        | 2,872.05                         | 11.192            | SF                  |
| EXIST DD ECKHARDT B #35-12 - Wellbore #1 - Wellbor  | 16,103.85                       | 6,637.22                     | 1,676.76                        | 1,406.43                         | 6.203             | CC, ES              |
| EXIST DD ECKHARDT B #35-12 - Wellbore #1 - Wellbor  | 16,400.00                       | 6,638.18                     | 1,702.71                        | 1,424.07                         | 6.111             | SF                  |
| EXIST DD ECKHARDT B #35-13 - Wellbore #1 - Wellbor  | 16,255.42                       | 6,620.45                     | 163.02                          | -111.26                          | 0.594             | Level 1, CC, ES, SF |
| EXIST DD MARLEY C #1-28D - Wellbore #1 - Wellbore # | 9,096.30                        | 6,681.53                     | 188.04                          | 97.12                            | 2.068             | CC                  |
| EXIST DD MARLEY C #1-28D - Wellbore #1 - Wellbore # | 9,100.00                        | 6,681.55                     | 188.08                          | 97.06                            | 2.066             | ES, SF              |
| EXIST DD MARLEY C #1-30D - Wellbore #1 - Wellbore # | 11,757.05                       | 6,602.27                     | 420.85                          | 258.63                           | 2.594             | CC, ES              |
| EXIST DD MARLEY C #1-30D - Wellbore #1 - Wellbore # | 11,800.00                       | 6,602.53                     | 423.04                          | 259.61                           | 2.589             | SF                  |
| EXIST HZ SOONER STATE B #36-63HN - Wellbore #1 -    | 3,724.59                        | 3,679.10                     | 125.10                          | 95.02                            | 4.159             | CC, ES              |
| EXIST HZ SOONER STATE B #36-63HN - Wellbore #1 -    | 11,100.00                       | 11,055.00                    | 620.82                          | 365.60                           | 2.433             | SF                  |
| EXIST VERT BAKER STATE B #36-11 - Wellbore #1 - W   | 9,714.36                        | 6,514.90                     | 1,610.85                        | 1,520.50                         | 17.830            | CC                  |
| EXIST VERT BAKER STATE B #36-11 - Wellbore #1 - W   | 9,800.00                        | 6,514.47                     | 1,613.12                        | 1,520.41                         | 17.400            | ES                  |
| EXIST VERT BAKER STATE B #36-11 - Wellbore #1 - W   | 10,500.00                       | 6,511.08                     | 1,792.22                        | 1,680.12                         | 15.989            | SF                  |
| EXIST VERT BAKER STATE B #36-12 - Wellbore #1 - W   | 10,910.68                       | 6,520.79                     | 1,610.60                        | 1,487.06                         | 13.037            | CC                  |
| EXIST VERT BAKER STATE B #36-12 - Wellbore #1 - W   | 11,000.00                       | 6,520.58                     | 1,613.08                        | 1,487.05                         | 12.800            | ES                  |
| EXIST VERT BAKER STATE B #36-12 - Wellbore #1 - W   | 11,500.00                       | 6,519.36                     | 1,715.03                        | 1,575.07                         | 12.254            | SF                  |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

|                           |  |                                     |   |
|---------------------------|--|-------------------------------------|---|
| <b>Company:</b>           | PDC ENERGY                                   | <b>Local Co-ordinate Reference:</b> | Well PHARAOH 5N                           |
| <b>Project:</b>           | WELD COUNTY, COLORADO (TRUE)                 | <b>TVD Reference:</b>               | KB-EST @ 4616.00usft (Original Well Elev) |
| <b>Reference Site:</b>    | NE SE SEC. 36 T5N R64W 6th P.M.<br>(PHARAOH) | <b>MD Reference:</b>                | KB-EST @ 4616.00usft (Original Well Elev) |
| <b>Site Error:</b>        | 0.00 usft                                    | <b>North Reference:</b>             | True                                      |
| <b>Reference Well:</b>    | PHARAOH 5N                                   | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>        | 0.00 usft                                    | <b>Output errors are at</b>         | 2.00 sigma                                |
| <b>Reference Wellbore</b> | ORIGINAL WELLBORE                            | <b>Database:</b>                    | EDM 5000.1 Single User Db                 |
| <b>Reference Design:</b>  | PROPOSAL #3                                  | <b>Offset TVD Reference:</b>        | Offset Datum                              |

## Summary

| Site Name   | Reference<br>Measured<br>Depth<br>(usft) | Offset<br>Measured<br>Depth<br>(usft) | Distance<br>Between<br>Centres<br>(usft) | Distance<br>Between<br>Ellipses<br>(usft) | Separation<br>Factor | Warning             |
|---|--|---------------------------------------|--|---|----------------------|---------------------|
| SE NE SEC. 36 T5N R64W 6th P.M. (PYRAMID)           |  |                                       |  |   |                      |                     |
| EXIST VERT BAKER STATE B #36-13 - Wellbore #1 - W   | 11,004.16                                | 6,504.29                              | 320.47                                   | 194.34                                    | 2.541                | CC, ES, SF          |
| EXIST VERT BAKER STATE B #36-14 - Wellbore #1 - W   | 9,616.39                                 | 6,507.30                              | 180.90                                   | 93.29                                     | 2.065                | CC, ES, SF          |
| EXIST VERT CLYNCKE STATE B #36-20 - Wellbore #1     | 10,267.50                                | 6,500.00                              | 2,124.43                                 | 2,018.75                                  | 20.103               | CC                  |
| EXIST VERT CLYNCKE STATE B #36-20 - Wellbore #1     | 10,300.00                                | 6,500.00                              | 2,124.68                                 | 2,018.10                                  | 19.936               | ES                  |
| EXIST VERT CLYNCKE STATE B #36-20 - Wellbore #1     | 11,500.00                                | 6,500.00                              | 2,456.06                                 | 2,316.09                                  | 17.547               | SF                  |
| EXIST VERT CLYNCKE STATE B #36-25 - Wellbore #1     | 10,227.97                                | 6,505.29                              | 1,053.29                                 | 948.69                                    | 10.070               | CC, ES              |
| EXIST VERT CLYNCKE STATE B #36-25 - Wellbore #1     | 10,500.00                                | 6,498.24                              | 1,087.83                                 | 975.70                                    | 9.702                | SF                  |
| EXIST VERT CPC-HOSHIKO #35-1 - Wellbore #1 - Well   | 15,627.95                                | 6,513.28                              | 1,616.62                                 | 1,360.93                                  | 6.323                | CC                  |
| EXIST VERT CPC-HOSHIKO #35-1 - Wellbore #1 - Well   | 15,700.00                                | 6,512.58                              | 1,618.22                                 | 1,360.51                                  | 6.279                | ES                  |
| EXIST VERT CPC-HOSHIKO #35-1 - Wellbore #1 - Well   | 15,900.00                                | 6,510.62                              | 1,639.34                                 | 1,376.03                                  | 6.226                | SF                  |
| EXIST VERT ECKHARDT B #35-33 - Wellbore #1 - Well   | 16,652.44                                | 6,521.50                              | 827.37                                   | 543.09                                    | 2.910                | CC, ES              |
| EXIST VERT ECKHARDT B #35-33 - Wellbore #1 - Well   | 16,700.00                                | 6,522.53                              | 828.74                                   | 543.12                                    | 2.902                | SF                  |
| EXIST VERT HOSHIKO #2 - Wellbore #1 - Wellbore #1   | 13,575.33                                | 6,557.97                              | 327.55                                   | 129.29                                    | 1.652                | CC, ES              |
| EXIST VERT HOSHIKO #2 - Wellbore #1 - Wellbore #1   | 13,600.00                                | 6,558.02                              | 328.47                                   | 129.53                                    | 1.651                | SF                  |
| EXIST VERT HOSHIKO #35-10H4 - Wellbore #1 - Wellb   | 13,746.33                                | 6,548.51                              | 1,726.06                                 | 1,522.99                                  | 8.500                | CC                  |
| EXIST VERT HOSHIKO #35-10H4 - Wellbore #1 - Wellb   | 13,800.00                                | 6,548.40                              | 1,726.89                                 | 1,522.32                                  | 8.442                | ES                  |
| EXIST VERT HOSHIKO #35-10H4 - Wellbore #1 - Wellb   | 14,200.00                                | 6,547.59                              | 1,784.68                                 | 1,568.91                                  | 8.271                | SF                  |
| EXIST VERT HOSHIKO #35-16H4 - Wellbore #1 - Desig   | 12,181.86                                | 6,539.78                              | 94.65                                    | -191.66                                   | 0.331                | Level 1, CC, ES, SF |
| EXIST VERT HOSHIKO B #35-14 - Wellbore #1 - Wellbo  | 15,085.86                                | 6,541.67                              | 242.21                                   | 1.86                                      | 1.008                | Level 2, CC, ES, SF |
| EXIST VERT HOSHIKO B #35-23 - Wellbore #1 - Wellbo  | 12,852.38                                | 6,545.01                              | 826.04                                   | 648.09                                    | 4.642                | CC, ES              |
| EXIST VERT HOSHIKO B #35-23 - Wellbore #1 - Wellbo  | 13,000.00                                | 6,545.11                              | 839.13                                   | 657.05                                    | 4.609                | SF                  |
| EXIST VERT LOLOFF #35-6 - Wellbore #1 - Wellbore #1 | 14,848.86                                | 6,490.02                              | 2,700.16                                 | 2,466.30                                  | 11.546               | CC                  |
| EXIST VERT LOLOFF #35-6 - Wellbore #1 - Wellbore #1 | 14,900.00                                | 6,490.01                              | 2,700.64                                 | 2,465.35                                  | 11.478               | ES                  |
| EXIST VERT LOLOFF #35-6 - Wellbore #1 - Wellbore #1 | 15,700.00                                | 6,489.94                              | 2,831.13                                 | 2,573.40                                  | 10.985               | SF                  |
| EXIST VERT LOLOFF #35-8 - Wellbore #1 - Wellbore #1 | 12,197.38                                | 6,509.65                              | 3,017.14                                 | 2,857.67                                  | 18.920               | CC                  |
| EXIST VERT LOLOFF #35-8 - Wellbore #1 - Wellbore #1 | 12,300.00                                | 6,509.15                              | 3,018.89                                 | 2,856.55                                  | 18.596               | ES                  |
| EXIST VERT LOLOFF #35-8 - Wellbore #1 - Wellbore #1 | 13,800.00                                | 6,501.35                              | 3,416.34                                 | 3,212.03                                  | 16.721               | SF                  |
| EXIST VERT LOLOFF #4 - Wellbore #1 - Wellbore #1    | 13,590.90                                | 6,470.88                              | 2,946.76                                 | 2,748.09                                  | 14.832               | CC                  |
| EXIST VERT LOLOFF #4 - Wellbore #1 - Wellbore #1    | 13,700.00                                | 6,470.40                              | 2,948.78                                 | 2,747.05                                  | 14.618               | ES                  |
| EXIST VERT LOLOFF #4 - Wellbore #1 - Wellbore #1    | 14,800.00                                | 6,465.51                              | 3,185.16                                 | 2,952.62                                  | 13.697               | SF                  |
| EXIST VERT LOLOFF B #35-17 - Wellbore #1 - Wellbore | 12,948.55                                | 6,520.00                              | 3,645.61                                 | 3,464.86                                  | 20.169               | CC                  |
| EXIST VERT LOLOFF B #35-17 - Wellbore #1 - Wellbore | 13,100.00                                | 6,518.92                              | 3,648.75                                 | 3,463.76                                  | 19.724               | ES                  |
| EXIST VERT LOLOFF B #35-17 - Wellbore #1 - Wellbore | 15,000.00                                | 6,504.65                              | 4,183.13                                 | 3,944.91                                  | 17.560               | SF                  |
| EXIST VERT LOLOFF B #35-19 - Wellbore #1 - Design # | 15,585.23                                | 6,545.28                              | 3,597.95                                 | 3,216.29                                  | 9.427                | CC                  |
| EXIST VERT LOLOFF B #35-19 - Wellbore #1 - Design # | 15,700.00                                | 6,545.16                              | 3,599.78                                 | 3,214.90                                  | 9.353                | ES                  |
| EXIST VERT LOLOFF B #35-19 - Wellbore #1 - Design # | 16,500.00                                | 6,544.34                              | 3,712.42                                 | 3,305.11                                  | 9.114                | SF                  |
| EXIST VERT LOLOFF B #35-20 - Wellbore #1 - Wellbore | 15,476.41                                | 6,521.97                              | 2,409.62                                 | 2,157.94                                  | 9.574                | CC                  |
| EXIST VERT LOLOFF B #35-20 - Wellbore #1 - Wellbore | 15,500.00                                | 6,521.81                              | 2,409.74                                 | 2,157.39                                  | 9.549                | ES                  |
| EXIST VERT LOLOFF B #35-20 - Wellbore #1 - Wellbore | 16,100.00                                | 6,517.77                              | 2,489.00                                 | 2,219.82                                  | 9.247                | SF                  |
| EXIST VERT LOLOFF B #35-21 - Wellbore #1 - Wellbore | 14,308.04                                | 6,438.30                              | 2,498.64                                 | 2,280.29                                  | 11.443               | CC                  |
| EXIST VERT LOLOFF B #35-21 - Wellbore #1 - Wellbore | 14,400.00                                | 6,437.85                              | 2,500.34                                 | 2,279.41                                  | 11.317               | ES                  |
| EXIST VERT LOLOFF B #35-21 - Wellbore #1 - Wellbore | 15,100.00                                | 6,434.39                              | 2,621.15                                 | 2,380.62                                  | 10.897               | SF                  |
| EXIST VERT LOLOFF B #35-22 - Wellbore #1 - Wellbore | 12,884.55                                | 6,456.63                              | 2,491.31                                 | 2,312.63                                  | 13.943               | CC                  |
| EXIST VERT LOLOFF B #35-22 - Wellbore #1 - Wellbore | 13,000.00                                | 6,455.09                              | 2,493.99                                 | 2,312.08                                  | 13.710               | ES                  |
| EXIST VERT LOLOFF B #35-22 - Wellbore #1 - Wellbore | 13,900.00                                | 6,443.26                              | 2,690.28                                 | 2,483.20                                  | 12.992               | SF                  |
| EXIST VERT ROTHE STATE B #36-10 - Wellbore #1 - W   | 8,141.37                                 | 6,499.63                              | 1,474.84                                 | 1,427.11                                  | 30.904               | CC                  |
| EXIST VERT ROTHE STATE B #36-10 - Wellbore #1 - W   | 8,200.00                                 | 6,499.31                              | 1,476.00                                 | 1,426.75                                  | 29.968               | ES                  |
| EXIST VERT ROTHE STATE B #36-10 - Wellbore #1 - W   | 9,400.00                                 | 6,493.13                              | 1,938.87                                 | 1,857.23                                  | 23.749               | SF                  |
| EXIST VERT ROTHE STATE B #36-7 - Wellbore #1 - We   | 100.00                                   | 64.59                                 | 2,120.46                                 | 2,120.37                                  | 10,000.000           | CC                  |
| EXIST VERT ROTHE STATE B #36-7 - Wellbore #1 - We   | 301.20                                   | 275.04                                | 2,120.92                                 | 2,120.11                                  | 2,616.592            | ES                  |
| EXIST VERT ROTHE STATE B #36-7 - Wellbore #1 - We   | 13,500.00                                | 6,471.78                              | 6,195.61                                 | 5,999.80                                  | 31.640               | SF                  |
| EXIST VERT ROTHE STATE B #36-8 - Wellbore #1 - We   | 100.00                                   | 70.50                                 | 1,671.68                                 | 1,671.59                                  | 10,000.000           | CC                  |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



## Anticollision Report



|                           |   |                                     |   |
|---------------------------|---|-------------------------------------|---|
| <b>Company:</b>           | PDC ENERGY                                | <b>Local Co-ordinate Reference:</b> | Well PHARAOH 5N                           |
| <b>Project:</b>           | WELD COUNTY, COLORADO (TRUE)              | <b>TVD Reference:</b>               | KB-EST @ 4616.00usft (Original Well Elev) |
| <b>Reference Site:</b>    | NE SE SEC. 36 T5N R64W 6th P.M. (PHARAOH) | <b>MD Reference:</b>                | KB-EST @ 4616.00usft (Original Well Elev) |
| <b>Site Error:</b>        | 0.00 usft                                 | <b>North Reference:</b>             | True                                      |
| <b>Reference Well:</b>    | PHARAOH 5N                                | <b>Survey Calculation Method:</b>   | Minimum Curvature                         |
| <b>Well Error:</b>        | 0.00 usft                                 | <b>Output errors are at</b>         | 2.00 sigma                                |
| <b>Reference Wellbore</b> | ORIGINAL WELLBORE                         | <b>Database:</b>                    | EDM 5000.1 Single User Db                 |
| <b>Reference Design:</b>  | PROPOSAL #3                               | <b>Offset TVD Reference:</b>        | Offset Datum                              |

## Summary

| Site Name   | Reference Measured Depth (usft) | Offset Measured Depth (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Separation Factor | Warning |
|---|---------------------------------|------------------------------|---------------------------------|----------------------------------|-------------------|---------|
| SE NE SEC. 36 T5N R64W 6th P.M. (PYRAMID)         |                                 |                              |                                 |                                  |                   |         |
| EXIST VERT ROTHE STATE B #36-8 - Wellbore #1 - We | 300.00                          | 269.66                       | 1,671.81                        | 1,671.00                         | 2,073.022         | ES      |
| EXIST VERT ROTHE STATE B #36-8 - Wellbore #1 - We | 16,500.00                       | 6,500.00                     | 9,977.32                        | 9,697.36                         | 35.638            | SF      |
| EXIST VERT ROTHE STATE B #36-9 - Wellbore #1 - We | 317.21                          | 294.02                       | 304.75                          | 303.91                           | 365.470           | CC, ES  |
| EXIST VERT ROTHE STATE B #36-9 - Wellbore #1 - We | 16,600.00                       | 6,458.55                     | 9,951.42                        | 9,668.75                         | 35.205            | SF      |
| EXIST VERT STATE #22-36 - Wellbore #1 - Design #1 | 9,876.86                        | 6,511.15                     | 3,048.28                        | 2,826.39                         | 13.738            | CC      |
| EXIST VERT STATE #22-36 - Wellbore #1 - Design #1 | 10,000.00                       | 6,511.03                     | 3,050.76                        | 2,825.47                         | 13.541            | ES      |
| EXIST VERT STATE #22-36 - Wellbore #1 - Design #1 | 11,000.00                       | 6,510.00                     | 3,248.60                        | 2,995.56                         | 12.838            | SF      |
| EXIST VERT STROH #1 - Wellbore #1 - Wellbore #1   | 16,270.34                       | 6,400.00                     | 2,993.03                        | 2,719.69                         | 10.950            | CC      |
| EXIST VERT STROH #1 - Wellbore #1 - Wellbore #1   | 16,400.00                       | 6,400.00                     | 2,995.84                        | 2,718.87                         | 10.816            | ES      |
| EXIST VERT STROH #1 - Wellbore #1 - Wellbore #1   | 16,832.70                       | 6,400.00                     | 3,045.40                        | 2,756.30                         | 10.534            | SF      |
| PYRAMID 1N - ORIGINAL WELLBORE - PROPOSAL #1      | 300.00                          | 295.00                       | 1,998.26                        | 1,997.20                         | 1,883.558         | CC, ES  |
| PYRAMID 1N - ORIGINAL WELLBORE - PROPOSAL #1      | 16,832.70                       | 16,819.91                    | 3,402.85                        | 2,827.23                         | 5.912             | SF      |
| PYRAMID 2N - ORIGINAL WELLBORE - PROPOSAL #1      | 300.00                          | 295.00                       | 1,983.31                        | 1,982.25                         | 1,869.467         | CC, ES  |
| PYRAMID 2N - ORIGINAL WELLBORE - PROPOSAL #1      | 16,832.70                       | 16,746.60                    | 3,132.06                        | 2,556.24                         | 5.439             | SF      |
| PYRAMID 3N - ORIGINAL WELLBORE - PROPOSAL #1      | 300.00                          | 295.00                       | 1,968.37                        | 1,967.31                         | 1,855.385         | CC, ES  |
| PYRAMID 3N - ORIGINAL WELLBORE - PROPOSAL #1      | 16,832.70                       | 16,838.44                    | 2,812.90                        | 2,237.35                         | 4.887             | SF      |
| PYRAMID 4N - ORIGINAL WELLBORE - PROPOSAL #1      | 300.00                          | 295.00                       | 1,953.47                        | 1,952.41                         | 1,841.338         | CC, ES  |
| PYRAMID 4N - ORIGINAL WELLBORE - PROPOSAL #1      | 16,832.70                       | 16,779.39                    | 2,592.06                        | 2,016.58                         | 4.504             | SF      |
| PYRAMID 5N - ORIGINAL WELLBORE - PROPOSAL #1      | 300.00                          | 295.00                       | 1,938.53                        | 1,937.47                         | 1,827.258         | CC      |
| PYRAMID 5N - ORIGINAL WELLBORE - PROPOSAL #1      | 16,832.70                       | 16,896.97                    | 2,302.93                        | 1,727.47                         | 4.002             | ES, SF  |
| PYRAMID 6N - ORIGINAL WELLBORE - PROPOSAL #1      | 1,122.11                        | 1,661.32                     | 1,911.28                        | 1,904.91                         | 299.905           | CC      |
| PYRAMID 6N - ORIGINAL WELLBORE - PROPOSAL #1      | 16,832.70                       | 16,894.59                    | 2,010.12                        | 1,434.30                         | 3.491             | ES, SF  |
| PYRAMID 7N - ORIGINAL WELLBORE - PROPOSAL #1      | 4,510.69                        | 5,052.32                     | 1,702.26                        | 1,670.35                         | 53.340            | CC      |
| PYRAMID 7N - ORIGINAL WELLBORE - PROPOSAL #1      | 16,832.70                       | 17,028.49                    | 1,756.28                        | 1,180.56                         | 3.051             | ES, SF  |
| PYRAMID 8N - ORIGINAL WELLBORE - PROPOSAL #1      | 4,546.71                        | 5,100.00                     | 1,405.16                        | 1,371.45                         | 41.682            | CC      |
| PYRAMID 8N - ORIGINAL WELLBORE - PROPOSAL #1      | 16,832.70                       | 17,065.95                    | 1,460.05                        | 883.96                           | 2.534             | ES, SF  |

| <b>Offset Design</b> NE SE SEC. 36 T5N R64W 6th P.M. (PHARAOH) - PHARAOH 1N - ORIGINAL WELLBORE - PROPO |                       |                       |                       |                  |               |                       |                                     |              |                        |                         |                           | Offset Site Error: | 0.00 usft |
|---|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|-----------|
| Survey Program: 0-MWD   |                       |                       |                       |                  |               |                       |                                     |              |                        |                         |                           | Offset Well Error: | 0.00 usft |
| Reference   | Offset                | Semi Major Axis       |                       | Distance         |               | Minimum Separation    |                                     | Warning      |                        |                         |                           |                    |           |
| Measured Depth (usft)   | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor  | Warning   |
| 0.00  | 0.00                  | 0.00                  | 0.00                  | 0.00             | 0.00          | 0.67                  | 60.01                               | 0.70         | 60.02                  |                         |                           |                    |           |
| 100.00  | 100.00                | 100.00                | 100.00                | 0.09             | 0.09          | 0.67                  | 60.01                               | 0.70         | 60.02                  | 59.84                   | 0.17                      | 346.784            |           |
| 200.00  | 200.00                | 200.00                | 200.00                | 0.31             | 0.31          | 0.67                  | 60.01                               | 0.70         | 60.02                  | 59.40                   | 0.62                      | 96.399             |           |
| 300.00  | 300.00                | 300.00                | 300.00                | 0.54             | 0.54          | 0.67                  | 60.01                               | 0.70         | 60.02                  | 58.95                   | 1.07                      | 55.980             | CC, ES    |
| 400.00  | 399.98                | 399.98                | 399.98                | 0.74             | 0.76          | -163.83               | 60.01                               | 0.70         | 61.69                  | 60.19                   | 1.50                      | 41.078             |           |
| 500.00  | 499.84                | 499.84                | 499.84                | 0.94             | 0.99          | -165.06               | 60.01                               | 0.70         | 66.73                  | 64.81                   | 1.93                      | 34.630             |           |
| 600.00  | 599.45                | 599.45                | 599.45                | 1.17             | 1.21          | -166.73               | 60.01                               | 0.70         | 75.19                  | 72.82                   | 2.37                      | 31.783             |           |
| 700.00  | 698.70                | 698.70                | 698.70                | 1.44             | 1.43          | -168.52               | 60.01                               | 0.70         | 87.10                  | 84.29                   | 2.81                      | 30.973             |           |
| 800.00  | 797.47                | 797.47                | 797.47                | 1.77             | 1.65          | -170.21               | 60.01                               | 0.70         | 102.48                 | 99.22                   | 3.26                      | 31.406             |           |
| 900.00  | 895.62                | 895.62                | 895.62                | 2.14             | 1.87          | -171.69               | 60.01                               | 0.70         | 121.33                 | 117.62                  | 3.72                      | 32.638             |           |
| 1,000.00  | 993.06                | 993.06                | 993.06                | 2.58             | 2.09          | -172.93               | 60.01                               | 0.70         | 143.64                 | 139.46                  | 4.17                      | 34.406             |           |
| 1,100.00  | 1,089.64              | 1,089.64              | 1,089.64              | 3.08             | 2.31          | -173.95               | 60.01                               | 0.70         | 169.36                 | 164.72                  | 4.63                      | 36.543             |           |
| 1,125.85  | 1,114.46              | 1,114.46              | 1,114.46              | 3.22             | 2.37          | -174.18               | 60.01                               | 0.70         | 176.56                 | 171.81                  | 4.75                      | 37.142             |           |
| 1,200.00  | 1,185.55              | 1,185.55              | 1,185.55              | 3.62             | 2.53          | -174.80               | 60.01                               | 0.70         | 197.55                 | 192.45                  | 5.11                      | 38.687             |           |
| 1,300.00  | 1,281.42              | 1,281.42              | 1,281.42              | 4.19             | 2.74          | -175.45               | 60.01                               | 0.70         | 225.89                 | 220.30                  | 5.59                      | 40.429             |           |
| 1,400.00  | 1,377.30              | 1,377.30              | 1,377.30              | 4.76             | 2.96          | -175.96               | 60.01                               | 0.70         | 254.25                 | 248.17                  | 6.07                      | 41.864             |           |
| 1,500.00  | 1,473.17              | 1,473.17              | 1,473.17              | 5.33             | 3.17          | -176.37               | 60.01                               | 0.70         | 282.62                 | 276.05                  | 6.56                      | 43.065             |           |

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation