



Project: WELD COUNTY, COLORADO  
Site: SE SE SEC. 6 T4N R64W 6th P.M.  
Well: HAROLD 6Y-214  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #2

#### ANNOTATIONS

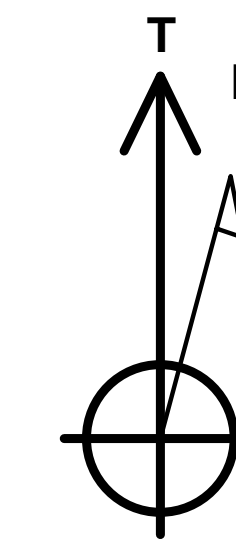
| TVD    | MD      | Inc   | Azi    | +N/-S  | +E/-W   | Vsect  | Dep    | Annotation                                    |
|--------|---------|-------|--------|--------|---------|--------|--------|---|
| 0.0    | 0.0     | 0.00  | 0.00   | 0.0    | 0.0     | 0.0    | 0.0    | SHL: 502ft FSL & 436ft FEL of Sec 6           |
| 400.0  | 400.0   | 0.00  | 0.00   | 0.0    | 0.0     | 0.0    | 0.0    | START NUDDGE (2°/100ft BUR)                   |
| 995.4  | 999.8   | 12.00 | 95.84  | -6.4   | 62.2    | -61.9  | 62.6   | EOB TO 12° INC                                |
| 5138.4 | 5235.2  | 12.00 | 95.84  | -95.9  | 938.0   | -933.5 | 942.9  | END OF TANGENT                                |
| 5733.8 | 5835.0  | 0.00  | 0.00   | -102.3 | 1000.2  | -995.5 | 1005.4 | EOD TO VERTICAL                               |
| 6153.8 | 6255.0  | 0.00  | 0.00   | -102.3 | 1000.2  | -995.5 | 1005.4 | KOP (8°/100ft BUR)                            |
| 6859.1 | 7255.0  | 80.00 | 269.37 | -108.8 | 408.4   | -403.9 | 1597.3 | 80° INC: 388ft FSL & 25ft FEL of Sec 6        |
| 6870.0 | 7383.3  | 90.26 | 269.36 | -110.2 | 280.8   | -276.3 | 1724.9 | HZ LP *NEW*: 388ft FSL & 152.2ft FEL of Sec 6 |
| 6850.0 | 11779.3 | 90.26 | 269.35 | -159.9 | -4114.9 | 4118.0 | 6120.8 | BHL: 388ft FSL & 500ft FWL of Sec 6           |

#### WELLBORE TARGET DETAILS (LAT/LONG)

| Name                        | TVD    | +N/-S  | +E/-W   | Latitude  | Longitude   |
|-----------------------------|--------|--------|---------|-----------|-------------|
| KOP - HAROLD 6Y-214         | 6153.8 | -102.3 | 1000.2  | 40.335169 | -104.581902 |
| 80° INC - HAROLD 6Y-214     | 6859.1 | -108.8 | 408.4   | 40.335151 | -104.584025 |
| BHL - HAROLD 6Y-214 (P2)    | 6850.0 | -159.9 | -4114.9 | 40.335010 | -104.600250 |
| HZ LP *NEW* - HAROLD 6Y-214 | 6870.0 | -110.2 | 281.2   | 40.335147 | -104.584481 |

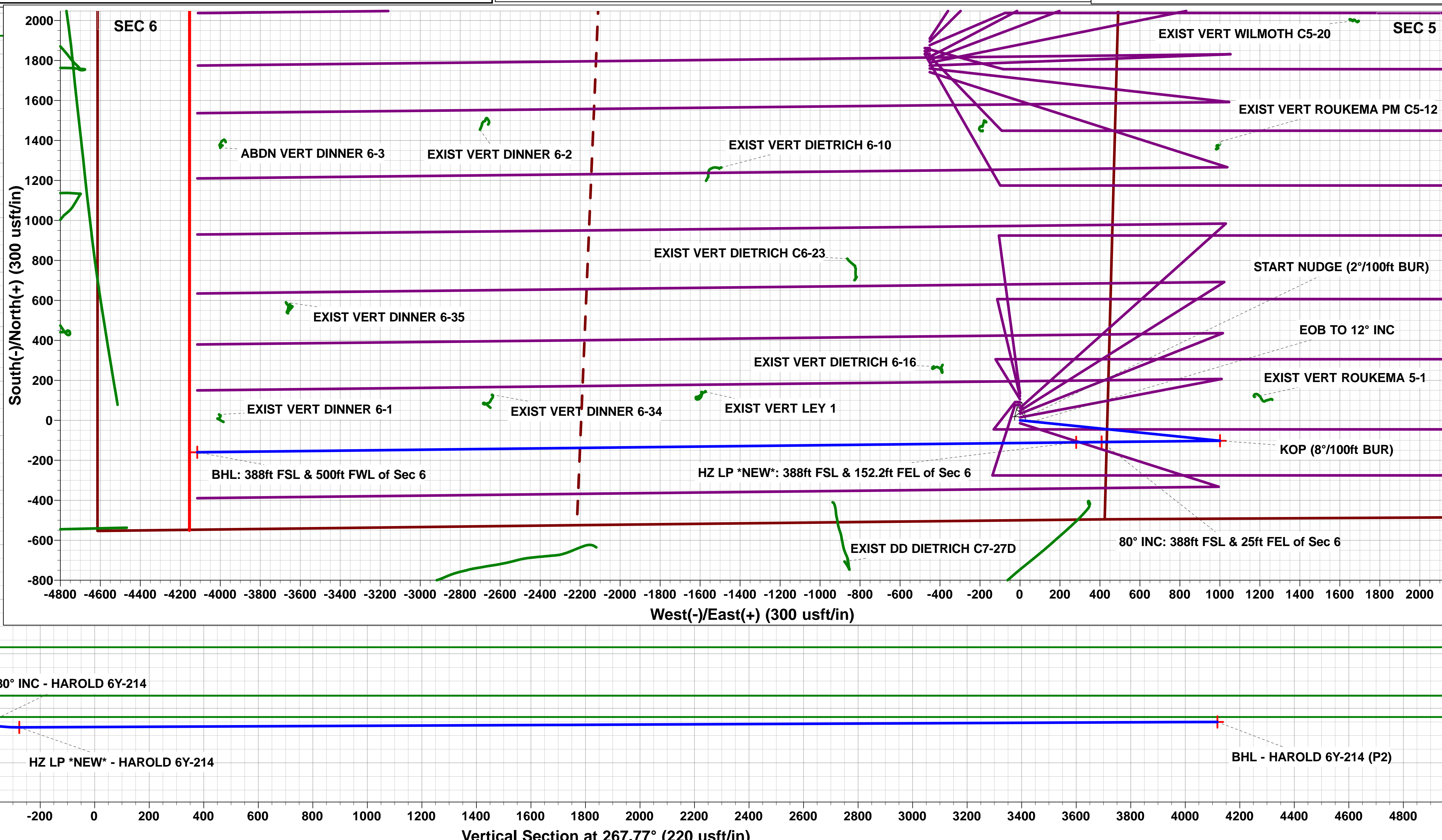
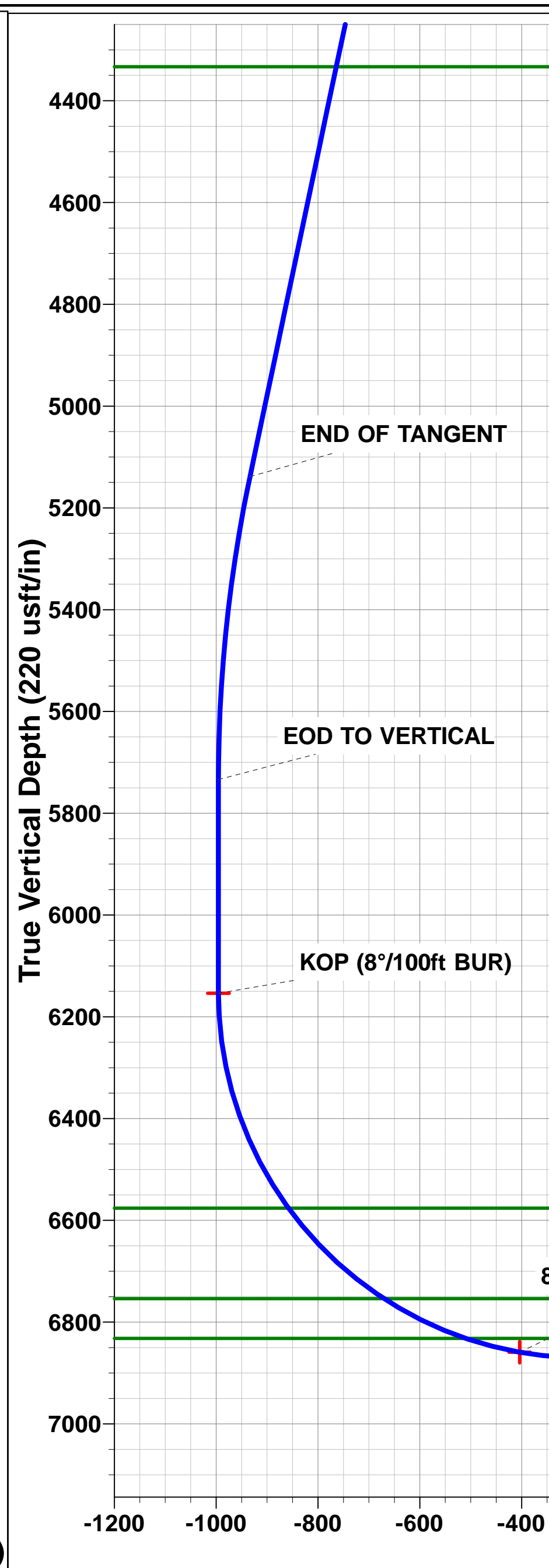
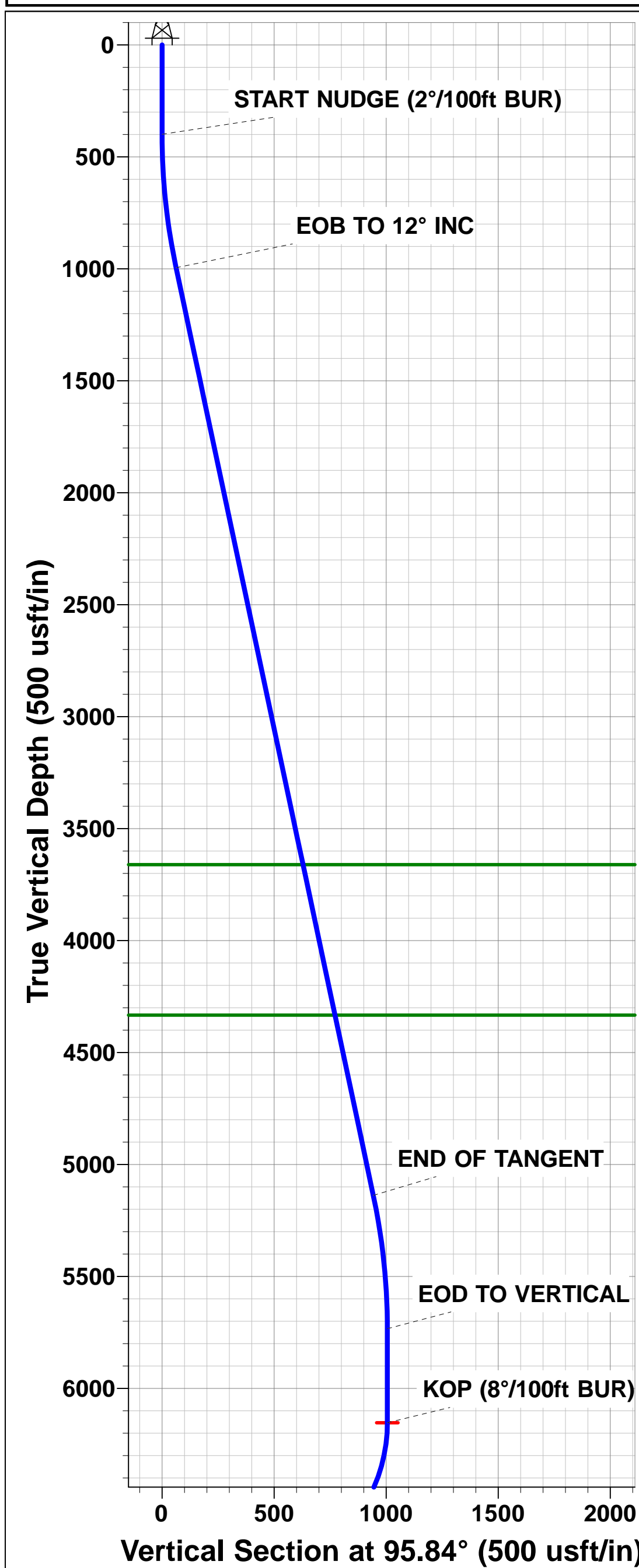
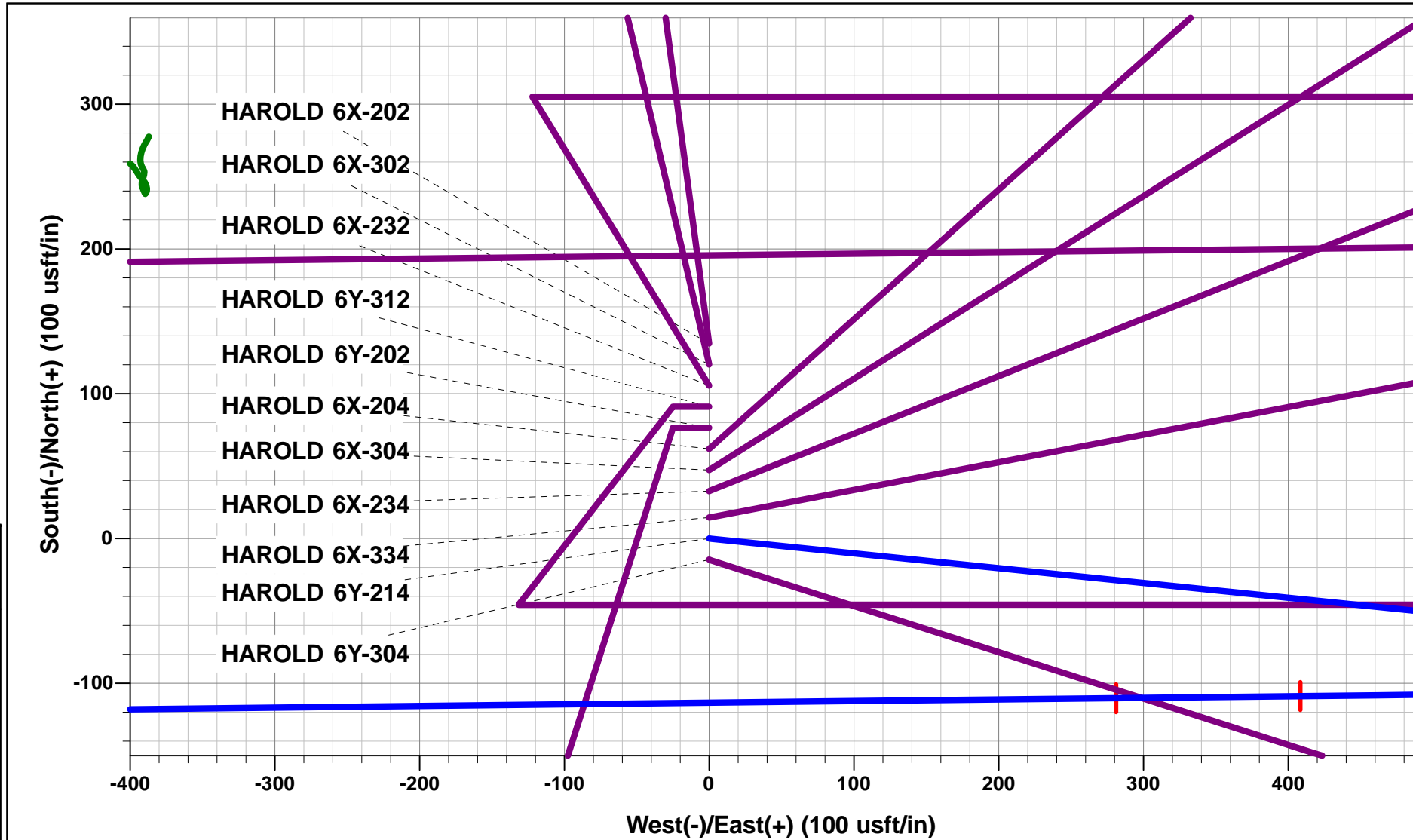
#### PROPOSED LOCAL COORDINATES:

SHL: 502ft FSL & 436ft FEL of Sec 6  
80° INC: 388ft FSL & 25ft FEL of Sec 6  
HZ LP \*NEW\*: 388ft FSL & 152.2ft FEL of Sec 6  
BHL: 388ft FSL & 500ft FWL of Sec 6



Azimuths to True North  
Magnetic North: 8.13°

Magnetic Field  
Strength: 52400.9snT  
Dip Angle: 66.84°  
Date: 04/04/2017  
Model: IGRF2015



# **PDC ENERGY**

**WELD COUNTY, COLORADO  
SE SE SEC. 6 T4N R64W 6th P.M.  
HAROLD 6Y-214**

**ORIGINAL WELLBORE  
PROPOSAL #2**

## **Anticollision Report**

**26 June, 2017**



# Anticollision Report



|                           |                                |                                     |  |
|---------------------------|--------------------------------|-------------------------------------|--|
| <b>Company:</b>           | PDC ENERGY                     | <b>Local Co-ordinate Reference:</b> | Well HAROLD 6Y-214                       |
| <b>Project:</b>           | WELD COUNTY, COLORADO          | <b>TVD Reference:</b>               | KB-EST @ 4810.0usft (Original Well Elev) |
| <b>Reference Site:</b>    | SE SE SEC. 6 T4N R64W 6th P.M. | <b>MD Reference:</b>                | KB-EST @ 4810.0usft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0 usft                       | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | HAROLD 6Y-214                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Well Error:</b>        | 0.0 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 #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

|                                     |   |                       |                     |
|-------------------------------------|---|-----------------------|---------------------|
| <b>Reference</b>                    | PROPOSAL #2   |                       |                     |
| <b>Filter type:</b>                 | NO GLOBAL FILTER: Using user defined selection & filtering criteria |                       |                     |
| <b>Interpolation Method:</b>        | MD + Stations Interval 100.0usft                                    | <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 10,000.0 us                       | <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> 26/06/2017 |                                 |                  |                    |
| <b>From (usft)</b>         | <b>To (usft)</b>       | <b>Survey (Wellbore)</b>        | <b>Tool Name</b> | <b>Description</b> |
| 0.0                        | 11,779.3               | PROPOSAL #2 (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. 6 T4N R64W 6th P.M.                       |                                 |                              |                                 |                                  |                   |         |
| ABDN VERT DINNER 6-3 - Wellbore #1 - Wellbore #1     | 11,619.8                        | 6,948.9                      | 1,552.0                         | 1,419.7                          | 11.729            | CC      |
| ABDN VERT DINNER 6-3 - Wellbore #1 - Wellbore #1     | 11,700.0                        | 6,947.5                      | 1,554.0                         | 1,419.5                          | 11.551            | ES      |
| ABDN VERT DINNER 6-3 - Wellbore #1 - Wellbore #1     | 11,779.3                        | 6,946.2                      | 1,560.2                         | 1,423.4                          | 11.410            | SF      |
| ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1      | 5,727.6                         | 5,442.7                      | 4,073.1                         | 4,051.5                          | 188.424           | CC, ES  |
| ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1      | 11,779.3                        | 6,668.6                      | 8,501.5                         | 8,365.0                          | 62.276            | SF      |
| ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1          | 466.3                           | 468.1                        | 1,459.9                         | 1,458.7                          | 1,226.683         | CC      |
| ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1          | 500.0                           | 500.0                        | 1,460.0                         | 1,458.7                          | 1,134.777         | ES      |
| ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1          | 10,300.0                        | 6,854.9                      | 2,956.9                         | 2,860.8                          | 30.797            | SF      |
| ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1   | 6,029.5                         | 5,822.6                      | 8,175.1                         | 8,150.7                          | 334.890           | CC      |
| ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1   | 6,100.0                         | 5,874.1                      | 8,175.2                         | 8,150.7                          | 333.523           | ES      |
| ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1   | 8,500.0                         | 6,700.0                      | 9,986.7                         | 9,937.9                          | 204.649           | SF      |
| ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1 | 4,987.9                         | 4,843.5                      | 2,908.7                         | 2,886.9                          | 133.021           | CC      |
| ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1 | 6,267.5                         | 6,113.1                      | 2,910.6                         | 2,885.6                          | 116.483           | ES      |
| ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1 | 11,779.3                        | 6,800.0                      | 6,048.6                         | 5,912.1                          | 44.299            | SF      |
| EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1   | 9,574.2                         | 7,044.3                      | 3,471.5                         | 3,377.5                          | 36.951            | CC      |
| EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1   | 9,700.0                         | 7,041.3                      | 3,473.7                         | 3,376.4                          | 35.697            | ES      |
| EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1   | 11,779.3                        | 6,988.7                      | 4,112.3                         | 3,958.1                          | 26.674            | SF      |
| EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1   | 10,929.1                        | 6,951.4                      | 2,346.5                         | 2,216.7                          | 18.076            | CC      |
| EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1   | 11,000.0                        | 6,948.3                      | 2,347.6                         | 2,215.8                          | 17.817            | ES      |
| EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1   | 11,779.3                        | 6,915.7                      | 2,495.6                         | 2,342.4                          | 16.290            | SF      |
| EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1   | 9,614.2                         | 7,006.4                      | 2,278.9                         | 2,184.3                          | 24.090            | CC      |
| EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1   | 9,700.0                         | 7,001.4                      | 2,280.5                         | 2,183.6                          | 23.538            | ES      |
| EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1   | 11,100.0                        | 6,925.1                      | 2,719.3                         | 2,584.4                          | 20.168            | SF      |
| EXIST DD BURMAN C4-32D - Wellbore #1 - Wellbore #1   | 2,603.8                         | 1,608.0                      | 4,797.0                         | 4,786.9                          | 474.823           | CC, ES  |
| EXIST DD BURMAN C4-32D - Wellbore #1 - Wellbore #1   | 11,500.0                        | 7,119.9                      | 9,953.3                         | 9,802.0                          | 65.787            | SF      |
| EXIST DD BURMAN C4-33D - Wellbore #1 - Wellbore #1   | 3,108.3                         | 2,100.0                      | 4,822.9                         | 4,809.2                          | 352.909           | CC      |
| EXIST DD BURMAN C4-33D - Wellbore #1 - Wellbore #1   | 3,200.0                         | 2,156.7                      | 4,823.2                         | 4,809.1                          | 340.852           | ES      |
| EXIST DD BURMAN C4-33D - Wellbore #1 - Wellbore #1   | 11,779.3                        | 6,904.4                      | 9,999.5                         | 9,842.3                          | 63.610            | SF      |
| EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1   | 3,591.2                         | 2,843.3                      | 4,659.6                         | 4,633.9                          | 181.145           | CC      |
| EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1   | 3,600.0                         | 2,846.0                      | 4,659.6                         | 4,633.9                          | 180.757           | ES      |
| EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1   | 11,779.3                        | 7,147.4                      | 9,232.2                         | 9,076.0                          | 59.112            | SF      |
| EXIST DD BURMAN C5-21D - Wellbore #1 - Wellbore #1   | 6,263.1                         | 6,473.0                      | 3,253.1                         | 3,196.5                          | 57.462            | CC, ES  |
| EXIST DD BURMAN C5-21D - Wellbore #1 - Wellbore #1   | 11,779.3                        | 7,058.7                      | 7,742.2                         | 7,574.6                          | 46.213            | SF      |
| EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1   | 6,097.0                         | 6,103.9                      | 4,073.6                         | 4,039.4                          | 118.846           | CC      |
| EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1   | 6,300.0                         | 6,272.9                      | 4,075.5                         | 4,032.9                          | 95.680            | ES      |
| EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1   | 11,779.3                        | 6,882.0                      | 8,764.3                         | 8,611.9                          | 57.504            | SF      |
| EXIST DD BURMAN C5-23D - Wellbore #1 - Wellbore #1   | 6,088.2                         | 5,994.6                      | 3,530.6                         | 3,493.2                          | 94.501            | CC      |

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 HAROLD 6Y-214                       |
| <b>Project:</b>           | WELD COUNTY, COLORADO          | <b>TVD Reference:</b>               | KB-EST @ 4810.0usft (Original Well Elev) |
| <b>Reference Site:</b>    | SE SE SEC. 6 T4N R64W 6th P.M. | <b>MD Reference:</b>                | KB-EST @ 4810.0usft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0 usft                       | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | HAROLD 6Y-214                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Well Error:</b>        | 0.0 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 #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

## Summary

| Site Name<br>Offset Well - Wellbore - Design                  | 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    |
|---|--|---------------------------------------|--|---|----------------------|------------|
| NE SE SEC. 6 T4N R64W 6th P.M.                                |  |                                       |  |   |                      |            |
| EXIST DD BURMAN C5-23D - Wellbore #1 - Wellbore #1            | 6,255.0                                  | 6,156.7                               | 3,531.0                                  | 3,493.2                                   | 93.316               | ES         |
| EXIST DD BURMAN C5-23D - Wellbore #1 - Wellbore #1            | 11,779.3                                 | 6,735.7                               | 8,587.9                                  | 8,439.9                                   | 58.058               | SF         |
| EXIST DD BURMAN C5-24D - Wellbore #1 - Wellbore #1            | 6,255.0                                  | 6,394.9                               | 2,372.1                                  | 2,317.2                                   | 43.200               | ES, SF     |
| EXIST DD BURMAN C5-24D - Wellbore #1 - Wellbore #1            | 6,257.0                                  | 6,396.7                               | 2,372.1                                  | 2,337.9                                   | 69.447               | CC         |
| EXIST DD DIETRICH C7-27 - Wellbore #1 - Wellbore #1           | 8,604.9                                  | 6,881.5                               | 286.0                                    | 234.5                                     | 5.558                | CC, ES, SF |
| EXIST DD DIETRICH C8-30D - Wellbore #1 - Wellbore #1          | 7,322.6                                  | 7,253.7                               | 294.8                                    | 242.0                                     | 5.587                | CC, ES     |
| EXIST DD DIETRICH C8-30D - Wellbore #1 - Wellbore #1          | 7,350.0                                  | 7,255.3                               | 296.1                                    | 243.0                                     | 5.579                | SF         |
| EXIST DD RUFF C8-27D - Wellbore #1 - Wellbore #1              | 5,829.1                                  | 5,737.6                               | 3,411.4                                  | 3,384.6                                   | 127.352              | CC         |
| EXIST DD RUFF C8-27D - Wellbore #1 - Wellbore #1              | 5,835.0                                  | 5,742.7                               | 3,411.4                                  | 3,374.6                                   | 92.804               | ES         |
| EXIST DD RUFF C8-27D - Wellbore #1 - Wellbore #1              | 11,779.3                                 | 6,788.5                               | 8,516.4                                  | 8,369.7                                   | 58.049               | SF         |
| EXIST DD SLEDGE C9-30D - Wellbore #1 - Wellbore #1            | 6,255.0                                  | 6,387.3                               | 4,648.8                                  | 4,605.8                                   | 108.021              | ES         |
| EXIST DD SLEDGE C9-30D - Wellbore #1 - Wellbore #1            | 6,275.5                                  | 6,400.1                               | 4,648.5                                  | 4,613.3                                   | 132.191              | CC         |
| EXIST DD SLEDGE C9-30D - Wellbore #1 - Wellbore #1            | 11,779.3                                 | 7,088.4                               | 9,750.0                                  | 9,610.1                                   | 69.695               | SF         |
| EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellbore #1       | 9,809.1                                  | 7,223.3                               | 487.6                                    | 367.6                                     | 4.065                | CC, ES     |
| EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellbore #1       | 9,900.0                                  | 7,217.2                               | 495.9                                    | 373.6                                     | 4.054                | SF         |
| EXIST HZ COALVIEW G2-63-1HN - Wellbore #1 - Wellbore #1       | 11,779.3                                 | 6,646.0                               | 970.9                                    | 833.7                                     | 7.076                | CC, ES, SF |
| EXIST HZ COALVIEW G2-64-1HN - Wellbore #1 - Wellbore #1       | 11,779.3                                 | 6,659.0                               | 1,481.9                                  | 1,335.4                                   | 10.121               | CC, ES, SF |
| EXIST HZ COALVIEW G2-65-1HN - Wellbore #1 - Wellbore #1       | 11,779.3                                 | 6,715.8                               | 2,014.3                                  | 1,865.8                                   | 13.566               | CC, ES, SF |
| EXIST HZ COALVIEW G2-66-1HN - Wellbore #1 - Wellbore #1       | 11,779.3                                 | 6,689.8                               | 2,651.1                                  | 2,502.4                                   | 17.828               | CC, ES, SF |
| EXIST HZ LOWER LATHAM PC G12-69HN - Wellbore #1 - Wellbore #1 | 11,779.3                                 | 12,060.0                              | 524.6                                    | 243.4                                     | 1.865                | CC, ES, SF |
| EXIST HZ NORTHRUP C8-73HN - Wellbore #1 - Wellbore #1         | 6,255.0                                  | 6,305.1                               | 3,445.5                                  | 3,406.9                                   | 89.248               | ES         |
| EXIST HZ NORTHRUP C8-73HN - Wellbore #1 - Wellbore #1         | 6,278.3                                  | 6,311.4                               | 3,445.1                                  | 3,417.3                                   | 124.123              | CC         |
| EXIST HZ NORTHRUP C8-73HN - Wellbore #1 - Wellbore #1         | 11,779.3                                 | 6,579.0                               | 8,519.8                                  | 8,382.3                                   | 61.966               | SF         |
| EXIST HZ NORTHRUP C8-75HN - Wellbore #1 - Wellbore #1         | 5,797.1                                  | 5,730.7                               | 2,134.3                                  | 2,107.7                                   | 80.501               | CC         |
| EXIST HZ NORTHRUP C8-75HN - Wellbore #1 - Wellbore #1         | 5,835.0                                  | 5,770.2                               | 2,134.5                                  | 2,093.0                                   | 51.456               | ES         |
| EXIST HZ NORTHRUP C8-75HN - Wellbore #1 - Wellbore #1         | 6,255.0                                  | 6,204.8                               | 2,138.6                                  | 2,096.1                                   | 50.355               | SF         |
| EXIST HZ SCHMIDT PC C6-79HN - Wellbore #1 - Wellbore #1       | 11,779.3                                 | 12,505.0                              | 511.7                                    | 376.8                                     | 3.795                | CC, ES, SF |
| EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1               | 10,195.1                                 | 6,836.2                               | 2,915.6                                  | 2,822.6                                   | 31.345               | CC         |
| EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1               | 10,300.0                                 | 6,831.1                               | 2,917.5                                  | 2,821.6                                   | 30.432               | ES         |
| EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1               | 11,779.3                                 | 6,753.0                               | 3,317.2                                  | 3,180.8                                   | 24.307               | SF         |
| EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1              | 11,546.0                                 | 6,840.5                               | 3,085.1                                  | 2,954.9                                   | 23.683               | CC         |
| EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1              | 11,600.0                                 | 6,839.5                               | 3,085.6                                  | 2,953.9                                   | 23.418               | ES         |
| EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1              | 11,779.3                                 | 6,836.2                               | 3,094.0                                  | 2,957.2                                   | 22.630               | SF         |
| EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #1          | 5,805.0                                  | 5,548.1                               | 6,356.0                                  | 6,337.5                                   | 342.614              | CC         |
| EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #1          | 5,835.0                                  | 5,576.1                               | 6,356.2                                  | 6,333.4                                   | 278.750              | ES         |
| EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #1          | 10,400.0                                 | 6,789.9                               | 9,921.7                                  | 9,822.9                                   | 100.458              | SF         |
| EXIST VERT CONNELL 14-4 - Wellbore #1 - Wellbore #1           | 6,210.5                                  | 6,059.3                               | 5,350.7                                  | 5,325.1                                   | 209.368              | CC         |
| EXIST VERT CONNELL 14-4 - Wellbore #1 - Wellbore #1           | 6,255.0                                  | 6,100.0                               | 5,350.7                                  | 5,325.1                                   | 208.822              | ES         |
| EXIST VERT CONNELL 14-4 - Wellbore #1 - Wellbore #1           | 11,300.0                                 | 6,800.0                               | 9,981.8                                  | 9,858.3                                   | 80.862               | SF         |
| EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1              | 5,984.4                                  | 5,814.5                               | 5,710.7                                  | 5,687.1                                   | 242.025              | CC         |
| EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1              | 6,000.0                                  | 5,825.6                               | 5,710.7                                  | 5,687.1                                   | 241.817              | ES         |
| EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1              | 11,000.0                                 | 6,776.1                               | 9,954.4                                  | 9,839.4                                   | 86.580               | SF         |
| EXIST VERT CONNELL 3 - Wellbore #1 - Wellbore #1              | 6,255.0                                  | 6,179.1                               | 6,727.1                                  | 6,702.1                                   | 268.867              | ES         |
| EXIST VERT CONNELL 3 - Wellbore #1 - Wellbore #1              | 6,265.0                                  | 6,189.7                               | 6,727.0                                  | 6,710.2                                   | 399.315              | CC         |
| EXIST VERT CONNELL 3 - Wellbore #1 - Wellbore #1              | 9,900.0                                  | 6,800.0                               | 9,950.3                                  | 9,865.7                                   | 117.573              | SF         |
| EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #1          | 6,049.0                                  | 5,856.4                               | 6,047.8                                  | 6,025.5                                   | 271.953              | CC         |
| EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #1          | 6,100.0                                  | 5,900.0                               | 6,047.8                                  | 6,025.5                                   | 271.133              | ES         |
| EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #1          | 10,900.0                                 | 6,800.0                               | 9,960.9                                  | 9,848.6                                   | 88.686               | SF         |
| EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore #1          | 5,820.0                                  | 5,592.3                               | 6,950.9                                  | 6,933.8                                   | 405.478              | CC         |
| EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore #1          | 5,835.0                                  | 5,606.4                               | 6,951.0                                  | 6,927.4                                   | 294.620              | ES         |
| EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore #1          | 9,700.0                                  | 6,800.0                               | 9,924.5                                  | 9,844.9                                   | 124.617              | SF         |
| EXIST VERT CONNELL C4-25 - Wellbore #1 - Wellbore #1          | 5,740.4                                  | 5,363.5                               | 6,265.4                                  | 6,248.9                                   | 379.818              | CC         |
| EXIST VERT CONNELL C4-25 - Wellbore #1 - Wellbore #1          | 5,835.0                                  | 5,434.5                               | 6,267.1                                  | 6,243.0                                   | 260.112              | ES         |

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 HAROLD 6Y-214                       |
| <b>Project:</b>           | WELD COUNTY, COLORADO          | <b>TVD Reference:</b>               | KB-EST @ 4810.0usft (Original Well Elev) |
| <b>Reference Site:</b>    | SE SE SEC. 6 T4N R64W 6th P.M. | <b>MD Reference:</b>                | KB-EST @ 4810.0usft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0 usft                       | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | HAROLD 6Y-214                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Well Error:</b>        | 0.0 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 #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

## Summary

| Site Name<br>Offset Well - Wellbore - Design        | 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             |
|---|--|---------------------------------------|--|---|----------------------|---------------------|
| NE SE SEC. 6 T4N R64W 6th P.M.                      |  |                                       |  |   |                      |                     |
| EXIST VERT CONNELL C4-25 - Wellbore #1 - Wellbore   | 10,300.0                                 | 6,130.7                               | 9,925.6                                  | 9,842.5                                   | 119.342              | SF                  |
| EXIST VERT DIETRICH 6-10 - Wellbore #1 - Wellbore # | 9,218.7                                  | 6,906.1                               | 1,330.7                                  | 1,263.8                                   | 19.876               | CC, ES              |
| EXIST VERT DIETRICH 6-10 - Wellbore #1 - Wellbore # | 9,900.0                                  | 6,914.1                               | 1,495.0                                  | 1,409.9                                   | 17.564               | SF                  |
| EXIST VERT DIETRICH 6-16 - Wellbore #1 - Wellbore # | 8,047.4                                  | 6,700.0                               | 421.6                                    | 384.4                                     | 11.346               | CC, ES              |
| EXIST VERT DIETRICH 6-16 - Wellbore #1 - Wellbore # | 8,200.0                                  | 6,700.0                               | 448.4                                    | 408.0                                     | 11.107               | SF                  |
| EXIST VERT DIETRICH C6-23 - Wellbore #1 - Wellbore  | 8,471.3                                  | 6,871.2                               | 839.2                                    | 791.1                                     | 17.461               | CC                  |
| EXIST VERT DIETRICH C6-23 - Wellbore #1 - Wellbore  | 8,500.0                                  | 6,871.0                               | 839.7                                    | 790.9                                     | 17.222               | ES                  |
| EXIST VERT DIETRICH C6-23 - Wellbore #1 - Wellbore  | 8,800.0                                  | 6,868.8                               | 901.2                                    | 845.0                                     | 16.018               | SF                  |
| EXIST VERT DINNER 6-1 - Wellbore #1 - Wellbore #1   | 11,648.6                                 | 6,876.2                               | 151.1                                    | 17.9                                      | 1.134                | Level 2, CC, ES, SF |
| EXIST VERT DINNER 6-2 - Wellbore #1 - Wellbore #1   | 10,304.2                                 | 6,922.7                               | 1,626.7                                  | 1,530.5                                   | 16.897               | CC, ES              |
| EXIST VERT DINNER 6-2 - Wellbore #1 - Wellbore #1   | 11,100.0                                 | 6,937.4                               | 1,810.9                                  | 1,692.9                                   | 15.342               | SF                  |
| EXIST VERT DINNER 6-34 - Wellbore #1 - Wellbore #1  | 10,311.8                                 | 6,879.3                               | 206.8                                    | 110.4                                     | 2.145                | CC, ES, SF          |
| EXIST VERT DINNER 6-35 - Wellbore #1 - Wellbore #1  | 11,305.8                                 | 6,906.7                               | 726.4                                    | 602.9                                     | 5.882                | CC, ES              |
| EXIST VERT DINNER 6-35 - Wellbore #1 - Wellbore #1  | 11,400.0                                 | 6,905.2                               | 732.5                                    | 606.4                                     | 5.808                | SF                  |
| EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1    | 6,172.2                                  | 5,956.7                               | 7,382.1                                  | 7,358.7                                   | 315.862              | CC, ES              |
| EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1    | 9,400.0                                  | 6,752.1                               | 9,960.7                                  | 9,888.8                                   | 138.677              | SF                  |
| EXIST VERT HINKLE 23-5 - Wellbore #1 - Wellbore #1  | 6,262.3                                  | 6,121.6                               | 2,124.5                                  | 2,101.7                                   | 93.152               | CC, ES              |
| EXIST VERT HINKLE 23-5 - Wellbore #1 - Wellbore #1  | 11,779.3                                 | 6,678.6                               | 6,752.5                                  | 6,616.2                                   | 49.551               | SF                  |
| EXIST VERT HINKLE 24-5 - Wellbore #1 - Wellbore #1  | 6,255.0                                  | 6,113.2                               | 1,438.5                                  | 1,414.3                                   | 59.463               | ES                  |
| EXIST VERT HINKLE 24-5 - Wellbore #1 - Wellbore #1  | 6,255.8                                  | 6,114.0                               | 1,438.5                                  | 1,420.4                                   | 79.833               | CC                  |
| EXIST VERT HINKLE 24-5 - Wellbore #1 - Wellbore #1  | 11,779.3                                 | 6,600.0                               | 6,521.6                                  | 6,403.6                                   | 55.248               | SF                  |
| EXIST VERT LEVI C5-15 - Wellbore #1 - Wellbore #1   | 5,807.2                                  | 5,640.7                               | 3,055.4                                  | 3,038.7                                   | 182.952              | CC                  |
| EXIST VERT LEVI C5-15 - Wellbore #1 - Wellbore #1   | 5,835.0                                  | 5,662.3                               | 3,055.6                                  | 3,031.4                                   | 126.565              | ES                  |
| EXIST VERT LEVI C5-15 - Wellbore #1 - Wellbore #1   | 11,779.3                                 | 6,693.4                               | 8,173.1                                  | 8,045.9                                   | 64.234               | SF                  |
| EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1        | 9,251.4                                  | 6,869.4                               | 264.3                                    | 196.6                                     | 3.903                | CC, ES              |
| EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1        | 9,300.0                                  | 6,867.3                               | 268.7                                    | 199.7                                     | 3.895                | SF                  |
| EXIST VERT MCCLINTOCK C4-15 - Wellbore #1 - Wellb   | 6,255.0                                  | 6,156.4                               | 8,156.6                                  | 8,131.7                                   | 327.504              | ES                  |
| EXIST VERT MCCLINTOCK C4-15 - Wellbore #1 - Wellb   | 6,263.9                                  | 6,165.0                               | 8,156.5                                  | 8,139.1                                   | 469.743              | CC                  |
| EXIST VERT MCCLINTOCK C4-15 - Wellbore #1 - Wellb   | 8,500.0                                  | 6,700.0                               | 9,982.9                                  | 9,934.7                                   | 207.294              | SF                  |
| EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbo   | 5,913.8                                  | 5,750.5                               | 3,202.6                                  | 3,180.2                                   | 142.905              | CC                  |
| EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbo   | 6,100.0                                  | 5,933.8                               | 3,202.7                                  | 3,180.0                                   | 141.136              | ES                  |
| EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbo   | 11,779.3                                 | 6,600.0                               | 8,088.1                                  | 7,952.3                                   | 59.573               | SF                  |
| EXIST VERT REISTAD 5-1 - Wellbore #1 - Wellbore #1  | 5,902.6                                  | 5,750.9                               | 4,068.9                                  | 4,044.5                                   | 166.776              | CC, ES              |
| EXIST VERT REISTAD 5-1 - Wellbore #1 - Wellbore #1  | 11,779.3                                 | 6,818.4                               | 9,185.6                                  | 9,049.2                                   | 67.347               | SF                  |
| EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1 | 6,255.0                                  | 6,146.0                               | 4,152.9                                  | 4,128.6                                   | 170.987              | ES                  |
| EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1 | 6,264.1                                  | 6,152.5                               | 4,152.8                                  | 4,134.3                                   | 223.801              | CC                  |
| EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1 | 11,779.3                                 | 6,719.8                               | 9,149.3                                  | 9,012.5                                   | 66.899               | SF                  |
| EXIST VERT ROUKEMA 5-1 - Wellbore #1 - Wellbore #1  | 5,746.9                                  | 5,595.1                               | 317.1                                    | 296.0                                     | 15.051               | CC, ES              |
| EXIST VERT ROUKEMA 5-1 - Wellbore #1 - Wellbore #1  | 5,800.0                                  | 5,647.7                               | 317.5                                    | 296.3                                     | 15.011               | SF                  |
| EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Well    | 6,500.0                                  | 6,366.8                               | 1,460.6                                  | 1,435.7                                   | 58.539               | ES                  |
| EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Well    | 6,528.5                                  | 6,396.2                               | 1,460.6                                  | 1,435.7                                   | 58.651               | CC                  |
| EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Well    | 11,779.3                                 | 6,840.3                               | 5,316.8                                  | 5,180.2                                   | 38.909               | SF                  |
| EXIST VERT SITZMAN 4-714 - Wellbore #1 - Design #1  | 6,255.0                                  | 6,049.8                               | 8,660.9                                  | 8,519.6                                   | 61.268               | CC, ES              |
| EXIST VERT SITZMAN 4-714 - Wellbore #1 - Design #1  | 8,000.0                                  | 6,763.2                               | 9,929.1                                  | 9,760.2                                   | 58.782               | SF                  |
| EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore # | 6,255.0                                  | 6,071.5                               | 9,010.2                                  | 8,986.1                                   | 373.093              | ES                  |
| EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore # | 6,257.4                                  | 6,073.2                               | 9,010.2                                  | 8,992.2                                   | 499.926              | CC                  |
| EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore # | 7,600.0                                  | 6,750.0                               | 9,917.9                                  | 9,888.5                                   | 337.614              | SF                  |
| EXIST VERT SLEDGE C9-28 - Wellbore #1 - Design #1   | 6,255.0                                  | 6,081.8                               | 7,370.4                                  | 7,227.2                                   | 51.492               | CC, ES              |
| EXIST VERT SLEDGE C9-28 - Wellbore #1 - Design #1   | 9,300.0                                  | 6,789.3                               | 9,997.7                                  | 9,796.8                                   | 49.784               | SF                  |
| EXIST VERT SLEDGE C9-29 - Wellbore #1 - Design #1   | 6,255.0                                  | 6,100.8                               | 6,032.3                                  | 5,889.0                                   | 42.087               | CC, ES, SF          |
| EXIST VERT SMITH-REEVES 42-5 - Wellbore #1 - Well   | 5,734.2                                  | 5,425.1                               | 5,131.6                                  | 5,111.5                                   | 255.835              | CC, ES              |
| EXIST VERT SMITH-REEVES 42-5 - Wellbore #1 - Well   | 11,779.3                                 | 6,550.0                               | 9,786.9                                  | 9,650.7                                   | 71.880               | SF                  |
| EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1  | 8,985.5                                  | 6,900.0                               | 2,860.4                                  | 2,799.5                                   | 47.022               | 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 HAROLD 6Y-214                       |
| <b>Project:</b>           | WELD COUNTY, COLORADO          | <b>TVD Reference:</b>               | KB-EST @ 4810.0usft (Original Well Elev) |
| <b>Reference Site:</b>    | SE SE SEC. 6 T4N R64W 6th P.M. | <b>MD Reference:</b>                | KB-EST @ 4810.0usft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0 usft                       | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | HAROLD 6Y-214                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Well Error:</b>        | 0.0 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 #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

## Summary

| Site Name<br>Offset Well - Wellbore - Design       | 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 |
|--|--|---------------------------------------|--|---|----------------------|---------|
| NE SE SEC. 6 T4N R64W 6th P.M.                     |  |                                       |  |   |                      |         |
| EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1 | 9,100.0                                  | 6,900.0                               | 2,862.7                                  | 2,798.9                                   | 44.865               | ES      |
| EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1 | 11,779.3                                 | 6,794.6                               | 3,997.7                                  | 3,861.1                                   | 29.256               | SF      |
| EXIST VERT WILMOTH 6-14 - Wellbore #1 - Wellbore # | 427.1                                    | 400.0                                 | 2,676.4                                  | 2,675.5                                   | 2,754.700            | CC, ES  |
| EXIST VERT WILMOTH 6-14 - Wellbore #1 - Wellbore # | 11,779.3                                 | 6,950.0                               | 4,932.7                                  | 4,796.2                                   | 36.149               | SF      |
| EXIST VERT WILMOTH C4-23 - Wellbore #1 - Wellbore  | 6,255.0                                  | 6,152.6                               | 8,783.7                                  | 8,758.9                                   | 354.717              | ES      |
| EXIST VERT WILMOTH C4-23 - Wellbore #1 - Wellbore  | 6,264.2                                  | 6,160.5                               | 8,783.6                                  | 8,766.4                                   | 511.270              | CC      |
| EXIST VERT WILMOTH C4-23 - Wellbore #1 - Wellbore  | 7,800.0                                  | 6,800.0                               | 9,903.6                                  | 9,870.7                                   | 301.146              | SF      |
| EXIST VERT WILMOTH C4-24 - Wellbore #1 - Wellbore  | 6,245.8                                  | 6,047.6                               | 7,573.9                                  | 7,549.1                                   | 305.620              | CC      |
| EXIST VERT WILMOTH C4-24 - Wellbore #1 - Wellbore  | 6,255.0                                  | 6,052.7                               | 7,573.9                                  | 7,549.1                                   | 305.468              | ES      |
| EXIST VERT WILMOTH C4-24 - Wellbore #1 - Wellbore  | 9,000.0                                  | 6,578.4                               | 9,907.0                                  | 9,846.8                                   | 164.621              | SF      |
| EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore  | 5,800.0                                  | 5,651.9                               | 2,204.9                                  | 2,180.7                                   | 91.313               | ES      |
| EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore  | 6,015.0                                  | 5,856.2                               | 2,204.1                                  | 2,187.5                                   | 132.369              | CC      |
| EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore  | 11,779.3                                 | 6,835.6                               | 6,196.3                                  | 6,059.8                                   | 45.392               | SF      |
| EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore # | 5,755.5                                  | 5,542.5                               | 3,277.5                                  | 3,254.0                                   | 139.385              | CC, ES  |
| EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore # | 11,779.3                                 | 6,773.3                               | 7,274.1                                  | 7,137.6                                   | 53.260               | SF      |
| EXIST VERT WILMOTH C9-27 - Wellbore #1 - Wellbore  | 6,255.0                                  | 6,052.2                               | 8,627.1                                  | 8,602.3                                   | 347.328              | ES      |
| EXIST VERT WILMOTH C9-27 - Wellbore #1 - Wellbore  | 6,255.9                                  | 6,053.2                               | 8,627.1                                  | 8,610.7                                   | 525.148              | CC      |
| EXIST VERT WILMOTH C9-27 - Wellbore #1 - Wellbore  | 8,000.0                                  | 6,811.1                               | 9,962.8                                  | 9,926.0                                   | 271.221              | SF      |
| JUDY 6D-212 - ORIGINAL WELLBORE - PROPOSAL #       | 6,500.0                                  | 7,648.3                               | 1,613.3                                  | 1,553.5                                   | 26.966               | SF      |
| JUDY 6D-212 - ORIGINAL WELLBORE - PROPOSAL #       | 6,950.0                                  | 7,375.5                               | 1,557.0                                  | 1,505.0                                   | 29.956               | ES      |
| JUDY 6D-212 - ORIGINAL WELLBORE - PROPOSAL #       | 7,075.0                                  | 7,263.8                               | 1,555.6                                  | 1,506.1                                   | 31.407               | CC      |
| JUDY 6D-312 - ORIGINAL WELLBORE - PROPOSAL #       | 6,550.0                                  | 7,728.1                               | 1,360.3                                  | 1,300.4                                   | 22.728               | SF      |
| JUDY 6D-312 - ORIGINAL WELLBORE - PROPOSAL #       | 7,150.0                                  | 7,283.4                               | 1,283.8                                  | 1,235.5                                   | 26.544               | ES      |
| JUDY 6D-312 - ORIGINAL WELLBORE - PROPOSAL #       | 7,232.0                                  | 7,205.6                               | 1,283.2                                  | 1,236.0                                   | 27.172               | CC      |
| JUDY 6S-202 - ORIGINAL WELLBORE - PROPOSAL #1      | 400.0                                    | 408.0                                 | 1,929.8                                  | 1,928.2                                   | 1,253.384            | CC, ES  |
| JUDY 6S-202 - ORIGINAL WELLBORE - PROPOSAL #1      | 11,300.0                                 | 6,300.0                               | 4,233.6                                  | 4,101.2                                   | 31.976               | SF      |
| JUDY 6S-204 - ORIGINAL WELLBORE - PROPOSAL #2      | 400.0                                    | 408.0                                 | 1,844.9                                  | 1,843.3                                   | 1,198.246            | CC, ES  |
| JUDY 6S-204 - ORIGINAL WELLBORE - PROPOSAL #2      | 11,779.3                                 | 11,976.9                              | 2,196.9                                  | 1,925.2                                   | 8.085                | SF      |
| JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1      | 263.8                                    | 271.8                                 | 1,961.7                                  | 1,960.7                                   | 2,115.597            | CC      |
| JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1      | 300.0                                    | 300.0                                 | 1,961.7                                  | 1,960.6                                   | 1,829.701            | ES      |
| JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1      | 11,779.3                                 | 6,300.0                               | 4,902.5                                  | 4,755.3                                   | 33.295               | SF      |
| JUDY 6S-214 - ORIGINAL WELLBORE - PROPOSAL #2      | 363.8                                    | 371.8                                 | 1,873.1                                  | 1,871.8                                   | 1,360.535            | CC      |
| JUDY 6S-214 - ORIGINAL WELLBORE - PROPOSAL #2      | 400.0                                    | 406.9                                 | 1,873.2                                  | 1,871.6                                   | 1,218.849            | ES      |
| JUDY 6S-214 - ORIGINAL WELLBORE - PROPOSAL #2      | 11,779.3                                 | 12,041.6                              | 2,757.8                                  | 2,486.4                                   | 10.161               | SF      |
| JUDY 6S-234 - ORIGINAL WELLBORE - PROPOSAL #2      | 7,344.1                                  | 7,540.8                               | 1,693.6                                  | 1,637.0                                   | 29.916               | CC      |
| JUDY 6S-234 - ORIGINAL WELLBORE - PROPOSAL #2      | 11,779.3                                 | 11,957.3                              | 1,696.5                                  | 1,424.9                                   | 6.246                | ES, SF  |
| JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1      | 363.8                                    | 371.8                                 | 1,947.5                                  | 1,946.1                                   | 1,414.527            | CC      |
| JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1      | 400.0                                    | 400.0                                 | 1,947.5                                  | 1,946.0                                   | 1,279.847            | ES      |
| JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1      | 11,779.3                                 | 6,350.0                               | 4,763.1                                  | 4,616.1                                   | 32.403               | SF      |
| JUDY 6S-314 - ORIGINAL WELLBORE - PROPOSAL #2      | 400.0                                    | 408.0                                 | 1,859.0                                  | 1,857.5                                   | 1,207.425            | CC, ES  |
| JUDY 6S-314 - ORIGINAL WELLBORE - PROPOSAL #2      | 11,779.3                                 | 12,096.0                              | 2,511.7                                  | 2,240.4                                   | 9.259                | SF      |
| JUDY 6S-332 - ORIGINAL WELLBORE - PROPOSAL #1      | 7,050.0                                  | 7,328.9                               | 1,866.5                                  | 1,816.4                                   | 37.293               | ES      |
| JUDY 6S-332 - ORIGINAL WELLBORE - PROPOSAL #1      | 7,200.3                                  | 7,182.0                               | 1,864.9                                  | 1,817.4                                   | 39.203               | CC      |
| JUDY 6S-332 - ORIGINAL WELLBORE - PROPOSAL #1      | 10,300.0                                 | 6,400.0                               | 3,235.7                                  | 3,129.7                                   | 30.512               | SF      |
| JUDY 6S-334 - ORIGINAL WELLBORE - PROPOSAL #2      | 400.0                                    | 409.0                                 | 1,830.7                                  | 1,829.2                                   | 1,187.336            | CC      |
| JUDY 6S-334 - ORIGINAL WELLBORE - PROPOSAL #2      | 11,779.3                                 | 12,050.7                              | 1,936.6                                  | 1,664.9                                   | 7.130                | ES, SF  |
| JUDY 6X-314 - ORIGINAL WELLBORE - PROPOSAL #2      | 6,273.5                                  | 6,407.0                               | 1,368.7                                  | 1,312.6                                   | 24.421               | CC      |
| JUDY 6X-314 - ORIGINAL WELLBORE - PROPOSAL #2      | 11,779.3                                 | 12,008.3                              | 1,372.1                                  | 1,101.1                                   | 5.062                | ES, SF  |

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 HAROLD 6Y-214                       |
| <b>Project:</b>           | WELD COUNTY, COLORADO          | <b>TVD Reference:</b>               | KB-EST @ 4810.0usft (Original Well Elev) |
| <b>Reference Site:</b>    | SE SE SEC. 6 T4N R64W 6th P.M. | <b>MD Reference:</b>                | KB-EST @ 4810.0usft (Original Well Elev) |
| <b>Site Error:</b>        | 0.0 usft                       | <b>North Reference:</b>             | True                                     |
| <b>Reference Well:</b>    | HAROLD 6Y-214                  | <b>Survey Calculation Method:</b>   | Minimum Curvature                        |
| <b>Well Error:</b>        | 0.0 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 #2                    | <b>Offset TVD Reference:</b>        | Offset Datum                             |

## Summary

| Site Name<br>Offset Well - Wellbore - Design        | 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 SE SEC. 6 T4N R64W 6th P.M.                      |  |                                       |  |   |                      |                 |
| HAROLD 6X-202 - ORIGINAL WELLBORE - PROPOSA         | 266.3                                    | 267.3                                 | 134.8                                    | 133.9                                     | 146.030              | CC              |
| HAROLD 6X-202 - ORIGINAL WELLBORE - PROPOSA         | 300.0                                    | 300.0                                 | 134.8                                    | 133.7                                     | 125.724              | ES              |
| HAROLD 6X-202 - ORIGINAL WELLBORE - PROPOSA         | 6,600.0                                  | 7,638.9                               | 1,086.5                                  | 1,034.7                                   | 20.987               | SF              |
| HAROLD 6X-204 - ORIGINAL WELLBORE - PROPOSA         | 366.3                                    | 367.3                                 | 61.9                                     | 60.6                                      | 45.122               | CC              |
| HAROLD 6X-204 - ORIGINAL WELLBORE - PROPOSA         | 400.0                                    | 401.0                                 | 61.9                                     | 60.4                                      | 40.642               | ES              |
| HAROLD 6X-204 - ORIGINAL WELLBORE - PROPOSA         | 11,779.3                                 | 11,897.9                              | 1,089.7                                  | 819.3                                     | 4.031                | SF              |
| HAROLD 6X-232 - ORIGINAL WELLBORE - PROPOSA         | 400.0                                    | 401.0                                 | 105.6                                    | 104.1                                     | 69.325               | CC              |
| HAROLD 6X-232 - ORIGINAL WELLBORE - PROPOSA         | 500.0                                    | 500.0                                 | 105.8                                    | 103.9                                     | 54.049               | ES              |
| HAROLD 6X-232 - ORIGINAL WELLBORE - PROPOSA         | 6,950.0                                  | 7,365.0                               | 421.9                                    | 375.8                                     | 9.149                | SF              |
| HAROLD 6X-234 - ORIGINAL WELLBORE - PROPOSA         | 400.0                                    | 400.0                                 | 32.8                                     | 31.3                                      | 21.545               | CC              |
| HAROLD 6X-234 - ORIGINAL WELLBORE - PROPOSA         | 500.0                                    | 500.0                                 | 33.0                                     | 31.0                                      | 16.856               | ES              |
| HAROLD 6X-234 - ORIGINAL WELLBORE - PROPOSA         | 11,779.3                                 | 11,798.1                              | 539.3                                    | 269.5                                     | 1.999                | SF              |
| HAROLD 6X-302 - ORIGINAL WELLBORE - PROPOSA         | 366.3                                    | 367.3                                 | 120.2                                    | 118.8                                     | 87.586               | CC              |
| HAROLD 6X-302 - ORIGINAL WELLBORE - PROPOSA         | 400.0                                    | 400.0                                 | 120.2                                    | 118.7                                     | 79.006               | ES              |
| HAROLD 6X-302 - ORIGINAL WELLBORE - PROPOSA         | 6,800.0                                  | 7,569.7                               | 757.3                                    | 709.4                                     | 15.800               | SF              |
| HAROLD 6X-304 - ORIGINAL WELLBORE - PROPOSA         | 400.0                                    | 401.0                                 | 47.4                                     | 45.8                                      | 31.078               | CC              |
| HAROLD 6X-304 - ORIGINAL WELLBORE - PROPOSA         | 500.0                                    | 501.0                                 | 47.6                                     | 45.6                                      | 24.265               | ES              |
| HAROLD 6X-304 - ORIGINAL WELLBORE - PROPOSA         | 11,779.3                                 | 11,897.9                              | 798.2                                    | 529.7                                     | 2.973                | SF              |
| HAROLD 6X-334 - ORIGINAL WELLBORE - PROPOSA         | 400.0                                    | 400.0                                 | 14.6                                     | 13.0                                      | 9.574                | CC              |
| HAROLD 6X-334 - ORIGINAL WELLBORE - PROPOSA         | 500.0                                    | 500.0                                 | 14.8                                     | 12.9                                      | 7.582                | ES              |
| HAROLD 6X-334 - ORIGINAL WELLBORE - PROPOSA         | 11,779.3                                 | 11,849.9                              | 319.8                                    | 58.0                                      | 1.222                | Level 2, SF     |
| HAROLD 6Y-202 - ORIGINAL WELLBORE - PROPOSA         | 266.5                                    | 267.5                                 | 76.5                                     | 75.6                                      | 82.812               | CC              |
| HAROLD 6Y-202 - ORIGINAL WELLBORE - PROPOSA         | 400.0                                    | 401.0                                 | 76.5                                     | 75.0                                      | 50.571               | ES              |
| HAROLD 6Y-202 - ORIGINAL WELLBORE - PROPOSA         | 7,150.0                                  | 7,216.5                               | 167.9                                    | 124.6                                     | 3.873                | SF              |
| HAROLD 6Y-304 - ORIGINAL WELLBORE - PROPOSA         | 300.0                                    | 300.0                                 | 14.6                                     | 13.5                                      | 13.596               | CC              |
| HAROLD 6Y-304 - ORIGINAL WELLBORE - PROPOSA         | 11,779.3                                 | 11,855.1                              | 239.9                                    | -18.8                                     | 0.927                | Level 1, ES, SF |
| HAROLD 6Y-312 - ORIGINAL WELLBORE - PROPOSA         | 7,384.4                                  | 7,048.6                               | 64.6                                     | 22.8                                      | 1.547                | CC, ES, SF      |
| SW SW SEC. 34 T5N R64W 6th P.M.                     |  |                                       |  |   |                      |                 |
| BAILEY 34I-223 - ORIGINAL WELLBORE - PROPOSAL       |  |                                       |  |   |                      | Out of range    |
| BAILEY 34I-303 - ORIGINAL WELLBORE - PROPOSAL       |  |                                       |  |   |                      | Out of range    |
| EXIST DD LOEFFLER C 10-30 - Wellbore #1 - Wellbore  |  |                                       |  |   |                      | Out of range    |
| EXIST HZ OREDIGGER C10-69HN - Wellbore #1 - Well    | 5,640.7                                  | 4,800.2                               | 9,911.1                                  | 9,885.8                                   | 392.428              | CC              |
| EXIST HZ OREDIGGER C10-69HN - Wellbore #1 - Well    | 5,835.0                                  | 5,472.4                               | 9,918.3                                  | 9,883.9                                   | 288.208              | ES              |
| EXIST HZ OREDIGGER C10-69HN - Wellbore #1 - Well    | 6,255.0                                  | 5,937.0                               | 9,921.9                                  | 9,886.1                                   | 276.883              | SF              |
| EXIST VERT ATKINSON-GALE 3-13 - Wellbore #1 - We    |  |                                       |  |   |                      | Out of range    |
| EXIST VERT DONES 1 - Wellbore #1 - Wellbore #1      |  |                                       |  |   |                      | Out of range    |
| EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1    | 6,255.0                                  | 6,056.3                               | 9,897.3                                  | 9,873.4                                   | 414.625              | ES, SF          |
| EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1    | 6,256.6                                  | 6,057.7                               | 9,897.3                                  | 9,879.0                                   | 539.413              | CC              |
| EXIST VERT WILMOTH 1 - Wellbore #1 - Wellbore #1    | 6,255.0                                  | 6,063.6                               | 9,300.9                                  | 9,275.9                                   | 371.055              | ES, SF          |
| EXIST VERT WILMOTH 1 - Wellbore #1 - Wellbore #1    | 6,257.0                                  | 6,065.3                               | 9,300.9                                  | 9,284.0                                   | 548.709              | CC              |
| EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore # | 5,772.6                                  | 5,352.7                               | 9,629.4                                  | 9,612.3                                   | 563.116              | CC              |
| EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore # | 5,835.0                                  | 5,400.0                               | 9,630.2                                  | 9,606.2                                   | 401.504              | ES              |
| EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore # | 6,255.0                                  | 5,931.0                               | 9,635.7                                  | 9,611.1                                   | 392.464              | SF              |
| EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore  | 5,825.3                                  | 5,566.3                               | 9,872.2                                  | 9,856.2                                   | 619.966              | CC              |
| EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore  | 5,835.0                                  | 5,572.8                               | 9,872.2                                  | 9,848.2                                   | 412.245              | ES              |
| EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore  | 6,255.0                                  | 6,000.0                               | 9,872.9                                  | 9,848.5                                   | 403.801              | SF              |

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