

PDC ENERGY

**WELD COUNTY, COLORADO
SW SW SEC. 28 T5N R67W 6th P.M.
KINZER 28H-432**

**ORIGINAL WELLBORE
PROPOSAL #1**

Anticollision Report

25 March, 2016



Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| 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 100.0usft | Error Model: | ISCWSA |
| Depth Range: | Unlimited | Scan Method: | Closest Approach 3D |
| Results Limited by: | Maximum center-center distance of 10,000.0 us | Error Surface: | Elliptical Conic |
| Warning Levels Evaluated at: | 2.00 Sigma | Casing Method: | Not applied |

| | | | | |
|----------------------------|------------------------|---------------------------------|------------------|--------------------|
| Survey Tool Program | Date 25/03/2016 | | | |
| From (usft) | To (usft) | Survey (Wellbore) | Tool Name | Description |
| 0.0 | 12,054.0 | 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 SW SEC. 28 T5N R67W 6th P.M. | | | | | | |
| ABDN VERT OSTER POOLING UNIT #1 - Wellbore #1 - | 11,494.1 | 7,077.5 | 231.8 | -37.5 | 0.861 | Level 1, CC |
| ABDN VERT OSTER POOLING UNIT #1 - Wellbore #1 - | 11,500.0 | 7,077.5 | 231.9 | -37.6 | 0.860 | Level 1, ES, SF |
| EXIST DD BINDER 20-28 - Wellbore #1 - Wellbore #1 | 10,817.0 | 7,093.8 | 460.6 | 335.0 | 3.667 | CC, ES |
| EXIST DD BINDER 20-28 - Wellbore #1 - Wellbore #1 | 10,900.0 | 7,094.1 | 468.0 | 340.1 | 3.659 | SF |
| EXIST DD KINZER 28KD - Wellbore #1 - Wellbore #1 | 8,060.6 | 7,193.6 | 1,869.6 | 1,817.3 | 35.765 | CC |
| EXIST DD KINZER 28KD - Wellbore #1 - Wellbore #1 | 8,100.0 | 7,193.6 | 1,870.0 | 1,816.8 | 35.117 | ES |
| EXIST DD KINZER 28KD - Wellbore #1 - Wellbore #1 | 10,000.0 | 7,193.8 | 2,693.8 | 2,589.6 | 25.843 | SF |
| EXIST DD KINZER 28LD - Wellbore #1 - Wellbore #1 | 849.4 | 849.6 | 322.1 | 318.5 | 90.465 | CC, ES |
| EXIST DD KINZER 28LD - Wellbore #1 - Wellbore #1 | 8,300.0 | 7,051.8 | 807.6 | 746.9 | 13.301 | SF |
| EXIST VERT BINDER 10-28 - Wellbore #1 - Design #1 | 10,056.0 | 7,089.5 | 1,303.9 | 1,074.4 | 5.682 | CC |
| EXIST VERT BINDER 10-28 - Wellbore #1 - Design #1 | 10,100.0 | 7,089.5 | 1,304.7 | 1,074.0 | 5.655 | ES |
| EXIST VERT BINDER 10-28 - Wellbore #1 - Design #1 | 10,300.0 | 7,089.5 | 1,326.6 | 1,090.3 | 5.615 | SF |
| EXIST VERT BINDER 15-28 - Wellbore #1 - Design #1 | 9,953.1 | 7,039.5 | 390.1 | 162.9 | 1.717 | CC, ES, SF |
| EXIST VERT BINDER 16-28 - Wellbore #1 - Design #1 | 11,524.7 | 7,019.5 | 204.1 | -66.5 | 0.754 | Level 1, CC, ES, SF |
| EXIST VERT BINDER 9-28 - Wellbore #1 - Design #1 | 11,638.7 | 7,079.5 | 1,304.2 | 1,030.8 | 4.771 | CC |
| EXIST VERT BINDER 9-28 - Wellbore #1 - Design #1 | 11,700.0 | 7,079.5 | 1,305.6 | 1,030.6 | 4.747 | ES |
| EXIST VERT BINDER 9-28 - Wellbore #1 - Design #1 | 11,800.0 | 7,079.5 | 1,314.1 | 1,036.3 | 4.730 | SF |
| EXIST VERT HELEN 1 - Wellbore #1 - Design #1 | 11,479.7 | 7,104.5 | 2,437.2 | 2,168.0 | 9.055 | CC |
| EXIST VERT HELEN 1 - Wellbore #1 - Design #1 | 11,500.0 | 7,104.5 | 2,437.2 | 2,167.5 | 9.036 | ES |
| EXIST VERT HELEN 1 - Wellbore #1 - Design #1 | 12,054.1 | 7,104.5 | 2,503.9 | 2,218.7 | 8.780 | SF |
| EXIST VERT KINZER 13-28 - Wellbore #1 - Design #1 | 7,321.8 | 7,009.5 | 1,387.5 | 1,227.4 | 8.665 | CC |
| EXIST VERT KINZER 13-28 - Wellbore #1 - Design #1 | 7,350.0 | 7,013.8 | 1,387.8 | 1,227.2 | 8.638 | ES |
| EXIST VERT KINZER 13-28 - Wellbore #1 - Design #1 | 7,600.0 | 7,020.5 | 1,415.0 | 1,249.5 | 8.547 | SF |
| EXIST VERT KINZER 28-2 - Wellbore #1 - Design #1 | 800.0 | 792.5 | 330.8 | 313.6 | 19.172 | CC |
| EXIST VERT KINZER 28-2 - Wellbore #1 - Design #1 | 7,406.0 | 6,976.3 | 397.6 | 236.2 | 2.464 | ES, SF |
| EXIST VERT KINZER 28A - Wellbore #1 - Design #1 | 7,927.0 | 7,063.5 | 3,001.5 | 2,828.0 | 17.304 | CC |
| EXIST VERT KINZER 28A - Wellbore #1 - Design #1 | 8,000.0 | 7,063.5 | 3,002.3 | 2,827.1 | 17.134 | ES |
| EXIST VERT KINZER 28A - Wellbore #1 - Design #1 | 9,400.0 | 7,063.5 | 3,343.4 | 3,131.2 | 15.754 | SF |
| EXIST VERT KINZER 28B - Wellbore #1 - Wellbore #1 | 7,862.3 | 7,022.0 | 844.3 | 808.7 | 23.706 | CC |
| EXIST VERT KINZER 28B - Wellbore #1 - Wellbore #1 | 7,900.0 | 7,021.5 | 845.1 | 808.6 | 23.151 | ES |
| EXIST VERT KINZER 28B - Wellbore #1 - Wellbore #1 | 8,400.0 | 7,014.9 | 1,000.9 | 951.8 | 20.384 | SF |
| EXIST VERT KINZER 28-1 - Wellbore #1 - Design #1 | 7,378.1 | 7,059.1 | 2,418.5 | 2,256.9 | 14.962 | CC |
| EXIST VERT KINZER 28-1 - Wellbore #1 - Design #1 | 7,400.0 | 7,060.9 | 2,418.6 | 2,256.6 | 14.925 | ES |
| EXIST VERT KINZER 28-1 - Wellbore #1 - Design #1 | 8,300.0 | 7,062.5 | 2,588.3 | 2,405.5 | 14.160 | SF |
| EXIST VERT MELLON 28-1 - Wellbore #1 - Design #1 | 8,955.3 | 7,054.5 | 1,078.0 | 877.9 | 5.388 | CC |
| EXIST VERT MELLON 28-1 - Wellbore #1 - Design #1 | 9,000.0 | 7,054.5 | 1,078.9 | 877.6 | 5.361 | ES |
| EXIST VERT MELLON 28-1 - Wellbore #1 - Design #1 | 9,100.0 | 7,054.5 | 1,087.6 | 883.7 | 5.332 | SF |

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

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
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| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| 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 SW SEC. 28 T5N R67W 6th P.M. | | | | | | |
| EXIST VERT MELLON 28-2 - Wellbore #1 - Design #1 | 8,713.0 | 7,011.5 | 306.4 | 113.3 | 1.587 | CC, ES, SF |
| EXIST VERT MELLON 28-4 - Wellbore #1 - Design #1 | 8,788.1 | 7,085.5 | 2,236.4 | 2,041.6 | 11.477 | CC |
| EXIST VERT MELLON 28-4 - Wellbore #1 - Design #1 | 8,800.0 | 7,085.5 | 2,236.5 | 2,041.3 | 11.458 | ES |
| EXIST VERT MELLON 28-4 - Wellbore #1 - Design #1 | 9,500.0 | 7,085.5 | 2,347.0 | 2,132.9 | 10.959 | SF |
| EXIST VERT ROGER 1 - Wellbore #1 - Design #1 | 10,136.6 | 7,099.5 | 2,429.7 | 2,322.5 | 22.666 | CC |
| EXIST VERT ROGER 1 - Wellbore #1 - Design #1 | 10,200.0 | 7,099.5 | 2,430.5 | 2,321.5 | 22.309 | ES |
| EXIST VERT ROGER 1 - Wellbore #1 - Design #1 | 11,700.0 | 7,099.5 | 2,889.2 | 2,738.6 | 19.182 | SF |
| KINZER 28G-232 - ORIGINAL WELLBORE - PROPOSA | 300.0 | 300.0 | 75.2 | 74.1 | 68.808 | CC |
| KINZER 28G-232 - ORIGINAL WELLBORE - PROPOSA | 400.0 | 399.6 | 75.5 | 74.0 | 48.938 | ES |
| KINZER 28G-232 - ORIGINAL WELLBORE - PROPOSA | 12,054.1 | 12,140.3 | 1,473.4 | 1,185.0 | 5.110 | SF |
| KINZER 28G-332 - ORIGINAL WELLBORE - PROPOSA | 400.0 | 400.0 | 58.5 | 57.0 | 37.926 | CC |
| KINZER 28G-332 - ORIGINAL WELLBORE - PROPOSA | 500.0 | 499.6 | 58.8 | 56.9 | 29.543 | ES |
| KINZER 28G-332 - ORIGINAL WELLBORE - PROPOSA | 12,054.1 | 12,132.8 | 1,159.3 | 870.6 | 4.015 | SF |
| KINZER 28H-202 - ORIGINAL WELLBORE - PROPOSA | 700.0 | 700.0 | 13.9 | 11.0 | 4.819 | CC, ES |
| KINZER 28H-202 - ORIGINAL WELLBORE - PROPOSA | 12,054.1 | 11,879.4 | 398.1 | 156.6 | 1.649 | SF |
| KINZER 28H-212 - ORIGINAL WELLBORE - PROPOSA | 500.0 | 500.0 | 44.6 | 42.6 | 22.377 | CC |
| KINZER 28H-212 - ORIGINAL WELLBORE - PROPOSA | 600.0 | 599.6 | 45.0 | 42.6 | 18.434 | ES |
| KINZER 28H-212 - ORIGINAL WELLBORE - PROPOSA | 12,054.1 | 11,970.4 | 904.1 | 621.6 | 3.200 | SF |
| KINZER 28H-302 - ORIGINAL WELLBORE - PROPOSA | 600.0 | 600.0 | 27.9 | 25.4 | 11.411 | CC, ES |
| KINZER 28H-302 - ORIGINAL WELLBORE - PROPOSA | 12,054.1 | 11,997.5 | 633.1 | 351.0 | 2.244 | SF |
| KINZER 28I-202 - ORIGINAL WELLBORE - PROPOSAL | 800.0 | 800.0 | 30.7 | 27.3 | 9.175 | CC, ES |
| KINZER 28I-202 - ORIGINAL WELLBORE - PROPOSAL | 12,054.1 | 11,835.5 | 716.9 | 442.5 | 2.612 | SF |
| KINZER 28I-312 - ORIGINAL WELLBORE - PROPOSAL | 800.0 | 800.0 | 16.7 | 13.4 | 5.004 | CC, ES |
| KINZER 28I-312 - ORIGINAL WELLBORE - PROPOSAL | 12,054.1 | 11,938.6 | 376.3 | 111.5 | 1.421 | Level 3, SF |

Offset Design

| Survey Program: 0-INC | | | | | | | | | | Offset Well Error: | | | | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|---------------------|------------------------|-------------------------|---------|---------------------------|-------------------|----------|
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | Warning | | | |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Centre +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | | 92.5 | 92.5 | 0.0 | 0.0 | 87.38 | 202.2 | 4,416.8 | 4,421.5 | | | | |
| 100.0 | 100.0 | | 192.5 | 192.5 | 0.1 | 1.2 | 87.38 | 202.2 | 4,416.8 | 4,421.5 | 4,420.2 | 1.25 | 3,523.566 | |
| 200.0 | 200.0 | | 292.5 | 292.5 | 0.3 | 3.4 | 87.38 | 202.2 | 4,416.8 | 4,421.5 | 4,417.8 | 3.68 | 1,201.277 | |
| 300.0 | 300.0 | | 392.5 | 392.5 | 0.5 | 5.5 | 87.38 | 202.2 | 4,416.8 | 4,421.5 | 4,415.5 | 6.00 | 737.185 | |
| 400.0 | 400.0 | | 492.5 | 492.5 | 0.8 | 7.5 | 87.38 | 202.2 | 4,416.8 | 4,421.5 | 4,413.2 | 8.27 | 534.826 | |
| 500.0 | 500.0 | | 592.5 | 592.5 | 1.0 | 9.5 | 87.38 | 202.2 | 4,416.8 | 4,421.5 | 4,410.9 | 10.52 | 420.220 | |
| 600.0 | 600.0 | | 692.5 | 692.5 | 1.2 | 11.5 | 87.38 | 202.2 | 4,416.8 | 4,421.5 | 4,408.7 | 12.77 | 346.245 | |
| 700.0 | 700.0 | | 792.5 | 792.5 | 1.4 | 13.6 | 87.38 | 202.2 | 4,416.8 | 4,421.5 | 4,406.5 | 15.01 | 294.489 | |
| 800.0 | 800.0 | | 892.5 | 892.5 | 1.7 | 15.6 | 87.38 | 202.2 | 4,416.8 | 4,421.5 | 4,404.2 | 17.26 | 256.226 | |
| 900.0 | 900.0 | | 992.5 | 992.5 | 1.9 | 17.6 | 125.92 | 202.2 | 4,416.8 | 4,422.5 | 4,403.0 | 19.49 | 226.922 | |
| 1,000.0 | 999.8 | 1,092.3 | 1,092.3 | 2.1 | 19.6 | 125.92 | 202.2 | 4,416.8 | 4,425.6 | 4,403.9 | 21.71 | 203.870 | | |
| 1,100.0 | 1,099.5 | 1,192.0 | 1,192.0 | 2.4 | 21.6 | 125.93 | 202.2 | 4,416.8 | 4,430.7 | 4,406.8 | 23.92 | 185.266 | | |
| 1,200.0 | 1,198.7 | 1,291.2 | 1,291.2 | 2.6 | 23.6 | 125.94 | 202.2 | 4,416.8 | 4,437.9 | 4,411.8 | 26.11 | 169.948 | | |
| 1,300.0 | 1,297.5 | 1,390.0 | 1,390.0 | 2.9 | 25.6 | 125.95 | 202.2 | 4,416.8 | 4,447.1 | 4,418.8 | 28.30 | 157.119 | | |
| 1,400.0 | 1,395.6 | 1,488.1 | 1,488.1 | 3.2 | 27.6 | 125.97 | 202.2 | 4,416.8 | 4,458.5 | 4,428.0 | 30.49 | 146.218 | | |
| 1,400.2 | 1,395.8 | 1,488.3 | 1,488.3 | 3.2 | 27.6 | 125.97 | 202.2 | 4,416.8 | 4,458.5 | 4,428.0 | 30.50 | 146.196 | | |
| 1,500.0 | 1,493.4 | 1,585.9 | 1,585.9 | 3.6 | 29.6 | 126.18 | 202.2 | 4,416.8 | 4,470.9 | 4,438.1 | 32.76 | 136.488 | | |
| 1,600.0 | 1,591.2 | 1,683.7 | 1,683.7 | 3.9 | 31.5 | 126.39 | 202.2 | 4,416.8 | 4,483.4 | 4,448.4 | 35.04 | 127.965 | | |
| 1,700.0 | 1,689.1 | 1,781.6 | 1,781.6 | 4.3 | 33.5 | 126.60 | 202.2 | 4,416.8 | 4,495.9 | 4,458.6 | 37.33 | 120.452 | | |
| 1,800.0 | 1,786.9 | 1,879.4 | 1,879.4 | 4.7 | 35.5 | 126.81 | 202.2 | 4,416.8 | 4,508.5 | 4,468.9 | 39.62 | 113.788 | | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 1,900.0 | 1,884.7 | 1,977.2 | 1,977.2 | 5.2 | 37.4 | 127.02 | 202.2 | 4,416.8 | 4,521.2 | 4,479.3 | 41.92 | 107.841 | |
| 2,000.0 | 1,982.5 | 2,075.0 | 2,075.0 | 5.6 | 39.4 | 127.22 | 202.2 | 4,416.8 | 4,533.9 | 4,489.7 | 44.23 | 102.505 | |
| 2,100.0 | 2,080.3 | 2,172.8 | 2,172.8 | 6.0 | 41.4 | 127.43 | 202.2 | 4,416.8 | 4,546.7 | 4,500.2 | 46.54 | 97.693 | |
| 2,200.0 | 2,178.1 | 2,270.6 | 2,270.6 | 6.4 | 43.3 | 127.63 | 202.2 | 4,416.8 | 4,559.6 | 4,510.7 | 48.85 | 93.333 | |
| 2,300.0 | 2,275.9 | 2,368.4 | 2,368.4 | 6.9 | 45.3 | 127.84 | 202.2 | 4,416.8 | 4,572.5 | 4,521.3 | 51.17 | 89.366 | |
| 2,400.0 | 2,373.8 | 2,466.3 | 2,466.3 | 7.3 | 47.3 | 128.04 | 202.2 | 4,416.8 | 4,585.4 | 4,532.0 | 53.48 | 85.741 | |
| 2,500.0 | 2,471.6 | 2,564.1 | 2,564.1 | 7.7 | 49.2 | 128.24 | 202.2 | 4,416.8 | 4,598.5 | 4,542.7 | 55.79 | 82.417 | |
| 2,600.0 | 2,569.4 | 2,661.9 | 2,661.9 | 8.2 | 51.2 | 128.44 | 202.2 | 4,416.8 | 4,611.5 | 4,553.4 | 58.11 | 79.359 | |
| 2,700.0 | 2,667.2 | 2,759.7 | 2,759.7 | 8.6 | 53.2 | 128.64 | 202.2 | 4,416.8 | 4,624.7 | 4,564.2 | 60.43 | 76.535 | |
| 2,800.0 | 2,765.0 | 2,857.5 | 2,857.5 | 9.0 | 55.1 | 128.84 | 202.2 | 4,416.8 | 4,637.9 | 4,575.1 | 62.74 | 73.922 | |
| 2,900.0 | 2,862.8 | 2,955.3 | 2,955.3 | 9.5 | 57.1 | 129.04 | 202.2 | 4,416.8 | 4,651.1 | 4,586.1 | 65.06 | 71.495 | |
| 3,000.0 | 2,960.6 | 3,053.1 | 3,053.1 | 9.9 | 59.1 | 129.23 | 202.2 | 4,416.8 | 4,664.4 | 4,597.0 | 67.37 | 69.236 | |
| 3,100.0 | 3,058.4 | 3,150.9 | 3,150.9 | 10.4 | 61.0 | 129.43 | 202.2 | 4,416.8 | 4,677.8 | 4,608.1 | 69.68 | 67.129 | |
| 3,200.0 | 3,156.3 | 3,248.8 | 3,248.8 | 10.8 | 63.0 | 129.62 | 202.2 | 4,416.8 | 4,691.2 | 4,619.2 | 72.00 | 65.159 | |
| 3,300.0 | 3,254.1 | 3,346.6 | 3,346.6 | 11.3 | 65.0 | 129.81 | 202.2 | 4,416.8 | 4,704.6 | 4,630.3 | 74.31 | 63.312 | |
| 3,400.0 | 3,351.9 | 3,444.4 | 3,444.4 | 11.7 | 66.9 | 130.00 | 202.2 | 4,416.8 | 4,718.2 | 4,641.5 | 76.62 | 61.579 | |
| 3,465.5 | 3,416.0 | 3,508.5 | 3,508.5 | 12.0 | 68.2 | 130.13 | 202.2 | 4,416.8 | 4,727.0 | 4,648.9 | 78.13 | 60.499 | |
| 3,500.0 | 3,449.7 | 3,542.2 | 3,542.2 | 12.1 | 68.9 | 130.26 | 202.2 | 4,416.8 | 4,731.6 | 4,652.6 | 78.98 | 59.907 | |
| 3,600.0 | 3,548.1 | 3,640.6 | 3,640.6 | 12.5 | 70.9 | 130.61 | 202.2 | 4,416.8 | 4,743.3 | 4,661.9 | 81.39 | 58.281 | |
| 3,700.0 | 3,647.1 | 3,739.6 | 3,739.6 | 12.7 | 72.9 | 130.88 | 202.2 | 4,416.8 | 4,752.8 | 4,669.1 | 83.76 | 56.746 | |
| 3,800.0 | 3,746.5 | 3,839.0 | 3,839.0 | 13.0 | 74.9 | 131.09 | 202.2 | 4,416.8 | 4,760.1 | 4,674.0 | 86.08 | 55.299 | |
| 3,900.0 | 3,846.2 | 3,938.7 | 3,938.7 | 13.2 | 76.9 | 131.23 | 202.2 | 4,416.8 | 4,765.0 | 4,676.7 | 88.35 | 53.935 | |
| 4,000.0 | 3,946.1 | 4,038.6 | 4,038.6 | 13.3 | 78.9 | 131.31 | 202.2 | 4,416.8 | 4,767.7 | 4,677.1 | 90.56 | 52.649 | |
| 4,065.7 | 4,011.8 | 4,104.3 | 4,104.3 | 13.4 | 80.2 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,676.6 | 91.61 | 52.048 | |
| 4,100.0 | 4,046.1 | 4,138.6 | 4,138.6 | 13.5 | 80.9 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,675.8 | 92.35 | 51.631 | |
| 4,200.0 | 4,146.1 | 4,238.6 | 4,238.6 | 13.6 | 82.9 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,673.6 | 94.53 | 50.440 | |
| 4,300.0 | 4,246.1 | 4,338.6 | 4,338.6 | 13.8 | 84.9 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,671.5 | 96.71 | 49.302 | |
| 4,400.0 | 4,346.1 | 4,438.6 | 4,438.6 | 13.9 | 86.9 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,669.3 | 98.90 | 48.214 | |
| 4,500.0 | 4,446.1 | 4,538.6 | 4,538.6 | 14.1 | 88.9 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,667.1 | 101.08 | 47.171 | |
| 4,600.0 | 4,546.1 | 4,638.6 | 4,638.6 | 14.2 | 91.0 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,664.9 | 103.27 | 46.173 | |
| 4,700.0 | 4,646.1 | 4,738.6 | 4,738.6 | 14.4 | 93.0 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,662.7 | 105.46 | 45.214 | |
| 4,800.0 | 4,746.1 | 4,838.6 | 4,838.6 | 14.5 | 95.0 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,660.5 | 107.65 | 44.295 | |
| 4,900.0 | 4,846.1 | 4,938.6 | 4,938.6 | 14.7 | 97.0 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,658.3 | 109.84 | 43.411 | |
| 5,000.0 | 4,946.1 | 5,038.6 | 5,038.6 | 14.8 | 99.0 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,656.1 | 112.03 | 42.561 | |
| 5,100.0 | 5,046.1 | 5,138.6 | 5,138.6 | 15.0 | 101.0 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,654.0 | 114.23 | 41.744 | |
| 5,200.0 | 5,146.1 | 5,238.6 | 5,238.6 | 15.1 | 103.0 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,651.8 | 116.42 | 40.957 | |
| 5,300.0 | 5,246.1 | 5,338.6 | 5,338.6 | 15.3 | 105.0 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,649.6 | 118.62 | 40.198 | |
| 5,400.0 | 5,346.1 | 5,438.6 | 5,438.6 | 15.5 | 107.0 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,647.4 | 120.81 | 39.467 | |
| 5,500.0 | 5,446.1 | 5,538.6 | 5,538.6 | 15.6 | 109.1 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,645.2 | 123.01 | 38.761 | |
| 5,600.0 | 5,546.1 | 5,638.6 | 5,638.6 | 15.8 | 111.1 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,643.0 | 125.21 | 38.080 | |
| 5,700.0 | 5,646.1 | 5,738.6 | 5,738.6 | 16.0 | 113.1 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,640.8 | 127.41 | 37.423 | |
| 5,800.0 | 5,746.1 | 5,838.6 | 5,838.6 | 16.1 | 115.1 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,638.6 | 129.62 | 36.787 | |
| 5,900.0 | 5,846.1 | 5,938.6 | 5,938.6 | 16.3 | 117.1 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,636.4 | 131.82 | 36.172 | |
| 6,000.0 | 5,946.1 | 6,038.6 | 6,038.6 | 16.5 | 119.1 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,634.2 | 134.02 | 35.577 | |
| 6,100.0 | 6,046.1 | 6,138.6 | 6,138.6 | 16.7 | 121.1 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,631.9 | 136.23 | 35.002 | |
| 6,200.0 | 6,146.1 | 6,238.6 | 6,238.6 | 16.8 | 123.1 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,629.7 | 138.43 | 34.444 | |
| 6,300.0 | 6,246.1 | 6,338.6 | 6,338.6 | 17.0 | 125.1 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,627.5 | 140.64 | 33.904 | |
| 6,322.7 | 6,268.8 | 6,361.3 | 6,361.3 | 17.1 | 125.6 | 92.79 | 202.2 | 4,416.8 | 4,768.2 | 4,627.0 | 141.14 | 33.783 | |
| 6,350.0 | 6,296.1 | 6,388.6 | 6,388.6 | 17.1 | 126.1 | 2.79 | 202.2 | 4,416.8 | 4,767.7 | 4,625.9 | 141.79 | 33.624 | |
| 6,400.0 | 6,345.9 | 6,438.4 | 6,438.4 | 17.2 | 127.1 | 2.80 | 202.2 | 4,416.8 | 4,764.0 | 4,621.9 | 142.12 | 33.522 | |
| 6,450.0 | 6,395.4 | 6,487.9 | 6,487.9 | 17.2 | 128.1 | 2.84 | 202.2 | 4,416.8 | 4,756.9 | 4,615.2 | 141.74 | 33.560 | |
| 6,500.0 | 6,444.3 | 6,536.8 | 6,536.8 | 17.2 | 129.1 | 2.89 | 202.2 | 4,416.8 | 4,746.4 | 4,605.7 | 140.65 | 33.746 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 6,550.0 | 6,492.3 | 6,584.8 | 6,584.8 | 17.2 | 130.1 | 2.95 | 202.2 | 4,416.8 | 4,732.5 | 4,593.6 | 138.84 | 34.085 | |
| 6,600.0 | 6,539.2 | 6,631.7 | 6,631.7 | 17.2 | 131.0 | 3.04 | 202.2 | 4,416.8 | 4,715.2 | 4,578.9 | 136.31 | 34.592 | |
| 6,650.0 | 6,584.8 | 6,677.3 | 6,677.3 | 17.2 | 132.0 | 3.15 | 202.2 | 4,416.8 | 4,694.8 | 4,561.7 | 133.06 | 35.282 | |
| 6,700.0 | 6,628.9 | 6,721.4 | 6,721.4 | 17.2 | 132.8 | 3.29 | 202.2 | 4,416.8 | 4,671.2 | 4,542.1 | 129.11 | 36.180 | |
| 6,750.0 | 6,671.2 | 6,763.7 | 6,763.7 | 17.2 | 133.7 | 3.46 | 202.2 | 4,416.8 | 4,644.6 | 4,520.1 | 124.47 | 37.314 | |
| 6,800.0 | 6,711.5 | 6,804.0 | 6,804.0 | 17.2 | 134.5 | 3.66 | 202.2 | 4,416.8 | 4,615.1 | 4,496.0 | 119.17 | 38.728 | |
| 6,850.0 | 6,749.7 | 6,842.2 | 6,842.2 | 17.2 | 135.3 | 3.91 | 202.2 | 4,416.8 | 4,582.9 | 4,469.7 | 113.24 | 40.472 | |
| 6,900.0 | 6,785.6 | 6,878.1 | 6,878.1 | 17.1 | 136.0 | 4.22 | 202.2 | 4,416.8 | 4,548.1 | 4,441.4 | 106.72 | 42.618 | |
| 6,950.0 | 6,818.9 | 6,911.4 | 6,911.4 | 17.1 | 136.7 | 4.59 | 202.2 | 4,416.8 | 4,510.9 | 4,411.2 | 99.67 | 45.258 | |
| 7,000.0 | 6,849.5 | 6,942.0 | 6,942.0 | 17.1 | 137.3 | 5.07 | 202.2 | 4,416.8 | 4,471.5 | 4,379.3 | 92.17 | 48.513 | |
| 7,050.0 | 6,877.4 | 6,969.9 | 6,969.9 | 17.2 | 137.8 | 5.67 | 202.2 | 4,416.8 | 4,430.0 | 4,345.7 | 84.33 | 52.535 | |
| 7,100.0 | 6,902.2 | 6,994.7 | 6,994.7 | 17.3 | 138.3 | 6.47 | 202.2 | 4,416.8 | 4,386.7 | 4,310.4 | 76.30 | 57.493 | |
| 7,150.0 | 6,924.0 | 7,016.5 | 7,016.5 | 17.7 | 138.8 | 7.54 | 202.2 | 4,416.8 | 4,341.8 | 4,273.4 | 68.38 | 63.494 | |
| 7,200.0 | 6,942.6 | 7,035.1 | 7,035.1 | 18.2 | 139.1 | 9.06 | 202.2 | 4,416.8 | 4,295.4 | 4,234.3 | 61.14 | 70.259 | |
| 7,250.0 | 6,957.9 | 7,050.4 | 7,050.4 | 18.8 | 139.5 | 11.34 | 202.2 | 4,416.8 | 4,247.9 | 4,192.1 | 55.84 | 76.075 | |
| 7,300.0 | 6,969.8 | 7,062.3 | 7,062.3 | 19.6 | 139.7 | 15.10 | 202.2 | 4,416.8 | 4,199.4 | 4,144.0 | 55.47 | 75.707 | |
| 7,350.0 | 6,978.3 | 7,070.8 | 7,070.8 | 20.4 | 139.9 | 22.35 | 202.2 | 4,416.8 | 4,150.2 | 4,083.5 | 66.75 | 62.174 | |
| 7,400.0 | 6,983.4 | 7,075.9 | 7,075.9 | 21.3 | 140.0 | 40.37 | 202.2 | 4,416.8 | 4,100.6 | 3,995.1 | 105.46 | 38.882 | |
| 7,447.7 | 6,985.0 | 7,077.5 | 7,077.5 | 22.1 | 140.0 | 90.00 | 202.2 | 4,416.8 | 4,053.0 | 3,890.9 | 162.10 | 25.003 | |
| 7,500.0 | 6,985.0 | 7,077.5 | 7,077.5 | 23.1 | 140.0 | 90.00 | 202.2 | 4,416.8 | 4,000.8 | 3,837.7 | 163.09 | 24.531 | |
| 7,600.0 | 6,985.0 | 7,077.5 | 7,077.5 | 25.2 | 140.0 | 90.00 | 202.2 | 4,416.8 | 3,901.0 | 3,735.8 | 165.12 | 23.625 | |
| 7,700.0 | 6,985.0 | 7,077.5 | 7,077.5 | 27.4 | 140.0 | 90.00 | 202.2 | 4,416.8 | 3,801.1 | 3,633.9 | 167.29 | 22.722 | |
| 7,800.0 | 6,985.0 | 7,077.5 | 7,077.5 | 29.7 | 140.0 | 90.00 | 202.2 | 4,416.8 | 3,701.3 | 3,531.8 | 169.57 | 21.828 | |
| 7,900.0 | 6,985.0 | 7,077.5 | 7,077.5 | 32.0 | 140.0 | 90.00 | 202.2 | 4,416.8 | 3,601.5 | 3,429.6 | 171.93 | 20.948 | |
| 8,000.0 | 6,985.0 | 7,077.5 | 7,077.5 | 34.5 | 140.0 | 90.00 | 202.2 | 4,416.8 | 3,501.8 | 3,327.4 | 174.36 | 20.084 | |
| 8,100.0 | 6,985.0 | 7,077.5 | 7,077.5 | 36.9 | 140.0 | 90.00 | 202.2 | 4,416.8 | 3,402.0 | 3,225.1 | 176.84 | 19.238 | |
| 8,200.0 | 6,985.0 | 7,077.5 | 7,077.5 | 39.5 | 140.0 | 90.00 | 202.2 | 4,416.8 | 3,302.2 | 3,122.8 | 179.37 | 18.410 | |
| 8,300.0 | 6,985.0 | 7,077.5 | 7,077.5 | 42.0 | 140.0 | 90.00 | 202.2 | 4,416.8 | 3,202.5 | 3,020.5 | 181.93 | 17.603 | |
| 8,400.0 | 6,985.0 | 7,077.5 | 7,077.5 | 44.6 | 140.0 | 90.00 | 202.2 | 4,416.8 | 3,102.7 | 2,918.2 | 184.52 | 16.815 | |
| 8,500.0 | 6,985.0 | 7,077.5 | 7,077.5 | 47.2 | 140.0 | 90.00 | 202.2 | 4,416.8 | 3,003.0 | 2,815.9 | 187.14 | 16.047 | |
| 8,600.0 | 6,985.0 | 7,077.5 | 7,077.5 | 49.9 | 140.0 | 90.00 | 202.2 | 4,416.8 | 2,903.3 | 2,713.6 | 189.78 | 15.299 | |
| 8,700.0 | 6,985.0 | 7,077.5 | 7,077.5 | 52.5 | 140.0 | 90.00 | 202.2 | 4,416.8 | 2,803.7 | 2,611.2 | 192.43 | 14.569 | |
| 8,800.0 | 6,985.0 | 7,077.5 | 7,077.5 | 55.2 | 140.0 | 90.00 | 202.2 | 4,416.8 | 2,704.0 | 2,508.9 | 195.11 | 13.859 | |
| 8,900.0 | 6,985.0 | 7,077.5 | 7,077.5 | 57.9 | 140.0 | 90.00 | 202.2 | 4,416.8 | 2,604.4 | 2,406.6 | 197.79 | 13.168 | |
| 9,000.0 | 6,985.0 | 7,077.5 | 7,077.5 | 60.6 | 140.0 | 90.00 | 202.2 | 4,416.8 | 2,504.8 | 2,304.3 | 200.49 | 12.494 | |
| 9,100.0 | 6,985.0 | 7,077.5 | 7,077.5 | 63.3 | 140.0 | 90.00 | 202.2 | 4,416.8 | 2,405.3 | 2,202.1 | 203.19 | 11.837 | |
| 9,200.0 | 6,985.0 | 7,077.5 | 7,077.5 | 66.0 | 140.0 | 90.00 | 202.2 | 4,416.8 | 2,305.8 | 2,099.8 | 205.91 | 11.198 | |
| 9,300.0 | 6,985.0 | 7,077.5 | 7,077.5 | 68.7 | 140.0 | 90.00 | 202.2 | 4,416.8 | 2,206.3 | 1,997.7 | 208.63 | 10.575 | |
| 9,400.0 | 6,985.0 | 7,077.5 | 7,077.5 | 71.4 | 140.0 | 90.00 | 202.2 | 4,416.8 | 2,106.9 | 1,895.5 | 211.36 | 9.968 | |
| 9,500.0 | 6,985.0 | 7,077.5 | 7,077.5 | 74.2 | 140.0 | 90.00 | 202.2 | 4,416.8 | 2,007.5 | 1,793.4 | 214.09 | 9.377 | |
| 9,600.0 | 6,985.0 | 7,077.5 | 7,077.5 | 76.9 | 140.0 | 90.00 | 202.2 | 4,416.8 | 1,908.2 | 1,691.4 | 216.83 | 8.800 | |
| 9,700.0 | 6,985.0 | 7,077.5 | 7,077.5 | 79.6 | 140.0 | 90.00 | 202.2 | 4,416.8 | 1,809.0 | 1,589.4 | 219.58 | 8.239 | |
| 9,800.0 | 6,985.0 | 7,077.5 | 7,077.5 | 82.4 | 140.0 | 90.00 | 202.2 | 4,416.8 | 1,709.9 | 1,487.5 | 222.33 | 7.691 | |
| 9,900.0 | 6,985.0 | 7,077.5 | 7,077.5 | 85.1 | 140.0 | 90.00 | 202.2 | 4,416.8 | 1,610.8 | 1,385.8 | 225.08 | 7.157 | |
| 10,000.0 | 6,985.0 | 7,077.5 | 7,077.5 | 87.9 | 140.0 | 90.00 | 202.2 | 4,416.8 | 1,511.9 | 1,284.1 | 227.84 | 6.636 | |
| 10,100.0 | 6,985.0 | 7,077.5 | 7,077.5 | 90.7 | 140.0 | 90.00 | 202.2 | 4,416.8 | 1,413.2 | 1,182.6 | 230.60 | 6.129 | |
| 10,200.0 | 6,985.0 | 7,077.5 | 7,077.5 | 93.4 | 140.0 | 90.00 | 202.2 | 4,416.8 | 1,314.7 | 1,081.3 | 233.36 | 5.634 | |
| 10,300.0 | 6,985.0 | 7,077.5 | 7,077.5 | 96.2 | 140.0 | 90.00 | 202.2 | 4,416.8 | 1,216.4 | 980.2 | 236.12 | 5.151 | |
| 10,400.0 | 6,985.0 | 7,077.5 | 7,077.5 | 98.9 | 140.0 | 90.00 | 202.2 | 4,416.8 | 1,118.4 | 879.5 | 238.89 | 4.681 | |
| 10,500.0 | 6,985.0 | 7,077.5 | 7,077.5 | 101.7 | 140.0 | 90.00 | 202.2 | 4,416.8 | 1,020.7 | 779.1 | 241.66 | 4.224 | |
| 10,600.0 | 6,985.0 | 7,077.5 | 7,077.5 | 104.5 | 140.0 | 90.00 | 202.2 | 4,416.8 | 923.6 | 679.2 | 244.43 | 3.779 | |
| 10,700.0 | 6,985.0 | 7,077.5 | 7,077.5 | 107.3 | 140.0 | 90.00 | 202.2 | 4,416.8 | 827.2 | 580.0 | 247.21 | 3.346 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - ABDN VERT OSTER POOLING UNIT #1 - Wellbore #1 - Desig | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|--|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|-----------------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 10,800.0 | 6,985.0 | 7,077.5 | 7,077.5 | 110.0 | 140.0 | 90.00 | 202.2 | 4,416.8 | 731.7 | 481.8 | 249.98 | 2.927 | |
| 10,900.0 | 6,985.0 | 7,077.5 | 7,077.5 | 112.8 | 140.0 | 90.00 | 202.2 | 4,416.8 | 637.7 | 384.9 | 252.76 | 2.523 | |
| 11,000.0 | 6,985.0 | 7,077.5 | 7,077.5 | 115.6 | 140.0 | 90.00 | 202.2 | 4,416.8 | 545.7 | 290.2 | 255.54 | 2.136 | |
| 11,100.0 | 6,985.0 | 7,077.5 | 7,077.5 | 118.4 | 140.0 | 90.00 | 202.2 | 4,416.8 | 457.2 | 198.9 | 258.32 | 1.770 | |
| 11,200.0 | 6,985.0 | 7,077.5 | 7,077.5 | 121.2 | 140.0 | 90.00 | 202.2 | 4,416.8 | 374.4 | 113.3 | 261.10 | 1.434 | Level 3 |
| 11,300.0 | 6,985.0 | 7,077.5 | 7,077.5 | 123.9 | 140.0 | 90.00 | 202.2 | 4,416.8 | 302.3 | 38.4 | 263.89 | 1.146 | Level 2 |
| 11,400.0 | 6,985.0 | 7,077.5 | 7,077.5 | 126.7 | 140.0 | 90.00 | 202.2 | 4,416.8 | 250.1 | -16.5 | 266.67 | 0.938 | Level 1 |
| 11,494.1 | 6,985.0 | 7,077.5 | 7,077.5 | 129.3 | 140.0 | 90.00 | 202.2 | 4,416.8 | 231.8 | -37.5 | 269.29 | 0.861 | Level 1, CC |
| 11,500.0 | 6,985.0 | 7,077.5 | 7,077.5 | 129.5 | 140.0 | 90.00 | 202.2 | 4,416.8 | 231.9 | -37.6 | 269.46 | 0.860 | Level 1, ES, SF |
| 11,600.0 | 6,985.0 | 7,077.5 | 7,077.5 | 132.3 | 140.0 | 90.00 | 202.2 | 4,416.8 | 254.8 | -17.4 | 272.24 | 0.936 | Level 1 |
| 11,700.0 | 6,985.0 | 7,077.5 | 7,077.5 | 135.1 | 140.0 | 90.00 | 202.2 | 4,416.8 | 310.0 | 35.0 | 275.03 | 1.127 | Level 2 |
| 11,800.0 | 6,985.0 | 7,077.5 | 7,077.5 | 137.9 | 140.0 | 90.00 | 202.2 | 4,416.8 | 383.8 | 106.0 | 277.82 | 1.382 | Level 3 |
| 11,900.0 | 6,985.0 | 7,077.5 | 7,077.5 | 140.7 | 140.0 | 90.00 | 202.2 | 4,416.8 | 467.4 | 186.8 | 280.61 | 1.666 | |
| 12,000.0 | 6,985.0 | 7,077.5 | 7,077.5 | 143.4 | 140.0 | 90.00 | 202.2 | 4,416.8 | 556.5 | 273.1 | 283.40 | 1.964 | |
| 12,054.1 | 6,985.0 | 7,077.5 | 7,077.5 | 145.0 | 140.0 | 90.00 | 202.2 | 4,416.8 | 606.1 | 321.2 | 284.91 | 2.128 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 782-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 91.5 | 91.5 | 0.0 | 0.1 | 74.50 | 943.8 | 3,402.4 | 3,530.9 | | | | |
| 100.0 | 100.0 | 192.6 | 192.6 | 0.1 | 0.2 | 74.49 | 943.9 | 3,402.3 | 3,530.8 | 3,530.5 | 0.28 | N/A | |
| 200.0 | 200.0 | 293.7 | 293.7 | 0.3 | 0.3 | 74.49 | 944.0 | 3,402.2 | 3,530.7 | 3,530.1 | 0.61 | 5,805.942 | |
| 300.0 | 300.0 | 394.9 | 394.9 | 0.5 | 0.4 | 74.49 | 944.2 | 3,402.0 | 3,530.6 | 3,529.7 | 0.93 | 3,790.702 | |
| 400.0 | 400.0 | 496.0 | 496.0 | 0.8 | 0.5 | 74.48 | 944.4 | 3,401.8 | 3,530.5 | 3,529.2 | 1.25 | 2,813.904 | |
| 500.0 | 500.0 | 597.1 | 597.1 | 1.0 | 0.6 | 74.48 | 944.7 | 3,401.6 | 3,530.3 | 3,528.7 | 1.58 | 2,237.317 | |
| 600.0 | 600.0 | 698.2 | 698.2 | 1.2 | 0.7 | 74.47 | 945.0 | 3,401.3 | 3,530.1 | 3,528.2 | 1.90 | 1,856.792 | |
| 700.0 | 700.0 | 799.1 | 799.1 | 1.4 | 0.8 | 74.47 | 945.3 | 3,400.9 | 3,529.9 | 3,527.6 | 2.24 | 1,573.188 | |
| 800.0 | 800.0 | 899.8 | 899.8 | 1.7 | 1.0 | 74.46 | 945.7 | 3,400.6 | 3,529.6 | 3,527.0 | 2.68 | 1,317.687 | |
| 820.8 | 820.8 | 921.4 | 921.4 | 1.7 | 1.1 | 113.00 | 945.8 | 3,400.5 | 3,529.6 | 3,526.8 | 2.77 | 1,275.308 | |
| 900.0 | 900.0 | 1,002.4 | 1,002.4 | 1.9 | 1.2 | 113.01 | 946.1 | 3,400.1 | 3,530.0 | 3,526.9 | 3.11 | 1,135.985 | |
| 1,000.0 | 999.8 | 1,100.6 | 1,100.6 | 2.1 | 1.4 | 113.05 | 946.5 | 3,399.7 | 3,531.7 | 3,528.2 | 3.54 | 998.805 | |
| 1,100.0 | 1,099.5 | 1,200.3 | 1,200.3 | 2.4 | 1.6 | 113.11 | 947.1 | 3,399.3 | 3,534.9 | 3,530.9 | 3.97 | 889.477 | |
| 1,200.0 | 1,198.7 | 1,304.2 | 1,304.2 | 2.6 | 1.8 | 113.20 | 947.5 | 3,398.7 | 3,539.3 | 3,534.9 | 4.43 | 799.416 | |
| 1,300.0 | 1,297.5 | 1,406.4 | 1,406.4 | 2.9 | 2.0 | 113.33 | 947.8 | 3,398.2 | 3,545.1 | 3,540.2 | 4.90 | 723.341 | |
| 1,400.0 | 1,395.6 | 1,508.3 | 1,508.3 | 3.2 | 2.3 | 113.48 | 947.9 | 3,397.5 | 3,552.2 | 3,546.8 | 5.42 | 655.868 | |
| 1,400.2 | 1,395.8 | 1,508.5 | 1,508.5 | 3.2 | 2.3 | 113.48 | 947.9 | 3,397.5 | 3,552.2 | 3,546.8 | 5.42 | 655.729 | |
| 1,500.0 | 1,493.4 | 1,603.7 | 1,603.7 | 3.6 | 2.5 | 113.77 | 948.0 | 3,396.9 | 3,560.1 | 3,554.2 | 5.95 | 598.415 | |
| 1,600.0 | 1,591.2 | 1,703.3 | 1,703.3 | 3.9 | 2.7 | 114.08 | 947.7 | 3,396.4 | 3,568.1 | 3,561.6 | 6.50 | 548.668 | |
| 1,700.0 | 1,689.1 | 1,803.3 | 1,803.3 | 4.3 | 2.9 | 114.39 | 947.4 | 3,395.8 | 3,576.2 | 3,569.1 | 7.08 | 505.440 | |
| 1,800.0 | 1,786.9 | 1,897.5 | 1,897.4 | 4.7 | 3.1 | 114.68 | 947.1 | 3,395.3 | 3,584.3 | 3,576.7 | 7.65 | 468.592 | |
| 1,900.0 | 1,884.7 | 2,025.6 | 2,025.6 | 5.2 | 3.3 | 115.06 | 946.9 | 3,394.2 | 3,592.4 | 3,584.1 | 8.30 | 432.859 | |
| 2,000.0 | 1,982.5 | 2,127.2 | 2,127.1 | 5.6 | 3.6 | 115.37 | 946.4 | 3,392.8 | 3,599.9 | 3,591.0 | 8.89 | 404.727 | |
| 2,100.0 | 2,080.3 | 2,214.3 | 2,214.3 | 6.0 | 3.7 | 115.64 | 945.7 | 3,391.7 | 3,607.6 | 3,598.2 | 9.46 | 381.310 | |
| 2,200.0 | 2,178.1 | 2,328.5 | 2,328.4 | 6.4 | 4.0 | 115.99 | 944.7 | 3,390.4 | 3,615.5 | 3,605.4 | 10.09 | 358.482 | |
| 2,300.0 | 2,275.9 | 2,416.1 | 2,416.0 | 6.9 | 4.2 | 116.26 | 943.6 | 3,389.2 | 3,623.3 | 3,612.6 | 10.66 | 339.876 | |
| 2,400.0 | 2,373.8 | 2,507.3 | 2,507.2 | 7.3 | 4.3 | 116.54 | 942.6 | 3,388.2 | 3,631.4 | 3,620.2 | 11.24 | 323.002 | |
| 2,500.0 | 2,471.6 | 2,587.1 | 2,587.0 | 7.7 | 4.5 | 116.79 | 942.1 | 3,387.6 | 3,639.9 | 3,628.1 | 11.81 | 308.322 | |
| 2,600.0 | 2,569.4 | 2,649.5 | 2,649.4 | 8.2 | 4.6 | 116.97 | 942.2 | 3,387.3 | 3,649.2 | 3,636.9 | 12.34 | 295.832 | |
| 2,700.0 | 2,667.2 | 2,717.0 | 2,716.9 | 8.6 | 4.8 | 117.16 | 942.7 | 3,388.0 | 3,659.9 | 3,647.0 | 12.88 | 284.214 | |
| 2,800.0 | 2,765.0 | 2,758.8 | 2,758.7 | 9.0 | 4.9 | 117.28 | 943.0 | 3,388.9 | 3,671.6 | 3,658.2 | 13.37 | 274.686 | |
| 2,900.0 | 2,862.8 | 2,813.0 | 2,812.9 | 9.5 | 5.0 | 117.43 | 943.4 | 3,390.6 | 3,684.5 | 3,670.6 | 13.88 | 265.432 | |
| 3,000.0 | 2,960.6 | 2,885.7 | 2,885.5 | 9.9 | 5.1 | 117.65 | 943.5 | 3,393.5 | 3,698.4 | 3,683.9 | 14.43 | 256.274 | |
| 3,100.0 | 3,058.4 | 2,945.9 | 2,945.6 | 10.4 | 5.2 | 117.83 | 943.3 | 3,396.5 | 3,713.2 | 3,698.3 | 14.96 | 248.262 | |
| 3,200.0 | 3,156.3 | 3,003.0 | 3,002.6 | 10.8 | 5.4 | 118.01 | 942.8 | 3,400.1 | 3,729.2 | 3,713.7 | 15.48 | 240.960 | |
| 3,300.0 | 3,254.1 | 3,055.4 | 3,054.8 | 11.3 | 5.5 | 118.19 | 942.0 | 3,404.0 | 3,746.4 | 3,730.4 | 15.99 | 234.330 | |
| 3,400.0 | 3,351.9 | 3,098.0 | 3,097.3 | 11.7 | 5.6 | 118.33 | 941.3 | 3,407.6 | 3,764.8 | 3,748.3 | 16.48 | 228.451 | |
| 3,465.5 | 3,416.0 | 3,151.1 | 3,150.1 | 12.0 | 5.7 | 118.51 | 940.1 | 3,412.7 | 3,777.4 | 3,760.5 | 16.85 | 224.169 | |
| 3,500.0 | 3,449.7 | 3,173.0 | 3,171.9 | 12.1 | 5.7 | 118.70 | 939.5 | 3,414.9 | 3,784.1 | 3,767.1 | 17.01 | 222.401 | |
| 3,600.0 | 3,548.1 | 3,227.2 | 3,225.8 | 12.5 | 5.9 | 119.21 | 937.8 | 3,420.7 | 3,803.2 | 3,785.8 | 17.41 | 218.437 | |
| 3,700.0 | 3,647.1 | 3,287.0 | 3,285.1 | 12.7 | 6.0 | 119.69 | 936.6 | 3,427.9 | 3,821.9 | 3,804.1 | 17.79 | 214.891 | |
| 3,800.0 | 3,746.5 | 3,382.0 | 3,379.5 | 13.0 | 6.2 | 120.17 | 935.6 | 3,439.1 | 3,838.9 | 3,820.7 | 18.19 | 211.001 | |
| 3,900.0 | 3,846.2 | 3,475.0 | 3,471.8 | 13.2 | 6.4 | 120.58 | 934.5 | 3,450.5 | 3,854.7 | 3,836.1 | 18.57 | 207.612 | |
| 4,000.0 | 3,946.1 | 3,527.6 | 3,523.8 | 13.3 | 6.6 | 120.89 | 933.7 | 3,457.6 | 3,869.7 | 3,850.9 | 18.83 | 205.554 | |
| 4,065.7 | 4,011.8 | 3,585.9 | 3,581.6 | 13.4 | 6.7 | 82.54 | 932.7 | 3,465.5 | 3,878.8 | 3,861.5 | 17.37 | 223.252 | |
| 4,100.0 | 4,046.1 | 3,612.5 | 3,607.9 | 13.5 | 6.8 | 82.56 | 932.3 | 3,469.2 | 3,883.5 | 3,866.0 | 17.50 | 221.938 | |
| 4,200.0 | 4,146.1 | 3,701.7 | 3,696.2 | 13.6 | 7.0 | 82.61 | 930.7 | 3,481.9 | 3,897.3 | 3,879.4 | 17.91 | 217.642 | |
| 4,300.0 | 4,246.1 | 3,821.0 | 3,814.4 | 13.8 | 7.3 | 82.66 | 928.9 | 3,498.5 | 3,911.0 | 3,892.6 | 18.39 | 212.642 | |
| 4,400.0 | 4,346.1 | 3,938.8 | 3,931.1 | 13.9 | 7.6 | 82.71 | 927.9 | 3,514.2 | 3,924.0 | 3,905.2 | 18.88 | 207.886 | |
| 4,500.0 | 4,446.1 | 4,040.4 | 4,031.8 | 14.1 | 7.9 | 82.75 | 926.8 | 3,527.5 | 3,936.9 | 3,917.6 | 19.33 | 203.718 | |
| 4,600.0 | 4,546.1 | 4,161.7 | 4,152.1 | 14.2 | 8.2 | 82.81 | 924.8 | 3,543.1 | 3,949.5 | 3,929.7 | 19.83 | 199.157 | |
| 4,700.0 | 4,646.1 | 4,305.3 | 4,294.6 | 14.4 | 8.6 | 82.87 | 922.5 | 3,560.3 | 3,961.1 | 3,940.7 | 20.40 | 194.220 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 782-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,800.0 | 4,746.1 | 4,483.9 | 4,472.3 | 14.5 | 9.0 | 82.95 | 919.5 | 3,578.9 | 3,971.2 | 3,950.2 | 21.05 | 188.701 | |
| 4,900.0 | 4,846.1 | 4,608.6 | 4,596.4 | 14.7 | 9.3 | 82.99 | 917.7 | 3,590.2 | 3,980.0 | 3,958.5 | 21.55 | 184.684 | |
| 5,000.0 | 4,946.1 | 4,669.5 | 4,657.1 | 14.8 | 9.5 | 83.02 | 916.7 | 3,595.8 | 3,989.0 | 3,967.1 | 21.90 | 182.173 | |
| 5,100.0 | 5,046.1 | 4,763.4 | 4,750.4 | 15.0 | 9.7 | 83.06 | 914.9 | 3,605.4 | 3,998.9 | 3,976.6 | 22.33 | 179.075 | |
| 5,200.0 | 5,146.1 | 4,928.4 | 4,914.7 | 15.1 | 10.2 | 83.13 | 912.0 | 3,620.0 | 4,007.4 | 3,984.4 | 22.94 | 174.657 | |
| 5,300.0 | 5,246.1 | 4,996.0 | 4,982.1 | 15.3 | 10.3 | 83.15 | 910.9 | 3,625.8 | 4,015.8 | 3,992.4 | 23.31 | 172.297 | |
| 5,400.0 | 5,346.1 | 5,059.6 | 5,045.4 | 15.5 | 10.5 | 83.18 | 909.7 | 3,631.9 | 4,025.0 | 4,001.3 | 23.67 | 170.077 | |
| 5,500.0 | 5,446.1 | 5,171.1 | 5,156.3 | 15.6 | 10.8 | 83.23 | 907.2 | 3,643.2 | 4,034.9 | 4,010.7 | 24.15 | 167.060 | |
| 5,600.0 | 5,546.1 | 5,342.2 | 5,326.6 | 15.8 | 11.2 | 83.32 | 902.9 | 3,658.6 | 4,043.6 | 4,018.8 | 24.79 | 163.125 | |
| 5,700.0 | 5,646.1 | 5,424.4 | 5,408.5 | 16.0 | 11.4 | 83.36 | 900.8 | 3,665.2 | 4,051.2 | 4,026.0 | 25.19 | 160.811 | |
| 5,800.0 | 5,746.1 | 5,564.0 | 5,547.6 | 16.1 | 11.8 | 83.43 | 897.1 | 3,677.0 | 4,059.6 | 4,033.8 | 25.74 | 157.705 | |
| 5,900.0 | 5,846.1 | 5,619.7 | 5,603.1 | 16.3 | 11.9 | 83.46 | 895.8 | 3,681.4 | 4,067.2 | 4,041.1 | 26.08 | 155.950 | |
| 6,000.0 | 5,946.1 | 5,772.7 | 5,755.5 | 16.5 | 12.3 | 83.52 | 892.6 | 3,694.0 | 4,075.3 | 4,048.7 | 26.66 | 152.852 | |
| 6,100.0 | 6,046.1 | 5,849.0 | 5,831.6 | 16.7 | 12.5 | 83.56 | 890.4 | 3,699.8 | 4,082.6 | 4,055.6 | 27.05 | 150.927 | |
| 6,200.0 | 6,146.1 | 5,909.5 | 5,891.8 | 16.8 | 12.7 | 83.60 | 888.7 | 3,704.9 | 4,090.6 | 4,063.2 | 27.40 | 149.273 | |
| 6,300.0 | 6,246.1 | 5,980.3 | 5,962.4 | 17.0 | 12.8 | 83.62 | 887.6 | 3,711.3 | 4,099.4 | 4,071.6 | 27.79 | 147.534 | |
| 6,322.7 | 6,268.8 | 5,997.5 | 5,979.5 | 17.1 | 12.9 | 83.62 | 887.5 | 3,712.9 | 4,101.5 | 4,073.6 | 27.88 | 147.132 | |
| 6,350.0 | 6,296.1 | 6,018.1 | 6,000.0 | 17.1 | 12.9 | -6.36 | 887.5 | 3,714.9 | 4,103.6 | 4,075.4 | 28.15 | 145.779 | |
| 6,400.0 | 6,345.9 | 6,087.1 | 6,068.7 | 17.2 | 13.1 | -6.35 | 888.1 | 3,721.3 | 4,104.6 | 4,076.4 | 28.26 | 145.245 | |
| 6,450.0 | 6,395.4 | 6,473.8 | 6,454.8 | 17.2 | 14.0 | -6.51 | 892.0 | 3,741.0 | 4,101.2 | 4,072.3 | 28.94 | 141.725 | |
| 6,500.0 | 6,444.3 | 6,567.2 | 6,548.2 | 17.2 | 14.2 | -6.64 | 892.5 | 3,741.0 | 4,090.7 | 4,061.8 | 28.87 | 141.673 | |
| 6,550.0 | 6,492.3 | 6,622.8 | 6,603.7 | 17.2 | 14.3 | -6.81 | 892.8 | 3,740.7 | 4,076.6 | 4,048.0 | 28.62 | 142.426 | |
| 6,600.0 | 6,539.2 | 6,670.0 | 6,650.9 | 17.2 | 14.4 | -7.02 | 893.1 | 3,740.4 | 4,059.2 | 4,031.0 | 28.25 | 143.691 | |
| 6,650.0 | 6,584.8 | 6,715.5 | 6,696.5 | 17.2 | 14.5 | -7.29 | 893.3 | 3,740.2 | 4,038.7 | 4,010.9 | 27.78 | 145.399 | |
| 6,700.0 | 6,628.9 | 6,758.6 | 6,739.6 | 17.2 | 14.5 | -7.61 | 893.4 | 3,739.9 | 4,015.0 | 3,987.8 | 27.21 | 147.561 | |
| 6,750.0 | 6,671.2 | 6,799.0 | 6,779.9 | 17.2 | 14.6 | -8.01 | 893.6 | 3,739.7 | 3,988.3 | 3,961.8 | 26.56 | 150.172 | |
| 6,800.0 | 6,711.5 | 6,835.3 | 6,816.2 | 17.2 | 14.7 | -8.48 | 893.8 | 3,739.5 | 3,958.8 | 3,933.0 | 25.83 | 153.236 | |
| 6,850.0 | 6,749.7 | 6,868.8 | 6,849.7 | 17.2 | 14.7 | -9.06 | 893.9 | 3,739.4 | 3,926.7 | 3,901.6 | 25.06 | 156.700 | |
| 6,900.0 | 6,785.6 | 6,899.9 | 6,880.8 | 17.1 | 14.8 | -9.77 | 894.0 | 3,739.4 | 3,892.0 | 3,867.8 | 24.25 | 160.485 | |
| 6,950.0 | 6,818.9 | 6,928.0 | 6,909.0 | 17.1 | 14.9 | -10.63 | 894.1 | 3,739.3 | 3,855.0 | 3,831.6 | 23.44 | 164.457 | |
| 7,000.0 | 6,849.5 | 6,954.0 | 6,934.9 | 17.1 | 14.9 | -11.71 | 894.2 | 3,739.3 | 3,815.8 | 3,793.2 | 22.66 | 168.359 | |
| 7,050.0 | 6,877.4 | 6,977.6 | 6,958.5 | 17.2 | 14.9 | -13.07 | 894.3 | 3,739.4 | 3,774.7 | 3,752.7 | 21.97 | 171.774 | |
| 7,100.0 | 6,902.2 | 6,999.8 | 6,980.7 | 17.3 | 15.0 | -14.83 | 894.4 | 3,739.4 | 3,731.7 | 3,710.2 | 21.45 | 174.009 | |
| 7,150.0 | 6,924.0 | 7,019.9 | 7,000.8 | 17.7 | 15.0 | -17.17 | 894.5 | 3,739.5 | 3,687.1 | 3,665.9 | 21.18 | 174.046 | |
| 7,200.0 | 6,942.6 | 7,037.1 | 7,018.0 | 18.2 | 15.1 | -20.39 | 894.5 | 3,739.6 | 3,641.1 | 3,619.8 | 21.36 | 170.477 | |
| 7,250.0 | 6,957.9 | 7,051.3 | 7,032.2 | 18.8 | 15.1 | -25.01 | 894.5 | 3,739.6 | 3,594.0 | 3,571.8 | 22.24 | 161.614 | |
| 7,300.0 | 6,969.8 | 7,062.5 | 7,043.4 | 19.6 | 15.1 | -32.01 | 894.6 | 3,739.7 | 3,545.9 | 3,521.7 | 24.27 | 146.131 | |
| 7,350.0 | 6,978.3 | 7,070.5 | 7,051.5 | 20.4 | 15.1 | -43.30 | 894.6 | 3,739.7 | 3,497.1 | 3,469.1 | 28.05 | 124.661 | |
| 7,400.0 | 6,983.4 | 7,075.4 | 7,056.4 | 21.3 | 15.1 | -61.98 | 894.6 | 3,739.7 | 3,447.9 | 3,414.3 | 33.61 | 102.592 | |
| 7,447.7 | 6,985.0 | 7,077.1 | 7,058.0 | 22.1 | 15.1 | -87.83 | 894.6 | 3,739.7 | 3,400.6 | 3,363.4 | 37.24 | 91.318 | |
| 7,500.0 | 6,985.0 | 7,077.4 | 7,058.3 | 23.1 | 15.1 | -87.86 | 894.6 | 3,739.7 | 3,348.8 | 3,310.6 | 38.23 | 87.592 | |
| 7,600.0 | 6,985.0 | 7,081.0 | 7,061.9 | 25.2 | 15.1 | -88.31 | 894.6 | 3,739.7 | 3,249.8 | 3,209.5 | 40.27 | 80.709 | |
| 7,700.0 | 6,985.0 | 7,081.0 | 7,061.9 | 27.4 | 15.1 | -88.31 | 894.6 | 3,739.7 | 3,150.9 | 3,108.4 | 42.43 | 74.254 | |
| 7,800.0 | 6,985.0 | 7,081.0 | 7,061.9 | 29.7 | 15.1 | -88.31 | 894.6 | 3,739.7 | 3,052.0 | 3,007.3 | 44.71 | 68.263 | |
| 7,900.0 | 6,985.0 | 7,081.0 | 7,061.9 | 32.0 | 15.1 | -88.31 | 894.6 | 3,739.7 | 2,953.2 | 2,906.1 | 47.07 | 62.741 | |
| 8,000.0 | 6,985.0 | 7,081.0 | 7,061.9 | 34.5 | 15.1 | -88.31 | 894.6 | 3,739.7 | 2,854.4 | 2,804.9 | 49.50 | 57.669 | |
| 8,100.0 | 6,985.0 | 7,081.0 | 7,061.9 | 36.9 | 15.1 | -88.31 | 894.6 | 3,739.7 | 2,755.8 | 2,703.8 | 51.98 | 53.018 | |
| 8,200.0 | 6,985.0 | 7,081.0 | 7,061.9 | 39.5 | 15.1 | -88.31 | 894.6 | 3,739.7 | 2,657.2 | 2,602.7 | 54.50 | 48.753 | |
| 8,300.0 | 6,985.0 | 7,081.2 | 7,062.1 | 42.0 | 15.1 | -88.34 | 894.6 | 3,739.8 | 2,558.8 | 2,501.7 | 57.07 | 44.840 | |
| 8,400.0 | 6,985.0 | 7,081.8 | 7,062.7 | 44.6 | 15.1 | -88.41 | 894.6 | 3,739.8 | 2,460.5 | 2,400.9 | 59.66 | 41.243 | |
| 8,500.0 | 6,985.0 | 7,082.3 | 7,063.3 | 47.2 | 15.1 | -88.48 | 894.6 | 3,739.8 | 2,362.4 | 2,300.1 | 62.28 | 37.933 | |
| 8,600.0 | 6,985.0 | 7,082.9 | 7,063.8 | 49.9 | 15.1 | -88.55 | 894.6 | 3,739.8 | 2,264.4 | 2,199.4 | 64.92 | 34.882 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 782-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 8,700.0 | 6,985.0 | 7,083.5 | 7,064.4 | 52.5 | 15.1 | -88.62 | 894.6 | 3,739.8 | 2,166.5 | 2,099.0 | 67.57 | 32.063 | |
| 8,800.0 | 6,985.0 | 7,084.0 | 7,064.9 | 55.2 | 15.2 | -88.69 | 894.6 | 3,739.8 | 2,068.9 | 1,998.7 | 70.24 | 29.454 | |
| 8,900.0 | 6,985.0 | 7,084.5 | 7,065.5 | 57.9 | 15.2 | -88.75 | 894.6 | 3,739.8 | 1,971.6 | 1,898.7 | 72.93 | 27.034 | |
| 9,000.0 | 6,985.0 | 7,085.1 | 7,066.0 | 60.6 | 15.2 | -88.82 | 894.6 | 3,739.8 | 1,874.5 | 1,798.9 | 75.62 | 24.787 | |
| 9,100.0 | 6,985.0 | 7,085.6 | 7,066.5 | 63.3 | 15.2 | -88.88 | 894.6 | 3,739.8 | 1,777.7 | 1,699.4 | 78.33 | 22.695 | |
| 9,200.0 | 6,985.0 | 7,086.1 | 7,067.1 | 66.0 | 15.2 | -88.95 | 894.6 | 3,739.8 | 1,681.3 | 1,600.3 | 81.05 | 20.746 | |
| 9,300.0 | 6,985.0 | 7,086.6 | 7,067.6 | 68.7 | 15.2 | -89.01 | 894.6 | 3,739.8 | 1,585.4 | 1,501.6 | 83.77 | 18.926 | |
| 9,400.0 | 6,985.0 | 7,087.2 | 7,068.1 | 71.4 | 15.2 | -89.08 | 894.6 | 3,739.8 | 1,490.0 | 1,403.5 | 86.50 | 17.226 | |
| 9,500.0 | 6,985.0 | 7,087.7 | 7,068.6 | 74.2 | 15.2 | -89.14 | 894.6 | 3,739.8 | 1,395.2 | 1,306.0 | 89.23 | 15.636 | |
| 9,600.0 | 6,985.0 | 7,088.2 | 7,069.1 | 76.9 | 15.2 | -89.20 | 894.6 | 3,739.8 | 1,301.3 | 1,209.3 | 91.97 | 14.148 | |
| 9,700.0 | 6,985.0 | 7,088.6 | 7,069.6 | 79.6 | 15.2 | -89.26 | 894.6 | 3,739.8 | 1,208.3 | 1,113.5 | 94.72 | 12.756 | |
| 9,800.0 | 6,985.0 | 7,089.1 | 7,070.1 | 82.4 | 15.2 | -89.32 | 894.6 | 3,739.8 | 1,116.5 | 1,019.0 | 97.47 | 11.455 | |
| 9,900.0 | 6,985.0 | 7,089.6 | 7,070.5 | 85.1 | 15.2 | -89.38 | 894.6 | 3,739.8 | 1,026.2 | 926.0 | 100.22 | 10.239 | |
| 10,000.0 | 6,985.0 | 7,090.1 | 7,071.0 | 87.9 | 15.2 | -89.44 | 894.6 | 3,739.8 | 937.9 | 834.9 | 102.98 | 9.108 | |
| 10,100.0 | 6,985.0 | 7,090.6 | 7,071.5 | 90.7 | 15.2 | -89.50 | 894.6 | 3,739.8 | 852.2 | 746.5 | 105.74 | 8.060 | |
| 10,200.0 | 6,985.0 | 7,091.0 | 7,071.9 | 93.4 | 15.2 | -89.56 | 894.6 | 3,739.8 | 770.0 | 661.5 | 108.50 | 7.096 | |
| 10,300.0 | 6,985.0 | 7,091.5 | 7,072.4 | 96.2 | 15.2 | -89.62 | 894.6 | 3,739.8 | 692.4 | 581.2 | 111.27 | 6.223 | |
| 10,400.0 | 6,985.0 | 7,091.9 | 7,072.9 | 98.9 | 15.2 | -89.67 | 894.6 | 3,739.8 | 621.4 | 507.3 | 114.04 | 5.449 | |
| 10,500.0 | 6,985.0 | 7,092.4 | 7,073.3 | 101.7 | 15.2 | -89.73 | 894.6 | 3,739.8 | 559.2 | 442.4 | 116.81 | 4.787 | |
| 10,600.0 | 6,985.0 | 7,092.8 | 7,073.8 | 104.5 | 15.2 | -89.78 | 894.6 | 3,739.8 | 509.2 | 389.6 | 119.58 | 4.258 | |
| 10,700.0 | 6,985.0 | 7,093.3 | 7,074.2 | 107.3 | 15.2 | -89.84 | 894.6 | 3,739.8 | 475.2 | 352.9 | 122.36 | 3.884 | |
| 10,800.0 | 6,985.0 | 7,093.7 | 7,074.6 | 110.0 | 15.2 | -89.89 | 894.6 | 3,739.8 | 460.9 | 335.8 | 125.13 | 3.683 | |
| 10,817.0 | 6,985.0 | 7,093.8 | 7,074.7 | 110.5 | 15.2 | -89.90 | 894.6 | 3,739.8 | 460.6 | 335.0 | 125.61 | 3.667 CC, ES | |
| 10,900.0 | 6,985.0 | 7,094.1 | 7,075.1 | 112.8 | 15.2 | -89.95 | 894.6 | 3,739.8 | 468.0 | 340.1 | 127.91 | 3.659 SF | |
| 11,000.0 | 6,985.0 | 7,094.6 | 7,075.5 | 115.6 | 15.2 | -90.00 | 894.6 | 3,739.8 | 495.6 | 364.9 | 130.69 | 3.792 | |
| 11,100.0 | 6,985.0 | 7,095.0 | 7,075.9 | 118.4 | 15.2 | -90.05 | 894.6 | 3,739.8 | 540.6 | 407.1 | 133.47 | 4.050 | |
| 11,200.0 | 6,985.0 | 7,095.4 | 7,076.3 | 121.2 | 15.2 | -90.10 | 894.6 | 3,739.8 | 599.0 | 462.8 | 136.25 | 4.396 | |
| 11,300.0 | 6,985.0 | 7,095.8 | 7,076.7 | 123.9 | 15.2 | -90.15 | 894.6 | 3,739.8 | 667.4 | 528.3 | 139.03 | 4.800 | |
| 11,400.0 | 6,985.0 | 7,096.2 | 7,077.1 | 126.7 | 15.2 | -90.21 | 894.6 | 3,739.8 | 743.0 | 601.1 | 141.82 | 5.239 | |
| 11,500.0 | 6,985.0 | 7,096.6 | 7,077.6 | 129.5 | 15.2 | -90.26 | 894.6 | 3,739.8 | 823.8 | 679.2 | 144.60 | 5.697 | |
| 11,600.0 | 6,985.0 | 7,097.0 | 7,078.0 | 132.3 | 15.2 | -90.31 | 894.6 | 3,739.8 | 908.4 | 761.0 | 147.39 | 6.163 | |
| 11,700.0 | 6,985.0 | 7,097.4 | 7,078.3 | 135.1 | 15.2 | -90.35 | 894.6 | 3,739.8 | 995.9 | 845.7 | 150.17 | 6.631 | |
| 11,800.0 | 6,985.0 | 7,097.8 | 7,078.7 | 137.9 | 15.2 | -90.40 | 894.6 | 3,739.8 | 1,085.5 | 932.6 | 152.96 | 7.097 | |
| 11,900.0 | 6,985.0 | 7,098.2 | 7,079.1 | 140.7 | 15.2 | -90.45 | 894.6 | 3,739.8 | 1,176.8 | 1,021.1 | 155.75 | 7.556 | |
| 12,000.0 | 6,985.0 | 7,098.6 | 7,079.5 | 143.4 | 15.2 | -90.50 | 894.6 | 3,739.8 | 1,269.5 | 1,110.9 | 158.54 | 8.007 | |
| 12,054.1 | 6,985.0 | 7,098.8 | 7,079.7 | 145.0 | 15.2 | -90.53 | 894.6 | 3,739.8 | 1,320.0 | 1,160.0 | 160.05 | 8.248 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 40-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 81.3 | 81.3 | 0.0 | 0.0 | 13.94 | 3,413.6 | 847.1 | 3,517.1 | | | | |
| 100.0 | 100.0 | 183.5 | 183.5 | 0.1 | 0.2 | 13.94 | 3,413.4 | 847.2 | 3,517.0 | 3,516.7 | 0.27 | N/A | |
| 200.0 | 200.0 | 286.0 | 286.0 | 0.3 | 0.4 | 13.94 | 3,413.2 | 847.4 | 3,516.9 | 3,516.1 | 0.73 | 4,846.062 | |
| 300.0 | 300.0 | 388.2 | 388.2 | 0.5 | 0.6 | 13.95 | 3,412.9 | 847.8 | 3,516.6 | 3,515.5 | 1.18 | 2,978.721 | |
| 400.0 | 400.0 | 490.4 | 490.4 | 0.8 | 0.9 | 13.96 | 3,412.5 | 848.2 | 3,516.4 | 3,514.7 | 1.64 | 2,149.875 | |
| 500.0 | 500.0 | 592.6 | 592.6 | 1.0 | 1.1 | 13.97 | 3,412.0 | 848.8 | 3,516.0 | 3,513.9 | 2.09 | 1,681.655 | |
| 600.0 | 600.0 | 699.9 | 699.8 | 1.2 | 1.3 | 13.98 | 3,411.4 | 849.3 | 3,515.6 | 3,513.0 | 2.54 | 1,384.596 | |
| 700.0 | 700.0 | 813.1 | 813.1 | 1.4 | 1.5 | 13.98 | 3,410.5 | 849.2 | 3,514.8 | 3,511.8 | 2.99 | 1,175.955 | |
| 800.0 | 800.0 | 929.0 | 928.9 | 1.7 | 1.8 | 13.99 | 3,409.1 | 849.2 | 3,513.6 | 3,510.1 | 3.47 | 1,012.344 | |
| 900.0 | 900.0 | 1,010.0 | 1,009.9 | 1.9 | 2.0 | 52.58 | 3,408.1 | 849.1 | 3,511.4 | 3,507.5 | 3.84 | 913.345 | |
| 1,000.0 | 999.8 | 1,107.1 | 1,107.1 | 2.1 | 2.1 | 52.71 | 3,407.5 | 848.7 | 3,507.5 | 3,503.2 | 4.26 | 824.274 | |
| 1,100.0 | 1,099.5 | 2,180.9 | 2,162.4 | 2.4 | 5.6 | 55.27 | 3,240.3 | 862.8 | 3,485.5 | 3,478.4 | 7.13 | 488.581 | |
| 1,200.0 | 1,198.7 | 2,388.2 | 2,359.1 | 2.6 | 6.7 | 56.74 | 3,175.5 | 871.0 | 3,450.1 | 3,442.1 | 8.03 | 429.862 | |
| 1,300.0 | 1,297.5 | 2,501.6 | 2,465.6 | 2.9 | 7.4 | 58.04 | 3,137.0 | 875.8 | 3,410.1 | 3,401.4 | 8.70 | 392.001 | |
| 1,400.0 | 1,395.6 | 2,560.0 | 2,520.5 | 3.2 | 7.7 | 59.14 | 3,117.1 | 878.3 | 3,368.6 | 3,359.4 | 9.20 | 366.090 | |
| 1,400.2 | 1,395.8 | 2,560.0 | 2,520.5 | 3.2 | 7.7 | 59.14 | 3,117.1 | 878.3 | 3,368.5 | 3,359.3 | 9.20 | 366.050 | |
| 1,500.0 | 1,493.4 | 2,600.0 | 2,558.2 | 3.6 | 7.8 | 59.38 | 3,103.8 | 880.0 | 3,327.5 | 3,317.8 | 9.66 | 344.461 | |
| 1,600.0 | 1,591.2 | 2,666.2 | 2,621.0 | 3.9 | 8.2 | 59.77 | 3,082.9 | 882.5 | 3,287.7 | 3,277.5 | 10.23 | 321.531 | |
| 1,700.0 | 1,689.1 | 2,775.8 | 2,724.9 | 4.3 | 8.8 | 60.44 | 3,048.1 | 886.7 | 3,248.0 | 3,237.0 | 11.01 | 295.108 | |
| 1,800.0 | 1,786.9 | 2,840.0 | 2,785.6 | 4.7 | 9.1 | 60.84 | 3,027.7 | 889.3 | 3,208.6 | 3,197.0 | 11.61 | 276.401 | |
| 1,900.0 | 1,884.7 | 2,880.0 | 2,823.6 | 5.2 | 9.3 | 61.09 | 3,015.4 | 891.0 | 3,170.4 | 3,158.3 | 12.13 | 261.372 | |
| 2,000.0 | 1,982.5 | 2,934.0 | 2,875.2 | 5.6 | 9.6 | 61.43 | 2,999.5 | 893.3 | 3,133.8 | 3,121.1 | 12.71 | 246.622 | |
| 2,100.0 | 2,080.3 | 3,034.3 | 2,971.3 | 6.0 | 10.1 | 62.06 | 2,970.7 | 897.0 | 3,097.9 | 3,084.4 | 13.48 | 229.863 | |
| 2,200.0 | 2,178.1 | 3,110.2 | 3,043.9 | 6.4 | 10.5 | 62.54 | 2,949.0 | 899.5 | 3,062.1 | 3,047.9 | 14.16 | 216.246 | |
| 2,300.0 | 2,275.9 | 3,188.7 | 3,119.1 | 6.9 | 10.9 | 63.05 | 2,926.7 | 902.4 | 3,027.0 | 3,012.1 | 14.87 | 203.576 | |
| 2,400.0 | 2,373.8 | 3,287.5 | 3,213.7 | 7.3 | 11.4 | 63.71 | 2,898.5 | 906.7 | 2,992.2 | 2,976.6 | 15.70 | 190.642 | |
| 2,500.0 | 2,471.6 | 3,424.1 | 3,344.0 | 7.7 | 12.2 | 64.68 | 2,857.9 | 912.6 | 2,956.8 | 2,940.1 | 16.73 | 176.731 | |
| 2,600.0 | 2,569.4 | 3,508.1 | 3,423.8 | 8.2 | 12.7 | 65.30 | 2,832.1 | 917.1 | 2,921.2 | 2,903.6 | 17.54 | 166.504 | |
| 2,700.0 | 2,667.2 | 3,720.2 | 3,623.5 | 8.6 | 14.1 | 67.02 | 2,761.7 | 929.7 | 2,884.1 | 2,865.0 | 19.10 | 150.975 | |
| 2,800.0 | 2,765.0 | 3,818.5 | 3,715.1 | 9.0 | 14.7 | 67.86 | 2,726.5 | 935.3 | 2,845.2 | 2,825.1 | 20.08 | 141.678 | |
| 2,900.0 | 2,862.8 | 3,880.0 | 3,772.7 | 9.5 | 15.1 | 68.38 | 2,705.1 | 938.0 | 2,807.1 | 2,786.3 | 20.83 | 134.771 | |
| 3,000.0 | 2,960.6 | 3,920.0 | 3,810.4 | 9.9 | 15.3 | 68.71 | 2,691.8 | 939.4 | 2,770.5 | 2,749.1 | 21.45 | 129.139 | |
| 3,100.0 | 3,058.4 | 3,960.0 | 3,848.4 | 10.4 | 15.5 | 69.03 | 2,679.5 | 940.7 | 2,736.0 | 2,713.9 | 22.07 | 123.950 | |
| 3,200.0 | 3,156.3 | 4,007.5 | 3,893.8 | 10.8 | 15.7 | 69.40 | 2,665.6 | 942.1 | 2,703.3 | 2,680.6 | 22.73 | 118.942 | |
| 3,300.0 | 3,254.1 | 4,092.6 | 3,975.3 | 11.3 | 16.2 | 70.09 | 2,641.2 | 944.6 | 2,671.5 | 2,647.9 | 23.59 | 113.237 | |
| 3,400.0 | 3,351.9 | 4,160.0 | 4,039.8 | 11.7 | 16.6 | 70.65 | 2,621.9 | 947.3 | 2,640.7 | 2,616.3 | 24.38 | 108.323 | |
| 3,465.5 | 3,416.0 | 4,214.5 | 4,092.0 | 12.0 | 16.9 | 71.12 | 2,606.4 | 950.0 | 2,621.0 | 2,596.0 | 24.96 | 105.007 | |
| 3,500.0 | 3,449.7 | 4,247.5 | 4,123.6 | 12.1 | 17.1 | 71.20 | 2,596.9 | 951.7 | 2,610.8 | 2,585.5 | 25.25 | 103.410 | |
| 3,600.0 | 3,548.1 | 4,420.3 | 4,288.0 | 12.5 | 18.1 | 72.03 | 2,544.3 | 958.6 | 2,579.8 | 2,553.4 | 26.44 | 97.590 | |
| 3,700.0 | 3,647.1 | 4,576.2 | 4,435.7 | 12.7 | 19.0 | 72.57 | 2,494.7 | 961.2 | 2,548.5 | 2,521.1 | 27.46 | 92.814 | |
| 3,800.0 | 3,746.5 | 4,626.7 | 4,483.5 | 13.0 | 19.3 | 72.32 | 2,478.3 | 962.1 | 2,518.2 | 2,490.4 | 27.87 | 90.368 | |
| 3,900.0 | 3,846.2 | 4,703.6 | 4,556.4 | 13.2 | 19.7 | 72.25 | 2,454.1 | 964.3 | 2,490.4 | 2,462.0 | 28.38 | 87.741 | |
| 4,000.0 | 3,946.1 | 4,760.0 | 4,610.0 | 13.3 | 20.0 | 72.06 | 2,436.4 | 966.0 | 2,464.3 | 2,435.6 | 28.76 | 85.682 | |
| 4,065.7 | 4,011.8 | 4,800.0 | 4,648.2 | 13.4 | 20.2 | 33.40 | 2,424.7 | 967.0 | 2,448.7 | 2,421.7 | 27.01 | 90.657 | |
| 4,100.0 | 4,046.1 | 4,815.3 | 4,662.9 | 13.5 | 20.3 | 33.46 | 2,420.4 | 967.3 | 2,441.0 | 2,413.9 | 27.12 | 90.001 | |
| 4,200.0 | 4,146.1 | 4,867.2 | 4,713.0 | 13.6 | 20.6 | 33.66 | 2,407.0 | 968.1 | 2,420.0 | 2,392.5 | 27.49 | 88.047 | |
| 4,300.0 | 4,246.1 | 4,920.0 | 4,764.3 | 13.8 | 20.8 | 33.84 | 2,394.3 | 968.8 | 2,400.7 | 2,372.8 | 27.85 | 86.214 | |
| 4,400.0 | 4,346.1 | 4,988.8 | 4,831.3 | 13.9 | 21.1 | 34.08 | 2,378.9 | 969.9 | 2,382.9 | 2,354.7 | 28.25 | 84.357 | |
| 4,500.0 | 4,446.1 | 5,054.8 | 4,895.8 | 14.1 | 21.4 | 34.30 | 2,364.9 | 971.6 | 2,366.6 | 2,338.0 | 28.63 | 82.650 | |
| 4,600.0 | 4,546.1 | 5,120.0 | 4,959.6 | 14.2 | 21.6 | 34.53 | 2,351.6 | 973.8 | 2,351.6 | 2,322.6 | 29.01 | 81.066 | |
| 4,700.0 | 4,646.1 | 5,183.3 | 5,021.7 | 14.4 | 21.9 | 34.75 | 2,339.6 | 976.1 | 2,338.0 | 2,308.7 | 29.36 | 79.624 | |
| 4,800.0 | 4,746.1 | 5,240.0 | 5,077.6 | 14.5 | 22.1 | 34.92 | 2,330.2 | 978.0 | 2,326.2 | 2,296.5 | 29.69 | 78.341 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - EXIST DD KINZER 28KD - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|---|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 40-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
| 4,900.0 | 4,846.1 | 5,306.4 | 5,143.2 | 14.7 | 22.3 | 35.10 | 2,320.5 | 980.1 | 2,316.0 | 2,286.0 | 30.04 | 77.111 | |
| 5,000.0 | 4,946.1 | 5,372.4 | 5,208.7 | 14.8 | 22.5 | 35.26 | 2,312.1 | 982.1 | 2,307.4 | 2,277.0 | 30.37 | 75.984 | |
| 5,100.0 | 5,046.1 | 5,444.5 | 5,280.3 | 15.0 | 22.6 | 35.41 | 2,304.4 | 984.0 | 2,300.1 | 2,269.4 | 30.70 | 74.918 | |
| 5,200.0 | 5,146.1 | 5,520.0 | 5,355.5 | 15.1 | 22.8 | 35.53 | 2,297.8 | 985.0 | 2,293.8 | 2,262.8 | 31.04 | 73.901 | |
| 5,300.0 | 5,246.1 | 5,600.0 | 5,435.3 | 15.3 | 23.0 | 35.61 | 2,292.4 | 985.3 | 2,288.5 | 2,257.1 | 31.38 | 72.927 | |
| 5,400.0 | 5,346.1 | 5,668.2 | 5,503.5 | 15.5 | 23.1 | 35.65 | 2,289.1 | 985.1 | 2,284.4 | 2,252.7 | 31.70 | 72.074 | |
| 5,500.0 | 5,446.1 | 5,743.9 | 5,579.1 | 15.6 | 23.2 | 35.68 | 2,286.8 | 984.7 | 2,281.6 | 2,249.5 | 32.01 | 71.269 | |
| 5,600.0 | 5,546.1 | 5,815.7 | 5,650.9 | 15.8 | 23.3 | 35.69 | 2,285.4 | 984.3 | 2,279.7 | 2,247.4 | 32.32 | 70.538 | |
| 5,662.5 | 5,608.6 | 5,852.8 | 5,688.1 | 15.9 | 23.3 | 35.70 | 2,285.2 | 984.3 | 2,279.4 | 2,246.9 | 32.50 | 70.145 | |
| 5,700.0 | 5,646.1 | 5,880.0 | 5,715.2 | 16.0 | 23.4 | 35.70 | 2,285.2 | 984.4 | 2,279.5 | 2,246.9 | 32.60 | 69.914 | |
| 5,800.0 | 5,746.1 | 5,960.9 | 5,796.1 | 16.1 | 23.4 | 35.70 | 2,285.8 | 985.0 | 2,280.6 | 2,247.7 | 32.90 | 69.323 | |
| 5,900.0 | 5,846.1 | 6,063.0 | 5,898.2 | 16.3 | 23.5 | 35.69 | 2,287.1 | 985.6 | 2,281.9 | 2,248.7 | 33.21 | 68.701 | |
| 6,000.0 | 5,946.1 | 6,170.8 | 6,005.9 | 16.5 | 23.6 | 35.68 | 2,288.3 | 985.7 | 2,282.9 | 2,249.3 | 33.55 | 68.053 | |
| 6,100.0 | 6,046.1 | 6,269.5 | 6,104.6 | 16.7 | 23.7 | 35.66 | 2,289.5 | 985.5 | 2,283.8 | 2,249.9 | 33.87 | 67.426 | |
| 6,200.0 | 6,146.1 | 6,371.7 | 6,206.9 | 16.8 | 23.8 | 35.63 | 2,290.8 | 985.2 | 2,284.6 | 2,250.4 | 34.20 | 66.797 | |
| 6,300.0 | 6,246.1 | 6,464.3 | 6,299.5 | 17.0 | 23.9 | 35.60 | 2,292.3 | 984.9 | 2,285.7 | 2,251.2 | 34.52 | 66.209 | |
| 6,322.7 | 6,268.8 | 6,495.4 | 6,330.6 | 17.1 | 23.9 | 35.59 | 2,292.8 | 984.7 | 2,285.9 | 2,251.3 | 34.61 | 66.051 | |
| 6,350.0 | 6,296.1 | 6,539.6 | 6,374.8 | 17.1 | 23.9 | -54.46 | 2,293.4 | 984.2 | 2,285.7 | 2,249.1 | 36.56 | 62.517 | |
| 6,400.0 | 6,345.9 | 6,589.1 | 6,424.3 | 17.2 | 24.0 | -54.69 | 2,293.8 | 983.4 | 2,283.5 | 2,247.0 | 36.51 | 62.547 | |
| 6,450.0 | 6,395.4 | 6,628.6 | 6,463.7 | 17.2 | 24.0 | -55.08 | 2,294.3 | 983.0 | 2,279.5 | 2,243.2 | 36.33 | 62.749 | |
| 6,500.0 | 6,444.3 | 6,677.5 | 6,512.6 | 17.2 | 24.1 | -55.70 | 2,294.8 | 982.7 | 2,273.7 | 2,237.7 | 36.04 | 63.084 | |
| 6,550.0 | 6,492.3 | 6,734.6 | 6,569.8 | 17.2 | 24.1 | -56.57 | 2,295.2 | 982.5 | 2,265.9 | 2,230.2 | 35.67 | 63.528 | |
| 6,600.0 | 6,539.2 | 6,778.0 | 6,613.1 | 17.2 | 24.2 | -57.57 | 2,295.3 | 982.4 | 2,256.1 | 2,220.9 | 35.21 | 64.077 | |
| 6,650.0 | 6,584.8 | 6,813.9 | 6,649.0 | 17.2 | 24.2 | -58.68 | 2,295.5 | 982.3 | 2,244.8 | 2,210.1 | 34.70 | 64.697 | |
| 6,700.0 | 6,628.9 | 6,848.0 | 6,683.1 | 17.2 | 24.3 | -59.96 | 2,295.9 | 982.3 | 2,232.1 | 2,198.0 | 34.16 | 65.338 | |
| 6,750.0 | 6,671.2 | 6,880.0 | 6,715.1 | 17.2 | 24.3 | -61.38 | 2,296.4 | 982.4 | 2,218.2 | 2,184.5 | 33.64 | 65.943 | |
| 6,800.0 | 6,711.5 | 6,908.9 | 6,744.0 | 17.2 | 24.3 | -62.92 | 2,297.0 | 982.5 | 2,203.0 | 2,169.9 | 33.15 | 66.447 | |
| 6,850.0 | 6,749.7 | 6,941.0 | 6,776.1 | 17.2 | 24.4 | -64.66 | 2,297.8 | 982.6 | 2,186.9 | 2,154.1 | 32.75 | 66.766 | |
| 6,900.0 | 6,785.6 | 6,977.0 | 6,812.1 | 17.1 | 24.4 | -66.64 | 2,298.7 | 982.8 | 2,169.8 | 2,137.3 | 32.48 | 66.812 | |
| 6,950.0 | 6,818.9 | 7,014.7 | 6,849.8 | 17.1 | 24.4 | -68.81 | 2,299.6 | 983.0 | 2,151.8 | 2,119.4 | 32.35 | 66.511 | |
| 7,000.0 | 6,849.5 | 7,049.3 | 6,884.4 | 17.1 | 24.4 | -71.07 | 2,300.4 | 983.1 | 2,133.1 | 2,100.7 | 32.40 | 65.844 | |
| 7,050.0 | 6,877.4 | 7,080.3 | 6,915.4 | 17.2 | 24.5 | -73.38 | 2,301.0 | 983.2 | 2,113.8 | 2,081.2 | 32.61 | 64.819 | |
| 7,100.0 | 6,902.2 | 7,107.8 | 6,942.9 | 17.3 | 24.5 | -75.69 | 2,301.6 | 983.3 | 2,094.4 | 2,061.4 | 32.99 | 63.478 | |
| 7,150.0 | 6,924.0 | 7,131.1 | 6,966.2 | 17.7 | 24.5 | -77.96 | 2,302.1 | 983.3 | 2,074.8 | 2,041.3 | 33.52 | 61.890 | |
| 7,200.0 | 6,942.6 | 7,150.3 | 6,985.4 | 18.2 | 24.5 | -80.14 | 2,302.4 | 983.4 | 2,055.4 | 2,021.2 | 34.18 | 60.134 | |
| 7,250.0 | 6,957.9 | 7,166.0 | 7,001.1 | 18.8 | 24.6 | -82.22 | 2,302.7 | 983.4 | 2,036.3 | 2,001.4 | 34.94 | 58.282 | |
| 7,300.0 | 6,969.8 | 7,178.1 | 7,013.2 | 19.6 | 24.6 | -84.17 | 2,303.0 | 983.4 | 2,017.7 | 1,982.0 | 35.78 | 56.400 | |
| 7,350.0 | 6,978.3 | 7,186.7 | 7,021.8 | 20.4 | 24.6 | -85.95 | 2,303.1 | 983.4 | 1,999.9 | 1,963.2 | 36.67 | 54.539 | |
| 7,400.0 | 6,983.4 | 7,191.9 | 7,026.9 | 21.3 | 24.6 | -87.55 | 2,303.2 | 983.4 | 1,982.8 | 1,945.2 | 37.60 | 52.734 | |
| 7,447.7 | 6,985.0 | 7,193.5 | 7,028.5 | 22.1 | 24.6 | -88.90 | 2,303.3 | 983.4 | 1,967.5 | 1,929.0 | 38.51 | 51.087 | |
| 7,500.0 | 6,985.0 | 7,193.5 | 7,028.5 | 23.1 | 24.6 | -88.90 | 2,303.3 | 983.4 | 1,951.8 | 1,912.3 | 39.51 | 49.406 | |
| 7,600.0 | 6,985.0 | 7,193.5 | 7,028.5 | 25.2 | 24.6 | -88.90 | 2,303.3 | 983.4 | 1,925.5 | 1,884.0 | 41.54 | 46.358 | |
| 7,700.0 | 6,985.0 | 7,193.5 | 7,028.6 | 27.4 | 24.6 | -88.90 | 2,303.3 | 983.4 | 1,904.1 | 1,860.4 | 43.70 | 43.567 | |
| 7,800.0 | 6,985.0 | 7,193.5 | 7,028.6 | 29.7 | 24.6 | -88.90 | 2,303.3 | 983.4 | 1,887.7 | 1,841.7 | 45.98 | 41.054 | |
| 7,900.0 | 6,985.0 | 7,193.5 | 7,028.6 | 32.0 | 24.6 | -88.90 | 2,303.3 | 983.4 | 1,876.5 | 1,828.1 | 48.34 | 38.818 | |
| 8,000.0 | 6,985.0 | 7,193.6 | 7,028.6 | 34.5 | 24.6 | -88.90 | 2,303.3 | 983.4 | 1,870.6 | 1,819.8 | 50.77 | 36.845 | |
| 8,060.6 | 6,985.0 | 7,193.6 | 7,028.6 | 36.0 | 24.6 | -88.90 | 2,303.3 | 983.4 | 1,869.6 | 1,817.3 | 52.27 | 35.765 CC | |
| 8,100.0 | 6,985.0 | 7,193.6 | 7,028.6 | 36.9 | 24.6 | -88.90 | 2,303.3 | 983.4 | 1,870.0 | 1,816.8 | 53.25 | 35.117 ES | |
| 8,200.0 | 6,985.0 | 7,193.6 | 7,028.6 | 39.5 | 24.6 | -88.90 | 2,303.3 | 983.4 | 1,874.8 | 1,819.0 | 55.78 | 33.612 | |
| 8,300.0 | 6,985.0 | 7,193.6 | 7,028.6 | 42.0 | 24.6 | -88.90 | 2,303.3 | 983.4 | 1,884.9 | 1,826.5 | 58.34 | 32.308 | |
| 8,400.0 | 6,985.0 | 7,193.6 | 7,028.7 | 44.6 | 24.6 | -88.90 | 2,303.3 | 983.4 | 1,900.2 | 1,839.2 | 60.93 | 31.185 | |
| 8,500.0 | 6,985.0 | 7,193.6 | 7,028.7 | 47.2 | 24.6 | -88.90 | 2,303.3 | 983.4 | 1,920.5 | 1,857.0 | 63.55 | 30.221 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - EXIST DD KINZER 28KD - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | | Offset Site Error: 0.0 usft | |
|--|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|-------------------|-----------------------------|---------|
| Survey Program: 40-MWD | | | | | | | | | | | | | Offset Well Error: 0.0 usft | |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | | |
| 8,600.0 | 6,985.0 | 7,193.6 | 7,028.7 | 49.9 | 24.6 | -88.90 | 2,303.3 | 983.4 | 1,945.9 | 1,879.7 | 66.19 | 29.399 | | |
| 8,700.0 | 6,985.0 | 7,193.7 | 7,028.7 | 52.5 | 24.6 | -88.90 | 2,303.3 | 983.4 | 1,975.9 | 1,907.1 | 68.84 | 28.702 | | |
| 8,800.0 | 6,985.0 | 7,193.7 | 7,028.7 | 55.2 | 24.6 | -88.90 | 2,303.3 | 983.4 | 2,010.5 | 1,939.0 | 71.51 | 28.114 | | |
| 8,900.0 | 6,985.0 | 7,193.7 | 7,028.7 | 57.9 | 24.6 | -88.90 | 2,303.3 | 983.4 | 2,049.4 | 1,975.2 | 74.20 | 27.621 | | |
| 9,000.0 | 6,985.0 | 7,193.7 | 7,028.7 | 60.6 | 24.6 | -88.90 | 2,303.3 | 983.4 | 2,092.3 | 2,015.4 | 76.89 | 27.211 | | |
| 9,100.0 | 6,985.0 | 7,193.7 | 7,028.8 | 63.3 | 24.6 | -88.90 | 2,303.3 | 983.4 | 2,139.1 | 2,059.5 | 79.60 | 26.874 | | |
| 9,200.0 | 6,985.0 | 7,193.7 | 7,028.8 | 66.0 | 24.6 | -88.90 | 2,303.3 | 983.4 | 2,189.4 | 2,107.1 | 82.31 | 26.599 | | |
| 9,300.0 | 6,985.0 | 7,193.7 | 7,028.8 | 68.7 | 24.6 | -88.91 | 2,303.3 | 983.4 | 2,243.1 | 2,158.1 | 85.03 | 26.379 | | |
| 9,400.0 | 6,985.0 | 7,193.7 | 7,028.8 | 71.4 | 24.6 | -88.91 | 2,303.3 | 983.4 | 2,299.9 | 2,212.1 | 87.76 | 26.206 | | |
| 9,500.0 | 6,985.0 | 7,193.8 | 7,028.8 | 74.2 | 24.6 | -88.91 | 2,303.3 | 983.4 | 2,359.5 | 2,269.0 | 90.50 | 26.073 | | |
| 9,600.0 | 6,985.0 | 7,193.8 | 7,028.8 | 76.9 | 24.6 | -88.91 | 2,303.3 | 983.4 | 2,421.8 | 2,328.6 | 93.23 | 25.975 | | |
| 9,700.0 | 6,985.0 | 7,193.8 | 7,028.8 | 79.6 | 24.6 | -88.91 | 2,303.3 | 983.4 | 2,486.6 | 2,390.6 | 95.98 | 25.907 | | |
| 9,800.0 | 6,985.0 | 7,193.8 | 7,028.8 | 82.4 | 24.6 | -88.91 | 2,303.3 | 983.4 | 2,553.6 | 2,454.9 | 98.73 | 25.865 | | |
| 9,900.0 | 6,985.0 | 7,193.8 | 7,028.9 | 85.1 | 24.6 | -88.91 | 2,303.3 | 983.4 | 2,622.7 | 2,521.3 | 101.48 | 25.845 | | |
| 10,000.0 | 6,985.0 | 7,193.8 | 7,028.9 | 87.9 | 24.6 | -88.91 | 2,303.3 | 983.4 | 2,693.8 | 2,589.6 | 104.24 | 25.843 SF | | |
| 10,100.0 | 6,985.0 | 7,193.8 | 7,028.9 | 90.7 | 24.6 | -88.91 | 2,303.3 | 983.4 | 2,766.7 | 2,659.7 | 107.00 | 25.858 | | |
| 10,200.0 | 6,985.0 | 7,193.9 | 7,028.9 | 93.4 | 24.6 | -88.91 | 2,303.3 | 983.4 | 2,841.2 | 2,731.4 | 109.76 | 25.886 | | |
| 10,300.0 | 6,985.0 | 7,193.9 | 7,028.9 | 96.2 | 24.6 | -88.91 | 2,303.3 | 983.4 | 2,917.2 | 2,804.7 | 112.52 | 25.925 | | |
| 10,400.0 | 6,985.0 | 7,193.9 | 7,028.9 | 98.9 | 24.6 | -88.91 | 2,303.3 | 983.4 | 2,994.7 | 2,879.4 | 115.29 | 25.975 | | |
| 10,500.0 | 6,985.0 | 7,193.9 | 7,028.9 | 101.7 | 24.6 | -88.91 | 2,303.3 | 983.4 | 3,073.4 | 2,955.4 | 118.06 | 26.032 | | |
| 10,600.0 | 6,985.0 | 7,193.9 | 7,029.0 | 104.5 | 24.6 | -88.91 | 2,303.3 | 983.4 | 3,153.4 | 3,032.6 | 120.83 | 26.097 | | |
| 10,700.0 | 6,985.0 | 7,193.9 | 7,029.0 | 107.3 | 24.6 | -88.91 | 2,303.3 | 983.4 | 3,234.5 | 3,110.9 | 123.61 | 26.167 | | |
| 10,800.0 | 6,985.0 | 7,193.9 | 7,029.0 | 110.0 | 24.6 | -88.91 | 2,303.3 | 983.4 | 3,316.6 | 3,190.2 | 126.38 | 26.242 | | |
| 10,900.0 | 6,985.0 | 7,193.9 | 7,029.0 | 112.8 | 24.6 | -88.91 | 2,303.3 | 983.4 | 3,399.6 | 3,270.5 | 129.16 | 26.321 | | |
| 11,000.0 | 6,985.0 | 7,194.0 | 7,029.0 | 115.6 | 24.6 | -88.91 | 2,303.3 | 983.4 | 3,483.6 | 3,351.7 | 131.94 | 26.403 | | |
| 11,100.0 | 6,985.0 | 7,194.0 | 7,029.0 | 118.4 | 24.6 | -88.91 | 2,303.3 | 983.4 | 3,568.4 | 3,433.7 | 134.72 | 26.487 | | |
| 11,200.0 | 6,985.0 | 7,194.0 | 7,029.0 | 121.2 | 24.6 | -88.91 | 2,303.3 | 983.4 | 3,653.9 | 3,516.4 | 137.50 | 26.574 | | |
| 11,300.0 | 6,985.0 | 7,194.0 | 7,029.0 | 123.9 | 24.6 | -88.91 | 2,303.3 | 983.4 | 3,740.2 | 3,599.9 | 140.28 | 26.662 | | |
| 11,400.0 | 6,985.0 | 7,194.0 | 7,029.1 | 126.7 | 24.6 | -88.91 | 2,303.3 | 983.4 | 3,827.1 | 3,684.1 | 143.07 | 26.750 | | |
| 11,500.0 | 6,985.0 | 7,194.0 | 7,029.1 | 129.5 | 24.6 | -88.91 | 2,303.3 | 983.4 | 3,914.7 | 3,768.8 | 145.85 | 26.840 | | |
| 11,600.0 | 6,985.0 | 7,194.0 | 7,029.1 | 132.3 | 24.6 | -88.91 | 2,303.3 | 983.4 | 4,002.8 | 3,854.2 | 148.64 | 26.930 | | |
| 11,700.0 | 6,985.0 | 7,194.0 | 7,029.1 | 135.1 | 24.6 | -88.91 | 2,303.3 | 983.4 | 4,091.5 | 3,940.1 | 151.43 | 27.020 | | |
| 11,800.0 | 6,985.0 | 7,194.1 | 7,029.1 | 137.9 | 24.6 | -88.92 | 2,303.3 | 983.4 | 4,180.7 | 4,026.5 | 154.21 | 27.110 | | |
| 11,900.0 | 6,985.0 | 7,194.1 | 7,029.1 | 140.7 | 24.6 | -88.92 | 2,303.3 | 983.4 | 4,270.4 | 4,113.4 | 157.00 | 27.200 | | |
| 12,000.0 | 6,985.0 | 7,194.1 | 7,029.1 | 143.4 | 24.6 | -88.92 | 2,303.3 | 983.4 | 4,360.5 | 4,200.7 | 159.79 | 27.289 | | |
| 12,054.1 | 6,985.0 | 7,194.1 | 7,029.1 | 145.0 | 24.6 | -88.92 | 2,303.3 | 983.4 | 4,409.5 | 4,248.2 | 161.30 | 27.337 | | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 80-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 92.56 | -14.6 | 326.0 | 326.4 | | | | |
| 100.0 | 100.0 | 96.9 | 96.9 | 0.1 | 0.1 | 92.57 | -14.6 | 326.0 | 326.3 | 326.1 | 0.21 | 1,524.699 | |
| 200.0 | 200.0 | 197.3 | 197.3 | 0.3 | 0.3 | 92.59 | -14.8 | 325.8 | 326.1 | 325.5 | 0.66 | 490.741 | |
| 300.0 | 300.0 | 297.8 | 297.8 | 0.5 | 0.6 | 92.64 | -15.0 | 325.5 | 325.8 | 324.7 | 1.12 | 292.092 | |
| 400.0 | 400.0 | 397.8 | 397.8 | 0.8 | 0.8 | 92.70 | -15.3 | 325.1 | 325.4 | 323.9 | 1.57 | 207.877 | |
| 500.0 | 500.0 | 498.4 | 498.4 | 1.0 | 1.0 | 92.78 | -15.8 | 324.5 | 324.9 | 322.9 | 2.02 | 161.087 | |
| 600.0 | 600.0 | 598.6 | 598.6 | 1.2 | 1.2 | 92.88 | -16.3 | 323.9 | 324.3 | 321.8 | 2.47 | 131.390 | |
| 700.0 | 700.0 | 699.6 | 699.5 | 1.4 | 1.5 | 93.00 | -16.9 | 323.0 | 323.5 | 320.6 | 2.92 | 110.810 | |
| 800.0 | 800.0 | 800.5 | 800.5 | 1.7 | 1.7 | 93.13 | -17.6 | 321.9 | 322.4 | 319.0 | 3.36 | 95.883 | |
| 849.4 | 849.4 | 849.6 | 849.6 | 1.8 | 1.8 | 131.77 | -17.8 | 321.3 | 322.1 | 318.5 | 3.56 | 90.465 CC, ES | |
| 900.0 | 900.0 | 900.0 | 899.9 | 1.9 | 1.9 | 131.97 | -18.0 | 320.7 | 322.4 | 318.6 | 3.77 | 85.609 | |
| 1,000.0 | 999.8 | 999.8 | 999.7 | 2.1 | 2.1 | 132.69 | -18.3 | 319.7 | 324.9 | 320.7 | 4.18 | 77.633 | |
| 1,100.0 | 1,099.5 | 1,099.6 | 1,099.6 | 2.4 | 2.3 | 133.82 | -18.7 | 318.5 | 329.8 | 325.2 | 4.62 | 71.371 | |
| 1,200.0 | 1,198.7 | 1,199.2 | 1,199.1 | 2.6 | 2.5 | 135.31 | -19.2 | 317.3 | 337.2 | 332.1 | 5.06 | 66.597 | |
| 1,300.0 | 1,297.5 | 1,298.2 | 1,298.2 | 2.9 | 2.7 | 137.10 | -19.8 | 316.1 | 347.4 | 341.9 | 5.50 | 63.117 | |
| 1,400.0 | 1,395.6 | 1,396.4 | 1,396.3 | 3.2 | 2.9 | 139.05 | -20.1 | 314.8 | 360.5 | 354.5 | 5.95 | 60.591 | |
| 1,400.2 | 1,395.8 | 1,396.6 | 1,396.6 | 3.2 | 2.9 | 139.06 | -20.1 | 314.8 | 360.5 | 354.6 | 5.95 | 60.586 | |
| 1,500.0 | 1,493.4 | 1,494.5 | 1,494.4 | 3.6 | 3.1 | 141.16 | -20.2 | 313.6 | 375.4 | 369.0 | 6.41 | 58.521 | |
| 1,600.0 | 1,591.2 | 1,591.9 | 1,591.8 | 3.9 | 3.3 | 143.09 | -20.2 | 312.5 | 390.9 | 384.0 | 6.88 | 56.774 | |
| 1,700.0 | 1,689.1 | 1,689.9 | 1,689.8 | 4.3 | 3.5 | 144.75 | -20.2 | 312.0 | 407.3 | 400.0 | 7.35 | 55.428 | |
| 1,800.0 | 1,786.9 | 1,771.7 | 1,771.6 | 4.7 | 3.6 | 146.20 | -20.6 | 313.2 | 426.1 | 418.3 | 7.81 | 54.563 | |
| 1,900.0 | 1,884.7 | 1,857.8 | 1,857.7 | 5.2 | 3.8 | 147.52 | -21.8 | 316.5 | 447.6 | 439.3 | 8.27 | 54.133 | |
| 2,000.0 | 1,982.5 | 1,945.7 | 1,945.4 | 5.6 | 4.0 | 148.82 | -24.1 | 321.5 | 471.5 | 462.8 | 8.73 | 54.009 | |
| 2,100.0 | 2,080.3 | 2,034.0 | 2,033.3 | 6.0 | 4.2 | 150.16 | -28.2 | 327.3 | 497.2 | 488.0 | 9.19 | 54.086 | |
| 2,200.0 | 2,178.1 | 2,112.6 | 2,111.5 | 6.4 | 4.4 | 151.32 | -33.1 | 334.0 | 525.6 | 516.0 | 9.64 | 54.538 | |
| 2,300.0 | 2,275.9 | 2,190.2 | 2,188.4 | 6.9 | 4.5 | 152.38 | -39.2 | 342.8 | 557.2 | 547.2 | 10.08 | 55.289 | |
| 2,400.0 | 2,373.8 | 2,265.7 | 2,262.8 | 7.3 | 4.7 | 153.34 | -46.3 | 353.3 | 591.9 | 581.4 | 10.52 | 56.291 | |
| 2,500.0 | 2,471.6 | 2,340.7 | 2,336.3 | 7.7 | 4.9 | 154.21 | -54.3 | 365.6 | 629.6 | 618.7 | 10.95 | 57.488 | |
| 2,600.0 | 2,569.4 | 2,421.8 | 2,415.4 | 8.2 | 5.2 | 154.99 | -63.2 | 381.2 | 669.8 | 658.4 | 11.40 | 58.777 | |
| 2,700.0 | 2,667.2 | 2,520.2 | 2,511.5 | 8.6 | 5.5 | 155.74 | -73.0 | 400.3 | 709.8 | 698.0 | 11.86 | 59.871 | |
| 2,800.0 | 2,765.0 | 2,611.5 | 2,600.6 | 9.0 | 5.8 | 156.28 | -81.0 | 418.2 | 749.4 | 737.1 | 12.31 | 60.866 | |
| 2,900.0 | 2,862.8 | 2,699.1 | 2,686.1 | 9.5 | 6.1 | 156.75 | -89.0 | 435.6 | 789.6 | 776.9 | 12.77 | 61.815 | |
| 3,000.0 | 2,960.6 | 2,796.3 | 2,781.0 | 9.9 | 6.4 | 157.25 | -98.0 | 454.5 | 829.5 | 816.3 | 13.25 | 62.624 | |
| 3,100.0 | 3,058.4 | 2,886.7 | 2,869.4 | 10.4 | 6.7 | 157.66 | -106.2 | 472.0 | 869.3 | 855.6 | 13.71 | 63.390 | |
| 3,200.0 | 3,156.3 | 2,981.7 | 2,962.2 | 10.8 | 7.1 | 158.03 | -114.4 | 490.4 | 908.9 | 894.8 | 14.19 | 64.060 | |
| 3,300.0 | 3,254.1 | 3,071.1 | 3,049.6 | 11.3 | 7.4 | 158.36 | -122.3 | 507.7 | 948.6 | 934.0 | 14.66 | 64.704 | |
| 3,400.0 | 3,351.9 | 3,161.2 | 3,137.6 | 11.7 | 7.7 | 158.67 | -130.4 | 525.2 | 988.5 | 973.4 | 15.13 | 65.319 | |
| 3,465.5 | 3,416.0 | 3,221.3 | 3,196.3 | 12.0 | 8.0 | 158.86 | -135.7 | 537.0 | 1,014.7 | 999.3 | 15.45 | 65.694 | |
| 3,500.0 | 3,449.7 | 3,253.0 | 3,227.2 | 12.1 | 8.1 | 159.06 | -138.5 | 543.2 | 1,028.3 | 1,012.7 | 15.62 | 65.848 | |
| 3,600.0 | 3,548.1 | 3,342.3 | 3,314.4 | 12.5 | 8.5 | 159.54 | -146.6 | 560.7 | 1,065.9 | 1,049.8 | 16.07 | 66.308 | |
| 3,700.0 | 3,647.1 | 3,419.0 | 3,389.2 | 12.7 | 8.8 | 159.92 | -154.0 | 576.2 | 1,101.2 | 1,084.7 | 16.49 | 66.775 | |
| 3,800.0 | 3,746.5 | 3,495.5 | 3,463.4 | 13.0 | 9.1 | 160.21 | -161.9 | 592.7 | 1,135.0 | 1,118.1 | 16.89 | 67.204 | |
| 3,900.0 | 3,846.2 | 3,580.5 | 3,545.6 | 13.2 | 9.5 | 160.42 | -171.1 | 612.2 | 1,166.9 | 1,149.6 | 17.29 | 67.497 | |
| 4,000.0 | 3,946.1 | 3,681.8 | 3,643.5 | 13.3 | 10.0 | 160.53 | -182.2 | 635.6 | 1,196.0 | 1,178.3 | 17.71 | 67.551 | |
| 4,065.7 | 4,011.8 | 3,763.6 | 3,722.9 | 13.4 | 10.3 | 122.00 | -190.5 | 653.9 | 1,212.8 | 1,189.3 | 23.41 | 51.807 | |
| 4,100.0 | 4,046.1 | 3,807.9 | 3,765.9 | 13.5 | 10.5 | 121.92 | -194.6 | 663.4 | 1,220.7 | 1,197.0 | 23.64 | 51.640 | |
| 4,200.0 | 4,146.1 | 3,912.4 | 3,867.8 | 13.6 | 11.0 | 121.78 | -204.4 | 684.8 | 1,243.0 | 1,218.8 | 24.21 | 51.333 | |
| 4,300.0 | 4,246.1 | 4,009.2 | 3,962.1 | 13.8 | 11.4 | 121.68 | -213.9 | 704.1 | 1,265.1 | 1,240.3 | 24.77 | 51.073 | |
| 4,400.0 | 4,346.1 | 4,114.7 | 4,065.1 | 13.9 | 11.8 | 121.57 | -224.0 | 725.0 | 1,287.0 | 1,261.6 | 25.36 | 50.751 | |
| 4,500.0 | 4,446.1 | 4,211.6 | 4,159.7 | 14.1 | 12.2 | 121.47 | -233.0 | 744.1 | 1,308.7 | 1,282.8 | 25.92 | 50.488 | |
| 4,600.0 | 4,546.1 | 4,329.3 | 4,274.7 | 14.2 | 12.7 | 121.33 | -243.1 | 766.6 | 1,329.5 | 1,302.9 | 26.55 | 50.066 | |
| 4,700.0 | 4,646.1 | 4,419.3 | 4,362.8 | 14.4 | 13.1 | 121.27 | -251.3 | 783.0 | 1,349.8 | 1,322.7 | 27.08 | 49.853 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - EXIST DD KINZER 28LD - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|---|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 80-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
| 4,800.0 | 4,746.1 | 4,502.8 | 4,444.3 | 14.5 | 13.4 | 121.20 | -259.2 | 799.1 | 1,371.1 | 1,343.6 | 27.59 | 49.695 | |
| 4,900.0 | 4,846.1 | 4,599.7 | 4,538.9 | 14.7 | 13.9 | 121.09 | -268.0 | 818.4 | 1,392.9 | 1,364.8 | 28.17 | 49.445 | |
| 5,000.0 | 4,946.1 | 4,711.0 | 4,647.5 | 14.8 | 14.3 | 120.94 | -277.2 | 841.0 | 1,414.6 | 1,385.8 | 28.81 | 49.106 | |
| 5,100.0 | 5,046.1 | 4,851.0 | 4,784.9 | 15.0 | 14.9 | 120.77 | -287.5 | 866.1 | 1,433.7 | 1,404.2 | 29.52 | 48.572 | |
| 5,200.0 | 5,146.1 | 4,946.9 | 4,879.1 | 15.1 | 15.3 | 120.66 | -294.0 | 882.2 | 1,451.6 | 1,421.6 | 30.04 | 48.316 | |
| 5,300.0 | 5,246.1 | 5,046.9 | 4,977.4 | 15.3 | 15.6 | 120.54 | -300.6 | 899.4 | 1,469.8 | 1,439.2 | 30.59 | 48.050 | |
| 5,400.0 | 5,346.1 | 5,163.0 | 5,091.7 | 15.5 | 16.1 | 120.45 | -309.0 | 918.3 | 1,487.5 | 1,456.3 | 31.18 | 47.702 | |
| 5,500.0 | 5,446.1 | 5,320.4 | 5,247.3 | 15.6 | 16.6 | 120.35 | -318.8 | 939.8 | 1,502.4 | 1,470.5 | 31.88 | 47.125 | |
| 5,600.0 | 5,546.1 | 5,561.7 | 5,487.8 | 15.8 | 17.2 | 120.28 | -326.4 | 956.6 | 1,509.0 | 1,476.4 | 32.63 | 46.253 | |
| 5,700.0 | 5,646.1 | 5,689.4 | 5,615.5 | 16.0 | 17.4 | 120.27 | -327.9 | 959.6 | 1,511.7 | 1,478.7 | 33.02 | 45.775 | |
| 5,800.0 | 5,746.1 | 5,810.6 | 5,736.6 | 16.1 | 17.6 | 120.26 | -328.3 | 960.9 | 1,512.7 | 1,479.3 | 33.39 | 45.307 | |
| 5,900.0 | 5,846.1 | 5,908.1 | 5,834.2 | 16.3 | 17.7 | 120.24 | -328.0 | 961.5 | 1,513.1 | 1,479.4 | 33.71 | 44.889 | |
| 6,000.0 | 5,946.1 | 6,000.0 | 5,926.0 | 16.5 | 17.9 | 120.22 | -328.1 | 962.4 | 1,514.0 | 1,480.0 | 34.03 | 44.495 | |
| 6,100.0 | 6,046.1 | 6,095.5 | 6,021.5 | 16.7 | 18.0 | 120.21 | -328.4 | 963.6 | 1,515.3 | 1,480.9 | 34.36 | 44.104 | |
| 6,200.0 | 6,146.1 | 6,195.4 | 6,121.4 | 16.8 | 18.2 | 120.21 | -329.1 | 964.9 | 1,516.7 | 1,482.0 | 34.70 | 43.708 | |
| 6,300.0 | 6,246.1 | 6,299.3 | 6,225.3 | 17.0 | 18.4 | 120.21 | -329.8 | 966.0 | 1,518.0 | 1,483.0 | 35.05 | 43.307 | |
| 6,322.7 | 6,268.8 | 6,323.4 | 6,249.4 | 17.1 | 18.4 | 120.21 | -329.9 | 966.3 | 1,518.3 | 1,483.1 | 35.13 | 43.215 | |
| 6,350.0 | 6,296.1 | 6,350.8 | 6,276.8 | 17.1 | 18.4 | 30.23 | -330.1 | 966.5 | 1,518.1 | 1,489.7 | 28.43 | 53.389 | |
| 6,400.0 | 6,345.9 | 6,404.3 | 6,330.3 | 17.2 | 18.5 | 30.41 | -330.2 | 967.0 | 1,515.4 | 1,486.8 | 28.56 | 53.058 | |
| 6,450.0 | 6,395.4 | 6,456.9 | 6,382.9 | 17.2 | 18.6 | 30.78 | -330.3 | 967.4 | 1,509.6 | 1,481.0 | 28.60 | 52.781 | |
| 6,500.0 | 6,444.3 | 6,508.1 | 6,434.0 | 17.2 | 18.7 | 31.37 | -330.4 | 967.6 | 1,500.8 | 1,472.2 | 28.56 | 52.548 | |
| 6,550.0 | 6,492.3 | 6,557.7 | 6,483.6 | 17.2 | 18.8 | 32.17 | -330.6 | 967.7 | 1,489.0 | 1,460.5 | 28.45 | 52.341 | |
| 6,600.0 | 6,539.2 | 6,606.3 | 6,532.3 | 17.2 | 18.8 | 33.21 | -330.8 | 967.8 | 1,474.4 | 1,446.1 | 28.28 | 52.128 | |
| 6,650.0 | 6,584.8 | 6,652.4 | 6,578.4 | 17.2 | 18.9 | 34.48 | -331.0 | 967.8 | 1,457.0 | 1,428.9 | 28.09 | 51.872 | |
| 6,700.0 | 6,628.9 | 6,695.2 | 6,621.1 | 17.2 | 19.0 | 35.98 | -331.1 | 967.8 | 1,437.0 | 1,409.1 | 27.89 | 51.527 | |
| 6,750.0 | 6,671.2 | 6,733.3 | 6,659.3 | 17.2 | 19.0 | 37.73 | -331.2 | 967.9 | 1,414.8 | 1,387.0 | 27.72 | 51.037 | |
| 6,800.0 | 6,711.5 | 6,771.0 | 6,697.0 | 17.2 | 19.1 | 39.79 | -331.4 | 968.1 | 1,390.3 | 1,362.7 | 27.64 | 50.306 | |
| 6,850.0 | 6,749.7 | 6,809.5 | 6,735.5 | 17.2 | 19.2 | 42.23 | -331.7 | 968.3 | 1,363.8 | 1,336.1 | 27.70 | 49.234 | |
| 6,900.0 | 6,785.6 | 6,847.3 | 6,773.3 | 17.1 | 19.2 | 45.08 | -331.9 | 968.5 | 1,335.4 | 1,307.4 | 27.96 | 47.753 | |
| 6,950.0 | 6,818.9 | 6,883.2 | 6,809.1 | 17.1 | 19.3 | 48.34 | -332.0 | 968.7 | 1,305.2 | 1,276.8 | 28.47 | 45.838 | |
| 7,000.0 | 6,849.5 | 6,913.5 | 6,839.5 | 17.1 | 19.3 | 51.90 | -332.1 | 968.8 | 1,273.6 | 1,244.4 | 29.23 | 43.570 | |
| 7,050.0 | 6,877.4 | 6,941.8 | 6,867.7 | 17.2 | 19.4 | 55.84 | -332.1 | 968.9 | 1,240.8 | 1,210.6 | 30.26 | 41.001 | |
| 7,100.0 | 6,902.2 | 6,967.1 | 6,893.1 | 17.3 | 19.4 | 60.12 | -332.3 | 969.0 | 1,207.1 | 1,175.6 | 31.53 | 38.281 | |
| 7,150.0 | 6,924.0 | 6,989.3 | 6,915.3 | 17.7 | 19.4 | 64.64 | -332.4 | 969.0 | 1,172.8 | 1,139.8 | 32.97 | 35.569 | |
| 7,200.0 | 6,942.6 | 7,008.2 | 6,934.1 | 18.2 | 19.5 | 69.28 | -332.5 | 969.1 | 1,138.2 | 1,103.7 | 34.49 | 32.997 | |
| 7,250.0 | 6,957.9 | 7,023.7 | 6,949.6 | 18.8 | 19.5 | 73.92 | -332.5 | 969.1 | 1,103.5 | 1,067.5 | 36.01 | 30.649 | |
| 7,300.0 | 6,969.8 | 7,035.7 | 6,961.7 | 19.6 | 19.5 | 78.42 | -332.6 | 969.1 | 1,069.2 | 1,031.8 | 37.43 | 28.562 | |
| 7,350.0 | 6,978.3 | 7,044.3 | 6,970.3 | 20.4 | 19.5 | 82.63 | -332.7 | 969.1 | 1,035.5 | 996.8 | 38.73 | 26.734 | |
| 7,400.0 | 6,983.4 | 7,049.4 | 6,975.4 | 21.3 | 19.5 | 86.45 | -332.7 | 969.1 | 1,002.8 | 962.9 | 39.89 | 25.137 | |
| 7,447.7 | 6,985.0 | 7,051.0 | 6,977.0 | 22.1 | 19.5 | 89.66 | -332.7 | 969.1 | 972.7 | 931.8 | 40.88 | 23.794 | |
| 7,500.0 | 6,985.0 | 7,051.1 | 6,977.0 | 23.1 | 19.5 | 89.67 | -332.7 | 969.1 | 941.4 | 899.6 | 41.87 | 22.483 | |
| 7,600.0 | 6,985.0 | 7,051.1 | 6,977.1 | 25.2 | 19.5 | 89.67 | -332.7 | 969.1 | 887.2 | 843.3 | 43.90 | 20.206 | |
| 7,700.0 | 6,985.0 | 7,051.2 | 6,977.2 | 27.4 | 19.5 | 89.68 | -332.7 | 969.1 | 841.3 | 795.2 | 46.07 | 18.260 | |
| 7,800.0 | 6,985.0 | 7,051.3 | 6,977.3 | 29.7 | 19.5 | 89.69 | -332.7 | 969.1 | 805.3 | 757.0 | 48.35 | 16.655 | |
| 7,900.0 | 6,985.0 | 7,051.4 | 6,977.4 | 32.0 | 19.5 | 89.69 | -332.7 | 969.1 | 780.5 | 729.8 | 50.71 | 15.391 | |
| 8,000.0 | 6,985.0 | 7,051.5 | 6,977.5 | 34.5 | 19.5 | 89.70 | -332.7 | 969.1 | 768.1 | 715.0 | 53.14 | 14.454 | |
| 8,046.3 | 6,985.0 | 7,051.6 | 6,977.6 | 35.6 | 19.5 | 89.71 | -332.7 | 969.1 | 766.7 | 712.4 | 54.29 | 14.121 | |
| 8,100.0 | 6,985.0 | 7,051.6 | 6,977.6 | 36.9 | 19.5 | 89.71 | -332.7 | 969.1 | 768.6 | 712.9 | 55.63 | 13.817 | |
| 8,200.0 | 6,985.0 | 7,051.7 | 6,977.7 | 39.5 | 19.5 | 89.72 | -332.7 | 969.1 | 781.9 | 723.8 | 58.15 | 13.446 | |
| 8,300.0 | 6,985.0 | 7,051.8 | 6,977.8 | 42.0 | 19.5 | 89.72 | -332.7 | 969.1 | 807.6 | 746.9 | 60.72 | 13.301 SF | |
| 8,400.0 | 6,985.0 | 7,051.9 | 6,977.9 | 44.6 | 19.5 | 89.73 | -332.7 | 969.1 | 844.3 | 781.0 | 63.31 | 13.337 | |
| 8,500.0 | 6,985.0 | 7,052.0 | 6,978.0 | 47.2 | 19.5 | 89.74 | -332.7 | 969.1 | 890.9 | 824.9 | 65.93 | 13.513 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - EXIST DD KINZER 28LD - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|---|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 80-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
| 8,600.0 | 6,985.0 | 7,052.1 | 6,978.1 | 49.9 | 19.5 | 89.75 | -332.7 | 969.1 | 945.7 | 877.1 | 68.57 | 13.793 | |
| 8,700.0 | 6,985.0 | 7,052.2 | 6,978.2 | 52.5 | 19.5 | 89.75 | -332.7 | 969.1 | 1,007.5 | 936.3 | 71.22 | 14.146 | |
| 8,800.0 | 6,985.0 | 7,052.3 | 6,978.3 | 55.2 | 19.5 | 89.76 | -332.7 | 969.1 | 1,075.1 | 1,001.2 | 73.89 | 14.549 | |
| 8,900.0 | 6,985.0 | 7,052.4 | 6,978.4 | 57.9 | 19.5 | 89.77 | -332.7 | 969.1 | 1,147.4 | 1,070.8 | 76.58 | 14.983 | |
| 9,000.0 | 6,985.0 | 7,052.5 | 6,978.5 | 60.6 | 19.5 | 89.78 | -332.7 | 969.1 | 1,223.6 | 1,144.4 | 79.27 | 15.435 | |
| 9,100.0 | 6,985.0 | 7,052.6 | 6,978.6 | 63.3 | 19.5 | 89.78 | -332.7 | 969.1 | 1,303.1 | 1,221.1 | 81.98 | 15.895 | |
| 9,200.0 | 6,985.0 | 7,052.7 | 6,978.7 | 66.0 | 19.5 | 89.79 | -332.7 | 969.1 | 1,385.2 | 1,300.5 | 84.70 | 16.355 | |
| 9,300.0 | 6,985.0 | 7,052.8 | 6,978.8 | 68.7 | 19.5 | 89.80 | -332.7 | 969.1 | 1,469.5 | 1,382.1 | 87.42 | 16.810 | |
| 9,400.0 | 6,985.0 | 7,052.9 | 6,978.9 | 71.4 | 19.6 | 89.81 | -332.7 | 969.1 | 1,555.7 | 1,465.6 | 90.15 | 17.257 | |
| 9,500.0 | 6,985.0 | 7,053.0 | 6,979.0 | 74.2 | 19.6 | 89.81 | -332.7 | 969.1 | 1,643.4 | 1,550.6 | 92.88 | 17.694 | |
| 9,600.0 | 6,985.0 | 7,053.1 | 6,979.1 | 76.9 | 19.6 | 89.82 | -332.7 | 969.1 | 1,732.5 | 1,636.9 | 95.62 | 18.119 | |
| 9,700.0 | 6,985.0 | 7,053.2 | 6,979.2 | 79.6 | 19.6 | 89.83 | -332.7 | 969.1 | 1,822.7 | 1,724.4 | 98.37 | 18.530 | |
| 9,800.0 | 6,985.0 | 7,053.3 | 6,979.3 | 82.4 | 19.6 | 89.84 | -332.7 | 969.1 | 1,913.9 | 1,812.8 | 101.12 | 18.928 | |
| 9,900.0 | 6,985.0 | 7,053.4 | 6,979.4 | 85.1 | 19.6 | 89.84 | -332.7 | 969.1 | 2,006.0 | 1,902.1 | 103.87 | 19.312 | |
| 10,000.0 | 6,985.0 | 7,053.5 | 6,979.5 | 87.9 | 19.6 | 89.85 | -332.7 | 969.1 | 2,098.7 | 1,992.1 | 106.63 | 19.683 | |
| 10,100.0 | 6,985.0 | 7,053.7 | 6,979.6 | 90.7 | 19.6 | 89.86 | -332.7 | 969.1 | 2,192.1 | 2,082.7 | 109.39 | 20.040 | |
| 10,200.0 | 6,985.0 | 7,053.8 | 6,979.7 | 93.4 | 19.6 | 89.87 | -332.7 | 969.1 | 2,286.1 | 2,173.9 | 112.15 | 20.384 | |
| 10,300.0 | 6,985.0 | 7,053.9 | 6,979.8 | 96.2 | 19.6 | 89.88 | -332.7 | 969.1 | 2,380.5 | 2,265.6 | 114.92 | 20.715 | |
| 10,400.0 | 6,985.0 | 7,054.0 | 6,979.9 | 98.9 | 19.6 | 89.88 | -332.7 | 969.1 | 2,475.4 | 2,357.7 | 117.68 | 21.034 | |
| 10,500.0 | 6,985.0 | 7,054.1 | 6,980.0 | 101.7 | 19.6 | 89.89 | -332.7 | 969.1 | 2,570.6 | 2,450.2 | 120.45 | 21.341 | |
| 10,600.0 | 6,985.0 | 7,054.2 | 6,980.2 | 104.5 | 19.6 | 89.90 | -332.7 | 969.1 | 2,666.3 | 2,543.0 | 123.23 | 21.637 | |
| 10,700.0 | 6,985.0 | 7,054.3 | 6,980.3 | 107.3 | 19.6 | 89.91 | -332.7 | 969.1 | 2,762.2 | 2,636.2 | 126.00 | 21.922 | |
| 10,800.0 | 6,985.0 | 7,054.4 | 6,980.4 | 110.0 | 19.6 | 89.92 | -332.7 | 969.1 | 2,858.4 | 2,729.6 | 128.78 | 22.196 | |
| 10,900.0 | 6,985.0 | 7,054.5 | 6,980.5 | 112.8 | 19.6 | 89.92 | -332.7 | 969.1 | 2,954.9 | 2,823.3 | 131.56 | 22.461 | |
| 11,000.0 | 6,985.0 | 7,054.6 | 6,980.6 | 115.6 | 19.6 | 89.93 | -332.7 | 969.1 | 3,051.5 | 2,917.2 | 134.34 | 22.716 | |
| 11,100.0 | 6,985.0 | 7,054.7 | 6,980.7 | 118.4 | 19.6 | 89.94 | -332.7 | 969.1 | 3,148.4 | 3,011.3 | 137.12 | 22.962 | |
| 11,200.0 | 6,985.0 | 7,054.8 | 6,980.8 | 121.2 | 19.6 | 89.95 | -332.7 | 969.1 | 3,245.5 | 3,105.6 | 139.90 | 23.199 | |
| 11,300.0 | 6,985.0 | 7,054.9 | 6,980.9 | 123.9 | 19.6 | 89.96 | -332.7 | 969.1 | 3,342.8 | 3,200.1 | 142.68 | 23.428 | |
| 11,400.0 | 6,985.0 | 7,055.0 | 6,981.0 | 126.7 | 19.6 | 89.96 | -332.7 | 969.1 | 3,440.2 | 3,294.7 | 145.47 | 23.649 | |
| 11,500.0 | 6,985.0 | 7,055.1 | 6,981.1 | 129.5 | 19.6 | 89.97 | -332.7 | 969.1 | 3,537.7 | 3,389.5 | 148.25 | 23.863 | |
| 11,600.0 | 6,985.0 | 7,055.2 | 6,981.2 | 132.3 | 19.6 | 89.98 | -332.7 | 969.1 | 3,635.4 | 3,484.4 | 151.04 | 24.069 | |
| 11,700.0 | 6,985.0 | 7,055.4 | 6,981.3 | 135.1 | 19.6 | 89.99 | -332.7 | 969.1 | 3,733.2 | 3,579.4 | 153.83 | 24.269 | |
| 11,800.0 | 6,985.0 | 7,055.5 | 6,981.4 | 137.9 | 19.6 | 90.00 | -332.7 | 969.1 | 3,831.1 | 3,674.5 | 156.62 | 24.462 | |
| 11,900.0 | 6,985.0 | 7,055.6 | 6,981.5 | 140.7 | 19.6 | 90.00 | -332.7 | 969.1 | 3,929.2 | 3,769.8 | 159.40 | 24.649 | |
| 12,000.0 | 6,985.0 | 7,055.7 | 6,981.7 | 143.4 | 19.6 | 90.01 | -332.7 | 969.1 | 4,027.3 | 3,865.1 | 162.19 | 24.830 | |
| 12,054.1 | 6,985.0 | 7,055.7 | 6,981.7 | 145.0 | 19.6 | 90.02 | -332.7 | 969.1 | 4,080.5 | 3,916.8 | 163.71 | 24.926 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 104.5 | 104.5 | 0.0 | 0.0 | 59.74 | 1,737.9 | 2,978.7 | 3,448.7 | | | | |
| 100.0 | 100.0 | 204.5 | 204.5 | 0.1 | 1.2 | 59.74 | 1,737.9 | 2,978.7 | 3,448.7 | 3,447.4 | 1.29 | 2,667.086 | |
| 200.0 | 200.0 | 304.5 | 304.5 | 0.3 | 3.5 | 59.74 | 1,737.9 | 2,978.7 | 3,448.7 | 3,444.8 | 3.82 | 902.524 | |
| 300.0 | 300.0 | 404.5 | 404.5 | 0.5 | 5.6 | 59.74 | 1,737.9 | 2,978.7 | 3,448.7 | 3,442.5 | 6.12 | 563.118 | |
| 400.0 | 400.0 | 504.5 | 504.5 | 0.8 | 7.6 | 59.74 | 1,737.9 | 2,978.7 | 3,448.7 | 3,440.3 | 8.39 | 410.998 | |
| 500.0 | 500.0 | 604.5 | 604.5 | 1.0 | 9.6 | 59.74 | 1,737.9 | 2,978.7 | 3,448.7 | 3,438.0 | 10.64 | 323.983 | |
| 600.0 | 600.0 | 704.5 | 704.5 | 1.2 | 11.7 | 59.74 | 1,737.9 | 2,978.7 | 3,448.7 | 3,435.8 | 12.89 | 267.504 | |
| 700.0 | 700.0 | 804.5 | 804.5 | 1.4 | 13.7 | 59.74 | 1,737.9 | 2,978.7 | 3,448.7 | 3,433.5 | 15.14 | 227.846 | |
| 800.0 | 800.0 | 904.5 | 904.5 | 1.7 | 15.7 | 59.74 | 1,737.9 | 2,978.7 | 3,448.7 | 3,431.3 | 17.38 | 198.452 | |
| 900.0 | 900.0 | 1,004.5 | 1,004.5 | 1.9 | 17.7 | 98.30 | 1,737.9 | 2,978.7 | 3,448.9 | 3,429.3 | 19.61 | 175.835 | |
| 1,000.0 | 999.8 | 1,104.3 | 1,104.3 | 2.1 | 19.7 | 98.37 | 1,737.9 | 2,978.7 | 3,449.7 | 3,427.8 | 21.85 | 157.898 | |
| 1,100.0 | 1,099.5 | 1,204.0 | 1,204.0 | 2.4 | 21.7 | 98.49 | 1,737.9 | 2,978.7 | 3,451.0 | 3,426.9 | 24.08 | 143.288 | |
| 1,200.0 | 1,198.7 | 1,303.2 | 1,303.2 | 2.6 | 23.7 | 98.65 | 1,737.9 | 2,978.7 | 3,452.8 | 3,426.5 | 26.33 | 131.131 | |
| 1,300.0 | 1,297.5 | 1,402.0 | 1,402.0 | 2.9 | 25.7 | 98.86 | 1,737.9 | 2,978.7 | 3,455.2 | 3,426.6 | 28.60 | 120.831 | |
| 1,400.0 | 1,395.6 | 1,500.1 | 1,500.1 | 3.2 | 27.7 | 99.10 | 1,737.9 | 2,978.7 | 3,458.2 | 3,427.4 | 30.88 | 111.975 | |
| 1,400.2 | 1,395.8 | 1,500.3 | 1,500.3 | 3.2 | 27.7 | 99.10 | 1,737.9 | 2,978.7 | 3,458.2 | 3,427.4 | 30.89 | 111.956 | |
| 1,500.0 | 1,493.4 | 1,597.9 | 1,597.9 | 3.6 | 29.7 | 99.44 | 1,737.9 | 2,978.7 | 3,461.7 | 3,428.5 | 33.20 | 104.255 | |
| 1,600.0 | 1,591.2 | 1,695.7 | 1,695.7 | 3.9 | 31.6 | 99.77 | 1,737.9 | 2,978.7 | 3,465.2 | 3,429.7 | 35.54 | 97.496 | |
| 1,700.0 | 1,689.1 | 1,793.6 | 1,793.6 | 4.3 | 33.6 | 100.10 | 1,737.9 | 2,978.7 | 3,468.9 | 3,431.0 | 37.89 | 91.543 | |
| 1,800.0 | 1,786.9 | 1,891.4 | 1,891.4 | 4.7 | 35.6 | 100.43 | 1,737.9 | 2,978.7 | 3,472.7 | 3,432.4 | 40.25 | 86.267 | |
| 1,900.0 | 1,884.7 | 1,989.2 | 1,989.2 | 5.2 | 37.5 | 100.76 | 1,737.9 | 2,978.7 | 3,476.6 | 3,433.9 | 42.62 | 81.565 | |
| 2,000.0 | 1,982.5 | 2,087.0 | 2,087.0 | 5.6 | 39.5 | 101.09 | 1,737.9 | 2,978.7 | 3,480.6 | 3,435.6 | 45.00 | 77.351 | |
| 2,100.0 | 2,080.3 | 2,184.8 | 2,184.8 | 6.0 | 41.5 | 101.42 | 1,737.9 | 2,978.7 | 3,484.7 | 3,437.4 | 47.38 | 73.556 | |
| 2,200.0 | 2,178.1 | 2,282.6 | 2,282.6 | 6.4 | 43.4 | 101.75 | 1,737.9 | 2,978.7 | 3,489.0 | 3,439.2 | 49.76 | 70.121 | |
| 2,300.0 | 2,275.9 | 2,380.4 | 2,380.4 | 6.9 | 45.4 | 102.07 | 1,737.9 | 2,978.7 | 3,493.4 | 3,441.2 | 52.14 | 67.000 | |
| 2,400.0 | 2,373.8 | 2,478.3 | 2,478.3 | 7.3 | 47.4 | 102.40 | 1,737.9 | 2,978.7 | 3,497.9 | 3,443.4 | 54.52 | 64.152 | |
| 2,500.0 | 2,471.6 | 2,576.1 | 2,576.1 | 7.7 | 49.3 | 102.73 | 1,737.9 | 2,978.7 | 3,502.5 | 3,445.6 | 56.91 | 61.544 | |
| 2,600.0 | 2,569.4 | 2,673.9 | 2,673.9 | 8.2 | 51.3 | 103.05 | 1,737.9 | 2,978.7 | 3,507.2 | 3,448.0 | 59.30 | 59.147 | |
| 2,700.0 | 2,667.2 | 2,771.7 | 2,771.7 | 8.6 | 53.3 | 103.37 | 1,737.9 | 2,978.7 | 3,512.1 | 3,450.4 | 61.68 | 56.936 | |
| 2,800.0 | 2,765.0 | 2,869.5 | 2,869.5 | 9.0 | 55.3 | 103.70 | 1,737.9 | 2,978.7 | 3,517.1 | 3,453.0 | 64.07 | 54.892 | |
| 2,900.0 | 2,862.8 | 2,967.3 | 2,967.3 | 9.5 | 57.2 | 104.02 | 1,737.9 | 2,978.7 | 3,522.2 | 3,455.7 | 66.46 | 52.997 | |
| 3,000.0 | 2,960.6 | 3,065.1 | 3,065.1 | 9.9 | 59.2 | 104.34 | 1,737.9 | 2,978.7 | 3,527.4 | 3,458.5 | 68.85 | 51.235 | |
| 3,100.0 | 3,058.4 | 3,162.9 | 3,162.9 | 10.4 | 61.2 | 104.66 | 1,737.9 | 2,978.7 | 3,532.7 | 3,461.4 | 71.23 | 49.593 | |
| 3,200.0 | 3,156.3 | 3,260.8 | 3,260.8 | 10.8 | 63.1 | 104.98 | 1,737.9 | 2,978.7 | 3,538.1 | 3,464.5 | 73.62 | 48.059 | |
| 3,300.0 | 3,254.1 | 3,358.6 | 3,358.6 | 11.3 | 65.1 | 105.30 | 1,737.9 | 2,978.7 | 3,543.7 | 3,467.6 | 76.00 | 46.624 | |
| 3,400.0 | 3,351.9 | 3,456.4 | 3,456.4 | 11.7 | 67.1 | 105.61 | 1,737.9 | 2,978.7 | 3,549.3 | 3,470.9 | 78.39 | 45.278 | |
| 3,465.5 | 3,416.0 | 3,520.5 | 3,520.5 | 12.0 | 68.3 | 105.82 | 1,737.9 | 2,978.7 | 3,553.1 | 3,473.1 | 79.95 | 44.441 | |
| 3,500.0 | 3,449.7 | 3,554.2 | 3,554.2 | 12.1 | 69.0 | 105.96 | 1,737.9 | 2,978.7 | 3,555.0 | 3,474.3 | 80.77 | 44.015 | |
| 3,600.0 | 3,548.1 | 3,652.6 | 3,652.6 | 12.5 | 71.0 | 106.34 | 1,737.9 | 2,978.7 | 3,560.1 | 3,477.0 | 83.08 | 42.854 | |
| 3,700.0 | 3,647.1 | 3,751.6 | 3,751.6 | 12.7 | 73.0 | 106.64 | 1,737.9 | 2,978.7 | 3,564.2 | 3,478.9 | 85.36 | 41.756 | |
| 3,800.0 | 3,746.5 | 3,851.0 | 3,851.0 | 13.0 | 75.0 | 106.86 | 1,737.9 | 2,978.7 | 3,567.4 | 3,479.8 | 87.61 | 40.719 | |
| 3,900.0 | 3,846.2 | 3,950.7 | 3,950.7 | 13.2 | 77.0 | 107.02 | 1,737.9 | 2,978.7 | 3,569.6 | 3,479.8 | 89.83 | 39.738 | |
| 4,000.0 | 3,946.1 | 4,050.6 | 4,050.6 | 13.3 | 79.0 | 107.11 | 1,737.9 | 2,978.7 | 3,570.8 | 3,478.8 | 92.01 | 38.810 | |
| 4,065.7 | 4,011.8 | 4,116.3 | 4,116.3 | 13.4 | 80.3 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,480.8 | 90.18 | 39.598 | |
| 4,100.0 | 4,046.1 | 4,150.6 | 4,150.6 | 13.5 | 81.0 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,480.1 | 90.93 | 39.272 | |
| 4,200.0 | 4,146.1 | 4,250.6 | 4,250.6 | 13.6 | 83.0 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,477.9 | 93.13 | 38.343 | |
| 4,300.0 | 4,246.1 | 4,350.6 | 4,350.6 | 13.8 | 85.0 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,475.7 | 95.34 | 37.456 | |
| 4,400.0 | 4,346.1 | 4,450.6 | 4,450.6 | 13.9 | 87.1 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,473.5 | 97.55 | 36.609 | |
| 4,500.0 | 4,446.1 | 4,550.6 | 4,550.6 | 14.1 | 89.1 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,471.3 | 99.75 | 35.799 | |
| 4,600.0 | 4,546.1 | 4,650.6 | 4,650.6 | 14.2 | 91.1 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,469.1 | 101.96 | 35.023 | |
| 4,700.0 | 4,646.1 | 4,750.6 | 4,750.6 | 14.4 | 93.1 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,466.8 | 104.17 | 34.281 | |
| 4,800.0 | 4,746.1 | 4,850.6 | 4,850.6 | 14.5 | 95.1 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,464.6 | 106.38 | 33.568 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,950.6 | 4,950.6 | 14.7 | 97.1 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,462.4 | 108.59 | 32.885 | |
| 5,000.0 | 4,946.1 | 5,050.6 | 5,050.6 | 14.8 | 99.1 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,460.2 | 110.80 | 32.228 | |
| 5,100.0 | 5,046.1 | 5,150.6 | 5,150.6 | 15.0 | 101.1 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,458.0 | 113.02 | 31.597 | |
| 5,200.0 | 5,146.1 | 5,250.6 | 5,250.6 | 15.1 | 103.1 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,455.8 | 115.23 | 30.990 | |
| 5,300.0 | 5,246.1 | 5,350.6 | 5,350.6 | 15.3 | 105.2 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,453.6 | 117.45 | 30.406 | |
| 5,400.0 | 5,346.1 | 5,450.6 | 5,450.6 | 15.5 | 107.2 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,451.4 | 119.66 | 29.843 | |
| 5,500.0 | 5,446.1 | 5,550.6 | 5,550.6 | 15.6 | 109.2 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,449.1 | 121.88 | 29.300 | |
| 5,600.0 | 5,546.1 | 5,650.6 | 5,650.6 | 15.8 | 111.2 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,446.9 | 124.09 | 28.777 | |
| 5,700.0 | 5,646.1 | 5,750.6 | 5,750.6 | 16.0 | 113.2 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,444.7 | 126.31 | 28.272 | |
| 5,800.0 | 5,746.1 | 5,850.6 | 5,850.6 | 16.1 | 115.2 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,442.5 | 128.53 | 27.784 | |
| 5,900.0 | 5,846.1 | 5,950.6 | 5,950.6 | 16.3 | 117.2 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,440.3 | 130.75 | 27.312 | |
| 6,000.0 | 5,946.1 | 6,050.6 | 6,050.6 | 16.5 | 119.2 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,438.1 | 132.97 | 26.857 | |
| 6,100.0 | 6,046.1 | 6,150.6 | 6,150.6 | 16.7 | 121.2 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,435.8 | 135.19 | 26.416 | |
| 6,200.0 | 6,146.1 | 6,250.6 | 6,250.6 | 16.8 | 123.2 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,433.6 | 137.41 | 25.989 | |
| 6,300.0 | 6,246.1 | 6,350.6 | 6,350.6 | 17.0 | 125.3 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,431.4 | 139.63 | 25.576 | |
| 6,322.7 | 6,268.8 | 6,373.3 | 6,373.3 | 17.1 | 125.7 | 68.58 | 1,737.9 | 2,978.7 | 3,571.0 | 3,430.9 | 140.13 | 25.483 | |
| 6,350.0 | 6,296.1 | 6,400.6 | 6,400.6 | 17.1 | 126.3 | -21.43 | 1,737.9 | 2,978.7 | 3,570.5 | 3,427.6 | 142.98 | 24.972 | |
| 6,400.0 | 6,345.9 | 6,450.4 | 6,450.4 | 17.2 | 127.3 | -21.55 | 1,737.9 | 2,978.7 | 3,567.1 | 3,423.7 | 143.42 | 24.872 | |
| 6,450.0 | 6,395.4 | 6,499.9 | 6,499.9 | 17.2 | 128.3 | -21.79 | 1,737.9 | 2,978.7 | 3,560.5 | 3,417.3 | 143.25 | 24.855 | |
| 6,500.0 | 6,444.3 | 6,548.8 | 6,548.8 | 17.2 | 129.2 | -22.16 | 1,737.9 | 2,978.7 | 3,550.7 | 3,408.2 | 142.48 | 24.921 | |
| 6,550.0 | 6,492.3 | 6,596.8 | 6,596.8 | 17.2 | 130.2 | -22.65 | 1,737.9 | 2,978.7 | 3,537.8 | 3,396.6 | 141.12 | 25.070 | |
| 6,600.0 | 6,539.2 | 6,643.7 | 6,643.7 | 17.2 | 131.2 | -23.29 | 1,737.9 | 2,978.7 | 3,521.7 | 3,382.5 | 139.21 | 25.298 | |
| 6,650.0 | 6,584.8 | 6,689.3 | 6,689.3 | 17.2 | 132.1 | -24.08 | 1,737.9 | 2,978.7 | 3,502.7 | 3,365.9 | 136.81 | 25.603 | |
| 6,700.0 | 6,628.9 | 6,733.4 | 6,733.4 | 17.2 | 133.0 | -25.05 | 1,737.9 | 2,978.7 | 3,480.8 | 3,346.8 | 133.99 | 25.977 | |
| 6,750.0 | 6,671.2 | 6,775.7 | 6,775.7 | 17.2 | 133.8 | -26.22 | 1,737.9 | 2,978.7 | 3,456.1 | 3,325.3 | 130.88 | 26.407 | |
| 6,800.0 | 6,711.5 | 6,816.0 | 6,816.0 | 17.2 | 134.6 | -27.61 | 1,737.9 | 2,978.7 | 3,428.8 | 3,301.2 | 127.63 | 26.866 | |
| 6,850.0 | 6,749.7 | 6,854.2 | 6,854.2 | 17.2 | 135.4 | -29.27 | 1,737.9 | 2,978.7 | 3,399.0 | 3,274.6 | 124.44 | 27.314 | |
| 6,900.0 | 6,785.6 | 6,890.1 | 6,890.1 | 17.1 | 136.1 | -31.25 | 1,737.9 | 2,978.7 | 3,366.9 | 3,245.3 | 121.60 | 27.689 | |
| 6,950.0 | 6,818.9 | 6,923.4 | 6,923.4 | 17.1 | 136.8 | -33.58 | 1,737.9 | 2,978.7 | 3,332.6 | 3,213.1 | 119.44 | 27.902 | |
| 7,000.0 | 6,849.5 | 6,954.0 | 6,954.0 | 17.1 | 137.4 | -36.35 | 1,737.9 | 2,978.7 | 3,296.2 | 3,177.9 | 118.36 | 27.850 | |
| 7,050.0 | 6,877.4 | 6,981.9 | 6,981.9 | 17.2 | 138.0 | -39.64 | 1,737.9 | 2,978.7 | 3,258.1 | 3,139.4 | 118.78 | 27.429 | |
| 7,100.0 | 6,902.2 | 7,006.7 | 7,006.7 | 17.3 | 138.5 | -43.52 | 1,737.9 | 2,978.7 | 3,218.4 | 3,097.4 | 121.08 | 26.581 | |
| 7,150.0 | 6,924.0 | 7,028.5 | 7,028.5 | 17.7 | 138.9 | -48.10 | 1,737.9 | 2,978.7 | 3,177.4 | 3,051.9 | 125.44 | 25.329 | |
| 7,200.0 | 6,942.6 | 7,047.1 | 7,047.1 | 18.2 | 139.3 | -53.45 | 1,737.9 | 2,978.7 | 3,135.1 | 3,003.3 | 131.76 | 23.795 | |
| 7,250.0 | 6,957.9 | 7,062.4 | 7,062.4 | 18.8 | 139.6 | -59.63 | 1,737.9 | 2,978.7 | 3,091.9 | 2,952.4 | 139.48 | 22.167 | |
| 7,300.0 | 6,969.8 | 7,074.3 | 7,074.3 | 19.6 | 139.8 | -66.60 | 1,737.9 | 2,978.7 | 3,047.9 | 2,900.3 | 147.63 | 20.645 | |
| 7,350.0 | 6,978.3 | 7,082.8 | 7,082.8 | 20.4 | 140.0 | -74.24 | 1,737.9 | 2,978.7 | 3,003.5 | 2,848.6 | 154.93 | 19.387 | |
| 7,400.0 | 6,983.4 | 7,087.9 | 7,087.9 | 21.3 | 140.1 | -82.28 | 1,737.9 | 2,978.7 | 2,958.8 | 2,798.7 | 160.07 | 18.484 | |
| 7,447.7 | 6,985.0 | 7,089.5 | 7,089.5 | 22.1 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,916.0 | 2,753.8 | 162.22 | 17.976 | |
| 7,500.0 | 6,985.0 | 7,089.5 | 7,089.5 | 23.1 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,869.4 | 2,706.2 | 163.21 | 17.581 | |
| 7,600.0 | 6,985.0 | 7,089.5 | 7,089.5 | 25.2 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,780.7 | 2,615.4 | 165.24 | 16.828 | |
| 7,700.0 | 6,985.0 | 7,089.5 | 7,089.5 | 27.4 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,692.7 | 2,525.3 | 167.41 | 16.085 | |
| 7,800.0 | 6,985.0 | 7,089.5 | 7,089.5 | 29.7 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,605.7 | 2,436.0 | 169.69 | 15.356 | |
| 7,900.0 | 6,985.0 | 7,089.5 | 7,089.5 | 32.0 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,519.6 | 2,347.6 | 172.05 | 14.645 | |
| 8,000.0 | 6,985.0 | 7,089.5 | 7,089.5 | 34.5 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,434.6 | 2,260.1 | 174.48 | 13.954 | |
| 8,100.0 | 6,985.0 | 7,089.5 | 7,089.5 | 36.9 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,350.8 | 2,173.8 | 176.96 | 13.284 | |
| 8,200.0 | 6,985.0 | 7,089.5 | 7,089.5 | 39.5 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,268.2 | 2,088.7 | 179.49 | 12.637 | |
| 8,300.0 | 6,985.0 | 7,089.5 | 7,089.5 | 42.0 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,187.2 | 2,005.1 | 182.05 | 12.014 | |
| 8,400.0 | 6,985.0 | 7,089.5 | 7,089.5 | 44.6 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,107.7 | 1,923.1 | 184.64 | 11.415 | |
| 8,500.0 | 6,985.0 | 7,089.5 | 7,089.5 | 47.2 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,030.1 | 1,842.8 | 187.26 | 10.841 | |
| 8,600.0 | 6,985.0 | 7,089.5 | 7,089.5 | 49.9 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,954.5 | 1,764.6 | 189.90 | 10.292 | |
| 8,700.0 | 6,985.0 | 7,089.5 | 7,089.5 | 52.5 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,881.2 | 1,688.6 | 192.56 | 9.770 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - EXIST VERT BINDER 10-28 - Wellbore #1 - Design #1 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|--|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | Offset | Semi Major Axis | | Distance | | | | | | | | | |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
| 8,800.0 | 6,985.0 | 7,089.5 | 7,089.5 | 55.2 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,810.4 | 1,615.2 | 195.23 | 9.274 | |
| 8,900.0 | 6,985.0 | 7,089.5 | 7,089.5 | 57.9 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,742.6 | 1,544.7 | 197.91 | 8.805 | |
| 9,000.0 | 6,985.0 | 7,089.5 | 7,089.5 | 60.6 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,677.9 | 1,477.3 | 200.61 | 8.364 | |
| 9,100.0 | 6,985.0 | 7,089.5 | 7,089.5 | 63.3 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,616.8 | 1,413.5 | 203.31 | 7.952 | |
| 9,200.0 | 6,985.0 | 7,089.5 | 7,089.5 | 66.0 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,559.8 | 1,353.8 | 206.03 | 7.571 | |
| 9,300.0 | 6,985.0 | 7,089.5 | 7,089.5 | 68.7 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,507.2 | 1,298.5 | 208.75 | 7.220 | |
| 9,400.0 | 6,985.0 | 7,089.5 | 7,089.5 | 71.4 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,459.6 | 1,248.2 | 211.48 | 6.902 | |
| 9,500.0 | 6,985.0 | 7,089.5 | 7,089.5 | 74.2 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,417.5 | 1,203.3 | 214.21 | 6.617 | |
| 9,600.0 | 6,985.0 | 7,089.5 | 7,089.5 | 76.9 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,381.4 | 1,164.4 | 216.95 | 6.367 | |
| 9,700.0 | 6,985.0 | 7,089.5 | 7,089.5 | 79.6 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,351.7 | 1,132.0 | 219.70 | 6.152 | |
| 9,800.0 | 6,985.0 | 7,089.5 | 7,089.5 | 82.4 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,328.8 | 1,106.4 | 222.45 | 5.974 | |
| 9,900.0 | 6,985.0 | 7,089.5 | 7,089.5 | 85.1 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,313.2 | 1,088.0 | 225.20 | 5.831 | |
| 10,000.0 | 6,985.0 | 7,089.5 | 7,089.5 | 87.9 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,305.1 | 1,077.2 | 227.96 | 5.725 | |
| 10,056.0 | 6,985.0 | 7,089.5 | 7,089.5 | 89.4 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,303.9 | 1,074.4 | 229.50 | 5.682 CC | |
| 10,100.0 | 6,985.0 | 7,089.5 | 7,089.5 | 90.7 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,304.7 | 1,074.0 | 230.72 | 5.655 ES | |
| 10,200.0 | 6,985.0 | 7,089.5 | 7,089.5 | 93.4 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,311.9 | 1,078.4 | 233.48 | 5.619 | |
| 10,300.0 | 6,985.0 | 7,089.5 | 7,089.5 | 96.2 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,326.6 | 1,090.3 | 236.24 | 5.615 SF | |
| 10,400.0 | 6,985.0 | 7,089.5 | 7,089.5 | 98.9 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,348.6 | 1,109.5 | 239.01 | 5.642 | |
| 10,500.0 | 6,985.0 | 7,089.5 | 7,089.5 | 101.7 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,377.5 | 1,135.7 | 241.78 | 5.697 | |
| 10,600.0 | 6,985.0 | 7,089.5 | 7,089.5 | 104.5 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,412.9 | 1,168.3 | 244.55 | 5.777 | |
| 10,700.0 | 6,985.0 | 7,089.5 | 7,089.5 | 107.3 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,454.3 | 1,207.0 | 247.33 | 5.880 | |
| 10,800.0 | 6,985.0 | 7,089.5 | 7,089.5 | 110.0 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,501.3 | 1,251.2 | 250.11 | 6.003 | |
| 10,900.0 | 6,985.0 | 7,089.5 | 7,089.5 | 112.8 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,553.3 | 1,300.4 | 252.88 | 6.142 | |
| 11,000.0 | 6,985.0 | 7,089.5 | 7,089.5 | 115.6 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,609.8 | 1,354.1 | 255.66 | 6.297 | |
| 11,100.0 | 6,985.0 | 7,089.5 | 7,089.5 | 118.4 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,670.4 | 1,412.0 | 258.44 | 6.463 | |
| 11,200.0 | 6,985.0 | 7,089.5 | 7,089.5 | 121.2 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,734.7 | 1,473.4 | 261.22 | 6.640 | |
| 11,300.0 | 6,985.0 | 7,089.5 | 7,089.5 | 123.9 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,802.2 | 1,538.2 | 264.01 | 6.826 | |
| 11,400.0 | 6,985.0 | 7,089.5 | 7,089.5 | 126.7 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,872.6 | 1,605.8 | 266.79 | 7.019 | |
| 11,500.0 | 6,985.0 | 7,089.5 | 7,089.5 | 129.5 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 1,945.6 | 1,676.0 | 269.58 | 7.217 | |
| 11,600.0 | 6,985.0 | 7,089.5 | 7,089.5 | 132.3 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,021.0 | 1,748.6 | 272.36 | 7.420 | |
| 11,700.0 | 6,985.0 | 7,089.5 | 7,089.5 | 135.1 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,098.3 | 1,823.2 | 275.15 | 7.626 | |
| 11,800.0 | 6,985.0 | 7,089.5 | 7,089.5 | 137.9 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,177.6 | 1,899.6 | 277.94 | 7.835 | |
| 11,900.0 | 6,985.0 | 7,089.5 | 7,089.5 | 140.7 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,258.5 | 1,977.7 | 280.73 | 8.045 | |
| 12,000.0 | 6,985.0 | 7,089.5 | 7,089.5 | 143.4 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,340.8 | 2,057.3 | 283.52 | 8.256 | |
| 12,054.1 | 6,985.0 | 7,089.5 | 7,089.5 | 145.0 | 140.1 | -90.00 | 1,737.9 | 2,978.7 | 2,386.0 | 2,100.9 | 285.03 | 8.371 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 54.5 | 54.5 | 0.0 | 0.2 | 89.13 | 43.9 | 2,875.8 | 2,876.2 | | | | |
| 100.0 | 100.0 | 154.5 | 154.5 | 0.1 | 1.8 | 89.13 | 43.9 | 2,875.8 | 2,876.2 | 2,874.3 | 1.89 | 1,524.924 | |
| 200.0 | 200.0 | 254.5 | 254.5 | 0.3 | 4.1 | 89.13 | 43.9 | 2,875.8 | 2,876.2 | 2,871.8 | 4.38 | 656.561 | |
| 300.0 | 300.0 | 354.5 | 354.5 | 0.5 | 6.1 | 89.13 | 43.9 | 2,875.8 | 2,876.2 | 2,869.5 | 6.66 | 431.754 | |
| 400.0 | 400.0 | 454.5 | 454.5 | 0.8 | 8.1 | 89.13 | 43.9 | 2,875.8 | 2,876.2 | 2,867.3 | 8.92 | 322.500 | |
| 500.0 | 500.0 | 554.5 | 554.5 | 1.0 | 10.2 | 89.13 | 43.9 | 2,875.8 | 2,876.2 | 2,865.0 | 11.17 | 257.573 | |
| 600.0 | 600.0 | 654.5 | 654.5 | 1.2 | 12.2 | 89.13 | 43.9 | 2,875.8 | 2,876.2 | 2,862.8 | 13.41 | 214.475 | |
| 700.0 | 700.0 | 754.5 | 754.5 | 1.4 | 14.2 | 89.13 | 43.9 | 2,875.8 | 2,876.2 | 2,860.5 | 15.65 | 183.760 | |
| 800.0 | 800.0 | 854.5 | 854.5 | 1.7 | 16.2 | 89.13 | 43.9 | 2,875.8 | 2,876.2 | 2,858.3 | 17.89 | 160.753 | |
| 900.0 | 900.0 | 954.5 | 954.5 | 1.9 | 18.2 | 127.68 | 43.9 | 2,875.8 | 2,877.2 | 2,857.1 | 20.12 | 142.984 | |
| 1,000.0 | 999.8 | 1,054.3 | 1,054.3 | 2.1 | 20.2 | 127.71 | 43.9 | 2,875.8 | 2,880.4 | 2,858.1 | 22.34 | 128.944 | |
| 1,100.0 | 1,099.5 | 1,154.0 | 1,154.0 | 2.4 | 22.3 | 127.76 | 43.9 | 2,875.8 | 2,885.8 | 2,861.2 | 24.54 | 117.587 | |
| 1,200.0 | 1,198.7 | 1,253.2 | 1,253.2 | 2.6 | 24.2 | 127.83 | 43.9 | 2,875.8 | 2,893.3 | 2,866.6 | 26.73 | 108.229 | |
| 1,300.0 | 1,297.5 | 1,352.0 | 1,352.0 | 2.9 | 26.2 | 127.92 | 43.9 | 2,875.8 | 2,903.0 | 2,874.1 | 28.91 | 100.399 | |
| 1,400.0 | 1,395.6 | 1,450.1 | 1,450.1 | 3.2 | 28.2 | 128.02 | 43.9 | 2,875.8 | 2,914.8 | 2,883.8 | 31.09 | 93.760 | |
| 1,400.2 | 1,395.8 | 1,450.3 | 1,450.3 | 3.2 | 28.2 | 128.02 | 43.9 | 2,875.8 | 2,914.9 | 2,883.8 | 31.09 | 93.747 | |
| 1,500.0 | 1,493.4 | 1,547.9 | 1,547.9 | 3.6 | 30.2 | 128.34 | 43.9 | 2,875.8 | 2,927.9 | 2,894.5 | 33.35 | 87.805 | |
| 1,600.0 | 1,591.2 | 1,645.7 | 1,645.7 | 3.9 | 32.1 | 128.65 | 43.9 | 2,875.8 | 2,941.0 | 2,905.4 | 35.62 | 82.577 | |
| 1,700.0 | 1,689.1 | 1,743.6 | 1,743.6 | 4.3 | 34.1 | 128.96 | 43.9 | 2,875.8 | 2,954.2 | 2,916.3 | 37.89 | 77.958 | |
| 1,800.0 | 1,786.9 | 1,841.4 | 1,841.4 | 4.7 | 36.1 | 129.27 | 43.9 | 2,875.8 | 2,967.5 | 2,927.3 | 40.18 | 73.854 | |
| 1,900.0 | 1,884.7 | 1,939.2 | 1,939.2 | 5.2 | 38.1 | 129.58 | 43.9 | 2,875.8 | 2,980.9 | 2,938.4 | 42.47 | 70.185 | |
| 2,000.0 | 1,982.5 | 2,037.0 | 2,037.0 | 5.6 | 40.0 | 129.88 | 43.9 | 2,875.8 | 2,994.4 | 2,949.6 | 44.77 | 66.889 | |
| 2,100.0 | 2,080.3 | 2,134.8 | 2,134.8 | 6.0 | 42.0 | 130.18 | 43.9 | 2,875.8 | 3,007.9 | 2,960.8 | 47.06 | 63.913 | |
| 2,200.0 | 2,178.1 | 2,232.6 | 2,232.6 | 6.4 | 44.0 | 130.48 | 43.9 | 2,875.8 | 3,021.5 | 2,972.2 | 49.36 | 61.214 | |
| 2,300.0 | 2,275.9 | 2,330.4 | 2,330.4 | 6.9 | 45.9 | 130.77 | 43.9 | 2,875.8 | 3,035.3 | 2,983.6 | 51.66 | 58.756 | |
| 2,400.0 | 2,373.8 | 2,428.3 | 2,428.3 | 7.3 | 47.9 | 131.06 | 43.9 | 2,875.8 | 3,049.1 | 2,995.1 | 53.96 | 56.509 | |
| 2,500.0 | 2,471.6 | 2,526.1 | 2,526.1 | 7.7 | 49.9 | 131.35 | 43.9 | 2,875.8 | 3,062.9 | 3,006.7 | 56.26 | 54.446 | |
| 2,600.0 | 2,569.4 | 2,623.9 | 2,623.9 | 8.2 | 51.8 | 131.64 | 43.9 | 2,875.8 | 3,076.9 | 3,018.3 | 58.55 | 52.547 | |
| 2,700.0 | 2,667.2 | 2,721.7 | 2,721.7 | 8.6 | 53.8 | 131.93 | 43.9 | 2,875.8 | 3,090.9 | 3,030.1 | 60.85 | 50.793 | |
| 2,800.0 | 2,765.0 | 2,819.5 | 2,819.5 | 9.0 | 55.8 | 132.21 | 43.9 | 2,875.8 | 3,105.0 | 3,041.9 | 63.15 | 49.169 | |
| 2,900.0 | 2,862.8 | 2,917.3 | 2,917.3 | 9.5 | 57.7 | 132.49 | 43.9 | 2,875.8 | 3,119.2 | 3,053.7 | 65.45 | 47.661 | |
| 3,000.0 | 2,960.6 | 3,015.1 | 3,015.1 | 9.9 | 59.7 | 132.77 | 43.9 | 2,875.8 | 3,133.4 | 3,065.7 | 67.74 | 46.256 | |
| 3,100.0 | 3,058.4 | 3,112.9 | 3,112.9 | 10.4 | 61.7 | 133.04 | 43.9 | 2,875.8 | 3,147.8 | 3,077.7 | 70.03 | 44.946 | |
| 3,200.0 | 3,156.3 | 3,210.8 | 3,210.8 | 10.8 | 63.6 | 133.31 | 43.9 | 2,875.8 | 3,162.2 | 3,089.8 | 72.33 | 43.720 | |
| 3,300.0 | 3,254.1 | 3,308.6 | 3,308.6 | 11.3 | 65.6 | 133.58 | 43.9 | 2,875.8 | 3,176.6 | 3,102.0 | 74.62 | 42.571 | |
| 3,400.0 | 3,351.9 | 3,406.4 | 3,406.4 | 11.7 | 67.6 | 133.85 | 43.9 | 2,875.8 | 3,191.2 | 3,114.3 | 76.91 | 41.493 | |
| 3,465.5 | 3,416.0 | 3,470.5 | 3,470.5 | 12.0 | 68.8 | 134.02 | 43.9 | 2,875.8 | 3,200.7 | 3,122.3 | 78.41 | 40.821 | |
| 3,500.0 | 3,449.7 | 3,504.2 | 3,504.2 | 12.1 | 69.5 | 134.18 | 43.9 | 2,875.8 | 3,205.6 | 3,126.4 | 79.26 | 40.443 | |
| 3,600.0 | 3,548.1 | 3,602.6 | 3,602.6 | 12.5 | 71.5 | 134.59 | 43.9 | 2,875.8 | 3,218.3 | 3,136.6 | 81.68 | 39.399 | |
| 3,700.0 | 3,647.1 | 3,701.6 | 3,701.6 | 12.7 | 73.5 | 134.92 | 43.9 | 2,875.8 | 3,228.5 | 3,144.4 | 84.07 | 38.404 | |
| 3,800.0 | 3,746.5 | 3,801.0 | 3,801.0 | 13.0 | 75.5 | 135.17 | 43.9 | 2,875.8 | 3,236.3 | 3,149.9 | 86.40 | 37.456 | |
| 3,900.0 | 3,846.2 | 3,900.7 | 3,900.7 | 13.2 | 77.5 | 135.34 | 43.9 | 2,875.8 | 3,241.7 | 3,153.0 | 88.68 | 36.554 | |
| 4,000.0 | 3,946.1 | 4,000.6 | 4,000.6 | 13.3 | 79.5 | 135.43 | 43.9 | 2,875.8 | 3,244.5 | 3,153.6 | 90.90 | 35.695 | |
| 4,065.7 | 4,011.8 | 4,066.3 | 4,066.3 | 13.4 | 80.8 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,152.6 | 92.52 | 35.073 | |
| 4,100.0 | 4,046.1 | 4,100.6 | 4,100.6 | 13.5 | 81.5 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,151.8 | 93.26 | 34.795 | |
| 4,200.0 | 4,146.1 | 4,200.6 | 4,200.6 | 13.6 | 83.5 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,149.6 | 95.44 | 34.002 | |
| 4,300.0 | 4,246.1 | 4,300.6 | 4,300.6 | 13.8 | 85.5 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,147.5 | 97.62 | 33.243 | |
| 4,400.0 | 4,346.1 | 4,400.6 | 4,400.6 | 13.9 | 87.6 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,145.3 | 99.80 | 32.517 | |
| 4,500.0 | 4,446.1 | 4,500.6 | 4,500.6 | 14.1 | 89.6 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,143.1 | 101.98 | 31.821 | |
| 4,600.0 | 4,546.1 | 4,600.6 | 4,600.6 | 14.2 | 91.6 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,140.9 | 104.16 | 31.155 | |
| 4,700.0 | 4,646.1 | 4,700.6 | 4,700.6 | 14.4 | 93.6 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,138.7 | 106.35 | 30.514 | |
| 4,800.0 | 4,746.1 | 4,800.6 | 4,800.6 | 14.5 | 95.6 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,136.5 | 108.53 | 29.900 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - EXIST VERT BINDER 15-28 - Wellbore #1 - Design #1 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|--|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
| 4,900.0 | 4,846.1 | 4,900.6 | 4,900.6 | 14.7 | 97.6 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,134.4 | 110.72 | 29.309 | |
| 5,000.0 | 4,946.1 | 5,000.6 | 5,000.6 | 14.8 | 99.6 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,132.2 | 112.91 | 28.741 | |
| 5,100.0 | 5,046.1 | 5,100.6 | 5,100.6 | 15.0 | 101.6 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,130.0 | 115.10 | 28.194 | |
| 5,200.0 | 5,146.1 | 5,200.6 | 5,200.6 | 15.1 | 103.6 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,127.8 | 117.29 | 27.667 | |
| 5,300.0 | 5,246.1 | 5,300.6 | 5,300.6 | 15.3 | 105.7 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,125.6 | 119.48 | 27.159 | |
| 5,400.0 | 5,346.1 | 5,400.6 | 5,400.6 | 15.5 | 107.7 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,123.4 | 121.68 | 26.669 | |
| 5,500.0 | 5,446.1 | 5,500.6 | 5,500.6 | 15.6 | 109.7 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,121.2 | 123.88 | 26.196 | |
| 5,600.0 | 5,546.1 | 5,600.6 | 5,600.6 | 15.8 | 111.7 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,119.0 | 126.07 | 25.740 | |
| 5,700.0 | 5,646.1 | 5,700.6 | 5,700.6 | 16.0 | 113.7 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,116.8 | 128.27 | 25.299 | |
| 5,800.0 | 5,746.1 | 5,800.6 | 5,800.6 | 16.1 | 115.7 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,114.6 | 130.47 | 24.872 | |
| 5,900.0 | 5,846.1 | 5,900.6 | 5,900.6 | 16.3 | 117.7 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,112.4 | 132.67 | 24.460 | |
| 6,000.0 | 5,946.1 | 6,000.6 | 6,000.6 | 16.5 | 119.7 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,110.2 | 134.87 | 24.061 | |
| 6,100.0 | 6,046.1 | 6,100.6 | 6,100.6 | 16.7 | 121.7 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,108.0 | 137.07 | 23.674 | |
| 6,200.0 | 6,146.1 | 6,200.6 | 6,200.6 | 16.8 | 123.8 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,105.8 | 139.27 | 23.300 | |
| 6,300.0 | 6,246.1 | 6,300.6 | 6,300.6 | 17.0 | 125.8 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,103.6 | 141.48 | 22.937 | |
| 6,322.7 | 6,268.8 | 6,323.3 | 6,323.3 | 17.1 | 126.2 | 96.90 | 43.9 | 2,875.8 | 3,245.1 | 3,103.1 | 141.98 | 22.856 | |
| 6,350.0 | 6,296.1 | 6,350.6 | 6,350.6 | 17.1 | 126.8 | 6.91 | 43.9 | 2,875.8 | 3,244.6 | 3,102.4 | 142.20 | 22.817 | |
| 6,400.0 | 6,345.9 | 6,400.4 | 6,400.4 | 17.2 | 127.8 | 6.95 | 43.9 | 2,875.8 | 3,240.9 | 3,098.4 | 142.53 | 22.739 | |
| 6,450.0 | 6,395.4 | 6,449.9 | 6,449.9 | 17.2 | 128.8 | 7.04 | 43.9 | 2,875.8 | 3,233.9 | 3,091.7 | 142.16 | 22.748 | |
| 6,500.0 | 6,444.3 | 6,498.8 | 6,498.8 | 17.2 | 129.8 | 7.17 | 43.9 | 2,875.8 | 3,223.4 | 3,082.3 | 141.09 | 22.847 | |
| 6,550.0 | 6,492.3 | 6,546.8 | 6,546.8 | 17.2 | 130.7 | 7.34 | 43.9 | 2,875.8 | 3,209.6 | 3,070.3 | 139.30 | 23.040 | |
| 6,600.0 | 6,539.2 | 6,593.7 | 6,593.7 | 17.2 | 131.7 | 7.57 | 43.9 | 2,875.8 | 3,192.5 | 3,055.6 | 136.81 | 23.334 | |
| 6,650.0 | 6,584.8 | 6,639.3 | 6,639.3 | 17.2 | 132.6 | 7.86 | 43.9 | 2,875.8 | 3,172.1 | 3,038.5 | 133.63 | 23.738 | |
| 6,700.0 | 6,628.9 | 6,683.4 | 6,683.4 | 17.2 | 133.5 | 8.22 | 43.9 | 2,875.8 | 3,148.7 | 3,018.9 | 129.77 | 24.264 | |
| 6,750.0 | 6,671.2 | 6,725.7 | 6,725.7 | 17.2 | 134.3 | 8.66 | 43.9 | 2,875.8 | 3,122.3 | 2,997.0 | 125.26 | 24.926 | |
| 6,800.0 | 6,711.5 | 6,766.0 | 6,766.0 | 17.2 | 135.1 | 9.19 | 43.9 | 2,875.8 | 3,093.0 | 2,972.9 | 120.16 | 25.741 | |
| 6,850.0 | 6,749.7 | 6,804.2 | 6,804.2 | 17.2 | 135.9 | 9.84 | 43.9 | 2,875.8 | 3,061.0 | 2,946.5 | 114.52 | 26.729 | |
| 6,900.0 | 6,785.6 | 6,840.1 | 6,840.1 | 17.1 | 136.6 | 10.63 | 43.9 | 2,875.8 | 3,026.5 | 2,918.0 | 108.44 | 27.909 | |
| 6,950.0 | 6,818.9 | 6,873.4 | 6,873.4 | 17.1 | 137.3 | 11.61 | 43.9 | 2,875.8 | 2,989.5 | 2,887.5 | 102.07 | 29.290 | |
| 7,000.0 | 6,849.5 | 6,904.0 | 6,904.0 | 17.1 | 137.9 | 12.84 | 43.9 | 2,875.8 | 2,950.4 | 2,854.8 | 95.61 | 30.860 | |
| 7,050.0 | 6,877.4 | 6,931.9 | 6,931.9 | 17.2 | 138.5 | 14.39 | 43.9 | 2,875.8 | 2,909.2 | 2,819.8 | 89.40 | 32.540 | |
| 7,100.0 | 6,902.2 | 6,956.7 | 6,956.7 | 17.3 | 139.0 | 16.40 | 43.9 | 2,875.8 | 2,866.2 | 2,782.2 | 84.02 | 34.112 | |
| 7,150.0 | 6,924.0 | 6,978.5 | 6,978.5 | 17.7 | 139.4 | 19.07 | 43.9 | 2,875.8 | 2,821.7 | 2,741.3 | 80.40 | 35.096 | |
| 7,200.0 | 6,942.6 | 6,997.1 | 6,997.1 | 18.2 | 139.8 | 22.72 | 43.9 | 2,875.8 | 2,775.7 | 2,695.7 | 80.02 | 34.689 | |
| 7,250.0 | 6,957.9 | 7,012.4 | 7,012.4 | 18.8 | 140.1 | 27.92 | 43.9 | 2,875.8 | 2,728.6 | 2,643.6 | 85.01 | 32.098 | |
| 7,300.0 | 6,969.8 | 7,024.3 | 7,024.3 | 19.6 | 140.3 | 35.69 | 43.9 | 2,875.8 | 2,680.6 | 2,582.7 | 97.87 | 27.389 | |
| 7,350.0 | 6,978.3 | 7,032.8 | 7,032.8 | 20.4 | 140.5 | 47.77 | 43.9 | 2,875.8 | 2,631.8 | 2,511.6 | 120.29 | 21.879 | |
| 7,400.0 | 6,983.4 | 7,037.9 | 7,037.9 | 21.3 | 140.6 | 66.45 | 43.9 | 2,875.8 | 2,582.7 | 2,434.4 | 148.23 | 17.424 | |
| 7,447.7 | 6,985.0 | 7,039.5 | 7,039.5 | 22.1 | 140.6 | 90.00 | 43.9 | 2,875.8 | 2,535.5 | 2,372.8 | 162.72 | 15.582 | |
| 7,500.0 | 6,985.0 | 7,039.5 | 7,039.5 | 23.1 | 140.6 | 90.00 | 43.9 | 2,875.8 | 2,483.9 | 2,320.2 | 163.72 | 15.172 | |
| 7,600.0 | 6,985.0 | 7,039.5 | 7,039.5 | 25.2 | 140.6 | 90.00 | 43.9 | 2,875.8 | 2,385.2 | 2,219.4 | 165.75 | 14.391 | |
| 7,700.0 | 6,985.0 | 7,039.5 | 7,039.5 | 27.4 | 140.6 | 90.00 | 43.9 | 2,875.8 | 2,286.6 | 2,118.7 | 167.91 | 13.618 | |
| 7,800.0 | 6,985.0 | 7,039.5 | 7,039.5 | 29.7 | 140.6 | 90.00 | 43.9 | 2,875.8 | 2,188.1 | 2,017.9 | 170.19 | 12.857 | |
| 7,900.0 | 6,985.0 | 7,039.5 | 7,039.5 | 32.0 | 140.6 | 90.00 | 43.9 | 2,875.8 | 2,089.8 | 1,917.3 | 172.55 | 12.111 | |
| 8,000.0 | 6,985.0 | 7,039.5 | 7,039.5 | 34.5 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,991.7 | 1,816.7 | 174.98 | 11.382 | |
| 8,100.0 | 6,985.0 | 7,039.5 | 7,039.5 | 36.9 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,893.7 | 1,716.2 | 177.46 | 10.671 | |
| 8,200.0 | 6,985.0 | 7,039.5 | 7,039.5 | 39.5 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,796.0 | 1,616.0 | 179.99 | 9.978 | |
| 8,300.0 | 6,985.0 | 7,039.5 | 7,039.5 | 42.0 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,698.5 | 1,515.9 | 182.55 | 9.304 | |
| 8,400.0 | 6,985.0 | 7,039.5 | 7,039.5 | 44.6 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,601.3 | 1,416.2 | 185.15 | 8.649 | |
| 8,500.0 | 6,985.0 | 7,039.5 | 7,039.5 | 47.2 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,504.5 | 1,316.8 | 187.76 | 8.013 | |
| 8,600.0 | 6,985.0 | 7,039.5 | 7,039.5 | 49.9 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,408.2 | 1,217.8 | 190.40 | 7.396 | |
| 8,700.0 | 6,985.0 | 7,039.5 | 7,039.5 | 52.5 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,312.4 | 1,119.3 | 193.06 | 6.798 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 8,800.0 | 6,985.0 | 7,039.5 | 7,039.5 | 55.2 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,217.3 | 1,021.5 | 195.73 | 6.219 | |
| 8,900.0 | 6,985.0 | 7,039.5 | 7,039.5 | 57.9 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,123.0 | 924.6 | 198.41 | 5.660 | |
| 9,000.0 | 6,985.0 | 7,039.5 | 7,039.5 | 60.6 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,029.8 | 828.7 | 201.11 | 5.121 | |
| 9,100.0 | 6,985.0 | 7,039.5 | 7,039.5 | 63.3 | 140.6 | 90.00 | 43.9 | 2,875.8 | 938.0 | 734.2 | 203.82 | 4.602 | |
| 9,200.0 | 6,985.0 | 7,039.5 | 7,039.5 | 66.0 | 140.6 | 90.00 | 43.9 | 2,875.8 | 848.1 | 641.6 | 206.53 | 4.107 | |
| 9,300.0 | 6,985.0 | 7,039.5 | 7,039.5 | 68.7 | 140.6 | 90.00 | 43.9 | 2,875.8 | 760.7 | 551.5 | 209.25 | 3.635 | |
| 9,400.0 | 6,985.0 | 7,039.5 | 7,039.5 | 71.4 | 140.6 | 90.00 | 43.9 | 2,875.8 | 676.8 | 464.8 | 211.98 | 3.193 | |
| 9,500.0 | 6,985.0 | 7,039.5 | 7,039.5 | 74.2 | 140.6 | 90.00 | 43.9 | 2,875.8 | 597.9 | 383.2 | 214.72 | 2.785 | |
| 9,600.0 | 6,985.0 | 7,039.5 | 7,039.5 | 76.9 | 140.6 | 90.00 | 43.9 | 2,875.8 | 526.2 | 308.7 | 217.46 | 2.420 | |
| 9,700.0 | 6,985.0 | 7,039.5 | 7,039.5 | 79.6 | 140.6 | 90.00 | 43.9 | 2,875.8 | 465.0 | 244.8 | 220.20 | 2.112 | |
| 9,800.0 | 6,985.0 | 7,039.5 | 7,039.5 | 82.4 | 140.6 | 90.00 | 43.9 | 2,875.8 | 419.1 | 196.1 | 222.95 | 1.880 | |
| 9,900.0 | 6,985.0 | 7,039.5 | 7,039.5 | 85.1 | 140.6 | 90.00 | 43.9 | 2,875.8 | 393.7 | 168.0 | 225.70 | 1.744 | |
| 9,953.1 | 6,985.0 | 7,039.5 | 7,039.5 | 86.6 | 140.6 | 90.00 | 43.9 | 2,875.8 | 390.1 | 162.9 | 227.17 | 1.717 CC, ES, SF | |
| 10,000.0 | 6,985.0 | 7,039.5 | 7,039.5 | 87.9 | 140.6 | 90.00 | 43.9 | 2,875.8 | 392.9 | 164.5 | 228.46 | 1.720 | |
| 10,100.0 | 6,985.0 | 7,039.5 | 7,039.5 | 90.7 | 140.6 | 90.00 | 43.9 | 2,875.8 | 416.9 | 185.6 | 231.22 | 1.803 | |
| 10,200.0 | 6,985.0 | 7,039.5 | 7,039.5 | 93.4 | 140.6 | 90.00 | 43.9 | 2,875.8 | 461.7 | 227.7 | 233.98 | 1.973 | |
| 10,300.0 | 6,985.0 | 7,039.5 | 7,039.5 | 96.2 | 140.6 | 90.00 | 43.9 | 2,875.8 | 522.1 | 285.3 | 236.75 | 2.205 | |
| 10,400.0 | 6,985.0 | 7,039.5 | 7,039.5 | 98.9 | 140.6 | 90.00 | 43.9 | 2,875.8 | 593.2 | 353.7 | 239.52 | 2.477 | |
| 10,500.0 | 6,985.0 | 7,039.5 | 7,039.5 | 101.7 | 140.6 | 90.00 | 43.9 | 2,875.8 | 671.8 | 429.5 | 242.29 | 2.773 | |
| 10,600.0 | 6,985.0 | 7,039.5 | 7,039.5 | 104.5 | 140.6 | 90.00 | 43.9 | 2,875.8 | 755.5 | 510.4 | 245.06 | 3.083 | |
| 10,700.0 | 6,985.0 | 7,039.5 | 7,039.5 | 107.3 | 140.6 | 90.00 | 43.9 | 2,875.8 | 842.7 | 594.8 | 247.83 | 3.400 | |
| 10,800.0 | 6,985.0 | 7,039.5 | 7,039.5 | 110.0 | 140.6 | 90.00 | 43.9 | 2,875.8 | 932.5 | 681.8 | 250.61 | 3.721 | |
| 10,900.0 | 6,985.0 | 7,039.5 | 7,039.5 | 112.8 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,024.1 | 770.8 | 253.39 | 4.042 | |
| 11,000.0 | 6,985.0 | 7,039.5 | 7,039.5 | 115.6 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,117.2 | 861.1 | 256.17 | 4.361 | |
| 11,100.0 | 6,985.0 | 7,039.5 | 7,039.5 | 118.4 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,211.5 | 952.5 | 258.95 | 4.678 | |
| 11,200.0 | 6,985.0 | 7,039.5 | 7,039.5 | 121.2 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,306.5 | 1,044.8 | 261.73 | 4.992 | |
| 11,300.0 | 6,985.0 | 7,039.5 | 7,039.5 | 123.9 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,402.3 | 1,137.8 | 264.51 | 5.301 | |
| 11,400.0 | 6,985.0 | 7,039.5 | 7,039.5 | 126.7 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,498.6 | 1,231.3 | 267.30 | 5.607 | |
| 11,500.0 | 6,985.0 | 7,039.5 | 7,039.5 | 129.5 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,595.4 | 1,325.3 | 270.08 | 5.907 | |
| 11,600.0 | 6,985.0 | 7,039.5 | 7,039.5 | 132.3 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,692.5 | 1,419.6 | 272.87 | 6.203 | |
| 11,700.0 | 6,985.0 | 7,039.5 | 7,039.5 | 135.1 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,790.0 | 1,514.3 | 275.65 | 6.493 | |
| 11,800.0 | 6,985.0 | 7,039.5 | 7,039.5 | 137.9 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,887.7 | 1,609.2 | 278.44 | 6.779 | |
| 11,900.0 | 6,985.0 | 7,039.5 | 7,039.5 | 140.7 | 140.6 | 90.00 | 43.9 | 2,875.8 | 1,985.6 | 1,704.4 | 281.23 | 7.060 | |
| 12,000.0 | 6,985.0 | 7,039.5 | 7,039.5 | 143.4 | 140.6 | 90.00 | 43.9 | 2,875.8 | 2,083.8 | 1,799.7 | 284.02 | 7.337 | |
| 12,054.1 | 6,985.0 | 7,039.5 | 7,039.5 | 145.0 | 140.6 | 90.00 | 43.9 | 2,875.8 | 2,137.0 | 1,851.5 | 285.53 | 7.484 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 34.5 | 34.5 | 0.0 | 0.2 | 87.04 | 229.9 | 4,447.5 | 4,453.4 | | | | |
| 100.0 | 100.0 | 134.5 | 134.5 | 0.1 | 1.5 | 87.04 | 229.9 | 4,447.5 | 4,453.4 | 4,451.8 | 1.62 | 2,742.892 | |
| 200.0 | 200.0 | 234.5 | 234.5 | 0.3 | 3.8 | 87.04 | 229.9 | 4,447.5 | 4,453.4 | 4,449.3 | 4.15 | 1,073.080 | |
| 300.0 | 300.0 | 334.5 | 334.5 | 0.5 | 5.9 | 87.04 | 229.9 | 4,447.5 | 4,453.4 | 4,447.0 | 6.44 | 691.232 | |
| 400.0 | 400.0 | 434.5 | 434.5 | 0.8 | 7.9 | 87.04 | 229.9 | 4,447.5 | 4,453.4 | 4,444.7 | 8.70 | 511.618 | |
| 500.0 | 500.0 | 534.5 | 534.5 | 1.0 | 10.0 | 87.04 | 229.9 | 4,447.5 | 4,453.4 | 4,442.5 | 10.96 | 406.502 | |
| 600.0 | 600.0 | 634.5 | 634.5 | 1.2 | 12.0 | 87.04 | 229.9 | 4,447.5 | 4,453.4 | 4,440.2 | 13.20 | 337.352 | |
| 700.0 | 700.0 | 734.5 | 734.5 | 1.4 | 14.0 | 87.04 | 229.9 | 4,447.5 | 4,453.4 | 4,438.0 | 15.44 | 288.362 | |
| 800.0 | 800.0 | 834.5 | 834.5 | 1.7 | 16.0 | 87.04 | 229.9 | 4,447.5 | 4,453.4 | 4,435.7 | 17.68 | 251.821 | |
| 900.0 | 900.0 | 934.5 | 934.5 | 1.9 | 18.0 | 125.58 | 229.9 | 4,447.5 | 4,454.4 | 4,434.5 | 19.92 | 223.651 | |
| 1,000.0 | 999.8 | 1,034.3 | 1,034.3 | 2.1 | 20.0 | 125.59 | 229.9 | 4,447.5 | 4,457.5 | 4,435.4 | 22.14 | 201.377 | |
| 1,100.0 | 1,099.5 | 1,134.0 | 1,134.0 | 2.4 | 22.0 | 125.59 | 229.9 | 4,447.5 | 4,462.6 | 4,438.2 | 24.34 | 183.328 | |
| 1,200.0 | 1,198.7 | 1,233.2 | 1,233.2 | 2.6 | 24.0 | 125.60 | 229.9 | 4,447.5 | 4,469.7 | 4,443.2 | 26.54 | 168.416 | |
| 1,300.0 | 1,297.5 | 1,332.0 | 1,332.0 | 2.9 | 26.0 | 125.62 | 229.9 | 4,447.5 | 4,478.9 | 4,450.2 | 28.73 | 155.890 | |
| 1,400.0 | 1,395.6 | 1,430.1 | 1,430.1 | 3.2 | 28.0 | 125.63 | 229.9 | 4,447.5 | 4,490.1 | 4,459.2 | 30.92 | 145.222 | |
| 1,400.2 | 1,395.8 | 1,430.3 | 1,430.3 | 3.2 | 28.0 | 125.63 | 229.9 | 4,447.5 | 4,490.2 | 4,459.2 | 30.92 | 145.200 | |
| 1,500.0 | 1,493.4 | 1,527.9 | 1,527.9 | 3.6 | 30.0 | 125.84 | 229.9 | 4,447.5 | 4,502.5 | 4,469.3 | 33.18 | 135.679 | |
| 1,600.0 | 1,591.2 | 1,625.7 | 1,625.7 | 3.9 | 31.9 | 126.05 | 229.9 | 4,447.5 | 4,514.8 | 4,479.4 | 35.46 | 127.306 | |
| 1,700.0 | 1,689.1 | 1,723.6 | 1,723.6 | 4.3 | 33.9 | 126.26 | 229.9 | 4,447.5 | 4,527.3 | 4,489.5 | 37.75 | 119.913 | |
| 1,800.0 | 1,786.9 | 1,821.4 | 1,821.4 | 4.7 | 35.9 | 126.47 | 229.9 | 4,447.5 | 4,539.8 | 4,499.8 | 40.05 | 113.346 | |
| 1,900.0 | 1,884.7 | 1,919.2 | 1,919.2 | 5.2 | 37.8 | 126.68 | 229.9 | 4,447.5 | 4,552.4 | 4,510.0 | 42.36 | 107.478 | |
| 2,000.0 | 1,982.5 | 2,017.0 | 2,017.0 | 5.6 | 39.8 | 126.88 | 229.9 | 4,447.5 | 4,565.0 | 4,520.3 | 44.66 | 102.208 | |
| 2,100.0 | 2,080.3 | 2,114.8 | 2,114.8 | 6.0 | 41.8 | 127.09 | 229.9 | 4,447.5 | 4,577.7 | 4,530.7 | 46.97 | 97.451 | |
| 2,200.0 | 2,178.1 | 2,212.6 | 2,212.6 | 6.4 | 43.8 | 127.29 | 229.9 | 4,447.5 | 4,590.4 | 4,541.2 | 49.29 | 93.136 | |
| 2,300.0 | 2,275.9 | 2,310.4 | 2,310.4 | 6.9 | 45.7 | 127.50 | 229.9 | 4,447.5 | 4,603.2 | 4,551.6 | 51.60 | 89.207 | |
| 2,400.0 | 2,373.8 | 2,408.3 | 2,408.3 | 7.3 | 47.7 | 127.70 | 229.9 | 4,447.5 | 4,616.1 | 4,562.2 | 53.92 | 85.615 | |
| 2,500.0 | 2,471.6 | 2,506.1 | 2,506.1 | 7.7 | 49.7 | 127.90 | 229.9 | 4,447.5 | 4,629.0 | 4,572.8 | 56.23 | 82.319 | |
| 2,600.0 | 2,569.4 | 2,603.9 | 2,603.9 | 8.2 | 51.6 | 128.10 | 229.9 | 4,447.5 | 4,642.0 | 4,583.5 | 58.55 | 79.284 | |
| 2,700.0 | 2,667.2 | 2,701.7 | 2,701.7 | 8.6 | 53.6 | 128.30 | 229.9 | 4,447.5 | 4,655.1 | 4,594.2 | 60.87 | 76.481 | |
| 2,800.0 | 2,765.0 | 2,799.5 | 2,799.5 | 9.0 | 55.6 | 128.49 | 229.9 | 4,447.5 | 4,668.1 | 4,605.0 | 63.18 | 73.884 | |
| 2,900.0 | 2,862.8 | 2,897.3 | 2,897.3 | 9.5 | 57.5 | 128.69 | 229.9 | 4,447.5 | 4,681.3 | 4,615.8 | 65.50 | 71.472 | |
| 3,000.0 | 2,960.6 | 2,995.1 | 2,995.1 | 9.9 | 59.5 | 128.89 | 229.9 | 4,447.5 | 4,694.5 | 4,626.7 | 67.81 | 69.227 | |
| 3,100.0 | 3,058.4 | 3,092.9 | 3,092.9 | 10.4 | 61.5 | 129.08 | 229.9 | 4,447.5 | 4,707.8 | 4,637.6 | 70.13 | 67.131 | |
| 3,200.0 | 3,156.3 | 3,190.8 | 3,190.8 | 10.8 | 63.4 | 129.27 | 229.9 | 4,447.5 | 4,721.1 | 4,648.6 | 72.44 | 65.170 | |
| 3,300.0 | 3,254.1 | 3,288.6 | 3,288.6 | 11.3 | 65.4 | 129.47 | 229.9 | 4,447.5 | 4,734.4 | 4,659.7 | 74.76 | 63.332 | |
| 3,400.0 | 3,351.9 | 3,386.4 | 3,386.4 | 11.7 | 67.4 | 129.66 | 229.9 | 4,447.5 | 4,747.9 | 4,670.8 | 77.07 | 61.605 | |
| 3,465.5 | 3,416.0 | 3,450.5 | 3,450.5 | 12.0 | 68.6 | 129.78 | 229.9 | 4,447.5 | 4,756.7 | 4,678.1 | 78.58 | 60.530 | |
| 3,500.0 | 3,449.7 | 3,484.2 | 3,484.2 | 12.1 | 69.3 | 129.92 | 229.9 | 4,447.5 | 4,761.2 | 4,681.8 | 79.43 | 59.940 | |
| 3,600.0 | 3,548.1 | 3,582.6 | 3,582.6 | 12.5 | 71.3 | 130.26 | 229.9 | 4,447.5 | 4,772.8 | 4,691.0 | 81.84 | 58.322 | |
| 3,700.0 | 3,647.1 | 3,681.6 | 3,681.6 | 12.7 | 73.3 | 130.53 | 229.9 | 4,447.5 | 4,782.3 | 4,698.1 | 84.20 | 56.794 | |
| 3,800.0 | 3,746.5 | 3,781.0 | 3,781.0 | 13.0 | 75.3 | 130.74 | 229.9 | 4,447.5 | 4,789.5 | 4,702.9 | 86.53 | 55.353 | |
| 3,900.0 | 3,846.2 | 3,880.7 | 3,880.7 | 13.2 | 77.3 | 130.89 | 229.9 | 4,447.5 | 4,794.4 | 4,705.6 | 88.79 | 53.994 | |
| 4,000.0 | 3,946.1 | 3,980.6 | 3,980.6 | 13.3 | 79.3 | 130.96 | 229.9 | 4,447.5 | 4,797.0 | 4,706.0 | 91.00 | 52.713 | |
| 4,065.7 | 4,011.8 | 4,046.3 | 4,046.3 | 13.4 | 80.6 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,705.5 | 92.01 | 52.142 | |
| 4,100.0 | 4,046.1 | 4,080.6 | 4,080.6 | 13.5 | 81.3 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,704.8 | 92.75 | 51.725 | |
| 4,200.0 | 4,146.1 | 4,180.6 | 4,180.6 | 13.6 | 83.3 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,702.6 | 94.93 | 50.537 | |
| 4,300.0 | 4,246.1 | 4,280.6 | 4,280.6 | 13.8 | 85.3 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,700.4 | 97.11 | 49.402 | |
| 4,400.0 | 4,346.1 | 4,380.6 | 4,380.6 | 13.9 | 87.4 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,698.2 | 99.30 | 48.315 | |
| 4,500.0 | 4,446.1 | 4,480.6 | 4,480.6 | 14.1 | 89.4 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,696.0 | 101.48 | 47.275 | |
| 4,600.0 | 4,546.1 | 4,580.6 | 4,580.6 | 14.2 | 91.4 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,693.9 | 103.67 | 46.277 | |
| 4,700.0 | 4,646.1 | 4,680.6 | 4,680.6 | 14.4 | 93.4 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,691.7 | 105.86 | 45.320 | |
| 4,800.0 | 4,746.1 | 4,780.6 | 4,780.6 | 14.5 | 95.4 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,689.5 | 108.05 | 44.402 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,880.6 | 4,880.6 | 14.7 | 97.4 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,687.3 | 110.24 | 43.519 | |
| 5,000.0 | 4,946.1 | 4,980.6 | 4,980.6 | 14.8 | 99.4 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,685.1 | 112.43 | 42.670 | |
| 5,100.0 | 5,046.1 | 5,080.6 | 5,080.6 | 15.0 | 101.4 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,682.9 | 114.63 | 41.853 | |
| 5,200.0 | 5,146.1 | 5,180.6 | 5,180.6 | 15.1 | 103.4 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,680.7 | 116.82 | 41.067 | |
| 5,300.0 | 5,246.1 | 5,280.6 | 5,280.6 | 15.3 | 105.5 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,678.5 | 119.02 | 40.309 | |
| 5,400.0 | 5,346.1 | 5,380.6 | 5,380.6 | 15.5 | 107.5 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,676.3 | 121.22 | 39.578 | |
| 5,500.0 | 5,446.1 | 5,480.6 | 5,480.6 | 15.6 | 109.5 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,674.1 | 123.42 | 38.873 | |
| 5,600.0 | 5,546.1 | 5,580.6 | 5,580.6 | 15.8 | 111.5 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,671.9 | 125.62 | 38.192 | |
| 5,700.0 | 5,646.1 | 5,680.6 | 5,680.6 | 16.0 | 113.5 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,669.7 | 127.82 | 37.534 | |
| 5,800.0 | 5,746.1 | 5,780.6 | 5,780.6 | 16.1 | 115.5 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,667.5 | 130.02 | 36.898 | |
| 5,900.0 | 5,846.1 | 5,880.6 | 5,880.6 | 16.3 | 117.5 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,665.3 | 132.22 | 36.284 | |
| 6,000.0 | 5,946.1 | 5,980.6 | 5,980.6 | 16.5 | 119.5 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,663.1 | 134.43 | 35.689 | |
| 6,100.0 | 6,046.1 | 6,080.6 | 6,080.6 | 16.7 | 121.5 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,660.9 | 136.63 | 35.113 | |
| 6,200.0 | 6,146.1 | 6,180.6 | 6,180.6 | 16.8 | 123.6 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,658.7 | 138.84 | 34.555 | |
| 6,300.0 | 6,246.1 | 6,280.6 | 6,280.6 | 17.0 | 125.6 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,656.5 | 141.04 | 34.014 | |
| 6,322.7 | 6,268.8 | 6,303.3 | 6,303.3 | 17.1 | 126.0 | 92.44 | 229.9 | 4,447.5 | 4,797.5 | 4,656.0 | 141.55 | 33.894 | |
| 6,350.0 | 6,296.1 | 6,330.6 | 6,330.6 | 17.1 | 126.6 | 2.44 | 229.9 | 4,447.5 | 4,797.0 | 4,654.8 | 142.23 | 33.726 | |
| 6,400.0 | 6,345.9 | 6,380.4 | 6,380.4 | 17.2 | 127.6 | 2.45 | 229.9 | 4,447.5 | 4,793.4 | 4,650.8 | 142.56 | 33.624 | |
| 6,450.0 | 6,395.4 | 6,429.9 | 6,429.9 | 17.2 | 128.6 | 2.48 | 229.9 | 4,447.5 | 4,786.3 | 4,644.1 | 142.18 | 33.665 | |
| 6,500.0 | 6,444.3 | 6,478.8 | 6,478.8 | 17.2 | 129.5 | 2.53 | 229.9 | 4,447.5 | 4,775.7 | 4,634.6 | 141.08 | 33.852 | |
| 6,550.0 | 6,492.3 | 6,526.8 | 6,526.8 | 17.2 | 130.5 | 2.59 | 229.9 | 4,447.5 | 4,761.8 | 4,622.5 | 139.26 | 34.194 | |
| 6,600.0 | 6,539.2 | 6,573.7 | 6,573.7 | 17.2 | 131.5 | 2.66 | 229.9 | 4,447.5 | 4,744.6 | 4,607.9 | 136.71 | 34.704 | |
| 6,650.0 | 6,584.8 | 6,619.3 | 6,619.3 | 17.2 | 132.4 | 2.76 | 229.9 | 4,447.5 | 4,724.1 | 4,590.7 | 133.45 | 35.400 | |
| 6,700.0 | 6,628.9 | 6,663.4 | 6,663.4 | 17.2 | 133.3 | 2.88 | 229.9 | 4,447.5 | 4,700.5 | 4,571.0 | 129.48 | 36.303 | |
| 6,750.0 | 6,671.2 | 6,705.7 | 6,705.7 | 17.2 | 134.1 | 3.02 | 229.9 | 4,447.5 | 4,673.9 | 4,549.1 | 124.82 | 37.446 | |
| 6,800.0 | 6,711.5 | 6,746.0 | 6,746.0 | 17.2 | 134.9 | 3.20 | 229.9 | 4,447.5 | 4,644.4 | 4,525.0 | 119.49 | 38.870 | |
| 6,850.0 | 6,749.7 | 6,784.2 | 6,784.2 | 17.2 | 135.7 | 3.42 | 229.9 | 4,447.5 | 4,612.2 | 4,498.7 | 113.52 | 40.629 | |
| 6,900.0 | 6,785.6 | 6,820.1 | 6,820.1 | 17.1 | 136.4 | 3.69 | 229.9 | 4,447.5 | 4,577.4 | 4,470.5 | 106.96 | 42.795 | |
| 6,950.0 | 6,818.9 | 6,853.4 | 6,853.4 | 17.1 | 137.1 | 4.02 | 229.9 | 4,447.5 | 4,540.2 | 4,440.3 | 99.86 | 45.465 | |
| 7,000.0 | 6,849.5 | 6,884.0 | 6,884.0 | 17.1 | 137.7 | 4.44 | 229.9 | 4,447.5 | 4,500.8 | 4,408.5 | 92.29 | 48.768 | |
| 7,050.0 | 6,877.4 | 6,911.9 | 6,911.9 | 17.2 | 138.3 | 4.97 | 229.9 | 4,447.5 | 4,459.3 | 4,374.9 | 84.34 | 52.871 | |
| 7,100.0 | 6,902.2 | 6,936.7 | 6,936.7 | 17.3 | 138.8 | 5.66 | 229.9 | 4,447.5 | 4,415.9 | 4,339.8 | 76.16 | 57.981 | |
| 7,150.0 | 6,924.0 | 6,958.5 | 6,958.5 | 17.7 | 139.2 | 6.60 | 229.9 | 4,447.5 | 4,371.0 | 4,303.0 | 67.99 | 64.289 | |
| 7,200.0 | 6,942.6 | 6,977.1 | 6,977.1 | 18.2 | 139.6 | 7.93 | 229.9 | 4,447.5 | 4,324.6 | 4,264.3 | 60.30 | 71.722 | |
| 7,250.0 | 6,957.9 | 6,992.4 | 6,992.4 | 18.8 | 139.9 | 9.94 | 229.9 | 4,447.5 | 4,277.1 | 4,222.9 | 54.16 | 78.977 | |
| 7,300.0 | 6,969.8 | 7,004.3 | 7,004.3 | 19.6 | 140.1 | 13.27 | 229.9 | 4,447.5 | 4,228.6 | 4,176.4 | 52.24 | 80.951 | |
| 7,350.0 | 6,978.3 | 7,012.8 | 7,012.8 | 20.4 | 140.3 | 19.77 | 229.9 | 4,447.5 | 4,179.4 | 4,118.3 | 61.09 | 68.418 | |
| 7,400.0 | 6,983.4 | 7,017.9 | 7,017.9 | 21.3 | 140.4 | 36.61 | 229.9 | 4,447.5 | 4,129.7 | 4,031.9 | 97.79 | 42.229 | |
| 7,447.7 | 6,985.0 | 7,019.5 | 7,019.5 | 22.1 | 140.4 | 90.00 | 229.9 | 4,447.5 | 4,082.1 | 3,919.6 | 162.52 | 25.117 | |
| 7,500.0 | 6,985.0 | 7,019.5 | 7,019.5 | 23.1 | 140.4 | 90.00 | 229.9 | 4,447.5 | 4,029.9 | 3,866.4 | 163.51 | 24.646 | |
| 7,600.0 | 6,985.0 | 7,019.5 | 7,019.5 | 25.2 | 140.4 | 90.00 | 229.9 | 4,447.5 | 3,930.0 | 3,764.5 | 165.54 | 23.740 | |
| 7,700.0 | 6,985.0 | 7,019.5 | 7,019.5 | 27.4 | 140.4 | 90.00 | 229.9 | 4,447.5 | 3,830.2 | 3,662.4 | 167.71 | 22.838 | |
| 7,800.0 | 6,985.0 | 7,019.5 | 7,019.5 | 29.7 | 140.4 | 90.00 | 229.9 | 4,447.5 | 3,730.3 | 3,560.3 | 169.99 | 21.944 | |
| 7,900.0 | 6,985.0 | 7,019.5 | 7,019.5 | 32.0 | 140.4 | 90.00 | 229.9 | 4,447.5 | 3,630.5 | 3,458.1 | 172.35 | 21.064 | |
| 8,000.0 | 6,985.0 | 7,019.5 | 7,019.5 | 34.5 | 140.4 | 90.00 | 229.9 | 4,447.5 | 3,530.6 | 3,355.8 | 174.78 | 20.200 | |
| 8,100.0 | 6,985.0 | 7,019.5 | 7,019.5 | 36.9 | 140.4 | 90.00 | 229.9 | 4,447.5 | 3,430.8 | 3,253.5 | 177.26 | 19.354 | |
| 8,200.0 | 6,985.0 | 7,019.5 | 7,019.5 | 39.5 | 140.4 | 90.00 | 229.9 | 4,447.5 | 3,331.0 | 3,151.2 | 179.79 | 18.527 | |
| 8,300.0 | 6,985.0 | 7,019.5 | 7,019.5 | 42.0 | 140.4 | 90.00 | 229.9 | 4,447.5 | 3,231.2 | 3,048.8 | 182.35 | 17.719 | |
| 8,400.0 | 6,985.0 | 7,019.5 | 7,019.5 | 44.6 | 140.4 | 90.00 | 229.9 | 4,447.5 | 3,131.4 | 2,946.4 | 184.95 | 16.931 | |
| 8,500.0 | 6,985.0 | 7,019.5 | 7,019.5 | 47.2 | 140.4 | 90.00 | 229.9 | 4,447.5 | 3,031.6 | 2,844.0 | 187.56 | 16.163 | |
| 8,600.0 | 6,985.0 | 7,019.5 | 7,019.5 | 49.9 | 140.4 | 90.00 | 229.9 | 4,447.5 | 2,931.8 | 2,741.6 | 190.20 | 15.414 | |
| 8,700.0 | 6,985.0 | 7,019.5 | 7,019.5 | 52.5 | 140.4 | 90.00 | 229.9 | 4,447.5 | 2,832.1 | 2,639.2 | 192.86 | 14.685 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|---------------------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 8,800.0 | 6,985.0 | 7,019.5 | 7,019.5 | 55.2 | 140.4 | 90.00 | 229.9 | 4,447.5 | 2,732.4 | 2,536.8 | 195.53 | 13.974 | |
| 8,900.0 | 6,985.0 | 7,019.5 | 7,019.5 | 57.9 | 140.4 | 90.00 | 229.9 | 4,447.5 | 2,632.6 | 2,434.4 | 198.21 | 13.282 | |
| 9,000.0 | 6,985.0 | 7,019.5 | 7,019.5 | 60.6 | 140.4 | 90.00 | 229.9 | 4,447.5 | 2,533.0 | 2,332.0 | 200.91 | 12.607 | |
| 9,100.0 | 6,985.0 | 7,019.5 | 7,019.5 | 63.3 | 140.4 | 90.00 | 229.9 | 4,447.5 | 2,433.3 | 2,229.7 | 203.61 | 11.950 | |
| 9,200.0 | 6,985.0 | 7,019.5 | 7,019.5 | 66.0 | 140.4 | 90.00 | 229.9 | 4,447.5 | 2,333.7 | 2,127.3 | 206.33 | 11.310 | |
| 9,300.0 | 6,985.0 | 7,019.5 | 7,019.5 | 68.7 | 140.4 | 90.00 | 229.9 | 4,447.5 | 2,234.1 | 2,025.0 | 209.05 | 10.687 | |
| 9,400.0 | 6,985.0 | 7,019.5 | 7,019.5 | 71.4 | 140.4 | 90.00 | 229.9 | 4,447.5 | 2,134.5 | 1,922.7 | 211.78 | 10.079 | |
| 9,500.0 | 6,985.0 | 7,019.5 | 7,019.5 | 74.2 | 140.4 | 90.00 | 229.9 | 4,447.5 | 2,035.0 | 1,820.5 | 214.51 | 9.486 | |
| 9,600.0 | 6,985.0 | 7,019.5 | 7,019.5 | 76.9 | 140.4 | 90.00 | 229.9 | 4,447.5 | 1,935.5 | 1,718.3 | 217.25 | 8.909 | |
| 9,700.0 | 6,985.0 | 7,019.5 | 7,019.5 | 79.6 | 140.4 | 90.00 | 229.9 | 4,447.5 | 1,836.1 | 1,616.1 | 220.00 | 8.346 | |
| 9,800.0 | 6,985.0 | 7,019.5 | 7,019.5 | 82.4 | 140.4 | 90.00 | 229.9 | 4,447.5 | 1,736.8 | 1,514.0 | 222.75 | 7.797 | |
| 9,900.0 | 6,985.0 | 7,019.5 | 7,019.5 | 85.1 | 140.4 | 90.00 | 229.9 | 4,447.5 | 1,637.5 | 1,412.0 | 225.50 | 7.262 | |
| 10,000.0 | 6,985.0 | 7,019.5 | 7,019.5 | 87.9 | 140.4 | 90.00 | 229.9 | 4,447.5 | 1,538.3 | 1,310.1 | 228.26 | 6.739 | |
| 10,100.0 | 6,985.0 | 7,019.5 | 7,019.5 | 90.7 | 140.4 | 90.00 | 229.9 | 4,447.5 | 1,439.3 | 1,208.2 | 231.02 | 6.230 | |
| 10,200.0 | 6,985.0 | 7,019.5 | 7,019.5 | 93.4 | 140.4 | 90.00 | 229.9 | 4,447.5 | 1,340.3 | 1,106.6 | 233.78 | 5.733 | |
| 10,300.0 | 6,985.0 | 7,019.5 | 7,019.5 | 96.2 | 140.4 | 90.00 | 229.9 | 4,447.5 | 1,241.6 | 1,005.1 | 236.55 | 5.249 | |
| 10,400.0 | 6,985.0 | 7,019.5 | 7,019.5 | 98.9 | 140.4 | 90.00 | 229.9 | 4,447.5 | 1,143.1 | 903.8 | 239.31 | 4.777 | |
| 10,500.0 | 6,985.0 | 7,019.5 | 7,019.5 | 101.7 | 140.4 | 90.00 | 229.9 | 4,447.5 | 1,044.8 | 802.8 | 242.08 | 4.316 | |
| 10,600.0 | 6,985.0 | 7,019.5 | 7,019.5 | 104.5 | 140.4 | 90.00 | 229.9 | 4,447.5 | 947.0 | 702.1 | 244.86 | 3.867 | |
| 10,700.0 | 6,985.0 | 7,019.5 | 7,019.5 | 107.3 | 140.4 | 90.00 | 229.9 | 4,447.5 | 849.6 | 602.0 | 247.63 | 3.431 | |
| 10,800.0 | 6,985.0 | 7,019.5 | 7,019.5 | 110.0 | 140.4 | 90.00 | 229.9 | 4,447.5 | 752.9 | 502.5 | 250.41 | 3.007 | |
| 10,900.0 | 6,985.0 | 7,019.5 | 7,019.5 | 112.8 | 140.4 | 90.00 | 229.9 | 4,447.5 | 657.2 | 404.0 | 253.18 | 2.596 | |
| 11,000.0 | 6,985.0 | 7,019.5 | 7,019.5 | 115.6 | 140.4 | 90.00 | 229.9 | 4,447.5 | 563.0 | 307.0 | 255.96 | 2.200 | |
| 11,100.0 | 6,985.0 | 7,019.5 | 7,019.5 | 118.4 | 140.4 | 90.00 | 229.9 | 4,447.5 | 471.2 | 212.5 | 258.74 | 1.821 | |
| 11,200.0 | 6,985.0 | 7,019.5 | 7,019.5 | 121.2 | 140.4 | 90.00 | 229.9 | 4,447.5 | 383.5 | 122.0 | 261.53 | 1.466 | Level 3 |
| 11,300.0 | 6,985.0 | 7,019.5 | 7,019.5 | 123.9 | 140.4 | 90.00 | 229.9 | 4,447.5 | 303.6 | 39.3 | 264.31 | 1.149 | Level 2 |
| 11,400.0 | 6,985.0 | 7,019.5 | 7,019.5 | 126.7 | 140.4 | 90.00 | 229.9 | 4,447.5 | 239.2 | -27.9 | 267.09 | 0.895 | Level 1 |
| 11,500.0 | 6,985.0 | 7,019.5 | 7,019.5 | 129.5 | 140.4 | 90.00 | 229.9 | 4,447.5 | 205.6 | -64.3 | 269.88 | 0.762 | Level 1 |
| 11,524.7 | 6,985.0 | 7,019.5 | 7,019.5 | 130.2 | 140.4 | 90.00 | 229.9 | 4,447.5 | 204.1 | -66.5 | 270.57 | 0.754 | Level 1, CC, ES, SF |
| 11,600.0 | 6,985.0 | 7,019.5 | 7,019.5 | 132.3 | 140.4 | 90.00 | 229.9 | 4,447.5 | 217.5 | -55.1 | 272.67 | 0.798 | Level 1 |
| 11,700.0 | 6,985.0 | 7,019.5 | 7,019.5 | 135.1 | 140.4 | 90.00 | 229.9 | 4,447.5 | 269.0 | -6.4 | 275.45 | 0.977 | Level 1 |
| 11,800.0 | 6,985.0 | 7,019.5 | 7,019.5 | 137.9 | 140.4 | 90.00 | 229.9 | 4,447.5 | 342.7 | 64.4 | 278.24 | 1.232 | Level 2 |
| 11,900.0 | 6,985.0 | 7,019.5 | 7,019.5 | 140.7 | 140.4 | 90.00 | 229.9 | 4,447.5 | 427.2 | 146.2 | 281.03 | 1.520 | |
| 12,000.0 | 6,985.0 | 7,019.5 | 7,019.5 | 143.4 | 140.4 | 90.00 | 229.9 | 4,447.5 | 517.2 | 233.4 | 283.82 | 1.822 | |
| 12,054.1 | 6,985.0 | 7,019.5 | 7,019.5 | 145.0 | 140.4 | 90.00 | 229.9 | 4,447.5 | 567.4 | 282.1 | 285.33 | 1.989 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 94.5 | 94.5 | 0.0 | 0.0 | 69.14 | 1,738.2 | 4,561.5 | 4,881.4 | | | | |
| 100.0 | 100.0 | 194.5 | 194.5 | 0.1 | 1.2 | 69.14 | 1,738.2 | 4,561.5 | 4,881.4 | 4,880.2 | 1.25 | 3,890.521 | |
| 200.0 | 200.0 | 294.5 | 294.5 | 0.3 | 3.4 | 69.14 | 1,738.2 | 4,561.5 | 4,881.4 | 4,877.7 | 3.71 | 1,317.512 | |
| 300.0 | 300.0 | 394.5 | 394.5 | 0.5 | 5.5 | 69.14 | 1,738.2 | 4,561.5 | 4,881.4 | 4,875.4 | 6.02 | 811.008 | |
| 400.0 | 400.0 | 494.5 | 494.5 | 0.8 | 7.5 | 69.14 | 1,738.2 | 4,561.5 | 4,881.4 | 4,873.1 | 8.29 | 588.992 | |
| 500.0 | 500.0 | 594.5 | 594.5 | 1.0 | 9.5 | 69.14 | 1,738.2 | 4,561.5 | 4,881.4 | 4,870.9 | 10.54 | 463.034 | |
| 600.0 | 600.0 | 694.5 | 694.5 | 1.2 | 11.6 | 69.14 | 1,738.2 | 4,561.5 | 4,881.4 | 4,868.6 | 12.79 | 381.656 | |
| 700.0 | 700.0 | 794.5 | 794.5 | 1.4 | 13.6 | 69.14 | 1,738.2 | 4,561.5 | 4,881.4 | 4,866.4 | 15.03 | 324.684 | |
| 800.0 | 800.0 | 894.5 | 894.5 | 1.7 | 15.6 | 69.14 | 1,738.2 | 4,561.5 | 4,881.4 | 4,864.1 | 17.28 | 282.549 | |
| 900.0 | 900.0 | 994.5 | 994.5 | 1.9 | 17.6 | 107.69 | 1,738.2 | 4,561.5 | 4,881.9 | 4,862.4 | 19.51 | 250.199 | |
| 1,000.0 | 999.8 | 1,094.3 | 1,094.3 | 2.1 | 19.6 | 107.72 | 1,738.2 | 4,561.5 | 4,883.5 | 4,861.8 | 21.74 | 224.614 | |
| 1,100.0 | 1,099.5 | 1,194.0 | 1,194.0 | 2.4 | 21.6 | 107.76 | 1,738.2 | 4,561.5 | 4,886.2 | 4,862.2 | 23.97 | 203.831 | |
| 1,200.0 | 1,198.7 | 1,293.2 | 1,293.2 | 2.6 | 23.6 | 107.83 | 1,738.2 | 4,561.5 | 4,890.0 | 4,863.7 | 26.21 | 186.587 | |
| 1,300.0 | 1,297.5 | 1,392.0 | 1,392.0 | 2.9 | 25.6 | 107.91 | 1,738.2 | 4,561.5 | 4,894.8 | 4,866.4 | 28.46 | 172.019 | |
| 1,400.0 | 1,395.6 | 1,490.1 | 1,490.1 | 3.2 | 27.6 | 108.00 | 1,738.2 | 4,561.5 | 4,900.8 | 4,870.1 | 30.72 | 159.524 | |
| 1,400.2 | 1,395.8 | 1,490.3 | 1,490.3 | 3.2 | 27.6 | 108.00 | 1,738.2 | 4,561.5 | 4,900.8 | 4,870.1 | 30.73 | 159.498 | |
| 1,500.0 | 1,493.4 | 1,587.9 | 1,587.9 | 3.6 | 29.6 | 108.23 | 1,738.2 | 4,561.5 | 4,907.4 | 4,874.4 | 33.03 | 148.581 | |
| 1,600.0 | 1,591.2 | 1,685.7 | 1,685.7 | 3.9 | 31.5 | 108.45 | 1,738.2 | 4,561.5 | 4,914.1 | 4,878.7 | 35.35 | 139.000 | |
| 1,700.0 | 1,689.1 | 1,783.6 | 1,783.6 | 4.3 | 33.5 | 108.68 | 1,738.2 | 4,561.5 | 4,920.8 | 4,883.1 | 37.69 | 130.558 | |
| 1,800.0 | 1,786.9 | 1,881.4 | 1,881.4 | 4.7 | 35.5 | 108.90 | 1,738.2 | 4,561.5 | 4,927.6 | 4,887.6 | 40.04 | 123.075 | |
| 1,900.0 | 1,884.7 | 1,979.2 | 1,979.2 | 5.2 | 37.4 | 109.13 | 1,738.2 | 4,561.5 | 4,934.6 | 4,892.2 | 42.39 | 116.404 | |
| 2,000.0 | 1,982.5 | 2,077.0 | 2,077.0 | 5.6 | 39.4 | 109.35 | 1,738.2 | 4,561.5 | 4,941.5 | 4,896.8 | 44.75 | 110.424 | |
| 2,100.0 | 2,080.3 | 2,174.8 | 2,174.8 | 6.0 | 41.4 | 109.57 | 1,738.2 | 4,561.5 | 4,948.6 | 4,901.5 | 47.11 | 105.035 | |
| 2,200.0 | 2,178.1 | 2,272.6 | 2,272.6 | 6.4 | 43.3 | 109.80 | 1,738.2 | 4,561.5 | 4,955.8 | 4,906.3 | 49.48 | 100.157 | |
| 2,300.0 | 2,275.9 | 2,370.4 | 2,370.4 | 6.9 | 45.3 | 110.02 | 1,738.2 | 4,561.5 | 4,963.0 | 4,911.1 | 51.85 | 95.721 | |
| 2,400.0 | 2,373.8 | 2,468.3 | 2,468.3 | 7.3 | 47.3 | 110.24 | 1,738.2 | 4,561.5 | 4,970.3 | 4,916.1 | 54.22 | 91.672 | |
| 2,500.0 | 2,471.6 | 2,566.1 | 2,566.1 | 7.7 | 49.2 | 110.46 | 1,738.2 | 4,561.5 | 4,977.7 | 4,921.1 | 56.59 | 87.961 | |
| 2,600.0 | 2,569.4 | 2,663.9 | 2,663.9 | 8.2 | 51.2 | 110.68 | 1,738.2 | 4,561.5 | 4,985.1 | 4,926.1 | 58.96 | 84.549 | |
| 2,700.0 | 2,667.2 | 2,761.7 | 2,761.7 | 8.6 | 53.2 | 110.90 | 1,738.2 | 4,561.5 | 4,992.6 | 4,931.3 | 61.33 | 81.401 | |
| 2,800.0 | 2,765.0 | 2,859.5 | 2,859.5 | 9.0 | 55.2 | 111.12 | 1,738.2 | 4,561.5 | 5,000.2 | 4,936.5 | 63.71 | 78.489 | |
| 2,900.0 | 2,862.8 | 2,957.3 | 2,957.3 | 9.5 | 57.1 | 111.33 | 1,738.2 | 4,561.5 | 5,007.9 | 4,941.8 | 66.08 | 75.787 | |
| 3,000.0 | 2,960.6 | 3,055.1 | 3,055.1 | 9.9 | 59.1 | 111.55 | 1,738.2 | 4,561.5 | 5,015.7 | 4,947.2 | 68.45 | 73.273 | |
| 3,100.0 | 3,058.4 | 3,152.9 | 3,152.9 | 10.4 | 61.1 | 111.77 | 1,738.2 | 4,561.5 | 5,023.5 | 4,952.7 | 70.82 | 70.929 | |
| 3,200.0 | 3,156.3 | 3,250.8 | 3,250.8 | 10.8 | 63.0 | 111.98 | 1,738.2 | 4,561.5 | 5,031.4 | 4,958.2 | 73.20 | 68.739 | |
| 3,300.0 | 3,254.1 | 3,348.6 | 3,348.6 | 11.3 | 65.0 | 112.20 | 1,738.2 | 4,561.5 | 5,039.3 | 4,963.8 | 75.57 | 66.687 | |
| 3,400.0 | 3,351.9 | 3,446.4 | 3,446.4 | 11.7 | 67.0 | 112.41 | 1,738.2 | 4,561.5 | 5,047.4 | 4,969.5 | 77.94 | 64.761 | |
| 3,465.5 | 3,416.0 | 3,510.5 | 3,510.5 | 12.0 | 68.2 | 112.55 | 1,738.2 | 4,561.5 | 5,052.7 | 4,973.2 | 79.49 | 63.563 | |
| 3,500.0 | 3,449.7 | 3,544.2 | 3,544.2 | 12.1 | 68.9 | 112.67 | 1,738.2 | 4,561.5 | 5,055.4 | 4,975.1 | 80.31 | 62.945 | |
| 3,600.0 | 3,548.1 | 3,642.6 | 3,642.6 | 12.5 | 70.9 | 112.99 | 1,738.2 | 4,561.5 | 5,062.5 | 4,979.8 | 82.64 | 61.256 | |
| 3,700.0 | 3,647.1 | 3,741.6 | 3,741.6 | 12.7 | 72.9 | 113.24 | 1,738.2 | 4,561.5 | 5,068.2 | 4,983.3 | 84.95 | 59.664 | |
| 3,800.0 | 3,746.5 | 3,841.0 | 3,841.0 | 13.0 | 74.9 | 113.44 | 1,738.2 | 4,561.5 | 5,072.6 | 4,985.4 | 87.21 | 58.162 | |
| 3,900.0 | 3,846.2 | 3,940.7 | 3,940.7 | 13.2 | 76.9 | 113.57 | 1,738.2 | 4,561.5 | 5,075.6 | 4,986.1 | 89.44 | 56.746 | |
| 4,000.0 | 3,946.1 | 4,040.6 | 4,040.6 | 13.3 | 78.9 | 113.64 | 1,738.2 | 4,561.5 | 5,077.2 | 4,985.6 | 91.63 | 55.410 | |
| 4,065.7 | 4,011.8 | 4,106.3 | 4,106.3 | 13.4 | 80.2 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,987.1 | 90.44 | 56.144 | |
| 4,100.0 | 4,046.1 | 4,140.6 | 4,140.6 | 13.5 | 80.9 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,986.3 | 91.18 | 55.684 | |
| 4,200.0 | 4,146.1 | 4,240.6 | 4,240.6 | 13.6 | 82.9 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,984.1 | 93.38 | 54.374 | |
| 4,300.0 | 4,246.1 | 4,340.6 | 4,340.6 | 13.8 | 84.9 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,981.9 | 95.58 | 53.122 | |
| 4,400.0 | 4,346.1 | 4,440.6 | 4,440.6 | 13.9 | 86.9 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,979.7 | 97.78 | 51.927 | |
| 4,500.0 | 4,446.1 | 4,540.6 | 4,540.6 | 14.1 | 89.0 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,977.5 | 99.98 | 50.783 | |
| 4,600.0 | 4,546.1 | 4,640.6 | 4,640.6 | 14.2 | 91.0 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,975.3 | 102.19 | 49.689 | |
| 4,700.0 | 4,646.1 | 4,740.6 | 4,740.6 | 14.4 | 93.0 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,973.1 | 104.39 | 48.639 | |
| 4,800.0 | 4,746.1 | 4,840.6 | 4,840.6 | 14.5 | 95.0 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,970.9 | 106.60 | 47.633 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,940.6 | 4,940.6 | 14.7 | 97.0 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,968.7 | 108.80 | 46.667 | |
| 5,000.0 | 4,946.1 | 5,040.6 | 5,040.6 | 14.8 | 99.0 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,966.5 | 111.01 | 45.739 | |
| 5,100.0 | 5,046.1 | 5,140.6 | 5,140.6 | 15.0 | 101.0 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,964.3 | 113.22 | 44.847 | |
| 5,200.0 | 5,146.1 | 5,240.6 | 5,240.6 | 15.1 | 103.0 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,962.1 | 115.43 | 43.988 | |
| 5,300.0 | 5,246.1 | 5,340.6 | 5,340.6 | 15.3 | 105.0 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,959.9 | 117.64 | 43.162 | |
| 5,400.0 | 5,346.1 | 5,440.6 | 5,440.6 | 15.5 | 107.1 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,957.7 | 119.85 | 42.365 | |
| 5,500.0 | 5,446.1 | 5,540.6 | 5,540.6 | 15.6 | 109.1 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,955.4 | 122.06 | 41.598 | |
| 5,600.0 | 5,546.1 | 5,640.6 | 5,640.6 | 15.8 | 111.1 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,953.2 | 124.27 | 40.857 | |
| 5,700.0 | 5,646.1 | 5,740.6 | 5,740.6 | 16.0 | 113.1 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,951.0 | 126.49 | 40.142 | |
| 5,800.0 | 5,746.1 | 5,840.6 | 5,840.6 | 16.1 | 115.1 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,948.8 | 128.70 | 39.451 | |
| 5,900.0 | 5,846.1 | 5,940.6 | 5,940.6 | 16.3 | 117.1 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,946.6 | 130.92 | 38.784 | |
| 6,000.0 | 5,946.1 | 6,040.6 | 6,040.6 | 16.5 | 119.1 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,944.4 | 133.13 | 38.139 | |
| 6,100.0 | 6,046.1 | 6,140.6 | 6,140.6 | 16.7 | 121.1 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,942.2 | 135.35 | 37.514 | |
| 6,200.0 | 6,146.1 | 6,240.6 | 6,240.6 | 16.8 | 123.1 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,939.9 | 137.57 | 36.910 | |
| 6,300.0 | 6,246.1 | 6,340.6 | 6,340.6 | 17.0 | 125.2 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,937.7 | 139.78 | 36.324 | |
| 6,322.7 | 6,268.8 | 6,363.3 | 6,363.3 | 17.1 | 125.6 | 75.12 | 1,738.2 | 4,561.5 | 5,077.5 | 4,937.2 | 140.29 | 36.194 | |
| 6,350.0 | 6,296.1 | 6,390.6 | 6,390.6 | 17.1 | 126.2 | -14.90 | 1,738.2 | 4,561.5 | 5,077.0 | 4,934.4 | 142.65 | 35.592 | |
| 6,400.0 | 6,345.9 | 6,440.4 | 6,440.4 | 17.2 | 127.2 | -14.98 | 1,738.2 | 4,561.5 | 5,073.5 | 4,930.5 | 143.03 | 35.471 | |
| 6,450.0 | 6,395.4 | 6,489.9 | 6,489.9 | 17.2 | 128.2 | -15.14 | 1,738.2 | 4,561.5 | 5,066.6 | 4,923.8 | 142.76 | 35.490 | |
| 6,500.0 | 6,444.3 | 6,538.8 | 6,538.8 | 17.2 | 129.1 | -15.39 | 1,738.2 | 4,561.5 | 5,056.4 | 4,914.6 | 141.83 | 35.651 | |
| 6,550.0 | 6,492.3 | 6,586.8 | 6,586.8 | 17.2 | 130.1 | -15.74 | 1,738.2 | 4,561.5 | 5,043.0 | 4,902.7 | 140.25 | 35.958 | |
| 6,600.0 | 6,539.2 | 6,633.7 | 6,633.7 | 17.2 | 131.1 | -16.18 | 1,738.2 | 4,561.5 | 5,026.3 | 4,888.3 | 138.03 | 36.415 | |
| 6,650.0 | 6,584.8 | 6,679.3 | 6,679.3 | 17.2 | 132.0 | -16.73 | 1,738.2 | 4,561.5 | 5,006.5 | 4,871.3 | 135.21 | 37.028 | |
| 6,700.0 | 6,628.9 | 6,723.4 | 6,723.4 | 17.2 | 132.9 | -17.41 | 1,738.2 | 4,561.5 | 4,983.7 | 4,851.9 | 131.84 | 37.803 | |
| 6,750.0 | 6,671.2 | 6,765.7 | 6,765.7 | 17.2 | 133.7 | -18.24 | 1,738.2 | 4,561.5 | 4,958.0 | 4,830.1 | 127.98 | 38.740 | |
| 6,800.0 | 6,711.5 | 6,806.0 | 6,806.0 | 17.2 | 134.5 | -19.24 | 1,738.2 | 4,561.5 | 4,929.6 | 4,805.8 | 123.75 | 39.834 | |
| 6,850.0 | 6,749.7 | 6,844.2 | 6,844.2 | 17.2 | 135.3 | -20.44 | 1,738.2 | 4,561.5 | 4,898.5 | 4,779.2 | 119.30 | 41.060 | |
| 6,900.0 | 6,785.6 | 6,880.1 | 6,880.1 | 17.1 | 136.0 | -21.90 | 1,738.2 | 4,561.5 | 4,864.9 | 4,750.1 | 114.83 | 42.365 | |
| 6,950.0 | 6,818.9 | 6,913.4 | 6,913.4 | 17.1 | 136.7 | -23.65 | 1,738.2 | 4,561.5 | 4,829.0 | 4,718.4 | 110.65 | 43.643 | |
| 7,000.0 | 6,849.5 | 6,944.0 | 6,944.0 | 17.1 | 137.3 | -25.80 | 1,738.2 | 4,561.5 | 4,791.0 | 4,683.9 | 107.16 | 44.710 | |
| 7,050.0 | 6,877.4 | 6,971.9 | 6,971.9 | 17.2 | 137.9 | -28.43 | 1,738.2 | 4,561.5 | 4,751.1 | 4,646.2 | 104.91 | 45.286 | |
| 7,100.0 | 6,902.2 | 6,996.7 | 6,996.7 | 17.3 | 138.4 | -31.70 | 1,738.2 | 4,561.5 | 4,709.4 | 4,604.8 | 104.60 | 45.023 | |
| 7,150.0 | 6,924.0 | 7,018.5 | 7,018.5 | 17.7 | 138.8 | -35.79 | 1,738.2 | 4,561.5 | 4,666.2 | 4,559.2 | 106.98 | 43.618 | |
| 7,200.0 | 6,942.6 | 7,037.1 | 7,037.1 | 18.2 | 139.2 | -40.94 | 1,738.2 | 4,561.5 | 4,621.6 | 4,508.9 | 112.70 | 41.008 | |
| 7,250.0 | 6,957.9 | 7,052.4 | 7,052.4 | 18.8 | 139.5 | -47.49 | 1,738.2 | 4,561.5 | 4,576.0 | 4,454.0 | 122.00 | 37.509 | |
| 7,300.0 | 6,969.8 | 7,064.3 | 7,064.3 | 19.6 | 139.7 | -55.74 | 1,738.2 | 4,561.5 | 4,529.5 | 4,395.2 | 134.24 | 33.742 | |
| 7,350.0 | 6,978.3 | 7,072.8 | 7,072.8 | 20.4 | 139.9 | -65.90 | 1,738.2 | 4,561.5 | 4,482.3 | 4,334.9 | 147.40 | 30.409 | |
| 7,400.0 | 6,983.4 | 7,077.9 | 7,077.9 | 21.3 | 140.0 | -77.79 | 1,738.2 | 4,561.5 | 4,434.8 | 4,276.8 | 157.95 | 28.077 | |
| 7,447.7 | 6,985.0 | 7,079.5 | 7,079.5 | 22.1 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 4,389.2 | 4,227.1 | 162.12 | 27.074 | |
| 7,500.0 | 6,985.0 | 7,079.5 | 7,079.5 | 23.1 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 4,339.3 | 4,176.2 | 163.11 | 26.604 | |
| 7,600.0 | 6,985.0 | 7,079.5 | 7,079.5 | 25.2 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 4,244.0 | 4,078.9 | 165.14 | 25.700 | |
| 7,700.0 | 6,985.0 | 7,079.5 | 7,079.5 | 27.4 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 4,149.0 | 3,981.7 | 167.31 | 24.798 | |
| 7,800.0 | 6,985.0 | 7,079.5 | 7,079.5 | 29.7 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 4,054.2 | 3,884.6 | 169.59 | 23.906 | |
| 7,900.0 | 6,985.0 | 7,079.5 | 7,079.5 | 32.0 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 3,959.6 | 3,787.7 | 171.95 | 23.028 | |
| 8,000.0 | 6,985.0 | 7,079.5 | 7,079.5 | 34.5 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 3,865.4 | 3,691.0 | 174.38 | 22.167 | |
| 8,100.0 | 6,985.0 | 7,079.5 | 7,079.5 | 36.9 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 3,771.4 | 3,594.5 | 176.86 | 21.324 | |
| 8,200.0 | 6,985.0 | 7,079.5 | 7,079.5 | 39.5 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 3,677.7 | 3,498.3 | 179.39 | 20.501 | |
| 8,300.0 | 6,985.0 | 7,079.5 | 7,079.5 | 42.0 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 3,584.4 | 3,402.4 | 181.95 | 19.700 | |
| 8,400.0 | 6,985.0 | 7,079.5 | 7,079.5 | 44.6 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 3,491.4 | 3,306.9 | 184.54 | 18.919 | |
| 8,500.0 | 6,985.0 | 7,079.5 | 7,079.5 | 47.2 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 3,398.9 | 3,211.7 | 187.16 | 18.160 | |
| 8,600.0 | 6,985.0 | 7,079.5 | 7,079.5 | 49.9 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 3,306.7 | 3,116.9 | 189.80 | 17.422 | |
| 8,700.0 | 6,985.0 | 7,079.5 | 7,079.5 | 52.5 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 3,215.1 | 3,022.6 | 192.45 | 16.706 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 8,800.0 | 6,985.0 | 7,079.5 | 7,079.5 | 55.2 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 3,123.9 | 2,928.8 | 195.13 | 16.010 | |
| 8,900.0 | 6,985.0 | 7,079.5 | 7,079.5 | 57.9 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 3,033.4 | 2,835.6 | 197.81 | 15.335 | |
| 9,000.0 | 6,985.0 | 7,079.5 | 7,079.5 | 60.6 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 2,943.4 | 2,742.9 | 200.51 | 14.680 | |
| 9,100.0 | 6,985.0 | 7,079.5 | 7,079.5 | 63.3 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 2,854.1 | 2,650.9 | 203.21 | 14.045 | |
| 9,200.0 | 6,985.0 | 7,079.5 | 7,079.5 | 66.0 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 2,765.5 | 2,559.6 | 205.93 | 13.430 | |
| 9,300.0 | 6,985.0 | 7,079.5 | 7,079.5 | 68.7 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 2,677.8 | 2,469.1 | 208.65 | 12.834 | |
| 9,400.0 | 6,985.0 | 7,079.5 | 7,079.5 | 71.4 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 2,590.9 | 2,379.5 | 211.38 | 12.257 | |
| 9,500.0 | 6,985.0 | 7,079.5 | 7,079.5 | 74.2 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 2,505.0 | 2,290.9 | 214.11 | 11.699 | |
| 9,600.0 | 6,985.0 | 7,079.5 | 7,079.5 | 76.9 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 2,420.2 | 2,203.3 | 216.85 | 11.160 | |
| 9,700.0 | 6,985.0 | 7,079.5 | 7,079.5 | 79.6 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 2,336.5 | 2,116.9 | 219.60 | 10.640 | |
| 9,800.0 | 6,985.0 | 7,079.5 | 7,079.5 | 82.4 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 2,254.3 | 2,031.9 | 222.35 | 10.139 | |
| 9,900.0 | 6,985.0 | 7,079.5 | 7,079.5 | 85.1 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 2,173.5 | 1,948.4 | 225.10 | 9.656 | |
| 10,000.0 | 6,985.0 | 7,079.5 | 7,079.5 | 87.9 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 2,094.3 | 1,866.5 | 227.86 | 9.191 | |
| 10,100.0 | 6,985.0 | 7,079.5 | 7,079.5 | 90.7 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 2,017.0 | 1,786.4 | 230.62 | 8.746 | |
| 10,200.0 | 6,985.0 | 7,079.5 | 7,079.5 | 93.4 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,941.8 | 1,708.5 | 233.38 | 8.321 | |
| 10,300.0 | 6,985.0 | 7,079.5 | 7,079.5 | 96.2 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,869.0 | 1,632.8 | 236.14 | 7.914 | |
| 10,400.0 | 6,985.0 | 7,079.5 | 7,079.5 | 98.9 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,798.7 | 1,559.8 | 238.91 | 7.529 | |
| 10,500.0 | 6,985.0 | 7,079.5 | 7,079.5 | 101.7 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,731.3 | 1,489.6 | 241.68 | 7.164 | |
| 10,600.0 | 6,985.0 | 7,079.5 | 7,079.5 | 104.5 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,667.3 | 1,422.8 | 244.45 | 6.820 | |
| 10,700.0 | 6,985.0 | 7,079.5 | 7,079.5 | 107.3 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,606.9 | 1,359.6 | 247.23 | 6.500 | |
| 10,800.0 | 6,985.0 | 7,079.5 | 7,079.5 | 110.0 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,550.6 | 1,300.6 | 250.00 | 6.202 | |
| 10,900.0 | 6,985.0 | 7,079.5 | 7,079.5 | 112.8 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,498.8 | 1,246.1 | 252.78 | 5.929 | |
| 11,000.0 | 6,985.0 | 7,079.5 | 7,079.5 | 115.6 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,452.2 | 1,196.6 | 255.56 | 5.682 | |
| 11,100.0 | 6,985.0 | 7,079.5 | 7,079.5 | 118.4 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,411.1 | 1,152.7 | 258.34 | 5.462 | |
| 11,200.0 | 6,985.0 | 7,079.5 | 7,079.5 | 121.2 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,376.0 | 1,114.9 | 261.12 | 5.269 | |
| 11,300.0 | 6,985.0 | 7,079.5 | 7,079.5 | 123.9 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,347.4 | 1,083.5 | 263.91 | 5.106 | |
| 11,400.0 | 6,985.0 | 7,079.5 | 7,079.5 | 126.7 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,325.8 | 1,059.1 | 266.69 | 4.971 | |
| 11,500.0 | 6,985.0 | 7,079.5 | 7,079.5 | 129.5 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,311.5 | 1,042.1 | 269.48 | 4.867 | |
| 11,600.0 | 6,985.0 | 7,079.5 | 7,079.5 | 132.3 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,304.8 | 1,032.5 | 272.26 | 4.792 | |
| 11,638.7 | 6,985.0 | 7,079.5 | 7,079.5 | 133.4 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,304.2 | 1,030.8 | 273.34 | 4.771 CC | |
| 11,700.0 | 6,985.0 | 7,079.5 | 7,079.5 | 135.1 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,305.6 | 1,030.6 | 275.05 | 4.747 ES | |
| 11,800.0 | 6,985.0 | 7,079.5 | 7,079.5 | 137.9 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,314.1 | 1,036.3 | 277.84 | 4.730 SF | |
| 11,900.0 | 6,985.0 | 7,079.5 | 7,079.5 | 140.7 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,330.1 | 1,049.5 | 280.63 | 4.740 | |
| 12,000.0 | 6,985.0 | 7,079.5 | 7,079.5 | 143.4 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,353.3 | 1,069.9 | 283.42 | 4.775 | |
| 12,054.1 | 6,985.0 | 7,079.5 | 7,079.5 | 145.0 | 140.0 | -90.00 | 1,738.2 | 4,561.5 | 1,368.7 | 1,083.8 | 284.93 | 4.804 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 119.5 | 119.5 | 0.0 | 0.2 | 56.89 | 2,871.2 | 4,402.4 | 5,255.9 | | | | |
| 100.0 | 100.0 | 219.5 | 219.5 | 0.1 | 1.4 | 56.89 | 2,871.2 | 4,402.4 | 5,255.9 | 5,254.5 | 1.45 | 3,624.768 | |
| 200.0 | 200.0 | 319.5 | 319.5 | 0.3 | 3.7 | 56.89 | 2,871.2 | 4,402.4 | 5,255.9 | 5,252.0 | 3.98 | 1,319.608 | |
| 300.0 | 300.0 | 419.5 | 419.5 | 0.5 | 5.7 | 56.89 | 2,871.2 | 4,402.4 | 5,255.9 | 5,249.7 | 6.28 | 836.675 | |
| 400.0 | 400.0 | 519.5 | 519.5 | 0.8 | 7.8 | 56.89 | 2,871.2 | 4,402.4 | 5,255.9 | 5,247.4 | 8.55 | 614.969 | |
| 500.0 | 500.0 | 619.5 | 619.5 | 1.0 | 9.8 | 56.89 | 2,871.2 | 4,402.4 | 5,255.9 | 5,245.1 | 10.80 | 486.698 | |
| 600.0 | 600.0 | 719.5 | 719.5 | 1.2 | 11.8 | 56.89 | 2,871.2 | 4,402.4 | 5,255.9 | 5,242.9 | 13.05 | 402.881 | |
| 700.0 | 700.0 | 819.5 | 819.5 | 1.4 | 13.8 | 56.89 | 2,871.2 | 4,402.4 | 5,255.9 | 5,240.7 | 15.29 | 343.765 | |
| 800.0 | 800.0 | 919.5 | 919.5 | 1.7 | 15.9 | 56.89 | 2,871.2 | 4,402.4 | 5,255.9 | 5,238.4 | 17.53 | 299.812 | |
| 900.0 | 900.0 | 1,019.5 | 1,019.5 | 1.9 | 17.9 | 95.44 | 2,871.2 | 4,402.4 | 5,256.1 | 5,236.3 | 19.77 | 265.898 | |
| 1,000.0 | 999.8 | 1,119.3 | 1,119.3 | 2.1 | 19.9 | 95.49 | 2,871.2 | 4,402.4 | 5,256.6 | 5,234.6 | 22.00 | 238.928 | |
| 1,100.0 | 1,099.5 | 1,219.0 | 1,219.0 | 2.4 | 21.9 | 95.57 | 2,871.2 | 4,402.4 | 5,257.4 | 5,233.2 | 24.24 | 216.903 | |
| 1,200.0 | 1,198.7 | 1,318.2 | 1,318.2 | 2.6 | 23.9 | 95.67 | 2,871.2 | 4,402.4 | 5,258.6 | 5,232.2 | 26.49 | 198.532 | |
| 1,300.0 | 1,297.5 | 1,417.0 | 1,417.0 | 2.9 | 25.9 | 95.81 | 2,871.2 | 4,402.4 | 5,260.2 | 5,231.5 | 28.76 | 182.930 | |
| 1,400.0 | 1,395.6 | 1,515.1 | 1,515.1 | 3.2 | 27.9 | 95.97 | 2,871.2 | 4,402.4 | 5,262.2 | 5,231.2 | 31.05 | 169.479 | |
| 1,400.2 | 1,395.8 | 1,515.3 | 1,515.3 | 3.2 | 27.9 | 95.97 | 2,871.2 | 4,402.4 | 5,262.2 | 5,231.2 | 31.05 | 169.450 | |
| 1,500.0 | 1,493.4 | 1,612.9 | 1,612.9 | 3.6 | 29.8 | 96.19 | 2,871.2 | 4,402.4 | 5,264.5 | 5,231.1 | 33.37 | 157.747 | |
| 1,600.0 | 1,591.2 | 1,710.7 | 1,710.7 | 3.9 | 31.8 | 96.41 | 2,871.2 | 4,402.4 | 5,266.8 | 5,231.1 | 35.72 | 147.467 | |
| 1,700.0 | 1,689.1 | 1,808.6 | 1,808.6 | 4.3 | 33.8 | 96.63 | 2,871.2 | 4,402.4 | 5,269.2 | 5,231.2 | 38.07 | 138.403 | |
| 1,800.0 | 1,786.9 | 1,906.4 | 1,906.4 | 4.7 | 35.7 | 96.85 | 2,871.2 | 4,402.4 | 5,271.7 | 5,231.3 | 40.44 | 130.365 | |
| 1,900.0 | 1,884.7 | 2,004.2 | 2,004.2 | 5.2 | 37.7 | 97.07 | 2,871.2 | 4,402.4 | 5,274.3 | 5,231.5 | 42.81 | 123.195 | |
| 2,000.0 | 1,982.5 | 2,102.0 | 2,102.0 | 5.6 | 39.7 | 97.29 | 2,871.2 | 4,402.4 | 5,277.0 | 5,231.8 | 45.19 | 116.765 | |
| 2,100.0 | 2,080.3 | 2,199.8 | 2,199.8 | 6.0 | 41.6 | 97.51 | 2,871.2 | 4,402.4 | 5,279.7 | 5,232.1 | 47.58 | 110.969 | |
| 2,200.0 | 2,178.1 | 2,297.6 | 2,297.6 | 6.4 | 43.6 | 97.73 | 2,871.2 | 4,402.4 | 5,282.5 | 5,232.6 | 49.97 | 105.721 | |
| 2,300.0 | 2,275.9 | 2,395.4 | 2,395.4 | 6.9 | 45.6 | 97.95 | 2,871.2 | 4,402.4 | 5,285.4 | 5,233.1 | 52.36 | 100.947 | |
| 2,400.0 | 2,373.8 | 2,493.3 | 2,493.3 | 7.3 | 47.5 | 98.17 | 2,871.2 | 4,402.4 | 5,288.4 | 5,233.6 | 54.75 | 96.589 | |
| 2,500.0 | 2,471.6 | 2,591.1 | 2,591.1 | 7.7 | 49.5 | 98.39 | 2,871.2 | 4,402.4 | 5,291.5 | 5,234.3 | 57.15 | 92.594 | |
| 2,600.0 | 2,569.4 | 2,688.9 | 2,688.9 | 8.2 | 51.5 | 98.60 | 2,871.2 | 4,402.4 | 5,294.6 | 5,235.1 | 59.54 | 88.920 | |
| 2,700.0 | 2,667.2 | 2,786.7 | 2,786.7 | 8.6 | 53.4 | 98.82 | 2,871.2 | 4,402.4 | 5,297.8 | 5,235.9 | 61.94 | 85.530 | |
| 2,800.0 | 2,765.0 | 2,884.5 | 2,884.5 | 9.0 | 55.4 | 99.04 | 2,871.2 | 4,402.4 | 5,301.1 | 5,236.8 | 64.34 | 82.392 | |
| 2,900.0 | 2,862.8 | 2,982.3 | 2,982.3 | 9.5 | 57.4 | 99.26 | 2,871.2 | 4,402.4 | 5,304.5 | 5,237.8 | 66.74 | 79.481 | |
| 3,000.0 | 2,960.6 | 3,080.1 | 3,080.1 | 9.9 | 59.3 | 99.47 | 2,871.2 | 4,402.4 | 5,308.0 | 5,238.8 | 69.14 | 76.773 | |
| 3,100.0 | 3,058.4 | 3,177.9 | 3,177.9 | 10.4 | 61.3 | 99.69 | 2,871.2 | 4,402.4 | 5,311.5 | 5,240.0 | 71.54 | 74.247 | |
| 3,200.0 | 3,156.3 | 3,275.8 | 3,275.8 | 10.8 | 63.3 | 99.91 | 2,871.2 | 4,402.4 | 5,315.1 | 5,241.2 | 73.94 | 71.886 | |
| 3,300.0 | 3,254.1 | 3,373.6 | 3,373.6 | 11.3 | 65.2 | 100.12 | 2,871.2 | 4,402.4 | 5,318.8 | 5,242.5 | 76.34 | 69.674 | |
| 3,400.0 | 3,351.9 | 3,471.4 | 3,471.4 | 11.7 | 67.2 | 100.34 | 2,871.2 | 4,402.4 | 5,322.6 | 5,243.8 | 78.74 | 67.599 | |
| 3,465.5 | 3,416.0 | 3,535.5 | 3,535.5 | 12.0 | 68.5 | 100.48 | 2,871.2 | 4,402.4 | 5,325.1 | 5,244.8 | 80.31 | 66.307 | |
| 3,500.0 | 3,449.7 | 3,569.2 | 3,569.2 | 12.1 | 69.2 | 100.58 | 2,871.2 | 4,402.4 | 5,326.4 | 5,245.3 | 81.13 | 65.657 | |
| 3,600.0 | 3,548.1 | 3,667.6 | 3,667.6 | 12.5 | 71.2 | 100.83 | 2,871.2 | 4,402.4 | 5,329.8 | 5,246.3 | 83.43 | 63.886 | |
| 3,700.0 | 3,647.1 | 3,766.6 | 3,766.6 | 12.7 | 73.1 | 101.03 | 2,871.2 | 4,402.4 | 5,332.5 | 5,246.8 | 85.70 | 62.221 | |
| 3,800.0 | 3,746.5 | 3,866.0 | 3,866.0 | 13.0 | 75.1 | 101.19 | 2,871.2 | 4,402.4 | 5,334.7 | 5,246.7 | 87.95 | 60.656 | |
| 3,900.0 | 3,846.2 | 3,965.7 | 3,965.7 | 13.2 | 77.1 | 101.30 | 2,871.2 | 4,402.4 | 5,336.1 | 5,246.0 | 90.16 | 59.184 | |
| 4,000.0 | 3,946.1 | 4,065.6 | 4,065.6 | 13.3 | 79.2 | 101.36 | 2,871.2 | 4,402.4 | 5,336.9 | 5,244.6 | 92.34 | 57.797 | |
| 4,065.7 | 4,011.8 | 4,131.3 | 4,131.3 | 13.4 | 80.5 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,247.0 | 90.09 | 59.241 | |
| 4,100.0 | 4,046.1 | 4,165.6 | 4,165.6 | 13.5 | 81.2 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,246.2 | 90.84 | 58.752 | |
| 4,200.0 | 4,146.1 | 4,265.6 | 4,265.6 | 13.6 | 83.2 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,244.0 | 93.05 | 57.358 | |
| 4,300.0 | 4,246.1 | 4,365.6 | 4,365.6 | 13.8 | 85.2 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,241.8 | 95.26 | 56.028 | |
| 4,400.0 | 4,346.1 | 4,465.6 | 4,465.6 | 13.9 | 87.2 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,239.6 | 97.47 | 54.757 | |
| 4,500.0 | 4,446.1 | 4,565.6 | 4,565.6 | 14.1 | 89.2 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,237.4 | 99.68 | 53.543 | |
| 4,600.0 | 4,546.1 | 4,665.6 | 4,665.6 | 14.2 | 91.2 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,235.2 | 101.89 | 52.381 | |
| 4,700.0 | 4,646.1 | 4,765.6 | 4,765.6 | 14.4 | 93.2 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,233.0 | 104.10 | 51.267 | |
| 4,800.0 | 4,746.1 | 4,865.6 | 4,865.6 | 14.5 | 95.2 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,230.8 | 106.32 | 50.200 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|-------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | | |
| 4,900.0 | 4,846.1 | 4,965.6 | 4,965.6 | 14.7 | 97.3 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,228.6 | 108.53 | 49.175 | | |
| 5,000.0 | 4,946.1 | 5,065.6 | 5,065.6 | 14.8 | 99.3 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,226.3 | 110.75 | 48.192 | | |
| 5,100.0 | 5,046.1 | 5,165.6 | 5,165.6 | 15.0 | 101.3 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,224.1 | 112.96 | 47.246 | | |
| 5,200.0 | 5,146.1 | 5,265.6 | 5,265.6 | 15.1 | 103.3 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,221.9 | 115.18 | 46.337 | | |
| 5,300.0 | 5,246.1 | 5,365.6 | 5,365.6 | 15.3 | 105.3 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,219.7 | 117.40 | 45.462 | | |
| 5,400.0 | 5,346.1 | 5,465.6 | 5,465.6 | 15.5 | 107.3 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,217.5 | 119.62 | 44.619 | | |
| 5,500.0 | 5,446.1 | 5,565.6 | 5,565.6 | 15.6 | 109.3 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,215.2 | 121.83 | 43.806 | | |
| 5,600.0 | 5,546.1 | 5,665.6 | 5,665.6 | 15.8 | 111.3 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,213.0 | 124.05 | 43.023 | | |
| 5,700.0 | 5,646.1 | 5,765.6 | 5,765.6 | 16.0 | 113.3 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,210.8 | 126.27 | 42.266 | | |
| 5,800.0 | 5,746.1 | 5,865.6 | 5,865.6 | 16.1 | 115.4 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,208.6 | 128.49 | 41.536 | | |
| 5,900.0 | 5,846.1 | 5,965.6 | 5,965.6 | 16.3 | 117.4 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,206.4 | 130.71 | 40.830 | | |
| 6,000.0 | 5,946.1 | 6,065.6 | 6,065.6 | 16.5 | 119.4 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,204.1 | 132.94 | 40.148 | | |
| 6,100.0 | 6,046.1 | 6,165.6 | 6,165.6 | 16.7 | 121.4 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,201.9 | 135.16 | 39.488 | | |
| 6,200.0 | 6,146.1 | 6,265.6 | 6,265.6 | 16.8 | 123.4 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,199.7 | 137.38 | 38.849 | | |
| 6,300.0 | 6,246.1 | 6,365.6 | 6,365.6 | 17.0 | 125.4 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,197.5 | 139.60 | 38.231 | | |
| 6,322.7 | 6,268.8 | 6,388.3 | 6,388.3 | 17.1 | 125.9 | 62.83 | 2,871.2 | 4,402.4 | 5,337.1 | 5,197.0 | 140.11 | 38.093 | | |
| 6,350.0 | 6,296.1 | 6,415.6 | 6,415.6 | 17.1 | 126.4 | -27.19 | 2,871.2 | 4,402.4 | 5,336.6 | 5,193.3 | 143.29 | 37.243 | | |
| 6,400.0 | 6,345.9 | 6,465.4 | 6,465.4 | 17.2 | 127.4 | -27.33 | 2,871.2 | 4,402.4 | 5,333.4 | 5,189.6 | 143.79 | 37.092 | | |
| 6,450.0 | 6,395.4 | 6,514.9 | 6,514.9 | 17.2 | 128.4 | -27.60 | 2,871.2 | 4,402.4 | 5,327.1 | 5,183.3 | 143.72 | 37.065 | | |
| 6,500.0 | 6,444.3 | 6,563.8 | 6,563.8 | 17.2 | 129.4 | -28.01 | 2,871.2 | 4,402.4 | 5,317.7 | 5,174.6 | 143.11 | 37.157 | | |
| 6,550.0 | 6,492.3 | 6,611.8 | 6,611.8 | 17.2 | 130.4 | -28.56 | 2,871.2 | 4,402.4 | 5,305.3 | 5,163.3 | 141.99 | 37.365 | | |
| 6,600.0 | 6,539.2 | 6,658.7 | 6,658.7 | 17.2 | 131.3 | -29.27 | 2,871.2 | 4,402.4 | 5,290.0 | 5,149.6 | 140.39 | 37.682 | | |
| 6,650.0 | 6,584.8 | 6,704.3 | 6,704.3 | 17.2 | 132.2 | -30.15 | 2,871.2 | 4,402.4 | 5,271.8 | 5,133.4 | 138.38 | 38.097 | | |
| 6,700.0 | 6,628.9 | 6,748.4 | 6,748.4 | 17.2 | 133.1 | -31.22 | 2,871.2 | 4,402.4 | 5,250.9 | 5,114.8 | 136.07 | 38.591 | | |
| 6,750.0 | 6,671.2 | 6,790.7 | 6,790.7 | 17.2 | 134.0 | -32.50 | 2,871.2 | 4,402.4 | 5,227.3 | 5,093.8 | 133.57 | 39.135 | | |
| 6,800.0 | 6,711.5 | 6,831.0 | 6,831.0 | 17.2 | 134.8 | -34.01 | 2,871.2 | 4,402.4 | 5,201.2 | 5,070.2 | 131.07 | 39.683 | | |
| 6,850.0 | 6,749.7 | 6,869.2 | 6,869.2 | 17.2 | 135.5 | -35.79 | 2,871.2 | 4,402.4 | 5,172.8 | 5,044.0 | 128.76 | 40.173 | | |
| 6,900.0 | 6,785.6 | 6,905.1 | 6,905.1 | 17.1 | 136.3 | -37.86 | 2,871.2 | 4,402.4 | 5,142.1 | 5,015.1 | 126.91 | 40.517 | | |
| 6,950.0 | 6,818.9 | 6,938.4 | 6,938.4 | 17.1 | 136.9 | -40.28 | 2,871.2 | 4,402.4 | 5,109.3 | 4,983.5 | 125.80 | 40.613 | | |
| 7,000.0 | 6,849.5 | 6,969.0 | 6,969.0 | 17.1 | 137.5 | -43.10 | 2,871.2 | 4,402.4 | 5,074.6 | 4,948.9 | 125.73 | 40.360 | | |
| 7,050.0 | 6,877.4 | 6,996.9 | 6,996.9 | 17.2 | 138.1 | -46.35 | 2,871.2 | 4,402.4 | 5,038.2 | 4,911.3 | 126.97 | 39.680 | | |
| 7,100.0 | 6,902.2 | 7,021.7 | 7,021.7 | 17.3 | 138.6 | -50.10 | 2,871.2 | 4,402.4 | 5,000.3 | 4,870.6 | 129.68 | 38.559 | | |
| 7,150.0 | 6,924.0 | 7,043.5 | 7,043.5 | 17.7 | 139.0 | -54.40 | 2,871.2 | 4,402.4 | 4,961.1 | 4,827.2 | 133.85 | 37.065 | | |
| 7,200.0 | 6,942.6 | 7,062.1 | 7,062.1 | 18.2 | 139.4 | -59.26 | 2,871.2 | 4,402.4 | 4,920.7 | 4,781.4 | 139.25 | 35.338 | | |
| 7,250.0 | 6,957.9 | 7,077.4 | 7,077.4 | 18.8 | 139.7 | -64.70 | 2,871.2 | 4,402.4 | 4,879.4 | 4,734.0 | 145.38 | 33.564 | | |
| 7,300.0 | 6,969.8 | 7,089.3 | 7,089.3 | 19.6 | 140.0 | -70.65 | 2,871.2 | 4,402.4 | 4,837.4 | 4,685.9 | 151.52 | 31.925 | | |
| 7,350.0 | 6,978.3 | 7,097.8 | 7,097.8 | 20.4 | 140.1 | -77.02 | 2,871.2 | 4,402.4 | 4,794.9 | 4,638.1 | 156.87 | 30.567 | | |
| 7,400.0 | 6,983.4 | 7,102.9 | 7,102.9 | 21.3 | 140.2 | -83.64 | 2,871.2 | 4,402.4 | 4,752.2 | 4,591.5 | 160.65 | 29.581 | | |
| 7,447.7 | 6,985.0 | 7,104.5 | 7,104.5 | 22.1 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 4,711.3 | 4,548.9 | 162.37 | 29.016 | | |
| 7,500.0 | 6,985.0 | 7,104.5 | 7,104.5 | 23.1 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 4,666.6 | 4,503.3 | 163.36 | 28.566 | | |
| 7,600.0 | 6,985.0 | 7,104.5 | 7,104.5 | 25.2 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 4,581.6 | 4,416.3 | 165.39 | 27.702 | | |
| 7,700.0 | 6,985.0 | 7,104.5 | 7,104.5 | 27.4 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 4,497.3 | 4,329.7 | 167.56 | 26.840 | | |
| 7,800.0 | 6,985.0 | 7,104.5 | 7,104.5 | 29.7 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 4,413.6 | 4,243.7 | 169.84 | 25.987 | | |
| 7,900.0 | 6,985.0 | 7,104.5 | 7,104.5 | 32.0 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 4,330.6 | 4,158.4 | 172.20 | 25.148 | | |
| 8,000.0 | 6,985.0 | 7,104.5 | 7,104.5 | 34.5 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 4,248.3 | 4,073.6 | 174.63 | 24.327 | | |
| 8,100.0 | 6,985.0 | 7,104.5 | 7,104.5 | 36.9 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 4,166.8 | 3,989.6 | 177.11 | 23.526 | | |
| 8,200.0 | 6,985.0 | 7,104.5 | 7,104.5 | 39.5 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 4,086.1 | 3,906.4 | 179.64 | 22.746 | | |
| 8,300.0 | 6,985.0 | 7,104.5 | 7,104.5 | 42.0 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 4,006.2 | 3,824.0 | 182.20 | 21.988 | | |
| 8,400.0 | 6,985.0 | 7,104.5 | 7,104.5 | 44.6 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 3,927.3 | 3,742.5 | 184.79 | 21.252 | | |
| 8,500.0 | 6,985.0 | 7,104.5 | 7,104.5 | 47.2 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 3,849.4 | 3,662.0 | 187.41 | 20.540 | | |
| 8,600.0 | 6,985.0 | 7,104.5 | 7,104.5 | 49.9 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 3,772.6 | 3,582.5 | 190.05 | 19.850 | | |
| 8,700.0 | 6,985.0 | 7,104.5 | 7,104.5 | 52.5 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 3,696.8 | 3,504.1 | 192.71 | 19.184 | | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - EXIST VERT HELEN 1 - Wellbore #1 - Design #1 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|---|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 8,800.0 | 6,985.0 | 7,104.5 | 7,104.5 | 55.2 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 3,622.2 | 3,426.8 | 195.38 | 18.539 | |
| 8,900.0 | 6,985.0 | 7,104.5 | 7,104.5 | 57.9 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 3,548.9 | 3,350.8 | 198.06 | 17.918 | |
| 9,000.0 | 6,985.0 | 7,104.5 | 7,104.5 | 60.6 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 3,476.8 | 3,276.1 | 200.76 | 17.319 | |
| 9,100.0 | 6,985.0 | 7,104.5 | 7,104.5 | 63.3 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 3,406.2 | 3,202.8 | 203.46 | 16.741 | |
| 9,200.0 | 6,985.0 | 7,104.5 | 7,104.5 | 66.0 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 3,337.1 | 3,131.0 | 206.18 | 16.186 | |
| 9,300.0 | 6,985.0 | 7,104.5 | 7,104.5 | 68.7 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 3,269.7 | 3,060.8 | 208.90 | 15.652 | |
| 9,400.0 | 6,985.0 | 7,104.5 | 7,104.5 | 71.4 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 3,203.9 | 2,992.2 | 211.63 | 15.139 | |
| 9,500.0 | 6,985.0 | 7,104.5 | 7,104.5 | 74.2 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 3,139.9 | 2,925.5 | 214.36 | 14.647 | |
| 9,600.0 | 6,985.0 | 7,104.5 | 7,104.5 | 76.9 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 3,077.8 | 2,860.7 | 217.10 | 14.177 | |
| 9,700.0 | 6,985.0 | 7,104.5 | 7,104.5 | 79.6 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 3,017.8 | 2,797.9 | 219.85 | 13.727 | |
| 9,800.0 | 6,985.0 | 7,104.5 | 7,104.5 | 82.4 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,959.9 | 2,737.3 | 222.60 | 13.297 | |
| 9,900.0 | 6,985.0 | 7,104.5 | 7,104.5 | 85.1 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,904.3 | 2,679.0 | 225.35 | 12.888 | |
| 10,000.0 | 6,985.0 | 7,104.5 | 7,104.5 | 87.9 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,851.2 | 2,623.1 | 228.11 | 12.499 | |
| 10,100.0 | 6,985.0 | 7,104.5 | 7,104.5 | 90.7 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,800.6 | 2,569.7 | 230.87 | 12.131 | |
| 10,200.0 | 6,985.0 | 7,104.5 | 7,104.5 | 93.4 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,752.7 | 2,519.0 | 233.63 | 11.782 | |
| 10,300.0 | 6,985.0 | 7,104.5 | 7,104.5 | 96.2 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,707.6 | 2,471.2 | 236.40 | 11.454 | |
| 10,400.0 | 6,985.0 | 7,104.5 | 7,104.5 | 98.9 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,665.6 | 2,426.4 | 239.16 | 11.145 | |
| 10,500.0 | 6,985.0 | 7,104.5 | 7,104.5 | 101.7 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,626.7 | 2,384.7 | 241.93 | 10.857 | |
| 10,600.0 | 6,985.0 | 7,104.5 | 7,104.5 | 104.5 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,591.0 | 2,346.3 | 244.71 | 10.588 | |
| 10,700.0 | 6,985.0 | 7,104.5 | 7,104.5 | 107.3 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,558.8 | 2,311.3 | 247.48 | 10.340 | |
| 10,800.0 | 6,985.0 | 7,104.5 | 7,104.5 | 110.0 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,530.1 | 2,279.9 | 250.26 | 10.110 | |
| 10,900.0 | 6,985.0 | 7,104.5 | 7,104.5 | 112.8 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,505.1 | 2,252.1 | 253.03 | 9.900 | |
| 11,000.0 | 6,985.0 | 7,104.5 | 7,104.5 | 115.6 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,483.9 | 2,228.1 | 255.81 | 9.710 | |
| 11,100.0 | 6,985.0 | 7,104.5 | 7,104.5 | 118.4 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,466.5 | 2,208.0 | 258.59 | 9.538 | |
| 11,200.0 | 6,985.0 | 7,104.5 | 7,104.5 | 121.2 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,453.1 | 2,191.8 | 261.38 | 9.386 | |
| 11,300.0 | 6,985.0 | 7,104.5 | 7,104.5 | 123.9 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,443.8 | 2,179.6 | 264.16 | 9.251 | |
| 11,400.0 | 6,985.0 | 7,104.5 | 7,104.5 | 126.7 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,438.5 | 2,171.5 | 266.94 | 9.135 | |
| 11,479.7 | 6,985.0 | 7,104.5 | 7,104.5 | 128.9 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,437.2 | 2,168.0 | 269.16 | 9.055 CC | |
| 11,500.0 | 6,985.0 | 7,104.5 | 7,104.5 | 129.5 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,437.2 | 2,167.5 | 269.73 | 9.036 ES | |
| 11,600.0 | 6,985.0 | 7,104.5 | 7,104.5 | 132.3 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,440.1 | 2,167.6 | 272.51 | 8.954 | |
| 11,700.0 | 6,985.0 | 7,104.5 | 7,104.5 | 135.1 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,447.1 | 2,171.8 | 275.30 | 8.889 | |
| 11,800.0 | 6,985.0 | 7,104.5 | 7,104.5 | 137.9 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,458.1 | 2,180.0 | 278.09 | 8.839 | |
| 11,900.0 | 6,985.0 | 7,104.5 | 7,104.5 | 140.7 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,473.1 | 2,192.3 | 280.88 | 8.805 | |
| 12,000.0 | 6,985.0 | 7,104.5 | 7,104.5 | 143.4 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,492.1 | 2,208.4 | 283.67 | 8.785 | |
| 12,054.1 | 6,985.0 | 7,104.5 | 7,104.5 | 145.0 | 140.3 | -90.00 | 2,871.2 | 4,402.4 | 2,503.9 | 2,218.7 | 285.18 | 8.780 SF | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 35.5 | 35.5 | 0.0 | 0.2 | 7.67 | 1,821.5 | 245.2 | 1,838.0 | | | | |
| 100.0 | 100.0 | 135.5 | 135.5 | 0.1 | 1.5 | 7.67 | 1,821.5 | 245.2 | 1,838.0 | 1,836.3 | 1.64 | 1,123.555 | |
| 200.0 | 200.0 | 235.5 | 235.5 | 0.3 | 3.8 | 7.67 | 1,821.5 | 245.2 | 1,838.0 | 1,833.8 | 4.16 | 441.666 | |
| 300.0 | 300.0 | 335.5 | 335.5 | 0.5 | 5.9 | 7.67 | 1,821.5 | 245.2 | 1,838.0 | 1,831.5 | 6.45 | 284.800 | |
| 400.0 | 400.0 | 435.5 | 435.5 | 0.8 | 7.9 | 7.67 | 1,821.5 | 245.2 | 1,838.0 | 1,829.3 | 8.72 | 210.894 | |
| 500.0 | 500.0 | 535.5 | 535.5 | 1.0 | 10.0 | 7.67 | 1,821.5 | 245.2 | 1,838.0 | 1,827.0 | 10.97 | 167.608 | |
| 600.0 | 600.0 | 635.5 | 635.5 | 1.2 | 12.0 | 7.67 | 1,821.5 | 245.2 | 1,838.0 | 1,824.8 | 13.21 | 139.119 | |
| 700.0 | 700.0 | 735.5 | 735.5 | 1.4 | 14.0 | 7.67 | 1,821.5 | 245.2 | 1,838.0 | 1,822.5 | 15.45 | 118.930 | |
| 800.0 | 800.0 | 835.5 | 835.5 | 1.7 | 16.0 | 7.67 | 1,821.5 | 245.2 | 1,838.0 | 1,820.3 | 17.70 | 103.869 | |
| 900.0 | 900.0 | 935.5 | 935.5 | 1.9 | 18.0 | 46.26 | 1,821.5 | 245.2 | 1,836.8 | 1,816.8 | 19.93 | 92.176 | |
| 1,000.0 | 999.8 | 1,035.3 | 1,035.3 | 2.1 | 20.1 | 46.43 | 1,821.5 | 245.2 | 1,833.2 | 1,811.0 | 22.14 | 82.789 | |
| 1,100.0 | 1,099.5 | 1,135.0 | 1,135.0 | 2.4 | 22.1 | 46.72 | 1,821.5 | 245.2 | 1,827.2 | 1,802.8 | 24.34 | 75.056 | |
| 1,200.0 | 1,198.7 | 1,234.2 | 1,234.2 | 2.6 | 24.1 | 47.12 | 1,821.5 | 245.2 | 1,818.8 | 1,792.3 | 26.53 | 68.552 | |
| 1,300.0 | 1,297.5 | 1,333.0 | 1,333.0 | 2.9 | 26.0 | 47.64 | 1,821.5 | 245.2 | 1,808.1 | 1,779.4 | 28.71 | 62.982 | |
| 1,400.0 | 1,395.6 | 1,431.1 | 1,431.1 | 3.2 | 28.0 | 48.28 | 1,821.5 | 245.2 | 1,795.2 | 1,764.3 | 30.88 | 58.134 | |
| 1,400.2 | 1,395.8 | 1,431.3 | 1,431.3 | 3.2 | 28.0 | 48.28 | 1,821.5 | 245.2 | 1,795.2 | 1,764.3 | 30.89 | 58.124 | |
| 1,500.0 | 1,493.4 | 1,528.9 | 1,528.9 | 3.6 | 30.0 | 48.77 | 1,821.5 | 245.2 | 1,781.3 | 1,748.1 | 33.15 | 53.731 | |
| 1,600.0 | 1,591.2 | 1,626.7 | 1,626.7 | 3.9 | 32.0 | 49.27 | 1,821.5 | 245.2 | 1,767.5 | 1,732.0 | 35.44 | 49.872 | |
| 1,700.0 | 1,689.1 | 1,724.6 | 1,724.6 | 4.3 | 33.9 | 49.78 | 1,821.5 | 245.2 | 1,753.8 | 1,716.1 | 37.74 | 46.468 | |
| 1,800.0 | 1,786.9 | 1,822.4 | 1,822.4 | 4.7 | 35.9 | 50.30 | 1,821.5 | 245.2 | 1,740.3 | 1,700.2 | 40.05 | 43.447 | |
| 1,900.0 | 1,884.7 | 1,920.2 | 1,920.2 | 5.2 | 37.9 | 50.82 | 1,821.5 | 245.2 | 1,726.9 | 1,684.5 | 42.38 | 40.750 | |
| 2,000.0 | 1,982.5 | 2,018.0 | 2,018.0 | 5.6 | 39.8 | 51.35 | 1,821.5 | 245.2 | 1,713.6 | 1,668.9 | 44.71 | 38.329 | |
| 2,100.0 | 2,080.3 | 2,115.8 | 2,115.8 | 6.0 | 41.8 | 51.89 | 1,821.5 | 245.2 | 1,700.5 | 1,653.5 | 47.05 | 36.145 | |
| 2,200.0 | 2,178.1 | 2,213.6 | 2,213.6 | 6.4 | 43.8 | 52.44 | 1,821.5 | 245.2 | 1,687.6 | 1,638.2 | 49.39 | 34.166 | |
| 2,300.0 | 2,275.9 | 2,311.4 | 2,311.4 | 6.9 | 45.7 | 53.00 | 1,821.5 | 245.2 | 1,674.8 | 1,623.1 | 51.75 | 32.365 | |
| 2,400.0 | 2,373.8 | 2,409.3 | 2,409.3 | 7.3 | 47.7 | 53.56 | 1,821.5 | 245.2 | 1,662.2 | 1,608.1 | 54.11 | 30.721 | |
| 2,500.0 | 2,471.6 | 2,507.1 | 2,507.1 | 7.7 | 49.7 | 54.13 | 1,821.5 | 245.2 | 1,649.8 | 1,593.3 | 56.47 | 29.214 | |
| 2,600.0 | 2,569.4 | 2,604.9 | 2,604.9 | 8.2 | 51.6 | 54.72 | 1,821.5 | 245.2 | 1,637.5 | 1,578.7 | 58.84 | 27.828 | |
| 2,700.0 | 2,667.2 | 2,702.7 | 2,702.7 | 8.6 | 53.6 | 55.30 | 1,821.5 | 245.2 | 1,625.4 | 1,564.2 | 61.22 | 26.550 | |
| 2,800.0 | 2,765.0 | 2,800.5 | 2,800.5 | 9.0 | 55.6 | 55.90 | 1,821.5 | 245.2 | 1,613.5 | 1,549.9 | 63.60 | 25.369 | |
| 2,900.0 | 2,862.8 | 2,898.3 | 2,898.3 | 9.5 | 57.5 | 56.51 | 1,821.5 | 245.2 | 1,601.7 | 1,535.7 | 65.99 | 24.273 | |
| 3,000.0 | 2,960.6 | 2,996.1 | 2,996.1 | 9.9 | 59.5 | 57.13 | 1,821.5 | 245.2 | 1,590.2 | 1,521.8 | 68.38 | 23.255 | |
| 3,100.0 | 3,058.4 | 3,093.9 | 3,093.9 | 10.4 | 61.5 | 57.75 | 1,821.5 | 245.2 | 1,578.8 | 1,508.0 | 70.78 | 22.307 | |
| 3,200.0 | 3,156.3 | 3,191.8 | 3,191.8 | 10.8 | 63.4 | 58.38 | 1,821.5 | 245.2 | 1,567.6 | 1,494.4 | 73.18 | 21.422 | |
| 3,300.0 | 3,254.1 | 3,289.6 | 3,289.6 | 11.3 | 65.4 | 59.02 | 1,821.5 | 245.2 | 1,556.6 | 1,481.1 | 75.58 | 20.595 | |
| 3,400.0 | 3,351.9 | 3,387.4 | 3,387.4 | 11.7 | 67.4 | 59.67 | 1,821.5 | 245.2 | 1,545.9 | 1,467.9 | 77.99 | 19.821 | |
| 3,465.5 | 3,416.0 | 3,451.5 | 3,451.5 | 12.0 | 68.7 | 60.10 | 1,821.5 | 245.2 | 1,538.9 | 1,459.3 | 79.57 | 19.340 | |
| 3,500.0 | 3,449.7 | 3,485.2 | 3,485.2 | 12.1 | 69.3 | 60.26 | 1,821.5 | 245.2 | 1,535.4 | 1,455.0 | 80.43 | 19.091 | |
| 3,600.0 | 3,548.1 | 3,583.6 | 3,583.6 | 12.5 | 71.3 | 60.68 | 1,821.5 | 245.2 | 1,526.5 | 1,443.6 | 82.82 | 18.431 | |
| 3,700.0 | 3,647.1 | 3,682.6 | 3,682.6 | 12.7 | 73.3 | 61.03 | 1,821.5 | 245.2 | 1,519.4 | 1,434.2 | 85.17 | 17.839 | |
| 3,800.0 | 3,746.5 | 3,782.0 | 3,782.0 | 13.0 | 75.3 | 61.30 | 1,821.5 | 245.2 | 1,514.0 | 1,426.6 | 87.47 | 17.309 | |
| 3,900.0 | 3,846.2 | 3,881.7 | 3,881.7 | 13.2 | 77.3 | 61.49 | 1,821.5 | 245.2 | 1,510.4 | 1,420.7 | 89.72 | 16.835 | |
| 4,000.0 | 3,946.1 | 3,981.6 | 3,981.6 | 13.3 | 79.3 | 61.59 | 1,821.5 | 245.2 | 1,508.5 | 1,416.6 | 91.91 | 16.412 | |
| 4,065.7 | 4,011.8 | 4,047.3 | 4,047.3 | 13.4 | 80.6 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,417.1 | 91.01 | 16.571 | |
| 4,100.0 | 4,046.1 | 4,081.6 | 4,081.6 | 13.5 | 81.3 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,416.4 | 91.76 | 16.436 | |
| 4,200.0 | 4,146.1 | 4,181.6 | 4,181.6 | 13.6 | 83.3 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,414.2 | 93.95 | 16.053 | |
| 4,300.0 | 4,246.1 | 4,281.6 | 4,281.6 | 13.8 | 85.4 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,412.0 | 96.14 | 15.687 | |
| 4,400.0 | 4,346.1 | 4,381.6 | 4,381.6 | 13.9 | 87.4 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,409.8 | 98.33 | 15.337 | |
| 4,500.0 | 4,446.1 | 4,481.6 | 4,481.6 | 14.1 | 89.4 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,407.6 | 100.53 | 15.002 | |
| 4,600.0 | 4,546.1 | 4,581.6 | 4,581.6 | 14.2 | 91.4 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,405.4 | 102.72 | 14.681 | |
| 4,700.0 | 4,646.1 | 4,681.6 | 4,681.6 | 14.4 | 93.4 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,403.2 | 104.92 | 14.374 | |
| 4,800.0 | 4,746.1 | 4,781.6 | 4,781.6 | 14.5 | 95.4 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,401.0 | 107.12 | 14.079 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,881.6 | 4,881.6 | 14.7 | 97.4 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,398.8 | 109.32 | 13.795 | |
| 5,000.0 | 4,946.1 | 4,981.6 | 4,981.6 | 14.8 | 99.4 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,396.6 | 111.52 | 13.523 | |
| 5,100.0 | 5,046.1 | 5,081.6 | 5,081.6 | 15.0 | 101.4 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,394.4 | 113.73 | 13.261 | |
| 5,200.0 | 5,146.1 | 5,181.6 | 5,181.6 | 15.1 | 103.5 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,392.2 | 115.93 | 13.009 | |
| 5,300.0 | 5,246.1 | 5,281.6 | 5,281.6 | 15.3 | 105.5 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,390.0 | 118.14 | 12.766 | |
| 5,400.0 | 5,346.1 | 5,381.6 | 5,381.6 | 15.5 | 107.5 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,387.8 | 120.34 | 12.532 | |
| 5,500.0 | 5,446.1 | 5,481.6 | 5,481.6 | 15.6 | 109.5 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,385.6 | 122.55 | 12.306 | |
| 5,600.0 | 5,546.1 | 5,581.6 | 5,581.6 | 15.8 | 111.5 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,383.4 | 124.76 | 12.089 | |
| 5,700.0 | 5,646.1 | 5,681.6 | 5,681.6 | 16.0 | 113.5 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,381.2 | 126.97 | 11.878 | |
| 5,800.0 | 5,746.1 | 5,781.6 | 5,781.6 | 16.1 | 115.5 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,379.0 | 129.17 | 11.675 | |
| 5,900.0 | 5,846.1 | 5,881.6 | 5,881.6 | 16.3 | 117.5 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,376.7 | 131.39 | 11.479 | |
| 6,000.0 | 5,946.1 | 5,981.6 | 5,981.6 | 16.5 | 119.5 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,374.5 | 133.60 | 11.289 | |
| 6,100.0 | 6,046.1 | 6,081.6 | 6,081.6 | 16.7 | 121.6 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,372.3 | 135.81 | 11.105 | |
| 6,200.0 | 6,146.1 | 6,181.6 | 6,181.6 | 16.8 | 123.6 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,370.1 | 138.02 | 10.927 | |
| 6,300.0 | 6,246.1 | 6,281.6 | 6,281.6 | 17.0 | 125.6 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,367.9 | 140.23 | 10.754 | |
| 6,322.7 | 6,268.8 | 6,304.3 | 6,304.3 | 17.1 | 126.0 | 23.07 | 1,821.5 | 245.2 | 1,508.1 | 1,367.4 | 140.74 | 10.716 | |
| 6,350.0 | 6,296.1 | 6,331.6 | 6,331.6 | 17.1 | 126.6 | -66.97 | 1,821.5 | 245.2 | 1,507.9 | 1,364.8 | 143.12 | 10.536 | |
| 6,400.0 | 6,345.9 | 6,381.4 | 6,381.4 | 17.2 | 127.6 | -67.20 | 1,821.5 | 245.2 | 1,506.5 | 1,362.4 | 144.07 | 10.456 | |
| 6,450.0 | 6,395.4 | 6,430.9 | 6,430.9 | 17.2 | 128.6 | -67.65 | 1,821.5 | 245.2 | 1,503.7 | 1,358.9 | 144.89 | 10.378 | |
| 6,500.0 | 6,444.3 | 6,479.8 | 6,479.8 | 17.2 | 129.6 | -68.32 | 1,821.5 | 245.2 | 1,499.7 | 1,354.1 | 145.60 | 10.300 | |
| 6,550.0 | 6,492.3 | 6,527.8 | 6,527.8 | 17.2 | 130.5 | -69.19 | 1,821.5 | 245.2 | 1,494.5 | 1,348.2 | 146.23 | 10.220 | |
| 6,600.0 | 6,539.2 | 6,574.7 | 6,574.7 | 17.2 | 131.5 | -70.25 | 1,821.5 | 245.2 | 1,488.2 | 1,341.3 | 146.82 | 10.136 | |
| 6,650.0 | 6,584.8 | 6,620.3 | 6,620.3 | 17.2 | 132.4 | -71.50 | 1,821.5 | 245.2 | 1,480.9 | 1,333.5 | 147.42 | 10.045 | |
| 6,700.0 | 6,628.9 | 6,664.4 | 6,664.4 | 17.2 | 133.3 | -72.90 | 1,821.5 | 245.2 | 1,472.8 | 1,324.7 | 148.05 | 9.948 | |
| 6,750.0 | 6,671.2 | 6,706.7 | 6,706.7 | 17.2 | 134.1 | -74.44 | 1,821.5 | 245.2 | 1,464.1 | 1,315.3 | 148.76 | 9.842 | |
| 6,800.0 | 6,711.5 | 6,747.0 | 6,747.0 | 17.2 | 134.9 | -76.07 | 1,821.5 | 245.2 | 1,454.9 | 1,305.4 | 149.56 | 9.728 | |
| 6,850.0 | 6,749.7 | 6,785.2 | 6,785.2 | 17.2 | 135.7 | -77.78 | 1,821.5 | 245.2 | 1,445.6 | 1,295.1 | 150.45 | 9.608 | |
| 6,900.0 | 6,785.6 | 6,821.1 | 6,821.1 | 17.1 | 136.4 | -79.52 | 1,821.5 | 245.2 | 1,436.2 | 1,284.8 | 151.43 | 9.484 | |
| 6,950.0 | 6,818.9 | 6,854.4 | 6,854.4 | 17.1 | 137.1 | -81.25 | 1,821.5 | 245.2 | 1,427.0 | 1,274.6 | 152.47 | 9.360 | |
| 7,000.0 | 6,849.5 | 6,885.0 | 6,885.0 | 17.1 | 137.7 | -82.94 | 1,821.5 | 245.2 | 1,418.3 | 1,264.8 | 153.54 | 9.238 | |
| 7,050.0 | 6,877.4 | 6,912.9 | 6,912.9 | 17.2 | 138.3 | -84.52 | 1,821.5 | 245.2 | 1,410.3 | 1,255.7 | 154.62 | 9.121 | |
| 7,100.0 | 6,902.2 | 6,937.7 | 6,937.7 | 17.3 | 138.8 | -85.98 | 1,821.5 | 245.2 | 1,403.2 | 1,247.5 | 155.69 | 9.013 | |
| 7,150.0 | 6,924.0 | 6,959.5 | 6,959.5 | 17.7 | 139.2 | -87.27 | 1,821.5 | 245.2 | 1,397.2 | 1,240.5 | 156.73 | 8.915 | |
| 7,200.0 | 6,942.6 | 6,978.1 | 6,978.1 | 18.2 | 139.6 | -88.36 | 1,821.5 | 245.2 | 1,392.5 | 1,234.8 | 157.74 | 8.828 | |
| 7,250.0 | 6,957.9 | 6,993.4 | 6,993.4 | 18.8 | 139.9 | -89.21 | 1,821.5 | 245.2 | 1,389.3 | 1,230.6 | 158.73 | 8.753 | |
| 7,300.0 | 6,969.8 | 7,005.3 | 7,005.3 | 19.6 | 140.1 | -89.82 | 1,821.5 | 245.2 | 1,387.7 | 1,228.0 | 159.70 | 8.689 | |
| 7,321.8 | 6,974.0 | 7,009.5 | 7,009.5 | 19.9 | 140.2 | -90.00 | 1,821.5 | 245.2 | 1,387.5 | 1,227.4 | 160.13 | 8.665 CC | |
| 7,350.0 | 6,978.3 | 7,013.8 | 7,013.8 | 20.4 | 140.3 | -90.16 | 1,821.5 | 245.2 | 1,387.8 | 1,227.2 | 160.67 | 8.638 ES | |
| 7,400.0 | 6,983.4 | 7,018.9 | 7,018.9 | 21.3 | 140.4 | -90.21 | 1,821.5 | 245.2 | 1,389.7 | 1,228.1 | 161.63 | 8.598 | |
| 7,447.7 | 6,985.0 | 7,020.5 | 7,020.5 | 22.1 | 140.4 | -90.00 | 1,821.5 | 245.2 | 1,393.2 | 1,230.7 | 162.53 | 8.572 | |
| 7,500.0 | 6,985.0 | 7,020.5 | 7,020.5 | 23.1 | 140.4 | -90.00 | 1,821.5 | 245.2 | 1,398.9 | 1,235.3 | 163.52 | 8.555 | |
| 7,600.0 | 6,985.0 | 7,020.5 | 7,020.5 | 25.2 | 140.4 | -90.00 | 1,821.5 | 245.2 | 1,415.0 | 1,249.5 | 165.55 | 8.547 SF | |
| 7,700.0 | 6,985.0 | 7,020.5 | 7,020.5 | 27.4 | 140.4 | -90.00 | 1,821.5 | 245.2 | 1,438.0 | 1,270.3 | 167.72 | 8.574 | |
| 7,800.0 | 6,985.0 | 7,020.5 | 7,020.5 | 29.7 | 140.4 | -90.00 | 1,821.5 | 245.2 | 1,467.4 | 1,297.4 | 170.00 | 8.632 | |
| 7,900.0 | 6,985.0 | 7,020.5 | 7,020.5 | 32.0 | 140.4 | -90.00 | 1,821.5 | 245.2 | 1,503.0 | 1,330.6 | 172.36 | 8.720 | |
| 8,000.0 | 6,985.0 | 7,020.5 | 7,020.5 | 34.5 | 140.4 | -90.00 | 1,821.5 | 245.2 | 1,544.1 | 1,369.4 | 174.79 | 8.834 | |
| 8,100.0 | 6,985.0 | 7,020.5 | 7,020.5 | 36.9 | 140.4 | -90.00 | 1,821.5 | 245.2 | 1,590.6 | 1,413.3 | 177.27 | 8.972 | |
| 8,200.0 | 6,985.0 | 7,020.5 | 7,020.5 | 39.5 | 140.4 | -90.00 | 1,821.5 | 245.2 | 1,641.8 | 1,462.0 | 179.80 | 9.131 | |
| 8,300.0 | 6,985.0 | 7,020.5 | 7,020.5 | 42.0 | 140.4 | -90.00 | 1,821.5 | 245.2 | 1,697.3 | 1,515.0 | 182.36 | 9.307 | |
| 8,400.0 | 6,985.0 | 7,020.5 | 7,020.5 | 44.6 | 140.4 | -90.00 | 1,821.5 | 245.2 | 1,756.8 | 1,571.9 | 184.96 | 9.499 | |
| 8,500.0 | 6,985.0 | 7,020.5 | 7,020.5 | 47.2 | 140.4 | -90.00 | 1,821.5 | 245.2 | 1,819.9 | 1,632.3 | 187.57 | 9.702 | |
| 8,600.0 | 6,985.0 | 7,020.5 | 7,020.5 | 49.9 | 140.4 | -90.00 | 1,821.5 | 245.2 | 1,886.1 | 1,695.9 | 190.21 | 9.916 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - EXIST VERT KINZER 13-28 - Wellbore #1 - Design #1 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|--|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 8,700.0 | 6,985.0 | 7,020.5 | 7,020.5 | 52.5 | 140.4 | -90.00 | 1,821.5 | 245.2 | 1,955.2 | 1,762.4 | 192.87 | 10.138 | |
| 8,800.0 | 6,985.0 | 7,020.5 | 7,020.5 | 55.2 | 140.4 | -90.00 | 1,821.5 | 245.2 | 2,026.9 | 1,831.4 | 195.54 | 10.366 | |
| 8,900.0 | 6,985.0 | 7,020.5 | 7,020.5 | 57.9 | 140.4 | -90.00 | 1,821.5 | 245.2 | 2,100.9 | 1,902.7 | 198.22 | 10.599 | |
| 9,000.0 | 6,985.0 | 7,020.5 | 7,020.5 | 60.6 | 140.4 | -90.00 | 1,821.5 | 245.2 | 2,177.0 | 1,976.1 | 200.92 | 10.835 | |
| 9,100.0 | 6,985.0 | 7,020.5 | 7,020.5 | 63.3 | 140.4 | -90.00 | 1,821.5 | 245.2 | 2,255.0 | 2,051.4 | 203.62 | 11.074 | |
| 9,200.0 | 6,985.0 | 7,020.5 | 7,020.5 | 66.0 | 140.4 | -90.00 | 1,821.5 | 245.2 | 2,334.6 | 2,128.3 | 206.34 | 11.315 | |
| 9,300.0 | 6,985.0 | 7,020.5 | 7,020.5 | 68.7 | 140.4 | -90.00 | 1,821.5 | 245.2 | 2,415.8 | 2,206.7 | 209.06 | 11.555 | |
| 9,400.0 | 6,985.0 | 7,020.5 | 7,020.5 | 71.4 | 140.4 | -90.00 | 1,821.5 | 245.2 | 2,498.3 | 2,286.5 | 211.79 | 11.796 | |
| 9,500.0 | 6,985.0 | 7,020.5 | 7,020.5 | 74.2 | 140.4 | -90.00 | 1,821.5 | 245.2 | 2,582.1 | 2,367.5 | 214.52 | 12.036 | |
| 9,600.0 | 6,985.0 | 7,020.5 | 7,020.5 | 76.9 | 140.4 | -90.00 | 1,821.5 | 245.2 | 2,666.9 | 2,449.7 | 217.26 | 12.275 | |
| 9,700.0 | 6,985.0 | 7,020.5 | 7,020.5 | 79.6 | 140.4 | -90.00 | 1,821.5 | 245.2 | 2,752.8 | 2,532.8 | 220.01 | 12.512 | |
| 9,800.0 | 6,985.0 | 7,020.5 | 7,020.5 | 82.4 | 140.4 | -90.00 | 1,821.5 | 245.2 | 2,839.6 | 2,616.9 | 222.76 | 12.748 | |
| 9,900.0 | 6,985.0 | 7,020.5 | 7,020.5 | 85.1 | 140.4 | -90.00 | 1,821.5 | 245.2 | 2,927.3 | 2,701.8 | 225.51 | 12.981 | |
| 10,000.0 | 6,985.0 | 7,020.5 | 7,020.5 | 87.9 | 140.4 | -90.00 | 1,821.5 | 245.2 | 3,015.7 | 2,787.5 | 228.27 | 13.211 | |
| 10,100.0 | 6,985.0 | 7,020.5 | 7,020.5 | 90.7 | 140.4 | -90.00 | 1,821.5 | 245.2 | 3,104.9 | 2,873.8 | 231.03 | 13.439 | |
| 10,200.0 | 6,985.0 | 7,020.5 | 7,020.5 | 93.4 | 140.4 | -90.00 | 1,821.5 | 245.2 | 3,194.6 | 2,960.8 | 233.79 | 13.664 | |
| 10,300.0 | 6,985.0 | 7,020.5 | 7,020.5 | 96.2 | 140.4 | -90.00 | 1,821.5 | 245.2 | 3,285.0 | 3,048.4 | 236.56 | 13.887 | |
| 10,400.0 | 6,985.0 | 7,020.5 | 7,020.5 | 98.9 | 140.4 | -90.00 | 1,821.5 | 245.2 | 3,375.9 | 3,136.6 | 239.32 | 14.106 | |
| 10,500.0 | 6,985.0 | 7,020.5 | 7,020.5 | 101.7 | 140.4 | -90.00 | 1,821.5 | 245.2 | 3,467.3 | 3,225.2 | 242.09 | 14.322 | |
| 10,600.0 | 6,985.0 | 7,020.5 | 7,020.5 | 104.5 | 140.4 | -90.00 | 1,821.5 | 245.2 | 3,559.2 | 3,314.3 | 244.87 | 14.535 | |
| 10,700.0 | 6,985.0 | 7,020.5 | 7,020.5 | 107.3 | 140.4 | -90.00 | 1,821.5 | 245.2 | 3,651.5 | 3,403.8 | 247.64 | 14.745 | |
| 10,800.0 | 6,985.0 | 7,020.5 | 7,020.5 | 110.0 | 140.4 | -90.00 | 1,821.5 | 245.2 | 3,744.2 | 3,493.7 | 250.42 | 14.952 | |
| 10,900.0 | 6,985.0 | 7,020.5 | 7,020.5 | 112.8 | 140.4 | -90.00 | 1,821.5 | 245.2 | 3,837.2 | 3,584.0 | 253.20 | 15.155 | |
| 11,000.0 | 6,985.0 | 7,020.5 | 7,020.5 | 115.6 | 140.4 | -90.00 | 1,821.5 | 245.2 | 3,930.6 | 3,674.6 | 255.97 | 15.356 | |
| 11,100.0 | 6,985.0 | 7,020.5 | 7,020.5 | 118.4 | 140.4 | -90.00 | 1,821.5 | 245.2 | 4,024.3 | 3,765.6 | 258.75 | 15.553 | |
| 11,200.0 | 6,985.0 | 7,020.5 | 7,020.5 | 121.2 | 140.4 | -90.00 | 1,821.5 | 245.2 | 4,118.3 | 3,856.8 | 261.54 | 15.747 | |
| 11,300.0 | 6,985.0 | 7,020.5 | 7,020.5 | 123.9 | 140.4 | -90.00 | 1,821.5 | 245.2 | 4,212.6 | 3,948.3 | 264.32 | 15.938 | |
| 11,400.0 | 6,985.0 | 7,020.5 | 7,020.5 | 126.7 | 140.4 | -90.00 | 1,821.5 | 245.2 | 4,307.2 | 4,040.1 | 267.10 | 16.125 | |
| 11,500.0 | 6,985.0 | 7,020.5 | 7,020.5 | 129.5 | 140.4 | -90.00 | 1,821.5 | 245.2 | 4,402.0 | 4,132.1 | 269.89 | 16.310 | |
| 11,600.0 | 6,985.0 | 7,020.5 | 7,020.5 | 132.3 | 140.4 | -90.00 | 1,821.5 | 245.2 | 4,497.0 | 4,224.3 | 272.68 | 16.492 | |
| 11,700.0 | 6,985.0 | 7,020.5 | 7,020.5 | 135.1 | 140.4 | -90.00 | 1,821.5 | 245.2 | 4,592.2 | 4,316.7 | 275.46 | 16.671 | |
| 11,800.0 | 6,985.0 | 7,020.5 | 7,020.5 | 137.9 | 140.4 | -90.00 | 1,821.5 | 245.2 | 4,687.6 | 4,409.4 | 278.25 | 16.847 | |
| 11,900.0 | 6,985.0 | 7,020.5 | 7,020.5 | 140.7 | 140.4 | -90.00 | 1,821.5 | 245.2 | 4,783.2 | 4,502.2 | 281.04 | 17.020 | |
| 12,000.0 | 6,985.0 | 7,020.5 | 7,020.5 | 143.4 | 140.4 | -90.00 | 1,821.5 | 245.2 | 4,879.0 | 4,595.2 | 283.83 | 17.190 | |
| 12,054.1 | 6,985.0 | 7,020.5 | 7,020.5 | 145.0 | 140.4 | -90.00 | 1,821.5 | 245.2 | 4,930.9 | 4,645.6 | 285.34 | 17.281 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 83.68 | 36.4 | 328.8 | 330.9 | | | | |
| 100.0 | 100.0 | 92.5 | 92.5 | 0.1 | 1.2 | 83.68 | 36.4 | 328.8 | 330.8 | 329.6 | 1.25 | 263.653 | |
| 200.0 | 200.0 | 192.5 | 192.5 | 0.3 | 3.4 | 83.68 | 36.4 | 328.8 | 330.8 | 327.2 | 3.68 | 89.886 | |
| 300.0 | 300.0 | 292.5 | 292.5 | 0.5 | 5.5 | 83.68 | 36.4 | 328.8 | 330.8 | 324.8 | 6.00 | 55.160 | |
| 400.0 | 400.0 | 392.5 | 392.5 | 0.8 | 7.5 | 83.68 | 36.4 | 328.8 | 330.8 | 322.6 | 8.27 | 40.019 | |
| 500.0 | 500.0 | 492.5 | 492.5 | 1.0 | 9.5 | 83.68 | 36.4 | 328.8 | 330.8 | 320.3 | 10.52 | 31.443 | |
| 600.0 | 600.0 | 592.5 | 592.5 | 1.2 | 11.5 | 83.68 | 36.4 | 328.8 | 330.8 | 318.1 | 12.77 | 25.908 | |
| 700.0 | 700.0 | 692.5 | 692.5 | 1.4 | 13.6 | 83.68 | 36.4 | 328.8 | 330.8 | 315.8 | 15.01 | 22.035 | |
| 800.0 | 800.0 | 792.5 | 792.5 | 1.7 | 15.6 | 83.68 | 36.4 | 328.8 | 330.8 | 313.6 | 17.26 | 19.172 CC | |
| 900.0 | 900.0 | 892.5 | 892.5 | 1.9 | 17.6 | 122.46 | 36.4 | 328.8 | 331.8 | 312.3 | 19.49 | 17.023 | |
| 1,000.0 | 999.8 | 992.3 | 992.3 | 2.1 | 19.6 | 123.16 | 36.4 | 328.8 | 334.6 | 312.9 | 21.71 | 15.413 | |
| 1,100.0 | 1,099.5 | 1,092.0 | 1,092.0 | 2.4 | 21.6 | 124.31 | 36.4 | 328.8 | 339.5 | 315.5 | 23.92 | 14.192 | |
| 1,200.0 | 1,198.7 | 1,191.2 | 1,191.2 | 2.6 | 23.6 | 125.85 | 36.4 | 328.8 | 346.5 | 320.4 | 26.11 | 13.269 | |
| 1,300.0 | 1,297.5 | 1,290.0 | 1,290.0 | 2.9 | 25.6 | 127.73 | 36.4 | 328.8 | 356.0 | 327.7 | 28.29 | 12.583 | |
| 1,400.0 | 1,395.6 | 1,388.1 | 1,388.1 | 3.2 | 27.6 | 129.87 | 36.4 | 328.8 | 368.0 | 337.6 | 30.44 | 12.092 | |
| 1,400.2 | 1,395.8 | 1,388.3 | 1,388.3 | 3.2 | 27.6 | 129.87 | 36.4 | 328.8 | 368.1 | 337.6 | 30.44 | 12.091 | |
| 1,500.0 | 1,493.4 | 1,485.9 | 1,485.9 | 3.6 | 29.6 | 132.23 | 36.4 | 328.8 | 381.9 | 349.2 | 32.65 | 11.694 | |
| 1,600.0 | 1,591.2 | 1,583.7 | 1,583.7 | 3.9 | 31.5 | 134.44 | 36.4 | 328.8 | 396.3 | 361.4 | 34.88 | 11.364 | |
| 1,700.0 | 1,689.1 | 1,681.6 | 1,681.6 | 4.3 | 33.5 | 136.48 | 36.4 | 328.8 | 411.3 | 374.2 | 37.10 | 11.088 | |
| 1,800.0 | 1,786.9 | 1,779.4 | 1,779.4 | 4.7 | 35.5 | 138.39 | 36.4 | 328.8 | 426.8 | 387.5 | 39.31 | 10.856 | |
| 1,900.0 | 1,884.7 | 1,877.2 | 1,877.2 | 5.2 | 37.4 | 140.16 | 36.4 | 328.8 | 442.7 | 401.2 | 41.53 | 10.660 | |
| 2,000.0 | 1,982.5 | 1,975.0 | 1,975.0 | 5.6 | 39.4 | 141.81 | 36.4 | 328.8 | 459.0 | 415.3 | 43.74 | 10.494 | |
| 2,100.0 | 2,080.3 | 2,072.8 | 2,072.8 | 6.0 | 41.4 | 143.35 | 36.4 | 328.8 | 475.6 | 429.7 | 45.95 | 10.352 | |
| 2,200.0 | 2,178.1 | 2,170.6 | 2,170.6 | 6.4 | 43.3 | 144.78 | 36.4 | 328.8 | 492.6 | 444.5 | 48.15 | 10.230 | |
| 2,300.0 | 2,275.9 | 2,268.4 | 2,268.4 | 6.9 | 45.3 | 146.12 | 36.4 | 328.8 | 509.9 | 459.5 | 50.35 | 10.126 | |
| 2,400.0 | 2,373.8 | 2,366.3 | 2,366.3 | 7.3 | 47.3 | 147.37 | 36.4 | 328.8 | 527.4 | 474.8 | 52.55 | 10.035 | |
| 2,500.0 | 2,471.6 | 2,464.1 | 2,464.1 | 7.7 | 49.2 | 148.54 | 36.4 | 328.8 | 545.1 | 490.4 | 54.75 | 9.957 | |
| 2,600.0 | 2,569.4 | 2,561.9 | 2,561.9 | 8.2 | 51.2 | 149.64 | 36.4 | 328.8 | 563.1 | 506.1 | 56.94 | 9.888 | |
| 2,700.0 | 2,667.2 | 2,659.7 | 2,659.7 | 8.6 | 53.2 | 150.67 | 36.4 | 328.8 | 581.2 | 522.1 | 59.13 | 9.829 | |
| 2,800.0 | 2,765.0 | 2,757.5 | 2,757.5 | 9.0 | 55.1 | 151.64 | 36.4 | 328.8 | 599.5 | 538.2 | 61.32 | 9.776 | |
| 2,900.0 | 2,862.8 | 2,855.3 | 2,855.3 | 9.5 | 57.1 | 152.55 | 36.4 | 328.8 | 618.0 | 554.5 | 63.51 | 9.730 | |
| 3,000.0 | 2,960.6 | 2,953.1 | 2,953.1 | 9.9 | 59.1 | 153.41 | 36.4 | 328.8 | 636.6 | 570.9 | 65.70 | 9.690 | |
| 3,100.0 | 3,058.4 | 3,050.9 | 3,050.9 | 10.4 | 61.0 | 154.22 | 36.4 | 328.8 | 655.3 | 587.5 | 67.89 | 9.654 | |
| 3,200.0 | 3,156.3 | 3,148.8 | 3,148.8 | 10.8 | 63.0 | 154.99 | 36.4 | 328.8 | 674.2 | 604.1 | 70.07 | 9.622 | |
| 3,300.0 | 3,254.1 | 3,246.6 | 3,246.6 | 11.3 | 65.0 | 155.71 | 36.4 | 328.8 | 693.2 | 620.9 | 72.25 | 9.594 | |
| 3,400.0 | 3,351.9 | 3,344.4 | 3,344.4 | 11.7 | 66.9 | 156.40 | 36.4 | 328.8 | 712.3 | 637.8 | 74.44 | 9.568 | |
| 3,465.5 | 3,416.0 | 3,408.5 | 3,408.5 | 12.0 | 68.2 | 156.83 | 36.4 | 328.8 | 724.8 | 648.9 | 75.87 | 9.553 | |
| 3,500.0 | 3,449.7 | 3,442.2 | 3,442.2 | 12.1 | 68.9 | 157.09 | 36.4 | 328.8 | 731.2 | 654.5 | 76.76 | 9.527 | |
| 3,600.0 | 3,548.1 | 3,540.6 | 3,540.6 | 12.5 | 70.9 | 157.75 | 36.4 | 328.8 | 747.8 | 668.5 | 79.27 | 9.433 | |
| 3,700.0 | 3,647.1 | 3,639.6 | 3,639.6 | 12.7 | 72.9 | 158.27 | 36.4 | 328.8 | 761.2 | 679.5 | 81.74 | 9.313 | |
| 3,800.0 | 3,746.5 | 3,739.0 | 3,739.0 | 13.0 | 74.9 | 158.64 | 36.4 | 328.8 | 771.5 | 687.3 | 84.15 | 9.168 | |
| 3,900.0 | 3,846.2 | 3,838.7 | 3,838.7 | 13.2 | 76.9 | 158.90 | 36.4 | 328.8 | 778.5 | 692.0 | 86.48 | 9.002 | |
| 4,000.0 | 3,946.1 | 3,938.6 | 3,938.6 | 13.3 | 78.9 | 159.03 | 36.4 | 328.8 | 782.3 | 693.5 | 88.72 | 8.817 | |
| 4,065.7 | 4,011.8 | 4,004.3 | 4,004.3 | 13.4 | 80.2 | 120.52 | 36.4 | 328.8 | 783.0 | 689.7 | 93.23 | 8.398 | |
| 4,100.0 | 4,046.1 | 4,038.6 | 4,038.6 | 13.5 | 80.9 | 120.52 | 36.4 | 328.8 | 783.0 | 689.0 | 93.97 | 8.332 | |
| 4,200.0 | 4,146.1 | 4,138.6 | 4,138.6 | 13.6 | 82.9 | 120.52 | 36.4 | 328.8 | 783.0 | 686.8 | 96.13 | 8.145 | |
| 4,300.0 | 4,246.1 | 4,238.6 | 4,238.6 | 13.8 | 84.9 | 120.52 | 36.4 | 328.8 | 783.0 | 684.7 | 98.29 | 7.966 | |
| 4,400.0 | 4,346.1 | 4,338.6 | 4,338.6 | 13.9 | 86.9 | 120.52 | 36.4 | 328.8 | 783.0 | 682.5 | 100.45 | 7.795 | |
| 4,500.0 | 4,446.1 | 4,438.6 | 4,438.6 | 14.1 | 88.9 | 120.52 | 36.4 | 328.8 | 783.0 | 680.4 | 102.62 | 7.630 | |
| 4,600.0 | 4,546.1 | 4,538.6 | 4,538.6 | 14.2 | 91.0 | 120.52 | 36.4 | 328.8 | 783.0 | 678.2 | 104.78 | 7.472 | |
| 4,700.0 | 4,646.1 | 4,638.6 | 4,638.6 | 14.4 | 93.0 | 120.52 | 36.4 | 328.8 | 783.0 | 676.0 | 106.95 | 7.321 | |
| 4,800.0 | 4,746.1 | 4,738.6 | 4,738.6 | 14.5 | 95.0 | 120.52 | 36.4 | 328.8 | 783.0 | 673.8 | 109.12 | 7.175 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,838.6 | 4,838.6 | 14.7 | 97.0 | 120.52 | 36.4 | 328.8 | 783.0 | 671.7 | 111.30 | 7.035 | |
| 5,000.0 | 4,946.1 | 4,938.6 | 4,938.6 | 14.8 | 99.0 | 120.52 | 36.4 | 328.8 | 783.0 | 669.5 | 113.47 | 6.900 | |
| 5,100.0 | 5,046.1 | 5,038.6 | 5,038.6 | 15.0 | 101.0 | 120.52 | 36.4 | 328.8 | 783.0 | 667.3 | 115.65 | 6.770 | |
| 5,200.0 | 5,146.1 | 5,138.6 | 5,138.6 | 15.1 | 103.0 | 120.52 | 36.4 | 328.8 | 783.0 | 665.1 | 117.82 | 6.645 | |
| 5,300.0 | 5,246.1 | 5,238.6 | 5,238.6 | 15.3 | 105.0 | 120.52 | 36.4 | 328.8 | 783.0 | 663.0 | 120.00 | 6.525 | |
| 5,400.0 | 5,346.1 | 5,338.6 | 5,338.6 | 15.5 | 107.0 | 120.52 | 36.4 | 328.8 | 783.0 | 660.8 | 122.18 | 6.408 | |
| 5,500.0 | 5,446.1 | 5,438.6 | 5,438.6 | 15.6 | 109.1 | 120.52 | 36.4 | 328.8 | 783.0 | 658.6 | 124.37 | 6.296 | |
| 5,600.0 | 5,546.1 | 5,538.6 | 5,538.6 | 15.8 | 111.1 | 120.52 | 36.4 | 328.8 | 783.0 | 656.4 | 126.55 | 6.187 | |
| 5,700.0 | 5,646.1 | 5,638.6 | 5,638.6 | 16.0 | 113.1 | 120.52 | 36.4 | 328.8 | 783.0 | 654.2 | 128.73 | 6.082 | |
| 5,800.0 | 5,746.1 | 5,738.6 | 5,738.6 | 16.1 | 115.1 | 120.52 | 36.4 | 328.8 | 783.0 | 652.1 | 130.92 | 5.981 | |
| 5,900.0 | 5,846.1 | 5,838.6 | 5,838.6 | 16.3 | 117.1 | 120.52 | 36.4 | 328.8 | 783.0 | 649.9 | 133.11 | 5.882 | |
| 6,000.0 | 5,946.1 | 5,938.6 | 5,938.6 | 16.5 | 119.1 | 120.52 | 36.4 | 328.8 | 783.0 | 647.7 | 135.29 | 5.787 | |
| 6,100.0 | 6,046.1 | 6,038.6 | 6,038.6 | 16.7 | 121.1 | 120.52 | 36.4 | 328.8 | 783.0 | 645.5 | 137.48 | 5.695 | |
| 6,200.0 | 6,146.1 | 6,138.6 | 6,138.6 | 16.8 | 123.1 | 120.52 | 36.4 | 328.8 | 783.0 | 643.3 | 139.67 | 5.606 | |
| 6,300.0 | 6,246.1 | 6,238.6 | 6,238.6 | 17.0 | 125.1 | 120.52 | 36.4 | 328.8 | 783.0 | 641.1 | 141.87 | 5.519 | |
| 6,322.7 | 6,268.8 | 6,261.3 | 6,261.3 | 17.1 | 125.6 | 120.52 | 36.4 | 328.8 | 783.0 | 640.6 | 142.36 | 5.500 | |
| 6,350.0 | 6,296.1 | 6,288.6 | 6,288.6 | 17.1 | 126.1 | 30.55 | 36.4 | 328.8 | 782.5 | 642.0 | 140.50 | 5.570 | |
| 6,400.0 | 6,345.9 | 6,338.4 | 6,338.4 | 17.2 | 127.1 | 30.82 | 36.4 | 328.8 | 779.4 | 638.4 | 141.00 | 5.528 | |
| 6,450.0 | 6,395.4 | 6,387.9 | 6,387.9 | 17.2 | 128.1 | 31.34 | 36.4 | 328.8 | 773.3 | 632.3 | 141.00 | 5.484 | |
| 6,500.0 | 6,444.3 | 6,436.8 | 6,436.8 | 17.2 | 129.1 | 32.14 | 36.4 | 328.8 | 764.2 | 623.7 | 140.52 | 5.439 | |
| 6,550.0 | 6,492.3 | 6,484.8 | 6,484.8 | 17.2 | 130.1 | 33.23 | 36.4 | 328.8 | 752.4 | 612.8 | 139.63 | 5.389 | |
| 6,600.0 | 6,539.2 | 6,531.7 | 6,531.7 | 17.2 | 131.0 | 34.64 | 36.4 | 328.8 | 737.8 | 599.4 | 138.42 | 5.330 | |
| 6,650.0 | 6,584.8 | 6,577.3 | 6,577.3 | 17.2 | 132.0 | 36.39 | 36.4 | 328.8 | 720.6 | 583.6 | 137.03 | 5.259 | |
| 6,700.0 | 6,628.9 | 6,621.4 | 6,621.4 | 17.2 | 132.8 | 38.54 | 36.4 | 328.8 | 701.1 | 565.4 | 135.64 | 5.169 | |
| 6,750.0 | 6,671.2 | 6,663.7 | 6,663.7 | 17.2 | 133.7 | 41.10 | 36.4 | 328.8 | 679.3 | 544.8 | 134.50 | 5.051 | |
| 6,800.0 | 6,711.5 | 6,704.0 | 6,704.0 | 17.2 | 134.5 | 44.13 | 36.4 | 328.8 | 655.6 | 521.7 | 133.87 | 4.897 | |
| 6,850.0 | 6,749.7 | 6,742.2 | 6,742.2 | 17.2 | 135.3 | 47.65 | 36.4 | 328.8 | 630.3 | 496.2 | 134.04 | 4.702 | |
| 6,900.0 | 6,785.6 | 6,778.1 | 6,778.1 | 17.1 | 136.0 | 51.66 | 36.4 | 328.8 | 603.6 | 468.4 | 135.22 | 4.464 | |
| 6,950.0 | 6,818.9 | 6,811.4 | 6,811.4 | 17.1 | 136.7 | 56.12 | 36.4 | 328.8 | 576.1 | 438.6 | 137.50 | 4.190 | |
| 7,000.0 | 6,849.5 | 6,842.0 | 6,842.0 | 17.1 | 137.3 | 60.94 | 36.4 | 328.8 | 548.2 | 407.5 | 140.75 | 3.895 | |
| 7,050.0 | 6,877.4 | 6,869.9 | 6,869.9 | 17.2 | 137.8 | 65.99 | 36.4 | 328.8 | 520.5 | 375.9 | 144.60 | 3.600 | |
| 7,100.0 | 6,902.2 | 6,894.7 | 6,894.7 | 17.3 | 138.3 | 71.05 | 36.4 | 328.8 | 493.6 | 345.0 | 148.57 | 3.322 | |
| 7,150.0 | 6,924.0 | 6,916.5 | 6,916.5 | 17.7 | 138.8 | 75.88 | 36.4 | 328.8 | 468.3 | 316.2 | 152.19 | 3.077 | |
| 7,200.0 | 6,942.6 | 6,935.1 | 6,935.1 | 18.2 | 139.1 | 80.27 | 36.4 | 328.8 | 445.6 | 290.4 | 155.14 | 2.872 | |
| 7,250.0 | 6,957.9 | 6,950.4 | 6,950.4 | 18.8 | 139.5 | 83.99 | 36.4 | 328.8 | 426.2 | 268.8 | 157.37 | 2.708 | |
| 7,300.0 | 6,969.8 | 6,962.3 | 6,962.3 | 19.6 | 139.7 | 86.90 | 36.4 | 328.8 | 411.2 | 252.2 | 158.98 | 2.587 | |
| 7,350.0 | 6,978.3 | 6,970.8 | 6,970.8 | 20.4 | 139.9 | 88.91 | 36.4 | 328.8 | 401.5 | 241.3 | 160.19 | 2.506 | |
| 7,400.0 | 6,983.4 | 6,975.9 | 6,975.9 | 21.3 | 140.0 | 89.94 | 36.4 | 328.8 | 397.6 | 236.4 | 161.20 | 2.467 | |
| 7,406.0 | 6,983.8 | 6,976.3 | 6,976.3 | 21.4 | 140.0 | 90.00 | 36.4 | 328.8 | 397.6 | 236.2 | 161.32 | 2.464 ES, SF | |
| 7,447.7 | 6,985.0 | 6,977.5 | 6,977.5 | 22.1 | 140.0 | 90.00 | 36.4 | 328.8 | 399.7 | 237.6 | 162.10 | 2.466 | |
| 7,500.0 | 6,985.0 | 6,977.5 | 6,977.5 | 23.1 | 140.0 | 90.00 | 36.4 | 328.8 | 408.5 | 245.4 | 163.09 | 2.505 | |
| 7,600.0 | 6,985.0 | 6,977.5 | 6,977.5 | 25.2 | 140.0 | 90.00 | 36.4 | 328.8 | 442.3 | 277.2 | 165.12 | 2.679 | |
| 7,700.0 | 6,985.0 | 6,977.5 | 6,977.5 | 27.4 | 140.0 | 90.00 | 36.4 | 328.8 | 494.4 | 327.1 | 167.29 | 2.956 | |
| 7,800.0 | 6,985.0 | 6,977.5 | 6,977.5 | 29.7 | 140.0 | 90.00 | 36.4 | 328.8 | 559.7 | 390.1 | 169.57 | 3.301 | |
| 7,900.0 | 6,985.0 | 6,977.5 | 6,977.5 | 32.0 | 140.0 | 90.00 | 36.4 | 328.8 | 634.1 | 462.1 | 171.93 | 3.688 | |
| 8,000.0 | 6,985.0 | 6,977.5 | 6,977.5 | 34.5 | 140.0 | 90.00 | 36.4 | 328.8 | 714.7 | 540.4 | 174.36 | 4.099 | |
| 8,100.0 | 6,985.0 | 6,977.5 | 6,977.5 | 36.9 | 140.0 | 90.00 | 36.4 | 328.8 | 799.8 | 622.9 | 176.84 | 4.522 | |
| 8,200.0 | 6,985.0 | 6,977.5 | 6,977.5 | 39.5 | 140.0 | 90.00 | 36.4 | 328.8 | 887.9 | 708.6 | 179.37 | 4.950 | |
| 8,300.0 | 6,985.0 | 6,977.5 | 6,977.5 | 42.0 | 140.0 | 90.00 | 36.4 | 328.8 | 978.4 | 796.4 | 181.93 | 5.378 | |
| 8,400.0 | 6,985.0 | 6,977.5 | 6,977.5 | 44.6 | 140.0 | 90.00 | 36.4 | 328.8 | 1,070.5 | 886.0 | 184.52 | 5.801 | |
| 8,500.0 | 6,985.0 | 6,977.5 | 6,977.5 | 47.2 | 140.0 | 90.00 | 36.4 | 328.8 | 1,163.9 | 976.8 | 187.14 | 6.220 | |
| 8,600.0 | 6,985.0 | 6,977.5 | 6,977.5 | 49.9 | 140.0 | 90.00 | 36.4 | 328.8 | 1,258.4 | 1,068.6 | 189.78 | 6.631 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - EXIST VERT KINZER 28-2 - Wellbore #1 - Design #1 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|---|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | Offset | Semi Major Axis | | Distance | | | | | | | | | |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
| 8,700.0 | 6,985.0 | 6,977.5 | 6,977.5 | 52.5 | 140.0 | 90.00 | 36.4 | 328.8 | 1,353.6 | 1,161.2 | 192.43 | 7.034 | |
| 8,800.0 | 6,985.0 | 6,977.5 | 6,977.5 | 55.2 | 140.0 | 90.00 | 36.4 | 328.8 | 1,449.5 | 1,254.4 | 195.11 | 7.429 | |
| 8,900.0 | 6,985.0 | 6,977.5 | 6,977.5 | 57.9 | 140.0 | 90.00 | 36.4 | 328.8 | 1,545.9 | 1,348.1 | 197.79 | 7.816 | |
| 9,000.0 | 6,985.0 | 6,977.5 | 6,977.5 | 60.6 | 140.0 | 90.00 | 36.4 | 328.8 | 1,642.8 | 1,442.3 | 200.49 | 8.194 | |
| 9,100.0 | 6,985.0 | 6,977.5 | 6,977.5 | 63.3 | 140.0 | 90.00 | 36.4 | 328.8 | 1,740.0 | 1,536.8 | 203.19 | 8.563 | |
| 9,200.0 | 6,985.0 | 6,977.5 | 6,977.5 | 66.0 | 140.0 | 90.00 | 36.4 | 328.8 | 1,837.5 | 1,631.6 | 205.91 | 8.924 | |
| 9,300.0 | 6,985.0 | 6,977.5 | 6,977.5 | 68.7 | 140.0 | 90.00 | 36.4 | 328.8 | 1,935.2 | 1,726.6 | 208.63 | 9.276 | |
| 9,400.0 | 6,985.0 | 6,977.5 | 6,977.5 | 71.4 | 140.0 | 90.00 | 36.4 | 328.8 | 2,033.2 | 1,821.8 | 211.36 | 9.620 | |
| 9,500.0 | 6,985.0 | 6,977.5 | 6,977.5 | 74.2 | 140.0 | 90.00 | 36.4 | 328.8 | 2,131.3 | 1,917.3 | 214.09 | 9.955 | |
| 9,600.0 | 6,985.0 | 6,977.5 | 6,977.5 | 76.9 | 140.0 | 90.00 | 36.4 | 328.8 | 2,229.7 | 2,012.8 | 216.83 | 10.283 | |
| 9,700.0 | 6,985.0 | 6,977.5 | 6,977.5 | 79.6 | 140.0 | 90.00 | 36.4 | 328.8 | 2,328.1 | 2,108.6 | 219.58 | 10.603 | |
| 9,800.0 | 6,985.0 | 6,977.5 | 6,977.5 | 82.4 | 140.0 | 90.00 | 36.4 | 328.8 | 2,426.7 | 2,204.4 | 222.33 | 10.915 | |
| 9,900.0 | 6,985.0 | 6,977.5 | 6,977.5 | 85.1 | 140.0 | 90.00 | 36.4 | 328.8 | 2,525.4 | 2,300.4 | 225.08 | 11.220 | |
| 10,000.0 | 6,985.0 | 6,977.5 | 6,977.5 | 87.9 | 140.0 | 90.00 | 36.4 | 328.8 | 2,624.2 | 2,396.4 | 227.84 | 11.518 | |
| 10,100.0 | 6,985.0 | 6,977.5 | 6,977.5 | 90.7 | 140.0 | 90.00 | 36.4 | 328.8 | 2,723.1 | 2,492.5 | 230.60 | 11.809 | |
| 10,200.0 | 6,985.0 | 6,977.5 | 6,977.5 | 93.4 | 140.0 | 90.00 | 36.4 | 328.8 | 2,822.1 | 2,588.7 | 233.36 | 12.093 | |
| 10,300.0 | 6,985.0 | 6,977.5 | 6,977.5 | 96.2 | 140.0 | 90.00 | 36.4 | 328.8 | 2,921.1 | 2,685.0 | 236.12 | 12.371 | |
| 10,400.0 | 6,985.0 | 6,977.5 | 6,977.5 | 98.9 | 140.0 | 90.00 | 36.4 | 328.8 | 3,020.2 | 2,781.3 | 238.89 | 12.643 | |
| 10,500.0 | 6,985.0 | 6,977.5 | 6,977.5 | 101.7 | 140.0 | 90.00 | 36.4 | 328.8 | 3,119.4 | 2,877.7 | 241.66 | 12.908 | |
| 10,600.0 | 6,985.0 | 6,977.5 | 6,977.5 | 104.5 | 140.0 | 90.00 | 36.4 | 328.8 | 3,218.6 | 2,974.2 | 244.43 | 13.168 | |
| 10,700.0 | 6,985.0 | 6,977.5 | 6,977.5 | 107.3 | 140.0 | 90.00 | 36.4 | 328.8 | 3,317.8 | 3,070.6 | 247.21 | 13.421 | |
| 10,800.0 | 6,985.0 | 6,977.5 | 6,977.5 | 110.0 | 140.0 | 90.00 | 36.4 | 328.8 | 3,417.1 | 3,167.2 | 249.98 | 13.669 | |
| 10,900.0 | 6,985.0 | 6,977.5 | 6,977.5 | 112.8 | 140.0 | 90.00 | 36.4 | 328.8 | 3,516.5 | 3,263.7 | 252.76 | 13.912 | |
| 11,000.0 | 6,985.0 | 6,977.5 | 6,977.5 | 115.6 | 140.0 | 90.00 | 36.4 | 328.8 | 3,615.9 | 3,360.3 | 255.54 | 14.150 | |
| 11,100.0 | 6,985.0 | 6,977.5 | 6,977.5 | 118.4 | 140.0 | 90.00 | 36.4 | 328.8 | 3,715.3 | 3,457.0 | 258.32 | 14.382 | |
| 11,200.0 | 6,985.0 | 6,977.5 | 6,977.5 | 121.2 | 140.0 | 90.00 | 36.4 | 328.8 | 3,814.7 | 3,553.6 | 261.10 | 14.610 | |
| 11,300.0 | 6,985.0 | 6,977.5 | 6,977.5 | 123.9 | 140.0 | 90.00 | 36.4 | 328.8 | 3,914.2 | 3,650.3 | 263.89 | 14.833 | |
| 11,400.0 | 6,985.0 | 6,977.5 | 6,977.5 | 126.7 | 140.0 | 90.00 | 36.4 | 328.8 | 4,013.7 | 3,747.0 | 266.67 | 15.051 | |
| 11,500.0 | 6,985.0 | 6,977.5 | 6,977.5 | 129.5 | 140.0 | 90.00 | 36.4 | 328.8 | 4,113.2 | 3,843.7 | 269.46 | 15.265 | |
| 11,600.0 | 6,985.0 | 6,977.5 | 6,977.5 | 132.3 | 140.0 | 90.00 | 36.4 | 328.8 | 4,212.7 | 3,940.5 | 272.24 | 15.474 | |
| 11,700.0 | 6,985.0 | 6,977.5 | 6,977.5 | 135.1 | 140.0 | 90.00 | 36.4 | 328.8 | 4,312.3 | 4,037.3 | 275.03 | 15.679 | |
| 11,800.0 | 6,985.0 | 6,977.5 | 6,977.5 | 137.9 | 140.0 | 90.00 | 36.4 | 328.8 | 4,411.9 | 4,134.1 | 277.82 | 15.880 | |
| 11,900.0 | 6,985.0 | 6,977.5 | 6,977.5 | 140.7 | 140.0 | 90.00 | 36.4 | 328.8 | 4,511.5 | 4,230.9 | 280.61 | 16.078 | |
| 12,000.0 | 6,985.0 | 6,977.5 | 6,977.5 | 143.4 | 140.0 | 90.00 | 36.4 | 328.8 | 4,611.1 | 4,327.7 | 283.40 | 16.271 | |
| 12,054.1 | 6,985.0 | 6,977.5 | 6,977.5 | 145.0 | 140.0 | 90.00 | 36.4 | 328.8 | 4,665.1 | 4,380.1 | 284.91 | 16.374 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 78.5 | 78.5 | 0.0 | 0.1 | 13.89 | 3,435.5 | 849.8 | 3,539.0 | | | | |
| 100.0 | 100.0 | 178.5 | 178.5 | 0.1 | 2.2 | 13.89 | 3,435.5 | 849.8 | 3,539.0 | 3,536.7 | 2.26 | 1,566.532 | |
| 200.0 | 200.0 | 278.5 | 278.5 | 0.3 | 4.3 | 13.89 | 3,435.5 | 849.8 | 3,539.0 | 3,534.3 | 4.67 | 758.384 | |
| 300.0 | 300.0 | 378.5 | 378.5 | 0.5 | 6.4 | 13.89 | 3,435.5 | 849.8 | 3,539.0 | 3,532.1 | 6.93 | 510.674 | |
| 400.0 | 400.0 | 478.5 | 478.5 | 0.8 | 8.4 | 13.89 | 3,435.5 | 849.8 | 3,539.0 | 3,529.8 | 9.18 | 385.541 | |
| 500.0 | 500.0 | 578.5 | 578.5 | 1.0 | 10.4 | 13.89 | 3,435.5 | 849.8 | 3,539.0 | 3,527.6 | 11.42 | 309.810 | |
| 600.0 | 600.0 | 678.5 | 678.5 | 1.2 | 12.4 | 13.89 | 3,435.5 | 849.8 | 3,539.0 | 3,525.3 | 13.66 | 258.996 | |
| 700.0 | 700.0 | 778.5 | 778.5 | 1.4 | 14.5 | 13.89 | 3,435.5 | 849.8 | 3,539.0 | 3,523.1 | 15.90 | 222.524 | |
| 800.0 | 800.0 | 878.5 | 878.5 | 1.7 | 16.5 | 13.89 | 3,435.5 | 849.8 | 3,539.0 | 3,520.9 | 18.14 | 195.066 | |
| 900.0 | 900.0 | 978.5 | 978.5 | 1.9 | 18.5 | 52.47 | 3,435.5 | 849.8 | 3,537.9 | 3,517.6 | 20.37 | 173.653 | |
| 1,000.0 | 999.8 | 1,078.3 | 1,078.3 | 2.1 | 20.5 | 52.59 | 3,435.5 | 849.8 | 3,534.8 | 3,512.2 | 22.59 | 156.460 | |
| 1,100.0 | 1,099.5 | 1,178.0 | 1,178.0 | 2.4 | 22.5 | 52.79 | 3,435.5 | 849.8 | 3,529.5 | 3,504.7 | 24.80 | 142.314 | |
| 1,200.0 | 1,198.7 | 1,277.2 | 1,277.2 | 2.6 | 24.5 | 53.06 | 3,435.5 | 849.8 | 3,522.1 | 3,495.1 | 27.00 | 130.441 | |
| 1,300.0 | 1,297.5 | 1,376.0 | 1,376.0 | 2.9 | 26.5 | 53.42 | 3,435.5 | 849.8 | 3,512.6 | 3,483.4 | 29.20 | 120.305 | |
| 1,400.0 | 1,395.6 | 1,474.1 | 1,474.1 | 3.2 | 28.5 | 53.85 | 3,435.5 | 849.8 | 3,501.2 | 3,469.8 | 31.40 | 111.519 | |
| 1,400.2 | 1,395.8 | 1,474.3 | 1,474.3 | 3.2 | 28.5 | 53.85 | 3,435.5 | 849.8 | 3,501.2 | 3,469.8 | 31.40 | 111.500 | |
| 1,500.0 | 1,493.4 | 1,571.9 | 1,571.9 | 3.6 | 30.4 | 54.12 | 3,435.5 | 849.8 | 3,488.8 | 3,455.1 | 33.68 | 103.595 | |
| 1,600.0 | 1,591.2 | 1,669.7 | 1,669.7 | 3.9 | 32.4 | 54.40 | 3,435.5 | 849.8 | 3,476.5 | 3,440.5 | 35.98 | 96.634 | |
| 1,700.0 | 1,689.1 | 1,767.6 | 1,767.6 | 4.3 | 34.4 | 54.67 | 3,435.5 | 849.8 | 3,464.2 | 3,425.9 | 38.29 | 90.481 | |
| 1,800.0 | 1,786.9 | 1,865.4 | 1,865.4 | 4.7 | 36.3 | 54.95 | 3,435.5 | 849.8 | 3,452.0 | 3,411.4 | 40.61 | 85.009 | |
| 1,900.0 | 1,884.7 | 1,963.2 | 1,963.2 | 5.2 | 38.3 | 55.23 | 3,435.5 | 849.8 | 3,440.0 | 3,397.0 | 42.94 | 80.115 | |
| 2,000.0 | 1,982.5 | 2,061.0 | 2,061.0 | 5.6 | 40.3 | 55.51 | 3,435.5 | 849.8 | 3,428.0 | 3,382.7 | 45.27 | 75.715 | |
| 2,100.0 | 2,080.3 | 2,158.8 | 2,158.8 | 6.0 | 42.2 | 55.79 | 3,435.5 | 849.8 | 3,416.1 | 3,368.4 | 47.62 | 71.740 | |
| 2,200.0 | 2,178.1 | 2,256.6 | 2,256.6 | 6.4 | 44.2 | 56.08 | 3,435.5 | 849.8 | 3,404.2 | 3,354.3 | 49.97 | 68.131 | |
| 2,300.0 | 2,275.9 | 2,354.4 | 2,354.4 | 6.9 | 46.2 | 56.37 | 3,435.5 | 849.8 | 3,392.5 | 3,340.2 | 52.32 | 64.843 | |
| 2,400.0 | 2,373.8 | 2,452.3 | 2,452.3 | 7.3 | 48.1 | 56.65 | 3,435.5 | 849.8 | 3,380.8 | 3,326.2 | 54.68 | 61.834 | |
| 2,500.0 | 2,471.6 | 2,550.1 | 2,550.1 | 7.7 | 50.1 | 56.95 | 3,435.5 | 849.8 | 3,369.3 | 3,312.2 | 57.04 | 59.072 | |
| 2,600.0 | 2,569.4 | 2,647.9 | 2,647.9 | 8.2 | 52.1 | 57.24 | 3,435.5 | 849.8 | 3,357.8 | 3,298.4 | 59.40 | 56.527 | |
| 2,700.0 | 2,667.2 | 2,745.7 | 2,745.7 | 8.6 | 54.0 | 57.53 | 3,435.5 | 849.8 | 3,346.4 | 3,284.6 | 61.77 | 54.176 | |
| 2,800.0 | 2,765.0 | 2,843.5 | 2,843.5 | 9.0 | 56.0 | 57.83 | 3,435.5 | 849.8 | 3,335.1 | 3,271.0 | 64.14 | 51.997 | |
| 2,900.0 | 2,862.8 | 2,941.3 | 2,941.3 | 9.5 | 58.0 | 58.13 | 3,435.5 | 849.8 | 3,323.9 | 3,257.4 | 66.51 | 49.973 | |
| 3,000.0 | 2,960.6 | 3,039.1 | 3,039.1 | 9.9 | 59.9 | 58.43 | 3,435.5 | 849.8 | 3,312.8 | 3,243.9 | 68.89 | 48.087 | |
| 3,100.0 | 3,058.4 | 3,136.9 | 3,136.9 | 10.4 | 61.9 | 58.73 | 3,435.5 | 849.8 | 3,301.8 | 3,230.5 | 71.27 | 46.327 | |
| 3,200.0 | 3,156.3 | 3,234.8 | 3,234.8 | 10.8 | 63.9 | 59.04 | 3,435.5 | 849.8 | 3,290.9 | 3,217.2 | 73.65 | 44.681 | |
| 3,300.0 | 3,254.1 | 3,332.6 | 3,332.6 | 11.3 | 65.8 | 59.34 | 3,435.5 | 849.8 | 3,280.0 | 3,204.0 | 76.04 | 43.137 | |
| 3,400.0 | 3,351.9 | 3,430.4 | 3,430.4 | 11.7 | 67.8 | 59.65 | 3,435.5 | 849.8 | 3,269.3 | 3,190.9 | 78.42 | 41.687 | |
| 3,465.5 | 3,416.0 | 3,494.5 | 3,494.5 | 12.0 | 69.1 | 59.85 | 3,435.5 | 849.8 | 3,262.3 | 3,182.3 | 79.99 | 40.785 | |
| 3,500.0 | 3,449.7 | 3,528.2 | 3,528.2 | 12.1 | 69.8 | 59.90 | 3,435.5 | 849.8 | 3,258.8 | 3,177.9 | 80.83 | 40.315 | |
| 3,600.0 | 3,548.1 | 3,626.6 | 3,626.6 | 12.5 | 71.8 | 60.01 | 3,435.5 | 849.8 | 3,249.7 | 3,166.5 | 83.21 | 39.054 | |
| 3,700.0 | 3,647.1 | 3,725.6 | 3,725.6 | 12.7 | 73.7 | 60.10 | 3,435.5 | 849.8 | 3,242.4 | 3,156.9 | 85.55 | 37.902 | |
| 3,800.0 | 3,746.5 | 3,825.0 | 3,825.0 | 13.0 | 75.7 | 60.17 | 3,435.5 | 849.8 | 3,236.9 | 3,149.1 | 87.84 | 36.849 | |
| 3,900.0 | 3,846.2 | 3,924.7 | 3,924.7 | 13.2 | 77.7 | 60.22 | 3,435.5 | 849.8 | 3,233.2 | 3,143.1 | 90.09 | 35.889 | |
| 4,000.0 | 3,946.1 | 4,024.6 | 4,024.6 | 13.3 | 79.8 | 60.25 | 3,435.5 | 849.8 | 3,231.2 | 3,138.9 | 92.28 | 35.015 | |
| 4,065.7 | 4,011.8 | 4,090.3 | 4,090.3 | 13.4 | 81.1 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,139.3 | 91.53 | 35.296 | |
| 4,100.0 | 4,046.1 | 4,124.6 | 4,124.6 | 13.5 | 81.8 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,138.5 | 92.28 | 35.011 | |
| 4,200.0 | 4,146.1 | 4,224.6 | 4,224.6 | 13.6 | 83.8 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,136.3 | 94.47 | 34.200 | |
| 4,300.0 | 4,246.1 | 4,324.6 | 4,324.6 | 13.8 | 85.8 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,134.1 | 96.66 | 33.425 | |
| 4,400.0 | 4,346.1 | 4,424.6 | 4,424.6 | 13.9 | 87.8 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,131.9 | 98.85 | 32.684 | |
| 4,500.0 | 4,446.1 | 4,524.6 | 4,524.6 | 14.1 | 89.8 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,129.7 | 101.04 | 31.974 | |
| 4,600.0 | 4,546.1 | 4,624.6 | 4,624.6 | 14.2 | 91.8 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,127.5 | 103.24 | 31.294 | |
| 4,700.0 | 4,646.1 | 4,724.6 | 4,724.6 | 14.4 | 93.8 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,125.4 | 105.43 | 30.643 | |
| 4,800.0 | 4,746.1 | 4,824.6 | 4,824.6 | 14.5 | 95.8 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,123.2 | 107.63 | 30.017 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,924.6 | 4,924.6 | 14.7 | 97.9 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,121.0 | 109.83 | 29.416 | |
| 5,000.0 | 4,946.1 | 5,024.6 | 5,024.6 | 14.8 | 99.9 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,118.8 | 112.03 | 28.838 | |
| 5,100.0 | 5,046.1 | 5,124.6 | 5,124.6 | 15.0 | 101.9 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,116.6 | 114.23 | 28.282 | |
| 5,200.0 | 5,146.1 | 5,224.6 | 5,224.6 | 15.1 | 103.9 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,114.3 | 116.44 | 27.747 | |
| 5,300.0 | 5,246.1 | 5,324.6 | 5,324.6 | 15.3 | 105.9 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,112.1 | 118.64 | 27.232 | |
| 5,400.0 | 5,346.1 | 5,424.6 | 5,424.6 | 15.5 | 107.9 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,109.9 | 120.85 | 26.735 | |
| 5,500.0 | 5,446.1 | 5,524.6 | 5,524.6 | 15.6 | 109.9 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,107.7 | 123.05 | 26.256 | |
| 5,600.0 | 5,546.1 | 5,624.6 | 5,624.6 | 15.8 | 111.9 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,105.5 | 125.26 | 25.793 | |
| 5,700.0 | 5,646.1 | 5,724.6 | 5,724.6 | 16.0 | 113.9 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,103.3 | 127.47 | 25.346 | |
| 5,800.0 | 5,746.1 | 5,824.6 | 5,824.6 | 16.1 | 116.0 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,101.1 | 129.67 | 24.915 | |
| 5,900.0 | 5,846.1 | 5,924.6 | 5,924.6 | 16.3 | 118.0 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,098.9 | 131.88 | 24.497 | |
| 6,000.0 | 5,946.1 | 6,024.6 | 6,024.6 | 16.5 | 120.0 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,096.7 | 134.09 | 24.093 | |
| 6,100.0 | 6,046.1 | 6,124.6 | 6,124.6 | 16.7 | 122.0 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,094.5 | 136.30 | 23.703 | |
| 6,200.0 | 6,146.1 | 6,224.6 | 6,224.6 | 16.8 | 124.0 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,092.3 | 138.52 | 23.324 | |
| 6,300.0 | 6,246.1 | 6,324.6 | 6,324.6 | 17.0 | 126.0 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,090.1 | 140.73 | 22.958 | |
| 6,322.7 | 6,268.8 | 6,347.3 | 6,347.3 | 17.1 | 126.5 | 21.72 | 3,435.5 | 849.8 | 3,230.8 | 3,089.6 | 141.23 | 22.876 | |
| 6,350.0 | 6,296.1 | 6,374.6 | 6,374.6 | 17.1 | 127.0 | -68.30 | 3,435.5 | 849.8 | 3,230.6 | 3,087.1 | 143.50 | 22.512 | |
| 6,400.0 | 6,345.9 | 6,424.4 | 6,424.4 | 17.2 | 128.0 | -68.46 | 3,435.5 | 849.8 | 3,229.2 | 3,084.8 | 144.47 | 22.352 | |
| 6,450.0 | 6,395.4 | 6,473.9 | 6,473.9 | 17.2 | 129.0 | -68.78 | 3,435.5 | 849.8 | 3,226.6 | 3,081.3 | 145.31 | 22.205 | |
| 6,500.0 | 6,444.3 | 6,522.8 | 6,522.8 | 17.2 | 130.0 | -69.24 | 3,435.5 | 849.8 | 3,222.8 | 3,076.7 | 146.05 | 22.067 | |
| 6,550.0 | 6,492.3 | 6,570.8 | 6,570.8 | 17.2 | 131.0 | -69.84 | 3,435.5 | 849.8 | 3,217.7 | 3,071.0 | 146.69 | 21.935 | |
| 6,600.0 | 6,539.2 | 6,617.7 | 6,617.7 | 17.2 | 131.9 | -70.58 | 3,435.5 | 849.8 | 3,211.6 | 3,064.3 | 147.28 | 21.806 | |
| 6,650.0 | 6,584.8 | 6,663.3 | 6,663.3 | 17.2 | 132.8 | -71.45 | 3,435.5 | 849.8 | 3,204.3 | 3,056.5 | 147.84 | 21.674 | |
| 6,700.0 | 6,628.9 | 6,707.4 | 6,707.4 | 17.2 | 133.7 | -72.45 | 3,435.5 | 849.8 | 3,196.1 | 3,047.7 | 148.42 | 21.535 | |
| 6,750.0 | 6,671.2 | 6,749.7 | 6,749.7 | 17.2 | 134.6 | -73.54 | 3,435.5 | 849.8 | 3,187.1 | 3,038.1 | 149.03 | 21.386 | |
| 6,800.0 | 6,711.5 | 6,790.0 | 6,790.0 | 17.2 | 135.4 | -74.73 | 3,435.5 | 849.8 | 3,177.3 | 3,027.6 | 149.71 | 21.223 | |
| 6,850.0 | 6,749.7 | 6,828.2 | 6,828.2 | 17.2 | 136.1 | -76.00 | 3,435.5 | 849.8 | 3,166.8 | 3,016.4 | 150.48 | 21.045 | |
| 6,900.0 | 6,785.6 | 6,864.1 | 6,864.1 | 17.1 | 136.9 | -77.32 | 3,435.5 | 849.8 | 3,155.9 | 3,004.6 | 151.34 | 20.854 | |
| 6,950.0 | 6,818.9 | 6,897.4 | 6,897.4 | 17.1 | 137.5 | -78.68 | 3,435.5 | 849.8 | 3,144.6 | 2,992.3 | 152.29 | 20.649 | |
| 7,000.0 | 6,849.5 | 6,928.0 | 6,928.0 | 17.1 | 138.1 | -80.06 | 3,435.5 | 849.8 | 3,133.0 | 2,979.7 | 153.32 | 20.435 | |
| 7,050.0 | 6,877.4 | 6,955.9 | 6,955.9 | 17.2 | 138.7 | -81.44 | 3,435.5 | 849.8 | 3,121.4 | 2,967.0 | 154.41 | 20.215 | |
| 7,100.0 | 6,902.2 | 6,980.7 | 6,980.7 | 17.3 | 139.2 | -82.79 | 3,435.5 | 849.8 | 3,109.8 | 2,954.2 | 155.55 | 19.992 | |
| 7,150.0 | 6,924.0 | 7,002.5 | 7,002.5 | 17.7 | 139.6 | -84.10 | 3,435.5 | 849.8 | 3,098.3 | 2,941.6 | 156.70 | 19.772 | |
| 7,200.0 | 6,942.6 | 7,021.1 | 7,021.1 | 18.2 | 140.0 | -85.34 | 3,435.5 | 849.8 | 3,087.1 | 2,929.3 | 157.85 | 19.558 | |
| 7,250.0 | 6,957.9 | 7,036.4 | 7,036.4 | 18.8 | 140.3 | -86.49 | 3,435.5 | 849.8 | 3,076.3 | 2,917.4 | 158.97 | 19.352 | |
| 7,300.0 | 6,969.8 | 7,048.3 | 7,048.3 | 19.6 | 140.6 | -87.55 | 3,435.5 | 849.8 | 3,066.0 | 2,906.0 | 160.05 | 19.157 | |
| 7,350.0 | 6,978.3 | 7,056.8 | 7,056.8 | 20.4 | 140.7 | -88.50 | 3,435.5 | 849.8 | 3,056.4 | 2,895.3 | 161.09 | 18.973 | |
| 7,400.0 | 6,983.4 | 7,061.9 | 7,061.9 | 21.3 | 140.8 | -89.33 | 3,435.5 | 849.8 | 3,047.4 | 2,885.3 | 162.07 | 18.803 | |
| 7,447.7 | 6,985.0 | 7,063.5 | 7,063.5 | 22.1 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,039.5 | 2,876.5 | 162.96 | 18.651 | |
| 7,500.0 | 6,985.0 | 7,063.5 | 7,063.5 | 23.1 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,031.7 | 2,867.7 | 163.96 | 18.491 | |
| 7,600.0 | 6,985.0 | 7,063.5 | 7,063.5 | 25.2 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,019.2 | 2,853.2 | 165.99 | 18.189 | |
| 7,700.0 | 6,985.0 | 7,063.5 | 7,063.5 | 27.4 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,010.0 | 2,841.9 | 168.16 | 17.900 | |
| 7,800.0 | 6,985.0 | 7,063.5 | 7,063.5 | 29.7 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,004.1 | 2,833.7 | 170.43 | 17.627 | |
| 7,900.0 | 6,985.0 | 7,063.5 | 7,063.5 | 32.0 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,001.6 | 2,828.8 | 172.79 | 17.371 | |
| 7,927.0 | 6,985.0 | 7,063.5 | 7,063.5 | 32.7 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,001.5 | 2,828.0 | 173.45 | 17.304 CC | |
| 8,000.0 | 6,985.0 | 7,063.5 | 7,063.5 | 34.5 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,002.3 | 2,827.1 | 175.22 | 17.134 ES | |
| 8,100.0 | 6,985.0 | 7,063.5 | 7,063.5 | 36.9 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,006.4 | 2,828.7 | 177.71 | 16.918 | |
| 8,200.0 | 6,985.0 | 7,063.5 | 7,063.5 | 39.5 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,013.8 | 2,833.6 | 180.23 | 16.722 | |
| 8,300.0 | 6,985.0 | 7,063.5 | 7,063.5 | 42.0 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,024.5 | 2,841.7 | 182.80 | 16.546 | |
| 8,400.0 | 6,985.0 | 7,063.5 | 7,063.5 | 44.6 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,038.5 | 2,853.1 | 185.39 | 16.390 | |
| 8,500.0 | 6,985.0 | 7,063.5 | 7,063.5 | 47.2 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,055.6 | 2,867.6 | 188.01 | 16.253 | |
| 8,600.0 | 6,985.0 | 7,063.5 | 7,063.5 | 49.9 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,076.0 | 2,885.3 | 190.65 | 16.134 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - EXIST VERT KINZER 28A - Wellbore #1 - Design #1 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|--|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 8,700.0 | 6,985.0 | 7,063.5 | 7,063.5 | 52.5 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,099.4 | 2,906.1 | 193.30 | 16.034 | |
| 8,800.0 | 6,985.0 | 7,063.5 | 7,063.5 | 55.2 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,125.8 | 2,929.8 | 195.97 | 15.950 | |
| 8,900.0 | 6,985.0 | 7,063.5 | 7,063.5 | 57.9 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,155.2 | 2,956.6 | 198.66 | 15.883 | |
| 9,000.0 | 6,985.0 | 7,063.5 | 7,063.5 | 60.6 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,187.5 | 2,986.1 | 201.35 | 15.830 | |
| 9,100.0 | 6,985.0 | 7,063.5 | 7,063.5 | 63.3 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,222.5 | 3,018.4 | 204.06 | 15.792 | |
| 9,200.0 | 6,985.0 | 7,063.5 | 7,063.5 | 66.0 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,260.2 | 3,053.5 | 206.77 | 15.767 | |
| 9,300.0 | 6,985.0 | 7,063.5 | 7,063.5 | 68.7 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,300.6 | 3,091.1 | 209.49 | 15.755 | |
| 9,400.0 | 6,985.0 | 7,063.5 | 7,063.5 | 71.4 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,343.4 | 3,131.2 | 212.22 | 15.754 SF | |
| 9,500.0 | 6,985.0 | 7,063.5 | 7,063.5 | 74.2 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,388.6 | 3,173.7 | 214.96 | 15.764 | |
| 9,600.0 | 6,985.0 | 7,063.5 | 7,063.5 | 76.9 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,436.2 | 3,218.5 | 217.70 | 15.784 | |
| 9,700.0 | 6,985.0 | 7,063.5 | 7,063.5 | 79.6 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,486.0 | 3,265.5 | 220.44 | 15.814 | |
| 9,800.0 | 6,985.0 | 7,063.5 | 7,063.5 | 82.4 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,537.9 | 3,314.7 | 223.19 | 15.851 | |
| 9,900.0 | 6,985.0 | 7,063.5 | 7,063.5 | 85.1 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,591.8 | 3,365.9 | 225.95 | 15.897 | |
| 10,000.0 | 6,985.0 | 7,063.5 | 7,063.5 | 87.9 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,647.7 | 3,419.0 | 228.70 | 15.950 | |
| 10,100.0 | 6,985.0 | 7,063.5 | 7,063.5 | 90.7 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,705.5 | 3,474.0 | 231.46 | 16.009 | |
| 10,200.0 | 6,985.0 | 7,063.5 | 7,063.5 | 93.4 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,765.0 | 3,530.7 | 234.22 | 16.074 | |
| 10,300.0 | 6,985.0 | 7,063.5 | 7,063.5 | 96.2 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,826.2 | 3,589.2 | 236.99 | 16.145 | |
| 10,400.0 | 6,985.0 | 7,063.5 | 7,063.5 | 98.9 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,889.0 | 3,649.2 | 239.76 | 16.220 | |
| 10,500.0 | 6,985.0 | 7,063.5 | 7,063.5 | 101.7 | 140.9 | -90.00 | 3,435.5 | 849.8 | 3,953.3 | 3,710.8 | 242.53 | 16.300 | |
| 10,600.0 | 6,985.0 | 7,063.5 | 7,063.5 | 104.5 | 140.9 | -90.00 | 3,435.5 | 849.8 | 4,019.1 | 3,773.8 | 245.30 | 16.384 | |
| 10,700.0 | 6,985.0 | 7,063.5 | 7,063.5 | 107.3 | 140.9 | -90.00 | 3,435.5 | 849.8 | 4,086.3 | 3,838.2 | 248.08 | 16.472 | |
| 10,800.0 | 6,985.0 | 7,063.5 | 7,063.5 | 110.0 | 140.9 | -90.00 | 3,435.5 | 849.8 | 4,154.8 | 3,904.0 | 250.85 | 16.563 | |
| 10,900.0 | 6,985.0 | 7,063.5 | 7,063.5 | 112.8 | 140.9 | -90.00 | 3,435.5 | 849.8 | 4,224.6 | 3,971.0 | 253.63 | 16.657 | |
| 11,000.0 | 6,985.0 | 7,063.5 | 7,063.5 | 115.6 | 140.9 | -90.00 | 3,435.5 | 849.8 | 4,295.6 | 4,039.1 | 256.41 | 16.753 | |
| 11,100.0 | 6,985.0 | 7,063.5 | 7,063.5 | 118.4 | 140.9 | -90.00 | 3,435.5 | 849.8 | 4,367.6 | 4,108.5 | 259.19 | 16.851 | |
| 11,200.0 | 6,985.0 | 7,063.5 | 7,063.5 | 121.2 | 140.9 | -90.00 | 3,435.5 | 849.8 | 4,440.8 | 4,178.9 | 261.97 | 16.952 | |
| 11,300.0 | 6,985.0 | 7,063.5 | 7,063.5 | 123.9 | 140.9 | -90.00 | 3,435.5 | 849.8 | 4,515.0 | 4,250.3 | 264.75 | 17.054 | |
| 11,400.0 | 6,985.0 | 7,063.5 | 7,063.5 | 126.7 | 140.9 | -90.00 | 3,435.5 | 849.8 | 4,590.2 | 4,322.7 | 267.54 | 17.157 | |
| 11,500.0 | 6,985.0 | 7,063.5 | 7,063.5 | 129.5 | 140.9 | -90.00 | 3,435.5 | 849.8 | 4,666.3 | 4,396.0 | 270.32 | 17.262 | |
| 11,600.0 | 6,985.0 | 7,063.5 | 7,063.5 | 132.3 | 140.9 | -90.00 | 3,435.5 | 849.8 | 4,743.3 | 4,470.2 | 273.11 | 17.368 | |
| 11,700.0 | 6,985.0 | 7,063.5 | 7,063.5 | 135.1 | 140.9 | -90.00 | 3,435.5 | 849.8 | 4,821.2 | 4,545.3 | 275.90 | 17.475 | |
| 11,800.0 | 6,985.0 | 7,063.5 | 7,063.5 | 137.9 | 140.9 | -90.00 | 3,435.5 | 849.8 | 4,899.8 | 4,621.2 | 278.69 | 17.582 | |
| 11,900.0 | 6,985.0 | 7,063.5 | 7,063.5 | 140.7 | 140.9 | -90.00 | 3,435.5 | 849.8 | 4,979.3 | 4,697.8 | 281.47 | 17.690 | |
| 12,000.0 | 6,985.0 | 7,063.5 | 7,063.5 | 143.4 | 140.9 | -90.00 | 3,435.5 | 849.8 | 5,059.4 | 4,775.1 | 284.26 | 17.798 | |
| 12,054.1 | 6,985.0 | 7,063.5 | 7,063.5 | 145.0 | 140.9 | -90.00 | 3,435.5 | 849.8 | 5,103.1 | 4,817.3 | 285.78 | 17.857 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|----------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 650-GYD_CT | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 41.4 | 41.4 | 0.0 | 0.0 | 33.82 | 1,289.7 | 863.8 | 1,552.2 | | | | |
| 100.0 | 100.0 | 141.2 | 141.2 | 0.1 | 0.1 | 33.83 | 1,289.5 | 864.1 | 1,552.3 | 1,552.0 | 0.23 | 6,639.007 | |
| 200.0 | 200.0 | 240.9 | 240.9 | 0.3 | 0.2 | 33.85 | 1,289.1 | 864.7 | 1,552.3 | 1,551.7 | 0.56 | 2,796.371 | |
| 300.0 | 300.0 | 340.7 | 340.7 | 0.5 | 0.3 | 33.89 | 1,288.6 | 865.6 | 1,552.3 | 1,551.5 | 0.88 | 1,771.256 | |
| 400.0 | 400.0 | 440.4 | 440.4 | 0.8 | 0.4 | 33.94 | 1,287.9 | 866.8 | 1,552.4 | 1,551.2 | 1.20 | 1,296.157 | |
| 500.0 | 500.0 | 540.1 | 540.1 | 1.0 | 0.5 | 34.01 | 1,286.9 | 868.3 | 1,552.5 | 1,551.0 | 1.52 | 1,022.057 | |
| 600.0 | 600.0 | 639.9 | 639.8 | 1.2 | 0.6 | 34.09 | 1,285.8 | 870.1 | 1,552.6 | 1,550.7 | 1.84 | 843.679 | |
| 700.0 | 700.0 | 741.6 | 741.5 | 1.4 | 0.7 | 34.17 | 1,284.6 | 872.0 | 1,552.6 | 1,550.5 | 2.16 | 717.524 | |
| 800.0 | 800.0 | 843.6 | 843.5 | 1.7 | 0.8 | 34.25 | 1,283.4 | 873.7 | 1,552.6 | 1,550.1 | 2.49 | 624.094 | |
| 900.0 | 900.0 | 945.6 | 945.5 | 1.9 | 0.9 | 72.93 | 1,282.2 | 875.1 | 1,551.9 | 1,549.1 | 2.80 | 553.831 | |
| 1,000.0 | 999.8 | 1,046.5 | 1,046.3 | 2.1 | 1.0 | 73.21 | 1,281.0 | 876.3 | 1,550.0 | 1,546.9 | 3.12 | 496.817 | |
| 1,100.0 | 1,099.5 | 1,146.0 | 1,145.9 | 2.4 | 1.1 | 73.62 | 1,280.0 | 877.2 | 1,547.2 | 1,543.8 | 3.44 | 449.225 | |
| 1,200.0 | 1,198.7 | 1,245.2 | 1,245.1 | 2.6 | 1.2 | 74.17 | 1,279.0 | 878.0 | 1,543.5 | 1,539.7 | 3.79 | 407.584 | |
| 1,300.0 | 1,297.5 | 1,343.9 | 1,343.8 | 2.9 | 1.3 | 74.85 | 1,278.2 | 878.6 | 1,538.9 | 1,534.8 | 4.16 | 370.132 | |
| 1,400.0 | 1,395.6 | 1,442.1 | 1,441.9 | 3.2 | 1.4 | 75.65 | 1,277.5 | 879.1 | 1,533.7 | 1,529.1 | 4.57 | 335.824 | |
| 1,400.2 | 1,395.8 | 1,442.3 | 1,442.1 | 3.2 | 1.4 | 75.66 | 1,277.5 | 879.1 | 1,533.7 | 1,529.1 | 4.57 | 335.752 | |
| 1,500.0 | 1,493.4 | 1,540.8 | 1,540.6 | 3.6 | 1.5 | 76.42 | 1,276.9 | 879.4 | 1,528.2 | 1,523.2 | 5.01 | 304.969 | |
| 1,600.0 | 1,591.2 | 1,640.7 | 1,640.6 | 3.9 | 1.6 | 77.20 | 1,276.2 | 879.5 | 1,522.9 | 1,517.5 | 5.48 | 278.063 | |
| 1,700.0 | 1,689.1 | 1,740.7 | 1,740.5 | 4.3 | 1.7 | 77.99 | 1,275.4 | 879.6 | 1,517.8 | 1,511.8 | 5.96 | 254.754 | |
| 1,800.0 | 1,786.9 | 1,840.6 | 1,840.5 | 4.7 | 1.8 | 78.78 | 1,274.5 | 879.5 | 1,512.8 | 1,506.3 | 6.45 | 234.529 | |
| 1,900.0 | 1,884.7 | 1,940.6 | 1,940.4 | 5.2 | 1.9 | 79.57 | 1,273.6 | 879.2 | 1,507.9 | 1,500.9 | 6.95 | 216.910 | |
| 2,000.0 | 1,982.5 | 2,040.5 | 2,040.4 | 5.6 | 2.0 | 80.36 | 1,272.6 | 878.9 | 1,503.1 | 1,495.7 | 7.46 | 201.488 | |
| 2,100.0 | 2,080.3 | 2,140.5 | 2,140.3 | 6.0 | 2.0 | 81.16 | 1,271.4 | 878.4 | 1,498.5 | 1,490.6 | 7.97 | 187.916 | |
| 2,200.0 | 2,178.1 | 2,240.5 | 2,240.3 | 6.4 | 2.1 | 81.97 | 1,270.2 | 877.8 | 1,494.1 | 1,485.6 | 8.49 | 175.911 | |
| 2,300.0 | 2,275.9 | 2,340.4 | 2,340.2 | 6.9 | 2.2 | 82.77 | 1,268.9 | 877.0 | 1,489.8 | 1,480.8 | 9.02 | 165.237 | |
| 2,400.0 | 2,373.8 | 2,440.4 | 2,440.2 | 7.3 | 2.3 | 83.58 | 1,267.6 | 876.1 | 1,485.6 | 1,476.1 | 9.54 | 155.700 | |
| 2,500.0 | 2,471.6 | 2,539.1 | 2,538.8 | 7.7 | 2.4 | 84.38 | 1,266.1 | 875.2 | 1,481.6 | 1,471.5 | 10.07 | 147.189 | |
| 2,600.0 | 2,569.4 | 2,635.8 | 2,635.5 | 8.2 | 2.5 | 85.17 | 1,264.8 | 874.2 | 1,477.9 | 1,467.3 | 10.59 | 139.596 | |
| 2,700.0 | 2,667.2 | 2,732.5 | 2,732.3 | 8.6 | 2.6 | 85.96 | 1,263.5 | 873.2 | 1,474.6 | 1,463.5 | 11.11 | 132.736 | |
| 2,800.0 | 2,765.0 | 2,829.3 | 2,829.0 | 9.0 | 2.6 | 86.75 | 1,262.3 | 872.3 | 1,471.7 | 1,460.0 | 11.63 | 126.518 | |
| 2,900.0 | 2,862.8 | 2,926.1 | 2,925.8 | 9.5 | 2.7 | 87.54 | 1,261.1 | 871.4 | 1,469.1 | 1,456.9 | 12.15 | 120.862 | |
| 3,000.0 | 2,960.6 | 3,022.9 | 3,022.6 | 9.9 | 2.8 | 88.34 | 1,260.0 | 870.5 | 1,466.9 | 1,454.2 | 12.68 | 115.703 | |
| 3,100.0 | 3,058.4 | 3,119.7 | 3,119.4 | 10.4 | 2.9 | 89.13 | 1,259.0 | 869.6 | 1,465.0 | 1,451.8 | 13.20 | 110.982 | |
| 3,200.0 | 3,156.3 | 3,216.6 | 3,216.2 | 10.8 | 3.0 | 89.93 | 1,258.1 | 868.7 | 1,463.5 | 1,449.8 | 13.72 | 106.652 | |
| 3,300.0 | 3,254.1 | 3,313.4 | 3,313.1 | 11.3 | 3.0 | 90.72 | 1,257.3 | 867.9 | 1,462.4 | 1,448.1 | 14.24 | 102.671 | |
| 3,400.0 | 3,351.9 | 3,410.3 | 3,410.0 | 11.7 | 3.1 | 91.52 | 1,256.5 | 867.0 | 1,461.6 | 1,446.8 | 14.76 | 99.003 | |
| 3,465.5 | 3,416.0 | 3,473.8 | 3,473.5 | 12.0 | 3.2 | 92.04 | 1,256.0 | 866.5 | 1,461.3 | 1,446.2 | 15.10 | 96.754 | |
| 3,500.0 | 3,449.7 | 3,507.7 | 3,507.4 | 12.1 | 3.2 | 92.30 | 1,255.8 | 866.2 | 1,461.1 | 1,445.9 | 15.26 | 95.741 | |
| 3,600.0 | 3,548.1 | 3,611.1 | 3,610.8 | 12.5 | 3.3 | 93.02 | 1,255.1 | 865.1 | 1,460.7 | 1,445.1 | 15.64 | 93.412 | |
| 3,700.0 | 3,647.1 | 3,715.2 | 3,714.9 | 12.7 | 3.3 | 93.58 | 1,254.4 | 863.5 | 1,459.9 | 1,443.9 | 15.98 | 91.381 | |
| 3,800.0 | 3,746.5 | 3,819.8 | 3,819.4 | 13.0 | 3.4 | 93.98 | 1,253.7 | 861.5 | 1,458.6 | 1,442.4 | 16.28 | 89.611 | |
| 3,900.0 | 3,846.2 | 3,924.8 | 3,924.3 | 13.2 | 3.5 | 94.22 | 1,253.0 | 859.0 | 1,456.8 | 1,440.3 | 16.54 | 88.063 | |
| 4,000.0 | 3,946.1 | 4,029.9 | 4,029.4 | 13.3 | 3.5 | 94.29 | 1,252.3 | 856.0 | 1,454.4 | 1,437.7 | 16.77 | 86.713 | |
| 4,065.7 | 4,011.8 | 4,099.0 | 4,098.5 | 13.4 | 3.6 | 55.71 | 1,251.8 | 853.8 | 1,452.5 | 1,439.6 | 12.96 | 112.095 | |
| 4,100.0 | 4,046.1 | 4,135.0 | 4,134.5 | 13.5 | 3.6 | 55.69 | 1,251.6 | 852.6 | 1,451.4 | 1,438.4 | 13.04 | 111.302 | |
| 4,200.0 | 4,146.1 | 4,240.1 | 4,239.5 | 13.6 | 3.7 | 55.63 | 1,251.0 | 848.7 | 1,448.0 | 1,434.7 | 13.30 | 108.890 | |
| 4,300.0 | 4,246.1 | 4,345.2 | 4,344.5 | 13.8 | 3.7 | 55.55 | 1,250.3 | 844.4 | 1,444.2 | 1,430.7 | 13.56 | 106.543 | |
| 4,400.0 | 4,346.1 | 4,450.2 | 4,449.4 | 13.9 | 3.8 | 55.46 | 1,249.7 | 839.5 | 1,440.1 | 1,426.3 | 13.81 | 104.259 | |
| 4,500.0 | 4,446.1 | 4,549.0 | 4,548.1 | 14.1 | 3.8 | 55.37 | 1,249.1 | 834.7 | 1,435.8 | 1,421.7 | 14.06 | 102.154 | |
| 4,600.0 | 4,546.1 | 4,642.2 | 4,641.2 | 14.2 | 3.9 | 55.29 | 1,248.7 | 830.5 | 1,431.8 | 1,417.5 | 14.28 | 100.239 | |
| 4,700.0 | 4,646.1 | 4,735.5 | 4,734.4 | 14.4 | 3.9 | 55.21 | 1,248.5 | 826.6 | 1,428.3 | 1,413.8 | 14.51 | 98.410 | |
| 4,800.0 | 4,746.1 | 4,828.8 | 4,827.7 | 14.5 | 3.9 | 55.13 | 1,248.5 | 823.2 | 1,425.2 | 1,410.5 | 14.74 | 96.663 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|----------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 650-GYD_CT | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,922.2 | 4,921.0 | 14.7 | 3.9 | 55.06 | 1,248.6 | 820.1 | 1,422.7 | 1,407.7 | 14.98 | 94.996 | |
| 5,000.0 | 4,946.1 | 5,015.5 | 5,014.3 | 14.8 | 4.0 | 54.99 | 1,248.9 | 817.5 | 1,420.5 | 1,405.3 | 15.21 | 93.406 | |
| 5,100.0 | 5,046.1 | 5,108.9 | 5,107.6 | 15.0 | 4.0 | 54.92 | 1,249.4 | 815.3 | 1,418.9 | 1,403.4 | 15.44 | 91.889 | |
| 5,200.0 | 5,146.1 | 5,202.3 | 5,201.0 | 15.1 | 4.0 | 54.85 | 1,250.1 | 813.5 | 1,417.7 | 1,402.0 | 15.68 | 90.443 | |
| 5,300.0 | 5,246.1 | 5,295.7 | 5,294.4 | 15.3 | 4.1 | 54.79 | 1,250.9 | 812.1 | 1,417.0 | 1,401.1 | 15.91 | 89.065 | |
| 5,400.0 | 5,346.1 | 5,389.1 | 5,387.8 | 15.5 | 4.1 | 54.74 | 1,251.9 | 811.1 | 1,416.7 | 1,400.6 | 16.14 | 87.752 | |
| 5,403.6 | 5,349.6 | 5,392.5 | 5,391.1 | 15.5 | 4.1 | 54.74 | 1,251.9 | 811.1 | 1,416.7 | 1,400.6 | 16.15 | 87.706 | |
| 5,500.0 | 5,446.1 | 5,500.0 | 5,498.7 | 15.6 | 4.1 | 54.68 | 1,253.3 | 810.5 | 1,417.1 | 1,400.7 | 16.39 | 86.483 | |
| 5,515.0 | 5,461.1 | 5,500.0 | 5,498.7 | 15.7 | 4.1 | 54.68 | 1,253.3 | 810.5 | 1,417.0 | 1,400.6 | 16.42 | 86.314 | |
| 5,600.0 | 5,546.1 | 5,583.1 | 5,581.7 | 15.8 | 4.2 | 54.63 | 1,254.5 | 810.1 | 1,417.4 | 1,400.8 | 16.63 | 85.223 | |
| 5,700.0 | 5,646.1 | 5,685.2 | 5,683.9 | 16.0 | 4.2 | 54.57 | 1,256.0 | 809.5 | 1,417.8 | 1,400.9 | 16.89 | 83.954 | |
| 5,800.0 | 5,746.1 | 5,787.4 | 5,786.0 | 16.1 | 4.2 | 54.49 | 1,257.6 | 808.6 | 1,418.0 | 1,400.8 | 17.14 | 82.713 | |
| 5,900.0 | 5,846.1 | 5,889.5 | 5,888.1 | 16.3 | 4.3 | 54.41 | 1,259.2 | 807.4 | 1,418.0 | 1,400.6 | 17.40 | 81.497 | |
| 6,000.0 | 5,946.1 | 5,991.7 | 5,990.2 | 16.5 | 4.3 | 54.32 | 1,261.0 | 806.0 | 1,417.9 | 1,400.2 | 17.66 | 80.307 | |
| 6,100.0 | 6,046.1 | 6,093.8 | 6,092.3 | 16.7 | 4.4 | 54.22 | 1,262.8 | 804.4 | 1,417.6 | 1,399.7 | 17.91 | 79.141 | |
| 6,200.0 | 6,146.1 | 6,195.9 | 6,194.4 | 16.8 | 4.4 | 54.12 | 1,264.7 | 802.5 | 1,417.2 | 1,399.0 | 18.17 | 77.998 | |
| 6,300.0 | 6,246.1 | 6,298.0 | 6,296.5 | 17.0 | 4.5 | 54.00 | 1,266.7 | 800.4 | 1,416.7 | 1,398.2 | 18.43 | 76.878 | |
| 6,322.7 | 6,268.8 | 6,321.2 | 6,319.7 | 17.1 | 4.5 | 53.97 | 1,267.1 | 799.9 | 1,416.5 | 1,398.0 | 18.49 | 76.626 | |
| 6,350.0 | 6,296.1 | 6,349.0 | 6,347.5 | 17.1 | 4.5 | -36.10 | 1,267.7 | 799.2 | 1,415.9 | 1,394.3 | 21.57 | 65.638 | |
| 6,400.0 | 6,345.9 | 6,399.8 | 6,398.3 | 17.2 | 4.5 | -36.41 | 1,268.7 | 798.0 | 1,412.6 | 1,391.0 | 21.63 | 65.301 | |
| 6,450.0 | 6,395.4 | 6,450.1 | 6,448.5 | 17.2 | 4.5 | -36.94 | 1,269.7 | 796.8 | 1,406.5 | 1,384.8 | 21.65 | 64.960 | |
| 6,500.0 | 6,444.3 | 6,499.7 | 6,498.1 | 17.2 | 4.6 | -37.71 | 1,270.8 | 795.5 | 1,397.6 | 1,376.0 | 21.63 | 64.603 | |
| 6,550.0 | 6,492.3 | 6,547.0 | 6,545.3 | 17.2 | 4.6 | -38.71 | 1,271.7 | 794.2 | 1,386.0 | 1,364.5 | 21.57 | 64.262 | |
| 6,600.0 | 6,539.2 | 6,593.1 | 6,591.4 | 17.2 | 4.6 | -39.95 | 1,272.6 | 793.1 | 1,372.0 | 1,350.5 | 21.48 | 63.877 | |
| 6,650.0 | 6,584.8 | 6,637.9 | 6,636.2 | 17.2 | 4.6 | -41.45 | 1,273.5 | 792.0 | 1,355.5 | 1,334.1 | 21.37 | 63.430 | |
| 6,700.0 | 6,628.9 | 6,681.1 | 6,679.4 | 17.2 | 4.6 | -43.22 | 1,274.2 | 791.0 | 1,336.7 | 1,315.5 | 21.25 | 62.899 | |
| 6,750.0 | 6,671.2 | 6,722.6 | 6,720.9 | 17.2 | 4.6 | -45.28 | 1,274.8 | 790.1 | 1,315.9 | 1,294.7 | 21.14 | 62.254 | |
| 6,800.0 | 6,711.5 | 6,762.2 | 6,760.5 | 17.2 | 4.6 | -47.64 | 1,275.4 | 789.3 | 1,293.1 | 1,272.0 | 21.04 | 61.461 | |
| 6,850.0 | 6,749.7 | 6,799.6 | 6,797.9 | 17.2 | 4.6 | -50.32 | 1,275.9 | 788.6 | 1,268.5 | 1,247.6 | 20.98 | 60.475 | |
| 6,900.0 | 6,785.6 | 6,834.7 | 6,833.0 | 17.1 | 4.6 | -53.29 | 1,276.4 | 788.0 | 1,242.5 | 1,221.6 | 20.97 | 59.256 | |
| 6,950.0 | 6,818.9 | 6,867.4 | 6,865.6 | 17.1 | 4.6 | -56.56 | 1,276.8 | 787.4 | 1,215.3 | 1,194.2 | 21.04 | 57.770 | |
| 7,000.0 | 6,849.5 | 6,897.3 | 6,895.6 | 17.1 | 4.6 | -60.07 | 1,277.1 | 786.9 | 1,187.0 | 1,165.8 | 21.20 | 56.003 | |
| 7,050.0 | 6,877.4 | 6,924.5 | 6,922.7 | 17.2 | 4.6 | -63.79 | 1,277.4 | 786.5 | 1,158.1 | 1,136.6 | 21.46 | 53.970 | |
| 7,100.0 | 6,902.2 | 6,948.7 | 6,947.0 | 17.3 | 4.6 | -67.64 | 1,277.6 | 786.1 | 1,128.7 | 1,106.9 | 21.83 | 51.713 | |
| 7,150.0 | 6,924.0 | 6,969.9 | 6,968.1 | 17.7 | 4.6 | -71.51 | 1,277.8 | 785.8 | 1,099.3 | 1,077.0 | 22.30 | 49.298 | |
| 7,200.0 | 6,942.6 | 6,987.9 | 6,986.1 | 18.2 | 4.6 | -75.32 | 1,278.0 | 785.5 | 1,070.1 | 1,047.2 | 22.87 | 46.800 | |
| 7,250.0 | 6,957.9 | 7,002.6 | 7,000.8 | 18.8 | 4.6 | -78.95 | 1,278.1 | 785.3 | 1,041.5 | 1,018.0 | 23.51 | 44.290 | |
| 7,300.0 | 6,969.8 | 7,014.0 | 7,012.2 | 19.6 | 4.6 | -82.30 | 1,278.2 | 785.2 | 1,013.8 | 989.6 | 24.24 | 41.832 | |
| 7,350.0 | 6,978.3 | 7,022.0 | 7,020.2 | 20.4 | 4.6 | -85.31 | 1,278.2 | 785.1 | 987.4 | 962.4 | 25.01 | 39.473 | |
| 7,400.0 | 6,983.4 | 7,026.4 | 7,024.6 | 21.3 | 4.6 | -87.89 | 1,278.3 | 785.0 | 962.5 | 936.7 | 25.84 | 37.249 | |
| 7,447.7 | 6,985.0 | 7,027.4 | 7,025.6 | 22.1 | 4.6 | -89.94 | 1,278.3 | 785.0 | 940.6 | 913.9 | 26.67 | 35.272 | |
| 7,500.0 | 6,985.0 | 7,026.7 | 7,025.0 | 23.1 | 4.6 | -89.90 | 1,278.3 | 785.0 | 918.7 | 891.1 | 27.66 | 33.215 | |
| 7,600.0 | 6,985.0 | 7,025.5 | 7,023.7 | 25.2 | 4.6 | -89.81 | 1,278.3 | 785.0 | 884.1 | 854.4 | 29.69 | 29.775 | |
| 7,700.0 | 6,985.0 | 7,024.2 | 7,022.4 | 27.4 | 4.6 | -89.72 | 1,278.3 | 785.1 | 859.7 | 827.9 | 31.86 | 26.982 | |
| 7,800.0 | 6,985.0 | 7,022.9 | 7,021.1 | 29.7 | 4.6 | -89.63 | 1,278.2 | 785.1 | 846.6 | 812.4 | 34.14 | 24.796 | |
| 7,862.3 | 6,985.0 | 7,022.0 | 7,020.3 | 31.1 | 4.6 | -89.58 | 1,278.2 | 785.1 | 844.3 | 808.7 | 35.61 | 23.706 CC | |
| 7,900.0 | 6,985.0 | 7,021.5 | 7,019.8 | 32.0 | 4.6 | -89.54 | 1,278.2 | 785.1 | 845.1 | 808.6 | 36.50 | 23.151 ES | |
| 8,000.0 | 6,985.0 | 7,020.2 | 7,018.4 | 34.5 | 4.6 | -89.45 | 1,278.2 | 785.1 | 855.4 | 816.5 | 38.93 | 21.971 | |
| 8,100.0 | 6,985.0 | 7,018.9 | 7,017.1 | 36.9 | 4.6 | -89.36 | 1,278.2 | 785.1 | 877.1 | 835.7 | 41.42 | 21.176 | |
| 8,200.0 | 6,985.0 | 7,017.6 | 7,015.8 | 39.5 | 4.6 | -89.27 | 1,278.2 | 785.1 | 909.3 | 865.3 | 43.95 | 20.691 | |
| 8,300.0 | 6,985.0 | 7,016.2 | 7,014.4 | 42.0 | 4.6 | -89.18 | 1,278.2 | 785.2 | 951.0 | 904.4 | 46.51 | 20.446 | |
| 8,400.0 | 6,985.0 | 7,014.9 | 7,013.1 | 44.6 | 4.6 | -89.09 | 1,278.2 | 785.2 | 1,000.9 | 951.8 | 49.10 | 20.384 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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - EXIST VERT KINZER 28B - Wellbore #1 - Wellbore #1 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|--|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 650-GYD_CT | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
| 8,500.0 | 6,985.0 | 7,013.5 | 7,011.7 | 47.2 | 4.6 | -89.00 | 1,278.2 | 785.2 | 1,058.0 | 1,006.3 | 51.72 | 20.456 | |
| 8,600.0 | 6,985.0 | 7,012.1 | 7,010.4 | 49.9 | 4.6 | -88.91 | 1,278.2 | 785.2 | 1,121.1 | 1,066.7 | 54.36 | 20.624 | |
| 8,700.0 | 6,985.0 | 7,010.8 | 7,009.0 | 52.5 | 4.6 | -88.81 | 1,278.2 | 785.2 | 1,189.3 | 1,132.3 | 57.02 | 20.859 | |
| 8,800.0 | 6,985.0 | 7,009.4 | 7,007.6 | 55.2 | 4.6 | -88.72 | 1,278.1 | 785.3 | 1,261.7 | 1,202.0 | 59.69 | 21.139 | |
| 8,900.0 | 6,985.0 | 7,008.0 | 7,006.2 | 57.9 | 4.6 | -88.62 | 1,278.1 | 785.3 | 1,337.7 | 1,275.3 | 62.37 | 21.447 | |
| 9,000.0 | 6,985.0 | 7,006.6 | 7,004.8 | 60.6 | 4.6 | -88.53 | 1,278.1 | 785.3 | 1,416.6 | 1,351.6 | 65.07 | 21.773 | |
| 9,100.0 | 6,985.0 | 7,005.2 | 7,003.4 | 63.3 | 4.6 | -88.43 | 1,278.1 | 785.3 | 1,498.1 | 1,430.3 | 67.77 | 22.106 | |
| 9,200.0 | 6,985.0 | 7,003.8 | 7,002.0 | 66.0 | 4.6 | -88.34 | 1,278.1 | 785.3 | 1,581.7 | 1,511.2 | 70.48 | 22.441 | |
| 9,300.0 | 6,985.0 | 7,002.4 | 7,000.6 | 68.7 | 4.6 | -88.24 | 1,278.1 | 785.3 | 1,667.1 | 1,593.9 | 73.20 | 22.774 | |
| 9,400.0 | 6,985.0 | 7,001.0 | 6,999.2 | 71.4 | 4.6 | -88.15 | 1,278.1 | 785.4 | 1,754.1 | 1,678.2 | 75.93 | 23.102 | |
| 9,500.0 | 6,985.0 | 6,999.5 | 6,997.7 | 74.2 | 4.6 | -88.05 | 1,278.1 | 785.4 | 1,842.4 | 1,763.7 | 78.66 | 23.422 | |
| 9,600.0 | 6,985.0 | 6,998.1 | 6,996.3 | 76.9 | 4.6 | -87.95 | 1,278.1 | 785.4 | 1,931.8 | 1,850.4 | 81.40 | 23.733 | |
| 9,700.0 | 6,985.0 | 6,996.6 | 6,994.8 | 79.6 | 4.6 | -87.85 | 1,278.0 | 785.4 | 2,022.2 | 1,938.1 | 84.14 | 24.034 | |
| 9,800.0 | 6,985.0 | 6,995.2 | 6,993.4 | 82.4 | 4.6 | -87.75 | 1,278.0 | 785.4 | 2,113.5 | 2,026.6 | 86.88 | 24.326 | |
| 9,900.0 | 6,985.0 | 6,993.7 | 6,991.9 | 85.1 | 4.6 | -87.65 | 1,278.0 | 785.5 | 2,205.5 | 2,115.9 | 89.63 | 24.606 | |
| 10,000.0 | 6,985.0 | 6,992.2 | 6,990.4 | 87.9 | 4.6 | -87.55 | 1,278.0 | 785.5 | 2,298.2 | 2,205.8 | 92.38 | 24.877 | |
| 10,100.0 | 6,985.0 | 6,990.7 | 6,989.0 | 90.7 | 4.6 | -87.45 | 1,278.0 | 785.5 | 2,391.5 | 2,296.3 | 95.14 | 25.138 | |
| 10,200.0 | 6,985.0 | 6,989.2 | 6,987.5 | 93.4 | 4.6 | -87.35 | 1,278.0 | 785.5 | 2,485.3 | 2,387.4 | 97.89 | 25.388 | |
| 10,300.0 | 6,985.0 | 6,987.7 | 6,986.0 | 96.2 | 4.6 | -87.25 | 1,278.0 | 785.5 | 2,579.5 | 2,478.9 | 100.65 | 25.629 | |
| 10,400.0 | 6,985.0 | 6,986.2 | 6,984.4 | 98.9 | 4.6 | -87.15 | 1,278.0 | 785.6 | 2,674.2 | 2,570.8 | 103.41 | 25.861 | |
| 10,500.0 | 6,985.0 | 6,984.7 | 6,982.9 | 101.7 | 4.6 | -87.04 | 1,277.9 | 785.6 | 2,769.3 | 2,663.1 | 106.17 | 26.083 | |
| 10,600.0 | 6,985.0 | 6,983.2 | 6,981.4 | 104.5 | 4.6 | -86.94 | 1,277.9 | 785.6 | 2,864.7 | 2,755.7 | 108.93 | 26.298 | |
| 10,700.0 | 6,985.0 | 6,981.6 | 6,979.8 | 107.3 | 4.6 | -86.84 | 1,277.9 | 785.6 | 2,960.4 | 2,848.7 | 111.70 | 26.504 | |
| 10,800.0 | 6,985.0 | 6,980.1 | 6,978.3 | 110.0 | 4.6 | -86.73 | 1,277.9 | 785.7 | 3,056.3 | 2,941.9 | 114.46 | 26.702 | |
| 10,900.0 | 6,985.0 | 6,978.5 | 6,976.7 | 112.8 | 4.6 | -86.63 | 1,277.9 | 785.7 | 3,152.6 | 3,035.3 | 117.23 | 26.893 | |
| 11,000.0 | 6,985.0 | 6,977.0 | 6,975.2 | 115.6 | 4.6 | -86.52 | 1,277.9 | 785.7 | 3,249.0 | 3,129.0 | 119.99 | 27.077 | |
| 11,100.0 | 6,985.0 | 6,975.4 | 6,973.6 | 118.4 | 4.6 | -86.41 | 1,277.9 | 785.7 | 3,345.7 | 3,222.9 | 122.76 | 27.254 | |
| 11,200.0 | 6,985.0 | 6,973.8 | 6,972.0 | 121.2 | 4.6 | -86.31 | 1,277.9 | 785.7 | 3,442.5 | 3,317.0 | 125.52 | 27.425 | |
| 11,300.0 | 6,985.0 | 6,972.2 | 6,970.4 | 123.9 | 4.6 | -86.20 | 1,277.8 | 785.8 | 3,539.5 | 3,411.2 | 128.29 | 27.590 | |
| 11,400.0 | 6,985.0 | 6,970.6 | 6,968.8 | 126.7 | 4.6 | -86.09 | 1,277.8 | 785.8 | 3,636.7 | 3,505.6 | 131.06 | 27.749 | |
| 11,500.0 | 6,985.0 | 6,969.0 | 6,967.2 | 129.5 | 4.6 | -85.98 | 1,277.8 | 785.8 | 3,734.0 | 3,600.2 | 133.83 | 27.902 | |
| 11,600.0 | 6,985.0 | 6,967.3 | 6,965.6 | 132.3 | 4.6 | -85.87 | 1,277.8 | 785.8 | 3,831.5 | 3,694.9 | 136.59 | 28.051 | |
| 11,700.0 | 6,985.0 | 6,965.7 | 6,963.9 | 135.1 | 4.6 | -85.76 | 1,277.8 | 785.9 | 3,929.1 | 3,789.7 | 139.36 | 28.194 | |
| 11,800.0 | 6,985.0 | 6,964.1 | 6,962.3 | 137.9 | 4.6 | -85.65 | 1,277.8 | 785.9 | 4,026.8 | 3,884.7 | 142.12 | 28.333 | |
| 11,900.0 | 6,985.0 | 6,962.4 | 6,960.6 | 140.7 | 4.6 | -85.54 | 1,277.8 | 785.9 | 4,124.6 | 3,979.7 | 144.89 | 28.467 | |
| 12,000.0 | 6,985.0 | 6,960.7 | 6,959.0 | 143.4 | 4.6 | -85.42 | 1,277.7 | 785.9 | 4,222.5 | 4,074.9 | 147.66 | 28.597 | |
| 12,054.1 | 6,985.0 | 6,959.8 | 6,958.1 | 145.0 | 4.6 | -85.36 | 1,277.7 | 785.9 | 4,275.6 | 4,126.4 | 149.15 | 28.666 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 77.5 | 77.5 | 0.0 | 0.1 | 6.02 | 2,852.5 | 300.9 | 2,868.4 | | | | |
| 100.0 | 100.0 | 177.5 | 177.5 | 0.1 | 2.1 | 6.02 | 2,852.5 | 300.9 | 2,868.4 | 2,866.1 | 2.24 | 1,279.317 | |
| 200.0 | 200.0 | 277.5 | 277.5 | 0.3 | 4.3 | 6.02 | 2,852.5 | 300.9 | 2,868.4 | 2,863.7 | 4.65 | 616.265 | |
| 300.0 | 300.0 | 377.5 | 377.5 | 0.5 | 6.4 | 6.02 | 2,852.5 | 300.9 | 2,868.4 | 2,861.5 | 6.92 | 414.579 | |
| 400.0 | 400.0 | 477.5 | 477.5 | 0.8 | 8.4 | 6.02 | 2,852.5 | 300.9 | 2,868.4 | 2,859.2 | 9.17 | 312.856 | |
| 500.0 | 500.0 | 577.5 | 577.5 | 1.0 | 10.4 | 6.02 | 2,852.5 | 300.9 | 2,868.4 | 2,857.0 | 11.41 | 251.339 | |
| 600.0 | 600.0 | 677.5 | 677.5 | 1.2 | 12.4 | 6.02 | 2,852.5 | 300.9 | 2,868.4 | 2,854.7 | 13.65 | 210.081 | |
| 700.0 | 700.0 | 777.5 | 777.5 | 1.4 | 14.4 | 6.02 | 2,852.5 | 300.9 | 2,868.4 | 2,852.5 | 15.89 | 180.476 | |
| 800.0 | 800.0 | 877.5 | 877.5 | 1.7 | 16.5 | 6.02 | 2,852.5 | 300.9 | 2,868.4 | 2,850.2 | 18.13 | 158.194 | |
| 900.0 | 900.0 | 977.5 | 977.5 | 1.9 | 18.5 | 44.60 | 2,852.5 | 300.9 | 2,867.1 | 2,846.8 | 20.36 | 140.811 | |
| 1,000.0 | 999.8 | 1,077.3 | 1,077.3 | 2.1 | 20.5 | 44.73 | 2,852.5 | 300.9 | 2,863.4 | 2,840.8 | 22.57 | 126.843 | |
| 1,100.0 | 1,099.5 | 1,177.0 | 1,177.0 | 2.4 | 22.5 | 44.94 | 2,852.5 | 300.9 | 2,857.2 | 2,832.4 | 24.77 | 115.344 | |
| 1,200.0 | 1,198.7 | 1,276.2 | 1,276.2 | 2.6 | 24.5 | 45.23 | 2,852.5 | 300.9 | 2,848.6 | 2,821.6 | 26.95 | 105.691 | |
| 1,300.0 | 1,297.5 | 1,375.0 | 1,375.0 | 2.9 | 26.5 | 45.62 | 2,852.5 | 300.9 | 2,837.5 | 2,808.4 | 29.12 | 97.446 | |
| 1,400.0 | 1,395.6 | 1,473.1 | 1,473.1 | 3.2 | 28.4 | 46.08 | 2,852.5 | 300.9 | 2,824.1 | 2,792.8 | 31.28 | 90.299 | |
| 1,400.2 | 1,395.8 | 1,473.3 | 1,473.3 | 3.2 | 28.5 | 46.09 | 2,852.5 | 300.9 | 2,824.1 | 2,792.8 | 31.28 | 90.284 | |
| 1,500.0 | 1,493.4 | 1,570.9 | 1,570.9 | 3.6 | 30.4 | 46.39 | 2,852.5 | 300.9 | 2,809.6 | 2,776.0 | 33.54 | 83.775 | |
| 1,600.0 | 1,591.2 | 1,668.7 | 1,668.7 | 3.9 | 32.4 | 46.69 | 2,852.5 | 300.9 | 2,795.1 | 2,759.3 | 35.81 | 78.045 | |
| 1,700.0 | 1,689.1 | 1,766.6 | 1,766.6 | 4.3 | 34.4 | 47.00 | 2,852.5 | 300.9 | 2,780.7 | 2,742.6 | 38.10 | 72.980 | |
| 1,800.0 | 1,786.9 | 1,864.4 | 1,864.4 | 4.7 | 36.3 | 47.31 | 2,852.5 | 300.9 | 2,766.4 | 2,726.0 | 40.40 | 68.474 | |
| 1,900.0 | 1,884.7 | 1,962.2 | 1,962.2 | 5.2 | 38.3 | 47.63 | 2,852.5 | 300.9 | 2,752.2 | 2,709.4 | 42.71 | 64.442 | |
| 2,000.0 | 1,982.5 | 2,060.0 | 2,060.0 | 5.6 | 40.3 | 47.94 | 2,852.5 | 300.9 | 2,738.0 | 2,693.0 | 45.02 | 60.816 | |
| 2,100.0 | 2,080.3 | 2,157.8 | 2,157.8 | 6.0 | 42.2 | 48.27 | 2,852.5 | 300.9 | 2,724.0 | 2,676.6 | 47.34 | 57.539 | |
| 2,200.0 | 2,178.1 | 2,255.6 | 2,255.6 | 6.4 | 44.2 | 48.59 | 2,852.5 | 300.9 | 2,710.0 | 2,660.3 | 49.67 | 54.564 | |
| 2,300.0 | 2,275.9 | 2,353.4 | 2,353.4 | 6.9 | 46.2 | 48.92 | 2,852.5 | 300.9 | 2,696.1 | 2,644.1 | 52.00 | 51.851 | |
| 2,400.0 | 2,373.8 | 2,451.3 | 2,451.3 | 7.3 | 48.1 | 49.25 | 2,852.5 | 300.9 | 2,682.3 | 2,628.0 | 54.33 | 49.368 | |
| 2,500.0 | 2,471.6 | 2,549.1 | 2,549.1 | 7.7 | 50.1 | 49.58 | 2,852.5 | 300.9 | 2,668.6 | 2,611.9 | 56.67 | 47.088 | |
| 2,600.0 | 2,569.4 | 2,646.9 | 2,646.9 | 8.2 | 52.1 | 49.92 | 2,852.5 | 300.9 | 2,655.0 | 2,596.0 | 59.02 | 44.988 | |
| 2,700.0 | 2,667.2 | 2,744.7 | 2,744.7 | 8.6 | 54.0 | 50.26 | 2,852.5 | 300.9 | 2,641.5 | 2,580.1 | 61.36 | 43.046 | |
| 2,800.0 | 2,765.0 | 2,842.5 | 2,842.5 | 9.0 | 56.0 | 50.60 | 2,852.5 | 300.9 | 2,628.0 | 2,564.3 | 63.71 | 41.247 | |
| 2,900.0 | 2,862.8 | 2,940.3 | 2,940.3 | 9.5 | 58.0 | 50.95 | 2,852.5 | 300.9 | 2,614.7 | 2,548.7 | 66.07 | 39.575 | |
| 3,000.0 | 2,960.6 | 3,038.1 | 3,038.1 | 9.9 | 59.9 | 51.30 | 2,852.5 | 300.9 | 2,601.5 | 2,533.1 | 68.43 | 38.018 | |
| 3,100.0 | 3,058.4 | 3,135.9 | 3,135.9 | 10.4 | 61.9 | 51.66 | 2,852.5 | 300.9 | 2,588.4 | 2,517.6 | 70.79 | 36.564 | |
| 3,200.0 | 3,156.3 | 3,233.8 | 3,233.8 | 10.8 | 63.9 | 52.01 | 2,852.5 | 300.9 | 2,575.3 | 2,502.2 | 73.16 | 35.204 | |
| 3,300.0 | 3,254.1 | 3,331.6 | 3,331.6 | 11.3 | 65.8 | 52.38 | 2,852.5 | 300.9 | 2,562.4 | 2,486.9 | 75.52 | 33.928 | |
| 3,400.0 | 3,351.9 | 3,429.4 | 3,429.4 | 11.7 | 67.8 | 52.74 | 2,852.5 | 300.9 | 2,549.6 | 2,471.7 | 77.90 | 32.731 | |
| 3,465.5 | 3,416.0 | 3,493.5 | 3,493.5 | 12.0 | 69.1 | 52.98 | 2,852.5 | 300.9 | 2,541.3 | 2,461.8 | 79.45 | 31.985 | |
| 3,500.0 | 3,449.7 | 3,527.2 | 3,527.2 | 12.1 | 69.8 | 53.04 | 2,852.5 | 300.9 | 2,537.0 | 2,456.7 | 80.31 | 31.590 | |
| 3,600.0 | 3,548.1 | 3,625.6 | 3,625.6 | 12.5 | 71.7 | 53.18 | 2,852.5 | 300.9 | 2,526.1 | 2,443.4 | 82.72 | 30.538 | |
| 3,700.0 | 3,647.1 | 3,724.6 | 3,724.6 | 12.7 | 73.7 | 53.31 | 2,852.5 | 300.9 | 2,517.4 | 2,432.3 | 85.09 | 29.585 | |
| 3,800.0 | 3,746.5 | 3,824.0 | 3,824.0 | 13.0 | 75.7 | 53.40 | 2,852.5 | 300.9 | 2,510.8 | 2,423.4 | 87.41 | 28.725 | |
| 3,900.0 | 3,846.2 | 3,923.7 | 3,923.7 | 13.2 | 77.7 | 53.47 | 2,852.5 | 300.9 | 2,506.3 | 2,416.7 | 89.67 | 27.950 | |
| 4,000.0 | 3,946.1 | 4,023.6 | 4,023.6 | 13.3 | 79.7 | 53.50 | 2,852.5 | 300.9 | 2,503.9 | 2,412.1 | 91.88 | 27.254 | |
| 4,065.7 | 4,011.8 | 4,089.3 | 4,089.3 | 13.4 | 81.1 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,411.5 | 91.98 | 27.218 | |
| 4,100.0 | 4,046.1 | 4,123.6 | 4,123.6 | 13.5 | 81.8 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,410.8 | 92.72 | 27.000 | |
| 4,200.0 | 4,146.1 | 4,223.6 | 4,223.6 | 13.6 | 83.8 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,408.6 | 94.90 | 26.379 | |
| 4,300.0 | 4,246.1 | 4,323.6 | 4,323.6 | 13.8 | 85.8 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,406.4 | 97.09 | 25.786 | |
| 4,400.0 | 4,346.1 | 4,423.6 | 4,423.6 | 13.9 | 87.8 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,404.2 | 99.27 | 25.219 | |
| 4,500.0 | 4,446.1 | 4,523.6 | 4,523.6 | 14.1 | 89.8 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,402.0 | 101.46 | 24.675 | |
| 4,600.0 | 4,546.1 | 4,623.6 | 4,623.6 | 14.2 | 91.8 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,399.8 | 103.65 | 24.154 | |
| 4,700.0 | 4,646.1 | 4,723.6 | 4,723.6 | 14.4 | 93.8 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,397.7 | 105.84 | 23.654 | |
| 4,800.0 | 4,746.1 | 4,823.6 | 4,823.6 | 14.5 | 95.8 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,395.5 | 108.03 | 23.174 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,923.6 | 4,923.6 | 14.7 | 97.8 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,393.3 | 110.22 | 22.713 | |
| 5,000.0 | 4,946.1 | 5,023.6 | 5,023.6 | 14.8 | 99.9 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,391.1 | 112.42 | 22.270 | |
| 5,100.0 | 5,046.1 | 5,123.6 | 5,123.6 | 15.0 | 101.9 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,388.9 | 114.61 | 21.843 | |
| 5,200.0 | 5,146.1 | 5,223.6 | 5,223.6 | 15.1 | 103.9 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,386.7 | 116.81 | 21.432 | |
| 5,300.0 | 5,246.1 | 5,323.6 | 5,323.6 | 15.3 | 105.9 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,384.5 | 119.01 | 21.037 | |
| 5,400.0 | 5,346.1 | 5,423.6 | 5,423.6 | 15.5 | 107.9 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,382.3 | 121.21 | 20.655 | |
| 5,500.0 | 5,446.1 | 5,523.6 | 5,523.6 | 15.6 | 109.9 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,380.1 | 123.41 | 20.287 | |
| 5,600.0 | 5,546.1 | 5,623.6 | 5,623.6 | 15.8 | 111.9 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,377.9 | 125.61 | 19.931 | |
| 5,700.0 | 5,646.1 | 5,723.6 | 5,723.6 | 16.0 | 113.9 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,375.7 | 127.81 | 19.588 | |
| 5,800.0 | 5,746.1 | 5,823.6 | 5,823.6 | 16.1 | 115.9 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,373.5 | 130.01 | 19.256 | |
| 5,900.0 | 5,846.1 | 5,923.6 | 5,923.6 | 16.3 | 118.0 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,371.3 | 132.22 | 18.935 | |
| 6,000.0 | 5,946.1 | 6,023.6 | 6,023.6 | 16.5 | 120.0 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,369.1 | 134.42 | 18.624 | |
| 6,100.0 | 6,046.1 | 6,123.6 | 6,123.6 | 16.7 | 122.0 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,366.9 | 136.63 | 18.323 | |
| 6,200.0 | 6,146.1 | 6,223.6 | 6,223.6 | 16.8 | 124.0 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,364.7 | 138.84 | 18.032 | |
| 6,300.0 | 6,246.1 | 6,323.6 | 6,323.6 | 17.0 | 126.0 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,362.4 | 141.04 | 17.750 | |
| 6,322.7 | 6,268.8 | 6,346.3 | 6,346.3 | 17.1 | 126.5 | 14.97 | 2,852.5 | 300.9 | 2,503.5 | 2,361.9 | 141.55 | 17.687 | |
| 6,350.0 | 6,296.1 | 6,373.6 | 6,373.6 | 17.1 | 127.0 | -75.05 | 2,852.5 | 300.9 | 2,503.4 | 2,360.2 | 143.20 | 17.481 | |
| 6,400.0 | 6,345.9 | 6,423.4 | 6,423.4 | 17.2 | 128.0 | -75.21 | 2,852.5 | 300.9 | 2,502.4 | 2,358.2 | 144.22 | 17.352 | |
| 6,450.0 | 6,395.4 | 6,472.9 | 6,472.9 | 17.2 | 129.0 | -75.50 | 2,852.5 | 300.9 | 2,500.6 | 2,355.4 | 145.16 | 17.227 | |
| 6,500.0 | 6,444.3 | 6,521.8 | 6,521.8 | 17.2 | 130.0 | -75.94 | 2,852.5 | 300.9 | 2,497.9 | 2,351.9 | 146.03 | 17.106 | |
| 6,550.0 | 6,492.3 | 6,569.8 | 6,569.8 | 17.2 | 130.9 | -76.51 | 2,852.5 | 300.9 | 2,494.5 | 2,347.7 | 146.84 | 16.988 | |
| 6,600.0 | 6,539.2 | 6,616.7 | 6,616.7 | 17.2 | 131.9 | -77.20 | 2,852.5 | 300.9 | 2,490.3 | 2,342.7 | 147.62 | 16.870 | |
| 6,650.0 | 6,584.8 | 6,662.3 | 6,662.3 | 17.2 | 132.8 | -77.99 | 2,852.5 | 300.9 | 2,485.5 | 2,337.1 | 148.38 | 16.751 | |
| 6,700.0 | 6,628.9 | 6,706.4 | 6,706.4 | 17.2 | 133.7 | -78.89 | 2,852.5 | 300.9 | 2,480.2 | 2,331.0 | 149.14 | 16.630 | |
| 6,750.0 | 6,671.2 | 6,748.7 | 6,748.7 | 17.2 | 134.5 | -79.86 | 2,852.5 | 300.9 | 2,474.4 | 2,324.5 | 149.92 | 16.505 | |
| 6,800.0 | 6,711.5 | 6,789.0 | 6,789.0 | 17.2 | 135.4 | -80.89 | 2,852.5 | 300.9 | 2,468.4 | 2,317.6 | 150.73 | 16.376 | |
| 6,850.0 | 6,749.7 | 6,827.2 | 6,827.2 | 17.2 | 136.1 | -81.96 | 2,852.5 | 300.9 | 2,462.1 | 2,310.5 | 151.57 | 16.244 | |
| 6,900.0 | 6,785.6 | 6,863.1 | 6,863.1 | 17.1 | 136.8 | -83.04 | 2,852.5 | 300.9 | 2,455.8 | 2,303.4 | 152.45 | 16.109 | |
| 6,950.0 | 6,818.9 | 6,896.4 | 6,896.4 | 17.1 | 137.5 | -84.12 | 2,852.5 | 300.9 | 2,449.6 | 2,296.3 | 153.36 | 15.973 | |
| 7,000.0 | 6,849.5 | 6,927.0 | 6,927.0 | 17.1 | 138.1 | -85.17 | 2,852.5 | 300.9 | 2,443.7 | 2,289.4 | 154.30 | 15.837 | |
| 7,050.0 | 6,877.4 | 6,954.9 | 6,954.9 | 17.2 | 138.7 | -86.16 | 2,852.5 | 300.9 | 2,438.1 | 2,282.8 | 155.25 | 15.704 | |
| 7,100.0 | 6,902.2 | 6,979.7 | 6,979.7 | 17.3 | 139.2 | -87.08 | 2,852.5 | 300.9 | 2,433.0 | 2,276.8 | 156.22 | 15.574 | |
| 7,150.0 | 6,924.0 | 7,001.5 | 7,001.5 | 17.7 | 139.6 | -87.90 | 2,852.5 | 300.9 | 2,428.5 | 2,271.3 | 157.20 | 15.449 | |
| 7,200.0 | 6,942.6 | 7,020.1 | 7,020.1 | 18.2 | 140.0 | -88.61 | 2,852.5 | 300.9 | 2,424.7 | 2,266.6 | 158.17 | 15.330 | |
| 7,250.0 | 6,957.9 | 7,035.4 | 7,035.4 | 18.8 | 140.3 | -89.19 | 2,852.5 | 300.9 | 2,421.8 | 2,262.7 | 159.15 | 15.217 | |
| 7,300.0 | 6,969.8 | 7,047.3 | 7,047.3 | 19.6 | 140.6 | -89.63 | 2,852.5 | 300.9 | 2,419.8 | 2,259.6 | 160.13 | 15.112 | |
| 7,350.0 | 6,978.3 | 7,055.8 | 7,055.8 | 20.4 | 140.7 | -89.91 | 2,852.5 | 300.9 | 2,418.7 | 2,257.6 | 161.10 | 15.014 | |
| 7,378.1 | 6,981.6 | 7,059.1 | 7,059.1 | 20.9 | 140.8 | -90.00 | 2,852.5 | 300.9 | 2,418.5 | 2,256.9 | 161.64 | 14.962 CC | |
| 7,400.0 | 6,983.4 | 7,060.9 | 7,060.9 | 21.3 | 140.8 | -90.03 | 2,852.5 | 300.9 | 2,418.6 | 2,256.6 | 162.06 | 14.925 ES | |
| 7,447.7 | 6,985.0 | 7,062.5 | 7,062.5 | 22.1 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,419.5 | 2,256.6 | 162.95 | 14.848 | |
| 7,500.0 | 6,985.0 | 7,062.5 | 7,062.5 | 23.1 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,421.6 | 2,257.7 | 163.95 | 14.771 | |
| 7,600.0 | 6,985.0 | 7,062.5 | 7,062.5 | 25.2 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,428.7 | 2,262.7 | 165.98 | 14.633 | |
| 7,700.0 | 6,985.0 | 7,062.5 | 7,062.5 | 27.4 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,439.9 | 2,271.7 | 168.15 | 14.510 | |
| 7,800.0 | 6,985.0 | 7,062.5 | 7,062.5 | 29.7 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,455.1 | 2,284.6 | 170.42 | 14.406 | |
| 7,900.0 | 6,985.0 | 7,062.5 | 7,062.5 | 32.0 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,474.2 | 2,301.4 | 172.78 | 14.320 | |
| 8,000.0 | 6,985.0 | 7,062.5 | 7,062.5 | 34.5 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,497.2 | 2,322.0 | 175.21 | 14.252 | |
| 8,100.0 | 6,985.0 | 7,062.5 | 7,062.5 | 36.9 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,524.0 | 2,346.3 | 177.70 | 14.204 | |
| 8,200.0 | 6,985.0 | 7,062.5 | 7,062.5 | 39.5 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,554.4 | 2,374.1 | 180.22 | 14.173 | |
| 8,300.0 | 6,985.0 | 7,062.5 | 7,062.5 | 42.0 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,588.3 | 2,405.5 | 182.79 | 14.160 SF | |
| 8,400.0 | 6,985.0 | 7,062.5 | 7,062.5 | 44.6 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,625.6 | 2,440.2 | 185.38 | 14.163 | |
| 8,500.0 | 6,985.0 | 7,062.5 | 7,062.5 | 47.2 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,666.1 | 2,478.1 | 188.00 | 14.181 | |
| 8,600.0 | 6,985.0 | 7,062.5 | 7,062.5 | 49.9 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,709.7 | 2,519.0 | 190.64 | 14.214 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 8,700.0 | 6,985.0 | 7,062.5 | 7,062.5 | 52.5 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,756.2 | 2,562.9 | 193.29 | 14.259 | |
| 8,800.0 | 6,985.0 | 7,062.5 | 7,062.5 | 55.2 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,805.5 | 2,609.6 | 195.96 | 14.317 | |
| 8,900.0 | 6,985.0 | 7,062.5 | 7,062.5 | 57.9 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,857.5 | 2,658.9 | 198.65 | 14.385 | |
| 9,000.0 | 6,985.0 | 7,062.5 | 7,062.5 | 60.6 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,912.0 | 2,710.7 | 201.34 | 14.463 | |
| 9,100.0 | 6,985.0 | 7,062.5 | 7,062.5 | 63.3 | 140.9 | -90.00 | 2,852.5 | 300.9 | 2,968.9 | 2,764.8 | 204.05 | 14.550 | |
| 9,200.0 | 6,985.0 | 7,062.5 | 7,062.5 | 66.0 | 140.9 | -90.00 | 2,852.5 | 300.9 | 3,027.9 | 2,821.2 | 206.76 | 14.645 | |
| 9,300.0 | 6,985.0 | 7,062.5 | 7,062.5 | 68.7 | 140.9 | -90.00 | 2,852.5 | 300.9 | 3,089.1 | 2,879.7 | 209.48 | 14.746 | |
| 9,400.0 | 6,985.0 | 7,062.5 | 7,062.5 | 71.4 | 140.9 | -90.00 | 2,852.5 | 300.9 | 3,152.3 | 2,940.1 | 212.21 | 14.855 | |
| 9,500.0 | 6,985.0 | 7,062.5 | 7,062.5 | 74.2 | 140.9 | -90.00 | 2,852.5 | 300.9 | 3,217.4 | 3,002.4 | 214.95 | 14.968 | |
| 9,600.0 | 6,985.0 | 7,062.5 | 7,062.5 | 76.9 | 140.9 | -90.00 | 2,852.5 | 300.9 | 3,284.2 | 3,066.5 | 217.69 | 15.087 | |
| 9,700.0 | 6,985.0 | 7,062.5 | 7,062.5 | 79.6 | 140.9 | -90.00 | 2,852.5 | 300.9 | 3,352.7 | 3,132.2 | 220.43 | 15.209 | |
| 9,800.0 | 6,985.0 | 7,062.5 | 7,062.5 | 82.4 | 140.9 | -90.00 | 2,852.5 | 300.9 | 3,422.7 | 3,199.5 | 223.18 | 15.336 | |
| 9,900.0 | 6,985.0 | 7,062.5 | 7,062.5 | 85.1 | 140.9 | -90.00 | 2,852.5 | 300.9 | 3,494.1 | 3,268.2 | 225.94 | 15.465 | |
| 10,000.0 | 6,985.0 | 7,062.5 | 7,062.5 | 87.9 | 140.9 | -90.00 | 2,852.5 | 300.9 | 3,567.0 | 3,338.3 | 228.69 | 15.597 | |
| 10,100.0 | 6,985.0 | 7,062.5 | 7,062.5 | 90.7 | 140.9 | -90.00 | 2,852.5 | 300.9 | 3,641.1 | 3,409.7 | 231.45 | 15.732 | |
| 10,200.0 | 6,985.0 | 7,062.5 | 7,062.5 | 93.4 | 140.9 | -90.00 | 2,852.5 | 300.9 | 3,716.5 | 3,482.3 | 234.21 | 15.868 | |
| 10,300.0 | 6,985.0 | 7,062.5 | 7,062.5 | 96.2 | 140.9 | -90.00 | 2,852.5 | 300.9 | 3,793.0 | 3,556.0 | 236.98 | 16.005 | |
| 10,400.0 | 6,985.0 | 7,062.5 | 7,062.5 | 98.9 | 140.9 | -90.00 | 2,852.5 | 300.9 | 3,870.5 | 3,630.8 | 239.75 | 16.144 | |
| 10,500.0 | 6,985.0 | 7,062.5 | 7,062.5 | 101.7 | 140.9 | -90.00 | 2,852.5 | 300.9 | 3,949.1 | 3,706.6 | 242.52 | 16.284 | |
| 10,600.0 | 6,985.0 | 7,062.5 | 7,062.5 | 104.5 | 140.9 | -90.00 | 2,852.5 | 300.9 | 4,028.6 | 3,783.3 | 245.29 | 16.424 | |
| 10,700.0 | 6,985.0 | 7,062.5 | 7,062.5 | 107.3 | 140.9 | -90.00 | 2,852.5 | 300.9 | 4,109.0 | 3,860.9 | 248.07 | 16.564 | |
| 10,800.0 | 6,985.0 | 7,062.5 | 7,062.5 | 110.0 | 140.9 | -90.00 | 2,852.5 | 300.9 | 4,190.3 | 3,939.4 | 250.84 | 16.705 | |
| 10,900.0 | 6,985.0 | 7,062.5 | 7,062.5 | 112.8 | 140.9 | -90.00 | 2,852.5 | 300.9 | 4,272.3 | 4,018.7 | 253.62 | 16.845 | |
| 11,000.0 | 6,985.0 | 7,062.5 | 7,062.5 | 115.6 | 140.9 | -90.00 | 2,852.5 | 300.9 | 4,355.1 | 4,098.7 | 256.40 | 16.986 | |
| 11,100.0 | 6,985.0 | 7,062.5 | 7,062.5 | 118.4 | 140.9 | -90.00 | 2,852.5 | 300.9 | 4,438.6 | 4,179.5 | 259.18 | 17.126 | |
| 11,200.0 | 6,985.0 | 7,062.5 | 7,062.5 | 121.2 | 140.9 | -90.00 | 2,852.5 | 300.9 | 4,522.8 | 4,260.9 | 261.96 | 17.265 | |
| 11,300.0 | 6,985.0 | 7,062.5 | 7,062.5 | 123.9 | 140.9 | -90.00 | 2,852.5 | 300.9 | 4,607.6 | 4,342.9 | 264.74 | 17.404 | |
| 11,400.0 | 6,985.0 | 7,062.5 | 7,062.5 | 126.7 | 140.9 | -90.00 | 2,852.5 | 300.9 | 4,693.0 | 4,425.5 | 267.53 | 17.542 | |
| 11,500.0 | 6,985.0 | 7,062.5 | 7,062.5 | 129.5 | 140.9 | -90.00 | 2,852.5 | 300.9 | 4,779.0 | 4,508.7 | 270.31 | 17.680 | |
| 11,600.0 | 6,985.0 | 7,062.5 | 7,062.5 | 132.3 | 140.9 | -90.00 | 2,852.5 | 300.9 | 4,865.5 | 4,592.4 | 273.10 | 17.816 | |
| 11,700.0 | 6,985.0 | 7,062.5 | 7,062.5 | 135.1 | 140.9 | -90.00 | 2,852.5 | 300.9 | 4,952.5 | 4,676.7 | 275.89 | 17.951 | |
| 11,800.0 | 6,985.0 | 7,062.5 | 7,062.5 | 137.9 | 140.9 | -90.00 | 2,852.5 | 300.9 | 5,040.0 | 4,761.4 | 278.68 | 18.086 | |
| 11,900.0 | 6,985.0 | 7,062.5 | 7,062.5 | 140.7 | 140.9 | -90.00 | 2,852.5 | 300.9 | 5,128.0 | 4,846.5 | 281.46 | 18.219 | |
| 12,000.0 | 6,985.0 | 7,062.5 | 7,062.5 | 143.4 | 140.9 | -90.00 | 2,852.5 | 300.9 | 5,216.4 | 4,932.1 | 284.25 | 18.351 | |
| 12,054.1 | 6,985.0 | 7,062.5 | 7,062.5 | 145.0 | 140.9 | -90.00 | 2,852.5 | 300.9 | 5,264.4 | 4,978.6 | 285.77 | 18.422 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 69.5 | 69.5 | 0.0 | 0.2 | 51.16 | 1,512.0 | 1,878.1 | 2,411.1 | | | | |
| 100.0 | 100.0 | 169.5 | 169.5 | 0.1 | 2.0 | 51.16 | 1,512.0 | 1,878.1 | 2,411.1 | 2,409.0 | 2.11 | 1,142.232 | |
| 200.0 | 200.0 | 269.5 | 269.5 | 0.3 | 4.2 | 51.16 | 1,512.0 | 1,878.1 | 2,411.1 | 2,406.5 | 4.56 | 528.933 | |
| 300.0 | 300.0 | 369.5 | 369.5 | 0.5 | 6.3 | 51.16 | 1,512.0 | 1,878.1 | 2,411.1 | 2,404.2 | 6.83 | 353.078 | |
| 400.0 | 400.0 | 469.5 | 469.5 | 0.8 | 8.3 | 51.16 | 1,512.0 | 1,878.1 | 2,411.1 | 2,402.0 | 9.08 | 265.509 | |
| 500.0 | 500.0 | 569.5 | 569.5 | 1.0 | 10.3 | 51.16 | 1,512.0 | 1,878.1 | 2,411.1 | 2,399.7 | 11.33 | 212.871 | |
| 600.0 | 600.0 | 669.5 | 669.5 | 1.2 | 12.3 | 51.16 | 1,512.0 | 1,878.1 | 2,411.1 | 2,397.5 | 13.57 | 177.694 | |
| 700.0 | 700.0 | 769.5 | 769.5 | 1.4 | 14.4 | 51.16 | 1,512.0 | 1,878.1 | 2,411.1 | 2,395.3 | 15.81 | 152.512 | |
| 800.0 | 800.0 | 869.5 | 869.5 | 1.7 | 16.4 | 51.16 | 1,512.0 | 1,878.1 | 2,411.1 | 2,393.0 | 18.05 | 133.590 | |
| 900.0 | 900.0 | 969.5 | 969.5 | 1.9 | 18.4 | 89.74 | 1,512.0 | 1,878.1 | 2,411.1 | 2,390.8 | 20.28 | 118.869 | |
| 1,000.0 | 999.8 | 1,069.3 | 1,069.3 | 2.1 | 20.4 | 89.87 | 1,512.0 | 1,878.1 | 2,411.0 | 2,388.5 | 22.52 | 107.081 | |
| 1,067.6 | 1,067.2 | 1,136.7 | 1,136.7 | 2.3 | 21.8 | 90.00 | 1,512.0 | 1,878.1 | 2,411.0 | 2,387.0 | 24.03 | 100.341 | |
| 1,100.0 | 1,099.5 | 1,169.0 | 1,169.0 | 2.4 | 22.4 | 90.08 | 1,512.0 | 1,878.1 | 2,411.0 | 2,386.3 | 24.75 | 97.399 | |
| 1,200.0 | 1,198.7 | 1,268.2 | 1,268.2 | 2.6 | 24.4 | 90.36 | 1,512.0 | 1,878.1 | 2,411.1 | 2,384.1 | 27.00 | 89.285 | |
| 1,300.0 | 1,297.5 | 1,367.0 | 1,367.0 | 2.9 | 26.4 | 90.73 | 1,512.0 | 1,878.1 | 2,411.2 | 2,382.0 | 29.27 | 82.367 | |
| 1,400.0 | 1,395.6 | 1,465.1 | 1,465.1 | 3.2 | 28.4 | 91.16 | 1,512.0 | 1,878.1 | 2,411.6 | 2,380.0 | 31.57 | 76.383 | |
| 1,400.2 | 1,395.8 | 1,465.3 | 1,465.3 | 3.2 | 28.4 | 91.17 | 1,512.0 | 1,878.1 | 2,411.6 | 2,380.0 | 31.58 | 76.370 | |
| 1,500.0 | 1,493.4 | 1,562.9 | 1,562.9 | 3.6 | 30.3 | 91.65 | 1,512.0 | 1,878.1 | 2,412.1 | 2,378.2 | 33.90 | 71.159 | |
| 1,600.0 | 1,591.2 | 1,660.7 | 1,660.7 | 3.9 | 32.3 | 92.13 | 1,512.0 | 1,878.1 | 2,412.8 | 2,376.5 | 36.24 | 66.575 | |
| 1,700.0 | 1,689.1 | 1,758.6 | 1,758.6 | 4.3 | 34.3 | 92.61 | 1,512.0 | 1,878.1 | 2,413.7 | 2,375.1 | 38.60 | 62.530 | |
| 1,800.0 | 1,786.9 | 1,856.4 | 1,856.4 | 4.7 | 36.2 | 93.10 | 1,512.0 | 1,878.1 | 2,414.7 | 2,373.8 | 40.97 | 58.941 | |
| 1,900.0 | 1,884.7 | 1,954.2 | 1,954.2 | 5.2 | 38.2 | 93.58 | 1,512.0 | 1,878.1 | 2,416.0 | 2,372.6 | 43.34 | 55.738 | |
| 2,000.0 | 1,982.5 | 2,052.0 | 2,052.0 | 5.6 | 40.2 | 94.06 | 1,512.0 | 1,878.1 | 2,417.4 | 2,371.7 | 45.73 | 52.866 | |
| 2,100.0 | 2,080.3 | 2,149.8 | 2,149.8 | 6.0 | 42.1 | 94.54 | 1,512.0 | 1,878.1 | 2,419.0 | 2,370.9 | 48.11 | 50.277 | |
| 2,200.0 | 2,178.1 | 2,247.6 | 2,247.6 | 6.4 | 44.1 | 95.02 | 1,512.0 | 1,878.1 | 2,420.7 | 2,370.2 | 50.50 | 47.933 | |
| 2,300.0 | 2,275.9 | 2,345.4 | 2,345.4 | 6.9 | 46.1 | 95.50 | 1,512.0 | 1,878.1 | 2,422.7 | 2,369.8 | 52.89 | 45.803 | |
| 2,400.0 | 2,373.8 | 2,443.3 | 2,443.3 | 7.3 | 48.0 | 95.98 | 1,512.0 | 1,878.1 | 2,424.8 | 2,369.5 | 55.29 | 43.858 | |
| 2,500.0 | 2,471.6 | 2,541.1 | 2,541.1 | 7.7 | 50.0 | 96.46 | 1,512.0 | 1,878.1 | 2,427.1 | 2,369.4 | 57.68 | 42.077 | |
| 2,600.0 | 2,569.4 | 2,638.9 | 2,638.9 | 8.2 | 52.0 | 96.93 | 1,512.0 | 1,878.1 | 2,429.6 | 2,369.5 | 60.08 | 40.441 | |
| 2,700.0 | 2,667.2 | 2,736.7 | 2,736.7 | 8.6 | 53.9 | 97.41 | 1,512.0 | 1,878.1 | 2,432.3 | 2,369.8 | 62.47 | 38.933 | |
| 2,800.0 | 2,765.0 | 2,834.5 | 2,834.5 | 9.0 | 55.9 | 97.88 | 1,512.0 | 1,878.1 | 2,435.1 | 2,370.2 | 64.87 | 37.539 | |
| 2,900.0 | 2,862.8 | 2,932.3 | 2,932.3 | 9.5 | 57.9 | 98.36 | 1,512.0 | 1,878.1 | 2,438.1 | 2,370.8 | 67.26 | 36.246 | |
| 3,000.0 | 2,960.6 | 3,030.1 | 3,030.1 | 9.9 | 59.8 | 98.83 | 1,512.0 | 1,878.1 | 2,441.3 | 2,371.6 | 69.66 | 35.046 | |
| 3,100.0 | 3,058.4 | 3,127.9 | 3,127.9 | 10.4 | 61.8 | 99.30 | 1,512.0 | 1,878.1 | 2,444.6 | 2,372.6 | 72.05 | 33.927 | |
| 3,200.0 | 3,156.3 | 3,225.8 | 3,225.8 | 10.8 | 63.8 | 99.77 | 1,512.0 | 1,878.1 | 2,448.1 | 2,373.7 | 74.45 | 32.884 | |
| 3,300.0 | 3,254.1 | 3,323.6 | 3,323.6 | 11.3 | 65.7 | 100.24 | 1,512.0 | 1,878.1 | 2,451.8 | 2,375.0 | 76.84 | 31.908 | |
| 3,400.0 | 3,351.9 | 3,421.4 | 3,421.4 | 11.7 | 67.7 | 100.71 | 1,512.0 | 1,878.1 | 2,455.7 | 2,376.4 | 79.23 | 30.994 | |
| 3,465.5 | 3,416.0 | 3,485.5 | 3,485.5 | 12.0 | 69.0 | 101.01 | 1,512.0 | 1,878.1 | 2,458.3 | 2,377.5 | 80.80 | 30.425 | |
| 3,500.0 | 3,449.7 | 3,519.2 | 3,519.2 | 12.1 | 69.7 | 101.20 | 1,512.0 | 1,878.1 | 2,459.7 | 2,378.1 | 81.61 | 30.139 | |
| 3,600.0 | 3,548.1 | 3,617.6 | 3,617.6 | 12.5 | 71.7 | 101.67 | 1,512.0 | 1,878.1 | 2,463.3 | 2,379.4 | 83.91 | 29.358 | |
| 3,700.0 | 3,647.1 | 3,716.6 | 3,716.6 | 12.7 | 73.6 | 102.05 | 1,512.0 | 1,878.1 | 2,466.3 | 2,380.1 | 86.18 | 28.618 | |
| 3,800.0 | 3,746.5 | 3,816.0 | 3,816.0 | 13.0 | 75.6 | 102.35 | 1,512.0 | 1,878.1 | 2,468.6 | 2,380.2 | 88.42 | 27.919 | |
| 3,900.0 | 3,846.2 | 3,915.7 | 3,915.7 | 13.2 | 77.7 | 102.55 | 1,512.0 | 1,878.1 | 2,470.2 | 2,379.6 | 90.63 | 27.255 | |
| 4,000.0 | 3,946.1 | 4,015.6 | 4,015.6 | 13.3 | 79.7 | 102.66 | 1,512.0 | 1,878.1 | 2,471.1 | 2,378.3 | 92.81 | 26.626 | |
| 4,065.7 | 4,011.8 | 4,081.3 | 4,081.3 | 13.4 | 81.0 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,380.6 | 90.64 | 27.263 | |
| 4,100.0 | 4,046.1 | 4,115.6 | 4,115.6 | 13.5 | 81.7 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,379.9 | 91.40 | 27.040 | |
| 4,200.0 | 4,146.1 | 4,215.6 | 4,215.6 | 13.6 | 83.7 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,377.7 | 93.60 | 26.402 | |
| 4,300.0 | 4,246.1 | 4,315.6 | 4,315.6 | 13.8 | 85.7 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,375.5 | 95.81 | 25.794 | |
| 4,400.0 | 4,346.1 | 4,415.6 | 4,415.6 | 13.9 | 87.7 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,373.3 | 98.02 | 25.212 | |
| 4,500.0 | 4,446.1 | 4,515.6 | 4,515.6 | 14.1 | 89.7 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,371.1 | 100.23 | 24.657 | |
| 4,600.0 | 4,546.1 | 4,615.6 | 4,615.6 | 14.2 | 91.7 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,368.9 | 102.44 | 24.124 | |
| 4,700.0 | 4,646.1 | 4,715.6 | 4,715.6 | 14.4 | 93.7 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,366.6 | 104.65 | 23.614 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,800.0 | 4,746.1 | 4,815.6 | 4,815.6 | 14.5 | 95.8 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,364.4 | 106.86 | 23.125 | |
| 4,900.0 | 4,846.1 | 4,915.6 | 4,915.6 | 14.7 | 97.8 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,362.2 | 109.08 | 22.656 | |
| 5,000.0 | 4,946.1 | 5,015.6 | 5,015.6 | 14.8 | 99.8 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,360.0 | 111.29 | 22.205 | |
| 5,100.0 | 5,046.1 | 5,115.6 | 5,115.6 | 15.0 | 101.8 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,357.8 | 113.51 | 21.772 | |
| 5,200.0 | 5,146.1 | 5,215.6 | 5,215.6 | 15.1 | 103.8 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,355.6 | 115.73 | 21.355 | |
| 5,300.0 | 5,246.1 | 5,315.6 | 5,315.6 | 15.3 | 105.8 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,353.3 | 117.94 | 20.953 | |
| 5,400.0 | 5,346.1 | 5,415.6 | 5,415.6 | 15.5 | 107.8 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,351.1 | 120.16 | 20.567 | |
| 5,500.0 | 5,446.1 | 5,515.6 | 5,515.6 | 15.6 | 109.8 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,348.9 | 122.38 | 20.194 | |
| 5,600.0 | 5,546.1 | 5,615.6 | 5,615.6 | 15.8 | 111.8 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,346.7 | 124.60 | 19.834 | |
| 5,700.0 | 5,646.1 | 5,715.6 | 5,715.6 | 16.0 | 113.9 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,344.5 | 126.82 | 19.487 | |
| 5,800.0 | 5,746.1 | 5,815.6 | 5,815.6 | 16.1 | 115.9 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,342.3 | 129.04 | 19.152 | |
| 5,900.0 | 5,846.1 | 5,915.6 | 5,915.6 | 16.3 | 117.9 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,340.0 | 131.26 | 18.828 | |
| 6,000.0 | 5,946.1 | 6,015.6 | 6,015.6 | 16.5 | 119.9 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,337.8 | 133.48 | 18.515 | |
| 6,100.0 | 6,046.1 | 6,115.6 | 6,115.6 | 16.7 | 121.9 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,335.6 | 135.70 | 18.212 | |
| 6,200.0 | 6,146.1 | 6,215.6 | 6,215.6 | 16.8 | 123.9 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,333.4 | 137.92 | 17.918 | |
| 6,300.0 | 6,246.1 | 6,315.6 | 6,315.6 | 17.0 | 125.9 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,331.1 | 140.14 | 17.634 | |
| 6,322.7 | 6,268.8 | 6,338.3 | 6,338.3 | 17.1 | 126.4 | 64.14 | 1,512.0 | 1,878.1 | 2,471.3 | 2,330.6 | 140.65 | 17.571 | |
| 6,350.0 | 6,296.1 | 6,365.6 | 6,365.6 | 17.1 | 126.9 | -25.88 | 1,512.0 | 1,878.1 | 2,470.8 | 2,327.1 | 143.76 | 17.187 | |
| 6,400.0 | 6,345.9 | 6,415.4 | 6,415.4 | 17.2 | 127.9 | -26.03 | 1,512.0 | 1,878.1 | 2,467.5 | 2,323.3 | 144.24 | 17.107 | |
| 6,450.0 | 6,395.4 | 6,464.9 | 6,464.9 | 17.2 | 128.9 | -26.34 | 1,512.0 | 1,878.1 | 2,461.1 | 2,317.0 | 144.15 | 17.073 | |
| 6,500.0 | 6,444.3 | 6,513.8 | 6,513.8 | 17.2 | 129.9 | -26.79 | 1,512.0 | 1,878.1 | 2,451.7 | 2,308.2 | 143.50 | 17.084 | |
| 6,550.0 | 6,492.3 | 6,561.8 | 6,561.8 | 17.2 | 130.9 | -27.41 | 1,512.0 | 1,878.1 | 2,439.2 | 2,296.8 | 142.33 | 17.138 | |
| 6,600.0 | 6,539.2 | 6,608.7 | 6,608.7 | 17.2 | 131.8 | -28.20 | 1,512.0 | 1,878.1 | 2,423.7 | 2,283.0 | 140.67 | 17.230 | |
| 6,650.0 | 6,584.8 | 6,654.3 | 6,654.3 | 17.2 | 132.7 | -29.19 | 1,512.0 | 1,878.1 | 2,405.4 | 2,266.8 | 138.61 | 17.354 | |
| 6,700.0 | 6,628.9 | 6,698.4 | 6,698.4 | 17.2 | 133.6 | -30.39 | 1,512.0 | 1,878.1 | 2,384.3 | 2,248.1 | 136.25 | 17.500 | |
| 6,750.0 | 6,671.2 | 6,740.7 | 6,740.7 | 17.2 | 134.5 | -31.82 | 1,512.0 | 1,878.1 | 2,360.6 | 2,226.9 | 133.73 | 17.652 | |
| 6,800.0 | 6,711.5 | 6,781.0 | 6,781.0 | 17.2 | 135.3 | -33.52 | 1,512.0 | 1,878.1 | 2,334.4 | 2,203.1 | 131.24 | 17.788 | |
| 6,850.0 | 6,749.7 | 6,819.2 | 6,819.2 | 17.2 | 136.0 | -35.51 | 1,512.0 | 1,878.1 | 2,305.8 | 2,176.8 | 129.00 | 17.874 | |
| 6,900.0 | 6,785.6 | 6,855.1 | 6,855.1 | 17.1 | 136.8 | -37.85 | 1,512.0 | 1,878.1 | 2,275.1 | 2,147.8 | 127.32 | 17.870 | |
| 6,950.0 | 6,818.9 | 6,888.4 | 6,888.4 | 17.1 | 137.4 | -40.57 | 1,512.0 | 1,878.1 | 2,242.3 | 2,115.9 | 126.48 | 17.729 | |
| 7,000.0 | 6,849.5 | 6,919.0 | 6,919.0 | 17.1 | 138.1 | -43.71 | 1,512.0 | 1,878.1 | 2,207.8 | 2,081.0 | 126.79 | 17.413 | |
| 7,050.0 | 6,877.4 | 6,946.9 | 6,946.9 | 17.2 | 138.6 | -47.32 | 1,512.0 | 1,878.1 | 2,171.6 | 2,043.1 | 128.50 | 16.899 | |
| 7,100.0 | 6,902.2 | 6,971.7 | 6,971.7 | 17.3 | 139.1 | -51.43 | 1,512.0 | 1,878.1 | 2,134.1 | 2,002.4 | 131.71 | 16.203 | |
| 7,150.0 | 6,924.0 | 6,993.5 | 6,993.5 | 17.7 | 139.5 | -56.05 | 1,512.0 | 1,878.1 | 2,095.4 | 1,959.1 | 136.29 | 15.374 | |
| 7,200.0 | 6,942.6 | 7,012.1 | 7,012.1 | 18.2 | 139.9 | -61.17 | 1,512.0 | 1,878.1 | 2,055.7 | 1,913.8 | 141.87 | 14.490 | |
| 7,250.0 | 6,957.9 | 7,027.4 | 7,027.4 | 18.8 | 140.2 | -66.70 | 1,512.0 | 1,878.1 | 2,015.3 | 1,867.5 | 147.86 | 13.630 | |
| 7,300.0 | 6,969.8 | 7,039.3 | 7,039.3 | 19.6 | 140.5 | -72.55 | 1,512.0 | 1,878.1 | 1,974.5 | 1,821.0 | 153.53 | 12.861 | |
| 7,350.0 | 6,978.3 | 7,047.8 | 7,047.8 | 20.4 | 140.6 | -78.55 | 1,512.0 | 1,878.1 | 1,933.4 | 1,775.2 | 158.20 | 12.222 | |
| 7,400.0 | 6,983.4 | 7,052.9 | 7,052.9 | 21.3 | 140.7 | -84.51 | 1,512.0 | 1,878.1 | 1,892.3 | 1,731.0 | 161.38 | 11.726 | |
| 7,447.7 | 6,985.0 | 7,054.5 | 7,054.5 | 22.1 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,853.3 | 1,690.5 | 162.87 | 11.379 | |
| 7,500.0 | 6,985.0 | 7,054.5 | 7,054.5 | 23.1 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,811.1 | 1,647.2 | 163.87 | 11.052 | |
| 7,600.0 | 6,985.0 | 7,054.5 | 7,054.5 | 25.2 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,731.7 | 1,565.8 | 165.90 | 10.439 | |
| 7,700.0 | 6,985.0 | 7,054.5 | 7,054.5 | 27.4 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,654.6 | 1,486.6 | 168.07 | 9.845 | |
| 7,800.0 | 6,985.0 | 7,054.5 | 7,054.5 | 29.7 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,580.1 | 1,409.8 | 170.34 | 9.276 | |
| 7,900.0 | 6,985.0 | 7,054.5 | 7,054.5 | 32.0 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,508.5 | 1,335.8 | 172.70 | 8.735 | |
| 8,000.0 | 6,985.0 | 7,054.5 | 7,054.5 | 34.5 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,440.4 | 1,265.2 | 175.13 | 8.224 | |
| 8,100.0 | 6,985.0 | 7,054.5 | 7,054.5 | 36.9 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,376.1 | 1,198.5 | 177.62 | 7.747 | |
| 8,200.0 | 6,985.0 | 7,054.5 | 7,054.5 | 39.5 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,316.3 | 1,136.1 | 180.14 | 7.307 | |
| 8,300.0 | 6,985.0 | 7,054.5 | 7,054.5 | 42.0 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,261.5 | 1,078.8 | 182.71 | 6.905 | |
| 8,400.0 | 6,985.0 | 7,054.5 | 7,054.5 | 44.6 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,212.6 | 1,027.3 | 185.30 | 6.544 | |
| 8,500.0 | 6,985.0 | 7,054.5 | 7,054.5 | 47.2 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,170.2 | 982.3 | 187.92 | 6.227 | |
| 8,600.0 | 6,985.0 | 7,054.5 | 7,054.5 | 49.9 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,135.0 | 944.5 | 190.55 | 5.956 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - EXIST VERT MELLON 28-1 - Wellbore #1 - Design #1 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|---|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
| 8,700.0 | 6,985.0 | 7,054.5 | 7,054.5 | 52.5 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,107.8 | 914.6 | 193.21 | 5.734 | |
| 8,800.0 | 6,985.0 | 7,054.5 | 7,054.5 | 55.2 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,089.1 | 893.2 | 195.88 | 5.560 | |
| 8,900.0 | 6,985.0 | 7,054.5 | 7,054.5 | 57.9 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,079.4 | 880.8 | 198.57 | 5.436 | |
| 8,955.3 | 6,985.0 | 7,054.5 | 7,054.5 | 59.4 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,078.0 | 877.9 | 200.06 | 5.388 CC | |
| 9,000.0 | 6,985.0 | 7,054.5 | 7,054.5 | 60.6 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,078.9 | 877.6 | 201.26 | 5.361 ES | |
| 9,100.0 | 6,985.0 | 7,054.5 | 7,054.5 | 63.3 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,087.6 | 883.7 | 203.97 | 5.332 SF | |
| 9,200.0 | 6,985.0 | 7,054.5 | 7,054.5 | 66.0 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,105.4 | 898.7 | 206.68 | 5.348 | |
| 9,300.0 | 6,985.0 | 7,054.5 | 7,054.5 | 68.7 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,131.7 | 922.3 | 209.40 | 5.404 | |
| 9,400.0 | 6,985.0 | 7,054.5 | 7,054.5 | 71.4 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,166.1 | 953.9 | 212.13 | 5.497 | |
| 9,500.0 | 6,985.0 | 7,054.5 | 7,054.5 | 74.2 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,207.7 | 992.9 | 214.87 | 5.621 | |
| 9,600.0 | 6,985.0 | 7,054.5 | 7,054.5 | 76.9 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,256.0 | 1,038.4 | 217.61 | 5.772 | |
| 9,700.0 | 6,985.0 | 7,054.5 | 7,054.5 | 79.6 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,310.2 | 1,089.8 | 220.35 | 5.946 | |
| 9,800.0 | 6,985.0 | 7,054.5 | 7,054.5 | 82.4 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,369.5 | 1,146.4 | 223.10 | 6.138 | |
| 9,900.0 | 6,985.0 | 7,054.5 | 7,054.5 | 85.1 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,433.3 | 1,207.5 | 225.85 | 6.346 | |
| 10,000.0 | 6,985.0 | 7,054.5 | 7,054.5 | 87.9 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,501.1 | 1,272.5 | 228.61 | 6.566 | |
| 10,100.0 | 6,985.0 | 7,054.5 | 7,054.5 | 90.7 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,572.3 | 1,341.0 | 231.37 | 6.796 | |
| 10,200.0 | 6,985.0 | 7,054.5 | 7,054.5 | 93.4 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,646.6 | 1,412.4 | 234.13 | 7.033 | |
| 10,300.0 | 6,985.0 | 7,054.5 | 7,054.5 | 96.2 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,723.4 | 1,486.5 | 236.90 | 7.275 | |
| 10,400.0 | 6,985.0 | 7,054.5 | 7,054.5 | 98.9 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,802.5 | 1,562.8 | 239.67 | 7.521 | |
| 10,500.0 | 6,985.0 | 7,054.5 | 7,054.5 | 101.7 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,883.6 | 1,641.2 | 242.44 | 7.769 | |
| 10,600.0 | 6,985.0 | 7,054.5 | 7,054.5 | 104.5 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 1,966.4 | 1,721.2 | 245.21 | 8.019 | |
| 10,700.0 | 6,985.0 | 7,054.5 | 7,054.5 | 107.3 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 2,050.8 | 1,802.8 | 247.98 | 8.270 | |
| 10,800.0 | 6,985.0 | 7,054.5 | 7,054.5 | 110.0 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 2,136.5 | 1,885.8 | 250.76 | 8.520 | |
| 10,900.0 | 6,985.0 | 7,054.5 | 7,054.5 | 112.8 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 2,223.4 | 1,969.9 | 253.54 | 8.770 | |
| 11,000.0 | 6,985.0 | 7,054.5 | 7,054.5 | 115.6 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 2,311.4 | 2,055.1 | 256.32 | 9.018 | |
| 11,100.0 | 6,985.0 | 7,054.5 | 7,054.5 | 118.4 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 2,400.3 | 2,141.2 | 259.10 | 9.264 | |
| 11,200.0 | 6,985.0 | 7,054.5 | 7,054.5 | 121.2 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 2,490.1 | 2,228.2 | 261.88 | 9.508 | |
| 11,300.0 | 6,985.0 | 7,054.5 | 7,054.5 | 123.9 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 2,580.6 | 2,315.9 | 264.66 | 9.750 | |
| 11,400.0 | 6,985.0 | 7,054.5 | 7,054.5 | 126.7 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 2,671.8 | 2,404.3 | 267.45 | 9.990 | |
| 11,500.0 | 6,985.0 | 7,054.5 | 7,054.5 | 129.5 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 2,763.6 | 2,493.3 | 270.23 | 10.227 | |
| 11,600.0 | 6,985.0 | 7,054.5 | 7,054.5 | 132.3 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 2,855.9 | 2,582.9 | 273.02 | 10.460 | |
| 11,700.0 | 6,985.0 | 7,054.5 | 7,054.5 | 135.1 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 2,948.8 | 2,673.0 | 275.81 | 10.691 | |
| 11,800.0 | 6,985.0 | 7,054.5 | 7,054.5 | 137.9 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 3,042.1 | 2,763.5 | 278.59 | 10.919 | |
| 11,900.0 | 6,985.0 | 7,054.5 | 7,054.5 | 140.7 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 3,135.8 | 2,854.4 | 281.38 | 11.144 | |
| 12,000.0 | 6,985.0 | 7,054.5 | 7,054.5 | 143.4 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 3,229.9 | 2,945.7 | 284.17 | 11.366 | |
| 12,054.1 | 6,985.0 | 7,054.5 | 7,054.5 | 145.0 | 140.8 | -90.00 | 1,512.0 | 1,878.1 | 3,280.9 | 2,995.2 | 285.68 | 11.484 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 26.5 | 26.5 | 0.0 | 0.2 | 85.54 | 127.6 | 1,635.8 | 1,640.7 | | | | |
| 100.0 | 100.0 | 126.5 | 126.5 | 0.1 | 1.4 | 85.54 | 127.6 | 1,635.8 | 1,640.7 | 1,639.2 | 1.53 | 1,073.223 | |
| 200.0 | 200.0 | 226.5 | 226.5 | 0.3 | 3.7 | 85.54 | 127.6 | 1,635.8 | 1,640.7 | 1,636.7 | 4.06 | 404.090 | |
| 300.0 | 300.0 | 326.5 | 326.5 | 0.5 | 5.8 | 85.54 | 127.6 | 1,635.8 | 1,640.7 | 1,634.4 | 6.36 | 258.115 | |
| 400.0 | 400.0 | 426.5 | 426.5 | 0.8 | 7.8 | 85.54 | 127.6 | 1,635.8 | 1,640.7 | 1,632.1 | 8.62 | 190.338 | |
| 500.0 | 500.0 | 526.5 | 526.5 | 1.0 | 9.9 | 85.54 | 127.6 | 1,635.8 | 1,640.7 | 1,629.9 | 10.87 | 150.915 | |
| 600.0 | 600.0 | 626.5 | 626.5 | 1.2 | 11.9 | 85.54 | 127.6 | 1,635.8 | 1,640.7 | 1,627.6 | 13.12 | 125.074 | |
| 700.0 | 700.0 | 726.5 | 726.5 | 1.4 | 13.9 | 85.54 | 127.6 | 1,635.8 | 1,640.7 | 1,625.4 | 15.36 | 106.810 | |
| 800.0 | 800.0 | 826.5 | 826.5 | 1.7 | 15.9 | 85.54 | 127.6 | 1,635.8 | 1,640.7 | 1,623.1 | 17.60 | 93.210 | |
| 900.0 | 900.0 | 926.5 | 926.5 | 1.9 | 17.9 | 124.11 | 127.6 | 1,635.8 | 1,641.7 | 1,621.9 | 19.84 | 82.768 | |
| 1,000.0 | 999.8 | 1,026.3 | 1,026.3 | 2.1 | 20.0 | 124.22 | 127.6 | 1,635.8 | 1,644.7 | 1,622.6 | 22.05 | 74.573 | |
| 1,100.0 | 1,099.5 | 1,126.0 | 1,126.0 | 2.4 | 22.0 | 124.38 | 127.6 | 1,635.8 | 1,649.6 | 1,625.3 | 24.26 | 67.987 | |
| 1,200.0 | 1,198.7 | 1,225.2 | 1,225.2 | 2.6 | 24.0 | 124.62 | 127.6 | 1,635.8 | 1,656.5 | 1,630.1 | 26.46 | 62.597 | |
| 1,300.0 | 1,297.5 | 1,324.0 | 1,324.0 | 2.9 | 26.0 | 124.91 | 127.6 | 1,635.8 | 1,665.5 | 1,636.9 | 28.66 | 58.121 | |
| 1,400.0 | 1,395.6 | 1,422.1 | 1,422.1 | 3.2 | 27.9 | 125.25 | 127.6 | 1,635.8 | 1,676.6 | 1,645.8 | 30.84 | 54.359 | |
| 1,400.2 | 1,395.8 | 1,422.3 | 1,422.3 | 3.2 | 27.9 | 125.25 | 127.6 | 1,635.8 | 1,676.6 | 1,645.8 | 30.85 | 54.351 | |
| 1,500.0 | 1,493.4 | 1,519.9 | 1,519.9 | 3.6 | 29.9 | 125.82 | 127.6 | 1,635.8 | 1,688.9 | 1,655.8 | 33.10 | 51.017 | |
| 1,600.0 | 1,591.2 | 1,617.7 | 1,617.7 | 3.9 | 31.9 | 126.38 | 127.6 | 1,635.8 | 1,701.3 | 1,665.9 | 35.38 | 48.090 | |
| 1,700.0 | 1,689.1 | 1,715.6 | 1,715.6 | 4.3 | 33.8 | 126.93 | 127.6 | 1,635.8 | 1,713.9 | 1,676.2 | 37.66 | 45.511 | |
| 1,800.0 | 1,786.9 | 1,813.4 | 1,813.4 | 4.7 | 35.8 | 127.48 | 127.6 | 1,635.8 | 1,726.7 | 1,686.7 | 39.95 | 43.225 | |
| 1,900.0 | 1,884.7 | 1,911.2 | 1,911.2 | 5.2 | 37.8 | 128.01 | 127.6 | 1,635.8 | 1,739.6 | 1,697.3 | 42.24 | 41.187 | |
| 2,000.0 | 1,982.5 | 2,009.0 | 2,009.0 | 5.6 | 39.7 | 128.54 | 127.6 | 1,635.8 | 1,752.6 | 1,708.1 | 44.53 | 39.360 | |
| 2,100.0 | 2,080.3 | 2,106.8 | 2,106.8 | 6.0 | 41.7 | 129.06 | 127.6 | 1,635.8 | 1,765.8 | 1,719.0 | 46.82 | 37.714 | |
| 2,200.0 | 2,178.1 | 2,204.6 | 2,204.6 | 6.4 | 43.7 | 129.58 | 127.6 | 1,635.8 | 1,779.2 | 1,730.1 | 49.12 | 36.225 | |
| 2,300.0 | 2,275.9 | 2,302.4 | 2,302.4 | 6.9 | 45.6 | 130.08 | 127.6 | 1,635.8 | 1,792.7 | 1,741.3 | 51.41 | 34.872 | |
| 2,400.0 | 2,373.8 | 2,400.3 | 2,400.3 | 7.3 | 47.6 | 130.58 | 127.6 | 1,635.8 | 1,806.3 | 1,752.6 | 53.70 | 33.638 | |
| 2,500.0 | 2,471.6 | 2,498.1 | 2,498.1 | 7.7 | 49.6 | 131.07 | 127.6 | 1,635.8 | 1,820.1 | 1,764.1 | 55.99 | 32.508 | |
| 2,600.0 | 2,569.4 | 2,595.9 | 2,595.9 | 8.2 | 51.5 | 131.56 | 127.6 | 1,635.8 | 1,834.0 | 1,775.7 | 58.28 | 31.469 | |
| 2,700.0 | 2,667.2 | 2,693.7 | 2,693.7 | 8.6 | 53.5 | 132.03 | 127.6 | 1,635.8 | 1,848.0 | 1,787.5 | 60.57 | 30.513 | |
| 2,800.0 | 2,765.0 | 2,791.5 | 2,791.5 | 9.0 | 55.5 | 132.50 | 127.6 | 1,635.8 | 1,862.2 | 1,799.3 | 62.85 | 29.629 | |
| 2,900.0 | 2,862.8 | 2,889.3 | 2,889.3 | 9.5 | 57.4 | 132.96 | 127.6 | 1,635.8 | 1,876.5 | 1,811.3 | 65.13 | 28.810 | |
| 3,000.0 | 2,960.6 | 2,987.1 | 2,987.1 | 9.9 | 59.4 | 133.42 | 127.6 | 1,635.8 | 1,890.9 | 1,823.4 | 67.41 | 28.049 | |
| 3,100.0 | 3,058.4 | 3,084.9 | 3,084.9 | 10.4 | 61.4 | 133.87 | 127.6 | 1,635.8 | 1,905.4 | 1,835.7 | 69.69 | 27.340 | |
| 3,200.0 | 3,156.3 | 3,182.8 | 3,182.8 | 10.8 | 63.3 | 134.31 | 127.6 | 1,635.8 | 1,920.0 | 1,848.1 | 71.97 | 26.679 | |
| 3,300.0 | 3,254.1 | 3,280.6 | 3,280.6 | 11.3 | 65.3 | 134.75 | 127.6 | 1,635.8 | 1,934.8 | 1,860.5 | 74.24 | 26.060 | |
| 3,400.0 | 3,351.9 | 3,378.4 | 3,378.4 | 11.7 | 67.3 | 135.18 | 127.6 | 1,635.8 | 1,949.6 | 1,873.1 | 76.51 | 25.481 | |
| 3,465.5 | 3,416.0 | 3,442.5 | 3,442.5 | 12.0 | 68.6 | 135.46 | 127.6 | 1,635.8 | 1,959.4 | 1,881.4 | 78.00 | 25.121 | |
| 3,500.0 | 3,449.7 | 3,476.2 | 3,476.2 | 12.1 | 69.2 | 135.67 | 127.6 | 1,635.8 | 1,964.4 | 1,885.6 | 78.85 | 24.913 | |
| 3,600.0 | 3,548.1 | 3,574.6 | 3,574.6 | 12.5 | 71.2 | 136.21 | 127.6 | 1,635.8 | 1,977.4 | 1,896.1 | 81.27 | 24.332 | |
| 3,700.0 | 3,647.1 | 3,673.6 | 3,673.6 | 12.7 | 73.2 | 136.64 | 127.6 | 1,635.8 | 1,987.9 | 1,904.3 | 83.65 | 23.765 | |
| 3,800.0 | 3,746.5 | 3,773.0 | 3,773.0 | 13.0 | 75.2 | 136.97 | 127.6 | 1,635.8 | 1,996.0 | 1,910.0 | 85.99 | 23.213 | |
| 3,900.0 | 3,846.2 | 3,872.7 | 3,872.7 | 13.2 | 77.2 | 137.19 | 127.6 | 1,635.8 | 2,001.5 | 1,913.2 | 88.26 | 22.676 | |
| 4,000.0 | 3,946.1 | 3,972.6 | 3,972.6 | 13.3 | 79.2 | 137.31 | 127.6 | 1,635.8 | 2,004.5 | 1,914.0 | 90.48 | 22.154 | |
| 4,065.7 | 4,011.8 | 4,038.3 | 4,038.3 | 13.4 | 80.5 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,912.7 | 92.37 | 21.707 | |
| 4,100.0 | 4,046.1 | 4,072.6 | 4,072.6 | 13.5 | 81.2 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,911.9 | 93.11 | 21.534 | |
| 4,200.0 | 4,146.1 | 4,172.6 | 4,172.6 | 13.6 | 83.3 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,909.7 | 95.28 | 21.043 | |
| 4,300.0 | 4,246.1 | 4,272.6 | 4,272.6 | 13.8 | 85.3 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,907.6 | 97.46 | 20.573 | |
| 4,400.0 | 4,346.1 | 4,372.6 | 4,372.6 | 13.9 | 87.3 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,905.4 | 99.64 | 20.123 | |
| 4,500.0 | 4,446.1 | 4,472.6 | 4,472.6 | 14.1 | 89.3 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,903.2 | 101.82 | 19.693 | |
| 4,600.0 | 4,546.1 | 4,572.6 | 4,572.6 | 14.2 | 91.3 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,901.0 | 104.00 | 19.280 | |
| 4,700.0 | 4,646.1 | 4,672.6 | 4,672.6 | 14.4 | 93.3 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,898.8 | 106.18 | 18.883 | |
| 4,800.0 | 4,746.1 | 4,772.6 | 4,772.6 | 14.5 | 95.3 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,896.7 | 108.37 | 18.502 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,872.6 | 4,872.6 | 14.7 | 97.3 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,894.5 | 110.55 | 18.136 | |
| 5,000.0 | 4,946.1 | 4,972.6 | 4,972.6 | 14.8 | 99.3 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,892.3 | 112.74 | 17.785 | |
| 5,100.0 | 5,046.1 | 5,072.6 | 5,072.6 | 15.0 | 101.3 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,890.1 | 114.93 | 17.446 | |
| 5,200.0 | 5,146.1 | 5,172.6 | 5,172.6 | 15.1 | 103.4 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,887.9 | 117.12 | 17.119 | |
| 5,300.0 | 5,246.1 | 5,272.6 | 5,272.6 | 15.3 | 105.4 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,885.7 | 119.31 | 16.805 | |
| 5,400.0 | 5,346.1 | 5,372.6 | 5,372.6 | 15.5 | 107.4 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,883.5 | 121.50 | 16.502 | |
| 5,500.0 | 5,446.1 | 5,472.6 | 5,472.6 | 15.6 | 109.4 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,881.3 | 123.70 | 16.209 | |
| 5,600.0 | 5,546.1 | 5,572.6 | 5,572.6 | 15.8 | 111.4 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,879.1 | 125.89 | 15.926 | |
| 5,700.0 | 5,646.1 | 5,672.6 | 5,672.6 | 16.0 | 113.4 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,876.9 | 128.09 | 15.653 | |
| 5,800.0 | 5,746.1 | 5,772.6 | 5,772.6 | 16.1 | 115.4 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,874.7 | 130.29 | 15.389 | |
| 5,900.0 | 5,846.1 | 5,872.6 | 5,872.6 | 16.3 | 117.4 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,872.5 | 132.49 | 15.134 | |
| 6,000.0 | 5,946.1 | 5,972.6 | 5,972.6 | 16.5 | 119.4 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,870.3 | 134.69 | 14.886 | |
| 6,100.0 | 6,046.1 | 6,072.6 | 6,072.6 | 16.7 | 121.5 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,868.1 | 136.89 | 14.647 | |
| 6,200.0 | 6,146.1 | 6,172.6 | 6,172.6 | 16.8 | 123.5 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,865.9 | 139.09 | 14.415 | |
| 6,300.0 | 6,246.1 | 6,272.6 | 6,272.6 | 17.0 | 125.5 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,863.7 | 141.29 | 14.191 | |
| 6,322.7 | 6,268.8 | 6,295.3 | 6,295.3 | 17.1 | 125.9 | 98.79 | 127.6 | 1,635.8 | 2,005.0 | 1,863.2 | 141.79 | 14.140 | |
| 6,350.0 | 6,296.1 | 6,322.6 | 6,322.6 | 17.1 | 126.5 | 8.80 | 127.6 | 1,635.8 | 2,004.5 | 1,862.7 | 141.82 | 14.134 | |
| 6,400.0 | 6,345.9 | 6,372.4 | 6,372.4 | 17.2 | 127.5 | 8.86 | 127.6 | 1,635.8 | 2,000.9 | 1,858.8 | 142.16 | 14.076 | |
| 6,450.0 | 6,395.4 | 6,421.9 | 6,421.9 | 17.2 | 128.5 | 8.98 | 127.6 | 1,635.8 | 1,993.9 | 1,852.1 | 141.80 | 14.061 | |
| 6,500.0 | 6,444.3 | 6,470.8 | 6,470.8 | 17.2 | 129.5 | 9.16 | 127.6 | 1,635.8 | 1,983.5 | 1,842.7 | 140.75 | 14.092 | |
| 6,550.0 | 6,492.3 | 6,518.8 | 6,518.8 | 17.2 | 130.4 | 9.41 | 127.6 | 1,635.8 | 1,969.7 | 1,830.7 | 139.00 | 14.170 | |
| 6,600.0 | 6,539.2 | 6,565.7 | 6,565.7 | 17.2 | 131.4 | 9.74 | 127.6 | 1,635.8 | 1,952.7 | 1,816.1 | 136.56 | 14.298 | |
| 6,650.0 | 6,584.8 | 6,611.3 | 6,611.3 | 17.2 | 132.3 | 10.15 | 127.6 | 1,635.8 | 1,932.4 | 1,799.0 | 133.45 | 14.480 | |
| 6,700.0 | 6,628.9 | 6,655.4 | 6,655.4 | 17.2 | 133.2 | 10.65 | 127.6 | 1,635.8 | 1,909.1 | 1,779.4 | 129.69 | 14.720 | |
| 6,750.0 | 6,671.2 | 6,697.7 | 6,697.7 | 17.2 | 134.0 | 11.28 | 127.6 | 1,635.8 | 1,882.9 | 1,757.5 | 125.33 | 15.023 | |
| 6,800.0 | 6,711.5 | 6,738.0 | 6,738.0 | 17.2 | 134.8 | 12.04 | 127.6 | 1,635.8 | 1,853.7 | 1,733.3 | 120.44 | 15.392 | |
| 6,850.0 | 6,749.7 | 6,776.2 | 6,776.2 | 17.2 | 135.6 | 12.97 | 127.6 | 1,635.8 | 1,821.9 | 1,706.8 | 115.10 | 15.829 | |
| 6,900.0 | 6,785.6 | 6,812.1 | 6,812.1 | 17.1 | 136.3 | 14.11 | 127.6 | 1,635.8 | 1,787.6 | 1,678.1 | 109.47 | 16.330 | |
| 6,950.0 | 6,818.9 | 6,845.4 | 6,845.4 | 17.1 | 137.0 | 15.51 | 127.6 | 1,635.8 | 1,750.9 | 1,647.2 | 103.76 | 16.874 | |
| 7,000.0 | 6,849.5 | 6,876.0 | 6,876.0 | 17.1 | 137.6 | 17.27 | 127.6 | 1,635.8 | 1,712.0 | 1,613.7 | 98.32 | 17.414 | |
| 7,050.0 | 6,877.4 | 6,903.9 | 6,903.9 | 17.2 | 138.2 | 19.48 | 127.6 | 1,635.8 | 1,671.2 | 1,577.6 | 93.65 | 17.845 | |
| 7,100.0 | 6,902.2 | 6,928.7 | 6,928.7 | 17.3 | 138.7 | 22.32 | 127.6 | 1,635.8 | 1,628.6 | 1,538.0 | 90.57 | 17.983 | |
| 7,150.0 | 6,924.0 | 6,950.5 | 6,950.5 | 17.7 | 139.1 | 26.02 | 127.6 | 1,635.8 | 1,584.4 | 1,494.2 | 90.20 | 17.566 | |
| 7,200.0 | 6,942.6 | 6,969.1 | 6,969.1 | 18.2 | 139.5 | 30.94 | 127.6 | 1,635.8 | 1,538.9 | 1,444.9 | 93.97 | 16.376 | |
| 7,250.0 | 6,957.9 | 6,984.4 | 6,984.4 | 18.8 | 139.8 | 37.59 | 127.6 | 1,635.8 | 1,492.3 | 1,389.1 | 103.25 | 14.454 | |
| 7,300.0 | 6,969.8 | 6,996.3 | 6,996.3 | 19.6 | 140.0 | 46.66 | 127.6 | 1,635.8 | 1,444.8 | 1,326.3 | 118.48 | 12.195 | |
| 7,350.0 | 6,978.3 | 7,004.8 | 7,004.8 | 20.4 | 140.2 | 58.83 | 127.6 | 1,635.8 | 1,396.7 | 1,258.9 | 137.78 | 10.137 | |
| 7,400.0 | 6,983.4 | 7,009.9 | 7,009.9 | 21.3 | 140.3 | 74.08 | 127.6 | 1,635.8 | 1,348.3 | 1,193.1 | 155.16 | 8.689 | |
| 7,447.7 | 6,985.0 | 7,011.5 | 7,011.5 | 22.1 | 140.3 | 90.00 | 127.6 | 1,635.8 | 1,301.9 | 1,139.4 | 162.44 | 8.014 | |
| 7,500.0 | 6,985.0 | 7,011.5 | 7,011.5 | 23.1 | 140.3 | 90.00 | 127.6 | 1,635.8 | 1,251.1 | 1,087.7 | 163.43 | 7.655 | |
| 7,600.0 | 6,985.0 | 7,011.5 | 7,011.5 | 25.2 | 140.3 | 90.00 | 127.6 | 1,635.8 | 1,154.4 | 989.0 | 165.46 | 6.977 | |
| 7,700.0 | 6,985.0 | 7,011.5 | 7,011.5 | 27.4 | 140.3 | 90.00 | 127.6 | 1,635.8 | 1,058.3 | 890.7 | 167.63 | 6.313 | |
| 7,800.0 | 6,985.0 | 7,011.5 | 7,011.5 | 29.7 | 140.3 | 90.00 | 127.6 | 1,635.8 | 963.1 | 793.1 | 169.91 | 5.668 | |
| 7,900.0 | 6,985.0 | 7,011.5 | 7,011.5 | 32.0 | 140.3 | 90.00 | 127.6 | 1,635.8 | 868.8 | 696.6 | 172.27 | 5.043 | |
| 8,000.0 | 6,985.0 | 7,011.5 | 7,011.5 | 34.5 | 140.3 | 90.00 | 127.6 | 1,635.8 | 776.1 | 601.4 | 174.70 | 4.442 | |
| 8,100.0 | 6,985.0 | 7,011.5 | 7,011.5 | 36.9 | 140.3 | 90.00 | 127.6 | 1,635.8 | 685.3 | 508.1 | 177.18 | 3.868 | |
| 8,200.0 | 6,985.0 | 7,011.5 | 7,011.5 | 39.5 | 140.3 | 90.00 | 127.6 | 1,635.8 | 597.6 | 417.8 | 179.71 | 3.325 | |
| 8,300.0 | 6,985.0 | 7,011.5 | 7,011.5 | 42.0 | 140.3 | 90.00 | 127.6 | 1,635.8 | 514.3 | 332.0 | 182.27 | 2.821 | |
| 8,400.0 | 6,985.0 | 7,011.5 | 7,011.5 | 44.6 | 140.3 | 90.00 | 127.6 | 1,635.8 | 438.0 | 253.2 | 184.86 | 2.369 | |
| 8,500.0 | 6,985.0 | 7,011.5 | 7,011.5 | 47.2 | 140.3 | 90.00 | 127.6 | 1,635.8 | 373.2 | 185.7 | 187.48 | 1.991 | |
| 8,600.0 | 6,985.0 | 7,011.5 | 7,011.5 | 49.9 | 140.3 | 90.00 | 127.6 | 1,635.8 | 326.6 | 136.5 | 190.12 | 1.718 | |
| 8,700.0 | 6,985.0 | 7,011.5 | 7,011.5 | 52.5 | 140.3 | 90.00 | 127.6 | 1,635.8 | 306.7 | 113.9 | 192.78 | 1.591 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - EXIST VERT MELLON 28-2 - Wellbore #1 - Design #1 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|---|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|------------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | Offset | Semi Major Axis | | Distance | | | | | | | | | |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
| 8,713.0 | 6,985.0 | 7,011.5 | 7,011.5 | 52.9 | 140.3 | 90.00 | 127.6 | 1,635.8 | 306.4 | 113.3 | 193.12 | 1.587 | CC, ES, SF |
| 8,800.0 | 6,985.0 | 7,011.5 | 7,011.5 | 55.2 | 140.3 | 90.00 | 127.6 | 1,635.8 | 318.5 | 123.1 | 195.45 | 1.630 | |
| 8,900.0 | 6,985.0 | 7,011.5 | 7,011.5 | 57.9 | 140.3 | 90.00 | 127.6 | 1,635.8 | 359.0 | 160.9 | 198.13 | 1.812 | |
| 9,000.0 | 6,985.0 | 7,011.5 | 7,011.5 | 60.6 | 140.3 | 90.00 | 127.6 | 1,635.8 | 419.8 | 219.0 | 200.83 | 2.091 | |
| 9,100.0 | 6,985.0 | 7,011.5 | 7,011.5 | 63.3 | 140.3 | 90.00 | 127.6 | 1,635.8 | 493.6 | 290.1 | 203.53 | 2.425 | |
| 9,200.0 | 6,985.0 | 7,011.5 | 7,011.5 | 66.0 | 140.3 | 90.00 | 127.6 | 1,635.8 | 575.4 | 369.1 | 206.25 | 2.790 | |
| 9,300.0 | 6,985.0 | 7,011.5 | 7,011.5 | 68.7 | 140.3 | 90.00 | 127.6 | 1,635.8 | 662.2 | 453.2 | 208.97 | 3.169 | |
| 9,400.0 | 6,985.0 | 7,011.5 | 7,011.5 | 71.4 | 140.3 | 90.00 | 127.6 | 1,635.8 | 752.2 | 540.5 | 211.70 | 3.553 | |
| 9,500.0 | 6,985.0 | 7,011.5 | 7,011.5 | 74.2 | 140.3 | 90.00 | 127.6 | 1,635.8 | 844.6 | 630.1 | 214.43 | 3.939 | |
| 9,600.0 | 6,985.0 | 7,011.5 | 7,011.5 | 76.9 | 140.3 | 90.00 | 127.6 | 1,635.8 | 938.4 | 721.3 | 217.17 | 4.321 | |
| 9,700.0 | 6,985.0 | 7,011.5 | 7,011.5 | 79.6 | 140.3 | 90.00 | 127.6 | 1,635.8 | 1,033.5 | 813.6 | 219.92 | 4.699 | |
| 9,800.0 | 6,985.0 | 7,011.5 | 7,011.5 | 82.4 | 140.3 | 90.00 | 127.6 | 1,635.8 | 1,129.4 | 906.7 | 222.67 | 5.072 | |
| 9,900.0 | 6,985.0 | 7,011.5 | 7,011.5 | 85.1 | 140.3 | 90.00 | 127.6 | 1,635.8 | 1,225.9 | 1,000.5 | 225.42 | 5.438 | |
| 10,000.0 | 6,985.0 | 7,011.5 | 7,011.5 | 87.9 | 140.3 | 90.00 | 127.6 | 1,635.8 | 1,323.0 | 1,094.8 | 228.18 | 5.798 | |
| 10,100.0 | 6,985.0 | 7,011.5 | 7,011.5 | 90.7 | 140.3 | 90.00 | 127.6 | 1,635.8 | 1,420.4 | 1,189.5 | 230.94 | 6.151 | |
| 10,200.0 | 6,985.0 | 7,011.5 | 7,011.5 | 93.4 | 140.3 | 90.00 | 127.6 | 1,635.8 | 1,518.2 | 1,284.5 | 233.70 | 6.497 | |
| 10,300.0 | 6,985.0 | 7,011.5 | 7,011.5 | 96.2 | 140.3 | 90.00 | 127.6 | 1,635.8 | 1,616.3 | 1,379.8 | 236.47 | 6.835 | |
| 10,400.0 | 6,985.0 | 7,011.5 | 7,011.5 | 98.9 | 140.3 | 90.00 | 127.6 | 1,635.8 | 1,714.6 | 1,475.4 | 239.23 | 7.167 | |
| 10,500.0 | 6,985.0 | 7,011.5 | 7,011.5 | 101.7 | 140.3 | 90.00 | 127.6 | 1,635.8 | 1,813.1 | 1,571.1 | 242.00 | 7.492 | |
| 10,600.0 | 6,985.0 | 7,011.5 | 7,011.5 | 104.5 | 140.3 | 90.00 | 127.6 | 1,635.8 | 1,911.7 | 1,666.9 | 244.78 | 7.810 | |
| 10,700.0 | 6,985.0 | 7,011.5 | 7,011.5 | 107.3 | 140.3 | 90.00 | 127.6 | 1,635.8 | 2,010.5 | 1,762.9 | 247.55 | 8.122 | |
| 10,800.0 | 6,985.0 | 7,011.5 | 7,011.5 | 110.0 | 140.3 | 90.00 | 127.6 | 1,635.8 | 2,109.4 | 1,859.1 | 250.33 | 8.426 | |
| 10,900.0 | 6,985.0 | 7,011.5 | 7,011.5 | 112.8 | 140.3 | 90.00 | 127.6 | 1,635.8 | 2,208.4 | 1,955.3 | 253.10 | 8.725 | |
| 11,000.0 | 6,985.0 | 7,011.5 | 7,011.5 | 115.6 | 140.3 | 90.00 | 127.6 | 1,635.8 | 2,307.4 | 2,051.6 | 255.88 | 9.018 | |
| 11,100.0 | 6,985.0 | 7,011.5 | 7,011.5 | 118.4 | 140.3 | 90.00 | 127.6 | 1,635.8 | 2,406.6 | 2,147.9 | 258.66 | 9.304 | |
| 11,200.0 | 6,985.0 | 7,011.5 | 7,011.5 | 121.2 | 140.3 | 90.00 | 127.6 | 1,635.8 | 2,505.8 | 2,244.4 | 261.45 | 9.584 | |
| 11,300.0 | 6,985.0 | 7,011.5 | 7,011.5 | 123.9 | 140.3 | 90.00 | 127.6 | 1,635.8 | 2,605.1 | 2,340.9 | 264.23 | 9.859 | |
| 11,400.0 | 6,985.0 | 7,011.5 | 7,011.5 | 126.7 | 140.3 | 90.00 | 127.6 | 1,635.8 | 2,704.4 | 2,437.4 | 267.01 | 10.128 | |
| 11,500.0 | 6,985.0 | 7,011.5 | 7,011.5 | 129.5 | 140.3 | 90.00 | 127.6 | 1,635.8 | 2,803.8 | 2,534.0 | 269.80 | 10.392 | |
| 11,600.0 | 6,985.0 | 7,011.5 | 7,011.5 | 132.3 | 140.3 | 90.00 | 127.6 | 1,635.8 | 2,903.2 | 2,630.6 | 272.59 | 10.651 | |
| 11,700.0 | 6,985.0 | 7,011.5 | 7,011.5 | 135.1 | 140.3 | 90.00 | 127.6 | 1,635.8 | 3,002.7 | 2,727.3 | 275.37 | 10.904 | |
| 11,800.0 | 6,985.0 | 7,011.5 | 7,011.5 | 137.9 | 140.3 | 90.00 | 127.6 | 1,635.8 | 3,102.2 | 2,824.0 | 278.16 | 11.152 | |
| 11,900.0 | 6,985.0 | 7,011.5 | 7,011.5 | 140.7 | 140.3 | 90.00 | 127.6 | 1,635.8 | 3,201.7 | 2,920.7 | 280.95 | 11.396 | |
| 12,000.0 | 6,985.0 | 7,011.5 | 7,011.5 | 143.4 | 140.3 | 90.00 | 127.6 | 1,635.8 | 3,301.3 | 3,017.5 | 283.74 | 11.635 | |
| 12,054.1 | 6,985.0 | 7,011.5 | 7,011.5 | 145.0 | 140.3 | 90.00 | 127.6 | 1,635.8 | 3,355.2 | 3,069.9 | 285.25 | 11.762 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 100.5 | 100.5 | 0.0 | 0.0 | 32.65 | 2,670.4 | 1,710.8 | 3,171.5 | | | | |
| 100.0 | 100.0 | 200.5 | 200.5 | 0.1 | 1.2 | 32.65 | 2,670.4 | 1,710.8 | 3,171.5 | 3,170.2 | 1.25 | 2,529.716 | |
| 200.0 | 200.0 | 300.5 | 300.5 | 0.3 | 3.5 | 32.65 | 2,670.4 | 1,710.8 | 3,171.5 | 3,167.7 | 3.78 | 839.252 | |
| 300.0 | 300.0 | 400.5 | 400.5 | 0.5 | 5.5 | 32.65 | 2,670.4 | 1,710.8 | 3,171.5 | 3,165.4 | 6.08 | 521.389 | |
| 400.0 | 400.0 | 500.5 | 500.5 | 0.8 | 7.6 | 32.65 | 2,670.4 | 1,710.8 | 3,171.5 | 3,163.1 | 8.35 | 379.824 | |
| 500.0 | 500.0 | 600.5 | 600.5 | 1.0 | 9.6 | 32.65 | 2,670.4 | 1,710.8 | 3,171.5 | 3,160.9 | 10.60 | 299.091 | |
| 600.0 | 600.0 | 700.5 | 700.5 | 1.2 | 11.6 | 32.65 | 2,670.4 | 1,710.8 | 3,171.5 | 3,158.6 | 12.85 | 246.783 | |
| 700.0 | 700.0 | 800.5 | 800.5 | 1.4 | 13.6 | 32.65 | 2,670.4 | 1,710.8 | 3,171.5 | 3,156.4 | 15.10 | 210.097 | |
| 800.0 | 800.0 | 900.5 | 900.5 | 1.7 | 15.7 | 32.65 | 2,670.4 | 1,710.8 | 3,171.5 | 3,154.1 | 17.34 | 182.929 | |
| 900.0 | 900.0 | 1,000.5 | 1,000.5 | 1.9 | 17.7 | 71.23 | 2,670.4 | 1,710.8 | 3,170.9 | 3,151.3 | 19.57 | 162.000 | |
| 1,000.0 | 999.8 | 1,100.3 | 1,100.3 | 2.1 | 19.7 | 71.35 | 2,670.4 | 1,710.8 | 3,169.2 | 3,147.4 | 21.80 | 145.345 | |
| 1,100.0 | 1,099.5 | 1,200.0 | 1,200.0 | 2.4 | 21.7 | 71.55 | 2,670.4 | 1,710.8 | 3,166.4 | 3,142.4 | 24.04 | 131.729 | |
| 1,200.0 | 1,198.7 | 1,299.2 | 1,299.2 | 2.6 | 23.7 | 71.83 | 2,670.4 | 1,710.8 | 3,162.6 | 3,136.3 | 26.28 | 120.354 | |
| 1,300.0 | 1,297.5 | 1,398.0 | 1,398.0 | 2.9 | 25.7 | 72.19 | 2,670.4 | 1,710.8 | 3,157.7 | 3,129.2 | 28.53 | 110.674 | |
| 1,400.0 | 1,395.6 | 1,496.1 | 1,496.1 | 3.2 | 27.7 | 72.63 | 2,670.4 | 1,710.8 | 3,151.8 | 3,121.0 | 30.81 | 102.305 | |
| 1,400.2 | 1,395.8 | 1,496.3 | 1,496.3 | 3.2 | 27.7 | 72.63 | 2,670.4 | 1,710.8 | 3,151.8 | 3,121.0 | 30.81 | 102.287 | |
| 1,500.0 | 1,493.4 | 1,593.9 | 1,593.9 | 3.6 | 29.6 | 72.98 | 2,670.4 | 1,710.8 | 3,145.6 | 3,112.4 | 33.13 | 94.952 | |
| 1,600.0 | 1,591.2 | 1,691.7 | 1,691.7 | 3.9 | 31.6 | 73.34 | 2,670.4 | 1,710.8 | 3,139.4 | 3,103.9 | 35.47 | 88.518 | |
| 1,700.0 | 1,689.1 | 1,789.6 | 1,789.6 | 4.3 | 33.6 | 73.69 | 2,670.4 | 1,710.8 | 3,133.4 | 3,095.6 | 37.82 | 82.851 | |
| 1,800.0 | 1,786.9 | 1,887.4 | 1,887.4 | 4.7 | 35.5 | 74.05 | 2,670.4 | 1,710.8 | 3,127.5 | 3,087.3 | 40.18 | 77.829 | |
| 1,900.0 | 1,884.7 | 1,985.2 | 1,985.2 | 5.2 | 37.5 | 74.41 | 2,670.4 | 1,710.8 | 3,121.7 | 3,079.2 | 42.56 | 73.353 | |
| 2,000.0 | 1,982.5 | 2,083.0 | 2,083.0 | 5.6 | 39.5 | 74.77 | 2,670.4 | 1,710.8 | 3,116.1 | 3,071.1 | 44.94 | 69.342 | |
| 2,100.0 | 2,080.3 | 2,180.8 | 2,180.8 | 6.0 | 41.4 | 75.13 | 2,670.4 | 1,710.8 | 3,110.6 | 3,063.2 | 47.32 | 65.729 | |
| 2,200.0 | 2,178.1 | 2,278.6 | 2,278.6 | 6.4 | 43.4 | 75.50 | 2,670.4 | 1,710.8 | 3,105.2 | 3,055.5 | 49.72 | 62.460 | |
| 2,300.0 | 2,275.9 | 2,376.4 | 2,376.4 | 6.9 | 45.4 | 75.86 | 2,670.4 | 1,710.8 | 3,099.9 | 3,047.8 | 52.11 | 59.488 | |
| 2,400.0 | 2,373.8 | 2,474.3 | 2,474.3 | 7.3 | 47.3 | 76.23 | 2,670.4 | 1,710.8 | 3,094.8 | 3,040.3 | 54.51 | 56.776 | |
| 2,500.0 | 2,471.6 | 2,572.1 | 2,572.1 | 7.7 | 49.3 | 76.59 | 2,670.4 | 1,710.8 | 3,089.8 | 3,032.9 | 56.91 | 54.292 | |
| 2,600.0 | 2,569.4 | 2,669.9 | 2,669.9 | 8.2 | 51.3 | 76.96 | 2,670.4 | 1,710.8 | 3,085.0 | 3,025.7 | 59.32 | 52.009 | |
| 2,700.0 | 2,667.2 | 2,767.7 | 2,767.7 | 8.6 | 53.2 | 77.33 | 2,670.4 | 1,710.8 | 3,080.2 | 3,018.5 | 61.72 | 49.905 | |
| 2,800.0 | 2,765.0 | 2,865.5 | 2,865.5 | 9.0 | 55.2 | 77.70 | 2,670.4 | 1,710.8 | 3,075.7 | 3,011.5 | 64.13 | 47.959 | |
| 2,900.0 | 2,862.8 | 2,963.3 | 2,963.3 | 9.5 | 57.2 | 78.07 | 2,670.4 | 1,710.8 | 3,071.2 | 3,004.7 | 66.54 | 46.154 | |
| 3,000.0 | 2,960.6 | 3,061.1 | 3,061.1 | 9.9 | 59.1 | 78.45 | 2,670.4 | 1,710.8 | 3,066.9 | 2,997.9 | 68.95 | 44.477 | |
| 3,100.0 | 3,058.4 | 3,158.9 | 3,158.9 | 10.4 | 61.1 | 78.82 | 2,670.4 | 1,710.8 | 3,062.7 | 2,991.3 | 71.37 | 42.914 | |
| 3,200.0 | 3,156.3 | 3,256.8 | 3,256.8 | 10.8 | 63.1 | 79.19 | 2,670.4 | 1,710.8 | 3,058.6 | 2,984.9 | 73.78 | 41.454 | |
| 3,300.0 | 3,254.1 | 3,354.6 | 3,354.6 | 11.3 | 65.0 | 79.57 | 2,670.4 | 1,710.8 | 3,054.7 | 2,978.5 | 76.20 | 40.088 | |
| 3,400.0 | 3,351.9 | 3,452.4 | 3,452.4 | 11.7 | 67.0 | 79.94 | 2,670.4 | 1,710.8 | 3,050.9 | 2,972.3 | 78.62 | 38.807 | |
| 3,465.5 | 3,416.0 | 3,516.5 | 3,516.5 | 12.0 | 68.3 | 80.19 | 2,670.4 | 1,710.8 | 3,048.5 | 2,968.3 | 80.20 | 38.011 | |
| 3,500.0 | 3,449.7 | 3,550.2 | 3,550.2 | 12.1 | 69.0 | 80.29 | 2,670.4 | 1,710.8 | 3,047.3 | 2,966.3 | 81.02 | 37.611 | |
| 3,600.0 | 3,548.1 | 3,648.6 | 3,648.6 | 12.5 | 71.0 | 80.56 | 2,670.4 | 1,710.8 | 3,044.3 | 2,961.0 | 83.33 | 36.533 | |
| 3,700.0 | 3,647.1 | 3,747.6 | 3,747.6 | 12.7 | 73.0 | 80.78 | 2,670.4 | 1,710.8 | 3,041.9 | 2,956.3 | 85.61 | 35.533 | |
| 3,800.0 | 3,746.5 | 3,847.0 | 3,847.0 | 13.0 | 75.0 | 80.95 | 2,670.4 | 1,710.8 | 3,040.2 | 2,952.3 | 87.86 | 34.604 | |
| 3,900.0 | 3,846.2 | 3,946.7 | 3,946.7 | 13.2 | 77.0 | 81.06 | 2,670.4 | 1,710.8 | 3,039.0 | 2,948.9 | 90.07 | 33.740 | |
| 4,000.0 | 3,946.1 | 4,046.6 | 4,046.6 | 13.3 | 79.0 | 81.13 | 2,670.4 | 1,710.8 | 3,038.4 | 2,946.1 | 92.25 | 32.938 | |
| 4,065.7 | 4,011.8 | 4,112.3 | 4,112.3 | 13.4 | 80.3 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,948.5 | 89.76 | 33.847 | |
| 4,100.0 | 4,046.1 | 4,146.6 | 4,146.6 | 13.5 | 81.0 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,947.7 | 90.52 | 33.566 | |
| 4,200.0 | 4,146.1 | 4,246.6 | 4,246.6 | 13.6 | 83.0 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,945.5 | 92.72 | 32.767 | |
| 4,300.0 | 4,246.1 | 4,346.6 | 4,346.6 | 13.8 | 85.0 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,943.3 | 94.93 | 32.004 | |
| 4,400.0 | 4,346.1 | 4,446.6 | 4,446.6 | 13.9 | 87.0 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,941.1 | 97.14 | 31.276 | |
| 4,500.0 | 4,446.1 | 4,546.6 | 4,546.6 | 14.1 | 89.0 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,938.9 | 99.35 | 30.580 | |
| 4,600.0 | 4,546.1 | 4,646.6 | 4,646.6 | 14.2 | 91.0 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,936.7 | 101.57 | 29.914 | |
| 4,700.0 | 4,646.1 | 4,746.6 | 4,746.6 | 14.4 | 93.0 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,934.5 | 103.78 | 29.276 | |
| 4,800.0 | 4,746.1 | 4,846.6 | 4,846.6 | 14.5 | 95.1 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,932.3 | 105.99 | 28.664 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,946.6 | 4,946.6 | 14.7 | 97.1 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,930.1 | 108.21 | 28.078 | |
| 5,000.0 | 4,946.1 | 5,046.6 | 5,046.6 | 14.8 | 99.1 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,927.8 | 110.42 | 27.514 | |
| 5,100.0 | 5,046.1 | 5,146.6 | 5,146.6 | 15.0 | 101.1 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,925.6 | 112.64 | 26.973 | |
| 5,200.0 | 5,146.1 | 5,246.6 | 5,246.6 | 15.1 | 103.1 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,923.4 | 114.86 | 26.452 | |
| 5,300.0 | 5,246.1 | 5,346.6 | 5,346.6 | 15.3 | 105.1 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,921.2 | 117.08 | 25.951 | |
| 5,400.0 | 5,346.1 | 5,446.6 | 5,446.6 | 15.5 | 107.1 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,919.0 | 119.29 | 25.469 | |
| 5,500.0 | 5,446.1 | 5,546.6 | 5,546.6 | 15.6 | 109.1 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,916.7 | 121.51 | 25.004 | |
| 5,600.0 | 5,546.1 | 5,646.6 | 5,646.6 | 15.8 | 111.1 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,914.5 | 123.73 | 24.555 | |
| 5,700.0 | 5,646.1 | 5,746.6 | 5,746.6 | 16.0 | 113.2 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,912.3 | 125.95 | 24.122 | |
| 5,800.0 | 5,746.1 | 5,846.6 | 5,846.6 | 16.1 | 115.2 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,910.1 | 128.17 | 23.704 | |
| 5,900.0 | 5,846.1 | 5,946.6 | 5,946.6 | 16.3 | 117.2 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,907.9 | 130.39 | 23.300 | |
| 6,000.0 | 5,946.1 | 6,046.6 | 6,046.6 | 16.5 | 119.2 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,905.6 | 132.62 | 22.910 | |
| 6,100.0 | 6,046.1 | 6,146.6 | 6,146.6 | 16.7 | 121.2 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,903.4 | 134.84 | 22.533 | |
| 6,200.0 | 6,146.1 | 6,246.6 | 6,246.6 | 16.8 | 123.2 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,901.2 | 137.06 | 22.167 | |
| 6,300.0 | 6,246.1 | 6,346.6 | 6,346.6 | 17.0 | 125.2 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,899.0 | 139.28 | 21.813 | |
| 6,322.7 | 6,268.8 | 6,369.3 | 6,369.3 | 17.1 | 125.7 | 42.60 | 2,670.4 | 1,710.8 | 3,038.3 | 2,898.5 | 139.79 | 21.735 | |
| 6,350.0 | 6,296.1 | 6,396.6 | 6,396.6 | 17.1 | 126.2 | -47.43 | 2,670.4 | 1,710.8 | 3,037.9 | 2,894.7 | 143.25 | 21.207 | |
| 6,400.0 | 6,345.9 | 6,446.4 | 6,446.4 | 17.2 | 127.2 | -47.62 | 2,670.4 | 1,710.8 | 3,035.4 | 2,891.5 | 143.99 | 21.082 | |
| 6,450.0 | 6,395.4 | 6,495.9 | 6,495.9 | 17.2 | 128.2 | -48.01 | 2,670.4 | 1,710.8 | 3,030.6 | 2,886.2 | 144.39 | 20.989 | |
| 6,500.0 | 6,444.3 | 6,544.8 | 6,544.8 | 17.2 | 129.2 | -48.59 | 2,670.4 | 1,710.8 | 3,023.5 | 2,879.0 | 144.50 | 20.924 | |
| 6,550.0 | 6,492.3 | 6,592.8 | 6,592.8 | 17.2 | 130.2 | -49.36 | 2,670.4 | 1,710.8 | 3,014.2 | 2,869.8 | 144.34 | 20.882 | |
| 6,600.0 | 6,539.2 | 6,639.7 | 6,639.7 | 17.2 | 131.1 | -50.32 | 2,670.4 | 1,710.8 | 3,002.6 | 2,858.6 | 143.99 | 20.852 | |
| 6,650.0 | 6,584.8 | 6,685.3 | 6,685.3 | 17.2 | 132.0 | -51.49 | 2,670.4 | 1,710.8 | 2,989.0 | 2,845.5 | 143.53 | 20.824 | |
| 6,700.0 | 6,628.9 | 6,729.4 | 6,729.4 | 17.2 | 132.9 | -52.86 | 2,670.4 | 1,710.8 | 2,973.4 | 2,830.3 | 143.06 | 20.784 | |
| 6,750.0 | 6,671.2 | 6,771.7 | 6,771.7 | 17.2 | 133.8 | -54.44 | 2,670.4 | 1,710.8 | 2,955.9 | 2,813.2 | 142.68 | 20.717 | |
| 6,800.0 | 6,711.5 | 6,812.0 | 6,812.0 | 17.2 | 134.6 | -56.22 | 2,670.4 | 1,710.8 | 2,936.7 | 2,794.2 | 142.50 | 20.608 | |
| 6,850.0 | 6,749.7 | 6,850.2 | 6,850.2 | 17.2 | 135.3 | -58.20 | 2,670.4 | 1,710.8 | 2,915.9 | 2,773.3 | 142.63 | 20.444 | |
| 6,900.0 | 6,785.6 | 6,886.1 | 6,886.1 | 17.1 | 136.1 | -60.38 | 2,670.4 | 1,710.8 | 2,893.7 | 2,750.5 | 143.14 | 20.215 | |
| 6,950.0 | 6,818.9 | 6,919.4 | 6,919.4 | 17.1 | 136.7 | -62.75 | 2,670.4 | 1,710.8 | 2,870.2 | 2,726.1 | 144.10 | 19.918 | |
| 7,000.0 | 6,849.5 | 6,950.0 | 6,950.0 | 17.1 | 137.4 | -65.28 | 2,670.4 | 1,710.8 | 2,845.6 | 2,700.1 | 145.49 | 19.559 | |
| 7,050.0 | 6,877.4 | 6,977.9 | 6,977.9 | 17.2 | 137.9 | -67.95 | 2,670.4 | 1,710.8 | 2,820.1 | 2,672.8 | 147.28 | 19.149 | |
| 7,100.0 | 6,902.2 | 7,002.7 | 7,002.7 | 17.3 | 138.4 | -70.74 | 2,670.4 | 1,710.8 | 2,793.9 | 2,644.5 | 149.37 | 18.705 | |
| 7,150.0 | 6,924.0 | 7,024.5 | 7,024.5 | 17.7 | 138.9 | -73.60 | 2,670.4 | 1,710.8 | 2,767.2 | 2,615.5 | 151.64 | 18.248 | |
| 7,200.0 | 6,942.6 | 7,043.1 | 7,043.1 | 18.2 | 139.2 | -76.50 | 2,670.4 | 1,710.8 | 2,740.1 | 2,586.1 | 153.95 | 17.799 | |
| 7,250.0 | 6,957.9 | 7,058.4 | 7,058.4 | 18.8 | 139.5 | -79.40 | 2,670.4 | 1,710.8 | 2,712.9 | 2,556.7 | 156.16 | 17.373 | |
| 7,300.0 | 6,969.8 | 7,070.3 | 7,070.3 | 19.6 | 139.8 | -82.25 | 2,670.4 | 1,710.8 | 2,685.7 | 2,527.5 | 158.15 | 16.982 | |
| 7,350.0 | 6,978.3 | 7,078.8 | 7,078.8 | 20.4 | 139.9 | -85.00 | 2,670.4 | 1,710.8 | 2,658.7 | 2,498.9 | 159.85 | 16.633 | |
| 7,400.0 | 6,983.4 | 7,083.9 | 7,083.9 | 21.3 | 140.0 | -87.63 | 2,670.4 | 1,710.8 | 2,632.2 | 2,471.0 | 161.20 | 16.328 | |
| 7,447.7 | 6,985.0 | 7,085.5 | 7,085.5 | 22.1 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,607.3 | 2,445.2 | 162.18 | 16.077 | |
| 7,500.0 | 6,985.0 | 7,085.5 | 7,085.5 | 23.1 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,580.9 | 2,417.7 | 163.17 | 15.817 | |
| 7,600.0 | 6,985.0 | 7,085.5 | 7,085.5 | 25.2 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,532.4 | 2,367.2 | 165.20 | 15.329 | |
| 7,700.0 | 6,985.0 | 7,085.5 | 7,085.5 | 27.4 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,487.1 | 2,319.7 | 167.37 | 14.860 | |
| 7,800.0 | 6,985.0 | 7,085.5 | 7,085.5 | 29.7 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,445.0 | 2,275.3 | 169.65 | 14.412 | |
| 7,900.0 | 6,985.0 | 7,085.5 | 7,085.5 | 32.0 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,406.3 | 2,234.3 | 172.01 | 13.990 | |
| 8,000.0 | 6,985.0 | 7,085.5 | 7,085.5 | 34.5 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,371.2 | 2,196.8 | 174.44 | 13.594 | |
| 8,100.0 | 6,985.0 | 7,085.5 | 7,085.5 | 36.9 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,339.9 | 2,163.0 | 176.92 | 13.226 | |
| 8,200.0 | 6,985.0 | 7,085.5 | 7,085.5 | 39.5 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,312.5 | 2,133.0 | 179.45 | 12.887 | |
| 8,300.0 | 6,985.0 | 7,085.5 | 7,085.5 | 42.0 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,289.1 | 2,107.1 | 182.01 | 12.577 | |
| 8,400.0 | 6,985.0 | 7,085.5 | 7,085.5 | 44.6 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,269.9 | 2,085.3 | 184.60 | 12.296 | |
| 8,500.0 | 6,985.0 | 7,085.5 | 7,085.5 | 47.2 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,254.9 | 2,067.7 | 187.22 | 12.044 | |
| 8,600.0 | 6,985.0 | 7,085.5 | 7,085.5 | 49.9 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,244.3 | 2,054.5 | 189.86 | 11.821 | |
| 8,700.0 | 6,985.0 | 7,085.5 | 7,085.5 | 52.5 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,238.2 | 2,045.7 | 192.52 | 11.626 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - EXIST VERT MELLON 28-4 - Wellbore #1 - Design #1 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|---|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 0-INC | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 8,788.1 | 6,985.0 | 7,085.5 | 7,085.5 | 54.9 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,236.4 | 2,041.6 | 194.87 | 11.477 | CC |
| 8,800.0 | 6,985.0 | 7,085.5 | 7,085.5 | 55.2 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,236.5 | 2,041.3 | 195.19 | 11.458 | ES |
| 8,900.0 | 6,985.0 | 7,085.5 | 7,085.5 | 57.9 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,239.2 | 2,041.4 | 197.87 | 11.317 | |
| 9,000.0 | 6,985.0 | 7,085.5 | 7,085.5 | 60.6 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,246.5 | 2,045.9 | 200.57 | 11.201 | |
| 9,100.0 | 6,985.0 | 7,085.5 | 7,085.5 | 63.3 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,258.1 | 2,054.8 | 203.27 | 11.109 | |
| 9,200.0 | 6,985.0 | 7,085.5 | 7,085.5 | 66.0 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,274.1 | 2,068.1 | 205.99 | 11.040 | |
| 9,300.0 | 6,985.0 | 7,085.5 | 7,085.5 | 68.7 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,294.3 | 2,085.6 | 208.71 | 10.993 | |
| 9,400.0 | 6,985.0 | 7,085.5 | 7,085.5 | 71.4 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,318.7 | 2,107.2 | 211.44 | 10.966 | |
| 9,500.0 | 6,985.0 | 7,085.5 | 7,085.5 | 74.2 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,347.0 | 2,132.9 | 214.17 | 10.959 | SF |
| 9,600.0 | 6,985.0 | 7,085.5 | 7,085.5 | 76.9 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,379.3 | 2,162.4 | 216.91 | 10.969 | |
| 9,700.0 | 6,985.0 | 7,085.5 | 7,085.5 | 79.6 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,415.2 | 2,195.6 | 219.66 | 10.995 | |
| 9,800.0 | 6,985.0 | 7,085.5 | 7,085.5 | 82.4 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,454.7 | 2,232.3 | 222.41 | 11.037 | |
| 9,900.0 | 6,985.0 | 7,085.5 | 7,085.5 | 85.1 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,497.6 | 2,272.5 | 225.16 | 11.093 | |
| 10,000.0 | 6,985.0 | 7,085.5 | 7,085.5 | 87.9 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,543.7 | 2,315.8 | 227.92 | 11.161 | |
| 10,100.0 | 6,985.0 | 7,085.5 | 7,085.5 | 90.7 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,592.9 | 2,362.2 | 230.68 | 11.240 | |
| 10,200.0 | 6,985.0 | 7,085.5 | 7,085.5 | 93.4 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,644.9 | 2,411.4 | 233.44 | 11.330 | |
| 10,300.0 | 6,985.0 | 7,085.5 | 7,085.5 | 96.2 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,699.6 | 2,463.4 | 236.20 | 11.429 | |
| 10,400.0 | 6,985.0 | 7,085.5 | 7,085.5 | 98.9 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,756.8 | 2,517.8 | 238.97 | 11.536 | |
| 10,500.0 | 6,985.0 | 7,085.5 | 7,085.5 | 101.7 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,816.5 | 2,574.7 | 241.74 | 11.651 | |
| 10,600.0 | 6,985.0 | 7,085.5 | 7,085.5 | 104.5 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,878.3 | 2,633.8 | 244.51 | 11.772 | |
| 10,700.0 | 6,985.0 | 7,085.5 | 7,085.5 | 107.3 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 2,942.3 | 2,695.0 | 247.29 | 11.898 | |
| 10,800.0 | 6,985.0 | 7,085.5 | 7,085.5 | 110.0 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 3,008.3 | 2,758.2 | 250.06 | 12.030 | |
| 10,900.0 | 6,985.0 | 7,085.5 | 7,085.5 | 112.8 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 3,076.0 | 2,823.2 | 252.84 | 12.166 | |
| 11,000.0 | 6,985.0 | 7,085.5 | 7,085.5 | 115.6 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 3,145.5 | 2,889.9 | 255.62 | 12.305 | |
| 11,100.0 | 6,985.0 | 7,085.5 | 7,085.5 | 118.4 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 3,216.6 | 2,958.2 | 258.40 | 12.448 | |
| 11,200.0 | 6,985.0 | 7,085.5 | 7,085.5 | 121.2 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 3,289.2 | 3,028.1 | 261.18 | 12.594 | |
| 11,300.0 | 6,985.0 | 7,085.5 | 7,085.5 | 123.9 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 3,363.3 | 3,099.3 | 263.97 | 12.741 | |
| 11,400.0 | 6,985.0 | 7,085.5 | 7,085.5 | 126.7 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 3,438.6 | 3,171.8 | 266.75 | 12.891 | |
| 11,500.0 | 6,985.0 | 7,085.5 | 7,085.5 | 129.5 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 3,515.2 | 3,245.6 | 269.54 | 13.041 | |
| 11,600.0 | 6,985.0 | 7,085.5 | 7,085.5 | 132.3 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 3,592.9 | 3,320.5 | 272.32 | 13.193 | |
| 11,700.0 | 6,985.0 | 7,085.5 | 7,085.5 | 135.1 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 3,671.7 | 3,396.5 | 275.11 | 13.346 | |
| 11,800.0 | 6,985.0 | 7,085.5 | 7,085.5 | 137.9 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 3,751.5 | 3,473.6 | 277.90 | 13.499 | |
| 11,900.0 | 6,985.0 | 7,085.5 | 7,085.5 | 140.7 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 3,832.2 | 3,551.5 | 280.69 | 13.653 | |
| 12,000.0 | 6,985.0 | 7,085.5 | 7,085.5 | 143.4 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 3,913.9 | 3,630.4 | 283.48 | 13.807 | |
| 12,054.1 | 6,985.0 | 7,085.5 | 7,085.5 | 145.0 | 140.1 | -90.00 | 2,670.4 | 1,710.8 | 3,958.4 | 3,673.4 | 284.99 | 13.890 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWMD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 114.5 | 114.5 | 0.0 | 0.0 | 46.89 | 2,863.7 | 3,059.4 | 4,190.5 | | | | |
| 100.0 | 100.0 | 214.5 | 214.5 | 0.1 | 0.1 | 46.89 | 2,863.7 | 3,059.4 | 4,190.5 | 4,190.3 | 0.21 | N/A | |
| 200.0 | 200.0 | 314.5 | 314.5 | 0.3 | 0.3 | 46.89 | 2,863.7 | 3,059.4 | 4,190.5 | 4,189.9 | 0.66 | 6,346.882 | |
| 300.0 | 300.0 | 414.5 | 414.5 | 0.5 | 0.6 | 46.89 | 2,863.7 | 3,059.4 | 4,190.5 | 4,189.4 | 1.11 | 3,775.994 | |
| 400.0 | 400.0 | 514.5 | 514.5 | 0.8 | 0.8 | 46.89 | 2,863.7 | 3,059.4 | 4,190.5 | 4,189.0 | 1.56 | 2,687.419 | |
| 500.0 | 500.0 | 614.5 | 614.5 | 1.0 | 1.0 | 46.89 | 2,863.7 | 3,059.4 | 4,190.5 | 4,188.5 | 2.01 | 2,086.039 | |
| 600.0 | 600.0 | 714.5 | 714.5 | 1.2 | 1.2 | 46.89 | 2,863.7 | 3,059.4 | 4,190.5 | 4,188.1 | 2.46 | 1,704.592 | |
| 700.0 | 700.0 | 814.5 | 814.5 | 1.4 | 1.5 | 46.89 | 2,863.7 | 3,059.4 | 4,190.5 | 4,187.6 | 2.91 | 1,441.080 | |
| 800.0 | 800.0 | 914.5 | 914.5 | 1.7 | 1.7 | 46.89 | 2,863.7 | 3,059.4 | 4,190.5 | 4,187.2 | 3.36 | 1,248.132 | |
| 900.0 | 900.0 | 1,014.5 | 1,014.5 | 1.9 | 1.9 | 85.46 | 2,863.7 | 3,059.4 | 4,190.4 | 4,186.6 | 3.80 | 1,101.553 | |
| 1,000.0 | 999.8 | 1,114.3 | 1,114.3 | 2.1 | 2.1 | 85.54 | 2,863.7 | 3,059.4 | 4,190.0 | 4,185.7 | 4.25 | 985.581 | |
| 1,100.0 | 1,099.5 | 1,214.0 | 1,214.0 | 2.4 | 2.4 | 85.67 | 2,863.7 | 3,059.4 | 4,189.3 | 4,184.6 | 4.71 | 889.704 | |
| 1,200.0 | 1,198.7 | 1,313.2 | 1,313.2 | 2.6 | 2.6 | 85.85 | 2,863.7 | 3,059.4 | 4,188.4 | 4,183.2 | 5.19 | 807.792 | |
| 1,300.0 | 1,297.5 | 1,412.0 | 1,412.0 | 2.9 | 2.8 | 86.09 | 2,863.7 | 3,059.4 | 4,187.3 | 4,181.6 | 5.69 | 735.873 | |
| 1,400.0 | 1,395.6 | 1,510.1 | 1,510.1 | 3.2 | 3.0 | 86.37 | 2,863.7 | 3,059.4 | 4,186.0 | 4,179.8 | 6.23 | 671.453 | |
| 1,400.2 | 1,395.8 | 1,510.3 | 1,510.3 | 3.2 | 3.0 | 86.37 | 2,863.7 | 3,059.4 | 4,186.0 | 4,179.8 | 6.24 | 671.317 | |
| 1,500.0 | 1,493.4 | 1,607.9 | 1,607.9 | 3.6 | 3.2 | 86.64 | 2,863.7 | 3,059.4 | 4,184.7 | 4,177.9 | 6.81 | 614.241 | |
| 1,600.0 | 1,591.2 | 1,705.7 | 1,705.7 | 3.9 | 3.5 | 86.92 | 2,863.7 | 3,059.4 | 4,183.5 | 4,176.1 | 7.41 | 564.502 | |
| 1,700.0 | 1,689.1 | 1,803.6 | 1,803.6 | 4.3 | 3.7 | 87.20 | 2,863.7 | 3,059.4 | 4,182.4 | 4,174.4 | 8.02 | 521.265 | |
| 1,800.0 | 1,786.9 | 1,901.4 | 1,901.4 | 4.7 | 3.9 | 87.48 | 2,863.7 | 3,059.4 | 4,181.4 | 4,172.8 | 8.65 | 483.565 | |
| 1,900.0 | 1,884.7 | 1,999.2 | 1,999.2 | 5.2 | 4.1 | 87.76 | 2,863.7 | 3,059.4 | 4,180.6 | 4,171.3 | 9.28 | 450.543 | |
| 2,000.0 | 1,982.5 | 2,097.0 | 2,097.0 | 5.6 | 4.3 | 88.04 | 2,863.7 | 3,059.4 | 4,179.8 | 4,169.9 | 9.92 | 421.467 | |
| 2,100.0 | 2,080.3 | 2,194.8 | 2,194.8 | 6.0 | 4.6 | 88.32 | 2,863.7 | 3,059.4 | 4,179.1 | 4,168.5 | 10.56 | 395.727 | |
| 2,200.0 | 2,178.1 | 2,292.6 | 2,292.6 | 6.4 | 4.8 | 88.59 | 2,863.7 | 3,059.4 | 4,178.5 | 4,167.3 | 11.21 | 372.816 | |
| 2,300.0 | 2,275.9 | 2,390.4 | 2,390.4 | 6.9 | 5.0 | 88.87 | 2,863.7 | 3,059.4 | 4,178.1 | 4,166.2 | 11.86 | 352.320 | |
| 2,400.0 | 2,373.8 | 2,488.3 | 2,488.3 | 7.3 | 5.2 | 89.15 | 2,863.7 | 3,059.4 | 4,177.7 | 4,165.2 | 12.51 | 333.892 | |
| 2,500.0 | 2,471.6 | 2,586.1 | 2,586.1 | 7.7 | 5.4 | 89.43 | 2,863.7 | 3,059.4 | 4,177.4 | 4,164.3 | 13.17 | 317.249 | |
| 2,600.0 | 2,569.4 | 2,683.9 | 2,683.9 | 8.2 | 5.7 | 89.71 | 2,863.7 | 3,059.4 | 4,177.3 | 4,163.4 | 13.83 | 302.153 | |
| 2,700.0 | 2,667.2 | 2,781.7 | 2,781.7 | 8.6 | 5.9 | 89.99 | 2,863.7 | 3,059.4 | 4,177.2 | 4,162.7 | 14.48 | 288.405 | |
| 2,703.7 | 2,670.8 | 2,785.3 | 2,785.3 | 8.6 | 5.9 | 90.00 | 2,863.7 | 3,059.4 | 4,177.2 | 4,162.7 | 14.51 | 287.916 | |
| 2,800.0 | 2,765.0 | 2,879.5 | 2,879.5 | 9.0 | 6.1 | 90.27 | 2,863.7 | 3,059.4 | 4,177.3 | 4,162.1 | 15.14 | 275.838 | |
| 2,900.0 | 2,862.8 | 2,977.3 | 2,977.3 | 9.5 | 6.3 | 90.55 | 2,863.7 | 3,059.4 | 4,177.4 | 4,161.6 | 15.81 | 264.310 | |
| 3,000.0 | 2,960.6 | 3,075.1 | 3,075.1 | 9.9 | 6.5 | 90.83 | 2,863.7 | 3,059.4 | 4,177.7 | 4,161.2 | 16.47 | 253.701 | |
| 3,100.0 | 3,058.4 | 3,172.9 | 3,172.9 | 10.4 | 6.8 | 91.11 | 2,863.7 | 3,059.4 | 4,178.0 | 4,160.9 | 17.13 | 243.908 | |
| 3,200.0 | 3,156.3 | 3,270.8 | 3,270.8 | 10.8 | 7.0 | 91.38 | 2,863.7 | 3,059.4 | 4,178.5 | 4,160.7 | 17.79 | 234.844 | |
| 3,300.0 | 3,254.1 | 3,368.6 | 3,368.6 | 11.3 | 7.2 | 91.66 | 2,863.7 | 3,059.4 | 4,179.1 | 4,160.6 | 18.46 | 226.431 | |
| 3,400.0 | 3,351.9 | 3,466.4 | 3,466.4 | 11.7 | 7.4 | 91.94 | 2,863.7 | 3,059.4 | 4,179.7 | 4,160.6 | 19.12 | 218.603 | |
| 3,465.5 | 3,416.0 | 3,530.5 | 3,530.5 | 12.0 | 7.6 | 92.12 | 2,863.7 | 3,059.4 | 4,180.2 | 4,160.7 | 19.56 | 213.766 | |
| 3,500.0 | 3,449.7 | 3,564.2 | 3,564.2 | 12.1 | 7.6 | 92.22 | 2,863.7 | 3,059.4 | 4,180.5 | 4,160.7 | 19.77 | 211.508 | |
| 3,600.0 | 3,548.1 | 3,662.6 | 3,662.6 | 12.5 | 7.9 | 92.48 | 2,863.7 | 3,059.4 | 4,181.2 | 4,160.9 | 20.30 | 205.951 | |
| 3,700.0 | 3,647.1 | 3,761.6 | 3,761.6 | 12.7 | 8.1 | 92.69 | 2,863.7 | 3,059.4 | 4,181.9 | 4,161.1 | 20.80 | 201.017 | |
| 3,800.0 | 3,746.5 | 3,861.0 | 3,861.0 | 13.0 | 8.3 | 92.85 | 2,863.7 | 3,059.4 | 4,182.4 | 4,161.2 | 21.27 | 196.652 | |
| 3,900.0 | 3,846.2 | 3,960.7 | 3,960.7 | 13.2 | 8.5 | 92.96 | 2,863.7 | 3,059.4 | 4,182.8 | 4,161.1 | 21.69 | 192.803 | |
| 4,000.0 | 3,946.1 | 4,060.6 | 4,060.6 | 13.3 | 8.8 | 93.02 | 2,863.7 | 3,059.4 | 4,183.0 | 4,160.9 | 22.08 | 189.422 | |
| 4,065.7 | 4,011.8 | 4,126.3 | 4,126.3 | 13.4 | 8.9 | 94.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,164.7 | 18.32 | 228.360 | |
| 4,100.0 | 4,046.1 | 4,160.6 | 4,160.6 | 13.5 | 9.0 | 94.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,164.6 | 18.46 | 226.635 | |
| 4,200.0 | 4,146.1 | 4,260.6 | 4,260.6 | 13.6 | 9.2 | 94.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,164.2 | 18.88 | 221.543 | |
| 4,300.0 | 4,246.1 | 4,360.6 | 4,360.6 | 13.8 | 9.4 | 94.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,163.8 | 19.31 | 216.663 | |
| 4,400.0 | 4,346.1 | 4,460.6 | 4,460.6 | 13.9 | 9.7 | 94.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,163.3 | 19.73 | 211.982 | |
| 4,500.0 | 4,446.1 | 4,560.6 | 4,560.6 | 14.1 | 9.9 | 94.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,162.9 | 20.16 | 207.489 | |
| 4,600.0 | 4,546.1 | 4,660.6 | 4,660.6 | 14.2 | 10.1 | 94.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,162.5 | 20.59 | 203.174 | |
| 4,700.0 | 4,646.1 | 4,760.6 | 4,760.6 | 14.4 | 10.3 | 94.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,162.0 | 21.02 | 199.026 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWDD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,800.0 | 4,746.1 | 4,860.6 | 4,860.6 | 14.5 | 10.6 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,161.6 | 21.45 | 195.037 | |
| 4,900.0 | 4,846.1 | 4,960.6 | 4,960.6 | 14.7 | 10.8 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,161.2 | 21.88 | 191.198 | |
| 5,000.0 | 4,946.1 | 5,060.6 | 5,060.6 | 14.8 | 11.0 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,160.8 | 22.31 | 187.501 | |
| 5,100.0 | 5,046.1 | 5,160.6 | 5,160.6 | 15.0 | 11.2 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,160.3 | 22.74 | 183.939 | |
| 5,200.0 | 5,146.1 | 5,260.6 | 5,260.6 | 15.1 | 11.5 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,159.9 | 23.17 | 180.505 | |
| 5,300.0 | 5,246.1 | 5,360.6 | 5,360.6 | 15.3 | 11.7 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,159.5 | 23.61 | 177.192 | |
| 5,400.0 | 5,346.1 | 5,460.6 | 5,460.6 | 15.5 | 11.9 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,159.0 | 24.04 | 173.994 | |
| 5,500.0 | 5,446.1 | 5,560.6 | 5,560.6 | 15.6 | 12.1 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,158.6 | 24.48 | 170.906 | |
| 5,600.0 | 5,546.1 | 5,660.6 | 5,660.6 | 15.8 | 12.4 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,158.2 | 24.91 | 167.922 | |
| 5,700.0 | 5,646.1 | 5,760.6 | 5,760.6 | 16.0 | 12.6 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,157.7 | 25.35 | 165.037 | |
| 5,800.0 | 5,746.1 | 5,860.6 | 5,860.6 | 16.1 | 12.8 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,157.3 | 25.78 | 162.247 | |
| 5,900.0 | 5,846.1 | 5,960.6 | 5,960.6 | 16.3 | 13.0 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,156.8 | 26.22 | 159.546 | |
| 6,000.0 | 5,946.1 | 6,060.6 | 6,060.6 | 16.5 | 13.3 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,156.4 | 26.66 | 156.932 | |
| 6,100.0 | 6,046.1 | 6,160.6 | 6,160.6 | 16.7 | 13.5 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,156.0 | 27.09 | 154.400 | |
| 6,200.0 | 6,146.1 | 6,260.6 | 6,260.6 | 16.8 | 13.7 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,155.5 | 27.53 | 151.945 | |
| 6,300.0 | 6,246.1 | 6,360.6 | 6,360.6 | 17.0 | 13.9 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,155.1 | 27.97 | 149.566 | |
| 6,322.7 | 6,268.8 | 6,383.3 | 6,383.3 | 17.1 | 14.0 | 54.49 | 2,863.7 | 3,059.4 | 4,183.1 | 4,155.0 | 28.07 | 149.035 | |
| 6,350.0 | 6,296.1 | 6,410.6 | 6,410.6 | 17.1 | 14.0 | -35.53 | 2,863.7 | 3,059.4 | 4,182.6 | 4,151.5 | 31.11 | 134.443 | |
| 6,400.0 | 6,345.9 | 6,460.4 | 6,460.4 | 17.2 | 14.2 | -35.70 | 2,863.7 | 3,059.4 | 4,179.7 | 4,148.5 | 31.20 | 133.960 | |
| 6,450.0 | 6,395.4 | 6,509.9 | 6,509.9 | 17.2 | 14.3 | -36.03 | 2,863.7 | 3,059.4 | 4,173.9 | 4,142.7 | 31.20 | 133.792 | |
| 6,500.0 | 6,444.3 | 6,558.8 | 6,558.8 | 17.2 | 14.4 | -36.53 | 2,863.7 | 3,059.4 | 4,165.3 | 4,134.2 | 31.10 | 133.913 | |
| 6,550.0 | 6,492.3 | 6,606.8 | 6,606.8 | 17.2 | 14.5 | -37.20 | 2,863.7 | 3,059.4 | 4,154.0 | 4,123.1 | 30.93 | 134.288 | |
| 6,600.0 | 6,539.2 | 6,653.7 | 6,653.7 | 17.2 | 14.6 | -38.05 | 2,863.7 | 3,059.4 | 4,140.0 | 4,109.3 | 30.70 | 134.868 | |
| 6,650.0 | 6,584.8 | 6,699.3 | 6,699.3 | 17.2 | 14.7 | -39.10 | 2,863.7 | 3,059.4 | 4,123.5 | 4,093.1 | 30.41 | 135.590 | |
| 6,700.0 | 6,628.9 | 6,743.4 | 6,743.4 | 17.2 | 14.8 | -40.35 | 2,863.7 | 3,059.4 | 4,104.4 | 4,074.3 | 30.10 | 136.365 | |
| 6,750.0 | 6,671.2 | 6,785.7 | 6,785.7 | 17.2 | 14.9 | -41.83 | 2,863.7 | 3,059.4 | 4,083.0 | 4,053.2 | 29.79 | 137.078 | |
| 6,800.0 | 6,711.5 | 6,826.0 | 6,826.0 | 17.2 | 15.0 | -43.55 | 2,863.7 | 3,059.4 | 4,059.3 | 4,029.8 | 29.50 | 137.583 | |
| 6,850.0 | 6,749.7 | 6,864.2 | 6,864.2 | 17.2 | 15.1 | -45.52 | 2,863.7 | 3,059.4 | 4,033.5 | 4,004.2 | 29.29 | 137.704 | |
| 6,900.0 | 6,785.6 | 6,900.1 | 6,900.1 | 17.1 | 15.1 | -47.77 | 2,863.7 | 3,059.4 | 4,005.8 | 3,976.6 | 29.19 | 137.251 | |
| 6,950.0 | 6,818.9 | 6,933.4 | 6,933.4 | 17.1 | 15.2 | -50.32 | 2,863.7 | 3,059.4 | 3,976.2 | 3,947.0 | 29.23 | 136.040 | |
| 7,000.0 | 6,849.5 | 6,964.0 | 6,964.0 | 17.1 | 15.3 | -53.18 | 2,863.7 | 3,059.4 | 3,945.0 | 3,915.6 | 29.45 | 133.938 | |
| 7,050.0 | 6,877.4 | 6,991.9 | 6,991.9 | 17.2 | 15.3 | -56.36 | 2,863.7 | 3,059.4 | 3,912.4 | 3,882.5 | 29.89 | 130.902 | |
| 7,100.0 | 6,902.2 | 7,016.7 | 7,016.7 | 17.3 | 15.4 | -59.86 | 2,863.7 | 3,059.4 | 3,878.5 | 3,847.9 | 30.54 | 127.006 | |
| 7,150.0 | 6,924.0 | 7,038.5 | 7,038.5 | 17.7 | 15.5 | -63.66 | 2,863.7 | 3,059.4 | 3,843.5 | 3,812.1 | 31.39 | 122.447 | |
| 7,200.0 | 6,942.6 | 7,057.1 | 7,057.1 | 18.2 | 15.5 | -67.75 | 2,863.7 | 3,059.4 | 3,807.7 | 3,775.3 | 32.40 | 117.503 | |
| 7,250.0 | 6,957.9 | 7,072.4 | 7,072.4 | 18.8 | 15.5 | -72.07 | 2,863.7 | 3,059.4 | 3,771.1 | 3,737.6 | 33.53 | 112.483 | |
| 7,300.0 | 6,969.8 | 7,084.3 | 7,084.3 | 19.6 | 15.6 | -76.56 | 2,863.7 | 3,059.4 | 3,734.1 | 3,699.5 | 34.68 | 107.661 | |
| 7,350.0 | 6,978.3 | 7,092.8 | 7,092.8 | 20.4 | 15.6 | -81.13 | 2,863.7 | 3,059.4 | 3,696.9 | 3,661.1 | 35.81 | 103.245 | |
| 7,400.0 | 6,983.4 | 7,097.9 | 7,097.9 | 21.3 | 15.6 | -85.71 | 2,863.7 | 3,059.4 | 3,659.5 | 3,622.7 | 36.83 | 99.352 | |
| 7,447.7 | 6,985.0 | 7,099.5 | 7,099.5 | 22.1 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 3,624.0 | 3,586.3 | 37.69 | 96.164 | |
| 7,500.0 | 6,985.0 | 7,099.5 | 7,099.5 | 23.1 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 3,585.4 | 3,546.7 | 38.68 | 92.696 | |
| 7,600.0 | 6,985.0 | 7,099.5 | 7,099.5 | 25.2 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 3,512.5 | 3,471.8 | 40.71 | 86.283 | |
| 7,700.0 | 6,985.0 | 7,099.5 | 7,099.5 | 27.4 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 3,441.0 | 3,398.1 | 42.88 | 80.251 | |
| 7,800.0 | 6,985.0 | 7,099.5 | 7,099.5 | 29.7 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 3,370.9 | 3,325.8 | 45.15 | 74.653 | |
| 7,900.0 | 6,985.0 | 7,099.5 | 7,099.5 | 32.0 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 3,302.4 | 3,254.9 | 47.52 | 69.500 | |
| 8,000.0 | 6,985.0 | 7,099.5 | 7,099.5 | 34.5 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 3,235.5 | 3,185.6 | 49.95 | 64.781 | |
| 8,100.0 | 6,985.0 | 7,099.5 | 7,099.5 | 36.9 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 3,170.4 | 3,117.9 | 52.43 | 60.470 | |
| 8,200.0 | 6,985.0 | 7,099.5 | 7,099.5 | 39.5 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 3,107.1 | 3,052.1 | 54.96 | 56.537 | |
| 8,300.0 | 6,985.0 | 7,099.5 | 7,099.5 | 42.0 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 3,045.7 | 2,988.2 | 57.52 | 52.952 | |
| 8,400.0 | 6,985.0 | 7,099.5 | 7,099.5 | 44.6 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,986.5 | 2,926.4 | 60.11 | 49.683 | |
| 8,500.0 | 6,985.0 | 7,099.5 | 7,099.5 | 47.2 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,929.5 | 2,866.8 | 62.73 | 46.701 | |
| 8,600.0 | 6,985.0 | 7,099.5 | 7,099.5 | 49.9 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,874.8 | 2,809.4 | 65.37 | 43.979 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - EXIST VERT ROGER 1 - Wellbore #1 - Design #1 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|---|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 8,700.0 | 6,985.0 | 7,099.5 | 7,099.5 | 52.5 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,822.6 | 2,754.6 | 68.02 | 41.495 | |
| 8,800.0 | 6,985.0 | 7,099.5 | 7,099.5 | 55.2 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,773.1 | 2,702.4 | 70.69 | 39.226 | |
| 8,900.0 | 6,985.0 | 7,099.5 | 7,099.5 | 57.9 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,726.3 | 2,652.9 | 73.38 | 37.153 | |
| 9,000.0 | 6,985.0 | 7,099.5 | 7,099.5 | 60.6 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,682.4 | 2,606.3 | 76.07 | 35.260 | |
| 9,100.0 | 6,985.0 | 7,099.5 | 7,099.5 | 63.3 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,641.6 | 2,562.8 | 78.78 | 33.531 | |
| 9,200.0 | 6,985.0 | 7,099.5 | 7,099.5 | 66.0 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,604.0 | 2,522.5 | 81.49 | 31.952 | |
| 9,300.0 | 6,985.0 | 7,099.5 | 7,099.5 | 68.7 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,569.7 | 2,485.5 | 84.22 | 30.513 | |
| 9,400.0 | 6,985.0 | 7,099.5 | 7,099.5 | 71.4 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,538.9 | 2,451.9 | 86.95 | 29.201 | |
| 9,500.0 | 6,985.0 | 7,099.5 | 7,099.5 | 74.2 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,511.7 | 2,422.0 | 89.68 | 28.007 | |
| 9,600.0 | 6,985.0 | 7,099.5 | 7,099.5 | 76.9 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,488.2 | 2,395.8 | 92.42 | 26.923 | |
| 9,700.0 | 6,985.0 | 7,099.5 | 7,099.5 | 79.6 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,468.6 | 2,373.4 | 95.16 | 25.940 | |
| 9,800.0 | 6,985.0 | 7,099.5 | 7,099.5 | 82.4 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,452.9 | 2,355.0 | 97.91 | 25.051 | |
| 9,900.0 | 6,985.0 | 7,099.5 | 7,099.5 | 85.1 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,441.2 | 2,340.5 | 100.67 | 24.250 | |
| 10,000.0 | 6,985.0 | 7,099.5 | 7,099.5 | 87.9 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,433.5 | 2,330.1 | 103.42 | 23.529 | |
| 10,100.0 | 6,985.0 | 7,099.5 | 7,099.5 | 90.7 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,429.9 | 2,323.8 | 106.18 | 22.884 | |
| 10,136.6 | 6,985.0 | 7,099.5 | 7,099.5 | 91.7 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,429.7 | 2,322.5 | 107.20 | 22.666 CC | |
| 10,200.0 | 6,985.0 | 7,099.5 | 7,099.5 | 93.4 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,430.5 | 2,321.5 | 108.95 | 22.309 ES | |
| 10,300.0 | 6,985.0 | 7,099.5 | 7,099.5 | 96.2 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,435.1 | 2,323.4 | 111.71 | 21.798 | |
| 10,400.0 | 6,985.0 | 7,099.5 | 7,099.5 | 98.9 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,443.9 | 2,329.4 | 114.48 | 21.348 | |
| 10,500.0 | 6,985.0 | 7,099.5 | 7,099.5 | 101.7 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,456.7 | 2,339.4 | 117.25 | 20.952 | |
| 10,600.0 | 6,985.0 | 7,099.5 | 7,099.5 | 104.5 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,473.4 | 2,353.4 | 120.02 | 20.608 | |
| 10,700.0 | 6,985.0 | 7,099.5 | 7,099.5 | 107.3 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,494.1 | 2,371.3 | 122.80 | 20.311 | |
| 10,800.0 | 6,985.0 | 7,099.5 | 7,099.5 | 110.0 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,518.6 | 2,393.0 | 125.57 | 20.057 | |
| 10,900.0 | 6,985.0 | 7,099.5 | 7,099.5 | 112.8 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,546.8 | 2,418.4 | 128.35 | 19.842 | |
| 11,000.0 | 6,985.0 | 7,099.5 | 7,099.5 | 115.6 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,578.5 | 2,447.4 | 131.13 | 19.664 | |
| 11,100.0 | 6,985.0 | 7,099.5 | 7,099.5 | 118.4 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,613.7 | 2,479.8 | 133.91 | 19.518 | |
| 11,200.0 | 6,985.0 | 7,099.5 | 7,099.5 | 121.2 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,652.2 | 2,515.5 | 136.69 | 19.402 | |
| 11,300.0 | 6,985.0 | 7,099.5 | 7,099.5 | 123.9 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,693.8 | 2,554.3 | 139.48 | 19.314 | |
| 11,400.0 | 6,985.0 | 7,099.5 | 7,099.5 | 126.7 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,738.5 | 2,596.2 | 142.26 | 19.250 | |
| 11,500.0 | 6,985.0 | 7,099.5 | 7,099.5 | 129.5 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,786.0 | 2,641.0 | 145.05 | 19.208 | |
| 11,600.0 | 6,985.0 | 7,099.5 | 7,099.5 | 132.3 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,836.3 | 2,688.5 | 147.83 | 19.186 | |
| 11,700.0 | 6,985.0 | 7,099.5 | 7,099.5 | 135.1 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,889.2 | 2,738.6 | 150.62 | 19.182 SF | |
| 11,800.0 | 6,985.0 | 7,099.5 | 7,099.5 | 137.9 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 2,944.5 | 2,791.1 | 153.41 | 19.194 | |
| 11,900.0 | 6,985.0 | 7,099.5 | 7,099.5 | 140.7 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 3,002.1 | 2,845.9 | 156.20 | 19.220 | |
| 12,000.0 | 6,985.0 | 7,099.5 | 7,099.5 | 143.4 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 3,061.9 | 2,902.9 | 158.99 | 19.259 | |
| 12,054.1 | 6,985.0 | 7,099.5 | 7,099.5 | 145.0 | 15.6 | -90.00 | 2,863.7 | 3,059.4 | 3,095.1 | 2,934.6 | 160.50 | 19.285 | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -90.00 | 0.0 | -75.2 | 75.2 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -90.00 | 0.0 | -75.2 | 75.2 | 75.0 | 0.19 | 386.992 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -90.00 | 0.0 | -75.2 | 75.2 | 74.6 | 0.64 | 116.841 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | -90.00 | 0.0 | -75.2 | 75.2 | 74.1 | 1.09 | 68.808 CC | |
| 400.0 | 400.0 | 399.6 | 399.6 | 0.8 | 0.8 | -88.70 | 1.7 | -75.5 | 75.5 | 74.0 | 1.54 | 48.938 ES | |
| 500.0 | 500.0 | 499.0 | 498.8 | 1.0 | 1.0 | -84.87 | 6.8 | -76.2 | 76.5 | 74.5 | 2.00 | 38.290 | |
| 600.0 | 600.0 | 597.9 | 597.3 | 1.2 | 1.2 | -78.79 | 15.3 | -77.3 | 78.9 | 76.4 | 2.46 | 32.071 | |
| 700.0 | 700.0 | 696.0 | 694.8 | 1.4 | 1.5 | -71.07 | 27.1 | -79.0 | 83.6 | 80.7 | 2.93 | 28.571 | |
| 800.0 | 800.0 | 793.3 | 790.9 | 1.7 | 1.8 | -62.61 | 42.0 | -81.0 | 91.7 | 88.3 | 3.39 | 27.011 | |
| 900.0 | 900.0 | 889.7 | 885.5 | 1.9 | 2.2 | -15.98 | 59.9 | -83.5 | 102.1 | 98.1 | 3.95 | 25.871 | |
| 1,000.0 | 999.8 | 985.4 | 978.9 | 2.1 | 2.5 | -8.76 | 80.8 | -86.3 | 113.3 | 108.9 | 4.44 | 25.528 | |
| 1,100.0 | 1,099.5 | 1,080.5 | 1,070.8 | 2.4 | 3.0 | -2.24 | 104.7 | -89.6 | 125.4 | 120.5 | 4.92 | 25.466 | |
| 1,200.0 | 1,198.7 | 1,174.8 | 1,161.3 | 2.6 | 3.5 | 3.71 | 131.3 | -93.2 | 138.4 | 133.0 | 5.40 | 25.622 | |
| 1,300.0 | 1,297.5 | 1,268.4 | 1,250.0 | 2.9 | 4.0 | 9.16 | 160.6 | -97.3 | 152.3 | 146.4 | 5.87 | 25.935 | |
| 1,400.0 | 1,395.6 | 1,361.2 | 1,337.1 | 3.2 | 4.6 | 14.17 | 192.5 | -101.6 | 167.2 | 160.8 | 6.35 | 26.323 | |
| 1,400.2 | 1,395.8 | 1,361.4 | 1,337.3 | 3.2 | 4.6 | 14.18 | 192.6 | -101.6 | 167.2 | 160.9 | 6.35 | 26.325 | |
| 1,500.0 | 1,493.4 | 1,454.7 | 1,423.7 | 3.6 | 5.3 | 18.78 | 227.3 | -106.4 | 184.7 | 177.8 | 6.87 | 26.861 | |
| 1,600.0 | 1,591.2 | 1,551.9 | 1,513.5 | 3.9 | 6.0 | 22.79 | 264.2 | -111.5 | 204.0 | 196.5 | 7.44 | 27.428 | |
| 1,700.0 | 1,689.1 | 1,649.0 | 1,603.2 | 4.3 | 6.7 | 26.09 | 301.2 | -116.5 | 224.1 | 216.1 | 8.03 | 27.911 | |
| 1,800.0 | 1,786.9 | 1,746.2 | 1,693.0 | 4.7 | 7.4 | 28.85 | 338.1 | -121.6 | 244.9 | 236.2 | 8.65 | 28.295 | |
| 1,900.0 | 1,884.7 | 1,843.4 | 1,782.8 | 5.2 | 8.1 | 31.18 | 375.0 | -126.7 | 266.1 | 256.7 | 9.31 | 28.589 | |
| 2,000.0 | 1,982.5 | 1,940.6 | 1,872.5 | 5.6 | 8.8 | 33.17 | 411.9 | -131.7 | 287.6 | 277.6 | 9.98 | 28.807 | |
| 2,100.0 | 2,080.3 | 2,037.8 | 1,962.3 | 6.0 | 9.5 | 34.88 | 448.8 | -136.8 | 309.5 | 298.8 | 10.68 | 28.964 | |
| 2,200.0 | 2,178.1 | 2,135.0 | 2,052.0 | 6.4 | 10.2 | 36.37 | 485.8 | -141.8 | 331.6 | 320.2 | 11.40 | 29.074 | |
| 2,300.0 | 2,275.9 | 2,232.2 | 2,141.8 | 6.9 | 11.0 | 37.67 | 522.7 | -146.9 | 353.8 | 341.7 | 12.14 | 29.147 | |
| 2,400.0 | 2,373.8 | 2,329.4 | 2,231.6 | 7.3 | 11.7 | 38.81 | 559.6 | -152.0 | 376.2 | 363.4 | 12.89 | 29.193 | |
| 2,500.0 | 2,471.6 | 2,426.6 | 2,321.3 | 7.7 | 12.4 | 39.83 | 596.5 | -157.0 | 398.8 | 385.1 | 13.65 | 29.218 | |
| 2,600.0 | 2,569.4 | 2,523.8 | 2,411.1 | 8.2 | 13.1 | 40.74 | 633.4 | -162.1 | 421.5 | 407.0 | 14.42 | 29.227 | |
| 2,700.0 | 2,667.2 | 2,621.0 | 2,500.9 | 8.6 | 13.9 | 41.56 | 670.4 | -167.2 | 444.2 | 429.0 | 15.20 | 29.225 | |
| 2,800.0 | 2,765.0 | 2,718.2 | 2,590.6 | 9.0 | 14.6 | 42.30 | 707.3 | -172.2 | 467.0 | 451.0 | 15.99 | 29.215 | |
| 2,900.0 | 2,862.8 | 2,815.4 | 2,680.4 | 9.5 | 15.3 | 42.96 | 744.2 | -177.3 | 489.9 | 473.1 | 16.78 | 29.199 | |
| 3,000.0 | 2,960.6 | 2,912.5 | 2,770.2 | 9.9 | 16.1 | 43.57 | 781.1 | -182.3 | 512.9 | 495.3 | 17.58 | 29.178 | |
| 3,100.0 | 3,058.4 | 3,009.7 | 2,859.9 | 10.4 | 16.8 | 44.13 | 818.1 | -187.4 | 535.9 | 517.5 | 18.38 | 29.155 | |
| 3,200.0 | 3,156.3 | 3,106.9 | 2,949.7 | 10.8 | 17.5 | 44.64 | 855.0 | -192.5 | 558.9 | 539.7 | 19.19 | 29.129 | |
| 3,300.0 | 3,254.1 | 3,204.1 | 3,039.4 | 11.3 | 18.2 | 45.11 | 891.9 | -197.5 | 582.0 | 562.0 | 20.00 | 29.102 | |
| 3,400.0 | 3,351.9 | 3,301.3 | 3,129.2 | 11.7 | 19.0 | 45.55 | 928.8 | -202.6 | 605.1 | 584.3 | 20.81 | 29.074 | |
| 3,465.5 | 3,416.0 | 3,365.0 | 3,188.0 | 12.0 | 19.5 | 45.81 | 953.0 | -205.9 | 620.3 | 598.9 | 21.35 | 29.056 | |
| 3,500.0 | 3,449.7 | 3,398.5 | 3,219.0 | 12.1 | 19.7 | 46.06 | 965.7 | -207.7 | 628.4 | 606.8 | 21.62 | 29.072 | |
| 3,600.0 | 3,548.1 | 3,495.2 | 3,308.3 | 12.5 | 20.4 | 46.61 | 1,002.5 | -212.7 | 653.6 | 631.2 | 22.30 | 29.302 | |
| 3,700.0 | 3,647.1 | 3,591.4 | 3,397.1 | 12.7 | 21.2 | 46.98 | 1,039.0 | -217.7 | 681.0 | 658.1 | 22.93 | 29.705 | |
| 3,800.0 | 3,746.5 | 3,686.8 | 3,485.2 | 13.0 | 21.9 | 47.17 | 1,075.3 | -222.7 | 710.8 | 687.3 | 23.48 | 30.270 | |
| 3,900.0 | 3,846.2 | 3,781.4 | 3,572.6 | 13.2 | 22.6 | 47.22 | 1,111.2 | -227.6 | 742.8 | 718.8 | 23.97 | 30.992 | |
| 4,000.0 | 3,946.1 | 3,875.0 | 3,659.0 | 13.3 | 23.3 | 47.15 | 1,146.7 | -232.5 | 777.1 | 752.8 | 24.39 | 31.866 | |
| 4,065.7 | 4,011.8 | 3,935.9 | 3,715.3 | 13.4 | 23.8 | 8.51 | 1,169.9 | -235.6 | 801.0 | 766.6 | 34.36 | 23.312 | |
| 4,100.0 | 4,046.1 | 3,967.6 | 3,744.6 | 13.5 | 24.0 | 8.25 | 1,181.9 | -237.3 | 813.7 | 779.0 | 34.68 | 23.461 | |
| 4,200.0 | 4,146.1 | 4,059.9 | 3,829.9 | 13.6 | 24.7 | 7.54 | 1,217.0 | -242.1 | 850.8 | 815.1 | 35.63 | 23.876 | |
| 4,300.0 | 4,246.1 | 4,152.3 | 3,915.2 | 13.8 | 25.4 | 6.89 | 1,252.1 | -246.9 | 888.0 | 851.4 | 36.57 | 24.279 | |
| 4,400.0 | 4,346.1 | 4,244.7 | 4,000.5 | 13.9 | 26.1 | 6.29 | 1,287.2 | -251.7 | 925.3 | 887.8 | 37.51 | 24.667 | |
| 4,500.0 | 4,446.1 | 4,337.0 | 4,085.7 | 14.1 | 26.8 | 5.73 | 1,322.3 | -256.5 | 962.7 | 924.2 | 38.44 | 25.042 | |
| 4,600.0 | 4,546.1 | 4,429.4 | 4,171.0 | 14.2 | 27.5 | 5.22 | 1,357.3 | -261.3 | 1,000.2 | 960.8 | 39.37 | 25.405 | |
| 4,700.0 | 4,646.1 | 4,521.7 | 4,256.3 | 14.4 | 28.2 | 4.74 | 1,392.4 | -266.2 | 1,037.7 | 997.4 | 40.29 | 25.754 | |
| 4,800.0 | 4,746.1 | 4,614.1 | 4,341.6 | 14.5 | 28.9 | 4.30 | 1,427.5 | -271.0 | 1,075.3 | 1,034.1 | 41.21 | 26.092 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWMD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,706.4 | 4,426.9 | 14.7 | 29.6 | 3.89 | 1,462.6 | -275.8 | 1,112.9 | 1,070.8 | 42.13 | 26.418 | |
| 5,000.0 | 4,946.1 | 4,798.8 | 4,512.2 | 14.8 | 30.3 | 3.50 | 1,497.7 | -280.6 | 1,150.6 | 1,107.5 | 43.04 | 26.732 | |
| 5,100.0 | 5,046.1 | 4,891.1 | 4,597.5 | 15.0 | 31.0 | 3.14 | 1,532.8 | -285.4 | 1,188.3 | 1,144.4 | 43.95 | 27.036 | |
| 5,200.0 | 5,146.1 | 4,983.5 | 4,682.8 | 15.1 | 31.7 | 2.80 | 1,567.8 | -290.2 | 1,226.1 | 1,181.2 | 44.86 | 27.329 | |
| 5,300.0 | 5,246.1 | 5,075.9 | 4,768.1 | 15.3 | 32.3 | 2.48 | 1,602.9 | -295.0 | 1,263.9 | 1,218.1 | 45.77 | 27.612 | |
| 5,400.0 | 5,346.1 | 5,168.2 | 4,853.4 | 15.5 | 33.0 | 2.18 | 1,638.0 | -299.8 | 1,301.7 | 1,255.0 | 46.68 | 27.886 | |
| 5,500.0 | 5,446.1 | 5,260.6 | 4,938.7 | 15.6 | 33.7 | 1.90 | 1,673.1 | -304.6 | 1,339.6 | 1,292.0 | 47.59 | 28.150 | |
| 5,600.0 | 5,546.1 | 5,433.8 | 5,100.6 | 15.8 | 34.7 | 1.44 | 1,734.2 | -313.0 | 1,374.8 | 1,326.0 | 48.80 | 28.174 | |
| 5,700.0 | 5,646.1 | 5,617.3 | 5,275.7 | 16.0 | 35.6 | 1.07 | 1,788.3 | -320.4 | 1,404.2 | 1,354.4 | 49.89 | 28.147 | |
| 5,800.0 | 5,746.1 | 5,807.5 | 5,460.6 | 16.1 | 36.3 | 0.79 | 1,832.5 | -326.5 | 1,427.5 | 1,376.6 | 50.85 | 28.073 | |
| 5,900.0 | 5,846.1 | 6,003.0 | 5,653.3 | 16.3 | 36.9 | 0.59 | 1,865.1 | -331.0 | 1,444.2 | 1,392.5 | 51.64 | 27.964 | |
| 6,000.0 | 5,946.1 | 6,202.3 | 5,851.5 | 16.5 | 37.3 | 0.47 | 1,885.0 | -333.7 | 1,454.1 | 1,401.8 | 52.25 | 27.827 | |
| 6,100.0 | 6,046.1 | 6,397.0 | 6,046.1 | 16.7 | 37.6 | 0.44 | 1,891.1 | -334.5 | 1,457.1 | 1,404.5 | 52.66 | 27.668 | |
| 6,100.8 | 6,046.8 | 6,397.8 | 6,046.8 | 16.7 | 37.6 | 0.44 | 1,891.1 | -334.5 | 1,457.1 | 1,404.5 | 52.67 | 27.667 | |
| 6,200.0 | 6,146.1 | 6,495.6 | 6,144.5 | 16.8 | 37.6 | 0.59 | 1,891.1 | -330.6 | 1,457.2 | 1,404.3 | 52.90 | 27.545 | |
| 6,300.0 | 6,246.1 | 6,591.0 | 6,238.5 | 17.0 | 37.7 | 1.23 | 1,891.1 | -314.4 | 1,457.5 | 1,404.4 | 53.08 | 27.459 | |
| 6,322.7 | 6,268.8 | 6,612.0 | 6,258.8 | 17.1 | 37.7 | 1.44 | 1,891.1 | -309.1 | 1,457.6 | 1,404.5 | 53.11 | 27.445 | |
| 6,350.0 | 6,296.1 | 6,636.9 | 6,282.7 | 17.1 | 37.7 | -88.29 | 1,891.1 | -302.2 | 1,457.8 | 1,423.1 | 34.69 | 42.026 | |
| 6,400.0 | 6,345.9 | 6,681.9 | 6,325.3 | 17.2 | 37.7 | -87.80 | 1,891.1 | -287.4 | 1,458.3 | 1,423.4 | 34.88 | 41.811 | |
| 6,450.0 | 6,395.4 | 6,726.4 | 6,366.2 | 17.2 | 37.7 | -87.32 | 1,891.1 | -270.3 | 1,458.8 | 1,423.8 | 35.04 | 41.629 | |
| 6,500.0 | 6,444.3 | 6,770.2 | 6,405.6 | 17.2 | 37.7 | -86.85 | 1,891.1 | -251.0 | 1,459.4 | 1,424.2 | 35.19 | 41.476 | |
| 6,550.0 | 6,492.3 | 6,813.5 | 6,443.2 | 17.2 | 37.7 | -86.40 | 1,891.1 | -229.5 | 1,460.1 | 1,424.8 | 35.32 | 41.346 | |
| 6,600.0 | 6,539.2 | 6,856.2 | 6,479.0 | 17.2 | 37.7 | -85.96 | 1,891.1 | -206.2 | 1,460.9 | 1,425.5 | 35.43 | 41.232 | |
| 6,650.0 | 6,584.8 | 6,900.0 | 6,514.1 | 17.2 | 37.7 | -85.53 | 1,891.1 | -180.1 | 1,461.7 | 1,426.2 | 35.55 | 41.119 | |
| 6,700.0 | 6,628.9 | 6,940.4 | 6,545.1 | 17.2 | 37.7 | -85.14 | 1,891.1 | -154.1 | 1,462.6 | 1,426.9 | 35.67 | 41.002 | |
| 6,750.0 | 6,671.2 | 6,981.9 | 6,575.3 | 17.2 | 37.7 | -84.76 | 1,891.1 | -125.7 | 1,463.4 | 1,427.6 | 35.82 | 40.857 | |
| 6,800.0 | 6,711.5 | 7,023.0 | 6,603.6 | 17.2 | 37.7 | -84.41 | 1,891.1 | -95.9 | 1,464.3 | 1,428.3 | 36.00 | 40.673 | |
| 6,850.0 | 6,749.7 | 7,063.8 | 6,629.9 | 17.2 | 37.7 | -84.07 | 1,891.1 | -64.7 | 1,465.1 | 1,428.9 | 36.24 | 40.433 | |
| 6,900.0 | 6,785.6 | 7,100.0 | 6,651.7 | 17.1 | 37.7 | -83.79 | 1,891.1 | -35.8 | 1,466.0 | 1,429.5 | 36.52 | 40.144 | |
| 6,950.0 | 6,818.9 | 7,144.6 | 6,676.6 | 17.1 | 37.7 | -83.48 | 1,891.1 | 1.1 | 1,466.8 | 1,429.8 | 36.93 | 39.714 | |
| 7,000.0 | 6,849.5 | 7,184.6 | 6,696.9 | 17.1 | 37.7 | -83.22 | 1,891.1 | 35.6 | 1,467.5 | 1,430.0 | 37.46 | 39.177 | |
| 7,050.0 | 6,877.4 | 7,224.4 | 6,715.1 | 17.2 | 37.7 | -82.99 | 1,891.1 | 71.0 | 1,468.2 | 1,430.1 | 38.07 | 38.569 | |
| 7,100.0 | 6,902.2 | 7,264.1 | 6,731.3 | 17.3 | 37.8 | -82.79 | 1,891.1 | 107.2 | 1,468.8 | 1,430.0 | 38.81 | 37.843 | |
| 7,150.0 | 6,924.0 | 7,300.0 | 6,744.3 | 17.7 | 37.8 | -82.63 | 1,891.1 | 140.7 | 1,469.3 | 1,429.7 | 39.65 | 37.053 | |
| 7,200.0 | 6,942.6 | 7,342.9 | 6,757.5 | 18.2 | 37.8 | -82.48 | 1,891.1 | 181.5 | 1,469.8 | 1,429.1 | 40.72 | 36.093 | |
| 7,250.0 | 6,957.9 | 7,382.2 | 6,767.4 | 18.8 | 37.9 | -82.37 | 1,891.1 | 219.5 | 1,470.2 | 1,428.3 | 41.89 | 35.096 | |
| 7,300.0 | 6,969.8 | 7,421.4 | 6,775.2 | 19.6 | 37.9 | -82.28 | 1,891.1 | 257.9 | 1,470.4 | 1,427.2 | 43.18 | 34.052 | |
| 7,350.0 | 6,978.3 | 7,460.5 | 6,780.9 | 20.4 | 38.0 | -82.23 | 1,891.1 | 296.7 | 1,470.6 | 1,426.0 | 44.59 | 32.979 | |
| 7,400.0 | 6,983.4 | 7,500.0 | 6,784.5 | 21.3 | 38.1 | -82.21 | 1,891.1 | 336.0 | 1,470.7 | 1,424.6 | 46.11 | 31.895 | |
| 7,447.7 | 6,985.0 | 7,537.0 | 6,785.9 | 22.1 | 38.2 | -82.22 | 1,891.1 | 372.9 | 1,470.6 | 1,423.0 | 47.64 | 30.871 | |
| 7,462.0 | 6,985.0 | 7,548.9 | 6,786.0 | 22.4 | 38.3 | -82.22 | 1,891.1 | 384.8 | 1,470.6 | 1,422.5 | 48.10 | 30.572 | |
| 7,500.0 | 6,985.0 | 7,586.0 | 6,785.8 | 23.1 | 38.4 | -82.22 | 1,891.1 | 421.9 | 1,470.6 | 1,421.2 | 49.46 | 29.732 | |
| 7,600.0 | 6,985.0 | 7,686.0 | 6,785.4 | 25.2 | 38.8 | -82.20 | 1,891.1 | 521.9 | 1,470.7 | 1,417.4 | 53.32 | 27.583 | |
| 7,700.0 | 6,985.0 | 7,786.0 | 6,785.0 | 27.4 | 39.4 | -82.18 | 1,891.1 | 621.9 | 1,470.8 | 1,413.3 | 57.45 | 25.600 | |
| 7,800.0 | 6,985.0 | 7,886.0 | 6,784.5 | 29.7 | 40.3 | -82.17 | 1,891.1 | 721.9 | 1,470.8 | 1,409.0 | 61.81 | 23.796 | |
| 7,900.0 | 6,985.0 | 7,986.0 | 6,784.1 | 32.0 | 41.4 | -82.15 | 1,891.1 | 821.9 | 1,470.9 | 1,404.5 | 66.35 | 22.170 | |
| 8,000.0 | 6,985.0 | 8,086.0 | 6,783.6 | 34.5 | 42.7 | -82.13 | 1,891.1 | 921.9 | 1,470.9 | 1,399.9 | 71.03 | 20.708 | |
| 8,100.0 | 6,985.0 | 8,186.0 | 6,783.2 | 36.9 | 44.3 | -82.12 | 1,891.1 | 1,021.9 | 1,471.0 | 1,395.2 | 75.83 | 19.398 | |
| 8,200.0 | 6,985.0 | 8,286.0 | 6,782.8 | 39.5 | 46.1 | -82.10 | 1,891.1 | 1,121.9 | 1,471.1 | 1,390.3 | 80.73 | 18.221 | |
| 8,300.0 | 6,985.0 | 8,386.0 | 6,782.3 | 42.0 | 48.0 | -82.08 | 1,891.1 | 1,221.9 | 1,471.1 | 1,385.4 | 85.72 | 17.163 | |
| 8,400.0 | 6,985.0 | 8,486.0 | 6,781.9 | 44.6 | 50.1 | -82.07 | 1,891.1 | 1,321.9 | 1,471.2 | 1,380.4 | 90.77 | 16.209 | |
| 8,500.0 | 6,985.0 | 8,586.0 | 6,781.5 | 47.2 | 52.3 | -82.05 | 1,891.1 | 1,421.9 | 1,471.2 | 1,375.4 | 95.87 | 15.346 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 8,600.0 | 6,985.0 | 8,686.0 | 6,781.0 | 49.9 | 54.6 | -82.03 | 1,891.1 | 1,521.9 | 1,471.3 | 1,370.3 | 101.03 | 14.564 | |
| 8,700.0 | 6,985.0 | 8,786.0 | 6,780.6 | 52.5 | 57.0 | -82.01 | 1,891.1 | 1,621.9 | 1,471.4 | 1,365.1 | 106.22 | 13.852 | |
| 8,800.0 | 6,985.0 | 8,886.0 | 6,780.2 | 55.2 | 59.4 | -82.00 | 1,891.1 | 1,721.9 | 1,471.4 | 1,360.0 | 111.45 | 13.202 | |
| 8,900.0 | 6,985.0 | 8,986.0 | 6,779.7 | 57.9 | 61.8 | -81.98 | 1,891.1 | 1,821.9 | 1,471.5 | 1,354.8 | 116.71 | 12.608 | |
| 9,000.0 | 6,985.0 | 9,086.0 | 6,779.3 | 60.6 | 64.3 | -81.96 | 1,891.1 | 1,921.9 | 1,471.5 | 1,349.5 | 122.00 | 12.062 | |
| 9,100.0 | 6,985.0 | 9,186.0 | 6,778.8 | 63.3 | 66.9 | -81.95 | 1,891.1 | 2,021.9 | 1,471.6 | 1,344.3 | 127.31 | 11.559 | |
| 9,200.0 | 6,985.0 | 9,286.0 | 6,778.4 | 66.0 | 69.4 | -81.93 | 1,891.1 | 2,121.9 | 1,471.7 | 1,339.0 | 132.64 | 11.095 | |
| 9,300.0 | 6,985.0 | 9,386.0 | 6,778.0 | 68.7 | 72.0 | -81.91 | 1,891.1 | 2,221.9 | 1,471.7 | 1,333.7 | 137.99 | 10.665 | |
| 9,400.0 | 6,985.0 | 9,486.0 | 6,777.5 | 71.4 | 74.6 | -81.90 | 1,891.1 | 2,321.9 | 1,471.8 | 1,328.4 | 143.36 | 10.266 | |
| 9,500.0 | 6,985.0 | 9,586.0 | 6,777.1 | 74.2 | 77.2 | -81.88 | 1,891.1 | 2,421.9 | 1,471.8 | 1,323.1 | 148.74 | 9.896 | |
| 9,600.0 | 6,985.0 | 9,686.0 | 6,776.7 | 76.9 | 79.9 | -81.86 | 1,891.1 | 2,521.9 | 1,471.9 | 1,317.8 | 154.13 | 9.550 | |
| 9,700.0 | 6,985.0 | 9,786.0 | 6,776.2 | 79.6 | 82.5 | -81.85 | 1,891.1 | 2,621.9 | 1,472.0 | 1,312.4 | 159.53 | 9.227 | |
| 9,800.0 | 6,985.0 | 9,886.0 | 6,775.8 | 82.4 | 85.2 | -81.83 | 1,891.1 | 2,721.9 | 1,472.0 | 1,307.1 | 164.95 | 8.924 | |
| 9,900.0 | 6,985.0 | 9,986.0 | 6,775.4 | 85.1 | 87.8 | -81.81 | 1,891.1 | 2,821.9 | 1,472.1 | 1,301.7 | 170.37 | 8.641 | |
| 10,000.0 | 6,985.0 | 10,086.0 | 6,774.9 | 87.9 | 90.5 | -81.80 | 1,891.1 | 2,921.9 | 1,472.2 | 1,296.4 | 175.80 | 8.374 | |
| 10,100.0 | 6,985.0 | 10,186.0 | 6,774.5 | 90.7 | 93.2 | -81.78 | 1,891.1 | 3,021.9 | 1,472.2 | 1,291.0 | 181.24 | 8.123 | |
| 10,200.0 | 6,985.0 | 10,285.9 | 6,774.0 | 93.4 | 95.9 | -81.76 | 1,891.1 | 3,121.9 | 1,472.3 | 1,285.6 | 186.69 | 7.886 | |
| 10,300.0 | 6,985.0 | 10,385.9 | 6,773.6 | 96.2 | 98.6 | -81.75 | 1,891.1 | 3,221.9 | 1,472.3 | 1,280.2 | 192.14 | 7.663 | |
| 10,400.0 | 6,985.0 | 10,485.9 | 6,773.2 | 98.9 | 101.3 | -81.73 | 1,891.1 | 3,321.8 | 1,472.4 | 1,274.8 | 197.59 | 7.452 | |
| 10,500.0 | 6,985.0 | 10,585.9 | 6,772.7 | 101.7 | 104.0 | -81.71 | 1,891.1 | 3,421.8 | 1,472.5 | 1,269.4 | 203.06 | 7.252 | |
| 10,600.0 | 6,985.0 | 10,685.9 | 6,772.3 | 104.5 | 106.7 | -81.70 | 1,891.1 | 3,521.8 | 1,472.5 | 1,264.0 | 208.52 | 7.062 | |
| 10,700.0 | 6,985.0 | 10,785.9 | 6,771.9 | 107.3 | 109.4 | -81.68 | 1,891.1 | 3,621.8 | 1,472.6 | 1,258.6 | 213.99 | 6.882 | |
| 10,800.0 | 6,985.0 | 10,885.9 | 6,771.4 | 110.0 | 112.2 | -81.66 | 1,891.1 | 3,721.8 | 1,472.7 | 1,253.2 | 219.47 | 6.710 | |
| 10,900.0 | 6,985.0 | 10,985.9 | 6,771.0 | 112.8 | 114.9 | -81.64 | 1,891.1 | 3,821.8 | 1,472.7 | 1,247.8 | 224.95 | 6.547 | |
| 11,000.0 | 6,985.0 | 11,085.9 | 6,770.6 | 115.6 | 117.6 | -81.63 | 1,891.1 | 3,921.8 | 1,472.8 | 1,242.4 | 230.43 | 6.392 | |
| 11,100.0 | 6,985.0 | 11,185.9 | 6,770.1 | 118.4 | 120.4 | -81.61 | 1,891.1 | 4,021.8 | 1,472.8 | 1,236.9 | 235.91 | 6.243 | |
| 11,200.0 | 6,985.0 | 11,285.9 | 6,769.7 | 121.2 | 123.1 | -81.59 | 1,891.1 | 4,121.8 | 1,472.9 | 1,231.5 | 241.40 | 6.102 | |
| 11,300.0 | 6,985.0 | 11,385.9 | 6,769.2 | 123.9 | 125.9 | -81.58 | 1,891.1 | 4,221.8 | 1,473.0 | 1,226.1 | 246.89 | 5.966 | |
| 11,400.0 | 6,985.0 | 11,485.9 | 6,768.8 | 126.7 | 128.6 | -81.56 | 1,891.1 | 4,321.8 | 1,473.0 | 1,220.7 | 252.38 | 5.837 | |
| 11,500.0 | 6,985.0 | 11,585.9 | 6,768.4 | 129.5 | 131.3 | -81.54 | 1,891.1 | 4,421.8 | 1,473.1 | 1,215.2 | 257.88 | 5.712 | |
| 11,600.0 | 6,985.0 | 11,685.9 | 6,767.9 | 132.3 | 134.1 | -81.53 | 1,891.1 | 4,521.8 | 1,473.2 | 1,209.8 | 263.37 | 5.593 | |
| 11,700.0 | 6,985.0 | 11,785.9 | 6,767.5 | 135.1 | 136.9 | -81.51 | 1,891.1 | 4,621.8 | 1,473.2 | 1,204.4 | 268.87 | 5.479 | |
| 11,800.0 | 6,985.0 | 11,885.9 | 6,767.1 | 137.9 | 139.6 | -81.49 | 1,891.1 | 4,721.8 | 1,473.3 | 1,198.9 | 274.37 | 5.370 | |
| 11,900.0 | 6,985.0 | 11,985.9 | 6,766.6 | 140.7 | 142.4 | -81.48 | 1,891.1 | 4,821.8 | 1,473.4 | 1,193.5 | 279.88 | 5.264 | |
| 12,000.0 | 6,985.0 | 12,085.9 | 6,766.2 | 143.4 | 145.1 | -81.46 | 1,891.1 | 4,921.8 | 1,473.4 | 1,188.0 | 285.38 | 5.163 | |
| 12,046.8 | 6,985.0 | 12,133.0 | 6,766.0 | 144.7 | 146.4 | -81.45 | 1,891.1 | 4,968.9 | 1,473.4 | 1,185.5 | 287.96 | 5.117 | |
| 12,054.1 | 6,985.0 | 12,140.3 | 6,766.0 | 145.0 | 146.6 | -81.45 | 1,891.1 | 4,976.2 | 1,473.4 | 1,185.0 | 288.37 | 5.110 SF | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -90.00 | 0.0 | -58.5 | 58.5 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -90.00 | 0.0 | -58.5 | 58.5 | 58.3 | 0.19 | 300.994 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -90.00 | 0.0 | -58.5 | 58.5 | 57.9 | 0.64 | 90.876 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | -90.00 | 0.0 | -58.5 | 58.5 | 57.4 | 1.09 | 53.517 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | -90.00 | 0.0 | -58.5 | 58.5 | 57.0 | 1.54 | 37.926 CC | |
| 500.0 | 500.0 | 499.6 | 499.6 | 1.0 | 1.0 | -88.34 | 1.7 | -58.8 | 58.8 | 56.9 | 1.99 | 29.543 ES | |
| 600.0 | 600.0 | 599.0 | 598.8 | 1.2 | 1.2 | -83.50 | 6.8 | -59.7 | 60.1 | 57.7 | 2.45 | 24.583 | |
| 700.0 | 700.0 | 697.9 | 697.3 | 1.4 | 1.5 | -76.02 | 15.2 | -61.2 | 63.1 | 60.2 | 2.90 | 21.732 | |
| 800.0 | 800.0 | 796.0 | 794.8 | 1.7 | 1.7 | -66.95 | 26.9 | -63.3 | 68.9 | 65.6 | 3.37 | 20.474 | |
| 900.0 | 900.0 | 893.5 | 891.1 | 1.9 | 2.0 | -19.44 | 41.8 | -65.9 | 76.9 | 73.0 | 3.86 | 19.910 | |
| 1,000.0 | 999.8 | 990.5 | 986.3 | 2.1 | 2.4 | -11.37 | 59.7 | -69.0 | 85.5 | 81.2 | 4.34 | 19.708 | |
| 1,100.0 | 1,099.5 | 1,086.9 | 1,080.3 | 2.4 | 2.7 | -4.00 | 80.7 | -72.7 | 94.9 | 90.1 | 4.81 | 19.726 | |
| 1,200.0 | 1,198.7 | 1,182.7 | 1,173.0 | 2.6 | 3.2 | 2.75 | 104.6 | -76.9 | 105.2 | 99.9 | 5.28 | 19.931 | |
| 1,300.0 | 1,297.5 | 1,277.8 | 1,264.1 | 2.9 | 3.7 | 8.96 | 131.4 | -81.6 | 116.5 | 110.7 | 5.74 | 20.277 | |
| 1,400.0 | 1,395.6 | 1,374.3 | 1,355.8 | 3.2 | 4.2 | 14.76 | 161.2 | -86.9 | 128.4 | 122.2 | 6.22 | 20.634 | |
| 1,400.2 | 1,395.8 | 1,374.6 | 1,356.0 | 3.2 | 4.2 | 14.77 | 161.3 | -86.9 | 128.4 | 122.2 | 6.22 | 20.634 | |
| 1,500.0 | 1,493.4 | 1,472.9 | 1,449.2 | 3.6 | 4.8 | 19.94 | 192.1 | -92.3 | 140.3 | 133.5 | 6.75 | 20.782 | |
| 1,600.0 | 1,591.2 | 1,571.4 | 1,542.7 | 3.9 | 5.4 | 24.30 | 222.9 | -97.7 | 153.1 | 145.8 | 7.32 | 20.925 | |
| 1,700.0 | 1,689.1 | 1,670.0 | 1,636.1 | 4.3 | 6.0 | 27.97 | 253.8 | -103.2 | 166.7 | 158.7 | 7.92 | 21.048 | |
| 1,800.0 | 1,786.9 | 1,768.5 | 1,729.5 | 4.7 | 6.6 | 31.08 | 284.6 | -108.6 | 180.8 | 172.3 | 8.56 | 21.133 | |
| 1,900.0 | 1,884.7 | 1,867.1 | 1,823.0 | 5.2 | 7.2 | 33.74 | 315.4 | -114.0 | 195.4 | 186.2 | 9.23 | 21.181 | |
| 2,000.0 | 1,982.5 | 1,965.6 | 1,916.4 | 5.6 | 7.8 | 36.03 | 346.3 | -119.5 | 210.4 | 200.5 | 9.92 | 21.198 | |
| 2,100.0 | 2,080.3 | 2,064.2 | 2,009.9 | 6.0 | 8.4 | 38.01 | 377.1 | -124.9 | 225.6 | 215.0 | 10.65 | 21.191 | |
| 2,200.0 | 2,178.1 | 2,162.7 | 2,103.3 | 6.4 | 9.0 | 39.74 | 408.0 | -130.3 | 241.1 | 229.7 | 11.39 | 21.168 | |
| 2,300.0 | 2,275.9 | 2,261.3 | 2,196.7 | 6.9 | 9.6 | 41.27 | 438.8 | -135.7 | 256.8 | 244.6 | 12.15 | 21.133 | |
| 2,400.0 | 2,373.8 | 2,359.8 | 2,290.2 | 7.3 | 10.2 | 42.61 | 469.7 | -141.2 | 272.6 | 259.7 | 12.92 | 21.091 | |
| 2,500.0 | 2,471.6 | 2,458.4 | 2,383.6 | 7.7 | 10.9 | 43.81 | 500.5 | -146.6 | 288.5 | 274.8 | 13.71 | 21.045 | |
| 2,600.0 | 2,569.4 | 2,556.9 | 2,477.1 | 8.2 | 11.5 | 44.89 | 531.3 | -152.0 | 304.6 | 290.1 | 14.51 | 20.998 | |
| 2,700.0 | 2,667.2 | 2,655.5 | 2,570.5 | 8.6 | 12.1 | 45.85 | 562.2 | -157.4 | 320.8 | 305.4 | 15.31 | 20.949 | |
| 2,800.0 | 2,765.0 | 2,754.0 | 2,664.0 | 9.0 | 12.7 | 46.72 | 593.0 | -162.9 | 337.0 | 320.9 | 16.12 | 20.901 | |
| 2,900.0 | 2,862.8 | 2,852.6 | 2,757.4 | 9.5 | 13.3 | 47.52 | 623.9 | -168.3 | 353.3 | 336.4 | 16.94 | 20.855 | |
| 3,000.0 | 2,960.6 | 2,951.1 | 2,850.8 | 9.9 | 14.0 | 48.24 | 654.7 | -173.7 | 369.7 | 351.9 | 17.76 | 20.809 | |
| 3,100.0 | 3,058.4 | 3,049.7 | 2,944.3 | 10.4 | 14.6 | 48.90 | 685.5 | -179.2 | 386.1 | 367.5 | 18.59 | 20.766 | |
| 3,200.0 | 3,156.3 | 3,148.2 | 3,037.7 | 10.8 | 15.2 | 49.51 | 716.4 | -184.6 | 402.6 | 383.1 | 19.42 | 20.724 | |
| 3,300.0 | 3,254.1 | 3,246.7 | 3,131.2 | 11.3 | 15.8 | 50.07 | 747.2 | -190.0 | 419.1 | 398.8 | 20.26 | 20.684 | |
| 3,400.0 | 3,351.9 | 3,345.3 | 3,224.6 | 11.7 | 16.5 | 50.59 | 778.1 | -195.4 | 435.6 | 414.5 | 21.10 | 20.647 | |
| 3,465.5 | 3,416.0 | 3,409.8 | 3,285.8 | 12.0 | 16.9 | 50.91 | 798.3 | -199.0 | 446.5 | 424.8 | 21.65 | 20.623 | |
| 3,500.0 | 3,449.7 | 3,443.8 | 3,318.0 | 12.1 | 17.1 | 51.14 | 808.9 | -200.9 | 452.3 | 430.4 | 21.92 | 20.631 | |
| 3,600.0 | 3,548.1 | 3,542.1 | 3,411.2 | 12.5 | 17.7 | 51.59 | 839.7 | -206.3 | 470.7 | 448.1 | 22.62 | 20.813 | |
| 3,700.0 | 3,647.1 | 3,640.0 | 3,504.0 | 12.7 | 18.3 | 51.75 | 870.3 | -211.7 | 491.3 | 468.0 | 23.22 | 21.153 | |
| 3,800.0 | 3,746.5 | 3,737.3 | 3,596.2 | 13.0 | 19.0 | 51.64 | 900.7 | -217.0 | 513.9 | 490.2 | 23.75 | 21.643 | |
| 3,900.0 | 3,846.2 | 3,833.9 | 3,687.9 | 13.2 | 19.6 | 51.31 | 931.0 | -222.3 | 538.8 | 514.6 | 24.18 | 22.279 | |
| 4,000.0 | 3,946.1 | 3,929.8 | 3,778.8 | 13.3 | 20.2 | 50.80 | 961.0 | -227.6 | 565.8 | 541.3 | 24.54 | 23.056 | |
| 4,065.7 | 4,011.8 | 3,992.3 | 3,838.1 | 13.4 | 20.6 | 11.85 | 980.6 | -231.1 | 584.9 | 554.2 | 30.61 | 19.108 | |
| 4,100.0 | 4,046.1 | 4,024.8 | 3,868.9 | 13.5 | 20.8 | 11.46 | 990.7 | -232.9 | 595.0 | 564.1 | 30.92 | 19.245 | |
| 4,200.0 | 4,146.1 | 4,119.6 | 3,958.8 | 13.6 | 21.4 | 10.40 | 1,020.4 | -238.1 | 624.9 | 593.1 | 31.83 | 19.633 | |
| 4,300.0 | 4,246.1 | 4,214.4 | 4,048.7 | 13.8 | 22.0 | 9.44 | 1,050.1 | -243.3 | 655.0 | 622.3 | 32.73 | 20.014 | |
| 4,400.0 | 4,346.1 | 4,309.2 | 4,138.6 | 13.9 | 22.6 | 8.56 | 1,079.7 | -248.5 | 685.2 | 651.6 | 33.61 | 20.386 | |
| 4,500.0 | 4,446.1 | 4,404.1 | 4,228.5 | 14.1 | 23.2 | 7.75 | 1,109.4 | -253.7 | 715.5 | 681.1 | 34.48 | 20.749 | |
| 4,600.0 | 4,546.1 | 4,498.9 | 4,318.4 | 14.2 | 23.8 | 7.01 | 1,139.1 | -259.0 | 746.0 | 710.7 | 35.35 | 21.103 | |
| 4,700.0 | 4,646.1 | 4,593.7 | 4,408.3 | 14.4 | 24.4 | 6.33 | 1,168.8 | -264.2 | 776.6 | 740.4 | 36.21 | 21.447 | |
| 4,800.0 | 4,746.1 | 4,688.5 | 4,498.2 | 14.5 | 25.0 | 5.70 | 1,198.4 | -269.4 | 807.2 | 770.2 | 37.06 | 21.782 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWMD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,783.3 | 4,588.1 | 14.7 | 25.6 | 5.11 | 1,228.1 | -274.6 | 838.0 | 800.1 | 37.91 | 22.107 | |
| 5,000.0 | 4,946.1 | 4,878.1 | 4,678.0 | 14.8 | 26.2 | 4.57 | 1,257.8 | -279.8 | 868.8 | 830.1 | 38.75 | 22.422 | |
| 5,100.0 | 5,046.1 | 4,973.0 | 4,767.9 | 15.0 | 26.8 | 4.06 | 1,287.5 | -285.1 | 899.7 | 860.1 | 39.59 | 22.728 | |
| 5,200.0 | 5,146.1 | 5,067.8 | 4,857.8 | 15.1 | 27.4 | 3.59 | 1,317.1 | -290.3 | 930.6 | 890.2 | 40.42 | 23.025 | |
| 5,300.0 | 5,246.1 | 5,162.6 | 4,947.7 | 15.3 | 28.0 | 3.15 | 1,346.8 | -295.5 | 961.6 | 920.4 | 41.25 | 23.313 | |
| 5,400.0 | 5,346.1 | 5,257.4 | 5,037.6 | 15.5 | 28.6 | 2.73 | 1,376.5 | -300.7 | 992.7 | 950.6 | 42.08 | 23.592 | |
| 5,500.0 | 5,446.1 | 5,352.2 | 5,127.5 | 15.6 | 29.2 | 2.34 | 1,406.2 | -306.0 | 1,023.8 | 980.9 | 42.90 | 23.863 | |
| 5,600.0 | 5,546.1 | 5,447.0 | 5,217.4 | 15.8 | 29.8 | 1.97 | 1,435.8 | -311.2 | 1,054.9 | 1,011.2 | 43.73 | 24.125 | |
| 5,700.0 | 5,646.1 | 5,593.5 | 5,357.3 | 16.0 | 30.5 | 1.48 | 1,478.5 | -318.7 | 1,084.0 | 1,039.3 | 44.69 | 24.257 | |
| 5,800.0 | 5,746.1 | 5,748.8 | 5,507.9 | 16.1 | 31.2 | 1.08 | 1,516.0 | -325.3 | 1,108.1 | 1,062.6 | 45.54 | 24.334 | |
| 5,900.0 | 5,846.1 | 5,908.0 | 5,664.1 | 16.3 | 31.7 | 0.78 | 1,546.0 | -330.6 | 1,126.9 | 1,080.7 | 46.29 | 24.345 | |
| 6,000.0 | 5,946.1 | 6,070.2 | 5,824.7 | 16.5 | 32.1 | 0.57 | 1,567.8 | -334.4 | 1,140.4 | 1,093.4 | 46.92 | 24.305 | |
| 6,100.0 | 6,046.1 | 6,234.4 | 5,988.3 | 16.7 | 32.4 | 0.45 | 1,580.7 | -336.7 | 1,148.2 | 1,100.8 | 47.42 | 24.212 | |
| 6,200.0 | 6,146.1 | 6,392.2 | 6,146.1 | 16.8 | 32.6 | 0.42 | 1,584.4 | -337.3 | 1,150.4 | 1,102.6 | 47.79 | 24.071 | |
| 6,300.0 | 6,246.1 | 6,490.9 | 6,244.6 | 17.0 | 32.7 | 0.64 | 1,584.4 | -332.9 | 1,150.5 | 1,102.4 | 48.04 | 23.950 | |
| 6,322.7 | 6,268.8 | 6,513.0 | 6,266.6 | 17.1 | 32.7 | 0.78 | 1,584.4 | -330.1 | 1,150.5 | 1,102.4 | 48.08 | 23.930 | |
| 6,350.0 | 6,296.1 | 6,539.3 | 6,292.6 | 17.1 | 32.7 | -89.03 | 1,584.4 | -325.8 | 1,150.6 | 1,116.9 | 33.66 | 34.179 | |
| 6,400.0 | 6,345.9 | 6,587.3 | 6,339.4 | 17.2 | 32.7 | -88.69 | 1,584.4 | -315.7 | 1,150.7 | 1,116.9 | 33.83 | 34.017 | |
| 6,450.0 | 6,395.4 | 6,634.8 | 6,385.1 | 17.2 | 32.7 | -88.35 | 1,584.4 | -302.6 | 1,150.9 | 1,116.9 | 33.96 | 33.887 | |
| 6,500.0 | 6,444.3 | 6,682.0 | 6,429.5 | 17.2 | 32.7 | -88.02 | 1,584.4 | -286.6 | 1,151.1 | 1,117.0 | 34.07 | 33.785 | |
| 6,550.0 | 6,492.3 | 6,728.7 | 6,472.3 | 17.2 | 32.7 | -87.70 | 1,584.4 | -267.9 | 1,151.3 | 1,117.2 | 34.16 | 33.705 | |
| 6,600.0 | 6,539.2 | 6,775.1 | 6,513.5 | 17.2 | 32.7 | -87.40 | 1,584.4 | -246.7 | 1,151.6 | 1,117.4 | 34.24 | 33.638 | |
| 6,650.0 | 6,584.8 | 6,821.2 | 6,553.0 | 17.2 | 32.7 | -87.10 | 1,584.4 | -223.0 | 1,151.9 | 1,117.6 | 34.31 | 33.574 | |
| 6,700.0 | 6,628.9 | 6,867.0 | 6,590.7 | 17.2 | 32.7 | -86.82 | 1,584.4 | -197.0 | 1,152.2 | 1,117.8 | 34.39 | 33.503 | |
| 6,750.0 | 6,671.2 | 6,912.4 | 6,626.3 | 17.2 | 32.7 | -86.56 | 1,584.4 | -168.8 | 1,152.5 | 1,118.0 | 34.50 | 33.408 | |
| 6,800.0 | 6,711.5 | 6,957.6 | 6,660.0 | 17.2 | 32.7 | -86.31 | 1,584.4 | -138.6 | 1,152.8 | 1,118.2 | 34.64 | 33.276 | |
| 6,850.0 | 6,749.7 | 7,002.6 | 6,691.4 | 17.2 | 32.7 | -86.07 | 1,584.4 | -106.5 | 1,153.1 | 1,118.3 | 34.85 | 33.089 | |
| 6,900.0 | 6,785.6 | 7,047.3 | 6,720.7 | 17.1 | 32.7 | -85.86 | 1,584.4 | -72.7 | 1,153.4 | 1,118.3 | 35.13 | 32.829 | |
| 6,950.0 | 6,818.9 | 7,091.8 | 6,747.7 | 17.1 | 32.7 | -85.66 | 1,584.4 | -37.3 | 1,153.7 | 1,118.2 | 35.52 | 32.481 | |
| 7,000.0 | 6,849.5 | 7,136.2 | 6,772.3 | 17.1 | 32.7 | -85.48 | 1,584.4 | -0.4 | 1,154.0 | 1,118.0 | 36.02 | 32.038 | |
| 7,050.0 | 6,877.4 | 7,180.3 | 6,794.5 | 17.2 | 32.7 | -85.33 | 1,584.4 | 37.8 | 1,154.2 | 1,117.6 | 36.66 | 31.487 | |
| 7,100.0 | 6,902.2 | 7,224.4 | 6,814.3 | 17.3 | 32.7 | -85.19 | 1,584.4 | 77.1 | 1,154.5 | 1,117.1 | 37.42 | 30.848 | |
| 7,150.0 | 6,924.0 | 7,268.3 | 6,831.6 | 17.7 | 32.8 | -85.07 | 1,584.4 | 117.5 | 1,154.7 | 1,116.3 | 38.34 | 30.117 | |
| 7,200.0 | 6,942.6 | 7,312.1 | 6,846.3 | 18.2 | 32.8 | -84.98 | 1,584.4 | 158.8 | 1,154.8 | 1,115.4 | 39.40 | 29.307 | |
| 7,250.0 | 6,957.9 | 7,355.9 | 6,858.5 | 18.8 | 32.9 | -84.91 | 1,584.4 | 200.8 | 1,155.0 | 1,114.4 | 40.61 | 28.438 | |
| 7,300.0 | 6,969.8 | 7,400.0 | 6,868.1 | 19.6 | 32.9 | -84.85 | 1,584.4 | 243.8 | 1,155.1 | 1,113.1 | 41.96 | 27.525 | |
| 7,350.0 | 6,978.3 | 7,443.3 | 6,875.0 | 20.4 | 33.0 | -84.82 | 1,584.4 | 286.5 | 1,155.1 | 1,111.7 | 43.44 | 26.593 | |
| 7,400.0 | 6,983.4 | 7,486.9 | 6,879.3 | 21.3 | 33.2 | -84.82 | 1,584.4 | 329.9 | 1,155.1 | 1,110.1 | 45.02 | 25.658 | |
| 7,447.7 | 6,985.0 | 7,528.6 | 6,881.0 | 22.1 | 33.3 | -84.83 | 1,584.4 | 371.6 | 1,155.1 | 1,108.5 | 46.61 | 24.780 | |
| 7,456.1 | 6,985.0 | 7,535.9 | 6,881.0 | 22.3 | 33.3 | -84.83 | 1,584.4 | 378.9 | 1,155.1 | 1,108.2 | 46.90 | 24.630 | |
| 7,500.0 | 6,985.0 | 7,578.9 | 6,880.6 | 23.1 | 33.5 | -84.82 | 1,584.4 | 421.9 | 1,155.1 | 1,106.6 | 48.49 | 23.821 | |
| 7,600.0 | 6,985.0 | 7,678.9 | 6,879.8 | 25.2 | 34.1 | -84.77 | 1,584.4 | 521.9 | 1,155.2 | 1,102.8 | 52.41 | 22.041 | |
| 7,700.0 | 6,985.0 | 7,778.9 | 6,878.9 | 27.4 | 35.0 | -84.73 | 1,584.4 | 621.8 | 1,155.3 | 1,098.7 | 56.61 | 20.409 | |
| 7,800.0 | 6,985.0 | 7,878.9 | 6,878.0 | 29.7 | 36.2 | -84.69 | 1,584.4 | 721.8 | 1,155.4 | 1,094.3 | 61.02 | 18.933 | |
| 7,900.0 | 6,985.0 | 7,978.9 | 6,877.2 | 32.0 | 37.7 | -84.64 | 1,584.4 | 821.8 | 1,155.4 | 1,089.8 | 65.62 | 17.608 | |
| 8,000.0 | 6,985.0 | 8,078.8 | 6,876.3 | 34.5 | 39.5 | -84.60 | 1,584.4 | 921.8 | 1,155.5 | 1,085.2 | 70.36 | 16.423 | |
| 8,100.0 | 6,985.0 | 8,178.8 | 6,875.4 | 36.9 | 41.4 | -84.56 | 1,584.4 | 1,021.8 | 1,155.6 | 1,080.4 | 75.22 | 15.364 | |
| 8,200.0 | 6,985.0 | 8,278.8 | 6,874.5 | 39.5 | 43.5 | -84.52 | 1,584.4 | 1,121.8 | 1,155.7 | 1,075.5 | 80.17 | 14.416 | |
| 8,300.0 | 6,985.0 | 8,378.8 | 6,873.7 | 42.0 | 45.8 | -84.47 | 1,584.4 | 1,221.8 | 1,155.8 | 1,070.6 | 85.20 | 13.566 | |
| 8,400.0 | 6,985.0 | 8,478.8 | 6,872.8 | 44.6 | 48.1 | -84.43 | 1,584.4 | 1,321.8 | 1,155.9 | 1,065.6 | 90.30 | 12.801 | |
| 8,500.0 | 6,985.0 | 8,578.8 | 6,871.9 | 47.2 | 50.5 | -84.39 | 1,584.4 | 1,421.8 | 1,155.9 | 1,060.5 | 95.45 | 12.111 | |
| 8,600.0 | 6,985.0 | 8,678.8 | 6,871.1 | 49.9 | 52.9 | -84.34 | 1,584.4 | 1,521.8 | 1,156.0 | 1,055.4 | 100.64 | 11.486 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - KINZER 28G-332 - ORIGINAL WELLBORE - PROPOSAL #2 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|---|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
| 8,700.0 | 6,985.0 | 8,778.8 | 6,870.2 | 52.5 | 55.4 | -84.30 | 1,584.4 | 1,621.8 | 1,156.1 | 1,050.2 | 105.88 | 10.919 | |
| 8,800.0 | 6,985.0 | 8,878.8 | 6,869.3 | 55.2 | 57.9 | -84.26 | 1,584.4 | 1,721.8 | 1,156.2 | 1,045.0 | 111.15 | 10.402 | |
| 8,900.0 | 6,985.0 | 8,978.8 | 6,868.4 | 57.9 | 60.5 | -84.21 | 1,584.4 | 1,821.8 | 1,156.3 | 1,039.8 | 116.45 | 9.930 | |
| 9,000.0 | 6,985.0 | 9,078.8 | 6,867.6 | 60.6 | 63.1 | -84.17 | 1,584.4 | 1,921.7 | 1,156.4 | 1,034.6 | 121.77 | 9.496 | |
| 9,100.0 | 6,985.0 | 9,178.8 | 6,866.7 | 63.3 | 65.6 | -84.13 | 1,584.4 | 2,021.7 | 1,156.5 | 1,029.3 | 127.12 | 9.098 | |
| 9,200.0 | 6,985.0 | 9,278.8 | 6,865.8 | 66.0 | 68.3 | -84.09 | 1,584.4 | 2,121.7 | 1,156.6 | 1,024.1 | 132.48 | 8.730 | |
| 9,300.0 | 6,985.0 | 9,378.8 | 6,865.0 | 68.7 | 70.9 | -84.04 | 1,584.4 | 2,221.7 | 1,156.6 | 1,018.8 | 137.86 | 8.390 | |
| 9,400.0 | 6,985.0 | 9,478.8 | 6,864.1 | 71.4 | 73.5 | -84.00 | 1,584.4 | 2,321.7 | 1,156.7 | 1,013.5 | 143.26 | 8.074 | |
| 9,500.0 | 6,985.0 | 9,578.8 | 6,863.2 | 74.2 | 76.2 | -83.96 | 1,584.4 | 2,421.7 | 1,156.8 | 1,008.2 | 148.67 | 7.781 | |
| 9,600.0 | 6,985.0 | 9,678.8 | 6,862.3 | 76.9 | 78.9 | -83.91 | 1,584.4 | 2,521.7 | 1,156.9 | 1,002.8 | 154.09 | 7.508 | |
| 9,700.0 | 6,985.0 | 9,778.8 | 6,861.5 | 79.6 | 81.5 | -83.87 | 1,584.4 | 2,621.7 | 1,157.0 | 997.5 | 159.52 | 7.253 | |
| 9,800.0 | 6,985.0 | 9,878.8 | 6,860.6 | 82.4 | 84.2 | -83.83 | 1,584.4 | 2,721.7 | 1,157.1 | 992.1 | 164.96 | 7.014 | |
| 9,900.0 | 6,985.0 | 9,978.8 | 6,859.7 | 85.1 | 86.9 | -83.79 | 1,584.4 | 2,821.7 | 1,157.2 | 986.8 | 170.41 | 6.791 | |
| 10,000.0 | 6,985.0 | 10,078.8 | 6,858.9 | 87.9 | 89.6 | -83.74 | 1,584.4 | 2,921.7 | 1,157.3 | 981.4 | 175.87 | 6.581 | |
| 10,100.0 | 6,985.0 | 10,178.8 | 6,858.0 | 90.7 | 92.3 | -83.70 | 1,584.4 | 3,021.7 | 1,157.4 | 976.1 | 181.33 | 6.383 | |
| 10,200.0 | 6,985.0 | 10,278.8 | 6,857.1 | 93.4 | 95.1 | -83.66 | 1,584.4 | 3,121.7 | 1,157.5 | 970.7 | 186.80 | 6.196 | |
| 10,300.0 | 6,985.0 | 10,378.8 | 6,856.3 | 96.2 | 97.8 | -83.61 | 1,584.4 | 3,221.7 | 1,157.6 | 965.3 | 192.27 | 6.021 | |
| 10,400.0 | 6,985.0 | 10,478.8 | 6,855.4 | 98.9 | 100.5 | -83.57 | 1,584.4 | 3,321.6 | 1,157.7 | 959.9 | 197.75 | 5.854 | |
| 10,500.0 | 6,985.0 | 10,578.8 | 6,854.5 | 101.7 | 103.2 | -83.53 | 1,584.4 | 3,421.6 | 1,157.8 | 954.5 | 203.23 | 5.697 | |
| 10,600.0 | 6,985.0 | 10,678.8 | 6,853.6 | 104.5 | 106.0 | -83.49 | 1,584.4 | 3,521.6 | 1,157.9 | 949.2 | 208.72 | 5.548 | |
| 10,700.0 | 6,985.0 | 10,778.7 | 6,852.8 | 107.3 | 108.7 | -83.44 | 1,584.4 | 3,621.6 | 1,158.0 | 943.8 | 214.21 | 5.406 | |
| 10,800.0 | 6,985.0 | 10,878.7 | 6,851.9 | 110.0 | 111.4 | -83.40 | 1,584.4 | 3,721.6 | 1,158.1 | 938.4 | 219.70 | 5.271 | |
| 10,900.0 | 6,985.0 | 10,978.7 | 6,851.0 | 112.8 | 114.2 | -83.36 | 1,584.4 | 3,821.6 | 1,158.2 | 933.0 | 225.20 | 5.143 | |
| 11,000.0 | 6,985.0 | 11,078.7 | 6,850.2 | 115.6 | 116.9 | -83.32 | 1,584.4 | 3,921.6 | 1,158.3 | 927.6 | 230.69 | 5.021 | |
| 11,100.0 | 6,985.0 | 11,178.7 | 6,849.3 | 118.4 | 119.7 | -83.27 | 1,584.4 | 4,021.6 | 1,158.4 | 922.2 | 236.19 | 4.904 | |
| 11,200.0 | 6,985.0 | 11,278.7 | 6,848.4 | 121.2 | 122.4 | -83.23 | 1,584.4 | 4,121.6 | 1,158.5 | 916.8 | 241.70 | 4.793 | |
| 11,300.0 | 6,985.0 | 11,378.7 | 6,847.6 | 123.9 | 125.2 | -83.19 | 1,584.4 | 4,221.6 | 1,158.6 | 911.4 | 247.20 | 4.687 | |
| 11,400.0 | 6,985.0 | 11,478.7 | 6,846.7 | 126.7 | 128.0 | -83.14 | 1,584.4 | 4,321.6 | 1,158.7 | 906.0 | 252.71 | 4.585 | |
| 11,500.0 | 6,985.0 | 11,578.7 | 6,845.8 | 129.5 | 130.7 | -83.10 | 1,584.4 | 4,421.6 | 1,158.8 | 900.6 | 258.22 | 4.488 | |
| 11,600.0 | 6,985.0 | 11,678.7 | 6,845.0 | 132.3 | 133.5 | -83.06 | 1,584.4 | 4,521.6 | 1,158.9 | 895.2 | 263.73 | 4.394 | |
| 11,700.0 | 6,985.0 | 11,778.7 | 6,844.1 | 135.1 | 136.2 | -83.02 | 1,584.4 | 4,621.5 | 1,159.0 | 889.8 | 269.24 | 4.305 | |
| 11,800.0 | 6,985.0 | 11,878.7 | 6,843.2 | 137.9 | 139.0 | -82.97 | 1,584.4 | 4,721.5 | 1,159.1 | 884.3 | 274.75 | 4.219 | |
| 11,900.0 | 6,985.0 | 11,978.7 | 6,842.3 | 140.7 | 141.8 | -82.93 | 1,584.4 | 4,821.5 | 1,159.2 | 878.9 | 280.26 | 4.136 | |
| 12,000.0 | 6,985.0 | 12,078.7 | 6,841.5 | 143.4 | 144.5 | -82.89 | 1,584.4 | 4,921.5 | 1,159.3 | 873.5 | 285.77 | 4.057 | |
| 12,054.1 | 6,985.0 | 12,132.8 | 6,841.0 | 145.0 | 146.0 | -82.87 | 1,584.4 | 4,975.7 | 1,159.3 | 870.6 | 288.76 | 4.015 SF | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -90.00 | 0.0 | -13.9 | 13.9 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -90.00 | 0.0 | -13.9 | 13.9 | 13.7 | 0.19 | 71.665 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -90.00 | 0.0 | -13.9 | 13.9 | 13.3 | 0.64 | 21.637 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | -90.00 | 0.0 | -13.9 | 13.9 | 12.8 | 1.09 | 12.742 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | -90.00 | 0.0 | -13.9 | 13.9 | 12.4 | 1.54 | 9.030 | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.0 | 1.0 | -90.00 | 0.0 | -13.9 | 13.9 | 11.9 | 1.99 | 6.993 | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.2 | 1.2 | -90.00 | 0.0 | -13.9 | 13.9 | 11.5 | 2.44 | 5.706 | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.4 | 1.4 | -90.00 | 0.0 | -13.9 | 13.9 | 11.0 | 2.89 | 4.819 | CC, ES |
| 800.0 | 800.0 | 799.8 | 799.7 | 1.7 | 1.7 | -83.78 | 1.6 | -14.6 | 14.7 | 11.4 | 3.34 | 4.405 | |
| 900.0 | 900.0 | 899.4 | 899.2 | 1.9 | 1.9 | -33.67 | 6.4 | -16.7 | 16.4 | 12.6 | 3.78 | 4.338 | |
| 1,000.0 | 999.8 | 998.9 | 998.3 | 2.1 | 2.1 | -22.16 | 14.3 | -20.1 | 18.1 | 13.9 | 4.22 | 4.298 | |
| 1,100.0 | 1,099.5 | 1,098.2 | 1,096.9 | 2.4 | 2.4 | -10.59 | 25.3 | -24.9 | 20.2 | 15.5 | 4.66 | 4.324 | |
| 1,200.0 | 1,198.7 | 1,197.4 | 1,194.9 | 2.6 | 2.7 | 0.78 | 39.5 | -31.1 | 22.7 | 17.6 | 5.11 | 4.447 | |
| 1,300.0 | 1,297.5 | 1,296.4 | 1,292.1 | 2.9 | 3.0 | 11.55 | 56.7 | -38.6 | 26.0 | 20.4 | 5.56 | 4.670 | |
| 1,400.0 | 1,395.6 | 1,396.2 | 1,389.7 | 3.2 | 3.3 | 21.80 | 75.8 | -46.8 | 28.5 | 22.5 | 6.06 | 4.706 | |
| 1,400.2 | 1,395.8 | 1,396.4 | 1,390.0 | 3.2 | 3.3 | 21.83 | 75.8 | -46.8 | 28.5 | 22.5 | 6.07 | 4.705 | |
| 1,500.0 | 1,493.4 | 1,496.1 | 1,487.4 | 3.6 | 3.7 | 31.82 | 94.8 | -55.1 | 30.4 | 23.7 | 6.68 | 4.546 | |
| 1,600.0 | 1,591.2 | 1,595.9 | 1,585.1 | 3.9 | 4.1 | 40.49 | 113.9 | -63.3 | 33.0 | 25.6 | 7.38 | 4.471 | |
| 1,700.0 | 1,689.1 | 1,695.8 | 1,682.7 | 4.3 | 4.5 | 47.74 | 132.9 | -71.6 | 36.2 | 28.1 | 8.15 | 4.448 | |
| 1,800.0 | 1,786.9 | 1,795.6 | 1,780.4 | 4.7 | 4.9 | 53.71 | 151.9 | -79.9 | 40.0 | 31.0 | 8.97 | 4.458 | |
| 1,900.0 | 1,884.7 | 1,895.5 | 1,878.1 | 5.2 | 5.4 | 58.62 | 171.0 | -88.1 | 44.1 | 34.3 | 9.82 | 4.488 | |
| 2,000.0 | 1,982.5 | 1,995.3 | 1,975.8 | 5.6 | 5.8 | 62.68 | 190.0 | -96.4 | 48.5 | 37.8 | 10.70 | 4.531 | |
| 2,100.0 | 2,080.3 | 2,095.2 | 2,073.4 | 6.0 | 6.2 | 66.04 | 209.1 | -104.6 | 53.0 | 41.5 | 11.58 | 4.580 | |
| 2,200.0 | 2,178.1 | 2,195.0 | 2,171.1 | 6.4 | 6.6 | 68.87 | 228.1 | -112.9 | 57.8 | 45.3 | 12.47 | 4.632 | |
| 2,300.0 | 2,275.9 | 2,294.9 | 2,268.8 | 6.9 | 7.1 | 71.26 | 247.1 | -121.2 | 62.6 | 49.2 | 13.36 | 4.685 | |
| 2,400.0 | 2,373.8 | 2,394.7 | 2,366.4 | 7.3 | 7.5 | 73.31 | 266.2 | -129.4 | 67.5 | 53.3 | 14.26 | 4.737 | |
| 2,500.0 | 2,471.6 | 2,494.6 | 2,464.1 | 7.7 | 7.9 | 75.08 | 285.2 | -137.7 | 72.6 | 57.4 | 15.15 | 4.788 | |
| 2,600.0 | 2,569.4 | 2,594.4 | 2,561.8 | 8.2 | 8.4 | 76.61 | 304.3 | -145.9 | 77.6 | 61.6 | 16.05 | 4.836 | |
| 2,700.0 | 2,667.2 | 2,694.3 | 2,659.4 | 8.6 | 8.8 | 77.96 | 323.3 | -154.2 | 82.7 | 65.8 | 16.95 | 4.882 | |
| 2,800.0 | 2,765.0 | 2,794.1 | 2,757.1 | 9.0 | 9.2 | 79.15 | 342.3 | -162.5 | 87.9 | 70.1 | 17.84 | 4.926 | |
| 2,900.0 | 2,862.8 | 2,894.0 | 2,854.8 | 9.5 | 9.7 | 80.21 | 361.4 | -170.7 | 93.1 | 74.4 | 18.74 | 4.968 | |
| 3,000.0 | 2,960.6 | 2,993.8 | 2,952.5 | 9.9 | 10.1 | 81.15 | 380.4 | -179.0 | 98.3 | 78.7 | 19.64 | 5.007 | |
| 3,100.0 | 3,058.4 | 3,093.7 | 3,050.1 | 10.4 | 10.6 | 82.00 | 399.5 | -187.2 | 103.6 | 83.0 | 20.54 | 5.043 | |
| 3,200.0 | 3,156.3 | 3,193.5 | 3,147.8 | 10.8 | 11.0 | 82.77 | 418.5 | -195.5 | 108.8 | 87.4 | 21.43 | 5.078 | |
| 3,300.0 | 3,254.1 | 3,293.4 | 3,245.5 | 11.3 | 11.4 | 83.47 | 437.6 | -203.8 | 114.1 | 91.8 | 22.33 | 5.111 | |
| 3,400.0 | 3,351.9 | 3,393.2 | 3,343.1 | 11.7 | 11.9 | 84.10 | 456.6 | -212.0 | 119.4 | 96.2 | 23.23 | 5.142 | |
| 3,465.5 | 3,416.0 | 3,458.6 | 3,407.1 | 12.0 | 12.2 | 84.49 | 469.1 | -217.4 | 122.9 | 99.1 | 23.82 | 5.161 | |
| 3,500.0 | 3,449.7 | 3,493.1 | 3,440.8 | 12.1 | 12.3 | 84.63 | 475.6 | -220.3 | 124.8 | 100.7 | 24.10 | 5.176 | |
| 3,600.0 | 3,548.1 | 3,592.9 | 3,538.5 | 12.5 | 12.8 | 83.98 | 494.7 | -228.6 | 130.4 | 105.6 | 24.81 | 5.254 | |
| 3,700.0 | 3,647.1 | 3,692.6 | 3,636.0 | 12.7 | 13.2 | 81.96 | 513.7 | -236.8 | 136.4 | 111.0 | 25.41 | 5.370 | |
| 3,800.0 | 3,746.5 | 3,792.0 | 3,733.2 | 13.0 | 13.7 | 78.76 | 532.6 | -245.0 | 143.3 | 117.5 | 25.85 | 5.544 | |
| 3,900.0 | 3,846.2 | 3,891.1 | 3,830.1 | 13.2 | 14.1 | 74.65 | 551.5 | -253.2 | 151.6 | 125.4 | 26.12 | 5.802 | |
| 4,000.0 | 3,946.1 | 3,989.6 | 3,926.5 | 13.3 | 14.5 | 69.88 | 570.3 | -261.4 | 161.7 | 135.5 | 26.20 | 6.174 | |
| 4,065.7 | 4,011.8 | 4,054.0 | 3,989.5 | 13.4 | 14.8 | 28.00 | 582.6 | -266.7 | 169.8 | 147.7 | 22.02 | 7.710 | |
| 4,100.0 | 4,046.1 | 4,087.6 | 4,022.3 | 13.5 | 15.0 | 26.19 | 589.0 | -269.5 | 174.4 | 151.9 | 22.45 | 7.764 | |
| 4,200.0 | 4,146.1 | 4,185.4 | 4,118.0 | 13.6 | 15.4 | 21.42 | 607.6 | -277.6 | 188.6 | 164.9 | 23.70 | 7.960 | |
| 4,300.0 | 4,246.1 | 4,283.2 | 4,213.7 | 13.8 | 15.9 | 17.34 | 626.3 | -285.7 | 204.0 | 179.2 | 24.87 | 8.205 | |
| 4,400.0 | 4,346.1 | 4,381.0 | 4,309.3 | 13.9 | 16.3 | 13.83 | 645.0 | -293.8 | 220.3 | 194.4 | 25.96 | 8.487 | |
| 4,500.0 | 4,446.1 | 4,478.8 | 4,405.0 | 14.1 | 16.7 | 10.81 | 663.6 | -301.8 | 237.3 | 210.3 | 26.98 | 8.796 | |
| 4,600.0 | 4,546.1 | 4,576.6 | 4,500.7 | 14.2 | 17.2 | 8.20 | 682.3 | -309.9 | 254.9 | 226.9 | 27.94 | 9.122 | |
| 4,700.0 | 4,646.1 | 4,674.5 | 4,596.4 | 14.4 | 17.6 | 5.92 | 700.9 | -318.0 | 272.9 | 244.1 | 28.85 | 9.459 | |
| 4,800.0 | 4,746.1 | 4,782.0 | 4,702.0 | 14.5 | 18.0 | 3.92 | 719.6 | -326.1 | 289.6 | 260.0 | 29.65 | 9.767 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,890.9 | 4,809.6 | 14.7 | 18.3 | 2.47 | 734.8 | -332.7 | 303.3 | 273.0 | 30.33 | 9.999 | |
| 5,000.0 | 4,946.1 | 5,001.0 | 4,919.0 | 14.8 | 18.5 | 1.46 | 746.4 | -337.7 | 313.6 | 282.7 | 30.91 | 10.148 | |
| 5,100.0 | 5,046.1 | 5,111.9 | 5,029.5 | 15.0 | 18.8 | 0.82 | 754.1 | -341.1 | 320.5 | 289.2 | 31.38 | 10.214 | |
| 5,200.0 | 5,146.1 | 5,223.3 | 5,140.8 | 15.1 | 18.9 | 0.52 | 757.9 | -342.8 | 323.9 | 292.2 | 31.77 | 10.197 | |
| 5,300.0 | 5,246.1 | 5,328.5 | 5,246.1 | 15.3 | 19.1 | 0.49 | 758.3 | -342.9 | 324.3 | 292.2 | 32.09 | 10.108 | |
| 5,400.0 | 5,346.1 | 5,428.5 | 5,346.1 | 15.5 | 19.2 | 0.49 | 758.3 | -342.9 | 324.3 | 291.9 | 32.40 | 10.010 | |
| 5,500.0 | 5,446.1 | 5,528.5 | 5,446.1 | 15.6 | 19.3 | 0.49 | 758.3 | -342.9 | 324.3 | 291.6 | 32.71 | 9.914 | |
| 5,600.0 | 5,546.1 | 5,628.5 | 5,546.1 | 15.8 | 19.5 | 0.49 | 758.3 | -342.9 | 324.3 | 291.3 | 33.03 | 9.818 | |
| 5,700.0 | 5,646.1 | 5,728.5 | 5,646.1 | 16.0 | 19.6 | 0.49 | 758.3 | -342.9 | 324.3 | 291.0 | 33.35 | 9.723 | |
| 5,800.0 | 5,746.1 | 5,828.5 | 5,746.1 | 16.1 | 19.7 | 0.49 | 758.3 | -342.9 | 324.3 | 290.6 | 33.68 | 9.630 | |
| 5,900.0 | 5,846.1 | 5,928.5 | 5,846.1 | 16.3 | 19.9 | 0.49 | 758.3 | -342.9 | 324.3 | 290.3 | 34.01 | 9.537 | |
| 6,000.0 | 5,946.1 | 6,028.5 | 5,946.1 | 16.5 | 20.0 | 0.49 | 758.3 | -342.9 | 324.3 | 290.0 | 34.33 | 9.446 | |
| 6,100.0 | 6,046.1 | 6,128.5 | 6,046.1 | 16.7 | 20.2 | 0.49 | 758.3 | -342.9 | 324.3 | 289.6 | 34.67 | 9.355 | |
| 6,122.8 | 6,068.9 | 6,151.4 | 6,068.9 | 16.7 | 20.2 | 0.49 | 758.3 | -342.9 | 324.3 | 289.6 | 34.74 | 9.335 | |
| 6,200.0 | 6,146.1 | 6,228.0 | 6,145.4 | 16.8 | 20.3 | 1.19 | 758.3 | -338.9 | 324.4 | 289.5 | 34.91 | 9.293 | |
| 6,300.0 | 6,246.1 | 6,324.5 | 6,240.3 | 17.0 | 20.3 | 4.12 | 758.3 | -322.3 | 325.2 | 290.3 | 34.86 | 9.329 | |
| 6,322.7 | 6,268.8 | 6,345.6 | 6,260.9 | 17.1 | 20.3 | 5.06 | 758.3 | -317.0 | 325.7 | 290.9 | 34.81 | 9.355 | |
| 6,350.0 | 6,296.1 | 6,370.8 | 6,284.9 | 17.1 | 20.3 | -83.71 | 758.3 | -309.9 | 326.4 | 294.4 | 32.02 | 10.194 | |
| 6,400.0 | 6,345.9 | 6,416.3 | 6,327.9 | 17.2 | 20.3 | -81.51 | 758.3 | -294.8 | 328.1 | 295.7 | 32.40 | 10.128 | |
| 6,450.0 | 6,395.4 | 6,461.1 | 6,369.2 | 17.2 | 20.3 | -79.38 | 758.3 | -277.4 | 330.3 | 297.6 | 32.72 | 10.094 | |
| 6,500.0 | 6,444.3 | 6,505.3 | 6,408.7 | 17.2 | 20.3 | -77.33 | 758.3 | -257.7 | 332.9 | 299.9 | 32.99 | 10.091 | |
| 6,550.0 | 6,492.3 | 6,550.0 | 6,447.4 | 17.2 | 20.3 | -75.33 | 758.3 | -235.3 | 335.8 | 302.6 | 33.19 | 10.116 | |
| 6,600.0 | 6,539.2 | 6,592.0 | 6,482.4 | 17.2 | 20.3 | -73.50 | 758.3 | -212.1 | 338.9 | 305.6 | 33.32 | 10.172 | |
| 6,650.0 | 6,584.8 | 6,634.6 | 6,516.5 | 17.2 | 20.2 | -71.74 | 758.3 | -186.6 | 342.3 | 308.9 | 33.39 | 10.251 | |
| 6,700.0 | 6,628.9 | 6,676.7 | 6,548.6 | 17.2 | 20.2 | -70.08 | 758.3 | -159.3 | 345.8 | 312.4 | 33.41 | 10.350 | |
| 6,750.0 | 6,671.2 | 6,718.4 | 6,578.8 | 17.2 | 20.2 | -68.53 | 758.3 | -130.6 | 349.4 | 316.0 | 33.39 | 10.465 | |
| 6,800.0 | 6,711.5 | 6,759.8 | 6,607.0 | 17.2 | 20.1 | -67.10 | 758.3 | -100.4 | 352.9 | 319.6 | 33.34 | 10.588 | |
| 6,850.0 | 6,749.7 | 6,800.0 | 6,632.8 | 17.2 | 20.1 | -65.79 | 758.3 | -69.4 | 356.5 | 323.2 | 33.28 | 10.713 | |
| 6,900.0 | 6,785.6 | 6,841.5 | 6,657.5 | 17.1 | 20.1 | -64.56 | 758.3 | -36.1 | 359.9 | 326.7 | 33.25 | 10.825 | |
| 6,950.0 | 6,818.9 | 6,881.9 | 6,679.6 | 17.1 | 20.1 | -63.47 | 758.3 | -2.3 | 363.2 | 330.0 | 33.27 | 10.918 | |
| 7,000.0 | 6,849.5 | 6,922.0 | 6,699.7 | 17.1 | 20.1 | -62.48 | 758.3 | 32.4 | 366.3 | 333.0 | 33.36 | 10.982 | |
| 7,050.0 | 6,877.4 | 6,962.0 | 6,717.7 | 17.2 | 20.0 | -61.61 | 758.3 | 68.1 | 369.2 | 335.7 | 33.54 | 11.009 | |
| 7,100.0 | 6,902.2 | 7,000.0 | 6,733.0 | 17.3 | 20.1 | -60.87 | 758.3 | 102.9 | 371.8 | 338.0 | 33.85 | 10.984 | |
| 7,150.0 | 6,924.0 | 7,041.4 | 6,747.5 | 17.7 | 20.1 | -60.19 | 758.3 | 141.6 | 374.1 | 339.8 | 34.35 | 10.892 | |
| 7,200.0 | 6,942.6 | 7,080.8 | 6,759.2 | 18.2 | 20.2 | -59.64 | 758.3 | 179.3 | 376.1 | 341.1 | 34.97 | 10.756 | |
| 7,250.0 | 6,957.9 | 7,120.2 | 6,768.8 | 18.8 | 20.4 | -59.19 | 758.3 | 217.4 | 377.7 | 342.0 | 35.77 | 10.561 | |
| 7,300.0 | 6,969.8 | 7,159.4 | 6,776.3 | 19.6 | 20.8 | -58.86 | 758.3 | 255.9 | 379.0 | 342.3 | 36.74 | 10.316 | |
| 7,350.0 | 6,978.3 | 7,200.0 | 6,781.8 | 20.4 | 21.3 | -58.62 | 758.3 | 296.2 | 379.9 | 342.0 | 37.90 | 10.023 | |
| 7,400.0 | 6,983.4 | 7,237.7 | 6,784.9 | 21.3 | 21.9 | -58.49 | 758.3 | 333.8 | 380.4 | 341.2 | 39.20 | 9.703 | |
| 7,447.7 | 6,985.0 | 7,275.1 | 6,786.0 | 22.1 | 22.6 | -58.47 | 758.3 | 371.1 | 380.5 | 339.9 | 40.60 | 9.373 | |
| 7,450.5 | 6,985.0 | 7,277.3 | 6,786.0 | 22.2 | 22.6 | -58.47 | 758.3 | 373.3 | 380.5 | 339.8 | 40.67 | 9.354 | |
| 7,500.0 | 6,985.0 | 7,325.4 | 6,785.7 | 23.1 | 23.5 | -58.42 | 758.3 | 421.4 | 380.7 | 338.4 | 42.26 | 9.008 | |
| 7,600.0 | 6,985.0 | 7,425.4 | 6,785.0 | 25.2 | 25.5 | -58.34 | 758.3 | 521.4 | 381.0 | 335.3 | 45.69 | 8.340 | |
| 7,700.0 | 6,985.0 | 7,525.4 | 6,784.3 | 27.4 | 27.7 | -58.25 | 758.3 | 621.4 | 381.4 | 332.0 | 49.35 | 7.729 | |
| 7,800.0 | 6,985.0 | 7,625.4 | 6,783.6 | 29.7 | 29.9 | -58.16 | 758.3 | 721.4 | 381.8 | 328.6 | 53.19 | 7.178 | |
| 7,900.0 | 6,985.0 | 7,725.4 | 6,782.9 | 32.0 | 32.3 | -58.07 | 758.3 | 821.4 | 382.1 | 325.0 | 57.16 | 6.685 | |
| 8,000.0 | 6,985.0 | 7,825.4 | 6,782.2 | 34.5 | 34.7 | -57.98 | 758.3 | 921.4 | 382.5 | 321.2 | 61.25 | 6.244 | |
| 8,100.0 | 6,985.0 | 7,925.4 | 6,781.5 | 36.9 | 37.2 | -57.89 | 758.3 | 1,021.3 | 382.9 | 317.4 | 65.43 | 5.851 | |
| 8,200.0 | 6,985.0 | 8,025.4 | 6,780.8 | 39.5 | 39.7 | -57.80 | 758.3 | 1,121.3 | 383.2 | 313.6 | 69.68 | 5.500 | |
| 8,300.0 | 6,985.0 | 8,125.4 | 6,780.1 | 42.0 | 42.2 | -57.71 | 758.3 | 1,221.3 | 383.6 | 309.6 | 73.99 | 5.185 | |
| 8,400.0 | 6,985.0 | 8,225.4 | 6,779.4 | 44.6 | 44.8 | -57.63 | 758.3 | 1,321.3 | 384.0 | 305.6 | 78.34 | 4.901 | |
| 8,500.0 | 6,985.0 | 8,325.3 | 6,778.7 | 47.2 | 47.4 | -57.54 | 758.3 | 1,421.3 | 384.4 | 301.6 | 82.73 | 4.646 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 8,600.0 | 6,985.0 | 8,425.3 | 6,778.0 | 49.9 | 50.0 | -57.45 | 758.3 | 1,521.3 | 384.7 | 297.6 | 87.15 | 4.415 | |
| 8,700.0 | 6,985.0 | 8,525.3 | 6,777.3 | 52.5 | 52.7 | -57.36 | 758.3 | 1,621.3 | 385.1 | 293.5 | 91.59 | 4.204 | |
| 8,800.0 | 6,985.0 | 8,625.3 | 6,776.6 | 55.2 | 55.3 | -57.28 | 758.3 | 1,721.3 | 385.5 | 289.4 | 96.06 | 4.013 | |
| 8,900.0 | 6,985.0 | 8,725.3 | 6,775.9 | 57.9 | 58.0 | -57.19 | 758.3 | 1,821.3 | 385.9 | 285.3 | 100.54 | 3.838 | |
| 9,000.0 | 6,985.0 | 8,825.3 | 6,775.2 | 60.6 | 60.7 | -57.10 | 758.3 | 1,921.3 | 386.2 | 281.2 | 105.03 | 3.677 | |
| 9,100.0 | 6,985.0 | 8,925.3 | 6,774.5 | 63.3 | 63.4 | -57.02 | 758.3 | 2,021.3 | 386.6 | 277.1 | 109.53 | 3.530 | |
| 9,200.0 | 6,985.0 | 9,025.3 | 6,773.8 | 66.0 | 66.1 | -56.93 | 758.3 | 2,121.3 | 387.0 | 272.9 | 114.04 | 3.393 | |
| 9,300.0 | 6,985.0 | 9,125.3 | 6,773.1 | 68.7 | 68.8 | -56.84 | 758.3 | 2,221.3 | 387.4 | 268.8 | 118.56 | 3.267 | |
| 9,400.0 | 6,985.0 | 9,225.3 | 6,772.4 | 71.4 | 71.5 | -56.76 | 758.3 | 2,321.3 | 387.8 | 264.7 | 123.08 | 3.150 | |
| 9,500.0 | 6,985.0 | 9,325.3 | 6,771.7 | 74.2 | 74.2 | -56.67 | 758.3 | 2,421.3 | 388.1 | 260.5 | 127.61 | 3.042 | |
| 9,600.0 | 6,985.0 | 9,425.3 | 6,771.0 | 76.9 | 77.0 | -56.59 | 758.3 | 2,521.3 | 388.5 | 256.4 | 132.13 | 2.940 | |
| 9,700.0 | 6,985.0 | 9,525.3 | 6,770.3 | 79.6 | 79.7 | -56.50 | 758.3 | 2,621.3 | 388.9 | 252.2 | 136.66 | 2.846 | |
| 9,800.0 | 6,985.0 | 9,625.3 | 6,769.7 | 82.4 | 82.4 | -56.41 | 758.3 | 2,721.3 | 389.3 | 248.1 | 141.19 | 2.757 | |
| 9,900.0 | 6,985.0 | 9,725.3 | 6,769.0 | 85.1 | 85.2 | -56.33 | 758.3 | 2,821.3 | 389.7 | 244.0 | 145.71 | 2.674 | |
| 10,000.0 | 6,985.0 | 9,825.3 | 6,768.3 | 87.9 | 87.9 | -56.24 | 758.3 | 2,921.3 | 390.1 | 239.8 | 150.24 | 2.596 | |
| 10,100.0 | 6,985.0 | 9,925.3 | 6,767.6 | 90.7 | 90.7 | -56.16 | 758.3 | 3,021.3 | 390.4 | 235.7 | 154.76 | 2.523 | |
| 10,200.0 | 6,985.0 | 10,025.3 | 6,766.9 | 93.4 | 93.5 | -56.07 | 758.3 | 3,121.3 | 390.8 | 231.5 | 159.28 | 2.454 | |
| 10,300.0 | 6,985.0 | 10,125.3 | 6,766.2 | 96.2 | 96.2 | -55.99 | 758.3 | 3,221.3 | 391.2 | 227.4 | 163.79 | 2.388 | |
| 10,400.0 | 6,985.0 | 10,225.3 | 6,765.5 | 98.9 | 99.0 | -55.91 | 758.3 | 3,321.2 | 391.6 | 223.3 | 168.30 | 2.327 | |
| 10,500.0 | 6,985.0 | 10,325.3 | 6,764.8 | 101.7 | 101.7 | -55.82 | 758.3 | 3,421.2 | 392.0 | 219.2 | 172.81 | 2.268 | |
| 10,600.0 | 6,985.0 | 10,425.3 | 6,764.1 | 104.5 | 104.5 | -55.74 | 758.3 | 3,521.2 | 392.4 | 215.1 | 177.31 | 2.213 | |
| 10,700.0 | 6,985.0 | 10,525.3 | 6,763.4 | 107.3 | 107.3 | -55.65 | 758.3 | 3,621.2 | 392.8 | 211.0 | 181.81 | 2.160 | |
| 10,800.0 | 6,985.0 | 10,625.3 | 6,762.7 | 110.0 | 110.0 | -55.57 | 758.3 | 3,721.2 | 393.2 | 206.9 | 186.31 | 2.110 | |
| 10,900.0 | 6,985.0 | 10,725.3 | 6,762.0 | 112.8 | 112.8 | -55.49 | 758.3 | 3,821.2 | 393.6 | 202.8 | 190.79 | 2.063 | |
| 11,000.0 | 6,985.0 | 10,825.3 | 6,761.3 | 115.6 | 115.6 | -55.40 | 758.3 | 3,921.2 | 393.9 | 198.7 | 195.28 | 2.017 | |
| 11,100.0 | 6,985.0 | 10,925.3 | 6,760.6 | 118.4 | 118.4 | -55.32 | 758.3 | 4,021.2 | 394.3 | 194.6 | 199.75 | 1.974 | |
| 11,200.0 | 6,985.0 | 11,025.3 | 6,759.9 | 121.2 | 121.2 | -55.24 | 758.3 | 4,121.2 | 394.7 | 190.5 | 204.22 | 1.933 | |
| 11,300.0 | 6,985.0 | 11,125.3 | 6,759.2 | 123.9 | 123.9 | -55.15 | 758.3 | 4,221.2 | 395.1 | 186.4 | 208.69 | 1.893 | |
| 11,400.0 | 6,985.0 | 11,225.3 | 6,758.5 | 126.7 | 126.7 | -55.07 | 758.3 | 4,321.2 | 395.5 | 182.4 | 213.15 | 1.856 | |
| 11,500.0 | 6,985.0 | 11,325.3 | 6,757.9 | 129.5 | 129.5 | -54.99 | 758.3 | 4,421.2 | 395.9 | 178.3 | 217.60 | 1.819 | |
| 11,600.0 | 6,985.0 | 11,425.3 | 6,757.2 | 132.3 | 132.3 | -54.91 | 758.3 | 4,521.2 | 396.3 | 174.3 | 222.05 | 1.785 | |
| 11,700.0 | 6,985.0 | 11,525.3 | 6,756.5 | 135.1 | 135.1 | -54.83 | 758.3 | 4,621.2 | 396.7 | 170.2 | 226.49 | 1.752 | |
| 11,800.0 | 6,985.0 | 11,625.3 | 6,755.8 | 137.9 | 137.8 | -54.74 | 758.3 | 4,721.2 | 397.1 | 166.2 | 230.92 | 1.720 | |
| 11,900.0 | 6,985.0 | 11,725.3 | 6,755.1 | 140.7 | 140.6 | -54.66 | 758.3 | 4,821.2 | 397.5 | 162.2 | 235.34 | 1.689 | |
| 12,000.0 | 6,985.0 | 11,825.3 | 6,754.4 | 143.4 | 143.2 | -54.58 | 758.3 | 4,921.2 | 397.9 | 158.4 | 239.55 | 1.661 | |
| 12,054.1 | 6,985.0 | 11,879.4 | 6,754.0 | 145.0 | 144.1 | -54.53 | 758.3 | 4,975.3 | 398.1 | 156.6 | 241.48 | 1.649 SF | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -90.00 | 0.0 | -44.6 | 44.6 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -90.00 | 0.0 | -44.6 | 44.6 | 44.4 | 0.19 | 229.329 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -90.00 | 0.0 | -44.6 | 44.6 | 43.9 | 0.64 | 69.239 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | -90.00 | 0.0 | -44.6 | 44.6 | 43.5 | 1.09 | 40.775 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | -90.00 | 0.0 | -44.6 | 44.6 | 43.0 | 1.54 | 28.896 | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.0 | 1.0 | -90.00 | 0.0 | -44.6 | 44.6 | 42.6 | 1.99 | 22.377 CC | |
| 600.0 | 600.0 | 599.6 | 599.6 | 1.2 | 1.2 | -87.85 | 1.7 | -45.0 | 45.0 | 42.6 | 2.44 | 18.434 ES | |
| 700.0 | 700.0 | 699.0 | 698.8 | 1.4 | 1.5 | -81.68 | 6.7 | -46.1 | 46.6 | 43.7 | 2.89 | 16.108 | |
| 800.0 | 800.0 | 797.9 | 797.4 | 1.7 | 1.7 | -72.54 | 15.1 | -48.0 | 50.4 | 47.0 | 3.35 | 15.035 | |
| 900.0 | 900.0 | 896.3 | 895.0 | 1.9 | 1.9 | -24.31 | 26.7 | -50.6 | 55.8 | 52.0 | 3.81 | 14.653 | |
| 1,000.0 | 999.8 | 994.3 | 991.8 | 2.1 | 2.2 | -15.37 | 41.5 | -54.0 | 61.8 | 57.6 | 4.28 | 14.461 | |
| 1,100.0 | 1,099.5 | 1,091.8 | 1,087.6 | 2.4 | 2.6 | -7.02 | 59.4 | -58.0 | 68.5 | 63.7 | 4.74 | 14.448 | |
| 1,200.0 | 1,198.7 | 1,188.9 | 1,182.2 | 2.6 | 2.9 | 0.77 | 80.4 | -62.7 | 75.9 | 70.7 | 5.20 | 14.605 | |
| 1,300.0 | 1,297.5 | 1,285.4 | 1,275.6 | 2.9 | 3.4 | 8.03 | 104.4 | -68.1 | 84.3 | 78.6 | 5.65 | 14.907 | |
| 1,400.0 | 1,395.6 | 1,384.4 | 1,370.9 | 3.2 | 3.8 | 14.77 | 130.7 | -74.1 | 92.3 | 86.1 | 6.13 | 15.050 | |
| 1,400.2 | 1,395.8 | 1,384.7 | 1,371.1 | 3.2 | 3.8 | 14.78 | 130.7 | -74.1 | 92.3 | 86.2 | 6.13 | 15.050 | |
| 1,500.0 | 1,493.4 | 1,483.7 | 1,466.4 | 3.6 | 4.3 | 20.76 | 157.0 | -80.0 | 99.7 | 93.0 | 6.66 | 14.959 | |
| 1,600.0 | 1,591.2 | 1,582.9 | 1,561.8 | 3.9 | 4.8 | 25.88 | 183.3 | -86.0 | 108.1 | 100.8 | 7.24 | 14.934 | |
| 1,700.0 | 1,689.1 | 1,682.1 | 1,657.3 | 4.3 | 5.4 | 30.24 | 209.7 | -91.9 | 117.2 | 109.3 | 7.86 | 14.912 | |
| 1,800.0 | 1,786.9 | 1,781.3 | 1,752.8 | 4.7 | 5.9 | 33.96 | 236.0 | -97.9 | 126.8 | 118.3 | 8.52 | 14.888 | |
| 1,900.0 | 1,884.7 | 1,880.5 | 1,848.3 | 5.2 | 6.4 | 37.14 | 262.4 | -103.8 | 137.0 | 127.8 | 9.22 | 14.857 | |
| 2,000.0 | 1,982.5 | 1,979.7 | 1,943.7 | 5.6 | 7.0 | 39.88 | 288.7 | -109.7 | 147.5 | 137.5 | 9.95 | 14.819 | |
| 2,100.0 | 2,080.3 | 2,079.0 | 2,039.2 | 6.0 | 7.5 | 42.25 | 315.0 | -115.7 | 158.3 | 147.6 | 10.71 | 14.777 | |
| 2,200.0 | 2,178.1 | 2,178.2 | 2,134.7 | 6.4 | 8.0 | 44.32 | 341.4 | -121.6 | 169.3 | 157.8 | 11.49 | 14.733 | |
| 2,300.0 | 2,275.9 | 2,277.4 | 2,230.1 | 6.9 | 8.6 | 46.14 | 367.7 | -127.6 | 180.5 | 168.2 | 12.29 | 14.690 | |
| 2,400.0 | 2,373.8 | 2,376.6 | 2,325.6 | 7.3 | 9.1 | 47.74 | 394.1 | -133.5 | 191.9 | 178.8 | 13.10 | 14.649 | |
| 2,500.0 | 2,471.6 | 2,475.8 | 2,421.1 | 7.7 | 9.6 | 49.16 | 420.4 | -139.5 | 203.4 | 189.5 | 13.92 | 14.610 | |
| 2,600.0 | 2,569.4 | 2,575.0 | 2,516.6 | 8.2 | 10.2 | 50.43 | 446.7 | -145.4 | 215.0 | 200.3 | 14.75 | 14.573 | |
| 2,700.0 | 2,667.2 | 2,674.3 | 2,612.0 | 8.6 | 10.7 | 51.56 | 473.1 | -151.4 | 226.7 | 211.1 | 15.59 | 14.539 | |
| 2,800.0 | 2,765.0 | 2,773.5 | 2,707.5 | 9.0 | 11.3 | 52.59 | 499.4 | -157.3 | 238.5 | 222.1 | 16.44 | 14.508 | |
| 2,900.0 | 2,862.8 | 2,872.7 | 2,803.0 | 9.5 | 11.8 | 53.52 | 525.8 | -163.3 | 250.4 | 233.1 | 17.29 | 14.480 | |
| 3,000.0 | 2,960.6 | 2,971.9 | 2,898.4 | 9.9 | 12.4 | 54.36 | 552.1 | -169.2 | 262.3 | 244.1 | 18.15 | 14.453 | |
| 3,100.0 | 3,058.4 | 3,071.1 | 2,993.9 | 10.4 | 12.9 | 55.14 | 578.5 | -175.1 | 274.3 | 255.2 | 19.01 | 14.429 | |
| 3,200.0 | 3,156.3 | 3,170.3 | 3,089.4 | 10.8 | 13.5 | 55.84 | 604.8 | -181.1 | 286.3 | 266.4 | 19.87 | 14.407 | |
| 3,300.0 | 3,254.1 | 3,269.6 | 3,184.8 | 11.3 | 14.0 | 56.49 | 631.1 | -187.0 | 298.3 | 277.6 | 20.73 | 14.387 | |
| 3,400.0 | 3,351.9 | 3,368.8 | 3,280.3 | 11.7 | 14.6 | 57.09 | 657.5 | -193.0 | 310.4 | 288.8 | 21.60 | 14.369 | |
| 3,465.5 | 3,416.0 | 3,433.8 | 3,342.9 | 12.0 | 14.9 | 57.46 | 674.7 | -196.9 | 318.3 | 296.2 | 22.17 | 14.358 | |
| 3,500.0 | 3,449.7 | 3,468.0 | 3,375.8 | 12.1 | 15.1 | 57.69 | 683.8 | -198.9 | 322.6 | 300.2 | 22.45 | 14.369 | |
| 3,600.0 | 3,548.1 | 3,567.0 | 3,471.1 | 12.5 | 15.7 | 58.01 | 710.1 | -204.9 | 336.3 | 313.2 | 23.15 | 14.528 | |
| 3,700.0 | 3,647.1 | 3,665.8 | 3,566.1 | 12.7 | 16.2 | 57.87 | 736.3 | -210.8 | 351.9 | 328.1 | 23.74 | 14.823 | |
| 3,800.0 | 3,746.5 | 3,764.1 | 3,660.7 | 13.0 | 16.8 | 57.33 | 762.4 | -216.7 | 369.3 | 345.1 | 24.22 | 15.247 | |
| 3,900.0 | 3,846.2 | 3,861.9 | 3,754.8 | 13.2 | 17.3 | 56.46 | 788.4 | -222.5 | 388.7 | 364.1 | 24.60 | 15.801 | |
| 4,000.0 | 3,946.1 | 3,959.0 | 3,848.3 | 13.3 | 17.8 | 55.34 | 814.2 | -228.4 | 410.1 | 385.3 | 24.88 | 16.486 | |
| 4,065.7 | 4,011.8 | 4,022.5 | 3,909.3 | 13.4 | 18.2 | 15.96 | 831.0 | -232.2 | 425.5 | 398.0 | 27.51 | 15.466 | |
| 4,100.0 | 4,046.1 | 4,055.4 | 3,941.1 | 13.5 | 18.4 | 15.37 | 839.8 | -234.1 | 433.7 | 405.9 | 27.83 | 15.586 | |
| 4,200.0 | 4,146.1 | 4,151.7 | 4,033.7 | 13.6 | 18.9 | 13.78 | 865.3 | -239.9 | 458.1 | 429.4 | 28.75 | 15.933 | |
| 4,300.0 | 4,246.1 | 4,247.9 | 4,126.2 | 13.8 | 19.4 | 12.35 | 890.9 | -245.7 | 482.8 | 453.1 | 29.65 | 16.282 | |
| 4,400.0 | 4,346.1 | 4,344.1 | 4,218.8 | 13.9 | 20.0 | 11.06 | 916.4 | -251.4 | 507.7 | 477.2 | 30.53 | 16.631 | |
| 4,500.0 | 4,446.1 | 4,440.3 | 4,311.4 | 14.1 | 20.5 | 9.88 | 942.0 | -257.2 | 532.9 | 501.5 | 31.39 | 16.977 | |
| 4,600.0 | 4,546.1 | 4,536.6 | 4,404.0 | 14.2 | 21.0 | 8.82 | 967.5 | -263.0 | 558.3 | 526.0 | 32.24 | 17.318 | |
| 4,700.0 | 4,646.1 | 4,632.8 | 4,496.6 | 14.4 | 21.6 | 7.84 | 993.1 | -268.7 | 583.8 | 550.7 | 33.07 | 17.655 | |
| 4,800.0 | 4,746.1 | 4,729.0 | 4,589.2 | 14.5 | 22.1 | 6.94 | 1,018.6 | -274.5 | 609.5 | 575.6 | 33.89 | 17.985 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|------------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWDD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,825.2 | 4,681.8 | 14.7 | 22.6 | 6.12 | 1,044.2 | -280.3 | 635.3 | 600.6 | 34.70 | 18.308 | |
| 5,000.0 | 4,946.1 | 4,921.5 | 4,774.4 | 14.8 | 23.2 | 5.36 | 1,069.7 | -286.0 | 661.2 | 625.7 | 35.50 | 18.625 | |
| 5,100.0 | 5,046.1 | 5,017.7 | 4,867.0 | 15.0 | 23.7 | 4.66 | 1,095.2 | -291.8 | 687.2 | 650.9 | 36.29 | 18.934 | |
| 5,200.0 | 5,146.1 | 5,113.9 | 4,959.6 | 15.1 | 24.2 | 4.01 | 1,120.8 | -297.6 | 713.3 | 676.2 | 37.08 | 19.235 | |
| 5,300.0 | 5,246.1 | 5,210.1 | 5,052.2 | 15.3 | 24.8 | 3.40 | 1,146.3 | -303.3 | 739.5 | 701.6 | 37.87 | 19.529 | |
| 5,400.0 | 5,346.1 | 5,306.4 | 5,144.8 | 15.5 | 25.3 | 2.84 | 1,171.9 | -309.1 | 765.7 | 727.1 | 38.64 | 19.815 | |
| 5,500.0 | 5,446.1 | 5,402.6 | 5,237.4 | 15.6 | 25.8 | 2.31 | 1,197.4 | -314.9 | 792.1 | 752.6 | 39.42 | 20.094 | |
| 5,600.0 | 5,546.1 | 5,526.6 | 5,357.2 | 15.8 | 26.4 | 1.71 | 1,228.7 | -321.9 | 817.2 | 776.9 | 40.25 | 20.302 | |
| 5,700.0 | 5,646.1 | 5,662.3 | 5,489.7 | 16.0 | 26.9 | 1.21 | 1,257.2 | -328.3 | 838.1 | 797.1 | 40.99 | 20.448 | |
| 5,800.0 | 5,746.1 | 5,800.6 | 5,626.0 | 16.1 | 27.3 | 0.83 | 1,279.9 | -333.5 | 854.5 | 812.8 | 41.64 | 20.521 | |
| 5,900.0 | 5,846.1 | 5,940.9 | 5,765.3 | 16.3 | 27.7 | 0.57 | 1,296.3 | -337.2 | 866.2 | 824.0 | 42.19 | 20.530 | |
| 6,000.0 | 5,946.1 | 6,082.5 | 5,906.5 | 16.5 | 27.9 | 0.41 | 1,306.2 | -339.4 | 873.1 | 830.4 | 42.65 | 20.471 | |
| 6,100.0 | 6,046.1 | 6,222.2 | 6,046.1 | 16.7 | 28.1 | 0.37 | 1,309.2 | -340.1 | 875.2 | 832.2 | 43.01 | 20.349 | |
| 6,115.5 | 6,061.6 | 6,237.7 | 6,061.6 | 16.7 | 28.1 | 0.37 | 1,309.2 | -340.1 | 875.2 | 832.2 | 43.05 | 20.328 | |
| 6,200.0 | 6,146.1 | 6,321.3 | 6,145.1 | 16.8 | 28.2 | 0.63 | 1,309.2 | -336.1 | 875.3 | 832.0 | 43.26 | 20.234 | |
| 6,300.0 | 6,246.1 | 6,417.4 | 6,239.7 | 17.0 | 28.2 | 1.71 | 1,309.2 | -319.6 | 875.6 | 832.2 | 43.40 | 20.178 | |
| 6,322.7 | 6,268.8 | 6,438.5 | 6,260.2 | 17.1 | 28.2 | 2.05 | 1,309.2 | -314.3 | 875.8 | 832.4 | 43.41 | 20.174 | |
| 6,350.0 | 6,296.1 | 6,463.6 | 6,284.2 | 17.1 | 28.2 | -87.49 | 1,309.2 | -307.3 | 876.1 | 843.1 | 32.96 | 26.585 | |
| 6,400.0 | 6,345.9 | 6,508.9 | 6,327.0 | 17.2 | 28.2 | -86.67 | 1,309.2 | -292.3 | 876.8 | 843.6 | 33.19 | 26.421 | |
| 6,450.0 | 6,395.4 | 6,553.6 | 6,368.2 | 17.2 | 28.2 | -85.86 | 1,309.2 | -275.0 | 877.6 | 844.3 | 33.39 | 26.288 | |
| 6,500.0 | 6,444.3 | 6,600.0 | 6,409.7 | 17.2 | 28.2 | -85.04 | 1,309.2 | -254.3 | 878.6 | 845.1 | 33.56 | 26.179 | |
| 6,550.0 | 6,492.3 | 6,641.2 | 6,445.3 | 17.2 | 28.2 | -84.32 | 1,309.2 | -233.7 | 879.8 | 846.1 | 33.70 | 26.103 | |
| 6,600.0 | 6,539.2 | 6,684.2 | 6,481.2 | 17.2 | 28.2 | -83.59 | 1,309.2 | -210.1 | 881.0 | 847.2 | 33.83 | 26.041 | |
| 6,650.0 | 6,584.8 | 6,726.7 | 6,515.3 | 17.2 | 28.2 | -82.89 | 1,309.2 | -184.7 | 882.3 | 848.4 | 33.95 | 25.991 | |
| 6,700.0 | 6,628.9 | 6,768.7 | 6,547.4 | 17.2 | 28.2 | -82.22 | 1,309.2 | -157.6 | 883.7 | 849.6 | 34.06 | 25.944 | |
| 6,750.0 | 6,671.2 | 6,810.3 | 6,577.6 | 17.2 | 28.2 | -81.58 | 1,309.2 | -128.9 | 885.1 | 850.9 | 34.19 | 25.891 | |
| 6,800.0 | 6,711.5 | 6,850.0 | 6,604.8 | 17.2 | 28.2 | -81.00 | 1,309.2 | -100.0 | 886.5 | 852.2 | 34.33 | 25.823 | |
| 6,850.0 | 6,749.7 | 6,892.5 | 6,632.1 | 17.2 | 28.2 | -80.42 | 1,309.2 | -67.4 | 887.9 | 853.4 | 34.54 | 25.709 | |
| 6,900.0 | 6,785.6 | 6,933.2 | 6,656.4 | 17.1 | 28.2 | -79.90 | 1,309.2 | -34.8 | 889.3 | 854.5 | 34.80 | 25.552 | |
| 6,950.0 | 6,818.9 | 6,973.5 | 6,678.6 | 17.1 | 28.2 | -79.42 | 1,309.2 | -1.2 | 890.6 | 855.5 | 35.15 | 25.338 | |
| 7,000.0 | 6,849.5 | 7,013.7 | 6,698.7 | 17.1 | 28.2 | -78.98 | 1,309.2 | 33.5 | 891.9 | 856.3 | 35.59 | 25.061 | |
| 7,050.0 | 6,877.4 | 7,050.0 | 6,715.3 | 17.2 | 28.2 | -78.62 | 1,309.2 | 65.9 | 893.1 | 856.9 | 36.14 | 24.712 | |
| 7,100.0 | 6,902.2 | 7,093.3 | 6,732.9 | 17.3 | 28.2 | -78.25 | 1,309.2 | 105.4 | 894.1 | 857.2 | 36.88 | 24.246 | |
| 7,150.0 | 6,924.0 | 7,132.8 | 6,746.8 | 17.7 | 28.2 | -77.95 | 1,309.2 | 142.4 | 895.0 | 857.3 | 37.73 | 23.726 | |
| 7,200.0 | 6,942.6 | 7,172.3 | 6,758.6 | 18.2 | 28.3 | -77.70 | 1,309.2 | 180.0 | 895.9 | 857.1 | 38.72 | 23.139 | |
| 7,250.0 | 6,957.9 | 7,211.6 | 6,768.4 | 18.8 | 28.4 | -77.50 | 1,309.2 | 218.1 | 896.5 | 856.7 | 39.85 | 22.497 | |
| 7,300.0 | 6,969.8 | 7,250.0 | 6,775.8 | 19.6 | 28.4 | -77.35 | 1,309.2 | 255.8 | 897.0 | 855.9 | 41.11 | 21.820 | |
| 7,350.0 | 6,978.3 | 7,290.0 | 6,781.4 | 20.4 | 28.6 | -77.25 | 1,309.2 | 295.4 | 897.4 | 854.8 | 42.53 | 21.098 | |
| 7,400.0 | 6,983.4 | 7,329.1 | 6,784.8 | 21.3 | 28.7 | -77.19 | 1,309.2 | 334.4 | 897.5 | 853.5 | 44.06 | 20.373 | |
| 7,447.7 | 6,985.0 | 7,366.5 | 6,786.0 | 22.1 | 28.9 | -77.19 | 1,309.2 | 371.7 | 897.5 | 851.9 | 45.60 | 19.684 | |
| 7,453.3 | 6,985.0 | 7,370.9 | 6,786.0 | 22.3 | 28.9 | -77.19 | 1,309.2 | 376.1 | 897.5 | 851.8 | 45.78 | 19.606 | |
| 7,500.0 | 6,985.0 | 7,416.3 | 6,785.7 | 23.1 | 29.2 | -77.17 | 1,309.2 | 421.6 | 897.6 | 850.1 | 47.46 | 18.913 | |
| 7,600.0 | 6,985.0 | 7,516.3 | 6,785.1 | 25.2 | 30.1 | -77.14 | 1,309.2 | 521.5 | 897.7 | 846.4 | 51.33 | 17.488 | |
| 7,700.0 | 6,985.0 | 7,616.3 | 6,784.5 | 27.4 | 31.4 | -77.10 | 1,309.2 | 621.5 | 897.9 | 842.4 | 55.48 | 16.184 | |
| 7,800.0 | 6,985.0 | 7,716.3 | 6,783.9 | 29.7 | 33.1 | -77.06 | 1,309.2 | 721.5 | 898.0 | 838.2 | 59.83 | 15.008 | |
| 7,900.0 | 6,985.0 | 7,816.3 | 6,783.3 | 32.0 | 35.1 | -77.02 | 1,309.2 | 821.5 | 898.1 | 833.8 | 64.36 | 13.955 | |
| 8,000.0 | 6,985.0 | 7,916.3 | 6,782.7 | 34.5 | 37.2 | -76.98 | 1,309.2 | 921.5 | 898.3 | 829.3 | 69.03 | 13.013 | |
| 8,100.0 | 6,985.0 | 8,016.3 | 6,782.1 | 36.9 | 39.4 | -76.95 | 1,309.2 | 1,021.5 | 898.4 | 824.6 | 73.80 | 12.173 | |
| 8,200.0 | 6,985.0 | 8,116.3 | 6,781.5 | 39.5 | 41.8 | -76.91 | 1,309.2 | 1,121.5 | 898.6 | 819.9 | 78.67 | 11.422 | |
| 8,300.0 | 6,985.0 | 8,216.3 | 6,780.8 | 42.0 | 44.2 | -76.87 | 1,309.2 | 1,221.5 | 898.7 | 815.1 | 83.61 | 10.749 | |
| 8,400.0 | 6,985.0 | 8,316.3 | 6,780.2 | 44.6 | 46.6 | -76.83 | 1,309.2 | 1,321.5 | 898.8 | 810.2 | 88.61 | 10.143 | |
| 8,500.0 | 6,985.0 | 8,416.3 | 6,779.6 | 47.2 | 49.1 | -76.79 | 1,309.2 | 1,421.5 | 899.0 | 805.3 | 93.67 | 9.598 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 8,600.0 | 6,985.0 | 8,516.3 | 6,779.0 | 49.9 | 51.6 | -76.76 | 1,309.2 | 1,521.5 | 899.1 | 800.3 | 98.76 | 9.104 | |
| 8,700.0 | 6,985.0 | 8,616.3 | 6,778.4 | 52.5 | 54.2 | -76.72 | 1,309.2 | 1,621.5 | 899.2 | 795.4 | 103.89 | 8.655 | |
| 8,800.0 | 6,985.0 | 8,716.3 | 6,777.8 | 55.2 | 56.8 | -76.68 | 1,309.2 | 1,721.5 | 899.4 | 790.3 | 109.06 | 8.247 | |
| 8,900.0 | 6,985.0 | 8,816.3 | 6,777.2 | 57.9 | 59.4 | -76.64 | 1,309.2 | 1,821.5 | 899.5 | 785.3 | 114.25 | 7.873 | |
| 9,000.0 | 6,985.0 | 8,916.3 | 6,776.6 | 60.6 | 62.0 | -76.61 | 1,309.2 | 1,921.5 | 899.7 | 780.2 | 119.46 | 7.531 | |
| 9,100.0 | 6,985.0 | 9,016.3 | 6,776.0 | 63.3 | 64.7 | -76.57 | 1,309.2 | 2,021.5 | 899.8 | 775.1 | 124.70 | 7.216 | |
| 9,200.0 | 6,985.0 | 9,116.3 | 6,775.4 | 66.0 | 67.3 | -76.53 | 1,309.2 | 2,121.5 | 900.0 | 770.0 | 129.95 | 6.925 | |
| 9,300.0 | 6,985.0 | 9,216.3 | 6,774.8 | 68.7 | 70.0 | -76.49 | 1,309.2 | 2,221.5 | 900.1 | 764.9 | 135.22 | 6.657 | |
| 9,400.0 | 6,985.0 | 9,316.3 | 6,774.1 | 71.4 | 72.7 | -76.45 | 1,309.2 | 2,321.5 | 900.2 | 759.7 | 140.50 | 6.408 | |
| 9,500.0 | 6,985.0 | 9,416.3 | 6,773.5 | 74.2 | 75.4 | -76.42 | 1,309.2 | 2,421.5 | 900.4 | 754.6 | 145.79 | 6.176 | |
| 9,600.0 | 6,985.0 | 9,516.3 | 6,772.9 | 76.9 | 78.1 | -76.38 | 1,309.2 | 2,521.5 | 900.5 | 749.4 | 151.09 | 5.960 | |
| 9,700.0 | 6,985.0 | 9,616.3 | 6,772.3 | 79.6 | 80.8 | -76.34 | 1,309.2 | 2,621.5 | 900.7 | 744.3 | 156.40 | 5.759 | |
| 9,800.0 | 6,985.0 | 9,716.3 | 6,771.7 | 82.4 | 83.5 | -76.30 | 1,309.2 | 2,721.5 | 900.8 | 739.1 | 161.72 | 5.570 | |
| 9,900.0 | 6,985.0 | 9,816.3 | 6,771.1 | 85.1 | 86.2 | -76.27 | 1,309.2 | 2,821.5 | 901.0 | 733.9 | 167.04 | 5.394 | |
| 10,000.0 | 6,985.0 | 9,916.3 | 6,770.5 | 87.9 | 88.9 | -76.23 | 1,309.2 | 2,921.5 | 901.1 | 728.7 | 172.38 | 5.228 | |
| 10,100.0 | 6,985.0 | 10,016.3 | 6,769.9 | 90.7 | 91.6 | -76.19 | 1,309.2 | 3,021.5 | 901.2 | 723.5 | 177.71 | 5.071 | |
| 10,200.0 | 6,985.0 | 10,116.3 | 6,769.3 | 93.4 | 94.4 | -76.15 | 1,309.2 | 3,121.5 | 901.4 | 718.3 | 183.05 | 4.924 | |
| 10,300.0 | 6,985.0 | 10,216.3 | 6,768.7 | 96.2 | 97.1 | -76.12 | 1,309.2 | 3,221.5 | 901.5 | 713.1 | 188.40 | 4.785 | |
| 10,400.0 | 6,985.0 | 10,316.3 | 6,768.1 | 98.9 | 99.9 | -76.08 | 1,309.2 | 3,321.5 | 901.7 | 707.9 | 193.75 | 4.654 | |
| 10,500.0 | 6,985.0 | 10,416.3 | 6,767.4 | 101.7 | 102.6 | -76.04 | 1,309.2 | 3,421.4 | 901.8 | 702.7 | 199.10 | 4.529 | |
| 10,600.0 | 6,985.0 | 10,516.3 | 6,766.8 | 104.5 | 105.4 | -76.00 | 1,309.2 | 3,521.4 | 902.0 | 697.5 | 204.46 | 4.411 | |
| 10,700.0 | 6,985.0 | 10,616.3 | 6,766.2 | 107.3 | 108.1 | -75.97 | 1,309.2 | 3,621.4 | 902.1 | 692.3 | 209.82 | 4.300 | |
| 10,800.0 | 6,985.0 | 10,716.3 | 6,765.6 | 110.0 | 110.9 | -75.93 | 1,309.2 | 3,721.4 | 902.3 | 687.1 | 215.18 | 4.193 | |
| 10,900.0 | 6,985.0 | 10,816.3 | 6,765.0 | 112.8 | 113.6 | -75.89 | 1,309.2 | 3,821.4 | 902.4 | 681.9 | 220.54 | 4.092 | |
| 11,000.0 | 6,985.0 | 10,916.3 | 6,764.4 | 115.6 | 116.4 | -75.85 | 1,309.2 | 3,921.4 | 902.6 | 676.7 | 225.91 | 3.995 | |
| 11,100.0 | 6,985.0 | 11,016.3 | 6,763.8 | 118.4 | 119.1 | -75.82 | 1,309.2 | 4,021.4 | 902.7 | 671.4 | 231.27 | 3.903 | |
| 11,200.0 | 6,985.0 | 11,116.3 | 6,763.2 | 121.2 | 121.9 | -75.78 | 1,309.2 | 4,121.4 | 902.9 | 666.2 | 236.64 | 3.815 | |
| 11,300.0 | 6,985.0 | 11,216.3 | 6,762.6 | 123.9 | 124.7 | -75.74 | 1,309.2 | 4,221.4 | 903.0 | 661.0 | 242.01 | 3.731 | |
| 11,400.0 | 6,985.0 | 11,316.3 | 6,762.0 | 126.7 | 127.4 | -75.70 | 1,309.2 | 4,321.4 | 903.2 | 655.8 | 247.38 | 3.651 | |
| 11,500.0 | 6,985.0 | 11,416.3 | 6,761.4 | 129.5 | 130.2 | -75.67 | 1,309.2 | 4,421.4 | 903.3 | 650.6 | 252.75 | 3.574 | |
| 11,600.0 | 6,985.0 | 11,516.3 | 6,760.8 | 132.3 | 133.0 | -75.63 | 1,309.2 | 4,521.4 | 903.5 | 645.3 | 258.12 | 3.500 | |
| 11,700.0 | 6,985.0 | 11,616.3 | 6,760.2 | 135.1 | 135.7 | -75.59 | 1,309.2 | 4,621.4 | 903.6 | 640.1 | 263.49 | 3.429 | |
| 11,800.0 | 6,985.0 | 11,716.2 | 6,759.5 | 137.9 | 138.5 | -75.55 | 1,309.2 | 4,721.4 | 903.8 | 634.9 | 268.86 | 3.361 | |
| 11,900.0 | 6,985.0 | 11,816.2 | 6,758.9 | 140.7 | 141.3 | -75.52 | 1,309.2 | 4,821.4 | 903.9 | 629.7 | 274.23 | 3.296 | |
| 12,000.0 | 6,985.0 | 11,916.2 | 6,758.3 | 143.4 | 144.1 | -75.48 | 1,309.2 | 4,921.4 | 904.1 | 624.5 | 279.60 | 3.233 | |
| 12,054.1 | 6,985.0 | 11,970.4 | 6,758.0 | 145.0 | 145.6 | -75.46 | 1,309.2 | 4,975.5 | 904.1 | 621.6 | 282.51 | 3.200 SF | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|-------------------|--------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | -90.00 | 0.0 | -27.9 | 27.9 | | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | -90.00 | 0.0 | -27.9 | 27.9 | 27.7 | 0.19 | 143.330 | | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | -90.00 | 0.0 | -27.9 | 27.9 | 27.2 | 0.64 | 43.274 | | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | -90.00 | 0.0 | -27.9 | 27.9 | 26.8 | 1.09 | 25.484 | | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | -90.00 | 0.0 | -27.9 | 27.9 | 26.3 | 1.54 | 18.060 | | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.0 | 1.0 | -90.00 | 0.0 | -27.9 | 27.9 | 25.9 | 1.99 | 13.985 | | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.2 | 1.2 | -90.00 | 0.0 | -27.9 | 27.9 | 25.4 | 2.44 | 11.411 CC, ES | | |
| 700.0 | 700.0 | 699.7 | 699.7 | 1.4 | 1.4 | -86.65 | 1.7 | -28.4 | 28.4 | 25.5 | 2.89 | 9.830 | | |
| 800.0 | 800.0 | 799.1 | 799.0 | 1.7 | 1.7 | -77.48 | 6.6 | -29.8 | 30.6 | 27.2 | 3.34 | 9.151 | | |
| 900.0 | 900.0 | 898.2 | 897.7 | 1.9 | 1.9 | -28.03 | 14.9 | -32.3 | 34.1 | 30.3 | 3.79 | 8.997 | | |
| 1,000.0 | 999.8 | 997.1 | 995.8 | 2.1 | 2.2 | -17.74 | 26.3 | -35.7 | 37.9 | 33.7 | 4.24 | 8.940 | | |
| 1,100.0 | 1,099.5 | 1,095.6 | 1,093.1 | 2.4 | 2.4 | -7.94 | 41.0 | -40.1 | 42.2 | 37.5 | 4.69 | 9.004 | | |
| 1,200.0 | 1,198.7 | 1,193.8 | 1,189.6 | 2.6 | 2.8 | 1.35 | 58.8 | -45.4 | 47.3 | 42.1 | 5.14 | 9.200 | | |
| 1,300.0 | 1,297.5 | 1,292.8 | 1,286.3 | 2.9 | 3.1 | 9.96 | 79.2 | -51.5 | 52.6 | 47.0 | 5.59 | 9.394 | | |
| 1,400.0 | 1,395.6 | 1,392.5 | 1,383.5 | 3.2 | 3.5 | 17.98 | 100.0 | -57.7 | 55.7 | 49.6 | 6.07 | 9.171 | | |
| 1,400.2 | 1,395.8 | 1,392.7 | 1,383.7 | 3.2 | 3.5 | 18.00 | 100.1 | -57.7 | 55.7 | 49.6 | 6.07 | 9.170 | | |
| 1,500.0 | 1,493.4 | 1,492.1 | 1,480.8 | 3.6 | 3.9 | 25.76 | 120.8 | -63.9 | 58.2 | 51.6 | 6.63 | 8.781 | | |
| 1,600.0 | 1,591.2 | 1,591.8 | 1,578.1 | 3.9 | 4.4 | 32.77 | 141.6 | -70.1 | 61.8 | 54.5 | 7.26 | 8.510 | | |
| 1,700.0 | 1,689.1 | 1,691.5 | 1,675.3 | 4.3 | 4.8 | 38.95 | 162.4 | -76.3 | 66.1 | 58.2 | 7.95 | 8.312 | | |
| 1,800.0 | 1,786.9 | 1,791.1 | 1,772.6 | 4.7 | 5.2 | 44.32 | 183.2 | -82.5 | 71.1 | 62.4 | 8.71 | 8.168 | | |
| 1,900.0 | 1,884.7 | 1,890.8 | 1,869.9 | 5.2 | 5.7 | 48.95 | 204.0 | -88.7 | 76.7 | 67.2 | 9.51 | 8.065 | | |
| 2,000.0 | 1,982.5 | 1,990.5 | 1,967.2 | 5.6 | 6.1 | 52.93 | 224.8 | -94.9 | 82.7 | 72.3 | 10.34 | 7.993 | | |
| 2,100.0 | 2,080.3 | 2,090.2 | 2,064.4 | 6.0 | 6.6 | 56.36 | 245.6 | -101.1 | 89.0 | 77.8 | 11.20 | 7.945 | | |
| 2,200.0 | 2,178.1 | 2,189.8 | 2,161.7 | 6.4 | 7.0 | 59.33 | 266.4 | -107.3 | 95.6 | 83.5 | 12.08 | 7.916 | | |
| 2,300.0 | 2,275.9 | 2,289.5 | 2,259.0 | 6.9 | 7.4 | 61.91 | 287.2 | -113.5 | 102.4 | 89.5 | 12.96 | 7.902 | | |
| 2,400.0 | 2,373.8 | 2,389.2 | 2,356.3 | 7.3 | 7.9 | 64.17 | 308.0 | -119.7 | 109.4 | 95.6 | 13.86 | 7.898 | | |
| 2,500.0 | 2,471.6 | 2,488.8 | 2,453.5 | 7.7 | 8.4 | 66.15 | 328.8 | -125.9 | 116.6 | 101.9 | 14.76 | 7.902 | | |
| 2,600.0 | 2,569.4 | 2,588.5 | 2,550.8 | 8.2 | 8.8 | 67.90 | 349.6 | -132.1 | 123.9 | 108.2 | 15.66 | 7.912 | | |
| 2,700.0 | 2,667.2 | 2,688.2 | 2,648.1 | 8.6 | 9.3 | 69.45 | 370.4 | -138.3 | 131.3 | 114.7 | 16.56 | 7.926 | | |
| 2,800.0 | 2,765.0 | 2,787.8 | 2,745.4 | 9.0 | 9.7 | 70.84 | 391.2 | -144.5 | 138.7 | 121.3 | 17.47 | 7.942 | | |
| 2,900.0 | 2,862.8 | 2,887.5 | 2,842.6 | 9.5 | 10.2 | 72.08 | 412.0 | -150.7 | 146.3 | 127.9 | 18.38 | 7.961 | | |
| 3,000.0 | 2,960.6 | 2,987.2 | 2,939.9 | 9.9 | 10.6 | 73.21 | 432.8 | -156.9 | 153.9 | 134.6 | 19.28 | 7.981 | | |
| 3,100.0 | 3,058.4 | 3,086.8 | 3,037.2 | 10.4 | 11.1 | 74.22 | 453.6 | -163.1 | 161.6 | 141.4 | 20.19 | 8.002 | | |
| 3,200.0 | 3,156.3 | 3,186.5 | 3,134.5 | 10.8 | 11.5 | 75.15 | 474.4 | -169.3 | 169.3 | 148.2 | 21.10 | 8.023 | | |
| 3,300.0 | 3,254.1 | 3,286.2 | 3,231.7 | 11.3 | 12.0 | 75.99 | 495.2 | -175.5 | 177.0 | 155.0 | 22.00 | 8.044 | | |
| 3,400.0 | 3,351.9 | 3,385.8 | 3,329.0 | 11.7 | 12.5 | 76.77 | 516.0 | -181.7 | 184.8 | 161.9 | 22.91 | 8.065 | | |
| 3,465.5 | 3,416.0 | 3,451.1 | 3,392.7 | 12.0 | 12.8 | 77.24 | 529.6 | -185.8 | 189.9 | 166.4 | 23.51 | 8.079 | | |
| 3,500.0 | 3,449.7 | 3,485.5 | 3,426.3 | 12.1 | 12.9 | 77.47 | 536.8 | -187.9 | 192.6 | 168.8 | 23.80 | 8.096 | | |
| 3,600.0 | 3,548.1 | 3,585.1 | 3,523.5 | 12.5 | 13.4 | 77.47 | 557.6 | -194.1 | 201.1 | 176.6 | 24.51 | 8.205 | | |
| 3,700.0 | 3,647.1 | 3,684.6 | 3,620.6 | 12.7 | 13.8 | 76.57 | 578.3 | -200.3 | 210.4 | 185.3 | 25.10 | 8.380 | | |
| 3,800.0 | 3,746.5 | 3,783.8 | 3,717.5 | 13.0 | 14.3 | 74.89 | 599.1 | -206.5 | 220.6 | 195.0 | 25.57 | 8.626 | | |
| 3,900.0 | 3,846.2 | 3,882.7 | 3,814.0 | 13.2 | 14.7 | 72.59 | 619.7 | -212.7 | 232.0 | 206.1 | 25.91 | 8.956 | | |
| 4,000.0 | 3,946.1 | 3,981.0 | 3,909.9 | 13.3 | 15.2 | 69.81 | 640.2 | -218.8 | 245.1 | 219.0 | 26.11 | 9.387 | | |
| 4,065.7 | 4,011.8 | 4,045.3 | 3,972.7 | 13.4 | 15.5 | 29.24 | 653.6 | -222.8 | 254.7 | 231.8 | 22.88 | 11.130 | | |
| 4,100.0 | 4,046.1 | 4,078.8 | 4,005.3 | 13.5 | 15.6 | 28.07 | 660.6 | -224.9 | 260.0 | 236.8 | 23.24 | 11.188 | | |
| 4,200.0 | 4,146.1 | 4,176.4 | 4,100.6 | 13.6 | 16.1 | 24.92 | 681.0 | -230.9 | 276.1 | 251.8 | 24.28 | 11.372 | | |
| 4,300.0 | 4,246.1 | 4,274.0 | 4,195.8 | 13.8 | 16.5 | 22.13 | 701.3 | -237.0 | 292.9 | 267.6 | 25.28 | 11.588 | | |
| 4,400.0 | 4,346.1 | 4,371.6 | 4,291.1 | 13.9 | 17.0 | 19.63 | 721.7 | -243.1 | 310.4 | 284.1 | 26.24 | 11.827 | | |
| 4,500.0 | 4,446.1 | 4,469.2 | 4,386.4 | 14.1 | 17.4 | 17.40 | 742.1 | -249.2 | 328.3 | 301.1 | 27.17 | 12.084 | | |
| 4,600.0 | 4,546.1 | 4,566.8 | 4,481.6 | 14.2 | 17.9 | 15.40 | 762.4 | -255.2 | 346.7 | 318.6 | 28.07 | 12.353 | | |
| 4,700.0 | 4,646.1 | 4,664.4 | 4,576.9 | 14.4 | 18.4 | 13.60 | 782.8 | -261.3 | 365.5 | 336.5 | 28.93 | 12.631 | | |
| 4,800.0 | 4,746.1 | 4,762.0 | 4,672.1 | 14.5 | 18.8 | 11.98 | 803.2 | -267.4 | 384.6 | 354.8 | 29.78 | 12.915 | | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,859.6 | 4,767.4 | 14.7 | 19.3 | 10.51 | 823.5 | -273.5 | 403.9 | 373.3 | 30.59 | 13.202 | |
| 5,000.0 | 4,946.1 | 4,957.2 | 4,862.6 | 14.8 | 19.7 | 9.17 | 843.9 | -279.5 | 423.5 | 392.1 | 31.39 | 13.490 | |
| 5,100.0 | 5,046.1 | 5,054.8 | 4,957.9 | 15.0 | 20.2 | 7.95 | 864.3 | -285.6 | 443.3 | 411.1 | 32.18 | 13.777 | |
| 5,200.0 | 5,146.1 | 5,152.4 | 5,053.2 | 15.1 | 20.6 | 6.84 | 884.6 | -291.7 | 463.3 | 430.3 | 32.95 | 14.062 | |
| 5,300.0 | 5,246.1 | 5,250.0 | 5,148.4 | 15.3 | 21.1 | 5.81 | 905.0 | -297.7 | 483.4 | 449.7 | 33.70 | 14.344 | |
| 5,400.0 | 5,346.1 | 5,347.6 | 5,243.7 | 15.5 | 21.5 | 4.87 | 925.4 | -303.8 | 503.7 | 469.2 | 34.45 | 14.622 | |
| 5,500.0 | 5,446.1 | 5,445.2 | 5,338.9 | 15.6 | 22.0 | 4.00 | 945.7 | -309.9 | 524.1 | 488.9 | 35.18 | 14.896 | |
| 5,600.0 | 5,546.1 | 5,542.8 | 5,434.2 | 15.8 | 22.4 | 3.20 | 966.1 | -316.0 | 544.5 | 508.6 | 35.91 | 15.166 | |
| 5,700.0 | 5,646.1 | 5,646.4 | 5,535.4 | 16.0 | 22.9 | 2.41 | 987.6 | -322.4 | 565.0 | 528.4 | 36.64 | 15.422 | |
| 5,800.0 | 5,746.1 | 5,767.7 | 5,654.6 | 16.1 | 23.3 | 1.68 | 1,009.2 | -328.8 | 582.7 | 545.3 | 37.33 | 15.610 | |
| 5,900.0 | 5,846.1 | 5,890.8 | 5,776.3 | 16.3 | 23.6 | 1.14 | 1,026.2 | -333.9 | 596.4 | 558.5 | 37.92 | 15.728 | |
| 6,000.0 | 5,946.1 | 6,015.2 | 5,900.1 | 16.5 | 23.9 | 0.78 | 1,038.2 | -337.5 | 606.0 | 567.6 | 38.42 | 15.771 | |
| 6,100.0 | 6,046.1 | 6,140.4 | 6,025.1 | 16.7 | 24.1 | 0.58 | 1,045.1 | -339.5 | 611.5 | 572.7 | 38.85 | 15.741 | |
| 6,200.0 | 6,146.1 | 6,261.4 | 6,146.1 | 16.8 | 24.3 | 0.53 | 1,046.9 | -340.1 | 612.9 | 573.7 | 39.20 | 15.637 | |
| 6,300.0 | 6,246.1 | 6,360.3 | 6,244.7 | 17.0 | 24.4 | 1.02 | 1,046.9 | -334.8 | 613.0 | 573.6 | 39.43 | 15.546 | |
| 6,322.7 | 6,268.8 | 6,382.4 | 6,266.7 | 17.1 | 24.4 | 1.30 | 1,046.9 | -331.7 | 613.1 | 573.6 | 39.46 | 15.535 | |
| 6,350.0 | 6,296.1 | 6,408.8 | 6,292.6 | 17.1 | 24.4 | -88.31 | 1,046.9 | -327.3 | 613.2 | 580.9 | 32.25 | 19.015 | |
| 6,400.0 | 6,345.9 | 6,456.7 | 6,339.4 | 17.2 | 24.4 | -87.62 | 1,046.9 | -316.7 | 613.4 | 581.0 | 32.45 | 18.902 | |
| 6,450.0 | 6,395.4 | 6,504.2 | 6,384.9 | 17.2 | 24.4 | -86.95 | 1,046.9 | -303.1 | 613.8 | 581.2 | 32.62 | 18.814 | |
| 6,500.0 | 6,444.3 | 6,550.0 | 6,427.8 | 17.2 | 24.4 | -86.31 | 1,046.9 | -287.2 | 614.2 | 581.5 | 32.76 | 18.748 | |
| 6,550.0 | 6,492.3 | 6,598.0 | 6,471.7 | 17.2 | 24.4 | -85.65 | 1,046.9 | -267.6 | 614.7 | 581.8 | 32.88 | 18.698 | |
| 6,600.0 | 6,539.2 | 6,644.3 | 6,512.6 | 17.2 | 24.4 | -85.03 | 1,046.9 | -246.0 | 615.3 | 582.3 | 32.96 | 18.664 | |
| 6,650.0 | 6,584.8 | 6,690.2 | 6,551.7 | 17.2 | 24.4 | -84.44 | 1,046.9 | -222.0 | 615.8 | 582.8 | 33.04 | 18.638 | |
| 6,700.0 | 6,628.9 | 6,735.8 | 6,589.0 | 17.2 | 24.4 | -83.88 | 1,046.9 | -195.7 | 616.5 | 583.3 | 33.12 | 18.612 | |
| 6,750.0 | 6,671.2 | 6,781.1 | 6,624.3 | 17.2 | 24.3 | -83.34 | 1,046.9 | -167.3 | 617.1 | 583.9 | 33.22 | 18.579 | |
| 6,800.0 | 6,711.5 | 6,826.1 | 6,657.5 | 17.2 | 24.3 | -82.84 | 1,046.9 | -137.0 | 617.8 | 584.4 | 33.34 | 18.528 | |
| 6,850.0 | 6,749.7 | 6,870.9 | 6,688.5 | 17.2 | 24.3 | -82.36 | 1,046.9 | -104.8 | 618.4 | 584.9 | 33.52 | 18.449 | |
| 6,900.0 | 6,785.6 | 6,915.4 | 6,717.4 | 17.1 | 24.3 | -81.93 | 1,046.9 | -70.9 | 619.1 | 585.3 | 33.77 | 18.331 | |
| 6,950.0 | 6,818.9 | 6,959.6 | 6,743.9 | 17.1 | 24.3 | -81.53 | 1,046.9 | -35.5 | 619.7 | 585.6 | 34.12 | 18.164 | |
| 7,000.0 | 6,849.5 | 7,003.7 | 6,768.1 | 17.1 | 24.3 | -81.16 | 1,046.9 | 1.4 | 620.3 | 585.7 | 34.57 | 17.942 | |
| 7,050.0 | 6,877.4 | 7,050.0 | 6,791.0 | 17.2 | 24.3 | -80.82 | 1,046.9 | 41.6 | 620.9 | 585.7 | 35.18 | 17.649 | |
| 7,100.0 | 6,902.2 | 7,091.4 | 6,809.3 | 17.3 | 24.3 | -80.55 | 1,046.9 | 78.7 | 621.4 | 585.5 | 35.90 | 17.308 | |
| 7,150.0 | 6,924.0 | 7,135.0 | 6,826.2 | 17.7 | 24.3 | -80.31 | 1,046.9 | 118.9 | 621.8 | 585.0 | 36.79 | 16.902 | |
| 7,200.0 | 6,942.6 | 7,178.5 | 6,840.6 | 18.2 | 24.3 | -80.11 | 1,046.9 | 160.0 | 622.2 | 584.3 | 37.83 | 16.447 | |
| 7,250.0 | 6,957.9 | 7,222.0 | 6,852.4 | 18.8 | 24.4 | -79.95 | 1,046.9 | 201.7 | 622.5 | 583.4 | 39.02 | 15.952 | |
| 7,300.0 | 6,969.8 | 7,265.3 | 6,861.7 | 19.6 | 24.5 | -79.83 | 1,046.9 | 244.1 | 622.7 | 582.3 | 40.36 | 15.430 | |
| 7,350.0 | 6,978.3 | 7,308.6 | 6,868.4 | 20.4 | 24.7 | -79.75 | 1,046.9 | 286.9 | 622.8 | 581.0 | 41.83 | 14.891 | |
| 7,400.0 | 6,983.4 | 7,350.0 | 6,872.4 | 21.3 | 25.0 | -79.72 | 1,046.9 | 328.1 | 622.9 | 579.5 | 43.38 | 14.360 | |
| 7,447.7 | 6,985.0 | 7,393.2 | 6,874.0 | 22.1 | 25.3 | -79.73 | 1,046.9 | 371.3 | 622.9 | 577.9 | 45.02 | 13.835 | |
| 7,455.3 | 6,985.0 | 7,400.0 | 6,874.0 | 22.3 | 25.4 | -79.73 | 1,046.9 | 378.0 | 622.9 | 577.6 | 45.28 | 13.756 | |
| 7,500.0 | 6,985.0 | 7,443.6 | 6,873.6 | 23.1 | 25.9 | -79.70 | 1,046.9 | 421.6 | 622.9 | 576.0 | 46.92 | 13.276 | |
| 7,600.0 | 6,985.0 | 7,543.6 | 6,872.5 | 25.2 | 27.4 | -79.60 | 1,046.9 | 521.6 | 623.1 | 572.3 | 50.85 | 12.254 | |
| 7,700.0 | 6,985.0 | 7,643.6 | 6,871.5 | 27.4 | 29.2 | -79.51 | 1,046.9 | 621.6 | 623.3 | 568.3 | 55.05 | 11.322 | |
| 7,800.0 | 6,985.0 | 7,743.6 | 6,870.4 | 29.7 | 31.3 | -79.41 | 1,046.9 | 721.6 | 623.5 | 564.0 | 59.47 | 10.485 | |
| 7,900.0 | 6,985.0 | 7,843.6 | 6,869.4 | 32.0 | 33.5 | -79.32 | 1,046.9 | 821.6 | 623.7 | 559.7 | 64.06 | 9.737 | |
| 8,000.0 | 6,985.0 | 7,943.6 | 6,868.3 | 34.5 | 35.8 | -79.22 | 1,046.9 | 921.5 | 623.9 | 555.1 | 68.78 | 9.072 | |
| 8,100.0 | 6,985.0 | 8,043.6 | 6,867.3 | 36.9 | 38.2 | -79.13 | 1,046.9 | 1,021.5 | 624.1 | 550.5 | 73.60 | 8.479 | |
| 8,200.0 | 6,985.0 | 8,143.6 | 6,866.2 | 39.5 | 40.6 | -79.03 | 1,046.9 | 1,121.5 | 624.3 | 545.8 | 78.52 | 7.951 | |
| 8,300.0 | 6,985.0 | 8,243.5 | 6,865.2 | 42.0 | 43.1 | -78.94 | 1,046.9 | 1,221.5 | 624.5 | 541.0 | 83.51 | 7.478 | |
| 8,400.0 | 6,985.0 | 8,343.5 | 6,864.1 | 44.6 | 45.6 | -78.85 | 1,046.9 | 1,321.5 | 624.7 | 536.1 | 88.55 | 7.055 | |
| 8,500.0 | 6,985.0 | 8,443.5 | 6,863.1 | 47.2 | 48.2 | -78.75 | 1,046.9 | 1,421.5 | 624.9 | 531.3 | 93.65 | 6.673 | |
| 8,600.0 | 6,985.0 | 8,543.5 | 6,862.1 | 49.9 | 50.7 | -78.66 | 1,046.9 | 1,521.5 | 625.1 | 526.3 | 98.78 | 6.328 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 8,700.0 | 6,985.0 | 8,643.5 | 6,861.0 | 52.5 | 53.4 | -78.56 | 1,046.9 | 1,621.5 | 625.3 | 521.4 | 103.95 | 6.016 | |
| 8,800.0 | 6,985.0 | 8,743.5 | 6,860.0 | 55.2 | 56.0 | -78.47 | 1,046.9 | 1,721.5 | 625.5 | 516.4 | 109.15 | 5.731 | |
| 8,900.0 | 6,985.0 | 8,843.5 | 6,858.9 | 57.9 | 58.6 | -78.38 | 1,046.9 | 1,821.5 | 625.7 | 511.4 | 114.37 | 5.471 | |
| 9,000.0 | 6,985.0 | 8,943.5 | 6,857.9 | 60.6 | 61.3 | -78.28 | 1,046.9 | 1,921.4 | 625.9 | 506.3 | 119.61 | 5.233 | |
| 9,100.0 | 6,985.0 | 9,043.5 | 6,856.8 | 63.3 | 63.9 | -78.19 | 1,046.9 | 2,021.4 | 626.2 | 501.3 | 124.87 | 5.015 | |
| 9,200.0 | 6,985.0 | 9,143.5 | 6,855.8 | 66.0 | 66.6 | -78.09 | 1,046.9 | 2,121.4 | 626.4 | 496.2 | 130.14 | 4.813 | |
| 9,300.0 | 6,985.0 | 9,243.5 | 6,854.7 | 68.7 | 69.3 | -78.00 | 1,046.9 | 2,221.4 | 626.6 | 491.2 | 135.42 | 4.627 | |
| 9,400.0 | 6,985.0 | 9,343.5 | 6,853.7 | 71.4 | 72.0 | -77.91 | 1,046.9 | 2,321.4 | 626.8 | 486.1 | 140.72 | 4.454 | |
| 9,500.0 | 6,985.0 | 9,443.5 | 6,852.6 | 74.2 | 74.7 | -77.81 | 1,046.9 | 2,421.4 | 627.0 | 481.0 | 146.02 | 4.294 | |
| 9,600.0 | 6,985.0 | 9,543.5 | 6,851.6 | 76.9 | 77.4 | -77.72 | 1,046.9 | 2,521.4 | 627.2 | 475.9 | 151.33 | 4.145 | |
| 9,700.0 | 6,985.0 | 9,643.5 | 6,850.6 | 79.6 | 80.2 | -77.63 | 1,046.9 | 2,621.4 | 627.5 | 470.8 | 156.65 | 4.005 | |
| 9,800.0 | 6,985.0 | 9,743.5 | 6,849.5 | 82.4 | 82.9 | -77.53 | 1,046.9 | 2,721.4 | 627.7 | 465.7 | 161.98 | 3.875 | |
| 9,900.0 | 6,985.0 | 9,843.5 | 6,848.5 | 85.1 | 85.6 | -77.44 | 1,046.9 | 2,821.3 | 627.9 | 460.6 | 167.30 | 3.753 | |
| 10,000.0 | 6,985.0 | 9,943.5 | 6,847.4 | 87.9 | 88.4 | -77.35 | 1,046.9 | 2,921.3 | 628.1 | 455.5 | 172.64 | 3.639 | |
| 10,100.0 | 6,985.0 | 10,043.5 | 6,846.4 | 90.7 | 91.1 | -77.26 | 1,046.9 | 3,021.3 | 628.4 | 450.4 | 177.97 | 3.531 | |
| 10,200.0 | 6,985.0 | 10,143.4 | 6,845.3 | 93.4 | 93.8 | -77.16 | 1,046.9 | 3,121.3 | 628.6 | 445.3 | 183.31 | 3.429 | |
| 10,300.0 | 6,985.0 | 10,243.4 | 6,844.3 | 96.2 | 96.6 | -77.07 | 1,046.9 | 3,221.3 | 628.8 | 440.2 | 188.64 | 3.333 | |
| 10,400.0 | 6,985.0 | 10,343.4 | 6,843.3 | 98.9 | 99.4 | -76.98 | 1,046.9 | 3,321.3 | 629.1 | 435.1 | 193.98 | 3.243 | |
| 10,500.0 | 6,985.0 | 10,443.4 | 6,842.2 | 101.7 | 102.1 | -76.89 | 1,046.9 | 3,421.3 | 629.3 | 430.0 | 199.32 | 3.157 | |
| 10,600.0 | 6,985.0 | 10,543.4 | 6,841.2 | 104.5 | 104.9 | -76.79 | 1,046.9 | 3,521.3 | 629.5 | 424.9 | 204.66 | 3.076 | |
| 10,700.0 | 6,985.0 | 10,643.4 | 6,840.1 | 107.3 | 107.6 | -76.70 | 1,046.9 | 3,621.3 | 629.8 | 419.8 | 210.00 | 2.999 | |
| 10,800.0 | 6,985.0 | 10,743.4 | 6,839.1 | 110.0 | 110.4 | -76.61 | 1,046.9 | 3,721.2 | 630.0 | 414.7 | 215.34 | 2.926 | |
| 10,900.0 | 6,985.0 | 10,843.4 | 6,838.0 | 112.8 | 113.2 | -76.52 | 1,046.9 | 3,821.2 | 630.3 | 409.6 | 220.68 | 2.856 | |
| 11,000.0 | 6,985.0 | 10,943.4 | 6,837.0 | 115.6 | 115.9 | -76.42 | 1,046.9 | 3,921.2 | 630.5 | 404.5 | 226.02 | 2.790 | |
| 11,100.0 | 6,985.0 | 11,043.4 | 6,836.0 | 118.4 | 118.7 | -76.33 | 1,046.9 | 4,021.2 | 630.8 | 399.4 | 231.36 | 2.726 | |
| 11,200.0 | 6,985.0 | 11,143.4 | 6,834.9 | 121.2 | 121.5 | -76.24 | 1,046.9 | 4,121.2 | 631.0 | 394.3 | 236.69 | 2.666 | |
| 11,300.0 | 6,985.0 | 11,243.4 | 6,833.9 | 123.9 | 124.2 | -76.15 | 1,046.9 | 4,221.2 | 631.3 | 389.2 | 242.02 | 2.608 | |
| 11,400.0 | 6,985.0 | 11,343.4 | 6,832.8 | 126.7 | 127.0 | -76.06 | 1,046.9 | 4,321.2 | 631.5 | 384.2 | 247.35 | 2.553 | |
| 11,500.0 | 6,985.0 | 11,443.4 | 6,831.8 | 129.5 | 129.8 | -75.96 | 1,046.9 | 4,421.2 | 631.8 | 379.1 | 252.68 | 2.500 | |
| 11,600.0 | 6,985.0 | 11,543.4 | 6,830.7 | 132.3 | 132.6 | -75.87 | 1,046.9 | 4,521.2 | 632.0 | 374.0 | 258.01 | 2.450 | |
| 11,700.0 | 6,985.0 | 11,643.4 | 6,829.7 | 135.1 | 135.3 | -75.78 | 1,046.9 | 4,621.2 | 632.3 | 368.9 | 263.33 | 2.401 | |
| 11,800.0 | 6,985.0 | 11,743.4 | 6,828.7 | 137.9 | 138.1 | -75.69 | 1,046.9 | 4,721.1 | 632.5 | 363.9 | 268.65 | 2.354 | |
| 11,900.0 | 6,985.0 | 11,843.4 | 6,827.6 | 140.7 | 140.9 | -75.60 | 1,046.9 | 4,821.1 | 632.8 | 358.8 | 273.97 | 2.310 | |
| 12,000.0 | 6,985.0 | 11,943.4 | 6,826.6 | 143.4 | 143.7 | -75.51 | 1,046.9 | 4,921.1 | 633.0 | 353.8 | 279.29 | 2.267 | |
| 12,054.1 | 6,985.0 | 11,997.5 | 6,826.0 | 145.0 | 145.2 | -75.46 | 1,046.9 | 4,975.3 | 633.1 | 351.0 | 282.16 | 2.244 SF | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Tooface (") | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 89.98 | 0.0 | 30.7 | 30.7 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 89.98 | 0.0 | 30.7 | 30.7 | 30.5 | 0.19 | 157.664 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 89.98 | 0.0 | 30.7 | 30.7 | 30.0 | 0.64 | 47.602 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | 89.98 | 0.0 | 30.7 | 30.7 | 29.6 | 1.09 | 28.033 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | 89.98 | 0.0 | 30.7 | 30.7 | 29.1 | 1.54 | 19.866 | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.0 | 1.0 | 89.98 | 0.0 | 30.7 | 30.7 | 28.7 | 1.99 | 15.384 | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.2 | 1.2 | 89.98 | 0.0 | 30.7 | 30.7 | 28.2 | 2.44 | 12.552 | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.4 | 1.4 | 89.98 | 0.0 | 30.7 | 30.7 | 27.8 | 2.89 | 10.601 | |
| 800.0 | 800.0 | 800.0 | 800.0 | 1.7 | 1.7 | 89.98 | 0.0 | 30.7 | 30.7 | 27.3 | 3.34 | 9.175 CC, ES | |
| 900.0 | 900.0 | 900.0 | 900.0 | 1.9 | 1.9 | 130.97 | 0.0 | 30.7 | 31.8 | 28.0 | 3.79 | 8.389 | |
| 1,000.0 | 999.8 | 999.8 | 999.8 | 2.1 | 2.1 | 137.32 | 0.0 | 30.7 | 35.4 | 31.2 | 4.23 | 8.373 | |
| 1,100.0 | 1,099.5 | 1,100.4 | 1,100.4 | 2.4 | 2.3 | 147.21 | -0.9 | 29.2 | 41.1 | 36.5 | 4.65 | 8.846 | |
| 1,200.0 | 1,198.7 | 1,200.4 | 1,200.2 | 2.6 | 2.5 | 159.71 | -3.8 | 24.8 | 49.3 | 44.3 | 5.05 | 9.761 | |
| 1,300.0 | 1,297.5 | 1,299.5 | 1,299.0 | 2.9 | 2.7 | 172.06 | -8.4 | 17.5 | 61.6 | 56.2 | 5.47 | 11.272 | |
| 1,400.0 | 1,395.6 | 1,397.5 | 1,396.3 | 3.2 | 2.9 | -177.47 | -14.9 | 7.5 | 79.0 | 73.1 | 5.91 | 13.358 | |
| 1,400.2 | 1,395.8 | 1,397.8 | 1,396.5 | 3.2 | 2.9 | -177.45 | -14.9 | 7.5 | 79.0 | 73.1 | 5.91 | 13.364 | |
| 1,500.0 | 1,493.4 | 1,494.4 | 1,492.0 | 3.6 | 3.2 | -169.14 | -23.0 | -5.2 | 99.9 | 93.5 | 6.43 | 15.539 | |
| 1,600.0 | 1,591.2 | 1,591.1 | 1,587.2 | 3.9 | 3.5 | -162.85 | -32.1 | -19.3 | 122.5 | 115.5 | 6.99 | 17.521 | |
| 1,700.0 | 1,689.1 | 1,687.8 | 1,682.4 | 4.3 | 3.8 | -158.53 | -41.2 | -33.5 | 146.1 | 138.5 | 7.58 | 19.269 | |
| 1,800.0 | 1,786.9 | 1,784.5 | 1,777.6 | 4.7 | 4.1 | -155.41 | -50.4 | -47.7 | 170.2 | 162.0 | 8.19 | 20.787 | |
| 1,900.0 | 1,884.7 | 1,881.1 | 1,872.7 | 5.2 | 4.4 | -153.06 | -59.5 | -61.9 | 194.7 | 185.9 | 8.81 | 22.098 | |
| 2,000.0 | 1,982.5 | 1,977.8 | 1,967.9 | 5.6 | 4.8 | -151.24 | -68.6 | -76.1 | 219.5 | 210.0 | 9.45 | 23.229 | |
| 2,100.0 | 2,080.3 | 2,074.5 | 2,063.1 | 6.0 | 5.1 | -149.79 | -77.7 | -90.3 | 244.4 | 234.3 | 10.09 | 24.214 | |
| 2,200.0 | 2,178.1 | 2,171.2 | 2,158.3 | 6.4 | 5.5 | -148.61 | -86.8 | -104.5 | 269.4 | 258.7 | 10.75 | 25.073 | |
| 2,300.0 | 2,275.9 | 2,267.9 | 2,253.5 | 6.9 | 5.9 | -147.63 | -96.0 | -118.7 | 294.5 | 283.1 | 11.40 | 25.826 | |
| 2,400.0 | 2,373.8 | 2,364.5 | 2,348.7 | 7.3 | 6.2 | -146.80 | -105.1 | -132.9 | 319.7 | 307.7 | 12.07 | 26.490 | |
| 2,500.0 | 2,471.6 | 2,461.2 | 2,443.9 | 7.7 | 6.6 | -146.09 | -114.2 | -147.1 | 345.0 | 332.2 | 12.74 | 27.080 | |
| 2,600.0 | 2,569.4 | 2,557.9 | 2,539.1 | 8.2 | 7.0 | -145.48 | -123.3 | -161.3 | 370.3 | 356.8 | 13.41 | 27.606 | |
| 2,700.0 | 2,667.2 | 2,654.6 | 2,634.3 | 8.6 | 7.3 | -144.95 | -132.4 | -175.5 | 395.6 | 381.5 | 14.09 | 28.077 | |
| 2,800.0 | 2,765.0 | 2,751.3 | 2,729.5 | 9.0 | 7.7 | -144.48 | -141.6 | -189.7 | 420.9 | 406.2 | 14.77 | 28.502 | |
| 2,900.0 | 2,862.8 | 2,847.9 | 2,824.7 | 9.5 | 8.1 | -144.06 | -150.7 | -203.9 | 446.3 | 430.8 | 15.45 | 28.885 | |
| 3,000.0 | 2,960.6 | 2,944.6 | 2,919.9 | 9.9 | 8.5 | -143.69 | -159.8 | -218.1 | 471.7 | 455.6 | 16.13 | 29.234 | |
| 3,100.0 | 3,058.4 | 3,041.3 | 3,015.1 | 10.4 | 8.9 | -143.36 | -168.9 | -232.2 | 497.1 | 480.3 | 16.82 | 29.552 | |
| 3,200.0 | 3,156.3 | 3,138.0 | 3,110.3 | 10.8 | 9.2 | -143.06 | -178.0 | -246.4 | 522.5 | 505.0 | 17.51 | 29.842 | |
| 3,300.0 | 3,254.1 | 3,234.7 | 3,205.5 | 11.3 | 9.6 | -142.79 | -187.2 | -260.6 | 548.0 | 529.8 | 18.20 | 30.109 | |
| 3,400.0 | 3,351.9 | 3,331.3 | 3,300.7 | 11.7 | 10.0 | -142.54 | -196.3 | -274.8 | 573.4 | 554.5 | 18.89 | 30.355 | |
| 3,465.5 | 3,416.0 | 3,394.7 | 3,363.0 | 12.0 | 10.3 | -142.39 | -202.3 | -284.1 | 590.1 | 570.7 | 19.34 | 30.506 | |
| 3,500.0 | 3,449.7 | 3,428.0 | 3,395.9 | 12.1 | 10.4 | -142.41 | -205.4 | -289.0 | 598.7 | 579.1 | 19.58 | 30.570 | |
| 3,600.0 | 3,548.1 | 3,525.2 | 3,491.6 | 12.5 | 10.8 | -142.32 | -214.6 | -303.3 | 621.9 | 601.7 | 20.23 | 30.742 | |
| 3,700.0 | 3,647.1 | 3,628.6 | 3,593.4 | 12.7 | 11.1 | -142.02 | -224.1 | -318.1 | 642.3 | 621.4 | 20.84 | 30.824 | |
| 3,800.0 | 3,746.5 | 3,740.7 | 3,704.5 | 13.0 | 11.4 | -141.72 | -232.5 | -331.2 | 658.3 | 636.9 | 21.36 | 30.819 | |
| 3,900.0 | 3,846.2 | 3,854.1 | 3,817.3 | 13.2 | 11.7 | -141.49 | -238.6 | -340.7 | 669.5 | 647.7 | 21.82 | 30.688 | |
| 4,000.0 | 3,946.1 | 3,968.4 | 3,931.4 | 13.3 | 11.9 | -141.33 | -242.3 | -346.5 | 675.9 | 653.7 | 22.21 | 30.439 | |
| 4,065.7 | 4,011.8 | 4,043.7 | 4,006.7 | 13.4 | 12.0 | -179.79 | -243.4 | -348.2 | 677.5 | 655.5 | 21.93 | 30.888 | |
| 4,100.0 | 4,046.1 | 4,083.1 | 4,046.0 | 13.5 | 12.1 | -179.77 | -243.6 | -348.4 | 677.6 | 655.5 | 22.05 | 30.729 | |
| 4,200.0 | 4,146.1 | 4,183.1 | 4,146.1 | 13.6 | 12.3 | -179.77 | -243.6 | -348.4 | 677.6 | 655.2 | 22.38 | 30.279 | |
| 4,300.0 | 4,246.1 | 4,283.1 | 4,246.1 | 13.8 | 12.4 | -179.77 | -243.6 | -348.4 | 677.6 | 654.9 | 22.71 | 29.837 | |
| 4,400.0 | 4,346.1 | 4,383.1 | 4,346.1 | 13.9 | 12.5 | -179.77 | -243.6 | -348.4 | 677.6 | 654.6 | 23.04 | 29.403 | |
| 4,500.0 | 4,446.1 | 4,483.1 | 4,446.1 | 14.1 | 12.7 | -179.77 | -243.6 | -348.4 | 677.6 | 654.2 | 23.38 | 28.977 | |
| 4,600.0 | 4,546.1 | 4,583.1 | 4,546.1 | 14.2 | 12.9 | -179.77 | -243.6 | -348.4 | 677.6 | 653.9 | 23.73 | 28.559 | |
| 4,700.0 | 4,646.1 | 4,683.1 | 4,646.1 | 14.4 | 13.0 | -179.77 | -243.6 | -348.4 | 677.6 | 653.5 | 24.07 | 28.148 | |
| 4,800.0 | 4,746.1 | 4,783.1 | 4,746.1 | 14.5 | 13.2 | -179.77 | -243.6 | -348.4 | 677.6 | 653.2 | 24.42 | 27.745 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,883.1 | 4,846.1 | 14.7 | 13.3 | -179.77 | -243.6 | -348.4 | 677.6 | 652.8 | 24.77 | 27.350 | |
| 5,000.0 | 4,946.1 | 4,983.1 | 4,946.1 | 14.8 | 13.5 | -179.77 | -243.6 | -348.4 | 677.6 | 652.5 | 25.13 | 26.963 | |
| 5,100.0 | 5,046.1 | 5,083.1 | 5,046.1 | 15.0 | 13.7 | -179.77 | -243.6 | -348.4 | 677.6 | 652.1 | 25.49 | 26.584 | |
| 5,200.0 | 5,146.1 | 5,183.1 | 5,146.1 | 15.1 | 13.8 | -179.77 | -243.6 | -348.4 | 677.6 | 651.7 | 25.85 | 26.212 | |
| 5,300.0 | 5,246.1 | 5,283.1 | 5,246.1 | 15.3 | 14.0 | -179.77 | -243.6 | -348.4 | 677.6 | 651.4 | 26.21 | 25.848 | |
| 5,400.0 | 5,346.1 | 5,383.1 | 5,346.1 | 15.5 | 14.2 | -179.77 | -243.6 | -348.4 | 677.6 | 651.0 | 26.58 | 25.491 | |
| 5,500.0 | 5,446.1 | 5,483.1 | 5,446.1 | 15.6 | 14.3 | -179.77 | -243.6 | -348.4 | 677.6 | 650.6 | 26.95 | 25.142 | |
| 5,600.0 | 5,546.1 | 5,583.1 | 5,546.1 | 15.8 | 14.5 | -179.77 | -243.6 | -348.4 | 677.6 | 650.3 | 27.32 | 24.800 | |
| 5,700.0 | 5,646.1 | 5,683.1 | 5,646.1 | 16.0 | 14.7 | -179.77 | -243.6 | -348.4 | 677.6 | 649.9 | 27.70 | 24.465 | |
| 5,800.0 | 5,746.1 | 5,783.1 | 5,746.1 | 16.1 | 14.9 | -179.77 | -243.6 | -348.4 | 677.6 | 649.5 | 28.07 | 24.137 | |
| 5,900.0 | 5,846.1 | 5,883.1 | 5,846.1 | 16.3 | 15.0 | -179.77 | -243.6 | -348.4 | 677.6 | 649.1 | 28.45 | 23.816 | |
| 6,000.0 | 5,946.1 | 5,983.1 | 5,946.1 | 16.5 | 15.2 | -179.77 | -243.6 | -348.4 | 677.6 | 648.8 | 28.83 | 23.502 | |
| 6,100.0 | 6,046.1 | 6,083.1 | 6,046.1 | 16.7 | 15.4 | -179.77 | -243.6 | -348.4 | 677.6 | 648.4 | 29.21 | 23.195 | |
| 6,177.9 | 6,123.9 | 6,161.1 | 6,124.0 | 16.8 | 15.5 | -179.97 | -243.6 | -346.1 | 677.6 | 648.1 | 29.51 | 22.964 | |
| 6,200.0 | 6,146.1 | 6,183.1 | 6,145.9 | 16.8 | 15.5 | 179.85 | -243.6 | -344.0 | 677.6 | 648.0 | 29.59 | 22.902 | |
| 6,300.0 | 6,246.1 | 6,280.1 | 6,241.3 | 17.0 | 15.6 | 178.39 | -243.6 | -326.6 | 677.9 | 647.9 | 29.95 | 22.633 | |
| 6,322.7 | 6,268.8 | 6,301.4 | 6,261.8 | 17.1 | 15.6 | 177.92 | -243.6 | -321.1 | 678.1 | 648.0 | 30.03 | 22.577 | |
| 6,350.0 | 6,296.1 | 6,326.6 | 6,285.9 | 17.1 | 15.6 | 87.32 | -243.6 | -313.8 | 678.4 | 648.0 | 30.37 | 22.339 | |
| 6,400.0 | 6,345.9 | 6,372.2 | 6,328.9 | 17.2 | 15.6 | 86.22 | -243.6 | -298.4 | 679.2 | 648.8 | 30.40 | 22.338 | |
| 6,450.0 | 6,395.4 | 6,417.2 | 6,370.1 | 17.2 | 15.6 | 85.15 | -243.6 | -280.6 | 680.2 | 649.8 | 30.42 | 22.362 | |
| 6,500.0 | 6,444.3 | 6,461.4 | 6,409.6 | 17.2 | 15.6 | 84.11 | -243.6 | -260.5 | 681.4 | 651.0 | 30.41 | 22.405 | |
| 6,550.0 | 6,492.3 | 6,505.1 | 6,447.3 | 17.2 | 15.5 | 83.10 | -243.6 | -238.4 | 682.8 | 652.4 | 30.40 | 22.460 | |
| 6,600.0 | 6,539.2 | 6,550.0 | 6,484.5 | 17.2 | 15.5 | 82.09 | -243.6 | -213.3 | 684.4 | 654.0 | 30.39 | 22.520 | |
| 6,650.0 | 6,584.8 | 6,590.9 | 6,516.9 | 17.2 | 15.5 | 81.19 | -243.6 | -188.5 | 686.1 | 655.7 | 30.40 | 22.571 | |
| 6,700.0 | 6,628.9 | 6,633.0 | 6,548.9 | 17.2 | 15.5 | 80.29 | -243.6 | -161.0 | 687.9 | 657.5 | 30.43 | 22.608 | |
| 6,750.0 | 6,671.2 | 6,674.7 | 6,578.8 | 17.2 | 15.6 | 79.44 | -243.6 | -132.0 | 689.8 | 659.3 | 30.49 | 22.619 | |
| 6,800.0 | 6,711.5 | 6,716.0 | 6,606.8 | 17.2 | 15.6 | 78.64 | -243.6 | -101.6 | 691.6 | 661.0 | 30.61 | 22.594 | |
| 6,850.0 | 6,749.7 | 6,757.0 | 6,632.7 | 17.2 | 15.7 | 77.88 | -243.6 | -69.9 | 693.5 | 662.7 | 30.79 | 22.522 | |
| 6,900.0 | 6,785.6 | 6,800.0 | 6,658.0 | 17.1 | 15.9 | 77.15 | -243.6 | -35.1 | 695.4 | 664.3 | 31.07 | 22.384 | |
| 6,950.0 | 6,818.9 | 6,838.0 | 6,678.5 | 17.1 | 16.1 | 76.53 | -243.6 | -3.1 | 697.2 | 665.8 | 31.43 | 22.185 | |
| 7,000.0 | 6,849.5 | 6,878.1 | 6,698.3 | 17.1 | 16.4 | 75.94 | -243.6 | 31.7 | 698.9 | 667.0 | 31.90 | 21.908 | |
| 7,050.0 | 6,877.4 | 6,917.9 | 6,716.0 | 17.2 | 16.7 | 75.41 | -243.6 | 67.4 | 700.5 | 668.0 | 32.50 | 21.557 | |
| 7,100.0 | 6,902.2 | 6,957.6 | 6,731.6 | 17.3 | 17.1 | 74.93 | -243.6 | 103.9 | 702.0 | 668.8 | 33.21 | 21.136 | |
| 7,150.0 | 6,924.0 | 7,000.0 | 6,746.1 | 17.7 | 17.6 | 74.49 | -243.6 | 143.7 | 703.3 | 669.2 | 34.10 | 20.628 | |
| 7,200.0 | 6,942.6 | 7,036.4 | 6,756.6 | 18.2 | 18.1 | 74.16 | -243.6 | 178.6 | 704.5 | 669.4 | 35.06 | 20.094 | |
| 7,250.0 | 6,957.9 | 7,075.6 | 6,765.9 | 18.8 | 18.7 | 73.87 | -243.6 | 216.7 | 705.5 | 669.3 | 36.18 | 19.500 | |
| 7,300.0 | 6,969.8 | 7,114.8 | 6,773.1 | 19.6 | 19.3 | 73.64 | -243.6 | 255.1 | 706.3 | 668.9 | 37.42 | 18.876 | |
| 7,350.0 | 6,978.3 | 7,150.0 | 6,777.8 | 20.4 | 19.9 | 73.48 | -243.6 | 290.1 | 706.9 | 668.2 | 38.70 | 18.264 | |
| 7,400.0 | 6,983.4 | 7,192.8 | 6,781.1 | 21.3 | 20.7 | 73.36 | -243.6 | 332.7 | 707.2 | 667.0 | 40.22 | 17.583 | |
| 7,447.7 | 6,985.0 | 7,232.6 | 6,782.0 | 22.1 | 21.4 | 73.32 | -243.6 | 372.5 | 707.4 | 665.6 | 41.73 | 16.950 | |
| 7,451.7 | 6,985.0 | 7,233.2 | 6,782.0 | 22.2 | 21.4 | 73.32 | -243.6 | 373.1 | 707.4 | 665.5 | 41.81 | 16.916 | |
| 7,500.0 | 6,985.0 | 7,281.5 | 6,781.7 | 23.1 | 22.4 | 73.30 | -243.6 | 421.4 | 707.4 | 663.9 | 43.59 | 16.229 | |
| 7,600.0 | 6,985.0 | 7,381.5 | 6,781.0 | 25.2 | 24.4 | 73.24 | -243.6 | 521.4 | 707.6 | 660.1 | 47.50 | 14.897 | |
| 7,700.0 | 6,985.0 | 7,481.5 | 6,780.3 | 27.4 | 26.6 | 73.19 | -243.6 | 621.4 | 707.8 | 656.2 | 51.67 | 13.699 | |
| 7,800.0 | 6,985.0 | 7,581.5 | 6,779.7 | 29.7 | 28.9 | 73.14 | -243.6 | 721.4 | 708.0 | 652.0 | 56.04 | 12.633 | |
| 7,900.0 | 6,985.0 | 7,681.5 | 6,779.0 | 32.0 | 31.3 | 73.09 | -243.6 | 821.4 | 708.2 | 647.6 | 60.58 | 11.691 | |
| 8,000.0 | 6,985.0 | 7,781.5 | 6,778.3 | 34.5 | 33.8 | 73.04 | -243.6 | 921.4 | 708.4 | 643.2 | 65.24 | 10.859 | |
| 8,100.0 | 6,985.0 | 7,881.5 | 6,777.7 | 36.9 | 36.3 | 72.99 | -243.6 | 1,021.4 | 708.6 | 638.6 | 70.00 | 10.123 | |
| 8,200.0 | 6,985.0 | 7,981.5 | 6,777.0 | 39.5 | 38.8 | 72.94 | -243.6 | 1,121.4 | 708.8 | 634.0 | 74.84 | 9.471 | |
| 8,300.0 | 6,985.0 | 8,081.5 | 6,776.3 | 42.0 | 41.4 | 72.88 | -243.6 | 1,221.4 | 709.0 | 629.2 | 79.74 | 8.891 | |
| 8,400.0 | 6,985.0 | 8,181.5 | 6,775.7 | 44.6 | 44.0 | 72.83 | -243.6 | 1,321.4 | 709.2 | 624.5 | 84.70 | 8.373 | |
| 8,500.0 | 6,985.0 | 8,281.5 | 6,775.0 | 47.2 | 46.6 | 72.78 | -243.6 | 1,421.4 | 709.4 | 619.7 | 89.70 | 7.908 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - KINZER 28H-202 - ORIGINAL WELLBORE - PROPOSAL #1 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|---|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
| 8,600.0 | 6,985.0 | 8,381.5 | 6,774.3 | 49.9 | 49.3 | 72.73 | -243.6 | 1,521.4 | 709.6 | 614.8 | 94.74 | 7.490 | |
| 8,700.0 | 6,985.0 | 8,481.5 | 6,773.7 | 52.5 | 51.9 | 72.68 | -243.6 | 1,621.4 | 709.8 | 610.0 | 99.81 | 7.111 | |
| 8,800.0 | 6,985.0 | 8,581.5 | 6,773.0 | 55.2 | 54.6 | 72.63 | -243.6 | 1,721.4 | 710.0 | 605.1 | 104.91 | 6.768 | |
| 8,900.0 | 6,985.0 | 8,681.5 | 6,772.3 | 57.9 | 57.3 | 72.57 | -243.6 | 1,821.3 | 710.2 | 600.2 | 110.02 | 6.455 | |
| 9,000.0 | 6,985.0 | 8,781.5 | 6,771.7 | 60.6 | 60.0 | 72.52 | -243.6 | 1,921.3 | 710.4 | 595.2 | 115.16 | 6.169 | |
| 9,100.0 | 6,985.0 | 8,881.5 | 6,771.0 | 63.3 | 62.7 | 72.47 | -243.6 | 2,021.3 | 710.6 | 590.3 | 120.31 | 5.906 | |
| 9,200.0 | 6,985.0 | 8,981.5 | 6,770.3 | 66.0 | 65.4 | 72.42 | -243.6 | 2,121.3 | 710.8 | 585.3 | 125.47 | 5.665 | |
| 9,300.0 | 6,985.0 | 9,081.5 | 6,769.6 | 68.7 | 68.2 | 72.37 | -243.6 | 2,221.3 | 711.0 | 580.3 | 130.65 | 5.442 | |
| 9,400.0 | 6,985.0 | 9,181.5 | 6,769.0 | 71.4 | 70.9 | 72.32 | -243.6 | 2,321.3 | 711.2 | 575.4 | 135.83 | 5.236 | |
| 9,500.0 | 6,985.0 | 9,281.4 | 6,768.3 | 74.2 | 73.6 | 72.27 | -243.6 | 2,421.3 | 711.4 | 570.4 | 141.03 | 5.044 | |
| 9,600.0 | 6,985.0 | 9,381.4 | 6,767.6 | 76.9 | 76.4 | 72.21 | -243.6 | 2,521.3 | 711.6 | 565.4 | 146.23 | 4.866 | |
| 9,700.0 | 6,985.0 | 9,481.4 | 6,767.0 | 79.6 | 79.1 | 72.16 | -243.6 | 2,621.3 | 711.8 | 560.4 | 151.43 | 4.700 | |
| 9,800.0 | 6,985.0 | 9,581.4 | 6,766.3 | 82.4 | 81.9 | 72.11 | -243.6 | 2,721.3 | 712.0 | 555.4 | 156.64 | 4.545 | |
| 9,900.0 | 6,985.0 | 9,681.4 | 6,765.6 | 85.1 | 84.6 | 72.06 | -243.6 | 2,821.3 | 712.2 | 550.4 | 161.86 | 4.400 | |
| 10,000.0 | 6,985.0 | 9,781.4 | 6,764.9 | 87.9 | 87.4 | 72.01 | -243.6 | 2,921.3 | 712.4 | 545.3 | 167.08 | 4.264 | |
| 10,100.0 | 6,985.0 | 9,881.4 | 6,764.3 | 90.7 | 90.2 | 71.96 | -243.6 | 3,021.3 | 712.6 | 540.3 | 172.30 | 4.136 | |
| 10,200.0 | 6,985.0 | 9,981.4 | 6,763.6 | 93.4 | 92.9 | 71.90 | -243.6 | 3,121.3 | 712.8 | 535.3 | 177.52 | 4.016 | |
| 10,300.0 | 6,985.0 | 10,081.4 | 6,762.9 | 96.2 | 95.7 | 71.85 | -243.6 | 3,221.3 | 713.1 | 530.3 | 182.75 | 3.902 | |
| 10,400.0 | 6,985.0 | 10,181.4 | 6,762.2 | 98.9 | 98.5 | 71.80 | -243.6 | 3,321.3 | 713.3 | 525.3 | 187.98 | 3.794 | |
| 10,500.0 | 6,985.0 | 10,281.4 | 6,761.6 | 101.7 | 101.2 | 71.75 | -243.6 | 3,421.3 | 713.5 | 520.3 | 193.20 | 3.693 | |
| 10,600.0 | 6,985.0 | 10,381.4 | 6,760.9 | 104.5 | 104.0 | 71.70 | -243.6 | 3,521.3 | 713.7 | 515.3 | 198.43 | 3.597 | |
| 10,700.0 | 6,985.0 | 10,481.4 | 6,760.2 | 107.3 | 106.8 | 71.65 | -243.6 | 3,621.2 | 713.9 | 510.2 | 203.66 | 3.505 | |
| 10,800.0 | 6,985.0 | 10,581.4 | 6,759.5 | 110.0 | 109.6 | 71.60 | -243.6 | 3,721.2 | 714.1 | 505.2 | 208.89 | 3.419 | |
| 10,900.0 | 6,985.0 | 10,681.4 | 6,758.9 | 112.8 | 112.3 | 71.54 | -243.6 | 3,821.2 | 714.3 | 500.2 | 214.12 | 3.336 | |
| 11,000.0 | 6,985.0 | 10,781.4 | 6,758.2 | 115.6 | 115.1 | 71.49 | -243.6 | 3,921.2 | 714.5 | 495.2 | 219.35 | 3.257 | |
| 11,100.0 | 6,985.0 | 10,881.4 | 6,757.5 | 118.4 | 117.9 | 71.44 | -243.6 | 4,021.2 | 714.8 | 490.2 | 224.58 | 3.183 | |
| 11,200.0 | 6,985.0 | 10,981.4 | 6,756.8 | 121.2 | 120.7 | 71.39 | -243.6 | 4,121.2 | 715.0 | 485.2 | 229.81 | 3.111 | |
| 11,300.0 | 6,985.0 | 11,081.4 | 6,756.1 | 123.9 | 123.5 | 71.34 | -243.6 | 4,221.2 | 715.2 | 480.1 | 235.04 | 3.043 | |
| 11,400.0 | 6,985.0 | 11,181.4 | 6,755.5 | 126.7 | 126.3 | 71.29 | -243.6 | 4,321.2 | 715.4 | 475.1 | 240.26 | 2.978 | |
| 11,500.0 | 6,985.0 | 11,281.4 | 6,754.8 | 129.5 | 129.1 | 71.23 | -243.6 | 4,421.2 | 715.6 | 470.1 | 245.49 | 2.915 | |
| 11,600.0 | 6,985.0 | 11,381.4 | 6,754.1 | 132.3 | 131.8 | 71.18 | -243.6 | 4,521.2 | 715.8 | 465.1 | 250.71 | 2.855 | |
| 11,700.0 | 6,985.0 | 11,481.4 | 6,753.4 | 135.1 | 134.6 | 71.13 | -243.6 | 4,621.2 | 716.1 | 460.1 | 255.94 | 2.798 | |
| 11,800.0 | 6,985.0 | 11,581.4 | 6,752.7 | 137.9 | 137.4 | 71.08 | -243.6 | 4,721.2 | 716.3 | 455.1 | 261.16 | 2.743 | |
| 11,900.0 | 6,985.0 | 11,681.4 | 6,752.1 | 140.7 | 140.2 | 71.03 | -243.6 | 4,821.2 | 716.5 | 450.1 | 266.38 | 2.690 | |
| 12,000.0 | 6,985.0 | 11,781.4 | 6,751.4 | 143.4 | 143.0 | 70.98 | -243.6 | 4,921.2 | 716.7 | 445.1 | 271.59 | 2.639 | |
| 12,054.1 | 6,985.0 | 11,835.5 | 6,751.0 | 145.0 | 144.5 | 70.95 | -243.6 | 4,975.3 | 716.9 | 442.5 | 274.42 | 2.612 SF | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 90.00 | 0.0 | 16.7 | 16.7 | | | | |
| 100.0 | 100.0 | 100.0 | 100.0 | 0.1 | 0.1 | 90.00 | 0.0 | 16.7 | 16.7 | 16.5 | 0.19 | 85.998 | |
| 200.0 | 200.0 | 200.0 | 200.0 | 0.3 | 0.3 | 90.00 | 0.0 | 16.7 | 16.7 | 16.1 | 0.64 | 25.965 | |
| 300.0 | 300.0 | 300.0 | 300.0 | 0.5 | 0.5 | 90.00 | 0.0 | 16.7 | 16.7 | 15.6 | 1.09 | 15.291 | |
| 400.0 | 400.0 | 400.0 | 400.0 | 0.8 | 0.8 | 90.00 | 0.0 | 16.7 | 16.7 | 15.2 | 1.54 | 10.836 | |
| 500.0 | 500.0 | 500.0 | 500.0 | 1.0 | 1.0 | 90.00 | 0.0 | 16.7 | 16.7 | 14.7 | 1.99 | 8.391 | |
| 600.0 | 600.0 | 600.0 | 600.0 | 1.2 | 1.2 | 90.00 | 0.0 | 16.7 | 16.7 | 14.3 | 2.44 | 6.847 | |
| 700.0 | 700.0 | 700.0 | 700.0 | 1.4 | 1.4 | 90.00 | 0.0 | 16.7 | 16.7 | 13.8 | 2.89 | 5.782 | |
| 800.0 | 800.0 | 800.0 | 800.0 | 1.7 | 1.7 | 90.00 | 0.0 | 16.7 | 16.7 | 13.4 | 3.34 | 5.004 CC, ES | |
| 900.0 | 900.0 | 900.0 | 900.0 | 1.9 | 1.9 | 132.90 | 0.0 | 16.7 | 17.9 | 14.1 | 3.79 | 4.716 | |
| 1,000.0 | 999.8 | 1,000.6 | 1,000.5 | 2.1 | 2.1 | 143.11 | 0.4 | 15.0 | 20.0 | 15.8 | 4.22 | 4.742 | |
| 1,100.0 | 1,099.5 | 1,101.1 | 1,101.0 | 2.4 | 2.3 | 156.80 | 1.7 | 9.9 | 22.4 | 17.7 | 4.64 | 4.817 | |
| 1,200.0 | 1,198.7 | 1,201.6 | 1,201.1 | 2.6 | 2.6 | 172.33 | 3.9 | 1.3 | 26.0 | 20.9 | 5.07 | 5.132 | |
| 1,300.0 | 1,297.5 | 1,302.0 | 1,300.7 | 2.9 | 2.8 | -172.83 | 6.9 | -10.6 | 31.9 | 26.4 | 5.53 | 5.780 | |
| 1,400.0 | 1,395.6 | 1,402.1 | 1,399.5 | 3.2 | 3.1 | -160.47 | 10.8 | -25.8 | 40.6 | 34.6 | 6.05 | 6.713 | |
| 1,400.2 | 1,395.8 | 1,402.3 | 1,399.8 | 3.2 | 3.1 | -160.45 | 10.8 | -25.9 | 40.6 | 34.6 | 6.05 | 6.715 | |
| 1,500.0 | 1,493.4 | 1,502.0 | 1,497.6 | 3.6 | 3.4 | -150.07 | 15.4 | -44.4 | 50.5 | 43.8 | 6.69 | 7.553 | |
| 1,600.0 | 1,591.2 | 1,601.1 | 1,594.5 | 3.9 | 3.8 | -141.78 | 20.5 | -64.4 | 61.1 | 53.7 | 7.41 | 8.243 | |
| 1,700.0 | 1,689.1 | 1,700.2 | 1,691.5 | 4.3 | 4.1 | -136.00 | 25.5 | -84.3 | 72.6 | 64.4 | 8.17 | 8.877 | |
| 1,800.0 | 1,786.9 | 1,799.4 | 1,788.4 | 4.7 | 4.5 | -131.82 | 30.6 | -104.3 | 84.5 | 75.6 | 8.96 | 9.437 | |
| 1,900.0 | 1,884.7 | 1,898.5 | 1,885.4 | 5.2 | 4.9 | -128.69 | 35.6 | -124.3 | 96.9 | 87.1 | 9.76 | 9.924 | |
| 2,000.0 | 1,982.5 | 1,997.6 | 1,982.3 | 5.6 | 5.3 | -126.27 | 40.7 | -144.3 | 109.4 | 98.8 | 10.57 | 10.346 | |
| 2,100.0 | 2,080.3 | 2,096.7 | 2,079.3 | 6.0 | 5.8 | -124.35 | 45.7 | -164.3 | 122.1 | 110.7 | 11.40 | 10.712 | |
| 2,200.0 | 2,178.1 | 2,195.8 | 2,176.2 | 6.4 | 6.2 | -122.80 | 50.8 | -184.2 | 134.9 | 122.7 | 12.23 | 11.031 | |
| 2,300.0 | 2,275.9 | 2,294.9 | 2,273.2 | 6.9 | 6.6 | -121.51 | 55.8 | -204.2 | 147.8 | 134.7 | 13.07 | 11.311 | |
| 2,400.0 | 2,373.8 | 2,394.1 | 2,370.1 | 7.3 | 7.1 | -120.43 | 60.9 | -224.2 | 160.7 | 146.8 | 13.91 | 11.557 | |
| 2,500.0 | 2,471.6 | 2,493.2 | 2,467.1 | 7.7 | 7.5 | -119.51 | 65.9 | -244.2 | 173.7 | 159.0 | 14.75 | 11.775 | |
| 2,600.0 | 2,569.4 | 2,592.3 | 2,564.1 | 8.2 | 7.9 | -118.72 | 71.0 | -264.1 | 186.8 | 171.1 | 15.60 | 11.970 | |
| 2,700.0 | 2,667.2 | 2,691.4 | 2,661.0 | 8.6 | 8.4 | -118.03 | 76.0 | -284.1 | 199.8 | 183.4 | 16.45 | 12.144 | |
| 2,800.0 | 2,765.0 | 2,791.6 | 2,759.3 | 9.0 | 8.7 | -117.85 | 80.8 | -302.8 | 212.7 | 195.5 | 17.20 | 12.367 | |
| 2,900.0 | 2,862.8 | 2,892.0 | 2,858.4 | 9.5 | 9.0 | -118.58 | 84.6 | -318.1 | 225.0 | 207.1 | 17.88 | 12.581 | |
| 3,000.0 | 2,960.6 | 2,992.1 | 2,957.8 | 9.9 | 9.2 | -120.08 | 87.7 | -330.1 | 236.9 | 218.4 | 18.51 | 12.798 | |
| 3,100.0 | 3,058.4 | 3,091.8 | 3,057.1 | 10.4 | 9.5 | -122.23 | 89.8 | -338.6 | 248.7 | 229.6 | 19.07 | 13.041 | |
| 3,200.0 | 3,156.3 | 3,190.8 | 3,156.0 | 10.8 | 9.7 | -124.92 | 91.1 | -343.8 | 260.7 | 241.1 | 19.55 | 13.334 | |
| 3,300.0 | 3,254.1 | 3,289.0 | 3,254.1 | 11.3 | 9.8 | -128.06 | 91.6 | -345.7 | 273.2 | 253.3 | 19.94 | 13.703 | |
| 3,400.0 | 3,351.9 | 3,386.8 | 3,351.9 | 11.7 | 10.0 | -131.30 | 91.6 | -345.7 | 286.7 | 266.4 | 20.29 | 14.132 | |
| 3,465.5 | 3,416.0 | 3,450.8 | 3,416.0 | 12.0 | 10.1 | -133.25 | 91.6 | -345.7 | 296.0 | 275.5 | 20.51 | 14.433 | |
| 3,500.0 | 3,449.7 | 3,484.6 | 3,449.7 | 12.1 | 10.1 | -134.28 | 91.6 | -345.7 | 300.9 | 280.2 | 20.61 | 14.597 | |
| 3,600.0 | 3,548.1 | 3,583.0 | 3,548.1 | 12.5 | 10.3 | -136.78 | 91.6 | -345.7 | 313.7 | 292.9 | 20.87 | 15.033 | |
| 3,700.0 | 3,647.1 | 3,681.9 | 3,647.1 | 12.7 | 10.4 | -138.67 | 91.6 | -345.7 | 324.5 | 303.4 | 21.13 | 15.353 | |
| 3,800.0 | 3,746.5 | 3,781.3 | 3,746.5 | 13.0 | 10.6 | -140.02 | 91.6 | -345.7 | 332.9 | 311.4 | 21.41 | 15.550 | |
| 3,900.0 | 3,846.2 | 3,881.0 | 3,846.2 | 13.2 | 10.8 | -140.91 | 91.6 | -345.7 | 338.7 | 317.0 | 21.68 | 15.620 | |
| 4,000.0 | 3,946.1 | 3,981.0 | 3,946.1 | 13.3 | 10.9 | -141.38 | 91.6 | -345.7 | 341.8 | 319.9 | 21.96 | 15.565 | |
| 4,065.7 | 4,011.8 | 4,046.7 | 4,011.8 | 13.4 | 11.0 | 180.00 | 91.6 | -345.7 | 342.4 | 321.5 | 20.92 | 16.364 | |
| 4,100.0 | 4,046.1 | 4,081.0 | 4,046.1 | 13.5 | 11.1 | 180.00 | 91.6 | -345.7 | 342.4 | 321.4 | 21.04 | 16.271 | |
| 4,200.0 | 4,146.1 | 4,181.0 | 4,146.1 | 13.6 | 11.3 | 180.00 | 91.6 | -345.7 | 342.4 | 321.0 | 21.41 | 15.995 | |
| 4,300.0 | 4,246.1 | 4,281.0 | 4,246.1 | 13.8 | 11.4 | 180.00 | 91.6 | -345.7 | 342.4 | 320.6 | 21.77 | 15.727 | |
| 4,400.0 | 4,346.1 | 4,381.0 | 4,346.1 | 13.9 | 11.6 | 180.00 | 91.6 | -345.7 | 342.4 | 320.3 | 22.14 | 15.465 | |
| 4,500.0 | 4,446.1 | 4,481.0 | 4,446.1 | 14.1 | 11.8 | 180.00 | 91.6 | -345.7 | 342.4 | 319.9 | 22.51 | 15.210 | |
| 4,600.0 | 4,546.1 | 4,581.0 | 4,546.1 | 14.2 | 12.0 | 180.00 | 91.6 | -345.7 | 342.4 | 319.5 | 22.89 | 14.962 | |
| 4,700.0 | 4,646.1 | 4,681.0 | 4,646.1 | 14.4 | 12.2 | 180.00 | 91.6 | -345.7 | 342.4 | 319.1 | 23.26 | 14.720 | |
| 4,800.0 | 4,746.1 | 4,781.0 | 4,746.1 | 14.5 | 12.3 | 180.00 | 91.6 | -345.7 | 342.4 | 318.8 | 23.64 | 14.484 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|-----------------------|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|--------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 4,900.0 | 4,846.1 | 4,881.0 | 4,846.1 | 14.7 | 12.5 | 180.00 | 91.6 | -345.7 | 342.4 | 318.4 | 24.02 | 14.255 | |
| 5,000.0 | 4,946.1 | 4,981.0 | 4,946.1 | 14.8 | 12.7 | 180.00 | 91.6 | -345.7 | 342.4 | 318.0 | 24.40 | 14.031 | |
| 5,100.0 | 5,046.1 | 5,081.0 | 5,046.1 | 15.0 | 12.9 | 180.00 | 91.6 | -345.7 | 342.4 | 317.6 | 24.79 | 13.813 | |
| 5,200.0 | 5,146.1 | 5,181.0 | 5,146.1 | 15.1 | 13.1 | 180.00 | 91.6 | -345.7 | 342.4 | 317.2 | 25.17 | 13.601 | |
| 5,300.0 | 5,246.1 | 5,281.0 | 5,246.1 | 15.3 | 13.3 | 180.00 | 91.6 | -345.7 | 342.4 | 316.8 | 25.56 | 13.394 | |
| 5,400.0 | 5,346.1 | 5,381.0 | 5,346.1 | 15.5 | 13.5 | 180.00 | 91.6 | -345.7 | 342.4 | 316.4 | 25.95 | 13.192 | |
| 5,500.0 | 5,446.1 | 5,481.0 | 5,446.1 | 15.6 | 13.7 | 180.00 | 91.6 | -345.7 | 342.4 | 316.1 | 26.35 | 12.996 | |
| 5,600.0 | 5,546.1 | 5,581.0 | 5,546.1 | 15.8 | 13.9 | 180.00 | 91.6 | -345.7 | 342.4 | 315.7 | 26.74 | 12.805 | |
| 5,700.0 | 5,646.1 | 5,681.0 | 5,646.1 | 16.0 | 14.0 | 180.00 | 91.6 | -345.7 | 342.4 | 315.3 | 27.14 | 12.618 | |
| 5,800.0 | 5,746.1 | 5,781.0 | 5,746.1 | 16.1 | 14.2 | 180.00 | 91.6 | -345.7 | 342.4 | 314.9 | 27.53 | 12.436 | |
| 5,900.0 | 5,846.1 | 5,881.0 | 5,846.1 | 16.3 | 14.4 | 180.00 | 91.6 | -345.7 | 342.4 | 314.5 | 27.93 | 12.258 | |
| 6,000.0 | 5,946.1 | 5,981.0 | 5,946.1 | 16.5 | 14.6 | 180.00 | 91.6 | -345.7 | 342.4 | 314.1 | 28.33 | 12.085 | |
| 6,100.0 | 6,046.1 | 6,081.0 | 6,046.1 | 16.7 | 14.8 | 180.00 | 91.6 | -345.7 | 342.4 | 313.7 | 28.73 | 11.916 | |
| 6,200.0 | 6,146.1 | 6,181.0 | 6,146.1 | 16.8 | 15.0 | 180.00 | 91.6 | -345.7 | 342.4 | 313.3 | 29.14 | 11.752 | |
| 6,234.4 | 6,180.5 | 6,215.4 | 6,180.5 | 16.9 | 15.1 | 179.94 | 91.6 | -345.3 | 342.4 | 313.1 | 29.27 | 11.697 | |
| 6,300.0 | 6,246.1 | 6,280.5 | 6,245.4 | 17.0 | 15.2 | 179.10 | 91.6 | -340.3 | 342.4 | 312.9 | 29.57 | 11.581 | |
| 6,322.7 | 6,268.8 | 6,302.8 | 6,267.5 | 17.1 | 15.2 | 178.58 | 91.6 | -337.2 | 342.5 | 312.8 | 29.68 | 11.538 | |
| 6,350.0 | 6,296.1 | 6,329.4 | 6,293.6 | 17.1 | 15.2 | 87.89 | 91.6 | -332.7 | 342.6 | 312.2 | 30.45 | 11.254 | |
| 6,400.0 | 6,345.9 | 6,377.7 | 6,340.7 | 17.2 | 15.2 | 86.65 | 91.6 | -321.9 | 343.0 | 312.5 | 30.46 | 11.262 | |
| 6,450.0 | 6,395.4 | 6,425.5 | 6,386.6 | 17.2 | 15.3 | 85.42 | 91.6 | -308.2 | 343.5 | 313.1 | 30.44 | 11.285 | |
| 6,500.0 | 6,444.3 | 6,472.9 | 6,430.9 | 17.2 | 15.3 | 84.23 | 91.6 | -291.6 | 344.2 | 313.8 | 30.40 | 11.320 | |
| 6,550.0 | 6,492.3 | 6,519.9 | 6,473.7 | 17.2 | 15.3 | 83.07 | 91.6 | -272.2 | 345.0 | 314.6 | 30.36 | 11.363 | |
| 6,600.0 | 6,539.2 | 6,566.5 | 6,514.8 | 17.2 | 15.3 | 81.95 | 91.6 | -250.3 | 345.9 | 315.6 | 30.32 | 11.409 | |
| 6,650.0 | 6,584.8 | 6,612.7 | 6,554.1 | 17.2 | 15.3 | 80.88 | 91.6 | -226.0 | 346.9 | 316.6 | 30.28 | 11.454 | |
| 6,700.0 | 6,628.9 | 6,658.5 | 6,591.5 | 17.2 | 15.4 | 79.85 | 91.6 | -199.5 | 347.9 | 317.7 | 30.27 | 11.493 | |
| 6,750.0 | 6,671.2 | 6,704.0 | 6,626.8 | 17.2 | 15.4 | 78.88 | 91.6 | -170.8 | 349.0 | 318.7 | 30.30 | 11.518 | |
| 6,800.0 | 6,711.5 | 6,750.0 | 6,660.6 | 17.2 | 15.5 | 77.95 | 91.6 | -139.6 | 350.2 | 319.8 | 30.39 | 11.524 | |
| 6,850.0 | 6,749.7 | 6,794.2 | 6,691.0 | 17.2 | 15.7 | 77.10 | 91.6 | -107.6 | 351.4 | 320.8 | 30.55 | 11.503 | |
| 6,900.0 | 6,785.6 | 6,838.8 | 6,719.8 | 17.1 | 15.9 | 76.31 | 91.6 | -73.4 | 352.5 | 321.7 | 30.79 | 11.449 | |
| 6,950.0 | 6,818.9 | 6,883.3 | 6,746.3 | 17.1 | 16.1 | 75.58 | 91.6 | -37.7 | 353.6 | 322.5 | 31.14 | 11.357 | |
| 7,000.0 | 6,849.5 | 6,927.5 | 6,770.3 | 17.1 | 16.4 | 74.91 | 91.6 | -0.6 | 354.7 | 323.1 | 31.60 | 11.224 | |
| 7,050.0 | 6,877.4 | 6,971.6 | 6,792.0 | 17.2 | 16.8 | 74.31 | 91.6 | 37.7 | 355.7 | 323.5 | 32.19 | 11.049 | |
| 7,100.0 | 6,902.2 | 7,015.4 | 6,811.2 | 17.3 | 17.3 | 73.78 | 91.6 | 77.2 | 356.7 | 323.7 | 32.92 | 10.833 | |
| 7,150.0 | 6,924.0 | 7,059.2 | 6,827.8 | 17.7 | 17.8 | 73.32 | 91.6 | 117.6 | 357.5 | 323.7 | 33.79 | 10.580 | |
| 7,200.0 | 6,942.6 | 7,100.0 | 6,841.2 | 18.2 | 18.3 | 72.94 | 91.6 | 156.2 | 358.2 | 323.5 | 34.76 | 10.305 | |
| 7,250.0 | 6,957.9 | 7,146.3 | 6,853.6 | 18.8 | 19.0 | 72.60 | 91.6 | 200.7 | 358.8 | 322.9 | 35.95 | 9.981 | |
| 7,300.0 | 6,969.8 | 7,189.7 | 6,862.6 | 19.6 | 19.7 | 72.35 | 91.6 | 243.2 | 359.3 | 322.1 | 37.24 | 9.650 | |
| 7,350.0 | 6,978.3 | 7,233.0 | 6,869.0 | 20.4 | 20.4 | 72.18 | 91.6 | 286.1 | 359.7 | 321.0 | 38.64 | 9.309 | |
| 7,400.0 | 6,983.4 | 7,276.3 | 6,872.8 | 21.3 | 21.2 | 72.07 | 91.6 | 329.2 | 359.9 | 319.7 | 40.15 | 8.964 | |
| 7,447.7 | 6,985.0 | 7,317.7 | 6,874.0 | 22.1 | 21.9 | 72.04 | 91.6 | 370.5 | 359.9 | 318.3 | 41.67 | 8.638 | |
| 7,447.7 | 6,985.0 | 7,317.7 | 6,874.0 | 22.1 | 21.9 | 72.04 | 91.6 | 370.5 | 359.9 | 318.3 | 41.67 | 8.638 | |
| 7,500.0 | 6,985.0 | 7,368.8 | 6,873.5 | 23.1 | 22.9 | 71.97 | 91.6 | 421.7 | 360.1 | 316.5 | 43.55 | 8.268 | |
| 7,600.0 | 6,985.0 | 7,468.8 | 6,872.6 | 25.2 | 25.0 | 71.82 | 91.6 | 521.7 | 360.4 | 313.0 | 47.41 | 7.602 | |
| 7,700.0 | 6,985.0 | 7,568.8 | 6,871.6 | 27.4 | 27.2 | 71.67 | 91.6 | 621.7 | 360.7 | 309.2 | 51.52 | 7.001 | |
| 7,800.0 | 6,985.0 | 7,668.8 | 6,870.6 | 29.7 | 29.5 | 71.53 | 91.6 | 721.7 | 361.0 | 305.2 | 55.82 | 6.467 | |
| 7,900.0 | 6,985.0 | 7,768.8 | 6,869.6 | 32.0 | 31.8 | 71.38 | 91.6 | 821.6 | 361.3 | 301.0 | 60.28 | 5.994 | |
| 8,000.0 | 6,985.0 | 7,868.8 | 6,868.6 | 34.5 | 34.3 | 71.23 | 91.6 | 921.6 | 361.6 | 296.8 | 64.86 | 5.575 | |
| 8,100.0 | 6,985.0 | 7,968.8 | 6,867.7 | 36.9 | 36.8 | 71.08 | 91.6 | 1,021.6 | 361.9 | 292.4 | 69.54 | 5.205 | |
| 8,200.0 | 6,985.0 | 8,068.8 | 6,866.7 | 39.5 | 39.3 | 70.94 | 91.6 | 1,121.6 | 362.3 | 288.0 | 74.28 | 4.877 | |
| 8,300.0 | 6,985.0 | 8,168.8 | 6,865.7 | 42.0 | 41.9 | 70.79 | 91.6 | 1,221.6 | 362.6 | 283.5 | 79.09 | 4.585 | |
| 8,400.0 | 6,985.0 | 8,268.8 | 6,864.7 | 44.6 | 44.5 | 70.65 | 91.6 | 1,321.6 | 362.9 | 279.0 | 83.94 | 4.323 | |
| 8,500.0 | 6,985.0 | 8,368.8 | 6,863.8 | 47.2 | 47.1 | 70.50 | 91.6 | 1,421.6 | 363.2 | 274.4 | 88.83 | 4.089 | |

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 KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

| Offset Design SW SW SEC. 28 T5N R67W 6th P.M. - KINZER 28I-312 - ORIGINAL WELLBORE - PROPOSAL #2 | | | | | | | | | | | | Offset Site Error: | 0.0 usft |
|---|-----------------------|-----------------------|-----------------------|------------------|---------------|-----------------------|-------------------------------------|--------------|------------------------|-------------------------|---------------------------|---------------------------|----------|
| Survey Program: 0-MWD | | | | | | | | | | | | Offset Well Error: | 0.0 usft |
| Reference | | Offset | | Semi Major Axis | | | Distance | | | | | | Warning |
| Measured Depth (usft) | Vertical Depth (usft) | Measured Depth (usft) | Vertical Depth (usft) | Reference (usft) | Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | +E/-W (usft) | Between Centres (usft) | Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | |
| 8,600.0 | 6,985.0 | 8,468.8 | 6,862.8 | 49.9 | 49.8 | 70.36 | 91.6 | 1,521.6 | 363.6 | 269.8 | 93.75 | 3.878 | |
| 8,700.0 | 6,985.0 | 8,568.8 | 6,861.8 | 52.5 | 52.4 | 70.21 | 91.6 | 1,621.6 | 363.9 | 265.2 | 98.69 | 3.687 | |
| 8,800.0 | 6,985.0 | 8,680.7 | 6,860.7 | 55.2 | 55.4 | 69.99 | 92.8 | 1,733.5 | 363.3 | 259.4 | 103.90 | 3.497 | |
| 8,900.0 | 6,985.0 | 8,802.0 | 6,859.5 | 57.9 | 58.6 | 69.36 | 100.8 | 1,854.4 | 357.4 | 248.4 | 109.05 | 3.277 | |
| 9,000.0 | 6,985.0 | 8,914.8 | 6,858.4 | 60.6 | 61.6 | 68.36 | 114.9 | 1,966.4 | 346.0 | 232.4 | 113.65 | 3.045 | |
| 9,100.0 | 6,985.0 | 9,013.8 | 6,857.4 | 63.3 | 64.2 | 67.32 | 128.7 | 2,064.4 | 333.5 | 215.7 | 117.80 | 2.831 | |
| 9,200.0 | 6,985.0 | 9,112.8 | 6,856.5 | 66.0 | 66.9 | 66.21 | 142.5 | 2,162.5 | 321.0 | 199.2 | 121.80 | 2.636 | |
| 9,300.0 | 6,985.0 | 9,211.9 | 6,855.5 | 68.7 | 69.5 | 65.00 | 156.3 | 2,260.5 | 308.7 | 183.1 | 125.61 | 2.458 | |
| 9,400.0 | 6,985.0 | 9,310.9 | 6,854.5 | 71.4 | 72.1 | 63.69 | 170.1 | 2,358.6 | 296.6 | 167.4 | 129.19 | 2.296 | |
| 9,500.0 | 6,985.0 | 9,400.0 | 6,853.6 | 74.2 | 74.5 | 62.45 | 182.2 | 2,446.9 | 285.0 | 152.6 | 132.45 | 2.152 | |
| 9,600.0 | 6,985.0 | 9,493.1 | 6,852.7 | 76.9 | 77.1 | 61.40 | 191.4 | 2,539.5 | 276.9 | 140.9 | 135.93 | 2.037 | |
| 9,700.0 | 6,985.0 | 9,581.8 | 6,851.9 | 79.6 | 79.5 | 60.79 | 195.9 | 2,628.1 | 272.9 | 133.1 | 139.74 | 1.953 | |
| 9,747.7 | 6,985.0 | 9,624.2 | 6,851.4 | 81.0 | 80.7 | 60.64 | 196.6 | 2,670.5 | 272.4 | 130.7 | 141.73 | 1.922 | |
| 9,800.0 | 6,985.0 | 9,675.2 | 6,850.9 | 82.4 | 82.1 | 60.54 | 196.6 | 2,721.4 | 272.6 | 128.5 | 144.11 | 1.892 | |
| 9,900.0 | 6,985.0 | 9,775.2 | 6,849.9 | 85.1 | 84.8 | 60.36 | 196.6 | 2,821.4 | 273.1 | 124.4 | 148.71 | 1.837 | |
| 10,000.0 | 6,985.0 | 9,874.7 | 6,849.0 | 87.9 | 87.6 | 60.19 | 196.6 | 2,920.9 | 273.6 | 120.3 | 153.29 | 1.785 | |
| 10,100.0 | 6,985.0 | 9,963.5 | 6,848.1 | 90.7 | 90.0 | 60.26 | 194.3 | 3,009.7 | 276.3 | 118.3 | 157.97 | 1.749 | |
| 10,200.0 | 6,985.0 | 10,052.0 | 6,847.2 | 93.4 | 92.4 | 60.75 | 188.0 | 3,098.0 | 283.0 | 119.8 | 163.26 | 1.734 | |
| 10,300.0 | 6,985.0 | 10,140.0 | 6,846.4 | 96.2 | 94.9 | 61.60 | 177.6 | 3,185.4 | 293.8 | 124.7 | 169.10 | 1.738 | |
| 10,400.0 | 6,985.0 | 10,239.1 | 6,845.4 | 98.9 | 97.6 | 62.67 | 163.8 | 3,283.4 | 306.6 | 131.1 | 175.57 | 1.746 | |
| 10,500.0 | 6,985.0 | 10,338.1 | 6,844.4 | 101.7 | 100.3 | 63.66 | 150.1 | 3,381.5 | 319.5 | 137.5 | 181.96 | 1.756 | |
| 10,600.0 | 6,985.0 | 10,437.1 | 6,843.5 | 104.5 | 103.0 | 64.57 | 136.3 | 3,479.5 | 332.5 | 144.2 | 188.27 | 1.766 | |
| 10,700.0 | 6,985.0 | 10,536.1 | 6,842.5 | 107.3 | 105.7 | 65.42 | 122.5 | 3,577.6 | 345.5 | 151.0 | 194.51 | 1.776 | |
| 10,800.0 | 6,985.0 | 10,635.2 | 6,841.5 | 110.0 | 108.5 | 66.20 | 108.7 | 3,675.6 | 358.6 | 157.9 | 200.70 | 1.787 | |
| 10,900.0 | 6,985.0 | 10,734.6 | 6,840.6 | 112.8 | 111.2 | 66.93 | 94.9 | 3,774.1 | 371.8 | 164.9 | 206.85 | 1.797 | |
| 11,000.0 | 6,985.0 | 10,856.2 | 6,839.4 | 115.6 | 114.6 | 67.53 | 82.0 | 3,895.0 | 382.0 | 168.6 | 213.40 | 1.790 | |
| 11,100.0 | 6,985.0 | 10,979.0 | 6,838.2 | 118.4 | 118.0 | 67.66 | 76.7 | 4,017.6 | 386.3 | 166.9 | 219.35 | 1.761 | |
| 11,200.0 | 6,985.0 | 11,082.7 | 6,837.2 | 121.2 | 120.9 | 67.53 | 76.6 | 4,121.3 | 386.7 | 162.3 | 224.42 | 1.723 | |
| 11,300.0 | 6,985.0 | 11,182.7 | 6,836.2 | 123.9 | 123.7 | 67.40 | 76.6 | 4,221.3 | 387.1 | 157.7 | 229.38 | 1.688 | |
| 11,400.0 | 6,985.0 | 11,282.7 | 6,835.2 | 126.7 | 126.5 | 67.26 | 76.6 | 4,321.3 | 387.5 | 153.1 | 234.34 | 1.653 | |
| 11,500.0 | 6,985.0 | 11,382.7 | 6,834.3 | 129.5 | 129.2 | 67.13 | 76.6 | 4,421.3 | 387.8 | 148.5 | 239.29 | 1.621 | |
| 11,600.0 | 6,985.0 | 11,493.8 | 6,833.2 | 132.3 | 132.3 | 66.92 | 77.8 | 4,532.4 | 387.3 | 143.0 | 244.38 | 1.585 | |
| 11,700.0 | 6,985.0 | 11,593.7 | 6,832.3 | 135.1 | 135.1 | 66.61 | 80.9 | 4,632.3 | 384.9 | 135.9 | 248.99 | 1.546 | |
| 11,800.0 | 6,985.0 | 11,693.7 | 6,831.3 | 137.9 | 137.9 | 66.30 | 84.0 | 4,732.2 | 382.4 | 128.8 | 253.56 | 1.508 | |
| 11,900.0 | 6,985.0 | 11,793.6 | 6,830.4 | 140.7 | 140.7 | 65.98 | 87.1 | 4,832.1 | 379.9 | 121.8 | 258.10 | 1.472 Level 3 | |
| 12,000.0 | 6,985.0 | 11,893.6 | 6,829.4 | 143.4 | 143.5 | 65.65 | 90.2 | 4,932.0 | 377.5 | 114.9 | 262.60 | 1.438 Level 3 | |
| 12,054.1 | 6,985.0 | 11,938.6 | 6,829.0 | 145.0 | 144.7 | 65.51 | 91.6 | 4,977.0 | 376.3 | 111.5 | 264.85 | 1.421 Level 3, SF | |

Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

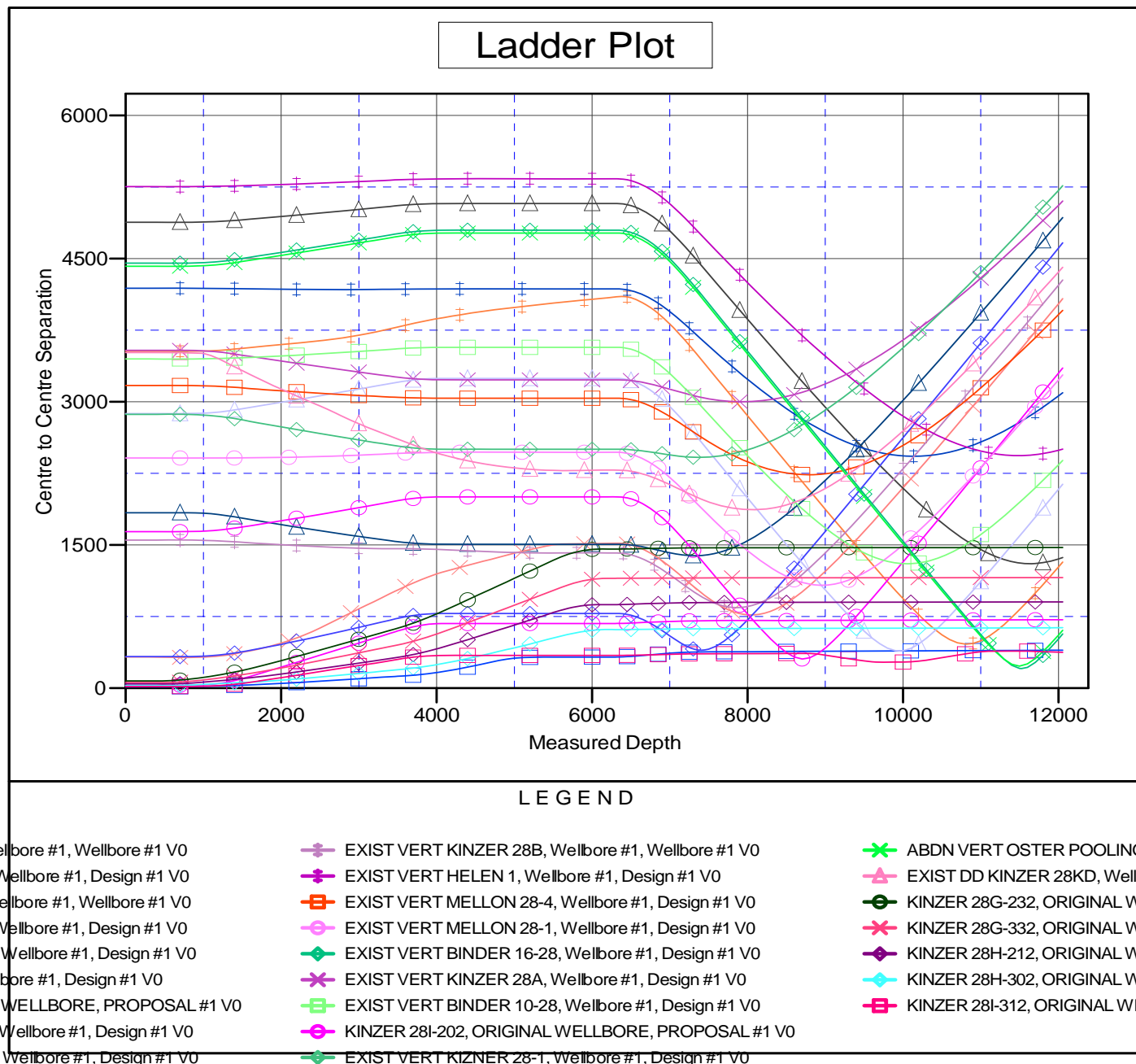
Reference Depths are relative to KB-EST @ 4797.5usft (Original Well ECoordinates are relative to: KINZER 28H-432

Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, Colorado Northern Zone

Central Meridian is -105.500000

Grid Convergence at Surface is: 0.38°



Anticollision Report



| | | | |
|---------------------------|---------------------------------|-------------------------------------|--|
| Company: | PDC ENERGY | Local Co-ordinate Reference: | Well KINZER 28H-432 |
| Project: | WELD COUNTY, COLORADO | TVD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Reference Site: | SW SW SEC. 28 T5N R67W 6th P.M. | MD Reference: | KB-EST @ 4797.5usft (Original Well Elev) |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | KINZER 28H-432 | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | ORIGINAL WELLBORE | Database: | EDM 5000.1 Single User Db |
| Reference Design: | PROPOSAL #1 | Offset TVD Reference: | Offset Datum |

Reference Depths are relative to KB-EST @ 4797.5usft (Original Well ECoordinates are relative to: KINZER 28H-432

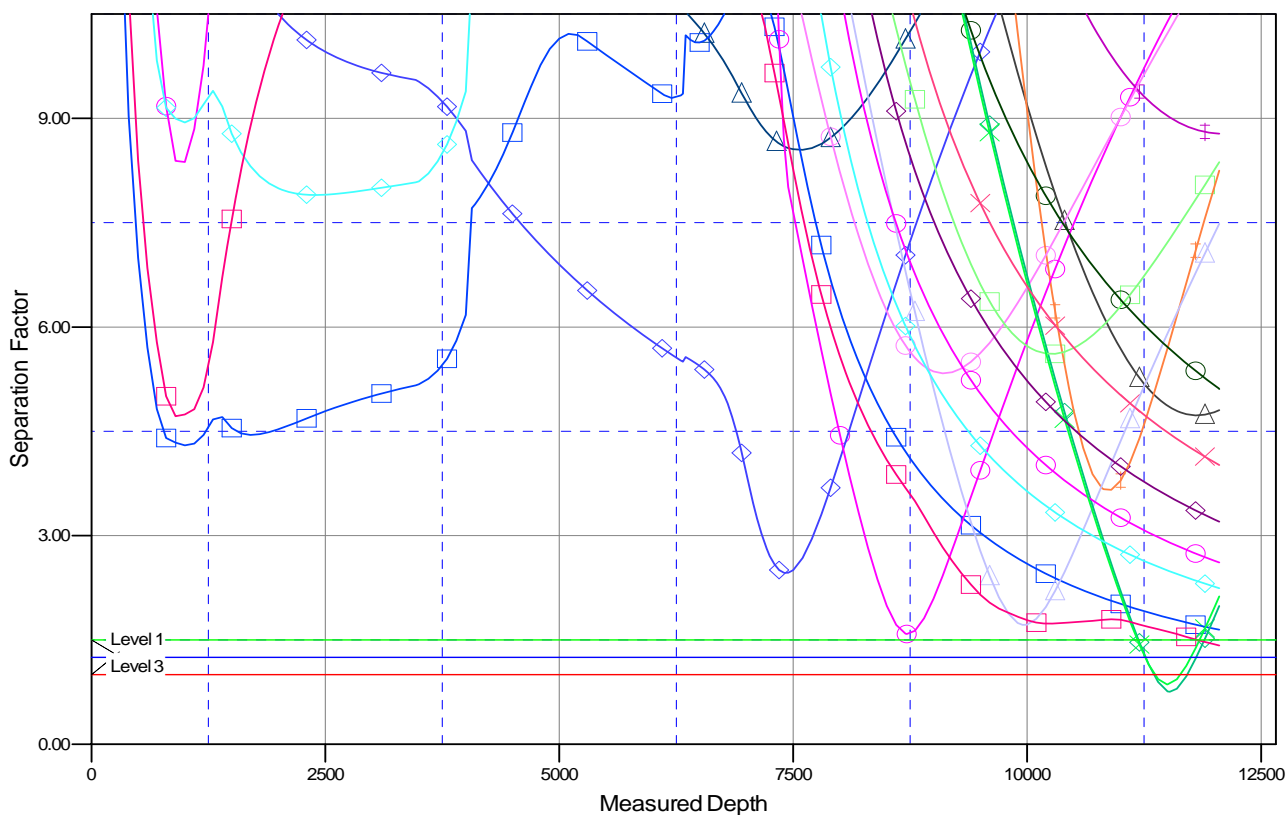
Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, Colorado Northern Zone

Central Meridian is -105.500000

Grid Convergence at Surface is: 0.38°

Separation Factor Plot



LEGEND

| | | |
|-----------------------------|--|-------------------------------|
| Wellbore #1, Wellbore #1 V0 | EXIST VERT KINZER 28B, Wellbore #1, Wellbore #1 V0 | ABDN VERT OSTER POOLING U |
| Wellbore #1, Design #1 V0 | EXIST VERT HELEN 1, Wellbore #1, Design #1 V0 | EXIST DD KINZER 28KD, Wellbor |
| Wellbore #1, Wellbore #1 V0 | EXIST VERT MELLON 28-4, Wellbore #1, Design #1 V0 | KINZER 28G-232, ORIGINAL WEL |
| Wellbore #1, Design #1 V0 | EXIST VERT MELLON 28-1, Wellbore #1, Design #1 V0 | KINZER 28G-332, ORIGINAL WEL |
| , Wellbore #1, Design #1 V0 | EXIST VERT BINDER 16-28, Wellbore #1, Design #1 V0 | KINZER 28H-212, ORIGINAL WEL |
| Wellbore #1, Design #1 V0 | EXIST VERT KINZER 28A, Wellbore #1, Design #1 V0 | KINZER 28H-302, ORIGINAL WEL |
| Wellbore #1, Design #1 V0 | EXIST VERT BINDER 10-28, Wellbore #1, Design #1 V0 | KINZER 28I-312, ORIGINAL WEL |
| Wellbore #1, Design #1 V0 | KINZER 28I-202, ORIGINAL WELLBORE, PROPOSAL #1 V0 | |
| Wellbore #1, Design #1 V0 | EXIST VERT KINZER 28-1, Wellbore #1, Design #1 V0 | |