

PDC ENERGY

**WELD COUNTY, COLORADO
NW NE SEC 30 T4N R67W 6th P.M.
OLSON 30R-343**

**ORIGINAL WELLBORE
PROPOSAL #2**

Anticollision Report

26 February, 2016



Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Reference	PROPOSAL #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 98.4usft	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 26/02/2016			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	11,791.4	PROPOSAL #2 (ORIGINAL WELLBORE)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
NW NE SEC 30 T4N R67W 6th P.M.						
ABDN VERT MCCARTY 30-3 - Wellbore #1 - Wellbore #	11,721.7	6,330.0	991.6	936.4	17.959	CC, ES
ABDN VERT MCCARTY 30-3 - Wellbore #1 - Wellbore #	11,791.4	6,330.0	994.1	938.1	17.744	SF
EXIST VERT BROWN 30-2 - Wellbore #1 - Wellbore #1	7,050.0	6,837.7	1,074.0	1,047.6	40.662	SF
EXIST VERT BROWN 30-2 - Wellbore #1 - Wellbore #1	7,754.8	7,185.7	899.8	878.9	43.102	CC, ES
EXIST VERT BROWN 30-31 - Wellbore #1 - Wellbore #1	4,078.4	3,980.2	91.8	77.2	6.314	CC, ES
EXIST VERT BROWN 30-31 - Wellbore #1 - Wellbore #1	4,100.0	4,000.8	92.0	77.4	6.291	SF
EXIST VERT BROWN MCCARTY 30-43 - Wellbore #1 -	10,315.1	7,176.2	914.0	859.7	16.848	CC
EXIST VERT BROWN MCCARTY 30-43 - Wellbore #1 -	10,334.6	7,176.2	914.2	859.6	16.743	ES
EXIST VERT BROWN MCCARTY 30-43 - Wellbore #1 -	10,600.0	7,175.4	957.3	897.9	16.118	SF
EXIST VERT BROWN-MCCARTY 30-5 - Wellbore #1 - V	8,981.6	7,159.8	912.7	880.5	28.334	CC
EXIST VERT BROWN-MCCARTY 30-5 - Wellbore #1 - V	9,000.0	7,159.6	912.9	880.4	28.102	ES
EXIST VERT BROWN-MCCARTY 30-5 - Wellbore #1 - V	9,400.0	7,157.4	1,004.0	965.2	25.851	SF
EXIST VERT MCCART 30-2 - Wellbore #1 - Wellbore #1	11,620.2	7,194.9	926.3	848.5	11.911	CC, ES
EXIST VERT MCCART 30-2 - Wellbore #1 - Wellbore #1	11,791.4	7,191.0	941.9	861.0	11.633	SF
EXIST VERT NYGREN 21-30 - Wellbore #1 - Design #1	1,850.0	1,850.0	1,178.8	1,138.7	29.426	CC
EXIST VERT NYGREN 21-30 - Wellbore #1 - Design #1	2,000.0	1,999.9	1,180.6	1,137.2	27.208	ES
EXIST VERT NYGREN 21-30 - Wellbore #1 - Design #1	7,727.9	7,217.9	1,859.8	1,697.2	11.439	SF
EXIST VERT SHULTZ 22-30 - Wellbore #1 - Design #1	1,850.0	1,845.0	1,099.5	1,059.5	27.481	CC
EXIST VERT SHULTZ 22-30 - Wellbore #1 - Design #1	1,900.0	1,895.0	1,099.9	1,058.8	26.750	ES
EXIST VERT SHULTZ 22-30 - Wellbore #1 - Design #1	8,900.0	7,201.3	1,485.4	1,313.2	8.625	SF
EXIST VERT SHULTZ 23-30 - Wellbore #1 - Design #1	10,073.2	7,188.6	1,506.1	1,314.8	7.871	CC
EXIST VERT SHULTZ 23-30 - Wellbore #1 - Design #1	10,100.0	7,188.3	1,506.3	1,314.5	7.853	ES
EXIST VERT SHULTZ 23-30 - Wellbore #1 - Design #1	10,300.0	7,185.8	1,523.1	1,327.8	7.797	SF
EXIST VERT SHULTZ FARM 30-32 - Wellbore #1 - Wellb	9,222.8	7,170.0	714.4	678.6	19.940	CC, ES
EXIST VERT SHULTZ FARM 30-32 - Wellbore #1 - Wellb	9,448.8	7,168.7	749.3	709.8	18.965	SF
EXIST VERT SHULTZ FARM 30-33 - Wellbore #1 - Wellb	10,348.3	7,167.0	381.4	326.1	6.899	CC, ES
EXIST VERT SHULTZ FARM 30-33 - Wellbore #1 - Wellb	10,400.0	7,166.2	384.9	328.7	6.848	SF
OLSON 30M-223 - ORIGINAL WELLBORE - PROPOSA	1,850.0	1,850.0	45.2	37.2	5.624	CC
OLSON 30M-223 - ORIGINAL WELLBORE - PROPOSA	1,870.1	1,870.1	45.3	37.1	5.567	ES
OLSON 30M-223 - ORIGINAL WELLBORE - PROPOSA	11,791.4	11,655.0	747.7	589.2	4.718	SF
OLSON 30M-323 - ORIGINAL WELLBORE - PROPOSA	1,850.0	1,850.0	30.1	22.1	3.750	CC
OLSON 30M-323 - ORIGINAL WELLBORE - PROPOSA	1,870.1	1,870.1	30.2	22.1	3.714	ES
OLSON 30M-323 - ORIGINAL WELLBORE - PROPOSA	11,791.4	11,747.1	490.4	331.3	3.083	SF
OLSON 30M-403 - ORIGINAL WELLBORE - PROPOSA	1,437.6	1,437.6	60.0	53.8	9.701	CC
OLSON 30M-403 - ORIGINAL WELLBORE - PROPOSA	1,500.0	1,499.7	60.1	53.7	9.300	ES
OLSON 30M-403 - ORIGINAL WELLBORE - PROPOSA	11,791.4	11,849.6	1,011.6	853.5	6.401	SF
OLSON 30R-203 - ORIGINAL WELLBORE - PROPOSA	1,738.1	1,737.1	14.8	7.3	1.963	CC

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

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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						
NW NE SEC 30 T4N R67W 6th P.M.						
OLSON 30R-203 - ORIGINAL WELLBORE - PROPOSA	1,771.6	1,770.6	14.8	7.2	1.931	ES
OLSON 30R-203 - ORIGINAL WELLBORE - PROPOSA	11,791.4	11,741.0	252.0	101.3	1.672	SF
OLSON 30R-223 - ORIGINAL WELLBORE - PROPOSA	1,538.2	1,537.2	44.9	38.3	6.770	CC
OLSON 30R-223 - ORIGINAL WELLBORE - PROPOSA	1,574.8	1,573.5	45.0	38.2	6.621	ES
OLSON 30R-223 - ORIGINAL WELLBORE - PROPOSA	11,791.4	11,839.6	737.8	579.6	4.663	SF
OLSON 30R-243 - ORIGINAL WELLBORE - PROPOSA	1,850.0	1,850.0	15.1	7.0	1.874	CC
OLSON 30R-243 - ORIGINAL WELLBORE - PROPOSA	1,870.1	1,870.1	15.1	7.0	1.859	ES
OLSON 30R-243 - ORIGINAL WELLBORE - PROPOSA	11,791.4	11,668.5	252.3	98.1	1.636	SF
OLSON 30R-303 - ORIGINAL WELLBORE - PROPOSA	1,638.2	1,637.2	29.9	22.8	4.214	CC
OLSON 30R-303 - ORIGINAL WELLBORE - PROPOSA	1,673.2	1,672.0	29.9	22.7	4.133	ES
OLSON 30R-303 - ORIGINAL WELLBORE - PROPOSA	11,791.4	11,870.1	490.0	331.7	3.096	SF
OLSON 30U-343 - ORIGINAL WELLBORE - PROPOSA	1,438.3	1,437.3	60.0	53.8	9.698	CC
OLSON 30U-343 - ORIGINAL WELLBORE - PROPOSA	1,476.4	1,474.9	60.1	53.7	9.456	ES
OLSON 30U-343 - ORIGINAL WELLBORE - PROPOSA	11,791.4	12,012.5	1,050.0	892.0	6.645	SF
PROP HZ CHANDLER FARMS HD 20-389HN - Wellbore	7,100.0	8,183.0	365.8	321.1	8.188	SF
PROP HZ CHANDLER FARMS HD 20-389HN - Wellbore	7,185.0	8,184.6	349.3	308.0	8.453	ES
PROP HZ CHANDLER FARMS HD 20-389HN - Wellbore	7,189.2	8,184.6	349.3	308.1	8.488	CC

Offset Design

Survey Program: 100-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)	Offset Wellbore Centre +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	175.22	-3,762.2	314.7	3,775.3					
98.4	98.4	127.7	127.7	0.1	0.1	175.22	-3,761.5	314.2	3,774.7	3,774.6	0.16	N/A		
100.0	100.0	129.1	129.1	0.1	0.1	175.23	-3,761.5	314.2	3,774.7	3,774.6	0.16	N/A		
196.8	196.8	224.3	224.3	0.3	0.2	175.24	-3,761.0	313.3	3,774.1	3,773.6	0.53	7,092.692		
200.0	200.0	229.7	229.7	0.3	0.2	175.24	-3,761.0	313.2	3,774.1	3,773.6	0.54	6,934.281		
295.3	295.3	358.0	357.9	0.5	0.3	175.28	-3,759.4	310.5	3,772.8	3,771.9	0.87	4,340.057		
300.0	300.0	363.0	363.0	0.5	0.3	175.28	-3,759.4	310.4	3,772.7	3,771.8	0.88	4,268.738		
393.7	393.7	454.1	454.0	0.7	0.4	175.31	-3,758.0	308.1	3,771.1	3,770.0	1.16	3,260.234		
400.0	400.0	459.9	459.8	0.8	0.4	175.32	-3,757.9	307.9	3,771.0	3,769.8	1.17	3,210.817		
492.1	492.1	549.7	549.6	1.0	0.5	175.35	-3,756.8	305.7	3,769.6	3,768.2	1.43	2,627.549		
500.0	500.0	557.9	557.7	1.0	0.5	175.35	-3,756.6	305.5	3,769.5	3,768.0	1.46	2,587.310		
590.5	590.5	645.3	645.2	1.2	0.5	175.38	-3,755.5	303.5	3,768.1	3,766.4	1.71	2,206.410		
600.0	600.0	653.9	653.8	1.2	0.5	175.38	-3,755.4	303.3	3,768.0	3,766.2	1.73	2,173.565		
689.0	689.0	744.1	743.9	1.4	0.6	175.41	-3,754.3	301.4	3,766.8	3,764.8	1.98	1,902.758		
700.0	700.0	756.7	756.5	1.4	0.6	175.41	-3,754.1	301.1	3,766.6	3,764.6	2.01	1,873.250		
787.4	787.4	844.7	844.5	1.6	0.6	175.44	-3,752.9	299.2	3,765.2	3,763.0	2.25	1,673.350		
800.0	800.0	856.1	855.9	1.7	0.6	175.45	-3,752.7	298.9	3,765.0	3,762.7	2.28	1,648.553		
885.8	885.8	933.9	933.7	1.9	0.7	175.47	-3,751.8	297.2	3,763.8	3,761.3	2.51	1,497.746		
900.0	900.0	946.9	946.7	1.9	0.7	175.48	-3,751.6	296.9	3,763.7	3,761.1	2.55	1,475.527		
984.2	984.2	1,025.5	1,025.2	2.1	0.7	175.50	-3,750.9	295.3	3,762.7	3,759.9	2.78	1,355.849		
1,000.0	1,000.0	1,040.7	1,040.4	2.1	0.7	175.50	-3,750.7	295.0	3,762.5	3,759.7	2.82	1,335.553		
1,082.7	1,082.7	1,120.2	1,119.9	2.3	0.7	175.53	-3,750.0	293.4	3,761.7	3,758.6	3.04	1,238.433		
1,100.0	1,100.0	1,136.6	1,136.3	2.3	0.8	175.53	-3,749.9	293.2	3,761.5	3,758.4	3.08	1,219.958		
1,181.1	1,181.1	1,212.3	1,212.0	2.5	0.8	175.55	-3,749.3	292.1	3,760.8	3,757.5	3.30	1,140.503		
1,200.0	1,200.0	1,229.1	1,228.8	2.6	0.8	175.55	-3,749.2	291.9	3,760.6	3,757.3	3.35	1,123.662		
1,279.5	1,279.5	1,300.0	1,299.7	2.7	0.8	175.56	-3,748.8	290.9	3,760.1	3,756.5	3.55	1,057.925		

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
1,300.0	1,300.0	1,321.4	1,321.0	2.8	0.8	175.57	-3,748.7	290.6	3,760.0	3,756.4	3.61	1,041.912	
1,377.9	1,377.9	1,403.6	1,403.3	3.0	0.9	175.59	-3,748.3	289.3	3,759.5	3,755.7	3.82	985.023	
1,400.0	1,400.0	1,427.9	1,427.6	3.0	0.9	175.59	-3,748.1	288.9	3,759.4	3,755.5	3.88	969.946	
1,476.4	1,476.4	1,509.1	1,508.7	3.2	0.9	175.61	-3,747.6	287.6	3,758.7	3,754.6	4.08	921.387	
1,500.0	1,500.0	1,528.5	1,528.1	3.2	0.9	175.62	-3,747.4	287.4	3,758.5	3,754.4	4.14	907.892	
1,574.8	1,574.8	1,589.9	1,589.5	3.4	0.9	175.63	-3,747.1	286.6	3,758.1	3,753.8	4.33	867.685	
1,600.0	1,600.0	1,614.5	1,614.1	3.5	1.0	175.63	-3,747.1	286.3	3,758.0	3,753.6	4.40	854.670	
1,673.2	1,673.2	1,696.7	1,696.3	3.6	1.0	175.65	-3,746.7	285.3	3,757.6	3,753.1	4.59	818.259	
1,700.0	1,700.0	1,724.1	1,723.7	3.7	1.0	175.65	-3,746.6	285.0	3,757.5	3,752.8	4.66	805.844	
1,771.6	1,771.6	1,796.4	1,796.0	3.8	1.0	175.66	-3,746.2	284.1	3,757.0	3,752.2	4.85	774.435	
1,800.0	1,800.0	1,820.9	1,820.5	3.9	1.0	175.67	-3,746.1	283.8	3,756.8	3,751.9	4.92	763.024	
1,850.0	1,850.0	1,863.0	1,862.6	4.0	1.1	175.68	-3,745.9	283.2	3,756.6	3,751.6	5.05	743.797	
1,861.2	1,861.2	1,872.5	1,872.1	4.0	1.1	137.37	-3,745.9	283.1	3,756.6	3,751.6	4.97	755.500	
1,870.1	1,870.1	1,879.9	1,879.5	4.1	1.1	137.37	-3,745.9	283.0	3,756.6	3,751.6	4.99	752.246	
1,900.0	1,900.0	1,906.1	1,905.7	4.1	1.1	137.38	-3,745.9	282.6	3,756.8	3,751.8	5.07	741.433	
1,968.5	1,968.5	1,975.2	1,974.8	4.3	1.1	137.39	-3,745.8	281.8	3,758.2	3,753.0	5.24	717.831	
2,000.0	1,999.9	2,007.0	2,006.6	4.4	1.1	137.40	-3,745.8	281.4	3,759.2	3,753.9	5.31	707.537	
2,066.9	2,066.7	2,075.0	2,074.6	4.5	1.1	137.41	-3,745.7	280.9	3,762.3	3,756.8	5.48	686.482	
2,100.0	2,099.7	2,109.1	2,108.7	4.6	1.1	137.42	-3,745.6	280.6	3,764.2	3,758.6	5.56	676.599	
2,165.3	2,164.7	2,179.8	2,179.4	4.7	1.2	137.44	-3,745.5	280.1	3,768.7	3,763.0	5.73	657.520	
2,200.0	2,199.1	2,216.1	2,215.7	4.8	1.2	137.45	-3,745.3	279.8	3,771.5	3,765.7	5.82	647.931	
2,263.8	2,262.3	2,280.3	2,279.9	5.0	1.2	137.46	-3,745.1	279.2	3,777.5	3,771.5	5.99	630.668	
2,300.0	2,298.2	2,312.7	2,312.3	5.0	1.2	137.46	-3,744.9	278.9	3,781.4	3,775.3	6.08	621.504	
2,362.2	2,359.5	2,360.4	2,360.0	5.2	1.2	137.45	-3,744.9	278.4	3,789.0	3,782.7	6.25	606.128	
2,400.0	2,396.6	2,400.0	2,399.6	5.3	1.2	137.46	-3,745.0	278.0	3,794.2	3,787.9	6.35	597.065	
2,460.6	2,456.0	2,448.2	2,447.8	5.5	1.3	137.44	-3,745.1	277.6	3,803.4	3,796.9	6.53	582.705	
2,500.0	2,494.4	2,488.9	2,488.5	5.6	1.3	137.45	-3,745.2	277.3	3,809.9	3,803.2	6.64	573.624	
2,559.0	2,551.8	2,550.8	2,550.4	5.8	1.3	137.47	-3,745.3	276.8	3,820.3	3,813.5	6.83	559.651	
2,600.0	2,591.5	2,593.6	2,593.2	5.9	1.3	137.48	-3,745.3	276.3	3,828.0	3,821.1	6.95	550.646	
2,657.5	2,646.8	2,640.5	2,640.1	6.1	1.3	137.46	-3,745.4	275.7	3,839.6	3,832.5	7.14	537.701	
2,685.2	2,673.5	2,662.3	2,661.8	6.2	1.3	137.44	-3,745.4	275.4	3,845.6	3,838.3	7.23	531.613	
2,700.0	2,687.6	2,673.8	2,673.4	6.3	1.3	137.48	-3,745.5	275.3	3,848.8	3,841.5	7.28	528.432	
2,755.9	2,741.1	2,728.6	2,728.2	6.5	1.4	137.65	-3,745.8	274.5	3,861.1	3,853.6	7.48	516.375	
2,800.0	2,783.4	2,785.0	2,784.6	6.7	1.4	137.83	-3,745.9	273.7	3,870.8	3,863.1	7.63	507.089	
2,854.3	2,835.4	2,844.5	2,844.1	6.9	1.4	138.02	-3,745.8	272.7	3,882.5	3,874.7	7.83	495.888	
2,900.0	2,879.2	2,892.2	2,891.8	7.1	1.4	138.17	-3,745.8	271.8	3,892.3	3,884.3	7.99	486.871	
2,952.7	2,929.7	2,957.8	2,957.3	7.4	1.4	138.38	-3,745.5	270.5	3,903.6	3,895.4	8.19	476.488	
3,000.0	2,974.9	3,018.0	3,017.5	7.6	1.5	138.56	-3,745.0	269.4	3,913.5	3,905.1	8.37	467.558	
3,051.2	3,023.9	3,082.8	3,082.3	7.8	1.5	138.76	-3,744.2	268.4	3,924.1	3,915.5	8.57	458.030	
3,100.0	3,070.7	3,131.7	3,131.2	8.1	1.5	138.91	-3,743.4	267.8	3,934.1	3,925.4	8.76	449.349	
3,149.6	3,118.2	3,176.5	3,175.9	8.3	1.5	139.04	-3,742.8	267.3	3,944.3	3,935.4	8.95	440.727	
3,200.0	3,166.5	3,217.5	3,217.0	8.6	1.5	139.16	-3,742.2	267.0	3,954.8	3,945.6	9.15	432.342	
3,248.0	3,212.5	3,252.2	3,251.7	8.8	1.5	139.26	-3,741.8	266.8	3,964.9	3,955.5	9.34	424.549	
3,300.0	3,262.3	3,300.0	3,299.5	9.1	1.6	139.40	-3,741.4	266.6	3,976.0	3,966.5	9.55	416.387	
3,346.4	3,306.8	3,320.2	3,319.7	9.3	1.6	139.45	-3,741.4	266.5	3,986.1	3,976.3	9.73	409.596	
3,400.0	3,358.1	3,353.8	3,353.3	9.6	1.6	139.55	-3,741.3	266.3	3,997.9	3,988.0	9.94	402.067	
3,444.9	3,401.0	3,382.0	3,381.4	9.8	1.6	139.63	-3,741.4	266.1	4,008.1	3,997.9	10.12	395.964	
3,500.0	3,453.8	3,420.0	3,419.5	10.1	1.6	139.73	-3,741.7	265.8	4,020.7	4,010.4	10.34	388.778	
3,543.3	3,495.3	3,453.0	3,452.4	10.3	1.6	139.83	-3,742.0	265.5	4,030.8	4,020.3	10.52	383.301	
3,600.0	3,549.6	3,500.0	3,499.5	10.6	1.6	139.97	-3,742.6	264.8	4,044.2	4,033.4	10.75	376.255	
3,641.7	3,589.6	3,539.2	3,538.7	10.8	1.6	140.08	-3,743.1	264.0	4,054.1	4,043.2	10.92	371.324	
3,700.0	3,645.4	3,602.4	3,601.8	11.1	1.6	140.27	-3,743.8	262.4	4,067.8	4,056.7	11.15	364.689	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
3,740.1	3,683.8	3,655.4	3,654.8	11.4	1.6	140.44	-3,744.3	260.9	4,077.2	4,065.9	11.32	360.277	
3,800.0	3,741.2	3,725.1	3,724.5	11.7	1.7	140.65	-3,744.7	258.9	4,091.0	4,079.5	11.56	353.919	
3,838.6	3,778.1	3,762.3	3,761.7	11.9	1.7	140.76	-3,744.8	257.7	4,099.9	4,088.2	11.72	349.925	
3,900.0	3,837.0	3,820.0	3,819.4	12.2	1.7	140.94	-3,745.0	255.9	4,114.1	4,102.1	11.97	343.781	
3,937.0	3,872.4	3,853.2	3,852.5	12.4	1.7	141.04	-3,745.2	254.9	4,122.7	4,110.5	12.12	340.170	
4,000.0	3,932.7	3,900.0	3,899.3	12.8	1.7	141.18	-3,745.4	253.4	4,137.3	4,125.0	12.38	334.265	
4,035.4	3,966.7	3,935.7	3,934.9	13.0	1.7	141.29	-3,745.6	252.2	4,145.6	4,133.1	12.52	331.012	
4,100.0	4,028.5	3,985.4	3,984.6	13.3	1.8	141.44	-3,746.0	250.5	4,161.0	4,148.2	12.79	325.326	
4,133.8	4,060.9	4,014.0	4,013.2	13.5	1.8	141.53	-3,746.3	249.4	4,169.1	4,156.1	12.93	322.431	
4,200.0	4,124.3	4,076.1	4,075.3	13.9	1.8	141.71	-3,747.0	247.2	4,185.0	4,171.8	13.20	316.969	
4,232.3	4,155.2	4,107.8	4,107.0	14.0	1.8	141.81	-3,747.4	246.0	4,192.7	4,179.4	13.34	314.384	
4,300.0	4,220.1	4,185.9	4,185.0	14.4	1.8	142.05	-3,748.0	242.8	4,209.0	4,195.4	13.61	309.173	
4,330.7	4,249.5	4,218.5	4,217.5	14.6	1.8	142.15	-3,748.3	241.4	4,216.3	4,202.6	13.74	306.874	
4,400.0	4,315.9	4,288.0	4,287.0	15.0	1.9	142.36	-3,748.7	238.4	4,232.8	4,218.8	14.02	301.850	
4,429.1	4,343.7	4,316.8	4,315.8	15.1	1.9	142.45	-3,748.8	237.2	4,239.7	4,225.6	14.14	299.789	
4,500.0	4,411.6	4,386.2	4,385.1	15.5	1.9	142.65	-3,749.1	234.2	4,256.6	4,242.2	14.43	294.923	
4,527.5	4,438.0	4,413.2	4,412.0	15.7	1.9	142.74	-3,749.3	233.0	4,263.2	4,248.6	14.55	293.080	
4,600.0	4,507.4	4,484.2	4,483.0	16.1	1.9	142.95	-3,749.6	229.9	4,280.4	4,265.6	14.84	288.380	
4,626.0	4,532.3	4,509.3	4,508.1	16.2	1.9	143.02	-3,749.7	228.9	4,286.6	4,271.7	14.95	286.737	
4,700.0	4,603.2	4,578.8	4,577.5	16.7	2.0	143.23	-3,749.9	225.9	4,304.3	4,289.1	15.25	282.195	
4,724.4	4,626.6	4,600.0	4,598.7	16.8	2.0	143.29	-3,750.0	225.0	4,310.2	4,294.8	15.35	280.737	
4,800.0	4,699.0	4,670.3	4,668.9	17.2	2.0	143.49	-3,750.3	222.0	4,328.4	4,312.7	15.66	276.344	
4,822.8	4,720.8	4,691.0	4,689.6	17.4	2.0	143.55	-3,750.4	221.1	4,333.9	4,318.1	15.76	275.053	
4,900.0	4,794.7	4,757.5	4,756.0	17.8	2.0	143.74	-3,750.8	218.3	4,352.6	4,336.6	16.07	270.807	
4,921.2	4,815.1	4,775.7	4,774.2	17.9	2.0	143.80	-3,750.9	217.5	4,357.8	4,341.7	16.16	269.667	
5,000.0	4,890.5	4,843.9	4,842.4	18.4	2.0	143.99	-3,751.4	214.4	4,377.2	4,360.7	16.48	265.567	
5,019.7	4,909.4	4,861.1	4,859.6	18.5	2.0	144.04	-3,751.6	213.6	4,382.0	4,365.5	16.56	264.569	
5,100.0	4,986.3	4,937.0	4,935.3	18.9	2.1	144.26	-3,752.2	210.1	4,402.0	4,385.1	16.89	260.617	
5,118.1	5,003.6	4,955.7	4,954.0	19.0	2.1	144.31	-3,752.4	209.2	4,406.4	4,389.5	16.96	259.750	
5,200.0	5,082.1	5,033.5	5,031.7	19.5	2.1	144.53	-3,753.0	205.7	4,426.7	4,409.4	17.30	255.923	
5,216.5	5,097.9	5,047.6	5,045.9	19.6	2.1	144.57	-3,753.1	205.1	4,430.9	4,413.5	17.36	255.167	
5,300.0	5,177.9	5,124.3	5,122.5	20.1	2.1	144.78	-3,753.8	202.2	4,451.7	4,434.0	17.70	251.450	
5,314.9	5,192.2	5,140.5	5,138.7	20.2	2.1	144.82	-3,754.0	201.6	4,455.5	4,437.7	17.77	250.799	
5,400.0	5,273.6	5,234.7	5,232.8	20.6	2.2	145.07	-3,754.8	198.5	4,476.7	4,458.6	18.11	247.192	
5,413.4	5,286.5	5,250.1	5,248.2	20.7	2.2	145.11	-3,754.9	198.0	4,480.0	4,461.8	18.16	246.638	
5,500.0	5,369.4	5,342.4	5,340.4	21.2	2.2	145.34	-3,755.3	195.4	4,501.3	4,482.8	18.51	243.119	
5,511.8	5,380.7	5,353.9	5,351.9	21.3	2.2	145.37	-3,755.4	195.1	4,504.2	4,485.7	18.56	242.648	
5,600.0	5,465.2	5,450.6	5,448.7	21.8	2.2	145.61	-3,755.7	192.8	4,525.9	4,507.0	18.92	239.215	
5,610.2	5,475.0	5,463.3	5,461.4	21.9	2.2	145.64	-3,755.7	192.5	4,528.4	4,509.4	18.96	238.824	
5,700.0	5,561.0	5,575.7	5,573.7	22.4	2.3	145.90	-3,755.5	190.2	4,550.0	4,530.7	19.32	235.469	
5,708.6	5,569.3	5,586.6	5,584.6	22.4	2.3	145.93	-3,755.5	190.0	4,552.1	4,532.7	19.36	235.151	
5,793.4	5,650.4	5,694.8	5,692.8	22.9	2.3	146.18	-3,754.6	188.2	4,572.0	4,552.3	19.70	232.088	
5,800.0	5,656.8	5,703.2	5,701.2	22.9	2.3	146.21	-3,754.5	188.1	4,573.5	4,553.8	19.72	231.973	
5,807.1	5,663.6	5,712.1	5,710.1	23.0	2.3	146.25	-3,754.4	188.0	4,575.2	4,555.4	19.73	231.893	
5,900.0	5,753.1	5,800.0	5,798.0	23.4	2.4	146.67	-3,753.2	186.3	4,595.0	4,575.1	19.91	230.818	
5,905.5	5,758.4	5,800.0	5,798.0	23.4	2.4	146.68	-3,753.2	186.3	4,596.1	4,576.2	19.92	230.765	
6,000.0	5,850.3	5,876.3	5,874.2	23.8	2.4	147.02	-3,752.3	185.0	4,613.8	4,593.8	20.08	229.779	
6,003.9	5,854.1	5,878.7	5,876.6	23.8	2.4	147.03	-3,752.2	184.9	4,614.5	4,594.5	20.09	229.747	
6,100.0	5,948.3	5,955.9	5,953.9	24.1	2.4	147.32	-3,752.0	184.0	4,630.6	4,610.3	20.23	228.872	
6,102.3	5,950.6	5,958.1	5,956.0	24.1	2.4	147.33	-3,752.0	184.0	4,630.9	4,610.7	20.24	228.856	
6,200.0	6,046.9	6,045.0	6,042.9	24.4	2.4	147.59	-3,751.8	183.1	4,644.6	4,624.2	20.36	228.095	
6,200.8	6,047.6	6,045.7	6,043.6	24.4	2.4	147.59	-3,751.8	183.1	4,644.7	4,624.3	20.36	228.090	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
6,299.2	6,145.2	6,131.5	6,129.4	24.7	2.5	147.79	-3,751.9	182.4	4,655.9	4,635.4	20.47	227.403	
6,300.0	6,146.0	6,132.2	6,130.1	24.7	2.5	147.79	-3,751.9	182.4	4,656.0	4,635.5	20.48	227.397	
6,397.6	6,243.1	6,224.8	6,222.7	24.9	2.5	147.95	-3,752.3	181.9	4,664.5	4,643.9	20.57	226.751	
6,400.0	6,245.5	6,227.8	6,225.7	24.9	2.5	147.95	-3,752.3	181.9	4,664.7	4,644.1	20.57	226.731	
6,496.0	6,341.4	6,330.0	6,327.9	25.1	2.5	148.06	-3,752.5	181.5	4,670.0	4,649.3	20.66	226.078	
6,500.0	6,345.3	6,330.0	6,327.9	25.1	2.5	148.06	-3,752.5	181.5	4,670.1	4,649.5	20.66	226.047	
6,594.5	6,439.7	6,330.0	6,327.9	25.2	2.5	148.10	-3,752.5	181.5	4,673.7	4,653.0	20.73	225.471	
6,600.0	6,445.3	6,330.0	6,327.9	25.2	2.5	148.10	-3,752.5	181.5	4,673.9	4,653.2	20.73	225.432	
6,628.6	6,473.9	6,330.0	6,327.9	25.3	2.5	-173.58	-3,752.5	181.5	4,674.8	4,654.1	20.75	225.270	
6,658.6	6,503.9	6,330.0	6,327.9	25.3	2.5	-173.58	-3,752.5	181.5	4,675.9	4,655.1	20.80	224.849	
6,692.9	6,538.1	6,330.0	6,327.9	25.3	2.5	6.41	-3,752.5	181.5	4,676.5	4,655.7	20.76	225.281	
6,700.0	6,545.2	6,330.0	6,327.9	25.3	2.5	6.41	-3,752.5	181.5	4,676.4	4,655.7	20.75	225.345	
6,750.0	6,595.0	6,330.0	6,327.9	25.3	2.5	6.43	-3,752.5	181.5	4,674.4	4,653.7	20.71	225.753	
6,791.3	6,635.8	6,330.0	6,327.9	25.3	2.5	6.46	-3,752.5	181.5	4,670.5	4,649.9	20.66	226.038	
6,800.0	6,644.3	6,330.0	6,327.9	25.3	2.5	6.47	-3,752.5	181.5	4,669.5	4,648.8	20.65	226.104	
6,850.0	6,693.0	6,330.0	6,327.9	25.2	2.5	6.55	-3,752.5	181.5	4,661.6	4,641.1	20.57	226.677	
6,889.7	6,731.0	6,330.0	6,327.9	25.2	2.5	6.62	-3,752.5	181.5	4,653.3	4,632.9	20.46	227.439	
6,900.0	6,740.7	6,330.0	6,327.9	25.2	2.5	6.65	-3,752.5	181.5	4,650.9	4,630.5	20.43	227.686	
6,950.0	6,787.3	6,330.0	6,327.9	25.0	2.5	6.78	-3,752.5	181.5	4,637.3	4,617.1	20.23	229.276	
6,988.2	6,821.9	6,330.0	6,327.9	24.9	2.5	6.90	-3,752.5	181.5	4,625.0	4,605.0	20.03	230.942	
7,000.0	6,832.5	6,330.0	6,327.9	24.9	2.5	6.95	-3,752.5	181.5	4,620.9	4,600.9	19.96	231.539	
7,050.0	6,876.1	6,330.0	6,327.9	24.7	2.5	7.15	-3,752.5	181.5	4,601.7	4,582.1	19.62	234.534	
7,086.6	6,906.8	6,330.0	6,327.9	24.6	2.5	7.33	-3,752.5	181.5	4,586.0	4,566.6	19.33	237.213	
7,100.0	6,917.9	6,330.0	6,327.9	24.5	2.5	7.40	-3,752.5	181.5	4,579.8	4,560.6	19.22	238.298	
7,150.0	6,957.6	6,330.0	6,327.9	24.3	2.5	7.69	-3,752.5	181.5	4,555.3	4,536.5	18.76	242.843	
7,185.0	6,984.2	6,330.0	6,327.9	24.1	2.5	7.93	-3,752.5	181.5	4,536.6	4,518.2	18.41	246.482	
7,200.0	6,995.2	6,330.0	6,327.9	24.1	2.5	8.04	-3,752.5	181.5	4,528.2	4,510.0	18.25	248.153	
7,250.0	7,030.3	6,330.0	6,327.9	23.8	2.5	8.47	-3,752.5	181.5	4,498.7	4,481.0	17.70	254.161	
7,283.4	7,052.4	6,330.0	6,327.9	23.6	2.5	8.79	-3,752.5	181.5	4,477.6	4,460.3	17.32	258.496	
7,300.0	7,062.9	6,330.0	6,327.9	23.6	2.5	8.97	-3,752.5	181.5	4,466.8	4,449.6	17.13	260.726	
7,350.0	7,092.8	6,330.0	6,327.9	23.3	2.5	9.57	-3,752.5	181.5	4,432.6	4,416.0	16.57	267.585	
7,381.9	7,110.3	6,330.0	6,327.9	23.1	2.5	10.02	-3,752.5	181.5	4,409.6	4,393.4	16.22	271.898	
7,400.0	7,119.8	6,330.0	6,327.9	23.0	2.5	10.30	-3,752.5	181.5	4,396.2	4,380.2	16.03	274.297	
7,450.0	7,143.8	6,330.0	6,327.9	22.8	2.5	11.20	-3,752.5	181.5	4,357.8	4,342.3	15.55	280.194	
7,480.3	7,156.8	6,330.0	6,327.9	22.6	2.5	11.84	-3,752.5	181.5	4,333.6	4,318.3	15.32	282.959	
7,500.0	7,164.7	6,330.0	6,327.9	22.5	2.5	12.31	-3,752.5	181.5	4,317.5	4,302.4	15.18	284.361	
7,550.0	7,182.3	6,330.0	6,327.9	22.2	2.5	13.70	-3,752.5	181.5	4,275.5	4,260.6	14.96	285.734	
7,578.7	7,191.0	6,330.0	6,327.9	22.1	2.5	14.68	-3,752.5	181.5	4,250.7	4,235.7	14.92	284.826	
7,600.0	7,196.7	6,330.0	6,327.9	22.0	2.5	15.50	-3,752.5	181.5	4,231.9	4,217.0	14.94	283.355	
7,650.0	7,207.7	6,330.0	6,327.9	21.7	2.5	17.89	-3,752.5	181.5	4,186.9	4,171.7	15.13	276.711	
7,677.1	7,212.2	6,330.0	6,327.9	21.6	2.5	19.53	-3,752.5	181.5	4,161.9	4,146.5	15.34	271.287	
7,700.0	7,215.2	6,330.0	6,327.9	21.5	2.5	21.17	-3,752.5	181.5	4,140.6	4,125.0	15.57	265.926	
7,750.0	7,219.3	6,330.0	6,327.9	21.3	2.5	25.88	-3,752.5	181.5	4,093.2	4,077.0	16.27	251.580	
7,775.6	7,220.1	6,330.0	6,327.9	21.2	2.5	29.15	-3,752.5	181.5	4,068.7	4,051.9	16.74	243.045	
7,792.5	7,220.0	6,330.0	6,327.9	21.1	2.5	31.76	-3,752.5	181.5	4,052.3	4,035.2	17.09	237.065	
7,800.0	7,219.9	6,330.0	6,327.9	21.1	2.5	31.76	-3,752.5	181.5	4,045.0	4,027.9	17.11	236.465	
7,874.0	7,219.0	6,330.0	6,327.9	20.8	2.5	31.76	-3,752.5	181.5	3,973.3	3,956.1	17.28	229.967	
7,900.0	7,218.7	6,330.0	6,327.9	20.7	2.5	31.76	-3,752.5	181.5	3,948.2	3,930.8	17.34	227.702	
7,972.4	7,217.8	6,330.0	6,327.9	20.5	2.5	31.76	-3,752.5	181.5	3,878.1	3,860.5	17.59	220.482	
8,000.0	7,217.5	6,330.0	6,327.9	20.4	2.5	31.76	-3,752.5	181.5	3,851.5	3,833.8	17.69	217.774	
8,070.8	7,216.6	6,330.0	6,327.9	20.4	2.5	31.76	-3,752.5	181.5	3,783.0	3,765.0	18.00	210.115	
8,100.0	7,216.2	6,330.0	6,327.9	20.4	2.5	31.76	-3,752.5	181.5	3,754.9	3,736.8	18.14	207.043	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
8,169.3	7,215.4	6,330.0	6,327.9	20.7	2.5	31.76	-3,752.5	181.5	3,688.1	3,669.6	18.51	199.220	
8,200.0	7,215.0	6,330.0	6,327.9	21.0	2.5	31.76	-3,752.5	181.5	3,658.6	3,639.9	18.68	195.860	
8,267.7	7,214.1	6,330.0	6,327.9	21.6	2.5	31.76	-3,752.5	181.5	3,593.4	3,574.3	19.10	188.107	
8,300.0	7,213.7	6,330.0	6,327.9	21.9	2.5	31.76	-3,752.5	181.5	3,562.4	3,543.1	19.30	184.533	
8,366.1	7,212.9	6,330.0	6,327.9	22.6	2.5	31.76	-3,752.5	181.5	3,498.9	3,479.2	19.77	177.019	
8,400.0	7,212.5	6,330.0	6,327.9	23.0	2.5	31.76	-3,752.5	181.5	3,466.5	3,446.5	20.00	173.308	
8,464.5	7,211.7	6,330.0	6,327.9	23.8	2.5	31.76	-3,752.5	181.5	3,404.7	3,384.2	20.49	166.151	
8,500.0	7,211.3	6,330.0	6,327.9	24.2	2.5	31.76	-3,752.5	181.5	3,370.8	3,350.0	20.76	162.369	
8,563.0	7,210.5	6,330.0	6,327.9	25.0	2.5	31.76	-3,752.5	181.5	3,310.6	3,289.4	21.27	155.642	
8,600.0	7,210.0	6,330.0	6,327.9	25.5	2.5	31.76	-3,752.5	181.5	3,275.3	3,253.8	21.57	151.841	
8,661.4	7,209.3	6,330.0	6,327.9	26.3	2.5	31.76	-3,752.5	181.5	3,216.9	3,194.8	22.10	145.583	
8,700.0	7,208.8	6,330.0	6,327.9	26.8	2.5	31.77	-3,752.5	181.5	3,180.2	3,157.8	22.43	141.804	
8,759.8	7,208.0	6,330.0	6,327.9	27.6	2.5	31.77	-3,752.5	181.5	3,123.4	3,100.4	22.96	136.025	
8,800.0	7,207.5	6,330.0	6,327.9	28.2	2.5	31.77	-3,752.5	181.5	3,085.3	3,062.0	23.32	132.299	
8,858.2	7,206.8	6,330.0	6,327.9	29.0	2.5	31.77	-3,752.5	181.5	3,030.2	3,006.4	23.86	126.994	
8,900.0	7,206.3	6,330.0	6,327.9	29.6	2.5	31.77	-3,752.5	181.5	2,990.8	2,966.6	24.25	123.343	
8,956.7	7,205.6	6,330.0	6,327.9	30.4	2.5	31.77	-3,752.5	181.5	2,937.4	2,912.6	24.79	118.493	
9,000.0	7,205.0	6,330.0	6,327.9	31.1	2.5	31.77	-3,752.5	181.5	2,896.7	2,871.5	25.20	114.932	
9,055.1	7,204.3	6,330.0	6,327.9	31.9	2.5	31.77	-3,752.5	181.5	2,844.9	2,819.2	25.74	110.513	
9,100.0	7,203.8	6,330.0	6,327.9	32.6	2.5	31.77	-3,752.5	181.5	2,802.9	2,776.7	26.18	107.052	
9,153.5	7,203.1	6,330.0	6,327.9	33.4	2.5	31.77	-3,752.5	181.5	2,752.9	2,726.2	26.72	103.034	
9,200.0	7,202.5	6,330.0	6,327.9	34.2	2.5	31.77	-3,752.5	181.5	2,709.6	2,682.4	27.18	99.680	
9,251.9	7,201.9	6,330.0	6,327.9	35.0	2.5	31.77	-3,752.5	181.5	2,661.3	2,633.6	27.71	96.034	
9,300.0	7,201.3	6,330.0	6,327.9	35.7	2.5	31.77	-3,752.5	181.5	2,616.8	2,588.6	28.20	92.789	
9,350.4	7,200.7	6,330.0	6,327.9	36.6	2.5	31.77	-3,752.5	181.5	2,570.3	2,541.5	28.72	89.484	
9,400.0	7,200.0	6,330.0	6,327.9	37.4	2.5	31.77	-3,752.5	181.5	2,524.6	2,495.3	29.24	86.350	
9,448.8	7,199.4	6,330.0	6,327.9	38.2	2.5	31.77	-3,752.5	181.5	2,479.7	2,450.0	29.75	83.359	
9,500.0	7,198.8	6,330.0	6,327.9	39.0	2.5	31.77	-3,752.5	181.5	2,432.9	2,402.6	30.28	80.335	
9,547.2	7,198.2	6,330.0	6,327.9	39.8	2.5	31.77	-3,752.5	181.5	2,389.9	2,359.1	30.79	77.630	
9,600.0	7,197.5	6,330.0	6,327.9	40.7	2.5	31.77	-3,752.5	181.5	2,341.9	2,310.6	31.34	74.716	
9,645.6	7,197.0	6,330.0	6,327.9	41.4	2.5	31.77	-3,752.5	181.5	2,300.7	2,268.8	31.83	72.272	
9,700.0	7,196.3	6,330.0	6,327.9	42.4	2.5	31.77	-3,752.5	181.5	2,251.8	2,219.3	32.42	69.465	
9,744.1	7,195.7	6,330.0	6,327.9	43.1	2.5	31.77	-3,752.5	181.5	2,212.3	2,179.4	32.89	67.259	
9,800.0	7,195.0	6,330.0	6,327.9	44.1	2.5	31.77	-3,752.5	181.5	2,162.4	2,128.9	33.50	64.558	
9,842.5	7,194.5	6,330.0	6,327.9	44.8	2.5	31.77	-3,752.5	181.5	2,124.7	2,090.8	33.96	62.568	
9,900.0	7,193.8	6,330.0	6,327.9	45.8	2.5	31.77	-3,752.5	181.5	2,074.1	2,039.5	34.58	59.970	
9,940.9	7,193.3	6,330.0	6,327.9	46.5	2.5	31.77	-3,752.5	181.5	2,038.2	2,003.2	35.03	58.179	
10,000.0	7,192.5	6,330.0	6,327.9	47.5	2.5	31.77	-3,752.5	181.5	1,986.8	1,951.1	35.68	55.683	
10,039.3	7,192.0	6,330.0	6,327.9	48.2	2.5	31.77	-3,752.5	181.5	1,952.8	1,916.7	36.12	54.072	
10,100.0	7,191.3	6,330.0	6,327.9	49.3	2.5	31.77	-3,752.5	181.5	1,900.8	1,864.0	36.78	51.675	
10,137.8	7,190.8	6,330.0	6,327.9	49.9	2.5	31.77	-3,752.5	181.5	1,868.7	1,831.5	37.20	50.230	
10,200.0	7,190.0	6,330.0	6,327.9	51.0	2.5	31.77	-3,752.5	181.5	1,816.3	1,778.4	37.89	47.931	
10,236.2	7,189.6	6,330.0	6,327.9	51.7	2.5	31.77	-3,752.5	181.5	1,786.0	1,747.7	38.30	46.637	
10,300.0	7,188.8	6,330.0	6,327.9	52.8	2.5	31.77	-3,752.5	181.5	1,733.3	1,694.3	39.01	44.436	
10,334.6	7,188.3	6,330.0	6,327.9	53.4	2.5	31.77	-3,752.5	181.5	1,705.1	1,665.7	39.39	43.281	
10,400.0	7,187.5	6,330.0	6,327.9	54.6	2.5	31.77	-3,752.5	181.5	1,652.3	1,612.2	40.13	41.178	
10,433.0	7,187.1	6,330.0	6,327.9	55.2	2.5	31.77	-3,752.5	181.5	1,626.0	1,585.5	40.50	40.150	
10,500.0	7,186.3	6,330.0	6,327.9	56.4	2.5	31.77	-3,752.5	181.5	1,573.5	1,532.2	41.25	38.145	
10,531.5	7,185.9	6,330.0	6,327.9	56.9	2.5	31.77	-3,752.5	181.5	1,549.2	1,507.6	41.61	37.235	
10,600.0	7,185.0	6,330.0	6,327.9	58.2	2.5	31.77	-3,752.5	181.5	1,497.2	1,454.8	42.38	35.329	
10,629.9	7,184.6	6,330.0	6,327.9	58.7	2.5	31.77	-3,752.5	181.5	1,474.9	1,432.2	42.72	34.528	
10,700.0	7,183.8	6,330.0	6,327.9	60.0	2.5	31.77	-3,752.5	181.5	1,423.8	1,380.3	43.51	32.724	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - ABDN VERT MCCARTY 30-3 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 100-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
10,728.3	7,183.4	6,330.0	6,327.9	60.5	2.5	31.77	-3,752.5	181.5	1,403.6	1,359.8	43.83	32.023	
10,800.0	7,182.5	6,330.0	6,327.9	61.8	2.5	31.77	-3,752.5	181.5	1,353.8	1,309.2	44.64	30.325	
10,826.7	7,182.2	6,330.0	6,327.9	62.3	2.5	31.77	-3,752.5	181.5	1,335.8	1,290.8	44.95	29.718	
10,900.0	7,181.2	6,330.0	6,327.9	63.6	2.5	31.77	-3,752.5	181.5	1,287.8	1,242.0	45.78	28.130	
10,925.2	7,180.9	6,330.0	6,327.9	64.0	2.5	31.77	-3,752.5	181.5	1,271.9	1,225.8	46.07	27.609	
11,000.0	7,180.0	6,330.0	6,327.9	65.4	2.5	31.77	-3,752.5	181.5	1,226.4	1,179.5	46.92	26.138	
11,023.6	7,179.7	6,330.0	6,327.9	65.8	2.5	31.77	-3,752.5	181.5	1,212.7	1,165.5	47.19	25.698	
11,100.0	7,178.7	6,330.0	6,327.9	67.2	2.5	31.77	-3,752.5	181.5	1,170.4	1,122.3	48.06	24.351	
11,122.0	7,178.4	6,330.0	6,327.9	67.6	2.5	31.77	-3,752.5	181.5	1,158.9	1,110.5	48.32	23.985	
11,200.0	7,177.5	6,330.0	6,327.9	69.1	2.5	31.77	-3,752.5	181.5	1,120.5	1,071.3	49.21	22.770	
11,220.4	7,177.2	6,330.0	6,327.9	69.4	2.5	31.77	-3,752.5	181.5	1,111.1	1,061.7	49.44	22.472	
11,300.0	7,176.2	6,330.0	6,327.9	70.9	2.5	31.77	-3,752.5	181.5	1,077.6	1,027.2	50.36	21.399	
11,318.9	7,176.0	6,330.0	6,327.9	71.2	2.5	31.77	-3,752.5	181.5	1,070.3	1,019.8	50.57	21.164	
11,400.0	7,174.9	6,330.0	6,327.9	72.7	2.5	31.77	-3,752.5	181.5	1,042.5	991.0	51.51	20.240	
11,417.3	7,174.7	6,330.0	6,327.9	73.1	2.5	31.77	-3,752.5	181.5	1,037.3	985.6	51.71	20.062	
11,500.0	7,173.7	6,330.0	6,327.9	74.6	2.5	31.77	-3,752.5	181.5	1,016.1	963.5	52.66	19.297	
11,515.7	7,173.5	6,330.0	6,327.9	74.9	2.5	31.77	-3,752.5	181.5	1,012.8	960.0	52.84	19.168	
11,600.0	7,172.4	6,330.0	6,327.9	76.4	2.5	31.77	-3,752.5	181.5	999.1	945.3	53.81	18.566	
11,614.1	7,172.2	6,330.0	6,327.9	76.7	2.5	31.77	-3,752.5	181.5	997.5	943.5	53.97	18.480	
11,700.0	7,171.2	6,330.0	6,327.9	78.3	2.5	31.77	-3,752.5	181.5	991.9	936.9	54.97	18.045	
11,712.6	7,171.0	6,330.0	6,327.9	78.5	2.5	31.77	-3,752.5	181.5	991.7	936.6	55.11	17.994	
11,721.7	7,170.9	6,330.0	6,327.9	78.7	2.5	31.77	-3,752.5	181.5	991.6	936.4	55.22	17.959 CC, ES	
11,791.4	7,170.0	6,330.0	6,327.9	80.0	2.5	31.77	-3,752.5	181.5	994.1	938.1	56.02	17.744 SF	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT BROWN 30-2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 100-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
0.0	0.0	0.0	0.0	0.0	0.0	84.71	155.6	1,681.9	1,689.7				
98.4	98.4	54.7	54.7	0.1	0.0	84.71	155.6	1,681.9	1,689.1	1,689.0	0.12	N/A	
100.0	100.0	56.3	56.3	0.1	0.0	84.71	155.6	1,681.9	1,689.1	1,689.0	0.12	N/A	
171.6	171.6	126.6	126.6	0.2	0.1	84.71	155.6	1,681.9	1,689.0	1,688.7	0.31	5,513.499	
196.8	196.8	149.9	149.9	0.3	0.1	84.71	155.6	1,681.9	1,689.1	1,688.7	0.36	4,646.447	
200.0	200.0	152.8	152.8	0.3	0.1	84.71	155.6	1,681.9	1,689.1	1,688.7	0.37	4,556.946	
295.3	295.3	250.4	250.4	0.5	0.1	84.71	155.8	1,682.1	1,689.3	1,688.6	0.64	2,656.995	
300.0	300.0	255.8	255.8	0.5	0.1	84.71	155.9	1,682.1	1,689.3	1,688.6	0.65	2,591.766	
393.7	393.7	357.6	357.6	0.7	0.2	84.67	156.8	1,681.6	1,688.9	1,688.0	0.97	1,747.524	
400.0	400.0	364.2	364.2	0.8	0.2	84.67	156.8	1,681.6	1,688.9	1,687.9	0.99	1,710.301	
492.1	492.1	455.0	455.0	1.0	0.3	84.63	158.0	1,681.0	1,688.4	1,687.1	1.27	1,327.340	
500.0	500.0	462.5	462.5	1.0	0.3	84.63	158.1	1,680.9	1,688.4	1,687.1	1.30	1,303.564	
590.5	590.5	555.3	555.3	1.2	0.4	84.58	159.6	1,680.4	1,688.0	1,686.4	1.56	1,082.341	
600.0	600.0	565.6	565.5	1.2	0.4	84.57	159.7	1,680.3	1,687.9	1,686.3	1.59	1,063.606	
689.0	689.0	656.9	656.9	1.4	0.4	84.52	161.2	1,679.5	1,687.2	1,685.4	1.84	918.086	
700.0	700.0	667.9	667.9	1.4	0.5	84.51	161.4	1,679.4	1,687.2	1,685.3	1.87	903.021	
787.4	787.4	754.7	754.6	1.6	0.5	84.46	162.7	1,678.6	1,686.5	1,684.4	2.11	800.173	
800.0	800.0	767.2	767.1	1.7	0.5	84.46	162.9	1,678.5	1,686.4	1,684.3	2.14	787.337	
885.8	885.8	852.8	852.7	1.9	0.6	84.40	164.6	1,677.7	1,685.8	1,683.4	2.37	710.181	
900.0	900.0	867.0	866.9	1.9	0.6	84.39	164.9	1,677.6	1,685.7	1,683.3	2.41	698.909	
984.2	984.2	954.6	954.5	2.1	0.6	84.31	166.9	1,676.7	1,685.1	1,682.4	2.64	638.681	
1,000.0	1,000.0	971.4	971.3	2.1	0.6	84.30	167.4	1,676.5	1,684.9	1,682.2	2.68	628.551	
1,082.7	1,082.7	1,059.7	1,059.5	2.3	0.7	84.21	169.9	1,675.3	1,684.0	1,681.1	2.90	580.449	
1,100.0	1,100.0	1,078.3	1,078.1	2.3	0.7	84.19	170.4	1,675.0	1,683.8	1,680.8	2.95	571.299	
1,181.1	1,181.1	1,164.8	1,164.6	2.5	0.7	84.09	173.1	1,673.3	1,682.5	1,679.4	3.16	532.225	
1,200.0	1,200.0	1,185.0	1,184.8	2.6	0.7	84.07	173.8	1,672.9	1,682.2	1,679.0	3.21	523.878	
1,279.5	1,279.5	1,263.2	1,262.9	2.7	0.8	83.98	176.3	1,671.3	1,680.8	1,677.4	3.42	491.903	
1,300.0	1,300.0	1,282.9	1,282.6	2.8	0.8	83.96	176.9	1,670.9	1,680.4	1,677.0	3.47	484.319	
1,377.9	1,377.9	1,359.1	1,358.7	3.0	0.8	83.87	179.4	1,669.4	1,679.2	1,675.5	3.67	457.505	
1,400.0	1,400.0	1,380.7	1,380.3	3.0	0.8	83.84	180.1	1,669.0	1,678.9	1,675.1	3.73	450.452	
1,476.4	1,476.4	1,457.6	1,457.1	3.2	0.8	83.75	182.6	1,667.6	1,677.7	1,673.8	3.92	427.603	
1,500.0	1,500.0	1,481.6	1,481.1	3.2	0.8	83.72	183.5	1,667.1	1,677.4	1,673.4	3.98	420.989	
1,574.8	1,574.8	1,559.9	1,559.4	3.4	0.9	83.62	186.1	1,665.5	1,676.1	1,672.0	4.18	401.325	
1,600.0	1,600.0	1,586.5	1,586.0	3.5	0.9	83.59	187.0	1,664.9	1,675.7	1,671.4	4.24	395.095	
1,673.2	1,673.2	1,662.7	1,662.1	3.6	0.9	83.51	189.3	1,663.2	1,674.3	1,669.8	4.43	378.136	
1,700.0	1,700.0	1,690.4	1,689.8	3.7	0.9	83.48	190.1	1,662.5	1,673.7	1,669.2	4.50	372.291	
1,771.6	1,771.6	1,761.3	1,760.7	3.8	1.0	83.41	191.8	1,660.8	1,672.2	1,667.5	4.68	357.611	
1,800.0	1,800.0	1,789.2	1,788.5	3.9	1.0	83.39	192.5	1,660.2	1,671.6	1,666.9	4.75	352.122	
1,850.0	1,850.0	1,837.4	1,836.7	4.0	1.0	83.34	193.6	1,659.1	1,670.7	1,665.8	4.87	342.874	
1,870.1	1,870.1	1,856.7	1,855.9	4.1	1.0	45.03	194.0	1,658.7	1,670.2	1,665.3	4.94	338.306	
1,900.0	1,900.0	1,885.4	1,884.6	4.1	1.0	45.02	194.7	1,658.1	1,669.4	1,664.4	5.01	333.030	
1,968.5	1,968.5	1,952.3	1,951.6	4.3	1.0	45.05	196.3	1,656.7	1,666.8	1,661.7	5.18	321.517	
2,000.0	1,999.9	1,983.2	1,982.5	4.4	1.1	45.08	197.0	1,656.1	1,665.3	1,660.0	5.26	316.402	
2,066.9	2,066.7	2,049.1	2,048.3	4.5	1.1	45.18	198.6	1,654.9	1,661.2	1,655.7	5.43	305.841	
2,100.0	2,099.7	2,081.7	2,080.9	4.6	1.1	45.25	199.5	1,654.3	1,658.7	1,653.2	5.51	300.791	
2,165.3	2,164.7	2,147.1	2,146.3	4.7	1.1	45.42	201.2	1,653.0	1,653.2	1,647.5	5.68	290.957	
2,200.0	2,199.1	2,182.0	2,181.1	4.8	1.1	45.54	202.1	1,652.3	1,649.8	1,644.0	5.77	285.908	
2,263.8	2,262.3	2,246.9	2,246.0	5.0	1.2	45.79	203.9	1,651.0	1,647.7	1,636.8	5.94	276.603	
2,300.0	2,298.2	2,283.9	2,282.9	5.0	1.2	45.96	204.8	1,650.3	1,638.3	1,632.3	6.03	271.472	
2,362.2	2,359.5	2,346.5	2,345.5	5.2	1.2	46.29	206.4	1,648.9	1,629.9	1,623.7	6.21	262.569	
2,400.0	2,396.6	2,384.3	2,383.3	5.3	1.2	46.51	207.4	1,648.1	1,624.3	1,618.0	6.31	257.327	
2,460.6	2,456.0	2,445.8	2,444.8	5.5	1.2	46.92	208.9	1,646.7	1,614.6	1,608.1	6.49	248.705	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
2,500.0	2,494.4	2,485.8	2,484.8	5.6	1.2	47.21	209.8	1,645.8	1,607.8	1,601.2	6.61	243.275	
2,559.0	2,551.8	2,543.0	2,542.0	5.8	1.3	47.69	211.0	1,644.4	1,597.0	1,590.2	6.80	234.898	
2,600.0	2,591.5	2,582.0	2,580.9	5.9	1.3	48.04	211.8	1,643.4	1,589.1	1,582.1	6.93	229.302	
2,657.5	2,646.8	2,637.2	2,636.1	6.1	1.3	48.58	213.0	1,642.1	1,577.4	1,570.2	7.13	221.167	
2,685.2	2,673.5	2,663.9	2,662.8	6.2	1.3	48.86	213.6	1,641.5	1,571.4	1,564.2	7.23	217.380	
2,700.0	2,687.6	2,678.1	2,677.0	6.3	1.3	48.97	213.9	1,641.2	1,568.3	1,561.0	7.28	215.362	
2,755.9	2,741.1	2,730.4	2,729.3	6.5	1.3	49.35	215.0	1,640.0	1,556.3	1,548.8	7.49	207.833	
2,800.0	2,783.4	2,770.9	2,769.8	6.7	1.3	49.65	215.9	1,639.1	1,546.9	1,539.3	7.65	202.121	
2,854.3	2,835.4	2,821.4	2,820.2	6.9	1.4	50.04	216.8	1,638.0	1,535.5	1,527.7	7.87	195.191	
2,900.0	2,879.2	2,864.5	2,863.3	7.1	1.4	50.37	217.5	1,637.1	1,526.0	1,518.0	8.05	189.615	
2,952.7	2,929.7	2,914.7	2,913.4	7.4	1.4	50.77	218.4	1,636.2	1,515.1	1,506.9	8.27	183.277	
3,000.0	2,974.9	2,960.3	2,959.1	7.6	1.4	51.13	219.2	1,635.2	1,505.4	1,497.0	8.47	177.832	
3,051.2	3,023.9	3,009.3	3,008.0	7.8	1.4	51.53	219.9	1,634.3	1,495.0	1,486.3	8.69	172.064	
3,100.0	3,070.7	3,054.1	3,052.9	8.1	1.4	51.90	220.5	1,633.4	1,485.2	1,476.3	8.90	166.824	
3,149.6	3,118.2	3,100.0	3,098.7	8.3	1.5	52.30	220.9	1,632.6	1,475.3	1,466.2	9.13	161.635	
3,200.0	3,166.5	3,144.2	3,142.9	8.6	1.5	52.69	221.1	1,631.9	1,465.4	1,456.1	9.36	156.631	
3,248.0	3,212.5	3,186.6	3,185.3	8.8	1.5	53.08	221.2	1,631.3	1,456.2	1,446.6	9.58	152.002	
3,300.0	3,262.3	3,233.8	3,232.5	9.1	1.5	53.51	221.3	1,630.8	1,446.4	1,436.6	9.83	147.205	
3,346.4	3,306.8	3,276.5	3,275.2	9.3	1.5	53.91	221.3	1,630.4	1,437.9	1,427.8	10.05	143.047	
3,400.0	3,358.1	3,327.0	3,325.7	9.6	1.5	54.38	221.4	1,629.9	1,428.1	1,417.8	10.32	138.446	
3,444.9	3,401.0	3,370.3	3,369.0	9.8	1.5	54.79	221.5	1,629.5	1,420.0	1,409.5	10.54	134.699	
3,500.0	3,453.8	3,423.7	3,422.4	10.1	1.6	55.31	221.6	1,629.0	1,410.1	1,399.3	10.82	130.284	
3,543.3	3,495.3	3,465.9	3,464.6	10.3	1.6	55.72	221.7	1,628.6	1,402.5	1,391.4	11.05	126.923	
3,600.0	3,549.6	3,519.4	3,518.1	10.6	1.6	56.25	221.7	1,628.1	1,392.5	1,381.1	11.35	122.731	
3,641.7	3,589.6	3,556.8	3,555.5	10.8	1.6	56.63	221.7	1,627.7	1,385.3	1,373.7	11.56	119.785	
3,700.0	3,645.4	3,608.5	3,607.2	11.1	1.6	57.16	221.5	1,627.4	1,375.5	1,363.6	11.87	115.865	
3,740.1	3,683.8	3,642.8	3,641.4	11.4	1.6	57.52	221.2	1,627.3	1,368.9	1,356.8	12.08	113.315	
3,800.0	3,741.2	3,693.8	3,692.5	11.7	1.6	58.07	220.7	1,627.2	1,359.5	1,347.1	12.39	109.680	
3,838.6	3,778.1	3,729.0	3,727.7	11.9	1.6	58.46	220.3	1,627.3	1,353.6	1,341.0	12.60	107.428	
3,900.0	3,837.0	3,785.9	3,784.6	12.2	1.6	59.08	219.7	1,627.5	1,344.5	1,331.5	12.93	103.989	
3,937.0	3,872.4	3,821.8	3,820.4	12.4	1.6	59.48	219.4	1,627.7	1,339.1	1,325.9	13.13	101.977	
4,000.0	3,932.7	3,884.6	3,883.3	12.8	1.6	60.18	218.8	1,627.9	1,329.9	1,316.5	13.48	98.665	
4,035.4	3,966.7	3,919.7	3,918.3	13.0	1.6	60.57	218.5	1,627.9	1,324.8	1,311.2	13.68	96.857	
4,100.0	4,028.5	3,983.2	3,981.8	13.3	1.6	61.30	217.9	1,628.0	1,315.6	1,301.6	14.04	93.677	
4,133.8	4,060.9	4,016.3	4,015.0	13.5	1.6	61.68	217.6	1,628.0	1,310.9	1,296.6	14.24	92.063	
4,200.0	4,124.3	4,080.8	4,079.5	13.9	1.6	62.43	216.9	1,627.9	1,301.7	1,287.1	14.62	89.023	
4,232.3	4,155.2	4,111.9	4,110.6	14.0	1.6	62.80	216.6	1,627.8	1,297.3	1,282.5	14.81	87.591	
4,300.0	4,220.1	4,176.1	4,174.8	14.4	1.6	63.57	215.9	1,627.7	1,288.2	1,273.0	15.21	84.707	
4,330.7	4,249.5	4,205.4	4,204.0	14.6	1.6	63.92	215.5	1,627.6	1,284.1	1,268.8	15.39	83.446	
4,400.0	4,315.9	4,272.8	4,271.5	15.0	1.6	64.75	214.8	1,627.5	1,275.2	1,259.4	15.80	80.696	
4,429.1	4,343.7	4,301.2	4,299.8	15.1	1.6	65.09	214.5	1,627.4	1,271.5	1,255.5	15.98	79.580	
4,500.0	4,411.6	4,369.7	4,368.3	15.5	1.6	65.94	213.9	1,627.2	1,262.7	1,246.3	16.41	76.960	
4,527.5	4,438.0	4,396.3	4,395.0	15.7	1.6	66.27	213.7	1,627.1	1,259.3	1,242.7	16.58	75.977	
4,600.0	4,507.4	4,467.0	4,465.6	16.1	1.6	67.15	213.2	1,626.8	1,250.6	1,233.6	17.02	73.476	
4,626.0	4,532.3	4,492.3	4,490.9	16.2	1.6	67.47	213.1	1,626.7	1,247.6	1,230.4	17.18	72.609	
4,700.0	4,603.2	4,564.0	4,562.7	16.7	1.6	68.37	212.8	1,626.4	1,239.0	1,221.4	17.64	70.222	
4,724.4	4,626.6	4,587.7	4,586.3	16.8	1.6	68.67	212.7	1,626.3	1,236.3	1,218.5	17.80	69.462	
4,800.0	4,699.0	4,661.0	4,659.6	17.2	1.7	69.60	212.5	1,625.9	1,227.9	1,209.6	18.28	67.186	
4,822.8	4,720.8	4,683.2	4,681.8	17.4	1.7	69.89	212.5	1,625.8	1,225.4	1,207.0	18.42	66.522	
4,900.0	4,794.7	4,757.4	4,756.0	17.8	1.7	70.85	212.3	1,625.3	1,217.3	1,198.4	18.91	64.359	
4,921.2	4,815.1	4,777.7	4,776.4	17.9	1.7	71.11	212.3	1,625.2	1,215.1	1,196.1	19.05	63.785	
5,000.0	4,890.5	4,852.3	4,850.9	18.4	1.7	72.09	212.1	1,624.7	1,207.3	1,187.7	19.55	61.744	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
5,019.7	4,909.4	4,870.8	4,869.4	18.5	1.7	72.34	212.1	1,624.6	1,205.4	1,185.7	19.68	61.253	
5,100.0	4,986.3	4,946.5	4,945.1	18.9	1.7	73.36	211.8	1,624.2	1,198.0	1,177.8	20.19	59.330	
5,118.1	5,003.6	4,963.5	4,962.1	19.0	1.7	73.59	211.7	1,624.1	1,196.4	1,176.1	20.31	58.913	
5,200.0	5,082.1	5,041.6	5,040.2	19.5	1.8	74.64	211.4	1,623.8	1,189.5	1,168.6	20.83	57.095	
5,216.5	5,097.9	5,057.6	5,056.2	19.6	1.8	74.86	211.4	1,623.8	1,188.1	1,167.2	20.94	56.740	
5,300.0	5,177.9	5,138.9	5,137.5	20.1	1.8	75.97	211.2	1,623.4	1,181.6	1,160.1	21.48	55.009	
5,314.9	5,192.2	5,153.6	5,152.3	20.2	1.8	76.18	211.2	1,623.3	1,180.4	1,158.8	21.58	54.708	
5,400.0	5,273.6	5,237.2	5,235.8	20.6	1.8	77.33	211.1	1,622.8	1,174.1	1,152.0	22.13	53.055	
5,413.4	5,286.5	5,250.3	5,248.9	20.7	1.8	77.51	211.1	1,622.7	1,173.2	1,151.0	22.22	52.803	
5,500.0	5,369.4	5,335.2	5,333.8	21.2	1.8	78.69	211.2	1,622.1	1,167.2	1,144.4	22.78	51.231	
5,511.8	5,380.7	5,346.7	5,345.3	21.3	1.8	78.85	211.2	1,622.0	1,166.4	1,143.5	22.86	51.024	
5,600.0	5,465.2	5,434.0	5,432.6	21.8	1.9	80.09	211.3	1,621.1	1,160.7	1,137.3	23.43	49.529	
5,610.2	5,475.0	5,444.2	5,442.8	21.9	1.9	80.23	211.3	1,621.0	1,160.1	1,136.6	23.50	49.361	
5,700.0	5,561.0	5,532.9	5,531.6	22.4	1.9	81.51	211.2	1,619.7	1,154.6	1,130.5	24.08	47.942	
5,708.6	5,569.3	5,541.3	5,539.9	22.4	1.9	81.63	211.2	1,619.6	1,154.1	1,130.0	24.14	47.810	
5,793.4	5,650.4	5,622.1	5,620.7	22.9	1.9	82.82	211.0	1,618.2	1,149.5	1,124.8	24.68	46.570	
5,800.0	5,656.8	5,628.3	5,626.9	22.9	1.9	82.91	211.0	1,618.1	1,149.1	1,124.4	24.72	46.486	
5,807.1	5,663.6	5,634.9	5,633.5	23.0	1.9	83.00	211.0	1,618.0	1,148.8	1,124.0	24.75	46.407	
5,900.0	5,753.1	5,721.3	5,719.9	23.4	1.9	84.12	210.5	1,616.5	1,144.8	1,119.6	25.20	45.422	
5,905.5	5,758.4	5,726.4	5,724.9	23.4	1.9	84.18	210.5	1,616.4	1,144.6	1,119.3	25.23	45.371	
6,000.0	5,850.3	5,814.1	5,812.7	23.8	2.0	85.21	209.7	1,615.1	1,141.7	1,116.0	25.64	44.534	
6,003.9	5,854.1	5,817.9	5,816.4	23.8	2.0	85.26	209.7	1,615.0	1,141.6	1,115.9	25.65	44.503	
6,100.0	5,948.3	5,909.7	5,908.3	24.1	2.0	86.20	208.9	1,613.9	1,139.6	1,113.6	26.02	43.794	
6,102.3	5,950.6	5,912.0	5,910.5	24.1	2.0	86.22	208.9	1,613.8	1,139.5	1,113.5	26.03	43.779	
6,200.0	6,046.9	6,006.6	6,005.2	24.4	2.0	87.04	208.1	1,612.9	1,138.2	1,111.8	26.36	43.183	
6,200.8	6,047.6	6,007.4	6,005.9	24.4	2.0	87.05	208.1	1,612.9	1,138.2	1,111.8	26.36	43.179	
6,299.2	6,145.2	6,105.1	6,103.6	24.7	2.0	87.71	207.7	1,612.3	1,137.3	1,110.7	26.65	42.679	
6,300.0	6,146.0	6,105.9	6,104.4	24.7	2.0	87.72	207.7	1,612.3	1,137.3	1,110.7	26.65	42.675	
6,397.6	6,243.1	6,204.5	6,203.0	24.9	2.1	88.21	207.5	1,611.7	1,136.6	1,109.7	26.89	42.262	
6,400.0	6,245.5	6,206.9	6,205.4	24.9	2.1	88.22	207.5	1,611.7	1,136.6	1,109.7	26.90	42.252	
6,496.0	6,341.4	6,303.1	6,301.6	25.1	2.1	88.54	207.4	1,611.0	1,136.0	1,108.9	27.10	41.922	
6,500.0	6,345.3	6,307.0	6,305.6	25.1	2.1	88.55	207.3	1,611.0	1,136.0	1,108.9	27.11	41.908	
6,594.5	6,439.7	6,402.5	6,401.0	25.2	2.1	88.71	207.2	1,610.2	1,135.4	1,108.2	27.26	41.653	
6,600.0	6,445.3	6,408.0	6,406.5	25.2	2.1	88.71	207.1	1,610.2	1,135.4	1,108.1	27.27	41.638	
6,628.6	6,473.9	6,436.3	6,434.9	25.3	2.1	127.03	207.1	1,609.9	1,135.2	1,107.9	27.31	41.575	
6,658.6	6,503.9	6,466.0	6,464.6	25.3	2.1	127.05	207.0	1,609.7	1,135.1	1,107.7	27.35	41.509	
6,692.9	6,538.1	6,500.0	6,498.5	25.3	2.2	-53.01	206.8	1,609.3	1,134.4	1,107.0	27.38	41.426	
6,700.0	6,545.2	6,506.9	6,505.5	25.3	2.2	-53.04	206.8	1,609.3	1,134.2	1,106.8	27.39	41.405	
6,750.0	6,595.0	6,556.1	6,554.7	25.3	2.2	-53.40	206.6	1,608.8	1,131.2	1,103.8	27.41	41.275	
6,791.3	6,635.8	6,596.5	6,595.0	25.3	2.2	-53.89	206.3	1,608.5	1,127.2	1,099.8	27.38	41.163	
6,800.0	6,644.3	6,604.8	6,603.4	25.3	2.2	-54.02	206.3	1,608.4	1,126.1	1,098.8	27.38	41.135	
6,850.0	6,693.0	6,652.1	6,650.7	25.2	2.2	-54.91	206.0	1,608.0	1,119.2	1,091.9	27.30	40.996	
6,889.7	6,731.0	6,689.1	6,687.6	25.2	2.2	-55.81	205.8	1,607.8	1,112.3	1,085.1	27.20	40.898	
6,900.0	6,740.7	6,700.0	6,698.5	25.2	2.2	-56.09	205.7	1,607.7	1,110.4	1,083.2	27.17	40.869	
6,950.0	6,787.3	6,746.8	6,745.3	25.0	2.2	-57.56	205.5	1,607.5	1,099.9	1,072.9	26.98	40.763	
6,988.2	6,821.9	6,782.8	6,781.3	24.9	2.2	-58.88	205.4	1,607.2	1,090.7	1,063.9	26.79	40.709	
7,000.0	6,832.5	6,793.7	6,792.2	24.9	2.2	-59.33	205.4	1,607.2	1,087.7	1,060.9	26.73	40.691	
7,050.0	6,876.1	6,837.7	6,836.3	24.7	2.2	-61.33	205.3	1,606.9	1,074.0	1,047.6	26.41	40.662 SF	
7,086.6	6,906.8	6,868.7	6,867.2	24.6	2.2	-62.94	205.2	1,606.6	1,063.3	1,037.1	26.14	40.678	
7,100.0	6,917.9	6,879.8	6,878.3	24.5	2.3	-63.56	205.2	1,606.5	1,059.2	1,033.2	26.03	40.687	
7,150.0	6,957.6	6,919.9	6,918.4	24.3	2.3	-66.01	205.0	1,606.2	1,043.5	1,017.9	25.59	40.773	
7,185.0	6,984.2	6,946.7	6,945.2	24.1	2.3	-67.83	204.9	1,605.9	1,032.0	1,006.8	25.25	40.875	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
7,200.0	6,995.2	6,957.8	6,956.3	24.1	2.3	-68.63	204.8	1,605.8	1,027.1	1,002.0	25.10	40.924	
7,250.0	7,030.3	6,993.4	6,991.9	23.8	2.3	-71.37	204.7	1,605.5	1,010.3	985.8	24.56	41.136	
7,283.4	7,052.4	7,016.1	7,014.6	23.6	2.3	-73.25	204.6	1,605.3	999.1	974.9	24.19	41.310	
7,300.0	7,062.9	7,026.9	7,025.4	23.6	2.3	-74.19	204.6	1,605.2	993.6	969.6	24.00	41.402	
7,350.0	7,092.8	7,057.7	7,056.2	23.3	2.3	-76.99	204.4	1,604.9	977.2	953.7	23.43	41.705	
7,381.9	7,110.3	7,075.7	7,074.2	23.1	2.3	-78.74	204.4	1,604.7	967.0	944.0	23.08	41.905	
7,400.0	7,119.8	7,085.5	7,084.0	23.0	2.3	-79.71	204.3	1,604.5	961.4	938.6	22.88	42.021	
7,450.0	7,143.8	7,109.7	7,108.2	22.8	2.3	-82.24	204.3	1,604.3	946.8	924.4	22.37	42.317	
7,480.3	7,156.8	7,122.6	7,121.1	22.6	2.3	-83.64	204.2	1,604.1	938.6	916.5	22.10	42.472	
7,500.0	7,164.7	7,130.3	7,128.8	22.5	2.3	-84.50	204.2	1,604.0	933.6	911.6	21.93	42.571	
7,550.0	7,182.3	7,147.9	7,146.4	22.2	2.3	-86.47	204.1	1,603.8	922.1	900.6	21.56	42.770	
7,578.7	7,191.0	7,156.5	7,155.0	22.1	2.3	-87.45	204.0	1,603.7	916.5	895.1	21.39	42.849	
7,600.0	7,196.7	7,162.2	7,160.7	22.0	2.3	-88.10	204.0	1,603.7	912.8	891.5	21.27	42.910	
7,650.0	7,207.7	7,173.3	7,171.8	21.7	2.3	-89.35	203.9	1,603.5	905.8	884.8	21.07	43.000	
7,677.1	7,212.2	7,177.9	7,176.4	21.6	2.3	-89.86	203.9	1,603.5	903.1	882.1	20.99	43.024	
7,700.0	7,215.2	7,181.1	7,179.6	21.5	2.3	-90.19	203.9	1,603.5	901.4	880.5	20.94	43.058	
7,750.0	7,219.3	7,185.4	7,183.9	21.3	2.3	-90.60	203.9	1,603.4	899.8	878.9	20.88	43.102	
7,754.8	7,219.5	7,185.7	7,184.2	21.3	2.3	-90.61	203.9	1,603.4	899.8	878.9	20.88	43.102 CC, ES	
7,775.6	7,220.1	7,186.3	7,184.8	21.2	2.3	-90.64	203.9	1,603.4	900.0	879.1	20.87	43.115	
7,792.5	7,220.0	7,186.4	7,184.9	21.1	2.3	-90.60	203.9	1,603.4	900.6	879.7	20.88	43.137	
7,800.0	7,219.9	7,186.4	7,184.9	21.1	2.3	-90.60	203.9	1,603.4	900.9	880.0	20.88	43.146	
7,874.0	7,219.0	7,186.0	7,184.5	20.8	2.3	-90.57	203.9	1,603.4	907.7	886.7	20.99	43.237	
7,900.0	7,218.7	7,185.8	7,184.3	20.7	2.3	-90.56	203.9	1,603.4	911.5	890.4	21.03	43.336	
7,972.4	7,217.8	7,185.4	7,183.9	20.5	2.3	-90.53	203.9	1,603.4	925.8	904.5	21.28	43.499	
8,000.0	7,217.5	7,185.2	7,183.7	20.4	2.3	-90.52	203.9	1,603.4	932.7	911.3	21.38	43.627	
8,070.8	7,216.6	7,184.8	7,183.3	20.4	2.3	-90.50	203.9	1,603.4	953.8	932.1	21.75	43.845	
8,100.0	7,216.2	7,184.7	7,183.1	20.4	2.3	-90.49	203.9	1,603.4	963.9	942.0	21.91	43.996	
8,169.3	7,215.4	7,184.2	7,182.7	20.7	2.3	-90.46	203.9	1,603.4	990.9	968.5	22.39	44.249	
8,200.0	7,215.0	7,184.1	7,182.6	21.0	2.3	-90.45	203.9	1,603.4	1,004.1	981.5	22.61	44.415	
8,267.7	7,214.1	7,183.7	7,182.2	21.6	2.3	-90.42	203.9	1,603.4	1,035.9	1,012.8	23.18	44.685	
8,300.0	7,213.7	7,183.5	7,182.0	21.9	2.3	-90.41	203.9	1,603.4	1,052.3	1,028.9	23.46	44.860	
8,366.1	7,212.9	7,183.1	7,181.6	22.6	2.3	-90.38	203.9	1,603.4	1,088.1	1,064.0	24.11	45.131	
8,400.0	7,212.5	7,182.9	7,181.4	23.0	2.3	-90.37	203.9	1,603.4	1,107.5	1,083.0	24.44	45.308	
8,464.5	7,211.7	7,182.5	7,181.0	23.8	2.3	-90.35	203.9	1,603.4	1,146.3	1,121.2	25.16	45.569	
8,500.0	7,211.3	7,182.3	7,180.8	24.2	2.3	-90.33	203.9	1,603.4	1,168.6	1,143.1	25.55	45.745	
8,563.0	7,210.5	7,181.9	7,180.4	25.0	2.3	-90.31	203.9	1,603.5	1,209.8	1,183.5	26.31	45.990	
8,600.0	7,210.0	7,181.7	7,180.2	25.5	2.3	-90.29	203.9	1,603.5	1,234.8	1,208.1	26.75	46.160	
8,661.4	7,209.3	7,181.3	7,179.8	26.3	2.3	-90.27	203.9	1,603.5	1,277.7	1,250.1	27.54	46.386	
8,700.0	7,208.8	7,181.0	7,179.5	26.8	2.3	-90.25	203.9	1,603.5	1,305.4	1,277.3	28.04	46.548	
8,759.8	7,208.0	7,180.7	7,179.2	27.6	2.3	-90.23	203.9	1,603.5	1,349.3	1,320.5	28.86	46.753	
8,800.0	7,207.5	7,180.4	7,178.9	28.2	2.3	-90.21	203.9	1,603.5	1,379.5	1,350.1	29.41	46.906	
8,858.2	7,206.8	7,180.1	7,178.5	29.0	2.3	-90.19	203.9	1,603.5	1,424.2	1,393.9	30.24	47.090	
8,900.0	7,206.3	7,179.8	7,178.3	29.6	2.3	-90.17	203.9	1,603.5	1,456.8	1,425.9	30.84	47.235	
8,956.7	7,205.6	7,179.4	7,177.9	30.4	2.3	-90.15	203.9	1,603.5	1,501.8	1,470.1	31.68	47.399	
9,000.0	7,205.0	7,179.2	7,177.7	31.1	2.3	-90.13	203.9	1,603.5	1,536.7	1,504.3	32.33	47.535	
9,055.1	7,204.3	7,178.8	7,177.3	31.9	2.3	-90.11	203.9	1,603.5	1,581.7	1,548.5	33.17	47.681	
9,100.0	7,203.8	7,178.5	7,177.0	32.6	2.3	-90.09	203.9	1,603.5	1,618.8	1,584.9	33.86	47.808	
9,153.5	7,203.1	7,178.2	7,176.7	33.4	2.3	-90.07	203.9	1,603.5	1,663.6	1,628.9	34.70	47.938	
9,200.0	7,202.5	7,177.9	7,176.4	34.2	2.3	-90.05	203.9	1,603.5	1,702.8	1,667.4	35.43	48.057	
9,251.9	7,201.9	7,177.5	7,176.0	35.0	2.3	-90.03	203.9	1,603.5	1,747.2	1,710.9	36.27	48.171	
9,300.0	7,201.3	7,177.2	7,175.7	35.7	2.3	-90.01	203.9	1,603.5	1,788.5	1,751.5	37.04	48.282	
9,350.4	7,200.7	7,176.9	7,175.4	36.6	2.3	-89.99	203.9	1,603.5	1,832.2	1,794.4	37.87	48.384	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT BROWN 30-2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 100-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
9,400.0	7,200.0	7,176.6	7,175.1	37.4	2.3	-89.97	203.9	1,603.5	1,875.6	1,836.9	38.68	48.488	
9,448.8	7,199.4	7,176.2	7,174.7	38.2	2.3	-89.95	203.9	1,603.5	1,918.6	1,879.1	39.49	48.578	
9,500.0	7,198.8	7,175.9	7,174.4	39.0	2.3	-89.92	203.9	1,603.5	1,963.9	1,923.6	40.35	48.675	
9,547.2	7,198.2	7,175.6	7,174.1	39.8	2.3	-89.90	203.9	1,603.5	2,006.0	1,964.9	41.15	48.755	
9,600.0	7,197.5	7,175.2	7,173.7	40.7	2.3	-89.88	203.9	1,603.5	2,053.3	2,011.3	42.04	48.846	
9,645.6	7,197.0	7,174.9	7,173.4	41.4	2.3	-89.86	203.9	1,603.5	2,094.5	2,051.6	42.82	48.917	
9,700.0	7,196.3	7,174.6	7,173.1	42.4	2.3	-89.84	203.9	1,603.5	2,143.7	2,099.9	43.75	49.003	
9,744.1	7,195.7	7,174.3	7,172.8	43.1	2.3	-89.82	203.9	1,603.5	2,183.8	2,139.2	44.51	49.065	
9,800.0	7,195.0	7,173.9	7,172.4	44.1	2.3	-89.79	203.9	1,603.5	2,234.8	2,189.4	45.47	49.146	
9,842.5	7,194.5	7,173.6	7,172.1	44.8	2.3	-89.77	203.9	1,603.5	2,273.8	2,227.6	46.21	49.202	
9,900.0	7,193.8	7,173.2	7,171.7	45.8	2.3	-89.75	203.9	1,603.5	2,326.7	2,279.5	47.22	49.278	
9,940.9	7,193.3	7,172.9	7,171.4	46.5	2.3	-89.73	203.9	1,603.6	2,364.5	2,316.6	47.94	49.327	
10,000.0	7,192.5	7,172.5	7,171.0	47.5	2.3	-89.70	203.9	1,603.6	2,419.2	2,370.3	48.97	49.399	
10,039.3	7,192.0	7,172.2	7,170.7	48.2	2.3	-89.68	203.9	1,603.6	2,455.8	2,406.1	49.67	49.443	
10,100.0	7,191.3	7,171.8	7,170.3	49.3	2.3	-89.66	204.0	1,603.6	2,512.3	2,461.6	50.74	49.511	
10,137.8	7,190.8	7,171.5	7,170.0	49.9	2.3	-89.64	204.0	1,603.6	2,547.6	2,496.2	51.42	49.550	
10,200.0	7,190.0	7,171.1	7,169.6	51.0	2.3	-89.61	204.0	1,603.6	2,606.0	2,553.4	52.52	49.615	
10,236.2	7,189.6	7,170.8	7,169.3	51.7	2.3	-89.59	204.0	1,603.6	2,640.0	2,586.8	53.17	49.649	
10,300.0	7,188.8	7,170.4	7,168.9	52.8	2.3	-89.56	204.0	1,603.6	2,700.0	2,645.7	54.31	49.711	
10,334.6	7,188.3	7,170.1	7,168.6	53.4	2.3	-89.55	204.0	1,603.6	2,732.7	2,677.8	54.94	49.742	
10,400.0	7,187.5	7,169.6	7,168.1	54.6	2.3	-89.52	204.0	1,603.6	2,794.5	2,738.4	56.11	49.800	
10,433.0	7,187.1	7,169.4	7,167.9	55.2	2.3	-89.50	204.0	1,603.6	2,825.8	2,769.1	56.71	49.827	
10,500.0	7,186.3	7,168.9	7,167.4	56.4	2.3	-89.47	204.0	1,603.6	2,889.4	2,831.4	57.92	49.883	
10,531.5	7,185.9	7,168.7	7,167.2	56.9	2.3	-89.45	204.0	1,603.6	2,919.3	2,860.8	58.49	49.907	
10,600.0	7,185.0	7,168.2	7,166.7	58.2	2.3	-89.42	204.0	1,603.6	2,984.5	2,924.8	59.74	49.961	
10,629.9	7,184.6	7,168.0	7,166.5	58.7	2.3	-89.41	204.0	1,603.6	3,013.1	2,952.8	60.28	49.982	
10,700.0	7,183.8	7,167.4	7,165.9	60.0	2.3	-89.37	204.0	1,603.6	3,080.0	3,018.5	61.56	50.033	
10,728.3	7,183.4	7,167.2	7,165.7	60.5	2.3	-89.36	204.0	1,603.6	3,107.1	3,045.1	62.08	50.052	
10,800.0	7,182.5	7,166.7	7,165.2	61.8	2.3	-89.32	204.0	1,603.6	3,175.8	3,112.4	63.39	50.101	
10,826.7	7,182.2	7,166.5	7,165.0	62.3	2.3	-89.31	204.0	1,603.6	3,201.5	3,137.6	63.88	50.118	
10,900.0	7,181.2	7,165.9	7,164.4	63.6	2.3	-89.27	204.0	1,603.6	3,271.8	3,206.6	65.22	50.164	
10,925.2	7,180.9	7,165.7	7,164.2	64.0	2.3	-89.26	204.0	1,603.6	3,296.0	3,230.4	65.68	50.180	
11,000.0	7,180.0	7,165.2	7,163.7	65.4	2.3	-89.22	204.0	1,603.6	3,368.1	3,301.0	67.06	50.224	
11,023.6	7,179.7	7,165.0	7,163.5	65.8	2.3	-89.21	204.0	1,603.6	3,390.8	3,323.3	67.50	50.238	
11,100.0	7,178.7	7,164.4	7,162.9	67.2	2.3	-89.17	204.0	1,603.6	3,464.6	3,395.6	68.90	50.281	
11,122.0	7,178.4	7,164.2	7,162.7	67.6	2.3	-89.16	204.0	1,603.6	3,485.8	3,416.5	69.31	50.292	
11,200.0	7,177.5	7,163.6	7,162.1	69.1	2.3	-89.12	204.0	1,603.7	3,561.2	3,490.5	70.75	50.334	
11,220.4	7,177.2	7,163.4	7,161.9	69.4	2.3	-89.11	204.0	1,603.7	3,581.0	3,509.9	71.13	50.344	
11,300.0	7,176.2	7,162.8	7,161.3	70.9	2.3	-89.07	204.0	1,603.7	3,658.1	3,585.4	72.60	50.384	
11,318.9	7,176.0	7,162.7	7,161.2	71.2	2.3	-89.06	204.0	1,603.7	3,676.4	3,603.4	72.95	50.393	
11,400.0	7,174.9	7,162.0	7,160.5	72.7	2.3	-89.02	204.0	1,603.7	3,755.1	3,680.6	74.46	50.431	
11,417.3	7,174.7	7,161.9	7,160.4	73.1	2.3	-89.01	204.0	1,603.7	3,771.9	3,697.1	74.78	50.439	
11,500.0	7,173.7	7,161.2	7,159.7	74.6	2.3	-88.97	204.0	1,603.7	3,852.2	3,775.9	76.32	50.476	
11,515.7	7,173.5	7,161.1	7,159.6	74.9	2.3	-88.96	204.0	1,603.7	3,867.5	3,790.9	76.61	50.483	
11,600.0	7,172.4	7,160.4	7,158.9	76.4	2.3	-88.91	204.0	1,603.7	3,949.5	3,871.3	78.18	50.519	
11,614.1	7,172.2	7,160.3	7,158.8	76.7	2.3	-88.91	204.0	1,603.7	3,963.3	3,884.9	78.44	50.524	
11,700.0	7,171.2	7,159.6	7,158.1	78.3	2.3	-88.86	204.0	1,603.7	4,047.0	3,966.9	80.04	50.559	
11,712.6	7,171.0	7,159.5	7,158.0	78.5	2.3	-88.85	204.0	1,603.7	4,059.2	3,978.9	80.28	50.564	
11,791.4	7,170.0	7,158.8	7,157.3	80.0	2.3	-88.81	204.0	1,603.7	4,136.1	4,054.3	81.75	50.594	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT BROWN 30-31 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 100-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
0.0	0.0	0.0	0.0	0.0	0.0	48.75	407.7	464.8	618.9				
98.4	98.4	75.8	75.8	0.1	0.0	48.77	407.2	464.6	617.8	617.7	0.13	4,777.085	
100.0	100.0	77.6	77.5	0.1	0.0	48.77	407.2	464.6	617.8	617.7	0.13	4,675.858	
196.8	196.8	178.3	178.3	0.3	0.2	48.85	405.4	463.9	616.2	615.7	0.49	1,257.493	
200.0	200.0	181.5	181.5	0.3	0.2	48.85	405.4	463.9	616.1	615.6	0.50	1,226.513	
295.3	295.3	281.0	280.9	0.5	0.3	48.94	403.2	462.9	614.1	613.2	0.82	748.154	
300.0	300.0	285.9	285.9	0.5	0.3	48.94	403.1	462.8	613.9	613.1	0.84	734.442	
393.7	393.7	382.9	382.8	0.7	0.4	49.07	400.2	461.6	611.3	610.1	1.12	545.128	
400.0	400.0	389.4	389.3	0.8	0.4	49.08	400.0	461.5	611.1	609.9	1.14	535.864	
492.1	492.1	480.7	480.5	1.0	0.4	49.24	396.9	460.5	608.2	606.8	1.41	432.383	
500.0	500.0	488.5	488.3	1.0	0.4	49.26	396.6	460.4	607.9	606.5	1.43	425.369	
590.5	590.5	579.3	579.0	1.2	0.5	49.45	393.3	459.6	605.2	603.5	1.69	359.133	
600.0	600.0	588.8	588.5	1.2	0.5	49.47	392.9	459.5	604.9	603.2	1.71	353.373	
689.0	689.0	677.1	676.8	1.4	0.5	49.65	389.8	458.7	602.2	600.3	1.96	307.413	
700.0	700.0	688.1	687.8	1.4	0.6	49.67	389.4	458.7	601.9	599.9	1.99	302.527	
787.4	787.4	774.1	773.8	1.6	0.6	49.85	386.4	458.0	599.4	597.2	2.23	268.899	
800.0	800.0	786.5	786.2	1.7	0.6	49.87	385.9	457.9	599.1	596.8	2.26	264.653	
885.8	885.8	871.8	871.4	1.9	0.6	50.03	383.2	457.2	596.8	594.3	2.50	238.980	
900.0	900.0	885.9	885.5	1.9	0.7	50.06	382.8	457.1	596.4	593.9	2.54	235.201	
984.2	984.2	969.6	969.1	2.1	0.7	50.20	380.3	456.5	594.3	591.5	2.76	215.000	
1,000.0	1,000.0	985.2	984.7	2.1	0.7	50.23	379.8	456.3	593.9	591.1	2.81	211.594	
1,082.7	1,082.7	1,067.8	1,067.3	2.3	0.7	50.38	377.3	455.7	591.8	588.8	3.03	195.332	
1,100.0	1,100.0	1,085.2	1,084.6	2.3	0.7	50.41	376.8	455.6	591.4	588.3	3.08	192.225	
1,181.1	1,181.1	1,165.6	1,165.0	2.5	0.8	50.54	374.5	455.0	589.4	586.1	3.29	178.926	
1,200.0	1,200.0	1,184.3	1,183.7	2.6	0.8	50.57	374.0	454.8	589.0	585.7	3.35	176.083	
1,279.5	1,279.5	1,261.5	1,260.9	2.7	0.8	50.68	372.0	454.3	587.3	583.7	3.56	165.126	
1,300.0	1,300.0	1,281.2	1,280.6	2.8	0.8	50.71	371.6	454.1	586.9	583.3	3.61	162.534	
1,377.9	1,377.9	1,358.4	1,357.8	3.0	0.9	50.79	370.1	453.6	585.6	581.8	3.82	153.379	
1,400.0	1,400.0	1,380.4	1,379.7	3.0	0.9	50.80	369.8	453.5	585.2	581.3	3.88	150.969	
1,476.4	1,476.4	1,456.9	1,456.3	3.2	0.9	50.84	368.6	452.7	583.9	579.8	4.08	143.171	
1,500.0	1,500.0	1,480.7	1,480.0	3.2	0.9	50.85	368.3	452.5	583.5	579.4	4.14	140.913	
1,574.8	1,574.8	1,555.9	1,555.3	3.4	0.9	50.87	367.4	451.5	582.2	577.9	4.34	134.243	
1,600.0	1,600.0	1,581.2	1,580.6	3.5	0.9	50.87	367.1	451.2	581.7	577.3	4.40	132.133	
1,673.2	1,673.2	1,655.0	1,654.3	3.6	1.0	50.83	366.5	449.9	580.4	575.8	4.59	126.408	
1,700.0	1,700.0	1,681.9	1,681.2	3.7	1.0	50.81	366.3	449.4	579.9	575.2	4.66	124.436	
1,771.6	1,771.6	1,753.7	1,753.0	3.8	1.0	50.73	366.1	447.7	578.5	573.6	4.84	119.492	
1,800.0	1,800.0	1,782.0	1,781.3	3.9	1.0	50.69	366.1	447.0	577.9	573.0	4.91	117.645	
1,850.0	1,850.0	1,831.6	1,830.9	4.0	1.0	50.60	366.1	445.8	576.9	571.9	5.04	114.538	
1,870.1	1,870.1	1,851.5	1,850.8	4.1	1.0	12.27	366.1	445.3	576.5	571.4	5.08	113.525	
1,900.0	1,900.0	1,881.1	1,880.3	4.1	1.0	12.23	366.2	444.5	575.6	570.4	5.16	111.641	
1,968.5	1,968.5	1,948.4	1,947.6	4.3	1.1	12.17	366.3	442.9	572.5	567.1	5.33	107.387	
2,000.0	1,999.9	1,979.2	1,978.5	4.4	1.1	12.16	366.4	442.3	570.5	565.1	5.41	105.439	
2,066.9	2,066.7	2,044.9	2,044.2	4.5	1.1	12.19	366.5	441.0	565.4	559.8	5.58	101.293	
2,100.0	2,099.7	2,077.4	2,076.7	4.6	1.1	12.22	366.5	440.4	562.3	556.7	5.67	99.252	
2,165.3	2,164.7	2,142.2	2,141.4	4.7	1.1	12.32	366.5	439.4	555.3	549.4	5.83	95.181	
2,200.0	2,199.1	2,176.6	2,175.8	4.8	1.1	12.38	366.5	438.8	550.9	545.0	5.92	93.041	
2,263.8	2,262.3	2,240.2	2,239.4	5.0	1.1	12.54	366.6	437.7	541.9	535.8	6.09	89.021	
2,300.0	2,298.2	2,276.3	2,275.5	5.0	1.2	12.65	366.6	437.1	536.1	529.9	6.18	86.748	
2,362.2	2,359.5	2,338.0	2,337.2	5.2	1.2	12.89	366.5	436.1	525.1	518.7	6.34	82.768	
2,400.0	2,396.6	2,375.3	2,374.5	5.3	1.2	13.06	366.4	435.5	517.7	511.3	6.44	80.367	
2,460.6	2,456.0	2,434.6	2,433.8	5.5	1.2	13.37	366.2	434.4	504.9	498.3	6.60	76.452	
2,500.0	2,494.4	2,472.9	2,472.1	5.6	1.2	13.61	366.1	433.8	495.9	489.2	6.71	73.944	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
2,559.0	2,551.8	2,530.3	2,529.5	5.8	1.2	14.01	365.9	432.8	481.6	474.7	6.87	70.100	
2,600.0	2,591.5	2,570.0	2,569.2	5.9	1.3	14.33	365.8	432.1	470.9	463.9	6.98	67.488	
2,657.5	2,646.8	2,625.3	2,624.5	6.1	1.3	14.83	365.6	431.1	455.0	447.9	7.14	63.741	
2,685.2	2,673.5	2,651.9	2,651.0	6.2	1.3	15.10	365.5	430.6	446.9	439.7	7.21	61.952	
2,700.0	2,687.6	2,666.0	2,665.1	6.3	1.3	15.23	365.5	430.3	442.6	435.3	7.26	60.994	
2,755.9	2,741.1	2,720.0	2,719.1	6.5	1.3	15.74	365.3	429.3	426.1	418.7	7.42	57.435	
2,800.0	2,783.4	2,763.4	2,762.5	6.7	1.3	16.18	365.0	428.3	413.0	405.5	7.55	54.700	
2,854.3	2,835.4	2,816.3	2,815.4	6.9	1.3	16.75	364.6	427.0	396.8	389.0	7.72	51.405	
2,900.0	2,879.2	2,859.9	2,859.0	7.1	1.4	17.26	364.3	425.9	383.0	375.2	7.86	48.742	
2,952.7	2,929.7	2,910.4	2,909.4	7.4	1.4	17.90	363.9	424.6	367.2	359.2	8.03	45.747	
3,000.0	2,974.9	2,955.7	2,954.8	7.6	1.4	18.51	363.5	423.4	353.0	344.8	8.18	43.171	
3,051.2	3,023.9	3,004.8	3,003.8	7.8	1.4	19.24	363.0	422.0	337.6	329.3	8.35	40.450	
3,100.0	3,070.7	3,051.6	3,050.6	8.1	1.4	19.99	362.6	420.6	322.9	314.4	8.51	37.947	
3,149.6	3,118.2	3,099.1	3,098.1	8.3	1.4	20.83	362.1	419.2	308.0	299.3	8.68	35.471	
3,200.0	3,166.5	3,147.4	3,146.4	8.6	1.4	21.78	361.5	417.6	292.8	284.0	8.86	33.041	
3,248.0	3,212.5	3,193.5	3,192.4	8.8	1.5	22.78	361.0	416.1	278.4	269.3	9.04	30.789	
3,300.0	3,262.3	3,243.8	3,242.7	9.1	1.5	23.98	360.3	414.3	262.7	253.5	9.24	28.423	
3,346.4	3,306.8	3,288.9	3,287.7	9.3	1.5	25.16	359.8	412.5	248.6	239.2	9.43	26.357	
3,400.0	3,358.1	3,339.2	3,338.0	9.6	1.5	26.65	359.1	410.3	232.3	222.7	9.65	24.065	
3,444.9	3,401.0	3,381.1	3,379.9	9.8	1.5	28.09	358.4	408.7	219.0	209.1	9.85	22.221	
3,500.0	3,453.8	3,432.6	3,431.4	10.1	1.5	30.17	357.5	406.9	202.9	192.8	10.11	20.064	
3,543.3	3,495.3	3,473.2	3,471.9	10.3	1.6	32.06	356.8	405.6	190.6	180.3	10.33	18.446	
3,600.0	3,549.6	3,526.3	3,525.0	10.6	1.6	34.92	355.9	404.1	175.0	164.4	10.65	16.438	
3,641.7	3,589.6	3,565.4	3,564.1	10.8	1.6	37.35	355.3	403.1	164.0	153.1	10.90	15.043	
3,700.0	3,645.4	3,620.5	3,619.1	11.1	1.6	41.30	354.5	401.9	149.4	138.1	11.30	13.219	
3,740.1	3,683.8	3,658.7	3,657.3	11.4	1.6	44.50	354.0	401.0	139.7	128.1	11.60	12.044	
3,800.0	3,741.2	3,715.7	3,714.3	11.7	1.6	50.08	353.2	399.6	126.3	114.2	12.11	10.434	
3,838.6	3,778.1	3,752.4	3,750.9	11.9	1.7	54.29	352.8	398.8	118.4	105.9	12.46	9.500	
3,900.0	3,837.0	3,810.8	3,809.3	12.2	1.7	62.10	352.0	397.4	107.3	94.3	13.06	8.217	
3,937.0	3,872.4	3,845.9	3,844.5	12.4	1.7	67.51	351.5	396.5	101.8	88.4	13.43	7.583	
4,000.0	3,932.7	3,905.8	3,904.3	12.8	1.7	77.85	350.8	395.0	95.0	81.0	14.01	6.780	
4,035.4	3,966.7	3,939.4	3,937.9	13.0	1.7	84.13	350.3	394.2	92.7	78.5	14.28	6.495	
4,078.4	4,007.8	3,980.2	3,978.7	13.2	1.7	91.98	349.9	393.3	91.8	77.2	14.53	6.314 CC, ES	
4,100.0	4,028.5	4,000.8	3,999.3	13.3	1.7	95.94	349.6	392.8	92.0	77.4	14.63	6.291 SF	
4,133.8	4,060.9	4,032.9	4,031.4	13.5	1.8	102.01	349.3	392.1	93.4	78.6	14.73	6.340	
4,200.0	4,124.3	4,096.0	4,094.4	13.9	1.8	113.04	348.8	391.0	99.1	84.3	14.78	6.706	
4,232.3	4,155.2	4,126.8	4,125.3	14.0	1.8	117.89	348.7	390.6	103.2	88.5	14.76	6.992	
4,300.0	4,220.1	4,191.7	4,190.1	14.4	1.8	126.86	348.4	389.5	113.9	99.3	14.66	7.771	
4,330.7	4,249.5	4,221.0	4,219.5	14.6	1.8	130.39	348.3	389.1	119.6	105.0	14.61	8.186	
4,400.0	4,315.9	4,287.4	4,285.8	15.0	1.8	137.24	348.1	388.0	133.7	119.2	14.50	9.222	
4,429.1	4,343.7	4,315.3	4,313.7	15.1	1.8	139.70	348.1	387.6	140.1	125.6	14.46	9.687	
4,500.0	4,411.6	4,383.2	4,381.6	15.5	1.9	144.85	348.2	386.5	156.5	142.1	14.41	10.863	
4,527.5	4,438.0	4,409.6	4,408.1	15.7	1.9	146.58	348.2	386.1	163.1	148.7	14.40	11.331	
4,600.0	4,507.4	4,479.3	4,477.8	16.1	1.9	150.52	348.4	385.1	181.0	166.6	14.40	12.570	
4,626.0	4,532.3	4,504.3	4,502.8	16.2	1.9	151.75	348.5	384.8	187.6	173.1	14.41	13.014	
4,700.0	4,603.2	4,575.4	4,573.8	16.7	1.9	154.82	349.0	383.8	206.5	192.1	14.47	14.271	
4,724.4	4,626.6	4,598.8	4,597.2	16.8	1.9	155.71	349.1	383.5	212.9	198.4	14.50	14.682	
4,800.0	4,699.0	4,671.8	4,670.2	17.2	1.9	158.17	349.7	382.6	232.7	218.1	14.60	15.937	
4,822.8	4,720.8	4,693.9	4,692.3	17.4	1.9	158.82	349.9	382.4	238.7	224.1	14.64	16.308	
4,900.0	4,794.7	4,767.7	4,766.1	17.8	2.0	160.78	350.6	381.7	259.2	244.4	14.77	17.542	
4,921.2	4,815.1	4,788.1	4,786.4	17.9	2.0	161.27	350.8	381.5	264.9	250.1	14.82	17.877	
5,000.0	4,890.5	4,863.5	4,861.9	18.4	2.0	162.90	351.4	380.8	286.1	271.1	14.98	19.099	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
5,019.7	4,909.4	4,882.4	4,880.8	18.5	2.0	163.27	351.6	380.7	291.5	276.4	15.03	19.398	
5,100.0	4,986.3	4,959.2	4,957.6	18.9	2.0	164.63	352.2	380.0	313.4	298.2	15.21	20.598	
5,118.1	5,003.6	4,976.5	4,974.9	19.0	2.0	164.91	352.4	379.9	318.3	303.1	15.26	20.864	
5,200.0	5,082.1	5,054.4	5,052.7	19.5	2.0	166.06	352.9	379.3	341.0	325.5	15.47	22.043	
5,216.5	5,097.9	5,070.0	5,068.4	19.6	2.0	166.27	353.0	379.2	345.6	330.0	15.51	22.278	
5,300.0	5,177.9	5,149.5	5,147.9	20.1	2.0	167.25	353.3	378.7	368.9	353.2	15.74	23.441	
5,314.9	5,192.2	5,163.8	5,162.2	20.2	2.0	167.41	353.3	378.6	373.1	357.3	15.78	23.646	
5,400.0	5,273.6	5,244.9	5,243.3	20.6	2.1	168.27	353.6	378.0	397.1	381.1	16.02	24.787	
5,413.4	5,286.5	5,257.6	5,256.0	20.7	2.1	168.40	353.6	377.9	400.9	384.8	16.06	24.963	
5,500.0	5,369.4	5,339.7	5,338.0	21.2	2.1	169.16	353.8	377.2	425.5	409.2	16.31	26.083	
5,511.8	5,380.7	5,350.8	5,349.2	21.3	2.1	169.25	353.8	377.1	428.9	412.5	16.35	26.233	
5,600.0	5,465.2	5,433.9	5,432.2	21.8	2.1	169.92	353.7	376.4	454.3	437.7	16.62	27.337	
5,610.2	5,475.0	5,443.5	5,441.9	21.9	2.1	169.99	353.7	376.3	457.3	440.6	16.65	27.463	
5,700.0	5,561.0	5,527.5	5,525.8	22.4	2.1	170.58	353.3	375.5	483.5	466.5	16.93	28.551	
5,708.6	5,569.3	5,535.4	5,533.8	22.4	2.1	170.64	353.3	375.4	486.0	469.0	16.96	28.655	
5,793.4	5,650.4	5,613.3	5,611.7	22.9	2.2	171.12	352.6	374.4	511.2	494.0	17.23	29.665	
5,800.0	5,656.8	5,619.4	5,617.7	22.9	2.2	171.17	352.5	374.3	513.2	496.0	17.25	29.754	
5,807.1	5,663.6	5,625.9	5,624.2	23.0	2.2	171.21	352.4	374.2	515.3	498.1	17.26	29.852	
5,900.0	5,753.1	5,712.4	5,710.7	23.4	2.2	171.74	351.1	372.8	541.8	524.4	17.44	31.066	
5,905.5	5,758.4	5,718.0	5,716.4	23.4	2.2	171.77	351.0	372.7	543.3	525.8	17.45	31.133	
6,000.0	5,850.3	5,815.2	5,813.5	23.8	2.2	172.21	349.7	371.6	566.7	549.1	17.61	32.174	
6,003.9	5,854.1	5,819.3	5,817.6	23.8	2.2	172.23	349.7	371.6	567.6	550.0	17.62	32.214	
6,100.0	5,948.3	5,917.8	5,916.1	24.1	2.3	172.56	349.1	371.1	587.3	569.6	17.77	33.058	
6,102.3	5,950.6	5,920.2	5,918.5	24.1	2.3	172.56	349.1	371.1	587.8	570.0	17.77	33.077	
6,200.0	6,046.9	6,018.2	6,016.5	24.4	2.3	172.80	348.9	371.1	604.0	586.1	17.90	33.752	
6,200.8	6,047.6	6,019.0	6,017.3	24.4	2.3	172.80	348.9	371.1	604.1	586.3	17.90	33.757	
6,299.2	6,145.2	6,117.2	6,115.5	24.7	2.3	172.97	348.9	371.2	617.0	599.0	18.00	34.282	
6,300.0	6,146.0	6,118.0	6,116.3	24.7	2.3	172.97	348.9	371.2	617.1	599.1	18.00	34.285	
6,397.6	6,243.1	6,214.9	6,213.2	24.9	2.3	173.09	348.8	371.4	626.5	608.5	18.08	34.648	
6,400.0	6,245.5	6,217.3	6,215.6	24.9	2.3	173.09	348.8	371.4	626.7	608.6	18.08	34.655	
6,496.0	6,341.4	6,313.5	6,311.8	25.1	2.3	173.15	348.7	371.6	632.7	614.5	18.16	34.849	
6,500.0	6,345.3	6,317.4	6,315.7	25.1	2.3	173.15	348.7	371.6	632.9	614.7	18.16	34.854	
6,594.5	6,439.7	6,412.1	6,410.4	25.2	2.3	173.18	348.7	371.7	635.5	617.2	18.21	34.903	
6,600.0	6,445.3	6,417.6	6,415.9	25.2	2.3	173.18	348.8	371.7	635.5	617.3	18.21	34.900	
6,628.6	6,473.9	6,446.3	6,444.6	25.3	2.3	-148.51	348.8	371.7	635.6	617.4	18.22	34.880	
6,658.6	6,503.9	6,476.4	6,474.7	25.3	2.3	-148.51	348.8	371.7	635.6	617.3	18.27	34.785	
6,692.9	6,538.1	6,510.5	6,508.8	25.3	2.3	31.56	348.9	371.7	634.8	616.6	18.21	34.854	
6,700.0	6,545.2	6,517.5	6,515.8	25.3	2.3	31.59	348.9	371.7	634.5	616.3	18.20	34.857	
6,750.0	6,595.0	6,566.5	6,564.8	25.3	2.3	31.98	348.9	371.7	630.6	612.5	18.12	34.805	
6,791.3	6,635.8	6,606.8	6,605.1	25.3	2.3	32.53	348.9	371.6	625.1	607.1	18.05	34.635	
6,800.0	6,644.3	6,615.3	6,613.6	25.3	2.3	32.67	348.9	371.6	623.8	605.7	18.04	34.583	
6,850.0	6,693.0	6,664.1	6,662.4	25.2	2.3	33.69	348.9	371.5	614.1	596.1	17.96	34.189	
6,889.7	6,731.0	6,702.1	6,700.4	25.2	2.3	34.76	349.0	371.3	604.5	586.6	17.90	33.761	
6,900.0	6,740.7	6,711.7	6,710.0	25.2	2.3	35.07	349.0	371.3	601.7	583.8	17.89	33.633	
6,950.0	6,787.3	6,757.6	6,755.9	25.0	2.3	36.81	349.0	371.1	586.7	568.9	17.83	32.901	
6,988.2	6,821.9	6,791.7	6,790.0	24.9	2.3	38.42	349.0	371.0	573.7	555.9	17.81	32.209	
7,000.0	6,832.5	6,802.2	6,800.5	24.9	2.3	38.97	349.0	370.9	569.4	551.6	17.81	31.968	
7,050.0	6,876.1	6,845.5	6,843.8	24.7	2.3	41.60	348.9	370.7	549.9	532.0	17.86	30.793	
7,086.6	6,906.8	6,876.0	6,874.3	24.6	2.3	43.84	348.8	370.6	534.4	516.4	17.95	29.766	
7,100.0	6,917.9	6,887.0	6,885.3	24.5	2.3	44.74	348.8	370.5	528.5	510.5	18.00	29.353	
7,150.0	6,957.6	6,926.8	6,925.1	24.3	2.4	48.44	348.8	370.3	505.5	487.3	18.28	27.653	
7,185.0	6,984.2	6,953.6	6,951.9	24.1	2.4	51.38	348.7	370.1	488.7	470.2	18.56	26.336	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT BROWN 30-31 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 100-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)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,200.0	6,995.2	6,964.7	6,963.0	24.1	2.4	52.71	348.7	370.1	481.4	462.7	18.69	25.753	
7,250.0	7,030.3	7,000.1	6,998.4	23.8	2.4	57.50	348.6	369.9	456.6	437.4	19.21	23.773	
7,283.4	7,052.4	7,022.3	7,020.6	23.6	2.4	60.93	348.6	369.8	440.0	420.4	19.58	22.473	
7,300.0	7,062.9	7,032.8	7,031.1	23.6	2.4	62.68	348.6	369.8	431.8	412.0	19.76	21.855	
7,350.0	7,092.8	7,062.7	7,061.0	23.3	2.4	68.08	348.6	369.6	407.7	387.4	20.26	20.124	
7,381.9	7,110.3	7,080.2	7,078.5	23.1	2.4	71.52	348.6	369.5	393.1	372.6	20.52	19.154	
7,400.0	7,119.8	7,089.6	7,087.9	23.0	2.4	73.45	348.6	369.5	385.2	364.6	20.65	18.658	
7,450.0	7,143.8	7,113.7	7,112.0	22.8	2.4	78.52	348.6	369.3	365.5	344.6	20.90	17.489	
7,480.3	7,156.8	7,126.9	7,125.2	22.6	2.4	81.35	348.7	369.2	355.4	334.4	21.00	16.925	
7,500.0	7,164.7	7,134.8	7,133.1	22.5	2.4	83.04	348.7	369.2	349.8	328.7	21.04	16.623	
7,550.0	7,182.3	7,152.7	7,151.0	22.2	2.4	86.75	348.7	369.1	339.1	318.0	21.10	16.069	
7,578.7	7,191.0	7,161.5	7,159.8	22.1	2.4	88.44	348.7	369.1	335.8	314.7	21.12	15.897	
7,600.0	7,196.7	7,167.2	7,165.5	22.0	2.4	89.48	348.7	369.1	334.7	313.6	21.12	15.848	
7,607.5	7,198.5	7,169.1	7,167.4	21.9	2.4	89.80	348.7	369.1	334.6	313.5	21.12	15.844	
7,650.0	7,207.7	7,178.3	7,176.6	21.7	2.4	91.14	348.7	369.0	337.2	316.1	21.10	15.983	
7,677.1	7,212.2	7,182.9	7,181.2	21.6	2.4	91.56	348.7	369.0	341.5	320.4	21.08	16.205	
7,700.0	7,215.2	7,186.0	7,184.3	21.5	2.4	91.65	348.7	369.0	346.7	325.7	21.04	16.480	
7,750.0	7,219.3	7,190.1	7,188.4	21.3	2.4	90.98	348.7	369.0	363.0	342.0	20.96	17.318	
7,775.6	7,220.1	7,190.9	7,189.2	21.2	2.4	90.17	348.7	369.0	373.6	352.7	20.92	17.862	
7,792.5	7,220.0	7,190.9	7,189.2	21.1	2.4	89.46	348.7	369.0	381.4	360.6	20.88	18.266	
7,800.0	7,219.9	7,190.8	7,189.1	21.1	2.4	89.44	348.7	369.0	385.1	364.2	20.89	18.439	
7,874.0	7,219.0	7,189.8	7,188.1	20.8	2.4	89.28	348.7	369.0	426.6	405.6	20.99	20.324	
7,900.0	7,218.7	7,189.5	7,187.8	20.7	2.4	89.22	348.7	369.0	443.1	422.1	21.02	21.078	
7,972.4	7,217.8	7,188.5	7,186.8	20.5	2.4	89.06	348.7	369.0	493.6	472.4	21.26	23.214	
8,000.0	7,217.5	7,188.2	7,186.5	20.4	2.4	89.00	348.7	369.0	514.3	492.9	21.36	24.080	
8,070.8	7,216.6	7,187.2	7,185.5	20.4	2.4	88.84	348.7	369.0	569.9	548.2	21.72	26.238	
8,100.0	7,216.2	7,186.9	7,185.1	20.4	2.4	88.77	348.7	369.0	593.7	571.9	21.87	27.148	
8,169.3	7,215.4	7,185.9	7,184.2	20.7	2.4	88.62	348.7	369.0	652.1	629.8	22.34	29.186	
8,200.0	7,215.0	7,185.5	7,183.8	21.0	2.4	88.55	348.7	369.0	678.7	656.1	22.55	30.092	
8,267.7	7,214.1	7,184.7	7,183.0	21.6	2.4	88.40	348.7	369.0	738.3	715.2	23.12	31.936	
8,300.0	7,213.7	7,184.2	7,182.5	21.9	2.4	88.32	348.7	369.0	767.3	743.9	23.39	32.805	
8,366.1	7,212.9	7,183.4	7,181.7	22.6	2.4	88.18	348.7	369.0	827.3	803.2	24.03	34.426	
8,400.0	7,212.5	7,182.9	7,181.2	23.0	2.4	88.10	348.7	369.0	858.3	834.0	24.36	35.238	
8,464.5	7,211.7	7,182.1	7,180.4	23.8	2.4	87.95	348.7	369.0	918.1	893.1	25.06	36.637	
8,500.0	7,211.3	7,181.6	7,179.9	24.2	2.4	87.87	348.7	369.0	951.2	925.8	25.45	37.383	
8,563.0	7,210.5	7,180.8	7,179.1	25.0	2.4	87.73	348.7	369.0	1,010.4	984.2	26.19	38.573	
8,600.0	7,210.0	7,180.3	7,178.6	25.5	2.4	87.64	348.7	369.0	1,045.4	1,018.8	26.63	39.250	
8,661.4	7,209.3	7,179.5	7,177.8	26.3	2.4	87.51	348.7	369.0	1,103.7	1,076.3	27.42	40.256	
8,700.0	7,208.8	7,179.0	7,177.2	26.8	2.4	87.42	348.7	369.0	1,140.6	1,112.7	27.91	40.865	
8,759.8	7,208.0	7,178.2	7,176.5	27.6	2.4	87.28	348.7	369.0	1,197.9	1,169.2	28.72	41.710	
8,800.0	7,207.5	7,177.6	7,175.9	28.2	2.4	87.19	348.7	369.0	1,236.5	1,207.3	29.26	42.256	
8,858.2	7,206.8	7,176.8	7,175.1	29.0	2.4	87.06	348.7	369.0	1,292.7	1,262.6	30.09	42.965	
8,900.0	7,206.3	7,176.3	7,174.6	29.6	2.4	86.96	348.7	369.0	1,333.1	1,302.4	30.68	43.453	
8,956.7	7,205.6	7,175.5	7,173.8	30.4	2.4	86.83	348.7	369.0	1,388.0	1,356.5	31.51	44.047	
9,000.0	7,205.0	7,175.0	7,173.2	31.1	2.4	86.73	348.7	369.0	1,430.1	1,397.9	32.15	44.484	
9,055.1	7,204.3	7,174.2	7,172.5	31.9	2.4	86.60	348.7	369.1	1,483.7	1,450.7	32.98	44.982	
9,100.0	7,203.8	7,173.6	7,171.9	32.6	2.4	86.50	348.7	369.1	1,527.5	1,493.8	33.67	45.372	
9,153.5	7,203.1	7,172.9	7,171.2	33.4	2.4	86.38	348.7	369.1	1,579.7	1,545.2	34.50	45.790	
9,200.0	7,202.5	7,172.3	7,170.6	34.2	2.4	86.27	348.7	369.1	1,625.2	1,589.9	35.22	46.140	
9,251.9	7,201.9	7,171.6	7,169.9	35.0	2.4	86.15	348.7	369.1	1,676.0	1,640.0	36.05	46.492	
9,300.0	7,201.3	7,170.9	7,169.2	35.7	2.4	86.04	348.7	369.1	1,723.1	1,686.3	36.81	46.806	
9,350.4	7,200.7	7,170.2	7,168.5	36.6	2.4	85.92	348.7	369.1	1,772.6	1,734.9	37.63	47.103	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT BROWN 30-31 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 100-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
9,400.0	7,200.0	7,169.6	7,167.9	37.4	2.4	85.81	348.7	369.1	1,821.3	1,782.9	38.44	47.386	
9,448.8	7,199.4	7,168.9	7,167.2	38.2	2.4	85.69	348.7	369.1	1,869.3	1,830.1	39.24	47.638	
9,500.0	7,198.8	7,168.2	7,166.5	39.0	2.4	85.57	348.7	369.1	1,919.7	1,879.6	40.08	47.893	
9,547.2	7,198.2	7,167.6	7,165.9	39.8	2.4	85.46	348.7	369.1	1,966.2	1,925.3	40.87	48.106	
9,600.0	7,197.5	7,166.9	7,165.2	40.7	2.4	85.34	348.7	369.1	2,018.2	1,976.5	41.75	48.337	
9,645.6	7,197.0	7,166.2	7,164.5	41.4	2.4	85.23	348.7	369.1	2,063.3	2,020.7	42.52	48.519	
9,700.0	7,196.3	7,165.5	7,163.8	42.4	2.4	85.11	348.7	369.1	2,116.9	2,073.5	43.44	48.729	
9,744.1	7,195.7	7,164.9	7,163.2	43.1	2.4	85.00	348.7	369.1	2,160.4	2,116.2	44.19	48.885	
9,800.0	7,195.0	7,164.1	7,162.4	44.1	2.4	84.87	348.7	369.1	2,215.7	2,170.6	45.15	49.076	
9,842.5	7,194.5	7,163.6	7,161.8	44.8	2.4	84.77	348.7	369.1	2,257.7	2,211.8	45.88	49.209	
9,900.0	7,193.8	7,162.8	7,161.1	45.8	2.4	84.64	348.7	369.1	2,314.6	2,267.7	46.87	49.384	
9,940.9	7,193.3	7,162.2	7,160.5	46.5	2.4	84.54	348.7	369.1	2,355.1	2,307.5	47.58	49.499	
10,000.0	7,192.5	7,161.4	7,159.7	47.5	2.4	84.40	348.7	369.1	2,413.6	2,365.0	48.60	49.660	
10,039.3	7,192.0	7,160.9	7,159.1	48.2	2.4	84.31	348.7	369.1	2,452.5	2,403.3	49.29	49.759	
10,100.0	7,191.3	7,160.0	7,158.3	49.3	2.4	84.17	348.7	369.1	2,512.6	2,462.3	50.35	49.907	
10,137.8	7,190.8	7,159.5	7,157.8	49.9	2.4	84.08	348.7	369.1	2,550.1	2,499.1	51.01	49.992	
10,200.0	7,190.0	7,158.6	7,156.9	51.0	2.4	83.93	348.7	369.1	2,611.8	2,559.7	52.10	50.129	
10,236.2	7,189.6	7,158.1	7,156.4	51.7	2.4	83.85	348.7	369.1	2,647.7	2,594.9	52.74	50.203	
10,300.0	7,188.8	7,157.3	7,155.5	52.8	2.4	83.69	348.7	369.1	2,711.0	2,657.1	53.86	50.330	
10,334.6	7,188.3	7,156.8	7,155.1	53.4	2.4	83.61	348.7	369.1	2,745.3	2,690.9	54.48	50.395	
10,400.0	7,187.5	7,155.9	7,154.2	54.6	2.4	83.46	348.7	369.1	2,810.2	2,754.6	55.63	50.513	
10,433.0	7,187.1	7,155.4	7,153.7	55.2	2.4	83.38	348.7	369.1	2,843.0	2,786.8	56.22	50.569	
10,500.0	7,186.3	7,154.5	7,152.8	56.4	2.4	83.22	348.7	369.1	2,909.5	2,852.1	57.41	50.680	
10,531.5	7,185.9	7,154.0	7,152.3	56.9	2.4	83.14	348.7	369.1	2,940.8	2,882.8	57.97	50.729	
10,600.0	7,185.0	7,153.1	7,151.4	58.2	2.4	82.98	348.7	369.1	3,008.9	2,949.7	59.19	50.833	
10,629.9	7,184.6	7,152.7	7,151.0	58.7	2.4	82.91	348.7	369.1	3,038.6	2,978.9	59.73	50.875	
10,700.0	7,183.8	7,151.7	7,150.0	60.0	2.4	82.74	348.7	369.1	3,108.3	3,047.3	60.98	50.973	
10,728.3	7,183.4	7,151.3	7,149.6	60.5	2.4	82.67	348.7	369.1	3,136.4	3,074.9	61.49	51.011	
10,800.0	7,182.5	7,150.3	7,148.6	61.8	2.4	82.50	348.7	369.1	3,207.7	3,144.9	62.77	51.103	
10,826.7	7,182.2	7,149.9	7,148.2	62.3	2.4	82.44	348.7	369.1	3,234.3	3,171.0	63.25	51.136	
10,900.0	7,181.2	7,148.9	7,147.2	63.6	2.4	82.26	348.7	369.1	3,307.2	3,242.6	64.56	51.224	
10,925.2	7,180.9	7,148.5	7,146.8	64.0	2.4	82.20	348.7	369.1	3,332.2	3,267.2	65.02	51.253	
11,000.0	7,180.0	7,147.5	7,145.8	65.4	2.4	82.02	348.7	369.2	3,406.6	3,340.3	66.36	51.337	
11,023.6	7,179.7	7,147.1	7,145.4	65.8	2.4	81.96	348.7	369.2	3,430.1	3,363.3	66.78	51.362	
11,100.0	7,178.7	7,146.1	7,144.3	67.2	2.4	81.78	348.7	369.2	3,506.2	3,438.0	68.16	51.442	
11,122.0	7,178.4	7,145.7	7,144.0	67.6	2.4	81.73	348.7	369.2	3,528.1	3,459.5	68.55	51.464	
11,200.0	7,177.5	7,144.6	7,142.9	69.1	2.4	81.54	348.7	369.2	3,605.7	3,535.8	69.96	51.541	
11,220.4	7,177.2	7,144.3	7,142.6	69.4	2.4	81.49	348.7	369.2	3,626.1	3,555.7	70.33	51.560	
11,300.0	7,176.2	7,143.2	7,141.5	70.9	2.4	81.30	348.7	369.2	3,705.3	3,633.5	71.76	51.634	
11,318.9	7,176.0	7,142.9	7,141.2	71.2	2.4	81.25	348.7	369.2	3,724.1	3,652.0	72.10	51.651	
11,400.0	7,174.9	7,141.8	7,140.1	72.7	2.4	81.05	348.7	369.2	3,804.9	3,731.3	73.56	51.722	
11,417.3	7,174.7	7,141.5	7,139.8	73.1	2.4	81.01	348.7	369.2	3,822.1	3,748.2	73.88	51.737	
11,500.0	7,173.7	7,140.4	7,138.7	74.6	2.4	80.81	348.7	369.2	3,904.5	3,829.1	75.37	51.806	
11,515.7	7,173.5	7,140.1	7,138.4	74.9	2.4	80.77	348.7	369.2	3,920.2	3,844.5	75.65	51.819	
11,600.0	7,172.4	7,138.9	7,137.2	76.4	2.4	80.57	348.7	369.2	4,004.1	3,927.0	77.17	51.887	
11,614.1	7,172.2	7,138.7	7,137.0	76.7	2.4	80.53	348.7	369.2	4,018.2	3,940.8	77.43	51.897	
11,700.0	7,171.2	7,137.5	7,135.8	78.3	2.4	80.32	348.7	369.2	4,103.8	4,024.8	78.97	51.963	
11,712.6	7,171.0	7,137.3	7,135.6	78.5	2.4	80.29	348.7	369.2	4,116.3	4,037.1	79.20	51.973	
11,791.4	7,170.0	7,136.2	7,134.5	80.0	2.4	80.10	348.7	369.2	4,194.8	4,114.2	80.62	52.031	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	0.0	0.0	0.0	0.0	144.78	-2,380.3	1,680.2	2,913.6				
98.4	98.4	148.4	148.4	0.1	0.1	144.79	-2,378.9	1,678.5	2,912.2	2,912.0	0.22	N/A	
100.0	100.0	150.2	150.2	0.1	0.1	144.79	-2,378.8	1,678.5	2,912.2	2,912.0	0.22	N/A	
196.8	196.8	255.9	255.8	0.3	0.3	144.80	-2,376.9	1,676.5	2,909.7	2,909.1	0.57	5,066.881	
200.0	200.0	259.1	259.0	0.3	0.3	144.80	-2,376.8	1,676.4	2,909.6	2,909.0	0.58	4,980.110	
295.3	295.3	354.6	354.5	0.5	0.4	144.82	-2,375.0	1,674.5	2,907.0	2,906.1	0.87	3,327.473	
300.0	300.0	359.3	359.2	0.5	0.4	144.82	-2,375.0	1,674.4	2,906.9	2,906.0	0.89	3,275.210	
393.7	393.7	446.8	446.7	0.7	0.4	144.82	-2,373.3	1,672.7	2,904.4	2,903.3	1.16	2,513.874	
400.0	400.0	452.4	452.3	0.8	0.4	144.83	-2,373.2	1,672.6	2,904.3	2,903.1	1.17	2,476.045	
492.1	492.1	538.5	538.3	1.0	0.5	144.83	-2,371.9	1,671.0	2,902.2	2,900.7	1.43	2,028.960	
500.0	500.0	546.2	546.1	1.0	0.5	144.84	-2,371.8	1,670.9	2,902.0	2,900.5	1.45	1,998.064	
590.5	590.5	633.9	633.7	1.2	0.5	144.85	-2,370.6	1,669.3	2,900.0	2,898.3	1.70	1,702.291	
600.0	600.0	642.8	642.6	1.2	0.5	144.85	-2,370.4	1,669.1	2,899.8	2,898.0	1.73	1,676.703	
689.0	689.0	727.0	726.8	1.4	0.6	144.87	-2,369.6	1,667.4	2,898.0	2,896.0	1.97	1,469.103	
700.0	700.0	737.5	737.3	1.4	0.6	144.87	-2,369.5	1,667.1	2,897.7	2,895.7	2.00	1,446.990	
787.4	787.4	822.8	822.6	1.6	0.6	144.89	-2,368.6	1,665.6	2,896.1	2,893.9	2.24	1,292.420	
800.0	800.0	835.9	835.7	1.7	0.6	144.89	-2,368.5	1,665.3	2,895.9	2,893.6	2.28	1,272.706	
885.8	885.8	924.5	924.3	1.9	0.7	144.90	-2,367.5	1,663.7	2,894.2	2,891.7	2.51	1,153.053	
900.0	900.0	938.9	938.7	1.9	0.7	144.91	-2,367.4	1,663.4	2,893.9	2,891.4	2.55	1,135.505	
984.2	984.2	1,024.7	1,024.4	2.1	0.7	144.93	-2,366.6	1,661.5	2,892.2	2,889.4	2.78	1,041.371	
1,000.0	1,000.0	1,040.7	1,040.5	2.1	0.7	144.93	-2,366.5	1,661.1	2,891.9	2,889.1	2.82	1,025.522	
1,082.7	1,082.7	1,123.1	1,122.7	2.3	0.8	144.95	-2,365.7	1,659.3	2,890.2	2,887.1	3.04	949.973	
1,100.0	1,100.0	1,139.4	1,139.0	2.3	0.8	144.96	-2,365.5	1,658.9	2,889.8	2,886.7	3.09	935.704	
1,181.1	1,181.1	1,215.0	1,214.6	2.5	0.8	144.98	-2,364.9	1,657.3	2,888.3	2,885.0	3.30	874.348	
1,200.0	1,200.0	1,231.9	1,231.6	2.6	0.8	144.98	-2,364.8	1,656.9	2,887.9	2,884.6	3.35	861.303	
1,279.5	1,279.5	1,303.6	1,303.3	2.7	0.8	145.00	-2,364.4	1,655.4	2,886.6	2,883.1	3.56	810.403	
1,300.0	1,300.0	1,324.2	1,323.9	2.8	0.8	145.01	-2,364.3	1,655.0	2,886.3	2,882.7	3.62	798.087	
1,377.9	1,377.9	1,402.9	1,402.5	3.0	0.9	145.03	-2,364.0	1,653.4	2,885.2	2,881.4	3.82	754.401	
1,400.0	1,400.0	1,426.4	1,426.0	3.0	0.9	145.04	-2,363.9	1,653.0	2,884.8	2,881.0	3.88	742.805	
1,476.4	1,476.4	1,507.7	1,507.3	3.2	0.9	145.06	-2,363.4	1,651.4	2,883.6	2,879.5	4.09	705.238	
1,500.0	1,500.0	1,532.0	1,531.6	3.2	0.9	145.06	-2,363.2	1,650.9	2,883.2	2,879.0	4.15	694.436	
1,574.8	1,574.8	1,609.4	1,609.0	3.4	1.0	145.09	-2,362.8	1,649.0	2,881.8	2,877.5	4.35	662.261	
1,600.0	1,600.0	1,636.7	1,636.3	3.5	1.0	145.10	-2,362.7	1,648.3	2,881.4	2,876.9	4.42	652.006	
1,673.2	1,673.2	1,715.1	1,714.6	3.6	1.0	145.13	-2,362.2	1,646.2	2,879.9	2,875.3	4.62	623.961	
1,700.0	1,700.0	1,742.2	1,741.8	3.7	1.0	145.14	-2,362.0	1,645.5	2,879.3	2,874.6	4.69	614.386	
1,771.6	1,771.6	1,813.2	1,812.7	3.8	1.0	145.16	-2,361.6	1,643.5	2,877.8	2,872.9	4.88	590.233	
1,800.0	1,800.0	1,838.6	1,838.1	3.9	1.0	145.17	-2,361.4	1,642.8	2,877.2	2,872.3	4.95	581.340	
1,850.0	1,850.0	1,883.4	1,882.9	4.0	1.1	145.19	-2,361.1	1,641.7	2,876.3	2,871.2	5.08	566.297	
1,870.1	1,870.1	1,901.6	1,901.1	4.1	1.1	106.90	-2,361.0	1,641.3	2,875.9	2,870.8	5.09	564.546	
1,900.0	1,900.0	1,933.5	1,933.0	4.1	1.1	106.92	-2,360.9	1,640.5	2,875.5	2,870.3	5.17	556.091	
1,968.5	1,968.5	2,000.0	1,999.4	4.3	1.1	106.99	-2,360.5	1,638.9	2,874.8	2,869.5	5.34	538.083	
2,000.0	1,999.9	2,031.9	2,031.3	4.4	1.1	107.03	-2,360.3	1,638.2	2,874.7	2,869.2	5.42	530.202	
2,014.1	2,014.0	2,043.9	2,043.3	4.4	1.1	107.05	-2,360.2	1,637.9	2,874.6	2,869.2	5.46	526.780	
2,066.9	2,066.7	2,088.6	2,088.0	4.5	1.1	107.11	-2,360.0	1,637.0	2,874.9	2,869.3	5.59	514.430	
2,100.0	2,099.7	2,121.0	2,120.4	4.6	1.2	107.17	-2,359.9	1,636.4	2,875.2	2,869.5	5.67	506.900	
2,165.3	2,164.7	2,190.8	2,190.2	4.7	1.2	107.30	-2,359.6	1,635.0	2,876.2	2,870.3	5.84	492.223	
2,200.0	2,199.1	2,223.4	2,222.8	4.8	1.2	107.37	-2,359.4	1,634.4	2,876.8	2,870.9	5.93	484.853	
2,263.8	2,262.3	2,280.6	2,280.0	5.0	1.2	107.49	-2,359.2	1,633.3	2,878.5	2,872.4	6.10	471.538	
2,300.0	2,298.2	2,315.6	2,315.0	5.0	1.2	107.58	-2,359.1	1,632.6	2,879.7	2,873.5	6.20	464.220	
2,362.2	2,359.5	2,382.5	2,381.8	5.2	1.3	107.77	-2,358.9	1,631.3	2,882.1	2,875.7	6.39	451.371	
2,400.0	2,396.6	2,419.2	2,418.5	5.3	1.3	107.87	-2,358.7	1,630.6	2,883.7	2,877.2	6.50	443.942	
2,460.6	2,456.0	2,473.2	2,472.6	5.5	1.3	108.04	-2,358.6	1,629.6	2,886.7	2,880.0	6.69	431.793	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
2,500.0	2,494.4	2,509.8	2,509.2	5.6	1.3	108.15	-2,358.5	1,628.9	2,888.9	2,882.1	6.81	424.188	
2,559.0	2,551.8	2,572.7	2,572.0	5.8	1.3	108.38	-2,358.3	1,627.7	2,892.6	2,885.6	7.02	412.159	
2,600.0	2,591.5	2,613.9	2,613.2	5.9	1.3	108.54	-2,358.2	1,626.9	2,895.4	2,888.2	7.16	404.232	
2,657.5	2,646.8	2,666.3	2,665.6	6.1	1.4	108.73	-2,358.1	1,625.8	2,899.7	2,892.3	7.38	392.726	
2,685.2	2,673.5	2,691.5	2,690.8	6.2	1.4	108.83	-2,358.0	1,625.3	2,902.0	2,894.5	7.49	387.334	
2,700.0	2,687.6	2,700.0	2,699.3	6.3	1.4	108.88	-2,358.0	1,625.1	2,903.2	2,895.7	7.55	384.490	
2,755.9	2,741.1	2,751.1	2,750.4	6.5	1.4	109.17	-2,357.9	1,624.2	2,908.0	2,900.2	7.78	373.564	
2,800.0	2,783.4	2,788.0	2,787.2	6.7	1.4	109.38	-2,357.9	1,623.6	2,912.0	2,904.0	7.97	365.364	
2,854.3	2,835.4	2,840.1	2,839.4	6.9	1.4	109.67	-2,357.9	1,622.9	2,917.0	2,908.7	8.21	355.327	
2,900.0	2,879.2	2,886.1	2,885.4	7.1	1.4	109.92	-2,357.8	1,622.2	2,921.2	2,912.8	8.41	347.252	
2,952.7	2,929.7	2,937.1	2,936.4	7.4	1.5	110.20	-2,357.7	1,621.5	2,926.1	2,917.5	8.65	338.147	
3,000.0	2,974.9	2,982.1	2,981.3	7.6	1.5	110.45	-2,357.6	1,620.9	2,930.6	2,921.7	8.87	330.388	
3,051.2	3,023.9	3,030.3	3,029.6	7.8	1.5	110.72	-2,357.6	1,620.1	2,935.5	2,926.4	9.11	322.205	
3,100.0	3,070.7	3,076.1	3,075.4	8.1	1.5	110.97	-2,357.5	1,619.5	2,940.3	2,930.9	9.34	314.775	
3,149.6	3,118.2	3,125.9	3,125.2	8.3	1.5	111.24	-2,357.4	1,618.8	2,945.2	2,935.6	9.58	307.416	
3,200.0	3,166.5	3,180.2	3,179.4	8.6	1.5	111.53	-2,357.1	1,618.3	2,950.2	2,940.3	9.83	300.263	
3,248.0	3,212.5	3,228.6	3,227.9	8.8	1.6	111.79	-2,356.7	1,617.9	2,954.9	2,944.8	10.06	293.638	
3,300.0	3,262.3	3,278.9	3,278.2	9.1	1.6	112.05	-2,356.2	1,617.6	2,960.0	2,949.7	10.32	286.795	
3,346.4	3,306.8	3,327.7	3,326.9	9.3	1.6	112.30	-2,355.7	1,617.3	2,964.7	2,954.1	10.56	280.867	
3,400.0	3,358.1	3,387.7	3,387.0	9.6	1.6	112.61	-2,354.8	1,617.0	2,970.0	2,959.1	10.83	274.326	
3,444.9	3,401.0	3,437.4	3,436.6	9.8	1.6	112.85	-2,353.9	1,616.9	2,974.3	2,963.3	11.05	269.053	
3,500.0	3,453.8	3,498.2	3,497.4	10.1	1.6	113.15	-2,352.5	1,617.0	2,979.6	2,968.3	11.33	262.873	
3,543.3	3,495.3	3,541.9	3,541.1	10.3	1.6	113.36	-2,351.4	1,617.2	2,983.8	2,972.2	11.56	258.204	
3,600.0	3,549.6	3,599.0	3,598.2	10.6	1.6	113.63	-2,349.8	1,617.5	2,989.2	2,977.4	11.84	252.362	
3,641.7	3,589.6	3,634.3	3,633.5	10.8	1.6	113.80	-2,348.8	1,617.7	2,993.3	2,981.2	12.06	248.223	
3,700.0	3,645.4	3,683.3	3,682.5	11.1	1.7	114.03	-2,347.6	1,617.9	2,999.1	2,986.8	12.36	242.701	
3,740.1	3,683.8	3,718.6	3,717.7	11.4	1.7	114.20	-2,346.9	1,618.0	3,003.3	2,990.7	12.56	239.023	
3,800.0	3,741.2	3,773.3	3,772.4	11.7	1.7	114.47	-2,345.8	1,618.0	3,009.6	2,996.7	12.87	233.763	
3,838.6	3,778.1	3,807.8	3,806.9	11.9	1.7	114.64	-2,345.2	1,618.0	3,013.7	3,000.6	13.07	230.496	
3,900.0	3,837.0	3,858.7	3,857.8	12.2	1.7	114.88	-2,344.3	1,618.0	3,020.4	3,007.0	13.39	225.525	
3,937.0	3,872.4	3,889.3	3,888.4	12.4	1.7	115.03	-2,343.9	1,618.0	3,024.6	3,011.0	13.59	222.638	
4,000.0	3,932.7	3,947.6	3,946.7	12.8	1.7	115.31	-2,343.2	1,618.1	3,031.9	3,018.0	13.91	217.915	
4,035.4	3,966.7	3,981.3	3,980.4	13.0	1.7	115.48	-2,342.7	1,618.1	3,036.0	3,021.9	14.10	215.349	
4,100.0	4,028.5	4,041.7	4,040.7	13.3	1.7	115.77	-2,342.0	1,618.1	3,043.6	3,029.2	14.43	210.856	
4,133.8	4,060.9	4,073.0	4,072.1	13.5	1.7	115.92	-2,341.7	1,618.1	3,047.6	3,033.0	14.61	208.582	
4,200.0	4,124.3	4,140.5	4,139.6	13.9	1.8	116.25	-2,341.0	1,617.9	3,055.6	3,040.6	14.96	204.298	
4,232.3	4,155.2	4,175.8	4,174.9	14.0	1.8	116.42	-2,340.6	1,617.8	3,059.5	3,044.3	15.13	202.270	
4,300.0	4,220.1	4,239.3	4,238.3	14.4	1.8	116.72	-2,339.8	1,617.7	3,067.6	3,052.1	15.48	198.185	
4,330.7	4,249.5	4,265.6	4,264.7	14.6	1.8	116.85	-2,339.5	1,617.6	3,071.3	3,055.7	15.64	196.400	
4,400.0	4,315.9	4,324.4	4,323.4	15.0	1.8	117.13	-2,339.0	1,617.2	3,080.0	3,064.0	16.00	192.526	
4,429.1	4,343.7	4,348.6	4,347.7	15.1	1.8	117.25	-2,338.9	1,617.0	3,083.7	3,067.5	16.15	190.955	
4,500.0	4,411.6	4,407.6	4,406.7	15.5	1.8	117.54	-2,338.7	1,616.6	3,093.0	3,076.4	16.51	187.282	
4,527.5	4,438.0	4,430.7	4,429.8	15.7	1.9	117.65	-2,338.6	1,616.4	3,096.6	3,080.0	16.66	185.921	
4,600.0	4,507.4	4,491.5	4,490.6	16.1	1.9	117.95	-2,338.6	1,616.1	3,106.5	3,089.5	17.02	182.470	
4,626.0	4,532.3	4,500.0	4,499.1	16.2	1.9	117.99	-2,338.7	1,616.0	3,110.2	3,093.0	17.16	181.263	
4,700.0	4,603.2	4,556.6	4,555.7	16.7	1.9	118.26	-2,339.0	1,615.9	3,120.9	3,103.4	17.53	178.063	
4,724.4	4,626.6	4,571.9	4,571.0	16.8	1.9	118.33	-2,339.2	1,615.8	3,124.6	3,107.0	17.65	177.039	
4,800.0	4,699.0	4,630.5	4,629.6	17.2	1.9	118.61	-2,340.1	1,615.9	3,136.5	3,118.4	18.02	174.024	
4,822.8	4,720.8	4,653.1	4,652.1	17.4	1.9	118.72	-2,340.5	1,615.9	3,140.1	3,122.0	18.13	173.164	
4,900.0	4,794.7	4,733.2	4,732.2	17.8	1.9	119.10	-2,341.8	1,616.0	3,152.4	3,133.9	18.50	170.355	
4,921.2	4,815.1	4,756.8	4,755.8	17.9	1.9	119.21	-2,342.1	1,616.0	3,155.7	3,137.1	18.61	169.610	
5,000.0	4,890.5	4,840.4	4,839.4	18.4	1.9	119.60	-2,343.2	1,615.8	3,168.1	3,149.1	18.98	166.902	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 100-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		
5,019.7	4,909.4	4,860.3	4,859.3	18.5	1.9	119.70	-2,343.4	1,615.7	3,171.2	3,152.1	19.08	166.236		
5,100.0	4,986.3	4,941.5	4,940.5	18.9	1.9	120.08	-2,344.4	1,615.3	3,183.8	3,164.4	19.46	163.587		
5,118.1	5,003.6	4,959.7	4,958.7	19.0	1.9	120.16	-2,344.6	1,615.2	3,186.7	3,167.1	19.55	163.003		
5,200.0	5,082.1	5,041.8	5,040.8	19.5	1.9	120.55	-2,345.4	1,614.7	3,199.6	3,179.6	19.94	160.430		
5,216.5	5,097.9	5,058.3	5,057.3	19.6	1.9	120.62	-2,345.6	1,614.6	3,202.2	3,182.2	20.02	159.923		
5,300.0	5,177.9	5,144.2	5,143.2	20.1	1.9	121.02	-2,346.3	1,614.2	3,215.4	3,195.0	20.42	157.433		
5,314.9	5,192.2	5,160.1	5,159.1	20.2	1.9	121.09	-2,346.4	1,614.1	3,217.7	3,197.3	20.50	156.999		
5,400.0	5,273.6	5,243.5	5,242.5	20.6	1.9	121.47	-2,346.8	1,613.7	3,231.2	3,210.3	20.90	154.569		
5,413.4	5,286.5	5,255.7	5,254.7	20.7	1.9	121.53	-2,346.9	1,613.6	3,233.3	3,212.3	20.97	154.194		
5,500.0	5,369.4	5,335.7	5,334.7	21.2	2.0	121.88	-2,347.4	1,613.3	3,247.2	3,225.8	21.39	151.842		
5,511.8	5,380.7	5,346.7	5,345.7	21.3	2.0	121.93	-2,347.5	1,613.3	3,249.1	3,227.6	21.44	151.531		
5,600.0	5,465.2	5,434.1	5,433.1	21.8	2.0	122.32	-2,348.0	1,613.1	3,263.4	3,241.6	21.86	149.286		
5,610.2	5,475.0	5,445.3	5,444.3	21.9	2.0	122.37	-2,348.0	1,613.1	3,265.1	3,243.2	21.91	149.035		
5,700.0	5,561.0	5,543.5	5,542.5	22.4	2.0	122.79	-2,348.2	1,613.1	3,279.6	3,257.2	22.33	146.884		
5,708.6	5,569.3	5,553.0	5,552.0	22.4	2.0	122.83	-2,348.2	1,613.1	3,280.9	3,258.6	22.37	146.681		
5,793.4	5,650.4	5,634.9	5,633.9	22.9	2.0	123.18	-2,348.1	1,613.0	3,294.5	3,271.7	22.77	144.687		
5,800.0	5,656.8	5,640.4	5,639.4	22.9	2.0	123.22	-2,348.1	1,613.0	3,295.6	3,272.8	22.79	144.584		
5,807.1	5,663.6	5,646.3	5,645.3	23.0	2.0	123.26	-2,348.1	1,613.0	3,296.7	3,273.9	22.81	144.506		
5,900.0	5,753.1	5,724.0	5,723.0	23.4	2.0	123.82	-2,348.3	1,612.6	3,310.9	3,287.8	23.08	143.478		
5,905.5	5,758.4	5,728.6	5,727.6	23.4	2.0	123.85	-2,348.4	1,612.6	3,311.7	3,288.6	23.09	143.427		
6,000.0	5,850.3	5,810.0	5,809.0	23.8	2.0	124.35	-2,349.0	1,612.1	3,324.8	3,301.5	23.33	142.533		
6,003.9	5,854.1	5,813.9	5,812.9	23.8	2.0	124.37	-2,349.0	1,612.1	3,325.4	3,302.0	23.34	142.505		
6,100.0	5,948.3	5,911.0	5,909.9	24.1	2.0	124.85	-2,349.7	1,612.0	3,337.0	3,313.5	23.54	141.759		
6,102.3	5,950.6	5,913.4	5,912.4	24.1	2.0	124.86	-2,349.7	1,612.0	3,337.3	3,313.7	23.54	141.745		
6,200.0	6,046.9	6,014.9	6,013.9	24.4	2.0	125.26	-2,350.1	1,612.3	3,347.2	3,323.5	23.73	141.077		
6,200.8	6,047.6	6,015.7	6,014.7	24.4	2.0	125.26	-2,350.1	1,612.3	3,347.2	3,323.5	23.73	141.072		
6,299.2	6,145.2	6,113.6	6,112.6	24.7	2.0	125.56	-2,350.3	1,612.9	3,355.2	3,331.3	23.89	140.428		
6,300.0	6,146.0	6,114.4	6,113.4	24.7	2.0	125.56	-2,350.3	1,612.9	3,355.3	3,331.4	23.89	140.422		
6,397.6	6,243.1	6,211.1	6,210.1	24.9	2.0	125.77	-2,350.5	1,614.0	3,361.2	3,337.2	24.04	139.814		
6,400.0	6,245.5	6,213.3	6,212.3	24.9	2.0	125.78	-2,350.5	1,614.0	3,361.3	3,337.3	24.04	139.797		
6,496.0	6,341.4	6,302.5	6,301.4	25.1	2.0	125.90	-2,350.6	1,615.2	3,365.4	3,341.2	24.17	139.237		
6,500.0	6,345.3	6,306.8	6,305.8	25.1	2.0	125.90	-2,350.6	1,615.3	3,365.5	3,341.3	24.18	139.211		
6,594.5	6,439.7	6,411.2	6,410.1	25.2	2.0	125.94	-2,350.5	1,617.4	3,367.5	3,343.2	24.29	138.661		
6,600.0	6,445.3	6,417.0	6,415.9	25.2	2.0	125.94	-2,350.5	1,617.6	3,367.6	3,343.3	24.29	138.623		
6,628.6	6,473.9	6,447.1	6,446.1	25.3	2.0	164.24	-2,350.3	1,618.3	3,367.7	3,343.4	24.32	138.450		
6,658.6	6,503.9	6,478.7	6,477.6	25.3	2.0	164.23	-2,350.2	1,619.3	3,367.8	3,343.4	24.37	138.209		
6,692.9	6,538.1	6,511.3	6,510.2	25.3	2.0	-15.81	-2,350.0	1,620.3	3,367.1	3,342.7	24.37	138.156		
6,700.0	6,545.2	6,517.0	6,515.9	25.3	2.0	-15.82	-2,349.9	1,620.4	3,366.8	3,342.4	24.37	138.124		
6,750.0	6,595.0	6,557.2	6,556.1	25.3	2.0	-15.95	-2,349.8	1,621.5	3,362.5	3,338.1	24.40	137.830		
6,791.3	6,635.8	6,590.2	6,589.0	25.3	2.0	-16.12	-2,349.9	1,622.1	3,356.6	3,332.2	24.42	137.463		
6,800.0	6,644.3	6,600.0	6,598.9	25.3	2.0	-16.16	-2,349.9	1,622.3	3,355.1	3,330.7	24.43	137.364		
6,850.0	6,693.0	6,635.8	6,634.7	25.2	2.0	-16.45	-2,350.2	1,622.8	3,344.5	3,320.1	24.43	136.895		
6,889.7	6,731.0	6,666.2	6,665.1	25.2	2.0	-16.75	-2,350.5	1,623.0	3,333.9	3,309.5	24.42	136.550		
6,900.0	6,740.7	6,674.0	6,672.8	25.2	2.0	-16.84	-2,350.6	1,623.1	3,330.9	3,306.5	24.41	136.461		
6,950.0	6,787.3	6,723.8	6,722.7	25.0	2.0	-17.35	-2,351.4	1,623.1	3,314.2	3,289.8	24.36	136.060		
6,988.2	6,821.9	6,782.4	6,781.2	24.9	2.0	-17.88	-2,352.1	1,622.7	3,299.1	3,274.8	24.31	135.695		
7,000.0	6,832.5	6,800.0	6,798.9	24.9	2.0	-18.06	-2,352.3	1,622.4	3,294.0	3,269.7	24.30	135.581		
7,050.0	6,876.1	6,841.6	6,840.4	24.7	2.0	-18.84	-2,352.7	1,621.8	3,270.7	3,246.6	24.16	135.355		
7,086.6	6,906.8	6,870.9	6,869.7	24.6	2.0	-19.51	-2,353.0	1,621.3	3,251.9	3,227.9	24.04	135.258		
7,100.0	6,917.9	6,881.4	6,880.3	24.5	2.0	-19.78	-2,353.1	1,621.1	3,244.6	3,220.6	23.99	135.224		
7,150.0	6,957.6	6,919.1	6,917.9	24.3	2.0	-20.92	-2,353.6	1,620.4	3,215.8	3,192.0	23.79	135.154		
7,185.0	6,984.2	6,944.1	6,942.9	24.1	2.0	-21.85	-2,353.9	1,620.0	3,194.1	3,170.5	23.64	135.118		

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
7,200.0	6,995.2	6,954.4	6,953.3	24.1	2.0	-22.29	-2,354.0	1,619.9	3,184.5	3,160.9	23.57	135.088	
7,250.0	7,030.3	6,987.6	6,986.4	23.8	2.0	-23.94	-2,354.4	1,619.4	3,150.7	3,127.4	23.35	134.940	
7,283.4	7,052.4	7,008.5	7,007.3	23.6	2.0	-25.24	-2,354.6	1,619.2	3,126.9	3,103.7	23.20	134.750	
7,300.0	7,062.9	7,018.5	7,017.3	23.6	2.0	-25.94	-2,354.8	1,619.1	3,114.7	3,091.6	23.14	134.609	
7,350.0	7,092.8	7,047.0	7,045.9	23.3	2.0	-28.37	-2,355.1	1,618.7	3,076.7	3,053.7	22.96	133.983	
7,381.9	7,110.3	7,063.8	7,062.7	23.1	2.0	-30.18	-2,355.3	1,618.6	3,051.5	3,028.6	22.88	133.382	
7,400.0	7,119.8	7,072.9	7,071.7	23.0	2.0	-31.33	-2,355.5	1,618.5	3,036.8	3,014.0	22.84	132.957	
7,450.0	7,143.8	7,096.0	7,094.8	22.8	2.0	-34.96	-2,355.8	1,618.2	2,995.3	2,972.5	22.78	131.465	
7,480.3	7,156.8	7,110.2	7,109.0	22.6	2.0	-37.60	-2,356.0	1,618.1	2,969.4	2,946.6	22.79	130.307	
7,500.0	7,164.7	7,119.3	7,118.1	22.5	2.0	-39.52	-2,356.1	1,618.0	2,952.3	2,929.5	22.80	129.484	
7,550.0	7,182.3	7,139.6	7,138.4	22.2	2.0	-45.19	-2,356.3	1,617.9	2,908.0	2,885.1	22.85	127.290	
7,578.7	7,191.0	7,149.5	7,148.4	22.1	2.0	-49.02	-2,356.4	1,617.8	2,882.1	2,859.2	22.85	126.104	
7,600.0	7,196.7	7,156.1	7,154.9	22.0	2.0	-52.16	-2,356.5	1,617.8	2,862.7	2,839.9	22.83	125.383	
7,650.0	7,207.7	7,168.9	7,167.7	21.7	2.0	-60.61	-2,356.6	1,617.7	2,816.6	2,794.0	22.62	124.537	
7,677.1	7,212.2	7,174.2	7,173.0	21.6	2.0	-65.80	-2,356.7	1,617.6	2,791.3	2,769.0	22.36	124.815	
7,700.0	7,215.2	7,177.8	7,176.6	21.5	2.0	-70.47	-2,356.7	1,617.6	2,770.0	2,747.9	22.05	125.604	
7,750.0	7,219.3	7,182.8	7,181.6	21.3	2.0	-81.34	-2,356.8	1,617.6	2,723.0	2,701.8	21.18	128.589	
7,775.6	7,220.1	7,183.9	7,182.7	21.2	2.0	-87.06	-2,356.8	1,617.6	2,698.9	2,678.2	20.76	129.979	
7,792.5	7,220.0	7,184.0	7,182.8	21.1	2.0	-90.82	-2,356.8	1,617.6	2,683.0	2,662.4	20.57	130.440	
7,800.0	7,219.9	7,184.0	7,182.8	21.1	2.0	-90.82	-2,356.8	1,617.6	2,676.0	2,655.4	20.57	130.077	
7,874.0	7,219.0	7,183.7	7,182.5	20.8	2.0	-90.80	-2,356.8	1,617.6	2,606.5	2,585.9	20.68	126.017	
7,900.0	7,218.7	7,183.7	7,182.5	20.7	2.0	-90.80	-2,356.8	1,617.6	2,582.2	2,561.5	20.72	124.604	
7,972.4	7,217.8	7,183.4	7,182.2	20.5	2.0	-90.78	-2,356.8	1,617.6	2,514.6	2,493.6	20.97	119.898	
8,000.0	7,217.5	7,183.3	7,182.1	20.4	2.0	-90.78	-2,356.8	1,617.6	2,488.9	2,467.9	21.07	118.139	
8,070.8	7,216.6	7,183.1	7,181.9	20.4	2.0	-90.76	-2,356.8	1,617.6	2,423.2	2,401.7	21.44	113.010	
8,100.0	7,216.2	7,183.0	7,181.8	20.4	2.0	-90.76	-2,356.8	1,617.6	2,396.2	2,374.6	21.60	110.956	
8,169.3	7,215.4	7,182.7	7,181.6	20.7	2.0	-90.74	-2,356.8	1,617.6	2,332.3	2,310.2	22.08	105.635	
8,200.0	7,215.0	7,182.6	7,181.5	21.0	2.0	-90.74	-2,356.8	1,617.6	2,304.1	2,281.8	22.29	103.354	
8,267.7	7,214.1	7,182.4	7,181.2	21.6	2.0	-90.72	-2,356.8	1,617.6	2,242.1	2,219.2	22.87	98.044	
8,300.0	7,213.7	7,182.3	7,181.1	21.9	2.0	-90.72	-2,356.8	1,617.6	2,212.6	2,189.5	23.14	95.609	
8,366.1	7,212.9	7,182.1	7,180.9	22.6	2.0	-90.70	-2,356.8	1,617.6	2,152.6	2,128.8	23.79	90.470	
8,400.0	7,212.5	7,182.0	7,180.8	23.0	2.0	-90.70	-2,356.8	1,617.6	2,122.0	2,097.8	24.13	87.951	
8,464.5	7,211.7	7,181.8	7,180.6	23.8	2.0	-90.68	-2,356.8	1,617.6	2,063.9	2,039.1	24.84	83.095	
8,500.0	7,211.3	7,181.7	7,180.5	24.2	2.0	-90.68	-2,356.8	1,617.6	2,032.2	2,007.0	25.23	80.551	
8,563.0	7,210.5	7,181.5	7,180.3	25.0	2.0	-90.66	-2,356.8	1,617.6	1,976.1	1,950.2	25.99	76.045	
8,600.0	7,210.0	7,181.3	7,180.1	25.5	2.0	-90.66	-2,356.8	1,617.6	1,943.4	1,917.0	26.43	73.524	
8,661.4	7,209.3	7,181.1	7,180.0	26.3	2.0	-90.64	-2,356.8	1,617.6	1,889.4	1,862.2	27.22	69.401	
8,700.0	7,208.8	7,181.0	7,179.8	26.8	2.0	-90.64	-2,356.8	1,617.6	1,855.7	1,828.0	27.72	66.939	
8,759.8	7,208.0	7,180.8	7,179.6	27.6	2.0	-90.63	-2,356.7	1,617.6	1,803.9	1,775.4	28.54	63.206	
8,800.0	7,207.5	7,180.7	7,179.5	28.2	2.0	-90.62	-2,356.7	1,617.6	1,769.4	1,740.3	29.09	60.827	
8,858.2	7,206.8	7,180.5	7,179.3	29.0	2.0	-90.61	-2,356.7	1,617.6	1,719.8	1,689.9	29.92	57.476	
8,900.0	7,206.3	7,180.4	7,179.2	29.6	2.0	-90.60	-2,356.7	1,617.6	1,684.6	1,654.0	30.52	55.198	
8,956.7	7,205.6	7,180.2	7,179.0	30.4	2.0	-90.59	-2,356.7	1,617.6	1,637.2	1,605.9	31.36	52.207	
9,000.0	7,205.0	7,180.1	7,178.9	31.1	2.0	-90.58	-2,356.7	1,617.6	1,601.5	1,569.5	32.00	50.041	
9,055.1	7,204.3	7,179.9	7,178.7	31.9	2.0	-90.57	-2,356.7	1,617.6	1,556.5	1,523.7	32.85	47.387	
9,100.0	7,203.8	7,179.8	7,178.6	32.6	2.0	-90.56	-2,356.7	1,617.6	1,520.4	1,486.9	33.54	45.338	
9,153.5	7,203.1	7,179.6	7,178.4	33.4	2.0	-90.55	-2,356.7	1,617.6	1,478.0	1,443.6	34.38	42.994	
9,200.0	7,202.5	7,179.5	7,178.3	34.2	2.0	-90.54	-2,356.7	1,617.6	1,441.8	1,406.7	35.11	41.066	
9,251.9	7,201.9	7,179.3	7,178.1	35.0	2.0	-90.53	-2,356.7	1,617.6	1,402.0	1,366.0	35.94	39.005	
9,300.0	7,201.3	7,179.2	7,178.0	35.7	2.0	-90.52	-2,356.7	1,617.6	1,365.9	1,329.2	36.72	37.202	
9,350.4	7,200.7	7,179.0	7,177.8	36.6	2.0	-90.51	-2,356.7	1,617.6	1,328.9	1,291.3	37.54	35.398	
9,400.0	7,200.0	7,178.9	7,177.7	37.4	2.0	-90.51	-2,356.7	1,617.6	1,293.3	1,255.0	38.35	33.720	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT BROWN MCCARTY 30-43 - Wellbore #1 - Wellbor												Offset Site Error:	0.0 usft
Survey Program: 100-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
9,448.8	7,199.4	7,178.7	7,177.5	38.2	2.0	-90.50	-2,356.7	1,617.6	1,259.3	1,220.1	39.17	32.152	
9,500.0	7,198.8	7,178.6	7,177.4	39.0	2.0	-90.49	-2,356.7	1,617.6	1,224.6	1,184.6	40.02	30.601	
9,547.2	7,198.2	7,178.4	7,177.2	39.8	2.0	-90.48	-2,356.7	1,617.6	1,193.7	1,152.9	40.82	29.246	
9,600.0	7,197.5	7,178.3	7,177.1	40.7	2.0	-90.47	-2,356.7	1,617.6	1,160.4	1,118.7	41.71	27.824	
9,645.6	7,197.0	7,178.1	7,176.9	41.4	2.0	-90.46	-2,356.7	1,617.6	1,132.9	1,090.4	42.49	26.665	
9,700.0	7,196.3	7,178.0	7,176.8	42.4	2.0	-90.45	-2,356.7	1,617.6	1,101.6	1,058.2	43.41	25.375	
9,744.1	7,195.7	7,177.9	7,176.7	43.1	2.0	-90.44	-2,356.7	1,617.6	1,077.7	1,033.5	44.18	24.395	
9,800.0	7,195.0	7,177.7	7,176.5	44.1	2.0	-90.43	-2,356.7	1,617.6	1,049.1	1,004.0	45.14	23.241	
9,842.5	7,194.5	7,177.6	7,176.4	44.8	2.0	-90.42	-2,356.7	1,617.6	1,028.9	983.0	45.88	22.425	
9,900.0	7,193.8	7,177.4	7,176.2	45.8	2.0	-90.41	-2,356.7	1,617.6	1,003.8	956.9	46.88	21.411	
9,940.9	7,193.3	7,177.3	7,176.1	46.5	2.0	-90.41	-2,356.7	1,617.6	987.6	940.0	47.60	20.747	
10,000.0	7,192.5	7,177.1	7,175.9	47.5	2.0	-90.40	-2,356.7	1,617.6	966.7	918.1	48.64	19.876	
10,039.3	7,192.0	7,177.0	7,175.8	48.2	2.0	-90.39	-2,356.7	1,617.6	954.6	905.3	49.33	19.350	
10,100.0	7,191.3	7,176.8	7,175.6	49.3	2.0	-90.38	-2,356.7	1,617.6	938.9	888.5	50.41	18.627	
10,137.8	7,190.8	7,176.7	7,175.5	49.9	2.0	-90.37	-2,356.7	1,617.6	931.0	879.9	51.08	18.226	
10,200.0	7,190.0	7,176.5	7,175.4	51.0	2.0	-90.36	-2,356.7	1,617.6	921.2	869.0	52.19	17.651	
10,236.2	7,189.6	7,176.4	7,175.3	51.7	2.0	-90.35	-2,356.7	1,617.6	917.3	864.5	52.83	17.363	
10,300.0	7,188.8	7,176.3	7,175.1	52.8	2.0	-90.34	-2,356.7	1,617.6	914.1	860.1	53.98	16.935	
10,315.1	7,188.6	7,176.2	7,175.0	53.1	2.0	-90.34	-2,356.7	1,617.6	914.0	859.7	54.25	16.848 CC	
10,334.6	7,188.3	7,176.2	7,175.0	53.4	2.0	-90.34	-2,356.7	1,617.6	914.2	859.6	54.60	16.743 ES	
10,400.0	7,187.5	7,176.0	7,174.8	54.6	2.0	-90.33	-2,356.7	1,617.6	917.9	862.1	55.78	16.457	
10,433.0	7,187.1	7,175.9	7,174.7	55.2	2.0	-90.32	-2,356.7	1,617.6	921.5	865.2	56.37	16.347	
10,500.0	7,186.3	7,175.7	7,174.5	56.4	2.0	-90.31	-2,356.7	1,617.6	932.5	874.9	57.58	16.194	
10,531.5	7,185.9	7,175.6	7,174.4	56.9	2.0	-90.30	-2,356.7	1,617.6	939.2	881.1	58.15	16.151	
10,600.0	7,185.0	7,175.4	7,174.2	58.2	2.0	-90.29	-2,356.7	1,617.6	957.3	897.9	59.40	16.118 SF	
10,629.9	7,184.6	7,175.4	7,174.2	58.7	2.0	-90.29	-2,356.7	1,617.6	966.7	906.7	59.94	16.127	
10,700.0	7,183.8	7,175.2	7,174.0	60.0	2.0	-90.27	-2,356.7	1,617.6	991.7	930.5	61.22	16.200	
10,728.3	7,183.4	7,175.1	7,173.9	60.5	2.0	-90.27	-2,356.7	1,617.6	1,003.0	941.3	61.74	16.247	
10,800.0	7,182.5	7,174.9	7,173.7	61.8	2.0	-90.26	-2,356.7	1,617.6	1,034.6	971.6	63.05	16.411	
10,826.7	7,182.2	7,174.8	7,173.6	62.3	2.0	-90.25	-2,356.7	1,617.6	1,047.4	983.9	63.54	16.486	
10,900.0	7,181.2	7,174.6	7,173.4	63.6	2.0	-90.24	-2,356.7	1,617.6	1,085.1	1,020.2	64.88	16.725	
10,925.2	7,180.9	7,174.6	7,173.4	64.0	2.0	-90.24	-2,356.7	1,617.6	1,098.9	1,033.5	65.34	16.818	
11,000.0	7,180.0	7,174.4	7,173.2	65.4	2.0	-90.22	-2,356.7	1,617.6	1,142.1	1,075.4	66.72	17.119	
11,023.6	7,179.7	7,174.3	7,173.1	65.8	2.0	-90.22	-2,356.7	1,617.6	1,156.4	1,089.3	67.15	17.221	
11,100.0	7,178.7	7,174.1	7,172.9	67.2	2.0	-90.21	-2,356.7	1,617.6	1,204.7	1,136.2	68.56	17.572	
11,122.0	7,178.4	7,174.0	7,172.9	67.6	2.0	-90.20	-2,356.7	1,617.6	1,219.2	1,150.2	68.97	17.679	
11,200.0	7,177.5	7,173.8	7,172.7	69.1	2.0	-90.19	-2,356.7	1,617.6	1,272.2	1,201.8	70.41	18.069	
11,220.4	7,177.2	7,173.8	7,172.6	69.4	2.0	-90.19	-2,356.7	1,617.6	1,286.5	1,215.7	70.78	18.175	
11,300.0	7,176.2	7,173.6	7,172.4	70.9	2.0	-90.17	-2,356.7	1,617.6	1,343.6	1,271.4	72.26	18.595	
11,318.9	7,176.0	7,173.5	7,172.3	71.2	2.0	-90.17	-2,356.7	1,617.6	1,357.5	1,284.9	72.61	18.697	
11,400.0	7,174.9	7,173.3	7,172.1	72.7	2.0	-90.16	-2,356.7	1,617.6	1,418.6	1,344.5	74.11	19.141	
11,417.3	7,174.7	7,173.3	7,172.1	73.1	2.0	-90.15	-2,356.7	1,617.6	1,431.9	1,357.4	74.43	19.237	
11,500.0	7,173.7	7,173.1	7,171.9	74.6	2.0	-90.14	-2,356.7	1,617.7	1,496.4	1,420.5	75.97	19.698	
11,515.7	7,173.5	7,173.0	7,171.8	74.9	2.0	-90.14	-2,356.7	1,617.7	1,508.9	1,432.7	76.26	19.786	
11,600.0	7,172.4	7,172.8	7,171.6	76.4	2.0	-90.12	-2,356.7	1,617.7	1,576.8	1,499.0	77.83	20.260	
11,614.1	7,172.2	7,172.8	7,171.6	76.7	2.0	-90.12	-2,356.7	1,617.7	1,588.4	1,510.3	78.09	20.339	
11,700.0	7,171.2	7,172.6	7,171.4	78.3	2.0	-90.11	-2,356.7	1,617.7	1,659.3	1,579.6	79.69	20.821	
11,712.6	7,171.0	7,172.5	7,171.3	78.5	2.0	-90.11	-2,356.7	1,617.7	1,669.8	1,589.9	79.93	20.891	
11,791.4	7,170.0	7,172.3	7,171.1	80.0	2.0	-90.09	-2,356.7	1,617.7	1,736.3	1,654.9	81.40	21.331	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis 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	121.28	-1,016.0	1,672.3	1,957.2				
98.4	98.4	53.5	53.5	0.1	0.0	121.28	-1,015.9	1,672.3	1,956.7	1,956.6	0.12	N/A	
100.0	100.0	55.1	55.1	0.1	0.0	121.28	-1,015.9	1,672.3	1,956.7	1,956.6	0.12	N/A	
196.8	196.8	153.2	153.2	0.3	0.1	121.27	-1,015.6	1,672.5	1,956.7	1,956.2	0.45	4,396.688	
200.0	200.0	156.5	156.5	0.3	0.1	121.27	-1,015.6	1,672.5	1,956.7	1,956.2	0.46	4,280.393	
295.3	295.3	255.8	255.8	0.5	0.3	121.26	-1,015.3	1,672.5	1,956.5	1,955.8	0.78	2,509.664	
300.0	300.0	260.7	260.7	0.5	0.3	121.26	-1,015.3	1,672.5	1,956.5	1,955.7	0.79	2,464.540	
393.7	393.7	356.4	356.4	0.7	0.3	121.26	-1,015.0	1,672.2	1,956.2	1,955.1	1.07	1,836.201	
400.0	400.0	362.7	362.7	0.8	0.3	121.26	-1,015.0	1,672.2	1,956.1	1,955.1	1.08	1,806.134	
492.1	492.1	451.4	451.4	1.0	0.4	121.27	-1,015.1	1,671.8	1,955.8	1,954.5	1.34	1,461.967	
500.0	500.0	458.8	458.8	1.0	0.4	121.27	-1,015.1	1,671.8	1,955.8	1,954.5	1.36	1,438.782	
590.5	590.5	550.2	550.2	1.2	0.4	121.28	-1,015.3	1,671.5	1,955.7	1,954.1	1.61	1,215.955	
600.0	600.0	560.3	560.3	1.2	0.4	121.28	-1,015.3	1,671.4	1,955.7	1,954.0	1.63	1,196.517	
689.0	689.0	652.7	652.7	1.4	0.5	121.28	-1,015.4	1,671.0	1,955.3	1,953.4	1.88	1,039.643	
700.0	700.0	663.9	663.9	1.4	0.5	121.29	-1,015.4	1,670.9	1,955.3	1,953.4	1.91	1,022.995	
787.4	787.4	754.5	754.4	1.6	0.5	121.29	-1,015.2	1,670.5	1,954.8	1,952.7	2.15	908.078	
800.0	800.0	767.7	767.7	1.7	0.5	121.29	-1,015.2	1,670.4	1,954.7	1,952.5	2.19	893.632	
885.8	885.8	853.1	853.1	1.9	0.6	121.29	-1,014.9	1,669.9	1,954.1	1,951.7	2.42	807.481	
900.0	900.0	866.8	866.8	1.9	0.6	121.29	-1,014.9	1,669.8	1,954.1	1,951.6	2.46	794.938	
984.2	984.2	951.8	951.8	2.1	0.6	121.29	-1,014.6	1,669.4	1,953.6	1,950.9	2.68	727.586	
1,000.0	1,000.0	968.1	968.1	2.1	0.6	121.29	-1,014.6	1,669.3	1,953.5	1,950.7	2.73	716.215	
1,082.7	1,082.7	1,052.7	1,052.7	2.3	0.7	121.29	-1,014.3	1,668.7	1,952.9	1,949.9	2.95	662.160	
1,100.0	1,100.0	1,070.2	1,070.2	2.3	0.7	121.29	-1,014.2	1,668.6	1,952.7	1,949.7	3.00	651.879	
1,181.1	1,181.1	1,152.7	1,152.6	2.5	0.7	121.29	-1,013.9	1,668.0	1,952.1	1,948.9	3.21	607.834	
1,200.0	1,200.0	1,171.9	1,171.9	2.6	0.7	121.29	-1,013.9	1,667.9	1,951.9	1,948.6	3.26	598.424	
1,279.5	1,279.5	1,247.8	1,247.8	2.7	0.8	121.30	-1,013.5	1,667.3	1,951.3	1,947.8	3.47	562.279	
1,300.0	1,300.0	1,266.7	1,266.6	2.8	0.8	121.30	-1,013.5	1,667.2	1,951.1	1,947.6	3.52	553.737	
1,377.9	1,377.9	1,342.4	1,342.4	3.0	0.8	121.30	-1,013.4	1,666.8	1,950.7	1,947.0	3.73	523.612	
1,400.0	1,400.0	1,364.8	1,364.8	3.0	0.8	121.30	-1,013.3	1,666.7	1,950.6	1,946.8	3.78	515.706	
1,476.4	1,476.4	1,444.4	1,444.3	3.2	0.8	121.29	-1,013.0	1,666.4	1,950.2	1,946.2	3.98	489.939	
1,500.0	1,500.0	1,469.5	1,469.5	3.2	0.8	121.29	-1,012.9	1,666.3	1,950.0	1,946.0	4.04	482.443	
1,574.8	1,574.8	1,545.6	1,545.6	3.4	0.9	121.30	-1,012.7	1,665.7	1,949.4	1,945.2	4.24	460.051	
1,600.0	1,600.0	1,570.6	1,570.6	3.5	0.9	121.30	-1,012.6	1,665.5	1,949.2	1,944.9	4.30	452.951	
1,673.2	1,673.2	1,641.7	1,641.7	3.6	0.9	121.30	-1,012.4	1,665.0	1,948.7	1,944.2	4.49	433.605	
1,700.0	1,700.0	1,667.4	1,667.4	3.7	0.9	121.30	-1,012.3	1,664.8	1,948.5	1,943.9	4.56	426.962	
1,771.6	1,771.6	1,740.1	1,740.1	3.8	0.9	121.31	-1,012.3	1,664.3	1,948.1	1,943.3	4.75	409.960	
1,800.0	1,800.0	1,770.3	1,770.3	3.9	1.0	121.31	-1,012.3	1,664.1	1,947.8	1,943.0	4.83	403.526	
1,850.0	1,850.0	1,821.7	1,821.7	4.0	1.0	121.32	-1,012.3	1,663.6	1,947.4	1,942.5	4.96	392.738	
1,870.1	1,870.1	1,841.4	1,841.3	4.1	1.0	83.02	-1,012.3	1,663.4	1,947.2	1,942.2	5.04	386.275	
1,900.0	1,900.0	1,870.7	1,870.7	4.1	1.0	83.04	-1,012.2	1,663.1	1,947.0	1,941.8	5.12	380.403	
1,968.5	1,968.5	1,939.6	1,939.5	4.3	1.0	83.12	-1,012.1	1,662.6	1,946.2	1,940.9	5.29	367.697	
2,000.0	1,999.9	1,971.8	1,971.8	4.4	1.0	83.18	-1,012.0	1,662.3	1,945.7	1,940.3	5.37	362.110	
2,066.9	2,066.7	2,039.0	2,039.0	4.5	1.1	83.33	-1,012.0	1,661.6	1,944.6	1,939.1	5.55	350.696	
2,100.0	2,099.7	2,071.8	2,071.8	4.6	1.1	83.43	-1,012.0	1,661.3	1,944.0	1,938.4	5.63	345.319	
2,165.3	2,164.7	2,135.3	2,135.3	4.7	1.1	83.64	-1,011.9	1,660.7	1,942.7	1,936.9	5.80	334.957	
2,200.0	2,199.1	2,168.5	2,168.4	4.8	1.1	83.77	-1,011.9	1,660.4	1,942.0	1,936.1	5.89	329.650	
2,263.8	2,262.3	2,232.7	2,232.7	5.0	1.1	84.05	-1,011.7	1,660.0	1,940.6	1,934.6	6.07	319.871	
2,300.0	2,298.2	2,271.2	2,271.1	5.0	1.1	84.24	-1,011.5	1,659.7	1,939.8	1,933.6	6.17	314.450	
2,362.2	2,359.5	2,332.6	2,332.6	5.2	1.2	84.58	-1,011.2	1,659.2	1,938.1	1,931.8	6.35	305.095	
2,400.0	2,396.6	2,367.8	2,367.7	5.3	1.2	84.79	-1,011.0	1,658.9	1,937.1	1,930.7	6.46	299.654	
2,460.6	2,456.0	2,427.0	2,427.0	5.5	1.2	85.17	-1,010.9	1,658.5	1,935.6	1,928.9	6.66	290.607	
2,500.0	2,494.4	2,468.0	2,468.0	5.6	1.2	85.46	-1,010.7	1,658.1	1,934.5	1,927.7	6.79	284.892	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
2,559.0	2,551.8	2,526.0	2,525.9	5.8	1.2	85.90	-1,010.4	1,657.6	1,932.8	1,925.8	7.00	276.009	
2,600.0	2,591.5	2,563.5	2,563.5	5.9	1.2	86.20	-1,010.2	1,657.3	1,931.7	1,924.5	7.15	270.120	
2,657.5	2,646.8	2,617.2	2,617.1	6.1	1.3	86.65	-1,009.9	1,657.0	1,930.2	1,922.8	7.38	261.495	
2,685.2	2,673.5	2,644.2	2,644.2	6.2	1.3	86.89	-1,009.7	1,656.9	1,929.5	1,922.0	7.49	257.464	
2,700.0	2,687.6	2,658.6	2,658.5	6.3	1.3	87.01	-1,009.6	1,656.8	1,929.1	1,921.6	7.56	255.271	
2,755.9	2,741.1	2,711.9	2,711.8	6.5	1.3	87.47	-1,009.4	1,656.5	1,927.8	1,920.0	7.80	247.050	
2,800.0	2,783.4	2,751.4	2,751.3	6.7	1.3	87.81	-1,009.2	1,656.2	1,926.9	1,918.9	8.00	240.879	
2,854.3	2,835.4	2,800.1	2,800.1	6.9	1.3	88.22	-1,009.1	1,656.0	1,926.0	1,917.8	8.25	233.400	
2,900.0	2,879.2	2,844.7	2,844.7	7.1	1.3	88.61	-1,008.9	1,655.8	1,925.4	1,916.9	8.47	227.403	
2,952.7	2,929.7	2,896.3	2,896.2	7.4	1.4	89.05	-1,008.7	1,655.6	1,924.8	1,916.0	8.72	220.630	
3,000.0	2,974.9	2,940.6	2,940.6	7.6	1.4	89.42	-1,008.5	1,655.4	1,924.3	1,915.3	8.95	214.894	
3,051.2	3,023.9	2,988.4	2,988.3	7.8	1.4	89.83	-1,008.3	1,655.2	1,923.9	1,914.7	9.21	208.861	
3,100.0	3,070.7	3,034.7	3,034.6	8.1	1.4	90.23	-1,008.3	1,655.0	1,923.7	1,914.2	9.46	203.419	
3,149.6	3,118.2	3,081.8	3,081.7	8.3	1.4	90.64	-1,008.3	1,654.7	1,923.6	1,913.9	9.71	198.075	
3,175.6	3,143.1	3,106.4	3,106.3	8.4	1.4	90.86	-1,008.4	1,654.5	1,923.6	1,913.7	9.84	195.391	
3,200.0	3,166.5	3,129.6	3,129.5	8.6	1.4	91.06	-1,008.4	1,654.3	1,923.6	1,913.6	9.97	192.938	
3,248.0	3,212.5	3,175.1	3,175.0	8.8	1.4	91.46	-1,008.6	1,654.0	1,923.7	1,913.5	10.22	188.222	
3,300.0	3,262.3	3,226.4	3,226.3	9.1	1.5	91.91	-1,008.7	1,653.6	1,923.9	1,913.4	10.49	183.361	
3,346.4	3,306.8	3,274.0	3,273.9	9.3	1.5	92.33	-1,008.8	1,653.1	1,924.2	1,913.4	10.74	179.161	
3,400.0	3,358.1	3,328.4	3,328.3	9.6	1.5	92.81	-1,009.0	1,652.5	1,924.5	1,913.5	11.03	174.543	
3,444.9	3,401.0	3,373.6	3,373.5	9.8	1.5	93.21	-1,009.1	1,651.9	1,924.8	1,913.5	11.27	170.809	
3,500.0	3,453.8	3,426.9	3,426.8	10.1	1.5	93.68	-1,009.2	1,651.1	1,925.2	1,913.7	11.57	166.448	
3,543.3	3,495.3	3,467.1	3,467.0	10.3	1.5	94.03	-1,009.3	1,650.5	1,925.7	1,913.9	11.80	163.160	
3,600.0	3,549.6	3,519.7	3,519.6	10.6	1.6	94.50	-1,009.4	1,649.8	1,926.5	1,914.4	12.11	159.065	
3,641.7	3,589.6	3,558.2	3,558.0	10.8	1.6	94.84	-1,009.5	1,649.3	1,927.2	1,914.8	12.34	156.174	
3,700.0	3,645.4	3,611.3	3,611.1	11.1	1.6	95.31	-1,009.7	1,648.7	1,928.3	1,915.7	12.66	152.335	
3,740.1	3,683.8	3,646.3	3,646.2	11.4	1.6	95.61	-1,009.8	1,648.3	1,929.3	1,916.4	12.88	149.816	
3,800.0	3,741.2	3,700.0	3,699.9	11.7	1.6	96.08	-1,010.1	1,647.9	1,931.0	1,917.8	13.20	146.234	
3,838.6	3,778.1	3,735.8	3,735.7	11.9	1.6	96.40	-1,010.3	1,647.6	1,932.2	1,918.8	13.42	144.021	
3,900.0	3,837.0	3,795.6	3,795.5	12.2	1.6	96.91	-1,010.5	1,647.3	1,934.2	1,920.5	13.75	140.646	
3,937.0	3,872.4	3,829.3	3,829.2	12.4	1.6	97.21	-1,010.6	1,647.1	1,935.5	1,921.6	13.95	138.699	
4,000.0	3,932.7	3,886.0	3,885.9	12.8	1.7	97.70	-1,011.0	1,646.7	1,938.0	1,923.7	14.30	135.534	
4,035.4	3,966.7	3,919.9	3,919.7	13.0	1.7	97.99	-1,011.3	1,646.5	1,939.5	1,925.0	14.49	133.826	
4,100.0	4,028.5	3,984.5	3,984.4	13.3	1.7	98.56	-1,011.8	1,646.0	1,942.3	1,927.4	14.84	130.843	
4,133.8	4,060.9	4,016.3	4,016.2	13.5	1.7	98.83	-1,012.0	1,645.7	1,943.8	1,928.7	15.03	129.335	
4,200.0	4,124.3	4,075.1	4,074.9	13.9	1.7	99.35	-1,012.5	1,645.2	1,947.0	1,931.6	15.39	126.516	
4,232.3	4,155.2	4,104.1	4,103.9	14.0	1.7	99.60	-1,012.9	1,644.9	1,948.7	1,933.1	15.57	125.194	
4,300.0	4,220.1	4,170.9	4,170.7	14.4	1.7	100.19	-1,013.8	1,644.1	1,952.3	1,936.4	15.93	122.540	
4,330.7	4,249.5	4,200.0	4,199.8	14.6	1.7	100.45	-1,014.3	1,643.7	1,954.1	1,938.0	16.10	121.378	
4,400.0	4,315.9	4,263.9	4,263.8	15.0	1.8	101.02	-1,015.3	1,642.8	1,958.1	1,941.7	16.47	118.860	
4,429.1	4,343.7	4,290.4	4,290.2	15.1	1.8	101.25	-1,015.8	1,642.4	1,959.9	1,943.3	16.63	117.841	
4,500.0	4,411.6	4,364.7	4,364.5	15.5	1.8	101.91	-1,017.0	1,641.2	1,964.4	1,947.4	17.01	115.460	
4,527.5	4,438.0	4,394.3	4,394.1	15.7	1.8	102.18	-1,017.4	1,640.7	1,966.2	1,949.0	17.16	114.564	
4,600.0	4,507.4	4,465.8	4,465.6	16.1	1.8	102.81	-1,018.4	1,639.4	1,970.8	1,953.2	17.55	112.275	
4,626.0	4,532.3	4,491.3	4,491.1	16.2	1.8	103.03	-1,018.7	1,638.9	1,972.5	1,954.8	17.69	111.482	
4,700.0	4,603.2	4,563.9	4,563.6	16.7	1.8	103.67	-1,019.6	1,637.6	1,977.4	1,959.3	18.09	109.299	
4,724.4	4,626.6	4,587.8	4,587.6	16.8	1.8	103.87	-1,019.8	1,637.1	1,979.1	1,960.8	18.22	108.603	
4,800.0	4,699.0	4,661.5	4,661.2	17.2	1.9	104.52	-1,020.6	1,635.6	1,984.3	1,965.7	18.63	106.523	
4,822.8	4,720.8	4,683.7	4,683.4	17.4	1.9	104.71	-1,020.9	1,635.1	1,986.0	1,967.2	18.75	105.916	
4,900.0	4,794.7	4,751.3	4,751.0	17.8	1.9	105.29	-1,021.6	1,633.8	1,991.7	1,972.6	19.16	103.940	
4,921.2	4,815.1	4,769.3	4,769.0	17.9	1.9	105.45	-1,021.8	1,633.5	1,993.4	1,974.2	19.28	103.415	
5,000.0	4,890.5	4,840.9	4,840.6	18.4	1.9	106.05	-1,022.5	1,632.8	2,000.0	1,980.3	19.69	101.556	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 100-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		
5,019.7	4,909.4	4,859.7	4,859.4	18.5	1.9	106.20	-1,022.7	1,632.6	2,001.7	1,981.9	19.80	101.109		
5,100.0	4,986.3	4,938.8	4,938.5	18.9	1.9	106.86	-1,023.6	1,631.6	2,008.7	1,988.5	20.22	99.351		
5,118.1	5,003.6	4,957.2	4,956.9	19.0	1.9	107.01	-1,023.8	1,631.4	2,010.3	1,990.0	20.31	98.967		
5,200.0	5,082.1	5,037.3	5,037.0	19.5	2.0	107.67	-1,024.4	1,630.5	2,017.6	1,996.9	20.74	97.281		
5,216.5	5,097.9	5,052.8	5,052.4	19.6	2.0	107.80	-1,024.5	1,630.3	2,019.1	1,998.3	20.83	96.950		
5,300.0	5,177.9	5,132.6	5,132.2	20.1	2.0	108.44	-1,025.0	1,629.6	2,026.9	2,005.6	21.26	95.339		
5,314.9	5,192.2	5,147.2	5,146.9	20.2	2.0	108.56	-1,025.1	1,629.5	2,028.3	2,007.0	21.34	95.060		
5,400.0	5,273.6	5,228.4	5,228.0	20.6	2.0	109.20	-1,025.4	1,628.9	2,036.5	2,014.7	21.78	93.506		
5,413.4	5,286.5	5,240.5	5,240.1	20.7	2.0	109.30	-1,025.5	1,628.8	2,037.9	2,016.0	21.85	93.269		
5,500.0	5,369.4	5,324.0	5,323.7	21.2	2.1	109.97	-1,026.1	1,628.0	2,046.7	2,024.4	22.29	91.816		
5,511.8	5,380.7	5,337.8	5,337.5	21.3	2.1	110.08	-1,026.2	1,627.8	2,047.9	2,025.5	22.35	91.626		
5,600.0	5,465.2	5,434.1	5,433.7	21.8	2.1	110.84	-1,026.6	1,626.4	2,056.7	2,033.9	22.80	90.223		
5,610.2	5,475.0	5,444.0	5,443.7	21.9	2.1	110.92	-1,026.6	1,626.2	2,057.7	2,034.8	22.85	90.061		
5,700.0	5,561.0	5,537.4	5,537.1	22.4	2.1	111.64	-1,026.5	1,625.0	2,066.7	2,043.4	23.30	88.687		
5,708.6	5,569.3	5,547.4	5,547.0	22.4	2.1	111.72	-1,026.4	1,624.9	2,067.5	2,044.2	23.35	88.558		
5,793.4	5,650.4	5,644.8	5,644.4	22.9	2.2	112.46	-1,025.5	1,623.5	2,075.7	2,052.0	23.77	87.317		
5,800.0	5,656.8	5,652.4	5,652.0	22.9	2.2	112.53	-1,025.5	1,623.3	2,076.4	2,052.6	23.80	87.246		
5,807.1	5,663.6	5,660.5	5,660.1	23.0	2.2	112.61	-1,025.4	1,623.2	2,077.0	2,053.2	23.82	87.189		
5,900.0	5,753.1	5,743.6	5,743.2	23.4	2.2	113.36	-1,024.4	1,621.4	2,085.1	2,061.0	24.13	86.412		
5,905.5	5,758.4	5,747.7	5,747.3	23.4	2.2	113.39	-1,024.3	1,621.3	2,085.6	2,061.4	24.15	86.372		
6,000.0	5,850.3	5,823.9	5,823.5	23.8	2.2	114.01	-1,024.0	1,620.0	2,093.5	2,069.1	24.43	85.686		
6,003.9	5,854.1	5,827.7	5,827.3	23.8	2.2	114.04	-1,024.0	1,619.9	2,093.8	2,069.4	24.44	85.664		
6,100.0	5,948.3	5,919.7	5,919.2	24.1	2.2	114.64	-1,023.5	1,619.3	2,101.1	2,076.4	24.70	85.069		
6,102.3	5,950.6	5,921.8	5,921.3	24.1	2.2	114.65	-1,023.5	1,619.3	2,101.2	2,076.5	24.70	85.056		
6,200.0	6,046.9	6,010.0	6,009.6	24.4	2.2	115.12	-1,022.8	1,619.5	2,107.6	2,082.7	24.94	84.521		
6,200.8	6,047.6	6,010.7	6,010.3	24.4	2.2	115.12	-1,022.8	1,619.5	2,107.6	2,082.7	24.94	84.517		
6,299.2	6,145.2	6,100.0	6,099.6	24.7	2.2	115.50	-1,022.6	1,619.6	2,113.0	2,087.9	25.13	84.088		
6,300.0	6,146.0	6,100.0	6,099.6	24.7	2.2	115.50	-1,022.6	1,619.6	2,113.1	2,087.9	25.13	84.084		
6,397.6	6,243.1	6,192.0	6,191.5	24.9	2.3	115.81	-1,022.8	1,619.4	2,117.4	2,092.1	25.29	83.717		
6,400.0	6,245.5	6,194.2	6,193.7	24.9	2.3	115.81	-1,022.8	1,619.4	2,117.4	2,092.2	25.30	83.708		
6,496.0	6,341.4	6,321.2	6,320.7	25.1	2.3	116.05	-1,022.2	1,619.0	2,119.5	2,094.0	25.43	83.354		
6,500.0	6,345.3	6,324.4	6,323.9	25.1	2.3	116.05	-1,022.1	1,619.0	2,119.5	2,094.1	25.43	83.334		
6,594.5	6,439.7	6,400.0	6,399.6	25.2	2.3	116.12	-1,021.7	1,618.7	2,120.0	2,094.5	25.56	82.948		
6,600.0	6,445.3	6,407.3	6,406.8	25.2	2.3	116.12	-1,021.7	1,618.6	2,120.0	2,094.5	25.57	82.923		
6,628.6	6,473.9	6,434.4	6,434.0	25.3	2.3	154.44	-1,021.7	1,618.5	2,120.0	2,094.4	25.60	82.817		
6,658.6	6,503.9	6,462.9	6,462.4	25.3	2.3	154.44	-1,021.7	1,618.3	2,119.9	2,094.3	25.64	82.686		
6,692.9	6,538.1	6,495.3	6,494.9	25.3	2.3	-25.59	-1,021.7	1,618.2	2,119.2	2,093.5	25.65	82.606		
6,700.0	6,545.2	6,502.1	6,501.7	25.3	2.3	-25.61	-1,021.7	1,618.2	2,118.8	2,093.2	25.66	82.575		
6,750.0	6,595.0	6,551.8	6,551.4	25.3	2.3	-25.80	-1,021.8	1,618.0	2,114.6	2,088.9	25.69	82.298		
6,791.3	6,635.8	6,592.6	6,592.1	25.3	2.4	-26.08	-1,021.8	1,617.8	2,108.8	2,083.1	25.73	81.966		
6,800.0	6,644.3	6,600.0	6,599.6	25.3	2.4	-26.15	-1,021.8	1,617.8	2,107.3	2,081.6	25.74	81.883		
6,850.0	6,693.0	6,647.6	6,647.1	25.2	2.4	-26.66	-1,021.9	1,617.6	2,096.9	2,071.2	25.76	81.391		
6,889.7	6,731.0	6,684.0	6,683.5	25.2	2.4	-27.18	-1,022.0	1,617.5	2,086.6	2,060.8	25.77	80.980		
6,900.0	6,740.7	6,693.2	6,692.8	25.2	2.4	-27.33	-1,022.0	1,617.4	2,083.6	2,057.8	25.77	80.866		
6,950.0	6,787.3	6,739.2	6,738.7	25.0	2.4	-28.19	-1,022.2	1,617.3	2,067.4	2,041.6	25.73	80.339		
6,988.2	6,821.9	6,773.5	6,773.0	24.9	2.4	-28.98	-1,022.3	1,617.2	2,053.0	2,027.4	25.68	79.943		
7,000.0	6,832.5	6,783.9	6,783.5	24.9	2.4	-29.26	-1,022.3	1,617.2	2,048.3	2,022.6	25.66	79.815		
7,050.0	6,876.1	6,828.7	6,828.2	24.7	2.4	-30.56	-1,022.4	1,617.2	2,026.5	2,000.9	25.56	79.288		
7,086.6	6,906.8	6,860.9	6,860.4	24.6	2.4	-31.68	-1,022.5	1,617.2	2,008.9	1,983.4	25.46	78.906		
7,100.0	6,917.9	6,872.4	6,872.0	24.5	2.4	-32.13	-1,022.5	1,617.2	2,002.1	1,976.6	25.42	78.759		
7,150.0	6,957.6	6,913.7	6,913.3	24.3	2.4	-33.99	-1,022.5	1,617.1	1,975.2	1,949.9	25.25	78.223		
7,185.0	6,984.2	6,940.9	6,940.4	24.1	2.4	-35.48	-1,022.5	1,617.0	1,954.9	1,929.8	25.12	77.835		

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
7,200.0	6,995.2	6,952.2	6,951.7	24.1	2.4	-36.17	-1,022.5	1,617.0	1,945.9	1,920.9	25.06	77.659	
7,250.0	7,030.3	6,988.2	6,987.7	23.8	2.4	-38.71	-1,022.6	1,616.8	1,914.6	1,889.7	24.85	77.057	
7,283.4	7,052.4	7,009.6	7,009.2	23.6	2.5	-40.62	-1,022.6	1,616.7	1,892.5	1,867.8	24.69	76.640	
7,300.0	7,062.9	7,019.2	7,018.7	23.6	2.5	-41.62	-1,022.6	1,616.7	1,881.3	1,856.7	24.62	76.426	
7,350.0	7,092.8	7,046.5	7,046.0	23.3	2.5	-44.93	-1,022.7	1,616.5	1,846.4	1,822.0	24.37	75.756	
7,381.9	7,110.3	7,062.5	7,062.1	23.1	2.5	-47.29	-1,022.8	1,616.5	1,823.3	1,799.1	24.21	75.308	
7,400.0	7,119.8	7,071.2	7,070.7	23.0	2.5	-48.72	-1,022.8	1,616.5	1,810.0	1,785.9	24.12	75.050	
7,450.0	7,143.8	7,093.2	7,092.8	22.8	2.5	-53.00	-1,022.9	1,616.4	1,772.3	1,748.5	23.84	74.343	
7,480.3	7,156.8	7,105.4	7,104.9	22.6	2.5	-55.84	-1,023.0	1,616.4	1,749.0	1,725.3	23.66	73.935	
7,500.0	7,164.7	7,112.8	7,112.3	22.5	2.5	-57.77	-1,023.0	1,616.4	1,733.6	1,710.1	23.52	73.698	
7,550.0	7,182.3	7,129.5	7,129.0	22.2	2.5	-62.99	-1,023.1	1,616.4	1,694.1	1,671.0	23.15	73.182	
7,578.7	7,191.0	7,137.7	7,137.2	22.1	2.5	-66.15	-1,023.2	1,616.4	1,671.2	1,648.2	22.91	72.954	
7,600.0	7,196.7	7,143.1	7,142.7	22.0	2.5	-68.55	-1,023.2	1,616.4	1,654.1	1,631.3	22.71	72.841	
7,650.0	7,207.7	7,153.7	7,153.2	21.7	2.5	-74.32	-1,023.3	1,616.4	1,613.7	1,591.5	22.21	72.650	
7,677.1	7,212.2	7,158.1	7,157.6	21.6	2.5	-77.48	-1,023.3	1,616.4	1,591.7	1,569.8	21.94	72.549	
7,700.0	7,215.2	7,161.0	7,160.6	21.5	2.5	-80.13	-1,023.3	1,616.4	1,573.2	1,551.5	21.71	72.467	
7,750.0	7,219.3	7,165.2	7,164.7	21.3	2.5	-85.78	-1,023.3	1,616.4	1,532.9	1,511.6	21.28	72.029	
7,775.6	7,220.1	7,166.0	7,165.6	21.2	2.5	-88.55	-1,023.3	1,616.4	1,512.5	1,491.3	21.12	71.606	
7,792.5	7,220.0	7,166.1	7,165.7	21.1	2.5	-90.34	-1,023.3	1,616.4	1,499.0	1,478.0	21.03	71.265	
7,800.0	7,219.9	7,166.1	7,165.6	21.1	2.5	-90.33	-1,023.3	1,616.4	1,493.1	1,472.0	21.04	70.971	
7,874.0	7,219.0	7,165.7	7,165.3	20.8	2.5	-90.31	-1,023.3	1,616.4	1,435.2	1,414.1	21.15	67.856	
7,900.0	7,218.7	7,165.6	7,165.1	20.7	2.5	-90.30	-1,023.3	1,616.4	1,415.2	1,394.1	21.19	66.786	
7,972.4	7,217.8	7,165.2	7,164.7	20.5	2.5	-90.28	-1,023.3	1,616.4	1,360.7	1,339.3	21.44	63.459	
8,000.0	7,217.5	7,165.1	7,164.6	20.4	2.5	-90.27	-1,023.3	1,616.4	1,340.4	1,318.8	21.54	62.234	
8,070.8	7,216.6	7,164.7	7,164.2	20.4	2.5	-90.25	-1,023.3	1,616.4	1,289.4	1,267.5	21.91	58.841	
8,100.0	7,216.2	7,164.5	7,164.1	20.4	2.5	-90.24	-1,023.3	1,616.4	1,269.0	1,246.9	22.07	57.504	
8,169.3	7,215.4	7,164.2	7,163.7	20.7	2.5	-90.21	-1,023.3	1,616.4	1,221.9	1,199.3	22.55	54.180	
8,200.0	7,215.0	7,164.0	7,163.5	21.0	2.5	-90.20	-1,023.3	1,616.4	1,201.7	1,178.9	22.77	52.782	
8,267.7	7,214.1	7,163.6	7,163.2	21.6	2.5	-90.18	-1,023.3	1,616.4	1,158.8	1,135.4	23.34	49.642	
8,300.0	7,213.7	7,163.5	7,163.0	21.9	2.5	-90.17	-1,023.3	1,616.4	1,139.1	1,115.5	23.62	48.233	
8,366.1	7,212.9	7,163.1	7,162.7	22.6	2.5	-90.15	-1,023.3	1,616.4	1,100.8	1,076.6	24.27	45.360	
8,400.0	7,212.5	7,162.9	7,162.5	23.0	2.5	-90.14	-1,023.3	1,616.4	1,082.3	1,057.7	24.60	43.990	
8,464.5	7,211.7	7,162.6	7,162.1	23.8	2.5	-90.12	-1,023.3	1,616.4	1,049.0	1,023.7	25.31	41.438	
8,500.0	7,211.3	7,162.4	7,161.9	24.2	2.5	-90.10	-1,023.3	1,616.4	1,032.0	1,006.3	25.71	40.146	
8,563.0	7,210.5	7,162.1	7,161.6	25.0	2.5	-90.08	-1,023.3	1,616.4	1,004.1	977.7	26.46	37.943	
8,600.0	7,210.0	7,161.9	7,161.4	25.5	2.5	-90.07	-1,023.3	1,616.4	989.3	962.4	26.91	36.762	
8,661.4	7,209.3	7,161.5	7,161.1	26.3	2.5	-90.05	-1,023.3	1,616.4	967.2	939.5	27.70	34.914	
8,700.0	7,208.8	7,161.3	7,160.9	26.8	2.5	-90.04	-1,023.3	1,616.4	955.2	927.0	28.20	33.869	
8,759.8	7,208.0	7,161.0	7,160.5	27.6	2.5	-90.02	-1,023.3	1,616.4	939.3	910.2	29.02	32.367	
8,800.0	7,207.5	7,160.8	7,160.3	28.2	2.5	-90.00	-1,023.3	1,616.4	930.6	901.0	29.57	31.472	
8,858.2	7,206.8	7,160.4	7,160.0	29.0	2.5	-89.98	-1,023.3	1,616.4	921.0	890.6	30.40	30.294	
8,900.0	7,206.3	7,160.2	7,159.8	29.6	2.5	-89.97	-1,023.3	1,616.4	916.3	885.3	31.00	29.560	
8,956.7	7,205.6	7,159.9	7,159.4	30.4	2.5	-89.95	-1,023.3	1,616.4	913.0	881.2	31.84	28.675	
8,981.6	7,205.3	7,159.8	7,159.3	30.8	2.5	-89.94	-1,023.3	1,616.4	912.7	880.5	32.21	28.334 CC	
9,000.0	7,205.0	7,159.6	7,159.2	31.1	2.5	-89.93	-1,023.3	1,616.4	912.9	880.4	32.49	28.102 ES	
9,055.1	7,204.3	7,159.3	7,158.9	31.9	2.5	-89.91	-1,023.3	1,616.4	915.6	882.3	33.33	27.473	
9,100.0	7,203.8	7,159.1	7,158.6	32.6	2.5	-89.90	-1,023.3	1,616.4	920.3	886.3	34.02	27.055	
9,153.5	7,203.1	7,158.8	7,158.3	33.4	2.5	-89.88	-1,023.3	1,616.4	928.7	893.9	34.86	26.642	
9,200.0	7,202.5	7,158.5	7,158.1	34.2	2.5	-89.86	-1,023.3	1,616.4	938.5	902.9	35.59	26.368	
9,251.9	7,201.9	7,158.2	7,157.8	35.0	2.5	-89.84	-1,023.3	1,616.4	951.9	915.5	36.43	26.131	
9,300.0	7,201.3	7,158.0	7,157.5	35.7	2.5	-89.83	-1,023.3	1,616.4	966.6	929.4	37.20	25.985	
9,350.4	7,200.7	7,157.7	7,157.2	36.6	2.5	-89.81	-1,023.3	1,616.4	984.4	946.3	38.03	25.887	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT BROWN-MCCARTY 30-5 - Wellbore #1 - Wellbore												Offset Site Error:	0.0 usft
Survey Program: 100-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
9,400.0	7,200.0	7,157.4	7,156.9	37.4	2.5	-89.79	-1,023.3	1,616.4	1,004.0	965.2	38.84	25.851 SF	
9,448.8	7,199.4	7,157.1	7,156.7	38.2	2.5	-89.77	-1,023.3	1,616.4	1,025.3	985.7	39.65	25.858	
9,500.0	7,198.8	7,156.8	7,156.4	39.0	2.5	-89.75	-1,023.3	1,616.4	1,049.6	1,009.1	40.50	25.914	
9,547.2	7,198.2	7,156.5	7,156.1	39.8	2.5	-89.74	-1,023.3	1,616.4	1,073.7	1,032.4	41.30	25.997	
9,600.0	7,197.5	7,156.2	7,155.8	40.7	2.5	-89.72	-1,023.3	1,616.4	1,102.4	1,060.2	42.19	26.129	
9,645.6	7,197.0	7,156.0	7,155.5	41.4	2.5	-89.70	-1,023.3	1,616.4	1,128.7	1,085.7	42.97	26.265	
9,700.0	7,196.3	7,155.7	7,155.2	42.4	2.5	-89.68	-1,023.3	1,616.4	1,161.5	1,117.6	43.90	26.457	
9,744.1	7,195.7	7,155.4	7,154.9	43.1	2.5	-89.67	-1,023.3	1,616.4	1,189.2	1,144.6	44.66	26.627	
9,800.0	7,195.0	7,155.1	7,154.6	44.1	2.5	-89.64	-1,023.3	1,616.4	1,225.8	1,180.2	45.63	26.866	
9,842.5	7,194.5	7,154.8	7,154.4	44.8	2.5	-89.63	-1,023.3	1,616.4	1,254.6	1,208.3	46.37	27.057	
9,900.0	7,193.8	7,154.5	7,154.0	45.8	2.5	-89.61	-1,023.3	1,616.4	1,294.7	1,247.4	47.37	27.332	
9,940.9	7,193.3	7,154.2	7,153.8	46.5	2.5	-89.59	-1,023.3	1,616.4	1,324.1	1,276.0	48.09	27.534	
10,000.0	7,192.5	7,153.9	7,153.4	47.5	2.5	-89.57	-1,023.3	1,616.4	1,367.5	1,318.4	49.13	27.836	
10,039.3	7,192.0	7,153.7	7,153.2	48.2	2.5	-89.55	-1,023.3	1,616.4	1,397.0	1,347.2	49.82	28.040	
10,100.0	7,191.3	7,153.3	7,152.8	49.3	2.5	-89.53	-1,023.3	1,616.4	1,443.5	1,392.6	50.90	28.361	
10,137.8	7,190.8	7,153.1	7,152.6	49.9	2.5	-89.52	-1,023.3	1,616.4	1,473.0	1,421.4	51.57	28.563	
10,200.0	7,190.0	7,152.7	7,152.2	51.0	2.5	-89.49	-1,023.3	1,616.4	1,522.3	1,469.6	52.68	28.899	
10,236.2	7,189.6	7,152.5	7,152.0	51.7	2.5	-89.48	-1,023.3	1,616.4	1,551.4	1,498.1	53.33	29.093	
10,300.0	7,188.8	7,152.1	7,151.6	52.8	2.5	-89.46	-1,023.2	1,616.4	1,603.4	1,549.0	54.47	29.439	
10,334.6	7,188.3	7,151.9	7,151.4	53.4	2.5	-89.44	-1,023.2	1,616.4	1,632.0	1,576.9	55.09	29.624	
10,400.0	7,187.5	7,151.5	7,151.0	54.6	2.5	-89.42	-1,023.2	1,616.4	1,686.6	1,630.4	56.27	29.975	
10,433.0	7,187.1	7,151.3	7,150.8	55.2	2.5	-89.40	-1,023.2	1,616.4	1,714.5	1,657.6	56.86	30.151	
10,500.0	7,186.3	7,150.9	7,150.4	56.4	2.5	-89.38	-1,023.2	1,616.4	1,771.5	1,713.5	58.07	30.504	
10,531.5	7,185.9	7,150.7	7,150.2	56.9	2.5	-89.37	-1,023.2	1,616.4	1,798.6	1,739.9	58.65	30.669	
10,600.0	7,185.0	7,150.3	7,149.8	58.2	2.5	-89.34	-1,023.2	1,616.4	1,858.0	1,798.1	59.89	31.023	
10,629.9	7,184.6	7,150.1	7,149.6	58.7	2.5	-89.33	-1,023.2	1,616.4	1,884.1	1,823.6	60.43	31.175	
10,700.0	7,183.8	7,149.6	7,149.2	60.0	2.5	-89.30	-1,023.2	1,616.4	1,945.7	1,884.0	61.71	31.529	
10,728.3	7,183.4	7,149.5	7,149.0	60.5	2.5	-89.29	-1,023.2	1,616.4	1,970.7	1,908.5	62.23	31.669	
10,800.0	7,182.5	7,149.0	7,148.6	61.8	2.5	-89.26	-1,023.2	1,616.4	2,034.5	1,971.0	63.54	32.020	
10,826.7	7,182.2	7,148.8	7,148.4	62.3	2.5	-89.25	-1,023.2	1,616.4	2,058.5	1,994.4	64.03	32.149	
10,900.0	7,181.2	7,148.4	7,147.9	63.6	2.5	-89.22	-1,023.2	1,616.4	2,124.4	2,059.0	65.37	32.496	
10,925.2	7,180.9	7,148.2	7,147.8	64.0	2.5	-89.21	-1,023.2	1,616.4	2,147.1	2,081.3	65.84	32.614	
11,000.0	7,180.0	7,147.8	7,147.3	65.4	2.5	-89.18	-1,023.2	1,616.4	2,215.1	2,147.9	67.21	32.957	
11,023.6	7,179.7	7,147.6	7,147.2	65.8	2.5	-89.17	-1,023.2	1,616.4	2,236.6	2,169.0	67.65	33.063	
11,100.0	7,178.7	7,147.1	7,146.7	67.2	2.5	-89.14	-1,023.2	1,616.4	2,306.6	2,237.5	69.05	33.402	
11,122.0	7,178.4	7,147.0	7,146.5	67.6	2.5	-89.13	-1,023.2	1,616.4	2,326.8	2,257.4	69.46	33.498	
11,200.0	7,177.5	7,146.5	7,146.0	69.1	2.5	-89.10	-1,023.2	1,616.4	2,398.7	2,327.8	70.90	33.832	
11,220.4	7,177.2	7,146.4	7,145.9	69.4	2.5	-89.09	-1,023.2	1,616.4	2,417.7	2,346.4	71.28	33.918	
11,300.0	7,176.2	7,145.8	7,145.4	70.9	2.5	-89.06	-1,023.2	1,616.4	2,491.5	2,418.8	72.75	34.246	
11,318.9	7,176.0	7,145.7	7,145.3	71.2	2.5	-89.05	-1,023.2	1,616.4	2,509.1	2,436.0	73.10	34.322	
11,400.0	7,174.9	7,145.2	7,144.7	72.7	2.5	-89.01	-1,023.2	1,616.4	2,584.8	2,510.2	74.61	34.645	
11,417.3	7,174.7	7,145.1	7,144.6	73.1	2.5	-89.01	-1,023.2	1,616.4	2,601.0	2,526.1	74.93	34.713	
11,500.0	7,173.7	7,144.5	7,144.1	74.6	2.5	-88.97	-1,023.2	1,616.4	2,678.6	2,602.1	76.47	35.030	
11,515.7	7,173.5	7,144.4	7,144.0	74.9	2.5	-88.97	-1,023.2	1,616.4	2,693.4	2,616.6	76.76	35.089	
11,600.0	7,172.4	7,143.9	7,143.4	76.4	2.5	-88.93	-1,023.2	1,616.4	2,772.8	2,694.5	78.33	35.400	
11,614.1	7,172.2	7,143.8	7,143.3	76.7	2.5	-88.92	-1,023.2	1,616.4	2,786.2	2,707.6	78.59	35.452	
11,700.0	7,171.2	7,143.2	7,142.8	78.3	2.5	-88.89	-1,023.2	1,616.4	2,867.4	2,787.3	80.19	35.757	
11,712.6	7,171.0	7,143.1	7,142.7	78.5	2.5	-88.88	-1,023.2	1,616.4	2,879.4	2,798.9	80.43	35.801	
11,791.4	7,170.0	7,142.6	7,142.2	80.0	2.5	-88.85	-1,023.2	1,616.4	2,954.2	2,872.3	81.90	36.072	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT MCCART 30-2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 100-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
0.0	0.0	8.5	8.5	0.0	0.0	156.03	-3,684.1	1,638.1	4,031.9				
98.4	98.4	131.3	131.3	0.1	0.1	156.03	-3,683.6	1,637.9	4,031.4	4,031.3	0.16	N/A	
100.0	100.0	132.7	132.7	0.1	0.1	156.03	-3,683.6	1,637.9	4,031.4	4,031.3	0.16	N/A	
196.8	196.8	220.9	220.9	0.3	0.2	156.03	-3,683.1	1,637.8	4,030.9	4,030.3	0.53	7,612.283	
200.0	200.0	223.6	223.6	0.3	0.2	156.03	-3,683.1	1,637.8	4,030.9	4,030.3	0.54	7,479.230	
295.3	295.3	308.7	308.7	0.5	0.3	156.02	-3,682.8	1,637.9	4,030.6	4,029.8	0.82	4,893.185	
300.0	300.0	313.7	313.7	0.5	0.3	156.02	-3,682.8	1,637.9	4,030.6	4,029.7	0.84	4,811.237	
393.7	393.7	411.6	411.6	0.7	0.4	156.02	-3,682.5	1,638.0	4,030.3	4,029.2	1.11	3,622.365	
400.0	400.0	417.3	417.3	0.8	0.4	156.02	-3,682.4	1,638.0	4,030.3	4,029.2	1.13	3,567.295	
492.1	492.1	501.2	501.2	1.0	0.4	156.02	-3,682.2	1,638.1	4,030.1	4,028.8	1.38	2,919.633	
500.0	500.0	509.4	509.4	1.0	0.4	156.02	-3,682.2	1,638.1	4,030.1	4,028.7	1.40	2,877.564	
590.5	590.5	600.0	600.0	1.2	0.5	156.02	-3,682.1	1,638.1	4,030.0	4,028.4	1.63	2,470.167	
600.0	600.0	611.4	611.4	1.2	0.5	156.02	-3,682.1	1,638.1	4,030.0	4,028.4	1.65	2,437.901	
648.4	648.4	654.4	654.4	1.3	0.5	156.02	-3,682.0	1,638.1	4,030.0	4,028.2	1.76	2,285.624	
689.0	689.0	690.4	690.4	1.4	0.5	156.02	-3,682.0	1,638.1	4,030.0	4,028.1	1.86	2,172.023	
700.0	700.0	700.3	700.3	1.4	0.5	156.02	-3,682.1	1,638.1	4,030.0	4,028.1	1.88	2,142.949	
787.4	787.4	789.9	789.9	1.6	0.5	156.01	-3,682.1	1,638.3	4,030.1	4,028.0	2.12	1,904.541	
800.0	800.0	803.0	803.0	1.7	0.5	156.01	-3,682.1	1,638.3	4,030.1	4,028.0	2.15	1,875.424	
885.8	885.8	897.5	897.5	1.9	0.5	156.01	-3,682.0	1,638.3	4,030.1	4,027.7	2.35	1,716.979	
900.0	900.0	911.8	911.7	1.9	0.5	156.01	-3,682.0	1,638.3	4,030.1	4,027.7	2.38	1,691.759	
984.2	984.2	994.8	994.8	2.1	0.6	156.01	-3,681.9	1,638.3	4,030.0	4,027.4	2.59	1,554.417	
1,000.0	1,000.0	1,010.4	1,010.4	2.1	0.6	156.01	-3,681.9	1,638.4	4,029.9	4,027.3	2.63	1,531.991	
1,082.7	1,082.7	1,092.8	1,092.8	2.3	0.6	156.01	-3,681.8	1,638.3	4,029.9	4,027.0	2.83	1,426.005	
1,100.0	1,100.0	1,110.9	1,110.9	2.3	0.6	156.01	-3,681.8	1,638.3	4,029.8	4,027.0	2.87	1,404.660	
1,181.1	1,181.1	1,197.9	1,197.9	2.5	0.6	156.01	-3,681.6	1,638.2	4,029.7	4,026.6	3.08	1,309.964	
1,200.0	1,200.0	1,216.8	1,216.8	2.6	0.6	156.01	-3,681.6	1,638.2	4,029.6	4,026.5	3.13	1,289.040	
1,279.5	1,279.5	1,295.8	1,295.8	2.7	0.6	156.01	-3,681.4	1,638.2	4,029.4	4,026.1	3.34	1,207.574	
1,300.0	1,300.0	1,317.0	1,317.0	2.8	0.7	156.01	-3,681.3	1,638.1	4,029.4	4,026.0	3.39	1,188.220	
1,377.9	1,377.9	1,398.5	1,398.5	3.0	0.7	156.01	-3,681.1	1,638.1	4,029.1	4,025.5	3.60	1,119.876	
1,400.0	1,400.0	1,419.7	1,419.7	3.0	0.7	156.01	-3,681.0	1,638.1	4,029.0	4,025.4	3.65	1,102.451	
1,476.4	1,476.4	1,492.9	1,492.9	3.2	0.7	156.01	-3,680.8	1,637.9	4,028.8	4,025.0	3.85	1,046.407	
1,500.0	1,500.0	1,514.9	1,514.9	3.2	0.7	156.01	-3,680.8	1,637.8	4,028.8	4,024.9	3.91	1,030.969	
1,574.8	1,574.8	1,583.8	1,583.7	3.4	0.7	156.01	-3,680.7	1,637.8	4,028.7	4,024.6	4.09	985.935	
1,600.0	1,600.0	1,608.9	1,608.9	3.5	0.7	156.01	-3,680.7	1,637.8	4,028.6	4,024.5	4.15	971.379	
1,673.2	1,673.2	1,695.4	1,695.4	3.6	0.8	156.01	-3,680.5	1,637.7	4,028.5	4,024.1	4.33	929.730	
1,700.0	1,700.0	1,721.9	1,721.9	3.7	0.8	156.01	-3,680.4	1,637.7	4,028.4	4,024.0	4.40	915.392	
1,771.6	1,771.6	1,790.4	1,790.4	3.8	0.8	156.01	-3,680.1	1,637.7	4,028.1	4,023.5	4.58	879.124	
1,800.0	1,800.0	1,818.2	1,818.2	3.9	0.8	156.01	-3,680.0	1,637.7	4,028.0	4,023.4	4.65	865.488	
1,850.0	1,850.0	1,867.7	1,867.7	4.0	0.8	156.01	-3,679.9	1,637.7	4,027.9	4,023.1	4.78	842.385	
1,867.6	1,867.6	1,885.1	1,885.1	4.1	0.9	117.70	-3,679.8	1,637.7	4,027.8	4,022.9	4.89	823.454	
1,870.1	1,870.1	1,887.5	1,887.5	4.1	0.9	117.70	-3,679.8	1,637.7	4,027.8	4,022.9	4.90	822.363	
1,900.0	1,900.0	1,917.7	1,917.7	4.1	0.9	117.70	-3,679.7	1,637.7	4,027.9	4,022.9	4.98	809.617	
1,968.5	1,968.5	1,987.4	1,987.4	4.3	0.9	117.71	-3,679.4	1,637.8	4,028.7	4,023.5	5.15	782.268	
2,000.0	1,999.9	2,017.8	2,017.7	4.4	0.9	117.72	-3,679.3	1,637.9	4,029.2	4,024.0	5.23	770.526	
2,066.9	2,066.7	2,079.8	2,079.8	4.5	0.9	117.73	-3,679.0	1,638.1	4,031.1	4,025.7	5.40	746.777	
2,100.0	2,099.7	2,111.7	2,111.7	4.6	0.9	117.74	-3,678.9	1,638.2	4,032.3	4,026.8	5.48	735.610	
2,165.3	2,164.7	2,179.5	2,179.5	4.7	1.0	117.77	-3,678.7	1,638.4	4,035.2	4,029.5	5.65	713.981	
2,200.0	2,199.1	2,212.9	2,212.9	4.8	1.0	117.79	-3,678.6	1,638.5	4,037.0	4,031.2	5.74	703.246	
2,263.8	2,262.3	2,268.3	2,268.3	5.0	1.0	117.81	-3,678.5	1,638.7	4,040.9	4,035.0	5.90	684.364	
2,300.0	2,298.2	2,300.0	2,300.0	5.0	1.0	117.82	-3,678.4	1,638.8	4,043.5	4,037.5	6.00	674.074	
2,362.2	2,359.5	2,356.5	2,356.5	5.2	1.0	117.85	-3,678.5	1,638.8	4,048.5	4,042.3	6.16	657.054	
2,400.0	2,396.6	2,391.0	2,391.0	5.3	1.0	117.87	-3,678.6	1,638.9	4,051.9	4,045.6	6.26	647.079	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
2,460.6	2,456.0	2,447.8	2,447.8	5.5	1.0	117.91	-3,678.8	1,638.8	4,057.9	4,051.4	6.44	629.990	
2,500.0	2,494.4	2,484.7	2,484.7	5.6	1.0	117.94	-3,679.0	1,638.7	4,062.1	4,055.6	6.56	619.263	
2,559.0	2,551.8	2,539.2	2,539.2	5.8	1.0	117.98	-3,679.3	1,638.5	4,069.0	4,062.3	6.76	602.337	
2,600.0	2,591.5	2,576.7	2,576.7	5.9	1.0	118.01	-3,679.6	1,638.3	4,074.2	4,067.3	6.89	591.162	
2,657.5	2,646.8	2,633.0	2,633.0	6.1	1.0	118.07	-3,680.1	1,638.0	4,082.0	4,074.9	7.10	574.704	
2,685.2	2,673.5	2,661.7	2,661.6	6.2	1.0	118.10	-3,680.3	1,637.8	4,085.9	4,078.7	7.21	566.928	
2,700.0	2,687.6	2,676.9	2,676.9	6.3	1.0	118.16	-3,680.4	1,637.7	4,088.1	4,080.8	7.26	562.786	
2,755.9	2,741.1	2,729.3	2,729.3	6.5	1.0	118.35	-3,680.8	1,637.4	4,096.1	4,088.7	7.48	547.257	
2,800.0	2,783.4	2,767.8	2,767.8	6.7	1.0	118.49	-3,681.1	1,637.1	4,102.6	4,094.9	7.66	535.545	
2,854.3	2,835.4	2,817.8	2,817.8	6.9	1.0	118.68	-3,681.6	1,636.7	4,110.6	4,102.8	7.89	521.260	
2,900.0	2,879.2	2,864.6	2,864.6	7.1	1.0	118.85	-3,682.0	1,636.3	4,117.4	4,109.3	8.08	509.728	
2,952.7	2,929.7	2,923.3	2,923.3	7.4	1.0	119.07	-3,682.4	1,635.9	4,125.2	4,116.9	8.31	496.677	
3,000.0	2,974.9	2,983.6	2,983.5	7.6	1.1	119.29	-3,682.7	1,635.3	4,132.1	4,123.6	8.51	485.489	
3,051.2	3,023.9	3,044.6	3,044.6	7.8	1.1	119.51	-3,682.8	1,634.6	4,139.5	4,130.7	8.74	473.550	
3,100.0	3,070.7	3,101.6	3,101.5	8.1	1.1	119.72	-3,682.9	1,633.9	4,146.4	4,137.4	8.96	462.662	
3,149.6	3,118.2	3,159.7	3,159.7	8.3	1.1	119.93	-3,682.7	1,633.0	4,153.4	4,144.2	9.19	451.835	
3,200.0	3,166.5	3,225.0	3,224.9	8.6	1.1	120.17	-3,682.4	1,631.9	4,160.3	4,150.9	9.43	441.315	
3,248.0	3,212.5	3,299.7	3,299.6	8.8	1.1	120.44	-3,681.6	1,630.7	4,166.7	4,157.1	9.66	431.490	
3,300.0	3,262.3	3,363.0	3,362.9	9.1	1.1	120.66	-3,680.5	1,629.8	4,173.4	4,163.5	9.90	421.402	
3,346.4	3,306.8	3,413.1	3,413.0	9.3	1.2	120.84	-3,679.5	1,629.2	4,179.4	4,169.2	10.13	412.718	
3,400.0	3,358.1	3,456.8	3,456.7	9.6	1.2	120.98	-3,678.5	1,628.9	4,186.3	4,175.9	10.38	403.220	
3,444.9	3,401.0	3,500.0	3,499.9	9.8	1.2	121.13	-3,677.6	1,628.8	4,192.2	4,181.6	10.60	395.480	
3,500.0	3,453.8	3,540.0	3,539.8	10.1	1.2	121.26	-3,676.7	1,628.8	4,199.5	4,188.6	10.87	386.468	
3,543.3	3,495.3	3,576.7	3,576.5	10.3	1.2	121.38	-3,676.0	1,628.8	4,205.4	4,194.3	11.08	379.590	
3,600.0	3,549.6	3,626.7	3,626.5	10.6	1.2	121.54	-3,675.1	1,628.9	4,213.1	4,201.8	11.36	370.977	
3,641.7	3,589.6	3,664.7	3,664.6	10.8	1.2	121.67	-3,674.4	1,628.9	4,218.9	4,207.3	11.56	364.851	
3,700.0	3,645.4	3,717.8	3,717.6	11.1	1.3	121.84	-3,673.5	1,629.0	4,227.0	4,215.2	11.85	356.670	
3,740.1	3,683.8	3,754.2	3,754.0	11.4	1.3	121.96	-3,672.8	1,629.1	4,232.7	4,220.7	12.05	351.233	
3,800.0	3,741.2	3,807.7	3,807.5	11.7	1.3	122.13	-3,672.0	1,629.2	4,241.2	4,228.9	12.35	343.470	
3,838.6	3,778.1	3,839.7	3,839.5	11.9	1.3	122.23	-3,671.5	1,629.3	4,246.8	4,234.2	12.54	338.649	
3,900.0	3,837.0	3,890.6	3,890.4	12.2	1.3	122.40	-3,670.8	1,629.5	4,255.7	4,242.9	12.85	331.290	
3,937.0	3,872.4	3,926.4	3,926.2	12.4	1.3	122.51	-3,670.3	1,629.6	4,261.2	4,248.2	13.03	326.989	
4,000.0	3,932.7	3,991.2	3,991.0	12.8	1.3	122.72	-3,669.4	1,629.9	4,270.5	4,257.2	13.35	319.936	
4,035.4	3,966.7	4,024.8	4,024.6	13.0	1.3	122.83	-3,668.9	1,630.0	4,275.8	4,262.2	13.53	316.116	
4,100.0	4,028.5	4,084.3	4,084.1	13.3	1.4	123.01	-3,668.1	1,630.2	4,285.4	4,271.5	13.85	309.431	
4,133.8	4,060.9	4,113.9	4,113.6	13.5	1.4	123.11	-3,667.7	1,630.4	4,290.4	4,276.4	14.02	306.047	
4,200.0	4,124.3	4,168.5	4,168.3	13.9	1.4	123.28	-3,667.1	1,630.7	4,300.5	4,286.2	14.35	299.696	
4,232.3	4,155.2	4,200.0	4,199.8	14.0	1.4	123.38	-3,666.7	1,630.9	4,305.5	4,291.0	14.51	296.683	
4,300.0	4,220.1	4,253.5	4,253.3	14.4	1.4	123.54	-3,666.2	1,631.3	4,316.1	4,301.2	14.85	290.647	
4,330.7	4,249.5	4,280.0	4,279.8	14.6	1.4	123.62	-3,666.0	1,631.5	4,320.9	4,305.9	15.00	287.991	
4,400.0	4,315.9	4,346.8	4,346.5	15.0	1.4	123.83	-3,665.4	1,632.0	4,331.9	4,316.6	15.35	282.211	
4,429.1	4,343.7	4,376.3	4,376.0	15.1	1.4	123.92	-3,665.2	1,632.3	4,336.5	4,321.0	15.50	279.854	
4,500.0	4,411.6	4,444.1	4,443.9	15.5	1.5	124.12	-3,664.6	1,632.9	4,347.8	4,332.0	15.85	274.320	
4,527.5	4,438.0	4,469.8	4,469.5	15.7	1.5	124.20	-3,664.4	1,633.1	4,352.2	4,336.2	15.99	272.234	
4,600.0	4,507.4	4,536.6	4,536.3	16.1	1.5	124.41	-3,663.8	1,633.6	4,363.9	4,347.6	16.35	266.932	
4,626.0	4,532.3	4,560.4	4,560.1	16.2	1.5	124.48	-3,663.7	1,633.7	4,368.1	4,351.6	16.48	265.085	
4,700.0	4,603.2	4,628.4	4,628.1	16.7	1.5	124.68	-3,663.2	1,634.2	4,380.2	4,363.3	16.85	259.984	
4,724.4	4,626.6	4,650.9	4,650.6	16.8	1.5	124.75	-3,663.1	1,634.3	4,384.2	4,367.2	16.97	258.347	
4,800.0	4,699.0	4,719.8	4,719.6	17.2	1.5	124.96	-3,662.7	1,634.7	4,396.7	4,379.3	17.35	253.473	
4,822.8	4,720.8	4,740.1	4,739.8	17.4	1.5	125.02	-3,662.6	1,634.7	4,400.5	4,383.0	17.46	252.043	
4,900.0	4,794.7	4,810.5	4,810.3	17.8	1.5	125.24	-3,662.4	1,634.8	4,413.4	4,395.6	17.84	247.348	
4,921.2	4,815.1	4,834.0	4,833.8	17.9	1.6	125.31	-3,662.4	1,634.7	4,417.0	4,399.1	17.95	246.068	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
5,000.0	4,890.5	4,919.0	4,918.7	18.4	1.6	125.58	-3,662.0	1,634.7	4,430.2	4,411.8	18.35	241.466	
5,019.7	4,909.4	4,938.4	4,938.2	18.5	1.6	125.64	-3,661.9	1,634.6	4,433.5	4,415.0	18.45	240.347	
5,100.0	4,986.3	5,015.1	5,014.9	18.9	1.6	125.87	-3,661.5	1,634.5	4,446.9	4,428.1	18.85	235.929	
5,118.1	5,003.6	5,030.3	5,030.1	19.0	1.6	125.92	-3,661.5	1,634.5	4,450.0	4,431.0	18.94	234.961	
5,200.0	5,082.1	5,100.0	5,099.7	19.5	1.6	126.13	-3,661.2	1,634.5	4,463.9	4,444.6	19.35	230.708	
5,216.5	5,097.9	5,114.3	5,114.0	19.6	1.6	126.17	-3,661.2	1,634.5	4,466.7	4,447.3	19.43	229.872	
5,300.0	5,177.9	5,191.2	5,191.0	20.1	1.7	126.40	-3,661.0	1,634.5	4,481.2	4,461.3	19.85	225.759	
5,314.9	5,192.2	5,205.3	5,205.0	20.2	1.7	126.44	-3,661.0	1,634.5	4,483.8	4,463.9	19.92	225.041	
5,400.0	5,273.6	5,287.7	5,287.5	20.6	1.7	126.69	-3,660.9	1,634.5	4,498.6	4,478.3	20.35	221.073	
5,413.4	5,286.5	5,300.8	5,300.5	20.7	1.7	126.73	-3,660.8	1,634.5	4,500.9	4,480.5	20.42	220.465	
5,500.0	5,369.4	5,389.9	5,389.7	21.2	1.7	126.99	-3,660.6	1,634.4	4,516.1	4,495.2	20.84	216.657	
5,511.8	5,380.7	5,402.0	5,401.8	21.3	1.7	127.03	-3,660.6	1,634.4	4,518.1	4,497.2	20.90	216.149	
5,600.0	5,465.2	5,491.0	5,490.7	21.8	1.7	127.29	-3,660.3	1,634.1	4,533.5	4,512.2	21.34	212.442	
5,610.2	5,475.0	5,501.3	5,501.1	21.9	1.8	127.32	-3,660.3	1,634.1	4,535.3	4,513.9	21.39	212.021	
5,700.0	5,561.0	5,593.8	5,593.5	22.4	1.8	127.59	-3,659.8	1,634.0	4,551.0	4,529.1	21.83	208.435	
5,708.6	5,569.3	5,600.0	5,599.7	22.4	1.8	127.61	-3,659.8	1,634.0	4,552.5	4,530.6	21.88	208.098	
5,793.4	5,650.4	5,669.3	5,669.0	22.9	1.8	127.81	-3,659.4	1,634.2	4,567.4	4,545.1	22.29	204.898	
5,800.0	5,656.8	5,674.5	5,674.3	22.9	1.8	127.84	-3,659.4	1,634.2	4,568.6	4,546.3	22.31	204.732	
5,807.1	5,663.6	5,680.1	5,679.9	23.0	1.8	127.88	-3,659.4	1,634.2	4,569.8	4,547.5	22.34	204.600	
5,900.0	5,753.1	5,765.6	5,765.4	23.4	1.8	128.35	-3,659.2	1,634.4	4,585.4	4,562.8	22.60	202.857	
5,905.5	5,758.4	5,771.0	5,770.7	23.4	1.8	128.38	-3,659.2	1,634.4	4,586.2	4,563.6	22.62	202.767	
6,000.0	5,850.3	5,866.3	5,866.0	23.8	1.8	128.82	-3,659.0	1,634.4	4,600.1	4,577.2	22.87	201.142	
6,003.9	5,854.1	5,870.3	5,870.1	23.8	1.8	128.83	-3,659.0	1,634.4	4,600.6	4,577.8	22.88	201.083	
6,100.0	5,948.3	5,957.6	5,957.3	24.1	1.9	129.19	-3,658.9	1,634.5	4,612.7	4,589.6	23.10	199.683	
6,102.3	5,950.6	5,959.6	5,959.3	24.1	1.9	129.20	-3,658.9	1,634.5	4,613.0	4,589.9	23.10	199.655	
6,200.0	6,046.9	6,041.8	6,041.5	24.4	1.9	129.49	-3,658.9	1,634.6	4,623.4	4,600.1	23.29	198.498	
6,200.8	6,047.6	6,042.4	6,042.1	24.4	1.9	129.50	-3,658.9	1,634.6	4,623.5	4,600.2	23.29	198.491	
6,299.2	6,145.2	6,133.7	6,133.5	24.7	1.9	129.74	-3,659.2	1,634.8	4,632.2	4,608.7	23.45	197.530	
6,300.0	6,146.0	6,134.7	6,134.4	24.7	1.9	129.74	-3,659.2	1,634.8	4,632.3	4,608.8	23.45	197.522	
6,397.6	6,243.1	6,238.2	6,237.9	24.9	1.9	129.94	-3,659.5	1,635.0	4,638.6	4,615.0	23.58	196.707	
6,400.0	6,245.5	6,240.3	6,240.1	24.9	1.9	129.94	-3,659.5	1,635.0	4,638.7	4,615.2	23.58	196.685	
6,496.0	6,341.4	6,330.8	6,330.5	25.1	1.9	130.06	-3,659.8	1,634.9	4,642.9	4,619.3	23.69	195.978	
6,500.0	6,345.3	6,334.7	6,334.5	25.1	1.9	130.06	-3,659.8	1,634.9	4,643.1	4,619.4	23.70	195.945	
6,594.5	6,439.7	6,431.3	6,431.0	25.2	1.9	130.12	-3,660.1	1,634.9	4,645.1	4,621.4	23.78	195.312	
6,600.0	6,445.3	6,437.1	6,436.8	25.2	1.9	130.12	-3,660.2	1,634.9	4,645.2	4,621.4	23.79	195.269	
6,628.6	6,473.9	6,467.2	6,467.0	25.3	1.8	168.44	-3,660.3	1,634.9	4,645.4	4,621.6	23.81	195.084	
6,658.6	6,503.9	6,498.9	6,498.6	25.3	1.8	168.44	-3,660.3	1,634.9	4,645.4	4,621.6	23.85	194.793	
6,692.9	6,538.1	6,538.1	6,537.8	25.3	1.8	-11.58	-3,660.4	1,634.8	4,644.7	4,620.9	23.84	194.814	
6,700.0	6,545.2	6,546.3	6,546.0	25.3	1.8	-11.58	-3,660.5	1,634.7	4,644.3	4,620.5	23.84	194.790	
6,750.0	6,595.0	6,600.0	6,599.7	25.3	1.8	-11.67	-3,660.5	1,634.6	4,639.8	4,616.0	23.85	194.539	
6,791.3	6,635.8	6,636.0	6,635.8	25.3	1.8	-11.78	-3,660.5	1,634.5	4,633.6	4,609.7	23.86	194.201	
6,800.0	6,644.3	6,643.0	6,642.8	25.3	1.8	-11.81	-3,660.6	1,634.5	4,631.9	4,608.1	23.86	194.115	
6,850.0	6,693.0	6,683.1	6,682.8	25.2	1.8	-12.02	-3,660.7	1,634.4	4,620.8	4,596.9	23.86	193.681	
6,889.7	6,731.0	6,720.4	6,720.2	25.2	1.8	-12.25	-3,660.8	1,634.3	4,609.6	4,585.8	23.83	193.399	
6,900.0	6,740.7	6,731.8	6,731.5	25.2	1.8	-12.32	-3,660.9	1,634.3	4,606.4	4,582.6	23.83	193.324	
6,950.0	6,787.3	6,786.2	6,785.9	25.0	1.8	-12.70	-3,661.1	1,634.1	4,588.7	4,565.0	23.76	193.110	
6,988.2	6,821.9	6,819.3	6,819.0	24.9	1.8	-13.04	-3,661.2	1,633.9	4,573.1	4,549.4	23.68	193.144	
7,000.0	6,832.5	6,828.2	6,827.9	24.9	1.8	-13.16	-3,661.2	1,633.9	4,567.9	4,544.2	23.65	193.181	
7,050.0	6,876.1	6,865.1	6,864.8	24.7	1.8	-13.72	-3,661.3	1,633.7	4,544.1	4,520.6	23.48	193.534	
7,086.6	6,906.8	6,891.2	6,890.9	24.6	1.8	-14.21	-3,661.5	1,633.6	4,524.8	4,501.5	23.33	193.954	
7,100.0	6,917.9	6,900.6	6,900.4	24.5	1.8	-14.40	-3,661.5	1,633.5	4,517.4	4,494.1	23.27	194.124	
7,150.0	6,957.6	6,943.3	6,943.1	24.3	1.8	-15.25	-3,661.8	1,633.3	4,487.9	4,464.9	23.04	194.797	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
7,185.0	6,984.2	6,971.9	6,971.6	24.1	1.8	-15.95	-3,662.0	1,633.1	4,465.7	4,442.8	22.86	195.333	
7,200.0	6,995.2	6,983.7	6,983.4	24.1	1.8	-16.27	-3,662.1	1,633.0	4,455.8	4,433.0	22.79	195.555	
7,250.0	7,030.3	7,030.5	7,030.3	23.8	1.9	-17.56	-3,662.3	1,632.4	4,421.2	4,398.6	22.54	196.121	
7,283.4	7,052.4	7,064.2	7,063.9	23.6	1.9	-18.59	-3,662.4	1,631.9	4,396.6	4,374.2	22.40	196.310	
7,300.0	7,062.9	7,080.1	7,079.8	23.6	1.9	-19.17	-3,662.4	1,631.7	4,384.1	4,361.8	22.33	196.338	
7,350.0	7,092.8	7,130.4	7,130.1	23.3	1.9	-21.20	-3,662.4	1,630.9	4,344.8	4,322.6	22.17	195.982	
7,381.9	7,110.3	7,162.0	7,161.7	23.1	1.9	-22.79	-3,662.2	1,630.4	4,318.7	4,296.6	22.11	195.342	
7,400.0	7,119.8	7,178.9	7,178.6	23.0	1.9	-23.81	-3,662.1	1,630.1	4,303.4	4,281.4	22.09	194.821	
7,450.0	7,143.8	7,213.1	7,212.8	22.8	1.9	-27.07	-3,661.7	1,629.5	4,260.3	4,238.2	22.09	192.905	
7,480.3	7,156.8	7,227.2	7,226.9	22.6	1.9	-29.45	-3,661.6	1,629.2	4,233.4	4,211.3	22.13	191.318	
7,500.0	7,164.7	7,235.7	7,235.4	22.5	1.9	-31.22	-3,661.5	1,629.1	4,215.7	4,193.5	22.18	190.074	
7,550.0	7,182.3	7,254.6	7,254.3	22.2	1.9	-36.72	-3,661.2	1,628.7	4,169.8	4,147.4	22.39	186.257	
7,578.7	7,191.0	7,263.8	7,263.4	22.1	1.9	-40.69	-3,661.1	1,628.6	4,143.0	4,120.4	22.54	183.838	
7,600.0	7,196.7	7,269.8	7,269.4	22.0	1.9	-44.10	-3,661.0	1,628.5	4,122.9	4,100.3	22.63	182.154	
7,650.0	7,207.7	7,281.2	7,280.9	21.7	1.9	-54.06	-3,660.9	1,628.3	4,075.2	4,052.5	22.70	179.553	
7,677.1	7,212.2	7,285.8	7,285.5	21.6	1.9	-60.77	-3,660.8	1,628.2	4,049.1	4,026.6	22.51	179.880	
7,700.0	7,215.2	7,288.8	7,288.5	21.5	1.9	-67.14	-3,660.8	1,628.1	4,027.0	4,004.8	22.15	181.833	
7,750.0	7,219.3	7,292.6	7,292.2	21.3	1.9	-82.92	-3,660.7	1,628.1	3,978.4	3,957.7	20.73	191.885	
7,775.6	7,220.1	7,293.0	7,292.7	21.2	1.9	-91.45	-3,660.7	1,628.1	3,953.6	3,933.4	20.16	196.090	
7,792.5	7,220.0	7,292.8	7,292.4	21.1	1.9	-97.02	-3,660.7	1,628.1	3,937.1	3,917.0	20.08	196.110	
7,800.0	7,219.9	7,292.5	7,292.2	21.1	1.9	-97.01	-3,660.7	1,628.1	3,929.8	3,909.8	20.08	195.730	
7,874.0	7,219.0	7,290.5	7,290.2	20.8	1.9	-96.88	-3,660.8	1,628.1	3,858.0	3,837.8	20.18	191.221	
7,900.0	7,218.7	7,289.7	7,289.4	20.7	1.9	-96.84	-3,660.8	1,628.1	3,832.8	3,812.5	20.21	189.646	
7,972.4	7,217.8	7,287.7	7,287.4	20.5	1.9	-96.71	-3,660.8	1,628.2	3,762.5	3,742.1	20.45	184.006	
8,000.0	7,217.5	7,287.0	7,286.6	20.4	1.9	-96.67	-3,660.8	1,628.2	3,735.8	3,715.3	20.54	181.893	
8,070.8	7,216.6	7,285.0	7,284.7	20.4	1.9	-96.55	-3,660.8	1,628.2	3,667.3	3,646.3	20.90	175.438	
8,100.0	7,216.2	7,284.2	7,283.9	20.4	1.9	-96.50	-3,660.9	1,628.2	3,639.1	3,618.0	21.05	172.847	
8,169.3	7,215.4	7,282.3	7,282.0	20.7	1.9	-96.38	-3,660.9	1,628.3	3,572.1	3,550.6	21.53	165.918	
8,200.0	7,215.0	7,281.4	7,281.1	21.0	1.9	-96.33	-3,660.9	1,628.3	3,542.5	3,520.7	21.74	162.944	
8,267.7	7,214.1	7,279.6	7,279.3	21.6	1.9	-96.22	-3,660.9	1,628.3	3,477.2	3,454.9	22.31	155.856	
8,300.0	7,213.7	7,278.7	7,278.4	21.9	1.9	-96.16	-3,660.9	1,628.3	3,446.1	3,423.5	22.58	152.602	
8,366.1	7,212.9	7,276.9	7,276.6	22.6	1.9	-96.05	-3,661.0	1,628.4	3,382.5	3,359.2	23.23	145.612	
8,400.0	7,212.5	7,276.0	7,275.7	23.0	1.9	-96.00	-3,661.0	1,628.4	3,349.9	3,326.3	23.56	142.181	
8,464.5	7,211.7	7,274.2	7,273.9	23.8	1.9	-95.89	-3,661.0	1,628.4	3,287.9	3,263.7	24.27	135.477	
8,500.0	7,211.3	7,273.3	7,273.0	24.2	1.9	-95.83	-3,661.0	1,628.4	3,254.0	3,229.3	24.66	131.960	
8,563.0	7,210.5	7,271.6	7,271.3	25.0	1.9	-95.73	-3,661.0	1,628.4	3,193.7	3,168.2	25.41	125.660	
8,600.0	7,210.0	7,270.6	7,270.3	25.5	1.9	-95.67	-3,661.0	1,628.5	3,158.2	3,132.4	25.86	122.131	
8,661.4	7,209.3	7,268.9	7,268.6	26.3	1.9	-95.57	-3,661.1	1,628.5	3,099.6	3,073.0	26.65	116.303	
8,700.0	7,208.8	7,267.9	7,267.6	26.8	1.9	-95.51	-3,661.1	1,628.5	3,062.8	3,035.7	27.15	112.815	
8,759.8	7,208.0	7,266.3	7,266.0	27.6	1.9	-95.41	-3,661.1	1,628.5	3,005.9	2,977.9	27.97	107.484	
8,800.0	7,207.5	7,265.2	7,264.9	28.2	1.9	-95.34	-3,661.1	1,628.6	2,967.7	2,939.2	28.51	104.077	
8,858.2	7,206.8	7,263.7	7,263.4	29.0	1.9	-95.25	-3,661.1	1,628.6	2,912.4	2,883.1	29.35	99.240	
8,900.0	7,206.3	7,262.6	7,262.2	29.6	1.9	-95.18	-3,661.1	1,628.6	2,872.9	2,842.9	29.94	95.941	
8,956.7	7,205.6	7,261.1	7,260.7	30.4	1.9	-95.09	-3,661.2	1,628.6	2,819.3	2,788.5	30.79	91.577	
9,000.0	7,205.0	7,259.9	7,259.6	31.1	1.9	-95.02	-3,661.2	1,628.6	2,778.4	2,747.0	31.43	88.401	
9,055.1	7,204.3	7,258.5	7,258.2	31.9	1.9	-94.93	-3,661.2	1,628.7	2,726.6	2,694.3	32.27	84.480	
9,100.0	7,203.8	7,257.3	7,257.0	32.6	1.9	-94.86	-3,661.2	1,628.7	2,684.4	2,651.4	32.96	81.436	
9,153.5	7,203.1	7,255.9	7,255.6	33.4	1.9	-94.77	-3,661.2	1,628.7	2,634.2	2,600.4	33.81	77.922	
9,200.0	7,202.5	7,254.7	7,254.4	34.2	1.9	-94.70	-3,661.2	1,628.7	2,590.8	2,556.2	34.54	75.014	
9,251.9	7,201.9	7,253.3	7,253.0	35.0	1.9	-94.61	-3,661.2	1,628.8	2,542.4	2,507.0	35.37	71.871	
9,300.0	7,201.3	7,252.1	7,251.8	35.7	1.9	-94.54	-3,661.3	1,628.8	2,497.7	2,461.5	36.15	69.097	
9,350.4	7,200.7	7,250.8	7,250.4	36.6	1.9	-94.46	-3,661.3	1,628.8	2,451.0	2,414.0	36.97	66.289	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT MCCART 30-2 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 100-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
9,400.0	7,200.0	7,249.5	7,249.2	37.4	1.9	-94.38	-3,661.3	1,628.8	2,405.1	2,367.3	37.79	63.648	
9,448.8	7,199.4	7,248.2	7,247.9	38.2	1.9	-94.30	-3,661.3	1,628.9	2,360.2	2,321.6	38.60	61.141	
9,500.0	7,198.8	7,246.9	7,246.6	39.0	1.9	-94.22	-3,661.3	1,628.9	2,313.2	2,273.7	39.46	58.627	
9,547.2	7,198.2	7,245.7	7,245.4	39.8	1.9	-94.15	-3,661.3	1,628.9	2,270.0	2,229.7	40.25	56.391	
9,600.0	7,197.5	7,244.3	7,244.0	40.7	1.9	-94.06	-3,661.4	1,628.9	2,221.9	2,180.8	41.15	54.000	
9,645.6	7,197.0	7,243.2	7,242.9	41.4	1.9	-93.99	-3,661.4	1,628.9	2,180.5	2,138.6	41.93	52.006	
9,700.0	7,196.3	7,241.8	7,241.5	42.4	1.9	-93.91	-3,661.4	1,629.0	2,131.5	2,088.6	42.86	49.733	
9,744.1	7,195.7	7,240.7	7,240.3	43.1	1.9	-93.84	-3,661.4	1,629.0	2,091.9	2,048.3	43.62	47.956	
9,800.0	7,195.0	7,239.2	7,238.9	44.1	1.9	-93.75	-3,661.4	1,629.0	2,041.9	1,997.3	44.59	45.794	
9,842.5	7,194.5	7,238.2	7,237.9	44.8	1.9	-93.68	-3,661.4	1,629.0	2,004.1	1,958.8	45.33	44.211	
9,900.0	7,193.8	7,236.7	7,236.4	45.8	1.9	-93.60	-3,661.4	1,629.1	1,953.3	1,907.0	46.34	42.157	
9,940.9	7,193.3	7,235.7	7,235.4	46.5	1.9	-93.53	-3,661.5	1,629.1	1,917.4	1,870.4	47.06	40.748	
10,000.0	7,192.5	7,234.2	7,233.9	47.5	1.9	-93.44	-3,661.5	1,629.1	1,865.9	1,817.8	48.10	38.796	
10,039.3	7,192.0	7,233.2	7,232.9	48.2	1.9	-93.38	-3,661.5	1,629.1	1,831.9	1,783.1	48.79	37.543	
10,100.0	7,191.3	7,231.7	7,231.4	49.3	1.9	-93.29	-3,661.5	1,629.1	1,779.8	1,730.0	49.87	35.690	
10,137.8	7,190.8	7,230.8	7,230.4	49.9	1.9	-93.23	-3,661.5	1,629.2	1,747.7	1,697.1	50.54	34.578	
10,200.0	7,190.0	7,229.2	7,228.9	51.0	1.9	-93.13	-3,661.5	1,629.2	1,695.3	1,643.6	51.65	32.820	
10,236.2	7,189.6	7,228.3	7,228.0	51.7	1.9	-93.08	-3,661.5	1,629.2	1,665.1	1,612.8	52.30	31.835	
10,300.0	7,188.8	7,226.7	7,226.4	52.8	1.9	-92.98	-3,661.6	1,629.2	1,612.5	1,559.0	53.45	30.168	
10,334.6	7,188.3	7,225.9	7,225.6	53.4	1.9	-92.93	-3,661.6	1,629.2	1,584.2	1,530.2	54.07	29.298	
10,400.0	7,187.5	7,224.3	7,223.9	54.6	1.9	-92.83	-3,661.6	1,629.3	1,531.7	1,476.4	55.25	27.721	
10,433.0	7,187.1	7,223.4	7,223.1	55.2	1.9	-92.78	-3,661.6	1,629.3	1,505.5	1,449.7	55.85	26.955	
10,500.0	7,186.3	7,221.8	7,221.5	56.4	1.9	-92.68	-3,661.6	1,629.3	1,453.3	1,396.3	57.07	25.467	
10,531.5	7,185.9	7,221.0	7,220.7	56.9	1.9	-92.63	-3,661.6	1,629.3	1,429.2	1,371.6	57.64	24.796	
10,600.0	7,185.0	7,219.4	7,219.0	58.2	1.9	-92.53	-3,661.6	1,629.4	1,377.8	1,318.9	58.89	23.397	
10,629.9	7,184.6	7,218.6	7,218.3	58.7	1.9	-92.48	-3,661.7	1,629.4	1,355.8	1,296.4	59.43	22.812	
10,700.0	7,183.8	7,216.9	7,216.6	60.0	1.9	-92.38	-3,661.7	1,629.4	1,305.5	1,244.8	60.71	21.502	
10,728.3	7,183.4	7,216.2	7,215.9	60.5	1.9	-92.33	-3,661.7	1,629.4	1,285.7	1,224.5	61.23	20.997	
10,800.0	7,182.5	7,214.5	7,214.2	61.8	1.9	-92.23	-3,661.7	1,629.5	1,237.1	1,174.5	62.55	19.778	
10,826.7	7,182.2	7,213.9	7,213.6	62.3	1.9	-92.19	-3,661.7	1,629.5	1,219.5	1,156.5	63.04	19.345	
10,900.0	7,181.2	7,212.1	7,211.8	63.6	1.9	-92.08	-3,661.7	1,629.5	1,173.2	1,108.8	64.39	18.221	
10,925.2	7,180.9	7,211.5	7,211.2	64.0	1.9	-92.04	-3,661.7	1,629.5	1,157.9	1,093.1	64.85	17.855	
11,000.0	7,180.0	7,209.7	7,209.4	65.4	1.9	-91.93	-3,661.8	1,629.5	1,114.6	1,048.4	66.23	16.829	
11,023.6	7,179.7	7,209.1	7,208.8	65.8	1.9	-91.90	-3,661.8	1,629.5	1,101.7	1,035.0	66.67	16.525	
11,100.0	7,178.7	7,207.3	7,207.0	67.2	1.9	-91.78	-3,661.8	1,629.6	1,062.3	994.2	68.08	15.603	
11,122.0	7,178.4	7,206.8	7,206.5	67.6	1.9	-91.75	-3,661.8	1,629.6	1,051.7	983.2	68.49	15.355	
11,200.0	7,177.5	7,204.9	7,204.6	69.1	1.9	-91.64	-3,661.8	1,629.6	1,017.1	947.1	69.93	14.543	
11,220.4	7,177.2	7,204.5	7,204.1	69.4	1.9	-91.61	-3,661.8	1,629.6	1,008.8	938.5	70.31	14.347	
11,300.0	7,176.2	7,202.6	7,202.3	70.9	1.9	-91.49	-3,661.8	1,629.7	980.0	908.2	71.79	13.651	
11,318.9	7,176.0	7,202.1	7,201.8	71.2	1.9	-91.46	-3,661.8	1,629.7	974.0	901.9	72.14	13.501	
11,400.0	7,174.9	7,200.2	7,199.9	72.7	1.9	-91.35	-3,661.9	1,629.7	952.1	878.4	73.65	12.926	
11,417.3	7,174.7	7,199.8	7,199.5	73.1	1.9	-91.32	-3,661.9	1,629.7	948.2	874.2	73.98	12.818	
11,500.0	7,173.7	7,197.8	7,197.5	74.6	1.9	-91.20	-3,661.9	1,629.7	934.0	858.5	75.52	12.368	
11,515.7	7,173.5	7,197.4	7,197.1	74.9	1.9	-91.17	-3,661.9	1,629.8	932.1	856.3	75.81	12.295	
11,600.0	7,172.4	7,195.4	7,195.1	76.4	1.9	-91.05	-3,661.9	1,629.8	926.5	849.1	77.39	11.972	
11,614.1	7,172.2	7,195.1	7,194.8	76.7	1.9	-91.03	-3,661.9	1,629.8	926.3	848.6	77.65	11.929	
11,620.2	7,172.2	7,194.9	7,194.6	76.8	1.9	-91.02	-3,661.9	1,629.8	926.3	848.5	77.77	11.911 CC, ES	
11,700.0	7,171.2	7,193.1	7,192.8	78.3	1.9	-90.90	-3,661.9	1,629.8	929.7	850.4	79.26	11.730	
11,712.6	7,171.0	7,192.8	7,192.5	78.5	1.9	-90.89	-3,661.9	1,629.8	930.8	851.3	79.49	11.710	
11,791.4	7,170.0	7,191.0	7,190.7	80.0	1.9	-90.78	-3,662.0	1,629.9	941.9	861.0	80.97	11.633 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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	0.0	0.0	0.0	0.0	-78.74	230.3	-1,156.1	1,178.8				
98.4	98.4	98.4	98.4	0.1	0.1	-78.74	230.3	-1,156.1	1,178.8	1,178.6	0.22	5,462.265	
100.0	100.0	100.0	100.0	0.1	0.1	-78.74	230.3	-1,156.1	1,178.8	1,178.6	0.22	5,366.112	
196.8	196.8	196.8	196.8	0.3	2.7	-78.74	230.3	-1,156.1	1,178.8	1,175.8	2.96	397.847	
200.0	200.0	200.0	200.0	0.3	2.7	-78.74	230.3	-1,156.1	1,178.8	1,175.7	3.05	386.217	
295.3	295.3	295.3	295.3	0.5	4.7	-78.74	230.3	-1,156.1	1,178.8	1,173.6	5.23	225.237	
300.0	300.0	300.0	300.0	0.5	4.8	-78.74	230.3	-1,156.1	1,178.8	1,173.4	5.34	220.675	
393.7	393.7	393.7	393.7	0.7	6.7	-78.74	230.3	-1,156.1	1,178.8	1,171.3	7.46	158.077	
400.0	400.0	400.0	400.0	0.8	6.8	-78.74	230.3	-1,156.1	1,178.8	1,171.2	7.60	155.118	
492.1	492.1	492.1	492.1	1.0	8.7	-78.74	230.3	-1,156.1	1,178.8	1,169.1	9.67	121.903	
500.0	500.0	500.0	500.0	1.0	8.9	-78.74	230.3	-1,156.1	1,178.8	1,168.9	9.85	119.712	
590.5	590.5	590.5	590.5	1.2	10.7	-78.74	230.3	-1,156.1	1,178.8	1,166.9	11.88	99.241	
600.0	600.0	600.0	600.0	1.2	10.9	-78.74	230.3	-1,156.1	1,178.8	1,166.7	12.09	97.501	
689.0	689.0	689.0	689.0	1.4	12.7	-78.74	230.3	-1,156.1	1,178.8	1,164.7	14.08	83.698	
700.0	700.0	700.0	700.0	1.4	12.9	-78.74	230.3	-1,156.1	1,178.8	1,164.5	14.33	82.255	
787.4	787.4	787.4	787.4	1.6	14.7	-78.74	230.3	-1,156.1	1,178.8	1,162.5	16.29	72.371	
800.0	800.0	800.0	800.0	1.7	14.9	-78.74	230.3	-1,156.1	1,178.8	1,162.2	16.57	71.138	
885.8	885.8	885.8	885.8	1.9	16.6	-78.74	230.3	-1,156.1	1,178.8	1,160.3	18.49	63.747	
900.0	900.0	900.0	900.0	1.9	16.9	-78.74	230.3	-1,156.1	1,178.8	1,160.0	18.81	62.672	
984.2	984.2	984.2	984.2	2.1	18.6	-78.74	230.3	-1,156.1	1,178.8	1,158.1	20.69	56.962	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	18.9	-78.74	230.3	-1,156.1	1,178.8	1,157.7	21.05	56.008	
1,082.7	1,082.7	1,082.7	1,082.7	2.3	20.6	-78.74	230.3	-1,156.1	1,178.8	1,155.9	22.90	51.483	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	21.0	-78.74	230.3	-1,156.1	1,178.8	1,155.5	23.28	50.626	
1,181.1	1,181.1	1,181.1	1,181.1	2.5	22.6	-78.74	230.3	-1,156.1	1,178.8	1,153.7	25.10	46.966	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	23.0	-78.74	230.3	-1,156.1	1,178.8	1,153.3	25.52	46.188	
1,279.5	1,279.5	1,279.5	1,279.5	2.7	24.6	-78.74	230.3	-1,156.1	1,178.8	1,151.5	27.30	43.178	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	25.0	-78.74	230.3	-1,156.1	1,178.8	1,151.0	27.76	42.466	
1,377.9	1,377.9	1,377.9	1,377.9	3.0	26.5	-78.74	230.3	-1,156.1	1,178.8	1,149.3	29.50	39.956	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	27.0	-78.74	230.3	-1,156.1	1,178.8	1,148.8	30.00	39.299	
1,476.4	1,476.4	1,476.4	1,476.4	3.2	28.5	-78.74	230.3	-1,156.1	1,178.8	1,147.1	31.70	37.181	
1,500.0	1,500.0	1,500.0	1,500.0	3.2	29.0	-78.74	230.3	-1,156.1	1,178.8	1,146.6	32.23	36.572	
1,574.8	1,574.8	1,574.8	1,574.8	3.4	30.5	-78.74	230.3	-1,156.1	1,178.8	1,144.9	33.90	34.767	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	31.0	-78.74	230.3	-1,156.1	1,178.8	1,144.3	34.47	34.199	
1,673.2	1,673.2	1,673.2	1,673.2	3.6	32.5	-78.74	230.3	-1,156.1	1,178.8	1,142.7	36.11	32.648	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	33.0	-78.74	230.3	-1,156.1	1,178.8	1,142.1	36.70	32.115	
1,771.6	1,771.6	1,771.6	1,771.6	3.8	34.5	-78.74	230.3	-1,156.1	1,178.8	1,140.5	38.31	30.772	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	35.0	-78.74	230.3	-1,156.1	1,178.8	1,139.8	38.94	30.271	
1,850.0	1,850.0	1,850.0	1,850.0	4.0	36.0	-78.74	230.3	-1,156.1	1,178.8	1,138.7	40.06	29.426 CC	
1,870.1	1,870.1	1,870.1	1,870.1	4.1	36.4	-117.05	230.3	-1,156.1	1,178.8	1,138.3	40.51	29.101	
1,900.0	1,900.0	1,900.0	1,900.0	4.1	37.0	-117.06	230.3	-1,156.1	1,179.0	1,137.8	41.17	28.634	
1,968.5	1,968.5	1,968.5	1,968.5	4.3	38.4	-117.13	230.3	-1,156.1	1,179.9	1,137.2	42.69	27.636	
2,000.0	1,999.9	1,999.9	1,999.9	4.4	39.1	-117.18	230.3	-1,156.1	1,180.6	1,137.2	43.39	27.208 ES	
2,066.9	2,066.7	2,066.7	2,066.7	4.5	40.4	-117.33	230.3	-1,156.1	1,182.5	1,137.7	44.87	26.357	
2,100.0	2,099.7	2,099.7	2,099.7	4.6	41.1	-117.42	230.3	-1,156.1	1,183.8	1,138.2	45.59	25.964	
2,165.3	2,164.7	2,164.7	2,164.7	4.7	42.4	-117.65	230.3	-1,156.1	1,186.8	1,139.7	47.02	25.238	
2,200.0	2,199.1	2,199.1	2,199.1	4.8	43.1	-117.78	230.3	-1,156.1	1,188.6	1,140.9	47.78	24.879	
2,263.8	2,262.3	2,262.3	2,262.3	5.0	44.3	-118.07	230.3	-1,156.1	1,192.6	1,143.5	49.16	24.259	
2,300.0	2,298.2	2,298.2	2,298.2	5.0	45.1	-118.25	230.3	-1,156.1	1,195.2	1,145.3	49.94	23.932	
2,362.2	2,359.5	2,359.5	2,359.5	5.2	46.3	-118.60	230.3	-1,156.1	1,200.2	1,149.0	51.28	23.404	
2,400.0	2,396.6	2,396.6	2,396.6	5.3	47.0	-118.82	230.3	-1,156.1	1,203.6	1,151.5	52.09	23.106	
2,460.6	2,456.0	2,456.0	2,456.0	5.5	48.2	-119.22	230.3	-1,156.1	1,209.6	1,156.3	53.39	22.658	
2,500.0	2,494.4	2,494.4	2,494.4	5.6	49.0	-119.49	230.3	-1,156.1	1,213.9	1,159.7	54.22	22.389	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
2,559.0	2,551.8	2,551.8	2,551.8	5.8	50.2	-119.92	230.3	-1,156.1	1,221.0	1,165.5	55.47	22.011	
2,600.0	2,591.5	2,591.5	2,591.5	5.9	51.0	-120.24	230.3	-1,156.1	1,226.3	1,169.9	56.33	21.770	
2,657.5	2,646.8	2,646.8	2,646.8	6.1	52.1	-120.70	230.3	-1,156.1	1,234.3	1,176.8	57.53	21.455	
2,685.2	2,673.5	2,673.5	2,673.5	6.2	52.6	-120.93	230.3	-1,156.1	1,238.4	1,180.3	58.10	21.315	
2,700.0	2,687.6	2,687.6	2,687.6	6.3	52.9	-121.09	230.3	-1,156.1	1,240.7	1,182.3	58.43	21.234	
2,755.9	2,741.1	2,741.1	2,741.1	6.5	54.0	-121.71	230.3	-1,156.1	1,249.3	1,189.7	59.67	20.938	
2,800.0	2,783.4	2,783.4	2,783.4	6.7	54.8	-122.18	230.3	-1,156.1	1,256.2	1,195.6	60.65	20.714	
2,854.3	2,835.4	2,835.4	2,835.4	6.9	55.9	-122.76	230.3	-1,156.1	1,264.9	1,203.0	61.86	20.448	
2,900.0	2,879.2	2,879.2	2,879.2	7.1	56.7	-123.25	230.3	-1,156.1	1,272.3	1,209.4	62.88	20.235	
2,952.7	2,929.7	2,929.7	2,929.7	7.4	57.8	-123.80	230.3	-1,156.1	1,280.9	1,216.8	64.06	19.996	
3,000.0	2,974.9	2,974.9	2,974.9	7.6	58.7	-124.28	230.3	-1,156.1	1,288.7	1,223.6	65.11	19.792	
3,051.2	3,023.9	3,023.9	3,023.9	7.8	59.7	-124.81	230.3	-1,156.1	1,297.3	1,231.0	66.26	19.578	
3,100.0	3,070.7	3,070.7	3,070.7	8.1	60.6	-125.30	230.3	-1,156.1	1,305.6	1,238.2	67.36	19.383	
3,149.6	3,118.2	3,118.2	3,118.2	8.3	61.5	-125.79	230.3	-1,156.1	1,314.1	1,245.6	68.47	19.192	
3,200.0	3,166.5	3,166.5	3,166.5	8.6	62.5	-126.29	230.3	-1,156.1	1,322.9	1,253.3	69.60	19.006	
3,248.0	3,212.5	3,212.5	3,212.5	8.8	63.4	-126.75	230.3	-1,156.1	1,331.3	1,260.6	70.69	18.835	
3,300.0	3,262.3	3,262.3	3,262.3	9.1	64.4	-127.25	230.3	-1,156.1	1,340.6	1,268.7	71.85	18.657	
3,346.4	3,306.8	3,306.8	3,306.8	9.3	65.3	-127.69	230.3	-1,156.1	1,348.9	1,276.0	72.90	18.504	
3,400.0	3,358.1	3,358.1	3,358.1	9.6	66.4	-128.19	230.3	-1,156.1	1,358.6	1,284.5	74.10	18.335	
3,444.9	3,401.0	3,401.0	3,401.0	9.8	67.2	-128.60	230.3	-1,156.1	1,366.8	1,291.7	75.11	18.198	
3,500.0	3,453.8	3,453.8	3,453.8	10.1	68.3	-129.11	230.3	-1,156.1	1,377.0	1,300.7	76.35	18.037	
3,543.3	3,495.3	3,495.3	3,495.3	10.3	69.1	-129.50	230.3	-1,156.1	1,385.1	1,307.8	77.32	17.914	
3,600.0	3,549.6	3,549.6	3,549.6	10.6	70.2	-130.00	230.3	-1,156.1	1,395.8	1,317.2	78.59	17.760	
3,641.7	3,589.6	3,589.6	3,589.6	10.8	71.0	-130.37	230.3	-1,156.1	1,403.7	1,324.2	79.53	17.651	
3,700.0	3,645.4	3,645.4	3,645.4	11.1	72.1	-130.87	230.3	-1,156.1	1,414.9	1,334.1	80.83	17.504	
3,740.1	3,683.8	3,683.8	3,683.8	11.4	72.9	-131.21	230.3	-1,156.1	1,422.7	1,341.0	81.73	17.406	
3,800.0	3,741.2	3,741.2	3,741.2	11.7	74.1	-131.72	230.3	-1,156.1	1,434.3	1,351.3	83.07	17.266	
3,838.6	3,778.1	3,778.1	3,778.1	11.9	74.8	-132.04	230.3	-1,156.1	1,441.9	1,358.0	83.93	17.179	
3,900.0	3,837.0	3,837.0	3,837.0	12.2	76.0	-132.54	230.3	-1,156.1	1,454.1	1,368.8	85.31	17.045	
3,937.0	3,872.4	3,872.4	3,872.4	12.4	76.7	-132.84	230.3	-1,156.1	1,461.5	1,375.3	86.13	16.968	
4,000.0	3,932.7	3,932.7	3,932.7	12.8	77.9	-133.35	230.3	-1,156.1	1,474.1	1,386.6	87.54	16.840	
4,035.4	3,966.7	3,966.7	3,966.7	13.0	78.6	-133.63	230.3	-1,156.1	1,481.3	1,393.0	88.33	16.771	
4,100.0	4,028.5	4,028.5	4,028.5	13.3	79.9	-134.13	230.3	-1,156.1	1,494.4	1,404.7	89.76	16.649	
4,133.8	4,060.9	4,060.9	4,060.9	13.5	80.5	-134.39	230.3	-1,156.1	1,501.4	1,410.9	90.52	16.587	
4,200.0	4,124.3	4,124.3	4,124.3	13.9	81.8	-134.90	230.3	-1,156.1	1,515.0	1,423.0	91.99	16.470	
4,232.3	4,155.2	4,155.2	4,155.2	14.0	82.4	-135.14	230.3	-1,156.1	1,521.7	1,429.0	92.70	16.415	
4,300.0	4,220.1	4,220.1	4,220.1	14.4	83.7	-135.64	230.3	-1,156.1	1,535.9	1,441.7	94.20	16.304	
4,330.7	4,249.5	4,249.5	4,249.5	14.6	84.3	-135.87	230.3	-1,156.1	1,542.3	1,447.4	94.88	16.255	
4,400.0	4,315.9	4,315.9	4,315.9	15.0	85.6	-136.37	230.3	-1,156.1	1,557.0	1,460.6	96.42	16.148	
4,429.1	4,343.7	4,343.7	4,343.7	15.1	86.2	-136.57	230.3	-1,156.1	1,563.2	1,466.1	97.06	16.105	
4,500.0	4,411.6	4,411.6	4,411.6	15.5	87.6	-137.07	230.3	-1,156.1	1,578.3	1,479.7	98.63	16.003	
4,527.5	4,438.0	4,438.0	4,438.0	15.7	88.1	-137.26	230.3	-1,156.1	1,584.2	1,485.0	99.24	15.964	
4,600.0	4,507.4	4,507.4	4,507.4	16.1	89.5	-137.76	230.3	-1,156.1	1,599.9	1,499.1	100.83	15.867	
4,626.0	4,532.3	4,532.3	4,532.3	16.2	90.0	-137.94	230.3	-1,156.1	1,605.5	1,504.1	101.41	15.833	
4,700.0	4,603.2	4,603.2	4,603.2	16.7	91.4	-138.43	230.3	-1,156.1	1,621.7	1,518.7	103.04	15.739	
4,724.4	4,626.6	4,626.6	4,626.6	16.8	91.9	-138.59	230.3	-1,156.1	1,627.1	1,523.5	103.57	15.709	
4,800.0	4,699.0	4,699.0	4,699.0	17.2	93.3	-139.08	230.3	-1,156.1	1,643.7	1,538.5	105.23	15.620	
4,822.8	4,720.8	4,720.8	4,720.8	17.4	93.8	-139.23	230.3	-1,156.1	1,648.8	1,543.0	105.73	15.593	
4,900.0	4,794.7	4,794.7	4,794.7	17.8	95.3	-139.72	230.3	-1,156.1	1,665.9	1,558.5	107.43	15.507	
4,921.2	4,815.1	4,815.1	4,815.1	17.9	95.7	-139.85	230.3	-1,156.1	1,670.7	1,562.8	107.89	15.485	
5,000.0	4,890.5	4,890.5	4,890.5	18.4	97.2	-140.34	230.3	-1,156.1	1,688.3	1,578.7	109.62	15.402	
5,019.7	4,909.4	4,909.4	4,909.4	18.5	97.6	-140.46	230.3	-1,156.1	1,692.8	1,582.7	110.05	15.382	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
5,100.0	4,986.3	4,986.3	4,986.3	18.9	99.1	-140.94	230.3	-1,156.1	1,711.0	1,599.1	111.81	15.303	
5,118.1	5,003.6	5,003.6	5,003.6	19.0	99.5	-141.05	230.3	-1,156.1	1,715.1	1,602.9	112.20	15.286	
5,200.0	5,082.1	5,082.1	5,082.1	19.5	101.0	-141.53	230.3	-1,156.1	1,733.7	1,619.7	113.99	15.210	
5,216.5	5,097.9	5,097.9	5,097.9	19.6	101.4	-141.63	230.3	-1,156.1	1,737.5	1,623.2	114.35	15.195	
5,300.0	5,177.9	5,177.9	5,177.9	20.1	103.0	-142.11	230.3	-1,156.1	1,756.7	1,640.5	116.17	15.122	
5,314.9	5,192.2	5,192.2	5,192.2	20.2	103.3	-142.19	230.3	-1,156.1	1,760.1	1,643.7	116.49	15.109	
5,400.0	5,273.6	5,273.6	5,273.6	20.6	104.9	-142.67	230.3	-1,156.1	1,779.8	1,661.5	118.35	15.039	
5,413.4	5,286.5	5,286.5	5,286.5	20.7	105.2	-142.74	230.3	-1,156.1	1,782.9	1,664.3	118.64	15.028	
5,500.0	5,369.4	5,369.4	5,369.4	21.2	106.8	-143.21	230.3	-1,156.1	1,803.1	1,682.6	120.52	14.961	
5,511.8	5,380.7	5,380.7	5,380.7	21.3	107.0	-143.28	230.3	-1,156.1	1,805.9	1,685.1	120.78	14.952	
5,600.0	5,465.2	5,465.2	5,465.2	21.8	108.7	-143.74	230.3	-1,156.1	1,826.6	1,703.9	122.69	14.887	
5,610.2	5,475.0	5,475.0	5,475.0	21.9	108.9	-143.80	230.3	-1,156.1	1,829.0	1,706.1	122.91	14.880	
5,700.0	5,561.0	5,561.0	5,561.0	22.4	110.7	-144.26	230.3	-1,156.1	1,850.2	1,725.3	124.86	14.818	
5,708.6	5,569.3	5,569.3	5,569.3	22.4	110.8	-144.31	230.3	-1,156.1	1,852.2	1,727.2	125.05	14.812	
5,793.4	5,650.4	5,650.4	5,650.4	22.9	112.5	-144.74	230.3	-1,156.1	1,872.3	1,745.4	126.88	14.756	
5,800.0	5,656.8	5,656.8	5,656.8	22.9	112.6	-144.79	230.3	-1,156.1	1,873.9	1,746.8	127.07	14.747	
5,807.1	5,663.6	5,663.6	5,663.6	23.0	112.7	-144.84	230.3	-1,156.1	1,875.6	1,748.3	127.27	14.737	
5,900.0	5,753.1	5,753.1	5,753.1	23.4	114.5	-145.51	230.3	-1,156.1	1,896.2	1,766.3	129.85	14.603	
5,905.5	5,758.4	5,758.4	5,758.4	23.4	114.6	-145.55	230.3	-1,156.1	1,897.3	1,767.3	130.00	14.595	
6,000.0	5,850.3	5,850.3	5,850.3	23.8	116.5	-146.13	230.3	-1,156.1	1,915.8	1,783.2	132.59	14.449	
6,003.9	5,854.1	5,854.1	5,854.1	23.8	116.6	-146.15	230.3	-1,156.1	1,916.5	1,783.8	132.70	14.442	
6,100.0	5,948.3	5,948.3	5,948.3	24.1	118.5	-146.64	230.3	-1,156.1	1,932.6	1,797.3	135.28	14.286	
6,102.3	5,950.6	5,950.6	5,950.6	24.1	118.5	-146.66	230.3	-1,156.1	1,932.9	1,797.6	135.34	14.282	
6,200.0	6,046.9	6,046.9	6,046.9	24.4	120.4	-147.07	230.3	-1,156.1	1,946.6	1,808.7	137.89	14.117	
6,200.8	6,047.6	6,047.6	6,047.6	24.4	120.5	-147.07	230.3	-1,156.1	1,946.7	1,808.8	137.91	14.116	
6,299.2	6,145.2	6,145.2	6,145.2	24.7	122.4	-147.39	230.3	-1,156.1	1,957.6	1,817.2	140.39	13.944	
6,300.0	6,146.0	6,146.0	6,146.0	24.7	122.4	-147.40	230.3	-1,156.1	1,957.7	1,817.3	140.41	13.943	
6,397.6	6,243.1	6,243.1	6,243.1	24.9	124.4	-147.63	230.3	-1,156.1	1,965.7	1,822.9	142.78	13.768	
6,400.0	6,245.5	6,245.5	6,245.5	24.9	124.4	-147.64	230.3	-1,156.1	1,965.9	1,823.0	142.83	13.763	
6,496.0	6,341.4	6,341.4	6,341.4	25.1	126.4	-147.79	230.3	-1,156.1	1,971.0	1,825.9	145.06	13.588	
6,500.0	6,345.3	6,345.3	6,345.3	25.1	126.4	-147.79	230.3	-1,156.1	1,971.1	1,826.0	145.15	13.580	
6,594.5	6,439.7	6,439.7	6,439.7	25.2	128.3	-147.86	230.3	-1,156.1	1,973.4	1,826.2	147.22	13.405	
6,600.0	6,445.3	6,445.3	6,445.3	25.2	128.5	-147.86	230.3	-1,156.1	1,973.5	1,826.1	147.34	13.394	
6,628.6	6,473.9	6,473.9	6,473.9	25.3	129.0	-109.55	230.3	-1,156.1	1,973.6	1,825.6	147.94	13.340	
6,658.6	6,503.9	6,503.9	6,503.9	25.3	129.6	-109.55	230.3	-1,156.1	1,973.6	1,825.0	148.59	13.282	
6,692.9	6,538.1	6,538.1	6,538.1	25.3	130.3	70.49	230.3	-1,156.1	1,973.3	1,824.0	149.28	13.219	
6,700.0	6,545.2	6,545.2	6,545.2	25.3	130.5	70.51	230.3	-1,156.1	1,973.2	1,823.8	149.42	13.205	
6,750.0	6,595.0	6,595.0	6,595.0	25.3	131.5	70.75	230.3	-1,156.1	1,971.7	1,821.3	150.36	13.113	
6,791.3	6,635.8	6,635.8	6,635.8	25.3	132.3	71.09	230.3	-1,156.1	1,969.5	1,818.4	151.08	13.036	
6,800.0	6,644.3	6,644.3	6,644.3	25.3	132.5	71.17	230.3	-1,156.1	1,969.0	1,817.7	151.23	13.019	
6,850.0	6,693.0	6,693.0	6,693.0	25.2	133.4	71.77	230.3	-1,156.1	1,965.2	1,813.2	152.06	12.924	
6,889.7	6,731.0	6,731.0	6,731.0	25.2	134.2	72.36	230.3	-1,156.1	1,961.5	1,808.8	152.69	12.847	
6,900.0	6,740.7	6,740.7	6,740.7	25.2	134.4	72.53	230.3	-1,156.1	1,960.5	1,807.6	152.85	12.826	
6,950.0	6,787.3	6,787.3	6,787.3	25.0	135.3	73.44	230.3	-1,156.1	1,954.8	1,801.2	153.63	12.724	
6,988.2	6,821.9	6,821.9	6,821.9	24.9	136.0	74.23	230.3	-1,156.1	1,949.9	1,795.7	154.23	12.643	
7,000.0	6,832.5	6,832.5	6,832.5	24.9	136.2	74.49	230.3	-1,156.1	1,948.3	1,793.9	154.42	12.617	
7,050.0	6,876.1	6,876.1	6,876.1	24.7	137.1	75.67	230.3	-1,156.1	1,941.2	1,785.9	155.24	12.505	
7,086.6	6,906.8	6,906.8	6,906.8	24.6	137.7	76.59	230.3	-1,156.1	1,935.6	1,779.7	155.85	12.420	
7,100.0	6,917.9	6,917.9	6,917.9	24.5	138.0	76.94	230.3	-1,156.1	1,933.5	1,777.4	156.07	12.388	
7,150.0	6,957.6	6,957.6	6,957.6	24.3	138.8	78.28	230.3	-1,156.1	1,925.4	1,768.5	156.93	12.269	
7,185.0	6,984.2	6,984.2	6,984.2	24.1	139.3	79.26	230.3	-1,156.1	1,919.6	1,762.1	157.54	12.185	
7,200.0	6,995.2	6,995.2	6,995.2	24.1	139.5	79.68	230.3	-1,156.1	1,917.1	1,759.3	157.80	12.149	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
7,250.0	7,030.3	7,030.3	7,030.3	23.8	140.2	81.09	230.3	-1,156.1	1,908.8	1,750.2	158.64	12.032	
7,283.4	7,052.4	7,052.4	7,052.4	23.6	140.7	82.03	230.3	-1,156.1	1,903.3	1,744.1	159.19	11.956	
7,300.0	7,062.9	7,062.9	7,062.9	23.6	140.9	82.49	230.3	-1,156.1	1,900.6	1,741.2	159.45	11.920	
7,350.0	7,092.8	7,092.8	7,092.8	23.3	141.5	83.85	230.3	-1,156.1	1,892.8	1,732.6	160.18	11.817	
7,381.9	7,110.3	7,110.3	7,110.3	23.1	141.8	84.68	230.3	-1,156.1	1,888.0	1,727.4	160.60	11.756	
7,400.0	7,119.8	7,119.8	7,119.8	23.0	142.0	85.14	230.3	-1,156.1	1,885.4	1,724.6	160.82	11.724	
7,450.0	7,143.8	7,143.8	7,143.8	22.8	142.5	86.32	230.3	-1,156.1	1,878.7	1,717.4	161.35	11.644	
7,480.3	7,156.8	7,156.8	7,156.8	22.6	142.8	86.98	230.3	-1,156.1	1,875.0	1,713.4	161.62	11.601	
7,500.0	7,164.7	7,164.7	7,164.7	22.5	142.9	87.38	230.3	-1,156.1	1,872.8	1,711.0	161.77	11.577	
7,550.0	7,182.3	7,182.3	7,182.3	22.2	143.3	88.28	230.3	-1,156.1	1,867.9	1,705.8	162.09	11.524	
7,578.7	7,191.0	7,191.0	7,191.0	22.1	143.5	88.73	230.3	-1,156.1	1,865.5	1,703.3	162.23	11.499	
7,600.0	7,196.7	7,196.7	7,196.7	22.0	143.6	89.02	230.3	-1,156.1	1,864.0	1,701.7	162.31	11.485	
7,650.0	7,207.7	7,207.7	7,207.7	21.7	143.8	89.56	230.3	-1,156.1	1,861.4	1,698.9	162.46	11.458	
7,677.1	7,212.2	7,212.2	7,212.2	21.6	143.9	89.77	230.3	-1,156.1	1,860.5	1,697.9	162.52	11.448	
7,700.0	7,215.2	7,215.2	7,215.2	21.5	143.9	89.90	230.3	-1,156.1	1,860.0	1,697.4	162.55	11.443	
7,727.9	7,217.9	7,217.9	7,217.9	21.4	144.0	90.00	230.3	-1,156.1	1,859.8	1,697.2	162.58	11.439 SF	
7,750.0	7,219.3	7,219.3	7,219.3	21.3	144.0	90.03	230.3	-1,156.1	1,859.9	1,697.3	162.59	11.439	
7,775.6	7,220.1	7,220.1	7,220.1	21.2	144.0	90.02	230.3	-1,156.1	1,860.4	1,697.8	162.61	11.441	
7,792.5	7,220.0	7,220.0	7,220.0	21.1	144.0	89.98	230.3	-1,156.1	1,860.9	1,698.3	162.61	11.444	
7,800.0	7,219.9	7,219.9	7,219.9	21.1	144.0	89.97	230.3	-1,156.1	1,861.2	1,698.6	162.61	11.446	
7,874.0	7,219.0	7,219.0	7,219.0	20.8	144.0	89.94	230.3	-1,156.1	1,865.5	1,702.8	162.70	11.466	
7,900.0	7,218.7	7,218.7	7,218.7	20.7	144.0	89.93	230.3	-1,156.1	1,867.7	1,705.0	162.73	11.477	
7,972.4	7,217.8	7,217.8	7,217.8	20.5	144.0	89.91	230.3	-1,156.1	1,875.8	1,712.8	162.96	11.510	
8,000.0	7,217.5	7,217.5	7,217.5	20.4	144.0	89.90	230.3	-1,156.1	1,879.6	1,716.5	163.05	11.527	
8,070.8	7,216.6	7,216.6	7,216.6	20.4	144.0	89.87	230.3	-1,156.1	1,891.1	1,727.7	163.41	11.573	
8,100.0	7,216.2	7,216.2	7,216.2	20.4	144.0	89.86	230.3	-1,156.1	1,896.6	1,733.1	163.55	11.596	
8,169.3	7,215.4	7,215.4	7,215.4	20.7	143.9	89.83	230.3	-1,156.1	1,911.4	1,747.4	164.02	11.654	
8,200.0	7,215.0	7,215.0	7,215.0	21.0	143.9	89.82	230.3	-1,156.1	1,918.7	1,754.5	164.22	11.684	
8,267.7	7,214.1	7,214.1	7,214.1	21.6	143.9	89.79	230.3	-1,156.1	1,936.5	1,771.7	164.78	11.752	
8,300.0	7,213.7	7,213.7	7,213.7	21.9	143.9	89.78	230.3	-1,156.1	1,945.7	1,780.7	165.05	11.789	
8,366.1	7,212.9	7,212.9	7,212.9	22.6	143.9	89.76	230.3	-1,156.1	1,966.2	1,800.5	165.68	11.868	
8,400.0	7,212.5	7,212.5	7,212.5	23.0	143.9	89.74	230.3	-1,156.1	1,977.5	1,811.5	166.00	11.912	
8,464.5	7,211.7	7,211.7	7,211.7	23.8	143.9	89.72	230.3	-1,156.1	2,000.3	1,833.6	166.69	12.000	
8,500.0	7,211.3	7,211.3	7,211.3	24.2	143.9	89.70	230.3	-1,156.1	2,013.6	1,846.6	167.07	12.052	
8,563.0	7,210.5	7,210.5	7,210.5	25.0	143.8	89.68	230.3	-1,156.1	2,038.6	1,870.8	167.81	12.148	
8,600.0	7,210.0	7,210.0	7,210.0	25.5	143.8	89.67	230.3	-1,156.1	2,054.0	1,885.8	168.25	12.208	
8,661.4	7,209.3	7,209.3	7,209.3	26.3	143.8	89.64	230.3	-1,156.1	2,080.8	1,911.8	169.02	12.311	
8,700.0	7,208.8	7,208.8	7,208.8	26.8	143.8	89.63	230.3	-1,156.1	2,098.4	1,928.9	169.51	12.379	
8,759.8	7,208.0	7,208.0	7,208.0	27.6	143.8	89.60	230.3	-1,156.1	2,126.8	1,956.5	170.31	12.488	
8,800.0	7,207.5	7,207.5	7,207.5	28.2	143.8	89.59	230.3	-1,156.1	2,146.6	1,975.7	170.85	12.564	
8,858.2	7,206.8	7,206.8	7,206.8	29.0	143.8	89.57	230.3	-1,156.1	2,176.3	2,004.6	171.66	12.677	
8,900.0	7,206.3	7,206.3	7,206.3	29.6	143.8	89.55	230.3	-1,156.1	2,198.2	2,026.0	172.25	12.762	
8,956.7	7,205.6	7,205.6	7,205.6	30.4	143.7	89.53	230.3	-1,156.1	2,229.0	2,055.9	173.07	12.879	
9,000.0	7,205.0	7,205.0	7,205.0	31.1	143.7	89.51	230.3	-1,156.1	2,253.1	2,079.4	173.70	12.971	
9,055.1	7,204.3	7,204.3	7,204.3	31.9	143.7	89.49	230.3	-1,156.1	2,284.7	2,110.1	174.53	13.090	
9,100.0	7,203.8	7,203.8	7,203.8	32.6	143.7	89.47	230.3	-1,156.1	2,311.0	2,135.8	175.21	13.190	
9,153.5	7,203.1	7,203.1	7,203.1	33.4	143.7	89.45	230.3	-1,156.1	2,343.2	2,167.2	176.03	13.311	
9,200.0	7,202.5	7,202.5	7,202.5	34.2	143.7	89.43	230.3	-1,156.1	2,371.8	2,195.0	176.75	13.419	
9,251.9	7,201.9	7,201.9	7,201.9	35.0	143.7	89.41	230.3	-1,156.1	2,404.4	2,226.8	177.57	13.540	
9,300.0	7,201.3	7,201.3	7,201.3	35.7	143.7	89.40	230.3	-1,156.1	2,435.1	2,256.8	178.33	13.655	
9,350.4	7,200.7	7,200.7	7,200.7	36.6	143.6	89.38	230.3	-1,156.1	2,467.9	2,288.8	179.14	13.776	
9,400.0	7,200.0	7,200.0	7,200.0	37.4	143.6	89.36	230.3	-1,156.1	2,500.8	2,320.9	179.94	13.898	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
9,448.8	7,199.4	7,199.4	7,199.4	38.2	143.6	89.34	230.3	-1,156.1	2,533.7	2,352.9	180.74	14.019	
9,500.0	7,198.8	7,198.8	7,198.8	39.0	143.6	89.32	230.3	-1,156.1	2,568.7	2,387.2	181.57	14.147	
9,547.2	7,198.2	7,198.2	7,198.2	39.8	143.6	89.30	230.3	-1,156.1	2,601.5	2,419.2	182.36	14.266	
9,600.0	7,197.5	7,197.5	7,197.5	40.7	143.6	89.28	230.3	-1,156.1	2,638.7	2,455.5	183.23	14.401	
9,645.6	7,197.0	7,197.0	7,197.0	41.4	143.6	89.26	230.3	-1,156.1	2,671.3	2,487.3	184.00	14.518	
9,700.0	7,196.3	7,196.3	7,196.3	42.4	143.6	89.24	230.3	-1,156.1	2,710.5	2,525.6	184.91	14.659	
9,744.1	7,195.7	7,195.7	7,195.7	43.1	143.5	89.22	230.3	-1,156.1	2,742.8	2,557.1	185.66	14.773	
9,800.0	7,195.0	7,195.0	7,195.0	44.1	143.5	89.20	230.3	-1,156.1	2,784.1	2,597.5	186.61	14.920	
9,842.5	7,194.5	7,194.5	7,194.5	44.8	143.5	89.18	230.3	-1,156.1	2,815.9	2,628.6	187.33	15.031	
9,900.0	7,193.8	7,193.8	7,193.8	45.8	143.5	89.16	230.3	-1,156.1	2,859.3	2,671.0	188.32	15.183	
9,940.9	7,193.3	7,193.3	7,193.3	46.5	143.5	89.15	230.3	-1,156.1	2,890.5	2,701.5	189.03	15.292	
10,000.0	7,192.5	7,192.5	7,192.5	47.5	143.5	89.12	230.3	-1,156.1	2,936.0	2,746.0	190.05	15.449	
10,039.3	7,192.0	7,192.0	7,192.0	48.2	143.5	89.11	230.3	-1,156.1	2,966.5	2,775.8	190.73	15.554	
10,100.0	7,191.3	7,191.3	7,191.3	49.3	143.5	89.08	230.3	-1,156.1	3,014.0	2,822.3	191.78	15.716	
10,137.8	7,190.8	7,190.8	7,190.8	49.9	143.4	89.07	230.3	-1,156.1	3,043.8	2,851.4	192.44	15.817	
10,200.0	7,190.0	7,190.0	7,190.0	51.0	143.4	89.05	230.3	-1,156.1	3,093.3	2,899.8	193.53	15.983	
10,236.2	7,189.6	7,189.6	7,189.6	51.7	143.4	89.03	230.3	-1,156.1	3,122.3	2,928.2	194.17	16.080	
10,300.0	7,188.8	7,188.8	7,188.8	52.8	143.4	89.01	230.3	-1,156.1	3,173.8	2,978.5	195.29	16.252	
10,334.6	7,188.3	7,188.3	7,188.3	53.4	143.4	88.99	230.3	-1,156.1	3,201.9	3,006.0	195.91	16.344	
10,400.0	7,187.5	7,187.5	7,187.5	54.6	143.4	88.97	230.3	-1,156.1	3,255.4	3,058.3	197.06	16.519	
10,433.0	7,187.1	7,187.1	7,187.1	55.2	143.4	88.95	230.3	-1,156.1	3,282.5	3,084.9	197.65	16.608	
10,500.0	7,186.3	7,186.3	7,186.3	56.4	143.4	88.93	230.3	-1,156.1	3,337.9	3,139.1	198.84	16.787	
10,531.5	7,185.9	7,185.9	7,185.9	56.9	143.3	88.92	230.3	-1,156.1	3,364.1	3,164.7	199.40	16.871	
10,600.0	7,185.0	7,185.0	7,185.0	58.2	143.3	88.89	230.3	-1,156.1	3,421.4	3,220.8	200.62	17.054	
10,629.9	7,184.6	7,184.6	7,184.6	58.7	143.3	88.88	230.3	-1,156.1	3,446.5	3,245.4	201.16	17.133	
10,700.0	7,183.8	7,183.8	7,183.8	60.0	143.3	88.85	230.3	-1,156.1	3,505.8	3,303.3	202.41	17.320	
10,728.3	7,183.4	7,183.4	7,183.4	60.5	143.3	88.84	230.3	-1,156.1	3,529.8	3,326.9	202.92	17.395	
10,800.0	7,182.5	7,182.5	7,182.5	61.8	143.3	88.81	230.3	-1,156.1	3,590.9	3,386.7	204.21	17.584	
10,826.7	7,182.2	7,182.2	7,182.2	62.3	143.3	88.80	230.3	-1,156.1	3,613.8	3,409.1	204.69	17.655	
10,900.0	7,181.2	7,181.2	7,181.2	63.6	143.3	88.77	230.3	-1,156.1	3,676.8	3,470.8	206.01	17.848	
10,925.2	7,180.9	7,180.9	7,180.9	64.0	143.2	88.76	230.3	-1,156.1	3,698.6	3,492.1	206.47	17.914	
11,000.0	7,180.0	7,180.0	7,180.0	65.4	143.2	88.73	230.3	-1,156.1	3,763.4	3,555.6	207.82	18.109	
11,023.6	7,179.7	7,179.7	7,179.7	65.8	143.2	88.72	230.3	-1,156.1	3,783.9	3,575.7	208.25	18.171	
11,100.0	7,178.7	7,178.7	7,178.7	67.2	143.2	88.69	230.3	-1,156.1	3,850.7	3,641.0	209.63	18.369	
11,122.0	7,178.4	7,178.4	7,178.4	67.6	143.2	88.68	230.3	-1,156.1	3,870.0	3,659.9	210.03	18.426	
11,200.0	7,177.5	7,177.5	7,177.5	69.1	143.2	88.65	230.3	-1,156.1	3,938.5	3,727.1	211.45	18.627	
11,220.4	7,177.2	7,177.2	7,177.2	69.4	143.2	88.64	230.3	-1,156.1	3,956.5	3,744.7	211.82	18.679	
11,300.0	7,176.2	7,176.2	7,176.2	70.9	143.2	88.61	230.3	-1,156.1	4,026.9	3,813.7	213.27	18.882	
11,318.9	7,176.0	7,176.0	7,176.0	71.2	143.1	88.61	230.3	-1,156.1	4,043.7	3,830.1	213.61	18.930	
11,400.0	7,174.9	7,174.9	7,174.9	72.7	143.1	88.57	230.3	-1,156.1	4,115.9	3,900.8	215.09	19.136	
11,417.3	7,174.7	7,174.7	7,174.7	73.1	143.1	88.57	230.3	-1,156.1	4,131.3	3,915.9	215.40	19.179	
11,500.0	7,173.7	7,173.7	7,173.7	74.6	143.1	88.53	230.3	-1,156.1	4,205.3	3,988.4	216.92	19.387	
11,515.7	7,173.5	7,173.5	7,173.5	74.9	143.1	88.53	230.3	-1,156.1	4,219.4	4,002.2	217.20	19.426	
11,600.0	7,172.4	7,172.4	7,172.4	76.4	143.1	88.49	230.3	-1,156.1	4,295.2	4,076.5	218.74	19.636	
11,614.1	7,172.2	7,172.2	7,172.2	76.7	143.1	88.49	230.3	-1,156.1	4,308.0	4,089.0	219.00	19.671	
11,700.0	7,171.2	7,171.2	7,171.2	78.3	143.1	88.45	230.3	-1,156.1	4,385.6	4,165.0	220.58	19.882	
11,712.6	7,171.0	7,171.0	7,171.0	78.5	143.0	88.45	230.3	-1,156.1	4,397.0	4,176.2	220.81	19.913	
11,791.4	7,170.0	7,170.0	7,170.0	80.0	143.0	88.42	230.3	-1,156.1	4,468.5	4,246.2	222.25	20.105	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	0.0	0.0	0.0	0.0	-135.32	-781.8	-773.1	1,099.5				
98.4	98.4	93.4	93.4	0.1	0.2	-135.32	-781.8	-773.1	1,099.5	1,099.2	0.27	4,052.006	
100.0	100.0	95.0	95.0	0.1	0.2	-135.32	-781.8	-773.1	1,099.5	1,099.2	0.28	3,979.909	
196.8	196.8	191.8	191.8	0.3	2.6	-135.32	-781.8	-773.1	1,099.5	1,096.6	2.88	382.388	
200.0	200.0	195.0	195.0	0.3	2.7	-135.32	-781.8	-773.1	1,099.5	1,096.5	2.96	370.982	
295.3	295.3	290.3	290.3	0.5	4.6	-135.32	-781.8	-773.1	1,099.5	1,094.3	5.17	212.493	
300.0	300.0	295.0	295.0	0.5	4.7	-135.32	-781.8	-773.1	1,099.5	1,094.2	5.28	208.135	
393.7	393.7	388.7	388.7	0.7	6.7	-135.32	-781.8	-773.1	1,099.5	1,092.1	7.40	148.556	
400.0	400.0	395.0	395.0	0.8	6.8	-135.32	-781.8	-773.1	1,099.5	1,091.9	7.54	145.753	
492.1	492.1	487.1	487.1	1.0	8.6	-135.32	-781.8	-773.1	1,099.5	1,089.9	9.62	114.345	
500.0	500.0	495.0	495.0	1.0	8.8	-135.32	-781.8	-773.1	1,099.5	1,089.7	9.79	112.277	
590.5	590.5	585.5	585.5	1.2	10.6	-135.32	-781.8	-773.1	1,099.5	1,087.6	11.82	92.983	
600.0	600.0	595.0	595.0	1.2	10.8	-135.32	-781.8	-773.1	1,099.5	1,087.4	12.04	91.345	
689.0	689.0	684.0	684.0	1.4	12.6	-135.32	-781.8	-773.1	1,099.5	1,085.4	14.03	78.361	
700.0	700.0	695.0	695.0	1.4	12.8	-135.32	-781.8	-773.1	1,099.5	1,085.2	14.28	77.005	
787.4	787.4	782.4	782.4	1.6	14.6	-135.32	-781.8	-773.1	1,099.5	1,083.2	16.24	67.720	
800.0	800.0	795.0	795.0	1.7	14.9	-135.32	-781.8	-773.1	1,099.5	1,083.0	16.52	66.563	
885.8	885.8	880.8	880.8	1.9	16.6	-135.32	-781.8	-773.1	1,099.5	1,081.0	18.44	59.627	
900.0	900.0	895.0	895.0	1.9	16.9	-135.32	-781.8	-773.1	1,099.5	1,080.7	18.76	58.618	
984.2	984.2	979.2	979.2	2.1	18.6	-135.32	-781.8	-773.1	1,099.5	1,078.8	20.64	53.263	
1,000.0	1,000.0	995.0	995.0	2.1	18.9	-135.32	-781.8	-773.1	1,099.5	1,078.5	20.99	52.369	
1,082.7	1,082.7	1,077.7	1,077.7	2.3	20.5	-135.32	-781.8	-773.1	1,099.5	1,076.6	22.84	48.128	
1,100.0	1,100.0	1,095.0	1,095.0	2.3	20.9	-135.32	-781.8	-773.1	1,099.5	1,076.2	23.23	47.325	
1,181.1	1,181.1	1,176.1	1,176.1	2.5	22.5	-135.32	-781.8	-773.1	1,099.5	1,074.4	25.05	43.896	
1,200.0	1,200.0	1,195.0	1,195.0	2.6	22.9	-135.32	-781.8	-773.1	1,099.5	1,074.0	25.47	43.168	
1,279.5	1,279.5	1,274.5	1,274.5	2.7	24.5	-135.32	-781.8	-773.1	1,099.5	1,072.2	27.25	40.349	
1,300.0	1,300.0	1,295.0	1,295.0	2.8	24.9	-135.32	-781.8	-773.1	1,099.5	1,071.8	27.71	39.682	
1,377.9	1,377.9	1,372.9	1,372.9	3.0	26.5	-135.32	-781.8	-773.1	1,099.5	1,070.0	29.45	37.333	
1,400.0	1,400.0	1,395.0	1,395.0	3.0	26.9	-135.32	-781.8	-773.1	1,099.5	1,069.5	29.94	36.718	
1,476.4	1,476.4	1,471.4	1,471.4	3.2	28.5	-135.32	-781.8	-773.1	1,099.5	1,067.8	31.65	34.736	
1,500.0	1,500.0	1,495.0	1,495.0	3.2	28.9	-135.32	-781.8	-773.1	1,099.5	1,067.3	32.18	34.166	
1,574.8	1,574.8	1,569.8	1,569.8	3.4	30.5	-135.32	-781.8	-773.1	1,099.5	1,065.6	33.85	32.477	
1,600.0	1,600.0	1,595.0	1,595.0	3.5	31.0	-135.32	-781.8	-773.1	1,099.5	1,065.1	34.42	31.945	
1,673.2	1,673.2	1,668.2	1,668.2	3.6	32.4	-135.32	-781.8	-773.1	1,099.5	1,063.4	36.05	30.494	
1,700.0	1,700.0	1,695.0	1,695.0	3.7	33.0	-135.32	-781.8	-773.1	1,099.5	1,062.8	36.65	29.996	
1,771.6	1,771.6	1,766.6	1,766.6	3.8	34.4	-135.32	-781.8	-773.1	1,099.5	1,061.2	38.26	28.740	
1,800.0	1,800.0	1,795.0	1,795.0	3.9	35.0	-135.32	-781.8	-773.1	1,099.5	1,060.6	38.89	28.271	
1,850.0	1,850.0	1,845.0	1,845.0	4.0	36.0	-135.32	-781.8	-773.1	1,099.5	1,059.5	40.01	27.481 CC	
1,870.1	1,870.1	1,865.1	1,865.1	4.1	36.4	-173.63	-781.8	-773.1	1,099.5	1,059.1	40.46	27.179	
1,900.0	1,900.0	1,895.0	1,895.0	4.1	37.0	-173.63	-781.8	-773.1	1,099.9	1,058.8	41.12	26.750 ES	
1,968.5	1,968.5	1,963.5	1,963.5	4.3	38.4	-173.64	-781.8	-773.1	1,101.9	1,059.3	42.62	25.856	
2,000.0	1,999.9	1,994.9	1,994.9	4.4	39.0	-173.64	-781.8	-773.1	1,103.4	1,060.1	43.30	25.484	
2,066.9	2,066.7	2,061.7	2,061.7	4.5	40.3	-173.66	-781.8	-773.1	1,107.6	1,062.9	44.72	24.768	
2,100.0	2,099.7	2,094.7	2,094.7	4.6	41.0	-173.67	-781.8	-773.1	1,110.3	1,064.9	45.41	24.450	
2,165.3	2,164.7	2,159.7	2,159.7	4.7	42.3	-173.69	-781.8	-773.1	1,116.7	1,069.9	46.76	23.883	
2,200.0	2,199.1	2,194.1	2,194.1	4.8	43.0	-173.70	-781.8	-773.1	1,120.7	1,073.2	47.46	23.615	
2,263.8	2,262.3	2,257.3	2,257.3	5.0	44.3	-173.73	-781.8	-773.1	1,129.1	1,080.4	48.72	23.176	
2,300.0	2,298.2	2,293.2	2,293.2	5.0	45.0	-173.75	-781.8	-773.1	1,134.5	1,085.1	49.42	22.957	
2,362.2	2,359.5	2,354.5	2,354.5	5.2	46.2	-173.78	-781.8	-773.1	1,144.9	1,094.3	50.60	22.626	
2,400.0	2,396.6	2,391.6	2,391.6	5.3	47.0	-173.81	-781.8	-773.1	1,151.8	1,100.5	51.30	22.454	
2,460.6	2,456.0	2,451.0	2,451.0	5.5	48.2	-173.84	-781.8	-773.1	1,163.9	1,111.5	52.39	22.217	
2,500.0	2,494.4	2,489.4	2,489.4	5.6	49.0	-173.87	-781.8	-773.1	1,172.5	1,119.4	53.07	22.091	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
2,559.0	2,551.8	2,546.8	2,546.8	5.8	50.1	-173.91	-781.8	-773.1	1,186.3	1,132.2	54.08	21.935	
2,600.0	2,591.5	2,586.5	2,586.5	5.9	50.9	-173.94	-781.8	-773.1	1,196.5	1,141.8	54.75	21.855	
2,657.5	2,646.8	2,641.8	2,641.8	6.1	52.0	-173.99	-781.8	-773.1	1,211.9	1,156.2	55.66	21.772	
2,685.2	2,673.5	2,668.5	2,668.5	6.2	52.6	-174.01	-781.8	-773.1	1,219.7	1,163.6	56.09	21.745	
2,700.0	2,687.6	2,682.6	2,682.6	6.3	52.8	-174.03	-781.8	-773.1	1,223.9	1,167.5	56.40	21.702	
2,755.9	2,741.1	2,736.1	2,736.1	6.5	53.9	-174.11	-781.8	-773.1	1,239.9	1,182.3	57.57	21.539	
2,800.0	2,783.4	2,778.4	2,778.4	6.7	54.8	-174.17	-781.8	-773.1	1,252.5	1,194.0	58.49	21.415	
2,854.3	2,835.4	2,830.4	2,830.4	6.9	55.8	-174.24	-781.8	-773.1	1,268.1	1,208.4	59.63	21.266	
2,900.0	2,879.2	2,874.2	2,874.2	7.1	56.7	-174.30	-781.8	-773.1	1,281.1	1,220.5	60.59	21.146	
2,952.7	2,929.7	2,924.7	2,924.7	7.4	57.7	-174.36	-781.8	-773.1	1,296.2	1,234.5	61.69	21.010	
3,000.0	2,974.9	2,969.9	2,969.9	7.6	58.6	-174.42	-781.8	-773.1	1,309.7	1,247.1	62.69	20.894	
3,051.2	3,023.9	3,018.9	3,018.9	7.8	59.6	-174.48	-781.8	-773.1	1,324.4	1,260.6	63.76	20.770	
3,100.0	3,070.7	3,065.7	3,065.7	8.1	60.5	-174.54	-781.8	-773.1	1,338.4	1,273.6	64.79	20.656	
3,149.6	3,118.2	3,113.2	3,113.2	8.3	61.5	-174.60	-781.8	-773.1	1,352.6	1,286.7	65.84	20.544	
3,200.0	3,166.5	3,161.5	3,161.5	8.6	62.5	-174.65	-781.8	-773.1	1,367.0	1,300.1	66.90	20.433	
3,248.0	3,212.5	3,207.5	3,207.5	8.8	63.4	-174.71	-781.8	-773.1	1,380.7	1,312.8	67.92	20.330	
3,300.0	3,262.3	3,257.3	3,257.3	9.1	64.4	-174.76	-781.8	-773.1	1,395.6	1,326.6	69.01	20.223	
3,346.4	3,306.8	3,301.8	3,301.8	9.3	65.3	-174.81	-781.8	-773.1	1,408.9	1,338.9	70.00	20.129	
3,400.0	3,358.1	3,353.1	3,353.1	9.6	66.3	-174.87	-781.8	-773.1	1,424.3	1,353.1	71.13	20.024	
3,444.9	3,401.0	3,396.0	3,396.0	9.8	67.2	-174.92	-781.8	-773.1	1,437.1	1,365.0	72.08	19.938	
3,500.0	3,453.8	3,448.8	3,448.8	10.1	68.2	-174.97	-781.8	-773.1	1,452.9	1,379.7	73.24	19.836	
3,543.3	3,495.3	3,490.3	3,490.3	10.3	69.1	-175.01	-781.8	-773.1	1,465.3	1,391.1	74.16	19.758	
3,600.0	3,549.6	3,544.6	3,544.6	10.6	70.2	-175.07	-781.8	-773.1	1,481.6	1,406.2	75.36	19.658	
3,641.7	3,589.6	3,584.6	3,584.6	10.8	71.0	-175.11	-781.8	-773.1	1,493.5	1,417.3	76.25	19.587	
3,700.0	3,645.4	3,640.4	3,640.4	11.1	72.1	-175.16	-781.8	-773.1	1,510.2	1,432.7	77.49	19.490	
3,740.1	3,683.8	3,678.8	3,678.8	11.4	72.9	-175.20	-781.8	-773.1	1,521.7	1,443.4	78.34	19.425	
3,800.0	3,741.2	3,736.2	3,736.2	11.7	74.0	-175.25	-781.8	-773.1	1,538.9	1,459.2	79.61	19.330	
3,838.6	3,778.1	3,773.1	3,773.1	11.9	74.8	-175.29	-781.8	-773.1	1,549.9	1,469.5	80.43	19.270	
3,900.0	3,837.0	3,832.0	3,832.0	12.2	76.0	-175.34	-781.8	-773.1	1,567.5	1,485.8	81.73	19.178	
3,937.0	3,872.4	3,867.4	3,867.4	12.4	76.7	-175.37	-781.8	-773.1	1,578.1	1,495.6	82.52	19.123	
4,000.0	3,932.7	3,927.7	3,927.7	12.8	77.9	-175.42	-781.8	-773.1	1,596.2	1,512.3	83.86	19.033	
4,035.4	3,966.7	3,961.7	3,961.7	13.0	78.6	-175.45	-781.8	-773.1	1,606.3	1,521.7	84.62	18.984	
4,100.0	4,028.5	4,023.5	4,023.5	13.3	79.8	-175.50	-781.8	-773.1	1,624.8	1,538.8	85.99	18.896	
4,133.8	4,060.9	4,055.9	4,055.9	13.5	80.5	-175.53	-781.8	-773.1	1,634.5	1,547.8	86.71	18.850	
4,200.0	4,124.3	4,119.3	4,119.3	13.9	81.7	-175.58	-781.8	-773.1	1,653.5	1,565.4	88.12	18.764	
4,232.3	4,155.2	4,150.2	4,150.2	14.0	82.4	-175.61	-781.8	-773.1	1,662.7	1,573.9	88.81	18.723	
4,300.0	4,220.1	4,215.1	4,215.1	14.4	83.7	-175.66	-781.8	-773.1	1,682.2	1,591.9	90.25	18.639	
4,330.7	4,249.5	4,244.5	4,244.5	14.6	84.2	-175.68	-781.8	-773.1	1,691.0	1,600.1	90.90	18.602	
4,400.0	4,315.9	4,310.9	4,310.9	15.0	85.6	-175.73	-781.8	-773.1	1,710.8	1,618.4	92.38	18.519	
4,429.1	4,343.7	4,338.7	4,338.7	15.1	86.1	-175.75	-781.8	-773.1	1,719.2	1,626.2	93.00	18.485	
4,500.0	4,411.6	4,406.6	4,406.6	15.5	87.5	-175.80	-781.8	-773.1	1,739.5	1,645.0	94.51	18.405	
4,527.5	4,438.0	4,433.0	4,433.0	15.7	88.0	-175.82	-781.8	-773.1	1,747.4	1,652.3	95.10	18.374	
4,600.0	4,507.4	4,502.4	4,502.4	16.1	89.4	-175.87	-781.8	-773.1	1,768.2	1,671.5	96.65	18.295	
4,626.0	4,532.3	4,527.3	4,527.3	16.2	89.9	-175.89	-781.8	-773.1	1,775.6	1,678.4	97.20	18.268	
4,700.0	4,603.2	4,598.2	4,598.2	16.7	91.4	-175.94	-781.8	-773.1	1,796.9	1,698.1	98.78	18.190	
4,724.4	4,626.6	4,621.6	4,621.6	16.8	91.8	-175.95	-781.8	-773.1	1,803.9	1,704.5	99.30	18.165	
4,800.0	4,699.0	4,694.0	4,694.0	17.2	93.3	-176.00	-781.8	-773.1	1,825.5	1,724.6	100.92	18.090	
4,822.8	4,720.8	4,715.8	4,715.8	17.4	93.7	-176.01	-781.8	-773.1	1,832.1	1,730.7	101.40	18.067	
4,900.0	4,794.7	4,789.7	4,789.7	17.8	95.2	-176.06	-781.8	-773.1	1,854.2	1,751.2	103.05	17.993	
4,921.2	4,815.1	4,810.1	4,810.1	17.9	95.6	-176.07	-781.8	-773.1	1,860.3	1,756.8	103.50	17.973	
5,000.0	4,890.5	4,885.5	4,885.5	18.4	97.1	-176.12	-781.8	-773.1	1,882.9	1,777.7	105.19	17.900	
5,019.7	4,909.4	4,904.4	4,904.4	18.5	97.5	-176.13	-781.8	-773.1	1,888.5	1,782.9	105.61	17.883	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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
5,100.0	4,986.3	4,981.3	4,981.3	18.9	99.1	-176.18	-781.8	-773.1	1,911.6	1,804.3	107.32	17.811	
5,118.1	5,003.6	4,998.6	4,998.6	19.0	99.4	-176.19	-781.8	-773.1	1,916.8	1,809.1	107.71	17.796	
5,200.0	5,082.1	5,077.1	5,077.1	19.5	101.0	-176.24	-781.8	-773.1	1,940.3	1,830.8	109.46	17.726	
5,216.5	5,097.9	5,092.9	5,092.9	19.6	101.3	-176.25	-781.8	-773.1	1,945.0	1,835.2	109.81	17.712	
5,300.0	5,177.9	5,172.9	5,172.9	20.1	102.9	-176.29	-781.8	-773.1	1,969.0	1,857.4	111.60	17.643	
5,314.9	5,192.2	5,187.2	5,187.2	20.2	103.2	-176.30	-781.8	-773.1	1,973.2	1,861.3	111.92	17.631	
5,400.0	5,273.6	5,268.6	5,268.6	20.6	104.8	-176.34	-781.8	-773.1	1,997.6	1,883.9	113.74	17.564	
5,413.4	5,286.5	5,281.5	5,281.5	20.7	105.1	-176.35	-781.8	-773.1	2,001.5	1,887.5	114.02	17.553	
5,500.0	5,369.4	5,364.4	5,364.4	21.2	106.8	-176.40	-781.8	-773.1	2,026.3	1,910.5	115.88	17.487	
5,511.8	5,380.7	5,375.7	5,375.7	21.3	107.0	-176.40	-781.8	-773.1	2,029.7	1,913.6	116.13	17.478	
5,600.0	5,465.2	5,460.2	5,460.2	21.8	108.7	-176.45	-781.8	-773.1	2,055.0	1,937.0	118.02	17.413	
5,610.2	5,475.0	5,470.0	5,470.0	21.9	108.9	-176.45	-781.8	-773.1	2,058.0	1,939.7	118.23	17.406	
5,700.0	5,561.0	5,556.0	5,556.0	22.4	110.6	-176.50	-781.8	-773.1	2,083.7	1,963.6	120.16	17.342	
5,708.6	5,569.3	5,564.3	5,564.3	22.4	110.8	-176.50	-781.8	-773.1	2,086.2	1,965.9	120.34	17.336	
5,793.4	5,650.4	5,645.4	5,645.4	22.9	112.4	-176.54	-781.8	-773.1	2,110.5	1,988.4	122.15	17.278	
5,800.0	5,656.8	5,651.8	5,651.8	22.9	112.5	-176.55	-781.8	-773.1	2,112.4	1,990.0	122.37	17.263	
5,807.1	5,663.6	5,658.6	5,658.6	23.0	112.7	-176.55	-781.8	-773.1	2,114.4	1,991.8	122.60	17.247	
5,900.0	5,753.1	5,748.1	5,748.1	23.4	114.5	-176.62	-781.8	-773.1	2,139.2	2,013.6	125.57	17.036	
5,905.5	5,758.4	5,753.4	5,753.4	23.4	114.6	-176.63	-781.8	-773.1	2,140.6	2,014.8	125.74	17.024	
6,000.0	5,850.3	5,845.3	5,845.3	23.8	116.4	-176.69	-781.8	-773.1	2,162.6	2,034.0	128.66	16.809	
6,003.9	5,854.1	5,849.1	5,849.1	23.8	116.5	-176.69	-781.8	-773.1	2,163.5	2,034.7	128.78	16.800	
6,100.0	5,948.3	5,943.3	5,943.3	24.1	118.4	-176.74	-781.8	-773.1	2,182.7	2,051.0	131.63	16.582	
6,102.3	5,950.6	5,945.6	5,945.6	24.1	118.5	-176.74	-781.8	-773.1	2,183.1	2,051.4	131.70	16.577	
6,200.0	6,046.9	6,041.9	6,041.9	24.4	120.4	-176.78	-781.8	-773.1	2,199.3	2,064.8	134.47	16.356	
6,200.8	6,047.6	6,042.6	6,042.6	24.4	120.4	-176.78	-781.8	-773.1	2,199.4	2,064.9	134.49	16.354	
6,299.2	6,145.2	6,140.2	6,140.2	24.7	122.4	-176.82	-781.8	-773.1	2,212.3	2,075.2	137.14	16.131	
6,300.0	6,146.0	6,141.0	6,141.0	24.7	122.4	-176.82	-781.8	-773.1	2,212.4	2,075.3	137.17	16.130	
6,397.6	6,243.1	6,238.1	6,238.1	24.9	124.3	-176.84	-781.8	-773.1	2,221.9	2,082.3	139.65	15.910	
6,400.0	6,245.5	6,240.5	6,240.5	24.9	124.4	-176.84	-781.8	-773.1	2,222.1	2,082.4	139.71	15.905	
6,496.0	6,341.4	6,336.4	6,336.4	25.1	126.3	-176.86	-781.8	-773.1	2,228.2	2,086.2	142.01	15.691	
6,500.0	6,345.3	6,340.3	6,340.3	25.1	126.4	-176.86	-781.8	-773.1	2,228.3	2,086.3	142.10	15.682	
6,594.5	6,439.7	6,434.7	6,434.7	25.2	128.3	-176.86	-781.8	-773.1	2,231.0	2,086.8	144.20	15.472	
6,600.0	6,445.3	6,440.3	6,440.3	25.2	128.4	-176.86	-781.8	-773.1	2,231.1	2,086.8	144.31	15.460	
6,628.6	6,473.9	6,468.9	6,468.9	25.3	129.0	-138.56	-781.8	-773.1	2,231.2	2,086.3	144.92	15.397	
6,658.6	6,503.9	6,498.9	6,498.9	25.3	129.6	-138.56	-781.8	-773.1	2,231.2	2,085.7	145.57	15.328	
6,692.9	6,538.1	6,533.1	6,533.1	25.3	130.3	41.49	-781.8	-773.1	2,230.6	2,084.5	146.13	15.265	
6,700.0	6,545.2	6,540.2	6,540.2	25.3	130.4	41.51	-781.8	-773.1	2,230.3	2,084.1	146.22	15.253	
6,750.0	6,590.0	6,590.0	6,590.0	25.3	131.4	41.77	-781.8	-773.1	2,226.9	2,080.2	146.64	15.186	
6,791.3	6,635.8	6,630.8	6,630.8	25.3	132.2	42.14	-781.8	-773.1	2,222.1	2,075.4	146.70	15.147	
6,800.0	6,644.3	6,639.3	6,639.3	25.3	132.4	42.24	-781.8	-773.1	2,220.8	2,074.1	146.68	15.140	
6,850.0	6,693.0	6,688.0	6,688.0	25.2	133.4	42.91	-781.8	-773.1	2,212.2	2,065.9	146.39	15.112	
6,889.7	6,731.0	6,726.0	6,726.0	25.2	134.2	43.59	-781.8	-773.1	2,203.7	2,057.7	145.95	15.099	
6,900.0	6,740.7	6,735.7	6,735.7	25.2	134.3	43.79	-781.8	-773.1	2,201.2	2,055.4	145.81	15.096	
6,950.0	6,787.3	6,782.3	6,782.3	25.0	135.3	44.89	-781.8	-773.1	2,187.8	2,042.7	145.05	15.083	
6,988.2	6,821.9	6,816.9	6,816.9	24.9	136.0	45.88	-781.8	-773.1	2,176.0	2,031.6	144.40	15.069	
7,000.0	6,832.5	6,827.5	6,827.5	24.9	136.2	46.22	-781.8	-773.1	2,172.0	2,027.8	144.20	15.062	
7,050.0	6,876.1	6,871.1	6,871.1	24.7	137.1	47.78	-781.8	-773.1	2,154.2	2,010.7	143.41	15.021	
7,086.6	6,906.8	6,901.8	6,901.8	24.6	137.7	49.08	-781.8	-773.1	2,139.8	1,996.8	142.94	14.970	
7,100.0	6,917.9	6,912.9	6,912.9	24.5	137.9	49.59	-781.8	-773.1	2,134.3	1,991.4	142.81	14.945	
7,150.0	6,957.6	6,952.6	6,952.6	24.3	138.7	51.64	-781.8	-773.1	2,112.5	1,969.9	142.54	14.820	
7,185.0	6,984.2	6,979.2	6,979.2	24.1	139.2	53.23	-781.8	-773.1	2,096.2	1,953.6	142.63	14.697	
7,200.0	6,995.2	6,990.2	6,990.2	24.1	139.5	53.94	-781.8	-773.1	2,089.0	1,946.3	142.74	14.635	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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
7,250.0	7,030.3	7,025.3	7,025.3	23.8	140.2	56.49	-781.8	-773.1	2,064.0	1,920.5	143.49	14.384	
7,283.4	7,052.4	7,047.4	7,047.4	23.6	140.6	58.33	-781.8	-773.1	2,046.6	1,902.2	144.33	14.180	
7,300.0	7,062.9	7,057.9	7,057.9	23.6	140.8	59.27	-781.8	-773.1	2,037.7	1,892.9	144.84	14.069	
7,350.0	7,092.8	7,087.8	7,087.8	23.3	141.4	62.27	-781.8	-773.1	2,010.3	1,863.6	146.73	13.701	
7,381.9	7,110.3	7,105.3	7,105.3	23.1	141.8	64.28	-781.8	-773.1	1,992.4	1,844.2	148.18	13.445	
7,400.0	7,119.8	7,114.8	7,114.8	23.0	142.0	65.44	-781.8	-773.1	1,982.0	1,832.9	149.07	13.296	
7,450.0	7,143.8	7,138.8	7,138.8	22.8	142.5	68.76	-781.8	-773.1	1,953.0	1,801.4	151.67	12.877	
7,480.3	7,156.8	7,151.8	7,151.8	22.6	142.7	70.81	-781.8	-773.1	1,935.3	1,782.0	153.29	12.625	
7,500.0	7,164.7	7,159.7	7,159.7	22.5	142.9	72.15	-781.8	-773.1	1,923.6	1,769.3	154.32	12.465	
7,550.0	7,182.3	7,177.3	7,177.3	22.2	143.2	75.57	-781.8	-773.1	1,894.0	1,737.2	156.81	12.079	
7,578.7	7,191.0	7,186.0	7,186.0	22.1	143.4	77.52	-781.8	-773.1	1,877.0	1,718.9	158.09	11.873	
7,600.0	7,196.7	7,191.7	7,191.7	22.0	143.5	78.94	-781.8	-773.1	1,864.4	1,705.4	158.94	11.730	
7,650.0	7,207.7	7,202.7	7,202.7	21.7	143.7	82.21	-781.8	-773.1	1,835.0	1,674.4	160.61	11.425	
7,677.1	7,212.2	7,207.2	7,207.2	21.6	143.8	83.92	-781.8	-773.1	1,819.3	1,658.0	161.30	11.279	
7,700.0	7,215.2	7,210.2	7,210.2	21.5	143.9	85.31	-781.8	-773.1	1,806.1	1,644.4	161.75	11.166	
7,750.0	7,219.3	7,214.3	7,214.3	21.3	144.0	88.20	-781.8	-773.1	1,777.9	1,615.5	162.38	10.949	
7,775.6	7,220.1	7,215.1	7,215.1	21.2	144.0	89.58	-781.8	-773.1	1,763.8	1,601.3	162.53	10.852	
7,792.5	7,220.0	7,215.0	7,215.0	21.1	144.0	90.46	-781.8	-773.1	1,754.6	1,592.0	162.57	10.793	
7,800.0	7,219.9	7,214.9	7,214.9	21.1	144.0	90.45	-781.8	-773.1	1,750.6	1,588.0	162.57	10.768	
7,874.0	7,219.0	7,214.0	7,214.0	20.8	144.0	90.42	-781.8	-773.1	1,712.0	1,549.3	162.67	10.524	
7,900.0	7,218.7	7,213.7	7,213.7	20.7	144.0	90.40	-781.8	-773.1	1,699.0	1,536.3	162.70	10.442	
7,972.4	7,217.8	7,212.8	7,212.8	20.5	143.9	90.37	-781.8	-773.1	1,664.4	1,501.4	162.93	10.215	
8,000.0	7,217.5	7,212.5	7,212.5	20.4	143.9	90.36	-781.8	-773.1	1,651.8	1,488.8	163.02	10.132	
8,070.8	7,216.6	7,211.6	7,211.6	20.4	143.9	90.32	-781.8	-773.1	1,621.3	1,457.9	163.38	9.924	
8,100.0	7,216.2	7,211.2	7,211.2	20.4	143.9	90.31	-781.8	-773.1	1,609.5	1,446.0	163.53	9.843	
8,169.3	7,215.4	7,210.4	7,210.4	20.7	143.9	90.27	-781.8	-773.1	1,583.2	1,419.2	163.99	9.654	
8,200.0	7,215.0	7,210.0	7,210.0	21.0	143.9	90.26	-781.8	-773.1	1,572.4	1,408.2	164.20	9.577	
8,267.7	7,214.1	7,209.1	7,209.1	21.6	143.9	90.23	-781.8	-773.1	1,550.5	1,385.7	164.75	9.411	
8,300.0	7,213.7	7,208.7	7,208.7	21.9	143.9	90.21	-781.8	-773.1	1,540.9	1,375.9	165.02	9.338	
8,366.1	7,212.9	7,207.9	7,207.9	22.6	143.8	90.18	-781.8	-773.1	1,523.4	1,357.7	165.65	9.196	
8,400.0	7,212.5	7,207.5	7,207.5	23.0	143.8	90.16	-781.8	-773.1	1,515.4	1,349.4	165.98	9.130	
8,464.5	7,211.7	7,206.7	7,206.7	23.8	143.8	90.13	-781.8	-773.1	1,502.3	1,335.6	166.67	9.013	
8,500.0	7,211.3	7,206.3	7,206.3	24.2	143.8	90.12	-781.8	-773.1	1,496.2	1,329.1	167.05	8.956	
8,563.0	7,210.5	7,205.5	7,205.5	25.0	143.8	90.09	-781.8	-773.1	1,487.4	1,319.6	167.79	8.864	
8,600.0	7,210.0	7,205.0	7,205.0	25.5	143.8	90.07	-781.8	-773.1	1,483.4	1,315.2	168.22	8.818	
8,661.4	7,209.3	7,204.3	7,204.3	26.3	143.8	90.04	-781.8	-773.1	1,478.9	1,309.9	169.00	8.751	
8,700.0	7,208.8	7,203.8	7,203.8	26.8	143.8	90.02	-781.8	-773.1	1,477.3	1,307.8	169.49	8.716	
8,740.1	7,208.3	7,203.3	7,203.3	27.3	143.7	90.00	-781.8	-773.1	1,476.8	1,306.8	170.02	8.686	
8,759.8	7,208.0	7,203.0	7,203.0	27.6	143.7	89.99	-781.8	-773.1	1,476.9	1,306.6	170.29	8.673	
8,800.0	7,207.5	7,202.5	7,202.5	28.2	143.7	89.97	-781.8	-773.1	1,478.0	1,307.2	170.82	8.652	
8,858.2	7,206.8	7,201.8	7,201.8	29.0	143.7	89.94	-781.8	-773.1	1,481.5	1,309.9	171.64	8.631	
8,900.0	7,206.3	7,201.3	7,201.3	29.6	143.7	89.92	-781.8	-773.1	1,485.4	1,313.2	172.22	8.625 SF	
8,956.7	7,205.6	7,200.6	7,200.6	30.4	143.7	89.90	-781.8	-773.1	1,492.6	1,319.5	173.05	8.625	
9,000.0	7,205.0	7,200.0	7,200.0	31.1	143.7	89.87	-781.8	-773.1	1,499.5	1,325.8	173.68	8.634	
9,055.1	7,204.3	7,199.3	7,199.3	31.9	143.7	89.85	-781.8	-773.1	1,510.0	1,335.5	174.51	8.653	
9,100.0	7,203.8	7,198.8	7,198.8	32.6	143.7	89.83	-781.8	-773.1	1,520.0	1,344.8	175.18	8.677	
9,153.5	7,203.1	7,198.1	7,198.1	33.4	143.6	89.80	-781.8	-773.1	1,533.5	1,357.5	176.01	8.713	
9,200.0	7,202.5	7,197.5	7,197.5	34.2	143.6	89.78	-781.8	-773.1	1,546.7	1,370.0	176.73	8.752	
9,251.9	7,201.9	7,196.9	7,196.9	35.0	143.6	89.75	-781.8	-773.1	1,562.9	1,385.4	177.55	8.803	
9,300.0	7,201.3	7,196.3	7,196.3	35.7	143.6	89.73	-781.8	-773.1	1,579.3	1,401.0	178.30	8.858	
9,350.4	7,200.7	7,195.7	7,195.7	36.6	143.6	89.70	-781.8	-773.1	1,597.9	1,418.8	179.11	8.921	
9,400.0	7,200.0	7,195.0	7,195.0	37.4	143.6	89.68	-781.8	-773.1	1,617.5	1,437.6	179.91	8.990	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
9,448.8	7,199.4	7,194.4	7,194.4	38.2	143.6	89.66	-781.8	-773.1	1,638.0	1,457.3	180.71	9.064	
9,500.0	7,198.8	7,193.8	7,193.8	39.0	143.6	89.63	-781.8	-773.1	1,660.8	1,479.2	181.55	9.148	
9,547.2	7,198.2	7,193.2	7,193.2	39.8	143.5	89.61	-781.8	-773.1	1,682.9	1,500.6	182.33	9.230	
9,600.0	7,197.5	7,192.5	7,192.5	40.7	143.5	89.58	-781.8	-773.1	1,708.9	1,525.6	183.21	9.327	
9,645.6	7,197.0	7,192.0	7,192.0	41.4	143.5	89.56	-781.8	-773.1	1,732.3	1,548.3	183.97	9.416	
9,700.0	7,196.3	7,191.3	7,191.3	42.4	143.5	89.53	-781.8	-773.1	1,761.3	1,576.4	184.88	9.526	
9,744.1	7,195.7	7,190.7	7,190.7	43.1	143.5	89.51	-781.8	-773.1	1,785.7	1,600.1	185.63	9.619	
9,800.0	7,195.0	7,190.0	7,190.0	44.1	143.5	89.49	-781.8	-773.1	1,817.7	1,631.1	186.58	9.742	
9,842.5	7,194.5	7,189.5	7,189.5	44.8	143.5	89.46	-781.8	-773.1	1,842.8	1,655.5	187.31	9.838	
9,900.0	7,193.8	7,188.8	7,188.8	45.8	143.5	89.44	-781.8	-773.1	1,877.8	1,689.5	188.29	9.973	
9,940.9	7,193.3	7,188.3	7,188.3	46.5	143.4	89.42	-781.8	-773.1	1,903.3	1,714.3	189.00	10.071	
10,000.0	7,192.5	7,187.5	7,187.5	47.5	143.4	89.39	-781.8	-773.1	1,941.1	1,751.1	190.02	10.215	
10,039.3	7,192.0	7,187.0	7,187.0	48.2	143.4	89.37	-781.8	-773.1	1,966.9	1,776.2	190.70	10.314	
10,100.0	7,191.3	7,186.3	7,186.3	49.3	143.4	89.34	-781.8	-773.1	2,007.5	1,815.7	191.76	10.469	
10,137.8	7,190.8	7,185.8	7,185.8	49.9	143.4	89.32	-781.8	-773.1	2,033.2	1,840.8	192.42	10.567	
10,200.0	7,190.0	7,185.0	7,185.0	51.0	143.4	89.29	-781.8	-773.1	2,076.5	1,883.0	193.51	10.731	
10,236.2	7,189.6	7,184.6	7,184.6	51.7	143.4	89.27	-781.8	-773.1	2,102.1	1,908.0	194.14	10.828	
10,300.0	7,188.8	7,183.8	7,183.8	52.8	143.4	89.24	-781.8	-773.1	2,148.0	1,952.7	195.27	11.000	
10,334.6	7,188.3	7,183.3	7,183.3	53.4	143.3	89.22	-781.8	-773.1	2,173.2	1,977.4	195.88	11.095	
10,400.0	7,187.5	7,182.5	7,182.5	54.6	143.3	89.19	-781.8	-773.1	2,221.6	2,024.6	197.03	11.275	
10,433.0	7,187.1	7,182.1	7,182.1	55.2	143.3	89.18	-781.8	-773.1	2,246.4	2,048.8	197.62	11.367	
10,500.0	7,186.3	7,181.3	7,181.3	56.4	143.3	89.14	-781.8	-773.1	2,297.3	2,098.5	198.81	11.555	
10,531.5	7,185.9	7,180.9	7,180.9	56.9	143.3	89.13	-781.8	-773.1	2,321.5	2,122.1	199.37	11.644	
10,600.0	7,185.0	7,180.0	7,180.0	58.2	143.3	89.09	-781.8	-773.1	2,374.8	2,174.2	200.59	11.839	
10,629.9	7,184.6	7,179.6	7,179.6	58.7	143.3	89.08	-781.8	-773.1	2,398.3	2,197.1	201.13	11.924	
10,700.0	7,183.8	7,178.8	7,178.8	60.0	143.3	89.04	-781.8	-773.1	2,453.9	2,251.5	202.38	12.125	
10,728.3	7,183.4	7,178.4	7,178.4	60.5	143.2	89.03	-781.8	-773.1	2,476.5	2,273.7	202.89	12.206	
10,800.0	7,182.5	7,177.5	7,177.5	61.8	143.2	89.00	-781.8	-773.1	2,534.4	2,330.3	204.18	12.413	
10,826.7	7,182.2	7,177.2	7,177.2	62.3	143.2	88.98	-781.8	-773.1	2,556.2	2,351.6	204.66	12.490	
10,900.0	7,181.2	7,176.2	7,176.2	63.6	143.2	88.95	-781.8	-773.1	2,616.4	2,410.4	205.98	12.702	
10,925.2	7,180.9	7,175.9	7,175.9	64.0	143.2	88.93	-781.8	-773.1	2,637.2	2,430.7	206.44	12.775	
11,000.0	7,180.0	7,175.0	7,175.0	65.4	143.2	88.90	-781.8	-773.1	2,699.5	2,491.7	207.79	12.992	
11,023.6	7,179.7	7,174.7	7,174.7	65.8	143.2	88.88	-781.8	-773.1	2,719.3	2,511.1	208.22	13.060	
11,100.0	7,178.7	7,173.7	7,173.7	67.2	143.2	88.85	-781.8	-773.1	2,783.7	2,574.1	209.60	13.281	
11,122.0	7,178.4	7,173.4	7,173.4	67.6	143.1	88.84	-781.8	-773.1	2,802.4	2,592.4	210.00	13.345	
11,200.0	7,177.5	7,172.5	7,172.5	69.1	143.1	88.80	-781.8	-773.1	2,869.0	2,657.6	211.41	13.570	
11,220.4	7,177.2	7,172.2	7,172.2	69.4	143.1	88.79	-781.8	-773.1	2,886.5	2,674.7	211.79	13.629	
11,300.0	7,176.2	7,171.2	7,171.2	70.9	143.1	88.75	-781.8	-773.1	2,955.1	2,741.9	213.23	13.859	
11,318.9	7,176.0	7,171.0	7,171.0	71.2	143.1	88.74	-781.8	-773.1	2,971.5	2,757.9	213.58	13.913	
11,400.0	7,174.9	7,169.9	7,169.9	72.7	143.1	88.70	-781.8	-773.1	3,042.2	2,827.1	215.05	14.146	
11,417.3	7,174.7	7,169.7	7,169.7	73.1	143.1	88.69	-781.8	-773.1	3,057.3	2,841.9	215.37	14.196	
11,500.0	7,173.7	7,168.7	7,168.7	74.6	143.1	88.65	-781.8	-773.1	3,130.0	2,913.1	216.88	14.432	
11,515.7	7,173.5	7,168.5	7,168.5	74.9	143.0	88.64	-781.8	-773.1	3,143.8	2,926.7	217.17	14.477	
11,600.0	7,172.4	7,167.4	7,167.4	76.4	143.0	88.60	-781.8	-773.1	3,218.5	2,999.8	218.71	14.716	
11,614.1	7,172.2	7,167.2	7,167.2	76.7	143.0	88.59	-781.8	-773.1	3,231.1	3,012.1	218.97	14.756	
11,700.0	7,171.2	7,166.2	7,166.2	78.3	143.0	88.55	-781.8	-773.1	3,307.6	3,087.1	220.54	14.998	
11,712.6	7,171.0	7,166.0	7,166.0	78.5	143.0	88.54	-781.8	-773.1	3,318.9	3,098.1	220.77	15.033	
11,791.4	7,170.0	7,165.0	7,165.0	80.0	143.0	88.50	-781.8	-773.1	3,389.6	3,167.4	222.21	15.254	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	0.0	0.0	0.0	0.0	-159.22	-2,114.8	-802.4	2,261.9				
98.4	98.4	95.4	95.4	0.1	0.2	-159.22	-2,114.8	-802.4	2,261.9	2,261.6	0.25	9,050.280	
100.0	100.0	97.0	97.0	0.1	0.2	-159.22	-2,114.8	-802.4	2,261.9	2,261.6	0.25	8,890.347	
196.8	196.8	193.8	193.8	0.3	2.6	-159.22	-2,114.8	-802.4	2,261.9	2,259.0	2.91	777.307	
200.0	200.0	197.0	197.0	0.3	2.7	-159.22	-2,114.8	-802.4	2,261.9	2,258.9	3.00	754.307	
295.3	295.3	292.3	292.3	0.5	4.7	-159.22	-2,114.8	-802.4	2,261.9	2,256.7	5.20	435.156	
300.0	300.0	297.0	297.0	0.5	4.8	-159.22	-2,114.8	-802.4	2,261.9	2,256.6	5.31	426.276	
393.7	393.7	390.7	390.7	0.7	6.7	-159.22	-2,114.8	-802.4	2,261.9	2,254.5	7.42	304.696	
400.0	400.0	397.0	397.0	0.8	6.8	-159.22	-2,114.8	-802.4	2,261.9	2,254.3	7.57	298.966	
492.1	492.1	489.1	489.1	1.0	8.7	-159.22	-2,114.8	-802.4	2,261.9	2,252.2	9.64	234.705	
500.0	500.0	497.0	497.0	1.0	8.8	-159.22	-2,114.8	-802.4	2,261.9	2,252.1	9.81	230.471	
590.5	590.5	587.5	587.5	1.2	10.7	-159.22	-2,114.8	-802.4	2,261.9	2,250.0	11.85	190.943	
600.0	600.0	597.0	597.0	1.2	10.8	-159.22	-2,114.8	-802.4	2,261.9	2,249.8	12.06	187.586	
689.0	689.0	686.0	686.0	1.4	12.6	-159.22	-2,114.8	-802.4	2,261.9	2,247.8	14.05	160.966	
700.0	700.0	697.0	697.0	1.4	12.9	-159.22	-2,114.8	-802.4	2,261.9	2,247.6	14.30	158.184	
787.4	787.4	784.4	784.4	1.6	14.6	-159.22	-2,114.8	-802.4	2,261.9	2,245.6	16.26	139.137	
800.0	800.0	797.0	797.0	1.7	14.9	-159.22	-2,114.8	-802.4	2,261.9	2,245.3	16.54	136.763	
885.8	885.8	882.8	882.8	1.9	16.6	-159.22	-2,114.8	-802.4	2,261.9	2,243.4	18.46	122.528	
900.0	900.0	897.0	897.0	1.9	16.9	-159.22	-2,114.8	-802.4	2,261.9	2,243.1	18.78	120.457	
984.2	984.2	981.2	981.2	2.1	18.6	-159.22	-2,114.8	-802.4	2,261.9	2,241.2	20.66	109.465	
1,000.0	1,000.0	997.0	997.0	2.1	18.9	-159.22	-2,114.8	-802.4	2,261.9	2,240.9	21.02	107.629	
1,082.7	1,082.7	1,079.7	1,079.7	2.3	20.6	-159.22	-2,114.8	-802.4	2,261.9	2,239.0	22.87	98.921	
1,100.0	1,100.0	1,097.0	1,097.0	2.3	20.9	-159.22	-2,114.8	-802.4	2,261.9	2,238.6	23.25	97.272	
1,181.1	1,181.1	1,178.1	1,178.1	2.5	22.6	-159.22	-2,114.8	-802.4	2,261.9	2,236.8	25.07	90.231	
1,200.0	1,200.0	1,197.0	1,197.0	2.6	22.9	-159.22	-2,114.8	-802.4	2,261.9	2,236.4	25.49	88.734	
1,279.5	1,279.5	1,276.5	1,276.5	2.7	24.5	-159.22	-2,114.8	-802.4	2,261.9	2,234.6	27.27	82.946	
1,300.0	1,300.0	1,297.0	1,297.0	2.8	24.9	-159.22	-2,114.8	-802.4	2,261.9	2,234.2	27.73	81.575	
1,377.9	1,377.9	1,374.9	1,374.9	3.0	26.5	-159.22	-2,114.8	-802.4	2,261.9	2,232.4	29.47	76.749	
1,400.0	1,400.0	1,397.0	1,397.0	3.0	27.0	-159.22	-2,114.8	-802.4	2,261.9	2,231.9	29.96	75.486	
1,476.4	1,476.4	1,473.4	1,473.4	3.2	28.5	-159.22	-2,114.8	-802.4	2,261.9	2,230.2	31.67	71.414	
1,500.0	1,500.0	1,497.0	1,497.0	3.2	29.0	-159.22	-2,114.8	-802.4	2,261.9	2,229.7	32.20	70.243	
1,574.8	1,574.8	1,571.8	1,571.8	3.4	30.5	-159.22	-2,114.8	-802.4	2,261.9	2,228.0	33.87	66.773	
1,600.0	1,600.0	1,597.0	1,597.0	3.5	31.0	-159.22	-2,114.8	-802.4	2,261.9	2,227.4	34.44	65.681	
1,673.2	1,673.2	1,670.2	1,670.2	3.6	32.5	-159.22	-2,114.8	-802.4	2,261.9	2,225.8	36.08	62.699	
1,700.0	1,700.0	1,697.0	1,697.0	3.7	33.0	-159.22	-2,114.8	-802.4	2,261.9	2,225.2	36.67	61.675	
1,771.6	1,771.6	1,768.6	1,768.6	3.8	34.4	-159.22	-2,114.8	-802.4	2,261.9	2,223.6	38.28	59.093	
1,800.0	1,800.0	1,797.0	1,797.0	3.9	35.0	-159.22	-2,114.8	-802.4	2,261.9	2,223.0	38.91	58.131	
1,850.0	1,850.0	1,847.0	1,847.0	4.0	36.0	-159.22	-2,114.8	-802.4	2,261.9	2,221.9	40.03	56.507	
1,870.1	1,870.1	1,867.1	1,867.1	4.1	36.4	162.47	-2,114.8	-802.4	2,262.0	2,221.5	40.48	55.884	
1,900.0	1,900.0	1,897.0	1,897.0	4.1	37.0	162.47	-2,114.8	-802.4	2,262.3	2,221.2	41.14	54.991	
1,968.5	1,968.5	1,965.5	1,965.5	4.3	38.4	162.48	-2,114.8	-802.4	2,264.2	2,221.6	42.64	53.100	
2,000.0	1,999.9	1,996.9	1,996.9	4.4	39.0	162.48	-2,114.8	-802.4	2,265.6	2,222.3	43.32	52.297	
2,066.9	2,066.7	2,063.7	2,063.7	4.5	40.4	162.49	-2,114.8	-802.4	2,269.7	2,225.0	44.75	50.718	
2,100.0	2,099.7	2,096.7	2,096.7	4.6	41.0	162.49	-2,114.8	-802.4	2,272.3	2,226.8	45.45	49.997	
2,165.3	2,164.7	2,161.7	2,161.7	4.7	42.3	162.50	-2,114.8	-802.4	2,278.4	2,231.6	46.80	48.680	
2,200.0	2,199.1	2,196.1	2,196.1	4.8	43.0	162.51	-2,114.8	-802.4	2,282.3	2,234.7	47.51	48.038	
2,263.8	2,262.3	2,259.3	2,259.3	5.0	44.3	162.52	-2,114.8	-802.4	2,290.3	2,241.6	48.79	46.946	
2,300.0	2,298.2	2,295.2	2,295.2	5.0	45.0	162.53	-2,114.8	-802.4	2,295.5	2,246.0	49.50	46.377	
2,362.2	2,359.5	2,356.5	2,356.5	5.2	46.3	162.55	-2,114.8	-802.4	2,305.5	2,254.8	50.70	45.476	
2,400.0	2,396.6	2,393.6	2,393.6	5.3	47.0	162.56	-2,114.8	-802.4	2,312.1	2,260.7	51.41	44.978	
2,460.6	2,456.0	2,453.0	2,453.0	5.5	48.2	162.58	-2,114.8	-802.4	2,323.8	2,271.3	52.52	44.243	
2,500.0	2,494.4	2,491.4	2,491.4	5.6	49.0	162.59	-2,114.8	-802.4	2,332.0	2,278.8	53.23	43.812	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT SHULTZ 23-30 - 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	
2,559.0	2,551.8	2,548.8	2,548.8	5.8	50.1	162.61	-2,114.8	-802.4	2,345.3	2,291.0	54.26	43.219	
2,600.0	2,591.5	2,588.5	2,588.5	5.9	50.9	162.63	-2,114.8	-802.4	2,355.2	2,300.2	54.96	42.855	
2,657.5	2,646.8	2,643.8	2,643.8	6.1	52.0	162.65	-2,114.8	-802.4	2,369.9	2,314.0	55.91	42.390	
2,685.2	2,673.5	2,670.5	2,670.5	6.2	52.6	162.66	-2,114.8	-802.4	2,377.5	2,321.1	56.35	42.189	
2,700.0	2,687.6	2,684.6	2,684.6	6.3	52.9	162.69	-2,114.8	-802.4	2,381.5	2,324.8	56.66	42.029	
2,755.9	2,741.1	2,738.1	2,738.1	6.5	53.9	162.80	-2,114.8	-802.4	2,396.9	2,339.1	57.84	41.437	
2,800.0	2,783.4	2,780.4	2,780.4	6.7	54.8	162.89	-2,114.8	-802.4	2,409.1	2,350.3	58.78	40.987	
2,854.3	2,835.4	2,832.4	2,832.4	6.9	55.8	163.00	-2,114.8	-802.4	2,424.1	2,364.1	59.93	40.450	
2,900.0	2,879.2	2,876.2	2,876.2	7.1	56.7	163.09	-2,114.8	-802.4	2,436.7	2,375.8	60.89	40.014	
2,952.7	2,929.7	2,926.7	2,926.7	7.4	57.7	163.19	-2,114.8	-802.4	2,451.2	2,389.2	62.02	39.526	
3,000.0	2,974.9	2,971.9	2,971.9	7.6	58.6	163.28	-2,114.8	-802.4	2,464.3	2,401.2	63.02	39.104	
3,051.2	3,023.9	3,020.9	3,020.9	7.8	59.6	163.38	-2,114.8	-802.4	2,478.4	2,414.3	64.11	38.660	
3,100.0	3,070.7	3,067.7	3,067.7	8.1	60.6	163.47	-2,114.8	-802.4	2,491.9	2,426.8	65.15	38.251	
3,149.6	3,118.2	3,115.2	3,115.2	8.3	61.5	163.56	-2,114.8	-802.4	2,505.6	2,439.4	66.20	37.847	
3,200.0	3,166.5	3,163.5	3,163.5	8.6	62.5	163.66	-2,114.8	-802.4	2,519.6	2,452.3	67.28	37.450	
3,248.0	3,212.5	3,209.5	3,209.5	8.8	63.4	163.75	-2,114.8	-802.4	2,532.9	2,464.6	68.30	37.083	
3,300.0	3,262.3	3,259.3	3,259.3	9.1	64.4	163.84	-2,114.8	-802.4	2,547.3	2,477.8	69.41	36.698	
3,346.4	3,306.8	3,303.8	3,303.8	9.3	65.3	163.92	-2,114.8	-802.4	2,560.1	2,489.7	70.41	36.363	
3,400.0	3,358.1	3,355.1	3,355.1	9.6	66.3	164.02	-2,114.8	-802.4	2,575.0	2,503.4	71.55	35.988	
3,444.9	3,401.0	3,398.0	3,398.0	9.8	67.2	164.09	-2,114.8	-802.4	2,587.4	2,514.9	72.51	35.683	
3,500.0	3,453.8	3,450.8	3,450.8	10.1	68.3	164.19	-2,114.8	-802.4	2,602.7	2,529.0	73.69	35.320	
3,543.3	3,495.3	3,492.3	3,492.3	10.3	69.1	164.26	-2,114.8	-802.4	2,614.7	2,540.1	74.62	35.042	
3,600.0	3,549.6	3,546.6	3,546.6	10.6	70.2	164.36	-2,114.8	-802.4	2,630.4	2,554.6	75.83	34.688	
3,641.7	3,589.6	3,586.6	3,586.6	10.8	71.0	164.43	-2,114.8	-802.4	2,642.0	2,565.3	76.73	34.435	
3,700.0	3,645.4	3,642.4	3,642.4	11.1	72.1	164.53	-2,114.8	-802.4	2,658.2	2,580.2	77.97	34.091	
3,740.1	3,683.8	3,680.8	3,680.8	11.4	72.9	164.59	-2,114.8	-802.4	2,669.4	2,590.5	78.84	33.860	
3,800.0	3,741.2	3,738.2	3,738.2	11.7	74.0	164.69	-2,114.8	-802.4	2,686.0	2,605.9	80.12	33.525	
3,838.6	3,778.1	3,775.1	3,775.1	11.9	74.8	164.75	-2,114.8	-802.4	2,696.7	2,615.8	80.95	33.315	
3,900.0	3,837.0	3,834.0	3,834.0	12.2	76.0	164.85	-2,114.8	-802.4	2,713.8	2,631.6	82.26	32.989	
3,937.0	3,872.4	3,869.4	3,869.4	12.4	76.7	164.91	-2,114.8	-802.4	2,724.1	2,641.1	83.06	32.797	
4,000.0	3,932.7	3,929.7	3,929.7	12.8	77.9	165.01	-2,114.8	-802.4	2,741.7	2,657.2	84.41	32.480	
4,035.4	3,966.7	3,963.7	3,963.7	13.0	78.6	165.06	-2,114.8	-802.4	2,751.5	2,666.4	85.17	32.305	
4,100.0	4,028.5	4,025.5	4,025.5	13.3	79.8	165.16	-2,114.8	-802.4	2,769.5	2,683.0	86.56	31.996	
4,133.8	4,060.9	4,057.9	4,057.9	13.5	80.5	165.21	-2,114.8	-802.4	2,778.9	2,691.7	87.29	31.837	
4,200.0	4,124.3	4,121.3	4,121.3	13.9	81.7	165.31	-2,114.8	-802.4	2,797.4	2,708.7	88.71	31.535	
4,232.3	4,155.2	4,152.2	4,152.2	14.0	82.4	165.36	-2,114.8	-802.4	2,806.4	2,717.0	89.40	31.391	
4,300.0	4,220.1	4,217.1	4,217.1	14.4	83.7	165.46	-2,114.8	-802.4	2,825.3	2,734.4	90.86	31.096	
4,330.7	4,249.5	4,246.5	4,246.5	14.6	84.3	165.50	-2,114.8	-802.4	2,833.8	2,742.3	91.52	30.965	
4,400.0	4,315.9	4,312.9	4,312.9	15.0	85.6	165.60	-2,114.8	-802.4	2,853.2	2,760.2	93.01	30.677	
4,429.1	4,343.7	4,340.7	4,340.7	15.1	86.2	165.64	-2,114.8	-802.4	2,861.3	2,767.7	93.63	30.559	
4,500.0	4,411.6	4,408.6	4,408.6	15.5	87.5	165.74	-2,114.8	-802.4	2,881.1	2,785.9	95.16	30.278	
4,527.5	4,438.0	4,435.0	4,435.0	15.7	88.1	165.78	-2,114.8	-802.4	2,888.8	2,793.0	95.75	30.171	
4,600.0	4,507.4	4,504.4	4,504.4	16.1	89.5	165.88	-2,114.8	-802.4	2,909.0	2,811.7	97.31	29.896	
4,626.0	4,532.3	4,529.3	4,529.3	16.2	90.0	165.92	-2,114.8	-802.4	2,916.3	2,818.4	97.87	29.799	
4,700.0	4,603.2	4,600.2	4,600.2	16.7	91.4	166.02	-2,114.8	-802.4	2,937.0	2,837.5	99.46	29.530	
4,724.4	4,626.6	4,623.6	4,623.6	16.8	91.8	166.05	-2,114.8	-802.4	2,943.8	2,843.8	99.98	29.443	
4,800.0	4,699.0	4,696.0	4,696.0	17.2	93.3	166.15	-2,114.8	-802.4	2,965.0	2,863.3	101.61	29.180	
4,822.8	4,720.8	4,717.8	4,717.8	17.4	93.7	166.18	-2,114.8	-802.4	2,971.3	2,869.2	102.10	29.103	
4,900.0	4,794.7	4,791.7	4,791.7	17.8	95.2	166.28	-2,114.8	-802.4	2,992.9	2,889.2	103.76	28.845	
4,921.2	4,815.1	4,812.1	4,812.1	17.9	95.6	166.31	-2,114.8	-802.4	2,998.9	2,894.7	104.22	28.776	
5,000.0	4,890.5	4,887.5	4,887.5	18.4	97.2	166.41	-2,114.8	-802.4	3,020.9	2,915.0	105.91	28.524	
5,019.7	4,909.4	4,906.4	4,906.4	18.5	97.5	166.44	-2,114.8	-802.4	3,026.4	2,920.1	106.33	28.462	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
5,100.0	4,986.3	4,983.3	4,983.3	18.9	99.1	166.54	-2,114.8	-802.4	3,048.9	2,940.9	108.06	28.215	
5,118.1	5,003.6	5,000.6	5,000.6	19.0	99.4	166.56	-2,114.8	-802.4	3,054.0	2,945.6	108.45	28.160	
5,200.0	5,082.1	5,079.1	5,079.1	19.5	101.0	166.66	-2,114.8	-802.4	3,077.0	2,966.8	110.21	27.919	
5,216.5	5,097.9	5,094.9	5,094.9	19.6	101.3	166.68	-2,114.8	-802.4	3,081.6	2,971.0	110.57	27.871	
5,300.0	5,177.9	5,174.9	5,174.9	20.1	102.9	166.79	-2,114.8	-802.4	3,105.0	2,992.6	112.36	27.634	
5,314.9	5,192.2	5,189.2	5,189.2	20.2	103.2	166.80	-2,114.8	-802.4	3,109.2	2,996.5	112.69	27.592	
5,400.0	5,273.6	5,270.6	5,270.6	20.6	104.9	166.91	-2,114.8	-802.4	3,133.1	3,018.5	114.51	27.359	
5,413.4	5,286.5	5,283.5	5,283.5	20.7	105.1	166.92	-2,114.8	-802.4	3,136.8	3,022.0	114.80	27.323	
5,500.0	5,369.4	5,366.4	5,366.4	21.2	106.8	167.02	-2,114.8	-802.4	3,161.1	3,044.5	116.67	27.095	
5,511.8	5,380.7	5,377.7	5,377.7	21.3	107.0	167.04	-2,114.8	-802.4	3,164.4	3,047.5	116.92	27.065	
5,600.0	5,465.2	5,462.2	5,462.2	21.8	108.7	167.14	-2,114.8	-802.4	3,189.2	3,070.4	118.82	26.841	
5,610.2	5,475.0	5,472.0	5,472.0	21.9	108.9	167.15	-2,114.8	-802.4	3,192.1	3,073.0	119.04	26.816	
5,700.0	5,561.0	5,558.0	5,558.0	22.4	110.6	167.25	-2,114.8	-802.4	3,217.3	3,096.3	120.97	26.596	
5,708.6	5,569.3	5,566.3	5,566.3	22.4	110.8	167.26	-2,114.8	-802.4	3,219.7	3,098.6	121.15	26.575	
5,793.4	5,650.4	5,647.4	5,647.4	22.9	112.4	167.36	-2,114.8	-802.4	3,243.5	3,120.5	122.98	26.375	
5,800.0	5,656.8	5,653.8	5,653.8	22.9	112.6	167.37	-2,114.8	-802.4	3,245.4	3,122.2	123.19	26.344	
5,807.1	5,663.6	5,660.6	5,660.6	23.0	112.7	167.39	-2,114.8	-802.4	3,247.3	3,123.9	123.41	26.312	
5,900.0	5,753.1	5,750.1	5,750.1	23.4	114.5	167.59	-2,114.8	-802.4	3,271.6	3,145.3	126.32	25.899	
5,905.5	5,758.4	5,755.4	5,755.4	23.4	114.6	167.60	-2,114.8	-802.4	3,273.0	3,146.5	126.49	25.875	
6,000.0	5,850.3	5,847.3	5,847.3	23.8	116.5	167.78	-2,114.8	-802.4	3,294.6	3,165.2	129.36	25.469	
6,003.9	5,854.1	5,851.1	5,851.1	23.8	116.5	167.79	-2,114.8	-802.4	3,295.4	3,165.9	129.47	25.452	
6,100.0	5,948.3	5,945.3	5,945.3	24.1	118.4	167.94	-2,114.8	-802.4	3,314.2	3,181.9	132.28	25.054	
6,102.3	5,950.6	5,947.6	5,947.6	24.1	118.5	167.94	-2,114.8	-802.4	3,314.6	3,182.3	132.35	25.044	
6,200.0	6,046.9	6,043.9	6,043.9	24.4	120.4	168.07	-2,114.8	-802.4	3,330.5	3,195.4	135.09	24.655	
6,200.8	6,047.6	6,044.6	6,044.6	24.4	120.4	168.07	-2,114.8	-802.4	3,330.6	3,195.5	135.11	24.651	
6,299.2	6,145.2	6,142.2	6,142.2	24.7	122.4	168.17	-2,114.8	-802.4	3,343.3	3,205.6	137.74	24.273	
6,300.0	6,146.0	6,143.0	6,143.0	24.7	122.4	168.17	-2,114.8	-802.4	3,343.4	3,205.6	137.76	24.270	
6,397.6	6,243.1	6,240.1	6,240.1	24.9	124.4	168.24	-2,114.8	-802.4	3,352.7	3,212.5	140.22	23.909	
6,400.0	6,245.5	6,242.5	6,242.5	24.9	124.4	168.24	-2,114.8	-802.4	3,352.9	3,212.6	140.28	23.901	
6,496.0	6,341.4	6,338.4	6,338.4	25.1	126.3	168.29	-2,114.8	-802.4	3,358.8	3,216.3	142.57	23.560	
6,500.0	6,345.3	6,342.3	6,342.3	25.1	126.4	168.29	-2,114.8	-802.4	3,359.0	3,216.3	142.66	23.546	
6,594.5	6,439.7	6,436.7	6,436.7	25.2	128.3	168.31	-2,114.8	-802.4	3,361.6	3,216.9	144.75	23.224	
6,600.0	6,445.3	6,442.3	6,442.3	25.2	128.4	168.31	-2,114.8	-802.4	3,361.7	3,216.8	144.87	23.206	
6,628.6	6,473.9	6,470.9	6,470.9	25.3	129.0	-153.38	-2,114.8	-802.4	3,361.8	3,216.4	145.47	23.111	
6,658.6	6,503.9	6,500.9	6,500.9	25.3	129.6	-153.38	-2,114.8	-802.4	3,361.8	3,215.7	146.12	23.007	
6,692.9	6,538.1	6,535.1	6,535.1	25.3	130.3	26.65	-2,114.8	-802.4	3,361.1	3,214.5	146.62	22.924	
6,700.0	6,545.2	6,542.2	6,542.2	25.3	130.4	26.66	-2,114.8	-802.4	3,360.8	3,214.1	146.69	22.911	
6,750.0	6,595.0	6,592.0	6,592.0	25.3	131.4	26.85	-2,114.8	-802.4	3,356.6	3,209.8	146.83	22.860	
6,791.3	6,635.8	6,632.8	6,632.8	25.3	132.3	27.11	-2,114.8	-802.4	3,350.9	3,204.4	146.50	22.872	
6,800.0	6,644.3	6,641.3	6,641.3	25.3	132.4	27.18	-2,114.8	-802.4	3,349.4	3,203.0	146.39	22.880	
6,850.0	6,693.0	6,690.0	6,690.0	25.2	133.4	27.65	-2,114.8	-802.4	3,339.1	3,193.7	145.38	22.969	
6,889.7	6,731.0	6,728.0	6,728.0	25.2	134.2	28.14	-2,114.8	-802.4	3,328.8	3,184.6	144.19	23.086	
6,900.0	6,740.7	6,737.7	6,737.7	25.2	134.4	28.29	-2,114.8	-802.4	3,325.9	3,182.0	143.84	23.122	
6,950.0	6,787.3	6,784.3	6,784.3	25.0	135.3	29.09	-2,114.8	-802.4	3,309.7	3,167.8	141.83	23.335	
6,988.2	6,821.9	6,818.9	6,818.9	24.9	136.0	29.83	-2,114.8	-802.4	3,295.4	3,155.4	140.04	23.532	
7,000.0	6,832.5	6,829.5	6,829.5	24.9	136.2	30.09	-2,114.8	-802.4	3,290.6	3,151.2	139.45	23.598	
7,050.0	6,876.1	6,873.1	6,873.1	24.7	137.1	31.28	-2,114.8	-802.4	3,268.9	3,132.1	136.81	23.894	
7,086.6	6,906.8	6,903.8	6,903.8	24.6	137.7	32.30	-2,114.8	-802.4	3,251.3	3,116.5	134.81	24.118	
7,100.0	6,917.9	6,914.9	6,914.9	24.5	137.9	32.71	-2,114.8	-802.4	3,244.6	3,110.5	134.08	24.200	
7,150.0	6,957.6	6,954.6	6,954.6	24.3	138.7	34.39	-2,114.8	-802.4	3,217.8	3,086.3	131.45	24.478	
7,185.0	6,984.2	6,981.2	6,981.2	24.1	139.3	35.74	-2,114.8	-802.4	3,197.6	3,067.8	129.82	24.632	
7,200.0	6,995.2	6,992.2	6,992.2	24.1	139.5	36.37	-2,114.8	-802.4	3,188.6	3,059.4	129.19	24.681	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT SHULTZ 23-30 - 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	
7,250.0	7,030.3	7,027.3	7,027.3	23.8	140.2	38.68	-2,114.8	-802.4	3,157.4	3,029.8	127.59	24.746	
7,283.4	7,052.4	7,049.4	7,049.4	23.6	140.6	40.42	-2,114.8	-802.4	3,135.3	3,008.3	127.03	24.681	
7,300.0	7,062.9	7,059.9	7,059.9	23.6	140.8	41.36	-2,114.8	-802.4	3,124.1	2,997.2	126.95	24.610	
7,350.0	7,092.8	7,089.8	7,089.8	23.3	141.4	44.46	-2,114.8	-802.4	3,089.0	2,961.5	127.55	24.218	
7,381.9	7,110.3	7,107.3	7,107.3	23.1	141.8	46.67	-2,114.8	-802.4	3,065.8	2,937.1	128.69	23.823	
7,400.0	7,119.8	7,116.8	7,116.8	23.0	142.0	48.02	-2,114.8	-802.4	3,052.4	2,922.8	129.61	23.551	
7,450.0	7,143.8	7,140.8	7,140.8	22.8	142.5	52.09	-2,114.8	-802.4	3,014.3	2,881.2	133.15	22.638	
7,480.3	7,156.8	7,153.8	7,153.8	22.6	142.7	54.81	-2,114.8	-802.4	2,990.7	2,854.7	135.97	21.996	
7,500.0	7,164.7	7,161.7	7,161.7	22.5	142.9	56.69	-2,114.8	-802.4	2,975.1	2,837.0	138.01	21.557	
7,550.0	7,182.3	7,179.3	7,179.3	22.2	143.2	61.81	-2,114.8	-802.4	2,934.8	2,791.1	143.76	20.415	
7,578.7	7,191.0	7,188.0	7,188.0	22.1	143.4	64.97	-2,114.8	-802.4	2,911.3	2,764.1	147.22	19.776	
7,600.0	7,196.7	7,193.7	7,193.7	22.0	143.5	67.41	-2,114.8	-802.4	2,893.8	2,744.1	149.74	19.325	
7,650.0	7,207.7	7,204.7	7,204.7	21.7	143.8	73.39	-2,114.8	-802.4	2,852.3	2,697.1	155.22	18.376	
7,677.1	7,212.2	7,209.2	7,209.2	21.6	143.8	76.74	-2,114.8	-802.4	2,829.6	2,671.9	157.72	17.941	
7,700.0	7,215.2	7,212.2	7,212.2	21.5	143.9	79.60	-2,114.8	-802.4	2,810.5	2,651.0	159.46	17.625	
7,750.0	7,219.3	7,216.3	7,216.3	21.3	144.0	85.86	-2,114.8	-802.4	2,768.5	2,606.6	161.96	17.094	
7,775.6	7,220.1	7,217.1	7,217.1	21.2	144.0	89.02	-2,114.8	-802.4	2,747.1	2,584.6	162.51	16.904	
7,792.5	7,220.0	7,217.0	7,217.0	21.1	144.0	91.07	-2,114.8	-802.4	2,733.0	2,570.4	162.60	16.808	
7,800.0	7,219.9	7,216.9	7,216.9	21.1	144.0	91.07	-2,114.8	-802.4	2,726.7	2,564.1	162.60	16.770	
7,874.0	7,219.0	7,216.0	7,216.0	20.8	144.0	91.04	-2,114.8	-802.4	2,665.3	2,502.6	162.70	16.382	
7,900.0	7,218.7	7,215.7	7,215.7	20.7	144.0	91.02	-2,114.8	-802.4	2,643.9	2,481.2	162.73	16.247	
7,972.4	7,217.8	7,214.8	7,214.8	20.5	144.0	90.99	-2,114.8	-802.4	2,584.7	2,421.8	162.96	15.861	
8,000.0	7,217.5	7,214.5	7,214.5	20.4	144.0	90.98	-2,114.8	-802.4	2,562.4	2,399.3	163.05	15.715	
8,070.8	7,216.6	7,213.6	7,213.6	20.4	143.9	90.94	-2,114.8	-802.4	2,505.4	2,342.0	163.41	15.332	
8,100.0	7,216.2	7,213.2	7,213.2	20.4	143.9	90.93	-2,114.8	-802.4	2,482.2	2,318.6	163.56	15.176	
8,169.3	7,215.4	7,212.4	7,212.4	20.7	143.9	90.90	-2,114.8	-802.4	2,427.5	2,263.5	164.03	14.799	
8,200.0	7,215.0	7,212.0	7,212.0	21.0	143.9	90.88	-2,114.8	-802.4	2,403.5	2,239.2	164.23	14.635	
8,267.7	7,214.1	7,211.1	7,211.1	21.6	143.9	90.85	-2,114.8	-802.4	2,351.1	2,186.3	164.79	14.267	
8,300.0	7,213.7	7,210.7	7,210.7	21.9	143.9	90.84	-2,114.8	-802.4	2,326.4	2,161.3	165.06	14.094	
8,366.1	7,212.9	7,209.9	7,209.9	22.6	143.9	90.81	-2,114.8	-802.4	2,276.4	2,110.7	165.69	13.739	
8,400.0	7,212.5	7,209.5	7,209.5	23.0	143.9	90.79	-2,114.8	-802.4	2,251.1	2,085.1	166.02	13.560	
8,464.5	7,211.7	7,208.7	7,208.7	23.8	143.8	90.76	-2,114.8	-802.4	2,203.6	2,036.9	166.71	13.218	
8,500.0	7,211.3	7,208.3	7,208.3	24.2	143.8	90.74	-2,114.8	-802.4	2,177.8	2,010.7	167.09	13.034	
8,563.0	7,210.5	7,207.5	7,207.5	25.0	143.8	90.71	-2,114.8	-802.4	2,132.8	1,965.0	167.83	12.708	
8,600.0	7,210.0	7,207.0	7,207.0	25.5	143.8	90.70	-2,114.8	-802.4	2,106.7	1,938.5	168.27	12.520	
8,661.4	7,209.3	7,206.3	7,206.3	26.3	143.8	90.67	-2,114.8	-802.4	2,064.3	1,895.2	169.04	12.211	
8,700.0	7,208.8	7,205.8	7,205.8	26.8	143.8	90.65	-2,114.8	-802.4	2,038.1	1,868.5	169.53	12.022	
8,759.8	7,208.0	7,205.0	7,205.0	27.6	143.8	90.62	-2,114.8	-802.4	1,998.3	1,827.9	170.33	11.732	
8,800.0	7,207.5	7,204.5	7,204.5	28.2	143.8	90.60	-2,114.8	-802.4	1,972.1	1,801.2	170.87	11.541	
8,858.2	7,206.8	7,203.8	7,203.8	29.0	143.7	90.58	-2,114.8	-802.4	1,935.0	1,763.3	171.69	11.271	
8,900.0	7,206.3	7,203.3	7,203.3	29.6	143.7	90.56	-2,114.8	-802.4	1,909.1	1,736.8	172.27	11.082	
8,956.7	7,205.6	7,202.6	7,202.6	30.4	143.7	90.53	-2,114.8	-802.4	1,874.8	1,701.7	173.10	10.831	
9,000.0	7,205.0	7,202.0	7,202.0	31.1	143.7	90.51	-2,114.8	-802.4	1,849.3	1,675.6	173.73	10.645	
9,055.1	7,204.3	7,201.3	7,201.3	31.9	143.7	90.48	-2,114.8	-802.4	1,817.9	1,643.3	174.56	10.414	
9,100.0	7,203.8	7,200.8	7,200.8	32.6	143.7	90.46	-2,114.8	-802.4	1,793.1	1,617.9	175.23	10.233	
9,153.5	7,203.1	7,200.1	7,200.1	33.4	143.7	90.44	-2,114.8	-802.4	1,764.7	1,588.6	176.06	10.023	
9,200.0	7,202.5	7,199.5	7,199.5	34.2	143.7	90.41	-2,114.8	-802.4	1,740.9	1,564.1	176.78	9.848	
9,251.9	7,201.9	7,198.9	7,198.9	35.0	143.6	90.39	-2,114.8	-802.4	1,715.4	1,537.8	177.60	9.659	
9,300.0	7,201.3	7,198.3	7,198.3	35.7	143.6	90.37	-2,114.8	-802.4	1,693.0	1,514.6	178.36	9.492	
9,350.4	7,200.7	7,197.7	7,197.7	36.6	143.6	90.34	-2,114.8	-802.4	1,670.6	1,491.4	179.17	9.324	
9,400.0	7,200.0	7,197.0	7,197.0	37.4	143.6	90.32	-2,114.8	-802.4	1,649.7	1,469.7	179.97	9.167	
9,448.8	7,199.4	7,196.4	7,196.4	38.2	143.6	90.30	-2,114.8	-802.4	1,630.4	1,449.6	180.77	9.019	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
9,500.0	7,198.8	7,195.8	7,195.8	39.0	143.6	90.27	-2,114.8	-802.4	1,611.5	1,429.9	181.60	8.874	
9,547.2	7,198.2	7,195.2	7,195.2	39.8	143.6	90.25	-2,114.8	-802.4	1,595.3	1,412.9	182.39	8.747	
9,600.0	7,197.5	7,194.5	7,194.5	40.7	143.6	90.23	-2,114.8	-802.4	1,578.7	1,395.4	183.26	8.614	
9,645.6	7,197.0	7,194.0	7,194.0	41.4	143.5	90.20	-2,114.8	-802.4	1,565.6	1,381.6	184.03	8.507	
9,700.0	7,196.3	7,193.3	7,193.3	42.4	143.5	90.18	-2,114.8	-802.4	1,551.6	1,366.7	184.94	8.390	
9,744.1	7,195.7	7,192.7	7,192.7	43.1	143.5	90.16	-2,114.8	-802.4	1,541.6	1,356.0	185.69	8.302	
9,800.0	7,195.0	7,192.0	7,192.0	44.1	143.5	90.13	-2,114.8	-802.4	1,530.7	1,344.0	186.64	8.201	
9,842.5	7,194.5	7,191.5	7,191.5	44.8	143.5	90.11	-2,114.8	-802.4	1,523.7	1,336.3	187.37	8.132	
9,900.0	7,193.8	7,190.8	7,190.8	45.8	143.5	90.08	-2,114.8	-802.4	1,516.0	1,327.7	188.35	8.049	
9,940.9	7,193.3	7,190.3	7,190.3	46.5	143.5	90.06	-2,114.8	-802.4	1,511.9	1,322.8	189.06	7.997	
10,000.0	7,192.5	7,189.5	7,189.5	47.5	143.5	90.03	-2,114.8	-802.4	1,507.9	1,317.8	190.08	7.933	
10,039.3	7,192.0	7,189.0	7,189.0	48.2	143.4	90.02	-2,114.8	-802.4	1,506.5	1,315.7	190.77	7.897	
10,073.2	7,191.6	7,188.6	7,188.6	48.8	143.4	90.00	-2,114.8	-802.4	1,506.1	1,314.8	191.36	7.871 CC	
10,100.0	7,191.3	7,188.3	7,188.3	49.3	143.4	89.99	-2,114.8	-802.4	1,506.3	1,314.5	191.82	7.853 ES	
10,137.8	7,190.8	7,187.8	7,187.8	49.9	143.4	89.97	-2,114.8	-802.4	1,507.5	1,315.0	192.48	7.832	
10,200.0	7,190.0	7,187.0	7,187.0	51.0	143.4	89.94	-2,114.8	-802.4	1,511.4	1,317.9	193.57	7.808	
10,236.2	7,189.6	7,186.6	7,186.6	51.7	143.4	89.92	-2,114.8	-802.4	1,514.9	1,320.7	194.21	7.800	
10,300.0	7,188.8	7,185.8	7,185.8	52.8	143.4	89.89	-2,114.8	-802.4	1,523.1	1,327.8	195.33	7.797 SF	
10,334.6	7,188.3	7,185.3	7,185.3	53.4	143.4	89.88	-2,114.8	-802.4	1,528.6	1,332.7	195.95	7.801	
10,400.0	7,187.5	7,184.5	7,184.5	54.6	143.4	89.84	-2,114.8	-802.4	1,541.2	1,344.0	197.10	7.819	
10,433.0	7,187.1	7,184.1	7,184.1	55.2	143.3	89.83	-2,114.8	-802.4	1,548.5	1,350.8	197.69	7.833	
10,500.0	7,186.3	7,183.3	7,183.3	56.4	143.3	89.80	-2,114.8	-802.4	1,565.4	1,366.5	198.88	7.871	
10,531.5	7,185.9	7,182.9	7,182.9	56.9	143.3	89.78	-2,114.8	-802.4	1,574.3	1,374.8	199.44	7.893	
10,600.0	7,185.0	7,182.0	7,182.0	58.2	143.3	89.75	-2,114.8	-802.4	1,595.6	1,394.9	200.67	7.951	
10,629.9	7,184.6	7,181.6	7,181.6	58.7	143.3	89.73	-2,114.8	-802.4	1,605.7	1,404.5	201.20	7.980	
10,700.0	7,183.8	7,180.8	7,180.8	60.0	143.3	89.70	-2,114.8	-802.4	1,631.3	1,428.9	202.46	8.057	
10,728.3	7,183.4	7,180.4	7,180.4	60.5	143.3	89.69	-2,114.8	-802.4	1,642.4	1,439.4	202.97	8.092	
10,800.0	7,182.5	7,179.5	7,179.5	61.8	143.2	89.65	-2,114.8	-802.4	1,672.3	1,468.0	204.26	8.187	
10,826.7	7,182.2	7,179.2	7,179.2	62.3	143.2	89.64	-2,114.8	-802.4	1,684.1	1,479.3	204.74	8.225	
10,900.0	7,181.2	7,178.2	7,178.2	63.6	143.2	89.60	-2,114.8	-802.4	1,718.1	1,512.0	206.06	8.338	
10,925.2	7,180.9	7,177.9	7,177.9	64.0	143.2	89.59	-2,114.8	-802.4	1,730.4	1,523.8	206.52	8.379	
11,000.0	7,180.0	7,177.0	7,177.0	65.4	143.2	89.56	-2,114.8	-802.4	1,768.4	1,560.5	207.87	8.507	
11,023.6	7,179.7	7,176.7	7,176.7	65.8	143.2	89.54	-2,114.8	-802.4	1,780.9	1,572.6	208.30	8.550	
11,100.0	7,178.7	7,175.7	7,175.7	67.2	143.2	89.51	-2,114.8	-802.4	1,822.8	1,613.1	209.68	8.693	
11,122.0	7,178.4	7,175.4	7,175.4	67.6	143.2	89.50	-2,114.8	-802.4	1,835.3	1,625.2	210.08	8.736	
11,200.0	7,177.5	7,174.5	7,174.5	69.1	143.1	89.46	-2,114.8	-802.4	1,880.9	1,669.4	211.50	8.893	
11,220.4	7,177.2	7,174.2	7,174.2	69.4	143.1	89.45	-2,114.8	-802.4	1,893.2	1,681.4	211.87	8.936	
11,300.0	7,176.2	7,173.2	7,173.2	70.9	143.1	89.41	-2,114.8	-802.4	1,942.5	1,729.1	213.32	9.106	
11,318.9	7,176.0	7,173.0	7,173.0	71.2	143.1	89.40	-2,114.8	-802.4	1,954.4	1,740.8	213.66	9.147	
11,400.0	7,174.9	7,171.9	7,171.9	72.7	143.1	89.36	-2,114.8	-802.4	2,007.1	1,792.0	215.14	9.329	
11,417.3	7,174.7	7,171.7	7,171.7	73.1	143.1	89.36	-2,114.8	-802.4	2,018.6	1,803.1	215.46	9.369	
11,500.0	7,173.7	7,170.7	7,170.7	74.6	143.1	89.32	-2,114.8	-802.4	2,074.6	1,857.6	216.97	9.561	
11,515.7	7,173.5	7,170.5	7,170.5	74.9	143.1	89.31	-2,114.8	-802.4	2,085.4	1,868.1	217.26	9.599	
11,600.0	7,172.4	7,169.4	7,169.4	76.4	143.0	89.27	-2,114.8	-802.4	2,144.6	1,925.8	218.80	9.801	
11,614.1	7,172.2	7,169.2	7,169.2	76.7	143.0	89.26	-2,114.8	-802.4	2,154.7	1,935.6	219.06	9.836	
11,700.0	7,171.2	7,168.2	7,168.2	78.3	143.0	89.22	-2,114.8	-802.4	2,216.9	1,996.2	220.64	10.048	
11,712.6	7,171.0	7,168.0	7,168.0	78.5	143.0	89.21	-2,114.8	-802.4	2,226.1	2,005.2	220.87	10.079	
11,791.4	7,170.0	7,167.0	7,167.0	80.0	143.0	89.17	-2,114.8	-802.4	2,284.7	2,062.4	222.31	10.277	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis 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	175.32	-1,233.5	101.0	1,238.0				
98.4	98.4	67.7	67.7	0.1	0.0	175.32	-1,233.6	101.0	1,237.7	1,237.6	0.11	N/A	
100.0	100.0	69.2	69.2	0.1	0.0	175.32	-1,233.6	101.0	1,237.7	1,237.6	0.12	N/A	
196.8	196.8	163.9	163.9	0.3	0.1	175.32	-1,233.8	101.0	1,237.9	1,237.5	0.45	2,736.715	
200.0	200.0	167.0	167.0	0.3	0.2	175.32	-1,233.8	101.0	1,237.9	1,237.5	0.46	2,664.720	
295.3	295.3	262.6	262.6	0.5	0.3	175.33	-1,234.1	100.9	1,238.3	1,237.5	0.79	1,574.973	
300.0	300.0	267.4	267.4	0.5	0.3	175.33	-1,234.2	100.9	1,238.3	1,237.5	0.80	1,546.293	
393.7	393.7	360.8	360.8	0.7	0.3	175.34	-1,234.4	100.7	1,238.5	1,237.5	1.08	1,147.463	
400.0	400.0	367.0	367.0	0.8	0.3	175.34	-1,234.5	100.7	1,238.6	1,237.5	1.10	1,128.292	
492.1	492.1	458.4	458.4	1.0	0.4	175.36	-1,234.8	100.3	1,238.9	1,237.5	1.36	911.643	
500.0	500.0	466.3	466.3	1.0	0.4	175.36	-1,234.9	100.2	1,238.9	1,237.5	1.38	897.161	
590.5	590.5	554.2	554.2	1.2	0.5	175.39	-1,235.3	99.5	1,239.3	1,237.7	1.63	760.514	
600.0	600.0	563.2	563.2	1.2	0.5	175.40	-1,235.4	99.4	1,239.4	1,237.7	1.66	748.743	
689.0	689.0	651.5	651.5	1.4	0.5	175.44	-1,236.1	98.5	1,240.0	1,238.1	1.90	653.838	
700.0	700.0	662.8	662.8	1.4	0.5	175.45	-1,236.2	98.4	1,240.1	1,238.2	1.93	643.754	
787.4	787.4	750.0	749.9	1.6	0.6	175.50	-1,236.8	97.4	1,240.7	1,238.5	2.16	574.400	
800.0	800.0	762.3	762.3	1.7	0.6	175.50	-1,236.9	97.3	1,240.7	1,238.6	2.19	565.699	
885.8	885.8	846.2	846.2	1.9	0.6	175.54	-1,237.6	96.5	1,241.4	1,239.0	2.42	513.108	
900.0	900.0	860.1	860.0	1.9	0.6	175.55	-1,237.7	96.3	1,241.5	1,239.1	2.46	505.394	
984.2	984.2	942.0	941.9	2.1	0.7	175.61	-1,238.6	95.1	1,242.4	1,239.7	2.68	464.163	
1,000.0	1,000.0	957.3	957.2	2.1	0.7	175.62	-1,238.8	94.8	1,242.5	1,239.8	2.72	457.231	
1,082.7	1,082.7	1,037.6	1,037.5	2.3	0.7	175.69	-1,239.9	93.4	1,243.5	1,240.6	2.93	424.157	
1,100.0	1,100.0	1,054.5	1,054.4	2.3	0.7	175.71	-1,240.1	93.1	1,243.8	1,240.8	2.98	417.860	
1,181.1	1,181.1	1,133.7	1,133.6	2.5	0.7	175.77	-1,241.4	91.8	1,244.9	1,241.7	3.19	390.806	
1,200.0	1,200.0	1,152.3	1,152.2	2.6	0.8	175.78	-1,241.7	91.5	1,245.2	1,241.9	3.23	385.022	
1,279.5	1,279.5	1,229.5	1,229.3	2.7	0.8	175.85	-1,243.0	90.2	1,246.4	1,243.0	3.44	362.572	
1,300.0	1,300.0	1,249.0	1,248.8	2.8	0.8	175.86	-1,243.4	89.9	1,246.8	1,243.3	3.49	357.254	
1,377.9	1,377.9	1,324.8	1,324.6	3.0	0.8	175.93	-1,244.9	88.5	1,248.3	1,244.6	3.69	338.405	
1,400.0	1,400.0	1,347.2	1,347.0	3.0	0.8	175.95	-1,245.4	88.1	1,248.7	1,245.0	3.75	333.428	
1,476.4	1,476.4	1,424.7	1,424.5	3.2	0.9	176.03	-1,246.9	86.6	1,250.1	1,246.2	3.94	317.306	
1,500.0	1,500.0	1,448.5	1,448.3	3.2	0.9	176.05	-1,247.4	86.1	1,250.6	1,246.6	4.00	312.652	
1,574.8	1,574.8	1,522.5	1,522.3	3.4	0.9	176.11	-1,248.8	84.9	1,251.9	1,247.7	4.19	298.839	
1,600.0	1,600.0	1,546.4	1,546.2	3.5	0.9	176.13	-1,249.3	84.5	1,252.4	1,248.2	4.25	294.499	
1,673.2	1,673.2	1,619.5	1,619.2	3.6	1.0	176.20	-1,250.9	83.1	1,253.9	1,249.5	4.44	282.587	
1,700.0	1,700.0	1,650.8	1,650.5	3.7	1.0	176.23	-1,251.6	82.4	1,254.4	1,249.9	4.51	278.413	
1,771.6	1,771.6	1,730.9	1,730.5	3.8	1.0	176.33	-1,252.7	80.4	1,255.3	1,250.6	4.69	267.798	
1,800.0	1,800.0	1,760.4	1,760.0	3.9	1.0	176.37	-1,253.0	79.5	1,255.6	1,250.8	4.76	263.831	
1,850.0	1,850.0	1,814.2	1,813.8	4.0	1.0	176.45	-1,253.5	77.8	1,255.9	1,251.1	4.89	257.084	
1,870.1	1,870.1	1,838.1	1,837.7	4.1	1.0	138.18	-1,253.7	77.0	1,256.1	1,251.1	5.01	250.864	
1,900.0	1,900.0	1,873.6	1,873.2	4.1	1.0	138.25	-1,253.8	75.7	1,256.4	1,251.3	5.08	247.213	
1,968.5	1,968.5	1,944.9	1,944.4	4.3	1.1	138.42	-1,253.6	73.0	1,257.6	1,252.3	5.25	239.560	
2,000.0	1,999.9	1,975.4	1,974.9	4.4	1.1	138.50	-1,253.6	71.8	1,258.6	1,253.3	5.33	236.309	
2,066.9	2,066.7	2,040.8	2,040.3	4.5	1.1	138.70	-1,253.5	69.3	1,261.6	1,256.1	5.49	229.767	
2,100.0	2,099.7	2,073.3	2,072.8	4.6	1.1	138.81	-1,253.6	68.0	1,263.6	1,258.0	5.57	226.747	
2,165.3	2,164.7	2,138.8	2,138.2	4.7	1.1	139.06	-1,253.6	65.4	1,268.4	1,262.6	5.74	221.057	
2,200.0	2,199.1	2,174.0	2,173.4	4.8	1.1	139.21	-1,253.6	64.0	1,271.3	1,265.5	5.83	218.244	
2,263.8	2,262.3	2,233.3	2,232.6	5.0	1.2	139.45	-1,253.5	61.8	1,277.7	1,271.7	5.99	213.273	
2,300.0	2,298.2	2,264.8	2,264.2	5.0	1.2	139.58	-1,253.6	60.7	1,281.9	1,275.8	6.08	210.676	
2,362.2	2,359.5	2,320.7	2,320.0	5.2	1.2	139.82	-1,254.0	59.0	1,290.3	1,284.0	6.26	206.261	
2,400.0	2,396.6	2,356.6	2,355.9	5.3	1.2	139.98	-1,254.4	58.0	1,296.0	1,289.6	6.36	203.752	
2,460.6	2,456.0	2,413.6	2,412.8	5.5	1.2	140.25	-1,255.0	56.5	1,306.0	1,299.5	6.54	199.742	
2,500.0	2,494.4	2,449.6	2,448.9	5.6	1.2	140.42	-1,255.4	55.5	1,313.1	1,306.5	6.65	197.377	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design											NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT SHULTZ FARM 30-32 - Wellbore #1 - Wellbore #1		Offset Site Error:	0.0 usft
Survey Program: 100-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		
2,559.0	2,551.8	2,503.5	2,502.7	5.8	1.3	140.69	-1,256.1	54.1	1,324.8	1,318.0	6.84	193.752		
2,600.0	2,591.5	2,541.2	2,540.4	5.9	1.3	140.89	-1,256.7	53.1	1,333.5	1,326.6	6.96	191.506		
2,657.5	2,646.8	2,593.9	2,593.1	6.1	1.3	141.17	-1,257.6	51.7	1,346.7	1,339.6	7.15	188.271		
2,685.2	2,673.5	2,619.7	2,618.8	6.2	1.3	141.31	-1,258.1	51.0	1,353.4	1,346.2	7.25	186.792		
2,700.0	2,687.6	2,633.5	2,632.6	6.3	1.3	141.43	-1,258.4	50.7	1,357.1	1,349.8	7.30	186.015		
2,755.9	2,741.1	2,685.6	2,684.7	6.5	1.3	141.89	-1,259.4	49.2	1,371.0	1,363.5	7.49	183.097		
2,800.0	2,783.4	2,726.0	2,725.0	6.7	1.3	142.25	-1,260.2	48.1	1,382.0	1,374.4	7.64	180.900		
2,854.3	2,835.4	2,775.2	2,774.3	6.9	1.4	142.67	-1,261.2	46.7	1,395.8	1,388.0	7.83	178.224		
2,900.0	2,879.2	2,817.0	2,816.1	7.1	1.4	143.03	-1,262.1	45.5	1,407.5	1,399.5	7.99	176.092		
2,952.7	2,929.7	2,866.0	2,865.0	7.4	1.4	143.44	-1,263.3	44.0	1,421.1	1,412.9	8.18	173.654		
3,000.0	2,974.9	2,910.9	2,909.9	7.6	1.4	143.81	-1,264.3	42.6	1,433.4	1,425.0	8.35	171.595		
3,051.2	3,023.9	2,963.7	2,962.6	7.8	1.4	144.24	-1,265.5	41.0	1,446.6	1,438.1	8.54	169.403		
3,100.0	3,070.7	3,013.8	3,012.7	8.1	1.5	144.64	-1,266.4	39.6	1,459.2	1,450.5	8.72	167.421		
3,149.6	3,118.2	3,063.7	3,062.6	8.3	1.5	145.03	-1,267.3	38.2	1,472.0	1,463.1	8.90	165.462		
3,200.0	3,166.5	3,116.1	3,115.0	8.6	1.5	145.43	-1,268.0	36.5	1,484.9	1,475.8	9.08	163.578		
3,248.0	3,212.5	3,170.3	3,169.1	8.8	1.5	145.84	-1,268.5	34.9	1,497.0	1,487.8	9.25	161.820		
3,300.0	3,262.3	3,231.0	3,229.8	9.1	1.5	146.28	-1,268.8	33.4	1,509.9	1,500.5	9.43	160.049		
3,346.4	3,306.8	3,287.3	3,286.1	9.3	1.5	146.68	-1,268.5	32.0	1,521.1	1,511.5	9.60	158.487		
3,400.0	3,358.1	3,344.0	3,342.7	9.6	1.6	147.08	-1,268.0	30.8	1,533.7	1,524.0	9.79	156.718		
3,444.9	3,401.0	3,389.8	3,388.5	9.8	1.6	147.38	-1,267.4	29.9	1,544.3	1,534.3	9.94	155.305		
3,500.0	3,453.8	3,442.2	3,440.9	10.1	1.6	147.73	-1,266.7	29.0	1,557.2	1,547.1	10.14	153.604		
3,543.3	3,495.3	3,482.6	3,481.4	10.3	1.6	147.99	-1,266.3	28.3	1,567.5	1,557.2	10.29	152.287		
3,600.0	3,549.6	3,535.2	3,534.0	10.6	1.6	148.32	-1,265.7	27.5	1,581.0	1,570.5	10.50	150.629		
3,641.7	3,589.6	3,573.8	3,572.5	10.8	1.6	148.56	-1,265.3	26.9	1,591.0	1,580.4	10.65	149.439		
3,700.0	3,645.4	3,627.1	3,625.8	11.1	1.6	148.89	-1,264.8	26.0	1,605.1	1,594.2	10.86	147.849		
3,740.1	3,683.8	3,663.6	3,662.3	11.4	1.6	149.11	-1,264.5	25.4	1,614.9	1,603.9	11.00	146.781		
3,800.0	3,741.2	3,718.2	3,716.9	11.7	1.7	149.44	-1,264.2	24.6	1,629.6	1,618.4	11.22	145.261		
3,838.6	3,778.1	3,753.8	3,752.5	11.9	1.7	149.64	-1,264.0	24.0	1,639.2	1,627.8	11.36	144.306		
3,900.0	3,837.0	3,810.5	3,809.2	12.2	1.7	149.97	-1,263.8	23.1	1,654.5	1,643.0	11.58	142.867		
3,937.0	3,872.4	3,845.0	3,843.7	12.4	1.7	150.17	-1,263.7	22.5	1,663.8	1,652.1	11.72	142.023		
4,000.0	3,932.7	3,903.8	3,902.4	12.8	1.7	150.50	-1,263.5	21.4	1,679.7	1,667.8	11.94	140.643		
4,035.4	3,966.7	3,937.5	3,936.1	13.0	1.7	150.69	-1,263.4	20.8	1,688.7	1,676.7	12.07	139.893		
4,100.0	4,028.5	3,999.0	3,997.6	13.3	1.7	151.04	-1,263.3	19.6	1,705.2	1,692.9	12.30	138.584		
4,133.8	4,060.9	4,036.2	4,034.9	13.5	1.7	151.24	-1,263.1	18.8	1,713.8	1,701.3	12.42	137.943		
4,200.0	4,124.3	4,108.9	4,107.5	13.9	1.8	151.65	-1,262.4	17.0	1,730.3	1,717.7	12.66	136.716		
4,232.3	4,155.2	4,142.9	4,141.5	14.0	1.8	151.84	-1,262.0	16.1	1,738.3	1,725.6	12.77	136.138		
4,300.0	4,220.1	4,213.1	4,211.7	14.4	1.8	152.23	-1,260.9	14.3	1,755.0	1,742.0	13.00	134.969		
4,330.7	4,249.5	4,243.0	4,241.5	14.6	1.8	152.39	-1,260.4	13.6	1,762.5	1,749.4	13.11	134.440		
4,400.0	4,315.9	4,311.0	4,309.5	15.0	1.8	152.75	-1,259.2	11.9	1,779.5	1,766.2	13.35	133.293		
4,429.1	4,343.7	4,341.2	4,339.7	15.1	1.8	152.91	-1,258.6	11.2	1,786.7	1,773.2	13.45	132.823		
4,500.0	4,411.6	4,412.3	4,410.8	15.5	1.8	153.26	-1,257.2	9.9	1,803.9	1,790.2	13.70	131.703		
4,527.5	4,438.0	4,435.8	4,434.3	15.7	1.8	153.38	-1,256.8	9.5	1,810.7	1,796.9	13.79	131.268		
4,600.0	4,507.4	4,500.0	4,498.4	16.1	1.9	153.68	-1,255.8	8.5	1,828.6	1,814.6	14.05	130.180		
4,626.0	4,532.3	4,523.1	4,521.5	16.2	1.9	153.79	-1,255.5	8.2	1,835.1	1,821.0	14.14	129.800		
4,700.0	4,603.2	4,597.2	4,595.6	16.7	1.9	154.13	-1,254.4	7.1	1,853.6	1,839.2	14.40	128.757		
4,724.4	4,626.6	4,626.4	4,624.8	16.8	1.9	154.26	-1,253.9	6.8	1,859.7	1,845.2	14.48	128.444		
4,800.0	4,699.0	4,714.7	4,713.1	17.2	1.9	154.63	-1,252.1	6.4	1,878.0	1,863.3	14.73	127.466		
4,822.8	4,720.8	4,736.0	4,734.4	17.4	1.9	154.72	-1,251.6	6.4	1,883.5	1,868.7	14.81	127.161		
4,900.0	4,794.7	4,808.0	4,806.4	17.8	1.9	155.00	-1,249.9	6.5	1,902.0	1,887.0	15.08	126.163		
4,921.2	4,815.1	4,827.9	4,826.3	17.9	1.9	155.08	-1,249.5	6.5	1,907.2	1,892.0	15.15	125.888		
5,000.0	4,890.5	4,900.0	4,898.4	18.4	1.9	155.36	-1,248.0	6.6	1,926.3	1,910.9	15.42	124.903		
5,019.7	4,909.4	4,916.5	4,914.8	18.5	1.9	155.42	-1,247.7	6.6	1,931.1	1,915.6	15.49	124.656		

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
5,100.0	4,986.3	4,977.6	4,975.9	18.9	1.9	155.65	-1,246.8	6.4	1,951.2	1,935.5	15.77	123.704	
5,118.1	5,003.6	5,000.0	4,998.3	19.0	1.9	155.74	-1,246.6	6.3	1,955.9	1,940.0	15.84	123.507	
5,200.0	5,082.1	5,063.2	5,061.5	19.5	1.9	155.98	-1,246.1	6.0	1,977.0	1,960.9	16.13	122.603	
5,216.5	5,097.9	5,078.0	5,076.4	19.6	1.9	156.03	-1,246.0	6.0	1,981.3	1,965.1	16.18	122.427	
5,300.0	5,177.9	5,152.9	5,151.2	20.1	2.0	156.30	-1,245.8	5.7	2,003.2	1,986.8	16.48	121.576	
5,314.9	5,192.2	5,166.3	5,164.6	20.2	2.0	156.35	-1,245.8	5.6	2,007.2	1,990.6	16.53	121.429	
5,400.0	5,273.6	5,243.2	5,241.5	20.6	2.0	156.62	-1,245.7	5.2	2,029.8	2,013.0	16.83	120.610	
5,413.4	5,286.5	5,255.3	5,253.7	20.7	2.0	156.66	-1,245.7	5.1	2,033.4	2,016.5	16.88	120.484	
5,500.0	5,369.4	5,331.5	5,329.9	21.2	2.0	156.93	-1,245.7	4.4	2,056.7	2,039.5	17.18	119.688	
5,511.8	5,380.7	5,341.5	5,339.8	21.3	2.0	156.97	-1,245.7	4.3	2,059.9	2,042.6	17.23	119.582	
5,600.0	5,465.2	5,417.9	5,416.2	21.8	2.0	157.23	-1,246.2	3.6	2,084.1	2,066.5	17.54	118.822	
5,610.2	5,475.0	5,427.8	5,426.1	21.9	2.0	157.26	-1,246.2	3.5	2,086.9	2,069.3	17.58	118.735	
5,700.0	5,561.0	5,500.0	5,498.3	22.4	2.1	157.51	-1,246.7	2.6	2,111.7	2,093.8	17.89	118.008	
5,708.6	5,569.3	5,517.2	5,515.5	22.4	2.1	157.57	-1,246.8	2.4	2,114.1	2,096.1	17.93	117.932	
5,793.4	5,650.4	5,577.7	5,576.0	22.9	2.1	157.77	-1,247.6	1.6	2,138.1	2,119.9	18.23	117.291	
5,800.0	5,656.8	5,582.4	5,580.7	22.9	2.1	157.80	-1,247.7	1.5	2,140.0	2,121.7	18.24	117.300	
5,807.1	5,663.6	5,600.0	5,598.3	23.0	2.1	157.87	-1,248.0	1.3	2,142.1	2,123.8	18.26	117.323	
5,900.0	5,753.1	5,654.9	5,653.2	23.4	2.1	158.24	-1,249.3	0.1	2,167.7	2,149.2	18.42	117.659	
5,905.5	5,758.4	5,658.9	5,657.2	23.4	2.1	158.26	-1,249.4	0.0	2,169.1	2,150.7	18.43	117.682	
6,000.0	5,850.3	5,752.5	5,750.6	23.8	2.1	158.72	-1,252.0	-3.0	2,193.1	2,174.5	18.58	118.031	
6,003.9	5,854.1	5,757.9	5,756.1	23.8	2.1	158.74	-1,252.2	-3.1	2,194.0	2,175.4	18.59	118.046	
6,100.0	5,948.3	5,908.8	5,906.9	24.1	2.2	159.23	-1,254.2	-6.2	2,213.8	2,195.1	18.71	118.319	
6,102.3	5,950.6	5,911.3	5,909.5	24.1	2.2	159.24	-1,254.2	-6.2	2,214.2	2,195.5	18.71	118.325	
6,200.0	6,046.9	6,014.5	6,012.7	24.4	2.2	159.52	-1,254.3	-6.9	2,229.7	2,210.9	18.82	118.451	
6,200.8	6,047.6	6,015.2	6,013.4	24.4	2.2	159.52	-1,254.3	-6.9	2,229.8	2,211.0	18.82	118.452	
6,299.2	6,145.2	6,104.6	6,102.8	24.7	2.2	159.72	-1,254.6	-7.2	2,242.4	2,223.5	18.93	118.480	
6,300.0	6,146.0	6,105.4	6,103.6	24.7	2.2	159.73	-1,254.6	-7.2	2,242.5	2,223.6	18.93	118.479	
6,397.6	6,243.1	6,202.3	6,200.4	24.9	2.3	159.87	-1,255.2	-7.3	2,252.0	2,233.0	19.02	118.376	
6,400.0	6,245.5	6,204.7	6,202.8	24.9	2.3	159.88	-1,255.2	-7.3	2,252.2	2,233.2	19.03	118.371	
6,496.0	6,341.4	6,300.0	6,298.1	25.1	2.3	159.96	-1,255.8	-7.2	2,258.4	2,239.3	19.11	118.161	
6,500.0	6,345.3	6,305.9	6,304.1	25.1	2.3	159.97	-1,255.9	-7.2	2,258.6	2,239.5	19.12	118.145	
6,594.5	6,439.7	6,391.8	6,389.9	25.2	2.3	160.00	-1,256.6	-7.0	2,261.8	2,242.6	19.20	117.821	
6,600.0	6,445.3	6,400.0	6,398.1	25.2	2.3	160.00	-1,256.7	-7.0	2,262.0	2,242.7	19.20	117.791	
6,628.6	6,473.9	6,425.5	6,423.7	25.3	2.3	-161.69	-1,256.9	-7.0	2,262.4	2,243.1	19.23	117.664	
6,658.6	6,503.9	6,456.1	6,454.2	25.3	2.3	-161.69	-1,257.2	-6.9	2,262.6	2,243.3	19.28	117.338	
6,692.9	6,538.1	6,490.9	6,489.1	25.3	2.3	18.32	-1,257.6	-6.9	2,262.2	2,242.9	19.24	117.584	
6,700.0	6,545.2	6,498.2	6,496.3	25.3	2.3	18.33	-1,257.7	-6.9	2,261.9	2,242.6	19.23	117.620	
6,750.0	6,595.0	6,552.9	6,551.0	25.3	2.3	18.47	-1,258.1	-6.8	2,257.9	2,238.7	19.17	117.804	
6,791.3	6,635.8	6,598.0	6,596.1	25.3	2.3	18.67	-1,258.4	-6.7	2,252.0	2,232.9	19.11	117.836	
6,800.0	6,644.3	6,600.0	6,598.1	25.3	2.3	18.71	-1,258.4	-6.7	2,250.5	2,231.4	19.10	117.844	
6,850.0	6,693.0	6,646.9	6,645.0	25.2	2.3	19.08	-1,258.7	-6.8	2,239.9	2,220.9	19.01	117.853	
6,889.7	6,731.0	6,679.2	6,677.3	25.2	2.3	19.46	-1,259.0	-6.9	2,229.3	2,210.4	18.91	117.911	
6,900.0	6,740.7	6,687.5	6,685.6	25.2	2.3	19.57	-1,259.1	-7.0	2,226.3	2,207.4	18.88	117.936	
6,950.0	6,787.3	6,727.7	6,725.8	25.0	2.3	20.18	-1,259.6	-7.2	2,209.7	2,191.0	18.70	118.147	
6,988.2	6,821.9	6,757.9	6,756.0	24.9	2.3	20.75	-1,260.0	-7.5	2,195.0	2,176.5	18.54	118.409	
7,000.0	6,832.5	6,767.1	6,765.2	24.9	2.3	20.95	-1,260.1	-7.6	2,190.2	2,171.7	18.48	118.508	
7,050.0	6,876.1	6,806.8	6,804.9	24.7	2.4	21.89	-1,260.8	-8.0	2,167.9	2,149.7	18.22	118.999	
7,086.6	6,906.8	6,842.1	6,840.2	24.6	2.4	22.75	-1,261.3	-8.4	2,149.7	2,131.7	18.01	119.379	
7,100.0	6,917.9	6,854.7	6,852.8	24.5	2.4	23.10	-1,261.5	-8.5	2,142.7	2,124.8	17.93	119.520	
7,150.0	6,957.6	6,900.4	6,898.4	24.3	2.4	24.55	-1,262.2	-8.8	2,114.8	2,097.2	17.63	119.982	
7,185.0	6,984.2	6,930.6	6,928.7	24.1	2.4	25.74	-1,262.5	-9.0	2,093.7	2,076.2	17.42	120.159	
7,200.0	6,995.2	6,943.1	6,941.2	24.1	2.4	26.30	-1,262.7	-9.1	2,084.3	2,066.9	17.34	120.184	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT SHULTZ FARM 30-32 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 100-GYD_CT												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,250.0	7,030.3	6,983.1	6,981.2	23.8	2.4	28.40	-1,263.0	-9.3	2,051.3	2,034.2	17.11	119.869	
7,283.4	7,052.4	7,007.1	7,005.2	23.6	2.4	30.01	-1,263.2	-9.5	2,028.0	2,010.9	17.01	119.200	
7,300.0	7,062.9	7,017.4	7,015.5	23.6	2.4	30.87	-1,263.3	-9.5	2,016.1	1,999.1	16.98	118.723	
7,350.0	7,092.8	7,047.0	7,045.0	23.3	2.4	33.79	-1,263.5	-9.7	1,978.9	1,961.9	17.00	116.428	
7,381.9	7,110.3	7,064.3	7,062.4	23.1	2.4	35.95	-1,263.7	-9.8	1,954.3	1,937.2	17.11	114.238	
7,400.0	7,119.8	7,073.7	7,071.8	23.0	2.4	37.29	-1,263.7	-9.9	1,940.0	1,922.8	17.20	112.771	
7,450.0	7,143.8	7,097.5	7,095.6	22.8	2.4	41.46	-1,263.9	-10.1	1,899.5	1,881.9	17.61	107.844	
7,480.3	7,156.8	7,110.9	7,109.0	22.6	2.4	44.39	-1,264.0	-10.2	1,874.3	1,856.4	17.96	104.371	
7,500.0	7,164.7	7,119.1	7,117.2	22.5	2.4	46.46	-1,264.1	-10.3	1,857.7	1,839.5	18.21	102.044	
7,550.0	7,182.3	7,137.6	7,135.6	22.2	2.4	52.33	-1,264.2	-10.4	1,814.8	1,795.9	18.90	96.042	
7,578.7	7,191.0	7,146.6	7,144.7	22.1	2.4	56.11	-1,264.3	-10.5	1,789.8	1,770.5	19.30	92.743	
7,600.0	7,196.7	7,152.6	7,150.7	22.0	2.4	59.10	-1,264.3	-10.6	1,771.0	1,751.5	19.57	90.499	
7,650.0	7,207.7	7,164.2	7,162.3	21.7	2.5	66.70	-1,264.4	-10.6	1,726.6	1,706.5	20.11	85.876	
7,677.1	7,212.2	7,169.1	7,167.1	21.6	2.5	71.09	-1,264.4	-10.7	1,702.4	1,682.0	20.32	83.778	
7,700.0	7,215.2	7,172.3	7,170.4	21.5	2.5	74.87	-1,264.4	-10.7	1,681.9	1,661.4	20.45	82.253	
7,750.0	7,219.3	7,176.9	7,174.9	21.3	2.5	83.25	-1,264.5	-10.7	1,636.9	1,616.2	20.68	79.148	
7,775.6	7,220.1	7,177.8	7,175.9	21.2	2.5	87.48	-1,264.5	-10.7	1,614.0	1,593.1	20.84	77.454	
7,792.5	7,220.0	7,177.9	7,176.0	21.1	2.5	90.21	-1,264.5	-10.7	1,598.8	1,577.8	20.96	76.265	
7,800.0	7,219.9	7,177.9	7,175.9	21.1	2.5	90.21	-1,264.5	-10.7	1,592.1	1,571.1	20.97	75.933	
7,874.0	7,219.0	7,177.5	7,175.5	20.8	2.5	90.18	-1,264.5	-10.7	1,526.3	1,505.3	21.08	72.411	
7,900.0	7,218.7	7,177.3	7,175.4	20.7	2.5	90.17	-1,264.5	-10.7	1,503.4	1,482.3	21.12	71.190	
7,972.4	7,217.8	7,176.9	7,175.0	20.5	2.5	90.13	-1,264.5	-10.7	1,440.1	1,418.7	21.37	67.398	
8,000.0	7,217.5	7,176.8	7,174.8	20.4	2.5	90.12	-1,264.5	-10.7	1,416.2	1,394.8	21.46	65.988	
8,070.8	7,216.6	7,176.4	7,174.4	20.4	2.5	90.09	-1,264.5	-10.7	1,355.5	1,333.7	21.83	62.081	
8,100.0	7,216.2	7,176.2	7,174.3	20.4	2.5	90.08	-1,264.5	-10.7	1,330.8	1,308.8	21.99	60.525	
8,169.3	7,215.4	7,175.8	7,173.9	20.7	2.5	90.05	-1,264.5	-10.7	1,272.9	1,250.5	22.47	56.652	
8,200.0	7,215.0	7,175.6	7,173.7	21.0	2.5	90.03	-1,264.5	-10.7	1,247.6	1,224.9	22.68	55.003	
8,267.7	7,214.1	7,175.3	7,173.3	21.6	2.5	90.00	-1,264.5	-10.7	1,192.8	1,169.5	23.26	51.288	
8,300.0	7,213.7	7,175.1	7,173.2	21.9	2.5	89.99	-1,264.5	-10.7	1,167.0	1,143.5	23.53	49.600	
8,366.1	7,212.9	7,174.7	7,172.8	22.6	2.5	89.96	-1,264.5	-10.7	1,115.5	1,091.3	24.18	46.137	
8,400.0	7,212.5	7,174.5	7,172.6	23.0	2.5	89.95	-1,264.5	-10.7	1,089.7	1,065.2	24.51	44.459	
8,464.5	7,211.7	7,174.2	7,172.2	23.8	2.5	89.92	-1,264.5	-10.7	1,041.8	1,016.6	25.22	41.310	
8,500.0	7,211.3	7,174.0	7,172.1	24.2	2.5	89.90	-1,264.5	-10.7	1,016.3	990.7	25.61	39.686	
8,563.0	7,210.5	7,173.6	7,171.7	25.0	2.5	89.87	-1,264.5	-10.7	972.5	946.2	26.36	36.888	
8,600.0	7,210.0	7,173.4	7,171.5	25.5	2.5	89.86	-1,264.5	-10.7	947.8	921.0	26.81	35.355	
8,661.4	7,209.3	7,173.1	7,171.2	26.3	2.5	89.83	-1,264.5	-10.7	908.6	881.0	27.60	32.923	
8,700.0	7,208.8	7,172.9	7,170.9	26.8	2.5	89.81	-1,264.4	-10.7	885.3	857.2	28.10	31.510	
8,759.8	7,208.0	7,172.5	7,170.6	27.6	2.5	89.79	-1,264.4	-10.7	851.3	822.4	28.91	29.448	
8,800.0	7,207.5	7,172.3	7,170.4	28.2	2.5	89.77	-1,264.4	-10.7	830.2	800.7	29.46	28.182	
8,858.2	7,206.8	7,172.0	7,170.1	29.0	2.5	89.74	-1,264.4	-10.7	802.1	771.8	30.29	26.482	
8,900.0	7,206.3	7,171.8	7,169.8	29.6	2.5	89.73	-1,264.4	-10.7	784.0	753.1	30.88	25.385	
8,956.7	7,205.6	7,171.5	7,169.5	30.4	2.5	89.70	-1,264.4	-10.7	762.4	730.7	31.72	24.033	
9,000.0	7,205.0	7,171.2	7,169.3	31.1	2.5	89.68	-1,264.4	-10.7	748.4	716.0	32.36	23.123	
9,055.1	7,204.3	7,170.9	7,169.0	31.9	2.5	89.66	-1,264.4	-10.7	733.8	700.6	33.21	22.100	
9,100.0	7,203.8	7,170.7	7,168.7	32.6	2.5	89.64	-1,264.4	-10.7	724.9	691.0	33.89	21.388	
9,153.5	7,203.1	7,170.4	7,168.4	33.4	2.5	89.61	-1,264.4	-10.7	717.8	683.0	34.73	20.666	
9,200.0	7,202.5	7,170.1	7,168.2	34.2	2.5	89.59	-1,264.4	-10.7	714.8	679.3	35.46	20.157	
9,222.8	7,202.3	7,170.0	7,168.0	34.5	2.5	89.58	-1,264.4	-10.7	714.4	678.6	35.83	19.940 CC, ES	
9,251.9	7,201.9	7,169.8	7,167.9	35.0	2.5	89.57	-1,264.4	-10.7	715.0	678.7	36.29	19.700	
9,300.0	7,201.3	7,169.6	7,167.6	35.7	2.5	89.55	-1,264.4	-10.7	718.6	681.5	37.06	19.387	
9,350.4	7,200.7	7,169.3	7,167.3	36.6	2.5	89.53	-1,264.4	-10.7	725.7	687.8	37.89	19.154	
9,400.0	7,200.0	7,169.0	7,167.1	37.4	2.5	89.50	-1,264.4	-10.7	736.0	697.3	38.70	19.020	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design										NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT SHULTZ FARM 30-32 - Wellbore #1 - Wellbore #1				Offset Site Error:	0.0 usft
Survey Program: 100-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		
9,448.8	7,199.4	7,168.7	7,166.8	38.2	2.5	89.48	-1,264.4	-10.7	749.3	709.8	39.51	18.965	SF		
9,500.0	7,198.8	7,168.4	7,166.5	39.0	2.5	89.46	-1,264.4	-10.7	766.3	725.9	40.36	18.986			
9,547.2	7,198.2	7,168.2	7,166.3	39.8	2.5	89.44	-1,264.4	-10.7	784.6	743.4	41.16	19.064			
9,600.0	7,197.5	7,167.9	7,166.0	40.7	2.5	89.41	-1,264.4	-10.7	807.8	765.8	42.04	19.214			
9,645.6	7,197.0	7,167.6	7,165.7	41.4	2.5	89.39	-1,264.4	-10.7	830.1	787.3	42.82	19.386			
9,700.0	7,196.3	7,167.3	7,165.4	42.4	2.5	89.37	-1,264.4	-10.7	859.1	815.3	43.75	19.637			
9,744.1	7,195.7	7,167.1	7,165.2	43.1	2.5	89.35	-1,264.4	-10.7	884.3	839.8	44.51	19.869			
9,800.0	7,195.0	7,166.8	7,164.9	44.1	2.5	89.33	-1,264.4	-10.7	918.4	872.9	45.47	20.197			
9,842.5	7,194.5	7,166.6	7,164.6	44.8	2.5	89.31	-1,264.4	-10.7	945.7	899.5	46.21	20.465			
9,900.0	7,193.8	7,166.2	7,164.3	45.8	2.5	89.28	-1,264.4	-10.7	984.3	937.1	47.21	20.850			
9,940.9	7,193.3	7,166.0	7,164.1	46.5	2.5	89.26	-1,264.4	-10.7	1,012.9	965.0	47.93	21.135			
10,000.0	7,192.5	7,165.7	7,163.7	47.5	2.5	89.24	-1,264.4	-10.7	1,055.6	1,006.7	48.96	21.560			
10,039.3	7,192.0	7,165.5	7,163.5	48.2	2.5	89.22	-1,264.4	-10.7	1,084.9	1,035.3	49.66	21.848			
10,100.0	7,191.3	7,165.1	7,163.2	49.3	2.5	89.19	-1,264.4	-10.7	1,131.3	1,080.5	50.73	22.301			
10,137.8	7,190.8	7,164.9	7,163.0	49.9	2.5	89.17	-1,264.4	-10.7	1,160.8	1,109.4	51.40	22.584			
10,200.0	7,190.0	7,164.6	7,162.6	51.0	2.5	89.15	-1,264.4	-10.6	1,210.4	1,157.9	52.50	23.055			
10,236.2	7,189.6	7,164.4	7,162.4	51.7	2.5	89.13	-1,264.4	-10.6	1,239.9	1,186.7	53.15	23.327			
10,300.0	7,188.8	7,164.0	7,162.1	52.8	2.5	89.10	-1,264.4	-10.6	1,292.5	1,238.2	54.29	23.808			
10,334.6	7,188.3	7,163.8	7,161.9	53.4	2.5	89.09	-1,264.4	-10.6	1,321.5	1,266.6	54.91	24.066			
10,400.0	7,187.5	7,163.5	7,161.5	54.6	2.5	89.06	-1,264.4	-10.6	1,377.0	1,320.9	56.08	24.551			
10,433.0	7,187.1	7,163.3	7,161.4	55.2	2.5	89.04	-1,264.4	-10.6	1,405.3	1,348.6	56.68	24.794			
10,500.0	7,186.3	7,162.9	7,161.0	56.4	2.5	89.01	-1,264.4	-10.6	1,463.4	1,405.5	57.89	25.279			
10,531.5	7,185.9	7,162.7	7,160.8	56.9	2.5	89.00	-1,264.4	-10.6	1,490.9	1,432.5	58.46	25.504			
10,600.0	7,185.0	7,162.4	7,160.4	58.2	2.5	88.97	-1,264.4	-10.6	1,551.4	1,491.7	59.70	25.987			
10,629.9	7,184.6	7,162.2	7,160.3	58.7	2.5	88.95	-1,264.4	-10.6	1,578.0	1,517.8	60.24	26.194			
10,700.0	7,183.8	7,161.8	7,159.9	60.0	2.5	88.92	-1,264.4	-10.6	1,640.8	1,579.3	61.52	26.673			
10,728.3	7,183.4	7,161.7	7,159.7	60.5	2.5	88.91	-1,264.4	-10.6	1,666.4	1,604.3	62.03	26.862			
10,800.0	7,182.5	7,161.3	7,159.3	61.8	2.5	88.88	-1,264.4	-10.6	1,731.4	1,668.1	63.34	27.335			
10,826.7	7,182.2	7,161.1	7,159.2	62.3	2.5	88.87	-1,264.4	-10.6	1,755.8	1,692.0	63.83	27.508			
10,900.0	7,181.2	7,160.7	7,158.8	63.6	2.5	88.83	-1,264.4	-10.6	1,822.9	1,757.8	65.17	27.972			
10,925.2	7,180.9	7,160.6	7,158.6	64.0	2.5	88.82	-1,264.4	-10.6	1,846.1	1,780.5	65.63	28.129			
11,000.0	7,180.0	7,160.2	7,158.2	65.4	2.5	88.79	-1,264.4	-10.6	1,915.3	1,848.3	67.00	28.586			
11,023.6	7,179.7	7,160.0	7,158.1	65.8	2.5	88.78	-1,264.4	-10.6	1,937.3	1,869.8	67.44	28.727			
11,100.0	7,178.7	7,159.6	7,157.7	67.2	2.5	88.74	-1,264.4	-10.6	2,008.5	1,939.6	68.84	29.175			
11,122.0	7,178.4	7,159.5	7,157.6	67.6	2.5	88.73	-1,264.4	-10.6	2,029.1	1,959.8	69.25	29.301			
11,200.0	7,177.5	7,159.1	7,157.1	69.1	2.5	88.70	-1,264.4	-10.6	2,102.2	2,031.5	70.69	29.741			
11,220.4	7,177.2	7,159.0	7,157.0	69.4	2.5	88.69	-1,264.4	-10.6	2,121.5	2,050.4	71.06	29.853			
11,300.0	7,176.2	7,158.5	7,156.6	70.9	2.5	88.65	-1,264.3	-10.6	2,196.5	2,124.0	72.53	30.284			
11,318.9	7,176.0	7,158.4	7,156.5	71.2	2.5	88.64	-1,264.3	-10.6	2,214.4	2,141.5	72.88	30.384			
11,400.0	7,174.9	7,158.0	7,156.0	72.7	2.5	88.61	-1,264.3	-10.6	2,291.3	2,217.0	74.38	30.805			
11,417.3	7,174.7	7,157.9	7,155.9	73.1	2.5	88.60	-1,264.3	-10.6	2,307.8	2,233.1	74.70	30.893			
11,500.0	7,173.7	7,157.4	7,155.5	74.6	2.5	88.56	-1,264.3	-10.6	2,386.6	2,310.3	76.24	31.305			
11,515.7	7,173.5	7,157.3	7,155.4	74.9	2.5	88.56	-1,264.3	-10.6	2,401.6	2,325.0	76.53	31.381			
11,600.0	7,172.4	7,156.9	7,154.9	76.4	2.5	88.52	-1,264.3	-10.6	2,482.1	2,404.1	78.09	31.784			
11,614.1	7,172.2	7,156.8	7,154.9	76.7	2.5	88.51	-1,264.3	-10.6	2,495.7	2,417.3	78.36	31.850			
11,700.0	7,171.2	7,156.3	7,154.4	78.3	2.5	88.47	-1,264.3	-10.6	2,578.1	2,498.1	79.95	32.245			
11,712.6	7,171.0	7,156.2	7,154.3	78.5	2.5	88.47	-1,264.3	-10.6	2,590.2	2,510.0	80.19	32.301			
11,791.4	7,170.0	7,155.8	7,153.9	80.0	2.5	88.43	-1,264.3	-10.6	2,666.0	2,584.3	81.66	32.649			

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT SHULTZ FARM 30-33 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 100-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
0.0	0.0	0.0	0.0	0.0	0.0	169.64	-2,369.8	433.3	2,409.1				
98.4	98.4	73.2	73.2	0.1	0.0	169.64	-2,369.9	433.3	2,409.2	2,409.1	0.11	N/A	
100.0	100.0	74.6	74.6	0.1	0.0	169.64	-2,369.9	433.3	2,409.2	2,409.1	0.11	N/A	
196.8	196.8	176.8	176.8	0.3	0.2	169.65	-2,370.3	433.0	2,409.5	2,409.1	0.45	5,332.094	
200.0	200.0	180.3	180.3	0.3	0.2	169.65	-2,370.3	433.0	2,409.5	2,409.1	0.46	5,188.226	
295.3	295.3	275.5	275.5	0.5	0.3	169.66	-2,370.5	432.6	2,409.6	2,408.8	0.78	3,095.345	
300.0	300.0	280.1	280.1	0.5	0.3	169.66	-2,370.5	432.6	2,409.6	2,408.8	0.79	3,037.442	
393.7	393.7	369.8	369.8	0.7	0.3	169.66	-2,370.7	432.4	2,409.8	2,408.7	1.06	2,272.142	
400.0	400.0	375.8	375.8	0.8	0.3	169.66	-2,370.7	432.4	2,409.8	2,408.7	1.08	2,235.372	
492.1	492.1	463.6	463.6	1.0	0.4	169.66	-2,371.0	432.4	2,410.2	2,408.8	1.34	1,802.570	
500.0	500.0	471.1	471.1	1.0	0.4	169.66	-2,371.1	432.4	2,410.2	2,408.9	1.36	1,773.069	
590.5	590.5	563.1	563.1	1.2	0.4	169.66	-2,371.5	432.5	2,410.7	2,409.1	1.61	1,494.387	
600.0	600.0	573.0	573.0	1.2	0.4	169.66	-2,371.6	432.5	2,410.7	2,409.1	1.64	1,470.376	
689.0	689.0	665.8	665.8	1.4	0.5	169.67	-2,371.9	432.4	2,411.0	2,409.1	1.88	1,281.701	
700.0	700.0	677.3	677.3	1.4	0.5	169.67	-2,371.9	432.4	2,411.0	2,409.1	1.91	1,261.871	
787.4	787.4	762.2	762.2	1.6	0.5	169.67	-2,372.2	432.2	2,411.3	2,409.1	2.13	1,129.448	
800.0	800.0	774.1	774.1	1.7	0.5	169.67	-2,372.2	432.2	2,411.3	2,409.1	2.17	1,112.878	
885.8	885.8	861.7	861.7	1.9	0.6	169.67	-2,372.5	432.4	2,411.6	2,409.2	2.39	1,007.729	
900.0	900.0	876.7	876.7	1.9	0.6	169.67	-2,372.6	432.4	2,411.7	2,409.2	2.43	991.955	
984.2	984.2	960.8	960.7	2.1	0.6	169.67	-2,372.7	432.6	2,411.9	2,409.2	2.65	908.439	
1,000.0	1,000.0	976.2	976.1	2.1	0.6	169.67	-2,372.8	432.6	2,411.9	2,409.2	2.70	894.441	
1,082.7	1,082.7	1,057.0	1,057.0	2.3	0.6	169.67	-2,373.1	432.6	2,412.2	2,409.3	2.91	829.558	
1,100.0	1,100.0	1,074.0	1,074.0	2.3	0.7	169.67	-2,373.1	432.6	2,412.2	2,409.3	2.95	817.312	
1,181.1	1,181.1	1,159.6	1,159.6	2.5	0.7	169.68	-2,373.5	432.2	2,412.5	2,409.3	3.16	763.672	
1,200.0	1,200.0	1,180.3	1,180.3	2.6	0.7	169.68	-2,373.5	432.1	2,412.5	2,409.3	3.21	752.093	
1,279.5	1,279.5	1,256.6	1,256.6	2.7	0.7	169.69	-2,373.7	431.9	2,412.6	2,409.2	3.41	708.185	
1,300.0	1,300.0	1,275.5	1,275.5	2.8	0.7	169.69	-2,373.7	431.8	2,412.7	2,409.2	3.46	697.800	
1,377.9	1,377.9	1,353.2	1,353.2	3.0	0.8	169.69	-2,374.0	431.7	2,413.0	2,409.3	3.66	660.146	
1,400.0	1,400.0	1,376.0	1,376.0	3.0	0.8	169.70	-2,374.1	431.6	2,413.0	2,409.3	3.71	650.111	
1,476.4	1,476.4	1,452.7	1,452.7	3.2	0.8	169.70	-2,374.4	431.3	2,413.2	2,409.3	3.91	617.799	
1,500.0	1,500.0	1,476.0	1,476.0	3.2	0.8	169.71	-2,374.5	431.2	2,413.3	2,409.3	3.97	608.479	
1,574.8	1,574.8	1,553.1	1,553.1	3.4	0.8	169.72	-2,374.7	430.8	2,413.5	2,409.4	4.16	580.792	
1,600.0	1,600.0	1,579.6	1,579.6	3.5	0.8	169.72	-2,374.8	430.7	2,413.6	2,409.3	4.22	572.032	
1,673.2	1,673.2	1,657.6	1,657.6	3.6	0.9	169.73	-2,374.9	430.2	2,413.6	2,409.2	4.40	548.114	
1,700.0	1,700.0	1,686.3	1,686.3	3.7	0.9	169.74	-2,374.9	430.0	2,413.6	2,409.1	4.47	539.871	
1,757.7	1,757.7	1,740.8	1,740.7	3.8	0.9	169.75	-2,375.0	429.5	2,413.5	2,408.9	4.61	523.118	
1,771.6	1,771.6	1,753.4	1,753.3	3.8	0.9	169.75	-2,375.0	429.3	2,413.5	2,408.9	4.65	519.257	
1,800.0	1,800.0	1,779.0	1,779.0	3.9	0.9	169.76	-2,375.1	429.0	2,413.5	2,408.8	4.72	511.564	
1,850.0	1,850.0	1,830.4	1,830.4	4.0	0.9	169.78	-2,375.3	428.4	2,413.6	2,408.8	4.84	498.391	
1,870.1	1,870.1	1,853.2	1,853.2	4.1	0.9	131.48	-2,375.4	428.0	2,413.7	2,408.7	4.95	487.515	
1,900.0	1,900.0	1,887.1	1,887.0	4.1	0.9	131.49	-2,375.4	427.6	2,413.9	2,408.9	5.03	480.307	
1,968.5	1,968.5	1,949.5	1,949.4	4.3	1.0	131.53	-2,375.5	426.6	2,415.2	2,410.0	5.19	465.163	
2,000.0	1,999.9	1,976.7	1,976.7	4.4	1.0	131.55	-2,375.7	426.2	2,416.2	2,410.9	5.27	458.630	
2,066.9	2,066.7	2,044.6	2,044.6	4.5	1.0	131.61	-2,376.1	425.0	2,419.3	2,413.8	5.44	445.090	
2,100.0	2,099.7	2,081.5	2,081.4	4.6	1.0	131.65	-2,376.3	424.3	2,421.1	2,415.6	5.52	438.683	
2,165.3	2,164.7	2,145.5	2,145.4	4.7	1.0	131.73	-2,376.5	423.2	2,425.4	2,419.7	5.68	426.636	
2,200.0	2,199.1	2,177.8	2,177.7	4.8	1.0	131.76	-2,376.6	422.6	2,428.1	2,422.4	5.77	420.616	
2,263.8	2,262.3	2,234.8	2,234.7	5.0	1.1	131.83	-2,377.0	421.7	2,434.0	2,428.1	5.94	409.720	
2,300.0	2,298.2	2,266.3	2,266.2	5.0	1.1	131.87	-2,377.2	421.1	2,437.9	2,431.8	6.04	403.838	
2,362.2	2,359.5	2,323.9	2,323.8	5.2	1.1	131.96	-2,377.8	420.1	2,445.3	2,439.1	6.21	393.726	
2,400.0	2,396.6	2,362.4	2,362.3	5.3	1.1	132.02	-2,378.2	419.3	2,450.3	2,444.0	6.32	387.851	
2,460.6	2,456.0	2,423.7	2,423.5	5.5	1.1	132.15	-2,378.9	417.9	2,459.0	2,452.5	6.50	378.360	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100-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	
2,500.0	2,494.4	2,463.0	2,462.9	5.6	1.2	132.23	-2,379.2	417.1	2,465.1	2,458.4	6.62	372.576	
2,559.0	2,551.8	2,518.8	2,518.7	5.8	1.2	132.33	-2,379.7	415.9	2,474.9	2,468.1	6.81	363.615	
2,600.0	2,591.5	2,553.8	2,553.6	5.9	1.2	132.39	-2,380.1	415.2	2,482.3	2,475.3	6.94	357.859	
2,657.5	2,646.8	2,603.2	2,603.0	6.1	1.2	132.48	-2,380.7	414.1	2,493.4	2,486.3	7.13	349.498	
2,685.2	2,673.5	2,633.2	2,633.0	6.2	1.2	132.56	-2,381.1	413.4	2,499.1	2,491.9	7.23	345.527	
2,700.0	2,687.6	2,649.1	2,648.9	6.3	1.2	132.65	-2,381.3	413.1	2,502.2	2,494.9	7.29	343.428	
2,755.9	2,741.1	2,700.0	2,699.8	6.5	1.2	132.93	-2,381.9	411.9	2,513.8	2,506.3	7.49	335.640	
2,800.0	2,783.4	2,742.6	2,742.3	6.7	1.3	133.16	-2,382.3	410.9	2,523.0	2,515.4	7.65	329.700	
2,854.3	2,835.4	2,786.2	2,786.0	6.9	1.3	133.39	-2,383.0	409.9	2,534.6	2,526.7	7.86	322.571	
2,900.0	2,879.2	2,826.8	2,826.5	7.1	1.3	133.61	-2,383.6	409.0	2,544.4	2,536.4	8.03	316.783	
2,952.7	2,929.7	2,876.3	2,876.0	7.4	1.3	133.88	-2,384.5	407.9	2,555.9	2,547.7	8.24	310.162	
3,000.0	2,974.9	2,922.6	2,922.3	7.6	1.3	134.12	-2,385.3	406.7	2,566.2	2,557.8	8.43	304.535	
3,051.2	3,023.9	2,975.0	2,974.7	7.8	1.3	134.40	-2,386.1	405.4	2,577.4	2,568.8	8.63	298.597	
3,100.0	3,070.7	3,030.2	3,029.8	8.1	1.4	134.69	-2,386.9	403.9	2,588.0	2,579.2	8.83	293.225	
3,149.6	3,118.2	3,091.5	3,091.1	8.3	1.4	135.01	-2,387.4	402.2	2,598.6	2,589.6	9.03	287.902	
3,200.0	3,166.5	3,150.8	3,150.4	8.6	1.4	135.32	-2,387.7	400.6	2,609.2	2,599.9	9.23	282.814	
3,248.0	3,212.5	3,206.3	3,205.9	8.8	1.4	135.60	-2,387.7	399.0	2,619.1	2,609.7	9.42	278.078	
3,300.0	3,262.3	3,263.0	3,262.6	9.1	1.4	135.89	-2,387.5	397.4	2,629.8	2,620.1	9.63	273.193	
3,346.4	3,306.8	3,313.5	3,313.1	9.3	1.4	136.14	-2,387.2	396.1	2,639.2	2,629.4	9.81	268.911	
3,400.0	3,358.1	3,370.7	3,370.2	9.6	1.5	136.42	-2,386.8	394.7	2,650.0	2,640.0	10.03	264.208	
3,444.9	3,401.0	3,423.7	3,423.2	9.8	1.5	136.68	-2,386.2	393.3	2,659.0	2,648.8	10.21	260.395	
3,500.0	3,453.8	3,498.8	3,498.3	10.1	1.5	137.06	-2,385.0	390.9	2,669.8	2,659.3	10.43	255.935	
3,543.3	3,495.3	3,544.2	3,543.6	10.3	1.5	137.28	-2,384.0	389.3	2,678.1	2,667.5	10.61	252.501	
3,600.0	3,549.6	3,600.0	3,599.4	10.6	1.5	137.56	-2,382.7	387.3	2,688.9	2,678.0	10.83	248.194	
3,641.7	3,589.6	3,635.1	3,634.4	10.8	1.5	137.73	-2,381.9	386.0	2,696.9	2,685.9	11.01	245.051	
3,700.0	3,645.4	3,680.6	3,679.9	11.1	1.5	137.96	-2,381.0	384.4	2,708.3	2,697.1	11.24	240.861	
3,740.1	3,683.8	3,713.9	3,713.2	11.4	1.5	138.12	-2,380.5	383.2	2,716.4	2,704.9	11.41	238.061	
3,800.0	3,741.2	3,768.5	3,767.7	11.7	1.6	138.38	-2,379.7	381.3	2,728.5	2,716.8	11.66	234.043	
3,838.6	3,778.1	3,800.0	3,799.2	11.9	1.6	138.54	-2,379.2	380.2	2,736.3	2,724.5	11.82	231.538	
3,900.0	3,837.0	3,856.3	3,855.5	12.2	1.6	138.80	-2,378.5	378.2	2,749.0	2,736.9	12.07	227.717	
3,937.0	3,872.4	3,888.1	3,887.3	12.4	1.6	138.95	-2,378.1	377.1	2,756.7	2,744.4	12.23	225.490	
4,000.0	3,932.7	3,947.4	3,946.5	12.8	1.6	139.23	-2,377.5	375.2	2,769.9	2,757.4	12.49	221.852	
4,035.4	3,966.7	3,981.5	3,980.6	13.0	1.6	139.39	-2,377.2	374.2	2,777.4	2,764.7	12.63	219.869	
4,100.0	4,028.5	4,044.9	4,044.0	13.3	1.6	139.68	-2,376.5	372.3	2,791.0	2,778.1	12.90	216.407	
4,133.8	4,060.9	4,078.5	4,077.6	13.5	1.6	139.82	-2,376.1	371.4	2,798.2	2,785.1	13.04	214.647	
4,200.0	4,124.3	4,144.4	4,143.4	13.9	1.7	140.10	-2,375.3	370.2	2,812.2	2,798.9	13.31	211.336	
4,232.3	4,155.2	4,176.5	4,175.6	14.0	1.7	140.23	-2,374.9	369.8	2,819.0	2,805.6	13.44	209.768	
4,300.0	4,220.1	4,251.1	4,250.1	14.4	1.7	140.53	-2,373.8	369.0	2,833.3	2,819.6	13.71	206.607	
4,330.7	4,249.5	4,286.6	4,285.6	14.6	1.7	140.68	-2,373.2	368.6	2,839.7	2,825.8	13.84	205.216	
4,400.0	4,315.9	4,351.2	4,350.2	15.0	1.7	140.93	-2,372.0	367.8	2,854.1	2,840.0	14.12	202.140	
4,429.1	4,343.7	4,377.0	4,376.0	15.1	1.7	141.04	-2,371.5	367.5	2,860.2	2,846.0	14.24	200.883	
4,500.0	4,411.6	4,435.0	4,434.0	15.5	1.7	141.27	-2,370.6	366.7	2,875.2	2,860.7	14.53	197.898	
4,527.5	4,438.0	4,456.5	4,455.4	15.7	1.7	141.35	-2,370.3	366.4	2,881.2	2,866.5	14.64	196.767	
4,600.0	4,507.4	4,500.0	4,499.0	16.1	1.7	141.52	-2,369.8	365.7	2,897.1	2,882.1	14.94	193.896	
4,626.0	4,532.3	4,530.1	4,529.0	16.2	1.7	141.64	-2,369.6	365.3	2,902.8	2,887.8	15.05	192.884	
4,700.0	4,603.2	4,582.4	4,581.4	16.7	1.7	141.84	-2,369.5	364.7	2,919.7	2,904.3	15.36	190.122	
4,724.4	4,626.6	4,600.0	4,598.9	16.8	1.8	141.91	-2,369.6	364.5	2,925.4	2,909.9	15.46	189.244	
4,800.0	4,699.0	4,666.1	4,665.1	17.2	1.8	142.15	-2,369.9	364.0	2,943.1	2,927.3	15.77	186.568	
4,822.8	4,720.8	4,686.2	4,685.2	17.4	1.8	142.23	-2,370.0	363.8	2,948.5	2,932.6	15.87	185.789	
4,900.0	4,794.7	4,761.7	4,760.6	17.8	1.8	142.50	-2,370.5	363.3	2,966.8	2,950.7	16.19	183.251	
4,921.2	4,815.1	4,783.0	4,781.9	17.9	1.8	142.58	-2,370.6	363.2	2,971.9	2,955.6	16.28	182.572	
5,000.0	4,890.5	4,860.8	4,859.7	18.4	1.8	142.86	-2,370.9	362.6	2,990.6	2,974.0	16.60	180.134	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 100-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		
5,019.7	4,909.4	4,880.2	4,879.1	18.5	1.8	142.92	-2,371.0	362.4	2,995.2	2,978.5	16.68	179.541		
5,100.0	4,986.3	4,958.4	4,957.3	18.9	1.9	143.20	-2,371.3	361.9	3,014.3	2,997.3	17.01	177.188		
5,118.1	5,003.6	4,975.9	4,974.9	19.0	1.9	143.26	-2,371.4	361.8	3,018.6	3,001.5	17.09	176.671		
5,200.0	5,082.1	5,057.6	5,056.6	19.5	1.9	143.55	-2,371.6	361.1	3,038.1	3,020.6	17.42	174.405		
5,216.5	5,097.9	5,074.4	5,073.3	19.6	1.9	143.61	-2,371.7	360.9	3,042.0	3,024.5	17.49	173.958		
5,300.0	5,177.9	5,155.0	5,153.9	20.1	1.9	143.88	-2,371.8	360.3	3,061.8	3,044.0	17.83	171.762		
5,314.9	5,192.2	5,169.1	5,168.1	20.2	1.9	143.93	-2,371.8	360.2	3,065.4	3,047.5	17.89	171.378		
5,400.0	5,273.6	5,252.5	5,251.4	20.6	2.0	144.21	-2,372.0	359.6	3,085.6	3,067.4	18.23	169.255		
5,413.4	5,286.5	5,265.9	5,264.8	20.7	2.0	144.26	-2,372.0	359.5	3,088.8	3,070.5	18.28	168.929		
5,500.0	5,369.4	5,354.3	5,353.2	21.2	2.0	144.55	-2,372.0	358.9	3,109.4	3,090.8	18.63	166.884		
5,511.8	5,380.7	5,366.4	5,365.4	21.3	2.0	144.59	-2,372.0	358.8	3,112.2	3,093.5	18.68	166.613		
5,600.0	5,465.2	5,444.9	5,443.8	21.8	2.0	144.85	-2,371.9	358.1	3,133.2	3,114.1	19.03	164.614		
5,610.2	5,475.0	5,453.1	5,452.0	21.9	2.0	144.88	-2,371.9	358.0	3,135.6	3,116.5	19.07	164.387		
5,700.0	5,561.0	5,530.1	5,529.0	22.4	2.1	145.13	-2,372.2	357.3	3,157.4	3,138.0	19.44	162.448		
5,708.6	5,569.3	5,538.4	5,537.3	22.4	2.1	145.15	-2,372.2	357.2	3,159.5	3,140.0	19.47	162.266		
5,793.4	5,650.4	5,615.4	5,614.3	22.9	2.1	145.41	-2,372.5	356.1	3,180.2	3,160.4	19.81	160.516		
5,800.0	5,656.8	5,620.5	5,619.4	22.9	2.1	145.44	-2,372.5	356.0	3,181.8	3,162.0	19.83	160.461		
5,807.1	5,663.6	5,625.8	5,624.7	23.0	2.1	145.48	-2,372.6	355.9	3,183.5	3,163.7	19.84	160.434		
5,900.0	5,753.1	5,700.0	5,698.9	23.4	2.1	145.96	-2,373.2	354.5	3,205.2	3,185.2	20.03	160.053		
5,905.5	5,758.4	5,701.2	5,700.1	23.4	2.1	145.98	-2,373.2	354.5	3,206.4	3,186.4	20.04	160.036		
6,000.0	5,850.3	5,805.2	5,804.1	23.8	2.1	146.48	-2,374.1	352.4	3,225.9	3,205.7	20.20	159.710		
6,003.9	5,854.1	5,808.6	5,807.5	23.8	2.1	146.50	-2,374.1	352.3	3,226.7	3,206.5	20.20	159.700		
6,100.0	5,948.3	5,893.5	5,892.3	24.1	2.2	146.89	-2,374.9	350.7	3,243.9	3,223.5	20.35	159.395		
6,102.3	5,950.6	5,900.0	5,898.8	24.1	2.2	146.91	-2,374.9	350.6	3,244.3	3,223.9	20.35	159.391		
6,200.0	6,046.9	5,987.0	5,985.8	24.4	2.2	147.24	-2,375.9	348.9	3,259.1	3,238.7	20.49	159.093		
6,200.8	6,047.6	5,987.7	5,986.5	24.4	2.2	147.24	-2,375.9	348.8	3,259.3	3,238.8	20.49	159.092		
6,299.2	6,145.2	6,067.1	6,065.9	24.7	2.2	147.50	-2,377.0	347.3	3,271.8	3,251.2	20.60	158.796		
6,300.0	6,146.0	6,067.8	6,066.6	24.7	2.2	147.50	-2,377.0	347.3	3,271.9	3,251.3	20.60	158.793		
6,397.6	6,243.1	6,162.5	6,161.3	24.9	2.3	147.71	-2,378.9	346.1	3,281.9	3,261.2	20.71	158.467		
6,400.0	6,245.5	6,165.1	6,163.9	24.9	2.3	147.72	-2,378.9	346.1	3,282.1	3,261.4	20.71	158.456		
6,496.0	6,341.4	6,267.0	6,265.7	25.1	2.3	147.88	-2,380.6	344.3	3,289.0	3,268.2	20.81	158.083		
6,500.0	6,345.3	6,271.1	6,269.8	25.1	2.3	147.89	-2,380.7	344.2	3,289.2	3,268.4	20.81	158.063		
6,594.5	6,439.7	6,374.8	6,373.5	25.2	2.3	147.99	-2,382.2	341.8	3,293.1	3,272.2	20.89	157.631		
6,600.0	6,445.3	6,381.0	6,379.7	25.2	2.3	148.00	-2,382.2	341.7	3,293.2	3,272.3	20.90	157.598		
6,628.6	6,473.9	6,410.3	6,409.0	25.3	2.3	-173.68	-2,382.6	341.0	3,293.8	3,272.8	20.92	157.446		
6,658.6	6,503.9	6,436.6	6,435.3	25.3	2.3	-173.67	-2,382.9	340.3	3,294.2	3,273.2	20.97	157.114		
6,692.9	6,538.1	6,466.6	6,465.3	25.3	2.4	6.35	-2,383.3	339.6	3,294.0	3,273.0	20.93	157.384		
6,700.0	6,545.2	6,472.9	6,471.5	25.3	2.4	6.36	-2,383.4	339.4	3,293.7	3,272.8	20.92	157.420		
6,750.0	6,595.0	6,519.7	6,518.4	25.3	2.4	6.42	-2,384.1	338.1	3,290.0	3,269.1	20.88	157.602		
6,791.3	6,635.8	6,562.5	6,561.1	25.3	2.4	6.50	-2,384.7	337.0	3,284.3	3,263.5	20.84	157.625		
6,800.0	6,644.3	6,571.4	6,570.0	25.3	2.4	6.52	-2,384.9	336.7	3,282.8	3,262.0	20.83	157.622		
6,850.0	6,693.0	6,622.2	6,620.8	25.2	2.4	6.67	-2,385.6	335.2	3,272.2	3,251.5	20.76	157.645		
6,889.7	6,731.0	6,661.7	6,660.3	25.2	2.4	6.82	-2,386.1	334.1	3,261.4	3,240.7	20.67	157.761		
6,900.0	6,740.7	6,671.8	6,670.3	25.2	2.4	6.87	-2,386.2	333.8	3,258.3	3,237.6	20.65	157.810		
6,950.0	6,787.3	6,718.6	6,717.1	25.0	2.4	7.11	-2,386.9	332.4	3,241.0	3,220.5	20.48	158.227		
6,988.2	6,821.9	6,751.8	6,750.3	24.9	2.5	7.33	-2,387.3	331.4	3,225.6	3,205.3	20.32	158.766		
7,000.0	6,832.5	6,761.9	6,760.4	24.9	2.5	7.41	-2,387.4	331.1	3,220.5	3,200.2	20.26	158.972		
7,050.0	6,876.1	6,804.8	6,803.3	24.7	2.5	7.77	-2,388.0	329.6	3,197.0	3,177.0	19.97	160.076		
7,086.6	6,906.8	6,842.8	6,841.3	24.6	2.5	8.10	-2,388.5	328.4	3,177.8	3,158.1	19.73	161.080		
7,100.0	6,917.9	6,856.4	6,854.9	24.5	2.5	8.24	-2,388.7	328.0	3,170.4	3,150.7	19.63	161.497		
7,150.0	6,957.6	6,906.1	6,904.6	24.3	2.5	8.80	-2,389.1	326.7	3,140.8	3,121.6	19.24	163.282		
7,185.0	6,984.2	6,943.1	6,941.5	24.1	2.5	9.27	-2,389.4	325.9	3,118.4	3,099.5	18.93	164.704		

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 100-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		
7,200.0	6,995.2	6,958.3	6,956.8	24.1	2.5	9.50	-2,389.5	325.6	3,108.4	3,089.6	18.80	165.364		
7,250.0	7,030.3	7,004.9	7,003.3	23.8	2.5	10.34	-2,389.6	324.9	3,073.3	3,055.0	18.32	167.761		
7,283.4	7,052.4	7,026.4	7,024.8	23.6	2.5	10.98	-2,389.7	324.6	3,048.5	3,030.5	17.98	169.542		
7,300.0	7,062.9	7,036.6	7,035.1	23.6	2.5	11.34	-2,389.7	324.5	3,035.8	3,018.0	17.81	170.453		
7,350.0	7,092.8	7,065.8	7,064.2	23.3	2.6	12.58	-2,389.7	324.0	2,996.1	2,978.8	17.30	173.147		
7,381.9	7,110.3	7,082.9	7,081.3	23.1	2.6	13.55	-2,389.8	323.7	2,969.8	2,952.8	17.00	174.689		
7,400.0	7,119.8	7,092.1	7,090.5	23.0	2.6	14.17	-2,389.8	323.6	2,954.5	2,937.7	16.84	175.471		
7,450.0	7,143.8	7,120.5	7,118.9	22.8	2.6	16.28	-2,389.8	323.1	2,911.1	2,894.7	16.47	176.751		
7,480.3	7,156.8	7,137.3	7,135.7	22.6	2.6	17.91	-2,389.8	322.8	2,884.0	2,867.7	16.33	176.620		
7,500.0	7,164.7	7,147.4	7,145.7	22.5	2.6	19.15	-2,389.8	322.6	2,866.1	2,849.9	16.28	176.080		
7,550.0	7,182.3	7,169.8	7,168.2	22.2	2.6	23.14	-2,389.8	322.3	2,819.8	2,803.4	16.36	172.310		
7,578.7	7,191.0	7,180.8	7,179.2	22.1	2.6	26.19	-2,389.7	322.1	2,792.7	2,776.1	16.60	168.276		
7,600.0	7,196.7	7,187.9	7,186.3	22.0	2.6	28.95	-2,389.7	322.0	2,772.3	2,755.5	16.86	164.397		
7,650.0	7,207.7	7,200.0	7,198.4	21.7	2.6	37.77	-2,389.6	321.8	2,724.0	2,706.1	17.88	152.341		
7,677.1	7,212.2	7,200.0	7,198.4	21.6	2.6	44.22	-2,389.6	321.8	2,697.5	2,678.9	18.61	144.933		
7,700.0	7,215.2	7,200.0	7,198.4	21.5	2.6	51.08	-2,389.6	321.8	2,675.1	2,655.8	19.28	138.760		
7,750.0	7,219.3	7,200.0	7,198.4	21.3	2.6	71.75	-2,389.6	321.8	2,625.8	2,605.3	20.47	128.283		
7,775.6	7,220.1	7,200.0	7,198.4	21.2	2.6	84.97	-2,389.6	321.8	2,600.5	2,579.6	20.86	124.641		
7,792.5	7,220.0	7,200.0	7,198.4	21.1	2.6	94.05	-2,389.6	321.8	2,583.7	2,562.4	21.32	121.201		
7,800.0	7,219.9	7,200.0	7,198.4	21.1	2.6	94.05	-2,389.6	321.8	2,576.3	2,555.0	21.32	120.827		
7,874.0	7,219.0	7,200.0	7,198.4	20.8	2.6	94.05	-2,389.6	321.8	2,503.2	2,481.7	21.45	116.721		
7,900.0	7,218.7	7,200.0	7,198.4	20.7	2.6	94.05	-2,389.6	321.8	2,477.5	2,456.0	21.49	115.289		
7,972.4	7,217.8	7,200.0	7,198.4	20.5	2.6	94.05	-2,389.6	321.8	2,406.0	2,384.2	21.75	110.628		
8,000.0	7,217.5	7,200.0	7,198.4	20.4	2.6	94.05	-2,389.6	321.8	2,378.7	2,356.9	21.85	108.883		
8,070.8	7,216.6	7,200.0	7,198.4	20.4	2.6	94.05	-2,389.6	321.8	2,308.8	2,286.6	22.23	103.875		
8,100.0	7,216.2	7,200.0	7,198.4	20.4	2.6	94.05	-2,389.6	321.8	2,280.1	2,257.7	22.38	101.863		
8,169.3	7,215.4	7,200.0	7,198.4	20.7	2.6	94.05	-2,389.6	321.8	2,211.8	2,189.0	22.87	96.710		
8,200.0	7,215.0	7,200.0	7,198.4	21.0	2.6	94.06	-2,389.6	321.8	2,181.6	2,158.5	23.09	94.494		
8,267.7	7,214.1	7,200.0	7,198.4	21.6	2.6	94.06	-2,389.6	321.8	2,115.0	2,091.3	23.66	89.375		
8,300.0	7,213.7	7,200.0	7,198.4	21.9	2.6	94.06	-2,389.6	321.8	2,083.2	2,059.3	23.94	87.019		
8,366.1	7,212.9	7,200.0	7,198.4	22.6	2.6	94.06	-2,389.6	321.8	2,018.3	1,993.7	24.59	82.074		
8,400.0	7,212.5	7,200.0	7,198.4	23.0	2.6	94.06	-2,389.6	321.8	1,985.0	1,960.1	24.92	79.641		
8,464.5	7,211.7	7,200.0	7,198.4	23.8	2.6	94.06	-2,389.6	321.8	1,921.7	1,896.1	25.63	74.965		
8,500.0	7,211.3	7,200.0	7,198.4	24.2	2.6	94.06	-2,389.6	321.8	1,887.0	1,861.0	26.03	72.506		
8,563.0	7,210.5	7,199.1	7,197.5	25.0	2.6	93.93	-2,389.6	321.8	1,825.4	1,798.6	26.77	68.183		
8,600.0	7,210.0	7,198.4	7,196.8	25.5	2.6	93.82	-2,389.6	321.9	1,789.2	1,762.0	27.21	65.759		
8,661.4	7,209.3	7,197.1	7,195.5	26.3	2.6	93.63	-2,389.7	321.9	1,729.2	1,701.3	27.98	61.792		
8,700.0	7,208.8	7,196.3	7,194.7	26.8	2.6	93.52	-2,389.7	321.9	1,691.6	1,663.2	28.47	59.410		
8,759.8	7,208.0	7,195.1	7,193.5	27.6	2.6	93.34	-2,389.7	321.9	1,633.4	1,604.1	29.28	55.794		
8,800.0	7,207.5	7,194.3	7,192.7	28.2	2.6	93.22	-2,389.7	321.9	1,594.4	1,564.6	29.81	53.477		
8,858.2	7,206.8	7,193.2	7,191.6	29.0	2.6	93.05	-2,389.7	321.9	1,537.9	1,507.3	30.63	50.204		
8,900.0	7,206.3	7,192.4	7,190.8	29.6	2.6	92.93	-2,389.7	321.9	1,497.5	1,466.3	31.22	47.965		
8,956.7	7,205.6	7,191.3	7,189.7	30.4	2.6	92.76	-2,389.7	322.0	1,442.8	1,410.7	32.05	45.018		
9,000.0	7,205.0	7,190.4	7,188.8	31.1	2.6	92.64	-2,389.7	322.0	1,401.0	1,368.3	32.68	42.869		
9,055.1	7,204.3	7,189.4	7,187.8	31.9	2.6	92.48	-2,389.7	322.0	1,348.1	1,314.6	33.51	40.226		
9,100.0	7,203.8	7,188.5	7,186.9	32.6	2.6	92.36	-2,389.7	322.0	1,305.1	1,270.9	34.19	38.170		
9,153.5	7,203.1	7,187.5	7,185.9	33.4	2.6	92.21	-2,389.7	322.0	1,254.0	1,219.0	35.02	35.807		
9,200.0	7,202.5	7,186.7	7,185.1	34.2	2.6	92.08	-2,389.7	322.0	1,209.8	1,174.1	35.74	33.848		
9,251.9	7,201.9	7,185.7	7,184.1	35.0	2.6	91.93	-2,389.7	322.0	1,160.7	1,124.1	36.57	31.740		
9,300.0	7,201.3	7,184.8	7,183.2	35.7	2.6	91.80	-2,389.7	322.0	1,115.4	1,078.1	37.33	29.879		
9,350.4	7,200.7	7,183.9	7,182.3	36.6	2.6	91.66	-2,389.7	322.1	1,068.2	1,030.1	38.15	28.003		
9,400.0	7,200.0	7,183.0	7,181.4	37.4	2.6	91.53	-2,389.7	322.1	1,022.0	983.1	38.95	26.239		

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - EXIST VERT SHULTZ FARM 30-33 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.0 usft
Survey Program: 100-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
9,448.8	7,199.4	7,182.1	7,180.5	38.2	2.6	91.40	-2,389.7	322.1	976.9	937.2	39.75	24.575	
9,500.0	7,198.8	7,181.2	7,179.6	39.0	2.6	91.26	-2,389.7	322.1	930.0	889.4	40.60	22.909	
9,547.2	7,198.2	7,180.4	7,178.8	39.8	2.6	91.13	-2,389.7	322.1	887.1	845.8	41.38	21.437	
9,600.0	7,197.5	7,179.4	7,177.8	40.7	2.6	91.00	-2,389.7	322.1	839.8	797.5	42.27	19.870	
9,645.6	7,197.0	7,178.6	7,177.0	41.4	2.6	90.88	-2,389.7	322.1	799.4	756.4	43.04	18.575	
9,700.0	7,196.3	7,177.7	7,176.1	42.4	2.6	90.74	-2,389.7	322.2	752.1	708.1	43.96	17.110	
9,744.1	7,195.7	7,176.9	7,175.3	43.1	2.6	90.62	-2,389.7	322.2	714.5	669.8	44.71	15.980	
9,800.0	7,195.0	7,176.0	7,174.4	44.1	2.6	90.48	-2,389.7	322.2	667.9	622.2	45.67	14.625	
9,842.5	7,194.5	7,175.3	7,173.6	44.8	2.6	90.37	-2,389.7	322.2	633.4	587.0	46.40	13.652	
9,900.0	7,193.8	7,174.3	7,172.7	45.8	2.6	90.23	-2,389.8	322.2	588.6	541.2	47.39	12.419	
9,940.9	7,193.3	7,173.6	7,172.0	46.5	2.6	90.12	-2,389.8	322.2	558.0	509.9	48.10	11.600	
10,000.0	7,192.5	7,172.6	7,171.0	47.5	2.6	89.98	-2,389.8	322.2	516.5	467.4	49.13	10.512	
10,039.3	7,192.0	7,172.0	7,170.4	48.2	2.6	89.88	-2,389.8	322.2	490.8	441.0	49.82	9.852	
10,100.0	7,191.3	7,171.0	7,169.4	49.3	2.6	89.73	-2,389.8	322.2	455.1	404.2	50.88	8.944	
10,137.8	7,190.8	7,170.4	7,168.8	49.9	2.6	89.64	-2,389.8	322.3	435.7	384.1	51.55	8.451	
10,200.0	7,190.0	7,169.4	7,167.8	51.0	2.6	89.49	-2,389.8	322.3	409.2	356.6	52.65	7.773	
10,236.2	7,189.6	7,168.8	7,167.2	51.7	2.6	89.40	-2,389.8	322.3	397.6	344.3	53.29	7.460	
10,300.0	7,188.8	7,167.8	7,166.2	52.8	2.6	89.25	-2,389.8	322.3	384.5	330.1	54.42	7.065	
10,334.6	7,188.3	7,167.2	7,165.6	53.4	2.6	89.17	-2,389.8	322.3	381.7	326.6	55.04	6.934	
10,348.3	7,188.2	7,167.0	7,165.4	53.7	2.6	89.13	-2,389.8	322.3	381.4	326.1	55.28	6.899 CC, ES	
10,400.0	7,187.5	7,166.2	7,164.6	54.6	2.6	89.01	-2,389.8	322.3	384.9	328.7	56.21	6.848 SF	
10,433.0	7,187.1	7,165.7	7,164.1	55.2	2.6	88.93	-2,389.8	322.3	390.7	333.9	56.80	6.879	
10,500.0	7,186.3	7,164.6	7,163.0	56.4	2.6	88.78	-2,389.8	322.3	410.5	352.5	58.00	7.078	
10,531.5	7,185.9	7,164.2	7,162.6	56.9	2.6	88.71	-2,389.8	322.4	423.1	364.6	58.56	7.225	
10,600.0	7,185.0	7,163.1	7,161.5	58.2	2.6	88.55	-2,389.8	322.4	457.0	397.2	59.80	7.642	
10,629.9	7,184.6	7,162.7	7,161.1	58.7	2.6	88.48	-2,389.8	322.4	474.1	413.8	60.34	7.858	
10,700.0	7,183.8	7,161.6	7,160.0	60.0	2.6	88.32	-2,389.8	322.4	518.8	457.2	61.60	8.422	
10,728.3	7,183.4	7,161.2	7,159.6	60.5	2.6	88.26	-2,389.8	322.4	538.4	476.3	62.11	8.668	
10,800.0	7,182.5	7,160.1	7,158.5	61.8	2.6	88.10	-2,389.8	322.4	591.2	527.8	63.41	9.323	
10,826.7	7,182.2	7,159.7	7,158.1	62.3	2.6	88.04	-2,389.8	322.4	611.9	548.0	63.90	9.576	
10,900.0	7,181.2	7,158.7	7,157.1	63.6	2.6	87.88	-2,389.8	322.4	670.7	605.4	65.23	10.282	
10,925.2	7,180.9	7,158.3	7,156.7	64.0	2.6	87.82	-2,389.8	322.4	691.5	625.8	65.69	10.528	
11,000.0	7,180.0	7,157.2	7,155.6	65.4	2.6	87.66	-2,389.8	322.5	755.1	688.0	67.05	11.262	
11,023.6	7,179.7	7,156.9	7,155.3	65.8	2.6	87.61	-2,389.8	322.5	775.5	708.0	67.48	11.493	
11,100.0	7,178.7	7,155.8	7,154.2	67.2	2.6	87.45	-2,389.8	322.5	842.9	774.0	68.87	12.238	
11,122.0	7,178.4	7,155.5	7,153.9	67.6	2.6	87.40	-2,389.8	322.5	862.6	793.3	69.27	12.451	
11,200.0	7,177.5	7,154.4	7,152.8	69.1	2.6	87.23	-2,389.8	322.5	933.1	862.4	70.70	13.198	
11,220.4	7,177.2	7,154.1	7,152.5	69.4	2.6	87.19	-2,389.8	322.5	951.8	880.8	71.07	13.392	
11,300.0	7,176.2	7,153.0	7,151.4	70.9	2.6	87.02	-2,389.8	322.5	1,025.2	952.7	72.53	14.135	
11,318.9	7,176.0	7,152.7	7,151.1	71.2	2.6	86.98	-2,389.8	322.5	1,042.7	969.9	72.88	14.308	
11,400.0	7,174.9	7,151.6	7,150.0	72.7	2.6	86.82	-2,389.8	322.5	1,118.6	1,044.3	74.37	15.042	
11,417.3	7,174.7	7,151.4	7,149.8	73.1	2.6	86.78	-2,389.8	322.6	1,134.9	1,060.2	74.68	15.196	
11,500.0	7,173.7	7,150.3	7,148.7	74.6	2.6	86.61	-2,389.8	322.6	1,213.1	1,136.9	76.20	15.919	
11,515.7	7,173.5	7,150.0	7,148.4	74.9	2.6	86.58	-2,389.8	322.6	1,228.0	1,151.6	76.49	16.055	
11,600.0	7,172.4	7,148.9	7,147.3	76.4	2.6	86.41	-2,389.8	322.6	1,308.4	1,230.4	78.04	16.765	
11,614.1	7,172.2	7,148.7	7,147.1	76.7	2.6	86.38	-2,389.8	322.6	1,321.9	1,243.6	78.30	16.882	
11,700.0	7,171.2	7,147.6	7,146.0	78.3	2.6	86.21	-2,389.8	322.6	1,404.4	1,324.5	79.88	17.580	
11,712.6	7,171.0	7,147.4	7,145.8	78.5	2.6	86.19	-2,389.8	322.6	1,416.5	1,336.3	80.12	17.680	
11,791.4	7,170.0	7,146.4	7,144.8	80.0	2.6	86.03	-2,389.8	322.6	1,492.5	1,410.9	81.57	18.298	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	-88.15	1.5	-45.2	45.2				
98.4	98.4	98.4	98.4	0.1	0.1	-88.15	1.5	-45.2	45.2	45.0	0.17	266.086	
100.0	100.0	100.0	100.0	0.1	0.1	-88.15	1.5	-45.2	45.2	45.0	0.17	261.270	
196.8	196.8	196.8	196.8	0.3	0.3	-88.15	1.5	-45.2	45.2	44.6	0.61	74.318	
200.0	200.0	200.0	200.0	0.3	0.3	-88.15	1.5	-45.2	45.2	44.6	0.62	72.627	
295.3	295.3	295.3	295.3	0.5	0.5	-88.15	1.5	-45.2	45.2	44.2	1.05	43.028	
300.0	300.0	300.0	300.0	0.5	0.5	-88.15	1.5	-45.2	45.2	44.1	1.07	42.176	
393.7	393.7	393.7	393.7	0.7	0.7	-88.15	1.5	-45.2	45.2	43.7	1.49	30.280	
400.0	400.0	400.0	400.0	0.8	0.8	-88.15	1.5	-45.2	45.2	43.7	1.52	29.716	
492.1	492.1	492.1	492.1	1.0	1.0	-88.15	1.5	-45.2	45.2	43.3	1.94	23.359	
500.0	500.0	500.0	500.0	1.0	1.0	-88.15	1.5	-45.2	45.2	43.2	1.97	22.939	
590.5	590.5	590.5	590.5	1.2	1.2	-88.15	1.5	-45.2	45.2	42.8	2.38	19.013	
600.0	600.0	600.0	600.0	1.2	1.2	-88.15	1.5	-45.2	45.2	42.8	2.42	18.679	
689.0	689.0	689.0	689.0	1.4	1.4	-88.15	1.5	-45.2	45.2	42.4	2.82	16.031	
700.0	700.0	700.0	700.0	1.4	1.4	-88.15	1.5	-45.2	45.2	42.3	2.87	15.754	
787.4	787.4	787.4	787.4	1.6	1.6	-88.15	1.5	-45.2	45.2	42.0	3.26	13.857	
800.0	800.0	800.0	800.0	1.7	1.7	-88.15	1.5	-45.2	45.2	41.9	3.32	13.621	
885.8	885.8	885.8	885.8	1.9	1.9	-88.15	1.5	-45.2	45.2	41.5	3.71	12.203	
900.0	900.0	900.0	900.0	1.9	1.9	-88.15	1.5	-45.2	45.2	41.4	3.77	11.996	
984.2	984.2	984.2	984.2	2.1	2.1	-88.15	1.5	-45.2	45.2	41.1	4.15	10.901	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-88.15	1.5	-45.2	45.2	41.0	4.22	10.718	
1,082.7	1,082.7	1,082.7	1,082.7	2.3	2.3	-88.15	1.5	-45.2	45.2	40.6	4.59	9.850	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-88.15	1.5	-45.2	45.2	40.5	4.67	9.686	
1,181.1	1,181.1	1,181.1	1,181.1	2.5	2.5	-88.15	1.5	-45.2	45.2	40.2	5.03	8.984	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-88.15	1.5	-45.2	45.2	40.1	5.12	8.835	
1,279.5	1,279.5	1,279.5	1,279.5	2.7	2.7	-88.15	1.5	-45.2	45.2	39.7	5.48	8.258	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-88.15	1.5	-45.2	45.2	39.7	5.57	8.122	
1,377.9	1,377.9	1,377.9	1,377.9	3.0	3.0	-88.15	1.5	-45.2	45.2	39.3	5.92	7.641	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-88.15	1.5	-45.2	45.2	39.2	6.02	7.515	
1,476.4	1,476.4	1,476.4	1,476.4	3.2	3.2	-88.15	1.5	-45.2	45.2	38.9	6.36	7.109	
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	-88.15	1.5	-45.2	45.2	38.8	6.47	6.993	
1,574.8	1,574.8	1,574.8	1,574.8	3.4	3.4	-88.15	1.5	-45.2	45.2	38.4	6.80	6.647	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-88.15	1.5	-45.2	45.2	38.3	6.92	6.538	
1,673.2	1,673.2	1,673.2	1,673.2	3.6	3.6	-88.15	1.5	-45.2	45.2	38.0	7.25	6.241	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-88.15	1.5	-45.2	45.2	37.9	7.37	6.139	
1,771.6	1,771.6	1,771.6	1,771.6	3.8	3.8	-88.15	1.5	-45.2	45.2	37.5	7.69	5.882	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-88.15	1.5	-45.2	45.2	37.4	7.82	5.786	
1,850.0	1,850.0	1,850.0	1,850.0	4.0	4.0	-88.15	1.5	-45.2	45.2	37.2	8.04	5.624 CC	
1,870.1	1,870.1	1,870.1	1,870.1	4.1	4.1	-126.53	1.5	-45.2	45.3	37.1	8.13	5.567 ES	
1,900.0	1,900.0	1,900.0	1,900.0	4.1	4.1	-126.90	1.5	-45.2	45.5	37.2	8.26	5.504	
1,968.5	1,968.5	1,968.5	1,968.5	4.3	4.3	-128.85	1.5	-45.2	46.7	38.2	8.56	5.455	
2,000.0	1,999.9	1,999.9	1,999.9	4.4	4.4	-130.22	1.5	-45.2	47.7	39.0	8.70	5.477	
2,066.9	2,066.7	2,066.7	2,066.7	4.5	4.5	-133.89	1.5	-45.2	50.5	41.5	8.99	5.619	
2,100.0	2,099.7	2,099.7	2,099.7	4.6	4.6	-135.98	1.5	-45.2	52.4	43.3	9.13	5.741	
2,165.3	2,164.7	2,164.8	2,164.8	4.7	4.7	-140.36	1.5	-45.2	57.2	47.8	9.41	6.081	
2,200.0	2,199.1	2,199.4	2,199.4	4.8	4.8	-142.40	1.9	-45.2	60.3	50.7	9.56	6.308	
2,263.8	2,262.3	2,263.2	2,263.1	5.0	4.9	-145.29	3.7	-45.2	66.7	56.8	9.82	6.785	
2,300.0	2,298.2	2,299.4	2,299.3	5.0	5.0	-146.48	5.4	-45.2	70.7	60.7	9.97	7.086	
2,362.2	2,359.5	2,361.7	2,361.5	5.2	5.2	-147.91	9.3	-45.2	78.1	67.9	10.23	7.638	
2,400.0	2,396.6	2,399.5	2,399.2	5.3	5.3	-148.45	12.3	-45.1	83.0	72.7	10.39	7.996	
2,460.6	2,456.0	2,460.2	2,459.6	5.5	5.4	-148.91	18.2	-45.1	91.4	80.8	10.64	8.590	
2,500.0	2,494.4	2,499.6	2,498.8	5.6	5.5	-148.99	22.8	-45.1	97.2	86.4	10.80	8.995	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
2,559.0	2,551.8	2,558.7	2,557.3	5.8	5.6	-148.84	30.6	-45.1	106.3	95.3	11.06	9.612	
2,600.0	2,591.5	2,599.7	2,597.9	5.9	5.7	-148.59	36.7	-45.0	113.0	101.8	11.24	10.057	
2,657.5	2,646.8	2,657.2	2,654.5	6.1	5.9	-148.07	46.2	-45.0	122.9	111.4	11.51	10.681	
2,685.2	2,673.5	2,684.9	2,681.8	6.2	5.9	-147.77	51.2	-45.0	127.9	116.3	11.63	10.992	
2,700.0	2,687.6	2,699.6	2,696.3	6.3	6.0	-147.62	54.0	-45.0	130.6	118.8	11.71	11.145	
2,755.9	2,741.1	2,755.5	2,751.0	6.5	6.1	-146.82	65.2	-44.9	140.4	128.4	12.04	11.668	
2,800.0	2,783.4	2,799.7	2,794.1	6.7	6.2	-145.99	74.8	-44.9	148.0	135.7	12.30	12.036	
2,854.3	2,835.4	2,854.0	2,847.0	6.9	6.4	-144.74	87.5	-44.8	157.1	144.4	12.65	12.421	
2,900.0	2,879.2	2,899.6	2,891.0	7.1	6.6	-143.54	98.9	-44.8	164.5	151.6	12.95	12.709	
2,952.7	2,929.7	2,951.4	2,941.2	7.4	6.7	-142.23	112.2	-44.7	173.2	159.8	13.32	13.003	
3,000.0	2,974.9	2,997.9	2,986.2	7.6	6.9	-141.15	124.0	-44.7	181.0	167.3	13.65	13.255	
3,051.2	3,023.9	3,048.3	3,034.8	7.8	7.1	-140.09	136.9	-44.6	189.5	175.4	14.03	13.503	
3,100.0	3,070.7	3,096.3	3,081.3	8.1	7.2	-139.16	149.1	-44.6	197.6	183.3	14.40	13.728	
3,149.6	3,118.2	3,145.1	3,128.5	8.3	7.4	-138.30	161.6	-44.5	206.0	191.2	14.78	13.934	
3,200.0	3,166.5	3,194.7	3,176.4	8.6	7.6	-137.48	174.2	-44.5	214.5	199.4	15.18	14.134	
3,248.0	3,212.5	3,242.0	3,222.1	8.8	7.8	-136.77	186.3	-44.4	222.7	207.1	15.57	14.306	
3,300.0	3,262.3	3,293.1	3,271.6	9.1	8.0	-136.05	199.3	-44.4	231.6	215.6	15.99	14.483	
3,346.4	3,306.8	3,338.8	3,315.7	9.3	8.2	-135.45	211.0	-44.3	239.5	223.1	16.38	14.627	
3,400.0	3,358.1	3,391.5	3,366.7	9.6	8.4	-134.81	224.4	-44.2	248.7	231.9	16.82	14.784	
3,444.9	3,401.0	3,435.6	3,409.4	9.8	8.6	-134.31	235.7	-44.2	256.5	239.2	17.21	14.903	
3,500.0	3,453.8	3,489.9	3,461.8	10.1	8.8	-133.73	249.5	-44.1	266.0	248.3	17.68	15.043	
3,543.3	3,495.3	3,532.5	3,503.0	10.3	9.0	-133.31	260.3	-44.1	273.5	255.4	18.06	15.142	
3,600.0	3,549.6	3,588.2	3,557.0	10.6	9.3	-132.79	274.6	-44.0	283.3	264.8	18.56	15.266	
3,641.7	3,589.6	3,629.3	3,596.6	10.8	9.4	-132.43	285.0	-44.0	290.6	271.6	18.93	15.350	
3,700.0	3,645.4	3,686.6	3,652.1	11.1	9.7	-131.95	299.7	-43.9	300.7	281.3	19.45	15.460	
3,740.1	3,683.8	3,726.1	3,690.3	11.4	9.9	-131.64	309.7	-43.9	307.7	287.9	19.81	15.530	
3,800.0	3,741.2	3,785.0	3,747.2	11.7	10.1	-131.21	324.8	-43.8	318.2	297.8	20.36	15.629	
3,838.6	3,778.1	3,823.0	3,783.9	11.9	10.3	-130.94	334.4	-43.8	324.9	304.2	20.71	15.688	
3,900.0	3,837.0	3,883.4	3,842.3	12.2	10.6	-130.54	349.8	-43.7	335.7	314.4	21.28	15.777	
3,937.0	3,872.4	3,919.8	3,877.5	12.4	10.7	-130.31	359.1	-43.7	342.2	320.6	21.62	15.826	
4,000.0	3,932.7	3,981.8	3,937.5	12.8	11.0	-129.94	374.9	-43.6	353.2	331.0	22.21	15.906	
4,035.4	3,966.7	4,016.6	3,971.2	13.0	11.2	-129.74	383.8	-43.6	359.5	336.9	22.54	15.948	
4,100.0	4,028.5	4,080.2	4,032.6	13.3	11.5	-129.39	400.0	-43.5	370.8	347.7	23.15	16.020	
4,133.8	4,060.9	4,113.5	4,064.8	13.5	11.6	-129.22	408.5	-43.5	376.8	353.3	23.47	16.056	
4,200.0	4,124.3	4,178.5	4,127.7	13.9	12.0	-128.90	425.1	-43.4	388.4	364.3	24.09	16.121	
4,232.3	4,155.2	4,210.3	4,158.4	14.0	12.1	-128.74	433.2	-43.4	394.1	369.7	24.40	16.151	
4,300.0	4,220.1	4,276.9	4,222.9	14.4	12.4	-128.44	450.2	-43.3	406.1	381.0	25.05	16.210	
4,330.7	4,249.5	4,307.1	4,252.1	14.6	12.6	-128.31	457.9	-43.3	411.5	386.1	25.34	16.236	
4,400.0	4,315.9	4,375.3	4,318.0	15.0	12.9	-128.03	475.3	-43.2	423.7	397.7	26.01	16.290	
4,429.1	4,343.7	4,404.0	4,345.7	15.1	13.0	-127.91	482.6	-43.1	428.9	402.6	26.29	16.312	
4,500.0	4,411.6	4,473.7	4,413.1	15.5	13.4	-127.65	500.4	-43.1	441.4	414.4	26.98	16.361	
4,527.5	4,438.0	4,500.8	4,439.3	15.7	13.5	-127.55	507.3	-43.0	446.3	419.0	27.24	16.380	
4,600.0	4,507.4	4,572.1	4,508.3	16.1	13.8	-127.29	525.5	-43.0	459.1	431.1	27.95	16.425	
4,626.0	4,532.3	4,597.6	4,533.0	16.2	14.0	-127.21	532.0	-42.9	463.7	435.5	28.20	16.441	
4,700.0	4,603.2	4,670.5	4,603.4	16.7	14.3	-126.97	550.6	-42.9	476.8	447.9	28.93	16.483	
4,724.4	4,626.6	4,694.5	4,626.6	16.8	14.4	-126.89	556.7	-42.8	481.1	452.0	29.17	16.496	
4,800.0	4,699.0	4,768.9	4,698.5	17.2	14.8	-126.66	575.7	-42.8	494.5	464.6	29.91	16.535	
4,822.8	4,720.8	4,791.3	4,720.2	17.4	14.9	-126.60	581.4	-42.7	498.6	468.4	30.13	16.546	
4,900.0	4,794.7	4,867.2	4,793.7	17.8	15.3	-126.38	600.8	-42.6	512.3	481.4	30.89	16.582	
4,921.2	4,815.1	4,888.1	4,813.9	17.9	15.4	-126.32	606.1	-42.6	516.0	484.9	31.10	16.591	
5,000.0	4,890.5	4,965.6	4,888.8	18.4	15.8	-126.12	625.8	-42.5	530.0	498.1	31.88	16.624	
5,019.7	4,909.4	4,985.0	4,907.5	18.5	15.9	-126.07	630.8	-42.5	533.5	501.4	32.08	16.632	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
5,100.0	4,986.3	5,064.0	4,983.9	18.9	16.3	-125.87	650.9	-42.4	547.8	514.9	32.87	16.663	
5,118.1	5,003.6	5,081.8	5,001.1	19.0	16.3	-125.83	655.5	-42.4	551.0	517.9	33.05	16.670	
5,200.0	5,082.1	5,162.4	5,079.0	19.5	16.7	-125.64	676.0	-42.3	565.5	531.7	33.87	16.698	
5,216.5	5,097.9	5,178.6	5,094.8	19.6	16.8	-125.61	680.2	-42.3	568.5	534.4	34.03	16.704	
5,300.0	5,177.9	5,260.8	5,174.2	20.1	17.2	-125.43	701.1	-42.2	583.3	548.4	34.86	16.731	
5,314.9	5,192.2	5,275.5	5,188.4	20.2	17.3	-125.39	704.9	-42.2	586.0	551.0	35.01	16.735	
5,400.0	5,273.6	5,359.2	5,269.3	20.6	17.7	-125.22	726.2	-42.1	601.1	565.2	35.86	16.760	
5,413.4	5,286.5	5,372.3	5,282.0	20.7	17.8	-125.20	729.6	-42.1	603.5	567.5	36.00	16.764	
5,500.0	5,369.4	5,457.5	5,364.4	21.2	18.2	-125.03	751.3	-42.0	618.9	582.0	36.87	16.788	
5,511.8	5,380.7	5,469.2	5,375.7	21.3	18.3	-125.01	754.3	-42.0	621.0	584.0	36.98	16.791	
5,600.0	5,465.2	5,555.9	5,459.6	21.8	18.7	-124.85	776.4	-41.9	636.7	598.8	37.87	16.813	
5,610.2	5,475.0	5,566.0	5,469.3	21.9	18.8	-124.83	779.0	-41.9	638.5	600.5	37.97	16.815	
5,700.0	5,561.0	5,654.3	5,554.7	22.4	19.2	-124.68	801.5	-41.8	654.5	615.6	38.87	16.836	
5,708.6	5,569.3	5,662.8	5,562.9	22.4	19.3	-124.66	803.7	-41.8	656.0	617.1	38.96	16.838	
5,793.4	5,650.4	5,746.2	5,643.5	22.9	19.7	-124.53	824.9	-41.7	671.1	631.3	39.81	16.856	
5,800.0	5,656.8	5,752.8	5,649.9	22.9	19.7	-124.54	826.6	-41.7	672.3	632.4	39.88	16.859	
5,807.1	5,663.6	5,759.8	5,656.7	23.0	19.7	-124.55	828.4	-41.7	673.5	633.6	39.94	16.864	
5,900.0	5,753.1	5,852.3	5,746.7	23.4	20.1	-124.68	850.1	-41.6	688.9	648.2	40.70	16.925	
5,905.5	5,758.4	5,857.8	5,752.0	23.4	20.1	-124.69	851.3	-41.6	689.8	649.0	40.75	16.929	
6,000.0	5,850.3	5,952.3	5,844.6	23.8	20.5	-124.85	870.3	-41.5	703.4	662.0	41.43	16.977	
6,003.9	5,854.1	5,956.3	5,848.5	23.8	20.5	-124.86	871.0	-41.5	704.0	662.5	41.46	16.979	
6,100.0	5,948.3	6,052.7	5,943.5	24.1	20.8	-125.03	887.1	-41.4	715.8	673.7	42.08	17.010	
6,102.3	5,950.6	6,055.0	5,945.8	24.1	20.8	-125.04	887.4	-41.4	716.1	674.0	42.10	17.010	
6,200.0	6,046.9	6,153.2	6,043.2	24.4	21.0	-125.23	900.4	-41.4	726.1	683.4	42.65	17.024	
6,200.8	6,047.6	6,154.0	6,044.0	24.4	21.0	-125.23	900.5	-41.4	726.1	683.5	42.65	17.024	
6,299.2	6,145.2	6,253.2	6,142.7	24.7	21.3	-125.43	910.2	-41.3	734.1	691.0	43.12	17.023	
6,300.0	6,146.0	6,254.0	6,143.5	24.7	21.3	-125.44	910.3	-41.3	734.2	691.0	43.13	17.023	
6,397.6	6,243.1	6,352.5	6,241.8	24.9	21.4	-125.65	916.5	-41.3	740.0	696.5	43.51	17.008	
6,400.0	6,245.5	6,354.9	6,244.2	24.9	21.5	-125.66	916.6	-41.3	740.1	696.6	43.52	17.007	
6,496.0	6,341.4	6,451.8	6,341.0	25.1	21.6	-125.89	919.4	-41.3	743.7	699.9	43.81	16.978	
6,500.0	6,345.3	6,455.8	6,345.0	25.1	21.6	-125.90	919.4	-41.3	743.8	700.0	43.82	16.976	
6,594.5	6,439.7	6,552.0	6,441.2	25.2	21.7	-126.16	918.6	-41.3	745.4	701.4	44.02	16.932	
6,600.0	6,445.3	6,557.8	6,446.9	25.2	21.7	-126.19	918.3	-41.3	745.4	701.4	44.03	16.931	
6,628.6	6,473.9	6,587.4	6,476.5	25.3	21.7	-88.07	915.9	-41.3	745.4	701.4	44.04	16.928	
6,658.6	6,503.9	6,618.2	6,507.0	25.3	21.7	-88.36	912.1	-41.3	745.3	701.3	44.02	16.929	
6,692.9	6,538.1	6,653.0	6,541.3	25.3	21.7	91.26	906.2	-41.3	745.2	701.2	43.98	16.943	
6,700.0	6,545.2	6,660.2	6,548.4	25.3	21.7	91.18	904.8	-41.3	745.2	701.2	43.97	16.948	
6,750.0	6,595.0	6,710.5	6,597.2	25.3	21.6	90.63	892.9	-41.3	745.0	701.2	43.82	17.003	
6,791.3	6,635.8	6,751.7	6,636.6	25.3	21.5	90.17	880.7	-41.3	745.0	701.4	43.64	17.072	
6,800.0	6,644.3	6,760.3	6,644.7	25.3	21.5	90.08	877.8	-41.3	745.0	701.4	43.59	17.089	
6,806.9	6,651.1	6,767.1	6,651.1	25.3	21.5	90.00	875.5	-41.3	745.0	701.4	43.55	17.105	
6,850.0	6,693.0	6,809.6	6,690.5	25.2	21.4	89.53	859.7	-41.3	745.0	701.7	43.30	17.205	
6,889.7	6,731.0	6,848.4	6,725.7	25.2	21.2	89.09	843.2	-41.3	745.1	702.1	43.02	17.318	
6,900.0	6,740.7	6,858.4	6,734.5	25.2	21.2	88.98	838.6	-41.3	745.1	702.2	42.95	17.350	
6,950.0	6,787.3	6,906.7	6,776.6	25.0	21.0	88.44	814.9	-41.3	745.3	702.7	42.54	17.520	
6,988.2	6,821.9	6,943.4	6,807.4	24.9	20.8	88.04	795.0	-41.3	745.4	703.2	42.19	17.668	
7,000.0	6,832.5	6,954.6	6,816.7	24.9	20.8	87.91	788.6	-41.3	745.5	703.4	42.08	17.714	
7,050.0	6,876.1	7,002.1	6,854.5	24.7	20.6	87.39	759.9	-41.3	745.8	704.2	41.59	17.930	
7,086.6	6,906.8	7,036.6	6,880.8	24.6	20.4	87.03	737.6	-41.3	746.0	704.8	41.21	18.101	
7,100.0	6,917.9	7,050.0	6,890.7	24.5	20.3	86.88	728.6	-41.3	746.1	705.0	41.07	18.166	
7,150.0	6,957.6	7,096.0	6,923.4	24.3	20.1	86.40	696.3	-41.3	746.5	705.9	40.54	18.413	
7,185.0	6,984.2	7,128.5	6,945.2	24.1	19.9	86.07	672.2	-41.3	746.8	706.6	40.16	18.595	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
7,200.0	6,995.2	7,142.3	6,954.2	24.1	19.8	85.94	661.6	-41.3	746.9	706.9	40.00	18.674	
7,250.0	7,030.3	7,188.4	6,982.5	23.8	19.6	85.49	625.3	-41.3	747.3	707.9	39.46	18.940	
7,283.4	7,052.4	7,219.0	7,000.0	23.6	19.4	85.20	600.2	-41.3	747.7	708.5	39.11	19.119	
7,300.0	7,062.9	7,234.1	7,008.2	23.6	19.4	85.06	587.6	-41.3	747.8	708.9	38.93	19.208	
7,350.0	7,092.8	7,279.5	7,031.4	23.3	19.2	84.65	548.5	-41.3	748.3	709.9	38.43	19.471	
7,381.9	7,110.3	7,308.3	7,044.7	23.1	19.0	84.41	522.9	-41.3	748.6	710.5	38.13	19.634	
7,400.0	7,119.8	7,324.7	7,051.9	23.0	19.0	84.27	508.2	-41.3	748.8	710.8	37.96	19.725	
7,450.0	7,143.8	7,369.6	7,069.7	22.8	18.8	83.92	467.0	-41.3	749.2	711.7	37.53	19.962	
7,480.3	7,156.8	7,396.7	7,079.2	22.6	18.7	83.72	441.6	-41.3	749.5	712.2	37.30	20.094	
7,500.0	7,164.7	7,414.3	7,084.9	22.5	18.6	83.59	424.9	-41.3	749.7	712.5	37.16	20.176	
7,550.0	7,182.3	7,458.8	7,097.3	22.2	18.5	83.30	382.2	-41.3	750.1	713.3	36.84	20.362	
7,578.7	7,191.0	7,484.3	7,103.2	22.1	18.4	83.14	357.4	-41.3	750.4	713.7	36.69	20.450	
7,600.0	7,196.7	7,503.2	7,107.0	22.0	18.4	83.03	339.0	-41.3	750.6	714.0	36.59	20.514	
7,650.0	7,207.7	7,550.0	7,114.4	21.7	18.3	82.78	292.7	-41.3	751.0	714.6	36.40	20.629	
7,677.1	7,212.2	7,571.3	7,116.7	21.6	18.3	82.68	271.6	-41.3	751.1	714.8	36.35	20.664	
7,700.0	7,215.2	7,591.4	7,118.4	21.5	18.3	82.59	251.5	-41.3	751.3	715.0	36.30	20.694	
7,750.0	7,219.3	7,635.3	7,120.0	21.3	18.3	82.41	207.6	-41.3	751.6	715.3	36.28	20.719	
7,775.6	7,220.1	7,660.0	7,119.9	21.2	18.3	82.35	182.9	-41.3	751.7	715.4	36.30	20.705	
7,792.5	7,220.0	7,677.0	7,119.9	21.1	18.3	82.35	166.0	-41.3	751.7	715.4	36.33	20.690	
7,800.0	7,219.9	7,684.5	7,119.9	21.1	18.3	82.35	158.5	-41.3	751.7	715.3	36.34	20.683	
7,874.0	7,219.0	7,758.5	7,119.7	20.8	18.5	82.41	84.5	-41.3	751.6	715.0	36.62	20.522	
7,900.0	7,218.7	7,784.5	7,119.6	20.7	18.6	82.43	58.5	-41.3	751.6	714.8	36.73	20.462	
7,972.4	7,217.8	7,856.9	7,119.5	20.5	18.9	82.48	-13.9	-41.3	751.5	714.2	37.28	20.159	
8,000.0	7,217.5	7,884.5	7,119.4	20.4	19.0	82.50	-41.5	-41.3	751.4	713.9	37.50	20.040	
8,070.8	7,216.6	7,955.3	7,119.2	20.4	19.4	82.55	-112.3	-41.3	751.3	713.0	38.29	19.623	
8,100.0	7,216.2	7,984.5	7,119.2	20.4	19.6	82.58	-141.5	-41.3	751.3	712.7	38.62	19.451	
8,169.3	7,215.4	8,053.7	7,119.0	20.7	20.2	82.63	-210.8	-41.3	751.2	711.6	39.63	18.955	
8,200.0	7,215.0	8,084.5	7,118.9	21.0	20.4	82.65	-241.5	-41.3	751.2	711.1	40.09	18.738	
8,267.7	7,214.1	8,152.1	7,118.7	21.6	21.0	82.70	-309.2	-41.3	751.1	709.8	41.27	18.198	
8,300.0	7,213.7	8,184.4	7,118.7	21.9	21.3	82.73	-341.5	-41.3	751.0	709.2	41.85	17.947	
8,366.1	7,212.9	8,250.6	7,118.5	22.6	22.0	82.78	-407.6	-41.3	751.0	707.8	43.18	17.392	
8,400.0	7,212.5	8,284.4	7,118.4	23.0	22.4	82.80	-441.5	-41.3	750.9	707.0	43.87	17.116	
8,464.5	7,211.7	8,349.0	7,118.3	23.8	23.1	82.85	-506.0	-41.3	750.8	705.5	45.32	16.568	
8,500.0	7,211.3	8,384.4	7,118.2	24.2	23.5	82.88	-541.5	-41.3	750.8	704.7	46.12	16.278	
8,563.0	7,210.5	8,447.4	7,118.0	25.0	24.3	82.93	-604.4	-41.3	750.7	703.1	47.66	15.751	
8,600.0	7,210.0	8,484.4	7,117.9	25.5	24.8	82.95	-641.5	-41.3	750.7	702.1	48.57	15.454	
8,661.4	7,209.3	8,545.8	7,117.8	26.3	25.6	83.00	-702.9	-41.3	750.6	700.4	50.18	14.959	
8,700.0	7,208.8	8,584.4	7,117.7	26.8	26.1	83.03	-741.5	-41.3	750.5	699.4	51.19	14.662	
8,759.8	7,208.0	8,644.2	7,117.5	27.6	27.0	83.07	-801.3	-41.3	750.5	697.6	52.84	14.203	
8,800.0	7,207.5	8,684.4	7,117.4	28.2	27.5	83.10	-841.5	-41.3	750.4	696.5	53.95	13.908	
8,858.2	7,206.8	8,742.7	7,117.3	29.0	28.4	83.15	-899.7	-41.3	750.4	694.7	55.63	13.488	
8,900.0	7,206.3	8,784.4	7,117.2	29.6	29.0	83.18	-941.5	-41.3	750.3	693.5	56.84	13.200	
8,956.7	7,205.6	8,841.1	7,117.0	30.4	29.8	83.22	-998.1	-41.3	750.2	691.7	58.53	12.817	
9,000.0	7,205.0	8,884.4	7,116.9	31.1	30.5	83.26	-1,041.4	-41.3	750.2	690.4	59.83	12.538	
9,055.1	7,204.3	8,939.5	7,116.8	31.9	31.3	83.30	-1,096.5	-41.3	750.1	688.6	61.53	12.191	
9,100.0	7,203.8	8,984.4	7,116.7	32.6	32.1	83.33	-1,141.4	-41.3	750.1	687.2	62.92	11.921	
9,153.5	7,203.1	9,037.9	7,116.6	33.4	32.9	83.37	-1,195.0	-41.3	750.0	685.4	64.61	11.608	
9,200.0	7,202.5	9,084.4	7,116.4	34.2	33.6	83.41	-1,241.4	-41.3	750.0	683.9	66.08	11.349	
9,251.9	7,201.9	9,136.3	7,116.3	35.0	34.5	83.45	-1,293.4	-41.3	749.9	682.1	67.76	11.067	
9,300.0	7,201.3	9,184.4	7,116.2	35.7	35.3	83.48	-1,341.4	-41.3	749.8	680.5	69.31	10.818	
9,350.4	7,200.7	9,234.8	7,116.1	36.6	36.1	83.52	-1,391.8	-41.3	749.8	678.8	70.97	10.565	
9,400.0	7,200.0	9,284.4	7,115.9	37.4	36.9	83.56	-1,441.4	-41.3	749.7	677.1	72.60	10.327	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
9,448.8	7,199.4	9,333.2	7,115.8	38.2	37.7	83.60	-1,490.2	-41.3	749.7	675.4	74.23	10.099	
9,500.0	7,198.8	9,384.4	7,115.7	39.0	38.6	83.64	-1,541.4	-41.3	749.6	673.7	75.94	9.871	
9,547.2	7,198.2	9,431.6	7,115.6	39.8	39.4	83.67	-1,588.6	-41.3	749.6	672.0	77.54	9.667	
9,600.0	7,197.5	9,484.4	7,115.5	40.7	40.3	83.71	-1,641.4	-41.3	749.5	670.2	79.33	9.448	
9,645.6	7,197.0	9,530.0	7,115.3	41.4	41.1	83.75	-1,687.1	-41.3	749.5	668.6	80.89	9.265	
9,700.0	7,196.3	9,584.4	7,115.2	42.4	42.0	83.79	-1,741.4	-41.3	749.4	666.6	82.75	9.056	
9,744.1	7,195.7	9,628.4	7,115.1	43.1	42.8	83.82	-1,785.5	-41.3	749.3	665.1	84.28	8.892	
9,800.0	7,195.0	9,684.4	7,115.0	44.1	43.8	83.86	-1,841.4	-41.3	749.3	663.1	86.21	8.691	
9,842.5	7,194.5	9,726.9	7,114.8	44.8	44.5	83.90	-1,883.9	-41.3	749.2	661.5	87.70	8.544	
9,900.0	7,193.8	9,784.4	7,114.7	45.8	45.5	83.94	-1,941.4	-41.3	749.2	659.5	89.70	8.352	
9,940.9	7,193.3	9,825.3	7,114.6	46.5	46.2	83.97	-1,982.3	-41.3	749.1	658.0	91.14	8.219	
10,000.0	7,192.5	9,884.4	7,114.5	47.5	47.3	84.02	-2,041.4	-41.3	749.1	655.9	93.22	8.035	
10,039.3	7,192.0	9,923.7	7,114.4	48.2	48.0	84.05	-2,080.7	-41.3	749.0	654.4	94.62	7.917	
10,100.0	7,191.3	9,984.4	7,114.2	49.3	49.1	84.09	-2,141.4	-41.3	749.0	652.2	96.77	7.740	
10,137.8	7,190.8	10,022.1	7,114.1	49.9	49.7	84.12	-2,179.2	-41.3	748.9	650.8	98.11	7.633	
10,200.0	7,190.0	10,084.3	7,114.0	51.0	50.8	84.17	-2,241.4	-41.3	748.9	648.5	100.33	7.464	
10,236.2	7,189.6	10,120.5	7,113.9	51.7	51.5	84.20	-2,277.6	-41.3	748.8	647.2	101.63	7.368	
10,300.0	7,188.8	10,184.3	7,113.7	52.8	52.6	84.25	-2,341.4	-41.3	748.8	644.8	103.92	7.205	
10,334.6	7,188.3	10,219.0	7,113.6	53.4	53.3	84.27	-2,376.0	-41.3	748.7	643.6	105.17	7.120	
10,400.0	7,187.5	10,284.3	7,113.5	54.6	54.4	84.32	-2,441.4	-41.3	748.7	641.1	107.52	6.963	
10,433.0	7,187.1	10,317.4	7,113.4	55.2	55.0	84.35	-2,474.4	-41.3	748.6	639.9	108.72	6.886	
10,500.0	7,186.3	10,384.3	7,113.2	56.4	56.3	84.40	-2,541.4	-41.3	748.6	637.4	111.14	6.735	
10,531.5	7,185.9	10,415.8	7,113.1	56.9	56.8	84.42	-2,572.8	-41.3	748.5	636.3	112.29	6.666	
10,600.0	7,185.0	10,484.3	7,113.0	58.2	58.1	84.48	-2,641.4	-41.3	748.5	633.7	114.78	6.521	
10,629.9	7,184.6	10,514.2	7,112.9	58.7	58.6	84.50	-2,671.3	-41.3	748.4	632.6	115.87	6.459	
10,700.0	7,183.8	10,584.3	7,112.7	60.0	59.9	84.55	-2,741.4	-41.3	748.4	629.9	118.43	6.319	
10,728.3	7,183.4	10,612.6	7,112.6	60.5	60.4	84.57	-2,769.7	-41.3	748.3	628.9	119.46	6.264	
10,800.0	7,182.5	10,684.3	7,112.5	61.8	61.7	84.63	-2,841.3	-41.3	748.3	626.2	122.09	6.129	
10,826.7	7,182.2	10,711.1	7,112.4	62.3	62.2	84.65	-2,868.1	-41.3	748.3	625.2	123.07	6.080	
10,900.0	7,181.2	10,784.3	7,112.2	63.6	63.6	84.71	-2,941.3	-41.3	748.2	622.4	125.76	5.949	
10,925.2	7,180.9	10,809.5	7,112.1	64.0	64.0	84.73	-2,966.5	-41.3	748.2	621.5	126.69	5.906	
11,000.0	7,180.0	10,884.3	7,111.9	65.4	65.4	84.78	-3,041.3	-41.3	748.1	618.6	129.44	5.779	
11,023.6	7,179.7	10,907.9	7,111.9	65.8	65.9	84.80	-3,064.9	-41.3	748.1	617.8	130.31	5.741	
11,100.0	7,178.7	10,984.3	7,111.7	67.2	67.3	84.86	-3,141.3	-41.3	748.0	614.9	133.13	5.618	
11,122.0	7,178.4	11,006.3	7,111.6	67.6	67.7	84.88	-3,163.4	-41.3	748.0	614.0	133.95	5.584	
11,200.0	7,177.5	11,084.3	7,111.4	69.1	69.1	84.94	-3,241.3	-41.3	747.9	611.1	136.83	5.466	
11,220.4	7,177.2	11,104.7	7,111.4	69.4	69.5	84.95	-3,261.8	-41.3	747.9	610.3	137.59	5.436	
11,300.0	7,176.2	11,184.3	7,111.2	70.9	71.0	85.01	-3,341.3	-41.3	747.8	607.3	140.54	5.321	
11,318.9	7,176.0	11,203.2	7,111.1	71.2	71.3	85.03	-3,360.2	-41.3	747.8	606.6	141.24	5.294	
11,400.0	7,174.9	11,284.3	7,110.9	72.7	72.8	85.09	-3,441.3	-41.3	747.7	603.5	144.26	5.183	
11,417.3	7,174.7	11,301.6	7,110.9	73.1	73.1	85.10	-3,458.6	-41.3	747.7	602.8	144.90	5.160	
11,500.0	7,173.7	11,384.3	7,110.7	74.6	74.7	85.17	-3,541.3	-41.3	747.6	599.7	147.98	5.052	
11,515.7	7,173.5	11,400.0	7,110.6	74.9	75.0	85.18	-3,557.0	-41.3	747.6	599.1	148.57	5.032	
11,600.0	7,172.4	11,484.3	7,110.4	76.4	76.5	85.24	-3,641.3	-41.3	747.6	595.8	151.71	4.927	
11,614.1	7,172.2	11,498.4	7,110.4	76.7	76.8	85.25	-3,655.5	-41.3	747.6	595.3	152.24	4.910	
11,700.0	7,171.2	11,584.3	7,110.2	78.3	78.4	85.32	-3,741.3	-41.3	747.5	592.0	155.45	4.808	
11,712.6	7,171.0	11,596.8	7,110.1	78.5	78.6	85.33	-3,753.9	-41.3	747.5	591.5	155.92	4.794	
11,762.7	7,170.4	11,646.9	7,110.0	79.4	79.6	85.37	-3,804.0	-41.3	747.4	589.6	157.79	4.737	
11,791.4	7,170.0	11,655.0	7,110.0	80.0	79.7	85.38	-3,812.1	-41.3	747.7	589.2	158.48	4.718 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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	-87.92	1.1	-30.1	30.1				
98.4	98.4	98.4	98.4	0.1	0.1	-87.92	1.1	-30.1	30.1	30.0	0.17	177.415	
100.0	100.0	100.0	100.0	0.1	0.1	-87.92	1.1	-30.1	30.1	30.0	0.17	174.204	
196.8	196.8	196.8	196.8	0.3	0.3	-87.92	1.1	-30.1	30.1	29.5	0.61	49.552	
200.0	200.0	200.0	200.0	0.3	0.3	-87.92	1.1	-30.1	30.1	29.5	0.62	48.425	
295.3	295.3	295.3	295.3	0.5	0.5	-87.92	1.1	-30.1	30.1	29.1	1.05	28.689	
300.0	300.0	300.0	300.0	0.5	0.5	-87.92	1.1	-30.1	30.1	29.1	1.07	28.121	
393.7	393.7	393.7	393.7	0.7	0.7	-87.92	1.1	-30.1	30.1	28.7	1.49	20.189	
400.0	400.0	400.0	400.0	0.8	0.8	-87.92	1.1	-30.1	30.1	28.6	1.52	19.813	
492.1	492.1	492.1	492.1	1.0	1.0	-87.92	1.1	-30.1	30.1	28.2	1.94	15.575	
500.0	500.0	500.0	500.0	1.0	1.0	-87.92	1.1	-30.1	30.1	28.2	1.97	15.295	
590.5	590.5	590.5	590.5	1.2	1.2	-87.92	1.1	-30.1	30.1	27.8	2.38	12.677	
600.0	600.0	600.0	600.0	1.2	1.2	-87.92	1.1	-30.1	30.1	27.7	2.42	12.455	
689.0	689.0	689.0	689.0	1.4	1.4	-87.92	1.1	-30.1	30.1	27.3	2.82	10.689	
700.0	700.0	700.0	700.0	1.4	1.4	-87.92	1.1	-30.1	30.1	27.3	2.87	10.504	
787.4	787.4	787.4	787.4	1.6	1.6	-87.92	1.1	-30.1	30.1	26.9	3.26	9.239	
800.0	800.0	800.0	800.0	1.7	1.7	-87.92	1.1	-30.1	30.1	26.8	3.32	9.082	
885.8	885.8	885.8	885.8	1.9	1.9	-87.92	1.1	-30.1	30.1	26.4	3.71	8.136	
900.0	900.0	900.0	900.0	1.9	1.9	-87.92	1.1	-30.1	30.1	26.4	3.77	7.999	
984.2	984.2	984.2	984.2	2.1	2.1	-87.92	1.1	-30.1	30.1	26.0	4.15	7.268	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-87.92	1.1	-30.1	30.1	25.9	4.22	7.146	
1,082.7	1,082.7	1,082.7	1,082.7	2.3	2.3	-87.92	1.1	-30.1	30.1	25.6	4.59	6.568	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-87.92	1.1	-30.1	30.1	25.5	4.67	6.458	
1,181.1	1,181.1	1,181.1	1,181.1	2.5	2.5	-87.92	1.1	-30.1	30.1	25.1	5.03	5.990	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-87.92	1.1	-30.1	30.1	25.0	5.12	5.891	
1,279.5	1,279.5	1,279.5	1,279.5	2.7	2.7	-87.92	1.1	-30.1	30.1	24.7	5.48	5.506	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-87.92	1.1	-30.1	30.1	24.6	5.57	5.415	
1,377.9	1,377.9	1,377.9	1,377.9	3.0	3.0	-87.92	1.1	-30.1	30.1	24.2	5.92	5.095	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-87.92	1.1	-30.1	30.1	24.1	6.02	5.011	
1,476.4	1,476.4	1,476.4	1,476.4	3.2	3.2	-87.92	1.1	-30.1	30.1	23.8	6.36	4.740	
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	-87.92	1.1	-30.1	30.1	23.7	6.47	4.662	
1,574.8	1,574.8	1,574.8	1,574.8	3.4	3.4	-87.92	1.1	-30.1	30.1	23.3	6.80	4.432	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-87.92	1.1	-30.1	30.1	23.2	6.92	4.359	
1,673.2	1,673.2	1,673.2	1,673.2	3.6	3.6	-87.92	1.1	-30.1	30.1	22.9	7.25	4.161	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-87.92	1.1	-30.1	30.1	22.8	7.37	4.093	
1,771.6	1,771.6	1,771.6	1,771.6	3.8	3.8	-87.92	1.1	-30.1	30.1	22.5	7.69	3.922	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-87.92	1.1	-30.1	30.1	22.3	7.82	3.858	
1,850.0	1,850.0	1,850.0	1,850.0	4.0	4.0	-87.92	1.1	-30.1	30.1	22.1	8.04	3.750 CC	
1,870.1	1,870.1	1,870.1	1,870.1	4.1	4.1	-126.34	1.1	-30.1	30.2	22.1	8.13	3.714 ES	
1,900.0	1,900.0	1,900.0	1,900.0	4.1	4.1	-126.89	1.1	-30.1	30.4	22.1	8.26	3.680	
1,968.5	1,968.5	1,968.5	1,968.5	4.3	4.3	-129.79	1.1	-30.1	31.7	23.1	8.56	3.697	
2,000.0	1,999.9	1,999.9	1,999.9	4.4	4.4	-131.76	1.1	-30.1	32.6	23.9	8.70	3.749	
2,066.9	2,066.7	2,066.8	2,066.8	4.5	4.5	-136.80	1.1	-30.1	35.6	26.6	8.99	3.960	
2,100.0	2,099.7	2,100.0	2,100.0	4.6	4.6	-139.06	1.5	-30.0	37.4	28.3	9.13	4.100	
2,165.3	2,164.7	2,165.6	2,165.5	4.7	4.7	-142.51	3.3	-29.5	41.6	32.2	9.41	4.418	
2,200.0	2,199.1	2,200.4	2,200.3	4.8	4.8	-143.85	4.9	-29.1	44.0	34.4	9.55	4.604	
2,263.8	2,262.3	2,264.5	2,264.3	5.0	5.0	-145.59	8.8	-28.1	48.8	39.0	9.82	4.969	
2,300.0	2,298.2	2,300.9	2,300.6	5.0	5.0	-146.22	11.7	-27.3	51.7	41.8	9.97	5.188	
2,362.2	2,359.5	2,363.6	2,362.9	5.2	5.2	-146.84	17.7	-25.7	57.1	46.8	10.23	5.577	
2,400.0	2,396.6	2,401.6	2,400.8	5.3	5.3	-146.97	21.9	-24.5	60.5	50.1	10.39	5.823	
2,460.6	2,456.0	2,462.7	2,461.3	5.5	5.4	-146.87	29.8	-22.4	66.3	55.6	10.66	6.223	
2,500.0	2,494.4	2,502.5	2,500.6	5.6	5.5	-146.65	35.5	-20.9	70.3	59.4	10.82	6.490	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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
2,559.0	2,551.8	2,562.0	2,559.3	5.8	5.7	-146.12	45.2	-18.3	76.5	65.4	11.10	6.890	
2,600.0	2,591.5	2,603.3	2,599.9	5.9	5.8	-145.65	52.5	-16.3	81.0	69.7	11.28	7.174	
2,657.5	2,646.8	2,661.3	2,656.7	6.1	5.9	-144.88	63.9	-13.3	87.6	76.0	11.57	7.566	
2,685.2	2,673.5	2,689.4	2,684.1	6.2	6.0	-144.47	69.7	-11.7	90.9	79.2	11.71	7.760	
2,700.0	2,687.6	2,704.3	2,698.6	6.3	6.0	-144.25	72.9	-10.9	92.6	80.8	11.80	7.852	
2,755.9	2,741.1	2,760.7	2,753.5	6.5	6.2	-143.14	85.8	-7.4	99.0	86.8	12.14	8.152	
2,800.0	2,783.4	2,804.6	2,796.0	6.7	6.4	-142.14	96.2	-4.6	103.7	91.3	12.42	8.352	
2,854.3	2,835.4	2,858.6	2,848.3	6.9	6.5	-141.04	109.1	-1.2	109.7	96.9	12.78	8.578	
2,900.0	2,879.2	2,903.9	2,892.2	7.1	6.7	-140.20	119.9	1.7	114.7	101.6	13.09	8.758	
2,952.7	2,929.7	2,956.3	2,943.0	7.4	6.9	-139.32	132.3	5.1	120.5	107.0	13.47	8.946	
3,000.0	2,974.9	3,003.3	2,988.5	7.6	7.1	-138.60	143.5	8.0	125.7	111.9	13.81	9.106	
3,051.2	3,023.9	3,054.1	3,037.8	7.8	7.2	-137.88	155.6	11.3	131.4	117.2	14.19	9.262	
3,100.0	3,070.7	3,102.6	3,084.8	8.1	7.4	-137.26	167.1	14.4	136.9	122.3	14.55	9.403	
3,149.6	3,118.2	3,151.9	3,132.5	8.3	7.6	-136.67	178.8	17.5	142.4	127.5	14.94	9.533	
3,200.0	3,166.5	3,201.9	3,181.1	8.6	7.8	-136.12	190.8	20.7	148.1	132.7	15.33	9.657	
3,248.0	3,212.5	3,249.6	3,227.3	8.8	8.0	-135.63	202.1	23.8	153.5	137.7	15.72	9.764	
3,300.0	3,262.3	3,301.2	3,277.3	9.1	8.2	-135.14	214.4	27.1	159.3	143.2	16.13	9.874	
3,346.4	3,306.8	3,347.4	3,322.1	9.3	8.4	-134.73	225.4	30.0	164.5	148.0	16.52	9.962	
3,400.0	3,358.1	3,400.6	3,373.6	9.6	8.6	-134.29	238.0	33.4	170.6	153.6	16.96	10.059	
3,444.9	3,401.0	3,445.2	3,416.8	9.8	8.8	-133.94	248.6	36.2	175.7	158.3	17.34	10.132	
3,500.0	3,453.8	3,499.9	3,469.9	10.1	9.1	-133.54	261.6	39.7	181.9	164.1	17.80	10.217	
3,543.3	3,495.3	3,542.9	3,511.6	10.3	9.2	-133.25	271.9	42.5	186.8	168.6	18.18	10.278	
3,600.0	3,549.6	3,599.2	3,566.1	10.6	9.5	-132.88	285.3	46.1	193.2	174.6	18.67	10.353	
3,641.7	3,589.6	3,640.7	3,606.3	10.8	9.7	-132.63	295.1	48.7	198.0	179.0	19.03	10.404	
3,700.0	3,645.4	3,698.6	3,662.4	11.1	9.9	-132.30	308.9	52.4	204.6	185.1	19.54	10.471	
3,740.1	3,683.8	3,738.5	3,701.1	11.4	10.1	-132.08	318.4	54.9	209.2	189.3	19.90	10.513	
3,800.0	3,741.2	3,797.9	3,758.7	11.7	10.4	-131.78	332.5	58.7	216.0	195.6	20.43	10.572	
3,838.6	3,778.1	3,836.2	3,795.8	11.9	10.5	-131.59	341.6	61.2	220.4	199.6	20.78	10.607	
3,900.0	3,837.0	3,897.2	3,855.0	12.2	10.8	-131.30	356.1	65.1	227.4	206.1	21.33	10.660	
3,937.0	3,872.4	3,934.0	3,890.6	12.4	11.0	-131.14	364.9	67.4	231.6	210.0	21.67	10.690	
4,000.0	3,932.7	3,996.6	3,951.2	12.8	11.3	-130.88	379.8	71.4	238.8	216.6	22.24	10.737	
4,035.4	3,966.7	4,031.8	3,985.3	13.0	11.4	-130.74	388.1	73.6	242.9	220.3	22.57	10.762	
4,100.0	4,028.5	4,095.9	4,047.5	13.3	11.7	-130.49	403.4	77.7	250.2	227.1	23.16	10.805	
4,133.8	4,060.9	4,129.5	4,080.1	13.5	11.9	-130.37	411.4	79.9	254.1	230.6	23.47	10.825	
4,200.0	4,124.3	4,195.2	4,143.8	13.9	12.2	-130.14	427.0	84.1	261.7	237.6	24.09	10.864	
4,232.3	4,155.2	4,227.3	4,174.9	14.0	12.3	-130.03	434.6	86.1	265.4	241.0	24.39	10.881	
4,300.0	4,220.1	4,294.6	4,240.1	14.4	12.7	-129.82	450.6	90.4	273.1	248.1	25.02	10.916	
4,330.7	4,249.5	4,325.1	4,269.6	14.6	12.8	-129.72	457.9	92.3	276.6	251.3	25.31	10.930	
4,400.0	4,315.9	4,393.9	4,336.3	15.0	13.1	-129.52	474.3	96.7	284.6	258.6	25.96	10.962	
4,429.1	4,343.7	4,422.8	4,364.4	15.1	13.3	-129.44	481.2	98.6	287.9	261.7	26.24	10.974	
4,500.0	4,411.6	4,493.2	4,432.6	15.5	13.6	-129.24	497.9	103.1	296.0	269.1	26.91	11.003	
4,527.5	4,438.0	4,520.6	4,459.1	15.7	13.7	-129.17	504.4	104.8	299.2	272.0	27.17	11.013	
4,600.0	4,507.4	4,592.6	4,528.9	16.1	14.1	-128.99	521.5	109.4	307.5	279.7	27.86	11.039	
4,626.0	4,532.3	4,618.4	4,553.9	16.2	14.2	-128.93	527.7	111.0	310.5	282.4	28.11	11.047	
4,700.0	4,603.2	4,691.9	4,625.1	16.7	14.5	-128.75	545.2	115.7	319.0	290.2	28.81	11.071	
4,724.4	4,626.6	4,716.1	4,648.6	16.8	14.7	-128.70	550.9	117.3	321.8	292.7	29.05	11.078	
4,800.0	4,699.0	4,791.2	4,721.4	17.2	15.0	-128.53	568.8	122.1	330.5	300.7	29.77	11.100	
4,822.8	4,720.8	4,813.9	4,743.4	17.4	15.1	-128.49	574.2	123.5	333.1	303.1	29.99	11.106	
4,900.0	4,794.7	4,890.5	4,817.7	17.8	15.5	-128.33	592.4	128.4	341.9	311.2	30.73	11.126	
4,921.2	4,815.1	4,911.7	4,838.1	17.9	15.6	-128.29	597.4	129.8	344.4	313.4	30.94	11.131	
5,000.0	4,890.5	4,989.9	4,914.0	18.4	16.0	-128.14	616.0	134.7	353.4	321.7	31.70	11.149	
5,019.7	4,909.4	5,009.4	4,932.9	18.5	16.1	-128.10	620.7	136.0	355.7	323.8	31.89	11.153	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
5,100.0	4,986.3	5,089.2	5,010.2	18.9	16.5	-127.96	639.7	141.1	364.9	332.2	32.67	11.170	
5,118.1	5,003.6	5,107.2	5,027.7	19.0	16.5	-127.93	643.9	142.2	367.0	334.2	32.84	11.174	
5,200.0	5,082.1	5,188.5	5,106.5	19.5	16.9	-127.79	663.3	147.4	376.4	342.8	33.64	11.189	
5,216.5	5,097.9	5,205.0	5,122.4	19.6	17.0	-127.76	667.2	148.5	378.3	344.5	33.80	11.192	
5,300.0	5,177.9	5,287.9	5,202.8	20.1	17.4	-127.63	686.9	153.7	387.9	353.3	34.62	11.206	
5,314.9	5,192.2	5,302.7	5,217.2	20.2	17.5	-127.61	690.4	154.7	389.6	354.9	34.76	11.209	
5,400.0	5,273.6	5,387.2	5,299.1	20.6	17.9	-127.48	710.5	160.1	399.4	363.8	35.59	11.222	
5,413.4	5,286.5	5,400.5	5,311.9	20.7	18.0	-127.46	713.7	160.9	400.9	365.2	35.72	11.224	
5,500.0	5,369.4	5,486.5	5,395.3	21.2	18.4	-127.34	734.2	166.4	410.9	374.3	36.57	11.236	
5,511.8	5,380.7	5,498.3	5,406.7	21.3	18.5	-127.33	737.0	167.2	412.3	375.6	36.69	11.237	
5,600.0	5,465.2	5,585.9	5,491.6	21.8	18.9	-127.21	757.8	172.7	422.4	384.9	37.55	11.249	
5,610.2	5,475.0	5,596.0	5,501.4	21.9	18.9	-127.20	760.2	173.4	423.6	385.9	37.65	11.250	
5,700.0	5,561.0	5,685.2	5,587.9	22.4	19.4	-127.08	781.4	179.1	433.9	395.4	38.53	11.260	
5,708.6	5,569.3	5,693.8	5,596.2	22.4	19.4	-127.07	783.5	179.6	434.9	396.3	38.62	11.261	
5,793.4	5,650.4	5,778.0	5,677.8	22.9	19.8	-126.97	803.5	185.0	444.7	405.2	39.45	11.270	
5,800.0	5,656.8	5,784.5	5,684.1	22.9	19.9	-126.97	805.0	185.4	445.4	405.9	39.52	11.271	
5,807.1	5,663.6	5,791.6	5,691.0	23.0	19.9	-126.98	806.7	185.9	446.2	406.6	39.58	11.273	
5,900.0	5,753.1	5,883.3	5,779.9	23.4	20.3	-126.84	828.5	191.7	455.8	415.3	40.44	11.271	
5,905.5	5,758.4	5,888.6	5,785.0	23.4	20.4	-126.82	829.7	192.0	456.3	415.8	40.49	11.270	
6,000.0	5,850.3	5,979.1	5,873.3	23.8	20.7	-126.62	849.2	197.3	464.6	423.4	41.22	11.271	
6,003.9	5,854.1	5,982.9	5,877.0	23.8	20.7	-126.61	850.0	197.5	464.9	423.7	41.25	11.271	
6,100.0	5,948.3	6,075.1	5,967.5	24.1	21.0	-126.44	867.0	202.0	472.1	430.2	41.91	11.264	
6,102.3	5,950.6	6,077.4	5,969.7	24.1	21.0	-126.44	867.4	202.1	472.3	430.4	41.93	11.264	
6,200.0	6,046.9	6,171.2	6,062.4	24.4	21.3	-126.30	881.7	206.0	478.4	435.9	42.53	11.250	
6,200.8	6,047.6	6,172.0	6,063.1	24.4	21.3	-126.30	881.8	206.0	478.5	435.9	42.53	11.250	
6,299.2	6,145.2	6,266.7	6,157.0	24.7	21.5	-126.20	893.3	209.1	483.4	440.3	43.05	11.228	
6,300.0	6,146.0	6,267.4	6,157.8	24.7	21.5	-126.20	893.3	209.1	483.4	440.3	43.05	11.228	
6,397.6	6,243.1	6,361.4	6,251.4	24.9	21.8	-126.14	901.7	211.3	487.0	443.5	43.48	11.200	
6,400.0	6,245.5	6,363.7	6,253.7	24.9	21.8	-126.14	901.9	211.4	487.1	443.6	43.49	11.199	
6,496.0	6,341.4	6,456.2	6,346.0	25.1	21.9	-126.10	907.1	212.8	489.4	445.6	43.83	11.165	
6,500.0	6,345.3	6,460.0	6,349.8	25.1	21.9	-126.10	907.3	212.8	489.5	445.6	43.85	11.163	
6,594.5	6,439.7	6,551.0	6,440.8	25.2	22.1	-126.10	909.6	213.4	490.5	446.4	44.10	11.122	
6,600.0	6,445.3	6,556.4	6,446.1	25.2	22.1	-126.10	909.6	213.4	490.5	446.4	44.11	11.120	
6,628.6	6,473.9	6,584.1	6,473.9	25.3	22.1	-87.79	909.7	213.5	490.6	446.4	44.18	11.105	
6,658.6	6,503.9	6,614.3	6,504.0	25.3	22.2	-87.80	909.7	213.5	490.6	446.3	44.25	11.086	
6,692.9	6,538.1	6,649.5	6,539.2	25.3	22.2	92.17	908.6	213.5	490.6	446.3	44.31	11.071	
6,700.0	6,545.2	6,656.7	6,546.5	25.3	22.2	92.17	908.1	213.5	490.6	446.3	44.32	11.069	
6,750.0	6,595.0	6,708.1	6,597.5	25.3	22.2	92.11	902.9	213.5	490.6	446.2	44.32	11.070	
6,791.3	6,635.8	6,750.4	6,639.3	25.3	22.2	92.05	895.8	213.5	490.5	446.3	44.25	11.086	
6,800.0	6,644.3	6,759.3	6,648.0	25.3	22.2	92.04	894.0	213.5	490.5	446.3	44.23	11.091	
6,850.0	6,693.0	6,810.5	6,697.7	25.2	22.1	91.96	881.5	213.5	490.5	446.5	44.06	11.133	
6,889.7	6,731.0	6,851.2	6,736.4	25.2	22.0	91.89	869.1	213.5	490.5	446.6	43.87	11.181	
6,900.0	6,740.7	6,861.7	6,746.3	25.2	22.0	91.88	865.6	213.5	490.5	446.7	43.81	11.195	
6,950.0	6,787.3	6,912.8	6,793.6	25.0	21.8	91.78	846.2	213.5	490.5	447.0	43.50	11.276	
6,988.2	6,821.9	6,951.8	6,828.6	24.9	21.7	91.70	829.2	213.5	490.4	447.2	43.21	11.350	
7,000.0	6,832.5	6,963.9	6,839.3	24.9	21.6	91.67	823.6	213.5	490.4	447.3	43.12	11.374	
7,050.0	6,876.1	7,014.8	6,883.2	24.7	21.4	91.56	797.8	213.5	490.4	447.7	42.68	11.490	
7,086.6	6,906.8	7,052.1	6,914.1	24.6	21.3	91.47	777.0	213.5	490.4	448.1	42.33	11.584	
7,100.0	6,917.9	7,065.7	6,925.2	24.5	21.2	91.44	768.9	213.5	490.4	448.2	42.20	11.620	
7,150.0	6,957.6	7,116.6	6,964.9	24.3	21.0	91.31	737.3	213.5	490.4	448.7	41.68	11.763	
7,185.0	6,984.2	7,152.1	6,991.3	24.1	20.8	91.22	713.5	213.5	490.3	449.0	41.31	11.871	
7,200.0	6,995.2	7,167.3	7,002.2	24.1	20.7	91.17	702.9	213.5	490.3	449.2	41.14	11.918	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
7,250.0	7,030.3	7,218.0	7,037.0	23.8	20.4	91.03	666.1	213.5	490.3	449.7	40.59	12.080	
7,283.4	7,052.4	7,251.8	7,058.7	23.6	20.3	90.94	640.1	213.5	490.3	450.1	40.21	12.192	
7,300.0	7,062.9	7,268.5	7,069.0	23.6	20.2	90.89	626.9	213.5	490.3	450.3	40.03	12.248	
7,350.0	7,092.8	7,319.0	7,098.1	23.3	19.9	90.74	585.7	213.5	490.3	450.8	39.49	12.416	
7,381.9	7,110.3	7,351.1	7,115.1	23.1	19.7	90.64	558.4	213.5	490.3	451.1	39.15	12.523	
7,400.0	7,119.8	7,369.4	7,124.2	23.0	19.7	90.59	542.6	213.5	490.3	451.3	38.97	12.582	
7,450.0	7,143.8	7,419.7	7,147.1	22.8	19.4	90.43	497.9	213.5	490.2	451.8	38.48	12.740	
7,480.3	7,156.8	7,450.1	7,159.4	22.6	19.3	90.33	470.1	213.5	490.2	452.0	38.21	12.830	
7,500.0	7,164.7	7,469.9	7,166.8	22.5	19.2	90.27	451.7	213.5	490.2	452.2	38.05	12.885	
7,550.0	7,182.3	7,520.0	7,183.2	22.2	19.0	90.11	404.4	213.5	490.2	452.6	37.67	13.013	
7,578.7	7,191.0	7,548.7	7,191.1	22.1	18.9	90.02	376.8	213.5	490.2	452.7	37.49	13.077	
7,584.2	7,192.5	7,554.2	7,192.5	22.1	18.9	90.00	371.4	213.5	490.2	452.8	37.45	13.089	
7,600.0	7,196.7	7,570.0	7,196.3	22.0	18.8	89.95	356.1	213.5	490.2	452.9	37.36	13.120	
7,650.0	7,207.7	7,619.9	7,205.9	21.7	18.7	89.79	307.2	213.5	490.2	453.1	37.14	13.201	
7,677.1	7,212.2	7,646.9	7,209.7	21.6	18.6	89.71	280.4	213.5	490.2	453.2	37.05	13.233	
7,700.0	7,215.2	7,669.7	7,212.1	21.5	18.6	89.63	257.8	213.5	490.2	453.2	36.99	13.254	
7,750.0	7,219.3	7,719.4	7,214.8	21.3	18.5	89.48	208.1	213.5	490.2	453.3	36.93	13.276	
7,775.6	7,220.1	7,744.8	7,214.9	21.2	18.5	89.40	182.7	213.5	490.3	453.3	36.93	13.274	
7,792.5	7,220.0	7,761.7	7,214.7	21.1	18.5	89.38	165.8	213.5	490.3	453.3	36.95	13.266	
7,800.0	7,219.9	7,769.2	7,214.6	21.1	18.5	89.38	158.3	213.5	490.3	453.3	36.97	13.262	
7,874.0	7,219.0	7,843.2	7,213.8	20.8	18.6	89.39	84.3	213.5	490.3	453.0	37.24	13.165	
7,900.0	7,218.7	7,869.2	7,213.5	20.7	18.7	89.39	58.3	213.5	490.3	452.9	37.35	13.125	
7,972.4	7,217.8	7,941.7	7,212.7	20.5	19.0	89.41	-14.1	213.5	490.3	452.4	37.88	12.941	
8,000.0	7,217.5	7,969.2	7,212.4	20.4	19.1	89.41	-41.7	213.5	490.3	452.1	38.11	12.865	
8,070.8	7,216.6	8,040.1	7,211.6	20.4	19.5	89.42	-112.5	213.5	490.3	451.4	38.89	12.607	
8,100.0	7,216.2	8,069.2	7,211.3	20.4	19.7	89.42	-141.7	213.5	490.3	451.0	39.23	12.497	
8,169.3	7,215.4	8,138.5	7,210.5	20.7	20.2	89.43	-211.0	213.5	490.3	450.0	40.22	12.189	
8,200.0	7,215.0	8,169.2	7,210.2	21.0	20.4	89.44	-241.7	213.5	490.3	449.6	40.68	12.051	
8,267.7	7,214.1	8,236.9	7,209.4	21.6	21.0	89.45	-309.4	213.5	490.3	448.4	41.85	11.714	
8,300.0	7,213.7	8,269.2	7,209.1	21.9	21.4	89.45	-341.7	213.5	490.3	447.8	42.43	11.554	
8,366.1	7,212.9	8,335.4	7,208.3	22.6	22.0	89.46	-407.8	213.5	490.3	446.5	43.75	11.205	
8,400.0	7,212.5	8,369.2	7,207.9	23.0	22.4	89.47	-441.7	213.5	490.3	445.8	44.45	11.030	
8,464.5	7,211.7	8,433.8	7,207.2	23.8	23.1	89.48	-506.2	213.5	490.3	444.4	45.89	10.684	
8,500.0	7,211.3	8,469.2	7,206.8	24.2	23.6	89.48	-541.7	213.5	490.3	443.6	46.69	10.499	
8,563.0	7,210.5	8,532.2	7,206.1	25.0	24.3	89.49	-604.6	213.5	490.3	442.0	48.22	10.167	
8,600.0	7,210.0	8,569.2	7,205.7	25.5	24.8	89.50	-641.6	213.5	490.2	441.1	49.14	9.977	
8,661.4	7,209.3	8,630.6	7,205.0	26.3	25.6	89.50	-703.0	213.5	490.2	439.5	50.73	9.664	
8,700.0	7,208.8	8,669.2	7,204.6	26.8	26.1	89.51	-741.6	213.5	490.2	438.5	51.75	9.474	
8,759.8	7,208.0	8,729.1	7,203.9	27.6	27.0	89.52	-801.5	213.5	490.2	436.9	53.39	9.182	
8,800.0	7,207.5	8,769.2	7,203.5	28.2	27.5	89.53	-841.6	213.5	490.2	435.7	54.51	8.994	
8,858.2	7,206.8	8,827.5	7,202.8	29.0	28.4	89.53	-899.9	213.5	490.2	434.1	56.18	8.726	
8,900.0	7,206.3	8,869.2	7,202.3	29.6	29.0	89.54	-941.6	213.5	490.2	432.9	57.39	8.542	
8,956.7	7,205.6	8,925.9	7,201.7	30.4	29.8	89.55	-998.3	213.5	490.2	431.2	59.08	8.298	
9,000.0	7,205.0	8,969.2	7,201.2	31.1	30.5	89.55	-1,041.6	213.5	490.2	429.9	60.38	8.119	
9,055.1	7,204.3	9,024.3	7,200.6	31.9	31.4	89.56	-1,096.7	213.5	490.2	428.2	62.07	7.898	
9,100.0	7,203.8	9,069.2	7,200.1	32.6	32.1	89.57	-1,141.6	213.5	490.2	426.8	63.46	7.725	
9,153.5	7,203.1	9,122.8	7,199.5	33.4	32.9	89.58	-1,195.1	213.5	490.2	425.1	65.15	7.525	
9,200.0	7,202.5	9,169.2	7,199.0	34.2	33.7	89.58	-1,241.6	213.5	490.2	423.6	66.63	7.358	
9,251.9	7,201.9	9,221.2	7,198.4	35.0	34.5	89.59	-1,293.6	213.5	490.2	421.9	68.30	7.178	
9,300.0	7,201.3	9,269.2	7,197.9	35.7	35.3	89.60	-1,341.6	213.5	490.2	420.4	69.86	7.018	
9,350.4	7,200.7	9,319.6	7,197.3	36.6	36.1	89.61	-1,392.0	213.5	490.2	418.7	71.51	6.856	
9,400.0	7,200.0	9,369.2	7,196.7	37.4	36.9	89.61	-1,441.6	213.5	490.2	417.1	73.14	6.702	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-MW/D												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
9,448.8	7,199.4	9,418.0	7,196.2	38.2	37.7	89.62	-1,490.4	213.5	490.2	415.5	74.77	6.557	
9,500.0	7,198.8	9,469.2	7,195.6	39.0	38.6	89.63	-1,541.6	213.5	490.2	413.8	76.48	6.410	
9,547.2	7,198.2	9,516.5	7,195.1	39.8	39.4	89.64	-1,588.8	213.5	490.2	412.2	78.08	6.279	
9,600.0	7,197.5	9,569.2	7,194.5	40.7	40.3	89.64	-1,641.6	213.5	490.2	410.4	79.87	6.138	
9,645.6	7,197.0	9,614.9	7,194.0	41.4	41.1	89.65	-1,687.2	213.5	490.2	408.8	81.43	6.020	
9,700.0	7,196.3	9,669.2	7,193.4	42.4	42.0	89.66	-1,741.6	213.5	490.2	406.9	83.29	5.886	
9,744.1	7,195.7	9,713.3	7,192.9	43.1	42.8	89.67	-1,785.6	213.5	490.2	405.4	84.82	5.780	
9,800.0	7,195.0	9,769.2	7,192.3	44.1	43.7	89.67	-1,841.6	213.5	490.2	403.5	86.75	5.651	
9,842.5	7,194.5	9,811.7	7,191.8	44.8	44.5	89.68	-1,884.1	213.5	490.2	402.0	88.24	5.556	
9,900.0	7,193.8	9,869.2	7,191.1	45.8	45.5	89.69	-1,941.6	213.5	490.2	400.0	90.25	5.432	
9,940.9	7,193.3	9,910.2	7,190.7	46.5	46.2	89.70	-1,982.5	213.5	490.2	398.6	91.68	5.347	
10,000.0	7,192.5	9,969.2	7,190.0	47.5	47.2	89.70	-2,041.6	213.5	490.2	396.5	93.76	5.228	
10,039.3	7,192.0	10,008.6	7,189.6	48.2	47.9	89.71	-2,080.9	213.5	490.2	395.1	95.16	5.152	
10,100.0	7,191.3	10,069.2	7,188.9	49.3	49.0	89.72	-2,141.6	213.5	490.2	392.9	97.31	5.038	
10,137.8	7,190.8	10,107.0	7,188.5	49.9	49.7	89.73	-2,179.3	213.5	490.2	391.6	98.65	4.969	
10,200.0	7,190.0	10,169.2	7,187.8	51.0	50.8	89.73	-2,241.5	213.5	490.2	389.4	100.87	4.860	
10,236.2	7,189.6	10,205.4	7,187.4	51.7	51.5	89.74	-2,277.7	213.5	490.2	388.1	102.17	4.798	
10,300.0	7,188.8	10,269.2	7,186.6	52.8	52.6	89.75	-2,341.5	213.5	490.2	385.8	104.46	4.693	
10,334.6	7,188.3	10,303.9	7,186.2	53.4	53.2	89.76	-2,376.2	213.5	490.2	384.5	105.70	4.638	
10,400.0	7,187.5	10,369.2	7,185.5	54.6	54.4	89.77	-2,441.5	213.5	490.2	382.2	108.06	4.537	
10,433.0	7,187.1	10,402.3	7,185.1	55.2	55.0	89.77	-2,474.6	213.5	490.2	381.0	109.25	4.487	
10,500.0	7,186.3	10,469.2	7,184.4	56.4	56.2	89.78	-2,541.5	213.5	490.2	378.6	111.68	4.390	
10,531.5	7,185.9	10,500.7	7,184.0	56.9	56.8	89.79	-2,573.0	213.5	490.2	377.4	112.82	4.345	
10,600.0	7,185.0	10,569.2	7,183.3	58.2	58.0	89.80	-2,641.5	213.5	490.2	374.9	115.31	4.252	
10,629.9	7,184.6	10,599.1	7,182.9	58.7	58.6	89.80	-2,671.4	213.5	490.2	373.8	116.40	4.212	
10,700.0	7,183.8	10,669.2	7,182.1	60.0	59.8	89.81	-2,741.5	213.5	490.2	371.3	118.95	4.121	
10,728.3	7,183.4	10,697.6	7,181.8	60.5	60.4	89.82	-2,769.8	213.5	490.2	370.3	119.99	4.086	
10,800.0	7,182.5	10,769.2	7,181.0	61.8	61.7	89.83	-2,841.5	213.5	490.2	367.6	122.61	3.998	
10,826.7	7,182.2	10,796.0	7,180.7	62.3	62.2	89.83	-2,868.3	213.5	490.2	366.6	123.59	3.967	
10,852.4	7,181.8	10,821.7	7,180.4	62.7	62.6	89.83	-2,893.9	213.5	490.2	365.7	124.53	3.937	
10,900.0	7,181.2	10,869.2	7,179.9	63.6	63.5	89.84	-2,941.5	213.5	490.2	364.0	126.28	3.882	
10,925.2	7,180.9	10,894.4	7,179.6	64.0	64.0	89.85	-2,966.7	213.5	490.2	363.0	127.20	3.854	
11,000.0	7,180.0	10,969.2	7,178.8	65.4	65.3	89.86	-3,041.5	213.5	490.2	360.3	129.96	3.772	
11,023.6	7,179.7	10,992.8	7,178.5	65.8	65.8	89.86	-3,065.1	213.5	490.2	359.4	130.83	3.747	
11,100.0	7,178.7	11,069.2	7,177.6	67.2	67.2	89.87	-3,141.5	213.5	490.2	356.6	133.65	3.668	
11,122.0	7,178.4	11,091.3	7,177.4	67.6	67.6	89.88	-3,163.5	213.5	490.2	355.8	134.46	3.646	
11,200.0	7,177.5	11,169.2	7,176.5	69.1	69.0	89.89	-3,241.5	213.5	490.2	352.9	137.34	3.569	
11,220.4	7,177.2	11,189.7	7,176.3	69.4	69.4	89.89	-3,261.9	213.5	490.2	352.1	138.10	3.550	
11,300.0	7,176.2	11,269.2	7,175.4	70.9	70.9	89.90	-3,341.5	213.5	490.2	349.2	141.05	3.476	
11,318.9	7,176.0	11,288.1	7,175.2	71.2	71.2	89.91	-3,360.3	213.5	490.2	348.5	141.75	3.459	
11,400.0	7,174.9	11,369.2	7,174.3	72.7	72.7	89.92	-3,441.5	213.5	490.2	345.5	144.76	3.387	
11,417.3	7,174.7	11,386.5	7,174.1	73.1	73.1	89.92	-3,458.8	213.5	490.2	344.8	145.40	3.372	
11,500.0	7,173.7	11,469.2	7,173.1	74.6	74.6	89.94	-3,541.5	213.5	490.2	341.8	148.47	3.302	
11,515.7	7,173.5	11,485.0	7,173.0	74.9	74.9	89.94	-3,557.2	213.5	490.2	341.2	149.06	3.289	
11,600.0	7,172.4	11,569.2	7,172.0	76.4	76.5	89.95	-3,641.5	213.5	490.2	338.0	152.20	3.221	
11,614.1	7,172.2	11,583.4	7,171.8	76.7	76.7	89.95	-3,655.6	213.5	490.2	337.5	152.73	3.210	
11,700.0	7,171.2	11,669.2	7,170.9	78.3	78.3	89.97	-3,741.4	213.5	490.2	334.3	155.93	3.144	
11,712.6	7,171.0	11,681.8	7,170.7	78.5	78.6	89.97	-3,754.0	213.5	490.2	333.8	156.40	3.135	
11,754.1	7,170.5	11,723.4	7,170.3	79.3	79.3	89.98	-3,795.6	213.5	490.2	332.3	157.95	3.104	
11,791.4	7,170.0	11,747.1	7,170.0	80.0	79.8	89.98	-3,819.4	213.5	490.4	331.3	159.09	3.083 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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	-88.26	1.8	-60.0	60.0				
98.4	98.4	98.4	98.4	0.1	0.1	-88.26	1.8	-60.0	60.0	59.8	0.17	353.119	
100.0	100.0	100.0	100.0	0.1	0.1	-88.26	1.8	-60.0	60.0	59.8	0.17	346.726	
196.8	196.8	196.8	196.8	0.3	0.3	-88.26	1.8	-60.0	60.0	59.4	0.61	98.626	
200.0	200.0	200.0	200.0	0.3	0.3	-88.26	1.8	-60.0	60.0	59.4	0.62	96.383	
295.3	295.3	295.3	295.3	0.5	0.5	-88.26	1.8	-60.0	60.0	59.0	1.05	57.102	
300.0	300.0	300.0	300.0	0.5	0.5	-88.26	1.8	-60.0	60.0	58.9	1.07	55.971	
393.7	393.7	393.7	393.7	0.7	0.7	-88.26	1.8	-60.0	60.0	58.5	1.49	40.184	
400.0	400.0	400.0	400.0	0.8	0.8	-88.26	1.8	-60.0	60.0	58.5	1.52	39.436	
492.1	492.1	492.1	492.1	1.0	1.0	-88.26	1.8	-60.0	60.0	58.1	1.94	30.999	
500.0	500.0	500.0	500.0	1.0	1.0	-88.26	1.8	-60.0	60.0	58.0	1.97	30.442	
590.5	590.5	590.5	590.5	1.2	1.2	-88.26	1.8	-60.0	60.0	57.6	2.38	25.232	
600.0	600.0	600.0	600.0	1.2	1.2	-88.26	1.8	-60.0	60.0	57.6	2.42	24.789	
689.0	689.0	689.0	689.0	1.4	1.4	-88.26	1.8	-60.0	60.0	57.2	2.82	21.274	
700.0	700.0	700.0	700.0	1.4	1.4	-88.26	1.8	-60.0	60.0	57.1	2.87	20.907	
787.4	787.4	787.4	787.4	1.6	1.6	-88.26	1.8	-60.0	60.0	56.7	3.26	18.390	
800.0	800.0	800.0	800.0	1.7	1.7	-88.26	1.8	-60.0	60.0	56.7	3.32	18.076	
885.8	885.8	885.8	885.8	1.9	1.9	-88.26	1.8	-60.0	60.0	56.3	3.71	16.194	
900.0	900.0	900.0	900.0	1.9	1.9	-88.26	1.8	-60.0	60.0	56.2	3.77	15.920	
984.2	984.2	984.2	984.2	2.1	2.1	-88.26	1.8	-60.0	60.0	55.9	4.15	14.467	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-88.26	1.8	-60.0	60.0	55.8	4.22	14.224	
1,082.7	1,082.7	1,082.7	1,082.7	2.3	2.3	-88.26	1.8	-60.0	60.0	55.4	4.59	13.072	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-88.26	1.8	-60.0	60.0	55.3	4.67	12.854	
1,181.1	1,181.1	1,181.1	1,181.1	2.5	2.5	-88.26	1.8	-60.0	60.0	55.0	5.03	11.923	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-88.26	1.8	-60.0	60.0	54.9	5.12	11.725	
1,279.5	1,279.5	1,279.5	1,279.5	2.7	2.7	-88.26	1.8	-60.0	60.0	54.5	5.48	10.960	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-88.26	1.8	-60.0	60.0	54.4	5.57	10.778	
1,377.9	1,377.9	1,377.9	1,377.9	3.0	3.0	-88.26	1.8	-60.0	60.0	54.1	5.92	10.140	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-88.26	1.8	-60.0	60.0	54.0	6.02	9.973	
1,437.6	1,437.6	1,437.6	1,437.6	3.1	3.1	-88.26	1.8	-60.0	60.0	53.8	6.19	9.701 CC	
1,476.4	1,476.4	1,476.2	1,476.2	3.2	3.2	-88.15	1.9	-60.0	60.0	53.7	6.36	9.441	
1,500.0	1,500.0	1,499.7	1,499.7	3.2	3.2	-87.87	2.2	-60.1	60.1	53.7	6.47	9.300 ES	
1,574.8	1,574.8	1,574.0	1,574.0	3.4	3.4	-85.83	4.4	-60.6	60.8	54.0	6.80	8.943	
1,600.0	1,600.0	1,599.0	1,598.9	3.5	3.5	-84.77	5.6	-60.9	61.2	54.3	6.91	8.854	
1,673.2	1,673.2	1,671.5	1,671.3	3.6	3.6	-80.75	10.1	-62.1	62.9	55.7	7.24	8.694	
1,700.0	1,700.0	1,697.9	1,697.6	3.7	3.7	-78.97	12.2	-62.6	63.9	56.5	7.36	8.676	
1,771.6	1,771.6	1,768.5	1,767.8	3.8	3.8	-73.58	19.0	-64.3	67.2	59.5	7.68	8.745	
1,800.0	1,800.0	1,796.3	1,795.4	3.9	3.9	-71.28	22.1	-65.1	68.9	61.1	7.81	8.824	
1,850.0	1,850.0	1,845.2	1,843.9	4.0	4.0	-67.09	28.2	-66.7	72.7	64.6	8.04	9.034	
1,870.1	1,870.1	1,864.7	1,863.3	4.1	4.1	-103.71	30.9	-67.4	74.4	66.3	8.13	9.158	
1,900.0	1,900.0	1,893.9	1,892.1	4.1	4.1	-101.39	35.1	-68.5	77.4	69.1	8.26	9.368	
1,968.5	1,968.5	1,960.3	1,957.6	4.3	4.3	-96.92	45.7	-71.2	85.6	77.0	8.58	9.978	
2,000.0	1,999.9	1,990.7	1,987.5	4.4	4.4	-95.23	51.1	-72.5	89.9	81.2	8.72	10.313	
2,066.9	2,066.7	2,055.2	2,050.7	4.5	4.6	-92.35	63.5	-75.7	100.2	91.2	9.03	11.099	
2,100.0	2,099.7	2,087.8	2,082.6	4.6	4.7	-91.29	70.1	-77.4	105.6	96.4	9.19	11.500	
2,165.3	2,164.7	2,152.2	2,145.6	4.7	4.9	-90.03	83.1	-80.7	116.4	106.9	9.50	12.252	
2,200.0	2,199.1	2,186.4	2,179.0	4.8	5.0	-89.72	90.0	-82.4	122.1	112.5	9.67	12.630	
2,263.8	2,262.3	2,249.3	2,240.6	5.0	5.2	-89.67	102.6	-85.7	132.7	122.7	9.99	13.276	
2,300.0	2,298.2	2,285.0	2,275.5	5.0	5.3	-89.90	109.8	-87.5	138.6	128.5	10.18	13.621	
2,362.2	2,359.5	2,346.3	2,335.5	5.2	5.6	-90.63	122.2	-90.6	148.9	138.4	10.51	14.164	
2,400.0	2,396.6	2,383.5	2,371.9	5.3	5.7	-91.27	129.7	-92.5	155.2	144.5	10.72	14.475	
2,460.6	2,456.0	2,443.2	2,430.2	5.5	5.9	-92.52	141.7	-95.6	165.4	154.3	11.08	14.929	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
2,500.0	2,494.4	2,481.8	2,468.0	5.6	6.1	-93.47	149.5	-97.6	172.1	160.8	11.31	15.212	
2,559.0	2,551.8	2,539.7	2,524.7	5.8	6.3	-95.06	161.1	-100.6	182.3	170.6	11.69	15.598	
2,600.0	2,591.5	2,579.8	2,563.8	5.9	6.4	-96.26	169.2	-102.6	189.6	177.6	11.95	15.860	
2,657.5	2,646.8	2,635.9	2,618.7	6.1	6.6	-98.06	180.5	-105.5	200.1	187.7	12.35	16.200	
2,685.2	2,673.5	2,662.9	2,645.2	6.2	6.7	-98.96	185.9	-106.9	205.3	192.8	12.54	16.366	
2,700.0	2,687.6	2,677.3	2,659.2	6.3	6.8	-99.49	188.8	-107.6	208.1	195.5	12.65	16.450	
2,755.9	2,741.1	2,731.7	2,712.4	6.5	7.0	-101.39	199.8	-110.4	218.9	205.8	13.07	16.755	
2,800.0	2,783.4	2,774.6	2,754.4	6.7	7.2	-102.76	208.4	-112.6	227.6	214.2	13.40	16.989	
2,854.3	2,835.4	2,827.5	2,806.1	6.9	7.4	-104.32	219.1	-115.3	238.4	224.6	13.81	17.261	
2,900.0	2,879.2	2,871.9	2,849.6	7.1	7.6	-105.52	228.0	-117.6	247.6	233.5	14.16	17.484	
2,952.7	2,929.7	2,923.3	2,899.8	7.4	7.8	-106.80	238.4	-120.2	258.4	243.8	14.58	17.726	
3,000.0	2,974.9	2,969.2	2,944.8	7.6	8.0	-107.86	247.6	-122.6	268.2	253.2	14.95	17.936	
3,051.2	3,023.9	3,019.0	2,993.5	7.8	8.2	-108.93	257.6	-125.2	278.8	263.5	15.36	18.150	
3,100.0	3,070.7	3,066.6	3,040.0	8.1	8.4	-109.88	267.2	-127.6	289.1	273.3	15.76	18.349	
3,149.6	3,118.2	3,114.8	3,087.2	8.3	8.6	-110.77	276.9	-130.1	299.6	283.4	16.16	18.539	
3,200.0	3,166.5	3,163.9	3,135.2	8.6	8.8	-111.62	286.8	-132.6	310.3	293.7	16.57	18.725	
3,248.0	3,212.5	3,210.6	3,180.9	8.8	8.9	-112.37	296.2	-135.0	320.6	303.6	16.97	18.894	
3,300.0	3,262.3	3,261.2	3,230.4	9.1	9.2	-113.13	306.4	-137.6	331.7	314.3	17.40	19.070	
3,346.4	3,306.8	3,306.4	3,274.6	9.3	9.3	-113.77	315.5	-139.9	341.8	324.0	17.78	19.220	
3,400.0	3,358.1	3,358.5	3,325.6	9.6	9.6	-114.47	326.0	-142.6	353.4	335.2	18.23	19.386	
3,444.9	3,401.0	3,402.2	3,368.3	9.8	9.7	-115.01	334.8	-144.8	363.2	344.5	18.61	19.519	
3,500.0	3,453.8	3,455.8	3,420.8	10.1	10.0	-115.65	345.6	-147.6	375.2	356.1	19.07	19.676	
3,543.3	3,495.3	3,498.0	3,462.0	10.3	10.1	-116.12	354.1	-149.7	384.7	365.2	19.43	19.794	
3,600.0	3,549.6	3,553.1	3,515.9	10.6	10.4	-116.70	365.2	-152.6	397.1	377.2	19.91	19.943	
3,641.7	3,589.6	3,593.8	3,555.7	10.8	10.6	-117.10	373.4	-154.6	406.3	386.1	20.27	20.048	
3,700.0	3,645.4	3,650.5	3,611.1	11.1	10.8	-117.64	384.8	-157.6	419.2	398.4	20.76	20.189	
3,740.1	3,683.8	3,689.5	3,649.4	11.4	11.0	-117.99	392.7	-159.6	428.1	407.0	21.11	20.282	
3,800.0	3,741.2	3,747.8	3,706.3	11.7	11.2	-118.49	404.4	-162.5	441.3	419.7	21.62	20.417	
3,838.6	3,778.1	3,785.3	3,743.1	11.9	11.4	-118.79	412.0	-164.5	449.9	428.0	21.95	20.500	
3,900.0	3,837.0	3,845.1	3,801.5	12.2	11.6	-119.25	424.0	-167.5	463.6	441.1	22.47	20.628	
3,937.0	3,872.4	3,881.1	3,836.7	12.4	11.8	-119.52	431.3	-169.4	471.8	449.0	22.79	20.702	
4,000.0	3,932.7	3,942.4	3,896.7	12.8	12.0	-119.95	443.6	-172.5	485.9	462.6	23.33	20.824	
4,035.4	3,966.7	3,976.9	3,930.4	13.0	12.2	-120.18	450.5	-174.3	493.8	470.2	23.64	20.890	
4,100.0	4,028.5	4,039.7	3,991.9	13.3	12.5	-120.58	463.2	-177.5	508.3	484.1	24.20	21.007	
4,133.8	4,060.9	4,072.7	4,024.1	13.5	12.6	-120.79	469.8	-179.2	515.9	491.4	24.49	21.065	
4,200.0	4,124.3	4,137.0	4,087.1	13.9	12.9	-121.17	482.8	-182.5	530.7	505.6	25.06	21.177	
4,232.3	4,155.2	4,168.5	4,117.8	14.0	13.0	-121.34	489.1	-184.1	537.9	512.6	25.34	21.229	
4,300.0	4,220.1	4,234.4	4,182.3	14.4	13.3	-121.70	502.4	-187.5	553.2	527.2	25.93	21.336	
4,330.7	4,249.5	4,264.2	4,211.5	14.6	13.4	-121.86	508.4	-189.0	560.1	533.9	26.19	21.382	
4,400.0	4,315.9	4,331.7	4,277.5	15.0	13.7	-122.19	522.0	-192.5	575.7	548.9	26.80	21.485	
4,429.1	4,343.7	4,360.0	4,305.2	15.1	13.8	-122.33	527.7	-194.0	582.3	555.2	27.05	21.526	
4,500.0	4,411.6	4,429.0	4,372.7	15.5	14.1	-122.65	541.6	-197.5	598.2	570.6	27.67	21.624	
4,527.5	4,438.0	4,455.8	4,398.9	15.7	14.3	-122.77	547.0	-198.9	604.5	576.6	27.91	21.661	
4,600.0	4,507.4	4,526.3	4,467.9	16.1	14.6	-123.07	561.2	-202.5	620.8	592.3	28.54	21.756	
4,626.0	4,532.3	4,551.6	4,492.6	16.2	14.7	-123.18	566.3	-203.8	626.7	597.9	28.76	21.788	
4,700.0	4,603.2	4,623.6	4,563.1	16.7	15.0	-123.47	580.8	-207.5	643.4	614.0	29.41	21.879	
4,724.4	4,626.6	4,647.4	4,586.3	16.8	15.1	-123.56	585.6	-208.7	649.0	619.3	29.62	21.908	
4,800.0	4,699.0	4,720.9	4,658.3	17.2	15.4	-123.83	600.4	-212.5	666.1	635.8	30.28	21.996	
4,822.8	4,720.8	4,743.2	4,680.0	17.4	15.5	-123.91	604.9	-213.6	671.3	640.8	30.48	22.021	
4,900.0	4,794.7	4,818.3	4,753.4	17.8	15.8	-124.18	620.0	-217.5	688.8	657.6	31.16	22.106	
4,921.2	4,815.1	4,838.9	4,773.7	17.9	15.9	-124.25	624.2	-218.5	693.6	662.2	31.34	22.128	
5,000.0	4,890.5	4,915.6	4,848.6	18.4	16.3	-124.50	639.6	-222.5	711.4	679.4	32.03	22.210	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
5,019.7	4,909.4	4,934.7	4,867.4	18.5	16.3	-124.56	643.5	-223.4	715.9	683.7	32.21	22.229	
5,100.0	4,986.3	5,012.9	4,943.8	18.9	16.7	-124.80	659.2	-227.5	734.2	701.2	32.91	22.308	
5,118.1	5,003.6	5,030.5	4,961.1	19.0	16.8	-124.85	662.7	-228.4	738.3	705.2	33.07	22.325	
5,200.0	5,082.1	5,110.2	5,039.0	19.5	17.1	-125.08	678.8	-232.5	756.9	723.1	33.79	22.401	
5,216.5	5,097.9	5,126.3	5,054.8	19.6	17.2	-125.13	682.0	-233.3	760.6	726.7	33.93	22.416	
5,300.0	5,177.9	5,207.5	5,134.2	20.1	17.5	-125.35	698.4	-237.4	779.6	745.0	34.67	22.490	
5,314.9	5,192.2	5,222.1	5,148.4	20.2	17.6	-125.38	701.3	-238.2	783.0	748.2	34.80	22.503	
5,400.0	5,273.6	5,304.8	5,229.4	20.6	18.0	-125.60	718.0	-242.4	802.4	766.8	35.54	22.574	
5,413.4	5,286.5	5,317.9	5,242.1	20.7	18.0	-125.63	720.6	-243.1	805.4	769.8	35.66	22.585	
5,500.0	5,369.4	5,402.2	5,324.6	21.2	18.4	-125.84	737.6	-247.4	825.2	788.7	36.42	22.654	
5,511.8	5,380.7	5,413.6	5,335.8	21.3	18.4	-125.86	739.9	-248.0	827.9	791.3	36.53	22.663	
5,600.0	5,465.2	5,499.5	5,419.8	21.8	18.8	-126.06	757.2	-252.4	848.0	810.6	37.30	22.730	
5,610.2	5,475.0	5,509.4	5,429.5	21.9	18.9	-126.08	759.2	-252.9	850.3	812.9	37.39	22.738	
5,700.0	5,561.0	5,596.8	5,515.0	22.4	19.3	-126.27	776.8	-257.4	870.8	832.6	38.19	22.803	
5,708.6	5,569.3	5,605.2	5,523.2	22.4	19.3	-126.29	778.5	-257.8	872.7	834.5	38.26	22.809	
5,793.4	5,650.4	5,687.7	5,603.9	22.9	19.7	-126.46	795.1	-262.1	892.1	853.0	39.01	22.868	
5,800.0	5,656.8	5,694.1	5,610.2	22.9	19.7	-126.50	796.4	-262.4	893.6	854.5	39.07	22.872	
5,807.1	5,663.6	5,701.0	5,616.9	23.0	19.7	-126.54	797.8	-262.8	895.2	856.0	39.13	22.879	
5,900.0	5,753.1	5,791.7	5,705.7	23.4	20.1	-126.95	816.0	-267.4	915.2	875.3	39.91	22.935	
5,905.5	5,758.4	5,797.1	5,710.9	23.4	20.1	-126.96	817.1	-267.7	916.4	876.4	39.95	22.937	
6,000.0	5,850.3	5,889.8	5,801.6	23.8	20.5	-127.18	835.8	-272.4	934.8	894.1	40.72	22.955	
6,003.9	5,854.1	5,893.6	5,805.3	23.8	20.6	-127.18	836.6	-272.6	935.6	894.8	40.76	22.956	
6,100.0	5,948.3	5,988.1	5,897.8	24.1	21.0	-127.21	855.6	-277.5	952.4	910.9	41.52	22.938	
6,102.3	5,950.6	5,990.4	5,900.0	24.1	21.0	-127.20	856.1	-277.6	952.8	911.2	41.54	22.938	
6,200.0	6,046.9	6,089.9	5,997.4	24.4	21.4	-127.04	875.9	-282.7	967.8	925.6	42.28	22.890	
6,200.8	6,047.6	6,090.8	5,998.2	24.4	21.4	-127.04	876.0	-282.7	968.0	925.7	42.29	22.889	
6,299.2	6,145.2	6,197.8	6,103.6	24.7	21.7	-126.82	894.4	-287.4	980.4	937.5	42.92	22.841	
6,300.0	6,146.0	6,198.7	6,104.5	24.7	21.7	-126.82	894.5	-287.4	980.5	937.6	42.93	22.841	
6,397.6	6,243.1	6,305.7	6,210.4	24.9	22.0	-126.62	909.0	-291.1	989.9	946.4	43.46	22.775	
6,400.0	6,245.5	6,308.3	6,213.0	24.9	22.0	-126.62	909.3	-291.2	990.1	946.6	43.48	22.773	
6,496.0	6,341.4	6,414.2	6,318.3	25.1	22.3	-126.43	919.7	-293.8	996.4	952.5	43.91	22.689	
6,500.0	6,345.3	6,418.5	6,322.6	25.1	22.3	-126.42	920.0	-293.9	996.6	952.6	43.93	22.685	
6,594.5	6,439.7	6,523.1	6,427.0	25.2	22.5	-126.24	926.5	-295.6	999.8	955.6	44.27	22.583	
6,600.0	6,445.3	6,529.2	6,433.1	25.2	22.5	-126.23	926.7	-295.6	1,000.0	955.7	44.29	22.577	
6,628.6	6,473.9	6,561.0	6,464.8	25.3	22.6	-87.88	927.9	-295.9	1,000.3	956.0	44.38	22.542	
6,658.6	6,503.9	6,594.2	6,498.1	25.3	22.6	-87.83	928.7	-296.1	1,000.6	956.1	44.47	22.499	
6,692.9	6,538.1	6,632.2	6,536.1	25.3	22.7	92.24	929.2	-296.3	1,000.7	956.2	44.56	22.458	
6,700.0	6,545.2	6,640.1	6,544.0	25.3	22.7	92.26	929.3	-296.3	1,000.8	956.2	44.58	22.449	
6,750.0	6,595.0	6,691.2	6,595.0	25.3	22.7	92.52	929.3	-296.3	1,001.0	956.3	44.67	22.408	
6,791.3	6,635.8	6,734.0	6,637.8	25.3	22.8	92.85	928.8	-296.3	1,001.2	956.5	44.71	22.392	
6,800.0	6,644.3	6,743.2	6,647.0	25.3	22.8	92.92	928.4	-296.3	1,001.3	956.6	44.72	22.390	
6,850.0	6,693.0	6,796.8	6,700.4	25.2	22.8	93.32	923.6	-296.3	1,001.7	957.0	44.69	22.415	
6,889.7	6,731.0	6,839.9	6,742.9	25.2	22.8	93.64	916.8	-296.3	1,002.0	957.4	44.59	22.470	
6,900.0	6,740.7	6,851.0	6,753.9	25.2	22.8	93.71	914.7	-296.3	1,002.1	957.6	44.57	22.486	
6,950.0	6,787.3	6,905.9	6,807.1	25.0	22.7	94.09	901.6	-296.3	1,002.6	958.2	44.36	22.601	
6,988.2	6,821.9	6,948.2	6,847.4	24.9	22.6	94.36	888.8	-296.3	1,002.9	958.8	44.14	22.719	
7,000.0	6,832.5	6,961.3	6,859.8	24.9	22.6	94.44	884.3	-296.3	1,003.0	959.0	44.07	22.760	
7,050.0	6,876.1	7,017.3	6,911.5	24.7	22.4	94.77	862.7	-296.3	1,003.5	959.8	43.71	22.959	
7,086.6	6,906.8	7,058.7	6,948.4	24.6	22.3	95.00	844.2	-296.3	1,003.8	960.4	43.40	23.131	
7,100.0	6,917.9	7,073.9	6,961.8	24.5	22.2	95.08	836.9	-296.3	1,004.0	960.7	43.28	23.198	
7,150.0	6,957.6	7,131.0	7,010.3	24.3	22.0	95.36	806.9	-296.3	1,004.4	961.6	42.79	23.473	
7,185.0	6,984.2	7,171.2	7,043.0	24.1	21.8	95.54	783.4	-296.3	1,004.7	962.3	42.42	23.686	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
7,200.0	6,995.2	7,188.5	7,056.7	24.1	21.7	95.61	772.8	-296.3	1,004.8	962.6	42.26	23.780	
7,250.0	7,030.3	7,246.5	7,100.5	23.8	21.4	95.83	734.8	-296.3	1,005.2	963.5	41.69	24.113	
7,283.4	7,052.4	7,285.5	7,128.2	23.6	21.2	95.96	707.3	-296.3	1,005.4	964.1	41.30	24.347	
7,300.0	7,062.9	7,304.9	7,141.3	23.6	21.1	96.02	693.1	-296.3	1,005.5	964.4	41.10	24.465	
7,350.0	7,092.8	7,363.6	7,178.9	23.3	20.8	96.18	648.0	-296.3	1,005.8	965.3	40.51	24.828	
7,381.9	7,110.3	7,401.2	7,200.9	23.1	20.7	96.26	617.6	-296.3	1,006.0	965.8	40.14	25.059	
7,400.0	7,119.8	7,422.6	7,212.7	23.0	20.5	96.29	599.7	-296.3	1,006.1	966.1	39.94	25.189	
7,450.0	7,143.8	7,481.7	7,242.5	22.8	20.3	96.38	548.7	-296.3	1,006.2	966.8	39.40	25.538	
7,480.3	7,156.8	7,517.6	7,258.6	22.6	20.1	96.41	516.5	-296.3	1,006.3	967.2	39.10	25.736	
7,500.0	7,164.7	7,541.0	7,268.1	22.5	20.0	96.42	495.2	-296.3	1,006.3	967.4	38.91	25.862	
7,550.0	7,182.3	7,600.3	7,289.2	22.2	19.8	96.43	439.8	-296.3	1,006.3	967.8	38.49	26.148	
7,578.7	7,191.0	7,634.4	7,299.2	22.1	19.7	96.41	407.2	-296.3	1,006.3	968.0	38.29	26.283	
7,600.0	7,196.7	7,659.7	7,305.6	22.0	19.6	96.40	382.8	-296.3	1,006.2	968.1	38.15	26.378	
7,650.0	7,207.7	7,718.9	7,317.2	21.7	19.4	96.33	324.8	-296.3	1,006.1	968.2	37.90	26.546	
7,677.1	7,212.2	7,750.9	7,321.5	21.6	19.4	96.27	293.0	-296.3	1,006.0	968.2	37.81	26.608	
7,700.0	7,215.2	7,777.9	7,324.0	21.5	19.3	96.22	266.1	-296.3	1,005.9	968.2	37.76	26.643	
7,750.0	7,219.3	7,836.0	7,326.0	21.3	19.3	96.08	208.1	-296.3	1,005.7	967.9	37.71	26.667	
7,775.6	7,220.1	7,861.6	7,326.0	21.2	19.3	96.04	182.5	-296.3	1,005.6	967.8	37.74	26.644	
7,784.6	7,220.1	7,870.6	7,325.9	21.1	19.3	96.04	173.5	-296.3	1,005.6	967.8	37.75	26.637	
7,792.5	7,220.0	7,878.5	7,325.9	21.1	19.3	96.04	165.6	-296.3	1,005.6	967.8	37.76	26.631	
7,800.0	7,219.9	7,886.0	7,325.9	21.1	19.3	96.05	158.1	-296.3	1,005.6	967.8	37.77	26.621	
7,874.0	7,219.0	7,960.0	7,325.8	20.8	19.4	96.09	84.1	-296.3	1,005.7	967.6	38.08	26.410	
7,900.0	7,218.7	7,986.0	7,325.8	20.7	19.5	96.11	58.1	-296.3	1,005.7	967.5	38.19	26.331	
7,972.4	7,217.8	8,058.4	7,325.7	20.5	19.7	96.16	-14.3	-296.3	1,005.8	967.0	38.76	25.950	
8,000.0	7,217.5	8,086.0	7,325.6	20.4	19.9	96.17	-41.9	-296.3	1,005.8	966.8	38.98	25.801	
8,070.8	7,216.6	8,156.8	7,325.5	20.4	20.3	96.22	-112.7	-296.3	1,005.9	966.1	39.78	25.285	
8,100.0	7,216.2	8,186.0	7,325.5	20.4	20.5	96.24	-141.9	-296.3	1,005.9	965.8	40.12	25.072	
8,169.3	7,215.4	8,255.2	7,325.4	20.7	21.0	96.28	-211.2	-296.3	1,006.0	964.9	41.13	24.461	
8,200.0	7,215.0	8,286.0	7,325.4	21.0	21.2	96.30	-241.9	-296.3	1,006.1	964.5	41.58	24.194	
8,267.7	7,214.1	8,353.7	7,325.3	21.6	21.8	96.34	-309.6	-296.3	1,006.1	963.4	42.76	23.530	
8,300.0	7,213.7	8,386.0	7,325.2	21.9	22.1	96.36	-341.9	-296.3	1,006.2	962.8	43.33	23.221	
8,366.1	7,212.9	8,452.1	7,325.1	22.6	22.8	96.40	-408.0	-296.3	1,006.3	961.6	44.65	22.537	
8,400.0	7,212.5	8,485.9	7,325.1	23.0	23.2	96.42	-441.9	-296.3	1,006.3	961.0	45.33	22.198	
8,464.5	7,211.7	8,550.5	7,325.0	23.8	23.9	96.46	-506.4	-296.3	1,006.4	959.6	46.77	21.520	
8,500.0	7,211.3	8,585.9	7,324.9	24.2	24.3	96.48	-541.9	-296.3	1,006.4	958.9	47.56	21.161	
8,563.0	7,210.5	8,648.9	7,324.8	25.0	25.1	96.52	-604.8	-296.3	1,006.5	957.4	49.08	20.508	
8,600.0	7,210.0	8,685.9	7,324.8	25.5	25.5	96.55	-641.9	-296.3	1,006.5	956.6	49.98	20.140	
8,661.4	7,209.3	8,747.3	7,324.7	26.3	26.4	96.59	-703.3	-296.3	1,006.6	955.1	51.56	19.523	
8,700.0	7,208.8	8,785.9	7,324.6	26.8	26.9	96.61	-741.9	-296.3	1,006.7	954.1	52.56	19.152	
8,759.8	7,208.0	8,845.8	7,324.6	27.6	27.7	96.65	-801.7	-296.3	1,006.8	952.6	54.19	18.578	
8,800.0	7,207.5	8,885.9	7,324.5	28.2	28.3	96.67	-841.8	-296.3	1,006.8	951.5	55.29	18.209	
8,858.2	7,206.8	8,944.2	7,324.4	29.0	29.1	96.71	-900.1	-296.3	1,006.9	949.9	56.95	17.681	
8,900.0	7,206.3	8,985.9	7,324.4	29.6	29.7	96.73	-941.8	-296.3	1,006.9	948.8	58.14	17.319	
8,956.7	7,205.6	9,042.6	7,324.3	30.4	30.5	96.77	-998.5	-296.3	1,007.0	947.2	59.81	16.836	
9,000.0	7,205.0	9,085.9	7,324.2	31.1	31.2	96.80	-1,041.8	-296.3	1,007.1	946.0	61.09	16.484	
9,055.1	7,204.3	9,141.0	7,324.1	31.9	32.0	96.83	-1,096.9	-296.3	1,007.1	944.4	62.77	16.045	
9,100.0	7,203.8	9,185.9	7,324.1	32.6	32.7	96.86	-1,141.8	-296.3	1,007.2	943.1	64.14	15.703	
9,153.5	7,203.1	9,239.4	7,324.0	33.4	33.6	96.89	-1,195.3	-296.3	1,007.3	941.5	65.81	15.306	
9,200.0	7,202.5	9,285.9	7,323.9	34.2	34.3	96.92	-1,241.8	-296.3	1,007.3	940.1	67.26	14.976	
9,251.9	7,201.9	9,337.8	7,323.8	35.0	35.2	96.95	-1,293.8	-296.3	1,007.4	938.5	68.92	14.618	
9,300.0	7,201.3	9,385.9	7,323.8	35.7	35.9	96.98	-1,341.8	-296.3	1,007.5	937.0	70.45	14.300	
9,350.4	7,200.7	9,436.3	7,323.7	36.6	36.8	97.01	-1,392.2	-296.3	1,007.5	935.4	72.09	13.977	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-MW/D												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	
9,400.0	7,200.0	9,485.9	7,323.6	37.4	37.6	97.04	-1,441.8	-296.3	1,007.6	933.9	73.70	13.671	
9,448.8	7,199.4	9,534.7	7,323.5	38.2	38.4	97.07	-1,490.6	-296.3	1,007.7	932.4	75.31	13.380	
9,500.0	7,198.8	9,585.9	7,323.5	39.0	39.2	97.11	-1,541.8	-296.3	1,007.7	930.7	77.00	13.087	
9,547.2	7,198.2	9,633.1	7,323.4	39.8	40.0	97.14	-1,589.0	-296.3	1,007.8	929.2	78.58	12.826	
9,600.0	7,197.5	9,685.9	7,323.3	40.7	40.9	97.17	-1,641.8	-296.3	1,007.9	927.5	80.34	12.544	
9,645.6	7,197.0	9,731.5	7,323.3	41.4	41.7	97.20	-1,687.4	-296.3	1,007.9	926.0	81.89	12.309	
9,700.0	7,196.3	9,785.9	7,323.2	42.4	42.6	97.23	-1,741.8	-296.3	1,008.0	924.3	83.73	12.039	
9,744.1	7,195.7	9,829.9	7,323.1	43.1	43.4	97.26	-1,785.9	-296.3	1,008.1	922.8	85.23	11.827	
9,800.0	7,195.0	9,885.9	7,323.0	44.1	44.3	97.29	-1,841.8	-296.3	1,008.1	921.0	87.14	11.569	
9,842.5	7,194.5	9,928.4	7,323.0	44.8	45.1	97.32	-1,884.3	-296.3	1,008.2	919.6	88.61	11.378	
9,900.0	7,193.8	9,985.9	7,322.9	45.8	46.1	97.36	-1,941.8	-296.3	1,008.3	917.7	90.59	11.130	
9,940.9	7,193.3	10,026.8	7,322.8	46.5	46.8	97.38	-1,982.7	-296.3	1,008.3	916.3	92.01	10.959	
10,000.0	7,192.5	10,085.9	7,322.7	47.5	47.8	97.42	-2,041.8	-296.3	1,008.4	914.4	94.07	10.720	
10,039.3	7,192.0	10,125.2	7,322.7	48.2	48.5	97.44	-2,081.1	-296.3	1,008.5	913.0	95.44	10.567	
10,100.0	7,191.3	10,185.9	7,322.6	49.3	49.6	97.48	-2,141.8	-296.3	1,008.6	911.0	97.56	10.338	
10,137.8	7,190.8	10,223.6	7,322.5	49.9	50.3	97.50	-2,179.5	-296.3	1,008.6	909.7	98.89	10.199	
10,200.0	7,190.0	10,285.8	7,322.4	51.0	51.4	97.54	-2,241.8	-296.3	1,008.7	907.6	101.08	9.979	
10,236.2	7,189.6	10,322.0	7,322.4	51.7	52.0	97.56	-2,278.0	-296.3	1,008.8	906.4	102.36	9.855	
10,300.0	7,188.8	10,385.8	7,322.3	52.8	53.2	97.60	-2,341.8	-296.3	1,008.9	904.2	104.62	9.643	
10,334.6	7,188.3	10,420.5	7,322.2	53.4	53.8	97.62	-2,376.4	-296.3	1,008.9	903.1	105.85	9.531	
10,400.0	7,187.5	10,485.8	7,322.1	54.6	55.0	97.67	-2,441.7	-296.3	1,009.0	900.8	108.18	9.327	
10,433.0	7,187.1	10,518.9	7,322.1	55.2	55.6	97.69	-2,474.8	-296.3	1,009.1	899.7	109.36	9.227	
10,500.0	7,186.3	10,585.8	7,322.0	56.4	56.8	97.73	-2,541.7	-296.3	1,009.2	897.4	111.75	9.031	
10,531.5	7,185.9	10,617.3	7,321.9	56.9	57.3	97.75	-2,573.2	-296.3	1,009.2	896.3	112.88	8.941	
10,600.0	7,185.0	10,685.8	7,321.8	58.2	58.6	97.79	-2,641.7	-296.3	1,009.3	894.0	115.33	8.751	
10,629.9	7,184.6	10,715.7	7,321.8	58.7	59.1	97.81	-2,671.6	-296.3	1,009.4	892.9	116.41	8.671	
10,700.0	7,183.8	10,785.8	7,321.7	60.0	60.4	97.85	-2,741.7	-296.3	1,009.5	890.5	118.93	8.488	
10,728.3	7,183.4	10,814.1	7,321.6	60.5	60.9	97.87	-2,770.1	-296.3	1,009.5	889.6	119.95	8.416	
10,800.0	7,182.5	10,885.8	7,321.5	61.8	62.2	97.91	-2,841.7	-296.3	1,009.6	887.1	122.54	8.239	
10,826.7	7,182.2	10,912.6	7,321.5	62.3	62.7	97.93	-2,868.5	-296.3	1,009.7	886.2	123.51	8.175	
10,900.0	7,181.2	10,985.8	7,321.4	63.6	64.0	97.98	-2,941.7	-296.3	1,009.8	883.6	126.16	8.004	
10,925.2	7,180.9	11,011.0	7,321.3	64.0	64.5	97.99	-2,966.9	-296.3	1,009.8	882.7	127.07	7.947	
11,000.0	7,180.0	11,085.8	7,321.2	65.4	65.9	98.04	-3,041.7	-296.3	1,009.9	880.1	129.79	7.782	
11,023.6	7,179.7	11,109.4	7,321.2	65.8	66.3	98.05	-3,065.3	-296.3	1,010.0	879.3	130.64	7.731	
11,100.0	7,178.7	11,185.8	7,321.0	67.2	67.7	98.10	-3,141.7	-296.3	1,010.1	876.7	133.42	7.571	
11,122.0	7,178.4	11,207.8	7,321.0	67.6	68.1	98.11	-3,163.7	-296.3	1,010.1	875.9	134.22	7.526	
11,200.0	7,177.5	11,285.8	7,320.9	69.1	69.6	98.16	-3,241.7	-296.3	1,010.2	873.2	137.06	7.371	
11,220.4	7,177.2	11,306.2	7,320.9	69.4	69.9	98.17	-3,262.2	-296.3	1,010.3	872.5	137.81	7.331	
11,300.0	7,176.2	11,385.8	7,320.7	70.9	71.4	98.22	-3,341.7	-296.3	1,010.4	869.7	140.71	7.180	
11,318.9	7,176.0	11,404.7	7,320.7	71.2	71.8	98.24	-3,360.6	-296.3	1,010.4	869.0	141.40	7.146	
11,400.0	7,174.9	11,485.8	7,320.6	72.7	73.3	98.29	-3,441.7	-296.3	1,010.6	866.2	144.37	7.000	
11,417.3	7,174.7	11,503.1	7,320.5	73.1	73.6	98.30	-3,459.0	-296.3	1,010.6	865.6	145.00	6.969	
11,500.0	7,173.7	11,585.8	7,320.4	74.6	75.1	98.35	-3,541.7	-296.3	1,010.7	862.7	148.03	6.828	
11,515.7	7,173.5	11,601.5	7,320.4	74.9	75.4	98.36	-3,557.4	-296.3	1,010.7	862.1	148.61	6.801	
11,600.0	7,172.4	11,685.8	7,320.3	76.4	77.0	98.41	-3,641.7	-296.3	1,010.9	859.2	151.70	6.664	
11,614.1	7,172.2	11,699.9	7,320.2	76.7	77.2	98.42	-3,655.8	-296.3	1,010.9	858.7	152.22	6.641	
11,700.0	7,171.2	11,785.8	7,320.1	78.3	78.8	98.47	-3,741.7	-296.3	1,011.0	855.7	155.37	6.507	
11,712.6	7,171.0	11,798.3	7,320.1	78.5	79.1	98.48	-3,754.2	-296.3	1,011.1	855.2	155.84	6.488	
11,739.5	7,170.7	11,825.3	7,320.0	79.0	79.5	98.50	-3,781.2	-296.3	1,011.1	854.4	156.73	6.451	
11,791.4	7,170.0	11,849.6	7,320.0	80.0	79.8	98.51	-3,805.5	-296.3	1,011.6	853.5	158.04	6.401 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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	91.41	-0.4	14.8	14.8				
98.4	98.4	97.4	97.4	0.1	0.1	91.41	-0.4	14.8	14.8	14.6	0.17	87.480	
100.0	100.0	99.0	99.0	0.1	0.1	91.41	-0.4	14.8	14.8	14.6	0.17	85.888	
196.8	196.8	195.8	195.8	0.3	0.3	91.41	-0.4	14.8	14.8	14.2	0.61	24.399	
200.0	200.0	199.0	199.0	0.3	0.3	91.41	-0.4	14.8	14.8	14.2	0.62	23.842	
295.3	295.3	294.3	294.3	0.5	0.5	91.41	-0.4	14.8	14.8	13.7	1.05	14.104	
300.0	300.0	299.0	299.0	0.5	0.5	91.41	-0.4	14.8	14.8	13.7	1.07	13.824	
393.7	393.7	392.7	392.7	0.7	0.7	91.41	-0.4	14.8	14.8	13.3	1.49	9.919	
400.0	400.0	399.0	399.0	0.8	0.8	91.41	-0.4	14.8	14.8	13.3	1.52	9.734	
492.1	492.1	491.1	491.1	1.0	1.0	91.41	-0.4	14.8	14.8	12.9	1.93	7.649	
500.0	500.0	499.0	499.0	1.0	1.0	91.41	-0.4	14.8	14.8	12.8	1.97	7.512	
590.5	590.5	589.5	589.5	1.2	1.2	91.41	-0.4	14.8	14.8	12.4	2.38	6.225	
600.0	600.0	599.0	599.0	1.2	1.2	91.41	-0.4	14.8	14.8	12.4	2.42	6.116	
689.0	689.0	688.0	688.0	1.4	1.4	91.41	-0.4	14.8	14.8	12.0	2.82	5.248	
700.0	700.0	699.0	699.0	1.4	1.4	91.41	-0.4	14.8	14.8	11.9	2.87	5.157	
787.4	787.4	786.4	786.4	1.6	1.6	91.41	-0.4	14.8	14.8	11.5	3.26	4.536	
800.0	800.0	799.0	799.0	1.7	1.7	91.41	-0.4	14.8	14.8	11.5	3.32	4.458	
885.8	885.8	884.8	884.8	1.9	1.9	91.41	-0.4	14.8	14.8	11.1	3.70	3.994	
900.0	900.0	899.0	899.0	1.9	1.9	91.41	-0.4	14.8	14.8	11.0	3.77	3.926	
984.2	984.2	983.2	983.2	2.1	2.1	91.41	-0.4	14.8	14.8	10.6	4.15	3.568	
1,000.0	1,000.0	999.0	999.0	2.1	2.1	91.41	-0.4	14.8	14.8	10.6	4.22	3.508	
1,082.7	1,082.7	1,081.7	1,081.7	2.3	2.3	91.41	-0.4	14.8	14.8	10.2	4.59	3.224	
1,100.0	1,100.0	1,099.0	1,099.0	2.3	2.3	91.41	-0.4	14.8	14.8	10.1	4.67	3.170	
1,181.1	1,181.1	1,180.1	1,180.1	2.5	2.5	91.41	-0.4	14.8	14.8	9.8	5.03	2.940	
1,200.0	1,200.0	1,199.0	1,199.0	2.6	2.6	91.41	-0.4	14.8	14.8	9.7	5.12	2.891	
1,279.5	1,279.5	1,278.5	1,278.5	2.7	2.7	91.41	-0.4	14.8	14.8	9.3	5.47	2.702	
1,300.0	1,300.0	1,299.0	1,299.0	2.8	2.8	91.41	-0.4	14.8	14.8	9.2	5.57	2.658	
1,377.9	1,377.9	1,376.9	1,376.9	3.0	3.0	91.41	-0.4	14.8	14.8	8.9	5.92	2.500	
1,400.0	1,400.0	1,399.0	1,399.0	3.0	3.0	91.41	-0.4	14.8	14.8	8.8	6.01	2.459	
1,476.4	1,476.4	1,475.4	1,475.4	3.2	3.2	91.41	-0.4	14.8	14.8	8.4	6.36	2.326	
1,500.0	1,500.0	1,499.0	1,499.0	3.2	3.2	91.41	-0.4	14.8	14.8	8.3	6.46	2.288	
1,574.8	1,574.8	1,573.8	1,573.8	3.4	3.4	91.41	-0.4	14.8	14.8	8.0	6.80	2.175	
1,600.0	1,600.0	1,599.0	1,599.0	3.5	3.5	91.41	-0.4	14.8	14.8	7.9	6.91	2.139	
1,673.2	1,673.2	1,672.2	1,672.2	3.6	3.6	91.41	-0.4	14.8	14.8	7.5	7.24	2.042	
1,700.0	1,700.0	1,699.0	1,699.0	3.7	3.7	91.41	-0.4	14.8	14.8	7.4	7.36	2.009	
1,738.1	1,738.1	1,737.1	1,737.1	3.8	3.8	91.41	-0.4	14.8	14.8	7.3	7.53	1.963 CC	
1,771.6	1,771.6	1,770.6	1,770.6	3.8	3.8	91.19	-0.3	14.8	14.8	7.2	7.68	1.931 ES	
1,800.0	1,800.0	1,798.8	1,798.8	3.9	3.9	90.21	-0.1	15.1	15.1	7.3	7.81	1.929	
1,850.0	1,850.0	1,848.6	1,848.6	4.0	4.0	86.77	0.9	15.9	16.0	7.9	8.03	1.986	
1,870.1	1,870.1	1,868.6	1,868.6	4.1	4.1	46.78	1.5	16.4	16.5	8.3	8.12	2.027	
1,900.0	1,900.0	1,898.4	1,898.3	4.1	4.1	44.50	2.5	17.4	17.2	9.0	8.25	2.089	
1,968.5	1,968.5	1,966.5	1,966.3	4.3	4.3	40.19	5.7	20.3	19.2	10.6	8.54	2.242	
2,000.0	1,999.9	1,997.8	1,997.5	4.4	4.3	38.57	7.6	22.0	20.1	11.4	8.68	2.315	
2,066.9	2,066.7	2,064.3	2,063.7	4.5	4.5	35.76	12.4	26.3	22.1	13.2	8.96	2.471	
2,100.0	2,099.7	2,097.1	2,096.3	4.6	4.6	34.64	15.2	28.8	23.2	14.1	9.10	2.549	
2,165.3	2,164.7	2,162.0	2,160.5	4.7	4.7	32.85	21.6	34.6	25.3	16.0	9.38	2.701	
2,200.0	2,199.1	2,196.3	2,194.5	4.8	4.8	32.09	25.4	38.0	26.5	17.0	9.52	2.782	
2,263.8	2,262.3	2,259.5	2,256.8	5.0	5.0	30.99	33.2	45.0	28.6	18.9	9.79	2.926	
2,300.0	2,298.2	2,295.4	2,292.1	5.0	5.1	30.50	38.1	49.4	29.9	19.9	9.94	3.007	
2,362.2	2,359.5	2,357.0	2,352.4	5.2	5.2	29.87	47.2	57.6	32.1	21.8	10.21	3.140	
2,400.0	2,396.6	2,394.4	2,388.9	5.3	5.4	29.59	53.3	63.1	33.4	23.0	10.37	3.221	
2,460.6	2,456.0	2,454.3	2,447.2	5.5	5.6	29.29	63.6	72.4	35.5	24.9	10.63	3.342	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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
2,500.0	2,494.4	2,493.2	2,484.9	5.6	5.7	29.17	70.9	78.9	37.0	26.2	10.80	3.421	
2,559.0	2,551.8	2,551.5	2,541.1	5.8	5.9	29.11	82.4	89.3	39.1	28.0	11.08	3.529	
2,600.0	2,591.5	2,591.9	2,579.9	5.9	6.1	29.12	90.9	97.0	40.6	29.3	11.26	3.605	
2,657.5	2,646.8	2,648.6	2,634.0	6.1	6.3	29.22	103.5	108.3	42.7	31.2	11.54	3.701	
2,685.2	2,673.5	2,676.0	2,660.0	6.2	6.4	29.30	109.9	114.1	43.7	32.1	11.67	3.747	
2,700.0	2,687.6	2,690.5	2,673.7	6.3	6.5	29.33	113.3	117.2	44.3	32.6	11.75	3.770	
2,755.9	2,741.1	2,745.6	2,725.7	6.5	6.7	29.08	126.9	129.4	47.1	35.1	12.06	3.905	
2,800.0	2,783.4	2,789.5	2,767.0	6.7	7.0	28.65	138.1	139.4	49.8	37.5	12.31	4.042	
2,854.3	2,835.4	2,843.8	2,817.9	6.9	7.2	28.19	151.9	151.8	53.1	40.4	12.63	4.202	
2,900.0	2,879.2	2,889.3	2,860.8	7.1	7.5	27.84	163.4	162.3	55.8	42.9	12.89	4.330	
2,952.7	2,929.7	2,942.0	2,910.2	7.4	7.8	27.48	176.8	174.3	59.0	45.8	13.20	4.469	
3,000.0	2,974.9	2,989.2	2,954.6	7.6	8.0	27.19	188.8	185.1	61.9	48.4	13.48	4.589	
3,051.2	3,023.9	3,040.2	3,002.6	7.8	8.3	26.90	201.8	196.8	65.0	51.2	13.80	4.710	
3,100.0	3,070.7	3,089.0	3,048.3	8.1	8.6	26.65	214.2	208.0	67.9	53.8	14.09	4.822	
3,149.6	3,118.2	3,138.5	3,094.9	8.3	8.9	26.42	226.8	219.3	70.9	56.5	14.40	4.928	
3,200.0	3,166.5	3,188.8	3,142.1	8.6	9.2	26.21	239.6	230.8	74.0	59.3	14.71	5.032	
3,248.0	3,212.5	3,236.7	3,187.2	8.8	9.5	26.02	251.7	241.8	76.9	61.9	15.01	5.125	
3,300.0	3,262.3	3,288.6	3,235.9	9.1	9.8	25.82	264.9	253.7	80.1	64.7	15.34	5.222	
3,346.4	3,306.8	3,335.0	3,279.5	9.3	10.1	25.67	276.7	264.3	82.9	67.3	15.63	5.303	
3,400.0	3,358.1	3,388.4	3,329.7	9.6	10.4	25.50	290.3	276.5	86.1	70.2	15.97	5.394	
3,444.9	3,401.0	3,433.2	3,371.8	9.8	10.7	25.37	301.7	286.7	88.9	72.6	16.26	5.466	
3,500.0	3,453.8	3,488.2	3,423.5	10.1	11.0	25.21	315.7	299.3	92.2	75.6	16.62	5.551	
3,543.3	3,495.3	3,531.4	3,464.1	10.3	11.3	25.10	326.6	309.2	94.9	78.0	16.90	5.614	
3,600.0	3,549.6	3,588.0	3,517.3	10.6	11.7	24.97	341.0	322.2	98.3	81.0	17.27	5.693	
3,641.7	3,589.6	3,629.7	3,556.5	10.8	11.9	24.87	351.6	331.7	100.8	83.3	17.54	5.749	
3,700.0	3,645.4	3,687.9	3,611.1	11.1	12.3	24.75	366.4	345.0	104.4	86.5	17.92	5.824	
3,740.1	3,683.8	3,727.9	3,648.8	11.4	12.5	24.66	376.6	354.2	106.8	88.6	18.19	5.873	
3,800.0	3,741.2	3,787.2	3,704.5	11.7	12.9	24.68	391.5	367.9	110.5	92.0	18.59	5.947	
3,838.6	3,778.1	3,825.3	3,740.3	11.9	13.1	24.97	400.6	377.2	113.1	94.3	18.86	5.997	
3,900.0	3,837.0	3,885.8	3,797.1	12.2	13.5	25.90	414.4	392.6	117.6	98.2	19.35	6.076	
3,937.0	3,872.4	3,922.6	3,831.7	12.4	13.7	26.61	422.5	402.2	120.4	100.7	19.67	6.119	
4,000.0	3,932.7	3,985.4	3,890.7	12.8	14.1	27.73	436.3	418.7	125.2	105.0	20.23	6.188	
4,035.4	3,966.7	4,020.7	3,923.9	13.0	14.4	28.33	444.0	427.9	127.9	107.4	20.55	6.226	
4,100.0	4,028.5	4,085.0	3,984.4	13.3	14.8	29.35	458.2	444.8	133.0	111.8	21.14	6.291	
4,133.8	4,060.9	4,118.7	4,016.0	13.5	15.0	29.86	465.6	453.6	135.6	114.2	21.45	6.324	
4,200.0	4,124.3	4,184.7	4,078.0	13.9	15.4	30.79	480.1	470.9	140.8	118.8	22.06	6.385	
4,232.3	4,155.2	4,216.8	4,108.2	14.0	15.7	31.23	487.2	479.3	143.4	121.0	22.36	6.413	
4,300.0	4,220.1	4,284.3	4,171.6	14.4	16.1	32.08	502.0	496.9	148.8	125.8	22.99	6.471	
4,330.7	4,249.5	4,314.9	4,200.3	14.6	16.3	32.45	508.7	505.0	151.2	127.9	23.28	6.496	
4,400.0	4,315.9	4,383.9	4,265.2	15.0	16.8	33.24	523.9	523.0	156.8	132.8	23.93	6.551	
4,429.1	4,343.7	4,412.9	4,292.5	15.1	17.0	33.55	530.3	530.6	159.1	134.9	24.21	6.573	
4,500.0	4,411.6	4,483.5	4,358.9	15.5	17.4	34.28	545.8	549.1	164.8	139.9	24.88	6.624	
4,527.5	4,438.0	4,511.0	4,384.6	15.7	17.6	34.55	551.9	556.3	167.0	141.9	25.15	6.643	
4,600.0	4,507.4	4,583.2	4,452.5	16.1	18.1	35.23	567.8	575.2	172.9	147.1	25.84	6.692	
4,626.0	4,532.3	4,609.1	4,476.8	16.2	18.3	35.46	573.5	582.0	175.0	148.9	26.09	6.709	
4,700.0	4,603.2	4,682.8	4,546.1	16.7	18.8	36.09	589.7	601.3	181.1	154.3	26.81	6.755	
4,724.4	4,626.6	4,707.1	4,568.9	16.8	18.9	36.29	595.0	607.7	183.1	156.0	27.04	6.769	
4,800.0	4,699.0	4,782.4	4,639.7	17.2	19.5	36.88	611.6	627.4	189.3	161.5	27.78	6.813	
4,822.8	4,720.8	4,805.2	4,661.1	17.4	19.6	37.05	616.6	633.3	191.1	163.1	28.00	6.826	
4,900.0	4,794.7	4,882.1	4,733.4	17.8	20.1	37.60	633.5	653.5	197.5	168.7	28.76	6.868	
4,921.2	4,815.1	4,903.2	4,753.2	17.9	20.3	37.75	638.2	659.0	199.2	170.3	28.96	6.879	
5,000.0	4,890.5	4,981.7	4,827.0	18.4	20.8	38.26	655.4	679.6	205.7	176.0	29.74	6.918	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
5,019.7	4,909.4	5,001.3	4,845.4	18.5	20.9	38.39	659.7	684.7	207.4	177.4	29.93	6.928	
5,100.0	4,986.3	5,081.3	4,920.6	18.9	21.5	38.88	677.3	705.7	214.0	183.3	30.72	6.966	
5,118.1	5,003.6	5,099.4	4,937.5	19.0	21.6	38.98	681.3	710.4	215.5	184.6	30.90	6.974	
5,200.0	5,082.1	5,181.0	5,014.2	19.5	22.2	39.44	699.3	731.7	222.3	190.6	31.71	7.010	
5,216.5	5,097.9	5,197.4	5,029.7	19.6	22.3	39.53	702.9	736.1	223.7	191.8	31.87	7.017	
5,300.0	5,177.9	5,280.6	5,107.9	20.1	22.8	39.97	721.2	757.8	230.6	197.9	32.70	7.052	
5,314.9	5,192.2	5,295.5	5,121.9	20.2	22.9	40.05	724.4	761.7	231.9	199.0	32.85	7.058	
5,400.0	5,273.6	5,380.2	5,201.5	20.6	23.5	40.46	743.1	783.9	238.9	205.3	33.70	7.091	
5,413.4	5,286.5	5,393.6	5,214.0	20.7	23.6	40.52	746.0	787.4	240.1	206.2	33.83	7.096	
5,500.0	5,369.4	5,479.9	5,295.1	21.2	24.2	40.92	765.0	810.0	247.3	212.6	34.69	7.128	
5,511.8	5,380.7	5,491.6	5,306.2	21.3	24.3	40.97	767.6	813.1	248.3	213.5	34.81	7.133	
5,600.0	5,465.2	5,585.8	5,395.0	21.8	24.9	41.50	787.6	836.9	254.7	219.0	35.73	7.129	
5,610.2	5,475.0	5,596.8	5,405.5	21.9	24.9	41.59	789.8	839.6	255.3	219.5	35.85	7.123	
5,700.0	5,561.0	5,693.9	5,498.3	22.4	25.4	42.51	808.2	861.5	259.1	222.2	36.87	7.026	
5,708.6	5,569.3	5,703.3	5,507.2	22.4	25.4	42.62	809.9	863.5	259.3	222.3	36.98	7.012	
5,793.4	5,650.4	5,794.9	5,595.7	22.9	25.8	43.85	825.3	881.8	260.3	222.3	38.06	6.840	
5,800.0	5,656.8	5,802.0	5,602.6	22.9	25.9	43.96	826.4	883.1	260.3	222.2	38.14	6.824	
5,807.1	5,663.6	5,809.7	5,610.0	23.0	25.9	44.08	827.6	884.5	260.3	222.1	38.23	6.808	
5,900.0	5,753.1	5,910.0	5,707.8	23.4	26.3	45.56	842.0	901.6	259.9	220.6	39.36	6.604	
5,905.5	5,758.4	5,915.9	5,713.6	23.4	26.3	45.65	842.7	902.6	259.9	220.5	39.42	6.593	
6,000.0	5,850.3	6,017.8	5,813.7	23.8	26.7	47.07	855.0	917.1	259.1	218.6	40.49	6.399	
6,003.9	5,854.1	6,022.0	5,817.9	23.8	26.7	47.13	855.4	917.7	259.0	218.5	40.53	6.392	
6,100.0	5,948.3	6,125.4	5,920.1	24.1	27.0	48.49	865.4	929.5	257.7	216.2	41.52	6.207	
6,102.3	5,950.6	6,127.9	5,922.6	24.1	27.0	48.52	865.6	929.8	257.7	216.1	41.54	6.202	
6,200.0	6,046.9	6,232.9	6,026.9	24.4	27.2	49.83	873.2	938.8	255.8	213.3	42.46	6.024	
6,200.8	6,047.6	6,233.7	6,027.7	24.4	27.2	49.85	873.2	938.9	255.8	213.3	42.47	6.023	
6,299.2	6,145.2	6,339.3	6,132.9	24.7	27.4	51.10	878.4	945.0	253.3	210.0	43.30	5.850	
6,300.0	6,146.0	6,340.1	6,133.8	24.7	27.4	51.11	878.4	945.0	253.3	210.0	43.30	5.849	
6,397.6	6,243.1	6,444.6	6,238.2	24.9	27.6	52.29	881.0	948.2	250.3	206.2	44.03	5.684	
6,400.0	6,245.5	6,447.1	6,240.7	24.9	27.6	52.31	881.1	948.2	250.2	206.2	44.05	5.680	
6,496.0	6,341.4	6,546.8	6,340.4	25.1	27.7	53.34	881.4	948.6	246.9	202.3	44.65	5.531	
6,500.0	6,345.3	6,550.7	6,344.3	25.1	27.7	53.37	881.4	948.6	246.8	202.2	44.67	5.526	
6,594.5	6,439.7	6,644.8	6,438.4	25.2	27.8	53.96	880.9	948.6	245.3	200.2	45.07	5.442	
6,600.0	6,445.3	6,650.0	6,443.6	25.2	27.8	54.02	880.7	948.6	245.2	200.1	45.10	5.438	
6,614.6	6,459.8	6,664.6	6,458.1	25.2	27.8	54.23	879.9	948.6	245.2	200.0	45.18	5.427	
6,628.6	6,473.9	6,678.4	6,471.9	25.3	27.8	92.78	878.9	948.6	245.2	199.9	45.28	5.416	
6,658.6	6,503.9	6,707.7	6,501.0	25.3	27.8	93.49	875.9	948.6	245.4	199.8	45.55	5.387	
6,692.9	6,538.1	6,740.9	6,533.9	25.3	27.8	-85.53	871.0	948.6	245.7	199.8	45.90	5.353	
6,700.0	6,545.2	6,747.7	6,540.6	25.3	27.8	-85.33	869.8	948.6	245.8	199.8	45.97	5.347	
6,750.0	6,595.0	6,795.8	6,587.6	25.3	27.7	-83.93	859.5	948.6	246.3	200.0	46.36	5.314	
6,791.3	6,635.8	6,835.2	6,625.5	25.3	27.7	-82.80	848.8	948.6	246.9	200.3	46.59	5.299	
6,800.0	6,644.3	6,843.5	6,633.4	25.3	27.7	-82.57	846.3	948.6	247.0	200.4	46.64	5.297	
6,850.0	6,693.0	6,890.8	6,677.9	25.2	27.6	-81.25	830.2	948.6	247.9	201.1	46.79	5.297	
6,889.7	6,731.0	6,928.2	6,712.2	25.2	27.5	-80.24	815.4	948.6	248.6	201.8	46.82	5.309	
6,900.0	6,740.7	6,937.9	6,720.9	25.2	27.4	-79.99	811.3	948.6	248.8	201.9	46.82	5.313	
6,950.0	6,787.3	6,984.6	6,782.4	25.0	27.3	-78.78	789.8	948.6	249.8	203.0	46.72	5.345	
6,988.2	6,821.9	7,020.0	6,792.9	24.9	27.2	-77.91	771.6	948.6	250.6	204.0	46.56	5.381	
7,000.0	6,832.5	7,031.0	6,802.1	24.9	27.1	-77.64	765.8	948.6	250.8	204.3	46.50	5.394	
7,050.0	6,876.1	7,077.1	6,839.9	24.7	26.9	-76.56	739.4	948.6	251.9	205.7	46.15	5.458	
7,086.6	6,906.8	7,110.7	6,866.4	24.6	26.8	-75.82	718.7	948.6	252.7	206.9	45.82	5.515	
7,100.0	6,917.9	7,123.0	6,875.8	24.5	26.8	-75.55	710.8	948.6	253.0	207.3	45.69	5.538	
7,150.0	6,957.6	7,168.6	6,909.6	24.3	26.5	-74.62	680.1	948.6	254.1	209.0	45.12	5.632	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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
7,185.0	6,984.2	7,200.0	6,931.7	24.1	26.4	-74.01	657.8	948.6	254.9	210.2	44.67	5.705	
7,200.0	6,995.2	7,214.1	6,941.2	24.1	26.3	-73.75	647.6	948.6	255.2	210.7	44.47	5.738	
7,250.0	7,030.3	7,259.3	6,970.6	23.8	26.1	-72.97	613.2	948.6	256.2	212.5	43.75	5.857	
7,283.4	7,052.4	7,289.4	6,989.0	23.6	26.0	-72.49	589.3	948.6	256.9	213.7	43.23	5.942	
7,300.0	7,062.9	7,304.3	6,997.7	23.6	25.9	-72.26	577.2	948.6	257.2	214.2	42.97	5.985	
7,350.0	7,092.8	7,350.0	7,022.7	23.3	25.7	-71.62	539.0	948.6	258.1	216.0	42.17	6.121	
7,381.9	7,110.3	7,377.8	7,036.8	23.1	25.5	-71.27	515.0	948.6	258.7	217.0	41.66	6.209	
7,400.0	7,119.8	7,394.0	7,044.5	23.0	25.4	-71.08	500.8	948.6	259.0	217.6	41.37	6.260	
7,450.0	7,143.8	7,438.6	7,064.2	22.8	25.2	-70.61	460.7	948.6	259.7	219.1	40.59	6.398	
7,480.3	7,156.8	7,465.6	7,074.9	22.6	25.1	-70.37	435.9	948.6	260.1	219.9	40.14	6.480	
7,500.0	7,164.7	7,483.2	7,081.3	22.5	25.0	-70.23	419.6	948.6	260.3	220.4	39.85	6.532	
7,550.0	7,182.3	7,527.6	7,095.8	22.2	24.7	-69.92	377.6	948.6	260.8	221.6	39.19	6.655	
7,578.7	7,191.0	7,553.2	7,102.9	22.1	24.6	-69.78	353.1	948.6	261.0	222.2	38.85	6.719	
7,600.0	7,196.7	7,572.0	7,107.6	22.0	24.5	-69.70	334.8	948.6	261.2	222.5	38.62	6.763	
7,650.0	7,207.7	7,616.4	7,116.8	21.7	24.3	-69.56	291.4	948.6	261.4	223.2	38.16	6.850	
7,677.1	7,212.2	7,640.5	7,120.6	21.6	24.2	-69.52	267.6	948.6	261.5	223.5	37.97	6.886	
7,700.0	7,215.2	7,660.7	7,123.3	21.5	24.1	-69.50	247.5	948.6	261.5	223.7	37.84	6.911	
7,750.0	7,219.3	7,705.1	7,127.0	21.3	24.0	-69.53	203.4	948.6	261.5	223.8	37.65	6.944	
7,775.6	7,220.1	7,727.8	7,127.8	21.2	23.9	-69.57	180.7	948.6	261.4	223.8	37.62	6.948	
7,792.5	7,220.0	7,742.8	7,128.0	21.1	23.8	-69.61	165.7	948.6	261.3	223.7	37.61	6.949	
7,800.0	7,219.9	7,749.8	7,128.0	21.1	23.8	-69.62	158.7	948.6	261.3	223.7	37.62	6.946	
7,874.0	7,219.0	7,823.8	7,127.6	20.8	23.5	-69.74	84.7	948.6	261.1	223.4	37.70	6.926	
7,900.0	7,218.7	7,849.8	7,127.5	20.7	23.5	-69.79	58.7	948.6	261.0	223.3	37.70	6.923	
7,972.4	7,217.8	7,922.2	7,127.2	20.5	23.3	-69.90	-13.8	948.6	260.8	222.9	37.88	6.885	
8,000.0	7,217.5	7,949.8	7,127.1	20.4	23.3	-69.95	-41.3	948.6	260.7	222.8	37.98	6.865	
8,070.8	7,216.6	8,020.6	7,126.7	20.4	23.3	-70.06	-112.2	948.6	260.6	222.2	38.38	6.788	
8,100.0	7,216.2	8,049.8	7,126.6	20.4	23.3	-70.11	-141.3	948.6	260.5	221.9	38.58	6.751	
8,169.3	7,215.4	8,119.1	7,126.3	20.7	23.5	-70.22	-210.6	948.6	260.3	221.1	39.20	6.640	
8,200.0	7,215.0	8,149.8	7,126.2	21.0	23.6	-70.27	-241.3	948.6	260.2	220.7	39.51	6.586	
8,267.7	7,214.1	8,217.5	7,125.9	21.6	23.8	-70.39	-309.0	948.6	260.0	219.7	40.32	6.450	
8,300.0	7,213.7	8,249.8	7,125.7	21.9	24.0	-70.44	-341.3	948.6	259.9	219.2	40.74	6.381	
8,366.1	7,212.9	8,315.9	7,125.4	22.6	24.3	-70.55	-407.4	948.6	259.8	218.1	41.71	6.228	
8,400.0	7,212.5	8,349.8	7,125.3	23.0	24.5	-70.60	-441.3	948.6	259.7	217.4	42.24	6.147	
8,464.5	7,211.7	8,414.3	7,125.0	23.8	24.9	-70.71	-505.9	948.6	259.5	216.2	43.35	5.986	
8,500.0	7,211.3	8,449.8	7,124.8	24.2	25.2	-70.77	-541.3	948.6	259.4	215.4	44.00	5.896	
8,563.0	7,210.5	8,512.7	7,124.5	25.0	25.7	-70.87	-604.3	948.6	259.3	214.0	45.23	5.732	
8,600.0	7,210.0	8,549.8	7,124.4	25.5	25.9	-70.93	-641.3	948.6	259.2	213.2	45.99	5.636	
8,661.4	7,209.3	8,611.2	7,124.1	26.3	26.5	-71.03	-702.7	948.6	259.0	211.7	47.30	5.475	
8,700.0	7,208.8	8,649.8	7,123.9	26.8	26.8	-71.10	-741.3	948.6	258.9	210.7	48.17	5.375	
8,759.8	7,208.0	8,709.6	7,123.6	27.6	27.4	-71.20	-801.1	948.6	258.7	209.2	49.56	5.221	
8,800.0	7,207.5	8,749.8	7,123.4	28.2	27.8	-71.26	-841.3	948.6	258.6	208.1	50.53	5.119	
8,858.2	7,206.8	8,808.0	7,123.2	29.0	28.4	-71.36	-899.6	948.6	258.5	206.5	51.98	4.973	
8,900.0	7,206.3	8,849.8	7,123.0	29.6	28.8	-71.43	-941.3	948.6	258.4	205.3	53.04	4.871	
8,956.7	7,205.6	8,906.4	7,122.7	30.4	29.4	-71.53	-998.0	948.6	258.3	203.7	54.53	4.736	
9,000.0	7,205.0	8,949.8	7,122.5	31.1	29.9	-71.60	-1,041.3	948.6	258.1	202.4	55.69	4.635	
9,055.1	7,204.3	9,004.9	7,122.3	31.9	30.6	-71.69	-1,096.4	948.6	258.0	200.8	57.20	4.510	
9,100.0	7,203.8	9,049.8	7,122.1	32.6	31.1	-71.77	-1,141.3	948.6	257.9	199.4	58.46	4.412	
9,153.5	7,203.1	9,103.3	7,121.9	33.4	31.8	-71.86	-1,194.8	948.6	257.8	197.8	59.98	4.297	
9,200.0	7,202.5	9,149.8	7,121.6	34.2	32.4	-71.93	-1,241.3	948.6	257.6	196.3	61.33	4.201	
9,251.9	7,201.9	9,201.7	7,121.4	35.0	33.0	-72.02	-1,293.2	948.6	257.5	194.7	62.85	4.097	
9,300.0	7,201.3	9,249.7	7,121.2	35.7	33.7	-72.10	-1,341.3	948.6	257.4	193.1	64.28	4.004	
9,350.4	7,200.7	9,300.1	7,121.0	36.6	34.3	-72.19	-1,391.7	948.6	257.3	191.5	65.80	3.910	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - OLSON 30R-203 - 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
9,400.0	7,200.0	9,349.7	7,120.7	37.4	35.0	-72.27	-1,441.3	948.6	257.2	189.8	67.32	3.820	
9,448.8	7,199.4	9,398.5	7,120.5	38.2	35.7	-72.36	-1,490.1	948.6	257.0	188.2	68.83	3.735	
9,500.0	7,198.8	9,449.7	7,120.3	39.0	36.4	-72.44	-1,541.3	948.6	256.9	186.5	70.43	3.648	
9,547.2	7,198.2	9,497.0	7,120.1	39.8	37.1	-72.52	-1,588.5	948.6	256.8	184.9	71.91	3.571	
9,600.0	7,197.5	9,549.7	7,119.8	40.7	37.9	-72.61	-1,641.3	948.6	256.7	183.1	73.59	3.488	
9,645.6	7,197.0	9,595.4	7,119.6	41.4	38.6	-72.69	-1,686.9	948.6	256.6	181.5	75.06	3.418	
9,700.0	7,196.3	9,649.7	7,119.4	42.4	39.4	-72.78	-1,741.3	948.6	256.4	179.6	76.81	3.338	
9,744.1	7,195.7	9,693.8	7,119.2	43.1	40.0	-72.86	-1,785.3	948.6	256.3	178.1	78.25	3.276	
9,800.0	7,195.0	9,749.7	7,118.9	44.1	40.9	-72.95	-1,841.3	948.6	256.2	176.1	80.08	3.199	
9,842.5	7,194.5	9,792.2	7,118.8	44.8	41.5	-73.03	-1,883.8	948.6	256.1	174.6	81.49	3.143	
9,900.0	7,193.8	9,849.7	7,118.5	45.8	42.4	-73.13	-1,941.3	948.6	256.0	172.6	83.40	3.069	
9,940.9	7,193.3	9,890.7	7,118.3	46.5	43.1	-73.20	-1,982.2	948.6	255.9	171.1	84.76	3.019	
10,000.0	7,192.5	9,949.7	7,118.0	47.5	44.0	-73.30	-2,041.3	948.6	255.7	169.0	86.75	2.948	
10,039.3	7,192.0	9,989.1	7,117.9	48.2	44.6	-73.37	-2,080.6	948.6	255.6	167.6	88.08	2.903	
10,100.0	7,191.3	10,049.7	7,117.6	49.3	45.6	-73.47	-2,141.3	948.6	255.5	165.4	90.13	2.835	
10,137.8	7,190.8	10,087.5	7,117.4	49.9	46.2	-73.54	-2,179.0	948.7	255.4	164.0	91.42	2.794	
10,200.0	7,190.0	10,149.7	7,117.1	51.0	47.3	-73.64	-2,241.2	948.7	255.3	161.7	93.55	2.729	
10,236.2	7,189.6	10,185.9	7,117.0	51.7	47.8	-73.71	-2,277.4	948.7	255.2	160.4	94.80	2.692	
10,300.0	7,188.8	10,249.7	7,116.7	52.8	48.9	-73.82	-2,341.2	948.7	255.1	158.1	97.00	2.629	
10,334.6	7,188.3	10,284.3	7,116.5	53.4	49.5	-73.88	-2,375.9	948.7	255.0	156.8	98.20	2.597	
10,400.0	7,187.5	10,349.7	7,116.2	54.6	50.6	-73.99	-2,441.2	948.7	254.8	154.4	100.47	2.536	
10,433.0	7,187.1	10,382.8	7,116.1	55.2	51.1	-74.05	-2,474.3	948.7	254.8	153.1	101.63	2.507	
10,500.0	7,186.3	10,449.7	7,115.8	56.4	52.3	-74.17	-2,541.2	948.7	254.6	150.6	103.97	2.449	
10,531.5	7,185.9	10,481.2	7,115.7	56.9	52.8	-74.22	-2,572.7	948.7	254.5	149.5	105.08	2.422	
10,600.0	7,185.0	10,549.7	7,115.4	58.2	54.0	-74.34	-2,641.2	948.7	254.4	146.9	107.49	2.367	
10,629.9	7,184.6	10,579.6	7,115.2	58.7	54.5	-74.40	-2,671.1	948.7	254.3	145.8	108.55	2.343	
10,700.0	7,183.8	10,649.7	7,114.9	60.0	55.7	-74.52	-2,741.2	948.7	254.2	143.2	111.03	2.289	
10,728.3	7,183.4	10,678.0	7,114.8	60.5	56.2	-74.57	-2,769.5	948.7	254.1	142.1	112.04	2.268	
10,800.0	7,182.5	10,749.7	7,114.5	61.8	57.4	-74.69	-2,841.2	948.7	254.0	139.4	114.59	2.216	
10,826.7	7,182.2	10,776.5	7,114.3	62.3	57.9	-74.74	-2,868.0	948.7	253.9	138.4	115.55	2.197	
10,900.0	7,181.2	10,849.7	7,114.0	63.6	59.1	-74.87	-2,941.2	948.7	253.8	135.6	118.17	2.147	
10,925.2	7,180.9	10,874.9	7,113.9	64.0	59.6	-74.92	-2,966.4	948.7	253.7	134.6	119.08	2.131	
11,000.0	7,180.0	10,949.7	7,113.6	65.4	60.9	-75.05	-3,041.2	948.7	253.6	131.8	121.77	2.082	
11,023.6	7,179.7	10,973.3	7,113.5	65.8	61.3	-75.09	-3,064.8	948.7	253.5	130.9	122.62	2.067	
11,100.0	7,178.7	11,049.7	7,113.1	67.2	62.6	-75.23	-3,141.2	948.7	253.3	128.0	125.38	2.021	
11,122.0	7,178.4	11,071.7	7,113.0	67.6	63.0	-75.26	-3,163.2	948.7	253.3	127.1	126.17	2.008	
11,200.0	7,177.5	11,149.7	7,112.7	69.1	64.4	-75.40	-3,241.2	948.7	253.1	124.1	129.00	1.962	
11,220.4	7,177.2	11,170.1	7,112.6	69.4	64.8	-75.44	-3,261.7	948.7	253.1	123.4	129.74	1.951	
11,300.0	7,176.2	11,249.7	7,112.2	70.9	66.2	-75.58	-3,341.2	948.7	252.9	120.3	132.64	1.907	
11,318.9	7,176.0	11,268.6	7,112.1	71.2	66.5	-75.62	-3,360.1	948.7	252.9	119.6	133.33	1.897	
11,400.0	7,174.9	11,349.7	7,111.8	72.7	68.0	-75.76	-3,441.2	948.7	252.7	116.4	136.29	1.854	
11,417.3	7,174.7	11,367.0	7,111.7	73.1	68.3	-75.79	-3,458.5	948.7	252.7	115.8	136.92	1.846	
11,500.0	7,173.7	11,449.7	7,111.3	74.6	69.8	-75.94	-3,541.2	948.7	252.5	112.6	139.95	1.804	
11,515.7	7,173.5	11,465.4	7,111.3	74.9	70.0	-75.97	-3,556.9	948.7	252.5	112.0	140.53	1.797	
11,600.0	7,172.4	11,549.7	7,110.9	76.4	71.6	-76.12	-3,641.2	948.7	252.3	108.7	143.63	1.757	
11,614.1	7,172.2	11,563.8	7,110.8	76.7	71.8	-76.15	-3,655.3	948.7	252.3	108.2	144.15	1.750	
11,700.0	7,171.2	11,649.7	7,110.4	78.3	73.4	-76.30	-3,741.2	948.7	252.2	104.8	147.31	1.712	
11,712.6	7,171.0	11,662.2	7,110.4	78.5	73.6	-76.32	-3,753.8	948.7	252.1	104.4	147.78	1.706	
11,791.4	7,170.0	11,741.0	7,110.0	80.0	75.0	-76.47	-3,832.6	948.7	252.0	101.3	150.69	1.672 SF	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	91.39	-1.1	44.9	44.9				
98.4	98.4	97.4	97.4	0.1	0.1	91.39	-1.1	44.9	44.9	44.8	0.17	265.738	
100.0	100.0	99.0	99.0	0.1	0.1	91.39	-1.1	44.9	44.9	44.8	0.17	260.903	
196.8	196.8	195.8	195.8	0.3	0.3	91.39	-1.1	44.9	44.9	44.3	0.61	74.116	
200.0	200.0	199.0	199.0	0.3	0.3	91.39	-1.1	44.9	44.9	44.3	0.62	72.424	
295.3	295.3	294.3	294.3	0.5	0.5	91.39	-1.1	44.9	44.9	43.9	1.05	42.845	
300.0	300.0	299.0	299.0	0.5	0.5	91.39	-1.1	44.9	44.9	43.9	1.07	41.994	
393.7	393.7	392.7	392.7	0.7	0.7	91.39	-1.1	44.9	44.9	43.4	1.49	30.131	
400.0	400.0	399.0	399.0	0.8	0.8	91.39	-1.1	44.9	44.9	43.4	1.52	29.570	
492.1	492.1	491.1	491.1	1.0	1.0	91.39	-1.1	44.9	44.9	43.0	1.93	23.236	
500.0	500.0	499.0	499.0	1.0	1.0	91.39	-1.1	44.9	44.9	43.0	1.97	22.819	
590.5	590.5	589.5	589.5	1.2	1.2	91.39	-1.1	44.9	44.9	42.6	2.38	18.909	
600.0	600.0	599.0	599.0	1.2	1.2	91.39	-1.1	44.9	44.9	42.5	2.42	18.577	
689.0	689.0	688.0	688.0	1.4	1.4	91.39	-1.1	44.9	44.9	42.1	2.82	15.941	
700.0	700.0	699.0	699.0	1.4	1.4	91.39	-1.1	44.9	44.9	42.1	2.87	15.665	
787.4	787.4	786.4	786.4	1.6	1.6	91.39	-1.1	44.9	44.9	41.7	3.26	13.778	
800.0	800.0	799.0	799.0	1.7	1.7	91.39	-1.1	44.9	44.9	41.6	3.32	13.543	
885.8	885.8	884.8	884.8	1.9	1.9	91.39	-1.1	44.9	44.9	41.2	3.70	12.132	
900.0	900.0	899.0	899.0	1.9	1.9	91.39	-1.1	44.9	44.9	41.2	3.77	11.927	
984.2	984.2	983.2	983.2	2.1	2.1	91.39	-1.1	44.9	44.9	40.8	4.15	10.837	
1,000.0	1,000.0	999.0	999.0	2.1	2.1	91.39	-1.1	44.9	44.9	40.7	4.22	10.655	
1,082.7	1,082.7	1,081.7	1,081.7	2.3	2.3	91.39	-1.1	44.9	44.9	40.3	4.59	9.792	
1,100.0	1,100.0	1,099.0	1,099.0	2.3	2.3	91.39	-1.1	44.9	44.9	40.3	4.67	9.629	
1,181.1	1,181.1	1,180.1	1,180.1	2.5	2.5	91.39	-1.1	44.9	44.9	39.9	5.03	8.931	
1,200.0	1,200.0	1,199.0	1,199.0	2.6	2.6	91.39	-1.1	44.9	44.9	39.8	5.12	8.783	
1,279.5	1,279.5	1,278.5	1,278.5	2.7	2.7	91.39	-1.1	44.9	44.9	39.5	5.47	8.209	
1,300.0	1,300.0	1,299.0	1,299.0	2.8	2.8	91.39	-1.1	44.9	44.9	39.4	5.57	8.073	
1,377.9	1,377.9	1,376.9	1,376.9	3.0	3.0	91.39	-1.1	44.9	44.9	39.0	5.92	7.595	
1,400.0	1,400.0	1,399.0	1,399.0	3.0	3.0	91.39	-1.1	44.9	44.9	38.9	6.01	7.470	
1,476.4	1,476.4	1,475.4	1,475.4	3.2	3.2	91.39	-1.1	44.9	44.9	38.6	6.36	7.066	
1,500.0	1,500.0	1,499.0	1,499.0	3.2	3.2	91.39	-1.1	44.9	44.9	38.5	6.46	6.950	
1,538.2	1,538.2	1,537.2	1,537.2	3.3	3.3	91.39	-1.1	44.9	44.9	38.3	6.64	6.770 CC	
1,574.8	1,574.8	1,573.5	1,573.5	3.4	3.4	91.33	-1.0	45.0	45.0	38.2	6.80	6.621 ES	
1,600.0	1,600.0	1,598.4	1,598.4	3.5	3.5	91.11	-0.9	45.3	45.3	38.4	6.91	6.553	
1,673.2	1,673.2	1,670.6	1,670.5	3.6	3.6	89.70	0.2	47.1	47.1	39.9	7.23	6.517	
1,700.0	1,700.0	1,696.9	1,696.9	3.7	3.7	88.94	0.9	48.1	48.2	40.8	7.34	6.559	
1,771.6	1,771.6	1,767.4	1,767.2	3.8	3.8	86.42	3.2	51.9	52.1	44.5	7.66	6.808	
1,800.0	1,800.0	1,795.2	1,794.9	3.9	3.9	85.30	4.4	53.8	54.2	46.4	7.78	6.960	
1,850.0	1,850.0	1,844.1	1,843.6	4.0	4.0	83.23	6.9	57.7	58.4	50.4	8.00	7.296	
1,870.1	1,870.1	1,863.7	1,863.1	4.1	4.0	44.11	7.9	59.5	60.3	52.2	8.08	7.456	
1,900.0	1,900.0	1,892.9	1,892.1	4.1	4.1	43.05	9.7	62.3	63.2	54.9	8.21	7.689	
1,968.5	1,968.5	1,959.6	1,958.2	4.3	4.3	41.23	14.3	69.8	70.0	61.5	8.51	8.226	
2,000.0	1,999.9	1,990.2	1,988.5	4.4	4.3	40.63	16.7	73.6	73.2	64.6	8.64	8.474	
2,066.9	2,066.7	2,055.1	2,052.5	4.5	4.5	39.76	22.3	82.7	80.3	71.4	8.93	8.995	
2,100.0	2,099.7	2,087.1	2,084.0	4.6	4.6	39.50	25.3	87.6	83.9	74.8	9.06	9.251	
2,165.3	2,164.7	2,150.2	2,145.9	4.7	4.8	39.24	31.9	98.2	91.1	81.7	9.35	9.747	
2,200.0	2,199.1	2,183.6	2,178.5	4.8	4.9	39.23	35.7	104.2	95.0	85.5	9.49	10.008	
2,263.8	2,262.3	2,245.0	2,238.2	5.0	5.1	39.38	43.1	116.2	102.3	92.6	9.77	10.474	
2,300.0	2,298.2	2,279.8	2,271.9	5.0	5.2	39.55	47.6	123.5	106.6	96.7	9.93	10.736	
2,362.2	2,359.5	2,339.4	2,329.4	5.2	5.4	39.97	55.8	136.8	114.1	103.8	10.21	11.168	
2,400.0	2,396.6	2,375.5	2,364.1	5.3	5.6	40.28	61.1	145.3	118.7	108.3	10.39	11.428	
2,460.6	2,456.0	2,433.3	2,419.4	5.5	5.8	40.87	70.1	159.8	126.2	115.6	10.68	11.824	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
2,500.0	2,494.4	2,470.8	2,455.0	5.6	6.0	41.29	76.2	169.6	131.2	120.4	10.87	12.076	
2,559.0	2,551.8	2,526.9	2,508.1	5.8	6.3	41.98	85.8	185.1	138.9	127.7	11.18	12.426	
2,600.0	2,591.5	2,565.7	2,544.6	5.9	6.5	42.49	92.8	196.4	144.3	132.9	11.40	12.662	
2,657.5	2,646.8	2,620.0	2,595.3	6.1	6.8	43.23	102.9	212.8	152.1	140.4	11.73	12.966	
2,685.2	2,673.5	2,646.2	2,619.7	6.2	7.0	43.60	108.0	221.0	155.9	144.0	11.89	13.107	
2,700.0	2,687.6	2,660.1	2,632.6	6.3	7.0	43.82	110.8	225.5	158.0	146.0	11.99	13.174	
2,755.9	2,741.1	2,712.7	2,681.0	6.5	7.4	44.51	121.5	242.7	166.4	154.1	12.37	13.458	
2,800.0	2,783.4	2,754.0	2,718.8	6.7	7.6	44.91	130.2	256.8	173.7	161.1	12.67	13.713	
2,854.3	2,835.4	2,806.1	2,766.3	6.9	8.0	45.26	141.6	275.2	183.4	170.4	13.06	14.043	
2,900.0	2,879.2	2,851.1	2,807.2	7.1	8.3	45.53	151.4	291.0	191.6	178.2	13.40	14.302	
2,952.7	2,929.7	2,903.0	2,854.4	7.4	8.7	45.82	162.7	309.3	201.1	187.3	13.80	14.575	
3,000.0	2,974.9	2,949.4	2,896.7	7.6	9.0	46.05	172.9	325.7	209.6	195.4	14.16	14.799	
3,051.2	3,023.9	2,999.8	2,942.5	7.8	9.4	46.28	183.9	343.5	218.8	204.2	14.57	15.021	
3,100.0	3,070.7	3,047.8	2,986.2	8.1	9.8	46.48	194.4	360.5	227.6	212.6	14.96	15.215	
3,149.6	3,118.2	3,096.6	3,030.5	8.3	10.1	46.67	205.1	377.7	236.5	221.2	15.36	15.395	
3,200.0	3,166.5	3,146.1	3,075.6	8.6	10.5	46.85	215.9	395.2	245.6	229.8	15.78	15.563	
3,248.0	3,212.5	3,193.4	3,118.6	8.8	10.9	47.01	226.3	411.9	254.2	238.1	16.18	15.710	
3,300.0	3,262.3	3,244.5	3,165.1	9.1	11.3	47.17	237.4	429.9	263.6	247.0	16.63	15.856	
3,346.4	3,306.8	3,290.2	3,206.7	9.3	11.6	47.30	247.4	446.0	272.0	255.0	17.03	15.975	
3,400.0	3,358.1	3,342.8	3,254.6	9.6	12.1	47.45	258.9	464.6	281.6	264.1	17.49	16.102	
3,444.9	3,401.0	3,387.0	3,294.7	9.8	12.4	47.56	268.6	480.2	289.7	271.8	17.88	16.200	
3,500.0	3,453.8	3,441.2	3,344.1	10.1	12.9	47.69	280.5	499.3	299.7	281.3	18.37	16.311	
3,543.3	3,495.3	3,483.8	3,382.8	10.3	13.2	47.79	289.8	514.4	307.5	288.7	18.76	16.391	
3,600.0	3,549.6	3,539.6	3,433.5	10.6	13.6	47.91	302.0	534.0	317.7	298.4	19.27	16.488	
3,641.7	3,589.6	3,580.6	3,470.9	10.8	14.0	47.99	310.9	548.5	325.2	305.6	19.65	16.553	
3,700.0	3,645.4	3,637.9	3,523.0	11.1	14.5	48.10	323.5	568.8	335.7	315.5	20.18	16.639	
3,740.1	3,683.8	3,677.4	3,558.9	11.4	14.8	48.17	332.1	582.7	343.0	322.4	20.55	16.693	
3,800.0	3,741.2	3,736.3	3,612.5	11.7	15.3	48.28	345.0	603.5	353.8	332.7	21.10	16.768	
3,838.6	3,778.1	3,774.2	3,647.0	11.9	15.6	48.34	353.3	616.9	360.7	339.3	21.46	16.812	
3,900.0	3,837.0	3,834.6	3,702.0	12.2	16.1	48.43	366.5	638.2	371.8	349.8	22.03	16.879	
3,937.0	3,872.4	3,871.0	3,735.1	12.4	16.4	48.49	374.4	651.0	378.5	356.1	22.37	16.916	
4,000.0	3,932.7	3,933.0	3,791.4	12.8	16.9	48.58	388.0	672.9	389.8	366.9	22.97	16.974	
4,035.4	3,966.7	3,967.8	3,823.1	13.0	17.2	48.62	395.6	685.2	396.2	372.9	23.30	17.005	
4,100.0	4,028.5	4,031.3	3,880.9	13.3	17.7	48.71	409.5	707.6	407.9	384.0	23.91	17.057	
4,133.8	4,060.9	4,064.6	3,911.2	13.5	18.0	48.75	416.8	719.4	414.0	389.8	24.24	17.082	
4,200.0	4,124.3	4,129.7	3,970.4	13.9	18.5	48.83	431.0	742.3	425.9	401.1	24.87	17.129	
4,232.3	4,155.2	4,161.4	3,999.3	14.0	18.8	48.86	438.0	753.5	431.8	406.6	25.18	17.150	
4,300.0	4,220.1	4,228.0	4,059.9	14.4	19.3	48.93	452.5	777.1	444.0	418.1	25.83	17.191	
4,330.7	4,249.5	4,258.2	4,087.3	14.6	19.6	48.97	459.1	787.7	449.5	423.4	26.12	17.209	
4,400.0	4,315.9	4,326.4	4,149.3	15.0	20.2	49.04	474.0	811.8	462.0	435.2	26.79	17.246	
4,429.1	4,343.7	4,355.0	4,175.4	15.1	20.4	49.06	480.3	821.9	467.3	440.2	27.07	17.260	
4,500.0	4,411.6	4,424.7	4,238.8	15.5	21.0	49.13	495.5	846.5	480.1	452.3	27.76	17.294	
4,527.5	4,438.0	4,451.8	4,263.5	15.7	21.2	49.15	501.5	856.1	485.0	457.0	28.03	17.306	
4,600.0	4,507.4	4,523.1	4,328.3	16.1	21.8	49.21	517.1	881.2	498.1	469.4	28.73	17.335	
4,626.0	4,532.3	4,548.6	4,351.5	16.2	22.0	49.24	522.6	890.2	502.8	473.8	28.99	17.345	
4,700.0	4,603.2	4,621.5	4,417.8	16.7	22.7	49.30	538.6	915.9	516.2	486.5	29.71	17.372	
4,724.4	4,626.6	4,645.5	4,439.6	16.8	22.9	49.31	543.8	924.4	520.6	490.6	29.95	17.381	
4,800.0	4,699.0	4,719.8	4,507.2	17.2	23.5	49.37	560.1	950.6	534.2	503.5	30.69	17.405	
4,822.8	4,720.8	4,742.3	4,527.7	17.4	23.7	49.39	565.0	958.6	538.4	507.4	30.92	17.412	
4,900.0	4,794.7	4,818.2	4,596.7	17.8	24.3	49.44	581.6	985.4	552.3	520.6	31.68	17.434	
4,921.2	4,815.1	4,839.1	4,615.7	17.9	24.5	49.45	586.2	992.7	556.1	524.2	31.89	17.439	
5,000.0	4,890.5	4,916.5	4,686.2	18.4	25.2	49.51	603.1	1,020.1	570.3	537.7	32.67	17.459	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
5,019.7	4,909.4	4,935.9	4,703.8	18.5	25.3	49.52	607.3	1,026.9	573.9	541.0	32.86	17.464	
5,100.0	4,986.3	5,014.9	4,775.7	18.9	26.0	49.57	624.6	1,054.8	588.4	554.7	33.66	17.481	
5,118.1	5,003.6	5,032.7	4,791.9	19.0	26.1	49.58	628.5	1,061.1	591.7	557.8	33.84	17.485	
5,200.0	5,082.1	5,113.2	4,865.1	19.5	26.8	49.63	646.1	1,089.5	606.5	571.8	34.65	17.501	
5,216.5	5,097.9	5,129.5	4,879.9	19.6	27.0	49.63	649.7	1,095.2	609.4	574.6	34.82	17.504	
5,300.0	5,177.9	5,211.6	4,954.6	20.1	27.7	49.68	667.6	1,124.2	624.5	588.9	35.65	17.519	
5,314.9	5,192.2	5,226.3	4,968.0	20.2	27.8	49.69	670.8	1,129.4	627.2	591.4	35.80	17.522	
5,400.0	5,273.6	5,309.9	5,044.1	20.6	28.5	49.73	689.1	1,158.9	642.6	605.9	36.65	17.535	
5,413.4	5,286.5	5,323.1	5,056.1	20.7	28.6	49.74	692.0	1,163.6	645.0	608.2	36.78	17.537	
5,500.0	5,369.4	5,408.3	5,133.6	21.2	29.3	49.78	710.6	1,193.7	660.6	623.0	37.64	17.549	
5,511.8	5,380.7	5,419.9	5,144.1	21.3	29.4	49.79	713.2	1,197.7	662.8	625.0	37.76	17.551	
5,600.0	5,465.2	5,513.6	5,229.4	21.8	30.2	49.84	733.6	1,230.7	678.5	639.9	38.67	17.548	
5,610.2	5,475.0	5,526.2	5,241.0	21.9	30.3	49.85	736.2	1,235.0	680.3	641.5	38.78	17.544	
5,700.0	5,561.0	5,637.8	5,344.1	22.4	31.0	50.07	758.7	1,271.3	693.8	654.0	39.76	17.449	
5,708.6	5,569.3	5,648.6	5,354.2	22.4	31.0	50.10	760.8	1,274.6	694.9	655.1	39.86	17.435	
5,793.4	5,650.4	5,754.8	5,453.9	22.9	31.7	50.49	780.0	1,305.6	704.7	663.8	40.84	17.256	
5,800.0	5,656.8	5,763.2	5,461.8	22.9	31.7	50.54	781.4	1,307.9	705.3	664.4	40.91	17.240	
5,807.1	5,663.6	5,772.1	5,470.2	23.0	31.8	50.59	782.9	1,310.3	706.0	665.0	40.99	17.224	
5,900.0	5,753.1	5,889.1	5,581.8	23.4	32.4	51.20	801.5	1,340.3	714.5	672.5	41.97	17.025	
5,905.5	5,758.4	5,896.0	5,588.5	23.4	32.4	51.24	802.5	1,341.9	714.9	672.9	42.02	17.014	
6,000.0	5,850.3	6,015.5	5,703.9	23.8	32.9	51.79	818.8	1,368.2	722.1	679.2	42.91	16.827	
6,003.9	5,854.1	6,020.5	5,708.7	23.8	32.9	51.81	819.4	1,369.2	722.4	679.4	42.95	16.820	
6,100.0	5,948.3	6,142.2	5,827.6	24.1	33.4	52.31	833.3	1,391.6	728.2	684.5	43.75	16.643	
6,102.3	5,950.6	6,145.2	5,830.5	24.1	33.4	52.32	833.6	1,392.1	728.3	684.6	43.77	16.639	
6,200.0	6,046.9	6,269.2	5,952.6	24.4	33.8	52.76	844.9	1,410.4	732.7	688.3	44.49	16.471	
6,200.8	6,047.6	6,270.2	5,953.6	24.4	33.8	52.77	845.0	1,410.5	732.8	688.3	44.49	16.469	
6,299.2	6,145.2	6,395.4	6,077.7	24.7	34.1	53.15	853.5	1,424.3	735.7	690.6	45.11	16.309	
6,300.0	6,146.0	6,396.4	6,078.7	24.7	34.1	53.15	853.6	1,424.4	735.7	690.6	45.11	16.307	
6,397.6	6,243.1	6,520.6	6,202.4	24.9	34.4	53.47	859.2	1,433.5	737.1	691.4	45.61	16.158	
6,400.0	6,245.5	6,523.6	6,205.4	24.9	34.4	53.48	859.3	1,433.7	737.1	691.4	45.62	16.155	
6,496.0	6,341.4	6,645.8	6,327.5	25.1	34.5	53.73	862.1	1,438.1	736.9	690.8	46.01	16.015	
6,500.0	6,345.3	6,650.8	6,332.5	25.1	34.5	53.74	862.1	1,438.2	736.8	690.8	46.03	16.009	
6,594.5	6,439.7	6,756.2	6,437.9	25.2	34.6	53.92	862.1	1,438.6	735.6	689.3	46.29	15.893	
6,600.0	6,445.3	6,761.5	6,443.2	25.2	34.6	53.93	862.0	1,438.6	735.6	689.3	46.30	15.887	
6,617.1	6,462.4	6,778.0	6,459.7	25.2	34.6	54.00	861.2	1,438.6	735.5	689.2	46.34	15.871	
6,628.6	6,473.9	6,789.0	6,470.7	25.3	34.6	92.36	860.5	1,438.6	735.5	689.2	46.38	15.859	
6,658.6	6,503.9	6,817.6	6,499.1	25.3	34.6	92.57	857.8	1,438.6	735.7	689.2	46.51	15.817	
6,692.9	6,538.1	6,850.0	6,531.2	25.3	34.6	-87.13	853.4	1,438.6	735.8	689.2	46.67	15.767	
6,700.0	6,545.2	6,856.8	6,537.9	25.3	34.6	-87.07	852.3	1,438.6	735.9	689.2	46.70	15.759	
6,750.0	6,595.0	6,903.8	6,584.0	25.3	34.6	-86.65	842.9	1,438.6	736.2	689.3	46.84	15.717	
6,791.3	6,635.8	6,942.4	6,621.3	25.3	34.6	-86.31	832.9	1,438.6	736.5	689.6	46.89	15.708	
6,800.0	6,644.3	6,950.0	6,628.5	25.3	34.6	-86.25	830.7	1,438.6	736.5	689.6	46.89	15.706	
6,850.0	6,693.0	6,997.0	6,672.9	25.2	34.5	-85.86	815.4	1,438.6	736.9	690.0	46.85	15.726	
6,889.7	6,731.0	7,033.7	6,706.9	25.2	34.4	-85.57	801.5	1,438.6	737.1	690.4	46.76	15.766	
6,900.0	6,740.7	7,043.1	6,715.5	25.2	34.4	-85.49	797.6	1,438.6	737.2	690.5	46.73	15.777	
6,950.0	6,787.3	7,089.1	6,756.7	25.0	34.3	-85.15	777.2	1,438.6	737.6	691.1	46.52	15.857	
6,988.2	6,821.9	7,124.0	6,787.0	24.9	34.2	-84.90	759.9	1,438.6	737.9	691.6	46.29	15.938	
7,000.0	6,832.5	7,134.8	6,796.2	24.9	34.1	-84.82	754.3	1,438.6	737.9	691.7	46.22	15.965	
7,050.0	6,876.1	7,180.3	6,834.0	24.7	34.0	-84.53	729.0	1,438.6	738.3	692.4	45.85	16.102	
7,086.6	6,906.8	7,213.4	6,860.6	24.6	33.9	-84.32	709.1	1,438.6	738.6	693.0	45.54	16.219	
7,100.0	6,917.9	7,225.6	6,870.0	24.5	33.9	-84.25	701.6	1,438.6	738.6	693.2	45.41	16.265	
7,150.0	6,957.6	7,270.7	6,904.1	24.3	33.7	-84.00	672.0	1,438.6	739.0	694.1	44.92	16.452	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
7,185.0	6,984.2	7,300.0	6,925.2	24.1	33.6	-83.86	651.6	1,438.6	739.2	694.6	44.55	16.593	
7,200.0	6,995.2	7,315.6	6,936.1	24.1	33.5	-83.78	640.4	1,438.6	739.3	694.9	44.37	16.661	
7,250.0	7,030.3	7,360.5	6,966.1	23.8	33.3	-83.59	607.0	1,438.6	739.5	695.8	43.79	16.889	
7,283.4	7,052.4	7,390.4	6,984.8	23.6	33.2	-83.48	583.7	1,438.6	739.7	696.3	43.39	17.050	
7,300.0	7,062.9	7,405.2	6,993.7	23.6	33.2	-83.42	571.9	1,438.6	739.8	696.6	43.18	17.131	
7,350.0	7,092.8	7,450.0	7,019.2	23.3	33.0	-83.29	535.1	1,438.6	740.0	697.4	42.57	17.385	
7,381.9	7,110.3	7,478.3	7,034.1	23.1	32.9	-83.22	511.1	1,438.6	740.1	697.9	42.18	17.547	
7,400.0	7,119.8	7,494.4	7,042.2	23.0	32.8	-83.18	497.1	1,438.6	740.2	698.2	41.96	17.641	
7,450.0	7,143.8	7,538.9	7,062.7	22.8	32.6	-83.10	457.7	1,438.6	740.3	698.9	41.37	17.895	
7,480.3	7,156.8	7,565.8	7,074.0	22.6	32.5	-83.07	433.2	1,438.6	740.3	699.3	41.03	18.043	
7,500.0	7,164.7	7,583.4	7,080.8	22.5	32.4	-83.06	417.0	1,438.6	740.3	699.5	40.82	18.138	
7,550.0	7,182.3	7,627.8	7,096.3	22.2	32.2	-83.04	375.4	1,438.6	740.4	700.1	40.31	18.365	
7,578.7	7,191.0	7,653.3	7,104.1	22.1	32.1	-83.04	351.1	1,438.6	740.4	700.3	40.06	18.483	
7,600.0	7,196.7	7,672.2	7,109.2	22.0	32.1	-83.05	332.9	1,438.6	740.3	700.5	39.88	18.565	
7,650.0	7,207.7	7,716.7	7,119.5	21.7	31.9	-83.10	289.6	1,438.6	740.3	700.8	39.52	18.734	
7,677.1	7,212.2	7,740.8	7,123.9	21.6	31.8	-83.13	265.9	1,438.6	740.2	700.9	39.36	18.807	
7,700.0	7,215.2	7,761.2	7,127.0	21.5	31.7	-83.17	245.8	1,438.6	740.2	700.9	39.24	18.863	
7,750.0	7,219.3	7,805.7	7,131.9	21.3	31.6	-83.27	201.5	1,438.6	740.0	701.0	39.05	18.948	
7,775.6	7,220.1	7,828.5	7,133.3	21.2	31.5	-83.34	178.8	1,438.6	739.9	700.9	39.01	18.970	
7,792.5	7,220.0	7,843.7	7,133.8	21.1	31.5	-83.39	163.7	1,438.6	739.8	700.9	38.98	18.982	
7,800.0	7,219.9	7,850.0	7,133.9	21.1	31.5	-83.40	157.3	1,438.6	739.8	700.8	38.98	18.981	
7,874.0	7,219.0	7,922.4	7,133.6	20.8	31.3	-83.44	84.9	1,438.6	739.8	700.6	39.17	18.887	
7,900.0	7,218.7	7,948.4	7,133.4	20.7	31.2	-83.45	58.9	1,438.6	739.7	700.5	39.26	18.842	
7,972.4	7,217.8	8,020.8	7,132.8	20.5	31.1	-83.48	-13.5	1,438.6	739.7	700.0	39.69	18.637	
8,000.0	7,217.5	8,048.4	7,132.6	20.4	31.1	-83.49	-41.1	1,438.6	739.7	699.8	39.89	18.545	
8,070.8	7,216.6	8,119.3	7,132.1	20.4	31.1	-83.52	-112.0	1,438.6	739.6	699.1	40.55	18.240	
8,100.0	7,216.2	8,148.4	7,131.9	20.4	31.1	-83.53	-141.1	1,438.6	739.6	698.8	40.86	18.102	
8,169.3	7,215.4	8,217.7	7,131.3	20.7	31.1	-83.55	-210.4	1,438.6	739.6	697.9	41.73	17.721	
8,200.0	7,215.0	8,248.4	7,131.1	21.0	31.1	-83.57	-241.1	1,438.6	739.6	697.4	42.16	17.543	
8,267.7	7,214.1	8,316.1	7,130.6	21.6	31.3	-83.59	-308.8	1,438.6	739.5	696.3	43.21	17.114	
8,300.0	7,213.7	8,348.4	7,130.4	21.9	31.3	-83.60	-341.1	1,438.6	739.5	695.8	43.75	16.903	
8,366.1	7,212.9	8,414.5	7,129.9	22.6	31.5	-83.63	-407.2	1,438.6	739.5	694.5	44.96	16.448	
8,400.0	7,212.5	8,448.4	7,129.6	23.0	31.7	-83.64	-441.1	1,438.6	739.5	693.9	45.61	16.213	
8,464.5	7,211.7	8,513.0	7,129.1	23.8	31.9	-83.67	-505.6	1,438.6	739.4	692.5	46.94	15.753	
8,500.0	7,211.3	8,548.4	7,128.9	24.2	32.1	-83.68	-541.1	1,438.6	739.4	691.7	47.70	15.501	
8,563.0	7,210.5	8,611.4	7,128.4	25.0	32.5	-83.70	-604.1	1,438.6	739.4	690.3	49.13	15.050	
8,600.0	7,210.0	8,648.4	7,128.1	25.5	32.7	-83.72	-641.1	1,438.6	739.4	689.4	50.00	14.788	
8,661.4	7,209.3	8,709.8	7,127.6	26.3	33.2	-83.74	-702.5	1,438.6	739.3	687.8	51.50	14.357	
8,700.0	7,208.8	8,748.4	7,127.4	26.8	33.5	-83.76	-741.1	1,438.6	739.3	686.8	52.47	14.090	
8,759.8	7,208.0	8,808.2	7,126.9	27.6	34.0	-83.78	-800.9	1,438.6	739.3	685.2	54.03	13.684	
8,800.0	7,207.5	8,848.4	7,126.6	28.2	34.3	-83.79	-841.1	1,438.6	739.3	684.2	55.10	13.417	
8,858.2	7,206.8	8,906.7	7,126.2	29.0	34.9	-83.82	-899.3	1,438.6	739.2	682.5	56.69	13.040	
8,900.0	7,206.3	8,948.4	7,125.9	29.6	35.3	-83.83	-941.1	1,438.6	739.2	681.3	57.86	12.776	
8,956.7	7,205.6	9,005.1	7,125.4	30.4	35.9	-83.85	-997.7	1,438.6	739.2	679.7	59.47	12.428	
9,000.0	7,205.0	9,048.4	7,125.1	31.1	36.4	-83.87	-1,041.1	1,438.6	739.1	678.4	60.73	12.170	
9,055.1	7,204.3	9,103.5	7,124.7	31.9	37.0	-83.89	-1,096.2	1,438.6	739.1	676.8	62.36	11.852	
9,100.0	7,203.8	9,148.4	7,124.4	32.6	37.6	-83.91	-1,141.1	1,438.6	739.1	675.4	63.71	11.601	
9,153.5	7,203.1	9,201.9	7,124.0	33.4	38.2	-83.93	-1,194.6	1,438.6	739.1	673.7	65.34	11.312	
9,200.0	7,202.5	9,248.4	7,123.6	34.2	38.8	-83.95	-1,241.1	1,438.6	739.0	672.3	66.77	11.068	
9,251.9	7,201.9	9,300.4	7,123.2	35.0	39.5	-83.97	-1,293.0	1,438.6	739.0	670.6	68.39	10.806	
9,300.0	7,201.3	9,348.4	7,122.9	35.7	40.1	-83.98	-1,341.1	1,438.6	739.0	669.1	69.91	10.571	
9,350.4	7,200.7	9,398.8	7,122.5	36.6	40.8	-84.00	-1,391.4	1,438.6	739.0	667.4	71.51	10.333	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
9,400.0	7,200.0	9,448.4	7,122.1	37.4	41.5	-84.02	-1,441.1	1,438.6	738.9	665.8	73.11	10.107	
9,448.8	7,199.4	9,497.2	7,121.7	38.2	42.2	-84.04	-1,489.9	1,438.6	738.9	664.2	74.69	9.893	
9,500.0	7,198.8	9,548.4	7,121.4	39.0	42.9	-84.06	-1,541.1	1,438.6	738.9	662.5	76.37	9.675	
9,547.2	7,198.2	9,595.6	7,121.0	39.8	43.6	-84.08	-1,588.3	1,438.6	738.9	660.9	77.93	9.481	
9,600.0	7,197.5	9,648.4	7,120.6	40.7	44.4	-84.10	-1,641.0	1,438.6	738.8	659.2	79.68	9.273	
9,645.6	7,197.0	9,694.1	7,120.3	41.4	45.0	-84.12	-1,686.7	1,438.6	738.8	657.6	81.21	9.098	
9,700.0	7,196.3	9,748.4	7,119.9	42.4	45.9	-84.14	-1,741.0	1,438.6	738.8	655.7	83.03	8.897	
9,744.1	7,195.7	9,792.5	7,119.5	43.1	46.5	-84.16	-1,785.1	1,438.6	738.8	654.2	84.53	8.740	
9,800.0	7,195.0	9,848.4	7,119.1	44.1	47.4	-84.18	-1,841.0	1,438.6	738.7	652.3	86.43	8.547	
9,842.5	7,194.5	9,890.9	7,118.8	44.8	48.1	-84.19	-1,883.5	1,438.6	738.7	650.8	87.88	8.406	
9,900.0	7,193.8	9,948.4	7,118.4	45.8	49.0	-84.22	-1,941.0	1,438.6	738.7	648.8	89.86	8.221	
9,940.9	7,193.3	9,989.3	7,118.0	46.5	49.6	-84.23	-1,982.0	1,438.6	738.7	647.4	91.27	8.093	
10,000.0	7,192.5	10,048.4	7,117.6	47.5	50.5	-84.26	-2,041.0	1,438.6	738.6	645.3	93.32	7.915	
10,039.3	7,192.0	10,087.7	7,117.3	48.2	51.2	-84.27	-2,080.4	1,438.6	738.6	643.9	94.69	7.801	
10,100.0	7,191.3	10,148.4	7,116.9	49.3	52.1	-84.29	-2,141.0	1,438.6	738.6	641.8	96.81	7.630	
10,137.8	7,190.8	10,186.2	7,116.6	49.9	52.8	-84.31	-2,178.8	1,438.6	738.6	640.4	98.13	7.526	
10,200.0	7,190.0	10,248.4	7,116.1	51.0	53.8	-84.33	-2,241.0	1,438.6	738.5	638.2	100.32	7.362	
10,236.2	7,189.6	10,284.6	7,115.8	51.7	54.4	-84.35	-2,277.2	1,438.6	738.5	636.9	101.60	7.269	
10,300.0	7,188.8	10,348.4	7,115.4	52.8	55.4	-84.37	-2,341.0	1,438.6	738.5	634.6	103.85	7.111	
10,334.6	7,188.3	10,383.0	7,115.1	53.4	56.0	-84.39	-2,375.6	1,438.6	738.5	633.4	105.08	7.028	
10,400.0	7,187.5	10,448.4	7,114.6	54.6	57.1	-84.41	-2,441.0	1,438.6	738.4	631.0	107.41	6.875	
10,433.0	7,187.1	10,481.4	7,114.4	55.2	57.7	-84.42	-2,474.1	1,438.6	738.4	629.8	108.59	6.800	
10,500.0	7,186.3	10,548.4	7,113.8	56.4	58.8	-84.45	-2,541.0	1,438.6	738.4	627.4	110.98	6.653	
10,531.5	7,185.9	10,579.9	7,113.6	56.9	59.3	-84.46	-2,572.5	1,438.6	738.4	626.3	112.11	6.586	
10,600.0	7,185.0	10,648.4	7,113.1	58.2	60.5	-84.49	-2,641.0	1,438.6	738.3	623.8	114.57	6.444	
10,629.9	7,184.6	10,678.3	7,112.9	58.7	61.0	-84.50	-2,670.9	1,438.6	738.3	622.7	115.65	6.384	
10,700.0	7,183.8	10,748.4	7,112.3	60.0	62.2	-84.53	-2,741.0	1,438.6	738.3	620.1	118.18	6.247	
10,728.3	7,183.4	10,776.7	7,112.1	60.5	62.7	-84.54	-2,769.3	1,438.6	738.3	619.1	119.20	6.193	
10,800.0	7,182.5	10,848.4	7,111.6	61.8	63.9	-84.57	-2,841.0	1,438.6	738.2	616.4	121.80	6.061	
10,826.7	7,182.2	10,875.1	7,111.4	62.3	64.4	-84.58	-2,867.7	1,438.6	738.2	615.5	122.77	6.013	
10,900.0	7,181.2	10,948.4	7,110.8	63.6	65.6	-84.61	-2,941.0	1,438.6	738.2	612.8	125.43	5.885	
10,925.2	7,180.9	10,973.6	7,110.7	64.0	66.1	-84.62	-2,966.2	1,438.6	738.2	611.8	126.35	5.843	
11,000.0	7,180.0	11,048.4	7,110.1	65.4	67.4	-84.65	-3,041.0	1,438.6	738.1	609.1	129.07	5.719	
11,023.6	7,179.7	11,072.0	7,109.9	65.8	67.8	-84.65	-3,064.6	1,438.6	738.1	608.2	129.94	5.681	
11,100.0	7,178.7	11,148.4	7,109.3	67.2	69.1	-84.68	-3,141.0	1,438.6	738.1	605.4	132.73	5.561	
11,122.0	7,178.4	11,170.4	7,109.2	67.6	69.5	-84.69	-3,163.0	1,438.6	738.1	604.6	133.54	5.527	
11,200.0	7,177.5	11,248.4	7,108.6	69.1	70.9	-84.72	-3,241.0	1,438.6	738.1	601.7	136.39	5.411	
11,220.4	7,177.2	11,268.8	7,108.4	69.4	71.2	-84.73	-3,261.4	1,438.6	738.0	600.9	137.14	5.382	
11,300.0	7,176.2	11,348.4	7,107.8	70.9	72.7	-84.76	-3,341.0	1,438.6	738.0	597.9	140.07	5.269	
11,318.9	7,176.0	11,367.3	7,107.7	71.2	73.0	-84.77	-3,359.9	1,438.6	738.0	597.2	140.76	5.243	
11,400.0	7,174.9	11,448.4	7,107.1	72.7	74.4	-84.80	-3,441.0	1,438.6	738.0	594.2	143.75	5.134	
11,417.3	7,174.7	11,465.7	7,107.0	73.1	74.7	-84.81	-3,458.3	1,438.6	738.0	593.6	144.39	5.111	
11,500.0	7,173.7	11,548.4	7,106.3	74.6	76.2	-84.84	-3,541.0	1,438.6	737.9	590.5	147.44	5.005	
11,515.7	7,173.5	11,564.1	7,106.2	74.9	76.5	-84.85	-3,556.7	1,438.6	737.9	589.9	148.02	4.985	
11,600.0	7,172.4	11,648.4	7,105.6	76.4	78.0	-84.88	-3,641.0	1,438.6	737.9	586.7	151.14	4.882	
11,614.1	7,172.2	11,662.5	7,105.5	76.7	78.3	-84.89	-3,655.1	1,438.6	737.9	586.2	151.66	4.865	
11,700.0	7,171.2	11,748.4	7,104.8	78.3	79.8	-84.92	-3,741.0	1,438.6	737.8	583.0	154.84	4.765	
11,712.6	7,171.0	11,761.0	7,104.7	78.5	80.0	-84.93	-3,753.5	1,438.6	737.8	582.5	155.31	4.751	
11,791.4	7,170.0	11,839.6	7,104.2	80.0	81.4	-84.96	-3,832.2	1,438.6	737.8	579.6	158.23	4.663 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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	-88.63	0.4	-15.1	15.1				
98.4	98.4	98.4	98.4	0.1	0.1	-88.63	0.4	-15.1	15.1	14.9	0.17	88.675	
100.0	100.0	100.0	100.0	0.1	0.1	-88.63	0.4	-15.1	15.1	14.9	0.17	87.070	
196.8	196.8	196.8	196.8	0.3	0.3	-88.63	0.4	-15.1	15.1	14.5	0.61	24.767	
200.0	200.0	200.0	200.0	0.3	0.3	-88.63	0.4	-15.1	15.1	14.4	0.62	24.203	
295.3	295.3	295.3	295.3	0.5	0.5	-88.63	0.4	-15.1	15.1	14.0	1.05	14.339	
300.0	300.0	300.0	300.0	0.5	0.5	-88.63	0.4	-15.1	15.1	14.0	1.07	14.055	
393.7	393.7	393.7	393.7	0.7	0.7	-88.63	0.4	-15.1	15.1	13.6	1.49	10.091	
400.0	400.0	400.0	400.0	0.8	0.8	-88.63	0.4	-15.1	15.1	13.5	1.52	9.903	
492.1	492.1	492.1	492.1	1.0	1.0	-88.63	0.4	-15.1	15.1	13.1	1.94	7.784	
500.0	500.0	500.0	500.0	1.0	1.0	-88.63	0.4	-15.1	15.1	13.1	1.97	7.645	
590.5	590.5	590.5	590.5	1.2	1.2	-88.63	0.4	-15.1	15.1	12.7	2.38	6.336	
600.0	600.0	600.0	600.0	1.2	1.2	-88.63	0.4	-15.1	15.1	12.6	2.42	6.225	
689.0	689.0	689.0	689.0	1.4	1.4	-88.63	0.4	-15.1	15.1	12.2	2.82	5.342	
700.0	700.0	700.0	700.0	1.4	1.4	-88.63	0.4	-15.1	15.1	12.2	2.87	5.250	
787.4	787.4	787.4	787.4	1.6	1.6	-88.63	0.4	-15.1	15.1	11.8	3.26	4.618	
800.0	800.0	800.0	800.0	1.7	1.7	-88.63	0.4	-15.1	15.1	11.7	3.32	4.539	
885.8	885.8	885.8	885.8	1.9	1.9	-88.63	0.4	-15.1	15.1	11.4	3.71	4.067	
900.0	900.0	900.0	900.0	1.9	1.9	-88.63	0.4	-15.1	15.1	11.3	3.77	3.998	
984.2	984.2	984.2	984.2	2.1	2.1	-88.63	0.4	-15.1	15.1	10.9	4.15	3.633	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-88.63	0.4	-15.1	15.1	10.9	4.22	3.572	
1,082.7	1,082.7	1,082.7	1,082.7	2.3	2.3	-88.63	0.4	-15.1	15.1	10.5	4.59	3.283	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	-88.63	0.4	-15.1	15.1	10.4	4.67	3.228	
1,181.1	1,181.1	1,181.1	1,181.1	2.5	2.5	-88.63	0.4	-15.1	15.1	10.0	5.03	2.994	
1,200.0	1,200.0	1,200.0	1,200.0	2.6	2.6	-88.63	0.4	-15.1	15.1	10.0	5.12	2.944	
1,279.5	1,279.5	1,279.5	1,279.5	2.7	2.7	-88.63	0.4	-15.1	15.1	9.6	5.48	2.752	
1,300.0	1,300.0	1,300.0	1,300.0	2.8	2.8	-88.63	0.4	-15.1	15.1	9.5	5.57	2.707	
1,377.9	1,377.9	1,377.9	1,377.9	3.0	3.0	-88.63	0.4	-15.1	15.1	9.2	5.92	2.546	
1,400.0	1,400.0	1,400.0	1,400.0	3.0	3.0	-88.63	0.4	-15.1	15.1	9.1	6.02	2.504	
1,476.4	1,476.4	1,476.4	1,476.4	3.2	3.2	-88.63	0.4	-15.1	15.1	8.7	6.36	2.369	
1,500.0	1,500.0	1,500.0	1,500.0	3.2	3.2	-88.63	0.4	-15.1	15.1	8.6	6.47	2.330	
1,574.8	1,574.8	1,574.8	1,574.8	3.4	3.4	-88.63	0.4	-15.1	15.1	8.3	6.80	2.215	
1,600.0	1,600.0	1,600.0	1,600.0	3.5	3.5	-88.63	0.4	-15.1	15.1	8.2	6.92	2.179	
1,673.2	1,673.2	1,673.2	1,673.2	3.6	3.6	-88.63	0.4	-15.1	15.1	7.8	7.25	2.080	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	-88.63	0.4	-15.1	15.1	7.7	7.37	2.046	
1,771.6	1,771.6	1,771.6	1,771.6	3.8	3.8	-88.63	0.4	-15.1	15.1	7.4	7.69	1.960	
1,800.0	1,800.0	1,800.0	1,800.0	3.9	3.9	-88.63	0.4	-15.1	15.1	7.3	7.82	1.928	
1,850.0	1,850.0	1,850.0	1,850.0	4.0	4.0	-88.63	0.4	-15.1	15.1	7.0	8.04	1.874 CC	
1,870.1	1,870.1	1,870.1	1,870.1	4.1	4.1	-127.15	0.4	-15.1	15.1	7.0	8.13	1.859 ES	
1,900.0	1,900.0	1,900.0	1,900.0	4.1	4.1	-128.24	0.4	-15.1	15.3	7.1	8.26	1.856	
1,968.5	1,968.5	1,968.5	1,968.5	4.3	4.3	-133.50	0.4	-15.0	16.6	8.1	8.56	1.941	
2,000.0	1,999.9	2,000.1	2,000.1	4.4	4.4	-135.97	0.7	-14.9	17.5	8.8	8.70	2.006	
2,066.9	2,066.7	2,067.3	2,067.2	4.5	4.5	-140.05	2.5	-13.9	19.4	10.5	8.99	2.164	
2,100.0	2,099.7	2,100.5	2,100.4	4.6	4.6	-141.54	3.9	-13.2	20.5	11.4	9.13	2.251	
2,165.3	2,164.7	2,166.1	2,165.9	4.7	4.7	-143.67	7.6	-11.3	22.9	13.5	9.40	2.431	
2,200.0	2,199.1	2,200.9	2,200.6	4.8	4.8	-144.42	10.1	-9.9	24.2	14.6	9.55	2.532	
2,263.8	2,262.3	2,265.0	2,264.4	5.0	5.0	-145.27	15.7	-7.0	26.7	16.9	9.82	2.722	
2,300.0	2,298.2	2,301.5	2,300.6	5.0	5.0	-145.50	19.4	-5.0	28.2	18.3	9.97	2.834	
2,362.2	2,359.5	2,364.1	2,362.6	5.2	5.2	-145.54	26.8	-1.1	31.0	20.7	10.23	3.026	
2,400.0	2,396.6	2,402.1	2,400.3	5.3	5.3	-145.39	31.9	1.5	32.7	22.3	10.40	3.146	
2,460.6	2,456.0	2,463.2	2,460.5	5.5	5.4	-144.93	40.9	6.3	35.6	24.9	10.67	3.337	
2,500.0	2,494.4	2,502.9	2,499.5	5.6	5.5	-144.52	47.4	9.7	37.6	26.7	10.84	3.464	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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
2,559.0	2,551.8	2,562.4	2,557.8	5.8	5.7	-143.77	58.1	15.3	40.6	29.5	11.13	3.650	
2,600.0	2,591.5	2,603.7	2,598.1	5.9	5.8	-143.17	66.1	19.5	42.8	31.5	11.32	3.781	
2,657.5	2,646.8	2,661.7	2,654.4	6.1	6.0	-142.25	78.2	25.9	46.0	34.4	11.63	3.958	
2,685.2	2,673.5	2,689.7	2,681.5	6.2	6.1	-141.78	84.4	29.2	47.6	35.9	11.78	4.045	
2,700.0	2,687.6	2,704.6	2,695.9	6.3	6.1	-141.51	87.8	31.0	48.5	36.6	11.87	4.085	
2,755.9	2,741.1	2,760.7	2,750.0	6.5	6.3	-140.10	101.1	38.0	51.3	39.1	12.23	4.194	
2,800.0	2,783.4	2,804.8	2,792.4	6.7	6.5	-139.02	111.6	43.5	53.5	41.0	12.53	4.269	
2,854.3	2,835.4	2,859.0	2,844.7	6.9	6.7	-137.81	124.5	50.3	56.2	43.3	12.91	4.353	
2,900.0	2,879.2	2,904.6	2,888.6	7.1	6.9	-136.88	135.3	56.0	58.5	45.3	13.24	4.419	
2,952.7	2,929.7	2,957.3	2,939.3	7.4	7.1	-135.89	147.9	62.6	61.2	47.6	13.64	4.487	
3,000.0	2,974.9	3,004.5	2,984.7	7.6	7.3	-135.08	159.1	68.5	63.6	49.6	14.00	4.544	
3,051.2	3,023.9	3,055.6	3,034.0	7.8	7.5	-134.26	171.3	74.9	66.3	51.8	14.41	4.599	
3,100.0	3,070.7	3,104.3	3,080.9	8.1	7.7	-133.54	182.9	81.1	68.8	54.0	14.80	4.648	
3,149.6	3,118.2	3,153.9	3,128.6	8.3	7.9	-132.87	194.7	87.3	71.3	56.1	15.21	4.692	
3,200.0	3,166.5	3,204.2	3,177.1	8.6	8.2	-132.23	206.7	93.6	74.0	58.3	15.62	4.734	
3,248.0	3,212.5	3,252.1	3,223.3	8.8	8.4	-131.66	218.1	99.6	76.5	60.4	16.04	4.770	
3,300.0	3,262.3	3,304.0	3,273.2	9.1	8.6	-131.08	230.5	106.1	79.2	62.7	16.48	4.805	
3,346.4	3,306.8	3,350.4	3,317.9	9.3	8.8	-130.60	241.5	111.9	81.6	64.8	16.89	4.834	
3,400.0	3,358.1	3,403.9	3,369.4	9.6	9.1	-130.08	254.3	118.6	84.5	67.1	17.36	4.864	
3,444.9	3,401.0	3,448.7	3,412.6	9.8	9.3	-129.67	265.0	124.2	86.8	69.1	17.77	4.887	
3,500.0	3,453.8	3,503.7	3,465.6	10.1	9.6	-129.19	278.1	131.1	89.7	71.5	18.27	4.913	
3,543.3	3,495.3	3,547.0	3,507.2	10.3	9.8	-128.84	288.4	136.6	92.0	73.4	18.66	4.931	
3,600.0	3,549.6	3,603.6	3,561.7	10.6	10.0	-128.40	301.9	143.7	95.0	75.9	19.19	4.953	
3,641.7	3,589.6	3,645.2	3,601.9	10.8	10.2	-128.10	311.8	148.9	97.3	77.7	19.58	4.968	
3,700.0	3,645.4	3,703.4	3,657.9	11.1	10.5	-127.70	325.6	156.2	100.4	80.2	20.12	4.987	
3,740.1	3,683.8	3,743.5	3,696.5	11.4	10.7	-127.44	335.2	161.2	102.5	82.0	20.51	4.998	
3,800.0	3,741.2	3,803.3	3,754.1	11.7	11.0	-127.07	349.4	168.7	105.7	84.6	21.07	5.015	
3,838.6	3,778.1	3,841.8	3,791.2	11.9	11.2	-126.84	358.6	173.6	107.7	86.3	21.45	5.024	
3,900.0	3,837.0	3,903.1	3,850.2	12.2	11.5	-126.50	373.2	181.2	111.0	89.0	22.04	5.038	
3,937.0	3,872.4	3,940.1	3,885.8	12.4	11.7	-126.30	382.0	185.9	113.0	90.6	22.40	5.046	
4,000.0	3,932.7	4,003.0	3,946.4	12.8	12.0	-125.98	397.0	193.8	116.4	93.4	23.01	5.058	
4,035.4	3,966.7	4,038.4	3,980.5	13.0	12.2	-125.80	405.4	198.2	118.3	94.9	23.36	5.064	
4,100.0	4,028.5	4,102.8	4,042.5	13.3	12.5	-125.50	420.8	206.3	121.7	97.7	23.99	5.074	
4,133.8	4,060.9	4,136.6	4,075.1	13.5	12.7	-125.35	428.8	210.5	123.6	99.2	24.33	5.079	
4,200.0	4,124.3	4,202.7	4,138.7	13.9	13.0	-125.07	444.6	218.8	127.1	102.1	24.98	5.088	
4,232.3	4,155.2	4,234.9	4,169.8	14.0	13.2	-124.94	452.3	222.9	128.8	103.5	25.30	5.092	
4,300.0	4,220.1	4,302.5	4,234.9	14.4	13.5	-124.67	468.4	231.3	132.5	106.5	25.98	5.099	
4,330.7	4,249.5	4,333.2	4,264.4	14.6	13.7	-124.56	475.7	235.2	134.1	107.8	26.29	5.102	
4,400.0	4,315.9	4,402.4	4,331.0	15.0	14.1	-124.30	492.1	243.9	137.9	110.9	26.98	5.109	
4,429.1	4,343.7	4,431.5	4,359.1	15.1	14.2	-124.20	499.1	247.5	139.4	112.1	27.28	5.111	
4,500.0	4,411.6	4,502.2	4,427.2	15.5	14.6	-123.96	515.9	256.4	143.2	115.3	27.99	5.117	
4,527.5	4,438.0	4,529.8	4,453.7	15.7	14.7	-123.87	522.5	259.8	144.7	116.5	28.27	5.119	
4,600.0	4,507.4	4,602.1	4,523.4	16.1	15.1	-123.65	539.7	268.9	148.6	119.6	29.01	5.124	
4,626.0	4,532.3	4,628.0	4,548.4	16.2	15.2	-123.57	545.9	272.2	150.0	120.8	29.27	5.125	
4,700.0	4,603.2	4,702.0	4,619.5	16.7	15.6	-123.36	563.5	281.4	154.0	124.0	30.03	5.129	
4,724.4	4,626.6	4,726.3	4,643.0	16.8	15.7	-123.29	569.3	284.5	155.3	125.1	30.28	5.131	
4,800.0	4,699.0	4,801.8	4,715.7	17.2	16.1	-123.08	587.3	294.0	159.4	128.4	31.05	5.134	
4,822.8	4,720.8	4,824.6	4,737.7	17.4	16.3	-123.02	592.7	296.8	160.7	129.4	31.29	5.135	
4,900.0	4,794.7	4,901.7	4,811.9	17.8	16.7	-122.83	611.1	306.5	164.8	132.7	32.08	5.138	
4,921.2	4,815.1	4,922.9	4,832.3	17.9	16.8	-122.77	616.1	309.1	166.0	133.7	32.30	5.139	
5,000.0	4,890.5	5,001.5	4,908.0	18.4	17.2	-122.59	634.9	319.0	170.2	137.1	33.11	5.141	
5,019.7	4,909.4	5,021.2	4,927.0	18.5	17.3	-122.54	639.6	321.5	171.3	138.0	33.31	5.142	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
5,100.0	4,986.3	5,101.4	5,004.2	18.9	17.7	-122.36	658.7	331.5	175.6	141.5	34.14	5.144	
5,118.1	5,003.6	5,119.4	5,021.6	19.0	17.8	-122.32	663.0	333.8	176.6	142.3	34.33	5.145	
5,200.0	5,082.1	5,201.2	5,100.4	19.5	18.3	-122.15	682.4	344.1	181.0	145.9	35.18	5.146	
5,216.5	5,097.9	5,217.7	5,116.3	19.6	18.3	-122.12	686.4	346.1	181.9	146.6	35.35	5.147	
5,300.0	5,177.9	5,301.1	5,196.5	20.1	18.8	-121.95	706.2	356.6	186.5	150.2	36.22	5.148	
5,314.9	5,192.2	5,316.0	5,210.9	20.2	18.9	-121.92	709.8	358.5	187.3	150.9	36.37	5.148	
5,400.0	5,273.6	5,400.9	5,292.7	20.6	19.3	-121.77	730.0	369.1	191.9	154.6	37.26	5.149	
5,413.4	5,286.5	5,414.3	5,305.6	20.7	19.4	-121.74	733.2	370.8	192.6	155.2	37.40	5.150	
5,500.0	5,369.4	5,500.8	5,388.9	21.2	19.9	-121.59	753.8	381.6	197.3	159.0	38.30	5.151	
5,511.8	5,380.7	5,512.5	5,400.2	21.3	19.9	-121.57	756.6	383.1	197.9	159.5	38.43	5.151	
5,600.0	5,465.2	5,600.6	5,485.0	21.8	20.4	-121.42	777.6	394.2	202.7	163.4	39.35	5.151	
5,610.2	5,475.0	5,610.8	5,494.9	21.9	20.4	-121.40	780.0	395.4	203.3	163.8	39.46	5.151	
5,700.0	5,561.0	5,700.5	5,581.2	22.4	20.9	-121.26	801.4	406.7	208.1	167.7	40.40	5.152	
5,708.6	5,569.3	5,709.1	5,589.5	22.4	21.0	-121.25	803.4	407.8	208.6	168.1	40.49	5.152	
5,793.4	5,650.4	5,791.9	5,669.4	22.9	21.4	-121.33	822.4	417.8	213.5	172.2	41.28	5.172	
5,800.0	5,656.8	5,798.3	5,675.6	22.9	21.4	-121.37	823.8	418.5	213.9	172.6	41.33	5.175	
5,807.1	5,663.6	5,805.2	5,682.3	23.0	21.4	-121.41	825.3	419.3	214.4	173.0	41.38	5.180	
5,900.0	5,753.1	5,895.4	5,770.2	23.4	21.8	-121.92	843.4	428.8	219.9	177.9	42.00	5.236	
5,905.5	5,758.4	5,900.0	5,774.7	23.4	21.8	-121.95	844.2	429.2	220.2	178.2	42.03	5.239	
6,000.0	5,850.3	5,992.4	5,865.4	23.8	22.1	-122.49	860.0	437.6	225.3	182.7	42.58	5.291	
6,003.9	5,854.1	5,996.2	5,869.1	23.8	22.1	-122.51	860.6	437.9	225.5	182.9	42.60	5.293	
6,100.0	5,948.3	6,089.3	5,961.0	24.1	22.4	-123.06	873.8	444.8	230.1	187.0	43.08	5.341	
6,102.3	5,950.6	6,091.6	5,963.3	24.1	22.4	-123.08	874.1	445.0	230.2	187.1	43.09	5.342	
6,200.0	6,046.9	6,186.2	6,057.1	24.4	22.6	-123.66	884.7	450.6	234.3	190.8	43.49	5.388	
6,200.8	6,047.6	6,186.9	6,057.8	24.4	22.6	-123.66	884.8	450.6	234.3	190.8	43.49	5.388	
6,299.2	6,145.2	6,282.1	6,152.6	24.7	22.8	-124.26	892.7	454.8	237.9	194.1	43.81	5.431	
6,300.0	6,146.0	6,282.9	6,153.4	24.7	22.8	-124.27	892.7	454.8	238.0	194.1	43.81	5.431	
6,397.6	6,243.1	6,377.2	6,247.5	24.9	23.0	-124.89	897.8	457.4	241.0	196.9	44.05	5.471	
6,400.0	6,245.5	6,379.5	6,249.8	24.9	23.0	-124.90	897.9	457.5	241.0	197.0	44.05	5.471	
6,496.0	6,341.4	6,472.2	6,342.5	25.1	23.2	-125.53	900.1	458.7	243.4	199.2	44.19	5.508	
6,500.0	6,345.3	6,476.0	6,346.3	25.1	23.2	-125.56	900.1	458.7	243.5	199.3	44.20	5.510	
6,594.5	6,439.7	6,569.9	6,440.2	25.2	23.3	-126.27	899.3	458.7	245.0	200.7	44.24	5.537	
6,600.0	6,445.3	6,575.5	6,445.8	25.2	23.3	-126.36	899.0	458.7	245.0	200.8	44.23	5.539	
6,628.6	6,473.9	6,604.3	6,474.5	25.3	23.3	-88.61	896.8	458.7	245.0	200.9	44.13	5.552	
6,658.6	6,503.9	6,634.3	6,504.2	25.3	23.3	-89.44	893.2	458.7	245.0	201.0	43.96	5.573	
6,675.8	6,521.1	6,651.3	6,521.1	25.3	23.3	90.00	890.6	458.7	245.0	201.1	43.83	5.589	
6,692.9	6,538.1	6,668.2	6,537.7	25.3	23.2	89.45	887.6	458.7	245.0	201.3	43.69	5.607	
6,700.0	6,545.2	6,675.2	6,544.6	25.3	23.2	89.22	886.3	458.7	245.0	201.4	43.63	5.615	
6,750.0	6,595.0	6,724.3	6,592.3	25.3	23.2	87.61	875.0	458.7	245.2	202.0	43.15	5.681	
6,791.3	6,635.8	6,764.5	6,630.8	25.3	23.1	86.29	863.3	458.7	245.5	202.8	42.70	5.749	
6,800.0	6,644.3	6,772.9	6,638.7	25.3	23.1	86.02	860.6	458.7	245.6	203.0	42.61	5.764	
6,850.0	6,693.0	6,821.0	6,683.6	25.2	22.9	84.46	843.3	458.7	246.1	204.1	42.00	5.861	
6,889.7	6,731.0	6,859.0	6,718.2	25.2	22.8	83.25	827.6	458.7	246.7	205.2	41.48	5.948	
6,900.0	6,740.7	6,868.8	6,726.9	25.2	22.8	82.95	823.2	458.7	246.9	205.5	41.34	5.971	
6,950.0	6,787.3	6,916.1	6,768.4	25.0	22.6	81.47	800.5	458.7	247.7	207.1	40.65	6.094	
6,988.2	6,821.9	6,952.0	6,798.9	24.9	22.5	80.39	781.4	458.7	248.5	208.4	40.11	6.196	
7,000.0	6,832.5	6,963.1	6,808.1	24.9	22.4	80.06	775.3	458.7	248.8	208.8	39.94	6.229	
7,050.0	6,876.1	7,009.7	6,845.7	24.7	22.2	78.70	747.7	458.7	249.9	210.7	39.21	6.373	
7,086.6	6,906.8	7,043.6	6,871.8	24.6	22.1	77.75	726.2	458.7	250.7	212.1	38.67	6.484	
7,100.0	6,917.9	7,056.0	6,881.1	24.5	22.0	77.41	718.0	458.7	251.1	212.6	38.48	6.525	
7,150.0	6,957.6	7,102.0	6,914.4	24.3	21.8	76.18	686.3	458.7	252.3	214.6	37.76	6.683	
7,185.0	6,984.2	7,134.0	6,936.4	24.1	21.6	75.37	662.9	458.7	253.3	216.0	37.26	6.796	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
7,200.0	6,995.2	7,147.7	6,945.4	24.1	21.5	75.04	652.7	458.7	253.7	216.6	37.06	6.845	
7,250.0	7,030.3	7,193.1	6,974.0	23.8	21.3	73.96	617.4	458.7	255.0	218.6	36.38	7.008	
7,283.4	7,052.4	7,223.4	6,991.8	23.6	21.1	73.29	593.0	458.7	255.8	219.9	35.96	7.116	
7,300.0	7,062.9	7,238.3	7,000.2	23.6	21.0	72.97	580.6	458.7	256.3	220.5	35.75	7.169	
7,350.0	7,092.8	7,283.2	7,023.9	23.3	20.8	72.06	542.4	458.7	257.6	222.4	35.17	7.324	
7,381.9	7,110.3	7,311.8	7,037.7	23.1	20.6	71.53	517.4	458.7	258.4	223.5	34.83	7.418	
7,400.0	7,119.8	7,328.0	7,045.1	23.0	20.5	71.24	503.0	458.7	258.8	224.1	34.64	7.470	
7,450.0	7,143.8	7,372.6	7,063.7	22.8	20.3	70.50	462.5	458.7	259.9	225.8	34.19	7.604	
7,480.3	7,156.8	7,400.0	7,073.8	22.6	20.2	70.08	437.0	458.7	260.6	226.7	33.94	7.678	
7,500.0	7,164.7	7,417.0	7,079.6	22.5	20.1	69.84	421.1	458.7	261.0	227.2	33.80	7.721	
7,550.0	7,182.3	7,461.2	7,093.0	22.2	19.9	69.27	378.9	458.7	262.0	228.5	33.50	7.819	
7,578.7	7,191.0	7,486.6	7,099.5	22.1	19.8	68.98	354.3	458.7	262.5	229.1	33.38	7.863	
7,600.0	7,196.7	7,505.4	7,103.7	22.0	19.7	68.79	336.0	458.7	262.8	229.5	33.29	7.893	
7,650.0	7,207.7	7,550.0	7,111.8	21.7	19.5	68.39	292.2	458.7	263.5	230.3	33.17	7.944	
7,677.1	7,212.2	7,573.3	7,114.9	21.6	19.4	68.21	269.1	458.7	263.8	230.7	33.16	7.956	
7,700.0	7,215.2	7,593.4	7,117.0	21.5	19.3	68.08	249.1	458.7	264.1	230.9	33.15	7.966	
7,750.0	7,219.3	7,637.3	7,119.7	21.3	19.1	67.86	205.3	458.7	264.5	231.2	33.22	7.962	
7,775.6	7,220.1	7,660.3	7,120.0	21.2	19.1	67.78	182.3	458.7	264.6	231.3	33.29	7.950	
7,792.5	7,220.0	7,676.6	7,120.0	21.1	19.0	67.78	166.0	458.7	264.6	231.3	33.35	7.934	
7,800.0	7,219.9	7,684.1	7,119.9	21.1	19.0	67.79	158.5	458.7	264.6	231.2	33.36	7.931	
7,874.0	7,219.0	7,758.1	7,119.8	20.8	18.8	67.94	84.5	458.7	264.3	230.7	33.60	7.867	
7,900.0	7,218.7	7,784.1	7,119.7	20.7	18.8	67.99	58.5	458.7	264.2	230.5	33.69	7.843	
7,972.4	7,217.8	7,856.5	7,119.5	20.5	18.8	68.14	-13.9	458.7	264.0	229.8	34.18	7.722	
8,000.0	7,217.5	7,884.1	7,119.4	20.4	18.9	68.19	-41.5	458.7	263.8	229.5	34.38	7.673	
8,070.8	7,216.6	7,954.9	7,119.3	20.4	19.3	68.33	-112.3	458.7	263.6	228.5	35.12	7.505	
8,100.0	7,216.2	7,984.1	7,119.2	20.4	19.4	68.39	-141.5	458.7	263.5	228.0	35.44	7.435	
8,169.3	7,215.4	8,053.4	7,119.0	20.7	20.0	68.53	-210.8	458.7	263.2	226.8	36.39	7.233	
8,200.0	7,215.0	8,084.1	7,119.0	21.0	20.2	68.59	-241.5	458.7	263.1	226.3	36.82	7.145	
8,267.7	7,214.1	8,151.8	7,118.8	21.6	20.9	68.73	-309.2	458.7	262.9	224.9	37.95	6.926	
8,300.0	7,213.7	8,184.1	7,118.7	21.9	21.2	68.80	-341.5	458.7	262.8	224.2	38.50	6.824	
8,366.1	7,212.9	8,250.2	7,118.5	22.6	21.9	68.93	-407.6	458.7	262.5	222.7	39.78	6.599	
8,400.0	7,212.5	8,284.1	7,118.5	23.0	22.3	69.00	-441.5	458.7	262.4	221.9	40.45	6.487	
8,464.5	7,211.7	8,348.6	7,118.3	23.8	23.1	69.13	-506.0	458.7	262.2	220.3	41.84	6.265	
8,500.0	7,211.3	8,384.1	7,118.2	24.2	23.5	69.20	-541.5	458.7	262.0	219.4	42.62	6.148	
8,563.0	7,210.5	8,447.0	7,118.1	25.0	24.3	69.33	-604.4	458.7	261.8	217.7	44.11	5.936	
8,600.0	7,210.0	8,484.1	7,118.0	25.5	24.8	69.41	-641.5	458.7	261.7	216.7	44.99	5.816	
8,661.4	7,209.3	8,545.5	7,117.8	26.3	25.6	69.53	-702.9	458.7	261.5	214.9	46.54	5.618	
8,700.0	7,208.8	8,584.1	7,117.7	26.8	26.1	69.61	-741.5	458.7	261.3	213.8	47.53	5.498	
8,759.8	7,208.0	8,643.9	7,117.6	27.6	26.9	69.74	-801.3	458.7	261.1	212.0	49.13	5.315	
8,800.0	7,207.5	8,684.1	7,117.5	28.2	27.5	69.82	-841.5	458.7	261.0	210.8	50.22	5.197	
8,858.2	7,206.8	8,742.3	7,117.3	29.0	28.4	69.94	-899.7	458.7	260.8	208.9	51.85	5.030	
8,900.0	7,206.3	8,784.1	7,117.2	29.6	29.0	70.02	-941.5	458.7	260.6	207.6	53.03	4.916	
8,956.7	7,205.6	8,840.7	7,117.1	30.4	29.8	70.14	-998.1	458.7	260.5	205.8	54.68	4.764	
9,000.0	7,205.0	8,884.0	7,117.0	31.1	30.5	70.23	-1,041.4	458.7	260.3	204.4	55.94	4.653	
9,055.1	7,204.3	8,939.1	7,116.8	31.9	31.3	70.34	-1,096.5	458.7	260.1	202.5	57.60	4.516	
9,100.0	7,203.8	8,984.0	7,116.7	32.6	32.0	70.44	-1,141.4	458.7	260.0	201.0	58.95	4.410	
9,153.5	7,203.1	9,037.6	7,116.6	33.4	32.9	70.55	-1,195.0	458.7	259.8	199.2	60.61	4.287	
9,200.0	7,202.5	9,084.0	7,116.5	34.2	33.6	70.65	-1,241.4	458.7	259.6	197.6	62.05	4.185	
9,251.9	7,201.9	9,136.0	7,116.4	35.0	34.5	70.75	-1,293.4	458.7	259.5	195.8	63.69	4.074	
9,300.0	7,201.3	9,184.0	7,116.2	35.7	35.2	70.85	-1,341.4	458.7	259.3	194.1	65.21	3.977	
9,350.4	7,200.7	9,234.4	7,116.1	36.6	36.1	70.96	-1,391.8	458.7	259.1	192.3	66.83	3.878	
9,400.0	7,200.0	9,284.0	7,116.0	37.4	36.9	71.06	-1,441.4	458.7	259.0	190.6	68.44	3.784	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - OLSON 30R-243 - 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	
9,448.8	7,199.4	9,332.8	7,115.9	38.2	37.7	71.17	-1,490.2	458.7	258.8	188.8	70.03	3.696	
9,500.0	7,198.8	9,384.0	7,115.7	39.0	38.6	71.27	-1,541.4	458.7	258.7	186.9	71.71	3.607	
9,547.2	7,198.2	9,431.2	7,115.6	39.8	39.4	71.37	-1,588.6	458.7	258.5	185.2	73.28	3.528	
9,600.0	7,197.5	9,484.0	7,115.5	40.7	40.3	71.48	-1,641.4	458.7	258.3	183.3	75.04	3.443	
9,645.6	7,197.0	9,529.7	7,115.4	41.4	41.0	71.58	-1,687.1	458.7	258.2	181.6	76.58	3.372	
9,700.0	7,196.3	9,584.0	7,115.2	42.4	42.0	71.69	-1,741.4	458.7	258.0	179.6	78.41	3.291	
9,744.1	7,195.7	9,628.1	7,115.1	43.1	42.7	71.79	-1,785.5	458.7	257.9	178.0	79.92	3.227	
9,800.0	7,195.0	9,684.0	7,115.0	44.1	43.7	71.91	-1,841.4	458.7	257.7	175.9	81.83	3.150	
9,842.5	7,194.5	9,726.5	7,114.9	44.8	44.4	72.00	-1,883.9	458.7	257.6	174.3	83.29	3.093	
9,900.0	7,193.8	9,784.0	7,114.7	45.8	45.4	72.12	-1,941.4	458.7	257.4	172.1	85.27	3.019	
9,940.9	7,193.3	9,824.9	7,114.6	46.5	46.1	72.20	-1,982.3	458.7	257.3	170.6	86.69	2.968	
10,000.0	7,192.5	9,884.0	7,114.5	47.5	47.2	72.33	-2,041.4	458.7	257.1	168.4	88.75	2.897	
10,039.3	7,192.0	9,923.3	7,114.4	48.2	47.9	72.41	-2,080.7	458.7	257.0	166.9	90.13	2.851	
10,100.0	7,191.3	9,984.0	7,114.2	49.3	48.9	72.54	-2,141.4	458.7	256.8	164.5	92.25	2.784	
10,137.8	7,190.8	10,021.8	7,114.2	49.9	49.6	72.62	-2,179.2	458.7	256.7	163.1	93.59	2.743	
10,200.0	7,190.0	10,084.0	7,114.0	51.0	50.7	72.76	-2,241.4	458.7	256.5	160.7	95.79	2.678	
10,236.2	7,189.6	10,120.2	7,113.9	51.7	51.4	72.84	-2,277.6	458.7	256.4	159.3	97.07	2.641	
10,300.0	7,188.8	10,184.0	7,113.7	52.8	52.5	72.97	-2,341.4	458.7	256.2	156.9	99.34	2.579	
10,334.6	7,188.3	10,218.6	7,113.7	53.4	53.1	73.05	-2,376.0	458.7	256.1	155.5	100.58	2.546	
10,400.0	7,187.5	10,284.0	7,113.5	54.6	54.3	73.19	-2,441.4	458.7	255.9	153.0	102.92	2.486	
10,433.0	7,187.1	10,317.0	7,113.4	55.2	54.9	73.26	-2,474.4	458.7	255.8	151.7	104.11	2.457	
10,500.0	7,186.3	10,384.0	7,113.2	56.4	56.1	73.40	-2,541.4	458.7	255.6	149.1	106.52	2.400	
10,531.5	7,185.9	10,415.4	7,113.2	56.9	56.7	73.47	-2,572.8	458.7	255.5	147.9	107.66	2.374	
10,600.0	7,185.0	10,484.0	7,113.0	58.2	57.9	73.62	-2,641.4	458.7	255.3	145.2	110.14	2.318	
10,629.9	7,184.6	10,513.9	7,112.9	58.7	58.5	73.68	-2,671.3	458.7	255.3	144.0	111.23	2.295	
10,700.0	7,183.8	10,584.0	7,112.7	60.0	59.7	73.84	-2,741.4	458.7	255.1	141.3	113.78	2.242	
10,728.3	7,183.4	10,612.3	7,112.7	60.5	60.3	73.90	-2,769.7	458.7	255.0	140.2	114.81	2.221	
10,800.0	7,182.5	10,684.0	7,112.5	61.8	61.6	74.05	-2,841.3	458.7	254.8	137.3	117.43	2.170	
10,826.7	7,182.2	10,710.7	7,112.4	62.3	62.1	74.11	-2,868.1	458.7	254.7	136.3	118.41	2.151	
10,900.0	7,181.2	10,783.9	7,112.2	63.6	63.4	74.27	-2,941.3	458.7	254.5	133.4	121.10	2.102	
10,925.2	7,180.9	10,809.1	7,112.2	64.0	63.9	74.33	-2,966.5	458.7	254.4	132.4	122.03	2.085	
11,000.0	7,180.0	10,883.9	7,112.0	65.4	65.2	74.49	-3,041.3	458.7	254.2	129.4	124.79	2.037	
11,023.6	7,179.7	10,907.5	7,111.9	65.8	65.7	74.54	-3,064.9	458.7	254.2	128.5	125.66	2.023	
11,100.0	7,178.7	10,983.9	7,111.7	67.2	67.1	74.71	-3,141.3	458.7	254.0	125.5	128.49	1.977	
11,122.0	7,178.4	11,006.0	7,111.7	67.6	67.5	74.76	-3,163.4	458.7	253.9	124.6	129.30	1.964	
11,200.0	7,177.5	11,083.9	7,111.5	69.1	68.9	74.93	-3,241.3	458.7	253.7	121.5	132.20	1.919	
11,220.4	7,177.2	11,104.4	7,111.4	69.4	69.3	74.97	-3,261.8	458.7	253.7	120.7	132.96	1.908	
11,300.0	7,176.2	11,183.9	7,111.2	70.9	70.8	75.15	-3,341.3	458.7	253.4	117.5	135.92	1.865	
11,318.9	7,176.0	11,202.8	7,111.2	71.2	71.1	75.19	-3,360.2	458.7	253.4	116.8	136.62	1.855	
11,400.0	7,174.9	11,283.9	7,111.0	72.7	72.6	75.37	-3,441.3	458.7	253.2	113.5	139.66	1.813	
11,417.3	7,174.7	11,301.2	7,110.9	73.1	72.9	75.41	-3,458.6	458.7	253.1	112.8	140.30	1.804	
11,500.0	7,173.7	11,383.9	7,110.7	74.6	74.5	75.59	-3,541.3	458.7	252.9	109.5	143.40	1.764	
11,515.7	7,173.5	11,399.6	7,110.7	74.9	74.8	75.62	-3,557.0	458.7	252.9	108.9	143.99	1.756	
11,600.0	7,172.4	11,483.9	7,110.5	76.4	76.3	75.81	-3,641.3	458.7	252.7	105.5	147.16	1.717	
11,614.1	7,172.2	11,498.1	7,110.4	76.7	76.6	75.84	-3,655.5	458.7	252.7	105.0	147.69	1.711	
11,700.0	7,171.2	11,583.9	7,110.2	78.3	78.2	76.03	-3,741.3	458.7	252.4	101.5	150.92	1.673	
11,712.6	7,171.0	11,596.5	7,110.2	78.5	78.4	76.06	-3,753.9	458.7	252.4	101.0	151.40	1.667	
11,771.4	7,170.3	11,655.3	7,110.0	79.6	79.5	76.19	-3,812.7	458.7	252.3	98.7	153.62	1.642	
11,791.4	7,170.0	11,668.5	7,110.0	80.0	79.8	76.22	-3,825.9	458.7	252.3	98.1	154.24	1.636 SF	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - OLSON 30R-303 - 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
0.0	0.0	0.0	0.0	0.0	0.0	91.40	-0.7	29.9	29.9				
98.4	98.4	97.4	97.4	0.1	0.1	91.40	-0.7	29.9	29.9	29.7	0.17	176.609	
100.0	100.0	99.0	99.0	0.1	0.1	91.40	-0.7	29.9	29.9	29.7	0.17	173.396	
196.8	196.8	195.8	195.8	0.3	0.3	91.40	-0.7	29.9	29.9	29.3	0.61	49.257	
200.0	200.0	199.0	199.0	0.3	0.3	91.40	-0.7	29.9	29.9	29.2	0.62	48.133	
295.3	295.3	294.3	294.3	0.5	0.5	91.40	-0.7	29.9	29.9	28.8	1.05	28.474	
300.0	300.0	299.0	299.0	0.5	0.5	91.40	-0.7	29.9	29.9	28.8	1.07	27.909	
393.7	393.7	392.7	392.7	0.7	0.7	91.40	-0.7	29.9	29.9	28.4	1.49	20.025	
400.0	400.0	399.0	399.0	0.8	0.8	91.40	-0.7	29.9	29.9	28.3	1.52	19.652	
492.1	492.1	491.1	491.1	1.0	1.0	91.40	-0.7	29.9	29.9	27.9	1.93	15.443	
500.0	500.0	499.0	499.0	1.0	1.0	91.40	-0.7	29.9	29.9	27.9	1.97	15.165	
590.5	590.5	589.5	589.5	1.2	1.2	91.40	-0.7	29.9	29.9	27.5	2.38	12.567	
600.0	600.0	599.0	599.0	1.2	1.2	91.40	-0.7	29.9	29.9	27.4	2.42	12.346	
689.0	689.0	688.0	688.0	1.4	1.4	91.40	-0.7	29.9	29.9	27.0	2.82	10.594	
700.0	700.0	699.0	699.0	1.4	1.4	91.40	-0.7	29.9	29.9	27.0	2.87	10.411	
787.4	787.4	786.4	786.4	1.6	1.6	91.40	-0.7	29.9	29.9	26.6	3.26	9.157	
800.0	800.0	799.0	799.0	1.7	1.7	91.40	-0.7	29.9	29.9	26.5	3.32	9.000	
885.8	885.8	884.8	884.8	1.9	1.9	91.40	-0.7	29.9	29.9	26.2	3.70	8.063	
900.0	900.0	899.0	899.0	1.9	1.9	91.40	-0.7	29.9	29.9	26.1	3.77	7.926	
984.2	984.2	983.2	983.2	2.1	2.1	91.40	-0.7	29.9	29.9	25.7	4.15	7.202	
1,000.0	1,000.0	999.0	999.0	2.1	2.1	91.40	-0.7	29.9	29.9	25.6	4.22	7.081	
1,082.7	1,082.7	1,081.7	1,081.7	2.3	2.3	91.40	-0.7	29.9	29.9	25.3	4.59	6.508	
1,100.0	1,100.0	1,099.0	1,099.0	2.3	2.3	91.40	-0.7	29.9	29.9	25.2	4.67	6.399	
1,181.1	1,181.1	1,180.1	1,180.1	2.5	2.5	91.40	-0.7	29.9	29.9	24.8	5.03	5.935	
1,200.0	1,200.0	1,199.0	1,199.0	2.6	2.6	91.40	-0.7	29.9	29.9	24.7	5.12	5.837	
1,279.5	1,279.5	1,278.5	1,278.5	2.7	2.7	91.40	-0.7	29.9	29.9	24.4	5.47	5.456	
1,300.0	1,300.0	1,299.0	1,299.0	2.8	2.8	91.40	-0.7	29.9	29.9	24.3	5.57	5.365	
1,377.9	1,377.9	1,376.9	1,376.9	3.0	3.0	91.40	-0.7	29.9	29.9	23.9	5.92	5.048	
1,400.0	1,400.0	1,399.0	1,399.0	3.0	3.0	91.40	-0.7	29.9	29.9	23.8	6.01	4.964	
1,476.4	1,476.4	1,475.4	1,475.4	3.2	3.2	91.40	-0.7	29.9	29.9	23.5	6.36	4.696	
1,500.0	1,500.0	1,499.0	1,499.0	3.2	3.2	91.40	-0.7	29.9	29.9	23.4	6.46	4.619	
1,574.8	1,574.8	1,573.8	1,573.8	3.4	3.4	91.40	-0.7	29.9	29.9	23.1	6.80	4.391	
1,600.0	1,600.0	1,599.0	1,599.0	3.5	3.5	91.40	-0.7	29.9	29.9	22.9	6.91	4.319	
1,638.2	1,638.2	1,637.2	1,637.2	3.5	3.5	91.40	-0.7	29.9	29.9	22.8	7.09	4.214 CC	
1,673.2	1,673.2	1,672.0	1,672.0	3.6	3.6	91.30	-0.7	29.9	29.9	22.7	7.24	4.133 ES	
1,700.0	1,700.0	1,698.6	1,698.6	3.7	3.7	90.91	-0.5	30.2	30.2	22.8	7.36	4.102	
1,771.6	1,771.6	1,769.6	1,769.6	3.8	3.8	88.62	0.8	31.8	31.9	24.2	7.67	4.154	
1,800.0	1,800.0	1,797.7	1,797.6	3.9	3.9	87.30	1.6	32.9	33.0	25.2	7.80	4.227	
1,850.0	1,850.0	1,847.1	1,846.9	4.0	4.0	84.60	3.3	35.3	35.5	27.5	8.02	4.426	
1,870.1	1,870.1	1,866.9	1,866.7	4.1	4.0	45.18	4.2	36.4	36.7	28.6	8.10	4.528	
1,900.0	1,900.0	1,896.4	1,896.1	4.1	4.1	43.74	5.6	38.3	38.5	30.3	8.23	4.681	
1,968.5	1,968.5	1,963.9	1,963.3	4.3	4.3	41.25	9.6	43.6	43.0	34.4	8.52	5.041	
2,000.0	1,999.9	1,994.9	1,994.0	4.4	4.3	40.43	11.7	46.4	45.1	36.5	8.66	5.210	
2,066.9	2,066.7	2,060.6	2,059.2	4.5	4.5	39.19	16.9	53.4	49.8	40.9	8.94	5.570	
2,100.0	2,099.7	2,093.1	2,091.3	4.6	4.6	38.80	19.8	57.2	52.2	43.1	9.08	5.749	
2,165.3	2,164.7	2,157.2	2,154.5	4.7	4.7	38.38	26.1	65.7	57.1	47.7	9.36	6.098	
2,200.0	2,199.1	2,191.1	2,187.9	4.8	4.8	38.30	29.8	70.6	59.7	50.2	9.51	6.284	
2,263.8	2,262.3	2,253.4	2,249.0	5.0	5.0	38.40	37.3	80.5	64.7	55.0	9.78	6.617	
2,300.0	2,298.2	2,288.8	2,283.5	5.0	5.1	38.56	41.8	86.6	67.6	57.7	9.94	6.806	
2,362.2	2,359.5	2,349.4	2,342.5	5.2	5.3	38.98	50.2	97.8	72.8	62.5	10.22	7.121	
2,400.0	2,396.6	2,386.2	2,378.1	5.3	5.5	39.32	55.7	105.1	76.0	65.6	10.39	7.311	
2,460.6	2,456.0	2,445.1	2,435.0	5.5	5.7	39.96	65.0	117.6	81.2	70.5	10.68	7.602	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
2,500.0	2,494.4	2,483.3	2,471.6	5.6	5.8	40.42	71.5	126.1	84.7	73.8	10.87	7.791	
2,559.0	2,551.8	2,540.6	2,526.3	5.8	6.1	41.19	81.6	139.7	90.0	78.8	11.17	8.057	
2,600.0	2,591.5	2,580.2	2,563.9	5.9	6.3	41.75	89.1	149.6	93.8	82.4	11.39	8.238	
2,657.5	2,646.8	2,635.7	2,616.4	6.1	6.5	42.58	100.0	164.2	99.3	87.5	11.72	8.470	
2,685.2	2,673.5	2,662.6	2,641.6	6.2	6.7	43.00	105.5	171.5	102.0	90.1	11.88	8.581	
2,700.0	2,687.6	2,676.8	2,654.9	6.3	6.7	43.23	108.5	175.5	103.4	91.5	11.98	8.635	
2,755.9	2,741.1	2,731.3	2,705.9	6.5	7.0	43.91	120.2	191.1	109.5	97.2	12.35	8.866	
2,800.0	2,783.4	2,775.2	2,746.7	6.7	7.3	44.36	129.7	203.8	114.4	101.8	12.66	9.040	
2,854.3	2,835.4	2,829.1	2,797.1	6.9	7.6	44.88	141.4	219.4	120.5	107.5	13.05	9.234	
2,900.0	2,879.2	2,874.5	2,839.4	7.1	7.9	45.27	151.2	232.5	125.6	112.3	13.39	9.386	
2,952.7	2,929.7	2,926.9	2,888.3	7.4	8.2	45.68	162.5	247.6	131.6	117.8	13.79	9.543	
3,000.0	2,974.9	2,973.9	2,932.1	7.6	8.5	46.02	172.7	261.2	136.9	122.7	14.15	9.674	
3,051.2	3,023.9	3,024.7	2,979.5	7.8	8.8	46.37	183.7	275.8	142.6	128.1	14.55	9.800	
3,100.0	3,070.7	3,073.2	3,024.7	8.1	9.1	46.67	194.2	289.8	148.1	133.2	14.94	9.912	
3,149.6	3,118.2	3,122.5	3,070.7	8.3	9.4	46.95	204.9	304.1	153.7	138.4	15.35	10.014	
3,200.0	3,166.5	3,172.6	3,117.4	8.6	9.7	47.22	215.7	318.5	159.4	143.6	15.76	10.110	
3,248.0	3,212.5	3,220.3	3,161.9	8.8	10.1	47.46	226.0	332.3	164.8	148.6	16.17	10.192	
3,300.0	3,262.3	3,271.9	3,210.0	9.1	10.4	47.70	237.2	347.2	170.7	154.0	16.61	10.275	
3,346.4	3,306.8	3,318.1	3,253.1	9.3	10.7	47.90	247.2	360.5	175.9	158.9	17.01	10.341	
3,400.0	3,358.1	3,371.3	3,302.7	9.6	11.1	48.11	258.7	375.9	181.9	164.5	17.47	10.412	
3,444.9	3,401.0	3,415.9	3,344.3	9.8	11.4	48.29	268.4	388.8	187.0	169.1	17.87	10.465	
3,500.0	3,453.8	3,470.6	3,395.3	10.1	11.7	48.48	280.2	404.6	193.2	174.9	18.36	10.526	
3,543.3	3,495.3	3,513.6	3,435.5	10.3	12.0	48.63	289.6	417.0	198.1	179.4	18.74	10.569	
3,600.0	3,549.6	3,570.0	3,488.0	10.6	12.4	48.81	301.8	433.3	204.5	185.3	19.26	10.622	
3,641.7	3,589.6	3,611.4	3,526.7	10.8	12.7	48.94	310.7	445.2	209.2	189.6	19.63	10.657	
3,700.0	3,645.4	3,669.3	3,580.7	11.1	13.1	49.11	323.3	462.0	215.8	195.7	20.17	10.702	
3,740.1	3,683.8	3,709.2	3,617.9	11.4	13.4	49.22	331.9	473.5	220.4	199.8	20.54	10.731	
3,800.0	3,741.2	3,768.7	3,673.3	11.7	13.8	49.37	344.8	490.7	227.1	206.1	21.09	10.770	
3,838.6	3,778.1	3,807.0	3,709.1	11.9	14.1	49.47	353.1	501.7	231.5	210.1	21.45	10.793	
3,900.0	3,837.0	3,868.0	3,766.0	12.2	14.5	49.61	366.3	519.3	238.5	216.4	22.02	10.827	
3,937.0	3,872.4	3,904.8	3,800.3	12.4	14.8	49.70	374.2	530.0	242.7	220.3	22.37	10.846	
4,000.0	3,932.7	3,967.4	3,858.6	12.8	15.2	49.83	387.8	548.0	249.8	226.8	22.97	10.876	
4,035.4	3,966.7	4,002.6	3,891.5	13.0	15.5	49.91	395.4	558.2	253.8	230.5	23.30	10.891	
4,100.0	4,028.5	4,066.7	3,951.3	13.3	15.9	50.03	409.3	576.7	261.1	237.2	23.92	10.917	
4,133.8	4,060.9	4,100.4	3,982.7	13.5	16.1	50.10	416.6	586.4	264.9	240.7	24.24	10.929	
4,200.0	4,124.3	4,166.1	4,043.9	13.9	16.6	50.22	430.8	605.4	272.4	247.6	24.88	10.952	
4,232.3	4,155.2	4,198.2	4,073.9	14.0	16.8	50.27	437.8	614.7	276.1	250.9	25.19	10.962	
4,300.0	4,220.1	4,265.5	4,136.6	14.4	17.3	50.38	452.3	634.1	283.8	257.9	25.84	10.982	
4,330.7	4,249.5	4,296.0	4,165.1	14.6	17.5	50.43	458.9	642.9	287.2	261.1	26.14	10.990	
4,400.0	4,315.9	4,364.8	4,229.3	15.0	18.0	50.54	473.8	662.8	295.1	268.3	26.81	11.007	
4,429.1	4,343.7	4,393.7	4,256.2	15.1	18.2	50.58	480.1	671.1	298.4	271.3	27.09	11.013	
4,500.0	4,411.6	4,464.2	4,321.9	15.5	18.7	50.68	495.3	691.5	306.4	278.6	27.78	11.028	
4,527.5	4,438.0	4,491.5	4,347.4	15.7	18.9	50.72	501.3	699.4	309.5	281.5	28.05	11.034	
4,600.0	4,507.4	4,563.5	4,414.6	16.1	19.5	50.82	516.9	720.2	317.8	289.0	28.76	11.047	
4,626.0	4,532.3	4,589.3	4,438.6	16.2	19.6	50.85	522.4	727.6	320.7	291.7	29.02	11.051	
4,700.0	4,603.2	4,662.9	4,507.2	16.7	20.2	50.94	538.4	748.8	329.1	299.3	29.75	11.062	
4,724.4	4,626.6	4,687.1	4,529.8	16.8	20.4	50.97	543.6	755.8	331.9	301.9	29.99	11.066	
4,800.0	4,699.0	4,762.2	4,599.9	17.2	20.9	51.06	559.9	777.5	340.4	309.7	30.74	11.076	
4,822.8	4,720.8	4,784.9	4,621.0	17.4	21.1	51.08	564.8	784.1	343.0	312.1	30.96	11.079	
4,900.0	4,794.7	4,861.6	4,692.6	17.8	21.6	51.17	581.4	806.2	351.8	320.0	31.73	11.087	
4,921.2	4,815.1	4,882.7	4,712.2	17.9	21.8	51.19	585.9	812.3	354.2	322.2	31.94	11.089	
5,000.0	4,890.5	4,960.9	4,785.2	18.4	22.3	51.27	602.9	834.9	363.1	330.4	32.72	11.097	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
5,019.7	4,909.4	4,980.5	4,803.4	18.5	22.5	51.29	607.1	840.5	365.3	332.4	32.92	11.099	
5,100.0	4,986.3	5,060.3	4,877.9	18.9	23.1	51.36	624.4	863.6	374.4	340.7	33.72	11.105	
5,118.1	5,003.6	5,078.3	4,894.6	19.0	23.2	51.38	628.3	868.8	376.5	342.6	33.90	11.106	
5,200.0	5,082.1	5,159.6	4,970.5	19.5	23.8	51.45	645.9	892.3	385.8	351.1	34.72	11.112	
5,216.5	5,097.9	5,176.0	4,985.8	19.6	23.9	51.47	649.5	897.0	387.7	352.8	34.88	11.113	
5,300.0	5,177.9	5,259.0	5,063.2	20.1	24.5	51.54	667.4	921.0	397.1	361.4	35.72	11.118	
5,314.9	5,192.2	5,273.8	5,077.0	20.2	24.6	51.55	670.6	925.3	398.8	363.0	35.87	11.119	
5,400.0	5,273.6	5,358.3	5,155.8	20.6	25.2	51.62	688.9	949.6	408.5	371.7	36.72	11.123	
5,413.4	5,286.5	5,371.6	5,168.2	20.7	25.3	51.63	691.8	953.5	410.0	373.1	36.86	11.123	
5,500.0	5,369.4	5,457.7	5,248.5	21.2	26.0	51.69	710.4	978.3	419.8	382.1	37.73	11.127	
5,511.8	5,380.7	5,469.4	5,259.4	21.3	26.0	51.70	713.0	981.7	421.2	383.3	37.85	11.127	
5,600.0	5,465.2	5,557.0	5,341.2	21.8	26.7	51.77	731.9	1,007.0	431.2	392.4	38.74	11.130	
5,610.2	5,475.0	5,567.2	5,350.6	21.9	26.8	51.77	734.1	1,010.0	432.3	393.5	38.84	11.130	
5,700.0	5,561.0	5,656.4	5,433.8	22.4	27.4	51.83	753.5	1,035.7	442.5	402.8	39.75	11.133	
5,708.6	5,569.3	5,665.0	5,441.8	22.4	27.5	51.84	755.3	1,038.2	443.5	403.7	39.84	11.133	
5,793.4	5,650.4	5,760.7	5,531.6	22.9	28.0	52.02	775.2	1,064.7	452.1	411.4	40.72	11.102	
5,800.0	5,656.8	5,768.2	5,538.7	22.9	28.1	52.05	776.7	1,066.7	452.7	411.9	40.79	11.098	
5,807.1	5,663.6	5,776.2	5,546.3	23.0	28.1	52.09	778.3	1,068.8	453.3	412.4	40.86	11.094	
5,900.0	5,753.1	5,882.1	5,647.0	23.4	28.6	52.51	797.8	1,094.9	460.9	419.2	41.74	11.042	
5,905.5	5,758.4	5,888.4	5,653.0	23.4	28.7	52.53	798.9	1,096.3	461.4	419.6	41.79	11.039	
6,000.0	5,850.3	5,996.3	5,757.0	23.8	29.2	52.89	816.4	1,119.7	468.2	425.6	42.61	10.989	
6,003.9	5,854.1	6,000.8	5,761.3	23.8	29.2	52.90	817.1	1,120.6	468.5	425.8	42.64	10.987	
6,100.0	5,948.3	6,110.9	5,868.3	24.1	29.6	53.21	832.4	1,141.0	474.5	431.1	43.37	10.941	
6,102.3	5,950.6	6,113.6	5,871.0	24.1	29.6	53.22	832.7	1,141.4	474.6	431.2	43.38	10.940	
6,200.0	6,046.9	6,225.6	5,980.9	24.4	30.0	53.47	845.7	1,158.8	479.7	435.7	44.03	10.896	
6,200.8	6,047.6	6,226.5	5,981.8	24.4	30.0	53.47	845.8	1,158.9	479.8	435.7	44.03	10.895	
6,299.2	6,145.2	6,339.7	6,093.6	24.7	30.4	53.66	856.3	1,172.8	483.9	439.3	44.59	10.853	
6,300.0	6,146.0	6,340.6	6,094.5	24.7	30.4	53.66	856.3	1,172.9	483.9	439.3	44.59	10.853	
6,397.6	6,243.1	6,453.0	6,206.1	24.9	30.6	53.80	864.1	1,183.2	487.0	442.0	45.04	10.813	
6,400.0	6,245.5	6,455.7	6,208.8	24.9	30.6	53.80	864.2	1,183.4	487.1	442.0	45.05	10.812	
6,496.0	6,341.4	6,566.4	6,319.2	25.1	30.8	53.88	869.2	1,190.1	489.1	443.7	45.39	10.775	
6,500.0	6,345.3	6,570.9	6,323.7	25.1	30.8	53.88	869.4	1,190.3	489.2	443.8	45.41	10.773	
6,594.5	6,439.7	6,679.8	6,432.6	25.2	31.0	53.91	871.6	1,193.4	490.2	444.5	45.65	10.737	
6,600.0	6,445.3	6,686.2	6,439.0	25.2	31.0	53.91	871.7	1,193.4	490.2	444.5	45.67	10.735	
6,628.6	6,473.9	6,719.2	6,472.0	25.3	31.0	92.21	871.9	1,193.6	490.3	444.6	45.72	10.724	
6,658.6	6,503.9	6,750.2	6,502.9	25.3	31.1	92.21	871.9	1,193.6	490.3	444.5	45.80	10.707	
6,692.9	6,538.1	6,783.7	6,536.4	25.3	31.1	-87.82	871.3	1,193.6	490.3	444.5	45.85	10.694	
6,700.0	6,545.2	6,790.6	6,543.3	25.3	31.1	-87.83	871.0	1,193.6	490.3	444.4	45.86	10.692	
6,750.0	6,595.0	6,839.4	6,591.9	25.3	31.1	-87.89	867.0	1,193.6	490.3	444.4	45.85	10.693	
6,791.3	6,635.8	6,879.7	6,631.8	25.3	31.1	-87.95	861.2	1,193.6	490.3	444.5	45.78	10.709	
6,800.0	6,644.3	6,888.2	6,640.1	25.3	31.1	-87.96	859.7	1,193.6	490.3	444.5	45.76	10.713	
6,850.0	6,693.0	6,937.0	6,687.8	25.2	31.0	-88.04	849.2	1,193.6	490.2	444.6	45.59	10.753	
6,889.7	6,731.0	6,975.8	6,725.1	25.2	31.0	-88.11	838.4	1,193.6	490.2	444.8	45.39	10.799	
6,900.0	6,740.7	6,985.9	6,734.7	25.2	31.0	-88.13	835.4	1,193.6	490.2	444.9	45.34	10.812	
6,950.0	6,787.3	7,034.8	6,780.6	25.0	30.9	-88.23	818.4	1,193.6	490.2	445.2	45.02	10.888	
6,988.2	6,821.9	7,072.2	6,814.8	24.9	30.8	-88.31	803.3	1,193.6	490.2	445.4	44.73	10.959	
7,000.0	6,832.5	7,083.8	6,825.2	24.9	30.8	-88.34	798.2	1,193.6	490.2	445.5	44.63	10.981	
7,050.0	6,876.1	7,132.8	6,868.4	24.7	30.6	-88.46	775.1	1,193.6	490.1	445.9	44.19	11.091	
7,086.6	6,906.8	7,168.8	6,899.1	24.6	30.5	-88.55	756.3	1,193.6	490.1	446.3	43.83	11.181	
7,100.0	6,917.9	7,182.0	6,910.0	24.5	30.5	-88.58	749.0	1,193.6	490.1	446.4	43.70	11.216	
7,150.0	6,957.6	7,231.1	6,949.8	24.3	30.3	-88.71	720.1	1,193.6	490.1	446.9	43.17	11.353	
7,185.0	6,984.2	7,265.6	6,976.5	24.1	30.1	-88.81	698.2	1,193.6	490.1	447.3	42.77	11.457	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
7,200.0	6,995.2	7,280.4	6,987.6	24.1	30.1	-88.85	688.4	1,193.6	490.0	447.4	42.60	11.502	
7,250.0	7,030.3	7,329.8	7,023.1	23.8	29.9	-88.99	654.2	1,193.6	490.0	448.0	42.02	11.661	
7,283.4	7,052.4	7,362.8	7,045.6	23.6	29.7	-89.09	629.9	1,193.6	490.0	448.4	41.63	11.770	
7,300.0	7,062.9	7,379.2	7,056.3	23.6	29.7	-89.14	617.5	1,193.6	490.0	448.6	41.44	11.825	
7,350.0	7,092.8	7,428.7	7,086.9	23.3	29.4	-89.29	578.6	1,193.6	490.0	449.1	40.86	11.992	
7,381.9	7,110.3	7,460.3	7,105.0	23.1	29.3	-89.39	552.7	1,193.6	490.0	449.5	40.50	12.098	
7,400.0	7,119.8	7,478.3	7,114.8	23.0	29.2	-89.44	537.6	1,193.7	490.0	449.7	40.30	12.159	
7,450.0	7,143.8	7,528.0	7,139.8	22.8	29.0	-89.60	494.7	1,193.7	490.0	450.2	39.77	12.320	
7,480.3	7,156.8	7,558.2	7,153.5	22.6	28.9	-89.70	467.8	1,193.7	490.0	450.5	39.47	12.414	
7,500.0	7,164.7	7,577.8	7,161.8	22.5	28.8	-89.76	450.0	1,193.7	490.0	450.7	39.28	12.473	
7,550.0	7,182.3	7,627.7	7,180.7	22.2	28.5	-89.92	403.9	1,193.7	490.0	451.1	38.85	12.611	
7,573.0	7,189.3	7,650.6	7,188.3	22.1	28.4	-90.00	382.2	1,193.7	490.0	451.3	38.67	12.669	
7,578.7	7,191.0	7,656.4	7,190.1	22.1	28.4	-90.02	376.8	1,193.7	490.0	451.3	38.63	12.683	
7,600.0	7,196.7	7,677.7	7,196.4	22.0	28.3	-90.09	356.4	1,193.7	490.0	451.5	38.48	12.732	
7,650.0	7,207.7	7,727.8	7,208.7	21.7	28.1	-90.25	307.9	1,193.7	490.0	451.8	38.19	12.830	
7,677.1	7,212.2	7,755.0	7,214.0	21.6	28.0	-90.33	281.2	1,193.7	490.0	451.9	38.06	12.873	
7,700.0	7,215.2	7,777.9	7,217.7	21.5	27.9	-90.41	258.6	1,193.7	490.0	452.0	37.97	12.903	
7,750.0	7,219.3	7,828.2	7,223.1	21.3	27.7	-90.57	208.6	1,193.7	490.0	452.1	37.84	12.948	
7,775.6	7,220.1	7,854.0	7,224.6	21.2	27.6	-90.65	182.9	1,193.7	490.0	452.2	37.81	12.959	
7,792.5	7,220.0	7,871.0	7,225.0	21.1	27.6	-90.70	165.8	1,193.7	490.0	452.2	37.80	12.963	
7,800.0	7,219.9	7,878.6	7,225.1	21.1	27.6	-90.72	158.3	1,193.7	490.0	452.2	37.80	12.964	
7,874.0	7,219.0	7,952.7	7,224.2	20.8	27.4	-90.72	84.2	1,193.7	490.0	452.0	37.97	12.905	
7,900.0	7,218.7	7,978.7	7,223.8	20.7	27.3	-90.71	58.2	1,193.7	490.0	451.9	38.04	12.881	
7,972.4	7,217.8	8,051.1	7,222.8	20.5	27.2	-90.70	-14.3	1,193.7	490.0	451.5	38.47	12.736	
8,000.0	7,217.5	8,078.7	7,222.4	20.4	27.2	-90.70	-41.8	1,193.7	490.0	451.3	38.65	12.677	
8,070.8	7,216.6	8,149.5	7,221.5	20.4	27.1	-90.69	-112.7	1,193.7	490.0	450.7	39.33	12.458	
8,100.0	7,216.2	8,178.7	7,221.1	20.4	27.1	-90.68	-141.8	1,193.7	490.0	450.4	39.63	12.365	
8,169.3	7,215.4	8,248.0	7,220.1	20.7	27.2	-90.67	-211.1	1,193.7	490.0	449.5	40.53	12.090	
8,200.0	7,215.0	8,278.7	7,219.7	21.0	27.2	-90.67	-241.8	1,193.7	490.0	449.0	40.94	11.968	
8,267.7	7,214.1	8,346.4	7,218.8	21.6	27.4	-90.66	-309.5	1,193.7	490.0	448.0	42.03	11.658	
8,300.0	7,213.7	8,378.7	7,218.3	21.9	27.5	-90.65	-341.8	1,193.7	490.0	447.4	42.56	11.512	
8,366.1	7,212.9	8,444.8	7,217.4	22.6	27.8	-90.64	-407.9	1,193.7	490.0	446.2	43.81	11.185	
8,400.0	7,212.5	8,478.7	7,216.9	23.0	28.0	-90.63	-441.8	1,193.7	490.0	445.5	44.46	11.021	
8,464.5	7,211.7	8,543.2	7,216.0	23.8	28.4	-90.62	-506.3	1,193.7	490.0	444.2	45.83	10.692	
8,500.0	7,211.3	8,578.7	7,215.5	24.2	28.6	-90.62	-541.8	1,193.7	490.0	443.4	46.59	10.516	
8,563.0	7,210.5	8,641.7	7,214.7	25.0	29.1	-90.61	-604.7	1,193.7	490.0	441.9	48.06	10.195	
8,600.0	7,210.0	8,678.7	7,214.2	25.5	29.4	-90.60	-641.8	1,193.7	490.0	441.0	48.94	10.012	
8,661.4	7,209.3	8,740.1	7,213.3	26.3	30.0	-90.59	-703.2	1,193.7	490.0	439.5	50.48	9.706	
8,700.0	7,208.8	8,778.7	7,212.8	26.8	30.4	-90.59	-741.8	1,193.7	490.0	438.5	51.46	9.521	
8,759.8	7,208.0	8,838.5	7,212.0	27.6	31.0	-90.58	-801.6	1,193.7	490.0	436.9	53.06	9.234	
8,800.0	7,207.5	8,878.7	7,211.4	28.2	31.5	-90.57	-841.7	1,193.7	490.0	435.8	54.14	9.050	
8,858.2	7,206.8	8,936.9	7,210.6	29.0	32.2	-90.56	-900.0	1,193.7	490.0	434.2	55.78	8.785	
8,900.0	7,206.3	8,978.7	7,210.0	29.6	32.7	-90.56	-941.7	1,193.7	490.0	433.0	56.96	8.603	
8,956.7	7,205.6	9,035.4	7,209.3	30.4	33.4	-90.55	-998.4	1,193.7	490.0	431.4	58.61	8.360	
9,000.0	7,205.0	9,078.7	7,208.7	31.1	33.9	-90.54	-1,041.7	1,193.7	490.0	430.1	59.88	8.182	
9,055.1	7,204.3	9,133.8	7,207.9	31.9	34.7	-90.53	-1,096.8	1,193.7	490.0	428.4	61.55	7.961	
9,100.0	7,203.8	9,178.7	7,207.3	32.6	35.3	-90.52	-1,141.7	1,193.7	490.0	427.1	62.91	7.789	
9,153.5	7,203.1	9,232.2	7,206.5	33.4	36.0	-90.52	-1,195.2	1,193.7	490.0	425.4	64.57	7.588	
9,200.0	7,202.5	9,278.7	7,205.9	34.2	36.7	-90.51	-1,241.7	1,193.7	490.0	424.0	66.02	7.422	
9,251.9	7,201.9	9,330.6	7,205.2	35.0	37.4	-90.50	-1,293.7	1,193.7	490.0	422.3	67.67	7.241	
9,300.0	7,201.3	9,378.7	7,204.5	35.7	38.1	-90.49	-1,341.7	1,193.7	490.0	420.8	69.20	7.080	
9,350.4	7,200.7	9,429.1	7,203.8	36.6	38.9	-90.49	-1,392.1	1,193.7	490.0	419.1	70.84	6.917	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-MW/D												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	
9,400.0	7,200.0	9,478.7	7,203.1	37.4	39.6	-90.48	-1,441.7	1,193.7	490.0	417.5	72.45	6.763	
9,448.8	7,199.4	9,527.5	7,202.5	38.2	40.3	-90.47	-1,490.5	1,193.7	490.0	415.9	74.06	6.616	
9,500.0	7,198.8	9,578.7	7,201.8	39.0	41.1	-90.46	-1,541.7	1,193.7	490.0	414.2	75.76	6.468	
9,547.2	7,198.2	9,625.9	7,201.1	39.8	41.9	-90.46	-1,588.9	1,193.7	490.0	412.6	77.34	6.336	
9,600.0	7,197.5	9,678.7	7,200.4	40.7	42.7	-90.45	-1,641.7	1,193.7	490.0	410.9	79.11	6.194	
9,645.6	7,197.0	9,724.3	7,199.8	41.4	43.4	-90.44	-1,687.3	1,193.7	490.0	409.3	80.66	6.075	
9,700.0	7,196.3	9,778.7	7,199.0	42.4	44.3	-90.43	-1,741.7	1,193.7	490.0	407.5	82.50	5.939	
9,744.1	7,195.7	9,822.8	7,198.4	43.1	45.0	-90.43	-1,785.7	1,193.7	490.0	406.0	84.01	5.832	
9,800.0	7,195.0	9,878.7	7,197.6	44.1	45.9	-90.42	-1,841.7	1,193.7	490.0	404.0	85.94	5.702	
9,842.5	7,194.5	9,921.2	7,197.0	44.8	46.6	-90.41	-1,884.1	1,193.7	490.0	402.6	87.41	5.606	
9,900.0	7,193.8	9,978.7	7,196.2	45.8	47.5	-90.40	-1,941.6	1,193.7	490.0	400.6	89.40	5.480	
9,940.9	7,193.3	10,019.6	7,195.7	46.5	48.2	-90.40	-1,982.6	1,193.7	490.0	399.1	90.83	5.394	
10,000.0	7,192.5	10,078.7	7,194.9	47.5	49.2	-90.39	-2,041.6	1,193.7	490.0	397.1	92.90	5.274	
10,039.3	7,192.0	10,118.0	7,194.3	48.2	49.8	-90.38	-2,081.0	1,193.7	490.0	395.7	94.28	5.197	
10,100.0	7,191.3	10,178.7	7,193.5	49.3	50.8	-90.37	-2,141.6	1,193.7	490.0	393.5	96.42	5.082	
10,137.8	7,190.8	10,216.5	7,193.0	49.9	51.5	-90.37	-2,179.4	1,193.7	490.0	392.2	97.76	5.012	
10,200.0	7,190.0	10,278.7	7,192.1	51.0	52.5	-90.36	-2,241.6	1,193.7	490.0	390.0	99.97	4.901	
10,236.2	7,189.6	10,314.9	7,191.6	51.7	53.1	-90.35	-2,277.8	1,193.7	490.0	388.7	101.26	4.839	
10,300.0	7,188.8	10,378.7	7,190.7	52.8	54.2	-90.35	-2,341.6	1,193.7	490.0	386.4	103.53	4.732	
10,334.6	7,188.3	10,413.3	7,190.3	53.4	54.8	-90.34	-2,376.2	1,193.7	490.0	385.2	104.77	4.676	
10,400.0	7,187.5	10,478.7	7,189.4	54.6	55.9	-90.33	-2,441.6	1,193.7	490.0	382.8	107.12	4.574	
10,433.0	7,187.1	10,511.7	7,188.9	55.2	56.5	-90.33	-2,474.6	1,193.7	490.0	381.7	108.31	4.524	
10,500.0	7,186.3	10,578.7	7,188.0	56.4	57.7	-90.32	-2,541.6	1,193.7	490.0	379.2	110.72	4.425	
10,531.5	7,185.9	10,610.2	7,187.5	56.9	58.2	-90.31	-2,573.1	1,193.7	490.0	378.1	111.86	4.380	
10,600.0	7,185.0	10,678.7	7,186.6	58.2	59.4	-90.30	-2,641.6	1,193.7	490.0	375.6	114.34	4.285	
10,629.9	7,184.6	10,708.6	7,186.2	58.7	59.9	-90.30	-2,671.5	1,193.7	490.0	374.5	115.43	4.245	
10,700.0	7,183.8	10,778.7	7,185.2	60.0	61.2	-90.29	-2,741.6	1,193.7	490.0	372.0	117.97	4.153	
10,728.3	7,183.4	10,807.0	7,184.8	60.5	61.7	-90.28	-2,769.9	1,193.7	490.0	371.0	119.00	4.117	
10,800.0	7,182.5	10,878.7	7,183.8	61.8	62.9	-90.27	-2,841.6	1,193.7	490.0	368.3	121.62	4.029	
10,826.7	7,182.2	10,905.4	7,183.5	62.3	63.4	-90.27	-2,868.3	1,193.7	490.0	367.4	122.60	3.997	
10,900.0	7,181.2	10,978.7	7,182.5	63.6	64.7	-90.26	-2,941.5	1,193.7	490.0	364.7	125.28	3.911	
10,925.2	7,180.9	11,003.9	7,182.1	64.0	65.1	-90.26	-2,966.7	1,193.7	490.0	363.8	126.20	3.882	
11,000.0	7,180.0	11,078.7	7,181.1	65.4	66.5	-90.25	-3,041.5	1,193.7	490.0	361.0	128.94	3.800	
11,023.6	7,179.7	11,102.3	7,180.8	65.8	66.9	-90.24	-3,065.1	1,193.7	490.0	360.2	129.81	3.774	
11,100.0	7,178.7	11,178.7	7,179.7	67.2	68.3	-90.23	-3,141.5	1,193.7	490.0	357.3	132.62	3.694	
11,122.0	7,178.4	11,200.7	7,179.4	67.6	68.6	-90.23	-3,163.6	1,193.7	490.0	356.5	133.43	3.672	
11,198.6	7,177.5	11,277.3	7,178.3	69.0	70.0	-90.22	-3,240.1	1,193.7	490.0	353.7	136.26	3.596	
11,200.0	7,177.5	11,278.7	7,178.3	69.1	70.0	-90.22	-3,241.5	1,193.7	490.0	353.7	136.31	3.595	
11,220.4	7,177.2	11,299.1	7,178.0	69.4	70.4	-90.21	-3,262.0	1,193.7	490.0	352.9	137.06	3.575	
11,300.0	7,176.2	11,378.7	7,176.9	70.9	71.8	-90.20	-3,341.5	1,193.7	490.0	350.0	140.00	3.500	
11,318.9	7,176.0	11,397.6	7,176.7	71.2	72.2	-90.20	-3,360.4	1,193.7	490.0	349.3	140.70	3.482	
11,400.0	7,174.9	11,478.7	7,175.6	72.7	73.6	-90.19	-3,441.5	1,193.7	490.0	346.3	143.71	3.409	
11,417.3	7,174.7	11,496.0	7,175.3	73.1	74.0	-90.19	-3,458.8	1,193.7	490.0	345.6	144.35	3.394	
11,500.0	7,173.7	11,578.7	7,174.2	74.6	75.5	-90.18	-3,541.5	1,193.7	490.0	342.5	147.42	3.324	
11,515.7	7,173.5	11,594.4	7,174.0	74.9	75.7	-90.17	-3,557.2	1,193.7	490.0	342.0	148.00	3.311	
11,600.0	7,172.4	11,678.7	7,172.8	76.4	77.3	-90.16	-3,641.5	1,193.7	490.0	338.8	151.13	3.242	
11,614.1	7,172.2	11,692.8	7,172.6	76.7	77.5	-90.16	-3,655.6	1,193.7	490.0	338.3	151.66	3.231	
11,700.0	7,171.2	11,778.7	7,171.4	78.3	79.1	-90.15	-3,741.5	1,193.7	490.0	335.1	154.86	3.164	
11,712.6	7,171.0	11,791.3	7,171.3	78.5	79.3	-90.15	-3,754.0	1,193.7	490.0	334.6	155.33	3.154	
11,791.4	7,170.0	11,870.1	7,170.2	80.0	80.8	-90.14	-3,832.8	1,193.7	490.0	331.7	158.26	3.096 SF	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	91.38	-1.4	60.0	60.0				
98.4	98.4	97.4	97.4	0.1	0.1	91.38	-1.4	60.0	60.0	59.8	0.17	354.866	
100.0	100.0	99.0	99.0	0.1	0.1	91.38	-1.4	60.0	60.0	59.8	0.17	348.410	
196.8	196.8	195.8	195.8	0.3	0.3	91.38	-1.4	60.0	60.0	59.4	0.61	98.975	
200.0	200.0	199.0	199.0	0.3	0.3	91.38	-1.4	60.0	60.0	59.4	0.62	96.715	
295.3	295.3	294.3	294.3	0.5	0.5	91.38	-1.4	60.0	60.0	58.9	1.05	57.215	
300.0	300.0	299.0	299.0	0.5	0.5	91.38	-1.4	60.0	60.0	58.9	1.07	56.079	
393.7	393.7	392.7	392.7	0.7	0.7	91.38	-1.4	60.0	60.0	58.5	1.49	40.237	
400.0	400.0	399.0	399.0	0.8	0.8	91.38	-1.4	60.0	60.0	58.5	1.52	39.487	
492.1	492.1	491.1	491.1	1.0	1.0	91.38	-1.4	60.0	60.0	58.1	1.93	31.030	
500.0	500.0	499.0	499.0	1.0	1.0	91.38	-1.4	60.0	60.0	58.0	1.97	30.472	
590.5	590.5	589.5	589.5	1.2	1.2	91.38	-1.4	60.0	60.0	57.6	2.38	25.252	
600.0	600.0	599.0	599.0	1.2	1.2	91.38	-1.4	60.0	60.0	57.6	2.42	24.808	
689.0	689.0	688.0	688.0	1.4	1.4	91.38	-1.4	60.0	60.0	57.2	2.82	21.287	
700.0	700.0	699.0	699.0	1.4	1.4	91.38	-1.4	60.0	60.0	57.1	2.87	20.920	
787.4	787.4	786.4	786.4	1.6	1.6	91.38	-1.4	60.0	60.0	56.7	3.26	18.399	
800.0	800.0	799.0	799.0	1.7	1.7	91.38	-1.4	60.0	60.0	56.7	3.32	18.085	
885.8	885.8	884.8	884.8	1.9	1.9	91.38	-1.4	60.0	60.0	56.3	3.70	16.201	
900.0	900.0	899.0	899.0	1.9	1.9	91.38	-1.4	60.0	60.0	56.2	3.77	15.927	
984.2	984.2	983.2	983.2	2.1	2.1	91.38	-1.4	60.0	60.0	55.9	4.15	14.472	
1,000.0	1,000.0	999.0	999.0	2.1	2.1	91.38	-1.4	60.0	60.0	55.8	4.22	14.229	
1,082.7	1,082.7	1,081.7	1,081.7	2.3	2.3	91.38	-1.4	60.0	60.0	55.4	4.59	13.076	
1,100.0	1,100.0	1,099.0	1,099.0	2.3	2.3	91.38	-1.4	60.0	60.0	55.3	4.67	12.858	
1,181.1	1,181.1	1,180.1	1,180.1	2.5	2.5	91.38	-1.4	60.0	60.0	55.0	5.03	11.926	
1,200.0	1,200.0	1,199.0	1,199.0	2.6	2.6	91.38	-1.4	60.0	60.0	54.9	5.12	11.728	
1,279.5	1,279.5	1,278.5	1,278.5	2.7	2.7	91.38	-1.4	60.0	60.0	54.5	5.47	10.962	
1,300.0	1,300.0	1,299.0	1,299.0	2.8	2.8	91.38	-1.4	60.0	60.0	54.4	5.57	10.781	
1,377.9	1,377.9	1,376.9	1,376.9	3.0	3.0	91.38	-1.4	60.0	60.0	54.1	5.92	10.142	
1,400.0	1,400.0	1,399.0	1,399.0	3.0	3.0	91.38	-1.4	60.0	60.0	54.0	6.01	9.975	
1,438.3	1,438.3	1,437.3	1,437.3	3.1	3.1	91.38	-1.4	60.0	60.0	53.8	6.19	9.698 CC	
1,476.4	1,476.4	1,474.9	1,474.9	3.2	3.2	91.34	-1.4	60.1	60.1	53.7	6.36	9.456 ES	
1,500.0	1,500.0	1,498.1	1,498.1	3.2	3.2	91.20	-1.3	60.3	60.4	53.9	6.46	9.346	
1,574.8	1,574.8	1,571.5	1,571.4	3.4	3.4	90.27	-0.3	62.3	62.3	55.5	6.78	9.190	
1,600.0	1,600.0	1,596.2	1,596.1	3.5	3.4	89.80	0.2	63.3	63.4	56.5	6.89	9.197	
1,673.2	1,673.2	1,667.8	1,667.6	3.6	3.6	88.07	2.3	67.4	67.6	60.4	7.21	9.372	
1,700.0	1,700.0	1,693.9	1,693.6	3.7	3.6	87.34	3.2	69.3	69.5	62.2	7.33	9.491	
1,771.6	1,771.6	1,763.6	1,762.9	3.8	3.8	85.25	6.3	75.3	75.9	68.3	7.64	9.938	
1,800.0	1,800.0	1,791.0	1,790.2	3.9	3.9	84.40	7.7	78.1	79.0	71.2	7.77	10.167	
1,850.0	1,850.0	1,839.3	1,838.1	4.0	4.0	82.90	10.4	83.6	84.9	76.9	7.99	10.631	
1,870.1	1,870.1	1,858.7	1,857.3	4.1	4.0	43.99	11.6	86.0	87.5	79.4	8.06	10.851	
1,900.0	1,900.0	1,887.5	1,885.8	4.1	4.1	43.22	13.5	89.8	91.4	83.2	8.19	11.158	
1,968.5	1,968.5	1,953.2	1,950.6	4.3	4.3	41.92	18.4	99.4	100.6	92.1	8.49	11.858	
2,000.0	1,999.9	1,983.4	1,980.3	4.4	4.4	41.50	20.8	104.2	105.0	96.4	8.62	12.178	
2,066.9	2,066.7	2,047.3	2,043.0	4.5	4.6	40.93	26.4	115.4	114.4	105.5	8.91	12.845	
2,100.0	2,099.7	2,078.8	2,073.7	4.6	4.7	40.78	29.4	121.4	119.2	110.1	9.05	13.170	
2,165.3	2,164.7	2,140.8	2,134.2	4.7	4.9	40.70	35.8	134.0	128.7	119.4	9.33	13.797	
2,200.0	2,199.1	2,173.7	2,166.0	4.8	5.0	40.74	39.4	141.2	133.9	124.4	9.48	14.124	
2,263.8	2,262.3	2,233.9	2,224.2	5.0	5.2	40.98	46.4	155.2	143.5	133.8	9.76	14.707	
2,300.0	2,298.2	2,268.0	2,256.9	5.0	5.4	41.18	50.7	163.6	149.1	139.2	9.92	15.032	
2,362.2	2,359.5	2,326.4	2,312.8	5.2	5.6	41.61	58.3	178.8	158.9	148.7	10.21	15.568	
2,400.0	2,396.6	2,361.8	2,346.5	5.3	5.8	41.93	63.2	188.5	164.9	154.5	10.38	15.888	
2,460.6	2,456.0	2,418.4	2,400.1	5.5	6.1	42.51	71.4	204.8	174.8	164.1	10.68	16.369	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
2,500.0	2,494.4	2,455.0	2,434.6	5.6	6.3	42.91	76.9	215.9	181.3	170.4	10.87	16.672	
2,559.0	2,551.8	2,509.8	2,485.8	5.8	6.6	43.57	85.6	233.1	191.2	180.0	11.19	17.094	
2,600.0	2,591.5	2,547.7	2,521.0	5.9	6.8	44.05	91.9	245.6	198.3	186.8	11.41	17.374	
2,657.5	2,646.8	2,600.0	2,569.4	6.1	7.1	44.74	100.8	263.5	208.3	196.6	11.74	17.738	
2,685.2	2,673.5	2,626.2	2,593.5	6.2	7.3	45.09	105.5	272.7	213.2	201.3	11.91	17.898	
2,700.0	2,687.6	2,639.8	2,605.9	6.3	7.4	45.31	107.9	277.6	215.9	203.9	12.01	17.973	
2,755.9	2,741.1	2,690.9	2,652.5	6.5	7.7	46.03	117.4	296.4	226.6	214.2	12.39	18.286	
2,800.0	2,783.4	2,731.1	2,688.8	6.7	8.0	46.49	125.1	311.6	235.7	223.0	12.70	18.558	
2,854.3	2,835.4	2,780.2	2,732.9	6.9	8.4	46.94	134.8	331.0	247.7	234.6	13.09	18.921	
2,900.0	2,879.2	2,821.3	2,769.5	7.1	8.7	47.22	143.2	347.6	258.4	245.0	13.42	19.253	
2,952.7	2,929.7	2,871.5	2,814.0	7.4	9.2	47.49	153.6	368.4	271.3	257.4	13.83	19.619	
3,000.0	2,974.9	2,917.3	2,854.6	7.6	9.6	47.71	163.2	387.4	282.8	268.6	14.20	19.921	
3,051.2	3,023.9	2,966.9	2,898.5	7.8	10.0	47.93	173.5	408.0	295.4	280.8	14.61	20.215	
3,100.0	3,070.7	3,014.2	2,940.4	8.1	10.4	48.13	183.4	427.6	307.3	292.3	15.01	20.476	
3,149.6	3,118.2	3,062.3	2,983.0	8.3	10.8	48.31	193.4	447.5	319.5	304.1	15.42	20.713	
3,200.0	3,166.5	3,111.2	3,026.3	8.6	11.3	48.48	203.6	467.8	331.8	316.0	15.85	20.938	
3,248.0	3,212.5	3,157.7	3,067.5	8.8	11.7	48.64	213.3	487.1	343.6	327.3	16.26	21.130	
3,300.0	3,262.3	3,208.1	3,112.2	9.1	12.1	48.79	223.8	508.0	356.3	339.6	16.71	21.324	
3,346.4	3,306.8	3,253.1	3,152.1	9.3	12.5	48.92	233.2	526.6	367.7	350.6	17.12	21.480	
3,400.0	3,358.1	3,305.0	3,198.0	9.6	13.0	49.06	244.0	548.2	380.9	363.3	17.59	21.648	
3,444.9	3,401.0	3,348.5	3,236.6	9.8	13.4	49.17	253.1	566.2	391.9	373.9	18.00	21.774	
3,500.0	3,453.8	3,402.0	3,283.9	10.1	13.9	49.29	264.2	588.4	405.4	386.9	18.49	21.920	
3,543.3	3,495.3	3,443.9	3,321.1	10.3	14.3	49.38	272.9	605.8	416.0	397.1	18.89	22.022	
3,600.0	3,549.6	3,498.9	3,369.8	10.6	14.8	49.50	284.4	628.5	429.9	410.5	19.41	22.149	
3,641.7	3,589.6	3,539.3	3,405.6	10.8	15.2	49.58	292.8	645.3	440.2	420.4	19.80	22.232	
3,700.0	3,645.4	3,595.8	3,455.6	11.1	15.7	49.68	304.6	668.7	454.5	434.1	20.34	22.343	
3,740.1	3,683.8	3,634.7	3,490.1	11.4	16.1	49.75	312.7	684.9	464.3	443.6	20.72	22.411	
3,800.0	3,741.2	3,692.8	3,541.5	11.7	16.6	49.85	324.8	708.9	479.0	457.7	21.28	22.508	
3,838.6	3,778.1	3,730.1	3,574.6	11.9	17.0	49.91	332.6	724.4	488.5	466.8	21.65	22.564	
3,900.0	3,837.0	3,789.7	3,627.4	12.2	17.5	50.00	345.0	749.1	503.5	481.3	22.23	22.649	
3,937.0	3,872.4	3,825.6	3,659.1	12.4	17.9	50.05	352.5	764.0	512.6	490.0	22.59	22.695	
4,000.0	3,932.7	3,886.6	3,713.2	12.8	18.5	50.14	365.2	789.3	528.1	504.9	23.19	22.769	
4,035.4	3,966.7	3,921.0	3,743.7	13.0	18.8	50.18	372.4	803.5	536.8	513.3	23.54	22.807	
4,100.0	4,028.5	3,983.6	3,799.1	13.3	19.4	50.26	385.4	829.5	552.6	528.5	24.16	22.873	
4,133.8	4,060.9	4,016.4	3,828.2	13.5	19.7	50.30	392.2	843.1	561.0	536.5	24.49	22.904	
4,200.0	4,124.3	4,080.5	3,885.0	13.9	20.3	50.38	405.6	869.6	577.2	552.1	25.14	22.962	
4,232.3	4,155.2	4,111.8	3,912.7	14.0	20.6	50.41	412.1	882.6	585.1	559.7	25.45	22.988	
4,300.0	4,220.1	4,177.4	3,970.8	14.4	21.2	50.48	425.8	909.8	601.8	575.6	26.12	23.039	
4,330.7	4,249.5	4,207.2	3,997.2	14.6	21.5	50.51	432.0	922.2	609.3	582.9	26.42	23.061	
4,400.0	4,315.9	4,274.4	4,056.7	15.0	22.2	50.58	446.0	950.0	626.3	599.2	27.11	23.106	
4,429.1	4,343.7	4,302.6	4,081.7	15.1	22.5	50.60	451.9	961.7	633.5	606.1	27.39	23.124	
4,500.0	4,411.6	4,371.3	4,142.6	15.5	23.1	50.67	466.2	990.2	650.9	622.8	28.10	23.164	
4,527.5	4,438.0	4,398.0	4,166.2	15.7	23.4	50.69	471.8	1,001.3	657.6	629.3	28.37	23.179	
4,600.0	4,507.4	4,468.2	4,228.4	16.1	24.0	50.75	486.4	1,030.4	675.4	646.3	29.09	23.215	
4,626.0	4,532.3	4,493.4	4,250.7	16.2	24.3	50.77	491.7	1,040.8	681.8	652.5	29.35	23.227	
4,700.0	4,603.2	4,565.2	4,314.3	16.7	25.0	50.82	506.6	1,070.6	700.0	669.9	30.10	23.259	
4,724.4	4,626.6	4,588.8	4,335.3	16.8	25.2	50.84	511.5	1,080.4	706.0	675.6	30.34	23.269	
4,800.0	4,699.0	4,662.1	4,400.2	17.2	25.9	50.90	526.8	1,110.7	724.6	693.5	31.10	23.297	
4,822.8	4,720.8	4,684.2	4,419.8	17.4	26.1	50.91	531.4	1,119.9	730.2	698.8	31.33	23.305	
4,900.0	4,794.7	4,759.0	4,486.0	17.8	26.9	50.96	547.0	1,150.9	749.1	717.0	32.11	23.331	
4,921.2	4,815.1	4,779.6	4,504.3	17.9	27.1	50.98	551.3	1,159.5	754.3	722.0	32.32	23.338	
5,000.0	4,890.5	4,856.0	4,571.9	18.4	27.8	51.03	567.2	1,191.1	773.7	740.6	33.12	23.361	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
5,019.7	4,909.4	4,875.0	4,588.8	18.5	28.0	51.04	571.2	1,199.0	778.5	745.2	33.32	23.366	
5,100.0	4,986.3	4,952.9	4,657.8	18.9	28.7	51.08	587.4	1,231.3	798.2	764.1	34.13	23.386	
5,118.1	5,003.6	4,970.4	4,673.3	19.0	28.9	51.09	591.1	1,238.6	802.7	768.4	34.32	23.391	
5,200.0	5,082.1	5,049.8	4,743.6	19.5	29.7	51.14	607.6	1,271.5	822.8	787.7	35.15	23.409	
5,216.5	5,097.9	5,065.8	4,757.8	19.6	29.8	51.15	611.0	1,278.1	826.9	791.5	35.32	23.413	
5,300.0	5,177.9	5,146.7	4,829.5	20.1	30.6	51.19	627.8	1,311.7	847.4	811.2	36.17	23.429	
5,314.9	5,192.2	5,161.2	4,842.3	20.2	30.8	51.20	630.9	1,317.7	851.0	814.7	36.32	23.432	
5,400.0	5,273.6	5,243.7	4,915.4	20.6	31.6	51.24	648.0	1,351.8	871.9	834.8	37.19	23.447	
5,413.4	5,286.5	5,256.6	4,926.9	20.7	31.7	51.25	650.7	1,357.2	875.2	837.9	37.33	23.449	
5,500.0	5,369.4	5,340.6	5,001.2	21.2	32.5	51.29	668.2	1,392.0	896.5	858.3	38.21	23.462	
5,511.8	5,380.7	5,352.1	5,011.4	21.3	32.6	51.29	670.6	1,396.8	899.4	861.1	38.33	23.464	
5,600.0	5,465.2	5,437.5	5,087.1	21.8	33.5	51.33	688.4	1,432.2	921.1	881.8	39.24	23.475	
5,610.2	5,475.0	5,447.5	5,095.9	21.9	33.6	51.33	690.5	1,436.3	923.6	884.2	39.34	23.477	
5,700.0	5,561.0	5,545.3	5,182.7	22.4	34.5	51.38	710.8	1,476.7	945.5	905.2	40.31	23.456	
5,708.6	5,569.3	5,557.2	5,193.3	22.4	34.6	51.39	713.2	1,481.5	947.5	907.1	40.41	23.445	
5,793.4	5,650.4	5,674.4	5,299.1	22.9	35.5	51.57	735.9	1,526.6	965.6	924.2	41.45	23.298	
5,800.0	5,656.8	5,683.7	5,307.5	22.9	35.5	51.61	737.6	1,529.9	966.9	925.4	41.53	23.283	
5,807.1	5,663.6	5,693.5	5,316.5	23.0	35.6	51.65	739.4	1,533.5	968.3	926.6	41.61	23.269	
5,900.0	5,753.1	5,824.0	5,437.0	23.4	36.5	52.15	761.9	1,578.4	985.3	942.6	42.66	23.096	
5,905.5	5,758.4	5,831.8	5,444.2	23.4	36.5	52.18	763.2	1,580.9	986.2	943.5	42.72	23.087	
6,000.0	5,850.3	5,965.9	5,570.3	23.8	37.3	52.62	783.6	1,621.5	1,001.5	957.9	43.68	22.927	
6,003.9	5,854.1	5,971.5	5,575.7	23.8	37.3	52.64	784.4	1,623.1	1,002.1	958.4	43.72	22.921	
6,100.0	5,948.3	6,109.2	5,707.3	24.1	38.0	53.01	802.5	1,659.1	1,015.6	971.0	44.59	22.775	
6,102.3	5,950.6	6,112.5	5,710.6	24.1	38.0	53.02	802.9	1,659.9	1,015.9	971.3	44.61	22.772	
6,200.0	6,046.9	6,253.6	5,847.3	24.4	38.6	53.33	818.4	1,690.7	1,027.3	981.9	45.37	22.641	
6,200.8	6,047.6	6,254.7	5,848.4	24.4	38.6	53.33	818.5	1,690.9	1,027.4	982.0	45.38	22.641	
6,299.2	6,145.2	6,397.9	5,988.8	24.7	39.1	53.58	831.1	1,716.0	1,036.7	990.6	46.03	22.521	
6,300.0	6,146.0	6,399.1	5,990.0	24.7	39.1	53.58	831.2	1,716.1	1,036.7	990.7	46.04	22.520	
6,397.6	6,243.1	6,541.9	6,131.2	24.9	39.5	53.75	840.5	1,734.8	1,043.6	997.1	46.55	22.419	
6,400.0	6,245.5	6,545.4	6,134.7	24.9	39.5	53.76	840.7	1,735.1	1,043.8	997.2	46.56	22.417	
6,496.0	6,341.4	6,686.4	6,275.1	25.1	39.8	53.87	846.8	1,747.2	1,048.3	1,001.3	46.95	22.327	
6,500.0	6,345.3	6,692.2	6,280.9	25.1	39.8	53.87	847.0	1,747.6	1,048.4	1,001.4	46.97	22.323	
6,594.5	6,439.7	6,831.3	6,419.8	25.2	40.0	53.91	849.8	1,753.1	1,050.5	1,003.3	47.22	22.246	
6,600.0	6,445.3	6,839.4	6,427.9	25.2	40.0	53.91	849.9	1,753.3	1,050.6	1,003.3	47.24	22.242	
6,628.6	6,473.9	6,881.6	6,470.1	25.3	40.0	92.22	850.0	1,753.7	1,050.8	1,003.5	47.29	22.219	
6,658.6	6,503.9	6,914.4	6,502.9	25.3	40.1	92.22	850.1	1,753.7	1,050.8	1,003.4	47.37	22.184	
6,692.9	6,538.1	6,947.2	6,535.6	25.3	40.1	-87.79	849.6	1,753.7	1,050.8	1,003.3	47.43	22.156	
6,700.0	6,545.2	6,953.9	6,542.4	25.3	40.1	-87.80	849.3	1,753.7	1,050.8	1,003.3	47.43	22.152	
6,742.2	6,587.3	6,993.9	6,582.2	25.3	40.1	-87.83	846.3	1,753.7	1,050.7	1,003.3	47.44	22.150	
6,750.0	6,595.0	7,000.0	6,588.3	25.3	40.1	-87.83	845.6	1,753.7	1,050.7	1,003.3	47.44	22.150	
6,791.3	6,635.8	7,040.4	6,628.3	25.3	40.1	-87.87	840.0	1,753.7	1,050.7	1,003.3	47.37	22.181	
6,800.0	6,644.3	7,048.6	6,636.4	25.3	40.1	-87.88	838.6	1,753.7	1,050.7	1,003.3	47.35	22.188	
6,850.0	6,693.0	7,096.1	6,682.8	25.2	40.1	-87.93	828.6	1,753.7	1,050.7	1,003.5	47.19	22.265	
6,889.7	6,731.0	7,133.8	6,719.2	25.2	40.0	-87.98	818.5	1,753.7	1,050.6	1,003.6	47.00	22.354	
6,900.0	6,740.7	7,143.6	6,728.5	25.2	40.0	-88.00	815.6	1,753.7	1,050.6	1,003.7	46.95	22.378	
6,950.0	6,787.3	7,191.2	6,773.2	25.0	39.9	-88.07	799.5	1,753.7	1,050.6	1,003.9	46.64	22.527	
6,988.2	6,821.9	7,227.5	6,806.7	24.9	39.9	-88.13	785.2	1,753.7	1,050.5	1,004.2	46.35	22.666	
7,000.0	6,832.5	7,238.8	6,816.9	24.9	39.9	-88.16	780.4	1,753.7	1,050.5	1,004.3	46.26	22.711	
7,050.0	6,876.1	7,286.6	6,859.3	24.7	39.8	-88.25	758.5	1,753.7	1,050.5	1,004.7	45.82	22.926	
7,086.6	6,906.8	7,321.6	6,889.5	24.6	39.7	-88.32	740.6	1,753.7	1,050.4	1,005.0	45.46	23.105	
7,100.0	6,917.9	7,334.5	6,900.3	24.5	39.6	-88.35	733.7	1,753.7	1,050.4	1,005.1	45.33	23.172	
7,150.0	6,957.6	7,382.5	6,939.6	24.3	39.5	-88.45	706.1	1,753.7	1,050.4	1,005.6	44.80	23.444	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	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	
7,185.0	6,984.2	7,416.2	6,966.0	24.1	39.4	-88.53	685.2	1,753.7	1,050.3	1,005.9	44.41	23.650	
7,200.0	6,995.2	7,430.6	6,977.0	24.1	39.4	-88.57	675.9	1,753.7	1,050.3	1,006.1	44.24	23.740	
7,250.0	7,030.3	7,478.8	7,012.4	23.8	39.2	-88.69	643.2	1,753.7	1,050.3	1,006.6	43.66	24.054	
7,283.4	7,052.4	7,511.2	7,034.9	23.6	39.1	-88.78	619.9	1,753.7	1,050.2	1,006.9	43.27	24.272	
7,300.0	7,062.9	7,527.2	7,045.7	23.6	39.0	-88.82	608.0	1,753.7	1,050.2	1,007.1	43.07	24.382	
7,350.0	7,092.8	7,575.8	7,076.6	23.3	38.9	-88.95	570.5	1,753.7	1,050.2	1,007.7	42.49	24.716	
7,381.9	7,110.3	7,606.8	7,095.0	23.1	38.7	-89.04	545.5	1,753.7	1,050.1	1,008.0	42.12	24.930	
7,400.0	7,119.8	7,624.5	7,104.9	23.0	38.7	-89.09	530.9	1,753.7	1,050.1	1,008.2	41.92	25.051	
7,450.0	7,143.8	7,673.4	7,130.6	22.8	38.5	-89.24	489.4	1,753.7	1,050.1	1,008.7	41.38	25.378	
7,480.3	7,156.8	7,703.1	7,144.8	22.6	38.4	-89.33	463.3	1,753.7	1,050.1	1,009.0	41.07	25.568	
7,500.0	7,164.7	7,722.5	7,153.5	22.5	38.3	-89.39	446.0	1,753.7	1,050.0	1,009.2	40.87	25.689	
7,550.0	7,182.3	7,771.7	7,173.4	22.2	38.1	-89.54	400.9	1,753.7	1,050.0	1,009.6	40.42	25.975	
7,578.7	7,191.0	7,800.0	7,183.5	22.1	38.1	-89.62	374.5	1,753.7	1,050.0	1,009.8	40.19	26.124	
7,600.0	7,196.7	7,821.1	7,190.3	22.0	38.0	-89.69	354.5	1,753.7	1,050.0	1,010.0	40.03	26.228	
7,650.0	7,207.7	7,870.8	7,203.9	21.7	37.8	-89.85	306.8	1,753.7	1,050.0	1,010.3	39.71	26.439	
7,677.1	7,212.2	7,897.8	7,209.9	21.6	37.7	-89.93	280.4	1,753.7	1,050.0	1,010.4	39.57	26.533	
7,698.8	7,215.1	7,919.3	7,214.0	21.5	37.7	-90.00	259.3	1,753.7	1,050.0	1,010.5	39.48	26.599	
7,700.0	7,215.2	7,920.6	7,214.2	21.5	37.7	-90.00	258.1	1,753.7	1,050.0	1,010.5	39.47	26.602	
7,750.0	7,219.3	7,970.6	7,221.2	21.3	37.5	-90.16	208.5	1,753.7	1,050.0	1,010.7	39.31	26.712	
7,775.6	7,220.1	7,996.3	7,223.4	21.2	37.4	-90.24	183.0	1,753.7	1,050.0	1,010.7	39.26	26.745	
7,792.5	7,220.0	8,013.3	7,224.4	21.1	37.4	-90.29	166.0	1,753.7	1,050.0	1,010.8	39.24	26.760	
7,800.0	7,219.9	8,020.8	7,224.7	21.1	37.4	-90.31	158.4	1,753.7	1,050.0	1,010.8	39.23	26.764	
7,874.0	7,219.0	8,095.1	7,224.5	20.8	37.2	-90.35	84.2	1,753.7	1,050.0	1,010.7	39.33	26.699	
7,900.0	7,218.7	8,121.1	7,224.1	20.7	37.2	-90.35	58.2	1,753.7	1,050.0	1,010.6	39.40	26.649	
7,972.4	7,217.8	8,193.5	7,223.1	20.5	37.1	-90.34	-14.3	1,753.7	1,050.0	1,010.2	39.76	26.406	
8,000.0	7,217.5	8,221.1	7,222.7	20.4	37.0	-90.34	-41.8	1,753.7	1,050.0	1,010.1	39.94	26.290	
8,070.8	7,216.6	8,292.0	7,221.8	20.4	37.0	-90.34	-112.7	1,753.7	1,050.0	1,009.5	40.55	25.896	
8,100.0	7,216.2	8,321.1	7,221.4	20.4	37.0	-90.33	-141.8	1,753.7	1,050.0	1,009.2	40.83	25.715	
8,169.3	7,215.4	8,390.4	7,220.4	20.7	37.0	-90.33	-211.1	1,753.7	1,050.0	1,008.3	41.66	25.205	
8,200.0	7,215.0	8,421.1	7,220.0	21.0	37.0	-90.33	-241.8	1,753.7	1,050.0	1,007.9	42.06	24.966	
8,267.7	7,214.1	8,488.8	7,219.1	21.6	37.1	-90.32	-309.5	1,753.7	1,050.0	1,006.9	43.07	24.377	
8,300.0	7,213.7	8,521.1	7,218.6	21.9	37.1	-90.32	-341.8	1,753.7	1,050.0	1,006.4	43.59	24.090	
8,366.1	7,212.9	8,587.2	7,217.7	22.6	37.3	-90.31	-407.9	1,753.7	1,050.0	1,005.2	44.76	23.457	
8,400.0	7,212.5	8,621.1	7,217.2	23.0	37.4	-90.31	-441.8	1,753.7	1,050.0	1,004.6	45.39	23.132	
8,464.5	7,211.7	8,685.7	7,216.3	23.8	37.6	-90.31	-506.3	1,753.7	1,050.0	1,003.3	46.70	22.486	
8,500.0	7,211.3	8,721.1	7,215.8	24.2	37.7	-90.30	-541.8	1,753.7	1,050.0	1,002.6	47.44	22.135	
8,563.0	7,210.5	8,784.1	7,215.0	25.0	37.9	-90.30	-604.8	1,753.7	1,050.0	1,001.1	48.85	21.496	
8,600.0	7,210.0	8,821.1	7,214.5	25.5	38.1	-90.30	-641.8	1,753.7	1,050.0	1,000.3	49.69	21.129	
8,661.4	7,209.3	8,882.5	7,213.6	26.3	38.4	-90.29	-703.2	1,753.7	1,050.0	998.8	51.18	20.514	
8,700.0	7,208.8	8,921.1	7,213.1	26.8	38.6	-90.29	-741.8	1,753.7	1,050.0	997.9	52.14	20.139	
8,759.8	7,208.0	8,980.9	7,212.3	27.6	39.0	-90.29	-801.6	1,753.7	1,050.0	996.3	53.69	19.558	
8,800.0	7,207.5	9,021.1	7,211.7	28.2	39.3	-90.28	-841.8	1,753.7	1,050.0	995.3	54.74	19.181	
8,858.2	7,206.8	9,079.4	7,210.9	29.0	39.7	-90.28	-900.0	1,753.7	1,050.0	993.7	56.33	18.640	
8,900.0	7,206.3	9,121.1	7,210.3	29.6	40.0	-90.28	-941.7	1,753.7	1,050.0	992.5	57.48	18.266	
8,956.7	7,205.6	9,177.8	7,209.5	30.4	40.5	-90.27	-998.4	1,753.7	1,050.0	990.9	59.10	17.766	
9,000.0	7,205.0	9,221.1	7,208.9	31.1	40.8	-90.27	-1,041.7	1,753.7	1,050.0	989.6	60.35	17.399	
9,055.1	7,204.3	9,276.2	7,208.2	31.9	41.3	-90.26	-1,096.8	1,753.7	1,050.0	988.0	61.97	16.942	
9,100.0	7,203.8	9,321.1	7,207.6	32.6	41.8	-90.26	-1,141.7	1,753.7	1,050.0	986.7	63.31	16.584	
9,153.5	7,203.1	9,374.6	7,206.8	33.4	42.3	-90.26	-1,195.2	1,753.7	1,050.0	985.0	64.94	16.168	
9,200.0	7,202.5	9,421.1	7,206.2	34.2	42.8	-90.25	-1,241.7	1,753.7	1,050.0	983.6	66.37	15.821	
9,251.9	7,201.9	9,473.1	7,205.5	35.0	43.4	-90.25	-1,293.7	1,753.7	1,050.0	982.0	67.99	15.443	
9,300.0	7,201.3	9,521.1	7,204.8	35.7	43.9	-90.25	-1,341.7	1,753.7	1,050.0	980.5	69.50	15.107	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-MW/D												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	
9,350.4	7,200.7	9,571.5	7,204.1	36.6	44.5	-90.24	-1,392.1	1,753.7	1,050.0	978.9	71.11	14.766	
9,400.0	7,200.0	9,621.1	7,203.4	37.4	45.1	-90.24	-1,441.7	1,753.7	1,050.0	977.3	72.70	14.442	
9,448.8	7,199.4	9,669.9	7,202.8	38.2	45.7	-90.24	-1,490.5	1,753.7	1,050.0	975.7	74.29	14.134	
9,500.0	7,198.8	9,721.1	7,202.0	39.0	46.3	-90.23	-1,541.7	1,753.7	1,050.0	974.0	75.96	13.822	
9,547.2	7,198.2	9,768.3	7,201.4	39.8	46.9	-90.23	-1,588.9	1,753.7	1,050.0	972.5	77.53	13.544	
9,600.0	7,197.5	9,821.1	7,200.7	40.7	47.6	-90.23	-1,641.7	1,753.7	1,050.0	970.7	79.28	13.245	
9,645.6	7,197.0	9,866.8	7,200.0	41.4	48.2	-90.22	-1,687.3	1,753.7	1,050.0	969.2	80.81	12.994	
9,700.0	7,196.3	9,921.1	7,199.3	42.4	49.0	-90.22	-1,741.7	1,753.7	1,050.0	967.4	82.63	12.706	
9,744.1	7,195.7	9,965.2	7,198.7	43.1	49.6	-90.21	-1,785.7	1,753.7	1,050.0	965.9	84.13	12.480	
9,800.0	7,195.0	10,021.1	7,197.9	44.1	50.4	-90.21	-1,841.7	1,753.7	1,050.0	964.0	86.03	12.204	
9,842.5	7,194.5	10,063.6	7,197.3	44.8	51.0	-90.21	-1,884.2	1,753.7	1,050.0	962.5	87.49	12.001	
9,900.0	7,193.8	10,121.1	7,196.5	45.8	51.8	-90.20	-1,941.7	1,753.7	1,050.0	960.5	89.47	11.736	
9,940.9	7,193.3	10,162.0	7,196.0	46.5	52.4	-90.20	-1,982.6	1,753.7	1,050.0	959.1	90.89	11.553	
10,000.0	7,192.5	10,221.1	7,195.1	47.5	53.2	-90.20	-2,041.6	1,753.7	1,050.0	957.0	92.93	11.298	
10,039.3	7,192.0	10,260.5	7,194.6	48.2	53.8	-90.19	-2,081.0	1,753.7	1,050.0	955.7	94.31	11.133	
10,100.0	7,191.3	10,321.1	7,193.8	49.3	54.7	-90.19	-2,141.6	1,753.7	1,050.0	953.6	96.43	10.889	
10,137.8	7,190.8	10,358.9	7,193.2	49.9	55.3	-90.19	-2,179.4	1,753.7	1,050.0	952.2	97.76	10.741	
10,200.0	7,190.0	10,421.1	7,192.4	51.0	56.3	-90.18	-2,241.6	1,753.7	1,050.0	950.0	99.95	10.505	
10,236.2	7,189.6	10,457.3	7,191.9	51.7	56.8	-90.18	-2,277.8	1,753.7	1,050.0	948.7	101.23	10.372	
10,300.0	7,188.8	10,521.1	7,191.0	52.8	57.8	-90.18	-2,341.6	1,753.7	1,050.0	946.5	103.49	10.145	
10,334.6	7,188.3	10,555.7	7,190.5	53.4	58.4	-90.17	-2,376.2	1,753.7	1,050.0	945.3	104.73	10.026	
10,400.0	7,187.5	10,621.1	7,189.6	54.6	59.4	-90.17	-2,441.6	1,753.7	1,050.0	942.9	107.06	9.808	
10,433.0	7,187.1	10,654.2	7,189.2	55.2	59.9	-90.17	-2,474.7	1,753.7	1,050.0	941.7	108.24	9.700	
10,500.0	7,186.3	10,721.1	7,188.2	56.4	61.0	-90.16	-2,541.6	1,753.7	1,050.0	939.3	110.64	9.490	
10,531.5	7,185.9	10,752.6	7,187.8	56.9	61.5	-90.16	-2,573.1	1,753.7	1,050.0	938.2	111.77	9.394	
10,600.0	7,185.0	10,821.1	7,186.9	58.2	62.6	-90.16	-2,641.6	1,753.7	1,050.0	935.7	114.24	9.191	
10,629.9	7,184.6	10,851.0	7,186.4	58.7	63.1	-90.15	-2,671.5	1,753.7	1,050.0	934.7	115.32	9.105	
10,700.0	7,183.8	10,921.1	7,185.5	60.0	64.3	-90.15	-2,741.6	1,753.7	1,050.0	932.1	117.85	8.909	
10,728.3	7,183.4	10,949.4	7,185.1	60.5	64.7	-90.15	-2,769.9	1,753.7	1,050.0	931.1	118.88	8.832	
10,800.0	7,182.5	11,021.1	7,184.1	61.8	65.9	-90.14	-2,841.6	1,753.7	1,050.0	928.5	121.48	8.643	
10,826.7	7,182.2	11,047.9	7,183.7	62.3	66.4	-90.14	-2,868.3	1,753.7	1,050.0	927.5	122.45	8.574	
10,900.0	7,181.2	11,121.1	7,182.7	63.6	67.6	-90.14	-2,941.6	1,753.7	1,050.0	924.9	125.12	8.392	
10,925.2	7,180.9	11,146.3	7,182.4	64.0	68.0	-90.13	-2,966.7	1,753.7	1,050.0	923.9	126.04	8.330	
11,000.0	7,180.0	11,221.1	7,181.3	65.4	69.3	-90.13	-3,041.6	1,753.7	1,050.0	921.2	128.78	8.154	
11,023.6	7,179.7	11,244.7	7,181.0	65.8	69.7	-90.13	-3,065.2	1,753.7	1,050.0	920.3	129.64	8.099	
11,100.0	7,178.7	11,321.1	7,180.0	67.2	71.0	-90.12	-3,141.5	1,753.7	1,050.0	917.5	132.44	7.928	
11,122.0	7,178.4	11,343.1	7,179.6	67.6	71.3	-90.12	-3,163.6	1,753.7	1,050.0	916.7	133.25	7.880	
11,200.0	7,177.5	11,421.1	7,178.6	69.1	72.7	-90.12	-3,241.5	1,753.7	1,050.0	913.9	136.11	7.714	
11,220.4	7,177.2	11,441.6	7,178.3	69.4	73.0	-90.11	-3,262.0	1,753.7	1,050.0	913.1	136.86	7.672	
11,300.0	7,176.2	11,521.1	7,177.2	70.9	74.4	-90.11	-3,341.5	1,753.7	1,050.0	910.2	139.79	7.511	
11,318.9	7,176.0	11,540.0	7,176.9	71.2	74.7	-90.11	-3,360.4	1,753.7	1,050.0	909.5	140.49	7.474	
11,400.0	7,174.9	11,621.1	7,175.8	72.7	76.1	-90.10	-3,441.5	1,753.7	1,050.0	906.5	143.48	7.318	
11,417.3	7,174.7	11,638.4	7,175.6	73.1	76.4	-90.10	-3,458.8	1,753.7	1,050.0	905.8	144.12	7.285	
11,500.0	7,173.7	11,721.1	7,174.4	74.6	77.8	-90.10	-3,541.5	1,753.7	1,050.0	902.8	147.18	7.134	
11,515.7	7,173.5	11,736.9	7,174.2	74.9	78.1	-90.09	-3,557.2	1,753.7	1,050.0	902.2	147.77	7.106	
11,600.0	7,172.4	11,821.1	7,173.0	76.4	79.6	-90.09	-3,641.5	1,753.7	1,050.0	899.1	150.89	6.959	
11,614.1	7,172.2	11,835.3	7,172.8	76.7	79.8	-90.09	-3,655.6	1,753.7	1,050.0	898.5	151.41	6.934	
11,700.0	7,171.2	11,921.1	7,171.7	78.3	81.3	-90.08	-3,741.5	1,753.7	1,050.0	895.4	154.60	6.791	
11,712.6	7,171.0	11,933.7	7,171.5	78.5	81.6	-90.08	-3,754.1	1,753.7	1,050.0	894.9	155.07	6.771	
11,791.4	7,170.0	12,012.5	7,170.4	80.0	82.9	-90.08	-3,832.9	1,753.7	1,050.0	892.0	158.00	6.645 SF	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 16-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	-5.97	1,371.2	-143.4	1,379.3				
98.4	98.4	58.6	58.6	0.1	0.1	-5.97	1,371.2	-143.4	1,378.7	1,378.5	0.19	7,378.152	
100.0	100.0	60.2	60.2	0.1	0.1	-5.97	1,371.2	-143.4	1,378.7	1,378.5	0.19	7,174.282	
196.8	196.8	157.0	157.0	0.3	0.3	-5.97	1,371.2	-143.4	1,378.7	1,378.1	0.63	2,196.997	
200.0	200.0	160.2	160.2	0.3	0.3	-5.97	1,371.2	-143.4	1,378.7	1,378.1	0.64	2,148.517	
295.3	295.3	255.5	255.5	0.5	0.5	-5.97	1,371.2	-143.4	1,378.7	1,377.6	1.07	1,288.524	
300.0	300.0	260.2	260.2	0.5	0.6	-5.97	1,371.2	-143.4	1,378.7	1,377.6	1.09	1,263.443	
393.7	393.7	353.9	353.9	0.7	0.8	-5.97	1,371.2	-143.4	1,378.7	1,377.2	1.51	911.579	
400.0	400.0	360.2	360.2	0.8	0.8	-5.97	1,371.2	-143.4	1,378.7	1,377.2	1.54	894.824	
492.1	492.1	452.3	452.3	1.0	1.0	-5.97	1,371.2	-143.4	1,378.7	1,376.8	1.95	705.262	
500.0	500.0	460.2	460.2	1.0	1.0	-5.97	1,371.2	-143.4	1,378.7	1,376.7	1.99	692.718	
590.5	590.5	550.7	550.7	1.2	1.2	-5.97	1,371.2	-143.4	1,378.7	1,376.3	2.40	575.100	
600.0	600.0	560.2	560.2	1.2	1.2	-5.97	1,371.2	-143.4	1,378.7	1,376.3	2.44	565.087	
689.0	689.0	649.2	649.2	1.4	1.4	-5.97	1,371.2	-143.4	1,378.7	1,375.9	2.84	485.497	
700.0	700.0	660.2	660.2	1.4	1.5	-5.97	1,371.2	-143.4	1,378.7	1,375.8	2.89	477.170	
787.4	787.4	747.6	747.6	1.6	1.7	-5.97	1,371.2	-143.4	1,378.7	1,375.4	3.28	420.052	
800.0	800.0	760.2	760.2	1.7	1.7	-5.97	1,371.2	-143.4	1,378.7	1,375.4	3.34	412.926	
885.8	885.8	846.0	846.0	1.9	1.9	-5.97	1,371.2	-143.4	1,378.7	1,375.0	3.72	370.155	
900.0	900.0	860.2	860.2	1.9	1.9	-5.97	1,371.2	-143.4	1,378.7	1,374.9	3.79	363.929	
984.2	984.2	944.4	944.4	2.1	2.1	-5.97	1,371.2	-143.4	1,378.7	1,374.6	4.17	330.853	
1,000.0	1,000.0	960.2	960.2	2.1	2.1	-5.97	1,371.2	-143.4	1,378.7	1,374.5	4.24	325.326	
1,082.7	1,082.7	1,042.9	1,042.9	2.3	2.3	-5.97	1,371.2	-143.4	1,378.7	1,374.1	4.61	299.096	
1,100.0	1,100.0	1,060.2	1,060.2	2.3	2.4	-5.97	1,371.2	-143.4	1,378.7	1,374.0	4.69	294.127	
1,181.1	1,181.1	1,141.3	1,141.3	2.5	2.5	-5.97	1,371.2	-143.4	1,378.7	1,373.7	5.05	272.902	
1,200.0	1,200.0	1,160.2	1,160.2	2.6	2.6	-5.97	1,371.2	-143.4	1,378.7	1,373.6	5.14	268.388	
1,279.5	1,279.5	1,239.7	1,239.7	2.7	2.8	-5.97	1,371.2	-143.4	1,378.7	1,373.2	5.49	250.926	
1,300.0	1,300.0	1,260.2	1,260.2	2.8	2.8	-5.97	1,371.2	-143.4	1,378.7	1,373.1	5.59	246.792	
1,377.9	1,377.9	1,338.1	1,338.1	3.0	3.0	-5.97	1,371.2	-143.4	1,378.7	1,372.8	5.94	232.226	
1,400.0	1,400.0	1,360.2	1,360.2	3.0	3.0	-5.97	1,371.2	-143.4	1,378.7	1,372.7	6.04	228.413	
1,476.4	1,476.4	1,436.6	1,436.6	3.2	3.2	-5.97	1,371.2	-143.4	1,378.7	1,372.3	6.38	216.120	
1,500.0	1,500.0	1,460.2	1,460.2	3.2	3.3	-5.97	1,371.2	-143.4	1,378.7	1,372.2	6.49	212.581	
1,574.8	1,574.8	1,535.0	1,535.0	3.4	3.4	-5.97	1,371.2	-143.4	1,378.7	1,371.9	6.82	202.103	
1,600.0	1,600.0	1,560.2	1,560.2	3.5	3.5	-5.97	1,371.2	-143.4	1,378.7	1,371.8	6.94	198.801	
1,673.2	1,673.2	1,633.4	1,633.4	3.6	3.6	-5.97	1,371.2	-143.4	1,378.7	1,371.5	7.26	189.793	
1,700.0	1,700.0	1,660.2	1,660.2	3.7	3.7	-5.97	1,371.2	-143.4	1,378.7	1,371.3	7.38	186.700	
1,771.6	1,771.6	1,731.8	1,731.8	3.8	3.9	-5.97	1,371.2	-143.4	1,378.7	1,371.0	7.71	178.897	
1,800.0	1,800.0	1,760.2	1,760.2	3.9	3.9	-5.97	1,371.2	-143.4	1,378.7	1,370.9	7.83	175.987	
1,850.0	1,850.0	1,810.2	1,810.2	4.0	4.0	-5.97	1,371.2	-143.4	1,378.7	1,370.7	8.06	171.078	
1,870.1	1,870.1	1,830.3	1,830.3	4.1	4.1	-44.28	1,371.2	-143.4	1,378.7	1,370.5	8.15	169.191	
1,900.0	1,900.0	1,860.2	1,860.2	4.1	4.2	-44.29	1,371.2	-143.4	1,378.4	1,370.1	8.28	166.438	
1,968.5	1,968.5	1,928.7	1,928.7	4.3	4.3	-44.37	1,371.2	-143.4	1,377.0	1,368.4	8.58	160.410	
2,000.0	1,999.9	1,960.1	1,960.1	4.4	4.4	-44.43	1,371.2	-143.4	1,375.9	1,367.2	8.72	157.749	
2,066.9	2,066.7	2,026.9	2,026.9	4.5	4.5	-44.60	1,371.2	-143.4	1,372.9	1,363.8	9.02	152.270	
2,100.0	2,099.7	2,059.9	2,059.9	4.6	4.6	-44.70	1,371.2	-143.4	1,370.9	1,361.8	9.16	149.665	
2,165.3	2,164.7	2,124.9	2,124.9	4.7	4.7	-44.96	1,371.2	-143.4	1,366.4	1,356.9	9.45	144.644	
2,200.0	2,199.1	2,159.3	2,159.3	4.8	4.8	-45.12	1,371.2	-143.4	1,363.5	1,353.9	9.60	142.072	
2,263.8	2,262.3	2,222.5	2,222.5	5.0	5.0	-45.46	1,371.2	-143.4	1,357.5	1,347.6	9.88	137.421	
2,300.0	2,298.2	2,258.4	2,258.4	5.0	5.0	-45.67	1,371.2	-143.4	1,353.7	1,343.7	10.04	134.864	
2,362.2	2,359.5	2,319.7	2,319.7	5.2	5.2	-46.09	1,371.2	-143.4	1,346.4	1,336.1	10.32	130.512	
2,400.0	2,396.6	2,356.8	2,356.8	5.3	5.3	-46.38	1,371.2	-143.4	1,341.5	1,331.1	10.49	127.946	
2,460.6	2,456.0	2,416.2	2,416.2	5.5	5.4	-46.88	1,371.2	-143.4	1,333.1	1,322.3	10.77	123.832	
2,500.0	2,494.4	2,454.6	2,454.6	5.6	5.5	-47.23	1,371.2	-143.4	1,327.1	1,316.2	10.95	121.236	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 16-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		
2,559.0	2,551.8	2,512.0	2,512.0	5.8	5.6	-47.81	1,371.2	-143.4	1,317.6	1,306.4	11.23	117.301		
2,600.0	2,591.5	2,551.7	2,551.7	5.9	5.7	-48.25	1,371.2	-143.4	1,310.6	1,299.2	11.43	114.666		
2,657.5	2,646.8	2,607.0	2,607.0	6.1	5.8	-48.90	1,371.2	-143.4	1,300.2	1,288.5	11.72	110.919		
2,685.2	2,673.5	2,633.7	2,633.7	6.2	5.9	-49.24	1,371.2	-143.4	1,294.9	1,283.0	11.87	109.135		
2,700.0	2,687.6	2,647.8	2,647.8	6.3	5.9	-49.38	1,371.2	-143.4	1,292.1	1,280.1	11.95	108.141		
2,755.9	2,741.1	2,701.3	2,701.3	6.5	6.0	-49.91	1,371.2	-143.4	1,281.4	1,269.1	12.27	104.448		
2,800.0	2,783.4	2,743.6	2,743.6	6.7	6.1	-50.34	1,371.2	-143.4	1,273.1	1,260.6	12.52	101.648		
2,854.3	2,835.4	2,795.6	2,795.6	6.9	6.3	-50.87	1,371.2	-143.4	1,262.9	1,250.1	12.85	98.291		
2,900.0	2,879.2	2,839.4	2,839.4	7.1	6.4	-51.32	1,371.2	-143.4	1,254.5	1,241.3	13.12	95.581		
2,952.7	2,929.7	2,889.9	2,889.9	7.4	6.5	-51.85	1,371.2	-143.4	1,244.8	1,231.3	13.45	92.541		
3,000.0	2,974.9	2,935.1	2,935.1	7.6	6.6	-52.33	1,371.2	-143.4	1,236.2	1,222.5	13.75	89.929		
3,051.2	3,023.9	2,984.1	2,984.1	7.8	6.7	-52.86	1,371.2	-143.4	1,227.0	1,213.0	14.07	87.185		
3,100.0	3,070.7	3,030.9	3,030.9	8.1	6.8	-53.38	1,371.2	-143.4	1,218.4	1,204.0	14.39	84.675		
3,149.6	3,118.2	3,078.4	3,078.4	8.3	6.9	-53.90	1,371.2	-143.4	1,209.7	1,195.0	14.72	82.204		
3,200.0	3,166.5	3,126.7	3,126.7	8.6	7.0	-54.45	1,371.2	-143.4	1,201.0	1,185.9	15.05	79.796		
3,248.0	3,212.5	3,172.7	3,172.7	8.8	7.1	-54.97	1,371.2	-143.4	1,192.8	1,177.4	15.38	77.576		
3,300.0	3,262.3	3,222.5	3,222.5	9.1	7.2	-55.54	1,371.2	-143.4	1,184.0	1,168.3	15.73	75.271		
3,346.4	3,306.8	3,267.0	3,267.0	9.3	7.3	-56.07	1,371.2	-143.4	1,176.3	1,160.2	16.05	73.280		
3,400.0	3,358.1	3,318.3	3,318.3	9.6	7.4	-56.67	1,371.2	-143.4	1,167.5	1,151.1	16.43	71.077		
3,444.9	3,401.0	3,361.2	3,361.2	9.8	7.5	-57.19	1,371.2	-143.4	1,160.3	1,143.5	16.74	69.293		
3,500.0	3,453.8	3,414.0	3,414.0	10.1	7.6	-57.83	1,371.2	-143.4	1,151.5	1,134.3	17.14	67.190		
3,543.3	3,495.3	3,455.5	3,455.5	10.3	7.7	-58.34	1,371.2	-143.4	1,144.7	1,127.2	17.45	65.594		
3,600.0	3,549.6	3,509.8	3,509.8	10.6	7.9	-59.02	1,371.2	-143.4	1,136.0	1,118.1	17.86	63.588		
3,641.7	3,589.6	3,549.8	3,549.8	10.8	7.9	-59.53	1,371.2	-143.4	1,129.6	1,111.5	18.17	62.163		
3,700.0	3,645.4	3,605.6	3,605.6	11.1	8.1	-60.24	1,371.2	-143.4	1,121.0	1,102.4	18.60	60.250		
3,740.1	3,683.8	3,644.0	3,644.0	11.4	8.2	-60.74	1,371.2	-143.4	1,115.1	1,096.2	18.91	58.979		
3,800.0	3,741.2	3,701.4	3,701.4	11.7	8.3	-61.49	1,371.2	-143.4	1,106.5	1,087.1	19.36	57.158		
3,838.6	3,778.1	3,738.3	3,738.3	11.9	8.4	-61.98	1,371.2	-143.4	1,101.1	1,081.4	19.65	56.026		
3,900.0	3,837.0	3,797.2	3,797.2	12.2	8.5	-62.77	1,371.2	-143.4	1,092.6	1,072.5	20.12	54.293		
3,937.0	3,872.4	3,832.6	3,832.6	12.4	8.6	-63.26	1,371.2	-143.4	1,087.6	1,067.2	20.41	53.286		
4,000.0	3,932.7	3,892.9	3,892.9	12.8	8.7	-64.08	1,371.2	-143.4	1,079.3	1,058.4	20.90	51.638		
4,035.4	3,966.7	3,926.9	3,926.9	13.0	8.8	-64.56	1,371.2	-143.4	1,074.7	1,053.6	21.18	50.744		
4,100.0	4,028.5	3,988.7	3,988.7	13.3	8.9	-65.43	1,371.2	-143.4	1,066.6	1,044.9	21.69	49.177		
4,133.8	4,060.9	4,021.1	4,021.1	13.5	9.0	-65.89	1,371.2	-143.4	1,062.4	1,040.5	21.96	48.386		
4,200.0	4,124.3	4,084.5	4,084.5	13.9	9.2	-66.80	1,371.2	-143.4	1,054.5	1,032.1	22.49	46.898		
4,232.3	4,155.2	4,115.4	4,115.4	14.0	9.2	-67.24	1,371.2	-143.4	1,050.8	1,028.0	22.75	46.198		
4,300.0	4,220.1	4,180.3	4,180.3	14.4	9.4	-68.19	1,371.2	-143.4	1,043.1	1,019.8	23.29	44.786		
4,330.7	4,249.5	4,209.7	4,209.7	14.6	9.4	-68.63	1,371.2	-143.4	1,039.8	1,016.2	23.54	44.169		
4,400.0	4,315.9	4,276.1	4,276.1	15.0	9.6	-69.62	1,371.2	-143.4	1,032.4	1,008.3	24.10	42.831		
4,429.1	4,343.7	4,303.9	4,303.9	15.1	9.6	-70.04	1,371.2	-143.4	1,029.4	1,005.0	24.34	42.289		
4,500.0	4,411.6	4,371.8	4,371.8	15.5	9.8	-71.07	1,371.2	-143.4	1,022.3	997.4	24.92	41.020		
4,527.5	4,438.0	4,398.2	4,398.2	15.7	9.9	-71.48	1,371.2	-143.4	1,019.7	994.6	25.15	40.546		
4,600.0	4,507.4	4,467.6	4,467.6	16.1	10.0	-72.55	1,371.2	-143.4	1,013.0	987.3	25.75	39.346		
4,626.0	4,532.3	4,492.5	4,492.5	16.2	10.1	-72.94	1,371.2	-143.4	1,010.7	984.8	25.96	38.931		
4,700.0	4,603.2	4,563.4	4,563.4	16.7	10.2	-74.06	1,371.2	-143.4	1,004.4	977.9	26.57	37.797		
4,724.4	4,626.6	4,586.8	4,586.8	16.8	10.3	-74.43	1,371.2	-143.4	1,002.4	975.7	26.78	37.437		
4,800.0	4,699.0	4,659.2	4,659.2	17.2	10.4	-75.58	1,371.2	-143.4	996.6	969.2	27.40	36.367		
4,822.8	4,720.8	4,681.0	4,681.0	17.4	10.5	-75.93	1,371.2	-143.4	994.9	967.3	27.59	36.056		
4,900.0	4,794.7	4,754.9	4,754.9	17.8	10.7	-77.13	1,371.2	-143.4	989.5	961.3	28.24	35.046		
4,921.2	4,815.1	4,775.3	4,775.3	17.9	10.7	-77.46	1,371.2	-143.4	988.1	959.7	28.41	34.779		
5,000.0	4,890.5	4,850.7	4,850.7	18.4	10.9	-78.70	1,371.2	-143.4	983.3	954.2	29.07	33.829		
5,019.7	4,909.4	4,869.6	4,869.6	18.5	10.9	-79.01	1,371.2	-143.4	982.1	952.9	29.23	33.601		

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - PROP HZ CHANDLER FARMS HD 20-389HN - Wellbore #1 - W												Offset Site Error:	0.0 usft
Survey Program: 16-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	
5,100.0	4,986.3	4,946.5	4,946.5	18.9	11.1	-80.28	1,371.2	-143.4	977.8	947.9	29.89	32.708	
5,118.1	5,003.6	4,963.8	4,963.8	19.0	11.1	-80.57	1,371.2	-143.4	976.9	946.8	30.04	32.515	
5,200.0	5,082.1	5,042.3	5,042.3	19.5	11.3	-81.88	1,371.2	-143.4	973.1	942.4	30.72	31.678	
5,216.5	5,097.9	5,058.1	5,058.1	19.6	11.3	-82.15	1,371.2	-143.4	972.5	941.6	30.86	31.516	
5,300.0	5,177.9	5,138.1	5,138.1	20.1	11.5	-83.49	1,371.2	-143.4	969.3	937.8	31.54	30.733	
5,314.9	5,192.2	5,152.4	5,152.4	20.2	11.6	-83.73	1,371.2	-143.4	968.8	937.2	31.66	30.598	
5,400.0	5,273.6	5,233.8	5,233.8	20.6	11.7	-85.12	1,371.2	-143.4	966.3	934.0	32.36	29.867	
5,413.4	5,286.5	5,246.7	5,246.7	20.7	11.8	-85.33	1,371.2	-143.4	966.0	933.5	32.46	29.757	
5,500.0	5,369.4	5,329.6	5,329.6	21.2	11.9	-86.75	1,371.2	-143.4	964.2	931.1	33.16	29.076	
5,511.8	5,380.7	5,340.9	5,340.9	21.3	12.0	-86.94	1,371.2	-143.4	964.0	930.8	33.26	28.987	
5,600.0	5,465.2	5,425.4	5,425.4	21.8	12.2	-88.38	1,371.2	-143.4	962.9	929.0	33.96	28.355	
5,610.2	5,475.0	5,435.2	5,435.2	21.9	12.2	-88.55	1,371.2	-143.4	962.9	928.8	34.04	28.285	
5,698.8	5,559.8	5,520.0	5,520.0	22.4	12.4	-90.00	1,371.2	-143.4	962.5	927.8	34.74	27.707	
5,700.0	5,561.0	5,521.2	5,521.2	22.4	12.4	-90.02	1,371.2	-143.4	962.5	927.8	34.75	27.700	
5,708.6	5,569.3	5,529.5	5,529.5	22.4	12.4	-90.16	1,371.2	-143.4	962.5	927.7	34.82	27.646	
5,793.4	5,650.4	5,610.6	5,610.6	22.9	12.6	-91.55	1,371.2	-143.4	962.9	927.4	35.47	27.144	
5,800.0	5,656.8	5,617.0	5,617.0	22.9	12.6	-91.66	1,371.2	-143.4	963.0	927.4	35.52	27.109	
5,807.1	5,663.6	5,623.8	5,623.8	23.0	12.6	-91.77	1,371.2	-143.4	963.0	927.5	35.57	27.077	
5,900.0	5,753.1	5,700.0	5,700.0	23.4	12.8	-93.02	1,371.2	-143.4	964.2	928.1	36.12	26.697	
5,905.5	5,758.4	5,713.8	5,713.8	23.4	12.8	-93.23	1,371.2	-143.5	964.3	928.1	36.16	26.665	
6,000.0	5,850.3	5,780.6	5,780.5	23.8	12.9	-94.36	1,369.9	-145.8	967.5	930.9	36.64	26.403	
6,003.9	5,854.1	5,783.3	5,783.2	23.8	13.0	-94.41	1,369.8	-145.9	967.7	931.0	36.66	26.395	
6,100.0	5,948.3	5,838.7	5,838.3	24.1	13.1	-95.49	1,367.0	-151.0	974.3	937.2	37.08	26.279	
6,102.3	5,950.6	5,840.0	5,839.6	24.1	13.1	-95.51	1,366.9	-151.1	974.5	937.5	37.08	26.279	
6,200.0	6,046.9	5,900.0	5,898.4	24.4	13.2	-96.91	1,361.1	-161.6	985.9	948.4	37.45	26.324	
6,200.8	6,047.6	5,900.0	5,898.4	24.4	13.2	-96.91	1,361.1	-161.6	986.0	948.5	37.45	26.325	
6,299.2	6,145.2	5,938.8	5,935.6	24.7	13.3	-98.06	1,355.8	-171.0	1,001.9	964.2	37.75	26.541	
6,300.0	6,146.0	5,939.2	5,935.9	24.7	13.3	-98.07	1,355.7	-171.2	1,002.1	964.3	37.75	26.543	
6,397.6	6,243.1	6,173.4	6,183.1	24.9	33.5	-109.89	961.1	700.3	982.8	941.9	40.96	23.992	
6,400.0	6,245.5	6,173.5	6,183.1	24.9	33.5	-108.95	961.1	700.4	980.5	939.3	41.18	23.810	
6,496.0	6,341.4	6,177.1	6,183.1	25.1	33.6	-67.99	961.0	704.0	884.5	832.5	51.99	17.014	
6,500.0	6,345.3	6,177.3	6,183.1	25.1	33.6	-66.50	961.0	704.1	880.6	828.3	52.24	16.856	
6,594.5	6,439.7	6,178.9	6,183.1	25.2	33.6	-41.64	961.0	705.7	786.3	732.7	53.61	14.668	
6,600.0	6,445.3	6,178.9	6,183.1	25.2	33.6	-40.71	961.0	705.7	780.8	727.3	53.56	14.579	
6,628.6	6,473.9	6,179.0	6,183.1	25.3	33.6	1.73	961.0	705.8	752.3	699.0	53.24	14.130	
6,658.6	6,503.9	6,179.0	6,183.1	25.3	33.6	1.73	961.0	705.8	722.4	669.1	53.28	13.559	
6,692.9	6,538.1	6,179.0	6,183.1	25.3	33.6	-178.81	961.0	705.8	688.4	635.1	53.27	12.922	
6,700.0	6,545.2	6,179.0	6,183.1	25.3	33.6	-178.88	961.0	705.9	681.4	628.2	53.25	12.795	
6,750.0	6,595.0	6,179.1	6,183.1	25.3	33.6	-179.15	961.0	706.0	632.5	579.5	52.96	11.943	
6,791.3	6,635.8	6,179.3	6,183.1	25.3	33.6	-179.25	961.0	706.2	592.8	540.3	52.53	11.286	
6,800.0	6,644.3	6,179.4	6,183.1	25.3	33.6	-179.26	961.0	706.2	584.6	532.2	52.42	11.153	
6,850.0	6,693.0	6,179.7	6,183.1	25.2	33.6	-179.29	960.9	706.6	538.5	486.8	51.65	10.426	
6,889.7	6,731.0	6,180.1	6,183.1	25.2	33.7	-179.28	960.9	706.9	503.4	452.5	50.87	9.895	
6,900.0	6,740.7	6,180.2	6,183.1	25.2	33.7	-179.28	960.9	707.0	494.7	444.0	50.65	9.766	
6,950.0	6,787.3	6,180.7	6,183.1	25.0	33.7	-179.23	960.9	707.6	454.2	404.8	49.45	9.186	
6,988.2	6,821.9	6,181.2	6,183.1	24.9	33.7	-179.19	960.9	708.1	426.3	377.9	48.39	8.809	
7,000.0	6,832.5	6,181.4	6,183.1	24.9	33.7	-179.17	960.9	708.2	418.2	370.2	48.04	8.706	
7,050.0	6,876.1	6,182.1	6,183.1	24.7	33.7	-179.08	960.9	709.0	388.2	341.8	46.44	8.359	
7,086.6	6,906.8	6,182.7	6,183.1	24.6	33.7	-179.01	960.9	709.6	371.0	325.8	45.17	8.214	
7,100.0	6,917.9	6,183.0	6,183.1	24.5	33.7	-178.98	960.8	709.8	365.8	321.1	44.68	8.188 SF	
7,150.0	6,957.6	6,183.9	6,183.1	24.3	33.7	-178.84	960.8	710.7	352.5	309.8	42.75	8.246	
7,185.0	6,984.2	6,184.6	6,183.1	24.1	33.8	-178.74	960.8	711.4	349.3	308.0	41.33	8.453 ES	

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

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - PROP HZ CHANDLER FARMS HD 20-389HN - Wellbore #1 - W												Offset Site Error:	0.0 usft
Survey Program: 16-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
7,189.2	6,987.2	8,184.6	7,183.1	24.1	33.8	-178.72	960.8	711.5	349.3	308.1	41.15	8.488	CC
7,200.0	6,995.2	8,184.9	7,183.1	24.1	33.8	-178.69	960.8	711.7	349.5	308.8	40.70	8.588	
7,250.0	7,030.3	8,185.9	7,183.1	23.8	33.8	-178.49	960.8	712.8	357.1	318.5	38.53	9.266	
7,283.4	7,052.4	8,186.7	7,183.1	23.6	33.8	-178.34	960.7	713.5	367.7	330.6	37.04	9.926	
7,300.0	7,062.9	8,187.1	7,183.1	23.6	33.8	-178.26	960.7	713.9	374.5	338.2	36.29	10.317	
7,350.0	7,092.8	8,188.3	7,183.1	23.3	33.8	-177.97	960.7	715.1	400.4	366.4	34.01	11.770	
7,381.9	7,110.3	8,189.1	7,183.1	23.1	33.9	-177.75	960.7	715.9	420.6	388.0	32.56	12.916	
7,400.0	7,119.8	8,189.6	7,183.1	23.0	33.9	-177.60	960.7	716.4	433.1	401.4	31.74	13.647	
7,450.0	7,143.8	8,190.9	7,183.1	22.8	33.9	-177.12	960.6	717.7	471.2	441.7	29.52	15.961	
7,480.3	7,156.8	8,191.7	7,183.1	22.6	33.9	-176.76	960.6	718.6	496.3	468.0	28.24	17.576	
7,500.0	7,164.7	8,192.3	7,183.1	22.5	33.9	-176.48	960.6	719.1	513.2	485.8	27.43	18.710	
7,550.0	7,182.3	8,193.7	7,183.1	22.2	34.0	-175.57	960.5	720.5	558.1	532.6	25.54	21.854	
7,578.7	7,191.0	8,194.5	7,183.1	22.1	34.0	-174.84	960.5	721.3	584.9	560.3	24.58	23.795	
7,600.0	7,196.7	8,195.1	7,183.1	22.0	34.0	-174.16	960.5	722.0	605.1	581.1	23.94	25.272	
7,650.0	7,207.7	8,196.6	7,183.1	21.7	34.0	-171.75	960.4	723.4	653.4	630.7	22.76	28.707	
7,677.1	7,212.2	8,197.4	7,183.1	21.6	34.1	-169.55	960.4	724.2	680.1	657.7	22.38	30.392	
7,700.0	7,215.2	8,198.1	7,183.1	21.5	34.1	-166.66	960.4	724.9	702.7	680.4	22.28	31.533	
7,750.0	7,219.3	8,199.6	7,183.1	21.3	34.1	-149.71	960.3	726.4	752.5	727.7	24.74	30.411	
7,775.6	7,220.1	8,200.4	7,183.1	21.2	34.1	-116.28	960.3	727.2	778.0	745.5	32.54	23.908	
7,792.5	7,220.0	8,200.9	7,183.1	21.1	34.2	-73.77	960.3	727.7	794.9	759.4	35.55	22.360	
7,800.0	7,219.9	8,201.1	7,183.1	21.1	34.2	-73.91	960.3	727.9	802.4	766.9	35.57	22.559	
7,874.0	7,219.0	8,203.3	7,183.1	20.8	34.2	-75.21	960.2	730.2	876.4	840.6	35.81	24.475	
7,900.0	7,218.7	8,204.1	7,183.1	20.7	34.2	-75.61	960.2	730.9	902.4	866.5	35.88	25.147	
7,972.4	7,217.8	8,206.3	7,183.1	20.5	34.3	-76.64	960.1	733.1	974.8	938.6	36.21	26.918	
8,000.0	7,217.5	8,207.1	7,183.1	20.4	34.3	-76.98	960.1	734.0	1,002.3	966.0	36.33	27.588	
8,070.8	7,216.6	8,209.3	7,183.1	20.4	34.4	-77.81	960.1	736.1	1,073.2	1,036.4	36.75	29.198	
8,100.0	7,216.2	8,210.1	7,183.1	20.4	34.4	-78.12	960.0	737.0	1,102.3	1,065.4	36.93	29.852	
8,169.3	7,215.4	8,212.2	7,183.1	20.7	34.4	-78.80	960.0	739.1	1,171.5	1,134.1	37.44	31.294	
8,200.0	7,215.0	8,213.2	7,183.1	21.0	34.5	-79.07	959.9	740.0	1,202.2	1,164.6	37.66	31.923	
8,267.7	7,214.1	8,215.2	7,183.1	21.6	34.5	-79.64	959.9	742.0	1,269.9	1,231.7	38.25	33.200	
8,300.0	7,213.7	8,216.2	7,183.1	21.9	34.5	-79.88	959.8	743.0	1,302.2	1,263.7	38.53	33.796	
8,366.1	7,212.9	8,218.2	7,183.1	22.6	34.6	-80.36	959.8	745.0	1,368.3	1,329.1	39.19	34.916	
8,400.0	7,212.5	8,219.2	7,183.1	23.0	34.6	-80.58	959.8	746.0	1,402.1	1,362.6	39.52	35.476	
8,464.5	7,211.7	8,221.2	7,183.1	23.8	34.6	-80.99	959.7	748.0	1,466.7	1,426.4	40.24	36.451	
8,500.0	7,211.3	8,222.2	7,183.1	24.2	34.7	-81.19	959.7	749.1	1,502.1	1,461.5	40.63	36.973	
8,563.0	7,210.5	8,224.1	7,183.1	25.0	34.7	-81.54	959.6	751.0	1,565.0	1,523.7	41.38	37.818	
8,600.0	7,210.0	8,225.2	7,183.1	25.5	34.7	-81.72	959.6	752.1	1,602.1	1,560.2	41.83	38.302	
8,661.4	7,209.3	8,227.1	7,183.1	26.3	34.8	-82.02	959.5	753.9	1,663.4	1,620.8	42.62	39.033	
8,700.0	7,208.8	8,228.3	7,183.1	26.8	34.8	-82.19	959.5	755.1	1,702.0	1,658.9	43.11	39.479	
8,759.8	7,208.0	8,230.1	7,183.1	27.6	34.9	-82.45	959.4	756.9	1,761.8	1,717.9	43.92	40.110	
8,800.0	7,207.5	8,231.3	7,183.1	28.2	34.9	-82.61	959.4	758.1	1,802.0	1,757.5	44.47	40.521	
8,858.2	7,206.8	8,233.0	7,183.1	29.0	34.9	-82.84	959.3	759.9	1,860.2	1,814.9	45.30	41.066	
8,900.0	7,206.3	8,234.3	7,183.1	29.6	35.0	-82.98	959.3	761.1	1,901.9	1,856.0	45.89	41.445	
8,956.7	7,205.6	8,236.0	7,183.1	30.4	35.0	-83.18	959.2	762.8	1,958.6	1,911.8	46.73	41.915	
9,000.0	7,205.0	8,237.3	7,183.1	31.1	35.0	-83.32	959.2	764.1	2,001.9	1,954.5	47.37	42.264	
9,055.1	7,204.3	8,239.0	7,183.1	31.9	35.1	-83.50	959.2	765.8	2,056.9	2,008.7	48.20	42.671	
9,100.0	7,203.8	8,240.3	7,183.1	32.6	35.1	-83.63	959.1	767.2	2,101.8	2,052.9	48.89	42.992	
9,153.5	7,203.1	8,242.0	7,183.1	33.4	35.2	-83.78	959.1	768.8	2,155.3	2,105.6	49.73	43.344	
9,200.0	7,202.5	8,243.4	7,183.1	34.2	35.2	-83.90	959.0	770.2	2,201.8	2,151.3	50.45	43.640	
9,251.9	7,201.9	8,244.9	7,183.1	35.0	35.2	-84.04	959.0	771.7	2,253.7	2,202.4	51.28	43.946	
9,300.0	7,201.3	8,246.4	7,183.1	35.7	35.3	-84.15	958.9	773.2	2,301.7	2,249.7	52.05	44.220	
9,350.4	7,200.7	8,247.9	7,183.1	36.6	35.3	-84.28	958.9	774.7	2,352.1	2,299.2	52.87	44.485	

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 OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Offset Design NW NE SEC 30 T4N R67W 6th P.M. - PROP HZ CHANDLER FARMS HD 20-389HN - Wellbore #1 - W												Offset Site Error:	0.0 usft
Survey Program: 16-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
9,400.0	7,200.0	8,249.4	7,183.1	37.4	35.3	-84.39	958.8	776.2	2,401.7	2,348.0	53.68	44.739	
9,448.8	7,199.4	8,250.9	7,183.1	38.2	35.4	-84.50	958.8	777.7	2,450.5	2,396.0	54.49	44.970	
9,500.0	7,198.8	8,252.4	7,183.1	39.0	35.4	-84.60	958.8	779.2	2,501.6	2,446.3	55.34	45.205	
9,547.2	7,198.2	8,253.8	7,183.1	39.8	35.5	-84.70	958.7	780.7	2,548.8	2,492.7	56.13	45.407	
9,600.0	7,197.5	8,255.4	7,183.1	40.7	35.5	-84.79	958.7	782.3	2,601.6	2,544.6	57.02	45.625	
9,645.6	7,197.0	8,256.8	7,183.1	41.4	35.5	-84.88	958.6	783.6	2,647.2	2,589.4	57.80	45.802	
9,700.0	7,196.3	8,258.5	7,183.1	42.4	35.6	-84.98	958.6	785.3	2,701.5	2,642.8	58.72	46.005	
9,744.1	7,195.7	8,259.8	7,183.1	43.1	35.6	-85.06	958.5	786.6	2,745.6	2,686.1	59.48	46.160	
9,800.0	7,195.0	8,261.5	7,183.1	44.1	35.6	-85.14	958.5	788.3	2,801.5	2,741.1	60.44	46.350	
9,842.5	7,194.5	8,262.8	7,183.1	44.8	35.7	-85.22	958.4	789.6	2,844.0	2,782.8	61.18	46.485	
9,900.0	7,193.8	8,264.5	7,183.1	45.8	35.7	-85.30	958.4	791.3	2,901.5	2,839.3	62.18	46.663	
9,940.9	7,193.3	8,265.7	7,183.1	46.5	35.7	-85.36	958.4	792.5	2,942.4	2,879.5	62.90	46.782	
10,000.0	7,192.5	8,267.5	7,183.1	47.5	35.8	-85.44	958.3	794.3	3,001.4	2,937.5	63.93	46.948	
10,039.3	7,192.0	8,268.7	7,183.1	48.2	35.8	-85.50	958.3	795.5	3,040.7	2,976.1	64.62	47.053	
10,100.0	7,191.3	8,270.5	7,183.1	49.3	35.9	-85.58	958.2	797.3	3,101.4	3,035.7	65.69	47.209	
10,137.8	7,190.8	8,271.7	7,183.1	49.9	35.9	-85.63	958.2	798.5	3,139.1	3,072.8	66.36	47.301	
10,200.0	7,190.0	8,273.6	7,183.1	51.0	35.9	-85.71	958.1	800.4	3,201.3	3,133.8	67.47	47.448	
10,236.2	7,189.6	8,274.6	7,183.1	51.7	36.0	-85.75	958.1	801.4	3,237.5	3,169.4	68.12	47.529	
10,300.0	7,188.8	8,276.6	7,183.1	52.8	36.0	-85.83	958.0	803.4	3,301.3	3,232.0	69.26	47.668	
10,334.6	7,188.3	8,277.6	7,183.1	53.4	36.0	-85.87	958.0	804.4	3,335.9	3,266.0	69.88	47.739	
10,400.0	7,187.5	8,279.6	7,183.1	54.6	36.1	-85.94	957.9	806.4	3,401.2	3,330.2	71.05	47.871	
10,433.0	7,187.1	8,280.6	7,183.1	55.2	36.1	-85.98	957.9	807.4	3,434.3	3,362.6	71.65	47.933	
10,500.0	7,186.3	8,282.6	7,183.1	56.4	36.2	-86.04	957.8	809.4	3,501.2	3,428.3	72.85	48.057	
10,531.5	7,185.9	8,283.6	7,183.1	56.9	36.2	-86.08	957.8	810.4	3,532.6	3,459.2	73.42	48.113	
10,600.0	7,185.0	8,285.6	7,183.1	58.2	36.2	-86.14	957.7	812.4	3,601.1	3,526.5	74.67	48.230	
10,629.9	7,184.6	8,286.5	7,183.1	58.7	36.3	-86.17	957.7	813.3	3,631.0	3,555.8	75.21	48.279	
10,700.0	7,183.8	8,288.6	7,183.1	60.0	36.3	-86.23	957.7	815.4	3,701.1	3,624.6	76.48	48.391	
10,728.3	7,183.4	8,289.5	7,183.1	60.5	36.3	-86.26	957.6	816.3	3,729.4	3,652.4	77.00	48.433	
10,800.0	7,182.5	8,291.7	7,183.1	61.8	36.4	-86.32	957.6	818.5	3,801.0	3,722.7	78.31	48.540	
10,826.7	7,182.2	8,292.5	7,183.1	62.3	36.4	-86.35	957.5	819.3	3,827.8	3,749.0	78.80	48.577	
10,900.0	7,181.2	8,294.7	7,183.1	63.6	36.5	-86.40	957.5	821.5	3,901.0	3,820.9	80.14	48.678	
10,925.2	7,180.9	8,295.4	7,183.1	64.0	36.5	-86.43	957.5	822.2	3,926.2	3,845.6	80.60	48.711	
11,000.0	7,180.0	8,297.7	7,183.1	65.4	36.5	-86.48	957.4	824.5	4,000.9	3,919.0	81.97	48.807	
11,023.6	7,179.7	8,298.4	7,183.1	65.8	36.5	-86.50	957.4	825.2	4,024.5	3,942.1	82.41	48.836	
11,100.0	7,178.7	8,300.7	7,183.1	67.2	36.6	-86.56	957.3	827.5	4,100.9	4,017.1	83.81	48.928	
11,122.0	7,178.4	8,301.4	7,183.1	67.6	36.6	-86.58	957.3	828.2	4,122.9	4,038.7	84.22	48.954	
11,200.0	7,177.5	8,303.7	7,183.1	69.1	36.7	-86.63	957.2	830.5	4,200.9	4,115.2	85.66	49.041	
11,220.4	7,177.2	8,304.4	7,183.1	69.4	36.7	-86.64	957.2	831.2	4,221.3	4,135.3	86.04	49.063	
11,300.0	7,176.2	8,306.8	7,183.1	70.9	36.8	-86.70	957.1	833.6	4,300.8	4,213.3	87.51	49.147	
11,318.9	7,176.0	8,307.3	7,183.1	71.2	36.8	-86.71	957.1	834.1	4,319.7	4,231.8	87.86	49.166	
11,400.0	7,174.9	8,309.8	7,183.1	72.7	36.8	-86.76	957.0	836.6	4,400.8	4,311.4	89.36	49.247	
11,417.3	7,174.7	8,310.3	7,183.1	73.1	36.8	-86.77	957.0	837.1	4,418.1	4,328.4	89.68	49.263	
11,500.0	7,173.7	8,312.8	7,183.1	74.6	36.9	-86.82	956.9	839.6	4,500.7	4,409.5	91.22	49.340	
11,515.7	7,173.5	8,313.3	7,183.1	74.9	36.9	-86.83	956.9	840.1	4,516.4	4,424.9	91.51	49.354	
11,600.0	7,172.4	8,315.8	7,183.1	76.4	37.0	-86.88	956.8	842.6	4,600.7	4,507.6	93.08	49.428	
11,614.1	7,172.2	8,316.2	7,183.1	76.7	37.0	-86.89	956.8	843.0	4,614.8	4,521.5	93.34	49.440	
11,700.0	7,171.2	8,318.8	7,183.1	78.3	37.1	-86.93	956.7	845.6	4,700.6	4,605.7	94.94	49.511	
11,712.6	7,171.0	8,319.2	7,183.1	78.5	37.1	-86.94	956.7	846.0	4,713.2	4,618.0	95.17	49.522	
11,791.4	7,170.0	8,321.6	7,183.1	80.0	37.1	-86.98	956.7	848.4	4,792.0	4,695.3	96.64	49.583	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

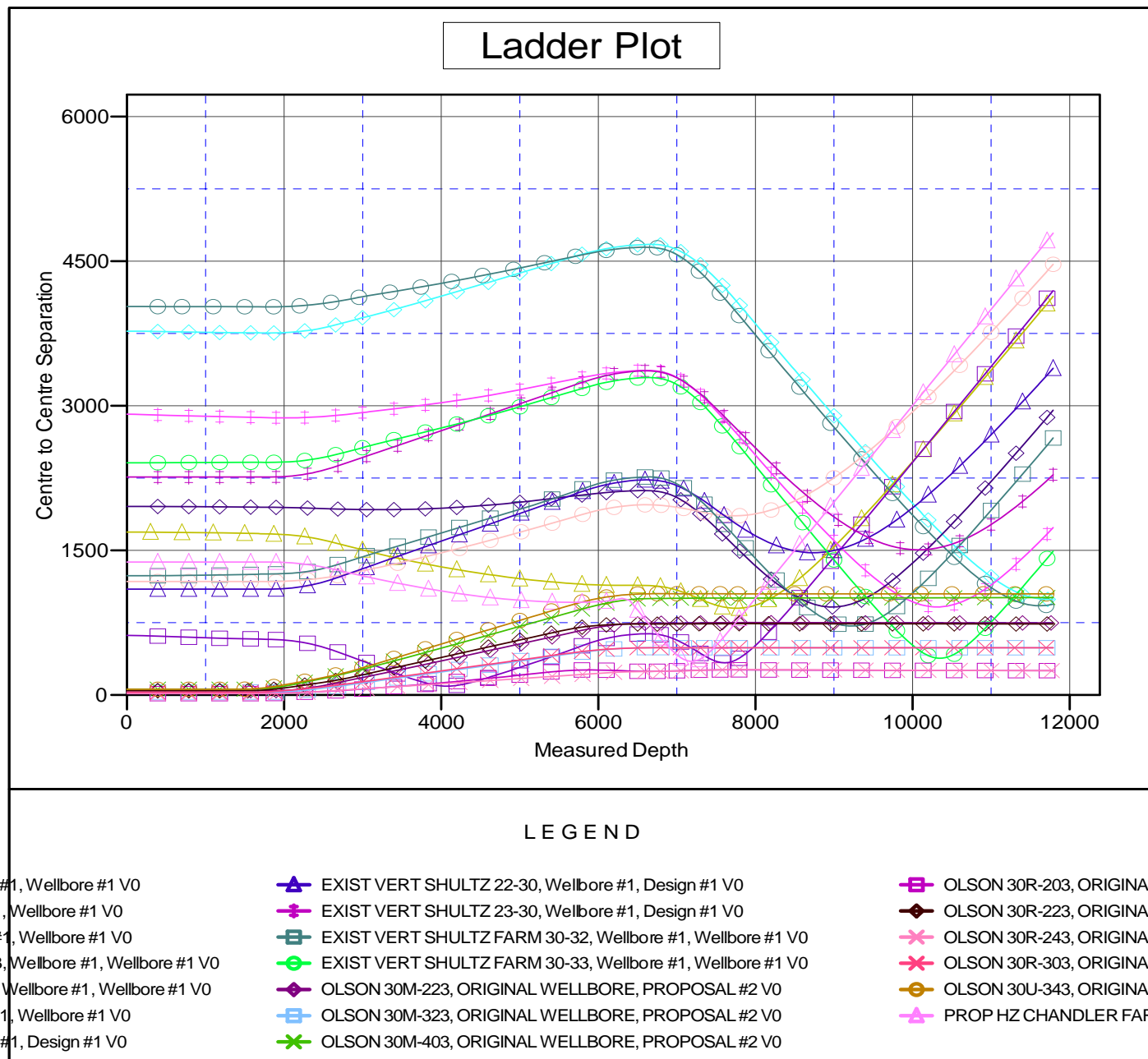
Reference Depths are relative to KB-EST @ 4990.0usft (Original Well ECoordinates are relative to: OLSON 30R-343

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: 0.37°



Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well OLSON 30R-343
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Reference Site:	NW NE SEC 30 T4N R67W 6th P.M.	MD Reference:	KB-EST @ 4990.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	OLSON 30R-343	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 #2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB-EST @ 4990.0usft (Original Well ECoordinates are relative to: OLSON 30R-343

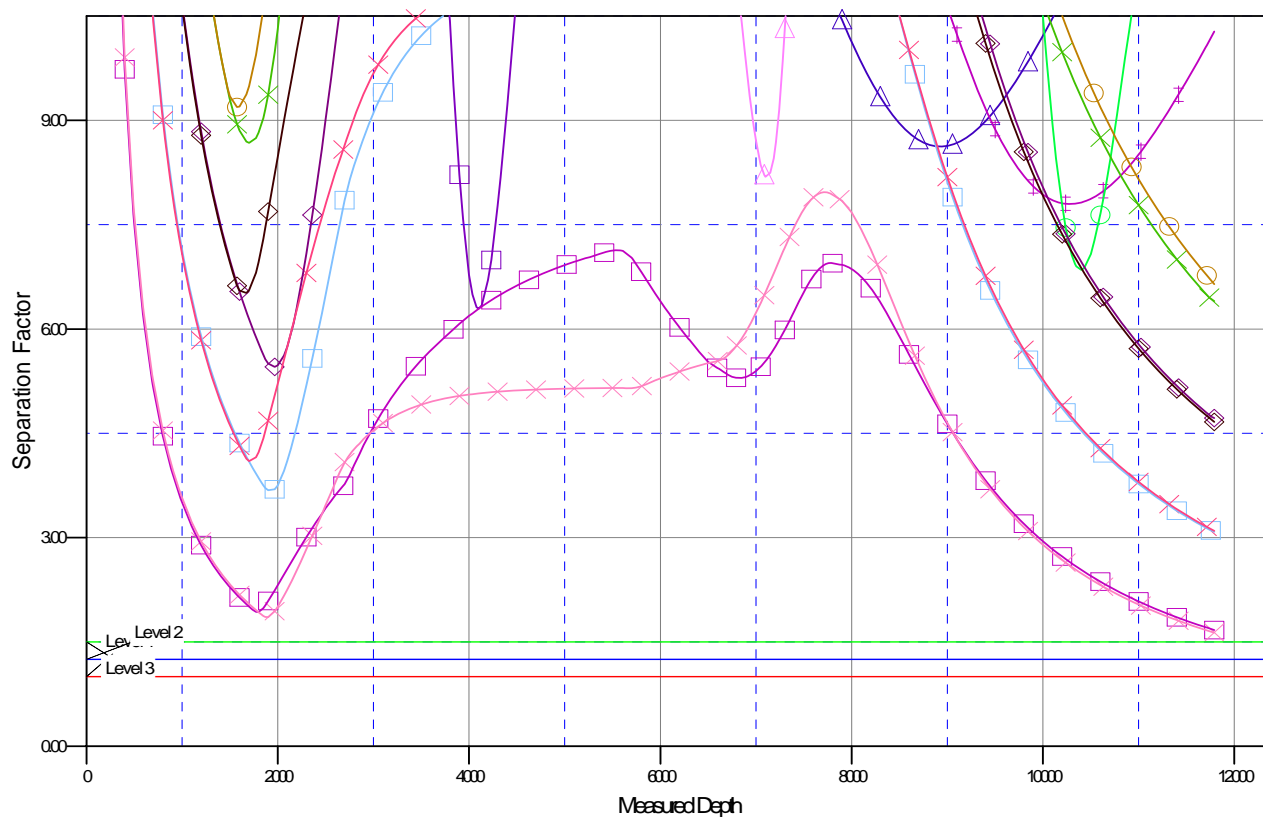
Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, Colorado Northern Zone

Central Meridian is -105.500000

Grid Convergence at Surface is: 0.37°

Separation Factor Plot



LEGEND

Wellbore #1 V0	EXIST VERT SHULTZ 22-30, Wellbore #1, Design #1 V0	OLSON 30R-203, ORIGINAL V
Wellbore #1 V0	EXIST VERT SHULTZ 23-30, Wellbore #1, Design #1 V0	OLSON 30R-223, ORIGINAL V
Wellbore #1 V0	EXIST VERT SHULTZ FARM 30-32, Wellbore #1, Wellbore #1 V0	OLSON 30R-243, ORIGINAL V
Wellbore #1, Wellbore #1 V0	EXIST VERT SHULTZ FARM 30-33, Wellbore #1, Wellbore #1 V0	OLSON 30R-303, ORIGINAL V
Wellbore #1, Wellbore #1 V0	OLSON 30M-223, ORIGINAL WELLBORE, PROPOSAL #2 V0	OLSON 30U-343, ORIGINAL V
Wellbore #1, Wellbore #1 V0	OLSON 30M-323, ORIGINAL WELLBORE, PROPOSAL #2 V0	PROP HZ CHANDLER FARM
Wellbore #1, Design #1 V0	OLSON 30M-403, ORIGINAL WELLBORE, PROPOSAL #2 V0	