

Plan #1

WELL DETAILS: Rio 16N

| +N/-S | +E/-W | Northing | Easting | Latitude | Longitude |
|-------|-------|------------|------------|------------------|-------------------|
| 0.0 | 0.0 | 1243142.04 | 3156857.66 | 39° 59' 58.023 N | 104° 56' 24.367 W |



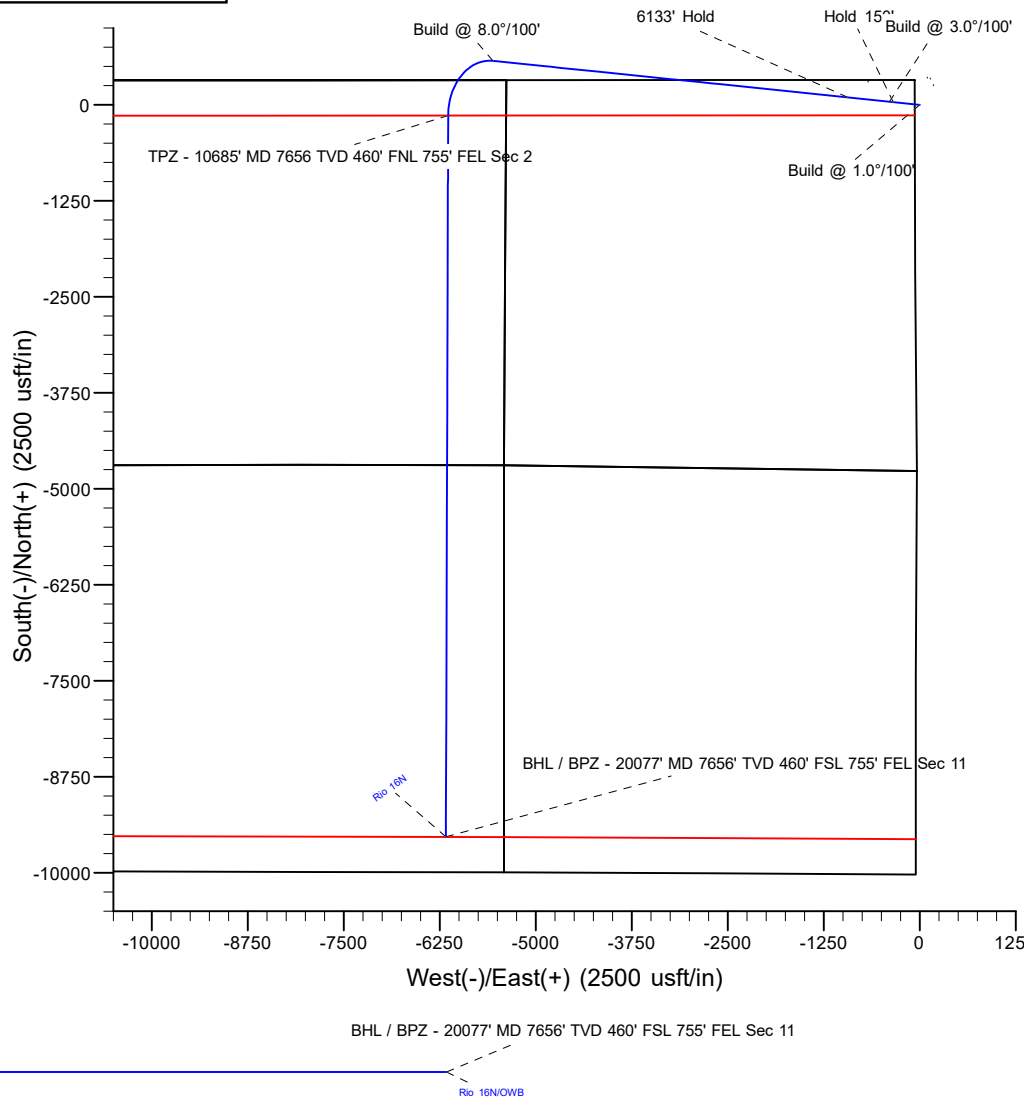
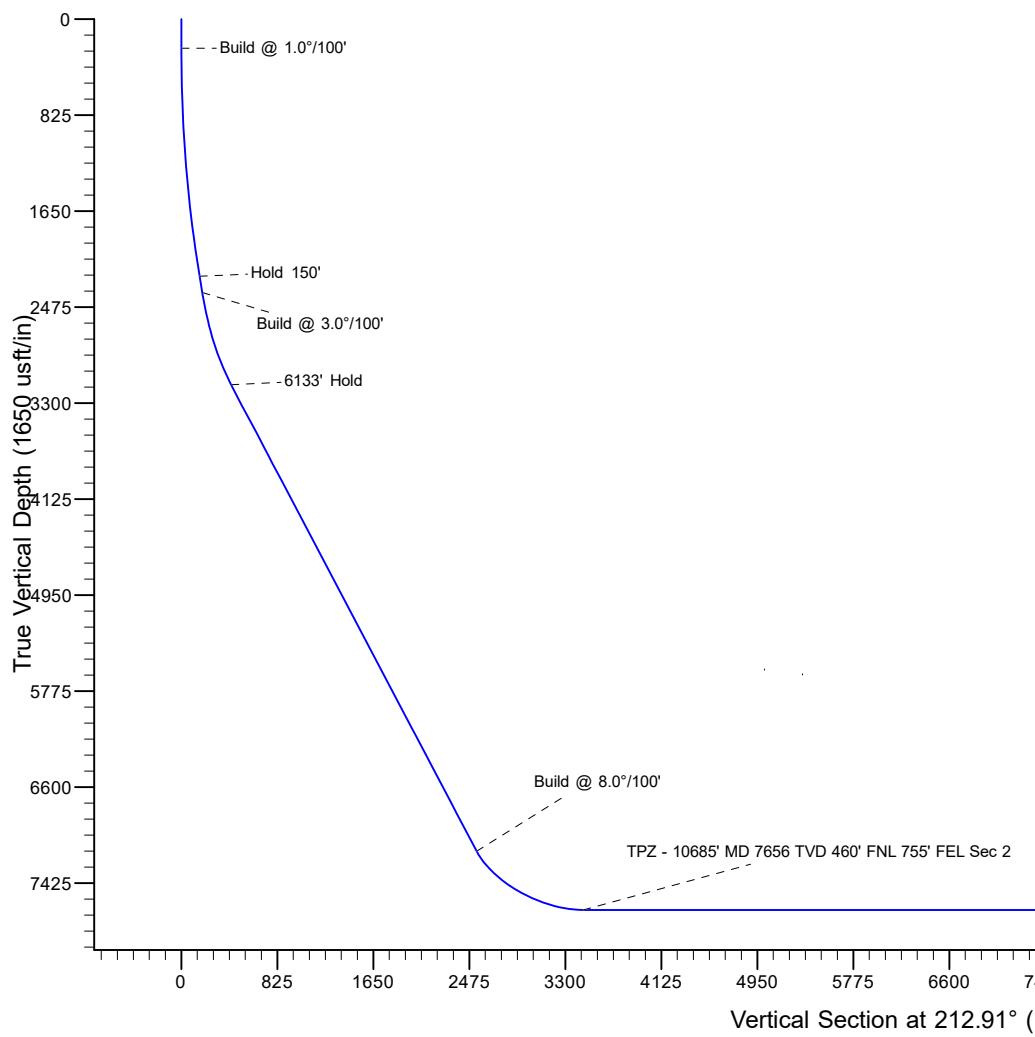
Project: ADAMS COUNTY
 Site: Rio Ivy
 Well: Rio 16N
 Wellbore: OWB
 Design: Plan #1
 Lat: 39° 59' 58.023 N
 Long: 104° 56' 24.367 W
 GL: 5067.0
 KB: KB 28' @ 5095.0usft

Azimuths to True North: 8.00°
 Magnetic North: 8.00°
 Magnetic Field Strength: 51874.3nT
 Dip Angle: 66.44°
 Date: 12/31/2019
 Model: IGRF2015

SECTION DETAILS

| MD | Inc | Azi | TVD | +N/-S | +E/-W | Dleg | TFace | Vsect | Annotation |
|---------|-------|--------|--------|---------|---------|------|--------|---------|--|
| 0.0 | 0.00 | 0.00 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 250.0 | 0.00 | 0.00 | 250.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | Build @ 1.0°/100' |
| 2250.0 | 20.00 | 276.00 | 2209.6 | 36.1 | -343.6 | 1.00 | 276.00 | 156.4 | Hold 150' |
| 2400.0 | 20.00 | 276.00 | 2350.6 | 41.5 | -394.7 | 0.00 | 0.00 | 179.6 | Build @ 3.0°/100' |
| 3373.0 | 49.19 | 275.88 | 3142.9 | 97.8 | -938.2 | 3.00 | -0.19 | 427.7 | 6133' Hold |
| 9506.2 | 49.19 | 275.88 | 7151.3 | 573.0 | -5556.0 | 0.00 | 0.00 | 2537.7 | Build @ 8.0°/100' |
| 10685.1 | 90.00 | 180.18 | 7656.0 | -139.3 | -6139.7 | 8.00 | -93.73 | 3452.9 | TPZ - 10685' MD 7656 TVD 460' FNL 755' FEL Sec 2 |
| 20077.9 | 90.00 | 180.18 | 7656.0 | -9532.1 | -6169.2 | 0.00 | 0.00 | 11354.3 | BHL / BPZ - 20077' MD 7656' TVD 460' FSL 755' FEL Sec 11 |

Plan: Plan #1 (Rio 16N/OWB)
 Created By: Mike Mataalii Date: 11:04, August 30 2022



PDC Energy Inc.
Anticollision Summary Report

| | | | |
|---------------------------|-------------------|-------------------------------------|----------------------------|
| Company: | GWP - PLANNING DB | Local Co-ordinate Reference: | Well Rio 16N |
| Project: | ADAMS COUNTY | TVD Reference: | KB 28' @ 5095.0usft |
| Reference Site: | Rio Ivy | MD Reference: | KB 28' @ 5095.0usft |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | Rio 16N | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OWB | Database: | EDM 5000.15 Single User Db |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| | | | |
|-------------------------------------|---|-----------------------|---------------------|
| Reference | Plan #1 | | |
| Filter type: | NO GLOBAL FILTER: Using user defined selection & filtering criteria | | |
| Interpolation Method: | Stations | Error Model: | ISCWSA |
| Depth Range: | Unlimited | Scan Method: | Closest Approach 3D |
| Results Limited by: | Maximum center-center distance of 10,000.0 usft | Error Surface: | Pedal Curve |
| Warning Levels Evaluated at: | 2.00 Sigma | Casing Method: | Not applied |

| | | | | |
|----------------------------|------------------|--------------------------|------------------|---------------------|
| Survey Tool Program | Date | 8/30/2022 | | |
| From (usft) | To (usft) | Survey (Wellbore) | Tool Name | Description |
| 0.0 | 20,077.9 | Plan #1 (OWB) | MWD | OWSG 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 | | | | | | |
| Rio Ivy | | | | | | |
| Rio 13NA - OWB - Plan #1 | 3,482.3 | 3,478.7 | 16.9 | -26.0 | 0.394 | No-Go Zone - Stop Drilling, (|
| Rio 13NA - OWB - Plan #1 | 3,500.0 | 3,496.3 | 17.0 | -26.2 | 0.394 | No-Go Zone - Stop Drilling, E |
| Rio 14N - OWB - Plan #1 | 3,451.3 | 3,448.9 | 10.7 | -31.3 | 0.255 | No-Go Zone - Stop Drilling, (|
| Rio 15NA - OWB - Plan #1 | 2,898.7 | 2,897.8 | 1.4 | -28.3 | 0.046 | No-Go Zone - Stop Drilling, (|
| Rio 15NA - OWB - Plan #1 | 2,900.0 | 2,899.0 | 1.4 | -28.3 | 0.046 | No-Go Zone - Stop Drilling, (|
| Rio 15NA - OWB - Plan #1 | 20,077.9 | 20,121.8 | 319.0 | -37.0 | 0.896 | No-Go Zone - Stop Drilling, E |
| Rio 17N - OWB - OWB | 260.6 | 260.8 | 116.5 | 113.9 | 44.913 | CC |
| Rio 17N - OWB - OWB | 300.0 | 299.7 | 116.7 | 113.8 | 40.549 | ES |
| Rio 17N - OWB - OWB | 1,000.0 | 994.0 | 163.7 | 156.1 | 21.434 | SF |
| Rio 17N - OWB - Plan #1 | 260.6 | 232.8 | 116.5 | 113.9 | 44.913 | CC |
| Rio 17N - OWB - Plan #1 | 20,068.9 | 20,402.0 | 303.2 | -53.1 | 0.851 | No-Go Zone - Stop Drilling, E |
| Rio 18C - OWB - OWB | 177.0 | 177.0 | 14.9 | 13.0 | 7.702 | CC |
| Rio 18C - OWB - OWB | 250.0 | 249.9 | 15.1 | 12.5 | 5.907 | ES |
| Rio 18C - OWB - OWB | 600.0 | 599.9 | 19.2 | 14.1 | 3.733 | SF |
| Rio 18C - OWB - Plan #1 | 177.0 | 177.0 | 14.9 | 13.0 | 7.702 | CC |
| Rio 18C - OWB - Plan #1 | 250.0 | 249.9 | 15.1 | 12.5 | 5.907 | ES |
| Rio 18C - OWB - Plan #1 | 20,077.9 | 19,639.6 | 1,260.8 | 899.3 | 3.488 | SF |
| Rio 19NA - OWB - OWB | 0.0 | 0.0 | 0.0 | | | |
| Rio 19NA - OWB - OWB | 200.0 | 200.0 | 0.7 | -1.5 | 0.332 | No-Go Zone - Stop Drilling, (|
| Rio 19NA - OWB - OWB | 250.0 | 250.0 | 1.0 | -1.6 | 0.377 | No-Go Zone - Stop Drilling, E |
| Rio 19NA - OWB - Plan #1 | 0.0 | 0.0 | 0.0 | | | |
| Rio 19NA - OWB - Plan #1 | 200.0 | 200.0 | 0.7 | -1.5 | 0.332 | No-Go Zone - Stop Drilling, (|
| Rio 19NA - OWB - Plan #1 | 250.0 | 250.0 | 1.0 | -1.6 | 0.377 | No-Go Zone - Stop Drilling, E |
| Rio 20N - OWB - OWB | 284.8 | 284.9 | 43.4 | 40.6 | 15.532 | CC |
| Rio 20N - OWB - OWB | 500.0 | 499.7 | 44.4 | 40.0 | 10.277 | ES |
| Rio 20N - OWB - OWB | 1,000.0 | 999.2 | 66.7 | 58.9 | 8.574 | SF |
| Rio 20N - OWB - Plan #1 | 284.8 | 284.9 | 43.4 | 40.6 | 15.532 | CC |
| Rio 20N - OWB - Plan #1 | 500.0 | 499.7 | 44.4 | 40.0 | 10.277 | ES |
| Rio 20N - OWB - Plan #1 | 20,077.9 | 19,230.4 | 1,782.6 | 1,425.1 | 4.986 | SF |
| Rio 21N - OWB - OWB | 197.0 | 197.0 | 59.6 | 57.2 | 24.968 | CC |
| Rio 21N - OWB - OWB | 400.0 | 399.7 | 60.9 | 56.2 | 13.139 | ES |
| Rio 21N - OWB - OWB | 800.0 | 798.8 | 70.8 | 63.9 | 10.277 | SF |
| Rio 21N - OWB - Plan #1 | 197.0 | 197.0 | 59.6 | 57.2 | 24.968 | CC |
| Rio 21N - OWB - Plan #1 | 400.0 | 399.7 | 60.9 | 56.2 | 13.139 | ES |
| Rio 21N - OWB - Plan #1 | 20,077.9 | 18,988.0 | 2,049.6 | 1,697.1 | 5.815 | SF |
| Rio 22C - OWB - OWB | 364.1 | 364.3 | 74.9 | 71.4 | 21.586 | CC |
| Rio 22C - OWB - OWB | 400.0 | 400.1 | 74.9 | 71.2 | 19.827 | ES |

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

PDC Energy Inc.
Anticollision Summary Report

| | | | |
|---------------------------|-------------------|-------------------------------------|----------------------------|
| Company: | GWP - PLANNING DB | Local Co-ordinate Reference: | Well Rio 16N |
| Project: | ADAMS COUNTY | TVD Reference: | KB 28' @ 5095.0usft |
| Reference Site: | Rio Ivy | MD Reference: | KB 28' @ 5095.0usft |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | Rio 16N | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OWB | Database: | EDM 5000.15 Single User Db |
| Reference Design: | Plan #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 | | | | | | |
| Rio Ivy | | | | | | |
| Rio 22C - OWB - OWB | 1,100.0 | 1,098.1 | 96.5 | 88.5 | 12.127 | SF |
| Rio 22C - OWB - Plan #1 | 364.1 | 364.3 | 74.9 | 71.4 | 21.586 | CC |
| Rio 22C - OWB - Plan #1 | 400.0 | 400.1 | 74.9 | 71.2 | 19.827 | ES |
| Rio 22C - OWB - Plan #1 | 20,077.9 | 18,961.6 | 2,330.3 | 1,972.2 | 6.507 | SF |
| Rio 23NA - OWB - OWB | 0.0 | 0.0 | 90.3 | | | |
| Rio 23NA - OWB - OWB | 500.0 | 500.1 | 90.9 | 86.4 | 19.878 | ES |
| Rio 23NA - OWB - OWB | 1,000.0 | 996.6 | 113.5 | 106.1 | 15.378 | SF |
| Rio 23NA - OWB - Plan #1 | 0.0 | 0.0 | 90.3 | | | |
| Rio 23NA - OWB - Plan #1 | 500.0 | 500.1 | 90.9 | 86.4 | 19.878 | ES |
| Rio 23NA - OWB - Plan #1 | 20,077.9 | 18,514.4 | 2,593.1 | 2,243.5 | 7.417 | SF |
| Rio 24N - OWB - OWB | 274.7 | 274.8 | 103.9 | 101.1 | 38.204 | CC |
| Rio 24N - OWB - OWB | 422.9 | 423.2 | 104.0 | 100.3 | 27.813 | ES |
| Rio 24N - OWB - OWB | 1,200.0 | 1,196.9 | 129.6 | 121.2 | 15.419 | SF |
| Rio 24N - OWB - Plan #1 | 274.7 | 274.8 | 103.9 | 101.1 | 38.204 | CC |
| Rio 24N - OWB - Plan #1 | 422.9 | 423.2 | 104.0 | 100.3 | 27.813 | ES |
| Rio 24N - OWB - Plan #1 | 20,077.9 | 18,571.3 | 2,860.9 | 2,505.7 | 8.056 | SF |
| Rio 25N - OWB - OWB | 295.1 | 295.2 | 119.4 | 116.6 | 42.135 | CC |
| Rio 25N - OWB - OWB | 500.0 | 499.9 | 120.1 | 115.7 | 27.565 | ES |
| Rio 25N - OWB - OWB | 1,300.0 | 1,292.2 | 174.9 | 165.5 | 18.705 | SF |
| Rio 25N - OWB - Plan #1 | 295.1 | 295.2 | 119.4 | 116.6 | 42.135 | CC |
| Rio 25N - OWB - Plan #1 | 500.0 | 499.9 | 120.1 | 115.7 | 27.565 | ES |
| Rio 25N - OWB - Plan #1 | 20,077.9 | 18,329.2 | 3,129.3 | 2,777.7 | 8.900 | SF |
| Rio 26C - OWB - OWB | 334.6 | 334.9 | 135.1 | 131.9 | 42.077 | CC |
| Rio 26C - OWB - OWB | 600.0 | 600.4 | 136.3 | 131.3 | 27.625 | ES |
| Rio 26C - OWB - OWB | 1,500.0 | 1,493.7 | 186.3 | 176.0 | 18.175 | SF |
| Rio 26C - OWB - Plan #1 | 334.6 | 334.9 | 135.1 | 131.9 | 42.077 | CC |
| Rio 26C - OWB - Plan #1 | 600.0 | 600.4 | 136.3 | 131.3 | 27.625 | ES |
| Rio 26C - OWB - Plan #1 | 20,077.9 | 18,381.5 | 3,406.3 | 3,050.8 | 9.584 | SF |

PDC Energy Inc.
Anticollision Summary Report

| | | | |
|---------------------------|-------------------|-------------------------------------|----------------------------|
| Company: | GWP - PLANNING DB | Local Co-ordinate Reference: | Well Rio 16N |
| Project: | ADAMS COUNTY | TVD Reference: | KB 28' @ 5095.0usft |
| Reference Site: | Rio Ivy | MD Reference: | KB 28' @ 5095.0usft |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | Rio 16N | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OWB | Database: | EDM 5000.15 Single User Db |
| Reference Design: | Plan #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 | | | | | | |
| Rio Ivy Offsets | | | | | | |
| ALBERT SACK #14-31 - OWB\ - OWB | 186.5 | 140.6 | 1,587.6 | 1,585.8 | 878.762 | CC |
| ALBERT SACK #14-31 - OWB\ - OWB | 250.0 | 204.1 | 1,587.7 | 1,585.6 | 730.089 | ES |
| ALBERT SACK #14-31 - OWB\ - OWB | 3,400.0 | 3,133.5 | 2,415.3 | 2,392.7 | 106.929 | SF |
| ALICIA #12-15H-5N - OWB - OWB | 16,631.9 | 11,540.0 | 3,900.1 | 3,712.3 | 20.762 | CC, ES |
| ALICIA #12-15H-5N - OWB - OWB | 20,077.9 | 8,064.6 | 3,928.4 | 3,732.1 | 20.016 | SF |
| ALICIA 12-15H-5N - OWB - OWB | 20,077.9 | 4,798.0 | 4,981.1 | 4,823.4 | 31.575 | CC, ES, SF |
| BEISEL (OWP) #42-1 - OWB - OWB | 3,405.8 | 3,131.9 | 1,237.4 | 1,210.0 | 45.129 | CC, ES |
| BEISEL (OWP) #42-1 - OWB - OWB | 4,400.0 | 3,779.9 | 1,446.5 | 1,404.2 | 34.171 | SF |
| Beisel Unit #1 - OWB - OWB | 4,376.5 | 3,767.7 | 1,121.1 | 1,076.0 | 24.864 | CC |
| Beisel Unit #1 - OWB - OWB | 4,400.0 | 3,782.9 | 1,121.2 | 1,075.7 | 24.628 | ES |
| Beisel Unit #1 - OWB - OWB | 4,900.0 | 4,112.4 | 1,188.7 | 1,135.4 | 22.323 | SF |
| BELLINGER #12-7 - OWB - OWB | 18,558.0 | 5,162.0 | 4,953.1 | 4,816.9 | 36.341 | CC, ES |
| BELLINGER #12-7 - OWB - OWB | 19,100.0 | 5,162.0 | 4,982.7 | 4,844.8 | 36.139 | SF |
| Bullwash #11-11 - OWB - OWB | 18,392.1 | 5,100.0 | 3,653.7 | 3,498.3 | 23.513 | CC |
| Bullwash #11-11 - OWB - OWB | 18,500.0 | 5,100.0 | 3,655.3 | 3,497.2 | 23.119 | ES |
| Bullwash #11-11 - OWB - OWB | 19,800.0 | 5,100.0 | 3,915.6 | 3,729.1 | 21.004 | SF |
| BYDALAK #1-11 - OWB - OWB | 15,983.9 | 7,697.0 | 2,563.5 | 2,440.8 | 20.905 | CC |
| BYDALAK #1-11 - OWB - OWB | 16,100.0 | 7,697.0 | 2,566.1 | 2,439.0 | 20.186 | ES |
| BYDALAK #1-11 - OWB - OWB | 17,300.0 | 7,697.0 | 2,881.5 | 2,713.3 | 17.122 | SF |
| CROFF (OWP) #12-5 - OWB - OWB | 17,275.4 | 5,139.0 | 4,931.5 | 4,814.9 | 42.307 | CC |
| CROFF (OWP) #12-5 - OWB - OWB | 17,300.0 | 5,139.0 | 4,931.6 | 4,814.9 | 42.281 | ES |
| CROFF (OWP) #12-5 - OWB - OWB | 18,100.0 | 5,139.0 | 4,999.9 | 4,880.5 | 41.849 | SF |
| Cundall #1 - OWB - OWB | 15,600.0 | 7,641.0 | 2,738.5 | 2,614.2 | 22.036 | SF |
| Cundall #1 - OWB - OWB | 15,958.1 | 7,641.0 | 2,714.9 | 2,592.8 | 22.225 | CC, ES |
| CUNDALL #5-12 - OWB - OWB | 16,900.0 | 7,652.0 | 1,632.2 | 1,482.7 | 10.915 | SF |
| CUNDALL #5-12 - OWB - OWB | 17,200.0 | 7,652.0 | 1,597.4 | 1,453.8 | 11.120 | ES |
| CUNDALL #5-12 - OWB - OWB | 17,237.2 | 7,652.0 | 1,597.0 | 1,454.1 | 11.178 | CC |
| CUNDALL #6-12 - OWB - OWB | 17,000.0 | 7,641.0 | 2,879.0 | 2,735.4 | 20.049 | SF |
| CUNDALL #6-12 - OWB - OWB | 17,200.0 | 7,641.0 | 2,870.4 | 2,727.7 | 20.110 | ES |
| CUNDALL #6-12 - OWB - OWB | 17,223.5 | 7,641.0 | 2,870.3 | 2,727.7 | 20.124 | CC |
| CUNDALL 11-12 #2 - OWB - OWB | 15,500.0 | 7,651.0 | 1,503.8 | 1,370.6 | 11.285 | SF |
| CUNDALL 11-12 #2 - OWB - OWB | 15,900.0 | 7,651.0 | 1,436.7 | 1,313.6 | 11.669 | ES |
| CUNDALL 11-12 #2 - OWB - OWB | 15,946.6 | 7,651.0 | 1,436.0 | 1,314.0 | 11.772 | CC |
| EHLER #34-11-1 - OWB - OWB | 19,927.3 | 7,659.0 | 1,026.5 | 838.5 | 5.461 | CC |
| EHLER #34-11-1 - OWB - OWB | 20,000.0 | 7,659.0 | 1,029.0 | 835.6 | 5.319 | ES |
| EHLER #34-11-1 - OWB - OWB | 20,077.9 | 7,659.0 | 1,037.5 | 838.7 | 5.220 | SF |
| GASPAR #11-1 - OWB - OWB | 8,718.1 | 6,634.1 | 627.6 | 500.9 | 4.954 | CC, ES |
| GASPAR #11-1 - OWB - OWB | 8,800.0 | 6,688.9 | 630.5 | 502.9 | 4.942 | SF |
| IVEY #16-11 - OWB - OWB | 19,853.7 | 7,756.2 | 81.4 | -123.6 | 0.397 | No-Go Zone - Stop Drilling, (|
| Ivey LC 02-033HC - OWB - OWB | 10,600.0 | 18,227.2 | 1,254.2 | 1,045.4 | 6.006 | SF |
| Ivey LC 02-033HC - OWB - OWB | 10,650.0 | 18,150.4 | 1,252.2 | 1,044.5 | 6.031 | ES |
| Ivey LC 02-033HC - OWB - OWB | 13,213.9 | 15,558.3 | 1,233.0 | 1,050.5 | 6.757 | CC |
| Ivey LC 02-036HC - OWB - OWB | 10,650.0 | 18,228.2 | 538.8 | 352.2 | 2.887 | ES, SF |
| Ivey LC 02-036HC - OWB - OWB | 16,059.4 | 12,804.7 | 531.4 | 367.2 | 3.237 | CC |
| IVEY LC 26-362HC - OWB - OWB | 20,077.9 | 7,898.2 | 287.8 | 119.5 | 1.711 | Collision Risk Procedures Re |
| IVEY LC 26-362HC - ST01 - ST01 | 20,077.9 | 7,898.2 | 287.8 | 119.5 | 1.711 | Collision Risk Procedures Re |
| Ivey LC 26-362HN - OWB - OWB | 20,077.9 | 7,797.5 | 403.6 | 234.1 | 2.381 | CC, ES, SF |
| Ivey LC 26-363HN - OWB - OWB | 20,077.9 | 7,859.9 | 459.2 | 310.8 | 3.094 | CC, ES, SF |
| Ivey LC 26-363HNX - OWB - OWB | 20,077.9 | 7,731.0 | 493.9 | 344.8 | 3.312 | CC, ES, SF |
| Ivey LC 26-365HC - OWB - OWB | 20,077.9 | 7,870.1 | 709.3 | 539.7 | 4.182 | CC, ES, SF |
| Ivey LC 26-366HN - OWB - OWB | 20,077.9 | 7,715.7 | 1,055.0 | 872.1 | 5.767 | CC, ES, SF |
| Ivey LC 26-366HN - ST01 - ST01 | 20,077.9 | 7,710.7 | 965.8 | 785.7 | 5.363 | CC, ES, SF |
| Ivey LC 26-366HNX - OWB - OWB | 20,077.9 | 7,639.0 | 1,031.5 | 855.7 | 5.869 | CC, ES, SF |

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

PDC Energy Inc.
Anticollision Summary Report

| | | | |
|---------------------------|-------------------|-------------------------------------|----------------------------|
| Company: | GWP - PLANNING DB | Local Co-ordinate Reference: | Well Rio 16N |
| Project: | ADAMS COUNTY | TVD Reference: | KB 28' @ 5095.0usft |
| Reference Site: | Rio Ivy | MD Reference: | KB 28' @ 5095.0usft |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | Rio 16N | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OWB | Database: | EDM 5000.15 Single User Db |
| Reference Design: | Plan #1 | Offset TVD Reference: | Offset Datum |

| Summary | | | | | | |
|---|---------------------------------|------------------------------|------------------------|-------------------------|-------------------|-------------------------------|
| Site Name | Reference Measured Depth (usft) | Offset Measured Depth (usft) | Distance | | Separation Factor | Warning |
| | | | Between Centres (usft) | Between Ellipses (usft) | | |
| Offset Well - Wellbore - Design | | | | | | |
| Rio Ivy Offsets | | | | | | |
| Ivey LC 26-368HC - OWB - OWB | 20,077.9 | 7,592.4 | 1,320.1 | 1,125.9 | 6.797 | CC, ES, SF |
| Ivey LC 26-368HN - OWB - OWB | 20,077.9 | 7,640.8 | 1,293.0 | 1,103.7 | 6.832 | CC, ES, SF |
| Ivey Unit #1 - OWB - OWB | 18,500.0 | 7,653.0 | 96.0 | -88.3 | 0.521 | No-Go Zone - Stop Drilling, E |
| Ivey Unit #1 - OWB - OWB | 18,540.2 | 7,653.0 | 87.2 | -77.3 | 0.530 | No-Go Zone - Stop Drilling, (|
| JOHNSON 1 - OWB - OWB | 13,262.1 | 5,200.0 | 2,460.1 | 2,386.4 | 33.354 | CC |
| JOHNSON 1 - OWB - OWB | 13,300.0 | 5,200.0 | 2,460.4 | 2,386.3 | 33.196 | ES |
| JOHNSON 1 - OWB - OWB | 15,000.0 | 5,200.0 | 3,012.1 | 2,898.8 | 26.596 | SF |
| LENART (OWP) #S-1 - OWB - OWB | 16,573.5 | 5,137.0 | 5,461.6 | 5,351.3 | 49.517 | CC |
| LENART (OWP) #S-1 - OWB - OWB | 16,600.0 | 5,137.0 | 5,461.7 | 5,351.2 | 49.463 | ES |
| LENART (OWP) #S-1 - OWB - OWB | 18,200.0 | 5,137.0 | 5,698.7 | 5,579.3 | 47.727 | SF |
| MALLO #1 - OWB - OWB | 19,878.5 | 5,175.0 | 4,965.5 | 4,808.5 | 31.634 | CC |
| MALLO #1 - OWB - OWB | 19,900.0 | 5,175.0 | 4,965.5 | 4,808.5 | 31.622 | ES |
| MALLO #1 - OWB - OWB | 20,077.9 | 5,175.0 | 4,969.5 | 4,812.0 | 31.547 | SF |
| Morrison #1 - OWB - OWB | 8,200.0 | 5,100.0 | 3,452.5 | 3,343.4 | 31.647 | SF |
| Morrison #1 - OWB - OWB | 13,303.1 | 5,100.0 | 2,926.0 | 2,870.6 | 52.770 | CC, ES |
| MORRISON 11-1 - OWB - OWB | 12,300.0 | 7,810.4 | 2,922.2 | 2,807.0 | 25.372 | SF |
| MORRISON 11-1 - OWB - OWB | 13,365.4 | 7,816.4 | 2,721.1 | 2,617.6 | 26.308 | CC, ES |
| MORRISON 15-1 - OWB - OWB | 14,444.1 | 7,632.0 | 4,083.9 | 3,985.0 | 41.290 | CC, ES |
| MORRISON 15-1 - OWB - OWB | 15,500.0 | 7,632.0 | 4,218.2 | 4,114.7 | 40.728 | SF |
| MORRISON 24-1 #3 - OWB - OWB | 13,900.0 | 7,645.0 | 2,890.6 | 2,784.0 | 27.120 | SF |
| MORRISON 24-1 #3 - OWB - OWB | 14,600.0 | 7,645.0 | 2,800.4 | 2,698.8 | 27.578 | ES |
| MORRISON 24-1 #3 - OWB - OWB | 14,617.0 | 7,645.0 | 2,800.3 | 2,698.8 | 27.596 | CC |
| MORRISON 33-1 #4 - OWB - OWB | 4,448.8 | 3,818.0 | 3,102.8 | 3,056.1 | 66.407 | CC |
| MORRISON 33-1 #4 - OWB - OWB | 4,500.0 | 3,851.5 | 3,103.0 | 3,055.4 | 65.086 | ES |
| MORRISON 33-1 #4 - OWB - OWB | 7,100.0 | 5,550.7 | 3,695.1 | 3,610.1 | 43.441 | SF |
| Morrison Investment #1 - OWB - OWB | 14,000.0 | 7,657.0 | 1,517.6 | 1,399.1 | 12.811 | SF |
| Morrison Investment #1 - OWB - OWB | 14,587.6 | 7,657.0 | 1,399.2 | 1,298.2 | 13.846 | CC, ES |
| NORTH COLORADO #12-13 - OWB - OWN | 20,077.9 | 7,648.4 | 2,781.5 | 2,571.0 | 13.210 | CC, ES, SF |
| NORTH COLORADO #6 - OWB - OWB | 20,077.9 | 7,690.0 | 2,879.1 | 2,670.6 | 13.809 | CC, ES, SF |
| NORTH COLORADO BOULEVARD #3 - OWB - OWB | 20,077.9 | 5,113.0 | 3,144.8 | 3,001.8 | 21.995 | CC, ES, SF |
| NORTH COLORADO BOULEVARD UNIT #5 - OWB - OW | 20,077.9 | 5,300.0 | 4,707.1 | 4,532.7 | 26.990 | CC, ES, SF |
| North York #1 - OWB - OWB | 18,300.0 | 5,200.0 | 3,637.6 | 3,513.7 | 29.364 | SF |
| North York #1 - OWB - OWB | 18,517.3 | 5,200.0 | 3,631.1 | 3,507.7 | 29.419 | CC, ES |
| NORTH YORK #11-12 - OWB - OWB | 18,400.0 | 7,657.0 | 2,809.6 | 2,644.3 | 16.998 | SF |
| NORTH YORK #11-12 - OWB - OWB | 18,544.2 | 7,657.0 | 2,805.9 | 2,641.3 | 17.048 | CC, ES |
| NORTH YORK #13-12-3 - OWB - OWB | 19,700.0 | 7,648.0 | 1,389.6 | 1,196.5 | 7.198 | SF |
| NORTH YORK #13-12-3 - OWB - OWB | 19,900.0 | 7,648.0 | 1,372.2 | 1,183.7 | 7.282 | ES |
| NORTH YORK #13-12-3 - OWB - OWB | 19,920.3 | 7,648.0 | 1,372.0 | 1,184.2 | 7.304 | CC |
| NORTH YORK #2 - OWB - OWB | 19,700.0 | 5,200.0 | 2,842.8 | 2,716.9 | 22.579 | SF |
| NORTH YORK #2 - OWB - OWB | 20,024.9 | 5,200.0 | 2,824.1 | 2,699.5 | 22.656 | CC, ES |
| NORTH YORK 13-12 - OWB - OWB | 19,500.0 | 7,777.0 | 1,414.6 | 1,205.5 | 6.767 | SF |
| NORTH YORK 13-12 - OWB - OWB | 19,700.0 | 7,780.2 | 1,399.1 | 1,194.4 | 6.833 | ES |
| NORTH YORK 13-12 - OWB - OWB | 19,708.7 | 7,780.4 | 1,399.1 | 1,194.6 | 6.841 | CC |
| NORTH YORK 14-12 - OWB - OWB | 19,600.0 | 7,663.3 | 2,749.5 | 2,534.9 | 12.811 | SF |
| NORTH YORK 14-12 - OWB - OWB | 19,782.3 | 7,663.8 | 2,743.5 | 2,529.8 | 12.840 | CC, ES |
| REHFELD K UNIT #1 - OWB - OWB | 14,057.6 | 7,692.0 | 103.1 | 9.7 | 1.104 | Collision Avoidance Req., CC |
| REHFELD K UNIT #1 - OWB - OWB | 14,100.0 | 7,692.0 | 111.5 | -7.8 | 0.934 | No-Go Zone - Stop Drilling, E |
| REINHOLT (OWP) #12-6 - OWB - OWB | 16,185.5 | 5,110.0 | 4,853.2 | 4,754.1 | 48.940 | CC |
| REINHOLT (OWP) #12-6 - OWB - OWB | 16,200.0 | 5,110.0 | 4,853.2 | 4,754.0 | 48.921 | ES |
| REINHOLT (OWP) #12-6 - OWB - OWB | 17,700.0 | 5,110.0 | 5,084.0 | 4,977.5 | 47.701 | SF |
| Rio LC 12-242HC - OWB - OWB | 100.0 | 93.4 | 127.2 | 126.4 | 153.703 | CC |
| Rio LC 12-242HC - OWB - OWB | 250.0 | 243.0 | 127.4 | 124.7 | 45.907 | ES |
| Rio LC 12-242HC - OWB - OWB | 1,200.0 | 1,188.9 | 204.3 | 195.0 | 21.872 | SF |

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

PDC Energy Inc.
Anticollision Summary Report

| | | | |
|---------------------------|-------------------|-------------------------------------|----------------------------|
| Company: | GWP - PLANNING DB | Local Co-ordinate Reference: | Well Rio 16N |
| Project: | ADAMS COUNTY | TVD Reference: | KB 28' @ 5095.0usft |
| Reference Site: | Rio Ivy | MD Reference: | KB 28' @ 5095.0usft |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | Rio 16N | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OWB | Database: | EDM 5000.15 Single User Db |
| Reference Design: | Plan #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 | | | | | | |
| Rio Ivy Offsets | | | | | | |
| Rio LC 12-332HN - OWB - OWB | 100.0 | 93.2 | 100.7 | 99.9 | 121.592 | CC |
| Rio LC 12-332HN - OWB - OWB | 250.0 | 242.7 | 100.9 | 98.2 | 37.684 | ES |
| Rio LC 12-332HN - OWB - OWB | 15,900.0 | 13,767.6 | 3,849.8 | 3,637.2 | 18.116 | SF |
| Rio LC 12-362HN - OWB - OWB | 330.5 | 325.3 | 136.4 | 133.0 | 40.059 | CC |
| Rio LC 12-362HN - OWB - OWB | 400.0 | 394.4 | 136.8 | 132.9 | 34.624 | ES |
| Rio LC 12-362HN - OWB - OWB | 20,077.9 | 17,660.0 | 5,525.7 | 5,168.6 | 15.474 | SF |
| Rio LC 12-363HN - OWB - OWB | 253.8 | 247.3 | 116.9 | 114.2 | 42.885 | CC |
| Rio LC 12-363HN - OWB - OWB | 300.0 | 293.3 | 117.1 | 114.1 | 38.823 | ES |
| Rio LC 12-363HN - OWB - OWB | 20,077.9 | 17,378.9 | 5,414.3 | 5,069.2 | 15.688 | SF |
| Rio LC 12-363HNX - OWB - OWB | 0.0 | 0.0 | 108.0 | | | |
| Rio LC 12-363HNX - OWB - OWB | 300.0 | 293.3 | 108.5 | 105.5 | 36.287 | ES |
| Rio LC 12-363HNX - OWB - OWB | 20,077.9 | 17,372.5 | 5,261.1 | 4,909.4 | 14.958 | SF |
| Rio LC 12-365HC - OWB - OWB | 221.0 | 214.5 | 100.0 | 97.4 | 39.110 | CC |
| Rio LC 12-365HC - OWB - OWB | 250.0 | 243.1 | 100.0 | 97.3 | 36.437 | ES |
| Rio LC 12-365HC - OWB - OWB | 20,077.9 | 17,859.3 | 4,987.1 | 4,633.5 | 14.103 | SF |
| Rio LC 12-365HN - OWB - OWB | 100.0 | 92.9 | 95.0 | 94.2 | 114.525 | CC |
| Rio LC 12-365HN - OWB - OWB | 200.0 | 192.5 | 95.7 | 93.3 | 39.484 | ES |
| Rio LC 12-365HN - OWB - OWB | 20,077.9 | 17,507.0 | 4,889.7 | 4,541.8 | 14.053 | SF |
| Rio LC 12-366HN - OWB - OWB | 160.1 | 153.1 | 90.4 | 88.6 | 51.137 | CC |
| Rio LC 12-366HN - OWB - OWB | 250.0 | 242.7 | 90.7 | 87.9 | 32.971 | ES |
| Rio LC 12-366HN - OWB - OWB | 20,077.9 | 17,679.8 | 4,599.0 | 4,250.3 | 13.192 | SF |
| Rio LC 12-366HN - ST01 - ST01 | 160.1 | 153.1 | 90.4 | 88.6 | 51.137 | CC |
| Rio LC 12-366HN - ST01 - ST01 | 250.0 | 242.7 | 90.7 | 87.9 | 32.971 | ES |
| Rio LC 12-366HN - ST01 - ST01 | 20,077.9 | 17,753.2 | 4,525.3 | 4,174.2 | 12.889 | SF |
| Rio LC 12-366HNX - OWB - OWB | 312.9 | 307.2 | 88.5 | 85.3 | 27.486 | CC |
| Rio LC 12-366HNX - OWB - OWB | 400.0 | 394.4 | 89.1 | 85.1 | 22.664 | ES |
| Rio LC 12-366HNX - OWB - OWB | 20,077.9 | 17,502.8 | 4,498.9 | 4,149.5 | 12.876 | SF |
| Rio LC 12-368HC - OWB - OWB | 100.0 | 93.0 | 91.3 | 90.5 | 110.305 | CC |
| Rio LC 12-368HC - OWB - OWB | 200.0 | 192.7 | 91.9 | 89.5 | 37.874 | ES |
| Rio LC 12-368HC - OWB - OWB | 20,000.0 | 17,951.0 | 4,238.3 | 3,887.5 | 12.082 | SF |
| Rio LC 12-368HN - OWB - OWB | 307.8 | 302.0 | 93.0 | 89.7 | 28.678 | CC, ES |
| Rio LC 12-368HN - OWB - OWB | 20,077.9 | 17,728.0 | 4,115.8 | 3,765.7 | 11.756 | SF |
| Rio LC 12-369HNX - OWB - OWB | 343.6 | 338.3 | 107.7 | 103.9 | 28.299 | CC |
| Rio LC 12-369HNX - OWB - OWB | 400.0 | 394.9 | 107.9 | 103.7 | 25.681 | ES |
| Rio LC 12-369HNX - OWB - OWB | 20,077.9 | 17,885.4 | 3,736.7 | 3,384.0 | 10.593 | SF |
| Rio LC 12-376HN - OWB - OWB | 173.9 | 155.1 | 14.9 | 13.0 | 7.806 | CC |
| Rio LC 12-376HN - OWB - OWB | 250.0 | 231.1 | 15.1 | 12.6 | 5.883 | ES |
| Rio LC 12-376HN - OWB - OWB | 600.0 | 581.1 | 19.2 | 14.1 | 3.725 | SF |
| RUBY 2 - OWB - OWB | 18,563.4 | 7,844.0 | 4,091.4 | 3,911.9 | 22.787 | CC, ES |
| RUBY 2 - OWB - OWB | 18,600.0 | 7,844.0 | 4,091.6 | 3,912.0 | 22.785 | SF |
| Sack #1 - OWB - OWB | 15,900.0 | 7,670.0 | 165.8 | 9.0 | 1.057 | Collision Avoidance Req., SF |
| Sack #1 - OWB - OWB | 16,000.0 | 7,670.0 | 131.5 | 8.1 | 1.066 | Collision Avoidance Req., ES |
| Sack #1 - OWB - OWB | 16,001.0 | 7,670.0 | 131.4 | 8.6 | 1.070 | Collision Avoidance Req., CC |
| SACK #4N-30HZ - OWB - OWB | 378.0 | 350.6 | 1,174.9 | 1,171.1 | 306.213 | CC |
| SACK #4N-30HZ - OWB - OWB | 600.0 | 571.5 | 1,176.0 | 1,170.9 | 227.298 | ES |
| SACK #4N-30HZ - OWB - OWB | 3,900.0 | 3,493.3 | 1,942.2 | 1,906.7 | 54.763 | SF |
| SACK (OWP) #11-6 - OWB - OWB | 264.0 | 242.1 | 516.8 | 513.9 | 174.603 | CC |
| SACK (OWP) #11-6 - OWB - OWB | 300.0 | 277.5 | 516.9 | 513.7 | 161.561 | ES |
| SACK (OWP) #11-6 - OWB - OWB | 2,800.0 | 2,715.2 | 1,019.5 | 997.3 | 45.917 | SF |
| SACK 7-11 - OWB - OWB | 17,338.7 | 7,685.0 | 1,279.9 | 1,135.3 | 8.853 | CC |
| SACK 7-11 - OWB - OWB | 17,400.0 | 7,685.0 | 1,281.3 | 1,132.9 | 8.631 | ES |
| SACK 7-11 - OWB - OWB | 17,800.0 | 7,685.0 | 1,360.5 | 1,189.8 | 7.973 | SF |
| SACK 8-11 - OWB - OWB | 17,235.1 | 7,667.0 | 83.6 | -59.3 | 0.585 | No-Go Zone - Stop Drilling, (|

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

PDC Energy Inc.
Anticollision Summary Report

| | | | |
|---------------------------|-------------------|-------------------------------------|----------------------------|
| Company: | GWP - PLANNING DB | Local Co-ordinate Reference: | Well Rio 16N |
| Project: | ADAMS COUNTY | TVD Reference: | KB 28' @ 5095.0usft |
| Reference Site: | Rio Ivy | MD Reference: | KB 28' @ 5095.0usft |
| Site Error: | 0.0 usft | North Reference: | True |
| Reference Well: | Rio 16N | Survey Calculation Method: | Minimum Curvature |
| Well Error: | 0.0 usft | Output errors are at | 2.00 sigma |
| Reference Wellbore | OWB | Database: | EDM 5000.15 Single User Db |
| Reference Design: | Plan #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 |
| Rio Ivy Offsets | | | | | | |
| SACK 8-11 - OWB - OWB | 17,300.0 | 7,667.0 | 105.8 | -67.8 | 0.609 | No-Go Zone - Stop Drilling, E |
| SACK G UNIT #1 - OWB - OWB | 15,820.0 | 7,702.0 | 1,269.3 | 1,149.3 | 10.575 | CC |
| SACK G UNIT #1 - OWB - OWB | 15,900.0 | 7,702.0 | 1,271.8 | 1,146.9 | 10.177 | ES |
| SACK G UNIT #1 - OWB - OWB | 16,400.0 | 7,702.0 | 1,395.5 | 1,242.0 | 9.090 | SF |
| SACK G UNIT #2-X - OWB - OWB | 17,254.6 | 7,682.0 | 1,271.1 | 1,128.0 | 8.878 | CC |
| SACK G UNIT #2-X - OWB - OWB | 17,300.0 | 7,682.0 | 1,271.9 | 1,125.9 | 8.707 | ES |
| SACK G UNIT #2-X - OWB - OWB | 17,700.0 | 7,682.0 | 1,346.9 | 1,178.2 | 7.984 | SF |
| SACK STATE #30C-30HZ - OWB - OWB | 100.0 | 69.0 | 1,171.2 | 1,170.2 | 1,101.760 | CC |
| SACK STATE #30C-30HZ - OWB - OWB | 250.0 | 212.4 | 1,171.7 | 1,168.7 | 395.061 | ES |
| SACK STATE #30C-30HZ - OWB - OWB | 4,400.0 | 4,085.5 | 1,791.7 | 1,747.4 | 40.467 | SF |
| Standley #1 - OWB - OWB | 9,100.0 | 5,251.0 | 2,875.0 | 2,766.2 | 26.420 | SF |
| Standley #1 - OWB - OWB | 12,138.9 | 5,251.0 | 2,428.6 | 2,360.0 | 35.382 | CC, ES |
| STANDLEY #2 - OWB - OWB | 11,915.7 | 5,192.0 | 3,581.1 | 3,497.1 | 42.640 | CC |
| STANDLEY #2 - OWB - OWB | 12,000.0 | 5,192.0 | 3,582.0 | 3,496.9 | 42.073 | ES |
| STANDLEY #2 - OWB - OWB | 14,400.0 | 5,192.0 | 4,358.4 | 4,221.3 | 31.794 | SF |
| STANDLEY 1-2 - OWB - OWB | 10,900.0 | 7,717.1 | 86.9 | -31.9 | 0.731 | No-Go Zone - Stop Drilling, E |
| STANDLEY 1-2 - OWB - OWB | 10,955.0 | 7,717.8 | 67.3 | -4.4 | 0.938 | No-Go Zone - Stop Drilling, C |
| STANDLEY 1-2 - OWB - OWB | 11,000.0 | 7,718.4 | 81.0 | -30.8 | 0.724 | No-Go Zone - Stop Drilling, C |
| STANDLEY 2-2 - OWB - OWB | 10,862.2 | 7,918.7 | 1,132.7 | 1,056.6 | 14.872 | CC, ES |
| STANDLEY 2-2 - OWB - OWB | 11,700.0 | 7,912.3 | 1,408.9 | 1,280.7 | 10.993 | SF |
| STERKEL #1 - OWB - OWB | 6,191.4 | 4,976.9 | 251.0 | 171.7 | 3.164 | CC |
| STERKEL #1 - OWB - OWB | 6,200.0 | 4,982.5 | 251.1 | 171.6 | 3.159 | ES, SF |
| STERKEL (OWP) #21-1 - OWB - OWB | 6,543.1 | 5,193.5 | 820.4 | 734.2 | 9.524 | CC, ES |
| STERKEL (OWP) #21-1 - OWB - OWB | 6,700.0 | 5,298.0 | 828.8 | 740.2 | 9.362 | SF |
| TUDEX BRINK (OWP) #S-2 - OWB - OWB | 17,648.7 | 5,178.0 | 5,494.6 | 5,369.2 | 43.803 | CC, ES |
| TUDEX BRINK (OWP) #S-2 - OWB - OWB | 18,700.0 | 5,178.0 | 5,594.3 | 5,464.0 | 42.945 | SF |
| TUDEX REINHOLT NC4 - OWB - OWB | 16,056.3 | 7,642.2 | 4,167.5 | 4,043.3 | 33.558 | CC, ES |
| TUDEX REINHOLT NC4 - OWB - OWB | 16,200.0 | 7,641.5 | 4,170.0 | 4,045.6 | 33.538 | SF |
| Wright #1 - OWB - OWB | 20,077.9 | 7,672.0 | 1,118.4 | 956.4 | 6.905 | CC, ES, SF |
| WRIGHT 2-14 - OWB - OWB | 20,077.9 | 7,667.0 | 1,600.4 | 1,455.7 | 11.064 | CC, ES, SF |
| YORK G UNIT #1 - OWB - OWB | 15,817.5 | 7,681.0 | 379.4 | 259.4 | 3.162 | CC |
| YORK G UNIT #1 - OWB - OWB | 15,900.0 | 7,681.0 | 388.2 | 254.1 | 2.895 | ES |
| YORK G UNIT #1 - OWB - OWB | 16,000.0 | 7,681.0 | 421.0 | 272.1 | 2.828 | SF |

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

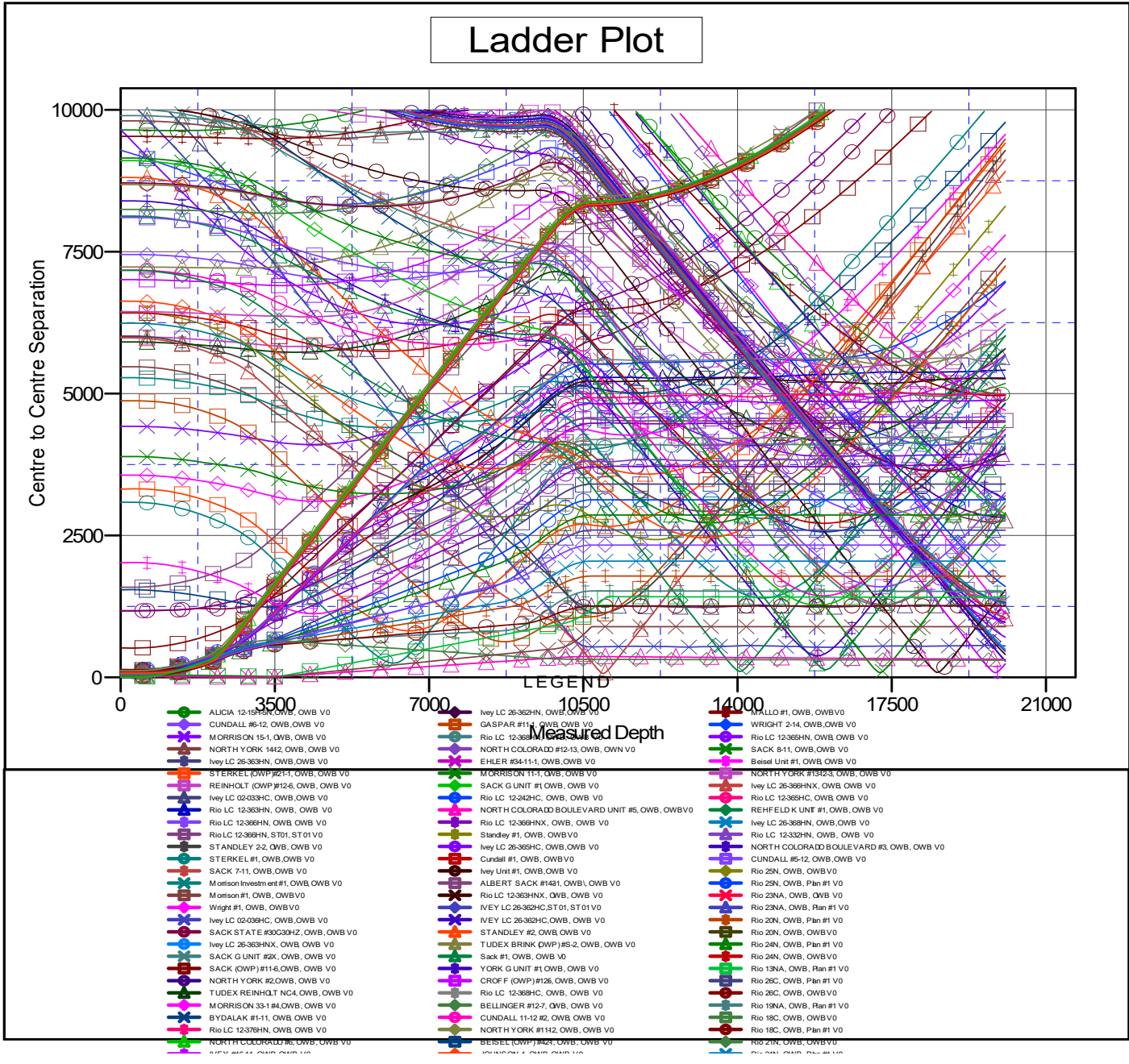
PDC Energy Inc.

Anticollision Summary Report

| | | |
|-----------------------------------|---|--|
| Company: GWP - PLANNING DB | Local Co-ordinate Reference: Well Rio 16N | |
| Project: ADAMS COUNTY | TVD Reference: KB 28' @ 5095.0usft | |
| Reference Site: Rio Ivy | MD Reference: KB 28' @ 5095.0usft | |
| Site Error: 0.0 usft | North Reference: True | |
| Reference Well: Rio 16N | Survey Calculation Method: Minimum Curvature | |
| Well Error: 0.0 usft | Output errors are at 2.00 sigma | |
| Reference Wellbore OWB | Database: EDM 5000.15 Single User Db | |
| Reference Design: Plan #1 | Offset TVD Reference: Offset Datum | |

Reference Depths are relative to KB 28' @ 5095.0usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Rio 16N
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.36°



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

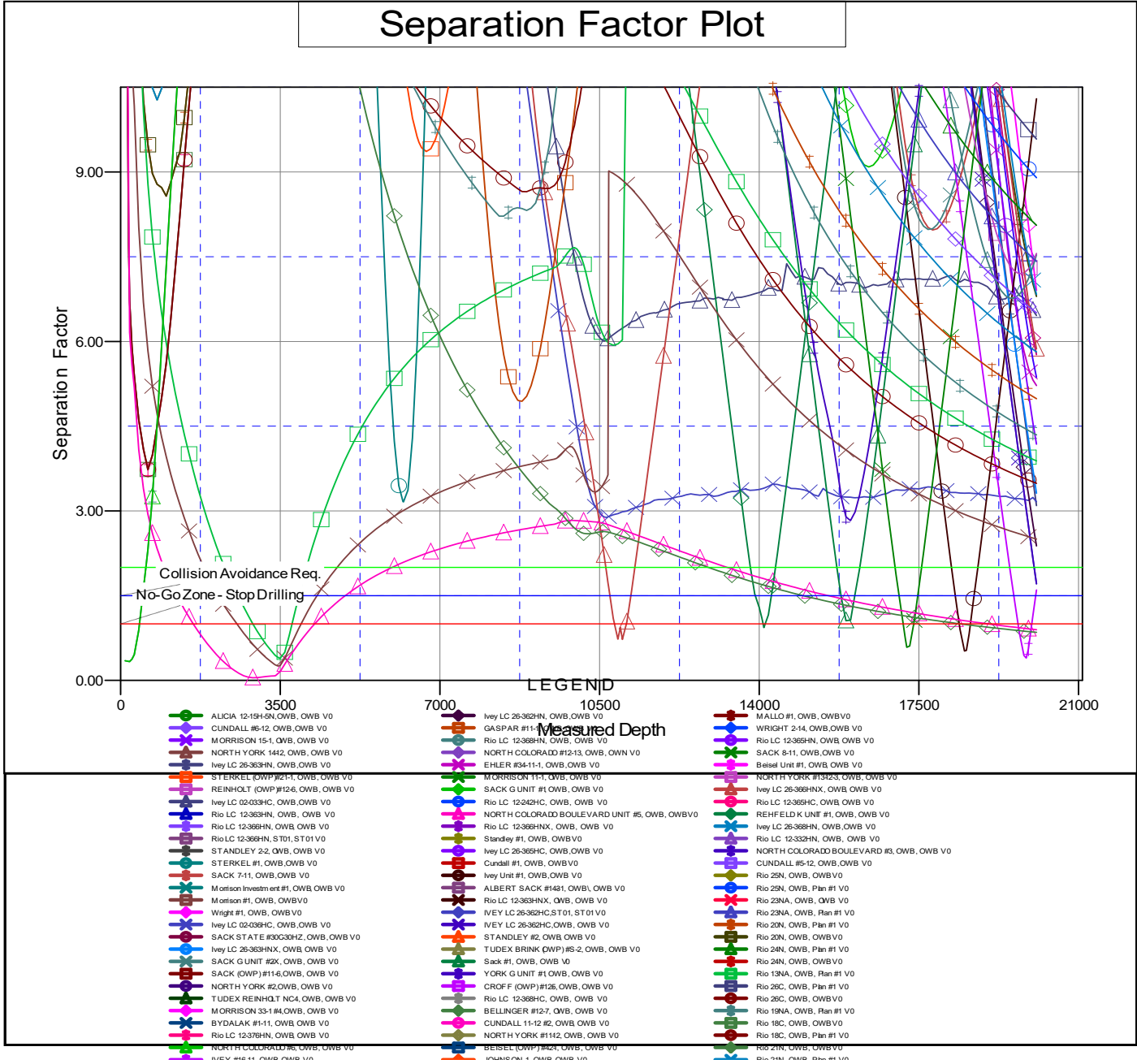
PDC Energy Inc.

Anticollision Summary Report

| | |
|-----------------------------------|---|
| Company: GWP - PLANNING DB | Local Co-ordinate Reference: Well Rio 16N |
| Project: ADAMS COUNTY | TVD Reference: KB 28' @ 5095.0usft |
| Reference Site: Rio Ivy | MD Reference: KB 28' @ 5095.0usft |
| Site Error: 0.0 usft | North Reference: True |
| Reference Well: Rio 16N | Survey Calculation Method: Minimum Curvature |
| Well Error: 0.0 usft | Output errors are at: 2.00 sigma |
| Reference Wellbore: OWB | Database: EDM 5000.15 Single User Db |
| Reference Design: Plan #1 | Offset TVD Reference: Offset Datum |

Reference Depths are relative to KB 28' @ 5095.0usft
 Offset Depths are relative to Offset Datum
 Central Meridian is 105° 30' 0.000 W

Coordinates are relative to: Rio 16N
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.36°



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