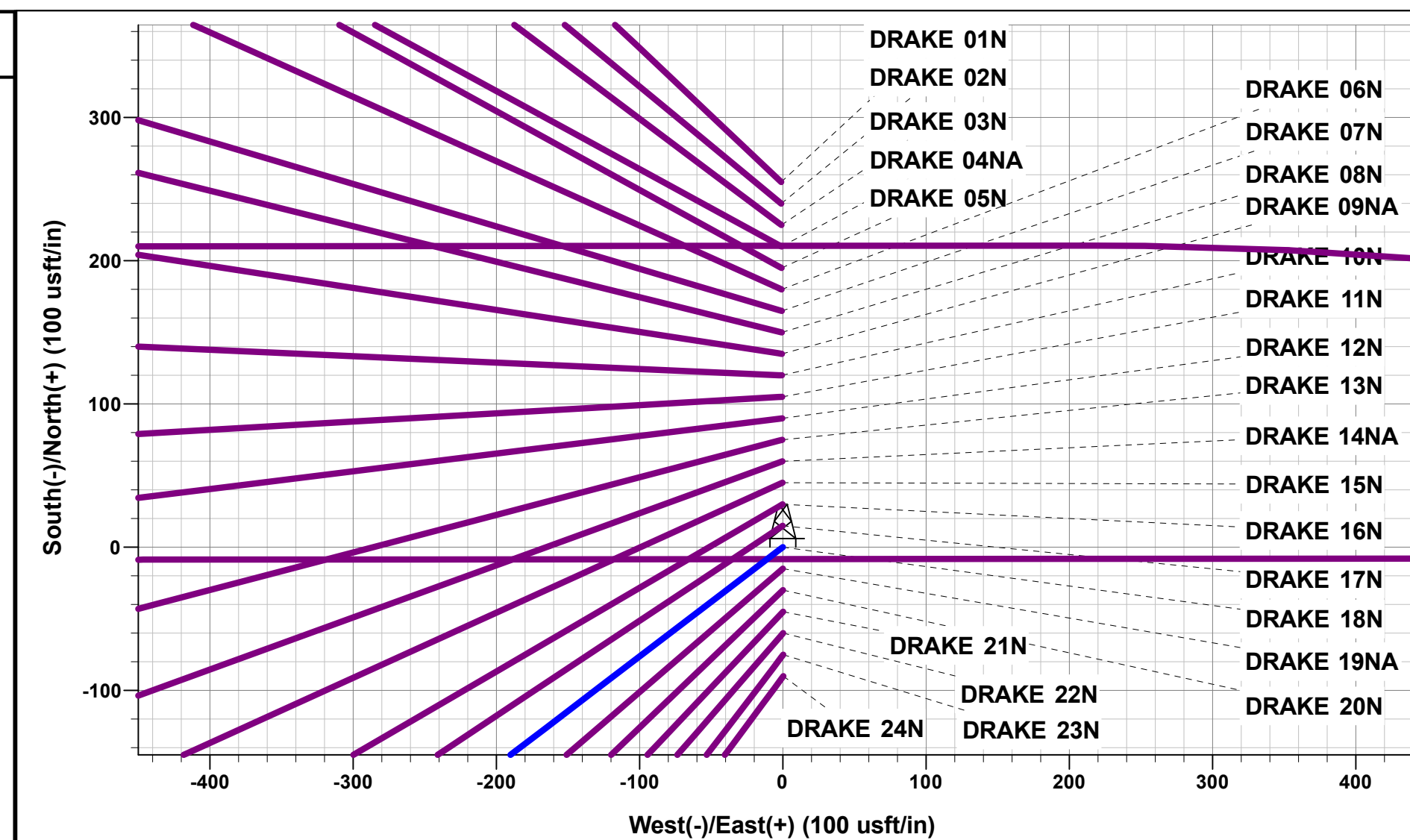




Project: WELD COUNTY, COLORADO (TRUE)
Site: SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)
Well: DRAKE 18N
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

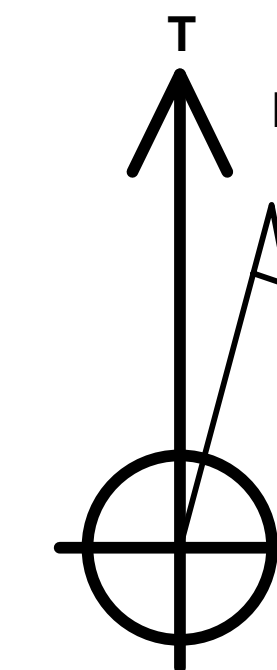
ANNOTATIONS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | VSec | Dep | Annotation |
|----------|-------|--------|---------|----------|----------|----------|----------|--|
| 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | SHL: 2311ft FNL & 1013ft FWL of Sec 17 |
| 900.00 | 0.00 | 0.00 | 900.00 | 0.00 | 0.00 | 0.00 | 0.00 | START NUDGE (3°/100ft BUR) |
| 1961.10 | 31.83 | 232.66 | 1907.35 | -174.25 | -228.38 | -197.00 | 287.26 | EOB TO 31.83° INC |
| 5692.49 | 31.83 | 232.66 | 5077.49 | -1368.04 | -1793.09 | -1546.65 | 2255.37 | END OF TANGENT |
| 6753.59 | 0.00 | 0.00 | 6084.84 | -1542.29 | -2021.47 | -1743.64 | 2542.64 | EOD TO VERTICAL |
| 6853.59 | 0.00 | 0.00 | 6184.84 | -1542.29 | -2021.47 | -1743.64 | 2542.64 | KOP (8°/100ft BUR) |
| 7791.09 | 75.00 | 89.95 | 6876.63 | -1541.83 | -1490.64 | -1219.96 | 3073.46 | EP: 1433ft FSL & 450ft FEL of Sec 18 |
| 7985.96 | 90.59 | 89.95 | 6901.00 | -1541.67 | -1297.90 | -1029.81 | 3266.21 | HZ LANDING POINT |
| 8896.96 | 90.59 | 89.95 | 6891.62 | -1540.89 | -386.95 | -131.12 | 4177.16 | END OF TANGENT |
| 9149.41 | 90.59 | 95.00 | 6889.02 | -1551.79 | -134.83 | 119.41 | 4429.59 | EOT TO 95° AZ |
| 9249.41 | 90.59 | 95.00 | 6887.99 | -1560.50 | -35.22 | 219.11 | 4529.58 | END OF TANGENT |
| 9501.90 | 90.59 | 89.95 | 6885.41 | -1571.40 | 216.94 | 469.68 | 4782.06 | EOT TO 89.95° AZ |
| 9686.89 | 90.59 | 84.40 | 6883.51 | -1562.29 | 401.62 | 650.42 | 4967.04 | EOT TO 84.4° AZ |
| 9786.89 | 90.59 | 84.40 | 6882.49 | -1552.53 | 501.14 | 747.03 | 5067.03 | END OF TANGENT |
| 10064.37 | 90.59 | 89.95 | 6879.63 | -1538.86 | 778.16 | 1018.14 | 5344.50 | EOT TO 89.95° AZ |
| 14253.09 | 90.59 | 89.95 | 6836.53 | -1535.20 | 4966.66 | 5150.24 | 9533.00 | END OF TANGENT |
| 14650.57 | 90.59 | 82.00 | 6832.43 | -1507.33 | 5362.82 | 5536.59 | 9930.46 | EOT TO 82° AZ |
| 14750.57 | 90.59 | 82.00 | 6831.40 | -1493.41 | 5461.84 | 5632.03 | 10030.45 | END OF TANGENT |
| 15148.05 | 90.59 | 89.95 | 6827.29 | -1465.54 | 5858.00 | 6018.38 | 10427.91 | EOT TO 89.95° AZ |
| 15546.53 | 90.60 | 97.92 | 6823.14 | -1492.86 | 6255.20 | 6414.73 | 10826.37 | EOT TO 97.92° AZ |
| 15646.53 | 90.60 | 97.92 | 6822.09 | -1506.64 | 6354.24 | 6514.69 | 10926.36 | END OF TANGENT |
| 16045.01 | 90.60 | 89.95 | 6817.90 | -1533.96 | 6751.43 | 6911.04 | 11324.82 | EOT TO 89.95° AZ |
| 18584.07 | 90.61 | 89.95 | 6791.00 | -1531.76 | 9290.35 | 9415.78 | 13863.74 | BHL: 1432ft FSL & 200ft FEL of Sec 16 |



PROPOSED LOCAL COORDINATES:

SHL: 2311ft FNL & 1013ft FWL of Sec 17
EP: 1433ft FSL & 450ft FEL of Sec 18
BHL: 1432ft FSL & 200ft FEL of Sec 16

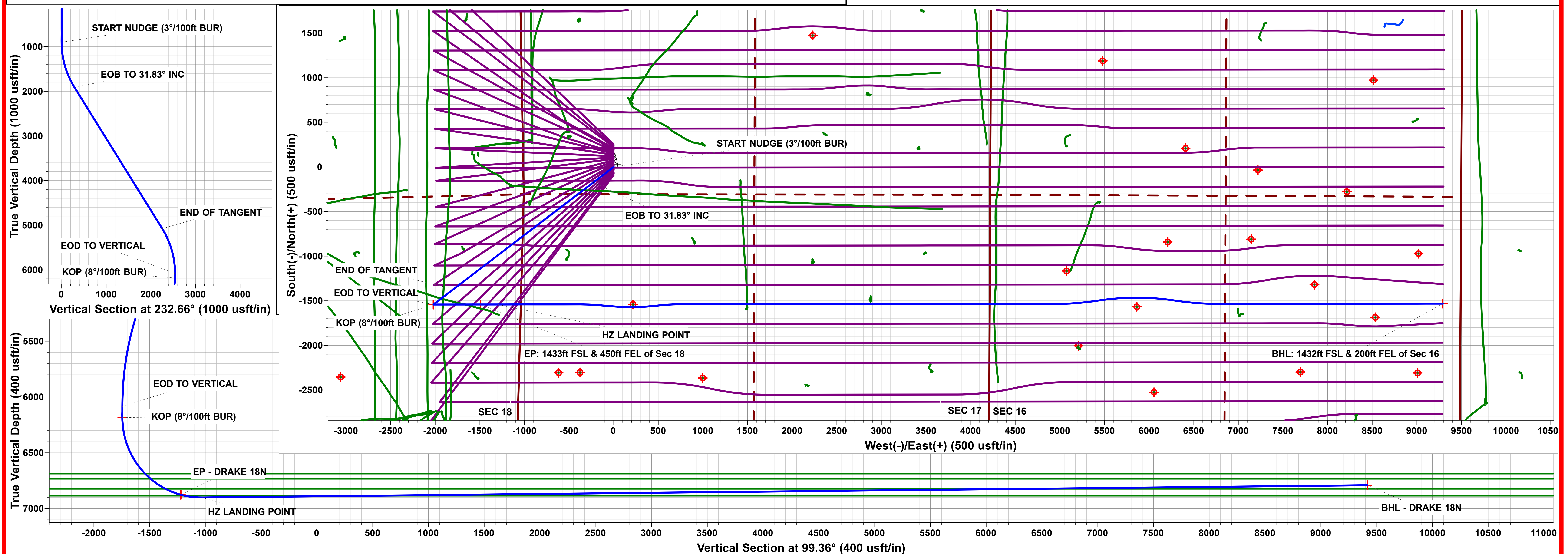


Azimuths to True North
Magnetic North: 7.75°

Magnetic Field
Strength: 51934.7nT
Dip Angle: 66.61°
Date: 2021-05-24
Model: IGRF2020

DESIGN TARGET DETAILS

| Name | TVD | +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|-----------------|---------|----------|----------|------------|------------|-----------|-------------|
| BHL - DRAKE 18N | 6791.00 | -1531.76 | 9290.35 | 1356868.14 | 3265794.13 | 40.309082 | -104.546918 |
| EP - DRAKE 18N | 6876.63 | -1541.83 | -1490.64 | 1356746.25 | 3255014.28 | 40.309059 | -104.585574 |
| KOP - DRAKE 18N | 6184.84 | -1542.29 | -2021.47 | 1356740.29 | 3254483.51 | 40.309058 | -104.587477 |



PDC ENERGY

**WELD COUNTY, COLORADO (TRUE)
SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)
DRAKE 18N**

**ORIGINAL WELLBORE
PROPOSAL #1**

Anticollision Report

27 May, 2021

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|-----------------------|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well DRAKE 18N |
| Project: | WELD COUNTY, COLORADO (TRUE) | TVD Reference: | KB 23ft @ 4756.00usft |
| Reference Site: | SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE) | MD Reference: | KB 23ft @ 4756.00usft |
| Site Error: | 0.00 usft | North Reference: | True |
| Reference Well: | DRAKE 18N | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | Database 1 |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| | | | |
|-------------------------------------|---|-----------------------|----------------------|
| Reference | PROPOSAL #1 | | |
| Filter type: | NO GLOBAL FILTER: Using user defined selection & filtering criteria | | |
| Interpolation Method: | MD + Stations Interval 100.00usft | Error Model: | ISCWSA |
| Depth Range: | Unlimited | Scan Method: | Closest Approach 3D |
| Results Limited by: | Maximum centre distance of 9,999.98usft | Error Surface: | Ellipsoid Separation |
| Warning Levels Evaluated at: | 2.00 Sigma | Casing Method: | Not applied |

| | | | | |
|----------------------------|------------------|---------------------------------|------------------|--------------------|
| Survey Tool Program | Date | 2021-05-27 | | |
| From (usft) | To (usft) | Survey (Wellbore) | Tool Name | Description |
| 0.00 | 18,584.04 | PROPOSAL #1 (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 |
| Offset Well - Wellbore - Design | | | | | | |
| SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE) | | | | | | |
| GEORGE 01N - ORIGINAL WELLBORE - PROPOSAL # | 9,500.00 | 17,027.06 | 1,516.16 | 1,186.71 | 4.602 | ES |
| GEORGE 01N - ORIGINAL WELLBORE - PROPOSAL # | 9,500.67 | 17,026.39 | 1,516.15 | 1,186.71 | 4.602 | CC |
| GEORGE 01N - ORIGINAL WELLBORE - PROPOSAL # | 18,584.07 | 7,953.04 | 1,567.14 | 1,201.35 | 4.284 | SF |
| GEORGE 02N - ORIGINAL WELLBORE - PROPOSAL # | 9,501.11 | 16,915.77 | 1,737.95 | 1,408.17 | 5.270 | CC |
| GEORGE 02N - ORIGINAL WELLBORE - PROPOSAL # | 18,584.07 | 7,860.89 | 1,773.27 | 1,407.86 | 4.853 | ES, SF |
| SW NE SEC. 8 T4N R64W 6th P.M. (HEN) | | | | | | |
| ABDN DD ALTER C 16-28D - Wellbore #1 - Wellbore #1 | 15,531.77 | 7,101.00 | 3,837.04 | 3,574.91 | 14.638 | CC |
| ABDN DD ALTER C 16-28D - Wellbore #1 - Wellbore #1 | 16,100.00 | 7,101.00 | 3,846.60 | 3,568.25 | 13.820 | ES |
| ABDN DD ALTER C 16-28D - Wellbore #1 - Wellbore #1 | 16,700.00 | 7,101.00 | 3,901.37 | 3,612.80 | 13.520 | SF |
| ABDN DD ALTER C 16-29D - ORIGINAL WELLBORE - W | 15,038.89 | 6,846.01 | 3,721.42 | 3,493.26 | 16.310 | CC |
| ABDN DD ALTER C 16-29D - ORIGINAL WELLBORE - W | 15,100.00 | 6,846.22 | 3,722.57 | 3,493.02 | 16.216 | ES |
| ABDN DD ALTER C 16-29D - ORIGINAL WELLBORE - W | 15,500.00 | 6,847.10 | 3,786.38 | 3,549.34 | 15.974 | SF |
| ABDN DD ALTER C 16-29D - SIDETRACK - SIDETRAC | 14,920.78 | 6,644.25 | 3,997.42 | 3,777.10 | 18.144 | CC, ES |
| ABDN DD ALTER C 16-29D - SIDETRACK - SIDETRAC | 15,400.00 | 6,647.04 | 4,065.43 | 3,836.08 | 17.726 | SF |
| ABDN HZ FRANKLIN C08-62HNX - ORIGINAL WELLBO | 1,545.90 | 1,846.00 | 3,167.96 | 3,160.72 | 437.656 | CC |
| ABDN HZ FRANKLIN C08-62HNX - ORIGINAL WELLBO | 1,600.00 | 1,896.06 | 3,168.24 | 3,160.56 | 412.173 | ES |
| ABDN HZ FRANKLIN C08-62HNX - ORIGINAL WELLBO | 13,300.00 | 10,756.00 | 4,571.15 | 4,294.51 | 16.524 | SF |
| ABDN HZ FRANKLIN C08-62HNX - SIDETRACK - SIDE | 1,539.40 | 1,835.68 | 3,168.67 | 3,161.50 | 441.739 | CC |
| ABDN HZ FRANKLIN C08-62HNX - SIDETRACK - SIDE | 1,600.00 | 1,889.30 | 3,169.06 | 3,161.39 | 413.265 | ES |
| ABDN HZ FRANKLIN C08-62HNX - SIDETRACK - SIDE | 13,400.00 | 10,803.00 | 4,694.01 | 4,415.22 | 16.837 | SF |
| ABDN VERT RYANN STATE C 16-27 - Wellbore #1 - We | 17,390.31 | 6,629.97 | 3,630.75 | 3,354.33 | 13.135 | CC |
| ABDN VERT RYANN STATE C 16-27 - Wellbore #1 - We | 17,500.00 | 6,631.29 | 3,632.41 | 3,353.18 | 13.009 | ES |
| ABDN VERT RYANN STATE C 16-27 - Wellbore #1 - We | 18,000.00 | 6,636.82 | 3,681.57 | 3,393.09 | 12.762 | SF |
| ABDN VERT STATE 16-214 - Wellbore #1 - Wellbore #1 | 16,550.53 | 6,770.54 | 2,950.82 | 2,696.94 | 11.623 | CC |
| ABDN VERT STATE 16-214 - Wellbore #1 - Wellbore #1 | 16,600.00 | 6,770.08 | 2,951.24 | 2,696.09 | 11.567 | ES |
| ABDN VERT STATE 16-214 - Wellbore #1 - Wellbore #1 | 17,000.00 | 6,766.32 | 2,984.85 | 2,722.38 | 11.372 | SF |
| EXIST DD NGL C1C - Wellbore #1 - Wellbore #1 | 13,439.22 | 7,828.35 | 2,070.59 | 1,888.54 | 11.374 | CC |
| EXIST DD NGL C1C - Wellbore #1 - Wellbore #1 | 13,500.00 | 7,824.00 | 2,071.49 | 1,888.00 | 11.290 | ES |
| EXIST DD NGL C1C - Wellbore #1 - Wellbore #1 | 13,800.00 | 7,824.00 | 2,101.82 | 1,913.01 | 11.132 | SF |
| EXIST HZ FRANKLIN C17-69HN - Wellbore #1 - Wellbor | 2,514.35 | 3,172.99 | 3,054.88 | 3,036.25 | 164.034 | CC |
| EXIST HZ FRANKLIN C17-69HN - Wellbore #1 - Wellbor | 2,600.00 | 3,208.80 | 3,055.67 | 3,036.08 | 155.963 | ES |
| EXIST HZ FRANKLIN C17-69HN - Wellbore #1 - Wellbor | 13,100.00 | 10,846.00 | 3,998.51 | 3,725.82 | 14.663 | SF |
| EXIST HZ JAGGED 11N - Wellbore #1 - Wellbore #1 | 6,900.00 | 10,529.58 | 4,239.16 | 4,094.93 | 29.391 | SF |
| EXIST HZ JAGGED 11N - Wellbore #1 - Wellbore #1 | 7,350.00 | 10,322.22 | 4,203.87 | 4,066.29 | 30.556 | ES |
| EXIST HZ JAGGED 11N - Wellbore #1 - Wellbore #1 | 7,445.40 | 10,281.00 | 4,202.78 | 4,066.40 | 30.816 | CC |

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

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|-----------------------|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well DRAKE 18N |
| Project: | WELD COUNTY, COLORADO (TRUE) | TVD Reference: | KB 23ft @ 4756.00usft |
| Reference Site: | SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE) | MD Reference: | KB 23ft @ 4756.00usft |
| Site Error: | 0.00 usft | North Reference: | True |
| Reference Well: | DRAKE 18N | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | Database 1 |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Summary | | | | | | |
|--|---------------------------------|------------------------------|---------------------------------|----------------------------------|-------------------|---------------------|
| Site Name | Reference Measured Depth (usft) | Offset Measured Depth (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Separation Factor | Warning |
| SW NE SEC. 8 T4N R64W 6th P.M. (HEN) | | | | | | |
| EXIST HZ JAGGED 12N - Wellbore #1 - Wellbore #1 | 6,950.00 | 10,681.37 | 3,992.55 | 3,841.76 | 26.478 | SF |
| EXIST HZ JAGGED 12N - Wellbore #1 - Wellbore #1 | 7,200.00 | 10,564.68 | 3,976.80 | 3,829.84 | 27.061 | ES |
| EXIST HZ JAGGED 12N - Wellbore #1 - Wellbore #1 | 8,850.65 | 8,790.30 | 3,964.89 | 3,859.51 | 37.621 | CC |
| EXIST HZ MARK ALTER C16-79HN - Wellbore #1 - Wellbore #1 | 13,555.34 | 10,886.20 | 77.57 | -8.96 | 0.896 | Level 3, CC, ES, SF |
| EXIST HZ SANDY HILLS PC C17-67HN - Wellbore #1 - Wellbore #1 | 1,537.12 | 1,525.96 | 634.45 | 628.31 | 103.263 | CC, ES |
| EXIST HZ SANDY HILLS PC C17-67HN - Wellbore #1 - Wellbore #1 | 13,300.00 | 11,004.00 | 2,616.73 | 2,336.85 | 9.349 | SF |
| EXIST HZ STOCKLEY C15-79HN - Wellbore #1 - Wellbore #1 | 18,584.07 | 7,468.51 | 437.56 | 378.00 | 7.346 | CC, ES, SF |
| EXIST VERT CPC HARLESS 17-1 - Wellbore #1 - Wellbore #1 | 12,761.87 | 6,934.90 | 3,278.15 | 3,128.41 | 21.893 | CC |
| EXIST VERT CPC HARLESS 17-1 - Wellbore #1 - Wellbore #1 | 12,800.00 | 6,934.24 | 3,278.37 | 3,127.62 | 21.747 | ES |
| EXIST VERT CPC HARLESS 17-1 - Wellbore #1 - Wellbore #1 | 13,600.00 | 6,920.50 | 3,383.57 | 3,216.68 | 20.275 | SF |
| EXIST VERT HARLESS PM C 17-2 - Wellbore #1 - Design #1 | 900.00 | 882.10 | 2,673.76 | 2,654.53 | 138.996 | CC, ES |
| EXIST VERT HARLESS PM C 17-2 - Wellbore #1 - Design #1 | 12,100.00 | 6,840.79 | 3,066.31 | 2,800.83 | 11.550 | SF |
| EXIST VERT NGL C1A - Wellbore #1 - Design #1 | 13,211.69 | 6,810.25 | 4,089.16 | 3,792.41 | 13.780 | CC |
| EXIST VERT NGL C1A - Wellbore #1 - Design #1 | 13,300.00 | 6,809.34 | 4,090.11 | 3,791.03 | 13.676 | ES |
| EXIST VERT NGL C1A - Wellbore #1 - Design #1 | 14,100.00 | 6,801.11 | 4,184.52 | 3,868.27 | 13.232 | SF |
| EXIST VERT ROHR 15-414 - Wellbore #1 - Wellbore #1 | 18,584.07 | 6,684.70 | 3,421.10 | 3,121.85 | 11.432 | CC, ES, SF |
| EXIST VERT ROHR C 15-19 - Wellbore #1 - Wellbore #1 | 18,584.07 | 6,672.28 | 2,951.93 | 2,682.55 | 10.958 | CC, ES, SF |
| EXIST VERT RYANN STATE C 16-1 - Wellbore #1 - Wellbore #1 | 17,934.02 | 6,818.67 | 3,109.16 | 2,817.34 | 10.654 | CC |
| EXIST VERT RYANN STATE C 16-1 - Wellbore #1 - Wellbore #1 | 18,000.00 | 6,817.39 | 3,109.86 | 2,816.38 | 10.597 | ES |
| EXIST VERT RYANN STATE C 16-1 - Wellbore #1 - Wellbore #1 | 18,300.00 | 6,811.54 | 3,130.62 | 2,831.43 | 10.464 | SF |
| EXIST VERT STATE 16-314 - Wellbore #1 - Design #1 | 15,309.20 | 6,760.88 | 3,331.62 | 2,979.12 | 9.451 | CC |
| EXIST VERT STATE 16-314 - Wellbore #1 - Design #1 | 15,400.00 | 6,759.93 | 3,334.30 | 2,979.05 | 9.386 | ES |
| EXIST VERT STATE 16-314 - Wellbore #1 - Design #1 | 15,900.00 | 6,754.69 | 3,410.90 | 3,043.94 | 9.295 | SF |
| EXIST VERT STATE 16-414 - Wellbore #1 - Design #1 | 14,953.47 | 6,772.04 | 2,666.90 | 2,324.16 | 7.781 | CC |
| EXIST VERT STATE 16-414 - Wellbore #1 - Design #1 | 15,000.00 | 6,771.56 | 2,667.69 | 2,323.99 | 7.762 | ES |
| EXIST VERT STATE 16-414 - Wellbore #1 - Design #1 | 15,148.05 | 6,770.03 | 2,680.57 | 2,334.27 | 7.741 | SF |
| HEN 21N - ORIGINAL WELLBORE - PROPOSAL #1 | 15,155.38 | 11,915.42 | 4,136.79 | 3,802.33 | 12.368 | CC |
| HEN 21N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 15,340.67 | 4,197.29 | 3,672.62 | 8.000 | ES, SF |
| HEN 22N - ORIGINAL WELLBORE - PROPOSAL #1 | 15,155.20 | 11,955.06 | 3,897.68 | 3,562.79 | 11.639 | CC |
| HEN 22N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 15,380.51 | 3,958.35 | 3,433.29 | 7.539 | ES, SF |

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|-----------------------|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well DRAKE 18N |
| Project: | WELD COUNTY, COLORADO (TRUE) | TVD Reference: | KB 23ft @ 4756.00usft |
| Reference Site: | SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE) | MD Reference: | KB 23ft @ 4756.00usft |
| Site Error: | 0.00 usft | North Reference: | True |
| Reference Well: | DRAKE 18N | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | Database 1 |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Summary | | | | | | |
|--|---------------------------------|------------------------------|---------------------------------|----------------------------------|-------------------|---------------------|
| Site Name | Reference Measured Depth (usft) | Offset Measured Depth (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Separation Factor | Warning |
| SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE) | | | | | | |
| ABDN DD SH C17-24D - Wellbore #1 - Wellbore #1 | 10,767.55 | 7,091.20 | 57.45 | -47.49 | 0.547 | Level 3, CC, ES, SF |
| ABDN DD STATE C 16-20D - Wellbore #1 - Wellbore #1 | 14,852.42 | 6,832.70 | 1,090.21 | 870.31 | 4.958 | CC, ES, SF |
| ABDN HZ FRICK C #17-79HN - ORIGINAL WELLBORE | 3,318.17 | 3,228.45 | 988.63 | 958.41 | 32.715 | CC, ES |
| ABDN HZ FRICK C #17-79HN - ORIGINAL WELLBORE | 9,100.00 | 6,307.00 | 2,125.67 | 2,052.48 | 29.045 | SF |
| ABDN HZ FRICK C #17-79HN - SIDETRACK - SIDETRA | 3,322.00 | 3,232.96 | 985.00 | 954.73 | 32.546 | CC, ES |
| ABDN HZ FRICK C #17-79HN - SIDETRACK - SIDETRA | 9,100.00 | 6,307.00 | 2,118.88 | 2,045.73 | 28.968 | SF |
| ABDN VERT ANGELA C17-25 - Wellbore #1 - Design #1 | 9,501.92 | 6,874.41 | 30.06 | -162.86 | 0.156 | Level 3, CC, ES, SF |
| ABDN VERT CHENOWETH 21-4 - Wellbore #1 - Wellbo | 14,343.59 | 6,851.59 | 2,144.81 | 1,952.48 | 11.152 | CC |
| ABDN VERT CHENOWETH 21-4 - Wellbore #1 - Wellbo | 14,400.00 | 6,850.09 | 2,146.10 | 1,952.10 | 11.062 | ES |
| ABDN VERT CHENOWETH 21-4 - Wellbore #1 - Wellbo | 14,600.00 | 6,845.14 | 2,171.41 | 1,972.68 | 10.926 | SF |
| ABDN VERT CHENOWETH #1 - Wellbore #1 - Design #1 | 15,717.78 | 6,794.34 | 2,430.81 | 2,067.33 | 6.688 | CC, ES |
| ABDN VERT CHENOWETH #1 - Wellbore #1 - Design #1 | 15,800.00 | 6,793.48 | 2,433.38 | 2,068.64 | 6.672 | SF |
| ABDN VERT CLEMONS 13-15 - Wellbore #1 - Wellbore | 18,584.07 | 6,702.93 | 1,048.17 | 901.09 | 7.126 | CC, ES, SF |
| ABDN VERT FRICK #32-18 - Wellbore #1 - Wellbore #1 | 6,879.58 | 6,288.32 | 2,075.91 | 2,020.61 | 37.539 | CC, ES |
| ABDN VERT FRICK #32-18 - Wellbore #1 - Wellbore #1 | 6,900.00 | 6,307.61 | 2,076.07 | 2,020.76 | 37.534 | SF |
| ABDN VERT FRICK C18-2 - Wellbore #1 - Wellbore #1 | 4,538.85 | 4,220.32 | 2,980.38 | 2,943.63 | 81.107 | CC |
| ABDN VERT FRICK C18-2 - Wellbore #1 - Wellbore #1 | 4,600.00 | 4,267.31 | 2,980.59 | 2,943.17 | 79.649 | ES |
| ABDN VERT FRICK C18-2 - Wellbore #1 - Wellbore #1 | 6,900.00 | 6,266.93 | 3,137.85 | 3,085.33 | 59.747 | SF |
| ABDN VERT FRICK C18-8 - Wellbore #1 - Wellbore #1 | 3,478.42 | 3,178.37 | 1,046.25 | 1,021.53 | 42.337 | CC |
| ABDN VERT FRICK C18-8 - Wellbore #1 - Wellbore #1 | 3,500.00 | 3,195.85 | 1,046.31 | 1,021.35 | 41.919 | ES |
| ABDN VERT FRICK C18-8 - Wellbore #1 - Wellbore #1 | 8,500.00 | 6,891.85 | 1,827.80 | 1,773.10 | 33.416 | SF |
| ABDN VERT HARLESS PM C17-8 - Wellbore #1 - Wellb | 12,713.79 | 6,796.54 | 1,736.28 | 1,587.91 | 11.702 | CC, ES |
| ABDN VERT HARLESS PM C17-8 - Wellbore #1 - Wellb | 13,000.00 | 6,795.38 | 1,759.71 | 1,605.76 | 11.430 | SF |
| ABDN VERT MARY MILLS #41-18 - Wellbore #1 - Wellb | 2,037.26 | 1,994.74 | 2,311.08 | 2,302.45 | 267.807 | CC |
| ABDN VERT MARY MILLS #41-18 - Wellbore #1 - Wellb | 2,200.00 | 2,141.44 | 2,312.16 | 2,301.80 | 223.188 | ES |
| ABDN VERT MARY MILLS #41-18 - Wellbore #1 - Wellb | 10,000.00 | 6,700.00 | 3,998.27 | 3,926.99 | 56.094 | SF |
| ABDN VERT OCOMA C17-10 - Wellbore #1 - Wellbore # | 11,532.96 | 6,810.55 | 474.90 | 357.98 | 4.062 | CC, ES, SF |
| ABDN VERT OCOMA C17-11 - Wellbore #1 - Wellbore # | 10,169.55 | 6,826.67 | 735.83 | 652.97 | 8.881 | CC |
| ABDN VERT OCOMA C17-11 - Wellbore #1 - Wellbore # | 10,200.00 | 6,826.02 | 736.46 | 652.60 | 8.782 | ES |
| ABDN VERT OCOMA C17-11 - Wellbore #1 - Wellbore # | 10,300.00 | 6,823.88 | 747.30 | 661.16 | 8.675 | SF |
| ABDN VERT OCOMA C17-13 - Wellbore #1 - Design #1 | 8,666.59 | 6,888.99 | 765.65 | 577.46 | 4.069 | CC, ES, SF |
| ABDN VERT OCOMA C17-16 - Wellbore #1 - Wellbore # | 12,829.22 | 6,826.60 | 689.25 | 538.02 | 4.558 | CC, ES |
| ABDN VERT OCOMA C17-16 - Wellbore #1 - Wellbore # | 12,900.00 | 6,828.18 | 692.88 | 540.73 | 4.554 | SF |
| ABDN VERT OCOMA C17-23 - Wellbore #1 - Wellbore # | 12,166.88 | 6,801.60 | 85.56 | -46.75 | 0.647 | Level 3, CC, ES, SF |
| ABDN VERT OCOMA C17-9 - Wellbore #1 - Wellbore #1 | 12,763.52 | 6,793.11 | 566.54 | 416.93 | 3.787 | CC, ES |
| ABDN VERT OCOMA C17-9 - Wellbore #1 - Wellbore #1 | 12,800.00 | 6,792.53 | 567.71 | 417.50 | 3.779 | SF |
| ABDN VERT OCOMA-UPRR C7-15 - Wellbore #1 - Desi | 2,821.88 | 2,712.66 | 4,030.06 | 3,959.57 | 57.166 | CC |
| ABDN VERT OCOMA-UPRR C7-15 - Wellbore #1 - Desi | 3,200.00 | 3,033.90 | 4,034.99 | 3,953.86 | 49.732 | ES |
| ABDN VERT OCOMA-UPRR C7-15 - Wellbore #1 - Desi | 7,600.00 | 6,877.28 | 4,508.71 | 4,321.93 | 24.139 | SF |
| ABDN VERT OCOMA-UPRR C7-16 - Wellbore #1 - Well | 935.26 | 981.34 | 3,256.71 | 3,254.08 | 1,240.816 | CC, ES |
| ABDN VERT OCOMA-UPRR C7-16 - Wellbore #1 - Well | 11,100.00 | 6,957.20 | 5,575.60 | 5,487.70 | 63.424 | SF |
| ABDN VERT RITER C18-10 - Wellbore #1 - Wellbore #1 | 6,867.33 | 6,265.49 | 1,041.37 | 988.86 | 19.831 | CC, ES, SF |
| ABDN VERT RITER C18-16 - Wellbore #1 - Wellbore #1 | 7,400.00 | 6,745.83 | 836.13 | 785.00 | 16.352 | SF |
| ABDN VERT RITER C18-16 - Wellbore #1 - Wellbore #1 | 7,700.00 | 6,911.43 | 782.54 | 738.74 | 17.866 | ES |
| ABDN VERT RITER C18-16 - Wellbore #1 - Wellbore #1 | 7,729.77 | 6,920.65 | 781.99 | 739.13 | 18.249 | CC |
| ABDN VERT RYANN STATE C16-22 - Wellbore #1 - Des | 17,510.32 | 6,727.44 | 1,255.03 | 841.93 | 3.038 | CC, ES |
| ABDN VERT RYANN STATE C16-22 - Wellbore #1 - Des | 17,600.00 | 6,726.49 | 1,258.23 | 843.88 | 3.037 | SF |
| ABDN VERT RYANN STATE C16-24 - Wellbore #1 - We | 16,288.90 | 6,741.18 | 58.91 | -177.82 | 0.249 | Level 3, CC, ES, SF |
| ABDN VERT SANDY HILLS FARM C17-4 - Wellbore #1 | 742.52 | 747.54 | 1,683.59 | 1,681.62 | 851.581 | CC |
| ABDN VERT SANDY HILLS FARM C17-4 - Wellbore #1 | 900.00 | 904.33 | 1,683.86 | 1,681.50 | 713.301 | ES |
| ABDN VERT SANDY HILLS FARM C17-4 - Wellbore #1 | 10,700.00 | 7,017.31 | 3,664.69 | 3,577.17 | 41.869 | SF |
| ABDN VERT SCHNEIDER #43-18 - Wellbore #1 - Wellbo | 4,990.17 | 4,490.14 | 287.08 | 245.19 | 6.854 | CC |

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

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|-----------------------|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well DRAKE 18N |
| Project: | WELD COUNTY, COLORADO (TRUE) | TVD Reference: | KB 23ft @ 4756.00usft |
| Reference Site: | SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE) | MD Reference: | KB 23ft @ 4756.00usft |
| Site Error: | 0.00 usft | North Reference: | True |
| Reference Well: | DRAKE 18N | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | Database 1 |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Summary | | | | | | |
|---|---------------------------------|------------------------------|---------------------------------|----------------------------------|-------------------|---------------------|
| Site Name | Reference Measured Depth (usft) | Offset Measured Depth (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Separation Factor | Warning |
| SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE) | | | | | | |
| ABDN VERT SCHNEIDER #43-18 - Wellbore #1 - Wellbo | 5,000.00 | 4,498.60 | 287.13 | 245.11 | 6.834 | ES, SF |
| ABDN VERT SCHNEIDER/DIC/COLTON #34-18 - Wellb | 6,853.59 | 6,240.84 | 1,317.97 | 1,172.53 | 9.062 | CC, ES |
| ABDN VERT SCHNEIDER/DIC/COLTON #34-18 - Wellb | 7,000.00 | 6,386.23 | 1,329.75 | 1,181.30 | 8.958 | SF |
| ABDN VERT STATE 16-12I4 - Wellbore #1 - Design #1 | 14,378.39 | 6,777.24 | 366.77 | 39.36 | 1.120 | Level 3, CC, ES, SF |
| ABDN VERT STATE 16-6I4 - Wellbore #1 - Design #1 | 15,494.79 | 6,755.68 | 1,707.39 | 1,351.18 | 4.793 | CC |
| ABDN VERT STATE 16-6I4 - Wellbore #1 - Design #1 | 15,546.53 | 6,755.14 | 1,708.64 | 1,350.25 | 4.768 | ES |
| ABDN VERT STATE 16-6I4 - Wellbore #1 - Design #1 | 15,700.00 | 6,753.53 | 1,722.40 | 1,358.94 | 4.739 | SF |
| ABDN VERT STATE 16-7I4 - Wellbore #1 - Design #1 | 16,513.96 | 6,730.97 | 1,498.21 | 1,112.67 | 3.886 | CC, ES |
| ABDN VERT STATE 16-7I4 - Wellbore #1 - Design #1 | 16,600.00 | 6,730.07 | 1,500.68 | 1,113.47 | 3.876 | SF |
| ABDN VERT STATE 16-8I4 - Wellbore #1 - Wellbore #1 | 18,247.42 | 6,689.20 | 2,039.91 | 1,739.56 | 6.792 | CC |
| ABDN VERT STATE 16-8I4 - Wellbore #1 - Wellbore #1 | 18,300.00 | 6,688.42 | 2,040.59 | 1,739.01 | 6.766 | ES |
| ABDN VERT STATE 16-8I4 - Wellbore #1 - Wellbore #1 | 18,400.00 | 6,686.94 | 2,045.61 | 1,742.33 | 6.745 | SF |
| ABDN VERT STATE 16-9I4 - Wellbore #1 - Design #1 | 18,313.19 | 6,729.89 | 560.25 | 124.76 | 1.286 | Level 3, CC, ES, SF |
| ABDN VERT STATE A 14-16 - Wellbore #1 - Design #1 | 14,480.86 | 4,414.00 | 2,394.69 | 2,309.50 | 28.110 | CC |
| ABDN VERT STATE A 14-16 - Wellbore #1 - Design #1 | 14,500.00 | 4,414.00 | 2,394.78 | 2,309.26 | 28.004 | ES |
| ABDN VERT STATE A 14-16 - Wellbore #1 - Design #1 | 15,800.00 | 4,414.00 | 2,712.53 | 2,588.85 | 21.932 | SF |
| ABDN VERT STATE A 14-16X - Wellbore #1 - Wellbore # | 14,470.80 | 6,762.18 | 514.62 | 319.35 | 2.635 | CC |
| ABDN VERT STATE A 14-16X - Wellbore #1 - Wellbore # | 14,500.00 | 6,761.93 | 515.60 | 318.64 | 2.618 | ES, SF |
| ABDN VERT UPRR 36 PAN AM B #1 - Wellbore #1 - De | 8,896.96 | 6,889.62 | 762.28 | 570.04 | 3.965 | SF |
| ABDN VERT UPRR 36 PAN AM B #1 - Wellbore #1 - De | 8,909.90 | 6,889.48 | 762.20 | 570.01 | 3.966 | CC, ES |
| ABDN VERT UPRR OCOMA C17-12 - Wellbore #1 - We | 3,366.67 | 3,081.28 | 499.98 | 476.48 | 21.276 | CC |
| ABDN VERT UPRR OCOMA C17-12 - Wellbore #1 - We | 3,400.00 | 3,109.63 | 500.29 | 476.41 | 20.949 | ES |
| ABDN VERT UPRR OCOMA C17-12 - Wellbore #1 - We | 8,900.00 | 6,850.86 | 619.10 | 560.86 | 10.631 | SF |
| DRAKE 01N - ORIGINAL WELLBORE - PROPOSAL #1 | 214.54 | 220.54 | 254.92 | 254.21 | 363.414 | CC |
| DRAKE 01N - ORIGINAL WELLBORE - PROPOSAL #1 | 300.00 | 305.57 | 254.92 | 253.84 | 235.031 | ES |
| DRAKE 01N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,611.87 | 3,717.63 | 3,099.13 | 6.011 | SF |
| DRAKE 02N - ORIGINAL WELLBORE - PROPOSAL #1 | 314.91 | 319.91 | 239.90 | 238.75 | 208.533 | CC |
| DRAKE 02N - ORIGINAL WELLBORE - PROPOSAL #1 | 400.00 | 404.69 | 239.90 | 238.37 | 156.583 | ES |
| DRAKE 02N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,497.50 | 3,499.74 | 2,880.86 | 5.655 | SF |
| DRAKE 03N - ORIGINAL WELLBORE - PROPOSAL #1 | 414.91 | 419.91 | 224.92 | 223.32 | 140.580 | CC |
| DRAKE 03N - ORIGINAL WELLBORE - PROPOSAL #1 | 500.00 | 504.72 | 224.92 | 222.94 | 113.503 | ES |
| DRAKE 03N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,527.76 | 3,280.33 | 2,661.80 | 5.303 | SF |
| DRAKE 04NA - ORIGINAL WELLBORE - PROPOSAL #1 | 514.91 | 519.91 | 209.95 | 207.90 | 102.440 | CC |
| DRAKE 04NA - ORIGINAL WELLBORE - PROPOSAL #1 | 600.00 | 604.79 | 209.95 | 207.52 | 86.355 | ES |
| DRAKE 04NA - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,358.38 | 3,013.49 | 2,395.22 | 4.874 | SF |
| DRAKE 05N - ORIGINAL WELLBORE - PROPOSAL #1 | 615.28 | 619.28 | 194.94 | 192.44 | 78.027 | CC |
| DRAKE 05N - ORIGINAL WELLBORE - PROPOSAL #1 | 700.00 | 703.84 | 194.94 | 192.06 | 67.720 | ES |
| DRAKE 05N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,344.46 | 2,843.75 | 2,225.16 | 4.597 | SF |
| DRAKE 06N - ORIGINAL WELLBORE - PROPOSAL #1 | 715.28 | 719.28 | 180.00 | 177.05 | 61.060 | CC |
| DRAKE 06N - ORIGINAL WELLBORE - PROPOSAL #1 | 800.00 | 803.87 | 180.00 | 176.67 | 54.083 | ES |
| DRAKE 06N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,379.86 | 2,624.22 | 2,005.69 | 4.243 | SF |
| DRAKE 07N - ORIGINAL WELLBORE - PROPOSAL #1 | 815.64 | 818.64 | 164.96 | 161.56 | 48.563 | CC |
| DRAKE 07N - ORIGINAL WELLBORE - PROPOSAL #1 | 900.00 | 902.94 | 164.96 | 161.18 | 43.690 | ES |
| DRAKE 07N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,273.10 | 2,406.48 | 1,788.17 | 3.892 | SF |
| DRAKE 08N - ORIGINAL WELLBORE - PROPOSAL #1 | 900.00 | 903.00 | 149.95 | 146.17 | 39.711 | CC, ES |
| DRAKE 08N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,335.41 | 2,186.82 | 1,568.66 | 3.538 | SF |
| DRAKE 09NA - ORIGINAL WELLBORE - PROPOSAL #1 | 900.00 | 902.00 | 134.98 | 131.20 | 35.767 | CC, ES |
| DRAKE 09NA - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,192.61 | 1,972.11 | 1,354.73 | 3.194 | SF |
| DRAKE 10N - ORIGINAL WELLBORE - PROPOSAL #1 | 900.00 | 902.00 | 120.00 | 116.23 | 31.799 | CC, ES |
| DRAKE 10N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,241.02 | 1,751.29 | 1,133.52 | 2.835 | SF |
| DRAKE 11N - ORIGINAL WELLBORE - PROPOSAL #1 | 900.00 | 902.00 | 104.96 | 101.18 | 27.812 | CC, ES |
| DRAKE 11N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,336.04 | 1,530.80 | 910.85 | 2.469 | SF |

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

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|-----------------------|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well DRAKE 18N |
| Project: | WELD COUNTY, COLORADO (TRUE) | TVD Reference: | KB 23ft @ 4756.00usft |
| Reference Site: | SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE) | MD Reference: | KB 23ft @ 4756.00usft |
| Site Error: | 0.00 usft | North Reference: | True |
| Reference Well: | DRAKE 18N | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | Database 1 |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Summary | | | | | | |
|---|---------------------------------|------------------------------|---------------------------------|----------------------------------|-------------------|---------------------|
| Site Name | Reference Measured Depth (usft) | Offset Measured Depth (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Separation Factor | Warning |
| SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE) | | | | | | |
| DRAKE 12N - ORIGINAL WELLBORE - PROPOSAL #1 | 900.00 | 901.00 | 89.98 | 86.21 | 23.859 | CC, ES |
| DRAKE 12N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,271.89 | 1,314.53 | 697.45 | 2.130 | SF |
| DRAKE 13N - ORIGINAL WELLBORE - PROPOSAL #1 | 900.00 | 901.00 | 74.97 | 71.20 | 19.879 | CC, ES |
| DRAKE 13N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,352.00 | 1,093.43 | 475.43 | 1.769 | SF |
| DRAKE 14NA - ORIGINAL WELLBORE - PROPOSAL #1 | 900.00 | 901.00 | 59.97 | 56.19 | 15.899 | CC, ES |
| DRAKE 14NA - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,273.90 | 882.26 | 278.16 | 1.460 | Level 3, SF |
| DRAKE 15N - ORIGINAL WELLBORE - PROPOSAL #1 | 900.00 | 901.00 | 45.03 | 41.26 | 11.939 | CC, ES |
| DRAKE 15N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,361.78 | 660.31 | 66.53 | 1.112 | Level 3, SF |
| DRAKE 16N - ORIGINAL WELLBORE - PROPOSAL #1 | 900.00 | 901.00 | 29.98 | 26.21 | 7.950 | CC |
| DRAKE 16N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,512.64 | 18,396.24 | 437.02 | -150.64 | 0.744 | Level 3, ES, SF |
| DRAKE 17N - ORIGINAL WELLBORE - PROPOSAL #1 | 900.00 | 901.00 | 14.97 | 11.20 | 3.970 | CC |
| DRAKE 17N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,467.08 | 231.14 | -138.46 | 0.625 | Level 3, ES, SF |
| DRAKE 19NA - ORIGINAL WELLBORE - PROPOSAL #1 | 800.00 | 800.00 | 14.97 | 11.65 | 4.510 | CC |
| DRAKE 19NA - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,523.56 | 218.75 | -352.40 | 0.383 | Level 3, ES, SF |
| DRAKE 20N - ORIGINAL WELLBORE - PROPOSAL #1 | 700.00 | 700.00 | 29.98 | 27.11 | 10.446 | CC |
| DRAKE 20N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,629.88 | 442.20 | -87.27 | 0.835 | Level 3, ES, SF |
| DRAKE 21N - ORIGINAL WELLBORE - PROPOSAL #1 | 516.33 | 517.33 | 45.03 | 42.99 | 22.001 | CC |
| DRAKE 21N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,755.39 | 656.11 | 41.66 | 1.068 | Level 3, ES, SF |
| DRAKE 22N - ORIGINAL WELLBORE - PROPOSAL #1 | 416.33 | 417.33 | 59.97 | 58.37 | 37.541 | CC |
| DRAKE 22N - ORIGINAL WELLBORE - PROPOSAL #1 | 500.00 | 500.00 | 59.97 | 58.00 | 30.406 | ES |
| DRAKE 22N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,786.52 | 876.84 | 264.78 | 1.433 | Level 3, SF |
| DRAKE 23N - ORIGINAL WELLBORE - PROPOSAL #1 | 400.00 | 400.00 | 75.01 | 73.49 | 49.296 | CC, ES |
| DRAKE 23N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,757.30 | 1,093.50 | 481.94 | 1.788 | SF |
| DRAKE 24N - ORIGINAL WELLBORE - PROPOSAL #1 | 300.00 | 300.00 | 90.02 | 88.95 | 83.964 | CC, ES |
| DRAKE 24N - ORIGINAL WELLBORE - PROPOSAL #1 | 18,584.07 | 18,931.07 | 1,238.32 | 624.66 | 2.018 | SF |
| EXIST DD CRICKET C22-30D - Wellbore #1 - Wellbore # | 18,584.07 | 6,825.50 | 1,521.41 | 1,197.23 | 4.693 | CC, ES, SF |
| EXIST DD FRANKLIN #C18-27D - Wellbore #1 - Wellbor | 963.33 | 1,034.90 | 3,136.19 | 3,132.77 | 915.717 | CC |
| EXIST DD FRANKLIN #C18-27D - Wellbore #1 - Wellbor | 1,000.00 | 1,068.68 | 3,136.27 | 3,132.70 | 878.636 | ES |
| EXIST DD FRANKLIN #C18-27D - Wellbore #1 - Wellbor | 9,100.00 | 6,983.25 | 4,370.27 | 4,287.02 | 52.497 | SF |
| EXIST DD NEI C17-33D - Wellbore #1 - Wellbore #1 | 5,970.75 | 5,974.21 | 42.82 | -21.58 | 0.665 | Level 3, CC, ES, SF |
| EXIST DD NEI C18-21D - Wellbore #1 - Wellbore #1 | 6,783.48 | 6,275.29 | 1,908.46 | 1,839.35 | 27.611 | CC |
| EXIST DD NEI C18-21D - Wellbore #1 - Wellbore #1 | 6,800.00 | 6,288.41 | 1,908.48 | 1,839.33 | 27.598 | ES |
| EXIST DD NEI C18-21D - Wellbore #1 - Wellbore #1 | 6,900.00 | 6,378.00 | 1,910.32 | 1,840.97 | 27.544 | SF |
| EXIST DD NEI C18-22D - Wellbore #1 - Wellbore #1 | 5,503.18 | 5,351.20 | 1,232.51 | 1,156.79 | 16.277 | CC, ES |
| EXIST DD NEI C18-22D - Wellbore #1 - Wellbore #1 | 5,900.00 | 5,636.28 | 1,257.37 | 1,177.20 | 15.684 | SF |
| EXIST DD NEI C18-23D - Wellbore #1 - Wellbore #1 | 6,859.90 | 6,749.58 | 332.30 | 270.37 | 5.366 | CC, ES, SF |
| EXIST DD NEI C18-24D - Wellbore #1 - Wellbore #1 | 6,869.45 | 6,485.64 | 1,402.24 | 1,343.49 | 23.869 | CC, ES |
| EXIST DD NEI C18-24D - Wellbore #1 - Wellbore #1 | 6,900.00 | 6,515.54 | 1,402.89 | 1,344.09 | 23.859 | SF |
| EXIST DD OSTER C19-27D - Wellbore #1 - Wellbore #1 | 6,357.62 | 6,139.97 | 1,123.69 | 1,084.60 | 28.745 | CC, ES |
| EXIST DD OSTER C19-27D - Wellbore #1 - Wellbore #1 | 6,753.59 | 6,513.37 | 1,176.71 | 1,132.64 | 26.701 | SF |
| EXIST DD PLUSS C17-32D - Wellbore #1 - Wellbore #1 | 2,881.44 | 2,894.64 | 541.02 | 518.72 | 24.255 | CC |
| EXIST DD PLUSS C17-32D - Wellbore #1 - Wellbore #1 | 2,900.00 | 2,909.33 | 541.10 | 518.64 | 24.095 | ES |
| EXIST DD PLUSS C17-32D - Wellbore #1 - Wellbore #1 | 8,700.00 | 7,010.96 | 1,204.25 | 1,131.38 | 16.526 | SF |
| EXIST DD SH FARMS C17-3 - Wellbore #1 - Wellbore #1 | 825.06 | 826.14 | 787.01 | 783.56 | 228.631 | CC, ES |
| EXIST DD SH FARMS C17-3 - Wellbore #1 - Wellbore #1 | 11,600.00 | 6,921.38 | 3,552.09 | 3,418.54 | 26.597 | SF |
| EXIST DD SH FARMS C17-6 - Wellbore #1 - Wellbore #1 | 921.68 | 923.46 | 785.15 | 781.86 | 238.778 | CC, ES |
| EXIST DD SH FARMS C17-6 - Wellbore #1 - Wellbore #1 | 10,700.00 | 6,962.73 | 1,846.95 | 1,734.73 | 16.458 | SF |
| EXIST HZ COLLINS 18Q-221 - Wellbore #1 - Wellbore # | 7,077.89 | 8,202.00 | 1,335.64 | 1,276.73 | 22.675 | CC, ES |
| EXIST HZ COLLINS 18Q-221 - Wellbore #1 - Wellbore # | 7,200.00 | 8,202.00 | 1,351.50 | 1,290.51 | 22.160 | SF |
| EXIST HZ COLLINS 18Q-301 - Wellbore #1 - Wellbore # | 7,075.40 | 8,182.74 | 1,613.80 | 1,556.07 | 27.955 | CC, ES |
| EXIST HZ COLLINS 18Q-301 - Wellbore #1 - Wellbore # | 7,250.00 | 8,173.77 | 1,644.06 | 1,584.06 | 27.402 | SF |
| EXIST HZ COLLINS 18T-201 - Wellbore #1 - Wellbore # | 7,216.99 | 7,995.67 | 579.05 | 526.92 | 11.107 | CC |

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

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|-----------------------|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well DRAKE 18N |
| Project: | WELD COUNTY, COLORADO (TRUE) | TVD Reference: | KB 23ft @ 4756.00usft |
| Reference Site: | SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE) | MD Reference: | KB 23ft @ 4756.00usft |
| Site Error: | 0.00 usft | North Reference: | True |
| Reference Well: | DRAKE 18N | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | Database 1 |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Summary | | | | | | |
|---|---------------------------------|------------------------------|---------------------------------|----------------------------------|-------------------|---------------------|
| Site Name | Reference Measured Depth (usft) | Offset Measured Depth (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Separation Factor | Warning |
| SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE) | | | | | | |
| EXIST HZ COLLINS 18T-201 - Wellbore #1 - Wellbore # | 7,250.00 | 7,996.03 | 580.75 | 526.81 | 10.767 | ES |
| EXIST HZ COLLINS 18T-201 - Wellbore #1 - Wellbore # | 7,350.00 | 7,997.21 | 605.97 | 547.64 | 10.389 | SF |
| EXIST HZ COLLINS 18T-221 - ORIGINAL WELLBORE - | 7,350.00 | 7,227.00 | 751.44 | 695.79 | 13.502 | SF |
| EXIST HZ COLLINS 18T-221 - ORIGINAL WELLBORE - | 7,450.00 | 7,227.00 | 739.47 | 685.71 | 13.755 | ES |
| EXIST HZ COLLINS 18T-221 - ORIGINAL WELLBORE - | 7,478.61 | 7,227.00 | 738.84 | 685.79 | 13.928 | CC |
| EXIST HZ COLLINS 18T-221 - SIDETRACK - SIDETRAC | 7,425.26 | 7,897.61 | 155.60 | 118.53 | 4.198 | CC |
| EXIST HZ COLLINS 18T-221 - SIDETRACK - SIDETRAC | 7,450.00 | 7,898.39 | 157.97 | 114.63 | 3.645 | ES |
| EXIST HZ COLLINS 18T-221 - SIDETRACK - SIDETRAC | 7,500.00 | 7,900.06 | 176.06 | 121.56 | 3.230 | SF |
| EXIST HZ COLLINS 18T-321 - Wellbore #1 - Wellbore # | 7,368.33 | 8,131.50 | 334.29 | 291.79 | 7.866 | CC |
| EXIST HZ COLLINS 18T-321 - Wellbore #1 - Wellbore # | 7,400.00 | 8,131.15 | 336.49 | 290.44 | 7.307 | ES |
| EXIST HZ COLLINS 18T-321 - Wellbore #1 - Wellbore # | 7,500.00 | 8,129.95 | 370.28 | 315.47 | 6.755 | SF |
| EXIST HZ COLLINS 18T-341 - Wellbore #1 - Wellbore # | 7,193.37 | 8,076.07 | 830.21 | 777.44 | 15.733 | CC |
| EXIST HZ COLLINS 18T-341 - Wellbore #1 - Wellbore # | 7,200.00 | 8,075.98 | 830.27 | 777.26 | 15.661 | ES |
| EXIST HZ COLLINS 18T-341 - Wellbore #1 - Wellbore # | 7,350.00 | 8,073.72 | 861.40 | 803.76 | 14.945 | SF |
| EXIST HZ FRICK PC C17-65HN - Wellbore #1 - Wellbor | 3,760.96 | 3,613.13 | 656.16 | 621.61 | 18.989 | CC, ES |
| EXIST HZ FRICK PC C17-65HN - Wellbore #1 - Wellbor | 13,000.00 | 11,373.00 | 1,073.41 | 782.75 | 3.693 | SF |
| EXIST HZ STOCKLEY C22-79HN - Wellbore #1 - Wellbo | 18,584.07 | 6,221.31 | 1,508.36 | 1,217.30 | 5.182 | CC, ES, SF |
| EXIST VERT CHENOWETH #21-2 - Wellbore #1 - Desig | 16,797.21 | 6,764.99 | 2,138.46 | 1,744.44 | 5.427 | CC |
| EXIST VERT CHENOWETH #21-2 - Wellbore #1 - Desig | 16,900.00 | 6,763.90 | 2,140.93 | 1,744.24 | 5.397 | ES |
| EXIST VERT CHENOWETH #21-2 - Wellbore #1 - Desig | 17,000.00 | 6,762.84 | 2,148.05 | 1,749.41 | 5.388 | SF |
| EXIST VERT CLEMONS #15-1 - Wellbore #1 - Wellbore | 18,584.07 | 6,683.38 | 1,218.58 | 1,029.24 | 6.436 | CC, ES, SF |
| EXIST VERT CPC-HARLESS #17-2 - Wellbore #1 - Well | 11,648.89 | 6,774.84 | 1,907.42 | 1,787.58 | 15.917 | CC |
| EXIST VERT CPC-HARLESS #17-2 - Wellbore #1 - Well | 11,700.00 | 6,773.32 | 1,908.10 | 1,786.91 | 15.745 | ES |
| EXIST VERT CPC-HARLESS #17-2 - Wellbore #1 - Well | 12,000.00 | 6,764.52 | 1,939.43 | 1,812.12 | 15.233 | SF |
| EXIST VERT MORIAH #17-15 - Wellbore #1 - Wellbore # | 12,127.58 | 6,850.41 | 2,348.23 | 2,215.47 | 17.688 | CC |
| EXIST VERT MORIAH #17-15 - Wellbore #1 - Wellbore # | 12,200.00 | 6,852.90 | 2,349.34 | 2,214.69 | 17.447 | ES |
| EXIST VERT MORIAH #17-15 - Wellbore #1 - Wellbore # | 12,700.00 | 6,871.85 | 2,416.92 | 2,272.93 | 16.785 | SF |
| EXIST VERT OCOMA C17-15 - Wellbore #1 - Wellbore # | 11,439.54 | 6,850.85 | 910.86 | 796.49 | 7.964 | CC, ES |
| EXIST VERT OCOMA C17-15 - Wellbore #1 - Wellbore # | 11,500.00 | 6,851.91 | 912.86 | 797.39 | 7.906 | SF |
| EXIST VERT RYANN STATE C16-21 - Wellbore #1 - Des | 16,437.93 | 6,755.77 | 724.10 | 340.17 | 1.886 | CC, ES, SF |
| EXIST VERT RYANN STATE C16-23 - Wellbore #1 - Des | 17,827.80 | 6,733.07 | 153.55 | -267.39 | 0.365 | Level 3, CC, ES, SF |
| EXIST VERT RYANN STATE C16-25 - Wellbore #1 - Des | 15,152.21 | 6,765.25 | 101.34 | -245.40 | 0.292 | Level 3, CC, ES, SF |
| EXIST VERT RYANN STATE C21-27 - Wellbore #1 - We | 17,574.67 | 6,727.56 | 1,340.98 | 1,059.09 | 4.757 | CC |
| EXIST VERT RYANN STATE C21-27 - Wellbore #1 - We | 17,600.00 | 6,727.45 | 1,341.22 | 1,058.59 | 4.746 | ES |
| EXIST VERT RYANN STATE C21-27 - Wellbore #1 - We | 17,700.00 | 6,727.01 | 1,346.82 | 1,062.51 | 4.737 | SF |
| EXIST VERT SANDY HILLS FARM C17-5 - Wellbore #1 | 1,743.27 | 1,706.90 | 565.83 | 559.83 | 94.307 | CC, ES |
| EXIST VERT SANDY HILLS FARM C17-5 - Wellbore #1 | 9,600.00 | 6,882.50 | 2,059.21 | 1,989.86 | 29.694 | SF |
| EXIST VERT SH FARMS C17-19 - Wellbore #1 - Wellbo | 0.00 | 0.00 | 806.04 | | | |
| EXIST VERT SH FARMS C17-19 - Wellbore #1 - Wellbo | 900.00 | 884.74 | 807.81 | 805.42 | 337.605 | ES |
| EXIST VERT SH FARMS C17-19 - Wellbore #1 - Wellbo | 10,400.00 | 6,856.25 | 2,424.39 | 2,339.16 | 28.446 | SF |
| EXIST VERT STATE 16-1014 - Wellbore #1 - Design #1 | 17,146.61 | 6,752.29 | 214.04 | -188.55 | 0.532 | Level 3, CC, ES, SF |
| EXIST VERT STATE 16-1114 - Wellbore #1 - Design #1 | 15,434.78 | 6,761.31 | 641.32 | 286.43 | 1.807 | CC, ES |
| EXIST VERT STATE 16-1114 - Wellbore #1 - Design #1 | 15,500.00 | 6,760.62 | 645.36 | 287.22 | 1.802 | SF |
| EXIST VERT STATE 16-1414 - Wellbore #1 - Design #1 | 15,457.65 | 6,769.07 | 1,048.63 | 692.92 | 2.948 | CC, ES, SF |
| EXIST VERT STATE 16-1514 - Wellbore #1 - Design #1 | 16,987.65 | 6,739.98 | 765.13 | 366.32 | 1.919 | CC |
| EXIST VERT STATE 16-1514 - Wellbore #1 - Design #1 | 17,000.00 | 6,739.84 | 765.23 | 366.05 | 1.917 | ES, SF |
| EXIST VERT STATE 16-1614 - Wellbore #1 - Design #1 | 18,301.37 | 6,725.02 | 776.75 | 341.72 | 1.786 | CC, ES, SF |
| EXIST VERT STATE 16-514 - Wellbore #1 - Wellbore #1 | 14,667.43 | 6,767.36 | 1,882.66 | 1,683.35 | 9.446 | CC |
| EXIST VERT STATE 16-514 - Wellbore #1 - Wellbore #1 | 14,700.00 | 6,767.03 | 1,882.94 | 1,683.33 | 9.433 | ES |
| EXIST VERT STATE 16-514 - Wellbore #1 - Wellbore #1 | 14,750.57 | 6,766.51 | 1,884.49 | 1,684.54 | 9.425 | SF |
| EXIST VERT STATE A 41-16 - Wellbore #1 - Design #1 | 17,809.66 | 6,704.26 | 2,504.07 | 2,083.16 | 5.949 | CC |
| EXIST VERT STATE A 41-16 - Wellbore #1 - Design #1 | 17,900.00 | 6,703.30 | 2,505.70 | 2,082.66 | 5.923 | ES |

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

Anticollision Report

| | | | |
|---------------------------|---|-------------------------------------|-----------------------|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well DRAKE 18N |
| Project: | WELD COUNTY, COLORADO (TRUE) | TVD Reference: | KB 23ft @ 4756.00usft |
| Reference Site: | SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE) | MD Reference: | KB 23ft @ 4756.00usft |
| Site Error: | 0.00 usft | North Reference: | True |
| Reference Well: | DRAKE 18N | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.00 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | Database 1 |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Summary | | | | | | |
|--|---------------------------------|------------------------------|---------------------------------|----------------------------------|-------------------|---------|
| Site Name | Reference Measured Depth (usft) | Offset Measured Depth (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Separation Factor | Warning |
| Offset Well - Wellbore - Design | | | | | | |
| SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE) | | | | | | |
| EXIST VERT STATE A 41-16 - Wellbore #1 - Design #1 | 18,000.00 | 6,702.23 | 2,511.30 | 2,086.39 | 5.910 | SF |
| EXIST VERT THOUTT #1 - Wellbore #1 - Wellbore #1 | 18,098.01 | 6,725.70 | 2,185.65 | 1,889.46 | 7.379 | CC |
| EXIST VERT THOUTT #1 - Wellbore #1 - Wellbore #1 | 18,200.00 | 6,725.87 | 2,188.03 | 1,889.16 | 7.321 | ES |
| EXIST VERT THOUTT #1 - Wellbore #1 - Wellbore #1 | 18,300.00 | 6,726.05 | 2,194.97 | 1,894.19 | 7.298 | SF |
| EXIST VERT UPRR OCOMA C17-4 - Wellbore #1 - Desi | 10,283.70 | 6,852.38 | 826.35 | 605.18 | 3.736 | CC |
| EXIST VERT UPRR OCOMA C17-4 - Wellbore #1 - Desi | 10,300.00 | 6,852.21 | 826.51 | 605.10 | 3.733 | ES, SF |

| Offset Design: SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE) - GEORGE 01N - ORIGINAL WELLBORE - PROPOSAL #1 | | | | | | | | | | | | | Offset Site Error: | 0.00 usft | |
|--|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-----------------|--------------|------------------------|-------------------------|---------------------------|-------------------|--------------------|--------------------|-----------|
| Survey Program: | | 0-MWD | | Offset | | | Semi Major Axis | | Offset Wellbore Centre | | Rule Assigned: | | | Offset Well Error: | 0.00 usft |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning | | |
| 0.00 | 0.00 | 17,189.49 | 6,852.96 | 0.00 | 268.21 | 179.01 | -3,087.52 | 53.10 | 7,531.15 | | | | | | |
| 100.00 | 100.00 | 17,190.25 | 6,852.97 | 0.09 | 268.23 | 179.03 | -3,087.52 | 52.35 | 7,440.06 | 7,302.43 | 137.63 | 54.060 | | | |
| 200.00 | 200.00 | 17,191.00 | 6,852.98 | 0.31 | 268.25 | 179.04 | -3,087.52 | 51.59 | 7,349.20 | 7,210.56 | 138.63 | 53.012 | | | |
| 300.00 | 300.00 | 17,191.76 | 6,852.98 | 0.54 | 268.27 | 179.06 | -3,087.52 | 50.84 | 7,258.57 | 7,118.90 | 139.67 | 51.968 | | | |
| 400.00 | 400.00 | 17,192.51 | 6,852.99 | 0.76 | 268.29 | 179.07 | -3,087.52 | 50.09 | 7,168.20 | 7,027.45 | 140.75 | 50.928 | | | |
| 500.00 | 500.00 | 17,193.27 | 6,852.99 | 0.99 | 268.31 | 179.08 | -3,087.52 | 49.33 | 7,078.09 | 6,936.23 | 141.86 | 49.895 | | | |
| 600.00 | 600.00 | 17,194.02 | 6,853.00 | 1.21 | 268.33 | 179.10 | -3,087.52 | 48.58 | 6,988.24 | 6,845.24 | 143.00 | 48.870 | | | |
| 700.00 | 700.00 | 17,194.78 | 6,853.00 | 1.44 | 268.35 | 179.11 | -3,087.52 | 47.82 | 6,898.67 | 6,754.50 | 144.17 | 47.849 | | | |
| 800.00 | 800.00 | 17,195.53 | 6,853.01 | 1.66 | 268.37 | 179.13 | -3,087.52 | 47.07 | 6,809.40 | 6,664.00 | 145.40 | 46.833 | | | |
| 900.00 | 900.00 | 17,196.28 | 6,853.02 | 1.88 | 268.39 | 179.14 | -3,087.52 | 46.31 | 6,720.42 | 6,573.77 | 146.66 | 45.824 | | | |
| 1,000.00 | 999.95 | 17,199.12 | 6,853.04 | 2.09 | 268.47 | -58.41 | -3,087.52 | 43.48 | 6,631.08 | 6,483.13 | 147.95 | 44.819 | | | |
| 1,100.00 | 1,099.63 | 17,206.11 | 6,853.09 | 2.29 | 268.66 | -63.77 | -3,087.53 | 36.49 | 6,540.82 | 6,391.55 | 149.27 | 43.819 | | | |
| 1,200.00 | 1,198.77 | 17,217.24 | 6,853.17 | 2.51 | 268.97 | -69.58 | -3,087.53 | 25.36 | 6,449.84 | 6,299.25 | 150.59 | 42.831 | | | |
| 1,300.00 | 1,297.08 | 17,232.47 | 6,853.29 | 2.78 | 269.39 | -75.76 | -3,087.54 | 10.13 | 6,358.35 | 6,206.43 | 151.92 | 41.854 | | | |
| 1,400.00 | 1,394.31 | 17,251.76 | 6,853.43 | 3.13 | 269.92 | -82.19 | -3,087.55 | -9.17 | 6,266.54 | 6,113.29 | 153.26 | 40.889 | | | |
| 1,500.00 | 1,490.18 | 17,275.07 | 6,853.61 | 3.57 | 270.56 | -88.72 | -3,087.56 | -32.47 | 6,174.64 | 6,020.04 | 154.60 | 39.941 | | | |
| 1,600.00 | 1,584.43 | 17,302.32 | 6,853.82 | 4.11 | 271.30 | -95.19 | -3,087.57 | -59.72 | 6,082.83 | 5,926.89 | 155.94 | 39.006 | | | |
| 1,700.00 | 1,676.81 | 17,333.45 | 6,854.05 | 4.76 | 272.16 | -101.45 | -3,087.58 | -90.85 | 5,991.34 | 5,834.03 | 157.30 | 38.088 | | | |
| 1,800.00 | 1,767.06 | 17,368.36 | 6,854.31 | 5.53 | 273.12 | -107.38 | -3,087.59 | -125.76 | 5,900.36 | 5,741.69 | 158.67 | 37.186 | | | |
| 1,900.00 | 1,854.93 | 17,406.97 | 6,854.61 | 6.42 | 274.18 | -112.89 | -3,087.61 | -164.36 | 5,810.12 | 5,650.08 | 160.04 | 36.303 | | | |
| 1,961.10 | 1,907.35 | 17,432.33 | 6,854.80 | 7.02 | 274.88 | -116.03 | -3,087.62 | -189.72 | 5,755.44 | 5,594.56 | 160.88 | 35.774 | | | |
| 2,000.00 | 1,940.40 | 17,448.89 | 6,854.92 | 7.41 | 275.33 | -115.91 | -3,087.63 | -206.29 | 5,720.75 | 5,559.33 | 161.42 | 35.439 | | | |
| 2,100.00 | 2,025.35 | 17,491.48 | 6,855.24 | 8.45 | 276.50 | -115.58 | -3,087.65 | -248.87 | 5,631.61 | 5,468.75 | 162.86 | 34.580 | | | |
| 2,200.00 | 2,110.31 | 17,534.06 | 6,855.57 | 9.51 | 277.67 | -115.25 | -3,087.66 | -291.46 | 5,542.51 | 5,378.17 | 164.33 | 33.727 | | | |
| 2,300.00 | 2,195.27 | 17,576.65 | 6,855.89 | 10.59 | 278.84 | -114.91 | -3,087.68 | -334.04 | 5,453.45 | 5,287.60 | 165.85 | 32.882 | | | |
| 2,400.00 | 2,280.23 | 17,619.24 | 6,856.21 | 11.67 | 280.02 | -114.55 | -3,087.70 | -376.63 | 5,364.44 | 5,197.04 | 167.40 | 32.045 | | | |
| 2,500.00 | 2,365.19 | 17,661.82 | 6,856.53 | 12.76 | 281.19 | -114.19 | -3,087.72 | -419.21 | 5,275.49 | 5,106.49 | 169.00 | 31.217 | | | |
| 2,600.00 | 2,450.15 | 17,704.41 | 6,856.85 | 13.86 | 282.36 | -113.82 | -3,087.73 | -461.80 | 5,186.58 | 5,015.96 | 170.61 | 30.399 | | | |
| 2,700.00 | 2,535.11 | 17,746.99 | 6,857.17 | 14.96 | 283.53 | -113.43 | -3,087.75 | -504.38 | 5,097.73 | 4,925.46 | 172.27 | 29.591 | | | |
| 2,800.00 | 2,620.07 | 17,789.58 | 6,857.49 | 16.07 | 284.70 | -113.04 | -3,087.77 | -546.97 | 5,008.94 | 4,834.96 | 173.97 | 28.791 | | | |
| 2,900.00 | 2,705.02 | 17,832.17 | 6,857.82 | 17.17 | 285.88 | -112.63 | -3,087.78 | -589.55 | 4,920.21 | 4,744.50 | 175.71 | 28.002 | | | |
| 3,000.00 | 2,789.98 | 17,874.75 | 6,858.14 | 18.28 | 287.05 | -112.20 | -3,087.80 | -632.14 | 4,831.54 | 4,654.07 | 177.47 | 27.224 | | | |
| 3,100.00 | 2,874.94 | 17,917.34 | 6,858.46 | 19.40 | 288.22 | -111.77 | -3,087.82 | -674.72 | 4,742.95 | 4,563.67 | 179.28 | 26.456 | | | |
| 3,200.00 | 2,959.90 | 17,959.93 | 6,858.78 | 20.51 | 289.39 | -111.32 | -3,087.84 | -717.31 | 4,654.42 | 4,473.30 | 181.12 | 25.698 | | | |
| 3,300.00 | 3,044.86 | 18,002.51 | 6,859.10 | 21.63 | 290.57 | -110.86 | -3,087.85 | -759.89 | 4,565.97 | 4,382.97 | 183.01 | 24.950 | | | |
| 3,400.00 | 3,129.82 | 18,045.10 | 6,859.42 | 22.74 | 291.74 | -110.38 | -3,087.87 | -802.48 | 4,477.61 | 4,292.68 | 184.93 | 24.212 | | | |

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