

PDC ENERGY

WELD COUNTY, COLORADO

SW SW SEC. 29 T5N R63W 6th P.M.

R&R FARMS 29L-301 - CONTINGENCY PLAN

ORIGINAL WELLBORE

PROPOSAL #2

Anticollision Report

20 July, 2015



Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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	20/07/2015		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	11,023.7	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
Offset Well - Wellbore - Design						
SW SW SEC. 29 T5N R63W 6th P.M.						
EXIST DD PETERSON CX-GH #30-26D - Wellbore #1 -	11,024.4	7,083.4	1,310.1	1,193.5	11.242	CC, ES, SF
EXIST DD PETERSON CX-GH #30-40D - Wellbore #1 -	8,880.2	7,106.6	1,203.1	1,127.5	15.917	CC
EXIST DD PETERSON CX-GH #30-40D - Wellbore #1 -	8,900.0	7,106.4	1,203.2	1,127.3	15.846	ES
EXIST DD PETERSON CX-GH #30-40D - Wellbore #1 -	9,251.9	7,102.3	1,259.2	1,177.0	15.312	SF
EXIST DD PETERSON CX-GH #30-41D - Wellbore #1 -	10,192.5	7,048.8	1,184.8	1,097.3	13.544	CC
EXIST DD PETERSON CX-GH #30-41D - Wellbore #1 -	10,200.0	7,048.6	1,184.8	1,097.2	13.523	ES
EXIST DD PETERSON CX-GH #30-41D - Wellbore #1 -	10,500.0	7,042.6	1,224.0	1,130.9	13.140	SF
EXIST VERT PETERSON #30-41 - Wellbore #1 - Design	10,765.0	6,435.6	1,749.7	1,542.2	8.431	CC
EXIST VERT PETERSON #30-41 - Wellbore #1 - Design	10,800.0	6,435.4	1,750.1	1,541.9	8.407	ES
EXIST VERT PETERSON #30-41 - Wellbore #1 - Design	11,023.7	6,434.0	1,768.8	1,556.4	8.329	SF
EXIST VERT PETERSON #30-42 - Wellbore #1 - Design	9,500.9	6,442.5	1,733.1	1,548.9	9.410	CC
EXIST VERT PETERSON #30-42 - Wellbore #1 - Design	9,547.2	6,442.2	1,733.7	1,548.7	9.370	ES
EXIST VERT PETERSON #30-42 - Wellbore #1 - Design	9,800.0	6,440.7	1,758.7	1,569.0	9.274	SF
EXIST VERT ROTHE #13-29U - Wellbore #1 - Design #1	8,193.0	6,458.6	495.9	334.5	3.073	CC
EXIST VERT ROTHE #13-29U - Wellbore #1 - Design #1	8,200.0	6,458.6	495.9	334.5	3.071	ES, SF
EXIST VERT ROTHE #14-29U - Wellbore #1 - Design #1	2,136.7	2,111.5	164.3	117.2	3.490	CC
EXIST VERT ROTHE #14-29U - Wellbore #1 - Design #1	2,200.0	2,173.1	164.9	116.4	3.395	ES
EXIST VERT ROTHE #14-29U - Wellbore #1 - Design #1	2,362.2	2,330.8	172.4	120.1	3.298	SF
EXIST VERT ROTHE #29BU - Wellbore #1 - Design #1	7,464.3	6,462.1	231.4	80.7	1.536	CC, ES, SF
EXIST VERT ROTHE #43-20 - Wellbore #1 - Design #1	1,025.0	1,028.0	1,676.1	1,654.5	77.320	CC
EXIST VERT ROTHE #43-20 - Wellbore #1 - Design #1	1,082.7	1,085.7	1,676.7	1,653.8	73.057	ES
EXIST VERT ROTHE #43-20 - Wellbore #1 - Design #1	8,500.0	6,470.8	1,847.7	1,681.0	11.088	SF
EXIST VERT ROTHE #44-30 - Wellbore #1 - Design #1	1,025.0	1,028.0	1,076.8	1,055.2	49.675	CC
EXIST VERT ROTHE #44-30 - Wellbore #1 - Design #1	1,100.0	1,103.0	1,077.6	1,054.2	46.182	ES
EXIST VERT ROTHE #44-30 - Wellbore #1 - Design #1	7,000.0	6,480.0	1,811.4	1,664.7	12.351	SF
R&R FARMS 29I-221 - ORIGINAL WELLBORE - PROPC	1,025.0	1,025.0	109.8	105.5	25.231	CC, ES
R&R FARMS 29I-221 - ORIGINAL WELLBORE - PROPC	11,024.4	10,914.1	910.2	743.1	5.445	SF
R&R FARMS 29I-321 - ORIGINAL WELLBORE - PROPC	1,025.0	1,025.0	79.2	74.8	18.190	CC, ES
R&R FARMS 29I-321 - ORIGINAL WELLBORE - PROPC	11,024.4	10,979.8	699.3	531.7	4.171	SF
R&R FARMS 29I-401 - ORIGINAL WELLBORE - PROPC	989.4	990.4	140.5	136.3	33.485	CC
R&R FARMS 29I-401 - ORIGINAL WELLBORE - PROPC	1,025.0	1,025.6	140.5	136.2	32.323	ES
R&R FARMS 29I-401 - ORIGINAL WELLBORE - PROPC	11,024.4	11,069.8	1,106.7	939.6	6.626	SF
R&R FARMS 29L-241 - ORIGINAL WELLBORE - PROP	1,025.0	1,025.0	48.5	44.2	11.149	CC, ES
R&R FARMS 29L-241 - ORIGINAL WELLBORE - PROP	11,024.4	10,922.5	455.2	289.2	2.741	SF
R&R FARMS 29L-301 - JOB #2015-074-135 - SURVEYS	313.3	313.3	9.6	8.6	9.989	CC
R&R FARMS 29L-301 - JOB #2015-074-135 - SURVEYS	600.0	600.0	10.2	8.0	4.659	ES

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

Anticollision Report



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Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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						
SW SW SEC. 29 T5N R63W 6th P.M.						
R&R FARMS 29L-301 - JOB #2015-074-135 - SURVEYS	984.2	984.2	12.8	8.9	3.312 SF	
R&R FARMS 29L-441 - ORIGINAL WELLBORE - PROP	1,025.0	1,025.0	20.7	16.3	4.749 CC, ES	
R&R FARMS 29L-441 - ORIGINAL WELLBORE - PROP	11,024.4	11,081.3	236.7	82.7	1.537 SF	

Offset Design SW SW SEC. 29 T5N R63W 6th P.M. - EXIST DD PETERSON CX-GH #30-26D - Wellbore #1 - Wellbo												Offset Site Error:	0.0 usft
Survey Program: 181-MWD												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		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	Warning
0.0	0.0	2.8	2.8	0.0	0.0	-40.20	3,208.6	-2,711.7	4,201.0				
98.4	98.4	225.8	225.8	0.1	0.2	-40.17	3,207.3	-2,707.4	4,199.1	4,198.8	0.31	N/A	
100.0	100.0	227.9	227.8	0.1	0.2	-40.17	3,207.3	-2,707.3	4,199.1	4,198.8	0.32	N/A	
196.8	196.8	330.5	330.2	0.3	0.5	-40.09	3,208.3	-2,701.1	4,196.0	4,195.2	0.79	5,281.412	
200.0	200.0	333.3	333.0	0.3	0.5	-40.09	3,208.3	-2,700.8	4,195.9	4,195.1	0.81	5,184.559	
295.3	295.3	458.0	456.5	0.5	0.9	-39.86	3,215.7	-2,685.2	4,192.5	4,191.0	1.42	2,958.881	
300.0	300.0	458.0	456.5	0.5	0.9	-39.86	3,215.7	-2,685.2	4,192.3	4,190.8	1.43	2,936.744	
393.7	393.7	523.6	520.9	0.8	1.1	-39.70	3,221.5	-2,674.4	4,188.9	4,187.0	1.87	2,245.088	
400.0	400.0	526.9	524.1	0.8	1.1	-39.69	3,221.9	-2,673.9	4,188.7	4,186.8	1.89	2,214.975	
492.1	492.1	570.9	567.3	1.0	1.3	-39.57	3,226.4	-2,666.7	4,186.5	4,184.3	2.25	1,863.921	
500.0	500.0	574.3	570.7	1.0	1.3	-39.57	3,226.8	-2,666.2	4,186.4	4,184.1	2.28	1,839.715	
590.5	590.5	605.0	600.7	1.2	1.4	-39.48	3,230.4	-2,661.2	4,185.4	4,182.9	2.58	1,620.643	
600.0	600.0	622.9	618.2	1.2	1.5	-39.43	3,232.7	-2,658.3	4,185.4	4,182.7	2.67	1,569.778	
640.8	640.8	646.9	641.7	1.3	1.6	-39.36	3,235.9	-2,654.4	4,185.3	4,182.4	2.84	1,473.044	
689.0	689.0	683.8	677.7	1.4	1.8	-39.25	3,241.0	-2,648.3	4,185.4	4,182.3	3.08	1,359.092	
700.0	700.0	699.4	692.9	1.4	1.8	-39.21	3,243.2	-2,645.6	4,185.4	4,182.3	3.16	1,324.164	
787.4	787.4	866.5	855.1	1.6	2.6	-38.65	3,267.8	-2,613.7	4,185.0	4,181.0	3.99	1,049.939	
800.0	800.0	877.9	866.1	1.7	2.7	-38.61	3,269.5	-2,611.2	4,184.8	4,180.7	4.06	1,030.026	
885.8	885.8	961.8	946.7	1.9	3.2	-38.29	3,283.1	-2,592.3	4,183.6	4,178.9	4.61	906.567	
900.0	900.0	1,212.6	1,182.3	1.9	4.9	-37.13	3,327.2	-2,519.1	4,182.7	4,176.7	5.96	701.214	
984.2	984.2	1,281.7	1,245.1	2.1	5.5	-36.74	3,341.0	-2,493.7	4,177.1	4,170.5	6.60	633.152	
1,000.0	1,000.0	1,291.4	1,253.8	2.1	5.5	-36.68	3,343.1	-2,490.0	4,176.2	4,169.5	6.70	623.610	
1,025.0	1,025.0	1,306.6	1,267.5	2.2	5.7	-36.59	3,346.4	-2,484.2	4,174.7	4,167.8	6.85	609.117	
1,082.7	1,082.7	1,343.5	1,300.3	2.3	6.0	-166.94	3,354.8	-2,469.8	4,172.1	4,163.8	8.28	504.075	
1,100.0	1,100.0	1,356.4	1,311.8	2.3	6.1	-166.87	3,357.9	-2,464.6	4,171.6	4,163.2	8.43	494.718	
1,159.6	1,159.5	1,400.7	1,351.0	2.4	6.5	-166.59	3,368.4	-2,447.0	4,170.8	4,161.9	8.95	465.815	
1,181.1	1,181.0	1,416.6	1,365.1	2.5	6.7	-166.49	3,372.3	-2,440.5	4,170.9	4,161.8	9.14	456.298	
1,200.0	1,199.9	1,431.1	1,377.8	2.5	6.8	-166.40	3,375.9	-2,434.7	4,171.2	4,161.9	9.31	448.024	
1,279.5	1,279.2	1,500.9	1,439.0	2.7	7.5	-165.94	3,393.3	-2,406.1	4,173.8	4,163.6	10.13	411.829	
1,300.0	1,299.6	1,518.7	1,454.6	2.7	7.7	-165.82	3,397.9	-2,398.7	4,174.8	4,164.5	10.34	403.618	
1,377.9	1,377.1	1,573.4	1,501.8	2.9	8.3	-165.43	3,412.3	-2,375.3	4,180.5	4,169.5	11.05	378.287	
1,400.0	1,398.9	1,588.2	1,514.5	2.9	8.4	-165.32	3,416.4	-2,368.8	4,182.6	4,171.3	11.24	372.007	
1,476.4	1,474.5	1,715.5	1,620.9	3.1	9.9	-164.37	3,453.4	-2,309.4	4,191.1	4,178.3	12.79	327.633	
1,500.0	1,497.8	1,734.7	1,636.8	3.2	10.1	-164.22	3,459.0	-2,300.1	4,194.0	4,181.0	13.03	321.820	
1,574.8	1,571.4	1,796.1	1,687.7	3.4	10.7	-163.72	3,476.6	-2,270.7	4,204.6	4,190.8	13.80	304.661	
1,600.0	1,596.1	1,818.3	1,706.2	3.5	11.0	-163.54	3,482.9	-2,260.2	4,208.6	4,194.6	14.07	299.165	
1,673.2	1,667.7	1,886.6	1,763.0	3.7	11.7	-163.00	3,502.3	-2,227.8	4,221.8	4,206.9	14.88	283.754	
1,696.9	1,690.8	1,908.5	1,781.3	3.8	11.9	-162.82	3,508.6	-2,217.4	4,226.5	4,211.3	15.14	279.225	
1,700.0	1,693.8	1,911.4	1,783.7	3.8	12.0	-162.80	3,509.4	-2,216.0	4,227.1	4,211.9	15.17	278.581	

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

Anticollision Report



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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										SW SW SEC. 29 T5N R63W 6th P.M. - EXIST DD PETERSON CX-GH #30-26D - Wellbore #1 - Wellbo				Offset Site Error:	0.0 usft
Survey Program: 181-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			
1,771.6	1,763.5	1,977.6	1,838.9	4.1	12.7	-162.35	3,528.0	-2,184.6	4,241.7	4,225.6	16.04	264.379			
1,800.0	1,791.0	1,995.0	1,853.5	4.2	12.8	-162.23	3,532.9	-2,176.4	4,247.5	4,231.2	16.29	260.685			
1,870.1	1,859.2	2,041.2	1,892.1	4.5	13.3	-161.92	3,545.9	-2,154.6	4,262.2	4,245.3	16.96	251.248			
1,900.0	1,888.3	2,058.5	1,906.5	4.6	13.5	-161.80	3,550.9	-2,146.4	4,268.7	4,251.5	17.22	247.865			
1,968.5	1,954.9	2,103.0	1,943.5	4.9	14.0	-161.50	3,563.7	-2,125.5	4,283.8	4,266.0	17.87	239.688			
2,000.0	1,985.6	2,132.4	1,968.1	5.1	14.3	-161.31	3,572.2	-2,111.7	4,290.9	4,272.6	18.27	234.888			
2,066.9	2,050.7	2,200.3	2,025.0	5.4	15.1	-160.86	3,591.6	-2,080.1	4,306.0	4,286.9	19.16	224.740			
2,100.0	2,082.8	2,247.0	2,064.4	5.5	15.5	-160.56	3,604.5	-2,058.7	4,313.5	4,293.8	19.72	218.729			
2,165.3	2,146.4	2,374.3	2,173.4	5.8	16.8	-159.79	3,637.5	-2,001.8	4,327.8	4,306.7	21.16	204.518			
2,200.0	2,180.1	2,414.7	2,208.4	6.0	17.2	-159.55	3,647.3	-1,984.0	4,335.2	4,313.6	21.65	200.227			
2,263.8	2,242.1	2,469.0	2,255.4	6.3	17.8	-159.24	3,660.4	-1,960.2	4,348.7	4,326.4	22.36	194.484			
2,300.0	2,277.3	2,503.7	2,285.6	6.4	18.1	-159.04	3,668.6	-1,945.1	4,356.5	4,333.7	22.79	191.135			
2,362.2	2,337.8	2,544.5	2,321.1	6.7	18.5	-158.81	3,678.3	-1,927.7	4,370.1	4,346.8	23.36	187.086			
2,400.0	2,374.6	2,570.4	2,343.8	6.9	18.7	-158.67	3,684.4	-1,916.8	4,378.5	4,354.8	23.71	184.653			
2,460.6	2,433.6	2,617.4	2,385.1	7.2	19.2	-158.42	3,695.5	-1,897.1	4,392.2	4,367.9	24.32	180.587			
2,500.0	2,471.9	2,648.0	2,411.9	7.4	19.5	-158.25	3,702.8	-1,884.4	4,401.3	4,376.5	24.72	178.055			
2,559.0	2,529.3	2,685.4	2,444.7	7.6	19.8	-158.05	3,711.7	-1,868.9	4,415.0	4,389.8	25.24	174.890			
2,600.0	2,569.1	2,709.6	2,465.9	7.8	20.1	-157.92	3,717.6	-1,858.9	4,424.7	4,399.1	25.59	172.879			
2,657.5	2,625.0	2,752.0	2,503.0	8.1	20.5	-157.69	3,728.1	-1,841.1	4,438.6	4,412.5	26.17	169.620			
2,700.0	2,666.4	2,776.3	2,524.1	8.3	20.7	-157.56	3,734.3	-1,830.9	4,449.1	4,422.6	26.54	167.641			
2,755.9	2,720.8	2,824.8	2,566.1	8.6	21.2	-157.29	3,746.8	-1,809.9	4,463.0	4,435.8	27.20	164.097			
2,800.0	2,763.7	2,847.0	2,585.1	8.8	21.5	-157.16	3,752.6	-1,800.2	4,474.0	4,446.5	27.55	162.375			
2,854.3	2,816.5	2,893.8	2,625.1	9.1	22.0	-156.89	3,765.1	-1,779.4	4,487.8	4,459.6	28.21	159.077			
2,900.0	2,860.9	2,923.0	2,650.0	9.3	22.3	-156.72	3,773.0	-1,766.3	4,499.6	4,471.0	28.66	157.009			
2,952.7	2,912.2	2,960.4	2,681.9	9.6	22.7	-156.50	3,783.3	-1,749.6	4,513.5	4,484.3	29.21	154.521			
3,000.0	2,958.2	2,998.8	2,714.7	9.8	23.1	-156.28	3,793.8	-1,732.6	4,526.0	4,496.2	29.75	152.151			
3,051.2	3,008.0	3,037.0	2,747.5	10.0	23.5	-156.07	3,804.1	-1,715.9	4,539.7	4,509.4	30.30	149.844			
3,100.0	3,055.4	3,065.6	2,772.1	10.3	23.8	-155.91	3,811.8	-1,703.6	4,552.9	4,522.2	30.73	148.146			
3,149.6	3,103.7	3,092.1	2,794.9	10.5	24.0	-155.76	3,819.1	-1,692.2	4,566.7	4,535.5	31.15	146.592			
3,200.0	3,152.7	3,132.0	2,829.1	10.8	24.4	-155.54	3,830.2	-1,675.0	4,580.9	4,549.2	31.71	144.474			
3,248.0	3,199.4	3,149.9	2,844.5	11.0	24.6	-155.44	3,835.3	-1,667.4	4,594.6	4,562.6	32.04	143.423			
3,300.0	3,250.0	3,189.2	2,878.3	11.3	25.0	-155.23	3,846.4	-1,650.6	4,609.6	4,577.0	32.59	141.448			
3,346.4	3,295.1	3,227.0	2,910.9	11.5	25.4	-155.02	3,857.0	-1,634.7	4,623.2	4,590.1	33.11	139.632			
3,400.0	3,347.2	3,312.0	3,165.7	11.8	27.9	-153.74	3,923.5	-1,526.1	4,636.8	4,601.1	35.71	129.832			
3,444.9	3,390.9	3,359.4	3,190.6	12.0	28.1	-153.63	3,929.0	-1,516.2	4,648.1	4,612.0	36.08	128.844			
3,500.0	3,444.5	3,570.2	3,218.7	12.3	28.4	-153.50	3,935.3	-1,505.2	4,662.1	4,625.6	36.50	127.742			
3,543.3	3,486.6	3,607.0	3,252.3	12.5	28.7	-153.36	3,942.9	-1,492.2	4,673.3	4,636.4	36.93	126.555			
3,600.0	3,541.8	3,651.1	3,292.5	12.8	29.0	-153.19	3,952.1	-1,476.6	4,688.1	4,650.6	37.46	125.153			
3,641.7	3,582.3	3,702.0	3,338.9	13.0	29.5	-152.98	3,962.7	-1,458.4	4,698.9	4,660.9	38.00	123.668			
3,700.0	3,639.0	3,743.8	3,376.6	13.3	29.8	-152.81	3,971.6	-1,442.8	4,714.1	4,675.6	38.56	122.268			
3,740.1	3,678.1	3,770.8	3,400.6	13.5	30.1	-152.69	3,977.7	-1,432.1	4,724.7	4,685.8	38.93	121.380			
3,800.0	3,736.3	3,797.0	3,423.6	13.8	30.3	-152.57	3,983.9	-1,421.2	4,740.7	4,701.4	39.35	120.467			
3,838.6	3,773.8	3,824.0	3,447.1	14.0	30.6	-152.43	3,990.4	-1,409.6	4,751.2	4,711.5	39.75	119.539			
3,900.0	3,833.5	3,852.1	3,471.5	14.3	30.9	-152.29	3,997.5	-1,397.5	4,768.3	4,728.1	40.23	118.537			
3,937.0	3,869.5	3,891.0	3,505.1	14.5	31.3	-152.10	4,007.5	-1,380.8	4,778.9	4,738.2	40.73	117.325			
4,000.0	3,930.8	3,891.0	3,505.1	14.8	31.3	-152.10	4,007.5	-1,380.8	4,797.0	4,756.1	40.94	117.169			
4,035.4	3,965.3	3,891.0	3,505.1	15.0	31.3	-152.10	4,007.5	-1,380.8	4,807.5	4,766.4	41.06	117.090			
4,100.0	4,028.1	3,943.2	3,550.0	15.3	31.8	-151.83	4,021.4	-1,358.1	4,826.7	4,784.9	41.80	115.466			
4,133.8	4,061.0	3,958.5	3,563.1	15.5	32.0	-151.76	4,025.6	-1,351.5	4,837.0	4,795.0	42.07	114.975			
4,200.0	4,125.3	3,987.0	3,587.5	15.8	32.3	-151.61	4,033.6	-1,339.0	4,857.5	4,815.0	42.58	114.078			
4,232.3	4,156.7	4,012.3	3,609.1	16.0	32.6	-151.48	4,040.8	-1,327.9	4,867.7	4,824.7	42.95	113.326			

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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											SW SW SEC. 29 T5N R63W 6th P.M. - EXIST DD PETERSON CX-GH #30-26D - Wellbore #1 - Wellbo			Offset Site Error:		0.0 usft
Survey Program: 181-MWD													Offset Well Error:		0.0 usft	
Reference		Offset		Semi Major Axis			Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
4,300.0	4,222.6	4,061.1	3,650.5	16.3	33.1	-151.23	4,054.8	-1,306.2	4,889.2	4,845.5	43.69	111.908				
4,330.7	4,252.4	4,083.9	3,669.8	16.5	33.3	-151.11	4,061.5	-1,296.0	4,899.0	4,854.9	44.03	111.264				
4,400.0	4,319.8	4,176.1	3,747.9	16.8	34.3	-150.63	4,087.9	-1,254.7	4,921.1	4,875.9	45.22	108.830				
4,429.1	4,348.2	4,198.3	3,766.7	17.0	34.6	-150.51	4,094.1	-1,244.9	4,930.3	4,884.8	45.55	108.252				
4,500.0	4,417.1	4,251.1	3,811.5	17.3	35.1	-150.24	4,109.2	-1,221.3	4,953.1	4,906.7	46.33	106.909				
4,527.5	4,443.9	4,272.0	3,829.2	17.5	35.4	-150.14	4,115.1	-1,211.9	4,961.9	4,915.3	46.64	106.392				
4,600.0	4,514.4	4,332.9	3,880.8	17.8	36.0	-149.83	4,132.6	-1,184.5	4,985.5	4,938.0	47.53	104.897				
4,626.0	4,539.6	4,354.9	3,899.3	17.9	36.3	-149.71	4,138.9	-1,174.6	4,994.0	4,946.1	47.85	104.373				
4,700.0	4,611.6	4,406.5	3,942.9	18.3	36.8	-149.45	4,153.9	-1,151.2	5,018.3	4,969.7	48.63	103.187				
4,724.4	4,635.4	4,422.8	3,956.6	18.4	37.0	-149.37	4,158.5	-1,144.0	5,026.4	4,977.6	48.88	102.825				
4,800.0	4,708.9	4,477.2	4,002.9	18.8	37.6	-149.10	4,174.3	-1,120.1	5,051.8	5,002.1	49.69	101.656				
4,822.8	4,731.1	4,497.4	4,020.1	18.9	37.8	-149.01	4,180.1	-1,111.2	5,059.5	5,009.5	49.97	101.245				
4,900.0	4,806.2	4,555.0	4,069.2	19.3	38.4	-148.73	4,196.7	-1,086.1	5,085.6	5,034.8	50.81	100.096				
4,921.2	4,826.8	4,574.3	4,085.7	19.4	38.6	-148.64	4,202.3	-1,077.7	5,092.8	5,041.8	51.08	99.706				
5,000.0	4,903.4	4,619.5	4,123.8	19.8	39.1	-148.42	4,215.7	-1,057.6	5,120.0	5,068.2	51.81	98.814				
5,019.7	4,922.6	4,630.6	4,133.2	19.9	39.2	-148.36	4,219.0	-1,052.5	5,126.8	5,074.8	52.00	98.599				
5,100.0	5,000.7	4,701.9	4,193.0	20.4	40.0	-148.01	4,240.5	-1,020.2	5,155.0	5,102.0	53.01	97.245				
5,118.1	5,018.3	4,722.5	4,210.3	20.4	40.2	-147.91	4,246.6	-1,011.0	5,161.4	5,108.1	53.29	96.862				
5,166.2	5,065.0	4,826.1	4,298.7	20.7	41.3	-147.42	4,276.5	-965.9	5,178.1	5,123.6	54.47	95.071				
5,200.0	5,098.0	4,916.3	4,377.5	20.8	42.2	-147.17	4,300.8	-929.2	5,189.3	5,133.8	55.49	93.526				
5,216.5	5,114.1	4,943.1	4,401.1	20.9	42.4	-147.13	4,307.7	-918.7	5,194.6	5,138.8	55.81	93.069				
5,300.0	5,195.9	5,014.6	4,464.4	21.2	43.1	-147.13	4,326.1	-890.9	5,220.1	5,163.2	56.88	91.776				
5,314.9	5,210.6	5,027.5	4,475.8	21.2	43.2	-147.13	4,329.4	-885.9	5,224.5	5,167.5	57.06	91.556				
5,400.0	5,294.4	5,270.2	4,694.6	21.5	45.3	-146.47	4,386.0	-797.7	5,246.9	5,187.4	59.41	88.318				
5,413.4	5,307.7	5,284.6	4,707.8	21.5	45.4	-146.46	4,389.1	-792.9	5,250.0	5,190.5	59.57	88.128				
5,500.0	5,393.5	5,349.6	4,767.5	21.7	45.9	-146.46	4,402.8	-771.2	5,269.6	5,209.2	60.41	87.237				
5,511.8	5,405.2	5,356.7	4,774.0	21.8	45.9	-146.46	4,404.3	-768.9	5,272.1	5,211.6	60.50	87.143				
5,600.0	5,493.0	5,420.6	4,832.8	22.0	46.4	-146.43	4,418.1	-747.8	5,290.2	5,228.9	61.26	86.354				
5,610.2	5,503.2	5,475.0	4,883.1	22.0	46.8	-146.26	4,429.5	-730.5	5,292.1	5,230.4	61.67	85.818				
5,700.0	5,592.8	5,837.4	5,228.5	22.1	48.9	-145.41	4,487.1	-638.3	5,303.6	5,239.7	63.89	83.006				
5,708.6	5,601.4	5,845.0	5,235.9	22.1	49.0	-145.40	4,488.1	-636.5	5,304.6	5,240.6	63.95	82.948				
5,800.0	5,692.7	5,950.0	5,337.4	22.3	49.5	-145.23	4,501.6	-613.0	5,313.1	5,248.4	64.62	82.219				
5,807.1	5,699.8	5,959.9	5,346.9	22.3	49.6	-145.21	4,502.8	-610.8	5,313.6	5,248.9	64.68	82.155				
5,838.1	5,730.8	6,072.8	5,456.8	22.3	50.1	-14.39	4,515.5	-588.1	5,315.7	5,250.5	65.20	81.524				
5,868.1	5,760.8	6,123.5	5,506.4	22.3	50.2	-14.29	4,520.3	-579.3	5,317.2	5,251.7	65.42	81.272				
5,900.0	5,792.7	6,177.2	5,559.3	22.4	50.4	-14.18	4,525.0	-570.9	5,317.9	5,252.4	65.59	81.082				
5,905.5	5,798.2	6,186.2	5,568.1	22.4	50.5	-14.16	4,525.7	-569.6	5,317.9	5,252.3	65.60	81.066				
5,950.0	5,842.6	6,382.5	5,762.5	22.4	51.0	-13.96	4,537.9	-544.6	5,315.7	5,249.8	65.90	80.665				
6,000.0	5,892.0	6,415.5	5,795.3	22.4	51.1	-14.05	4,539.3	-541.0	5,309.3	5,243.9	65.45	81.121				
6,003.9	5,895.8	6,418.1	5,797.8	22.4	51.1	-14.06	4,539.5	-540.7	5,308.7	5,243.3	65.40	81.169				
6,050.0	5,940.8	6,450.0	5,829.5	22.4	51.2	-14.22	4,541.0	-537.3	5,299.7	5,235.0	64.73	81.873				
6,100.0	5,988.7	6,479.1	5,858.4	22.3	51.3	-14.47	4,542.4	-534.3	5,287.0	5,223.3	63.73	82.961				
6,102.3	5,990.9	6,480.5	5,859.8	22.3	51.3	-14.48	4,542.5	-534.1	5,286.3	5,222.7	63.68	83.020				
6,150.0	6,035.5	6,509.3	5,888.4	22.2	51.3	-14.80	4,543.9	-531.3	5,271.2	5,208.8	62.47	84.380				
6,200.0	6,081.0	6,545.0	5,923.9	22.2	51.4	-15.22	4,545.9	-527.9	5,252.4	5,191.4	60.97	86.142				
6,200.8	6,081.7	6,545.0	5,923.9	22.2	51.4	-15.23	4,545.9	-527.9	5,252.1	5,191.2	60.95	86.174				
6,250.0	6,124.9	6,594.7	5,973.4	22.0	51.5	-15.76	4,548.5	-523.7	5,230.6	5,171.3	59.26	88.263				
6,299.2	6,166.4	6,640.0	6,018.5	21.9	51.6	-16.42	4,550.6	-520.2	5,206.1	5,148.7	57.36	90.765				
6,300.0	6,167.0	6,640.0	6,018.5	21.9	51.6	-16.43	4,550.6	-520.2	5,205.7	5,148.3	57.32	90.811				
6,350.0	6,207.2	6,672.8	6,051.2	21.8	51.7	-17.24	4,552.2	-517.8	5,177.9	5,122.8	55.17	93.861				
6,397.6	6,243.4	6,696.4	6,074.7	21.6	51.7	-18.16	4,553.4	-516.2	5,149.1	5,096.2	52.95	97.250				

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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: 181-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		
6,400.0	6,245.2	6,697.6	6,075.8	21.6	51.7	-18.21	4,553.4	-516.1	5,147.6	5,094.8	52.83	97.432		
6,450.0	6,280.8	6,734.0	6,112.1	21.5	51.8	-19.42	4,555.4	-513.6	5,114.9	5,064.5	50.40	101.487		
6,496.0	6,311.4	6,865.3	6,243.1	21.3	52.0	-21.11	4,560.6	-506.3	5,082.5	5,034.2	48.26	105.315		
6,500.0	6,313.9	6,892.5	6,270.2	21.3	52.0	-21.35	4,561.2	-505.1	5,079.5	5,031.4	48.10	105.604		
6,550.0	6,344.3	6,952.2	6,330.0	21.2	52.1	-23.45	4,562.0	-503.2	5,041.1	4,995.5	45.67	110.388		
6,594.5	6,368.9	6,978.3	6,356.0	21.0	52.1	-25.61	4,562.2	-502.6	5,005.3	4,961.8	43.58	114.851		
6,600.0	6,371.8	6,981.4	6,359.1	21.0	52.1	-25.92	4,562.3	-502.6	5,000.8	4,957.5	43.33	115.402		
6,650.0	6,396.4	7,007.2	6,384.9	20.8	52.1	-29.01	4,562.4	-502.3	4,958.7	4,917.4	41.30	120.051		
6,692.9	6,415.0	7,028.8	6,406.5	20.7	52.2	-32.35	4,562.5	-502.1	4,921.3	4,881.3	39.98	123.092		
6,700.0	6,417.9	7,032.6	6,410.3	20.7	52.2	-32.98	4,562.5	-502.1	4,915.0	4,875.2	39.81	123.463		
6,750.0	6,436.2	7,056.7	6,434.4	20.5	52.2	-38.14	4,562.6	-501.9	4,870.0	4,830.9	39.13	124.464		
6,791.3	6,448.8	7,073.4	6,451.1	20.4	52.2	-43.55	4,562.6	-501.8	4,832.0	4,792.6	39.39	122.683		
6,800.0	6,451.1	7,076.5	6,454.2	20.3	52.2	-44.84	4,562.6	-501.8	4,823.9	4,784.4	39.55	121.984		
6,850.0	6,462.8	7,091.7	6,469.4	20.2	52.2	-53.57	4,562.6	-501.7	4,776.9	4,735.6	41.28	115.713		
6,889.7	6,469.6	7,100.6	6,478.3	20.1	52.2	-62.19	4,562.6	-501.6	4,739.1	4,695.5	43.57	108.769		
6,900.0	6,471.0	7,102.4	6,480.1	20.0	52.2	-64.67	4,562.6	-501.6	4,729.3	4,685.0	44.25	106.876		
6,950.0	6,475.7	7,108.5	6,486.2	19.9	52.2	-78.00	4,562.6	-501.6	4,681.2	4,633.5	47.71	98.129		
6,988.2	6,477.0	7,110.2	6,487.9	19.8	52.2	-89.03	4,562.6	-501.6	4,644.4	4,594.6	49.88	93.120		
6,997.5	6,477.0	7,110.2	6,487.9	19.8	52.2	-91.73	4,562.6	-501.6	4,635.5	4,585.2	50.27	92.207		
7,000.0	6,477.0	7,110.2	6,487.9	19.8	52.2	-91.73	4,562.6	-501.6	4,633.0	4,582.8	50.29	92.134		
7,086.6	6,476.5	7,109.5	6,487.2	19.6	52.2	-91.70	4,562.6	-501.6	4,549.6	4,498.8	50.83	89.502		
7,100.0	6,476.4	7,109.4	6,487.1	19.6	52.2	-91.69	4,562.6	-501.6	4,536.7	4,485.8	50.92	89.100		
7,185.0	6,475.9	7,108.7	6,486.4	19.7	52.2	-91.66	4,562.6	-501.6	4,455.0	4,403.4	51.59	86.347		
7,200.0	6,475.8	7,108.6	6,486.3	19.8	52.2	-91.66	4,562.6	-501.6	4,440.6	4,388.9	51.71	85.869		
7,283.4	6,475.2	7,107.9	6,485.6	20.4	52.2	-91.63	4,562.6	-501.6	4,360.5	4,308.0	52.51	83.049		
7,300.0	6,475.1	7,107.8	6,485.5	20.6	52.2	-91.62	4,562.6	-501.6	4,344.6	4,292.0	52.66	82.499		
7,381.9	6,474.6	7,107.1	6,484.8	21.5	52.2	-91.59	4,562.6	-501.6	4,266.2	4,212.6	53.55	79.661		
7,400.0	6,474.5	7,107.0	6,484.7	21.8	52.2	-91.59	4,562.6	-501.6	4,248.8	4,195.1	53.75	79.045		
7,480.3	6,474.0	7,106.4	6,484.1	22.8	52.2	-91.56	4,562.6	-501.6	4,172.1	4,117.3	54.72	76.248		
7,500.0	6,473.9	7,106.2	6,483.9	23.0	52.2	-91.55	4,562.6	-501.6	4,153.2	4,098.3	54.95	75.577		
7,578.7	6,473.4	7,105.6	6,483.3	24.1	52.2	-91.52	4,562.6	-501.6	4,078.1	4,022.2	55.97	72.858		
7,600.0	6,473.3	7,105.5	6,483.2	24.4	52.2	-91.52	4,562.6	-501.6	4,057.9	4,001.6	56.25	72.140		
7,677.1	6,472.8	7,104.9	6,482.6	25.5	52.2	-91.49	4,562.6	-501.6	3,984.4	3,927.1	57.31	69.522		
7,700.0	6,472.7	7,104.7	6,482.4	25.8	52.2	-91.48	4,562.6	-501.6	3,962.7	3,905.1	57.63	68.765		
7,775.6	6,472.2	7,104.2	6,481.9	26.9	52.2	-91.46	4,562.6	-501.6	3,891.0	3,832.2	58.72	66.265		
7,800.0	6,472.1	7,104.0	6,481.7	27.3	52.2	-91.45	4,562.6	-501.6	3,867.8	3,808.7	59.07	65.477		
7,874.0	6,471.6	7,103.4	6,481.1	28.4	52.2	-91.42	4,562.6	-501.6	3,797.7	3,737.6	60.18	63.104		
7,900.0	6,471.5	7,103.2	6,480.9	28.8	52.2	-91.41	4,562.6	-501.6	3,773.2	3,712.6	60.57	62.291		
7,972.4	6,471.0	7,102.7	6,480.4	29.9	52.2	-91.39	4,562.6	-501.6	3,704.8	3,643.1	61.70	60.050		
8,000.0	6,470.8	7,102.5	6,480.2	30.3	52.2	-91.38	4,562.6	-501.6	3,678.8	3,616.7	62.12	59.218		
8,070.8	6,470.4	7,102.0	6,479.7	31.4	52.2	-91.36	4,562.6	-501.6	3,612.1	3,548.9	63.25	57.109		
8,100.0	6,470.2	7,101.8	6,479.5	31.9	52.2	-91.35	4,562.6	-501.6	3,584.7	3,521.0	63.71	56.263		
8,169.3	6,469.8	7,101.3	6,479.0	33.0	52.2	-91.33	4,562.6	-501.6	3,519.8	3,454.9	64.84	54.284		
8,200.0	6,469.6	7,101.1	6,478.8	33.5	52.2	-91.32	4,562.6	-501.6	3,491.0	3,425.7	65.34	53.428		
8,267.7	6,469.2	7,100.6	6,478.3	34.7	52.2	-91.29	4,562.6	-501.6	3,427.8	3,361.3	66.46	51.575		
8,300.0	6,469.0	7,100.3	6,478.1	35.2	52.2	-91.28	4,562.6	-501.6	3,397.7	3,330.7	67.00	50.714		
8,366.1	6,468.6	7,099.9	6,477.6	36.3	52.2	-91.26	4,562.6	-501.7	3,336.1	3,268.0	68.11	48.982		
8,400.0	6,468.4	7,099.6	6,477.4	36.9	52.2	-91.25	4,562.6	-501.7	3,304.7	3,236.0	68.68	48.118		
8,464.5	6,468.0	7,099.2	6,476.9	38.0	52.2	-91.23	4,562.6	-501.7	3,244.9	3,175.1	69.78	46.502		
8,500.0	6,467.8	7,099.0	6,476.7	38.6	52.2	-91.22	4,562.6	-501.7	3,212.1	3,141.7	70.38	45.637		
8,563.0	6,467.4	7,098.5	6,476.2	39.6	52.2	-91.20	4,562.6	-501.7	3,154.1	3,082.6	71.47	44.132		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST DD PETERSON CX-GH #30-26D - Wellbore #1 - Wellbo													Offset Site Error:	0.0 usft
Survey Program: 181-MWD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
8,600.0	6,467.1	7,098.3	6,476.0	40.3	52.2	-91.19		4,562.6	-501.7	3,120.0	3,047.9	72.11	43.269	
8,661.4	6,466.8	7,097.8	6,475.5	41.3	52.2	-91.17		4,562.6	-501.7	3,063.7	2,990.5	73.18	41.867	
8,700.0	6,466.5	7,097.6	6,475.3	42.0	52.2	-91.16		4,562.6	-501.7	3,028.4	2,954.6	73.85	41.008	
8,759.8	6,466.1	7,097.2	6,474.9	43.0	52.2	-91.14		4,562.6	-501.7	2,973.9	2,899.0	74.90	39.705	
8,800.0	6,465.9	7,096.9	6,474.6	43.7	52.2	-91.13		4,562.6	-501.7	2,937.4	2,861.8	75.61	38.851	
8,858.2	6,465.5	7,096.5	6,474.2	44.8	52.2	-91.11		4,562.6	-501.7	2,884.6	2,808.0	76.64	37.640	
8,900.0	6,465.3	7,096.2	6,473.9	45.5	52.2	-91.10		4,562.6	-501.7	2,846.9	2,769.6	77.38	36.793	
8,956.7	6,464.9	7,095.9	6,473.6	46.5	52.2	-91.08		4,562.6	-501.7	2,796.0	2,717.6	78.39	35.669	
9,000.0	6,464.7	7,095.6	6,473.3	47.3	52.2	-91.07		4,562.6	-501.7	2,757.2	2,678.0	79.16	34.831	
9,055.1	6,464.3	7,095.2	6,472.9	48.2	52.2	-91.05		4,562.6	-501.7	2,708.0	2,627.8	80.15	33.788	
9,100.0	6,464.0	7,094.9	6,472.6	49.0	52.2	-91.04		4,562.6	-501.7	2,668.1	2,587.1	80.95	32.960	
9,153.5	6,463.7	7,094.6	6,472.3	50.0	52.2	-91.02		4,562.6	-501.7	2,620.8	2,538.8	81.91	31.994	
9,200.0	6,463.4	7,094.3	6,472.0	50.8	52.2	-91.01		4,562.6	-501.7	2,579.8	2,497.1	82.75	31.176	
9,251.9	6,463.1	7,093.9	6,471.6	51.8	52.2	-90.99		4,562.6	-501.7	2,534.3	2,450.6	83.69	30.282	
9,300.0	6,462.8	7,093.6	6,471.3	52.6	52.2	-90.98		4,562.6	-501.7	2,492.5	2,407.9	84.56	29.475	
9,350.4	6,462.5	7,093.3	6,471.0	53.5	52.2	-90.96		4,562.6	-501.7	2,448.8	2,363.3	85.48	28.649	
9,400.0	6,462.2	7,093.0	6,470.7	54.4	52.2	-90.95		4,562.6	-501.7	2,406.1	2,319.7	86.38	27.855	
9,448.8	6,461.9	7,092.7	6,470.4	55.3	52.2	-90.93		4,562.6	-501.7	2,364.3	2,277.0	87.27	27.092	
9,500.0	6,461.5	7,092.4	6,470.1	56.2	52.2	-90.92		4,562.6	-501.7	2,320.8	2,232.6	88.20	26.312	
9,547.2	6,461.2	7,092.1	6,469.8	57.1	52.2	-90.90		4,562.6	-501.7	2,280.9	2,191.9	89.07	25.609	
9,600.0	6,460.9	7,091.7	6,469.4	58.1	52.2	-90.89		4,562.6	-501.7	2,236.7	2,146.7	90.03	24.843	
9,645.6	6,460.6	7,091.5	6,469.2	58.9	52.2	-90.88		4,562.6	-501.7	2,198.8	2,107.9	90.87	24.197	
9,700.0	6,460.3	7,091.1	6,468.8	59.9	52.2	-90.86		4,562.6	-501.7	2,154.0	2,062.1	91.87	23.446	
9,744.1	6,460.0	7,090.8	6,468.6	60.7	52.2	-90.85		4,562.6	-501.7	2,118.0	2,025.3	92.68	22.853	
9,800.0	6,459.7	7,090.5	6,468.2	61.7	52.2	-90.83		4,562.6	-501.7	2,072.8	1,979.1	93.71	22.119	
9,842.5	6,459.4	7,090.2	6,468.0	62.5	52.2	-90.82		4,562.6	-501.7	2,038.8	1,944.3	94.49	21.576	
9,900.0	6,459.0	7,089.9	6,467.6	63.6	52.2	-90.81		4,562.6	-501.7	1,993.3	1,897.8	95.56	20.860	
9,940.9	6,458.8	7,089.7	6,467.4	64.3	52.2	-90.79		4,562.6	-501.7	1,961.3	1,865.0	96.31	20.364	
10,000.0	6,458.4	7,089.3	6,467.0	65.4	52.2	-90.78		4,562.6	-501.7	1,915.8	1,818.4	97.41	19.668	
10,039.3	6,458.2	7,089.1	6,466.8	66.1	52.2	-90.77		4,562.6	-501.7	1,885.8	1,787.7	98.14	19.217	
10,100.0	6,457.8	7,088.7	6,466.4	67.2	52.2	-90.75		4,562.6	-501.7	1,840.4	1,741.1	99.26	18.541	
10,137.8	6,457.6	7,088.5	6,466.2	67.9	52.2	-90.74		4,562.6	-501.7	1,812.5	1,712.6	99.96	18.132	
10,200.0	6,457.2	7,088.1	6,465.8	69.1	52.2	-90.72		4,562.6	-501.7	1,767.4	1,666.3	101.12	17.479	
10,236.2	6,456.9	7,087.9	6,465.6	69.8	52.2	-90.71		4,562.6	-501.7	1,741.7	1,639.9	101.79	17.111	
10,300.0	6,456.5	7,087.5	6,465.2	70.9	52.2	-90.70		4,562.6	-501.7	1,697.2	1,594.3	102.98	16.482	
10,334.6	6,456.3	7,087.3	6,465.0	71.6	52.2	-90.69		4,562.6	-501.7	1,673.7	1,570.0	103.62	16.151	
10,400.0	6,455.9	7,086.9	6,464.6	72.8	52.2	-90.67		4,562.6	-501.7	1,630.2	1,525.3	104.84	15.549	
10,433.0	6,455.7	7,086.8	6,464.5	73.4	52.2	-90.66		4,562.6	-501.7	1,608.8	1,503.3	105.46	15.255	
10,500.0	6,455.3	7,086.4	6,464.1	74.7	52.2	-90.64		4,562.6	-501.7	1,566.6	1,459.9	106.71	14.681	
10,531.5	6,455.1	7,086.2	6,463.9	75.2	52.2	-90.63		4,562.6	-501.7	1,547.4	1,440.1	107.30	14.422	
10,600.0	6,454.7	7,085.8	6,463.5	76.5	52.2	-90.62		4,562.6	-501.8	1,507.0	1,398.4	108.58	13.880	
10,629.9	6,454.5	7,085.6	6,463.3	77.1	52.2	-90.61		4,562.6	-501.8	1,490.0	1,380.9	109.14	13.653	
10,700.0	6,454.0	7,085.2	6,462.9	78.4	52.2	-90.59		4,562.6	-501.8	1,451.9	1,341.4	110.45	13.145	
10,728.3	6,453.9	7,085.1	6,462.8	78.9	52.2	-90.58		4,562.6	-501.8	1,437.1	1,326.2	110.98	12.950	
10,800.0	6,453.4	7,084.7	6,462.4	80.3	52.2	-90.56		4,562.6	-501.8	1,401.7	1,289.4	112.32	12.479	
10,826.7	6,453.2	7,084.5	6,462.2	80.8	52.2	-90.56		4,562.6	-501.8	1,389.2	1,276.4	112.82	12.313	
10,900.0	6,452.8	7,084.1	6,461.8	82.1	52.2	-90.54		4,562.6	-501.8	1,357.0	1,242.9	114.20	11.883	
10,925.2	6,452.6	7,084.0	6,461.7	82.6	52.2	-90.53		4,562.6	-501.8	1,346.7	1,232.1	114.67	11.745	
11,000.0	6,452.1	7,083.6	6,461.3	84.0	52.2	-90.51		4,562.6	-501.8	1,318.5	1,202.4	116.07	11.359	
11,023.6	6,452.0	7,083.4	6,461.1	84.4	52.2	-90.51		4,562.6	-501.8	1,310.3	1,193.8	116.52	11.246	
11,023.7	6,452.0	7,083.4	6,461.1	84.4	52.2	-90.51		4,562.6	-501.8	1,310.3	1,193.8	116.52	11.245	

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 R&R FARMS 29L-301 - CONTINGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTINGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST DD PETERSON CX-GH #30-26D - Wellbore #1 - Wellbo												Offset Site Error:	0.0 usft
Survey Program: 181-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	
11,024.4	6,452.0	7,083.4	6,461.1	84.5	52.2	-90.51	4,562.6	-501.8	1,310.1	1,193.5	116.53	11.242	CC, ES, SF

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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: 61-MWD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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	2,155.0	2,028.2	0.0	13.3	-37.22		2,866.8	-2,177.4	4,131.5				
98.4	98.4	2,218.3	2,081.7	0.1	13.9	-36.97		2,851.9	-2,147.0	4,083.1	4,069.6	13.51	302.334	
100.0	100.0	2,218.9	2,082.3	0.1	13.9	-36.97		2,851.7	-2,146.6	4,082.4	4,068.9	13.51	302.085	
196.8	196.8	2,274.3	2,129.4	0.3	14.5	-36.76		2,839.0	-2,120.5	4,035.8	4,021.5	14.29	282.361	
200.0	200.0	2,277.5	2,132.2	0.3	14.5	-36.74		2,838.3	-2,119.0	4,034.3	4,019.9	14.33	281.473	
295.3	295.3	2,380.1	2,219.6	0.5	15.6	-36.35		2,814.3	-2,071.0	3,988.5	3,972.9	15.63	255.254	
300.0	300.0	2,385.8	2,224.4	0.5	15.7	-36.33		2,813.0	-2,068.3	3,986.3	3,970.6	15.70	253.916	
393.7	393.7	2,466.0	2,292.4	0.8	16.6	-36.00		2,794.3	-2,030.2	3,941.0	3,924.2	16.79	234.699	
400.0	400.0	2,469.5	2,295.4	0.8	16.6	-35.99		2,793.5	-2,028.6	3,937.9	3,921.1	16.84	233.784	
492.1	492.1	2,533.0	2,349.5	1.0	17.3	-35.72		2,779.0	-1,998.5	3,893.9	3,876.2	17.75	219.396	
500.0	500.0	2,533.0	2,349.5	1.0	17.3	-35.72		2,779.0	-1,998.5	3,890.2	3,872.4	17.77	218.966	
590.5	590.5	2,635.6	2,436.6	1.2	18.4	-35.27		2,756.1	-1,949.4	3,847.1	3,828.0	19.12	201.219	
600.0	600.0	2,644.3	2,444.0	1.2	18.5	-35.23		2,754.1	-1,945.2	3,842.6	3,823.3	19.24	199.717	
689.0	689.0	2,727.7	2,514.5	1.4	19.5	-34.86		2,735.2	-1,905.0	3,799.9	3,779.5	20.40	186.299	
700.0	700.0	2,744.6	2,528.8	1.4	19.7	-34.78		2,731.3	-1,896.8	3,794.6	3,774.0	20.61	184.098	
787.4	787.4	2,896.7	2,657.0	1.6	21.4	-34.10		2,694.2	-1,823.8	3,751.9	3,729.3	22.56	166.278	
800.0	800.0	2,913.0	2,670.6	1.7	21.6	-34.02		2,690.1	-1,815.9	3,745.6	3,722.8	22.78	164.391	
885.8	885.8	2,959.7	2,709.7	1.9	22.1	-33.80		2,678.3	-1,793.3	3,703.0	3,679.5	23.52	157.423	
900.0	900.0	2,967.0	2,715.9	1.9	22.2	-33.77		2,676.5	-1,789.7	3,696.0	3,672.4	23.64	156.344	
984.2	984.2	3,007.0	2,749.4	2.1	22.7	-33.57		2,667.0	-1,770.2	3,655.0	3,630.7	24.30	150.426	
1,000.0	1,000.0	3,023.1	2,762.9	2.1	22.8	-33.49		2,663.2	-1,762.4	3,647.4	3,622.8	24.51	148.792	
1,025.0	1,025.0	3,040.4	2,777.5	2.2	23.0	-33.41		2,659.2	-1,753.9	3,635.3	3,610.5	24.76	146.798	
1,082.7	1,082.7	3,080.8	2,811.5	2.3	23.5	-163.95		2,649.8	-1,734.2	3,608.1	3,592.0	16.04	224.881	
1,100.0	1,100.0	3,093.0	2,821.9	2.3	23.6	-163.94		2,647.0	-1,728.3	3,600.1	3,584.0	16.17	222.622	
1,181.1	1,181.0	3,135.8	2,858.0	2.5	24.1	-163.95		2,637.2	-1,707.6	3,564.5	3,547.8	16.64	214.211	
1,200.0	1,199.9	3,145.3	2,866.0	2.5	24.2	-163.96		2,635.1	-1,703.1	3,556.5	3,539.8	16.74	212.400	
1,279.5	1,279.2	3,197.0	2,910.0	2.7	24.7	-163.91		2,623.6	-1,678.4	3,524.8	3,507.5	17.28	203.976	
1,300.0	1,299.6	3,197.0	2,910.0	2.7	24.7	-163.96		2,623.6	-1,678.4	3,517.1	3,499.7	17.32	203.107	
1,377.9	1,377.1	3,232.1	2,940.1	2.9	25.1	-163.97		2,616.1	-1,661.9	3,489.3	3,471.6	17.72	196.917	
1,400.0	1,398.9	3,242.4	2,949.0	2.9	25.2	-163.97		2,613.9	-1,657.2	3,481.9	3,464.1	17.83	195.236	
1,476.4	1,474.5	3,291.0	2,991.0	3.1	25.7	-163.92		2,603.7	-1,635.0	3,458.1	3,439.8	18.33	188.613	
1,500.0	1,497.8	3,291.0	2,991.0	3.2	25.7	-163.96		2,603.7	-1,635.0	3,451.2	3,432.9	18.38	187.804	
1,574.8	1,571.4	3,378.8	3,067.5	3.4	26.6	-163.77		2,584.4	-1,596.5	3,430.8	3,411.7	19.12	179.424	
1,600.0	1,596.1	3,424.1	3,107.1	3.5	27.0	-163.67		2,573.6	-1,577.2	3,424.2	3,404.7	19.47	175.872	
1,673.2	1,667.7	3,570.2	3,233.6	3.7	28.6	-163.33		2,537.9	-1,513.5	3,405.1	3,384.5	20.62	165.137	
1,696.9	1,690.8	3,576.0	3,238.5	3.8	28.7	-163.35		2,536.5	-1,510.9	3,399.1	3,378.4	20.70	164.188	
1,700.0	1,693.8	3,576.0	3,238.5	3.8	28.7	-163.35		2,536.5	-1,510.9	3,398.4	3,377.7	20.71	164.093	
1,771.6	1,763.5	3,624.8	3,280.6	4.1	29.2	-163.19		2,524.6	-1,489.1	3,380.9	3,359.6	21.23	159.246	
1,800.0	1,791.0	3,639.4	3,293.2	4.2	29.3	-163.15		2,521.1	-1,482.7	3,374.1	3,352.7	21.40	157.666	
1,870.1	1,859.2	3,682.6	3,330.8	4.5	29.8	-163.01		2,511.0	-1,463.8	3,358.0	3,336.1	21.88	153.446	
1,900.0	1,888.3	3,722.2	3,365.2	4.6	30.2	-162.89		2,501.7	-1,446.6	3,351.1	3,328.9	22.23	150.728	
1,968.5	1,954.9	3,856.6	3,481.3	4.9	31.6	-162.46		2,469.1	-1,387.5	3,334.9	3,311.5	23.38	142.635	
2,000.0	1,985.6	3,902.7	3,520.8	5.1	32.2	-162.31		2,457.6	-1,366.6	3,326.9	3,303.1	23.82	139.693	
2,066.9	2,050.7	3,984.0	3,590.1	5.4	33.1	-162.02		2,437.3	-1,329.2	3,309.7	3,285.1	24.63	134.395	
2,100.0	2,082.8	4,016.3	3,617.6	5.5	33.5	-161.91		2,429.2	-1,314.3	3,301.2	3,276.2	24.97	132.216	
2,165.3	2,146.4	4,077.0	3,669.2	5.8	34.1	-161.69		2,414.0	-1,286.3	3,284.3	3,258.7	25.62	128.180	
2,200.0	2,180.1	4,107.3	3,694.9	6.0	34.5	-161.58		2,406.4	-1,272.2	3,275.4	3,249.5	25.96	126.191	
2,263.8	2,242.1	4,159.3	3,739.2	6.3	35.0	-161.39		2,393.6	-1,248.0	3,259.2	3,232.6	26.55	122.766	
2,300.0	2,277.3	4,184.5	3,760.7	6.4	35.3	-161.29		2,387.5	-1,236.3	3,250.1	3,223.2	26.85	121.043	
2,362.2	2,337.8	4,240.0	3,808.0	6.7	35.9	-161.08		2,374.2	-1,210.7	3,234.7	3,207.3	27.47	117.744	
2,400.0	2,374.6	4,335.0	3,888.8	6.9	37.0	-160.72		2,350.5	-1,166.6	3,225.3	3,196.9	28.36	113.728	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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: 61-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		
2,460.6	2,433.6	4,367.6	3,916.5	7.2	37.3	-160.60	2,342.2	-1,151.4	3,209.4	3,180.6	28.80	111.437		
2,500.0	2,471.9	4,388.3	3,934.0	7.4	37.6	-160.52	2,337.0	-1,141.9	3,199.4	3,170.3	29.08	110.012		
2,559.0	2,529.3	4,428.0	3,968.0	7.6	38.0	-160.37	2,327.2	-1,123.8	3,184.8	3,155.2	29.58	107.665		
2,600.0	2,569.1	4,456.9	3,992.8	7.8	38.3	-160.27	2,320.1	-1,110.6	3,174.9	3,145.0	29.94	106.058		
2,657.5	2,625.0	4,653.9	4,158.7	8.1	40.6	-159.47	2,269.8	-1,017.3	3,159.7	3,127.8	31.84	99.226		
2,700.0	2,666.4	4,680.0	4,180.3	8.3	40.9	-159.35	2,263.0	-1,004.3	3,147.7	3,115.5	32.22	97.705		
2,755.9	2,720.8	4,711.0	4,206.0	8.6	41.3	-159.21	2,255.0	-989.0	3,132.3	3,099.6	32.68	95.850		
2,800.0	2,763.7	4,742.1	4,232.0	8.8	41.7	-159.07	2,247.0	-973.8	3,120.3	3,087.2	33.10	94.274		
2,854.3	2,816.5	4,776.3	4,260.6	9.1	42.0	-158.92	2,238.4	-957.1	3,105.9	3,072.3	33.58	92.492		
2,900.0	2,860.9	4,806.0	4,285.5	9.3	42.4	-158.79	2,231.0	-942.9	3,094.0	3,060.0	33.99	91.016		
2,952.7	2,912.2	4,806.0	4,285.5	9.6	42.4	-158.79	2,231.0	-942.9	3,080.8	3,046.7	34.15	90.209		
3,000.0	2,958.2	4,848.9	4,321.9	9.8	42.9	-158.61	2,220.4	-922.6	3,069.1	3,034.4	34.68	88.495		
3,051.2	3,008.0	4,871.4	4,341.1	10.0	43.1	-158.51	2,215.0	-912.3	3,057.0	3,022.0	35.04	87.249		
3,100.0	3,055.4	4,901.0	4,366.6	10.3	43.4	-158.40	2,208.0	-898.9	3,045.9	3,010.5	35.45	85.921		
3,149.6	3,103.7	4,955.4	4,413.5	10.5	44.0	-158.18	2,195.1	-874.7	3,034.8	2,998.8	36.08	84.123		
3,200.0	3,152.7	4,996.0	4,448.5	10.8	44.4	-158.02	2,185.1	-856.6	3,023.3	2,986.7	36.59	82.634		
3,248.0	3,199.4	5,027.9	4,476.0	11.0	44.8	-157.90	2,177.3	-842.5	3,012.5	2,975.5	37.00	81.408		
3,300.0	3,250.0	5,050.3	4,495.5	11.3	45.0	-157.81	2,171.9	-832.9	3,001.3	2,964.0	37.35	80.349		
3,346.4	3,295.1	5,090.0	4,530.3	11.5	45.4	-157.67	2,162.7	-816.2	2,991.9	2,954.1	37.83	79.083		
3,400.0	3,347.2	5,090.0	4,530.3	11.8	45.4	-157.67	2,162.7	-816.2	2,981.2	2,943.2	38.00	78.459		
3,444.9	3,390.9	5,129.5	4,565.1	12.0	45.8	-157.53	2,153.8	-799.9	2,972.7	2,934.2	38.46	77.301		
3,500.0	3,444.5	5,170.4	4,601.4	12.3	46.2	-157.38	2,144.6	-783.1	2,962.4	2,923.4	38.96	76.038		
3,543.3	3,486.6	5,201.0	4,628.5	12.5	46.5	-157.27	2,137.8	-770.7	2,954.5	2,915.1	39.34	75.096		
3,600.0	3,541.8	5,239.1	4,662.3	12.8	46.8	-157.14	2,129.5	-755.2	2,944.4	2,904.6	39.83	73.927		
3,641.7	3,582.3	5,280.0	4,698.7	13.0	47.2	-156.99	2,120.9	-738.7	2,937.3	2,897.0	40.29	72.897		
3,700.0	3,639.0	5,280.0	4,698.7	13.3	47.2	-156.99	2,120.9	-738.7	2,927.7	2,887.2	40.48	72.333		
3,740.1	3,678.1	5,322.2	4,736.4	13.5	47.6	-156.84	2,112.2	-722.0	2,921.2	2,880.3	40.94	71.359		
3,800.0	3,736.3	5,374.0	4,783.2	13.8	48.0	-156.67	2,101.8	-702.2	2,912.4	2,870.8	41.53	70.122		
3,838.6	3,773.8	5,374.0	4,783.2	14.0	48.0	-156.67	2,101.8	-702.2	2,906.7	2,865.1	41.65	69.783		
3,900.0	3,833.5	5,402.0	4,808.7	14.3	48.3	-156.58	2,096.3	-691.9	2,898.5	2,856.5	42.05	68.930		
3,937.0	3,869.5	5,418.6	4,823.8	14.5	48.4	-156.54	2,093.2	-686.0	2,893.9	2,851.6	42.29	68.437		
4,000.0	3,930.8	5,469.0	4,870.2	14.8	48.8	-156.39	2,083.9	-668.6	2,886.8	2,844.0	42.84	67.383		
4,035.4	3,965.3	5,469.0	4,870.2	15.0	48.8	-156.39	2,083.9	-668.6	2,882.9	2,839.9	42.95	67.116		
4,100.0	4,028.1	5,469.0	4,870.2	15.3	48.8	-156.39	2,083.9	-668.6	2,876.9	2,833.7	43.16	66.658		
4,133.8	4,061.0	5,507.8	4,906.2	15.5	49.1	-156.29	2,077.2	-655.9	2,873.7	2,830.2	43.52	66.037		
4,200.0	4,125.3	5,563.0	4,957.9	15.8	49.5	-156.16	2,068.4	-638.7	2,868.8	2,824.7	44.08	65.081		
4,232.3	4,156.7	5,563.0	4,957.9	16.0	49.5	-156.16	2,068.4	-638.7	2,866.4	2,822.2	44.18	64.875		
4,300.0	4,222.6	5,587.9	4,981.3	16.3	49.6	-156.11	2,064.6	-631.2	2,862.3	2,817.8	44.54	64.260		
4,330.7	4,252.4	5,604.4	4,996.9	16.5	49.7	-156.07	2,062.1	-626.5	2,860.7	2,816.0	44.73	63.949		
4,400.0	4,319.8	5,658.0	5,047.9	16.8	50.1	-155.97	2,054.3	-611.7	2,857.8	2,812.5	45.25	63.149		
4,429.1	4,348.2	5,658.0	5,047.9	17.0	50.1	-155.97	2,054.3	-611.7	2,856.7	2,811.3	45.35	62.995		
4,500.0	4,417.1	5,693.1	5,081.5	17.3	50.2	-155.91	2,049.4	-602.6	2,854.8	2,809.0	45.74	62.407		
4,527.5	4,443.9	5,707.0	5,094.8	17.5	50.3	-155.89	2,047.5	-599.1	2,854.3	2,808.4	45.90	62.186		
4,600.0	4,514.4	5,754.0	5,140.0	17.8	50.6	-155.83	2,041.4	-588.0	2,853.6	2,807.2	46.35	61.567		
4,620.2	4,534.0	5,754.0	5,140.0	17.9	50.6	-155.83	2,041.4	-588.0	2,853.5	2,807.1	46.41	61.479		
4,626.0	4,539.6	5,754.0	5,140.0	17.9	50.6	-155.83	2,041.4	-588.0	2,853.5	2,807.1	46.43	61.455		
4,700.0	4,611.6	5,816.0	5,200.0	18.3	50.9	-155.77	2,033.5	-574.4	2,853.8	2,806.9	46.92	60.827		
4,724.4	4,635.4	5,835.0	5,218.5	18.4	51.0	-155.76	2,031.1	-570.5	2,853.9	2,806.9	47.07	60.635		
4,800.0	4,708.9	5,874.3	5,256.6	18.8	51.1	-155.73	2,026.1	-562.7	2,855.0	2,807.5	47.45	60.173		
4,822.8	4,731.1	5,884.4	5,266.5	18.9	51.2	-155.73	2,024.9	-560.8	2,855.5	2,808.0	47.55	60.050		
4,900.0	4,806.2	5,942.0	5,322.8	19.3	51.4	-155.71	2,018.6	-550.5	2,858.3	2,810.3	47.98	59.568		

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

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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: 61-MWD													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
4,921.2	4,826.8	5,942.0	5,322.8	19.4	51.4	-155.71	2,018.6	-550.5	2,859.0	2,811.0	48.05	59.499		
5,000.0	4,903.4	5,977.0	5,357.2	19.8	51.5	-155.70	2,015.2	-544.8	2,862.9	2,814.5	48.40	59.152		
5,019.7	4,922.6	5,991.4	5,371.3	19.9	51.6	-155.70	2,013.7	-542.5	2,864.0	2,815.5	48.50	59.051		
5,100.0	5,000.7	6,037.0	5,416.2	20.4	51.7	-155.70	2,009.2	-535.6	2,868.9	2,820.0	48.88	58.699		
5,118.1	5,018.3	6,058.4	5,437.2	20.4	51.8	-155.70	2,007.2	-532.5	2,870.1	2,821.1	48.98	58.594		
5,166.2	5,065.0	6,086.9	5,465.4	20.7	51.9	-155.70	2,004.6	-528.4	2,873.5	2,824.3	49.20	58.400		
5,200.0	5,098.0	6,107.0	5,485.2	20.8	52.0	-155.72	2,002.9	-525.6	2,875.9	2,826.6	49.34	58.288		
5,216.5	5,114.1	6,131.0	5,508.9	20.9	52.0	-155.73	2,001.0	-522.3	2,877.1	2,827.6	49.43	58.200		
5,300.0	5,195.9	6,163.4	5,540.9	21.2	52.1	-155.77	1,998.6	-517.9	2,881.9	2,832.2	49.69	58.000		
5,314.9	5,210.6	6,171.5	5,548.9	21.2	52.2	-155.77	1,998.1	-516.9	2,882.6	2,832.9	49.73	57.961		
5,400.0	5,294.4	6,223.0	5,599.9	21.5	52.3	-155.79	1,994.7	-510.7	2,886.2	2,836.2	50.00	57.722		
5,413.4	5,307.7	6,223.0	5,599.9	21.5	52.3	-155.79	1,994.7	-510.7	2,886.7	2,836.7	50.02	57.708		
5,500.0	5,393.5	6,273.6	5,650.1	21.7	52.4	-155.79	1,991.9	-505.4	2,889.0	2,838.7	50.25	57.497		
5,511.8	5,405.2	6,280.2	5,656.7	21.8	52.4	-155.79	1,991.6	-504.8	2,889.2	2,838.9	50.27	57.471		
5,600.0	5,493.0	6,319.0	5,695.3	22.0	52.5	-155.78	1,989.8	-501.2	2,890.1	2,839.6	50.44	57.296		
5,610.2	5,503.2	6,337.6	5,713.8	22.0	52.6	-155.77	1,989.0	-499.6	2,890.0	2,839.6	50.49	57.245		
5,700.0	5,592.8	6,395.1	5,771.1	22.1	52.7	-155.73	1,986.9	-495.0	2,889.3	2,838.6	50.65	57.039		
5,708.6	5,601.4	6,412.0	5,787.9	22.1	52.7	-155.72	1,986.3	-493.8	2,889.1	2,838.4	50.69	56.994		
5,800.0	5,692.7	6,460.4	5,836.2	22.3	52.8	-155.66	1,985.0	-490.6	2,886.5	2,835.7	50.81	56.814		
5,807.1	5,699.8	6,465.1	5,840.9	22.3	52.8	-155.66	1,984.9	-490.3	2,886.3	2,835.4	50.82	56.797		
5,838.1	5,730.8	6,485.5	5,861.2	22.3	52.8	-25.06	1,984.4	-489.1	2,885.0	2,834.1	50.86	56.725		
5,868.1	5,760.8	6,507.0	5,882.7	22.3	52.8	-25.04	1,983.9	-487.9	2,883.7	2,832.7	50.95	56.599		
5,900.0	5,792.7	6,527.8	5,903.5	22.4	52.9	-25.09	1,983.5	-486.8	2,881.8	2,831.1	50.71	56.832		
5,905.5	5,798.2	6,531.7	5,907.4	22.4	52.9	-25.11	1,983.4	-486.6	2,881.3	2,830.7	50.65	56.885		
5,950.0	5,842.6	6,563.4	5,939.0	22.4	52.9	-25.28	1,982.9	-485.1	2,876.4	2,826.3	50.05	57.469		
6,000.0	5,892.0	6,600.0	5,975.6	22.4	52.9	-25.59	1,982.5	-483.5	2,868.1	2,819.1	49.05	58.469		
6,003.9	5,895.8	6,602.6	5,978.2	22.4	53.0	-25.61	1,982.4	-483.4	2,867.4	2,818.4	48.96	58.564		
6,050.0	5,940.8	6,661.2	6,036.8	22.4	53.0	-26.08	1,981.5	-481.2	2,856.8	2,809.1	47.70	59.886		
6,100.0	5,988.7	6,696.0	6,071.5	22.3	53.1	-26.69	1,980.6	-480.1	2,842.3	2,796.3	46.01	61.777		
6,102.3	5,990.9	6,696.0	6,071.5	22.3	53.1	-26.72	1,980.6	-480.1	2,841.6	2,795.6	45.92	61.877		
6,150.0	6,035.5	6,739.6	6,115.1	22.2	53.1	-27.49	1,979.6	-479.0	2,825.0	2,781.0	43.98	64.233		
6,200.0	6,081.0	6,768.8	6,144.3	22.2	53.1	-28.42	1,979.2	-478.2	2,805.1	2,763.4	41.67	67.319		
6,200.8	6,081.7	6,769.3	6,144.8	22.2	53.1	-28.44	1,979.2	-478.2	2,804.7	2,763.1	41.63	67.372		
6,250.0	6,124.9	6,800.0	6,175.5	22.0	53.2	-29.55	1,978.9	-477.3	2,782.7	2,743.6	39.09	71.193		
6,299.2	6,166.4	6,838.6	6,214.1	21.9	53.2	-30.92	1,978.7	-476.3	2,758.2	2,721.9	36.30	75.976		
6,300.0	6,167.0	6,839.3	6,214.7	21.9	53.2	-30.94	1,978.7	-476.3	2,757.7	2,721.5	36.26	76.062		
6,350.0	6,207.2	6,876.6	6,252.1	21.8	53.2	-32.60	1,978.4	-475.4	2,730.4	2,697.1	33.27	82.075		
6,397.6	6,243.4	6,910.4	6,285.8	21.6	53.2	-34.45	1,978.2	-474.7	2,702.1	2,671.7	30.38	88.957		
6,400.0	6,245.2	6,912.0	6,287.4	21.6	53.2	-34.55	1,978.2	-474.7	2,700.6	2,670.4	30.23	89.329		
6,450.0	6,280.8	6,945.1	6,320.6	21.5	53.3	-36.84	1,978.0	-474.0	2,668.8	2,641.4	27.35	97.589		
6,496.0	6,311.4	6,973.5	6,349.0	21.3	53.3	-39.30	1,977.8	-473.4	2,637.7	2,612.6	25.10	105.086		
6,500.0	6,313.9	6,975.9	6,351.3	21.3	53.3	-39.52	1,977.8	-473.4	2,634.9	2,610.0	24.94	105.664		
6,550.0	6,344.3	7,004.1	6,379.5	21.2	53.3	-42.65	1,977.6	-472.9	2,599.3	2,575.8	23.52	110.525		
6,594.5	6,368.9	7,027.3	6,402.8	21.0	53.3	-45.84	1,977.4	-472.5	2,566.2	2,542.7	23.58	108.832		
6,600.0	6,371.8	7,030.1	6,405.5	21.0	53.3	-46.27	1,977.4	-472.5	2,562.1	2,538.4	23.69	108.160		
6,650.0	6,396.4	7,053.4	6,428.8	20.8	53.4	-50.44	1,977.3	-472.1	2,523.4	2,497.7	25.67	98.305		
6,692.9	6,415.0	7,071.1	6,446.5	20.7	53.4	-54.48	1,977.2	-471.9	2,489.3	2,460.8	28.53	87.250		
6,700.0	6,417.9	7,073.8	6,449.2	20.7	53.4	-55.19	1,977.2	-471.8	2,483.6	2,454.5	29.07	85.422		
6,750.0	6,436.2	7,091.0	6,466.5	20.5	53.4	-60.52	1,977.1	-471.6	2,442.8	2,409.5	33.27	73.423		
6,791.3	6,448.8	7,102.9	6,478.3	20.4	53.4	-65.33	1,977.0	-471.4	2,408.4	2,371.5	36.91	65.244		
6,800.0	6,451.1	7,105.2	6,480.6	20.3	53.4	-66.38	1,977.0	-471.4	2,401.2	2,363.5	37.66	63.752		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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: 61-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		
6,850.0	6,462.8	7,116.0	6,491.4	20.2	53.4	-72.66	1,976.9	-471.3	2,359.1	2,317.3	41.76	56.497		
6,889.7	6,469.6	7,122.3	6,497.7	20.1	53.4	-77.83	1,976.9	-471.2	2,325.4	2,280.9	44.53	52.227		
6,900.0	6,471.0	7,123.6	6,499.0	20.0	53.4	-79.18	1,976.9	-471.2	2,316.7	2,271.6	45.14	51.319		
6,950.0	6,475.7	7,127.9	6,503.3	19.9	53.4	-85.74	1,976.8	-471.1	2,274.3	2,226.7	47.56	47.815		
6,988.2	6,477.0	7,128.9	6,504.3	19.8	53.4	-90.63	1,976.8	-471.1	2,242.0	2,193.3	48.71	46.030		
6,997.5	6,477.0	7,128.8	6,504.2	19.8	53.4	-91.80	1,976.8	-471.1	2,234.1	2,185.3	48.89	45.696		
7,000.0	6,477.0	7,128.8	6,504.2	19.8	53.4	-91.80	1,976.8	-471.1	2,232.0	2,183.1	48.90	45.640		
7,086.6	6,476.5	7,127.8	6,503.2	19.6	53.4	-91.75	1,976.8	-471.1	2,159.6	2,110.1	49.45	43.673		
7,100.0	6,476.4	7,127.6	6,503.0	19.6	53.4	-91.74	1,976.8	-471.1	2,148.5	2,098.9	49.53	43.374		
7,185.0	6,475.9	7,126.6	6,502.0	19.7	53.4	-91.69	1,976.8	-471.1	2,078.6	2,028.4	50.21	41.400		
7,200.0	6,475.8	7,126.4	6,501.8	19.8	53.4	-91.69	1,976.8	-471.1	2,066.4	2,016.1	50.33	41.060		
7,283.4	6,475.2	7,125.5	6,500.9	20.4	53.4	-91.64	1,976.8	-471.1	1,999.1	1,948.0	51.12	39.110		
7,300.0	6,475.1	7,125.3	6,500.7	20.6	53.4	-91.63	1,976.9	-471.1	1,985.9	1,934.7	51.27	38.733		
7,381.9	6,474.6	7,124.3	6,499.7	21.5	53.4	-91.58	1,976.9	-471.2	1,921.4	1,869.3	52.16	36.836		
7,400.0	6,474.5	7,124.1	6,499.5	21.8	53.4	-91.57	1,976.9	-471.2	1,907.3	1,855.0	52.36	36.428		
7,480.3	6,474.0	7,123.1	6,498.5	22.8	53.4	-91.53	1,976.9	-471.2	1,845.7	1,792.4	53.32	34.615		
7,500.0	6,473.9	7,122.9	6,498.3	23.0	53.4	-91.52	1,976.9	-471.2	1,830.8	1,777.3	53.56	34.185		
7,578.7	6,473.4	7,122.0	6,497.4	24.1	53.4	-91.47	1,976.9	-471.2	1,772.3	1,717.7	54.58	32.474		
7,600.0	6,473.3	7,121.7	6,497.1	24.4	53.4	-91.46	1,976.9	-471.2	1,756.7	1,701.8	54.85	32.027		
7,677.1	6,472.8	7,120.8	6,496.2	25.5	53.4	-91.42	1,976.9	-471.2	1,701.3	1,645.4	55.91	30.429		
7,700.0	6,472.7	7,120.6	6,496.0	25.8	53.4	-91.41	1,976.9	-471.2	1,685.2	1,629.0	56.22	29.973		
7,775.6	6,472.2	7,119.7	6,495.1	26.9	53.4	-91.36	1,976.9	-471.2	1,633.2	1,575.9	57.31	28.496		
7,800.0	6,472.1	7,119.4	6,494.8	27.3	53.4	-91.35	1,976.9	-471.2	1,616.8	1,559.1	57.67	28.037		
7,874.0	6,471.6	7,118.5	6,493.9	28.4	53.4	-91.31	1,976.9	-471.2	1,568.3	1,509.5	58.77	26.684		
7,900.0	6,471.5	7,118.2	6,493.6	28.8	53.4	-91.30	1,976.9	-471.2	1,551.8	1,492.6	59.16	26.228		
7,972.4	6,471.0	7,117.3	6,492.8	29.9	53.4	-91.25	1,976.9	-471.2	1,507.1	1,446.8	60.28	25.000		
8,000.0	6,470.8	7,117.0	6,492.4	30.3	53.4	-91.24	1,976.9	-471.2	1,490.6	1,429.9	60.71	24.553		
8,070.8	6,470.4	7,116.2	6,491.6	31.4	53.4	-91.20	1,976.9	-471.3	1,449.9	1,388.1	61.84	23.448		
8,100.0	6,470.2	7,115.8	6,491.3	31.9	53.4	-91.18	1,976.9	-471.3	1,433.9	1,371.6	62.30	23.016		
8,169.3	6,469.8	7,115.0	6,490.4	33.0	53.4	-91.14	1,976.9	-471.3	1,397.4	1,334.0	63.42	22.033		
8,200.0	6,469.6	7,114.7	6,490.1	33.5	53.4	-91.13	1,976.9	-471.3	1,382.0	1,318.1	63.92	21.620		
8,267.7	6,469.2	7,113.9	6,489.3	34.7	53.4	-91.09	1,976.9	-471.3	1,350.0	1,284.9	65.04	20.756		
8,300.0	6,469.0	7,113.5	6,488.9	35.2	53.4	-91.07	1,976.9	-471.3	1,335.6	1,270.1	65.57	20.368		
8,366.1	6,468.6	7,112.7	6,488.1	36.3	53.4	-91.03	1,976.9	-471.3	1,308.3	1,241.6	66.68	19.619		
8,400.0	6,468.4	7,112.3	6,487.7	36.9	53.4	-91.02	1,976.9	-471.3	1,295.3	1,228.1	67.25	19.261		
8,464.5	6,468.0	7,111.5	6,487.0	38.0	53.4	-90.98	1,976.9	-471.3	1,272.8	1,204.5	68.35	18.622		
8,500.0	6,467.8	7,111.1	6,486.5	38.6	53.4	-90.96	1,976.9	-471.3	1,261.7	1,192.7	68.95	18.298		
8,563.0	6,467.4	7,110.4	6,485.8	39.6	53.4	-90.92	1,976.9	-471.3	1,244.2	1,174.1	70.04	17.764		
8,600.0	6,467.1	7,109.9	6,485.4	40.3	53.4	-90.90	1,976.9	-471.3	1,235.3	1,164.6	70.68	17.478		
8,661.4	6,466.8	7,109.2	6,484.6	41.3	53.4	-90.87	1,976.9	-471.3	1,222.8	1,151.0	71.74	17.044		
8,700.0	6,466.5	7,108.8	6,484.2	42.0	53.4	-90.85	1,977.0	-471.3	1,216.5	1,144.1	72.41	16.799		
8,759.8	6,466.1	7,108.1	6,483.5	43.0	53.4	-90.81	1,977.0	-471.4	1,209.1	1,135.6	73.46	16.458		
8,800.0	6,465.9	7,107.6	6,483.0	43.7	53.4	-90.79	1,977.0	-471.4	1,205.7	1,131.6	74.17	16.257		
8,858.2	6,465.5	7,106.9	6,482.3	44.8	53.4	-90.76	1,977.0	-471.4	1,203.3	1,128.1	75.19	16.002		
8,880.2	6,465.4	7,106.6	6,482.1	45.1	53.4	-90.75	1,977.0	-471.4	1,203.1	1,127.5	75.58	15.917 CC		
8,900.0	6,465.3	7,106.4	6,481.8	45.5	53.4	-90.73	1,977.0	-471.4	1,203.2	1,127.3	75.93	15.846 ES		
8,956.7	6,464.9	7,105.7	6,481.1	46.5	53.4	-90.70	1,977.0	-471.4	1,205.5	1,128.6	76.94	15.668		
9,000.0	6,464.7	7,105.2	6,480.6	47.3	53.4	-90.68	1,977.0	-471.4	1,209.0	1,131.3	77.71	15.558		
9,055.1	6,464.3	7,104.6	6,480.0	48.2	53.4	-90.65	1,977.0	-471.4	1,215.7	1,137.0	78.70	15.448		
9,100.0	6,464.0	7,104.0	6,479.5	49.0	53.4	-90.62	1,977.0	-471.4	1,223.0	1,143.5	79.50	15.384		
9,153.5	6,463.7	7,103.4	6,478.8	50.0	53.4	-90.59	1,977.0	-471.4	1,233.7	1,153.3	80.46	15.333		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST DD PETERSON CX-GH #30-40D - Wellbore #1 - Wellbo													Offset Site Error:	0.0 usft
Survey Program: 61-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		
9,200.0	6,463.4	7,102.9	6,478.3	50.8	53.4	-90.57	1,977.0	-471.4	1,244.8	1,163.5	81.30	15.313		
9,251.9	6,463.1	7,102.3	6,477.7	51.8	53.4	-90.54	1,977.0	-471.4	1,259.2	1,177.0	82.23	15.312 SF		
9,300.0	6,462.8	7,101.7	6,477.1	52.6	53.4	-90.51	1,977.0	-471.4	1,274.2	1,191.1	83.10	15.333		
9,350.4	6,462.5	7,101.1	6,476.5	53.5	53.4	-90.48	1,977.0	-471.4	1,291.7	1,207.7	84.02	15.374		
9,400.0	6,462.2	7,100.5	6,475.9	54.4	53.4	-90.45	1,977.0	-471.5	1,310.5	1,225.6	84.91	15.434		
9,448.8	6,461.9	7,099.9	6,475.3	55.3	53.4	-90.43	1,977.0	-471.5	1,330.7	1,244.9	85.80	15.508		
9,500.0	6,461.5	7,099.3	6,474.7	56.2	53.4	-90.40	1,977.0	-471.5	1,353.3	1,266.6	86.73	15.603		
9,547.2	6,461.2	7,098.8	6,474.2	57.1	53.4	-90.37	1,977.0	-471.5	1,375.6	1,288.0	87.60	15.704		
9,600.0	6,460.9	7,098.1	6,473.5	58.1	53.4	-90.34	1,977.0	-471.5	1,401.9	1,313.4	88.56	15.830		
9,645.6	6,460.6	7,097.6	6,473.0	58.9	53.4	-90.31	1,977.0	-471.5	1,425.9	1,336.5	89.40	15.950		
9,700.0	6,460.3	7,097.0	6,472.4	59.9	53.4	-90.28	1,977.0	-471.5	1,455.8	1,365.4	90.39	16.105		
9,744.1	6,460.0	7,096.4	6,471.8	60.7	53.4	-90.26	1,977.0	-471.5	1,481.1	1,389.9	91.20	16.239		
9,800.0	6,459.7	7,095.8	6,471.2	61.7	53.4	-90.23	1,977.0	-471.5	1,514.4	1,422.1	92.23	16.420		
9,842.5	6,459.4	7,095.3	6,470.7	62.5	53.4	-90.20	1,977.0	-471.5	1,540.6	1,447.5	93.01	16.563		
9,900.0	6,459.0	7,094.6	6,470.0	63.6	53.4	-90.17	1,977.0	-471.5	1,577.1	1,483.0	94.07	16.765		
9,940.9	6,458.8	7,094.1	6,469.5	64.3	53.4	-90.15	1,977.0	-471.5	1,603.9	1,509.0	94.83	16.914		
10,000.0	6,458.4	7,093.4	6,468.8	65.4	53.4	-90.11	1,977.0	-471.6	1,643.5	1,547.6	95.92	17.135		
10,039.3	6,458.2	7,092.9	6,468.3	66.1	53.4	-90.09	1,977.0	-471.6	1,670.6	1,573.9	96.64	17.286		
10,100.0	6,457.8	7,092.2	6,467.6	67.2	53.4	-90.06	1,977.1	-471.6	1,713.2	1,615.5	97.76	17.524		
10,137.8	6,457.6	7,091.8	6,467.2	67.9	53.4	-90.04	1,977.1	-471.6	1,740.3	1,641.8	98.46	17.675		
10,200.0	6,457.2	7,091.0	6,466.4	69.1	53.4	-90.00	1,977.1	-471.6	1,785.8	1,686.2	99.62	17.927		
10,236.2	6,456.9	7,090.6	6,466.0	69.8	53.4	-89.98	1,977.1	-471.6	1,812.7	1,712.4	100.29	18.075		
10,300.0	6,456.5	7,089.9	6,465.3	70.9	53.4	-89.94	1,977.1	-471.6	1,860.9	1,759.4	101.47	18.339		
10,334.6	6,456.3	7,089.4	6,464.9	71.6	53.4	-89.92	1,977.1	-471.6	1,887.5	1,785.3	102.12	18.483		
10,400.0	6,455.9	7,088.7	6,464.1	72.8	53.4	-89.89	1,977.1	-471.6	1,938.3	1,834.9	103.33	18.758		
10,433.0	6,455.7	7,088.3	6,463.7	73.4	53.4	-89.87	1,977.1	-471.6	1,964.3	1,860.3	103.95	18.897		
10,500.0	6,455.3	7,087.5	6,462.9	74.7	53.4	-89.83	1,977.1	-471.6	2,017.6	1,912.4	105.19	19.180		
10,531.5	6,455.1	7,087.1	6,462.5	75.2	53.4	-89.81	1,977.1	-471.6	2,043.0	1,937.2	105.78	19.314		
10,600.0	6,454.7	7,086.3	6,461.7	76.5	53.4	-89.77	1,977.1	-471.6	2,098.7	1,991.7	107.06	19.604		
10,629.9	6,454.5	7,085.9	6,461.4	77.1	53.4	-89.76	1,977.1	-471.7	2,123.3	2,015.7	107.61	19.731		
10,700.0	6,454.0	7,085.1	6,460.5	78.4	53.4	-89.72	1,977.1	-471.7	2,181.4	2,072.5	108.92	20.028		
10,728.3	6,453.9	7,084.8	6,460.2	78.9	53.4	-89.70	1,977.1	-471.7	2,205.1	2,095.7	109.45	20.147		
10,800.0	6,453.4	7,083.9	6,459.3	80.3	53.4	-89.66	1,977.1	-471.7	2,265.5	2,154.7	110.79	20.449		
10,826.7	6,453.2	7,083.6	6,459.0	80.8	53.4	-89.65	1,977.1	-471.7	2,288.2	2,176.9	111.29	20.561		
10,900.0	6,452.8	7,082.7	6,458.2	82.1	53.4	-89.60	1,977.1	-471.7	2,350.8	2,238.2	112.66	20.867		
10,925.2	6,452.6	7,082.4	6,457.9	82.6	53.4	-89.59	1,977.1	-471.7	2,372.5	2,259.4	113.13	20.971		
11,000.0	6,452.1	7,081.6	6,457.0	84.0	53.4	-89.55	1,977.1	-471.7	2,437.3	2,322.8	114.53	21.280		
11,023.6	6,452.0	7,081.3	6,456.7	84.4	53.4	-89.53	1,977.1	-471.7	2,457.8	2,342.9	114.97	21.377		
11,023.7	6,452.0	7,081.3	6,456.7	84.4	53.4	-89.53	1,977.1	-471.7	2,457.9	2,343.0	114.98	21.378		
11,024.4	6,452.0	7,081.3	6,456.7	84.5	53.4	-89.53	1,977.1	-471.7	2,458.5	2,343.6	114.99	21.381		

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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: 181-MWD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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	1.7	1.7	0.0	0.0	-40.36	-40.36	3,189.3	-2,710.8	4,185.7				
98.4	98.4	165.9	165.9	0.1	0.1	-40.36	-40.36	3,188.4	-2,709.9	4,184.9	4,184.7	0.19	N/A	
100.0	100.0	168.6	168.6	0.1	0.1	-40.36	-40.36	3,188.4	-2,709.8	4,184.9	4,184.7	0.20	N/A	
196.8	196.8	274.2	274.1	0.3	0.3	-40.35	-40.35	3,187.3	-2,708.2	4,183.2	4,182.6	0.63	6,686.657	
200.0	200.0	277.5	277.5	0.3	0.3	-40.35	-40.35	3,187.3	-2,708.1	4,183.1	4,182.5	0.64	6,537.625	
295.3	295.3	666.4	665.5	0.5	1.2	-40.19	-40.19	3,180.7	-2,687.2	4,180.2	4,178.4	1.78	2,350.013	
300.0	300.0	675.3	674.3	0.5	1.3	-40.18	-40.18	3,180.6	-2,686.1	4,179.8	4,178.0	1.81	2,303.490	
393.7	393.7	1,752.0	1,680.2	0.8	8.4	-36.07	-36.07	3,201.3	-2,331.6	4,163.8	4,154.8	9.00	462.548	
400.0	400.0	1,756.1	1,683.7	0.8	8.5	-36.04	-36.04	3,201.4	-2,329.5	4,161.8	4,152.8	9.06	459.446	
492.1	492.1	1,874.8	1,783.9	1.0	9.8	-35.25	-35.25	3,206.8	-2,266.2	4,133.4	4,122.9	10.53	392.488	
500.0	500.0	1,892.7	1,798.8	1.0	10.1	-35.12	-35.12	3,207.7	-2,256.4	4,131.0	4,120.2	10.75	384.197	
590.5	590.5	2,015.4	1,900.5	1.2	11.6	-34.25	-34.25	3,213.4	-2,187.9	4,102.0	4,089.7	12.35	332.127	
600.0	600.0	2,023.4	1,907.2	1.2	11.7	-34.19	-34.19	3,213.8	-2,183.4	4,099.0	4,086.5	12.46	328.871	
689.0	689.0	2,126.8	1,991.9	1.4	13.0	-33.42	-33.42	3,219.0	-2,124.5	4,070.7	4,056.9	13.86	293.646	
700.0	700.0	2,142.8	2,004.9	1.4	13.2	-33.30	-33.30	3,219.9	-2,115.2	4,067.2	4,053.1	14.07	288.997	
787.4	787.4	2,206.5	2,056.5	1.6	14.0	-32.81	-32.81	3,223.5	-2,078.0	4,039.4	4,024.4	14.98	269.673	
800.0	800.0	2,214.7	2,063.2	1.7	14.1	-32.74	-32.74	3,224.0	-2,073.2	4,035.5	4,020.4	15.10	267.287	
885.8	885.8	2,276.0	2,113.0	1.9	14.8	-32.27	-32.27	3,227.4	-2,037.7	4,008.9	3,993.0	15.94	251.457	
900.0	900.0	2,287.5	2,122.4	1.9	15.0	-32.18	-32.18	3,228.0	-2,031.0	4,004.6	3,988.5	16.09	248.861	
984.2	984.2	2,390.7	2,206.5	2.1	16.2	-31.37	-31.37	3,233.4	-1,971.5	3,979.1	3,961.7	17.37	229.113	
1,000.0	1,000.0	2,439.3	2,245.9	2.1	16.8	-30.99	-30.99	3,235.6	-1,943.0	3,974.2	3,956.3	17.93	221.596	
1,025.0	1,025.0	2,461.9	2,264.1	2.2	17.1	-30.81	-30.81	3,236.5	-1,929.8	3,966.4	3,948.1	18.25	217.392	
1,082.7	1,082.7	2,514.3	2,306.5	2.3	17.8	-161.08	-161.08	3,238.6	-1,899.0	3,949.0	3,930.5	18.43	214.240	
1,100.0	1,100.0	2,530.2	2,319.3	2.3	18.0	-160.99	-160.99	3,239.2	-1,889.7	3,944.0	3,925.3	18.66	211.317	
1,181.1	1,181.0	2,623.1	2,394.5	2.5	19.2	-160.42	-160.42	3,242.4	-1,835.2	3,921.9	3,901.9	19.95	196.592	
1,200.0	1,199.9	2,640.9	2,408.9	2.5	19.4	-160.31	-160.31	3,242.9	-1,824.7	3,917.0	3,896.8	20.20	193.886	
1,279.5	1,279.2	2,707.7	2,462.8	2.7	20.3	-159.93	-159.93	3,245.0	-1,785.4	3,898.1	3,876.9	21.18	184.047	
1,300.0	1,299.6	2,724.9	2,476.7	2.7	20.5	-159.83	-159.83	3,245.6	-1,775.2	3,893.6	3,872.2	21.43	181.686	
1,377.9	1,377.1	2,798.8	2,536.1	2.9	21.5	-159.39	-159.39	3,248.1	-1,731.4	3,877.9	3,855.4	22.52	172.208	
1,400.0	1,398.9	2,819.7	2,552.8	2.9	21.8	-159.26	-159.26	3,248.8	-1,718.9	3,873.9	3,851.1	22.82	169.721	
1,476.4	1,474.5	2,882.0	2,602.6	3.1	22.6	-158.88	-158.88	3,251.2	-1,681.5	3,861.3	3,837.6	23.77	162.465	
1,500.0	1,497.8	2,901.3	2,618.0	3.2	22.9	-158.76	-158.76	3,251.9	-1,669.9	3,857.9	3,833.9	24.06	160.372	
1,574.8	1,571.4	2,951.8	2,658.3	3.4	23.6	-158.45	-158.45	3,254.0	-1,639.5	3,848.7	3,823.8	24.82	155.046	
1,600.0	1,596.1	2,967.8	2,671.0	3.5	23.8	-158.35	-158.35	3,254.7	-1,629.9	3,846.1	3,821.0	25.06	153.465	
1,673.2	1,667.7	3,010.0	2,704.8	3.7	24.4	-158.09	-158.09	3,256.7	-1,604.6	3,840.2	3,814.5	25.71	149.374	
1,696.9	1,690.8	3,031.7	2,722.2	3.8	24.6	-157.94	-157.94	3,257.8	-1,591.6	3,838.8	3,812.7	26.01	147.583	
1,700.0	1,693.8	3,033.9	2,724.0	3.8	24.7	-157.93	-157.93	3,257.9	-1,590.3	3,838.6	3,812.5	26.05	147.374	
1,771.6	1,763.5	3,085.0	2,764.9	4.1	25.3	-157.56	-157.56	3,260.4	-1,559.9	3,834.9	3,808.0	26.88	142.650	
1,800.0	1,791.0	3,112.7	2,787.2	4.2	25.7	-157.37	-157.37	3,261.7	-1,543.5	3,833.6	3,806.3	27.31	140.382	
1,870.1	1,859.2	3,231.7	2,883.3	4.5	27.2	-156.54	-156.54	3,265.4	-1,473.4	3,829.4	3,800.4	29.01	131.990	
1,900.0	1,888.3	3,246.7	2,895.5	4.6	27.4	-156.44	-156.44	3,265.7	-1,464.7	3,827.8	3,798.5	29.28	130.736	
1,968.5	1,954.9	3,294.0	2,934.2	4.9	28.0	-156.12	-156.12	3,267.0	-1,437.5	3,824.6	3,794.6	30.06	127.218	
2,000.0	1,985.6	3,294.0	2,934.2	5.1	28.0	-156.12	-156.12	3,267.0	-1,437.5	3,823.3	3,793.2	30.15	126.810	
2,066.9	2,050.7	3,331.3	2,964.9	5.4	28.4	-155.87	-155.87	3,268.2	-1,416.4	3,821.2	3,790.4	30.79	124.097	
2,100.0	2,082.8	3,348.3	2,979.0	5.5	28.6	-155.76	-155.76	3,268.8	-1,406.9	3,820.3	3,789.2	31.09	122.870	
2,165.3	2,146.4	3,389.0	3,012.8	5.8	29.1	-155.50	-155.50	3,270.3	-1,384.2	3,819.1	3,787.4	31.78	120.182	
2,200.0	2,180.1	3,412.0	3,032.0	6.0	29.4	-155.35	-155.35	3,271.2	-1,371.6	3,818.7	3,786.5	32.15	118.774	
2,263.8	2,242.1	3,482.3	3,091.0	6.3	30.2	-154.90	-154.90	3,273.4	-1,333.4	3,817.9	3,784.8	33.17	115.090	
2,300.0	2,277.3	3,537.5	3,137.7	6.4	30.8	-154.57	-154.57	3,274.5	-1,304.0	3,817.4	3,783.5	33.92	112.553	
2,362.2	2,337.8	3,617.9	3,206.0	6.7	31.7	-154.09	-154.09	3,275.2	-1,261.7	3,816.3	3,781.3	35.03	108.958	
2,400.0	2,374.6	3,659.8	3,241.7	6.9	32.2	-153.84	-153.84	3,275.3	-1,239.7	3,815.6	3,780.0	35.62	107.122	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST DD PETERSON CX-GH #30-41D - Wellbore #1 - Wellbo													Offset Site Error:	0.0 usft
Survey Program: 181-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		
2,460.6	2,433.6	3,712.2	3,286.3	7.2	32.8	-153.54	3,275.5	-1,212.1	3,814.5	3,778.1	36.42	104.743		
2,500.0	2,471.9	3,744.0	3,313.2	7.4	33.2	-153.34	3,275.8	-1,195.3	3,814.0	3,777.1	36.91	103.321		
2,559.0	2,529.3	3,797.6	3,358.4	7.6	33.8	-153.02	3,276.4	-1,166.6	3,813.3	3,775.6	37.74	101.029		
2,600.0	2,569.1	3,838.4	3,392.8	7.8	34.3	-152.77	3,276.9	-1,144.6	3,812.9	3,774.5	38.37	99.363		
2,657.5	2,625.0	3,890.7	3,436.9	8.1	34.9	-152.44	3,277.5	-1,116.3	3,812.4	3,773.2	39.20	97.246		
2,700.0	2,666.4	3,927.0	3,467.3	8.3	35.3	-152.22	3,278.1	-1,096.6	3,812.2	3,772.4	39.79	95.802		
2,755.9	2,720.8	3,983.2	3,514.4	8.6	36.0	-151.87	3,279.0	-1,065.9	3,812.0	3,771.3	40.68	93.701		
2,800.0	2,763.7	4,036.9	3,559.1	8.8	36.7	-151.52	3,279.9	-1,036.3	3,811.8	3,770.3	41.51	91.820		
2,854.3	2,816.5	4,096.6	3,608.8	9.1	37.4	-151.14	3,280.7	-1,003.2	3,811.6	3,769.2	42.45	89.785		
2,900.0	2,860.9	4,145.0	3,649.2	9.3	38.0	-150.84	3,281.2	-976.5	3,811.4	3,768.2	43.22	88.190		
2,919.5	2,879.9	4,145.0	3,649.2	9.4	38.0	-150.84	3,281.2	-976.5	3,811.4	3,768.1	43.28	88.060		
2,952.7	2,912.2	4,169.6	3,669.8	9.6	38.3	-150.68	3,281.4	-963.1	3,811.4	3,767.7	43.69	87.239		
3,000.0	2,958.2	4,191.4	3,688.2	9.8	38.5	-150.55	3,281.7	-951.3	3,811.8	3,767.7	44.11	86.415		
3,051.2	3,008.0	4,215.1	3,708.2	10.0	38.8	-150.40	3,282.1	-938.6	3,812.6	3,768.0	44.57	85.545		
3,100.0	3,055.4	4,240.0	3,729.3	10.3	39.1	-150.25	3,282.6	-925.4	3,813.7	3,768.7	45.03	84.688		
3,149.6	3,103.7	4,265.8	3,751.3	10.5	39.4	-150.10	3,283.2	-912.0	3,815.2	3,769.7	45.49	83.865		
3,200.0	3,152.7	4,295.0	3,776.4	10.8	39.7	-149.93	3,283.9	-897.1	3,817.0	3,771.0	45.99	82.991		
3,248.0	3,199.4	4,335.0	3,811.2	11.0	40.1	-149.71	3,284.7	-877.3	3,819.0	3,772.4	46.61	81.937		
3,300.0	3,250.0	4,355.8	3,829.3	11.3	40.3	-149.60	3,285.2	-867.2	3,821.5	3,774.4	47.00	81.304		
3,346.4	3,295.1	4,386.4	3,856.2	11.5	40.6	-149.44	3,285.8	-852.6	3,823.9	3,776.4	47.48	80.536		
3,400.0	3,347.2	4,429.0	3,894.0	11.8	41.0	-149.22	3,286.7	-832.8	3,827.0	3,778.9	48.11	79.548		
3,444.9	3,390.9	4,452.6	3,915.0	12.0	41.2	-149.11	3,287.1	-822.1	3,829.8	3,781.3	48.49	78.979		
3,500.0	3,444.5	4,490.8	3,949.2	12.3	41.6	-148.93	3,287.8	-805.2	3,833.4	3,784.4	49.05	78.154		
3,543.3	3,486.6	4,522.0	3,977.4	12.5	41.9	-148.79	3,288.3	-791.7	3,836.5	3,787.0	49.50	77.505		
3,600.0	3,541.8	4,561.4	4,013.1	12.8	42.2	-148.62	3,289.0	-775.1	3,840.8	3,790.7	50.05	76.740		
3,641.7	3,582.3	4,591.2	4,040.3	13.0	42.4	-148.49	3,289.5	-762.9	3,844.1	3,793.6	50.46	76.180		
3,700.0	3,639.0	4,631.9	4,077.5	13.3	42.8	-148.32	3,290.1	-746.5	3,848.9	3,797.9	51.02	75.442		
3,740.1	3,678.1	4,658.7	4,102.2	13.5	43.0	-148.22	3,290.6	-735.9	3,852.4	3,801.0	51.38	74.974		
3,800.0	3,736.3	4,712.0	4,151.3	13.8	43.4	-148.01	3,291.6	-715.3	3,858.0	3,805.9	52.04	74.136		
3,838.6	3,773.8	4,734.4	4,172.0	14.0	43.6	-147.93	3,291.9	-706.9	3,861.6	3,809.3	52.35	73.768		
3,900.0	3,833.5	4,807.0	4,239.7	14.3	44.1	-147.68	3,292.7	-680.6	3,867.4	3,814.3	53.13	72.796		
3,937.0	3,869.5	4,831.1	4,262.3	14.5	44.2	-147.61	3,292.8	-672.2	3,871.0	3,817.5	53.43	72.453		
4,000.0	3,930.8	4,872.4	4,301.2	14.8	44.5	-147.48	3,293.0	-658.4	3,877.2	3,823.3	53.94	71.884		
4,035.4	3,965.3	4,901.0	4,328.3	15.0	44.7	-147.40	3,293.2	-649.1	3,880.9	3,826.7	54.26	71.522		
4,100.0	4,028.1	4,941.6	4,366.8	15.3	44.9	-147.30	3,293.4	-636.6	3,887.9	3,833.2	54.74	71.029		
4,133.8	4,061.0	4,966.0	4,390.2	15.5	45.1	-147.24	3,293.5	-629.4	3,891.7	3,836.7	55.00	70.752		
4,200.0	4,125.3	5,014.6	4,436.9	15.8	45.3	-147.14	3,293.5	-615.9	3,899.3	3,843.8	55.52	70.235		
4,232.3	4,156.7	5,039.0	4,460.4	16.0	45.5	-147.09	3,293.5	-609.4	3,903.1	3,847.4	55.76	69.997		
4,300.0	4,222.6	5,091.0	4,510.6	16.3	45.7	-146.99	3,293.6	-595.9	3,911.4	3,855.1	56.28	69.503		
4,330.7	4,252.4	5,091.0	4,510.6	16.5	45.7	-146.99	3,293.6	-595.9	3,915.3	3,858.9	56.38	69.439		
4,400.0	4,319.8	5,149.8	4,567.6	16.8	46.0	-146.90	3,293.8	-581.5	3,924.2	3,867.3	56.91	68.955		
4,429.1	4,348.2	5,185.0	4,601.9	17.0	46.2	-146.85	3,294.1	-573.5	3,928.2	3,871.1	57.18	68.699		
4,500.0	4,417.1	5,218.8	4,634.8	17.3	46.3	-146.81	3,294.4	-566.0	3,938.1	3,880.5	57.58	68.397		
4,527.5	4,443.9	5,241.5	4,657.0	17.5	46.4	-146.78	3,294.6	-561.1	3,942.0	3,884.2	57.77	68.233		
4,600.0	4,514.4	5,301.8	4,716.0	17.8	46.6	-146.71	3,295.1	-548.4	3,952.4	3,894.1	58.28	67.818		
4,626.0	4,539.6	5,323.6	4,737.3	17.9	46.7	-146.69	3,295.3	-544.0	3,956.2	3,897.7	58.46	67.676		
4,700.0	4,611.6	5,374.0	4,786.8	18.3	46.9	-146.64	3,295.7	-534.2	3,967.2	3,908.2	58.92	67.335		
4,724.4	4,635.4	5,401.3	4,813.6	18.4	47.0	-146.62	3,295.9	-529.1	3,970.8	3,911.7	59.10	67.191		
4,800.0	4,708.9	5,455.1	4,866.5	18.8	47.2	-146.59	3,296.3	-519.9	3,982.4	3,922.9	59.55	66.878		
4,822.8	4,731.1	5,469.0	4,880.3	18.9	47.2	-146.58	3,296.4	-517.6	3,986.0	3,926.4	59.68	66.795		
4,900.0	4,806.2	5,527.3	4,937.9	19.3	47.4	-146.57	3,296.9	-508.9	3,998.4	3,938.3	60.11	66.515		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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											SW SW SEC. 29 T5N R63W 6th P.M. - EXIST DD PETERSON CX-GH #30-41D - Wellbore #1 - Wellbo		Offset Site Error:		0.0 usft
Survey Program: 181-MWD													Offset Well Error:		0.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
4,921.2	4,826.8	5,542.7	4,953.2	19.4	47.4	-146.57	3,297.0	-506.7	4,001.9	3,941.7	60.23	66.443			
5,000.0	4,903.4	5,604.0	5,013.9	19.8	47.6	-146.57	3,297.5	-498.8	4,015.0	3,954.4	60.66	66.189			
5,019.7	4,922.6	5,619.9	5,029.8	19.9	47.6	-146.57	3,297.6	-497.0	4,018.4	3,957.6	60.77	66.129			
5,100.0	5,000.7	5,689.9	5,099.3	20.4	47.8	-146.59	3,298.1	-489.3	4,032.1	3,970.9	61.19	65.891			
5,118.1	5,018.3	5,707.4	5,116.7	20.4	47.8	-146.60	3,298.2	-487.6	4,035.2	3,973.9	61.29	65.839			
5,166.2	5,065.0	5,753.0	5,162.2	20.7	47.9	-146.63	3,298.3	-483.5	4,043.5	3,981.9	61.54	65.705			
5,200.0	5,098.0	5,783.1	5,192.2	20.8	47.9	-146.71	3,298.3	-481.0	4,049.1	3,987.4	61.74	65.582			
5,216.5	5,114.1	5,797.6	5,206.6	20.9	48.0	-146.75	3,298.3	-479.8	4,051.8	3,990.0	61.83	65.530			
5,300.0	5,195.9	5,868.9	5,277.7	21.2	48.1	-146.93	3,298.2	-474.7	4,064.1	4,001.9	62.26	65.274			
5,314.9	5,210.6	5,881.0	5,289.8	21.2	48.1	-146.96	3,298.2	-473.9	4,066.2	4,003.8	62.33	65.234			
5,400.0	5,294.4	5,943.0	5,351.7	21.5	48.2	-147.10	3,298.2	-470.2	4,076.7	4,014.0	62.70	65.017			
5,413.4	5,307.7	5,961.6	5,370.2	21.5	48.2	-147.13	3,298.2	-469.2	4,078.2	4,015.4	62.76	64.979			
5,500.0	5,393.5	6,034.8	5,443.4	21.7	48.3	-147.25	3,298.2	-465.7	4,086.7	4,023.6	63.09	64.778			
5,511.8	5,405.2	6,044.8	5,453.3	21.8	48.3	-147.26	3,298.2	-465.2	4,087.7	4,024.6	63.13	64.753			
5,600.0	5,493.0	6,133.0	5,541.5	22.0	48.4	-147.35	3,298.4	-461.8	4,094.2	4,030.7	63.43	64.547			
5,610.2	5,503.2	6,133.0	5,541.5	22.0	48.4	-147.36	3,298.4	-461.8	4,094.7	4,031.3	63.45	64.536			
5,700.0	5,592.8	6,219.1	5,627.6	22.1	48.5	-147.40	3,298.5	-459.1	4,098.9	4,035.2	63.68	64.362			
5,708.6	5,601.4	6,228.0	5,636.4	22.1	48.5	-147.41	3,298.5	-458.9	4,099.1	4,035.4	63.70	64.346			
5,800.0	5,692.7	6,321.7	5,730.1	22.3	48.6	-147.42	3,298.3	-456.7	4,100.6	4,036.7	63.90	64.168			
5,807.1	5,699.8	6,329.3	5,737.7	22.3	48.6	-147.41	3,298.3	-456.6	4,100.6	4,036.7	63.92	64.156			
5,838.1	5,730.8	6,362.7	5,771.2	22.3	48.6	-16.84	3,298.1	-456.0	4,100.5	4,036.5	63.97	64.099			
5,868.1	5,760.8	6,395.1	5,803.5	22.3	48.6	-16.83	3,298.0	-455.4	4,100.2	4,036.1	64.04	64.025			
5,900.0	5,792.7	6,429.6	5,838.0	22.4	48.6	-16.85	3,297.7	-454.9	4,099.1	4,035.2	63.95	64.096			
5,905.5	5,798.2	6,435.5	5,843.9	22.4	48.6	-16.86	3,297.7	-454.9	4,098.8	4,034.9	63.92	64.119			
5,950.0	5,842.6	6,483.4	5,891.8	22.4	48.7	-16.96	3,297.3	-454.3	4,094.8	4,031.2	63.55	64.431			
6,000.0	5,892.0	6,535.6	5,944.0	22.4	48.7	-17.17	3,296.8	-453.7	4,087.1	4,024.2	62.83	65.053			
6,003.9	5,895.8	6,539.6	5,948.0	22.4	48.7	-17.19	3,296.7	-453.7	4,086.3	4,023.6	62.76	65.115			
6,050.0	5,940.8	6,586.0	5,994.4	22.4	48.7	-17.49	3,296.2	-453.3	4,076.0	4,014.3	61.78	65.980			
6,100.0	5,988.7	6,635.3	6,043.7	22.3	48.8	-17.91	3,295.7	-453.1	4,061.8	4,001.4	60.41	67.233			
6,102.3	5,990.9	6,637.6	6,046.0	22.3	48.8	-17.93	3,295.6	-453.0	4,061.0	4,000.7	60.34	67.300			
6,150.0	6,035.5	6,683.4	6,091.8	22.2	48.8	-18.45	3,295.0	-452.9	4,044.4	3,985.6	58.74	68.847			
6,200.0	6,081.0	6,731.4	6,139.8	22.2	48.8	-19.13	3,294.4	-452.8	4,023.9	3,967.1	56.78	70.872			
6,200.8	6,081.7	6,732.2	6,140.6	22.2	48.8	-19.15	3,294.3	-452.8	4,023.5	3,966.8	56.74	70.907			
6,250.0	6,124.9	6,778.4	6,186.8	22.0	48.9	-19.97	3,293.6	-452.7	4,000.4	3,945.9	54.53	73.367			
6,299.2	6,166.4	6,822.7	6,231.1	21.9	48.9	-20.97	3,292.9	-452.8	3,974.5	3,922.5	52.05	76.353			
6,300.0	6,167.0	6,823.4	6,231.8	21.9	48.9	-20.99	3,292.9	-452.8	3,974.1	3,922.1	52.01	76.407			
6,350.0	6,207.2	6,866.1	6,274.5	21.8	48.9	-22.21	3,292.1	-452.8	3,945.0	3,895.7	49.26	80.084			
6,397.6	6,243.4	6,902.1	6,310.4	21.6	48.9	-23.59	3,291.5	-452.9	3,914.9	3,868.5	46.45	84.278			
6,400.0	6,245.2	6,903.6	6,311.9	21.6	48.9	-23.67	3,291.4	-452.9	3,913.4	3,867.1	46.31	84.507			
6,450.0	6,280.8	6,934.9	6,343.3	21.5	48.9	-25.39	3,290.9	-453.0	3,879.4	3,836.2	43.20	89.792			
6,496.0	6,311.4	6,961.8	6,370.1	21.3	49.0	-27.29	3,290.4	-453.1	3,846.1	3,805.9	40.26	95.523			
6,500.0	6,313.9	6,964.0	6,372.3	21.3	49.0	-27.47	3,290.4	-453.1	3,843.2	3,803.2	40.01	96.057			
6,550.0	6,344.3	6,990.7	6,399.0	21.2	49.0	-29.99	3,290.0	-453.1	3,805.0	3,768.2	36.82	103.347			
6,594.5	6,368.9	7,012.3	6,420.7	21.0	49.0	-32.68	3,289.6	-453.2	3,769.6	3,735.5	34.09	110.586			
6,600.0	6,371.8	7,014.9	6,423.2	21.0	49.0	-33.04	3,289.6	-453.2	3,765.1	3,731.3	33.76	111.527			
6,650.0	6,396.4	7,036.4	6,444.8	20.8	49.0	-36.78	3,289.3	-453.2	3,723.4	3,692.4	31.01	120.065			
6,692.9	6,415.0	7,052.7	6,461.1	20.7	49.0	-40.66	3,289.1	-453.2	3,686.6	3,657.5	29.09	126.727			
6,700.0	6,417.9	7,055.2	6,463.6	20.7	49.0	-41.37	3,289.0	-453.2	3,680.4	3,651.6	28.82	127.691			
6,750.0	6,436.2	7,071.2	6,479.5	20.5	49.0	-47.01	3,288.8	-453.2	3,636.2	3,608.6	27.53	132.099			
6,791.3	6,448.8	7,081.0	6,489.3	20.4	49.0	-52.57	3,288.7	-453.2	3,598.9	3,571.5	27.41	131.295			
6,800.0	6,451.1	7,081.0	6,489.3	20.3	49.0	-53.80	3,288.7	-453.2	3,591.0	3,563.5	27.50	130.596			

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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: 181-MWD												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,850.0	6,462.8	7,094.8	6,503.2	20.2	49.0	-62.21	3,288.5	-453.2	3,545.0	3,515.9	29.06	121.971	
6,889.7	6,469.6	7,100.8	6,509.2	20.1	49.0	-69.77	3,288.5	-453.2	3,508.0	3,476.8	31.19	112.482	
6,900.0	6,471.0	7,102.1	6,510.4	20.0	49.0	-71.84	3,288.5	-453.2	3,498.4	3,466.6	31.80	110.003	
6,950.0	6,475.7	7,106.0	6,514.3	19.9	49.0	-82.43	3,288.4	-453.2	3,451.6	3,416.8	34.84	99.062	
6,988.2	6,477.0	7,106.8	6,515.1	19.8	49.0	-90.73	3,288.4	-453.2	3,415.8	3,379.0	36.80	92.812	
6,997.5	6,477.0	7,106.7	6,515.0	19.8	49.0	-92.74	3,288.4	-453.2	3,407.1	3,369.9	37.20	91.595	
7,000.0	6,477.0	7,106.7	6,515.0	19.8	49.0	-92.73	3,288.4	-453.2	3,404.7	3,367.5	37.21	91.499	
7,086.6	6,476.5	7,105.2	6,513.5	19.6	49.0	-92.66	3,288.4	-453.2	3,323.7	3,285.9	37.75	88.046	
7,100.0	6,476.4	7,105.0	6,513.3	19.6	49.0	-92.65	3,288.4	-453.2	3,311.2	3,273.3	37.83	87.521	
7,185.0	6,475.9	7,103.5	6,511.8	19.7	49.0	-92.58	3,288.4	-453.2	3,231.9	3,193.4	38.50	83.944	
7,200.0	6,475.8	7,103.2	6,511.6	19.8	49.0	-92.57	3,288.4	-453.2	3,218.0	3,179.4	38.62	83.327	
7,283.4	6,475.2	7,101.8	6,510.1	20.4	49.0	-92.50	3,288.5	-453.2	3,140.6	3,101.2	39.40	79.706	
7,300.0	6,475.1	7,101.5	6,509.9	20.6	49.0	-92.49	3,288.5	-453.2	3,125.2	3,085.7	39.56	79.006	
7,381.9	6,474.6	7,100.1	6,508.5	21.5	49.0	-92.42	3,288.5	-453.2	3,049.7	3,009.2	40.44	75.413	
7,400.0	6,474.5	7,099.8	6,508.1	21.8	49.0	-92.40	3,288.5	-453.2	3,033.0	2,992.3	40.64	74.639	
7,480.3	6,474.0	7,098.4	6,506.8	22.8	49.0	-92.34	3,288.5	-453.2	2,959.2	2,917.6	41.59	71.152	
7,500.0	6,473.9	7,098.1	6,506.4	23.0	49.0	-92.32	3,288.5	-453.2	2,941.2	2,899.4	41.82	70.321	
7,578.7	6,473.4	7,096.7	6,505.0	24.1	49.0	-92.26	3,288.5	-453.2	2,869.3	2,826.5	42.84	66.984	
7,600.0	6,473.3	7,096.3	6,504.7	24.4	49.0	-92.24	3,288.5	-453.2	2,850.0	2,806.8	43.11	66.110	
7,677.1	6,472.8	7,095.0	6,503.3	25.5	49.0	-92.17	3,288.5	-453.2	2,780.0	2,735.8	44.16	62.950	
7,700.0	6,472.7	7,094.6	6,502.9	25.8	49.0	-92.15	3,288.6	-453.2	2,759.3	2,714.9	44.47	62.044	
7,775.6	6,472.2	7,093.3	6,501.6	26.9	49.0	-92.09	3,288.6	-453.2	2,691.3	2,645.7	45.56	59.077	
7,800.0	6,472.1	7,092.9	6,501.2	27.3	49.0	-92.07	3,288.6	-453.2	2,669.4	2,623.5	45.91	58.149	
7,874.0	6,471.6	7,091.6	6,499.9	28.4	49.0	-92.01	3,288.6	-453.2	2,603.3	2,556.3	47.01	55.380	
7,900.0	6,471.5	7,091.1	6,499.4	28.8	49.0	-91.99	3,288.6	-453.2	2,580.2	2,532.8	47.39	54.440	
7,972.4	6,471.0	7,089.8	6,498.2	29.9	49.0	-91.93	3,288.6	-453.2	2,516.1	2,467.6	48.51	51.869	
8,000.0	6,470.8	7,089.3	6,497.7	30.3	49.0	-91.90	3,288.6	-453.2	2,491.8	2,442.8	48.93	50.923	
8,070.8	6,470.4	7,088.1	6,496.4	31.4	49.0	-91.84	3,288.6	-453.2	2,429.7	2,379.6	50.05	48.545	
8,100.0	6,470.2	7,087.6	6,495.9	31.9	49.0	-91.82	3,288.6	-453.2	2,404.3	2,353.8	50.51	47.600	
8,169.3	6,469.8	7,086.3	6,494.7	33.0	49.0	-91.76	3,288.7	-453.2	2,344.3	2,292.6	51.63	45.407	
8,200.0	6,469.6	7,085.8	6,494.1	33.5	49.0	-91.73	3,288.7	-453.2	2,317.8	2,265.7	52.12	44.468	
8,267.7	6,469.2	7,084.6	6,492.9	34.7	49.0	-91.67	3,288.7	-453.2	2,259.9	2,206.7	53.24	42.451	
8,300.0	6,469.0	7,084.0	6,492.3	35.2	49.0	-91.65	3,288.7	-453.2	2,232.5	2,178.7	53.77	41.521	
8,366.1	6,468.6	7,081.0	6,489.3	36.3	49.0	-91.50	3,288.7	-453.2	2,176.7	2,121.9	54.85	39.682	
8,400.0	6,468.4	7,081.0	6,489.3	36.9	49.0	-91.50	3,288.7	-453.2	2,148.4	2,092.9	55.42	38.762	
8,464.5	6,468.0	7,081.0	6,489.3	38.0	49.0	-91.50	3,288.7	-453.2	2,094.8	2,038.3	56.53	37.059	
8,500.0	6,467.8	7,081.0	6,489.3	38.6	49.0	-91.50	3,288.7	-453.2	2,065.7	2,008.6	57.13	36.156	
8,563.0	6,467.4	7,081.0	6,489.3	39.6	49.0	-91.50	3,288.7	-453.2	2,014.4	1,956.2	58.22	34.600	
8,600.0	6,467.1	7,081.0	6,489.3	40.3	49.0	-91.50	3,288.7	-453.2	1,984.6	1,925.8	58.86	33.717	
8,661.4	6,466.8	7,081.0	6,489.3	41.3	49.0	-91.50	3,288.7	-453.2	1,935.7	1,875.8	59.93	32.298	
8,700.0	6,466.5	7,076.9	6,485.2	42.0	49.0	-91.30	3,288.8	-453.2	1,905.4	1,844.8	60.57	31.458	
8,759.8	6,466.1	7,075.8	6,484.2	43.0	49.0	-91.25	3,288.8	-453.2	1,858.9	1,797.3	61.61	30.171	
8,800.0	6,465.9	7,075.1	6,483.4	43.7	49.0	-91.22	3,288.8	-453.2	1,828.1	1,765.8	62.31	29.338	
8,858.2	6,465.5	7,074.0	6,482.4	44.8	49.0	-91.17	3,288.8	-453.2	1,784.2	1,720.8	63.34	28.170	
8,900.0	6,465.3	7,073.3	6,481.6	45.5	49.0	-91.13	3,288.8	-453.2	1,753.2	1,689.1	64.07	27.364	
8,956.7	6,464.9	7,072.3	6,480.6	46.5	49.0	-91.08	3,288.8	-453.2	1,711.8	1,646.8	65.07	26.307	
9,000.0	6,464.7	7,071.5	6,479.8	47.3	49.0	-91.04	3,288.8	-453.2	1,680.8	1,615.0	65.84	25.530	
9,055.1	6,464.3	7,070.5	6,478.8	48.2	49.0	-90.99	3,288.8	-453.2	1,642.2	1,575.4	66.82	24.578	
9,100.0	6,464.0	7,069.6	6,478.0	49.0	49.0	-90.95	3,288.9	-453.2	1,611.4	1,543.8	67.62	23.833	
9,153.5	6,463.7	7,068.7	6,477.0	50.0	49.0	-90.91	3,288.9	-453.2	1,575.7	1,507.1	68.57	22.978	
9,200.0	6,463.4	7,067.8	6,476.1	50.8	49.0	-90.87	3,288.9	-453.2	1,545.4	1,476.0	69.40	22.267	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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										SW SW SEC. 29 T5N R63W 6th P.M. - EXIST DD PETERSON CX-GH #30-41D - Wellbore #1 - Wellbo				Offset Site Error:		0.0 usft	
Survey Program: 181-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				
9,251.9	6,463.1	7,066.8	6,475.2	51.8	49.0	-90.82	3,288.9	-453.2	1,512.6	1,442.3	70.34	21.505					
9,300.0	6,462.8	7,065.9	6,474.3	52.6	49.0	-90.78	3,288.9	-453.2	1,483.2	1,412.0	71.20	20.832					
9,350.4	6,462.5	7,065.0	6,473.3	53.5	49.0	-90.73	3,288.9	-453.2	1,453.5	1,381.4	72.11	20.157					
9,400.0	6,462.2	7,064.1	6,472.4	54.4	49.0	-90.69	3,288.9	-453.2	1,425.3	1,352.3	73.00	19.524					
9,448.8	6,461.9	7,063.2	6,471.5	55.3	49.0	-90.64	3,288.9	-453.2	1,398.8	1,324.9	73.89	18.932					
9,500.0	6,461.5	7,062.2	6,470.5	56.2	49.0	-90.59	3,289.0	-453.2	1,372.2	1,297.4	74.81	18.343					
9,547.2	6,461.2	7,061.3	6,469.6	57.1	49.0	-90.55	3,289.0	-453.2	1,349.0	1,273.4	75.67	17.828					
9,600.0	6,460.9	7,060.3	6,468.6	58.1	49.0	-90.50	3,289.0	-453.2	1,324.6	1,248.0	76.63	17.286					
9,645.6	6,460.6	7,059.4	6,467.8	58.9	49.0	-90.46	3,289.0	-453.2	1,304.8	1,227.4	77.46	16.846					
9,700.0	6,460.3	7,058.4	6,466.7	59.9	49.0	-90.41	3,289.0	-453.2	1,283.0	1,204.6	78.45	16.355					
9,744.1	6,460.0	7,057.5	6,465.9	60.7	49.0	-90.37	3,289.0	-453.2	1,266.8	1,187.5	79.25	15.984					
9,800.0	6,459.7	7,056.5	6,464.8	61.7	49.0	-90.32	3,289.0	-453.2	1,248.1	1,167.8	80.27	15.548					
9,842.5	6,459.4	7,055.6	6,464.0	62.5	49.0	-90.28	3,289.0	-453.2	1,235.4	1,154.3	81.05	15.242					
9,900.0	6,459.0	7,054.5	6,462.9	63.6	49.0	-90.22	3,289.1	-453.2	1,220.3	1,138.2	82.10	14.863					
9,940.9	6,458.8	7,053.7	6,462.1	64.3	49.0	-90.19	3,289.1	-453.2	1,211.2	1,128.3	82.86	14.618					
10,000.0	6,458.4	7,052.6	6,460.9	65.4	49.0	-90.13	3,289.1	-453.2	1,200.3	1,116.4	83.94	14.300					
10,039.3	6,458.2	7,051.8	6,460.1	66.1	49.0	-90.09	3,289.1	-453.2	1,194.6	1,110.0	84.66	14.111					
10,100.0	6,457.8	7,050.6	6,458.9	67.2	49.0	-90.03	3,289.1	-453.2	1,188.4	1,102.6	85.78	13.855					
10,137.8	6,457.6	7,049.8	6,458.2	67.9	49.0	-90.00	3,289.1	-453.2	1,186.1	1,099.6	86.47	13.716					
10,192.5	6,457.2	7,048.8	6,457.1	69.0	49.0	-89.95	3,289.1	-453.2	1,184.8	1,097.3	87.48	13.544 CC					
10,200.0	6,457.2	7,048.6	6,456.9	69.1	49.0	-89.94	3,289.1	-453.2	1,184.8	1,097.2	87.62	13.523 ES					
10,236.2	6,456.9	7,047.9	6,456.2	69.8	49.0	-89.90	3,289.1	-453.2	1,185.6	1,097.3	88.28	13.429					
10,300.0	6,456.5	7,046.6	6,454.9	70.9	49.0	-89.84	3,289.2	-453.2	1,189.7	1,100.2	89.46	13.298					
10,334.6	6,456.3	7,045.9	6,454.3	71.6	49.0	-89.81	3,289.2	-453.2	1,193.3	1,103.2	90.10	13.244					
10,400.0	6,455.9	7,044.6	6,452.9	72.8	49.0	-89.74	3,289.2	-453.2	1,202.8	1,111.5	91.31	13.173					
10,433.0	6,455.7	7,043.9	6,452.3	73.4	49.0	-89.71	3,289.2	-453.2	1,209.0	1,117.0	91.92	13.153					
10,500.0	6,455.3	7,042.6	6,450.9	74.7	49.0	-89.65	3,289.2	-453.2	1,224.0	1,130.9	93.16	13.140 SF					
10,531.5	6,455.1	7,041.9	6,450.3	75.2	49.0	-89.62	3,289.2	-453.2	1,232.3	1,138.6	93.74	13.146					
10,600.0	6,454.7	7,040.5	6,448.9	76.5	49.0	-89.55	3,289.2	-453.2	1,252.9	1,157.9	95.01	13.188					
10,629.9	6,454.5	7,039.9	6,448.3	77.1	49.0	-89.52	3,289.2	-453.2	1,262.9	1,167.4	95.56	13.216					
10,700.0	6,454.0	7,038.5	6,446.8	78.4	49.0	-89.45	3,289.3	-453.2	1,288.9	1,192.0	96.86	13.307					
10,728.3	6,453.9	7,037.9	6,446.2	78.9	49.0	-89.42	3,289.3	-453.2	1,300.3	1,202.9	97.38	13.352					
10,800.0	6,453.4	7,036.4	6,444.7	80.3	49.0	-89.35	3,289.3	-453.2	1,331.4	1,232.7	98.71	13.488					
10,826.7	6,453.2	7,035.8	6,444.2	80.8	49.0	-89.32	3,289.3	-453.2	1,343.8	1,244.6	99.21	13.545					
10,900.0	6,452.8	7,034.3	6,442.6	82.1	49.0	-89.25	3,289.3	-453.2	1,379.9	1,279.3	100.57	13.721					
10,925.2	6,452.6	7,033.8	6,442.1	82.6	49.0	-89.22	3,289.3	-453.2	1,393.0	1,291.9	101.04	13.787					
11,000.0	6,452.1	7,032.2	6,440.5	84.0	49.0	-89.14	3,289.4	-453.2	1,433.7	1,331.3	102.43	13.998					
11,023.6	6,452.0	7,031.7	6,440.0	84.4	49.0	-89.12	3,289.4	-453.2	1,447.2	1,344.3	102.87	14.068					
11,023.7	6,452.0	7,031.7	6,440.0	84.4	49.0	-89.12	3,289.4	-453.2	1,447.2	1,344.4	102.87	14.069					
11,024.4	6,452.0	7,031.7	6,440.0	84.5	49.0	-89.12	3,289.4	-453.2	1,447.6	1,344.7	102.88	14.071					

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

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT PETERSON #30-41 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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	-14.77	3,861.7	-1,018.1	3,993.7					
98.4	98.4	80.4	80.4	0.1	0.3	-14.77	3,861.7	-1,018.1	3,993.7	3,993.2	0.43	9,332.420		
100.0	100.0	82.0	82.0	0.1	0.3	-14.77	3,861.7	-1,018.1	3,993.7	3,993.2	0.44	9,155.478		
196.8	196.8	178.8	178.8	0.3	2.4	-14.77	3,861.7	-1,018.1	3,993.7	3,991.0	2.70	1,477.225		
200.0	200.0	182.0	182.0	0.3	2.5	-14.77	3,861.7	-1,018.1	3,993.7	3,990.9	2.79	1,431.686		
295.3	295.3	277.3	277.3	0.5	4.5	-14.77	3,861.7	-1,018.1	3,993.7	3,988.6	5.06	789.372		
300.0	300.0	282.0	282.0	0.5	4.6	-14.77	3,861.7	-1,018.1	3,993.7	3,988.5	5.17	772.763		
393.7	393.7	375.7	375.7	0.8	6.5	-14.77	3,861.7	-1,018.1	3,993.7	3,986.4	7.30	547.405		
400.0	400.0	382.0	382.0	0.8	6.7	-14.77	3,861.7	-1,018.1	3,993.7	3,986.2	7.44	536.911		
492.1	492.1	474.1	474.1	1.0	8.5	-14.77	3,861.7	-1,018.1	3,993.7	3,984.2	9.51	419.760		
500.0	500.0	482.0	482.0	1.0	8.7	-14.77	3,861.7	-1,018.1	3,993.7	3,984.0	9.69	412.082		
590.5	590.5	572.5	572.5	1.2	10.5	-14.77	3,861.7	-1,018.1	3,993.7	3,981.9	11.73	340.592		
600.0	600.0	582.0	582.0	1.2	10.7	-14.77	3,861.7	-1,018.1	3,993.7	3,981.7	11.94	334.538		
689.0	689.0	671.0	671.0	1.4	12.5	-14.77	3,861.7	-1,018.1	3,993.7	3,979.7	13.93	286.621		
700.0	700.0	682.0	682.0	1.4	12.7	-14.77	3,861.7	-1,018.1	3,993.7	3,979.5	14.18	281.624		
787.4	787.4	769.4	769.4	1.6	14.5	-14.77	3,861.7	-1,018.1	3,993.7	3,977.5	16.14	247.447		
800.0	800.0	782.0	782.0	1.7	14.8	-14.77	3,861.7	-1,018.1	3,993.7	3,977.2	16.42	243.193		
885.8	885.8	867.8	867.8	1.9	16.5	-14.77	3,861.7	-1,018.1	3,993.7	3,975.3	18.34	217.709		
900.0	900.0	882.0	882.0	1.9	16.8	-14.77	3,861.7	-1,018.1	3,993.7	3,975.0	18.66	214.006		
984.2	984.2	966.2	966.2	2.1	18.5	-14.77	3,861.7	-1,018.1	3,993.7	3,973.1	20.55	194.361		
1,000.0	1,000.0	982.0	982.0	2.1	18.8	-14.77	3,861.7	-1,018.1	3,993.7	3,972.8	20.90	191.082		
1,025.0	1,025.0	1,007.0	1,007.0	2.2	19.3	-14.77	3,861.7	-1,018.1	3,993.7	3,972.2	21.46	186.099		
1,082.7	1,082.7	1,064.7	1,064.7	2.3	20.4	-145.34	3,861.7	-1,018.1	3,994.1	3,971.4	22.73	175.686		
1,100.0	1,100.0	1,082.0	1,082.0	2.3	20.8	-145.34	3,861.7	-1,018.1	3,994.5	3,971.4	23.12	172.801		
1,181.1	1,181.0	1,163.0	1,163.0	2.5	22.4	-145.34	3,861.7	-1,018.1	3,997.2	3,972.3	24.88	160.667		
1,200.0	1,199.9	1,181.9	1,181.9	2.5	22.8	-145.33	3,861.7	-1,018.1	3,998.1	3,972.8	25.29	158.111		
1,279.5	1,279.2	1,261.2	1,261.2	2.7	24.4	-145.33	3,861.7	-1,018.1	4,003.0	3,976.0	27.00	148.263		
1,300.0	1,299.6	1,281.6	1,281.6	2.7	24.8	-145.32	3,861.7	-1,018.1	4,004.5	3,977.1	27.44	145.959		
1,377.9	1,377.1	1,359.1	1,359.1	2.9	26.4	-145.31	3,861.7	-1,018.1	4,011.5	3,982.5	29.09	137.878		
1,400.0	1,398.9	1,380.9	1,380.9	2.9	26.8	-145.31	3,861.7	-1,018.1	4,013.9	3,984.3	29.56	135.791		
1,476.4	1,474.5	1,456.5	1,456.5	3.1	28.3	-145.29	3,861.7	-1,018.1	4,022.9	3,991.7	31.16	129.095		
1,500.0	1,497.8	1,479.8	1,479.8	3.2	28.8	-145.29	3,861.7	-1,018.1	4,026.0	3,994.4	31.65	127.198		
1,574.8	1,571.4	1,553.4	1,553.4	3.4	30.3	-145.27	3,861.7	-1,018.1	4,037.0	4,003.8	33.20	121.604		
1,600.0	1,596.1	1,578.1	1,578.1	3.5	30.8	-145.26	3,861.7	-1,018.1	4,041.1	4,007.4	33.71	119.873		
1,673.2	1,667.7	1,649.7	1,649.7	3.7	32.2	-145.24	3,861.7	-1,018.1	4,053.9	4,018.7	35.20	115.168		
1,696.9	1,690.8	1,672.8	1,672.8	3.8	32.7	-145.23	3,861.7	-1,018.1	4,058.4	4,022.8	35.67	113.765		
1,700.0	1,693.8	1,675.8	1,675.8	3.8	32.7	-145.23	3,861.7	-1,018.1	4,059.0	4,023.3	35.74	113.565		
1,771.6	1,763.5	1,745.5	1,745.5	4.1	34.1	-145.37	3,861.7	-1,018.1	4,072.8	4,035.5	37.32	109.135		
1,800.0	1,791.0	1,773.0	1,773.0	4.2	34.7	-145.42	3,861.7	-1,018.1	4,078.3	4,040.4	37.94	107.489		
1,870.1	1,859.2	1,841.2	1,841.2	4.5	36.1	-145.55	3,861.7	-1,018.1	4,091.8	4,052.3	39.49	103.610		
1,900.0	1,888.3	1,870.3	1,870.3	4.6	36.7	-145.60	3,861.7	-1,018.1	4,097.6	4,057.5	40.15	102.050		
1,968.5	1,954.9	1,936.9	1,936.9	4.9	38.0	-145.73	3,861.7	-1,018.1	4,110.9	4,069.2	41.67	98.643		
2,000.0	1,985.6	1,967.6	1,967.6	5.1	38.6	-145.78	3,861.7	-1,018.1	4,117.0	4,074.6	42.37	97.160		
2,066.9	2,050.7	2,032.7	2,032.7	5.4	39.9	-145.90	3,861.7	-1,018.1	4,130.0	4,086.1	43.86	94.155		
2,100.0	2,082.8	2,064.8	2,064.8	5.5	40.6	-145.96	3,861.7	-1,018.1	4,136.4	4,091.8	44.60	92.744		
2,165.3	2,146.4	2,128.4	2,128.4	5.8	41.8	-146.08	3,861.7	-1,018.1	4,149.1	4,103.0	46.06	90.082		
2,200.0	2,180.1	2,162.1	2,162.1	6.0	42.5	-146.14	3,861.7	-1,018.1	4,155.8	4,109.0	46.83	88.739		
2,263.8	2,242.1	2,224.1	2,224.1	6.3	43.8	-146.25	3,861.7	-1,018.1	4,168.3	4,120.0	48.26	86.373		
2,300.0	2,277.3	2,259.3	2,259.3	6.4	44.5	-146.32	3,861.7	-1,018.1	4,175.3	4,126.3	49.07	85.092		
2,362.2	2,337.8	2,319.8	2,319.8	6.7	45.7	-146.43	3,861.7	-1,018.1	4,187.5	4,137.0	50.46	82.983		
2,400.0	2,374.6	2,356.6	2,356.6	6.9	46.4	-146.49	3,861.7	-1,018.1	4,194.8	4,143.5	51.31	81.758		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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												SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT PETERSON #30-41 - Wellbore #1 - Design #1		Offset Site Error: 0.0 usft	
Survey Program: 0-INC												Offset Well Error: 0.0 usft			
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
2,460.6	2,433.6	2,415.6	2,415.6	7.2	47.6	-146.60	3,861.7	-1,018.1	4,206.7	4,154.0	52.67	79.874			
2,500.0	2,471.9	2,453.9	2,453.9	7.4	48.4	-146.66	3,861.7	-1,018.1	4,214.4	4,160.8	53.55	78.701			
2,559.0	2,529.3	2,511.3	2,511.3	7.6	49.5	-146.77	3,861.7	-1,018.1	4,226.0	4,171.1	54.87	77.012			
2,600.0	2,569.1	2,551.1	2,551.1	7.8	50.4	-146.84	3,861.7	-1,018.1	4,234.0	4,178.2	55.79	75.888			
2,657.5	2,625.0	2,607.0	2,607.0	8.1	51.5	-146.93	3,861.7	-1,018.1	4,245.3	4,188.2	57.08	74.371			
2,700.0	2,666.4	2,648.4	2,648.4	8.3	52.3	-147.01	3,861.7	-1,018.1	4,253.6	4,195.6	58.04	73.292			
2,755.9	2,720.8	2,702.8	2,702.8	8.6	53.4	-147.10	3,861.7	-1,018.1	4,264.6	4,205.3	59.29	71.925			
2,800.0	2,763.7	2,745.7	2,745.7	8.8	54.3	-147.17	3,861.7	-1,018.1	4,273.3	4,213.0	60.28	70.888			
2,854.3	2,816.5	2,798.5	2,798.5	9.1	55.3	-147.26	3,861.7	-1,018.1	4,284.0	4,222.5	61.50	69.656			
2,900.0	2,860.9	2,842.9	2,842.9	9.3	56.2	-147.34	3,861.7	-1,018.1	4,293.0	4,230.5	62.53	68.657			
2,952.7	2,912.2	2,894.2	2,894.2	9.6	57.3	-147.43	3,861.7	-1,018.1	4,303.4	4,239.7	63.71	67.543			
3,000.0	2,958.2	2,940.2	2,940.2	9.8	58.2	-147.51	3,861.7	-1,018.1	4,312.7	4,248.0	64.77	66.581			
3,051.2	3,008.0	2,990.0	2,990.0	10.0	59.2	-147.59	3,861.7	-1,018.1	4,322.8	4,256.9	65.92	65.573			
3,100.0	3,055.4	3,037.4	3,037.4	10.3	60.1	-147.67	3,861.7	-1,018.1	4,332.5	4,265.5	67.02	64.645			
3,149.6	3,103.7	3,085.7	3,085.7	10.5	61.1	-147.75	3,861.7	-1,018.1	4,342.3	4,274.2	68.13	63.731			
3,200.0	3,152.7	3,134.7	3,134.7	10.8	62.1	-147.83	3,861.7	-1,018.1	4,352.3	4,283.0	69.27	62.834			
3,248.0	3,199.4	3,181.4	3,181.4	11.0	63.0	-147.91	3,861.7	-1,018.1	4,361.8	4,291.5	70.35	62.006			
3,300.0	3,250.0	3,232.0	3,232.0	11.3	64.0	-147.99	3,861.7	-1,018.1	4,372.2	4,300.6	71.51	61.138			
3,346.4	3,295.1	3,277.1	3,277.1	11.5	65.0	-148.07	3,861.7	-1,018.1	4,381.4	4,308.8	72.56	60.386			
3,400.0	3,347.2	3,329.2	3,329.2	11.8	66.0	-148.15	3,861.7	-1,018.1	4,392.0	4,318.3	73.76	59.546			
3,444.9	3,390.9	3,372.9	3,372.9	12.0	66.9	-148.22	3,861.7	-1,018.1	4,401.0	4,326.2	74.77	58.863			
3,500.0	3,444.5	3,426.5	3,426.5	12.3	68.0	-148.31	3,861.7	-1,018.1	4,411.9	4,335.9	76.00	58.049			
3,543.3	3,486.6	3,468.6	3,468.6	12.5	68.8	-148.38	3,861.7	-1,018.1	4,420.6	4,343.6	76.98	57.428			
3,600.0	3,541.8	3,523.8	3,523.8	12.8	69.9	-148.47	3,861.7	-1,018.1	4,431.9	4,353.6	78.25	56.639			
3,641.7	3,582.3	3,564.3	3,564.3	13.0	70.7	-148.53	3,861.7	-1,018.1	4,440.2	4,361.0	79.18	56.074			
3,700.0	3,639.0	3,621.0	3,621.0	13.3	71.9	-148.62	3,861.7	-1,018.1	4,451.8	4,371.4	80.49	55.308			
3,740.1	3,678.1	3,660.1	3,660.1	13.5	72.7	-148.68	3,861.7	-1,018.1	4,459.9	4,378.5	81.39	54.794			
3,800.0	3,736.3	3,718.3	3,718.3	13.8	73.8	-148.78	3,861.7	-1,018.1	4,471.9	4,389.1	82.74	54.050			
3,838.6	3,773.8	3,755.8	3,755.8	14.0	74.6	-148.84	3,861.7	-1,018.1	4,479.6	4,396.0	83.60	53.583			
3,900.0	3,833.5	3,815.5	3,815.5	14.3	75.8	-148.93	3,861.7	-1,018.1	4,491.9	4,406.9	84.98	52.859			
3,937.0	3,869.5	3,851.5	3,851.5	14.5	76.5	-148.99	3,861.7	-1,018.1	4,499.3	4,413.5	85.81	52.434			
4,000.0	3,930.8	3,912.8	3,912.8	14.8	77.7	-149.08	3,861.7	-1,018.1	4,512.0	4,424.7	87.22	51.730			
4,035.4	3,965.3	3,947.3	3,947.3	15.0	78.4	-149.13	3,861.7	-1,018.1	4,519.1	4,431.1	88.01	51.344			
4,100.0	4,028.1	4,010.1	4,010.1	15.3	79.7	-149.23	3,861.7	-1,018.1	4,532.0	4,442.6	89.46	50.659			
4,133.8	4,061.0	4,043.0	4,043.0	15.5	80.4	-149.28	3,861.7	-1,018.1	4,538.9	4,448.6	90.22	50.308			
4,200.0	4,125.3	4,107.3	4,107.3	15.8	81.6	-149.38	3,861.7	-1,018.1	4,552.2	4,460.5	91.70	49.641			
4,232.3	4,156.7	4,138.7	4,138.7	16.0	82.3	-149.43	3,861.7	-1,018.1	4,558.7	4,466.3	92.43	49.323			
4,300.0	4,222.6	4,204.6	4,204.6	16.3	83.6	-149.53	3,861.7	-1,018.1	4,572.3	4,478.4	93.94	48.672			
4,330.7	4,252.4	4,234.4	4,234.4	16.5	84.2	-149.57	3,861.7	-1,018.1	4,578.5	4,483.9	94.63	48.383			
4,400.0	4,319.8	4,301.8	4,301.8	16.8	85.6	-149.67	3,861.7	-1,018.1	4,592.5	4,496.3	96.18	47.748			
4,429.1	4,348.2	4,330.2	4,330.2	17.0	86.1	-149.71	3,861.7	-1,018.1	4,598.4	4,501.6	96.83	47.488			
4,500.0	4,417.1	4,399.1	4,399.1	17.3	87.5	-149.82	3,861.7	-1,018.1	4,612.7	4,514.3	98.42	46.868			
4,527.5	4,443.9	4,425.9	4,425.9	17.5	88.1	-149.86	3,861.7	-1,018.1	4,618.3	4,519.3	99.04	46.632			
4,600.0	4,514.4	4,496.4	4,496.4	17.8	89.5	-149.96	3,861.7	-1,018.1	4,633.0	4,532.3	100.66	46.027			
4,626.0	4,539.6	4,521.6	4,521.6	17.9	90.0	-150.00	3,861.7	-1,018.1	4,638.2	4,537.0	101.24	45.815			
4,700.0	4,611.6	4,593.6	4,593.6	18.3	91.4	-150.10	3,861.7	-1,018.1	4,653.2	4,550.3	102.89	45.224			
4,724.4	4,635.4	4,617.4	4,617.4	18.4	91.9	-150.14	3,861.7	-1,018.1	4,658.2	4,554.7	103.44	45.033			
4,800.0	4,708.9	4,690.9	4,690.9	18.8	93.4	-150.24	3,861.7	-1,018.1	4,673.5	4,568.4	105.13	44.455			
4,822.8	4,731.1	4,713.1	4,713.1	18.9	93.8	-150.28	3,861.7	-1,018.1	4,678.2	4,572.5	105.64	44.284			
4,900.0	4,806.2	4,788.2	4,788.2	19.3	95.3	-150.38	3,861.7	-1,018.1	4,693.9	4,586.5	107.36	43.719			
4,921.2	4,826.8	4,808.8	4,808.8	19.4	95.8	-150.41	3,861.7	-1,018.1	4,698.2	4,590.3	107.84	43.566			

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT PETERSON #30-41 - Wellbore #1 - Design #1												Offset Site Error:	0.0 usft
Survey Program: 0-INC												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,903.4	4,885.4	4,885.4	19.8	97.3	-150.52	3,861.7	-1,018.1	4,714.2	4,604.6	109.60	43.013	
5,019.7	4,922.6	4,904.6	4,904.6	19.9	97.7	-150.55	3,861.7	-1,018.1	4,718.2	4,608.2	110.04	42.878	
5,100.0	5,000.7	4,982.7	4,982.7	20.4	99.3	-150.66	3,861.7	-1,018.1	4,734.6	4,622.8	111.83	42.337	
5,118.1	5,018.3	5,000.3	5,000.3	20.4	99.6	-150.68	3,861.7	-1,018.1	4,738.3	4,626.0	112.24	42.217	
5,166.2	5,065.0	5,047.0	5,047.0	20.7	100.5	-150.75	3,861.7	-1,018.1	4,748.1	4,634.8	113.31	41.904	
5,200.0	5,098.0	5,080.0	5,080.0	20.8	101.2	-150.86	3,861.7	-1,018.1	4,754.8	4,640.6	114.25	41.617	
5,216.5	5,114.1	5,096.1	5,096.1	20.9	101.5	-150.91	3,861.7	-1,018.1	4,758.0	4,643.3	114.70	41.481	
5,300.0	5,195.9	5,177.9	5,177.9	21.2	103.2	-151.16	3,861.7	-1,018.1	4,772.7	4,655.8	116.96	40.805	
5,314.9	5,210.6	5,192.6	5,192.6	21.2	103.5	-151.20	3,861.7	-1,018.1	4,775.2	4,657.8	117.36	40.687	
5,400.0	5,294.4	5,276.4	5,276.4	21.5	105.2	-151.40	3,861.7	-1,018.1	4,787.7	4,668.1	119.60	40.031	
5,413.4	5,307.7	5,289.7	5,289.7	21.5	105.4	-151.43	3,861.7	-1,018.1	4,789.4	4,669.5	119.94	39.930	
5,500.0	5,393.5	5,375.5	5,375.5	21.7	107.2	-151.59	3,861.7	-1,018.1	4,799.6	4,677.4	122.15	39.294	
5,511.8	5,405.2	5,387.2	5,387.2	21.8	107.4	-151.61	3,861.7	-1,018.1	4,800.8	4,678.3	122.44	39.210	
5,600.0	5,493.0	5,475.0	5,475.0	22.0	109.2	-151.73	3,861.7	-1,018.1	4,808.4	4,683.8	124.59	38.593	
5,610.2	5,503.2	5,485.2	5,485.2	22.0	109.4	-151.74	3,861.7	-1,018.1	4,809.1	4,684.3	124.83	38.524	
5,700.0	5,592.8	5,574.8	5,574.8	22.1	111.2	-151.82	3,861.7	-1,018.1	4,814.2	4,687.3	126.93	37.929	
5,708.6	5,601.4	5,583.4	5,583.4	22.1	111.3	-151.83	3,861.7	-1,018.1	4,814.5	4,687.4	127.12	37.873	
5,800.0	5,692.7	5,674.7	5,674.7	22.3	113.2	-151.87	3,861.7	-1,018.1	4,816.9	4,687.7	129.14	37.299	
5,807.1	5,699.8	5,681.8	5,681.8	22.3	113.3	-151.87	3,861.7	-1,018.1	4,817.0	4,687.7	129.30	37.256	
5,838.1	5,730.8	5,712.8	5,712.8	22.3	113.9	-21.30	3,861.7	-1,018.1	4,817.1	4,687.2	129.96	37.067	
5,868.1	5,760.8	5,742.8	5,742.8	22.3	114.5	-21.30	3,861.7	-1,018.1	4,817.1	4,686.5	130.61	36.883	
5,900.0	5,792.7	5,774.7	5,774.7	22.4	115.2	-21.32	3,861.7	-1,018.1	4,816.4	4,685.3	131.11	36.736	
5,905.5	5,798.2	5,780.2	5,780.2	22.4	115.3	-21.33	3,861.7	-1,018.1	4,816.2	4,685.0	131.18	36.716	
5,950.0	5,842.6	5,824.6	5,824.6	22.4	116.2	-21.45	3,861.7	-1,018.1	4,812.8	4,681.3	131.43	36.618	
6,000.0	5,892.0	5,874.0	5,874.0	22.4	117.2	-21.68	3,861.7	-1,018.1	4,805.8	4,674.7	131.16	36.640	
6,003.9	5,895.8	5,877.8	5,877.8	22.4	117.3	-21.71	3,861.7	-1,018.1	4,805.1	4,674.0	131.12	36.648	
6,050.0	5,940.8	5,922.8	5,922.8	22.4	118.2	-22.04	3,861.7	-1,018.1	4,795.7	4,665.4	130.31	36.801	
6,100.0	5,988.7	5,970.7	5,970.7	22.3	119.1	-22.52	3,861.7	-1,018.1	4,782.4	4,653.5	128.90	37.102	
6,102.3	5,990.9	5,972.9	5,972.9	22.3	119.2	-22.55	3,861.7	-1,018.1	4,781.7	4,652.9	128.82	37.119	
6,150.0	6,035.5	6,017.5	6,017.5	22.2	120.1	-23.14	3,861.7	-1,018.1	4,766.1	4,639.2	126.95	37.542	
6,200.0	6,081.0	6,063.0	6,063.0	22.2	121.0	-23.91	3,861.7	-1,018.1	4,746.8	4,622.3	124.52	38.119	
6,200.8	6,081.7	6,063.7	6,063.7	22.2	121.0	-23.92	3,861.7	-1,018.1	4,746.5	4,622.0	124.48	38.129	
6,250.0	6,124.9	6,106.9	6,106.9	22.0	121.9	-24.84	3,861.7	-1,018.1	4,724.6	4,602.9	121.69	38.826	
6,299.2	6,166.4	6,148.4	6,148.4	21.9	122.7	-25.95	3,861.7	-1,018.1	4,700.0	4,581.4	118.60	39.630	
6,300.0	6,167.0	6,149.0	6,149.0	21.9	122.7	-25.97	3,861.7	-1,018.1	4,699.6	4,581.1	118.55	39.643	
6,350.0	6,207.2	6,189.2	6,189.2	21.8	123.5	-27.32	3,861.7	-1,018.1	4,672.0	4,556.8	115.25	40.537	
6,397.6	6,243.4	6,225.4	6,225.4	21.6	124.2	-28.84	3,861.7	-1,018.1	4,643.4	4,531.2	112.15	41.404	
6,400.0	6,245.2	6,227.2	6,227.2	21.6	124.3	-28.92	3,861.7	-1,018.1	4,641.9	4,529.9	112.00	41.446	
6,450.0	6,280.8	6,262.8	6,262.8	21.5	125.0	-30.82	3,861.7	-1,018.1	4,609.4	4,500.4	109.04	42.271	
6,496.0	6,311.4	6,293.4	6,293.4	21.3	125.6	-32.89	3,861.7	-1,018.1	4,577.6	4,470.7	106.87	42.832	
6,500.0	6,313.9	6,295.9	6,295.9	21.3	125.7	-33.08	3,861.7	-1,018.1	4,574.8	4,468.1	106.72	42.867	
6,550.0	6,344.3	6,326.3	6,326.3	21.2	126.3	-35.77	3,861.7	-1,018.1	4,538.1	4,432.7	105.42	43.050	
6,594.5	6,368.9	6,350.9	6,350.9	21.0	126.8	-38.59	3,861.7	-1,018.1	4,504.0	4,398.5	105.45	42.710	
6,600.0	6,371.8	6,353.8	6,353.8	21.0	126.8	-38.97	3,861.7	-1,018.1	4,499.7	4,394.1	105.55	42.630	
6,650.0	6,396.4	6,378.4	6,378.4	20.8	127.3	-42.78	3,861.7	-1,018.1	4,459.6	4,352.1	107.50	41.486	
6,692.9	6,415.0	6,397.0	6,397.0	20.7	127.7	-46.62	3,861.7	-1,018.1	4,424.1	4,313.3	110.78	39.935	
6,700.0	6,417.9	6,399.9	6,399.9	20.7	127.8	-47.31	3,861.7	-1,018.1	4,418.1	4,306.6	111.47	39.636	
6,750.0	6,436.2	6,418.2	6,418.2	20.5	128.1	-52.65	3,861.7	-1,018.1	4,375.4	4,258.1	117.38	37.277	
6,791.3	6,448.8	6,430.8	6,430.8	20.4	128.4	-57.75	3,861.7	-1,018.1	4,339.4	4,216.0	123.40	35.167	
6,800.0	6,451.1	6,433.1	6,433.1	20.3	128.4	-58.90	3,861.7	-1,018.1	4,331.8	4,207.0	124.74	34.727	
6,850.0	6,462.8	6,444.8	6,444.8	20.2	128.7	-66.06	3,861.7	-1,018.1	4,287.3	4,154.7	132.60	32.332	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT PETERSON #30-41 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	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
6,889.7	6,469.6	6,451.6	6,451.6	20.1	128.8	-72.34		3,861.7	-1,018.1	4,251.6	4,113.2	138.37	30.727	
6,900.0	6,471.0	6,453.0	6,453.0	20.0	128.8	-74.02		3,861.7	-1,018.1	4,242.4	4,102.7	139.68	30.373	
6,950.0	6,475.7	6,457.7	6,457.7	19.9	128.9	-82.53		3,861.7	-1,018.1	4,197.1	4,052.5	144.61	29.024	
6,988.2	6,477.0	6,459.0	6,459.0	19.8	128.9	-89.15		3,861.7	-1,018.1	4,162.4	4,016.1	146.33	28.445	
6,997.5	6,477.0	6,459.0	6,459.0	19.8	128.9	-90.76		3,861.7	-1,018.1	4,154.0	4,007.5	146.46	28.362	
7,000.0	6,477.0	6,459.0	6,459.0	19.8	128.9	-90.76		3,861.7	-1,018.1	4,151.7	4,005.2	146.47	28.344	
7,086.6	6,476.5	6,458.5	6,458.5	19.6	128.9	-90.74		3,861.7	-1,018.1	4,073.3	3,926.3	147.01	27.707	
7,100.0	6,476.4	6,458.4	6,458.4	19.6	128.9	-90.74		3,861.7	-1,018.1	4,061.2	3,914.1	147.10	27.609	
7,185.0	6,475.9	6,457.9	6,457.9	19.7	128.9	-90.72		3,861.7	-1,018.1	3,984.7	3,836.9	147.76	26.966	
7,200.0	6,475.8	6,457.8	6,457.8	19.8	128.9	-90.72		3,861.7	-1,018.1	3,971.2	3,823.3	147.88	26.854	
7,283.4	6,475.2	6,457.2	6,457.2	20.4	128.9	-90.70		3,861.7	-1,018.1	3,896.5	3,747.8	148.67	26.209	
7,300.0	6,475.1	6,457.1	6,457.1	20.6	128.9	-90.70		3,861.7	-1,018.1	3,881.7	3,732.9	148.82	26.083	
7,381.9	6,474.6	6,456.6	6,456.6	21.5	128.9	-90.68		3,861.7	-1,018.1	3,808.8	3,659.1	149.71	25.441	
7,400.0	6,474.5	6,456.5	6,456.5	21.8	128.9	-90.68		3,861.7	-1,018.1	3,792.7	3,642.8	149.90	25.301	
7,480.3	6,474.0	6,456.0	6,456.0	22.8	128.9	-90.66		3,861.7	-1,018.1	3,721.7	3,570.8	150.86	24.669	
7,500.0	6,473.9	6,455.9	6,455.9	23.0	128.9	-90.66		3,861.7	-1,018.1	3,704.3	3,553.2	151.10	24.516	
7,578.7	6,473.4	6,455.4	6,455.4	24.1	128.9	-90.64		3,861.7	-1,018.1	3,635.1	3,483.0	152.11	23.897	
7,600.0	6,473.3	6,455.3	6,455.3	24.4	128.9	-90.64		3,861.7	-1,018.1	3,616.4	3,464.1	152.39	23.732	
7,677.1	6,472.8	6,454.8	6,454.8	25.5	128.9	-90.62		3,861.7	-1,018.1	3,549.1	3,395.7	153.44	23.130	
7,700.0	6,472.7	6,454.7	6,454.7	25.8	128.9	-90.62		3,861.7	-1,018.1	3,529.3	3,375.5	153.76	22.954	
7,775.6	6,472.2	6,454.2	6,454.2	26.9	128.8	-90.60		3,861.7	-1,018.1	3,463.8	3,309.0	154.84	22.370	
7,800.0	6,472.1	6,454.1	6,454.1	27.3	128.8	-90.60		3,861.7	-1,018.1	3,442.8	3,287.6	155.19	22.184	
7,874.0	6,471.6	6,453.6	6,453.6	28.4	128.8	-90.58		3,861.7	-1,018.1	3,379.3	3,223.0	156.30	21.621	
7,900.0	6,471.5	6,453.5	6,453.5	28.8	128.8	-90.58		3,861.7	-1,018.1	3,357.0	3,200.4	156.69	21.425	
7,972.4	6,471.0	6,453.0	6,453.0	29.9	128.8	-90.56		3,861.7	-1,018.1	3,295.5	3,137.6	157.80	20.883	
8,000.0	6,470.8	6,452.8	6,452.8	30.3	128.8	-90.56		3,861.7	-1,018.1	3,272.1	3,113.9	158.23	20.680	
8,070.8	6,470.4	6,452.4	6,452.4	31.4	128.8	-90.54		3,861.7	-1,018.1	3,212.5	3,053.1	159.35	20.160	
8,100.0	6,470.2	6,452.2	6,452.2	31.9	128.8	-90.54		3,861.7	-1,018.1	3,188.1	3,028.3	159.81	19.949	
8,169.3	6,469.8	6,451.8	6,451.8	33.0	128.8	-90.52		3,861.7	-1,018.1	3,130.4	2,969.5	160.93	19.451	
8,200.0	6,469.6	6,451.6	6,451.6	33.5	128.8	-90.52		3,861.7	-1,018.1	3,105.0	2,943.5	161.43	19.234	
8,267.7	6,469.2	6,451.2	6,451.2	34.7	128.8	-90.50		3,861.7	-1,018.1	3,049.3	2,886.7	162.55	18.759	
8,300.0	6,469.0	6,451.0	6,451.0	35.2	128.8	-90.50		3,861.7	-1,018.1	3,022.9	2,859.8	163.08	18.536	
8,366.1	6,468.6	6,450.6	6,450.6	36.3	128.8	-90.49		3,861.7	-1,018.1	2,969.2	2,805.0	164.19	18.084	
8,400.0	6,468.4	6,450.4	6,450.4	36.9	128.8	-90.48		3,861.7	-1,018.1	2,941.9	2,777.1	164.75	17.856	
8,464.5	6,468.0	6,450.0	6,450.0	38.0	128.8	-90.47		3,861.7	-1,018.1	2,890.3	2,724.4	165.85	17.427	
8,500.0	6,467.8	6,449.8	6,449.8	38.6	128.8	-90.46		3,861.7	-1,018.1	2,862.1	2,695.7	166.45	17.195	
8,563.0	6,467.4	6,449.4	6,449.4	39.6	128.7	-90.45		3,861.7	-1,018.1	2,812.6	2,645.0	167.53	16.788	
8,600.0	6,467.1	6,449.1	6,449.1	40.3	128.7	-90.44		3,861.7	-1,018.1	2,783.7	2,615.5	168.17	16.553	
8,661.4	6,466.8	6,448.8	6,448.8	41.3	128.7	-90.43		3,861.7	-1,018.1	2,736.2	2,567.0	169.23	16.168	
8,700.0	6,466.5	6,448.5	6,448.5	42.0	128.7	-90.42		3,861.7	-1,018.1	2,706.6	2,536.7	169.90	15.931	
8,759.8	6,466.1	6,448.1	6,448.1	43.0	128.7	-90.41		3,861.7	-1,018.1	2,661.3	2,490.3	170.95	15.568	
8,800.0	6,465.9	6,447.9	6,447.9	43.7	128.7	-90.40		3,861.7	-1,018.1	2,631.1	2,459.5	171.65	15.329	
8,858.2	6,465.5	6,447.5	6,447.5	44.8	128.7	-90.39		3,861.7	-1,018.1	2,587.9	2,415.2	172.67	14.987	
8,900.0	6,465.3	6,447.3	6,447.3	45.5	128.7	-90.38		3,861.7	-1,018.1	2,557.3	2,383.9	173.41	14.747	
8,956.7	6,464.9	6,446.9	6,446.9	46.5	128.7	-90.37		3,861.7	-1,018.1	2,516.3	2,341.9	174.41	14.427	
9,000.0	6,464.7	6,446.7	6,446.7	47.3	128.7	-90.36		3,861.7	-1,018.1	2,485.3	2,310.1	175.18	14.187	
9,055.1	6,464.3	6,446.3	6,446.3	48.2	128.7	-90.35		3,861.7	-1,018.1	2,446.5	2,270.3	176.17	13.887	
9,100.0	6,464.0	6,446.0	6,446.0	49.0	128.7	-90.34		3,861.7	-1,018.1	2,415.3	2,238.4	176.97	13.649	
9,153.5	6,463.7	6,445.7	6,445.7	50.0	128.7	-90.33		3,861.7	-1,018.1	2,378.8	2,200.8	177.93	13.369	
9,200.0	6,463.4	6,445.4	6,445.4	50.8	128.7	-90.32		3,861.7	-1,018.1	2,347.5	2,168.8	178.76	13.132	
9,251.9	6,463.1	6,445.1	6,445.1	51.8	128.7	-90.31		3,861.7	-1,018.1	2,313.2	2,133.5	179.69	12.873	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT PETERSON #30-41 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
9,300.0	6,462.8	6,444.8	6,444.8	52.6	128.7	-90.30	3,861.7	-1,018.1	2,282.1	2,101.5	180.56	12.639		
9,350.4	6,462.5	6,444.5	6,444.5	53.5	128.6	-90.29	3,861.7	-1,018.1	2,250.1	2,068.6	181.47	12.399		
9,400.0	6,462.2	6,444.2	6,444.2	54.4	128.6	-90.28	3,861.7	-1,018.1	2,219.2	2,036.8	182.37	12.169		
9,448.8	6,461.9	6,443.9	6,443.9	55.3	128.6	-90.27	3,861.7	-1,018.1	2,189.5	2,006.3	183.25	11.948		
9,500.0	6,461.5	6,443.5	6,443.5	56.2	128.6	-90.26	3,861.7	-1,018.1	2,159.1	1,974.9	184.18	11.723		
9,547.2	6,461.2	6,443.2	6,443.2	57.1	128.6	-90.25	3,861.7	-1,018.1	2,131.8	1,946.8	185.04	11.521		
9,600.0	6,460.9	6,442.9	6,442.9	58.1	128.6	-90.24	3,861.7	-1,018.1	2,102.1	1,916.1	186.01	11.301		
9,645.6	6,460.6	6,442.6	6,442.6	58.9	128.6	-90.23	3,861.7	-1,018.1	2,077.2	1,890.3	186.84	11.117		
9,700.0	6,460.3	6,442.3	6,442.3	59.9	128.6	-90.22	3,861.7	-1,018.1	2,048.4	1,860.5	187.83	10.905		
9,744.1	6,460.0	6,442.0	6,442.0	60.7	128.6	-90.21	3,861.7	-1,018.1	2,025.8	1,837.2	188.64	10.739		
9,800.0	6,459.7	6,441.7	6,441.7	61.7	128.6	-90.20	3,861.7	-1,018.1	1,998.2	1,808.5	189.66	10.536		
9,842.5	6,459.4	6,441.4	6,441.4	62.5	128.6	-90.19	3,861.7	-1,018.1	1,978.0	1,787.6	190.44	10.386		
9,900.0	6,459.0	6,441.0	6,441.0	63.6	128.6	-90.18	3,861.7	-1,018.1	1,951.9	1,760.4	191.50	10.193		
9,940.9	6,458.8	6,440.8	6,440.8	64.3	128.6	-90.17	3,861.7	-1,018.1	1,934.1	1,741.8	192.25	10.060		
10,000.0	6,458.4	6,440.4	6,440.4	65.4	128.6	-90.16	3,861.7	-1,018.1	1,909.7	1,716.3	193.34	9.877		
10,039.3	6,458.2	6,440.2	6,440.2	66.1	128.6	-90.15	3,861.7	-1,018.1	1,894.2	1,700.2	194.07	9.761		
10,100.0	6,457.8	6,439.8	6,439.8	67.2	128.6	-90.14	3,861.7	-1,018.1	1,871.9	1,676.7	195.18	9.590		
10,137.8	6,457.6	6,439.6	6,439.6	67.9	128.5	-90.13	3,861.7	-1,018.1	1,858.8	1,662.9	195.88	9.489		
10,200.0	6,457.2	6,439.2	6,439.2	69.1	128.5	-90.12	3,861.7	-1,018.1	1,838.7	1,641.7	197.03	9.332		
10,236.2	6,456.9	6,438.9	6,438.9	69.8	128.5	-90.11	3,861.7	-1,018.1	1,827.9	1,630.2	197.70	9.246		
10,300.0	6,456.5	6,438.5	6,438.5	70.9	128.5	-90.10	3,861.7	-1,018.1	1,810.5	1,611.6	198.88	9.103		
10,334.6	6,456.3	6,438.3	6,438.3	71.6	128.5	-90.09	3,861.7	-1,018.1	1,801.9	1,602.4	199.53	9.031		
10,400.0	6,455.9	6,437.9	6,437.9	72.8	128.5	-90.07	3,861.7	-1,018.1	1,787.4	1,586.7	200.74	8.904		
10,433.0	6,455.7	6,437.7	6,437.7	73.4	128.5	-90.07	3,861.7	-1,018.1	1,781.0	1,579.6	201.35	8.845		
10,500.0	6,455.3	6,437.3	6,437.3	74.7	128.5	-90.05	3,861.7	-1,018.1	1,769.7	1,567.1	202.59	8.735		
10,531.5	6,455.1	6,437.1	6,437.1	75.2	128.5	-90.05	3,861.7	-1,018.1	1,765.3	1,562.1	203.18	8.688		
10,600.0	6,454.7	6,436.7	6,436.7	76.5	128.5	-90.03	3,861.7	-1,018.1	1,757.5	1,553.0	204.45	8.596		
10,629.9	6,454.5	6,436.5	6,436.5	77.1	128.5	-90.03	3,861.7	-1,018.1	1,754.9	1,549.9	205.01	8.560		
10,700.0	6,454.0	6,436.0	6,436.0	78.4	128.5	-90.01	3,861.7	-1,018.1	1,750.9	1,544.6	206.32	8.487		
10,728.3	6,453.9	6,435.9	6,435.9	78.9	128.5	-90.01	3,861.7	-1,018.1	1,750.1	1,543.3	206.84	8.461		
10,765.0	6,453.6	6,435.6	6,435.6	79.6	128.5	-90.00	3,861.7	-1,018.1	1,749.7	1,542.2	207.53	8.431 CC		
10,800.0	6,453.4	6,435.4	6,435.4	80.3	128.5	-89.99	3,861.7	-1,018.1	1,750.1	1,541.9	208.18	8.407 ES		
10,826.7	6,453.2	6,435.2	6,435.2	80.8	128.5	-89.99	3,861.7	-1,018.1	1,750.8	1,542.1	208.68	8.390		
10,900.0	6,452.8	6,434.8	6,434.8	82.1	128.5	-89.97	3,861.7	-1,018.1	1,754.9	1,544.9	210.04	8.355		
10,925.2	6,452.6	6,434.6	6,434.6	82.6	128.5	-89.97	3,861.7	-1,018.1	1,757.0	1,546.5	210.51	8.346		
11,000.0	6,452.1	6,434.1	6,434.1	84.0	128.4	-89.95	3,861.7	-1,018.1	1,765.4	1,553.5	211.91	8.331		
11,023.6	6,452.0	6,434.0	6,434.0	84.4	128.4	-89.95	3,861.7	-1,018.1	1,768.7	1,556.4	212.35	8.329		
11,023.7	6,452.0	6,434.0	6,434.0	84.4	128.4	-89.95	3,861.7	-1,018.1	1,768.8	1,556.4	212.36	8.329 SF		
11,024.4	6,452.0	6,434.0	6,434.0	84.5	128.4	-89.95	3,861.7	-1,018.1	1,768.9	1,556.5	212.37	8.329		

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT PETERSON #30-42 - 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		Highside Toolface (°)	Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		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	-21.08	2,597.6	-1,001.5	2,784.0				
98.4	98.4	79.4	79.4	0.1	0.3	-21.08	2,597.6	-1,001.5	2,783.9	2,783.5	0.43	6,408.924	
100.0	100.0	81.0	81.0	0.1	0.3	-21.08	2,597.6	-1,001.5	2,783.9	2,783.5	0.44	6,286.203	
196.8	196.8	177.8	177.8	0.3	2.4	-21.08	2,597.6	-1,001.5	2,783.9	2,781.2	2.69	1,035.583	
200.0	200.0	181.0	181.0	0.3	2.5	-21.08	2,597.6	-1,001.5	2,783.9	2,781.1	2.77	1,003.535	
295.3	295.3	276.3	276.3	0.5	4.5	-21.08	2,597.6	-1,001.5	2,783.9	2,778.9	5.05	551.528	
300.0	300.0	281.0	281.0	0.5	4.6	-21.08	2,597.6	-1,001.5	2,783.9	2,778.8	5.16	539.895	
393.7	393.7	374.7	374.7	0.8	6.5	-21.08	2,597.6	-1,001.5	2,783.9	2,776.6	7.28	382.165	
400.0	400.0	381.0	381.0	0.8	6.7	-21.08	2,597.6	-1,001.5	2,783.9	2,776.5	7.43	374.827	
492.1	492.1	473.1	473.1	1.0	8.5	-21.08	2,597.6	-1,001.5	2,783.9	2,774.4	9.50	292.939	
500.0	500.0	481.0	481.0	1.0	8.7	-21.08	2,597.6	-1,001.5	2,783.9	2,774.2	9.68	287.575	
590.5	590.5	571.5	571.5	1.2	10.5	-21.08	2,597.6	-1,001.5	2,783.9	2,772.2	11.72	237.636	
600.0	600.0	581.0	581.0	1.2	10.7	-21.08	2,597.6	-1,001.5	2,783.9	2,772.0	11.93	233.408	
689.0	689.0	670.0	670.0	1.4	12.5	-21.08	2,597.6	-1,001.5	2,783.9	2,770.0	13.92	199.950	
700.0	700.0	681.0	681.0	1.4	12.7	-21.08	2,597.6	-1,001.5	2,783.9	2,769.8	14.17	196.461	
787.4	787.4	768.4	768.4	1.6	14.5	-21.08	2,597.6	-1,001.5	2,783.9	2,767.8	16.13	172.603	
800.0	800.0	781.0	781.0	1.7	14.7	-21.08	2,597.6	-1,001.5	2,783.9	2,767.5	16.41	169.634	
885.8	885.8	866.8	866.8	1.9	16.5	-21.08	2,597.6	-1,001.5	2,783.9	2,765.6	18.33	151.848	
900.0	900.0	881.0	881.0	1.9	16.8	-21.08	2,597.6	-1,001.5	2,783.9	2,765.3	18.65	149.263	
984.2	984.2	965.2	965.2	2.1	18.5	-21.08	2,597.6	-1,001.5	2,783.9	2,763.4	20.54	135.554	
1,000.0	1,000.0	981.0	981.0	2.1	18.8	-21.08	2,597.6	-1,001.5	2,783.9	2,763.0	20.89	133.266	
1,025.0	1,025.0	1,006.0	1,006.0	2.2	19.3	-21.08	2,597.6	-1,001.5	2,783.9	2,762.5	21.45	129.789	
1,082.7	1,082.7	1,063.7	1,063.7	2.3	20.4	-151.66	2,597.6	-1,001.5	2,784.4	2,761.7	22.72	122.534	
1,100.0	1,100.0	1,081.0	1,081.0	2.3	20.8	-151.66	2,597.6	-1,001.5	2,784.8	2,761.7	23.10	120.528	
1,181.1	1,181.0	1,162.0	1,162.0	2.5	22.4	-151.66	2,597.6	-1,001.5	2,787.7	2,762.8	24.86	112.114	
1,200.0	1,199.9	1,180.9	1,180.9	2.5	22.8	-151.66	2,597.6	-1,001.5	2,788.6	2,763.4	25.27	110.347	
1,279.5	1,279.2	1,260.2	1,260.2	2.7	24.4	-151.67	2,597.6	-1,001.5	2,793.9	2,766.9	26.98	103.563	
1,300.0	1,299.6	1,280.6	1,280.6	2.7	24.8	-151.67	2,597.6	-1,001.5	2,795.5	2,768.1	27.41	101.982	
1,377.9	1,377.1	1,358.1	1,358.1	2.9	26.4	-151.68	2,597.6	-1,001.5	2,803.1	2,774.0	29.06	96.457	
1,400.0	1,398.9	1,379.9	1,379.9	2.9	26.8	-151.69	2,597.6	-1,001.5	2,805.5	2,776.0	29.52	95.037	
1,476.4	1,474.5	1,455.5	1,455.5	3.1	28.3	-151.70	2,597.6	-1,001.5	2,815.2	2,784.1	31.11	90.501	
1,500.0	1,497.8	1,478.8	1,478.8	3.2	28.8	-151.71	2,597.6	-1,001.5	2,818.6	2,787.0	31.59	89.222	
1,574.8	1,571.4	1,552.4	1,552.4	3.4	30.3	-151.72	2,597.6	-1,001.5	2,830.3	2,797.2	33.11	85.474	
1,600.0	1,596.1	1,577.1	1,577.1	3.5	30.8	-151.72	2,597.6	-1,001.5	2,834.7	2,801.1	33.62	84.321	
1,673.2	1,667.7	1,648.7	1,648.7	3.7	32.2	-151.74	2,597.6	-1,001.5	2,848.4	2,813.3	35.07	81.210	
1,696.9	1,690.8	1,671.8	1,671.8	3.8	32.7	-151.74	2,597.6	-1,001.5	2,853.2	2,817.7	35.54	80.288	
1,700.0	1,693.8	1,674.8	1,674.8	3.8	32.7	-151.75	2,597.6	-1,001.5	2,853.8	2,818.2	35.60	80.155	
1,771.6	1,763.5	1,744.5	1,744.5	4.1	34.1	-151.91	2,597.6	-1,001.5	2,868.6	2,831.4	37.17	77.184	
1,800.0	1,791.0	1,772.0	1,772.0	4.2	34.7	-151.97	2,597.6	-1,001.5	2,874.4	2,836.7	37.78	76.081	
1,870.1	1,859.2	1,840.2	1,840.2	4.5	36.1	-152.12	2,597.6	-1,001.5	2,888.9	2,849.6	39.32	73.480	
1,900.0	1,888.3	1,869.3	1,869.3	4.6	36.6	-152.18	2,597.6	-1,001.5	2,895.1	2,855.1	39.97	72.434	
1,968.5	1,954.9	1,935.9	1,935.9	4.9	38.0	-152.33	2,597.6	-1,001.5	2,909.3	2,867.8	41.47	70.150	
2,000.0	1,985.6	1,966.6	1,966.6	5.1	38.6	-152.40	2,597.6	-1,001.5	2,915.8	2,873.6	42.16	69.155	
2,066.9	2,050.7	2,031.7	2,031.7	5.4	39.9	-152.54	2,597.6	-1,001.5	2,929.7	2,886.0	43.64	67.140	
2,100.0	2,082.8	2,063.8	2,063.8	5.5	40.6	-152.60	2,597.6	-1,001.5	2,936.5	2,892.2	44.36	66.193	
2,165.3	2,146.4	2,127.4	2,127.4	5.8	41.8	-152.74	2,597.6	-1,001.5	2,950.1	2,904.3	45.80	64.408	
2,200.0	2,180.1	2,161.1	2,161.1	6.0	42.5	-152.81	2,597.6	-1,001.5	2,957.3	2,910.7	46.57	63.506	
2,263.8	2,242.1	2,223.1	2,223.1	6.3	43.8	-152.94	2,597.6	-1,001.5	2,970.6	2,922.6	47.98	61.919	
2,300.0	2,277.3	2,258.3	2,258.3	6.4	44.5	-153.01	2,597.6	-1,001.5	2,978.1	2,929.3	48.77	61.059	
2,362.2	2,337.8	2,318.8	2,318.8	6.7	45.7	-153.14	2,597.6	-1,001.5	2,991.1	2,940.9	50.15	59.643	
2,400.0	2,374.6	2,355.6	2,355.6	6.9	46.4	-153.21	2,597.6	-1,001.5	2,999.0	2,948.0	50.98	58.821	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT PETERSON #30-42 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
2,460.6	2,433.6	2,414.6	2,414.6	7.2	47.6	-153.33	2,597.6	-1,001.5	3,011.6	2,959.3	52.33	57.555		
2,500.0	2,471.9	2,452.9	2,452.9	7.4	48.4	-153.41	2,597.6	-1,001.5	3,019.8	2,966.6	53.20	56.768		
2,559.0	2,529.3	2,510.3	2,510.3	7.6	49.5	-153.53	2,597.6	-1,001.5	3,032.2	2,977.7	54.50	55.633		
2,600.0	2,569.1	2,550.1	2,550.1	7.8	50.3	-153.61	2,597.6	-1,001.5	3,040.7	2,985.3	55.41	54.878		
2,657.5	2,625.0	2,606.0	2,606.0	8.1	51.5	-153.72	2,597.6	-1,001.5	3,052.8	2,996.1	56.68	53.858		
2,700.0	2,666.4	2,647.4	2,647.4	8.3	52.3	-153.80	2,597.6	-1,001.5	3,061.7	3,004.1	57.62	53.132		
2,755.9	2,720.8	2,701.8	2,701.8	8.6	53.4	-153.91	2,597.6	-1,001.5	3,073.4	3,014.6	58.86	52.214		
2,800.0	2,763.7	2,744.7	2,744.7	8.8	54.3	-153.99	2,597.6	-1,001.5	3,082.7	3,022.8	59.84	51.516		
2,854.3	2,816.5	2,797.5	2,797.5	9.1	55.3	-154.09	2,597.6	-1,001.5	3,094.1	3,033.0	61.04	50.687		
2,900.0	2,860.9	2,841.9	2,841.9	9.3	56.2	-154.18	2,597.6	-1,001.5	3,103.7	3,041.6	62.05	50.016		
2,952.7	2,912.2	2,893.2	2,893.2	9.6	57.2	-154.27	2,597.6	-1,001.5	3,114.8	3,051.6	63.22	49.267		
3,000.0	2,958.2	2,939.2	2,939.2	9.8	58.2	-154.36	2,597.6	-1,001.5	3,124.7	3,060.5	64.27	48.619		
3,051.2	3,008.0	2,989.0	2,989.0	10.0	59.2	-154.45	2,597.6	-1,001.5	3,135.5	3,070.1	65.40	47.941		
3,100.0	3,055.4	3,036.4	3,036.4	10.3	60.1	-154.54	2,597.6	-1,001.5	3,145.8	3,079.3	66.48	47.316		
3,149.6	3,103.7	3,084.7	3,084.7	10.5	61.1	-154.63	2,597.6	-1,001.5	3,156.3	3,088.7	67.58	46.701		
3,200.0	3,152.7	3,133.7	3,133.7	10.8	62.1	-154.72	2,597.6	-1,001.5	3,166.9	3,098.2	68.70	46.097		
3,248.0	3,199.4	3,180.4	3,180.4	11.0	63.0	-154.81	2,597.6	-1,001.5	3,177.0	3,107.3	69.76	45.540		
3,300.0	3,250.0	3,231.0	3,231.0	11.3	64.0	-154.90	2,597.6	-1,001.5	3,188.0	3,117.1	70.92	44.955		
3,346.4	3,295.1	3,276.1	3,276.1	11.5	64.9	-154.98	2,597.6	-1,001.5	3,197.9	3,125.9	71.94	44.449		
3,400.0	3,347.2	3,328.2	3,328.2	11.8	66.0	-155.08	2,597.6	-1,001.5	3,209.2	3,136.1	73.13	43.883		
3,444.9	3,390.9	3,371.9	3,371.9	12.0	66.9	-155.15	2,597.6	-1,001.5	3,218.7	3,144.6	74.12	43.423		
3,500.0	3,444.5	3,425.5	3,425.5	12.3	67.9	-155.25	2,597.6	-1,001.5	3,230.4	3,155.0	75.34	42.875		
3,543.3	3,486.6	3,467.6	3,467.6	12.5	68.8	-155.32	2,597.6	-1,001.5	3,239.6	3,163.3	76.30	42.456		
3,600.0	3,541.8	3,522.8	3,522.8	12.8	69.9	-155.42	2,597.6	-1,001.5	3,251.6	3,174.0	77.56	41.924		
3,641.7	3,582.3	3,563.3	3,563.3	13.0	70.7	-155.49	2,597.6	-1,001.5	3,260.5	3,182.0	78.48	41.544		
3,700.0	3,639.0	3,620.0	3,620.0	13.3	71.9	-155.59	2,597.6	-1,001.5	3,272.9	3,193.1	79.77	41.027		
3,740.1	3,678.1	3,659.1	3,659.1	13.5	72.6	-155.65	2,597.6	-1,001.5	3,281.4	3,200.7	80.66	40.681		
3,800.0	3,736.3	3,717.3	3,717.3	13.8	73.8	-155.75	2,597.6	-1,001.5	3,294.1	3,212.1	81.99	40.179		
3,838.6	3,773.8	3,754.8	3,754.8	14.0	74.6	-155.82	2,597.6	-1,001.5	3,302.3	3,219.5	82.84	39.864		
3,900.0	3,833.5	3,814.5	3,814.5	14.3	75.8	-155.92	2,597.6	-1,001.5	3,315.4	3,231.2	84.20	39.376		
3,937.0	3,869.5	3,850.5	3,850.5	14.5	76.5	-155.98	2,597.6	-1,001.5	3,323.3	3,238.3	85.02	39.090		
4,000.0	3,930.8	3,911.8	3,911.8	14.8	77.7	-156.08	2,597.6	-1,001.5	3,336.8	3,250.3	86.41	38.615		
4,035.4	3,965.3	3,946.3	3,946.3	15.0	78.4	-156.14	2,597.6	-1,001.5	3,344.3	3,257.1	87.19	38.355		
4,100.0	4,028.1	4,009.1	4,009.1	15.3	79.7	-156.24	2,597.6	-1,001.5	3,358.1	3,269.5	88.62	37.893		
4,133.8	4,061.0	4,042.0	4,042.0	15.5	80.3	-156.29	2,597.6	-1,001.5	3,365.3	3,276.0	89.37	37.656		
4,200.0	4,125.3	4,106.3	4,106.3	15.8	81.6	-156.40	2,597.6	-1,001.5	3,379.5	3,288.6	90.83	37.206		
4,232.3	4,156.7	4,137.7	4,137.7	16.0	82.3	-156.45	2,597.6	-1,001.5	3,386.4	3,294.8	91.55	36.991		
4,300.0	4,222.6	4,203.6	4,203.6	16.3	83.6	-156.55	2,597.6	-1,001.5	3,400.9	3,307.8	93.04	36.552		
4,330.7	4,252.4	4,233.4	4,233.4	16.5	84.2	-156.60	2,597.6	-1,001.5	3,407.5	3,313.7	93.72	36.357		
4,400.0	4,319.8	4,300.8	4,300.8	16.8	85.5	-156.71	2,597.6	-1,001.5	3,422.3	3,327.1	95.25	35.929		
4,429.1	4,348.2	4,329.2	4,329.2	17.0	86.1	-156.75	2,597.6	-1,001.5	3,428.5	3,332.7	95.90	35.753		
4,500.0	4,417.1	4,398.1	4,398.1	17.3	87.5	-156.86	2,597.6	-1,001.5	3,443.8	3,346.3	97.46	35.335		
4,527.5	4,443.9	4,424.9	4,424.9	17.5	88.0	-156.90	2,597.6	-1,001.5	3,449.7	3,351.6	98.07	35.176		
4,600.0	4,514.4	4,495.4	4,495.4	17.8	89.5	-157.01	2,597.6	-1,001.5	3,465.2	3,365.6	99.67	34.767		
4,626.0	4,539.6	4,520.6	4,520.6	17.9	90.0	-157.05	2,597.6	-1,001.5	3,470.8	3,370.6	100.24	34.624		
4,700.0	4,611.6	4,592.6	4,592.6	18.3	91.4	-157.16	2,597.6	-1,001.5	3,486.7	3,384.8	101.88	34.225		
4,724.4	4,635.4	4,616.4	4,616.4	18.4	91.9	-157.20	2,597.6	-1,001.5	3,492.0	3,389.6	102.42	34.096		
4,800.0	4,708.9	4,689.9	4,689.9	18.8	93.4	-157.31	2,597.6	-1,001.5	3,508.2	3,404.2	104.08	33.706		
4,822.8	4,731.1	4,712.1	4,712.1	18.9	93.8	-157.34	2,597.6	-1,001.5	3,513.1	3,408.6	104.59	33.591		
4,900.0	4,806.2	4,787.2	4,787.2	19.3	95.3	-157.45	2,597.6	-1,001.5	3,529.8	3,423.5	106.29	33.209		
4,921.2	4,826.8	4,807.8	4,807.8	19.4	95.7	-157.48	2,597.6	-1,001.5	3,534.4	3,427.6	106.76	33.106		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT PETERSON #30-42 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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	
5,000.0	4,903.4	4,884.4	4,884.4	19.8	97.3	-157.59	2,597.6	-1,001.5	3,551.3	3,442.8	108.50	32.732		
5,019.7	4,922.6	4,903.6	4,903.6	19.9	97.7	-157.62	2,597.6	-1,001.5	3,555.6	3,446.6	108.93	32.641		
5,100.0	5,000.7	4,981.7	4,981.7	20.4	99.2	-157.74	2,597.6	-1,001.5	3,572.9	3,462.2	110.70	32.275		
5,118.1	5,018.3	4,999.3	4,999.3	20.4	99.6	-157.76	2,597.6	-1,001.5	3,576.8	3,465.7	111.10	32.195		
5,166.2	5,065.0	5,046.0	5,046.0	20.7	100.5	-157.83	2,597.6	-1,001.5	3,587.2	3,475.0	112.16	31.983		
5,200.0	5,098.0	5,079.0	5,079.0	20.8	101.2	-157.93	2,597.6	-1,001.5	3,594.3	3,481.2	113.13	31.773		
5,216.5	5,114.1	5,095.1	5,095.1	20.9	101.5	-157.98	2,597.6	-1,001.5	3,597.7	3,484.1	113.59	31.673		
5,300.0	5,195.9	5,176.9	5,176.9	21.2	103.2	-158.19	2,597.6	-1,001.5	3,613.3	3,497.4	115.90	31.175		
5,314.9	5,210.6	5,191.6	5,191.6	21.2	103.5	-158.23	2,597.6	-1,001.5	3,615.9	3,499.5	116.31	31.088		
5,400.0	5,294.4	5,275.4	5,275.4	21.5	105.1	-158.41	2,597.6	-1,001.5	3,629.1	3,510.5	118.59	30.601		
5,413.4	5,307.7	5,288.7	5,288.7	21.5	105.4	-158.44	2,597.6	-1,001.5	3,630.9	3,512.0	118.95	30.526		
5,500.0	5,393.5	5,374.5	5,374.5	21.7	107.1	-158.58	2,597.6	-1,001.5	3,641.7	3,520.5	121.18	30.051		
5,511.8	5,405.2	5,386.2	5,386.2	21.8	107.4	-158.60	2,597.6	-1,001.5	3,642.9	3,521.4	121.48	29.988		
5,600.0	5,493.0	5,474.0	5,474.0	22.0	109.1	-158.71	2,597.6	-1,001.5	3,651.0	3,527.4	123.66	29.524		
5,610.2	5,503.2	5,484.2	5,484.2	22.0	109.3	-158.72	2,597.6	-1,001.5	3,651.8	3,527.9	123.91	29.472		
5,700.0	5,592.8	5,573.8	5,573.8	22.1	111.1	-158.79	2,597.6	-1,001.5	3,657.1	3,531.1	126.02	29.020		
5,708.6	5,601.4	5,582.4	5,582.4	22.1	111.3	-158.80	2,597.6	-1,001.5	3,657.5	3,531.3	126.22	28.978		
5,800.0	5,692.7	5,673.7	5,673.7	22.3	113.2	-158.83	2,597.6	-1,001.5	3,660.0	3,531.8	128.25	28.539		
5,807.1	5,699.8	5,680.8	5,680.8	22.3	113.3	-158.83	2,597.6	-1,001.5	3,660.1	3,531.7	128.40	28.506		
5,838.1	5,730.8	5,711.8	5,711.8	22.3	113.9	-28.26	2,597.6	-1,001.5	3,660.2	3,531.2	129.06	28.361		
5,868.1	5,760.8	5,741.8	5,741.8	22.3	114.5	-28.26	2,597.6	-1,001.5	3,660.2	3,530.5	129.71	28.218		
5,900.0	5,792.7	5,773.7	5,773.7	22.4	115.2	-28.29	2,597.6	-1,001.5	3,659.6	3,529.4	130.23	28.102		
5,905.5	5,798.2	5,779.2	5,779.2	22.4	115.3	-28.30	2,597.6	-1,001.5	3,659.4	3,529.1	130.29	28.085		
5,950.0	5,842.6	5,823.6	5,823.6	22.4	116.2	-28.45	2,597.6	-1,001.5	3,656.1	3,525.5	130.61	27.992		
6,000.0	5,892.0	5,873.0	5,873.0	22.4	117.2	-28.76	2,597.6	-1,001.5	3,649.6	3,519.1	130.48	27.971		
6,003.9	5,895.8	5,876.8	5,876.8	22.4	117.2	-28.79	2,597.6	-1,001.5	3,648.9	3,518.5	130.45	27.973		
6,050.0	5,940.8	5,921.8	5,921.8	22.4	118.1	-29.22	2,597.6	-1,001.5	3,640.0	3,510.2	129.84	28.035		
6,100.0	5,988.7	5,969.7	5,969.7	22.3	119.1	-29.84	2,597.6	-1,001.5	3,627.5	3,498.8	128.72	28.180		
6,102.3	5,990.9	5,971.9	5,971.9	22.3	119.2	-29.87	2,597.6	-1,001.5	3,626.8	3,498.2	128.66	28.189		
6,150.0	6,035.5	6,016.5	6,016.5	22.2	120.1	-30.63	2,597.6	-1,001.5	3,612.1	3,484.9	127.19	28.400		
6,200.0	6,081.0	6,062.0	6,062.0	22.2	121.0	-31.61	2,597.6	-1,001.5	3,593.9	3,468.6	125.29	28.683		
6,200.8	6,081.7	6,062.7	6,062.7	22.2	121.0	-31.62	2,597.6	-1,001.5	3,593.6	3,468.3	125.26	28.688		
6,250.0	6,124.9	6,105.9	6,105.9	22.0	121.8	-32.79	2,597.6	-1,001.5	3,573.0	3,449.8	123.16	29.012		
6,299.2	6,166.4	6,147.4	6,147.4	21.9	122.7	-34.16	2,597.6	-1,001.5	3,549.8	3,428.9	120.94	29.352		
6,300.0	6,167.0	6,148.0	6,148.0	21.9	122.7	-34.19	2,597.6	-1,001.5	3,549.5	3,428.5	120.90	29.358		
6,350.0	6,207.2	6,188.2	6,188.2	21.8	123.5	-35.84	2,597.6	-1,001.5	3,523.5	3,404.8	118.72	29.680		
6,397.6	6,243.4	6,224.4	6,224.4	21.6	124.2	-37.68	2,597.6	-1,001.5	3,496.6	3,379.7	116.89	29.915		
6,400.0	6,245.2	6,226.2	6,226.2	21.6	124.3	-37.78	2,597.6	-1,001.5	3,495.2	3,378.4	116.80	29.924		
6,450.0	6,280.8	6,261.8	6,261.8	21.5	125.0	-40.03	2,597.6	-1,001.5	3,464.8	3,349.4	115.42	30.019		
6,496.0	6,311.4	6,292.4	6,292.4	21.3	125.6	-42.41	2,597.6	-1,001.5	3,435.1	3,320.2	114.84	29.912		
6,500.0	6,313.9	6,294.9	6,294.9	21.3	125.7	-42.63	2,597.6	-1,001.5	3,432.4	3,317.6	114.83	29.893		
6,550.0	6,344.3	6,325.3	6,325.3	21.2	126.3	-45.63	2,597.6	-1,001.5	3,398.2	3,283.0	115.27	29.481		
6,594.5	6,368.9	6,349.9	6,349.9	21.0	126.8	-48.66	2,597.6	-1,001.5	3,366.4	3,249.8	116.68	28.851		
6,600.0	6,371.8	6,352.8	6,352.8	21.0	126.8	-49.06	2,597.6	-1,001.5	3,362.4	3,245.5	116.93	28.757		
6,650.0	6,396.4	6,377.4	6,377.4	20.8	127.3	-52.96	2,597.6	-1,001.5	3,325.2	3,205.3	119.85	27.745		
6,692.9	6,415.0	6,396.0	6,396.0	20.7	127.7	-56.68	2,597.6	-1,001.5	3,292.3	3,169.0	123.27	26.708		
6,700.0	6,417.9	6,398.9	6,398.9	20.7	127.7	-57.33	2,597.6	-1,001.5	3,286.8	3,162.8	123.90	26.527		
6,750.0	6,436.2	6,417.2	6,417.2	20.5	128.1	-62.19	2,597.6	-1,001.5	3,247.3	3,118.5	128.76	25.220		
6,791.3	6,448.8	6,429.8	6,429.8	20.4	128.4	-66.53	2,597.6	-1,001.5	3,214.1	3,081.1	133.03	24.160		
6,800.0	6,451.1	6,432.1	6,432.1	20.3	128.4	-67.47	2,597.6	-1,001.5	3,207.1	3,073.2	133.92	23.948		
6,850.0	6,462.8	6,443.8	6,443.8	20.2	128.6	-73.12	2,597.6	-1,001.5	3,166.3	3,027.5	138.77	22.816		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT PETERSON #30-42 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
6,889.7	6,469.6	6,450.6	6,450.6	20.1	128.8	-77.78		2,597.6	-1,001.5	3,133.6	2,991.6	142.03	22.063	
6,900.0	6,471.0	6,452.0	6,452.0	20.0	128.8	-78.99		2,597.6	-1,001.5	3,125.1	2,982.4	142.74	21.894	
6,950.0	6,475.7	6,456.7	6,456.7	19.9	128.9	-84.94		2,597.6	-1,001.5	3,083.8	2,938.5	145.37	21.214	
6,988.2	6,477.0	6,458.0	6,458.0	19.8	128.9	-89.43		2,597.6	-1,001.5	3,052.4	2,906.0	146.35	20.857	
6,997.5	6,477.0	6,458.0	6,458.0	19.8	128.9	-90.51		2,597.6	-1,001.5	3,044.7	2,898.3	146.45	20.791	
7,000.0	6,477.0	6,458.0	6,458.0	19.8	128.9	-90.51		2,597.6	-1,001.5	3,042.6	2,896.2	146.46	20.775	
7,086.6	6,476.5	6,457.5	6,457.5	19.6	128.9	-90.49		2,597.6	-1,001.5	2,971.9	2,824.9	147.00	20.217	
7,100.0	6,476.4	6,457.4	6,457.4	19.6	128.9	-90.49		2,597.6	-1,001.5	2,961.0	2,813.9	147.08	20.132	
7,185.0	6,475.9	6,456.9	6,456.9	19.7	128.9	-90.47		2,597.6	-1,001.5	2,892.5	2,744.7	147.75	19.577	
7,200.0	6,475.8	6,456.8	6,456.8	19.8	128.9	-90.47		2,597.6	-1,001.5	2,880.5	2,732.6	147.87	19.481	
7,283.4	6,475.2	6,456.2	6,456.2	20.4	128.9	-90.45		2,597.6	-1,001.5	2,814.3	2,665.6	148.65	18.932	
7,300.0	6,475.1	6,456.1	6,456.1	20.6	128.9	-90.45		2,597.6	-1,001.5	2,801.3	2,652.5	148.81	18.825	
7,381.9	6,474.6	6,455.6	6,455.6	21.5	128.9	-90.43		2,597.6	-1,001.5	2,737.4	2,587.7	149.69	18.287	
7,400.0	6,474.5	6,455.5	6,455.5	21.8	128.9	-90.43		2,597.6	-1,001.5	2,723.4	2,573.5	149.89	18.170	
7,480.3	6,474.0	6,455.0	6,455.0	22.8	128.9	-90.41		2,597.6	-1,001.5	2,662.0	2,511.1	150.85	17.647	
7,500.0	6,473.9	6,454.9	6,454.9	23.0	128.9	-90.41		2,597.6	-1,001.5	2,647.0	2,496.0	151.08	17.521	
7,578.7	6,473.4	6,454.4	6,454.4	24.1	128.9	-90.39		2,597.6	-1,001.5	2,588.0	2,436.0	152.09	17.016	
7,600.0	6,473.3	6,454.3	6,454.3	24.4	128.9	-90.39		2,597.6	-1,001.5	2,572.3	2,419.9	152.37	16.882	
7,677.1	6,472.8	6,453.8	6,453.8	25.5	128.8	-90.37		2,597.6	-1,001.5	2,515.8	2,362.4	153.43	16.398	
7,700.0	6,472.7	6,453.7	6,453.7	25.8	128.8	-90.37		2,597.6	-1,001.5	2,499.3	2,345.6	153.74	16.257	
7,775.6	6,472.2	6,453.2	6,453.2	26.9	128.8	-90.35		2,597.6	-1,001.5	2,445.4	2,290.6	154.82	15.795	
7,800.0	6,472.1	6,453.1	6,453.1	27.3	128.8	-90.35		2,597.6	-1,001.5	2,428.2	2,273.1	155.17	15.648	
7,874.0	6,471.6	6,452.6	6,452.6	28.4	128.8	-90.33		2,597.6	-1,001.5	2,377.0	2,220.7	156.28	15.210	
7,900.0	6,471.5	6,452.5	6,452.5	28.8	128.8	-90.33		2,597.6	-1,001.5	2,359.3	2,202.6	156.67	15.059	
7,972.4	6,471.0	6,452.0	6,452.0	29.9	128.8	-90.31		2,597.6	-1,001.5	2,310.7	2,153.0	157.79	14.645	
8,000.0	6,470.8	6,451.8	6,451.8	30.3	128.8	-90.31		2,597.6	-1,001.5	2,292.6	2,134.4	158.21	14.491	
8,070.8	6,470.4	6,451.4	6,451.4	31.4	128.8	-90.29		2,597.6	-1,001.5	2,246.9	2,087.5	159.33	14.102	
8,100.0	6,470.2	6,451.2	6,451.2	31.9	128.8	-90.29		2,597.6	-1,001.5	2,228.4	2,068.6	159.79	13.946	
8,169.3	6,469.8	6,450.8	6,450.8	33.0	128.8	-90.27		2,597.6	-1,001.5	2,185.5	2,024.6	160.92	13.582	
8,200.0	6,469.6	6,450.6	6,450.6	33.5	128.8	-90.27		2,597.6	-1,001.5	2,167.0	2,005.5	161.41	13.425	
8,267.7	6,469.2	6,450.2	6,450.2	34.7	128.8	-90.25		2,597.6	-1,001.5	2,127.0	1,964.5	162.53	13.087	
8,300.0	6,469.0	6,450.0	6,450.0	35.2	128.8	-90.25		2,597.6	-1,001.5	2,108.4	1,945.4	163.06	12.930	
8,366.1	6,468.6	6,449.6	6,449.6	36.3	128.8	-90.23		2,597.6	-1,001.5	2,071.5	1,907.3	164.17	12.618	
8,400.0	6,468.4	6,449.4	6,449.4	36.9	128.8	-90.23		2,597.6	-1,001.5	2,053.1	1,888.4	164.74	12.463	
8,464.5	6,468.0	6,449.0	6,449.0	38.0	128.7	-90.21		2,597.6	-1,001.5	2,019.3	1,853.4	165.83	12.177	
8,500.0	6,467.8	6,448.8	6,448.8	38.6	128.7	-90.20		2,597.6	-1,001.5	2,001.3	1,834.9	166.43	12.025	
8,563.0	6,467.4	6,448.4	6,448.4	39.6	128.7	-90.19		2,597.6	-1,001.5	1,970.6	1,803.0	167.51	11.764	
8,600.0	6,467.1	6,448.1	6,448.1	40.3	128.7	-90.18		2,597.6	-1,001.5	1,953.2	1,785.1	168.15	11.616	
8,661.4	6,466.8	6,447.8	6,447.8	41.3	128.7	-90.17		2,597.6	-1,001.5	1,925.7	1,756.4	169.21	11.380	
8,700.0	6,466.5	6,447.5	6,447.5	42.0	128.7	-90.16		2,597.6	-1,001.5	1,909.1	1,739.3	169.88	11.238	
8,759.8	6,466.1	6,447.1	6,447.1	43.0	128.7	-90.15		2,597.6	-1,001.5	1,884.8	1,713.9	170.93	11.027	
8,800.0	6,465.9	6,446.9	6,446.9	43.7	128.7	-90.14		2,597.6	-1,001.5	1,869.4	1,697.8	171.63	10.892	
8,858.2	6,465.5	6,446.5	6,446.5	44.8	128.7	-90.13		2,597.6	-1,001.5	1,848.4	1,675.7	172.66	10.705	
8,900.0	6,465.3	6,446.3	6,446.3	45.5	128.7	-90.12		2,597.6	-1,001.5	1,834.3	1,660.9	173.39	10.579	
8,956.7	6,464.9	6,445.9	6,445.9	46.5	128.7	-90.11		2,597.6	-1,001.5	1,816.5	1,642.1	174.40	10.416	
9,000.0	6,464.7	6,445.7	6,445.7	47.3	128.7	-90.10		2,597.6	-1,001.5	1,804.0	1,628.8	175.16	10.299	
9,055.1	6,464.3	6,445.3	6,445.3	48.2	128.7	-90.09		2,597.6	-1,001.5	1,789.5	1,613.3	176.15	10.159	
9,100.0	6,464.0	6,445.0	6,445.0	49.0	128.7	-90.08		2,597.6	-1,001.5	1,778.8	1,601.9	176.95	10.053	
9,153.5	6,463.7	6,444.7	6,444.7	50.0	128.7	-90.07		2,597.6	-1,001.5	1,767.5	1,589.6	177.91	9.935	
9,200.0	6,463.4	6,444.4	6,444.4	50.8	128.7	-90.06		2,597.6	-1,001.5	1,759.0	1,580.2	178.74	9.841	
9,251.9	6,463.1	6,444.1	6,444.1	51.8	128.7	-90.05		2,597.6	-1,001.5	1,750.8	1,571.2	179.67	9.745	

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

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT PETERSON #30-42 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
9,300.0	6,462.8	6,443.8	6,443.8	52.6	128.6	-90.04		2,597.6	-1,001.5	1,744.7	1,564.1	180.54	9.664	
9,350.4	6,462.5	6,443.5	6,443.5	53.5	128.6	-90.03		2,597.6	-1,001.5	1,739.6	1,558.1	181.45	9.587	
9,400.0	6,462.2	6,443.2	6,443.2	54.4	128.6	-90.02		2,597.6	-1,001.5	1,736.0	1,553.6	182.35	9.520	
9,448.8	6,461.9	6,442.9	6,442.9	55.3	128.6	-90.01		2,597.6	-1,001.5	1,733.8	1,550.6	183.23	9.462	
9,500.0	6,461.5	6,442.5	6,442.5	56.2	128.6	-90.00		2,597.6	-1,001.5	1,733.1	1,548.9	184.16	9.410	
9,500.9	6,461.5	6,442.5	6,442.5	56.3	128.6	-90.00		2,597.6	-1,001.5	1,733.1	1,548.9	184.18	9.410 CC	
9,547.2	6,461.2	6,442.2	6,442.2	57.1	128.6	-89.99		2,597.6	-1,001.5	1,733.7	1,548.7	185.02	9.370 ES	
9,600.0	6,460.9	6,441.9	6,441.9	58.1	128.6	-89.98		2,597.6	-1,001.5	1,735.9	1,549.9	185.98	9.334	
9,645.6	6,460.6	6,441.6	6,441.6	58.9	128.6	-89.97		2,597.6	-1,001.5	1,739.1	1,552.3	186.82	9.309	
9,700.0	6,460.3	6,441.3	6,441.3	59.9	128.6	-89.96		2,597.6	-1,001.5	1,744.5	1,556.7	187.81	9.288	
9,744.1	6,460.0	6,441.0	6,441.0	60.7	128.6	-89.95		2,597.6	-1,001.5	1,750.0	1,561.4	188.62	9.278	
9,800.0	6,459.7	6,440.7	6,440.7	61.7	128.6	-89.94		2,597.6	-1,001.5	1,758.7	1,569.0	189.64	9.274 SF	
9,842.5	6,459.4	6,440.4	6,440.4	62.5	128.6	-89.93		2,597.6	-1,001.5	1,766.4	1,576.0	190.42	9.276	
9,900.0	6,459.0	6,440.0	6,440.0	63.6	128.6	-89.92		2,597.6	-1,001.5	1,778.4	1,586.9	191.48	9.288	
9,940.9	6,458.8	6,439.8	6,439.8	64.3	128.6	-89.91		2,597.6	-1,001.5	1,788.1	1,595.8	192.23	9.302	
10,000.0	6,458.4	6,439.4	6,439.4	65.4	128.6	-89.90		2,597.6	-1,001.5	1,803.5	1,610.2	193.32	9.329	
10,039.3	6,458.2	6,439.2	6,439.2	66.1	128.6	-89.89		2,597.6	-1,001.5	1,814.8	1,620.7	194.04	9.352	
10,100.0	6,457.8	6,438.8	6,438.8	67.2	128.5	-89.88		2,597.6	-1,001.5	1,833.7	1,638.5	195.16	9.396	
10,137.8	6,457.6	6,438.6	6,438.6	67.9	128.5	-89.87		2,597.6	-1,001.5	1,846.4	1,650.5	195.86	9.427	
10,200.0	6,457.2	6,438.2	6,438.2	69.1	128.5	-89.86		2,597.6	-1,001.5	1,868.8	1,671.7	197.01	9.486	
10,236.2	6,456.9	6,437.9	6,437.9	69.8	128.5	-89.85		2,597.6	-1,001.5	1,882.6	1,684.9	197.68	9.523	
10,300.0	6,456.5	6,437.5	6,437.5	70.9	128.5	-89.83		2,597.6	-1,001.5	1,908.4	1,709.6	198.86	9.597	
10,334.6	6,456.3	6,437.3	6,437.3	71.6	128.5	-89.83		2,597.6	-1,001.5	1,923.2	1,723.7	199.50	9.640	
10,400.0	6,455.9	6,436.9	6,436.9	72.8	128.5	-89.81		2,597.6	-1,001.5	1,952.4	1,751.7	200.71	9.727	
10,433.0	6,455.7	6,436.7	6,436.7	73.4	128.5	-89.81		2,597.6	-1,001.5	1,967.8	1,766.5	201.33	9.774	
10,500.0	6,455.3	6,436.3	6,436.3	74.7	128.5	-89.79		2,597.6	-1,001.5	2,000.4	1,797.9	202.57	9.875	
10,531.5	6,455.1	6,436.1	6,436.1	75.2	128.5	-89.79		2,597.6	-1,001.5	2,016.3	1,813.2	203.16	9.925	
10,600.0	6,454.7	6,435.7	6,435.7	76.5	128.5	-89.77		2,597.6	-1,001.5	2,052.2	1,847.8	204.43	10.039	
10,629.9	6,454.5	6,435.5	6,435.5	77.1	128.5	-89.77		2,597.6	-1,001.5	2,068.4	1,863.4	204.99	10.090	
10,700.0	6,454.0	6,435.0	6,435.0	78.4	128.5	-89.75		2,597.6	-1,001.5	2,107.5	1,901.2	206.29	10.216	
10,728.3	6,453.9	6,434.9	6,434.9	78.9	128.5	-89.75		2,597.6	-1,001.5	2,123.7	1,916.9	206.82	10.268	
10,800.0	6,453.4	6,434.4	6,434.4	80.3	128.5	-89.73		2,597.6	-1,001.5	2,165.9	1,957.8	208.15	10.405	
10,826.7	6,453.2	6,434.2	6,434.2	80.8	128.5	-89.72		2,597.6	-1,001.5	2,182.1	1,973.4	208.65	10.458	
10,900.0	6,452.8	6,433.8	6,433.8	82.1	128.4	-89.71		2,597.6	-1,001.5	2,227.3	2,017.3	210.02	10.605	
10,925.2	6,452.6	6,433.6	6,433.6	82.6	128.4	-89.70		2,597.6	-1,001.5	2,243.2	2,032.7	210.49	10.657	
11,000.0	6,452.1	6,433.1	6,433.1	84.0	128.4	-89.69		2,597.6	-1,001.5	2,291.5	2,079.6	211.89	10.815	
11,023.6	6,452.0	6,433.0	6,433.0	84.4	128.4	-89.68		2,597.6	-1,001.5	2,307.0	2,094.6	212.33	10.865	
11,023.7	6,452.0	6,433.0	6,433.0	84.4	128.4	-89.68		2,597.6	-1,001.5	2,307.1	2,094.7	212.33	10.865	
11,024.4	6,452.0	6,433.0	6,433.0	84.5	128.4	-89.68		2,597.6	-1,001.5	2,307.5	2,095.2	212.34	10.867	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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		Highside Toolface (°)	Distance		Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
0.0	0.0	0.0	0.0	0.0	0.0	10.36	1,289.7	235.7	1,311.1				
98.4	98.4	87.4	87.4	0.1	0.3	10.36	1,289.7	235.7	1,311.0	1,310.6	0.38	3,492.794	
100.0	100.0	89.0	89.0	0.1	0.3	10.36	1,289.7	235.7	1,311.0	1,310.6	0.38	3,430.620	
196.8	196.8	185.8	185.8	0.3	2.5	10.36	1,289.7	235.7	1,311.0	1,308.2	2.81	465.984	
200.0	200.0	189.0	189.0	0.3	2.6	10.36	1,289.7	235.7	1,311.0	1,308.1	2.90	452.005	
295.3	295.3	284.3	284.3	0.5	4.6	10.36	1,289.7	235.7	1,311.0	1,305.9	5.14	255.001	
300.0	300.0	289.0	289.0	0.5	4.7	10.36	1,289.7	235.7	1,311.0	1,305.8	5.25	249.726	
393.7	393.7	382.7	382.7	0.8	6.6	10.36	1,289.7	235.7	1,311.0	1,303.6	7.37	177.811	
400.0	400.0	389.0	389.0	0.8	6.7	10.36	1,289.7	235.7	1,311.0	1,303.5	7.52	174.440	
492.1	492.1	481.1	481.1	1.0	8.6	10.36	1,289.7	235.7	1,311.0	1,301.4	9.59	136.711	
500.0	500.0	489.0	489.0	1.0	8.8	10.36	1,289.7	235.7	1,311.0	1,301.3	9.77	134.231	
590.5	590.5	579.5	579.5	1.2	10.6	10.36	1,289.7	235.7	1,311.0	1,299.2	11.80	111.102	
600.0	600.0	589.0	589.0	1.2	10.8	10.36	1,289.7	235.7	1,311.0	1,299.0	12.01	109.140	
689.0	689.0	678.0	678.0	1.4	12.6	10.36	1,289.7	235.7	1,311.0	1,297.0	14.01	93.595	
700.0	700.0	689.0	689.0	1.4	12.8	10.36	1,289.7	235.7	1,311.0	1,296.8	14.25	91.972	
787.4	787.4	776.4	776.4	1.6	14.6	10.36	1,289.7	235.7	1,311.0	1,294.8	16.21	80.864	
800.0	800.0	789.0	789.0	1.7	14.8	10.36	1,289.7	235.7	1,311.0	1,294.5	16.49	79.480	
885.8	885.8	874.8	874.8	1.9	16.6	10.36	1,289.7	235.7	1,311.0	1,292.6	18.42	71.186	
900.0	900.0	889.0	889.0	1.9	16.8	10.36	1,289.7	235.7	1,311.0	1,292.3	18.73	69.980	
984.2	984.2	973.2	973.2	2.1	18.5	10.36	1,289.7	235.7	1,311.0	1,290.4	20.62	63.579	
1,000.0	1,000.0	989.0	989.0	2.1	18.9	10.36	1,289.7	235.7	1,311.0	1,290.0	20.97	62.510	
1,025.0	1,025.0	1,014.0	1,014.0	2.2	19.4	10.36	1,289.7	235.7	1,311.0	1,289.5	21.53	60.886	
1,082.7	1,082.7	1,071.7	1,071.7	2.3	20.5	-120.23	1,289.7	235.7	1,311.3	1,288.5	22.81	57.492	
1,100.0	1,100.0	1,089.0	1,089.0	2.3	20.9	-120.24	1,289.7	235.7	1,311.5	1,288.3	23.19	56.551	
1,181.1	1,181.0	1,170.0	1,170.0	2.5	22.5	-120.34	1,289.7	235.7	1,313.2	1,288.2	24.97	52.598	
1,200.0	1,199.9	1,188.9	1,188.9	2.5	22.9	-120.37	1,289.7	235.7	1,313.7	1,288.3	25.38	51.765	
1,279.5	1,279.2	1,268.2	1,268.2	2.7	24.5	-120.54	1,289.7	235.7	1,316.7	1,289.6	27.12	48.557	
1,300.0	1,299.6	1,288.6	1,288.6	2.7	24.9	-120.59	1,289.7	235.7	1,317.7	1,290.1	27.56	47.806	
1,377.9	1,377.1	1,366.1	1,366.1	2.9	26.4	-120.84	1,289.7	235.7	1,322.1	1,292.8	29.27	45.173	
1,400.0	1,398.9	1,387.9	1,387.9	2.9	26.9	-120.91	1,289.7	235.7	1,323.5	1,293.8	29.75	44.493	
1,476.4	1,474.5	1,463.5	1,463.5	3.1	28.4	-121.22	1,289.7	235.7	1,329.2	1,297.8	31.42	42.311	
1,500.0	1,497.8	1,486.8	1,486.8	3.2	28.9	-121.32	1,289.7	235.7	1,331.2	1,299.3	31.93	41.694	
1,574.8	1,571.4	1,560.4	1,560.4	3.4	30.4	-121.68	1,289.7	235.7	1,338.3	1,304.7	33.56	39.872	
1,600.0	1,596.1	1,585.1	1,585.1	3.5	30.8	-121.82	1,289.7	235.7	1,340.9	1,306.8	34.11	39.310	
1,673.2	1,667.7	1,656.7	1,656.7	3.7	32.3	-122.22	1,289.7	235.7	1,349.2	1,313.5	35.71	37.781	
1,696.9	1,690.8	1,679.8	1,679.8	3.8	32.8	-122.36	1,289.7	235.7	1,352.2	1,316.0	36.23	37.327	
1,700.0	1,693.8	1,682.8	1,682.8	3.8	32.8	-122.39	1,289.7	235.7	1,352.6	1,316.3	36.29	37.266	
1,771.6	1,763.5	1,752.5	1,752.5	4.1	34.2	-122.97	1,289.7	235.7	1,361.8	1,323.8	37.92	35.911	
1,800.0	1,791.0	1,780.0	1,780.0	4.2	34.8	-123.20	1,289.7	235.7	1,365.4	1,326.9	38.56	35.408	
1,870.1	1,859.2	1,848.2	1,848.2	4.5	36.1	-123.75	1,289.7	235.7	1,374.6	1,334.4	40.16	34.226	
1,900.0	1,888.3	1,877.3	1,877.3	4.6	36.7	-123.99	1,289.7	235.7	1,378.5	1,337.7	40.84	33.751	
1,968.5	1,954.9	1,943.9	1,943.9	4.9	38.1	-124.53	1,289.7	235.7	1,387.7	1,345.2	42.41	32.717	
2,000.0	1,985.6	1,974.6	1,974.6	5.1	38.7	-124.77	1,289.7	235.7	1,391.9	1,348.8	43.13	32.269	
2,066.9	2,050.7	2,039.7	2,039.7	5.4	40.0	-125.28	1,289.7	235.7	1,401.0	1,356.3	44.67	31.362	
2,100.0	2,082.8	2,071.8	2,071.8	5.5	40.6	-125.53	1,289.7	235.7	1,405.5	1,360.1	45.43	30.938	
2,165.3	2,146.4	2,135.4	2,135.4	5.8	41.9	-126.02	1,289.7	235.7	1,414.6	1,367.6	46.93	30.139	
2,200.0	2,180.1	2,169.1	2,169.1	6.0	42.6	-126.28	1,289.7	235.7	1,419.4	1,371.7	47.73	29.738	
2,263.8	2,242.1	2,231.1	2,231.1	6.3	43.8	-126.75	1,289.7	235.7	1,428.4	1,379.2	49.20	29.033	
2,300.0	2,277.3	2,266.3	2,266.3	6.4	44.6	-127.02	1,289.7	235.7	1,433.5	1,383.5	50.03	28.653	
2,362.2	2,337.8	2,326.8	2,326.8	6.7	45.8	-127.47	1,289.7	235.7	1,442.4	1,391.0	51.46	28.028	
2,400.0	2,374.6	2,363.6	2,363.6	6.9	46.5	-127.74	1,289.7	235.7	1,447.9	1,395.5	52.33	27.667	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #13-29U - Wellbore #1 - Design #1												Offset Site Error:	0.0 usft
Survey Program: 0-INC												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,460.6	2,433.6	2,422.6	2,422.6	7.2	47.7	-128.17	1,289.7	235.7	1,456.7	1,403.0	53.73	27.113	
2,500.0	2,471.9	2,460.9	2,460.9	7.4	48.5	-128.45	1,289.7	235.7	1,462.5	1,407.8	54.63	26.770	
2,559.0	2,529.3	2,518.3	2,518.3	7.6	49.6	-128.86	1,289.7	235.7	1,471.2	1,415.2	55.99	26.276	
2,600.0	2,569.1	2,558.1	2,558.1	7.8	50.4	-129.14	1,289.7	235.7	1,477.3	1,420.3	56.93	25.949	
2,657.5	2,625.0	2,614.0	2,614.0	8.1	51.5	-129.54	1,289.7	235.7	1,485.9	1,427.6	58.25	25.509	
2,700.0	2,666.4	2,655.4	2,655.4	8.3	52.4	-129.82	1,289.7	235.7	1,492.3	1,433.1	59.22	25.197	
2,755.9	2,720.8	2,709.8	2,709.8	8.6	53.5	-130.20	1,289.7	235.7	1,500.8	1,440.3	60.51	24.803	
2,800.0	2,763.7	2,752.7	2,752.7	8.8	54.3	-130.49	1,289.7	235.7	1,507.5	1,446.0	61.52	24.505	
2,854.3	2,816.5	2,805.5	2,805.5	9.1	55.4	-130.85	1,289.7	235.7	1,515.9	1,453.1	62.76	24.153	
2,900.0	2,860.9	2,849.9	2,849.9	9.3	56.3	-131.15	1,289.7	235.7	1,522.9	1,459.1	63.81	23.868	
2,952.7	2,912.2	2,901.2	2,901.2	9.6	57.3	-131.49	1,289.7	235.7	1,531.2	1,466.2	65.01	23.551	
3,000.0	2,958.2	2,947.2	2,947.2	9.8	58.2	-131.79	1,289.7	235.7	1,538.6	1,472.5	66.09	23.279	
3,051.2	3,008.0	2,997.0	2,997.0	10.0	59.2	-132.11	1,289.7	235.7	1,546.6	1,479.4	67.26	22.994	
3,100.0	3,055.4	3,044.4	3,044.4	10.3	60.2	-132.42	1,289.7	235.7	1,554.4	1,486.0	68.38	22.733	
3,149.6	3,103.7	3,092.7	3,092.7	10.5	61.2	-132.72	1,289.7	235.7	1,562.3	1,492.8	69.51	22.477	
3,200.0	3,152.7	3,141.7	3,141.7	10.8	62.2	-133.03	1,289.7	235.7	1,570.4	1,499.7	70.66	22.226	
3,248.0	3,199.4	3,188.4	3,188.4	11.0	63.1	-133.33	1,289.7	235.7	1,578.1	1,506.4	71.75	21.995	
3,300.0	3,250.0	3,239.0	3,239.0	11.3	64.1	-133.64	1,289.7	235.7	1,586.6	1,513.6	72.93	21.755	
3,346.4	3,295.1	3,284.1	3,284.1	11.5	65.0	-133.92	1,289.7	235.7	1,594.2	1,520.2	73.99	21.546	
3,400.0	3,347.2	3,336.2	3,336.2	11.8	66.1	-134.23	1,289.7	235.7	1,602.9	1,527.7	75.20	21.315	
3,444.9	3,390.9	3,379.9	3,379.9	12.0	66.9	-134.49	1,289.7	235.7	1,610.3	1,534.1	76.22	21.127	
3,500.0	3,444.5	3,433.5	3,433.5	12.3	68.0	-134.81	1,289.7	235.7	1,619.5	1,542.0	77.47	20.904	
3,543.3	3,486.6	3,475.6	3,475.6	12.5	68.9	-135.06	1,289.7	235.7	1,626.7	1,548.2	78.45	20.734	
3,600.0	3,541.8	3,530.8	3,530.8	12.8	70.0	-135.38	1,289.7	235.7	1,636.1	1,556.4	79.74	20.520	
3,641.7	3,582.3	3,571.3	3,571.3	13.0	70.8	-135.62	1,289.7	235.7	1,643.2	1,562.5	80.68	20.366	
3,700.0	3,639.0	3,628.0	3,628.0	13.3	71.9	-135.94	1,289.7	235.7	1,653.0	1,571.0	82.00	20.159	
3,740.1	3,678.1	3,667.1	3,667.1	13.5	72.7	-136.16	1,289.7	235.7	1,659.8	1,576.9	82.90	20.021	
3,800.0	3,736.3	3,725.3	3,725.3	13.8	73.9	-136.49	1,289.7	235.7	1,670.0	1,585.7	84.25	19.821	
3,838.6	3,773.8	3,762.8	3,762.8	14.0	74.6	-136.70	1,289.7	235.7	1,676.6	1,591.5	85.12	19.696	
3,900.0	3,833.5	3,822.5	3,822.5	14.3	75.9	-137.02	1,289.7	235.7	1,687.1	1,600.6	86.51	19.503	
3,937.0	3,869.5	3,858.5	3,858.5	14.5	76.6	-137.22	1,289.7	235.7	1,693.5	1,606.2	87.34	19.390	
4,000.0	3,930.8	3,919.8	3,919.8	14.8	77.8	-137.55	1,289.7	235.7	1,704.4	1,615.7	88.76	19.203	
4,035.4	3,965.3	3,954.3	3,954.3	15.0	78.5	-137.73	1,289.7	235.7	1,710.6	1,621.0	89.56	19.101	
4,100.0	4,028.1	4,017.1	4,017.1	15.3	79.8	-138.07	1,289.7	235.7	1,721.9	1,630.9	91.01	18.920	
4,133.8	4,061.0	4,050.0	4,050.0	15.5	80.4	-138.24	1,289.7	235.7	1,727.8	1,636.0	91.77	18.828	
4,200.0	4,125.3	4,114.3	4,114.3	15.8	81.7	-138.57	1,289.7	235.7	1,739.4	1,646.2	93.25	18.653	
4,232.3	4,156.7	4,145.7	4,145.7	16.0	82.4	-138.73	1,289.7	235.7	1,745.1	1,651.2	93.97	18.570	
4,300.0	4,222.6	4,211.6	4,211.6	16.3	83.7	-139.07	1,289.7	235.7	1,757.1	1,661.6	95.49	18.401	
4,330.7	4,252.4	4,241.4	4,241.4	16.5	84.3	-139.22	1,289.7	235.7	1,762.6	1,666.4	96.18	18.326	
4,400.0	4,319.8	4,308.8	4,308.8	16.8	85.6	-139.55	1,289.7	235.7	1,775.0	1,677.2	97.73	18.162	
4,429.1	4,348.2	4,337.2	4,337.2	17.0	86.2	-139.69	1,289.7	235.7	1,780.2	1,681.8	98.38	18.095	
4,500.0	4,417.1	4,406.1	4,406.1	17.3	87.6	-140.03	1,289.7	235.7	1,792.9	1,692.9	99.96	17.935	
4,527.5	4,443.9	4,432.9	4,432.9	17.5	88.1	-140.16	1,289.7	235.7	1,797.9	1,697.3	100.58	17.875	
4,600.0	4,514.4	4,503.4	4,503.4	17.8	89.5	-140.50	1,289.7	235.7	1,811.0	1,708.8	102.20	17.721	
4,626.0	4,539.6	4,528.6	4,528.6	17.9	90.1	-140.62	1,289.7	235.7	1,815.7	1,712.9	102.78	17.667	
4,700.0	4,611.6	4,600.6	4,600.6	18.3	91.5	-140.95	1,289.7	235.7	1,829.2	1,724.7	104.43	17.516	
4,724.4	4,635.4	4,624.4	4,624.4	18.4	92.0	-141.07	1,289.7	235.7	1,833.6	1,728.7	104.97	17.468	
4,800.0	4,708.9	4,697.9	4,697.9	18.8	93.5	-141.40	1,289.7	235.7	1,847.5	1,740.8	106.65	17.322	
4,822.8	4,731.1	4,720.1	4,720.1	18.9	93.9	-141.51	1,289.7	235.7	1,851.7	1,744.5	107.16	17.279	
4,900.0	4,806.2	4,795.2	4,795.2	19.3	95.4	-141.84	1,289.7	235.7	1,865.9	1,757.0	108.88	17.138	
4,921.2	4,826.8	4,815.8	4,815.8	19.4	95.8	-141.94	1,289.7	235.7	1,869.8	1,760.5	109.35	17.100	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #13-29U - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,000.0	4,903.4	4,892.4	4,892.4	19.8	97.4	-142.28	1,289.7	235.7	1,884.4	1,773.3	111.10	16.962		
5,019.7	4,922.6	4,911.6	4,911.6	19.9	97.8	-142.36	1,289.7	235.7	1,888.1	1,776.5	111.53	16.928		
5,100.0	5,000.7	4,989.7	4,989.7	20.4	99.3	-142.70	1,289.7	235.7	1,903.0	1,789.7	113.32	16.794		
5,118.1	5,018.3	5,007.3	5,007.3	20.4	99.7	-142.78	1,289.7	235.7	1,906.4	1,792.7	113.72	16.764		
5,166.2	5,065.0	5,054.0	5,054.0	20.7	100.6	-142.98	1,289.7	235.7	1,915.4	1,800.6	114.78	16.687		
5,200.0	5,098.0	5,087.0	5,087.0	20.8	101.3	-143.19	1,289.7	235.7	1,921.6	1,805.9	115.68	16.611		
5,216.5	5,114.1	5,103.1	5,103.1	20.9	101.6	-143.29	1,289.7	235.7	1,924.5	1,808.4	116.11	16.574		
5,300.0	5,195.9	5,184.9	5,184.9	21.2	103.2	-143.75	1,289.7	235.7	1,938.1	1,819.8	118.28	16.386		
5,314.9	5,210.6	5,199.6	5,199.6	21.2	103.5	-143.82	1,289.7	235.7	1,940.3	1,821.7	118.66	16.352		
5,400.0	5,294.4	5,283.4	5,283.4	21.5	105.2	-144.20	1,289.7	235.7	1,951.9	1,831.1	120.82	16.156		
5,413.4	5,307.7	5,296.7	5,296.7	21.5	105.5	-144.25	1,289.7	235.7	1,953.5	1,832.4	121.15	16.125		
5,500.0	5,393.5	5,382.5	5,382.5	21.7	107.2	-144.56	1,289.7	235.7	1,962.9	1,839.6	123.29	15.921		
5,511.8	5,405.2	5,394.2	5,394.2	21.8	107.5	-144.60	1,289.7	235.7	1,964.0	1,840.4	123.57	15.893		
5,600.0	5,493.0	5,482.0	5,482.0	22.0	109.2	-144.82	1,289.7	235.7	1,971.1	1,845.4	125.68	15.683		
5,610.2	5,503.2	5,492.2	5,492.2	22.0	109.4	-144.85	1,289.7	235.7	1,971.8	1,845.8	125.92	15.659		
5,700.0	5,592.8	5,581.8	5,581.8	22.1	111.2	-144.99	1,289.7	235.7	1,976.5	1,848.5	127.98	15.443		
5,708.6	5,601.4	5,590.4	5,590.4	22.1	111.4	-145.01	1,289.7	235.7	1,976.8	1,848.6	128.17	15.423		
5,800.0	5,692.7	5,681.7	5,681.7	22.3	113.2	-145.07	1,289.7	235.7	1,979.0	1,848.8	130.18	15.202		
5,807.1	5,699.8	5,688.8	5,688.8	22.3	113.4	-145.08	1,289.7	235.7	1,979.0	1,848.7	130.33	15.184		
5,838.1	5,730.8	5,719.8	5,719.8	22.3	114.0	-14.51	1,289.7	235.7	1,979.2	1,848.2	130.99	15.109		
5,868.1	5,760.8	5,749.8	5,749.8	22.3	114.6	-14.51	1,289.7	235.7	1,979.2	1,847.5	131.64	15.035		
5,900.0	5,792.7	5,781.7	5,781.7	22.4	115.3	-14.53	1,289.7	235.7	1,978.5	1,846.4	132.14	14.973		
5,905.5	5,798.2	5,787.2	5,787.2	22.4	115.4	-14.54	1,289.7	235.7	1,978.2	1,846.0	132.20	14.964		
5,950.0	5,842.6	5,831.6	5,831.6	22.4	116.3	-14.64	1,289.7	235.7	1,974.7	1,842.2	132.41	14.913		
6,000.0	5,892.0	5,881.0	5,881.0	22.4	117.2	-14.84	1,289.7	235.7	1,967.5	1,835.4	132.05	14.899		
6,003.9	5,895.8	5,884.8	5,884.8	22.4	117.3	-14.86	1,289.7	235.7	1,966.8	1,834.8	131.99	14.900		
6,050.0	5,940.8	5,929.8	5,929.8	22.4	118.2	-15.14	1,289.7	235.7	1,956.9	1,825.9	131.05	14.933		
6,100.0	5,988.7	5,977.7	5,977.7	22.3	119.2	-15.56	1,289.7	235.7	1,943.2	1,813.8	129.41	15.015		
6,102.3	5,990.9	5,979.9	5,979.9	22.3	119.2	-15.58	1,289.7	235.7	1,942.4	1,813.1	129.32	15.020		
6,150.0	6,035.5	6,024.5	6,024.5	22.2	120.1	-16.09	1,289.7	235.7	1,926.2	1,799.0	127.17	15.147		
6,200.0	6,081.0	6,070.0	6,070.0	22.2	121.0	-16.76	1,289.7	235.7	1,906.1	1,781.8	124.34	15.330		
6,200.8	6,081.7	6,070.7	6,070.7	22.2	121.1	-16.77	1,289.7	235.7	1,905.8	1,781.5	124.30	15.333		
6,250.0	6,124.9	6,113.9	6,113.9	22.0	121.9	-17.59	1,289.7	235.7	1,883.1	1,762.1	120.99	15.563		
6,299.2	6,166.4	6,155.4	6,155.4	21.9	122.8	-18.58	1,289.7	235.7	1,857.6	1,740.3	117.26	15.841		
6,300.0	6,167.0	6,156.0	6,156.0	21.9	122.8	-18.59	1,289.7	235.7	1,857.1	1,739.9	117.20	15.846		
6,350.0	6,207.2	6,196.2	6,196.2	21.8	123.6	-19.81	1,289.7	235.7	1,828.5	1,715.4	113.08	16.170		
6,397.6	6,243.4	6,232.4	6,232.4	21.6	124.3	-21.21	1,289.7	235.7	1,798.7	1,689.7	109.01	16.501		
6,400.0	6,245.2	6,234.2	6,234.2	21.6	124.3	-21.29	1,289.7	235.7	1,797.2	1,688.4	108.80	16.518		
6,450.0	6,280.8	6,269.8	6,269.8	21.5	125.1	-23.08	1,289.7	235.7	1,763.5	1,658.9	104.62	16.857		
6,496.0	6,311.4	6,300.4	6,300.4	21.3	125.7	-25.06	1,289.7	235.7	1,730.5	1,629.4	101.14	17.109		
6,500.0	6,313.9	6,302.9	6,302.9	21.3	125.7	-25.25	1,289.7	235.7	1,727.6	1,626.7	100.87	17.126		
6,550.0	6,344.3	6,333.3	6,333.3	21.2	126.3	-27.90	1,289.7	235.7	1,689.6	1,591.6	98.05	17.233		
6,594.5	6,368.9	6,357.9	6,357.9	21.0	126.8	-30.74	1,289.7	235.7	1,654.3	1,557.5	96.80	17.090		
6,600.0	6,371.8	6,360.8	6,360.8	21.0	126.9	-31.14	1,289.7	235.7	1,649.8	1,553.0	96.75	17.052		
6,650.0	6,396.4	6,385.4	6,385.4	20.8	127.4	-35.11	1,289.7	235.7	1,608.3	1,510.7	97.66	16.468		
6,692.9	6,415.0	6,404.0	6,404.0	20.7	127.8	-39.25	1,289.7	235.7	1,571.6	1,470.9	100.67	15.611		
6,700.0	6,417.9	6,406.9	6,406.9	20.7	127.8	-40.01	1,289.7	235.7	1,565.4	1,464.1	101.38	15.441		
6,750.0	6,436.2	6,425.2	6,425.2	20.5	128.2	-46.00	1,289.7	235.7	1,521.4	1,413.3	108.13	14.069		
6,791.3	6,448.8	6,437.8	6,437.8	20.4	128.4	-51.89	1,289.7	235.7	1,484.2	1,368.5	115.70	12.828		
6,800.0	6,451.1	6,440.1	6,440.1	20.3	128.5	-53.24	1,289.7	235.7	1,476.4	1,358.9	117.45	12.570		
6,850.0	6,462.8	6,451.8	6,451.8	20.2	128.7	-61.76	1,289.7	235.7	1,430.7	1,302.7	128.00	11.177		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #13-29U - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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	
6,889.7	6,469.6	6,458.6	6,458.6	20.1	128.9	-69.30	1,289.7	235.7	1,394.0	1,258.1	135.87	10.260		
6,900.0	6,471.0	6,460.0	6,460.0	20.0	128.9	-71.33	1,289.7	235.7	1,384.5	1,246.9	137.66	10.057		
6,950.0	6,475.7	6,464.7	6,464.7	19.9	129.0	-81.43	1,289.7	235.7	1,338.2	1,193.9	144.24	9.277		
6,988.2	6,477.0	6,466.0	6,466.0	19.8	129.0	-89.04	1,289.7	235.7	1,302.8	1,156.4	146.40	8.899		
6,997.5	6,477.0	6,466.0	6,466.0	19.8	129.0	-90.85	1,289.7	235.7	1,294.2	1,147.7	146.53	8.832		
7,000.0	6,477.0	6,466.0	6,466.0	19.8	129.0	-90.84	1,289.7	235.7	1,291.9	1,145.4	146.55	8.816		
7,086.6	6,476.5	6,465.5	6,465.5	19.6	129.0	-90.78	1,289.7	235.7	1,212.4	1,065.3	147.08	8.243		
7,100.0	6,476.4	6,465.4	6,465.4	19.6	129.0	-90.77	1,289.7	235.7	1,200.2	1,053.0	147.17	8.155		
7,185.0	6,475.9	6,464.9	6,464.9	19.7	129.0	-90.71	1,289.7	235.7	1,123.3	975.5	147.84	7.598		
7,200.0	6,475.8	6,464.8	6,464.8	19.8	129.0	-90.70	1,289.7	235.7	1,109.9	961.9	147.95	7.502		
7,283.4	6,475.2	6,464.2	6,464.2	20.4	129.0	-90.64	1,289.7	235.7	1,035.9	887.2	148.74	6.965		
7,300.0	6,475.1	6,464.1	6,464.1	20.6	129.0	-90.63	1,289.7	235.7	1,021.4	872.5	148.89	6.860		
7,381.9	6,474.6	6,463.6	6,463.6	21.5	129.0	-90.58	1,289.7	235.7	950.7	800.9	149.78	6.347		
7,400.0	6,474.5	6,463.5	6,463.5	21.8	129.0	-90.56	1,289.7	235.7	935.2	785.3	149.97	6.236		
7,480.3	6,474.0	6,463.0	6,463.0	22.8	129.0	-90.51	1,289.7	235.7	868.2	717.3	150.93	5.752		
7,500.0	6,473.9	6,462.9	6,462.9	23.0	128.9	-90.49	1,289.7	235.7	852.1	700.9	151.16	5.637		
7,578.7	6,473.4	6,462.4	6,462.4	24.1	128.9	-90.44	1,289.7	235.7	789.4	637.2	152.18	5.187		
7,600.0	6,473.3	6,462.3	6,462.3	24.4	128.9	-90.42	1,289.7	235.7	773.0	620.5	152.45	5.070		
7,677.1	6,472.8	6,461.8	6,461.8	25.5	128.9	-90.37	1,289.7	235.7	715.5	562.0	153.51	4.661		
7,700.0	6,472.7	6,461.7	6,461.7	25.8	128.9	-90.35	1,289.7	235.7	699.2	545.4	153.82	4.546		
7,775.6	6,472.2	6,461.2	6,461.2	26.9	128.9	-90.30	1,289.7	235.7	648.2	493.3	154.90	4.184		
7,800.0	6,472.1	6,461.1	6,461.1	27.3	128.9	-90.28	1,289.7	235.7	632.7	477.5	155.25	4.075		
7,874.0	6,471.6	6,460.6	6,460.6	28.4	128.9	-90.23	1,289.7	235.7	589.6	433.3	156.36	3.771		
7,900.0	6,471.5	6,460.5	6,460.5	28.8	128.9	-90.21	1,289.7	235.7	576.0	419.2	156.74	3.675		
7,972.4	6,471.0	6,460.0	6,460.0	29.9	128.9	-90.16	1,289.7	235.7	542.7	384.9	157.86	3.438		
8,000.0	6,470.8	6,459.8	6,459.8	30.3	128.9	-90.14	1,289.7	235.7	532.1	373.8	158.28	3.362		
8,070.8	6,470.4	6,459.4	6,459.4	31.4	128.9	-90.09	1,289.7	235.7	510.7	351.3	159.40	3.204		
8,100.0	6,470.2	6,459.2	6,459.2	31.9	128.9	-90.07	1,289.7	235.7	504.5	344.7	159.87	3.156		
8,169.3	6,469.8	6,458.8	6,458.8	33.0	128.9	-90.02	1,289.7	235.7	496.5	335.5	160.98	3.084		
8,193.0	6,469.6	6,458.6	6,458.6	33.4	128.9	-90.00	1,289.7	235.7	495.9	334.5	161.37	3.073 CC		
8,200.0	6,469.6	6,458.6	6,458.6	33.5	128.9	-89.99	1,289.7	235.7	495.9	334.5	161.48	3.071 ES, SF		
8,267.7	6,469.2	6,458.2	6,458.2	34.7	128.9	-89.95	1,289.7	235.7	501.5	338.9	162.59	3.084		
8,300.0	6,469.0	6,458.0	6,458.0	35.2	128.9	-89.92	1,289.7	235.7	507.3	344.2	163.13	3.110		
8,366.1	6,468.6	6,457.6	6,457.6	36.3	128.8	-89.88	1,289.7	235.7	525.3	361.0	164.23	3.198		
8,400.0	6,468.4	6,457.4	6,457.4	36.9	128.8	-89.85	1,289.7	235.7	537.4	372.6	164.80	3.261		
8,464.5	6,468.0	6,457.0	6,457.0	38.0	128.8	-89.81	1,289.7	235.7	565.4	399.5	165.89	3.408		
8,500.0	6,467.8	6,456.8	6,456.8	38.6	128.8	-89.78	1,289.7	235.7	583.3	416.8	166.49	3.503		
8,563.0	6,467.4	6,456.4	6,456.4	39.6	128.8	-89.74	1,289.7	235.7	618.7	451.2	167.57	3.692		
8,600.0	6,467.1	6,456.1	6,456.1	40.3	128.8	-89.71	1,289.7	235.7	641.6	473.3	168.20	3.814		
8,661.4	6,466.8	6,455.8	6,455.8	41.3	128.8	-89.66	1,289.7	235.7	682.2	512.9	169.27	4.030		
8,700.0	6,466.5	6,455.5	6,455.5	42.0	128.8	-89.64	1,289.7	235.7	709.2	539.3	169.93	4.174		
8,759.8	6,466.1	6,455.1	6,455.1	43.0	128.8	-89.59	1,289.7	235.7	753.2	582.2	170.98	4.405		
8,800.0	6,465.9	6,454.9	6,454.9	43.7	128.8	-89.57	1,289.7	235.7	783.8	612.2	171.68	4.566		
8,858.2	6,465.5	6,454.5	6,454.5	44.8	128.8	-89.52	1,289.7	235.7	829.8	657.1	172.70	4.805		
8,900.0	6,465.3	6,454.3	6,454.3	45.5	128.8	-89.49	1,289.7	235.7	863.6	690.2	173.43	4.979		
8,956.7	6,464.9	6,453.9	6,453.9	46.5	128.8	-89.45	1,289.7	235.7	910.6	736.1	174.44	5.220		
9,000.0	6,464.7	6,453.7	6,453.7	47.3	128.8	-89.42	1,289.7	235.7	947.2	772.0	175.20	5.406		
9,055.1	6,464.3	6,453.3	6,453.3	48.2	128.8	-89.38	1,289.7	235.7	994.6	818.4	176.18	5.645		
9,100.0	6,464.0	6,453.0	6,453.0	49.0	128.8	-89.35	1,289.7	235.7	1,033.7	856.8	176.98	5.841		
9,153.5	6,463.7	6,452.7	6,452.7	50.0	128.7	-89.31	1,289.7	235.7	1,081.0	903.1	177.94	6.075		
9,200.0	6,463.4	6,452.4	6,452.4	50.8	128.7	-89.28	1,289.7	235.7	1,122.5	943.7	178.77	6.279		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #13-29U - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
9,251.9	6,463.1	6,452.1	6,452.1	51.8	128.7	-89.24		1,289.7	235.7	1,169.3	989.6	179.70	6.507	
9,300.0	6,462.8	6,451.8	6,451.8	52.6	128.7	-89.20		1,289.7	235.7	1,213.0	1,032.5	180.56	6.718	
9,350.4	6,462.5	6,451.5	6,451.5	53.5	128.7	-89.17		1,289.7	235.7	1,259.2	1,077.7	181.47	6.939	
9,400.0	6,462.2	6,451.2	6,451.2	54.4	128.7	-89.13		1,289.7	235.7	1,304.9	1,122.5	182.37	7.155	
9,448.8	6,461.9	6,450.9	6,450.9	55.3	128.7	-89.10		1,289.7	235.7	1,350.2	1,166.9	183.25	7.368	
9,500.0	6,461.5	6,450.5	6,450.5	56.2	128.7	-89.06		1,289.7	235.7	1,397.9	1,213.8	184.18	7.590	
9,547.2	6,461.2	6,450.2	6,450.2	57.1	128.7	-89.03		1,289.7	235.7	1,442.2	1,257.1	185.03	7.794	
9,600.0	6,460.9	6,449.9	6,449.9	58.1	128.7	-88.99		1,289.7	235.7	1,491.8	1,305.9	185.99	8.021	
9,645.6	6,460.6	6,449.6	6,449.6	58.9	128.7	-88.95		1,289.7	235.7	1,535.0	1,348.2	186.82	8.216	
9,700.0	6,460.3	6,449.3	6,449.3	59.9	128.7	-88.91		1,289.7	235.7	1,586.5	1,398.7	187.81	8.447	
9,744.1	6,460.0	6,449.0	6,449.0	60.7	128.7	-88.88		1,289.7	235.7	1,628.4	1,439.8	188.62	8.634	
9,800.0	6,459.7	6,448.7	6,448.7	61.7	128.7	-88.84		1,289.7	235.7	1,681.8	1,492.1	189.64	8.868	
9,842.5	6,459.4	6,448.4	6,448.4	62.5	128.7	-88.81		1,289.7	235.7	1,722.4	1,532.0	190.41	9.046	
9,900.0	6,459.0	6,448.0	6,448.0	63.6	128.7	-88.77		1,289.7	235.7	1,777.6	1,586.1	191.46	9.284	
9,940.9	6,458.8	6,447.8	6,447.8	64.3	128.6	-88.74		1,289.7	235.7	1,816.9	1,624.7	192.22	9.453	
10,000.0	6,458.4	6,447.4	6,447.4	65.4	128.6	-88.70		1,289.7	235.7	1,873.8	1,680.5	193.30	9.694	
10,039.3	6,458.2	6,447.2	6,447.2	66.1	128.6	-88.67		1,289.7	235.7	1,911.8	1,717.8	194.02	9.854	
10,100.0	6,457.8	6,446.8	6,446.8	67.2	128.6	-88.62		1,289.7	235.7	1,970.4	1,775.3	195.13	10.098	
10,137.8	6,457.6	6,446.6	6,446.6	67.9	128.6	-88.59		1,289.7	235.7	2,007.0	1,811.2	195.83	10.249	
10,200.0	6,457.2	6,446.2	6,446.2	69.1	128.6	-88.55		1,289.7	235.7	2,067.4	1,870.4	196.97	10.496	
10,236.2	6,456.9	6,445.9	6,445.9	69.8	128.6	-88.52		1,289.7	235.7	2,102.5	1,904.9	197.64	10.638	
10,300.0	6,456.5	6,445.5	6,445.5	70.9	128.6	-88.48		1,289.7	235.7	2,164.6	1,965.8	198.82	10.887	
10,334.6	6,456.3	6,445.3	6,445.3	71.6	128.6	-88.45		1,289.7	235.7	2,198.3	1,998.8	199.45	11.022	
10,400.0	6,455.9	6,444.9	6,444.9	72.8	128.6	-88.40		1,289.7	235.7	2,262.0	2,061.4	200.66	11.273	
10,433.0	6,455.7	6,444.7	6,444.7	73.4	128.6	-88.38		1,289.7	235.7	2,294.3	2,093.0	201.27	11.399	
10,500.0	6,455.3	6,444.3	6,444.3	74.7	128.6	-88.33		1,289.7	235.7	2,359.7	2,157.2	202.51	11.652	
10,531.5	6,455.1	6,444.1	6,444.1	75.2	128.6	-88.31		1,289.7	235.7	2,390.5	2,187.4	203.09	11.771	
10,600.0	6,454.7	6,443.7	6,443.7	76.5	128.6	-88.26		1,289.7	235.7	2,457.5	2,253.2	204.36	12.026	
10,629.9	6,454.5	6,443.5	6,443.5	77.1	128.6	-88.23		1,289.7	235.7	2,486.8	2,281.9	204.91	12.136	
10,700.0	6,454.0	6,443.0	6,443.0	78.4	128.5	-88.18		1,289.7	235.7	2,555.6	2,349.4	206.21	12.393	
10,728.3	6,453.9	6,442.9	6,442.9	78.9	128.5	-88.16		1,289.7	235.7	2,583.4	2,376.6	206.73	12.496	
10,800.0	6,453.4	6,442.4	6,442.4	80.3	128.5	-88.11		1,289.7	235.7	2,653.7	2,445.7	208.06	12.755	
10,826.7	6,453.2	6,442.2	6,442.2	80.8	128.5	-88.09		1,289.7	235.7	2,680.0	2,471.5	208.56	12.850	
10,900.0	6,452.8	6,441.8	6,441.8	82.1	128.5	-88.03		1,289.7	235.7	2,752.0	2,542.1	209.91	13.110	
10,925.2	6,452.6	6,441.6	6,441.6	82.6	128.5	-88.02		1,289.7	235.7	2,776.8	2,566.4	210.38	13.199	
11,000.0	6,452.1	6,441.1	6,441.1	84.0	128.5	-87.96		1,289.7	235.7	2,850.5	2,638.7	211.77	13.460	
11,023.6	6,452.0	6,441.0	6,441.0	84.4	128.5	-87.94		1,289.7	235.7	2,873.7	2,661.5	212.21	13.542	
11,023.7	6,452.0	6,441.0	6,441.0	84.4	128.5	-87.94		1,289.7	235.7	2,873.8	2,661.6	212.21	13.542	
11,024.4	6,452.0	6,441.0	6,441.0	84.5	128.5	-87.94		1,289.7	235.7	2,874.5	2,662.3	212.22	13.545	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #14-29U - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis (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	88.29		7.3	244.1	244.3				
98.4	98.4	91.4	91.4	0.1	0.2	88.29		7.3	244.1	244.2	243.8	0.34	719.317	
100.0	100.0	93.0	93.0	0.1	0.2	88.29		7.3	244.1	244.2	243.8	0.35	706.897	
196.8	196.8	189.8	189.8	0.3	2.6	88.29		7.3	244.1	244.2	241.3	2.88	84.809	
200.0	200.0	193.0	193.0	0.3	2.6	88.29		7.3	244.1	244.2	241.2	2.97	82.304	
295.3	295.3	288.3	288.3	0.5	4.7	88.29		7.3	244.1	244.2	239.0	5.19	47.061	
300.0	300.0	293.0	293.0	0.5	4.7	88.29		7.3	244.1	244.2	238.9	5.30	46.097	
393.7	393.7	386.7	386.7	0.8	6.7	88.29		7.3	244.1	244.2	236.7	7.42	32.918	
400.0	400.0	393.0	393.0	0.8	6.8	88.29		7.3	244.1	244.2	236.6	7.56	32.297	
492.1	492.1	485.1	485.1	1.0	8.7	88.29		7.3	244.1	244.2	234.5	9.63	25.347	
500.0	500.0	493.0	493.0	1.0	8.8	88.29		7.3	244.1	244.2	234.4	9.81	24.889	
590.5	590.5	583.5	583.5	1.2	10.6	88.29		7.3	244.1	244.2	232.3	11.84	20.617	
600.0	600.0	593.0	593.0	1.2	10.8	88.29		7.3	244.1	244.2	232.1	12.05	20.255	
689.0	689.0	682.0	682.0	1.4	12.6	88.29		7.3	244.1	244.2	230.1	14.05	17.379	
700.0	700.0	693.0	693.0	1.4	12.9	88.29		7.3	244.1	244.2	229.9	14.30	17.079	
787.4	787.4	780.4	780.4	1.6	14.6	88.29		7.3	244.1	244.2	227.9	16.25	15.021	
800.0	800.0	793.0	793.0	1.7	14.9	88.29		7.3	244.1	244.2	227.6	16.54	14.765	
885.8	885.8	878.8	878.8	1.9	16.6	88.29		7.3	244.1	244.2	225.7	18.46	13.228	
900.0	900.0	893.0	893.0	1.9	16.9	88.29		7.3	244.1	244.2	225.4	18.78	13.004	
984.2	984.2	977.2	977.2	2.1	18.6	88.29		7.3	244.1	244.2	223.5	20.66	11.817	
1,000.0	1,000.0	993.0	993.0	2.1	18.9	88.29		7.3	244.1	244.2	223.2	21.01	11.619	
1,025.0	1,025.0	1,018.0	1,018.0	2.2	19.4	88.29		7.3	244.1	244.2	222.6	21.57	11.318	
1,082.7	1,082.7	1,075.7	1,075.7	2.3	20.6	-42.38		7.3	244.1	243.7	220.9	22.85	10.668	
1,100.0	1,100.0	1,093.0	1,093.0	2.3	20.9	-42.45		7.3	244.1	243.4	220.2	23.23	10.480	
1,181.1	1,181.0	1,174.0	1,174.0	2.5	22.5	-43.00		7.3	244.1	241.0	216.0	24.99	9.644	
1,200.0	1,199.9	1,192.9	1,192.9	2.5	22.9	-43.19		7.3	244.1	240.2	214.8	25.40	9.457	
1,279.5	1,279.2	1,272.2	1,272.2	2.7	24.5	-44.24		7.3	244.1	235.9	208.8	27.13	8.698	
1,300.0	1,299.6	1,292.6	1,292.6	2.7	24.9	-44.58		7.3	244.1	234.6	207.0	27.57	8.510	
1,377.9	1,377.1	1,370.1	1,370.1	2.9	26.5	-46.16		7.3	244.1	228.6	199.3	29.25	7.815	
1,400.0	1,398.9	1,391.9	1,391.9	2.9	26.9	-46.70		7.3	244.1	226.6	196.9	29.72	7.625	
1,476.4	1,474.5	1,467.5	1,467.5	3.1	28.4	-48.89		7.3	244.1	219.2	187.8	31.37	6.987	
1,500.0	1,497.8	1,490.8	1,490.8	3.2	28.9	-49.68		7.3	244.1	216.7	184.8	31.88	6.797	
1,574.8	1,571.4	1,564.4	1,564.4	3.4	30.4	-52.58		7.3	244.1	208.3	174.8	33.53	6.213	
1,600.0	1,596.1	1,589.1	1,589.1	3.5	30.9	-53.70		7.3	244.1	205.3	171.2	34.08	6.024	
1,673.2	1,667.7	1,660.7	1,660.7	3.7	32.3	-57.44		7.3	244.1	196.4	160.6	35.74	5.495	
1,696.9	1,690.8	1,683.8	1,683.8	3.8	32.8	-58.82		7.3	244.1	193.5	157.2	36.28	5.333	
1,700.0	1,693.8	1,686.8	1,686.8	3.8	32.9	-59.00		7.3	244.1	193.1	156.7	36.35	5.312	
1,771.6	1,763.5	1,756.5	1,756.5	4.1	34.3	-63.33		7.3	244.1	184.9	146.8	38.08	4.855	
1,800.0	1,791.0	1,784.0	1,784.0	4.2	34.8	-65.14		7.3	244.1	182.0	143.2	38.77	4.693	
1,870.1	1,859.2	1,852.2	1,852.2	4.5	36.2	-69.85		7.3	244.1	175.6	135.1	40.50	4.335	
1,900.0	1,888.3	1,881.3	1,881.3	4.6	36.8	-71.96		7.3	244.1	173.2	132.0	41.24	4.201	
1,968.5	1,954.9	1,947.9	1,947.9	4.9	38.1	-76.97		7.3	244.1	168.9	125.9	42.94	3.933	
2,000.0	1,985.6	1,978.6	1,978.6	5.1	38.7	-79.35		7.3	244.1	167.3	123.6	43.72	3.827	
2,066.9	2,050.7	2,043.7	2,043.7	5.4	40.0	-84.51		7.3	244.1	165.1	119.7	45.37	3.638	
2,100.0	2,082.8	2,075.8	2,075.8	5.5	40.7	-87.11		7.3	244.1	164.5	118.3	46.18	3.562	
2,136.7	2,118.5	2,111.5	2,111.5	5.7	41.4	-90.00		7.3	244.1	164.3	117.2	47.07	3.490 CC	
2,165.3	2,146.4	2,139.4	2,139.4	5.8	42.0	-92.26		7.3	244.1	164.4	116.7	47.75	3.443	
2,200.0	2,180.1	2,173.1	2,173.1	6.0	42.6	-94.98		7.3	244.1	164.9	116.4	48.57	3.395 ES	
2,263.8	2,242.1	2,235.1	2,235.1	6.3	43.9	-99.92		7.3	244.1	166.9	116.8	50.06	3.334	
2,300.0	2,277.3	2,270.3	2,270.3	6.4	44.6	-102.66		7.3	244.1	168.6	117.7	50.89	3.313	
2,362.2	2,337.8	2,330.8	2,330.8	6.7	45.8	-107.24		7.3	244.1	172.4	120.1	52.28	3.298 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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #14-29U - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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	
2,400.0	2,374.6	2,367.6	2,367.6	6.9	46.5	-109.91	7.3	244.1	175.3	122.2	53.11	3.301		
2,460.6	2,433.6	2,426.6	2,426.6	7.2	47.7	-114.02	7.3	244.1	180.7	126.3	54.42	3.320		
2,500.0	2,471.9	2,464.9	2,464.9	7.4	48.5	-116.56	7.3	244.1	184.7	129.4	55.26	3.343		
2,559.0	2,529.3	2,522.3	2,522.3	7.6	49.7	-120.16	7.3	244.1	191.4	134.9	56.49	3.387		
2,600.0	2,569.1	2,562.1	2,562.1	7.8	50.5	-122.52	7.3	244.1	196.4	139.1	57.34	3.425		
2,657.5	2,625.0	2,618.0	2,618.0	8.1	51.6	-125.62	7.3	244.1	204.0	145.5	58.53	3.486		
2,700.0	2,666.4	2,659.4	2,659.4	8.3	52.4	-127.78	7.3	244.1	210.0	150.7	59.39	3.537		
2,755.9	2,720.8	2,713.8	2,713.8	8.6	53.5	-130.43	7.3	244.1	218.4	157.9	60.53	3.608		
2,800.0	2,763.7	2,756.7	2,756.7	8.8	54.4	-132.39	7.3	244.1	225.3	163.8	61.43	3.667		
2,854.3	2,816.5	2,809.5	2,809.5	9.1	55.4	-134.64	7.3	244.1	234.1	171.6	62.53	3.744		
2,900.0	2,860.9	2,853.9	2,853.9	9.3	56.3	-136.40	7.3	244.1	241.8	178.3	63.45	3.810		
2,952.7	2,912.2	2,905.2	2,905.2	9.6	57.4	-138.31	7.3	244.1	250.9	186.4	64.52	3.888		
3,000.0	2,958.2	2,951.2	2,951.2	9.8	58.3	-139.91	7.3	244.1	259.3	193.8	65.48	3.960		
3,051.2	3,008.0	3,001.0	3,001.0	10.0	59.3	-141.52	7.3	244.1	268.6	202.1	66.52	4.038		
3,100.0	3,055.4	3,048.4	3,048.4	10.3	60.2	-142.97	7.3	244.1	277.7	210.1	67.52	4.112		
3,149.6	3,103.7	3,096.7	3,096.7	10.5	61.2	-144.34	7.3	244.1	287.0	218.5	68.53	4.188		
3,200.0	3,152.7	3,145.7	3,145.7	10.8	62.2	-145.65	7.3	244.1	296.7	227.2	69.57	4.265		
3,248.0	3,199.4	3,192.4	3,192.4	11.0	63.1	-146.82	7.3	244.1	306.1	235.5	70.55	4.338		
3,300.0	3,250.0	3,243.0	3,243.0	11.3	64.2	-148.01	7.3	244.1	316.3	244.7	71.62	4.417		
3,346.4	3,295.1	3,288.1	3,288.1	11.5	65.1	-149.00	7.3	244.1	325.6	253.0	72.58	4.486		
3,400.0	3,347.2	3,340.2	3,340.2	11.8	66.1	-150.09	7.3	244.1	336.4	262.7	73.69	4.565		
3,444.9	3,390.9	3,383.9	3,383.9	12.0	67.0	-150.95	7.3	244.1	345.6	270.9	74.62	4.631		
3,500.0	3,444.5	3,437.5	3,437.5	12.3	68.1	-151.94	7.3	244.1	356.9	281.1	75.76	4.710		
3,543.3	3,486.6	3,479.6	3,479.6	12.5	68.9	-152.68	7.3	244.1	365.8	289.2	76.66	4.772		
3,600.0	3,541.8	3,534.8	3,534.8	12.8	70.0	-153.59	7.3	244.1	377.7	299.8	77.85	4.851		
3,641.7	3,582.3	3,575.3	3,575.3	13.0	70.8	-154.22	7.3	244.1	386.4	307.7	78.72	4.909		
3,700.0	3,639.0	3,632.0	3,632.0	13.3	72.0	-155.07	7.3	244.1	398.7	318.8	79.94	4.988		
3,740.1	3,678.1	3,671.1	3,671.1	13.5	72.8	-155.62	7.3	244.1	407.2	326.4	80.78	5.041		
3,800.0	3,736.3	3,729.3	3,729.3	13.8	73.9	-156.40	7.3	244.1	420.0	338.0	82.04	5.119		
3,838.6	3,773.8	3,766.8	3,766.8	14.0	74.7	-156.88	7.3	244.1	428.3	345.4	82.85	5.169		
3,900.0	3,833.5	3,826.5	3,826.5	14.3	75.9	-157.60	7.3	244.1	441.5	357.3	84.15	5.246		
3,937.0	3,869.5	3,862.5	3,862.5	14.5	76.6	-158.02	7.3	244.1	449.5	364.5	84.93	5.292		
4,000.0	3,930.8	3,923.8	3,923.8	14.8	77.8	-158.69	7.3	244.1	463.1	376.9	86.26	5.369		
4,035.4	3,965.3	3,958.3	3,958.3	15.0	78.5	-159.05	7.3	244.1	470.8	383.8	87.01	5.411		
4,100.0	4,028.1	4,021.1	4,021.1	15.3	79.8	-159.69	7.3	244.1	484.9	396.5	88.38	5.487		
4,133.8	4,061.0	4,054.0	4,054.0	15.5	80.5	-160.00	7.3	244.1	492.3	403.2	89.10	5.526		
4,200.0	4,125.3	4,118.3	4,118.3	15.8	81.8	-160.60	7.3	244.1	506.9	416.3	90.51	5.600		
4,232.3	4,156.7	4,149.7	4,149.7	16.0	82.4	-160.87	7.3	244.1	514.0	422.8	91.19	5.636		
4,300.0	4,222.6	4,215.6	4,215.6	16.3	83.7	-161.43	7.3	244.1	528.9	436.3	92.64	5.709		
4,330.7	4,252.4	4,245.4	4,245.4	16.5	84.3	-161.67	7.3	244.1	535.7	442.4	93.29	5.742		
4,400.0	4,319.8	4,312.8	4,312.8	16.8	85.7	-162.20	7.3	244.1	551.0	456.3	94.77	5.815		
4,429.1	4,348.2	4,341.2	4,341.2	17.0	86.2	-162.41	7.3	244.1	557.5	462.1	95.39	5.844		
4,500.0	4,417.1	4,410.1	4,410.1	17.3	87.6	-162.91	7.3	244.1	573.3	476.4	96.90	5.916		
4,527.5	4,443.9	4,436.9	4,436.9	17.5	88.2	-163.09	7.3	244.1	579.4	481.9	97.49	5.943		
4,600.0	4,514.4	4,507.4	4,507.4	17.8	89.6	-163.56	7.3	244.1	595.6	496.5	99.04	6.013		
4,626.0	4,539.6	4,532.6	4,532.6	17.9	90.1	-163.72	7.3	244.1	601.4	501.8	99.60	6.038		
4,700.0	4,611.6	4,604.6	4,604.6	18.3	91.5	-164.17	7.3	244.1	617.9	516.7	101.19	6.107		
4,724.4	4,635.4	4,628.4	4,628.4	18.4	92.0	-164.31	7.3	244.1	623.4	521.7	101.71	6.129		
4,800.0	4,708.9	4,701.9	4,701.9	18.8	93.5	-164.74	7.3	244.1	640.4	537.0	103.33	6.197		
4,822.8	4,731.1	4,724.1	4,724.1	18.9	93.9	-164.86	7.3	244.1	645.5	541.7	103.82	6.217		
4,900.0	4,806.2	4,799.2	4,799.2	19.3	95.5	-165.26	7.3	244.1	662.9	557.4	105.48	6.284		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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														
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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	
4,921.2	4,826.8	4,819.8	4,819.8	19.4	95.9	-165.37	7.3	244.1	667.6	561.7	105.93	6.302		
5,000.0	4,903.4	4,896.4	4,896.4	19.8	97.4	-165.76	7.3	244.1	685.4	577.8	107.63	6.368		
5,019.7	4,922.6	4,915.6	4,915.6	19.9	97.8	-165.85	7.3	244.1	689.8	581.8	108.05	6.384		
5,100.0	5,000.7	4,993.7	4,993.7	20.4	99.4	-166.22	7.3	244.1	708.0	598.2	109.78	6.449		
5,118.1	5,018.3	5,011.3	5,011.3	20.4	99.7	-166.30	7.3	244.1	712.1	601.9	110.17	6.463		
5,166.2	5,065.0	5,058.0	5,058.0	20.7	100.7	-166.51	7.3	244.1	722.9	611.7	111.20	6.501		
5,200.0	5,098.0	5,091.0	5,091.0	20.8	101.3	-166.69	7.3	244.1	730.4	618.2	112.18	6.511		
5,216.5	5,114.1	5,107.1	5,107.1	20.9	101.6	-166.77	7.3	244.1	733.9	621.3	112.66	6.515		
5,300.0	5,195.9	5,188.9	5,188.9	21.2	103.3	-167.13	7.3	244.1	750.3	635.3	115.01	6.524		
5,314.9	5,210.6	5,203.6	5,203.6	21.2	103.6	-167.19	7.3	244.1	753.0	637.6	115.42	6.524		
5,400.0	5,294.4	5,287.4	5,287.4	21.5	105.3	-167.49	7.3	244.1	766.8	649.1	117.74	6.513		
5,413.4	5,307.7	5,300.7	5,300.7	21.5	105.5	-167.53	7.3	244.1	768.8	650.7	118.10	6.510		
5,500.0	5,393.5	5,386.5	5,386.5	21.7	107.3	-167.76	7.3	244.1	780.0	659.7	120.36	6.481		
5,511.8	5,405.2	5,398.2	5,398.2	21.8	107.5	-167.79	7.3	244.1	781.4	660.7	120.66	6.476		
5,600.0	5,493.0	5,486.0	5,486.0	22.0	109.3	-167.96	7.3	244.1	789.8	667.0	122.87	6.428		
5,610.2	5,503.2	5,496.2	5,496.2	22.0	109.5	-167.97	7.3	244.1	790.7	667.5	123.12	6.422		
5,700.0	5,592.8	5,585.8	5,585.8	22.1	111.3	-168.08	7.3	244.1	796.3	671.0	125.24	6.358		
5,708.6	5,601.4	5,594.4	5,594.4	22.1	111.4	-168.09	7.3	244.1	796.7	671.2	125.44	6.351		
5,800.0	5,692.7	5,685.7	5,685.7	22.3	113.3	-168.14	7.3	244.1	799.3	671.8	127.48	6.270		
5,807.1	5,699.8	5,692.8	5,692.8	22.3	113.4	-168.14	7.3	244.1	799.4	671.7	127.63	6.263		
5,838.1	5,730.8	5,723.8	5,723.8	22.3	114.0	-37.57	7.3	244.1	799.5	671.2	128.29	6.232		
5,868.1	5,760.8	5,753.8	5,753.8	22.3	114.6	-37.57	7.3	244.1	799.5	670.6	128.94	6.201		
5,900.0	5,792.7	5,785.7	5,785.7	22.4	115.3	-37.63	7.3	244.1	799.0	669.5	129.48	6.170		
5,905.5	5,798.2	5,791.2	5,791.2	22.4	115.4	-37.65	7.3	244.1	798.7	669.2	129.56	6.165		
5,950.0	5,842.6	5,835.6	5,835.6	22.4	116.3	-37.96	7.3	244.1	795.8	665.8	129.98	6.123		
6,000.0	5,892.0	5,885.0	5,885.0	22.4	117.3	-38.58	7.3	244.1	790.0	659.9	130.07	6.073		
6,003.9	5,895.8	5,888.8	5,888.8	22.4	117.4	-38.65	7.3	244.1	789.4	659.3	130.06	6.069		
6,050.0	5,940.8	5,933.8	5,933.8	22.4	118.3	-39.51	7.3	244.1	781.4	651.6	129.80	6.020		
6,100.0	5,988.7	5,981.7	5,981.7	22.3	119.2	-40.77	7.3	244.1	770.4	641.1	129.25	5.960		
6,102.3	5,990.9	5,983.9	5,983.9	22.3	119.3	-40.77	7.3	244.1	769.8	640.6	129.22	5.957		
6,150.0	6,035.5	6,028.5	6,028.5	22.2	120.2	-42.36	7.3	244.1	756.8	628.3	128.53	5.889		
6,200.0	6,081.0	6,074.0	6,074.0	22.2	121.1	-44.32	7.3	244.1	741.1	613.3	127.77	5.800		
6,200.8	6,081.7	6,074.7	6,074.7	22.2	121.1	-44.35	7.3	244.1	740.8	613.1	127.76	5.798		
6,250.0	6,124.9	6,117.9	6,117.9	22.0	122.0	-46.66	7.3	244.1	723.3	596.1	127.18	5.687		
6,299.2	6,166.4	6,159.4	6,159.4	21.9	122.8	-49.35	7.3	244.1	703.9	577.0	126.94	5.546		
6,300.0	6,167.0	6,160.0	6,160.0	21.9	122.8	-49.40	7.3	244.1	703.6	576.7	126.94	5.543		
6,350.0	6,207.2	6,200.2	6,200.2	21.8	123.6	-52.55	7.3	244.1	682.5	555.2	127.24	5.363		
6,397.6	6,243.4	6,236.4	6,236.4	21.6	124.4	-55.90	7.3	244.1	661.2	533.0	128.17	5.159		
6,400.0	6,245.2	6,238.2	6,238.2	21.6	124.4	-56.08	7.3	244.1	660.1	531.9	128.23	5.148		
6,450.0	6,280.8	6,273.8	6,273.8	21.5	125.1	-59.96	7.3	244.1	637.0	507.1	129.94	4.902		
6,496.0	6,311.4	6,304.4	6,304.4	21.3	125.7	-63.77	7.3	244.1	615.4	483.3	132.06	4.660		
6,500.0	6,313.9	6,306.9	6,306.9	21.3	125.8	-64.10	7.3	244.1	613.6	481.3	132.26	4.639		
6,550.0	6,344.3	6,337.3	6,337.3	21.2	126.4	-68.40	7.3	244.1	590.3	455.3	134.97	4.374		
6,594.5	6,368.9	6,361.9	6,361.9	21.0	126.9	-72.23	7.3	244.1	570.3	432.8	137.44	4.149		
6,600.0	6,371.8	6,364.8	6,364.8	21.0	126.9	-72.70	7.3	244.1	567.8	430.1	137.74	4.123		
6,650.0	6,396.4	6,389.4	6,389.4	20.8	127.4	-76.82	7.3	244.1	546.8	406.5	140.27	3.898		
6,692.9	6,415.0	6,408.0	6,408.0	20.7	127.8	-80.11	7.3	244.1	530.4	388.3	142.08	3.733		
6,700.0	6,417.9	6,410.9	6,410.9	20.7	127.9	-80.62	7.3	244.1	527.9	385.5	142.34	3.709		
6,750.0	6,436.2	6,429.2	6,429.2	20.5	128.2	-83.92	7.3	244.1	511.9	368.0	143.87	3.558		
6,791.3	6,448.8	6,441.8	6,441.8	20.4	128.5	-86.20	7.3	244.1	501.3	356.5	144.75	3.463		
6,800.0	6,451.1	6,444.1	6,444.1	20.3	128.5	-86.62	7.3	244.1	499.4	354.5	144.90	3.446		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #14-29U - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	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
6,850.0	6,462.8	6,455.8	6,455.8	20.2	128.8	-88.61		7.3	244.1	491.2	345.6	145.55	3.374	
6,889.7	6,469.6	6,462.6	6,462.6	20.1	128.9	-89.65		7.3	244.1	488.0	342.0	145.91	3.344	
6,900.0	6,471.0	6,464.0	6,464.0	20.0	128.9	-89.84		7.3	244.1	487.6	341.6	145.98	3.340	
6,910.4	6,472.2	6,465.2	6,465.2	20.0	129.0	-90.00		7.3	244.1	487.5	341.5	146.06	3.338	
6,950.0	6,475.7	6,468.7	6,468.7	19.9	129.0	-90.28		7.3	244.1	489.1	342.8	146.30	3.343	
6,988.2	6,477.0	6,470.0	6,470.0	19.8	129.1	-90.06		7.3	244.1	493.7	347.2	146.50	3.370	
6,997.5	6,477.0	6,470.0	6,470.0	19.8	129.1	-89.94		7.3	244.1	495.2	348.7	146.54	3.379	
7,000.0	6,477.0	6,470.0	6,470.0	19.8	129.1	-89.94		7.3	244.1	495.7	349.1	146.56	3.382	
7,086.6	6,476.5	6,469.5	6,469.5	19.6	129.0	-89.87		7.3	244.1	518.3	371.2	147.09	3.524	
7,100.0	6,476.4	6,469.4	6,469.4	19.6	129.0	-89.86		7.3	244.1	523.0	375.9	147.17	3.554	
7,185.0	6,475.9	6,468.9	6,468.9	19.7	129.0	-89.80		7.3	244.1	559.5	411.6	147.84	3.784	
7,200.0	6,475.8	6,468.8	6,468.8	19.8	129.0	-89.79		7.3	244.1	567.0	419.0	147.96	3.832	
7,283.4	6,475.2	6,468.2	6,468.2	20.4	129.0	-89.73		7.3	244.1	613.8	465.0	148.74	4.127	
7,300.0	6,475.1	6,468.1	6,468.1	20.6	129.0	-89.72		7.3	244.1	624.0	475.1	148.89	4.191	
7,381.9	6,474.6	6,467.6	6,467.6	21.5	129.0	-89.66		7.3	244.1	678.1	528.3	149.77	4.527	
7,400.0	6,474.5	6,467.5	6,467.5	21.8	129.0	-89.65		7.3	244.1	690.8	540.8	149.97	4.606	
7,480.3	6,474.0	6,467.0	6,467.0	22.8	129.0	-89.59		7.3	244.1	749.8	598.9	150.92	4.968	
7,500.0	6,473.9	6,466.9	6,466.9	23.0	129.0	-89.57		7.3	244.1	764.9	613.8	151.16	5.060	
7,578.7	6,473.4	6,466.4	6,466.4	24.1	129.0	-89.52		7.3	244.1	827.1	674.9	152.17	5.435	
7,600.0	6,473.3	6,466.3	6,466.3	24.4	129.0	-89.50		7.3	244.1	844.4	691.9	152.44	5.539	
7,677.1	6,472.8	6,465.8	6,465.8	25.5	129.0	-89.45		7.3	244.1	908.5	755.0	153.49	5.919	
7,700.0	6,472.7	6,465.7	6,465.7	25.8	129.0	-89.43		7.3	244.1	927.8	774.0	153.80	6.032	
7,775.6	6,472.2	6,465.2	6,465.2	26.9	129.0	-89.37		7.3	244.1	992.9	838.0	154.89	6.411	
7,800.0	6,472.1	6,465.1	6,465.1	27.3	129.0	-89.36		7.3	244.1	1,014.3	859.0	155.24	6.534	
7,874.0	6,471.6	6,464.6	6,464.6	28.4	128.9	-89.30		7.3	244.1	1,079.7	923.4	156.34	6.906	
7,900.0	6,471.5	6,464.5	6,464.5	28.8	128.9	-89.28		7.3	244.1	1,103.0	946.3	156.72	7.038	
7,972.4	6,471.0	6,464.0	6,464.0	29.9	128.9	-89.23		7.3	244.1	1,168.4	1,010.6	157.84	7.403	
8,000.0	6,470.8	6,463.8	6,463.8	30.3	128.9	-89.21		7.3	244.1	1,193.5	1,035.3	158.26	7.541	
8,070.8	6,470.4	6,463.4	6,463.4	31.4	128.9	-89.16		7.3	244.1	1,258.5	1,099.1	159.38	7.896	
8,100.0	6,470.2	6,463.2	6,463.2	31.9	128.9	-89.14		7.3	244.1	1,285.4	1,125.6	159.84	8.042	
8,169.3	6,469.8	6,462.8	6,462.8	33.0	128.9	-89.09		7.3	244.1	1,349.8	1,188.8	160.96	8.386	
8,200.0	6,469.6	6,462.6	6,462.6	33.5	128.9	-89.06		7.3	244.1	1,378.5	1,217.0	161.45	8.538	
8,267.7	6,469.2	6,462.2	6,462.2	34.7	128.9	-89.02		7.3	244.1	1,442.0	1,279.5	162.56	8.870	
8,300.0	6,469.0	6,462.0	6,462.0	35.2	128.9	-88.99		7.3	244.1	1,472.5	1,309.4	163.09	9.028	
8,366.1	6,468.6	6,461.6	6,461.6	36.3	128.9	-88.94		7.3	244.1	1,535.0	1,370.8	164.20	9.349	
8,400.0	6,468.4	6,461.4	6,461.4	36.9	128.9	-88.92		7.3	244.1	1,567.2	1,402.4	164.76	9.512	
8,464.5	6,468.0	6,461.0	6,461.0	38.0	128.9	-88.87		7.3	244.1	1,628.6	1,462.8	165.85	9.820	
8,500.0	6,467.8	6,460.8	6,460.8	38.6	128.9	-88.84		7.3	244.1	1,662.5	1,496.0	166.45	9.988	
8,563.0	6,467.4	6,460.4	6,460.4	39.6	128.9	-88.80		7.3	244.1	1,722.8	1,555.3	167.53	10.284	
8,600.0	6,467.1	6,460.1	6,460.1	40.3	128.9	-88.77		7.3	244.1	1,758.3	1,590.2	168.16	10.456	
8,661.4	6,466.8	6,459.8	6,459.8	41.3	128.8	-88.73		7.3	244.1	1,817.4	1,648.2	169.22	10.740	
8,700.0	6,466.5	6,459.5	6,459.5	42.0	128.8	-88.70		7.3	244.1	1,854.6	1,684.7	169.89	10.917	
8,759.8	6,466.1	6,459.1	6,459.1	43.0	128.8	-88.65		7.3	244.1	1,912.4	1,741.5	170.93	11.188	
8,800.0	6,465.9	6,458.9	6,458.9	43.7	128.8	-88.62		7.3	244.1	1,951.3	1,779.7	171.63	11.369	
8,858.2	6,465.5	6,458.5	6,458.5	44.8	128.8	-88.58		7.3	244.1	2,007.7	1,835.1	172.65	11.629	
8,900.0	6,465.3	6,458.3	6,458.3	45.5	128.8	-88.55		7.3	244.1	2,048.3	1,874.9	173.38	11.814	
8,956.7	6,464.9	6,457.9	6,457.9	46.5	128.8	-88.51		7.3	244.1	2,103.3	1,929.0	174.38	12.062	
9,000.0	6,464.7	6,457.7	6,457.7	47.3	128.8	-88.48		7.3	244.1	2,145.5	1,970.4	175.15	12.250	
9,055.1	6,464.3	6,457.3	6,457.3	48.2	128.8	-88.44		7.3	244.1	2,199.2	2,023.1	176.13	12.487	
9,100.0	6,464.0	6,457.0	6,457.0	49.0	128.8	-88.40		7.3	244.1	2,243.0	2,066.1	176.92	12.678	
9,153.5	6,463.7	6,456.7	6,456.7	50.0	128.8	-88.36		7.3	244.1	2,295.3	2,117.4	177.88	12.904	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #14-29U - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													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 (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
9,200.0	6,463.4	6,456.4	6,456.4	50.8	128.8	-88.33		7.3	244.1	2,340.7	2,162.0	178.71	13.098	
9,251.9	6,463.1	6,456.1	6,456.1	51.8	128.8	-88.29		7.3	244.1	2,391.6	2,211.9	179.64	13.313	
9,300.0	6,462.8	6,455.8	6,455.8	52.6	128.8	-88.25		7.3	244.1	2,438.6	2,258.1	180.50	13.511	
9,350.4	6,462.5	6,455.5	6,455.5	53.5	128.8	-88.22		7.3	244.1	2,488.0	2,306.6	181.40	13.715	
9,400.0	6,462.2	6,455.2	6,455.2	54.4	128.8	-88.18		7.3	244.1	2,536.7	2,354.4	182.30	13.915	
9,448.8	6,461.9	6,454.9	6,454.9	55.3	128.7	-88.14		7.3	244.1	2,584.6	2,401.4	183.18	14.110	
9,500.0	6,461.5	6,454.5	6,454.5	56.2	128.7	-88.10		7.3	244.1	2,634.9	2,450.8	184.10	14.312	
9,547.2	6,461.2	6,454.2	6,454.2	57.1	128.7	-88.07		7.3	244.1	2,681.3	2,496.3	184.96	14.497	
9,600.0	6,460.9	6,453.9	6,453.9	58.1	128.7	-88.03		7.3	244.1	2,733.2	2,547.3	185.91	14.702	
9,645.6	6,460.6	6,453.6	6,453.6	58.9	128.7	-88.00		7.3	244.1	2,778.1	2,591.4	186.74	14.877	
9,700.0	6,460.3	6,453.3	6,453.3	59.9	128.7	-87.96		7.3	244.1	2,831.7	2,643.9	187.73	15.084	
9,744.1	6,460.0	6,453.0	6,453.0	60.7	128.7	-87.92		7.3	244.1	2,875.1	2,686.6	188.53	15.250	
9,800.0	6,459.7	6,452.7	6,452.7	61.7	128.7	-87.88		7.3	244.1	2,930.2	2,740.7	189.55	15.459	
9,842.5	6,459.4	6,452.4	6,452.4	62.5	128.7	-87.85		7.3	244.1	2,972.1	2,781.8	190.32	15.616	
9,900.0	6,459.0	6,452.0	6,452.0	63.6	128.7	-87.81		7.3	244.1	3,028.9	2,837.5	191.37	15.827	
9,940.9	6,458.8	6,451.8	6,451.8	64.3	128.7	-87.78		7.3	244.1	3,069.3	2,877.1	192.12	15.976	
10,000.0	6,458.4	6,451.4	6,451.4	65.4	128.7	-87.73		7.3	244.1	3,127.6	2,934.4	193.20	16.189	
10,039.3	6,458.2	6,451.2	6,451.2	66.1	128.7	-87.70		7.3	244.1	3,166.5	2,972.6	193.92	16.329	
10,100.0	6,457.8	6,450.8	6,450.8	67.2	128.7	-87.66		7.3	244.1	3,226.4	3,031.4	195.03	16.543	
10,137.8	6,457.6	6,450.6	6,450.6	67.9	128.7	-87.63		7.3	244.1	3,263.8	3,068.0	195.72	16.675	
10,200.0	6,457.2	6,450.2	6,450.2	69.1	128.7	-87.58		7.3	244.1	3,325.3	3,128.4	196.86	16.891	
10,236.2	6,456.9	6,449.9	6,449.9	69.8	128.6	-87.56		7.3	244.1	3,361.1	3,163.6	197.53	17.016	
10,300.0	6,456.5	6,449.5	6,449.5	70.9	128.6	-87.51		7.3	244.1	3,424.3	3,225.6	198.70	17.233	
10,334.6	6,456.3	6,449.3	6,449.3	71.6	128.6	-87.48		7.3	244.1	3,458.5	3,259.2	199.34	17.350	
10,400.0	6,455.9	6,448.9	6,448.9	72.8	128.6	-87.43		7.3	244.1	3,523.3	3,322.7	200.54	17.569	
10,433.0	6,455.7	6,448.7	6,448.7	73.4	128.6	-87.41		7.3	244.1	3,556.0	3,354.8	201.15	17.678	
10,500.0	6,455.3	6,448.3	6,448.3	74.7	128.6	-87.36		7.3	244.1	3,622.3	3,419.9	202.38	17.898	
10,531.5	6,455.1	6,448.1	6,448.1	75.2	128.6	-87.33		7.3	244.1	3,653.5	3,450.5	202.96	18.001	
10,600.0	6,454.7	6,447.7	6,447.7	76.5	128.6	-87.28		7.3	244.1	3,721.4	3,517.2	204.23	18.222	
10,629.9	6,454.5	6,447.5	6,447.5	77.1	128.6	-87.26		7.3	244.1	3,751.1	3,546.3	204.78	18.318	
10,700.0	6,454.0	6,447.0	6,447.0	78.4	128.6	-87.21		7.3	244.1	3,820.6	3,614.5	206.07	18.540	
10,728.3	6,453.9	6,446.9	6,446.9	78.9	128.6	-87.18		7.3	244.1	3,848.7	3,642.1	206.60	18.629	
10,800.0	6,453.4	6,446.4	6,446.4	80.3	128.6	-87.13		7.3	244.1	3,919.8	3,711.9	207.92	18.852	
10,826.7	6,453.2	6,446.2	6,446.2	80.8	128.6	-87.11		7.3	244.1	3,946.3	3,737.9	208.41	18.935	
10,900.0	6,452.8	6,445.8	6,445.8	82.1	128.6	-87.05		7.3	244.1	4,019.0	3,809.3	209.77	19.159	
10,925.2	6,452.6	6,445.6	6,445.6	82.6	128.6	-87.04		7.3	244.1	4,044.0	3,833.8	210.23	19.236	
11,000.0	6,452.1	6,445.1	6,445.1	84.0	128.6	-86.98		7.3	244.1	4,118.3	3,906.7	211.62	19.461	
11,023.6	6,452.0	6,445.0	6,445.0	84.4	128.5	-86.96		7.3	244.1	4,141.7	3,929.7	212.06	19.531	
11,023.7	6,452.0	6,445.0	6,445.0	84.4	128.5	-86.96		7.3	244.1	4,141.9	3,929.8	212.06	19.532	
11,024.4	6,452.0	6,445.0	6,445.0	84.5	128.5	-86.96		7.3	244.1	4,142.6	3,930.5	212.07	19.534	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #29BU - Wellbore #1 - Design #1												Offset Site Error:	0.0 usft
Survey Program: 0-INC												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
0.0	0.0	0.0	0.0	0.0	0.0	59.77	561.1	963.0	1,114.6				
98.4	98.4	86.4	86.4	0.1	0.3	59.77	561.1	963.0	1,114.5	1,114.1	0.38	2,904.950	
100.0	100.0	88.0	88.0	0.1	0.3	59.77	561.1	963.0	1,114.5	1,114.1	0.39	2,852.808	
196.8	196.8	184.8	184.8	0.3	2.5	59.77	561.1	963.0	1,114.5	1,111.7	2.80	398.416	
200.0	200.0	188.0	188.0	0.3	2.6	59.77	561.1	963.0	1,114.5	1,111.6	2.88	386.417	
295.3	295.3	283.3	283.3	0.5	4.6	59.77	561.1	963.0	1,114.5	1,109.4	5.13	217.276	
300.0	300.0	288.0	288.0	0.5	4.7	59.77	561.1	963.0	1,114.5	1,109.3	5.24	212.771	
393.7	393.7	381.7	381.7	0.8	6.6	59.77	561.1	963.0	1,114.5	1,107.2	7.36	151.388	
400.0	400.0	388.0	388.0	0.8	6.7	59.77	561.1	963.0	1,114.5	1,107.0	7.50	148.513	
492.1	492.1	480.1	480.1	1.0	8.6	59.77	561.1	963.0	1,114.5	1,104.9	9.58	116.351	
500.0	500.0	488.0	488.0	1.0	8.8	59.77	561.1	963.0	1,114.5	1,104.8	9.76	114.238	
590.5	590.5	578.5	578.5	1.2	10.6	59.77	561.1	963.0	1,114.5	1,102.7	11.79	94.535	
600.0	600.0	588.0	588.0	1.2	10.8	59.77	561.1	963.0	1,114.5	1,102.5	12.00	92.864	
689.0	689.0	677.0	677.0	1.4	12.6	59.77	561.1	963.0	1,114.5	1,100.5	14.00	79.627	
700.0	700.0	688.0	688.0	1.4	12.8	59.77	561.1	963.0	1,114.5	1,100.3	14.24	78.245	
787.4	787.4	775.4	775.4	1.6	14.6	59.77	561.1	963.0	1,114.5	1,098.3	16.20	68.788	
800.0	800.0	788.0	788.0	1.7	14.8	59.77	561.1	963.0	1,114.5	1,098.0	16.48	67.610	
885.8	885.8	873.8	873.8	1.9	16.5	59.77	561.1	963.0	1,114.5	1,096.1	18.41	60.550	
900.0	900.0	888.0	888.0	1.9	16.8	59.77	561.1	963.0	1,114.5	1,095.8	18.72	59.524	
984.2	984.2	972.2	972.2	2.1	18.5	59.77	561.1	963.0	1,114.5	1,093.9	20.61	54.077	
1,000.0	1,000.0	988.0	988.0	2.1	18.8	59.77	561.1	963.0	1,114.5	1,093.6	20.96	53.167	
1,025.0	1,025.0	1,013.0	1,013.0	2.2	19.3	59.77	561.1	963.0	1,114.5	1,093.0	21.52	51.785	
1,082.7	1,082.7	1,070.7	1,070.7	2.3	20.5	-70.83	561.1	963.0	1,114.3	1,091.5	22.80	48.877	
1,100.0	1,100.0	1,088.0	1,088.0	2.3	20.9	-70.85	561.1	963.0	1,114.2	1,091.0	23.18	48.063	
1,181.1	1,181.0	1,169.0	1,169.0	2.5	22.5	-71.03	561.1	963.0	1,113.1	1,088.2	24.96	44.597	
1,200.0	1,199.9	1,187.9	1,187.9	2.5	22.9	-71.09	561.1	963.0	1,112.8	1,087.4	25.37	43.856	
1,279.5	1,279.2	1,267.2	1,267.2	2.7	24.5	-71.42	561.1	963.0	1,110.8	1,083.7	27.12	40.959	
1,300.0	1,299.6	1,287.6	1,287.6	2.7	24.9	-71.52	561.1	963.0	1,110.2	1,082.7	27.57	40.269	
1,377.9	1,377.1	1,365.1	1,365.1	2.9	26.4	-71.99	561.1	963.0	1,107.6	1,078.3	29.29	37.811	
1,400.0	1,398.9	1,386.9	1,386.9	2.9	26.9	-72.14	561.1	963.0	1,106.7	1,076.9	29.78	37.165	
1,476.4	1,474.5	1,462.5	1,462.5	3.1	28.4	-72.74	561.1	963.0	1,103.4	1,071.9	31.48	35.051	
1,500.0	1,497.8	1,485.8	1,485.8	3.2	28.9	-72.95	561.1	963.0	1,102.2	1,070.2	32.00	34.440	
1,574.8	1,571.4	1,559.4	1,559.4	3.4	30.3	-73.68	561.1	963.0	1,098.3	1,064.6	33.69	32.602	
1,600.0	1,596.1	1,584.1	1,584.1	3.5	30.8	-73.95	561.1	963.0	1,096.9	1,062.7	34.26	32.021	
1,673.2	1,667.7	1,655.7	1,655.7	3.7	32.3	-74.79	561.1	963.0	1,092.7	1,056.7	35.93	30.407	
1,696.9	1,690.8	1,678.8	1,678.8	3.8	32.7	-75.09	561.1	963.0	1,091.2	1,054.8	36.48	29.916	
1,700.0	1,693.8	1,681.8	1,681.8	3.8	32.8	-75.12	561.1	963.0	1,091.0	1,054.5	36.55	29.852	
1,771.6	1,763.5	1,751.5	1,751.5	4.1	34.2	-75.95	561.1	963.0	1,086.8	1,048.5	38.23	28.429	
1,800.0	1,791.0	1,779.0	1,779.0	4.2	34.8	-76.28	561.1	963.0	1,085.2	1,046.3	38.89	27.900	
1,870.1	1,859.2	1,847.2	1,847.2	4.5	36.1	-77.10	561.1	963.0	1,081.3	1,040.7	40.56	26.662	
1,900.0	1,888.3	1,876.3	1,876.3	4.6	36.7	-77.45	561.1	963.0	1,079.7	1,038.5	41.27	26.165	
1,968.5	1,954.9	1,942.9	1,942.9	4.9	38.1	-78.25	561.1	963.0	1,076.3	1,033.4	42.90	25.086	
2,000.0	1,985.6	1,973.6	1,973.6	5.1	38.7	-78.62	561.1	963.0	1,074.8	1,031.1	43.66	24.618	
2,066.9	2,050.7	2,038.7	2,038.7	5.4	40.0	-79.42	561.1	963.0	1,071.7	1,026.5	45.27	23.675	
2,100.0	2,082.8	2,070.8	2,070.8	5.5	40.6	-79.81	561.1	963.0	1,070.3	1,024.3	46.07	23.234	
2,165.3	2,146.4	2,134.4	2,134.4	5.8	41.9	-80.59	561.1	963.0	1,067.7	1,020.0	47.65	22.407	
2,200.0	2,180.1	2,168.1	2,168.1	6.0	42.6	-81.01	561.1	963.0	1,066.3	1,017.9	48.49	21.992	
2,263.8	2,242.1	2,230.1	2,230.1	6.3	43.8	-81.78	561.1	963.0	1,064.1	1,014.0	50.04	21.266	
2,300.0	2,277.3	2,265.3	2,265.3	6.4	44.5	-82.21	561.1	963.0	1,062.9	1,011.9	50.92	20.874	
2,362.2	2,337.8	2,325.8	2,325.8	6.7	45.8	-82.97	561.1	963.0	1,060.9	1,008.5	52.43	20.234	
2,400.0	2,374.6	2,362.6	2,362.6	6.9	46.5	-83.42	561.1	963.0	1,059.9	1,006.5	53.35	19.865	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #29BU - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	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
2,460.6	2,433.6	2,421.6	2,421.6	7.2	47.7	-84.16		561.1	963.0	1,058.3	1,003.5	54.83	19.300	
2,500.0	2,471.9	2,459.9	2,459.9	7.4	48.5	-84.64		561.1	963.0	1,057.4	1,001.6	55.80	18.951	
2,559.0	2,529.3	2,517.3	2,517.3	7.6	49.6	-85.36		561.1	963.0	1,056.2	998.9	57.24	18.451	
2,600.0	2,569.1	2,557.1	2,557.1	7.8	50.4	-85.86		561.1	963.0	1,055.4	997.2	58.24	18.121	
2,657.5	2,625.0	2,613.0	2,613.0	8.1	51.5	-86.57		561.1	963.0	1,054.5	994.9	59.65	17.679	
2,700.0	2,666.4	2,654.4	2,654.4	8.3	52.4	-87.09		561.1	963.0	1,053.9	993.3	60.69	17.366	
2,755.9	2,720.8	2,708.8	2,708.8	8.6	53.5	-87.77		561.1	963.0	1,053.3	991.3	62.06	16.974	
2,800.0	2,763.7	2,751.7	2,751.7	8.8	54.3	-88.32		561.1	963.0	1,053.0	989.8	63.14	16.678	
2,854.3	2,816.5	2,804.5	2,804.5	9.1	55.4	-88.99		561.1	963.0	1,052.7	988.2	64.47	16.329	
2,900.0	2,860.9	2,848.9	2,848.9	9.3	56.3	-89.55		561.1	963.0	1,052.5	987.0	65.58	16.048	
2,936.8	2,896.7	2,884.7	2,884.7	9.5	57.0	-90.00		561.1	963.0	1,052.5	986.0	66.49	15.830	
2,952.7	2,912.2	2,900.2	2,900.2	9.6	57.3	-90.20		561.1	963.0	1,052.5	985.6	66.88	15.738	
3,000.0	2,958.2	2,946.2	2,946.2	9.8	58.2	-90.78		561.1	963.0	1,052.6	984.6	68.03	15.472	
3,051.2	3,008.0	2,996.0	2,996.0	10.0	59.2	-91.41		561.1	963.0	1,052.8	983.6	69.28	15.196	
3,100.0	3,055.4	3,043.4	3,043.4	10.3	60.2	-92.01		561.1	963.0	1,053.2	982.7	70.47	14.944	
3,149.6	3,103.7	3,091.7	3,091.7	10.5	61.2	-92.62		561.1	963.0	1,053.7	982.0	71.69	14.698	
3,200.0	3,152.7	3,140.7	3,140.7	10.8	62.1	-93.23		561.1	963.0	1,054.3	981.4	72.92	14.459	
3,248.0	3,199.4	3,187.4	3,187.4	11.0	63.1	-93.82		561.1	963.0	1,055.0	980.9	74.09	14.240	
3,300.0	3,250.0	3,238.0	3,238.0	11.3	64.1	-94.46		561.1	963.0	1,055.9	980.5	75.35	14.013	
3,346.4	3,295.1	3,283.1	3,283.1	11.5	65.0	-95.03		561.1	963.0	1,056.8	980.3	76.48	13.818	
3,400.0	3,347.2	3,335.2	3,335.2	11.8	66.1	-95.68		561.1	963.0	1,058.0	980.2	77.78	13.602	
3,444.9	3,390.9	3,378.9	3,378.9	12.0	66.9	-96.23		561.1	963.0	1,059.1	980.2	78.87	13.428	
3,500.0	3,444.5	3,432.5	3,432.5	12.3	68.0	-96.90		561.1	963.0	1,060.6	980.4	80.21	13.223	
3,543.3	3,486.6	3,474.6	3,474.6	12.5	68.9	-97.42		561.1	963.0	1,061.9	980.6	81.26	13.068	
3,600.0	3,541.8	3,529.8	3,529.8	12.8	70.0	-98.11		561.1	963.0	1,063.7	981.1	82.63	12.874	
3,641.7	3,582.3	3,570.3	3,570.3	13.0	70.8	-98.61		561.1	963.0	1,065.2	981.5	83.64	12.736	
3,700.0	3,639.0	3,627.0	3,627.0	13.3	71.9	-99.31		561.1	963.0	1,067.3	982.3	85.04	12.551	
3,740.1	3,678.1	3,666.1	3,666.1	13.5	72.7	-99.79		561.1	963.0	1,068.9	982.9	86.01	12.428	
3,800.0	3,736.3	3,724.3	3,724.3	13.8	73.9	-100.50		561.1	963.0	1,071.4	984.0	87.45	12.253	
3,838.6	3,773.8	3,761.8	3,761.8	14.0	74.6	-100.96		561.1	963.0	1,073.2	984.8	88.37	12.144	
3,900.0	3,833.5	3,821.5	3,821.5	14.3	75.8	-101.69		561.1	963.0	1,076.0	986.2	89.85	11.977	
3,937.0	3,869.5	3,857.5	3,857.5	14.5	76.6	-102.12		561.1	963.0	1,077.9	987.1	90.73	11.880	
4,000.0	3,930.8	3,918.8	3,918.8	14.8	77.8	-102.86		561.1	963.0	1,081.1	988.9	92.24	11.721	
4,035.4	3,965.3	3,953.3	3,953.3	15.0	78.5	-103.28		561.1	963.0	1,083.0	989.9	93.08	11.635	
4,100.0	4,028.1	4,016.1	4,016.1	15.3	79.8	-104.03		561.1	963.0	1,086.7	992.0	94.62	11.485	
4,133.8	4,061.0	4,049.0	4,049.0	15.5	80.4	-104.42		561.1	963.0	1,088.6	993.2	95.42	11.409	
4,200.0	4,125.3	4,113.3	4,113.3	15.8	81.7	-105.18		561.1	963.0	1,092.7	995.7	96.99	11.266	
4,232.3	4,156.7	4,144.7	4,144.7	16.0	82.3	-105.55		561.1	963.0	1,094.7	997.0	97.75	11.199	
4,300.0	4,222.6	4,210.6	4,210.6	16.3	83.7	-106.32		561.1	963.0	1,099.1	999.8	99.35	11.063	
4,330.7	4,252.4	4,240.4	4,240.4	16.5	84.3	-106.66		561.1	963.0	1,101.2	1,001.1	100.08	11.004	
4,400.0	4,319.8	4,307.8	4,307.8	16.8	85.6	-107.44		561.1	963.0	1,106.1	1,004.4	101.71	10.875	
4,429.1	4,348.2	4,336.2	4,336.2	17.0	86.2	-107.77		561.1	963.0	1,108.2	1,005.8	102.39	10.823	
4,500.0	4,417.1	4,405.1	4,405.1	17.3	87.6	-108.56		561.1	963.0	1,113.4	1,009.4	104.06	10.700	
4,527.5	4,443.9	4,431.9	4,431.9	17.5	88.1	-108.86		561.1	963.0	1,115.5	1,010.8	104.70	10.654	
4,600.0	4,514.4	4,502.4	4,502.4	17.8	89.5	-109.66		561.1	963.0	1,121.2	1,014.8	106.39	10.538	
4,626.0	4,539.6	4,527.6	4,527.6	17.9	90.0	-109.94		561.1	963.0	1,123.3	1,016.3	107.00	10.498	
4,700.0	4,611.6	4,599.6	4,599.6	18.3	91.5	-110.74		561.1	963.0	1,129.5	1,020.7	108.72	10.388	
4,724.4	4,635.4	4,623.4	4,623.4	18.4	92.0	-111.00		561.1	963.0	1,131.5	1,022.2	109.29	10.354	
4,800.0	4,708.9	4,696.9	4,696.9	18.8	93.4	-111.81		561.1	963.0	1,138.1	1,027.0	111.04	10.249	
4,822.8	4,731.1	4,719.1	4,719.1	18.9	93.9	-112.05		561.1	963.0	1,140.1	1,028.5	111.57	10.219	
4,900.0	4,806.2	4,794.2	4,794.2	19.3	95.4	-112.86		561.1	963.0	1,147.1	1,033.8	113.35	10.120	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #29BU - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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	
4,921.2	4,826.8	4,814.8	4,814.8	19.4	95.8	-113.08	561.1	963.0	1,149.1	1,035.3	113.84	10.094		
5,000.0	4,903.4	4,891.4	4,891.4	19.8	97.4	-113.90	561.1	963.0	1,156.6	1,040.9	115.65	10.000		
5,019.7	4,922.6	4,910.6	4,910.6	19.9	97.7	-114.10	561.1	963.0	1,158.5	1,042.4	116.10	9.978		
5,100.0	5,000.7	4,988.7	4,988.7	20.4	99.3	-114.92	561.1	963.0	1,166.4	1,048.5	117.94	9.889		
5,118.1	5,018.3	5,006.3	5,006.3	20.4	99.7	-115.10	561.1	963.0	1,168.2	1,049.9	118.36	9.870		
5,166.2	5,065.0	5,053.0	5,053.0	20.7	100.6	-115.58	561.1	963.0	1,173.1	1,053.6	119.46	9.820		
5,200.0	5,098.0	5,086.0	5,086.0	20.8	101.3	-115.98	561.1	963.0	1,176.5	1,056.3	120.25	9.784		
5,216.5	5,114.1	5,102.1	5,102.1	20.9	101.6	-116.16	561.1	963.0	1,178.1	1,057.5	120.63	9.767		
5,300.0	5,195.9	5,183.9	5,183.9	21.2	103.2	-117.01	561.1	963.0	1,185.8	1,063.2	122.55	9.676		
5,314.9	5,210.6	5,198.6	5,198.6	21.2	103.5	-117.15	561.1	963.0	1,187.0	1,064.1	122.89	9.659		
5,400.0	5,294.4	5,282.4	5,282.4	21.5	105.2	-117.87	561.1	963.0	1,193.7	1,068.8	124.83	9.562		
5,413.4	5,307.7	5,295.7	5,295.7	21.5	105.5	-117.97	561.1	963.0	1,194.6	1,069.5	125.14	9.547		
5,500.0	5,393.5	5,381.5	5,381.5	21.7	107.2	-118.55	561.1	963.0	1,200.1	1,073.0	127.10	9.442		
5,511.8	5,405.2	5,393.2	5,393.2	21.8	107.4	-118.62	561.1	963.0	1,200.8	1,073.4	127.36	9.428		
5,600.0	5,493.0	5,481.0	5,481.0	22.0	109.2	-119.05	561.1	963.0	1,204.9	1,075.6	129.34	9.316		
5,610.2	5,503.2	5,491.2	5,491.2	22.0	109.4	-119.09	561.1	963.0	1,205.4	1,075.8	129.56	9.303		
5,700.0	5,592.8	5,580.8	5,580.8	22.1	111.2	-119.38	561.1	963.0	1,208.2	1,076.6	131.53	9.185		
5,708.6	5,601.4	5,589.4	5,589.4	22.1	111.4	-119.40	561.1	963.0	1,208.4	1,076.6	131.72	9.174		
5,800.0	5,692.7	5,680.7	5,680.7	22.3	113.2	-119.53	561.1	963.0	1,209.7	1,076.0	133.69	9.048		
5,807.1	5,699.8	5,687.8	5,687.8	22.3	113.4	-119.53	561.1	963.0	1,209.7	1,075.9	133.84	9.039		
5,838.1	5,730.8	5,718.8	5,718.8	22.3	114.0	11.03	561.1	963.0	1,209.8	1,075.3	134.50	8.995		
5,868.1	5,760.8	5,748.8	5,748.8	22.3	114.6	11.03	561.1	963.0	1,209.8	1,074.7	135.14	8.952		
5,900.0	5,792.7	5,780.7	5,780.7	22.4	115.2	11.04	561.1	963.0	1,209.1	1,073.4	135.66	8.913		
5,905.5	5,798.2	5,786.2	5,786.2	22.4	115.4	11.05	561.1	963.0	1,208.8	1,073.1	135.73	8.906		
5,950.0	5,842.6	5,830.6	5,830.6	22.4	116.2	11.14	561.1	963.0	1,205.2	1,069.2	135.96	8.864		
6,000.0	5,892.0	5,880.0	5,880.0	22.4	117.2	11.33	561.1	963.0	1,197.9	1,062.3	135.62	8.832		
6,003.9	5,895.8	5,883.8	5,883.8	22.4	117.3	11.34	561.1	963.0	1,197.2	1,061.6	135.57	8.831		
6,050.0	5,940.8	5,928.8	5,928.8	22.4	118.2	11.60	561.1	963.0	1,187.2	1,052.6	134.64	8.818		
6,100.0	5,988.7	5,976.7	5,976.7	22.3	119.2	11.98	561.1	963.0	1,173.3	1,040.3	133.01	8.821		
6,102.3	5,990.9	5,978.9	5,978.9	22.3	119.2	12.00	561.1	963.0	1,172.5	1,039.6	132.92	8.821		
6,150.0	6,035.5	6,023.5	6,023.5	22.2	120.1	12.47	561.1	963.0	1,156.1	1,025.3	130.76	8.841		
6,200.0	6,081.0	6,069.0	6,069.0	22.2	121.0	13.10	561.1	963.0	1,135.7	1,007.8	127.90	8.880		
6,200.8	6,081.7	6,069.7	6,069.7	22.2	121.1	13.11	561.1	963.0	1,135.4	1,007.5	127.85	8.880		
6,250.0	6,124.9	6,112.9	6,112.9	22.0	121.9	13.87	561.1	963.0	1,112.3	987.9	124.49	8.935		
6,299.2	6,166.4	6,154.4	6,154.4	21.9	122.8	14.81	561.1	963.0	1,086.5	965.8	120.67	9.004		
6,300.0	6,167.0	6,155.0	6,155.0	21.9	122.8	14.83	561.1	963.0	1,086.1	965.4	120.60	9.005		
6,350.0	6,207.2	6,195.2	6,195.2	21.8	123.6	16.01	561.1	963.0	1,057.0	940.7	116.33	9.086		
6,397.6	6,243.4	6,231.4	6,231.4	21.6	124.3	17.38	561.1	963.0	1,026.9	914.8	112.05	9.164		
6,400.0	6,245.2	6,233.2	6,233.2	21.6	124.3	17.46	561.1	963.0	1,025.3	913.5	111.84	9.168		
6,450.0	6,280.8	6,268.8	6,268.8	21.5	125.1	19.25	561.1	963.0	991.2	883.8	107.36	9.232		
6,496.0	6,311.4	6,299.4	6,299.4	21.3	125.7	21.27	561.1	963.0	957.7	854.2	103.54	9.250		
6,500.0	6,313.9	6,301.9	6,301.9	21.3	125.7	21.47	561.1	963.0	954.8	851.5	103.24	9.248		
6,550.0	6,344.3	6,332.3	6,332.3	21.2	126.3	24.23	561.1	963.0	916.3	816.3	99.99	9.164		
6,594.5	6,368.9	6,356.9	6,356.9	21.0	126.8	27.28	561.1	963.0	880.6	782.2	98.39	8.950		
6,600.0	6,371.8	6,359.8	6,359.8	21.0	126.9	27.70	561.1	963.0	876.0	777.7	98.31	8.911		
6,650.0	6,396.4	6,384.4	6,384.4	20.8	127.4	32.07	561.1	963.0	834.1	735.1	99.04	8.422		
6,692.9	6,415.0	6,403.0	6,403.0	20.7	127.8	36.70	561.1	963.0	797.1	694.9	102.19	7.800		
6,700.0	6,417.9	6,405.9	6,405.9	20.7	127.8	37.56	561.1	963.0	790.8	687.9	102.96	7.681		
6,750.0	6,436.2	6,424.2	6,424.2	20.5	128.2	44.40	561.1	963.0	746.5	636.1	110.36	6.764		
6,791.3	6,448.8	6,436.8	6,436.8	20.4	128.4	51.15	561.1	963.0	709.2	590.6	118.62	5.979		
6,800.0	6,451.1	6,439.1	6,439.1	20.3	128.5	52.69	561.1	963.0	701.3	580.8	120.50	5.820		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #29BU - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
6,850.0	6,462.8	6,450.8	6,450.8	20.2	128.7	62.25	561.1	963.0	655.6	524.2	131.39	4.990		
6,889.7	6,469.6	6,457.6	6,457.6	20.1	128.9	70.36	561.1	963.0	619.1	480.3	138.78	4.461		
6,900.0	6,471.0	6,459.0	6,459.0	20.0	128.9	72.47	561.1	963.0	609.7	469.4	140.33	4.345		
6,950.0	6,475.7	6,463.7	6,463.7	19.9	129.0	82.39	561.1	963.0	564.0	418.6	145.36	3.880		
6,988.2	6,477.0	6,465.0	6,465.0	19.8	129.0	89.19	561.1	963.0	529.4	382.9	146.48	3.614		
6,997.5	6,477.0	6,465.0	6,465.0	19.8	129.0	90.71	561.1	963.0	521.1	374.6	146.45	3.558		
7,000.0	6,477.0	6,465.0	6,465.0	19.8	129.0	90.70	561.1	963.0	518.8	372.3	146.47	3.542		
7,086.6	6,476.5	6,464.5	6,464.5	19.6	129.0	90.57	561.1	963.0	443.0	296.0	147.01	3.013		
7,100.0	6,476.4	6,464.4	6,464.4	19.6	129.0	90.55	561.1	963.0	431.6	284.5	147.10	2.934		
7,185.0	6,475.9	6,463.9	6,463.9	19.7	129.0	90.42	561.1	963.0	362.7	215.0	147.77	2.455		
7,200.0	6,475.8	6,463.8	6,463.8	19.8	129.0	90.40	561.1	963.0	351.3	203.4	147.89	2.376		
7,283.4	6,475.2	6,463.2	6,463.2	20.4	129.0	90.27	561.1	963.0	293.7	145.0	148.69	1.975		
7,300.0	6,475.1	6,463.1	6,463.1	20.6	129.0	90.25	561.1	963.0	283.8	135.0	148.84	1.907		
7,381.9	6,474.6	6,462.6	6,462.6	21.5	129.0	90.13	561.1	963.0	245.7	95.9	149.74	1.641		
7,400.0	6,474.5	6,462.5	6,462.5	21.8	129.0	90.10	561.1	963.0	240.2	90.3	149.93	1.602		
7,464.3	6,474.1	6,462.1	6,462.1	22.6	128.9	90.00	561.1	963.0	231.4	80.7	150.71	1.536 CC, ES, SF		
7,480.3	6,474.0	6,462.0	6,462.0	22.8	128.9	89.98	561.1	963.0	232.0	81.1	150.90	1.537		
7,500.0	6,473.9	6,461.9	6,461.9	23.0	128.9	89.95	561.1	963.0	234.1	83.0	151.14	1.549		
7,578.7	6,473.4	6,461.4	6,461.4	24.1	128.9	89.83	561.1	963.0	258.1	106.0	152.16	1.697		
7,600.0	6,473.3	6,461.3	6,461.3	24.4	128.9	89.79	561.1	963.0	268.2	115.8	152.43	1.760		
7,677.1	6,472.8	6,460.8	6,460.8	25.5	128.9	89.68	561.1	963.0	314.4	160.9	153.49	2.048		
7,700.0	6,472.7	6,460.7	6,460.7	25.8	128.9	89.64	561.1	963.0	330.3	176.5	153.81	2.147		
7,775.6	6,472.2	6,460.2	6,460.2	26.9	128.9	89.53	561.1	963.0	387.8	232.9	154.90	2.504		
7,800.0	6,472.1	6,460.1	6,460.1	27.3	128.9	89.49	561.1	963.0	407.7	252.4	155.25	2.626		
7,874.0	6,471.6	6,459.6	6,459.6	28.4	128.9	89.38	561.1	963.0	470.5	314.1	156.36	3.009		
7,900.0	6,471.5	6,459.5	6,459.5	28.8	128.9	89.34	561.1	963.0	493.3	336.5	156.75	3.147		
7,972.4	6,471.0	6,459.0	6,459.0	29.9	128.9	89.22	561.1	963.0	558.3	400.4	157.87	3.536		
8,000.0	6,470.8	6,458.8	6,458.8	30.3	128.9	89.18	561.1	963.0	583.5	425.2	158.30	3.686		
8,070.8	6,470.4	6,458.4	6,458.4	31.4	128.9	89.07	561.1	963.0	649.1	489.7	159.42	4.072		
8,100.0	6,470.2	6,458.2	6,458.2	31.9	128.9	89.03	561.1	963.0	676.5	516.6	159.88	4.231		
8,169.3	6,469.8	6,457.8	6,457.8	33.0	128.9	88.92	561.1	963.0	741.9	580.9	161.00	4.608		
8,200.0	6,469.6	6,457.6	6,457.6	33.5	128.9	88.88	561.1	963.0	771.2	609.7	161.50	4.775		
8,267.7	6,469.2	6,457.2	6,457.2	34.7	128.8	88.77	561.1	963.0	836.0	673.4	162.62	5.141		
8,300.0	6,469.0	6,457.0	6,457.0	35.2	128.8	88.72	561.1	963.0	867.1	703.9	163.15	5.315		
8,366.1	6,468.6	6,456.6	6,456.6	36.3	128.8	88.62	561.1	963.0	931.0	766.7	164.25	5.668		
8,400.0	6,468.4	6,456.4	6,456.4	36.9	128.8	88.57	561.1	963.0	963.8	799.0	164.82	5.848		
8,464.5	6,468.0	6,456.0	6,456.0	38.0	128.8	88.47	561.1	963.0	1,026.6	860.7	165.91	6.188		
8,500.0	6,467.8	6,455.8	6,455.8	38.6	128.8	88.41	561.1	963.0	1,061.2	894.7	166.51	6.373		
8,563.0	6,467.4	6,455.4	6,455.4	39.6	128.8	88.32	561.1	963.0	1,122.7	955.1	167.59	6.699		
8,600.0	6,467.1	6,455.1	6,455.1	40.3	128.8	88.26	561.1	963.0	1,159.0	990.7	168.22	6.889		
8,661.4	6,466.8	6,454.8	6,454.8	41.3	128.8	88.17	561.1	963.0	1,219.2	1,049.9	169.28	7.202		
8,700.0	6,466.5	6,454.5	6,454.5	42.0	128.8	88.11	561.1	963.0	1,257.1	1,087.2	169.95	7.397		
8,759.8	6,466.1	6,454.1	6,454.1	43.0	128.8	88.01	561.1	963.0	1,316.0	1,145.0	170.99	7.696		
8,800.0	6,465.9	6,453.9	6,453.9	43.7	128.8	87.95	561.1	963.0	1,355.5	1,183.8	171.69	7.895		
8,858.2	6,465.5	6,453.5	6,453.5	44.8	128.8	87.86	561.1	963.0	1,413.0	1,240.2	172.71	8.181		
8,900.0	6,465.3	6,453.3	6,453.3	45.5	128.8	87.80	561.1	963.0	1,454.2	1,280.7	173.44	8.384		
8,956.7	6,464.9	6,452.9	6,452.9	46.5	128.8	87.71	561.1	963.0	1,510.1	1,335.7	174.44	8.657		
9,000.0	6,464.7	6,452.7	6,452.7	47.3	128.8	87.64	561.1	963.0	1,553.0	1,377.8	175.20	8.864		
9,055.1	6,464.3	6,452.3	6,452.3	48.2	128.7	87.56	561.1	963.0	1,607.5	1,431.3	176.18	9.124		
9,100.0	6,464.0	6,452.0	6,452.0	49.0	128.7	87.49	561.1	963.0	1,651.9	1,474.9	176.97	9.334		
9,153.5	6,463.7	6,451.7	6,451.7	50.0	128.7	87.40	561.1	963.0	1,704.9	1,527.0	177.93	9.582		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #29BU - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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	
9,200.0	6,463.4	6,451.4	6,451.4	50.8	128.7	87.33	561.1	963.0	1,751.0	1,572.2	178.75	9.796		
9,251.9	6,463.1	6,451.1	6,451.1	51.8	128.7	87.25	561.1	963.0	1,802.5	1,622.8	179.68	10.032		
9,300.0	6,462.8	6,450.8	6,450.8	52.6	128.7	87.17	561.1	963.0	1,850.1	1,669.6	180.54	10.248		
9,350.4	6,462.5	6,450.5	6,450.5	53.5	128.7	87.10	561.1	963.0	1,900.1	1,718.7	181.44	10.473		
9,400.0	6,462.2	6,450.2	6,450.2	54.4	128.7	87.02	561.1	963.0	1,949.4	1,767.1	182.33	10.692		
9,448.8	6,461.9	6,449.9	6,449.9	55.3	128.7	86.94	561.1	963.0	1,997.9	1,814.7	183.20	10.905		
9,500.0	6,461.5	6,449.5	6,449.5	56.2	128.7	86.86	561.1	963.0	2,048.7	1,864.6	184.12	11.127		
9,547.2	6,461.2	6,449.2	6,449.2	57.1	128.7	86.79	561.1	963.0	2,095.7	1,910.7	184.97	11.329		
9,600.0	6,460.9	6,448.9	6,448.9	58.1	128.7	86.71	561.1	963.0	2,148.1	1,962.2	185.92	11.554		
9,645.6	6,460.6	6,448.6	6,448.6	58.9	128.7	86.64	561.1	963.0	2,193.5	2,006.8	186.75	11.746		
9,700.0	6,460.3	6,448.3	6,448.3	59.9	128.7	86.55	561.1	963.0	2,247.6	2,059.8	187.73	11.973		
9,744.1	6,460.0	6,448.0	6,448.0	60.7	128.7	86.48	561.1	963.0	2,291.4	2,102.9	188.52	12.154		
9,800.0	6,459.7	6,447.7	6,447.7	61.7	128.7	86.40	561.1	963.0	2,347.0	2,157.5	189.53	12.383		
9,842.5	6,459.4	6,447.4	6,447.4	62.5	128.6	86.33	561.1	963.0	2,389.3	2,199.0	190.30	12.556		
9,900.0	6,459.0	6,447.0	6,447.0	63.6	128.6	86.24	561.1	963.0	2,446.6	2,255.2	191.34	12.786		
9,940.9	6,458.8	6,446.8	6,446.8	64.3	128.6	86.18	561.1	963.0	2,487.3	2,295.2	192.08	12.949		
10,000.0	6,458.4	6,446.4	6,446.4	65.4	128.6	86.08	561.1	963.0	2,546.1	2,353.0	193.15	13.182		
10,039.3	6,458.2	6,446.2	6,446.2	66.1	128.6	86.02	561.1	963.0	2,585.3	2,391.5	193.87	13.336		
10,100.0	6,457.8	6,445.8	6,445.8	67.2	128.6	85.93	561.1	963.0	2,645.7	2,450.8	194.97	13.570		
10,137.8	6,457.6	6,445.6	6,445.6	67.9	128.6	85.87	561.1	963.0	2,683.4	2,487.7	195.65	13.715		
10,200.0	6,457.2	6,445.2	6,445.2	69.1	128.6	85.77	561.1	963.0	2,745.4	2,548.6	196.78	13.951		
10,236.2	6,456.9	6,444.9	6,444.9	69.8	128.6	85.71	561.1	963.0	2,781.4	2,584.0	197.44	14.088		
10,300.0	6,456.5	6,444.5	6,444.5	70.9	128.6	85.61	561.1	963.0	2,845.0	2,646.4	198.60	14.326		
10,334.6	6,456.3	6,444.3	6,444.3	71.6	128.6	85.56	561.1	963.0	2,879.5	2,680.3	199.23	14.454		
10,400.0	6,455.9	6,443.9	6,443.9	72.8	128.6	85.45	561.1	963.0	2,944.7	2,744.3	200.41	14.693		
10,433.0	6,455.7	6,443.7	6,443.7	73.4	128.6	85.40	561.1	963.0	2,977.7	2,776.6	201.01	14.813		
10,500.0	6,455.3	6,443.3	6,443.3	74.7	128.6	85.30	561.1	963.0	3,044.4	2,842.2	202.23	15.054		
10,531.5	6,455.1	6,443.1	6,443.1	75.2	128.6	85.25	561.1	963.0	3,075.8	2,873.0	202.80	15.166		
10,600.0	6,454.7	6,442.7	6,442.7	76.5	128.6	85.14	561.1	963.0	3,144.1	2,940.1	204.05	15.409		
10,629.9	6,454.5	6,442.5	6,442.5	77.1	128.5	85.09	561.1	963.0	3,173.9	2,969.3	204.59	15.514		
10,700.0	6,454.0	6,442.0	6,442.0	78.4	128.5	84.98	561.1	963.0	3,243.9	3,038.0	205.87	15.757		
10,728.3	6,453.9	6,441.9	6,441.9	78.9	128.5	84.94	561.1	963.0	3,272.1	3,065.7	206.38	15.855		
10,800.0	6,453.4	6,441.4	6,441.4	80.3	128.5	84.82	561.1	963.0	3,343.6	3,135.9	207.68	16.100		
10,826.7	6,453.2	6,441.2	6,441.2	80.8	128.5	84.78	561.1	963.0	3,370.3	3,162.1	208.17	16.190		
10,900.0	6,452.8	6,440.8	6,440.8	82.1	128.5	84.67	561.1	963.0	3,443.4	3,233.9	209.50	16.436		
10,925.2	6,452.6	6,440.6	6,440.6	82.6	128.5	84.63	561.1	963.0	3,468.5	3,258.5	209.96	16.520		
11,000.0	6,452.1	6,440.1	6,440.1	84.0	128.5	84.51	561.1	963.0	3,543.1	3,331.8	211.32	16.767		
11,023.6	6,452.0	6,440.0	6,440.0	84.4	128.5	84.47	561.1	963.0	3,566.7	3,355.0	211.75	16.844		
11,023.7	6,452.0	6,440.0	6,440.0	84.4	128.5	84.47	561.1	963.0	3,566.8	3,355.1	211.75	16.845		
11,024.4	6,452.0	6,440.0	6,440.0	84.5	128.5	84.47	561.1	963.0	3,567.5	3,355.7	211.76	16.847		

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #43-20 - Wellbore #1 - Design #1												Offset Site Error:	0.0 usft
Survey Program: 0-INC												Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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	3.0	3.0	0.0	0.0	-40.47	1,275.1	-1,087.9	1,676.1				
98.4	98.4	101.4	101.4	0.1	0.2	-40.47	1,275.1	-1,087.9	1,676.1	1,675.9	0.27	6,294.184	
100.0	100.0	103.0	103.0	0.1	0.2	-40.47	1,275.1	-1,087.9	1,676.1	1,675.8	0.31	5,421.927	
196.8	196.8	199.8	199.8	0.3	2.7	-40.47	1,275.1	-1,087.9	1,676.1	1,673.1	3.05	549.126	
200.0	200.0	203.0	203.0	0.3	2.8	-40.47	1,275.1	-1,087.9	1,676.1	1,673.0	3.13	536.311	
295.3	295.3	298.3	298.3	0.5	4.8	-40.47	1,275.1	-1,087.9	1,676.1	1,670.8	5.31	315.852	
300.0	300.0	303.0	303.0	0.5	4.9	-40.47	1,275.1	-1,087.9	1,676.1	1,670.7	5.41	309.597	
393.7	393.7	396.7	396.7	0.8	6.8	-40.47	1,275.1	-1,087.9	1,676.1	1,668.6	7.53	222.617	
400.0	400.0	403.0	403.0	0.8	6.9	-40.47	1,275.1	-1,087.9	1,676.1	1,668.5	7.67	218.498	
492.1	492.1	495.1	495.1	1.0	8.8	-40.47	1,275.1	-1,087.9	1,676.1	1,666.4	9.74	172.057	
500.0	500.0	503.0	503.0	1.0	8.9	-40.47	1,275.1	-1,087.9	1,676.1	1,666.2	9.92	168.989	
590.5	590.5	593.5	593.5	1.2	10.7	-40.47	1,275.1	-1,087.9	1,676.1	1,664.2	11.95	140.265	
600.0	600.0	603.0	603.0	1.2	10.9	-40.47	1,275.1	-1,087.9	1,676.1	1,664.0	12.16	137.821	
689.0	689.0	692.0	692.0	1.4	12.7	-40.47	1,275.1	-1,087.9	1,676.1	1,662.0	14.16	118.409	
700.0	700.0	703.0	703.0	1.4	13.0	-40.47	1,275.1	-1,087.9	1,676.1	1,661.7	14.40	116.378	
787.4	787.4	790.4	790.4	1.6	14.7	-40.47	1,275.1	-1,087.9	1,676.1	1,659.8	16.36	102.455	
800.0	800.0	803.0	803.0	1.7	15.0	-40.47	1,275.1	-1,087.9	1,676.1	1,659.5	16.64	100.718	
885.8	885.8	888.8	888.8	1.9	16.7	-40.47	1,275.1	-1,087.9	1,676.1	1,657.6	18.56	90.294	
900.0	900.0	903.0	903.0	1.9	17.0	-40.47	1,275.1	-1,087.9	1,676.1	1,657.3	18.88	88.776	
984.2	984.2	987.2	987.2	2.1	18.7	-40.47	1,275.1	-1,087.9	1,676.1	1,655.4	20.77	80.716	
1,000.0	1,000.0	1,003.0	1,003.0	2.1	19.0	-40.47	1,275.1	-1,087.9	1,676.1	1,655.0	21.12	79.368	
1,025.0	1,025.0	1,028.0	1,028.0	2.2	19.5	-40.47	1,275.1	-1,087.9	1,676.1	1,654.5	21.68	77.320 CC	
1,082.7	1,082.7	1,085.7	1,085.7	2.3	20.7	-171.04	1,275.1	-1,087.9	1,676.7	1,653.8	22.95	73.057 ES	
1,100.0	1,100.0	1,103.0	1,103.0	2.3	21.0	-171.04	1,275.1	-1,087.9	1,677.1	1,653.8	23.33	71.884	
1,181.1	1,181.0	1,184.0	1,184.0	2.5	22.6	-171.05	1,275.1	-1,087.9	1,680.3	1,655.3	25.08	66.990	
1,200.0	1,199.9	1,202.9	1,202.9	2.5	23.0	-171.05	1,275.1	-1,087.9	1,681.4	1,655.9	25.49	65.970	
1,279.5	1,279.2	1,282.2	1,282.2	2.7	24.6	-171.07	1,275.1	-1,087.9	1,687.3	1,660.1	27.18	62.080	
1,300.0	1,299.6	1,302.6	1,302.6	2.7	25.0	-171.07	1,275.1	-1,087.9	1,689.2	1,661.6	27.61	61.181	
1,377.9	1,377.1	1,380.1	1,380.1	2.9	26.6	-171.09	1,275.1	-1,087.9	1,697.6	1,668.4	29.23	58.070	
1,400.0	1,398.9	1,401.9	1,401.9	2.9	27.0	-171.09	1,275.1	-1,087.9	1,700.4	1,670.7	29.69	57.279	
1,476.4	1,474.5	1,477.5	1,477.5	3.1	28.5	-171.12	1,275.1	-1,087.9	1,711.2	1,680.0	31.24	54.781	
1,500.0	1,497.8	1,500.8	1,500.8	3.2	29.0	-171.13	1,275.1	-1,087.9	1,715.0	1,683.3	31.71	54.086	
1,574.8	1,571.4	1,574.4	1,574.4	3.4	30.5	-171.15	1,275.1	-1,087.9	1,728.1	1,694.9	33.18	52.079	
1,600.0	1,596.1	1,599.1	1,599.1	3.5	31.0	-171.16	1,275.1	-1,087.9	1,733.0	1,699.3	33.67	51.473	
1,673.2	1,667.7	1,670.7	1,670.7	3.7	32.4	-171.19	1,275.1	-1,087.9	1,748.3	1,713.3	35.06	49.865	
1,696.9	1,690.8	1,693.8	1,693.8	3.8	32.9	-171.20	1,275.1	-1,087.9	1,753.7	1,718.2	35.50	49.399	
1,700.0	1,693.8	1,696.8	1,696.8	3.8	33.0	-171.21	1,275.1	-1,087.9	1,754.4	1,718.8	35.57	49.327	
1,771.6	1,763.5	1,766.5	1,766.5	4.1	34.4	-171.29	1,275.1	-1,087.9	1,770.8	1,733.7	37.10	47.733	
1,800.0	1,791.0	1,794.0	1,794.0	4.2	34.9	-171.32	1,275.1	-1,087.9	1,777.4	1,739.7	37.70	47.141	
1,870.1	1,859.2	1,862.2	1,862.2	4.5	36.3	-171.40	1,275.1	-1,087.9	1,793.5	1,754.3	39.21	45.744	
1,900.0	1,888.3	1,891.3	1,891.3	4.6	36.9	-171.43	1,275.1	-1,087.9	1,800.3	1,760.5	39.85	45.183	
1,968.5	1,954.9	1,957.9	1,957.9	4.9	38.2	-171.51	1,275.1	-1,087.9	1,816.1	1,774.8	41.32	43.956	
2,000.0	1,985.6	1,988.6	1,988.6	5.1	38.8	-171.54	1,275.1	-1,087.9	1,823.3	1,781.3	41.99	43.419	
2,066.9	2,050.7	2,053.7	2,053.7	5.4	40.1	-171.61	1,275.1	-1,087.9	1,838.7	1,795.3	43.43	42.333	
2,100.0	2,082.8	2,085.8	2,085.8	5.5	40.8	-171.65	1,275.1	-1,087.9	1,846.3	1,802.2	44.15	41.823	
2,165.3	2,146.4	2,149.4	2,149.4	5.8	42.1	-171.72	1,275.1	-1,087.9	1,861.4	1,815.8	45.56	40.859	
2,200.0	2,180.1	2,183.1	2,183.1	6.0	42.7	-171.75	1,275.1	-1,087.9	1,869.4	1,823.1	46.30	40.372	
2,263.8	2,242.1	2,245.1	2,245.1	6.3	44.0	-171.82	1,275.1	-1,087.9	1,884.0	1,836.4	47.68	39.514	
2,300.0	2,277.3	2,280.3	2,280.3	6.4	44.7	-171.85	1,275.1	-1,087.9	1,892.4	1,843.9	48.46	39.048	
2,362.2	2,337.8	2,340.8	2,340.8	6.7	45.9	-171.91	1,275.1	-1,087.9	1,906.7	1,856.9	49.81	38.281	
2,400.0	2,374.6	2,377.6	2,377.6	6.9	46.7	-171.95	1,275.1	-1,087.9	1,915.4	1,864.8	50.62	37.835	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #43-20 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
2,460.6	2,433.6	2,436.6	2,436.6	7.2	47.8	-172.01	1,275.1	-1,087.9	1,929.3	1,877.4	51.94	37.148		
2,500.0	2,471.9	2,474.9	2,474.9	7.4	48.6	-172.05	1,275.1	-1,087.9	1,938.4	1,885.6	52.79	36.720		
2,559.0	2,529.3	2,532.3	2,532.3	7.6	49.8	-172.10	1,275.1	-1,087.9	1,952.0	1,897.9	54.07	36.103		
2,600.0	2,569.1	2,572.1	2,572.1	7.8	50.6	-172.14	1,275.1	-1,087.9	1,961.4	1,906.5	54.95	35.692		
2,657.5	2,625.0	2,628.0	2,628.0	8.1	51.7	-172.19	1,275.1	-1,087.9	1,974.7	1,918.5	56.20	35.137		
2,700.0	2,666.4	2,669.4	2,669.4	8.3	52.5	-172.23	1,275.1	-1,087.9	1,984.5	1,927.4	57.12	34.741		
2,755.9	2,720.8	2,723.8	2,723.8	8.6	53.6	-172.28	1,275.1	-1,087.9	1,997.4	1,939.0	58.33	34.240		
2,800.0	2,763.7	2,766.7	2,766.7	8.8	54.5	-172.32	1,275.1	-1,087.9	2,007.5	1,948.2	59.29	33.859		
2,854.3	2,816.5	2,819.5	2,819.5	9.1	55.5	-172.37	1,275.1	-1,087.9	2,020.0	1,959.6	60.47	33.406		
2,900.0	2,860.9	2,863.9	2,863.9	9.3	56.4	-172.41	1,275.1	-1,087.9	2,030.6	1,969.1	61.46	33.039		
2,952.7	2,912.2	2,915.2	2,915.2	9.6	57.5	-172.45	1,275.1	-1,087.9	2,042.7	1,980.1	62.61	32.628		
3,000.0	2,958.2	2,961.2	2,961.2	9.8	58.4	-172.49	1,275.1	-1,087.9	2,053.6	1,990.0	63.63	32.274		
3,051.2	3,008.0	3,011.0	3,011.0	10.0	59.4	-172.54	1,275.1	-1,087.9	2,065.4	2,000.7	64.74	31.902		
3,100.0	3,055.4	3,058.4	3,058.4	10.3	60.3	-172.58	1,275.1	-1,087.9	2,076.7	2,010.9	65.80	31.559		
3,149.6	3,103.7	3,106.7	3,106.7	10.5	61.3	-172.62	1,275.1	-1,087.9	2,088.1	2,021.2	66.88	31.221		
3,200.0	3,152.7	3,155.7	3,155.7	10.8	62.3	-172.66	1,275.1	-1,087.9	2,099.7	2,031.8	67.98	30.889		
3,248.0	3,199.4	3,202.4	3,202.4	11.0	63.2	-172.70	1,275.1	-1,087.9	2,110.8	2,041.8	69.02	30.583		
3,300.0	3,250.0	3,253.0	3,253.0	11.3	64.3	-172.74	1,275.1	-1,087.9	2,122.8	2,052.6	70.15	30.261		
3,346.4	3,295.1	3,298.1	3,298.1	11.5	65.2	-172.78	1,275.1	-1,087.9	2,133.5	2,062.3	71.16	29.982		
3,400.0	3,347.2	3,350.2	3,350.2	11.8	66.2	-172.82	1,275.1	-1,087.9	2,145.9	2,073.5	72.32	29.670		
3,444.9	3,390.9	3,393.9	3,393.9	12.0	67.1	-172.85	1,275.1	-1,087.9	2,156.2	2,082.9	73.30	29.417		
3,500.0	3,444.5	3,447.5	3,447.5	12.3	68.2	-172.90	1,275.1	-1,087.9	2,168.9	2,094.4	74.50	29.114		
3,543.3	3,486.6	3,489.6	3,489.6	12.5	69.0	-172.93	1,275.1	-1,087.9	2,178.9	2,103.5	75.44	28.883		
3,600.0	3,541.8	3,544.8	3,544.8	12.8	70.1	-172.97	1,275.1	-1,087.9	2,192.0	2,115.3	76.67	28.589		
3,641.7	3,582.3	3,585.3	3,585.3	13.0	70.9	-173.00	1,275.1	-1,087.9	2,201.6	2,124.0	77.58	28.379		
3,700.0	3,639.0	3,642.0	3,642.0	13.3	72.1	-173.04	1,275.1	-1,087.9	2,215.1	2,136.2	78.85	28.093		
3,740.1	3,678.1	3,681.1	3,681.1	13.5	72.9	-173.07	1,275.1	-1,087.9	2,224.3	2,144.6	79.72	27.901		
3,800.0	3,736.3	3,739.3	3,739.3	13.8	74.0	-173.12	1,275.1	-1,087.9	2,238.1	2,157.1	81.02	27.623		
3,838.6	3,773.8	3,776.8	3,776.8	14.0	74.8	-173.14	1,275.1	-1,087.9	2,247.1	2,165.2	81.86	27.449		
3,900.0	3,833.5	3,836.5	3,836.5	14.3	76.0	-173.19	1,275.1	-1,087.9	2,261.2	2,178.0	83.20	27.178		
3,937.0	3,869.5	3,872.5	3,872.5	14.5	76.7	-173.21	1,275.1	-1,087.9	2,269.8	2,185.8	84.01	27.020		
4,000.0	3,930.8	3,933.8	3,933.8	14.8	77.9	-173.26	1,275.1	-1,087.9	2,284.3	2,198.9	85.38	26.756		
4,035.4	3,965.3	3,968.3	3,968.3	15.0	78.6	-173.28	1,275.1	-1,087.9	2,292.5	2,206.3	86.15	26.611		
4,100.0	4,028.1	4,031.1	4,031.1	15.3	79.9	-173.32	1,275.1	-1,087.9	2,307.4	2,219.9	87.55	26.354		
4,133.8	4,061.0	4,064.0	4,064.0	15.5	80.6	-173.35	1,275.1	-1,087.9	2,315.2	2,226.9	88.29	26.223		
4,200.0	4,125.3	4,128.3	4,128.3	15.8	81.9	-173.39	1,275.1	-1,087.9	2,330.5	2,240.8	89.73	25.972		
4,232.3	4,156.7	4,159.7	4,159.7	16.0	82.5	-173.41	1,275.1	-1,087.9	2,338.0	2,247.5	90.43	25.853		
4,300.0	4,222.6	4,225.6	4,225.6	16.3	83.8	-173.46	1,275.1	-1,087.9	2,353.6	2,261.7	91.91	25.608		
4,330.7	4,252.4	4,255.4	4,255.4	16.5	84.4	-173.47	1,275.1	-1,087.9	2,360.7	2,268.1	92.58	25.500		
4,400.0	4,319.8	4,322.8	4,322.8	16.8	85.8	-173.52	1,275.1	-1,087.9	2,376.7	2,282.6	94.08	25.261		
4,429.1	4,348.2	4,351.2	4,351.2	17.0	86.3	-173.54	1,275.1	-1,087.9	2,383.4	2,288.7	94.72	25.163		
4,500.0	4,417.1	4,420.1	4,420.1	17.3	87.7	-173.58	1,275.1	-1,087.9	2,399.8	2,303.5	96.26	24.930		
4,527.5	4,443.9	4,446.9	4,446.9	17.5	88.3	-173.60	1,275.1	-1,087.9	2,406.2	2,309.3	96.86	24.841		
4,600.0	4,514.4	4,517.4	4,517.4	17.8	89.7	-173.64	1,275.1	-1,087.9	2,422.9	2,324.5	98.44	24.613		
4,626.0	4,539.6	4,542.6	4,542.6	17.9	90.2	-173.66	1,275.1	-1,087.9	2,428.9	2,329.9	99.01	24.533		
4,700.0	4,611.6	4,614.6	4,614.6	18.3	91.6	-173.70	1,275.1	-1,087.9	2,446.0	2,345.4	100.62	24.310		
4,724.4	4,635.4	4,638.4	4,638.4	18.4	92.1	-173.72	1,275.1	-1,087.9	2,451.6	2,350.5	101.15	24.238		
4,800.0	4,708.9	4,711.9	4,711.9	18.8	93.6	-173.76	1,275.1	-1,087.9	2,469.1	2,366.3	102.80	24.020		
4,822.8	4,731.1	4,734.1	4,734.1	18.9	94.0	-173.78	1,275.1	-1,087.9	2,474.4	2,371.1	103.29	23.955		
4,900.0	4,806.2	4,809.2	4,809.2	19.3	95.6	-173.82	1,275.1	-1,087.9	2,492.2	2,387.2	104.97	23.741		
4,921.2	4,826.8	4,829.8	4,829.8	19.4	96.0	-173.83	1,275.1	-1,087.9	2,497.1	2,391.7	105.44	23.684		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #43-20 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,000.0	4,903.4	4,906.4	4,906.4	19.8	97.5	-173.88	1,275.1	-1,087.9	2,515.3	2,408.2	107.15	23.474		
5,019.7	4,922.6	4,925.6	4,925.6	19.9	97.9	-173.89	1,275.1	-1,087.9	2,519.9	2,412.3	107.58	23.423		
5,100.0	5,000.7	5,003.7	5,003.7	20.4	99.5	-173.93	1,275.1	-1,087.9	2,538.4	2,429.1	109.33	23.218		
5,118.1	5,018.3	5,021.3	5,021.3	20.4	99.8	-173.94	1,275.1	-1,087.9	2,542.6	2,432.9	109.72	23.173		
5,166.2	5,065.0	5,068.0	5,068.0	20.7	100.8	-173.97	1,275.1	-1,087.9	2,553.7	2,443.0	110.77	23.054		
5,200.0	5,098.0	5,101.0	5,101.0	20.8	101.4	-174.00	1,275.1	-1,087.9	2,561.4	2,449.6	111.78	22.915		
5,216.5	5,114.1	5,117.1	5,117.1	20.9	101.7	-174.02	1,275.1	-1,087.9	2,565.0	2,452.7	112.26	22.849		
5,300.0	5,195.9	5,198.9	5,198.9	21.2	103.4	-174.09	1,275.1	-1,087.9	2,581.6	2,467.0	114.66	22.516		
5,314.9	5,210.6	5,213.6	5,213.6	21.2	103.7	-174.11	1,275.1	-1,087.9	2,584.4	2,469.3	115.08	22.457		
5,400.0	5,294.4	5,297.4	5,297.4	21.5	105.4	-174.17	1,275.1	-1,087.9	2,598.5	2,481.1	117.44	22.127		
5,413.4	5,307.7	5,310.7	5,310.7	21.5	105.6	-174.18	1,275.1	-1,087.9	2,600.5	2,482.7	117.80	22.076		
5,500.0	5,393.5	5,396.5	5,396.5	21.7	107.4	-174.22	1,275.1	-1,087.9	2,612.0	2,491.9	120.09	21.750		
5,511.8	5,405.2	5,408.2	5,408.2	21.8	107.6	-174.23	1,275.1	-1,087.9	2,613.3	2,492.9	120.40	21.706		
5,600.0	5,493.0	5,496.0	5,496.0	22.0	109.4	-174.27	1,275.1	-1,087.9	2,621.9	2,499.3	122.62	21.383		
5,610.2	5,503.2	5,506.2	5,506.2	22.0	109.6	-174.27	1,275.1	-1,087.9	2,622.8	2,499.9	122.87	21.346		
5,700.0	5,592.8	5,595.8	5,595.8	22.1	111.4	-174.29	1,275.1	-1,087.9	2,628.5	2,503.5	125.01	21.026		
5,708.6	5,601.4	5,604.4	5,604.4	22.1	111.5	-174.30	1,275.1	-1,087.9	2,628.9	2,503.7	125.21	20.996		
5,800.0	5,692.7	5,695.7	5,695.7	22.3	113.4	-174.31	1,275.1	-1,087.9	2,631.5	2,504.3	127.25	20.680		
5,807.1	5,699.8	5,702.8	5,702.8	22.3	113.5	-174.31	1,275.1	-1,087.9	2,631.6	2,504.2	127.40	20.656		
5,838.1	5,730.8	5,733.8	5,733.8	22.3	114.1	-43.74	1,275.1	-1,087.9	2,631.8	2,503.7	128.06	20.551		
5,868.1	5,760.8	5,763.8	5,763.8	22.3	114.8	-43.74	1,275.1	-1,087.9	2,631.8	2,503.1	128.72	20.446		
5,900.0	5,792.7	5,795.7	5,795.7	22.4	115.4	-43.78	1,275.1	-1,087.9	2,631.3	2,502.0	129.28	20.354		
5,905.5	5,798.2	5,801.2	5,801.2	22.4	115.5	-43.79	1,275.1	-1,087.9	2,631.1	2,501.7	129.36	20.339		
5,950.0	5,842.6	5,845.6	5,845.6	22.4	116.4	-44.00	1,275.1	-1,087.9	2,628.4	2,498.5	129.87	20.238		
6,000.0	5,892.0	5,895.0	5,895.0	22.4	117.4	-44.41	1,275.1	-1,087.9	2,623.0	2,492.9	130.14	20.156		
6,003.9	5,895.8	5,898.8	5,898.8	22.4	117.5	-44.45	1,275.1	-1,087.9	2,622.5	2,492.4	130.15	20.150		
6,050.0	5,940.8	5,943.8	5,943.8	22.4	118.4	-45.02	1,275.1	-1,087.9	2,615.2	2,485.1	130.11	20.101		
6,100.0	5,988.7	5,991.7	5,991.7	22.3	119.3	-45.83	1,275.1	-1,087.9	2,605.0	2,475.2	129.82	20.067		
6,102.3	5,990.9	5,993.9	5,993.9	22.3	119.4	-45.88	1,275.1	-1,087.9	2,604.5	2,474.7	129.80	20.065		
6,150.0	6,035.5	6,038.5	6,038.5	22.2	120.3	-46.85	1,275.1	-1,087.9	2,592.5	2,463.1	129.35	20.043		
6,200.0	6,081.0	6,084.0	6,084.0	22.2	121.2	-48.09	1,275.1	-1,087.9	2,577.7	2,448.9	128.78	20.016		
6,200.8	6,081.7	6,084.7	6,084.7	22.2	121.2	-48.11	1,275.1	-1,087.9	2,577.5	2,448.7	128.78	20.015		
6,250.0	6,124.9	6,127.9	6,127.9	22.0	122.1	-49.54	1,275.1	-1,087.9	2,560.9	2,432.6	128.23	19.970		
6,299.2	6,166.4	6,169.4	6,169.4	21.9	122.9	-51.19	1,275.1	-1,087.9	2,542.3	2,414.5	127.82	19.890		
6,300.0	6,167.0	6,170.0	6,170.0	21.9	122.9	-51.22	1,275.1	-1,087.9	2,542.0	2,414.2	127.81	19.889		
6,350.0	6,207.2	6,210.2	6,210.2	21.8	123.7	-53.12	1,275.1	-1,087.9	2,521.3	2,393.7	127.64	19.753		
6,397.6	6,243.4	6,246.4	6,246.4	21.6	124.5	-55.15	1,275.1	-1,087.9	2,500.0	2,372.2	127.81	19.560		
6,400.0	6,245.2	6,248.2	6,248.2	21.6	124.5	-55.26	1,275.1	-1,087.9	2,498.9	2,371.1	127.83	19.549		
6,450.0	6,280.8	6,283.8	6,283.8	21.5	125.2	-57.62	1,275.1	-1,087.9	2,475.0	2,346.5	128.46	19.266		
6,496.0	6,311.4	6,314.4	6,314.4	21.3	125.8	-59.98	1,275.1	-1,087.9	2,451.8	2,322.3	129.48	18.936		
6,500.0	6,313.9	6,316.9	6,316.9	21.3	125.9	-60.20	1,275.1	-1,087.9	2,449.7	2,320.2	129.58	18.905		
6,550.0	6,344.3	6,347.3	6,347.3	21.2	126.5	-62.97	1,275.1	-1,087.9	2,423.4	2,292.2	131.17	18.475		
6,594.5	6,368.9	6,371.9	6,371.9	21.0	127.0	-65.58	1,275.1	-1,087.9	2,399.1	2,266.1	132.92	18.049		
6,600.0	6,371.8	6,374.8	6,374.8	21.0	127.0	-65.92	1,275.1	-1,087.9	2,396.0	2,262.9	133.16	17.994		
6,650.0	6,396.4	6,399.4	6,399.4	20.8	127.5	-69.00	1,275.1	-1,087.9	2,367.9	2,232.5	135.41	17.487		
6,692.9	6,415.0	6,418.0	6,418.0	20.7	127.9	-71.72	1,275.1	-1,087.9	2,343.4	2,205.9	137.45	17.049		
6,700.0	6,417.9	6,420.9	6,420.9	20.7	128.0	-72.18	1,275.1	-1,087.9	2,339.3	2,201.5	137.78	16.978		
6,750.0	6,436.2	6,439.2	6,439.2	20.5	128.3	-75.40	1,275.1	-1,087.9	2,310.3	2,170.2	140.08	16.492		
6,791.3	6,448.8	6,451.8	6,451.8	20.4	128.6	-78.06	1,275.1	-1,087.9	2,286.3	2,144.5	141.83	16.120		
6,800.0	6,451.1	6,454.1	6,454.1	20.3	128.6	-78.61	1,275.1	-1,087.9	2,281.2	2,139.1	142.17	16.046		
6,850.0	6,462.8	6,465.8	6,465.8	20.2	128.9	-81.76	1,275.1	-1,087.9	2,252.2	2,108.3	143.91	15.650		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #43-20 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	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
6,889.7	6,469.6	6,472.6	6,472.6	20.1	129.0	-84.19		1,275.1	-1,087.9	2,229.4	2,084.4	145.01	15.374	
6,900.0	6,471.0	6,474.0	6,474.0	20.0	129.0	-84.80		1,275.1	-1,087.9	2,223.5	2,078.3	145.25	15.309	
6,950.0	6,475.7	6,478.7	6,478.7	19.9	129.1	-87.68		1,275.1	-1,087.9	2,195.3	2,049.2	146.16	15.020	
6,988.2	6,477.0	6,480.0	6,480.0	19.8	129.2	-89.74		1,275.1	-1,087.9	2,174.2	2,027.6	146.59	14.832	
6,997.5	6,477.0	6,480.0	6,480.0	19.8	129.2	-90.23		1,275.1	-1,087.9	2,169.1	2,022.5	146.66	14.790	
7,000.0	6,477.0	6,480.0	6,480.0	19.8	129.2	-90.23		1,275.1	-1,087.9	2,167.7	2,021.1	146.67	14.780	
7,086.6	6,476.5	6,479.5	6,479.5	19.6	129.1	-90.21		1,275.1	-1,087.9	2,121.9	1,974.7	147.21	14.414	
7,100.0	6,476.4	6,479.4	6,479.4	19.6	129.1	-90.21		1,275.1	-1,087.9	2,115.1	1,967.8	147.29	14.360	
7,185.0	6,475.9	6,478.9	6,478.9	19.7	129.1	-90.19		1,275.1	-1,087.9	2,073.0	1,925.0	147.96	14.011	
7,200.0	6,475.8	6,478.8	6,478.8	19.8	129.1	-90.19		1,275.1	-1,087.9	2,065.9	1,917.8	148.08	13.951	
7,283.4	6,475.2	6,478.2	6,478.2	20.4	129.1	-90.17		1,275.1	-1,087.9	2,027.7	1,878.8	148.86	13.621	
7,300.0	6,475.1	6,478.1	6,478.1	20.6	129.1	-90.17		1,275.1	-1,087.9	2,020.4	1,871.4	149.02	13.558	
7,381.9	6,474.6	6,477.6	6,477.6	21.5	129.1	-90.15		1,275.1	-1,087.9	1,986.2	1,836.3	149.90	13.250	
7,400.0	6,474.5	6,477.5	6,477.5	21.8	129.1	-90.15		1,275.1	-1,087.9	1,979.0	1,828.9	150.10	13.185	
7,480.3	6,474.0	6,477.0	6,477.0	22.8	129.1	-90.14		1,275.1	-1,087.9	1,948.8	1,797.8	151.06	12.901	
7,500.0	6,473.9	6,476.9	6,476.9	23.0	129.1	-90.13		1,275.1	-1,087.9	1,941.8	1,790.6	151.29	12.835	
7,578.7	6,473.4	6,476.4	6,476.4	24.1	129.1	-90.12		1,275.1	-1,087.9	1,915.8	1,763.5	152.31	12.578	
7,600.0	6,473.3	6,476.3	6,476.3	24.4	129.1	-90.11		1,275.1	-1,087.9	1,909.2	1,756.6	152.58	12.513	
7,677.1	6,472.8	6,475.8	6,475.8	25.5	129.1	-90.10		1,275.1	-1,087.9	1,887.3	1,733.6	153.64	12.284	
7,700.0	6,472.7	6,475.7	6,475.7	25.8	129.1	-90.09		1,275.1	-1,087.9	1,881.3	1,727.4	153.95	12.221	
7,775.6	6,472.2	6,475.2	6,475.2	26.9	129.1	-90.08		1,275.1	-1,087.9	1,863.5	1,708.5	155.03	12.020	
7,800.0	6,472.1	6,475.1	6,475.1	27.3	129.1	-90.07		1,275.1	-1,087.9	1,858.4	1,703.0	155.38	11.960	
7,874.0	6,471.6	6,474.6	6,474.6	28.4	129.0	-90.06		1,275.1	-1,087.9	1,844.8	1,688.3	156.49	11.788	
7,900.0	6,471.5	6,474.5	6,474.5	28.8	129.0	-90.05		1,275.1	-1,087.9	1,840.7	1,683.8	156.88	11.733	
7,972.4	6,471.0	6,474.0	6,474.0	29.9	129.0	-90.04		1,275.1	-1,087.9	1,831.1	1,673.1	158.00	11.590	
8,000.0	6,470.8	6,473.8	6,473.8	30.3	129.0	-90.03		1,275.1	-1,087.9	1,828.2	1,669.8	158.42	11.540	
8,070.8	6,470.4	6,473.4	6,473.4	31.4	129.0	-90.02		1,275.1	-1,087.9	1,822.7	1,663.1	159.54	11.424	
8,100.0	6,470.2	6,473.2	6,473.2	31.9	129.0	-90.02		1,275.1	-1,087.9	1,821.2	1,661.2	160.00	11.382	
8,169.3	6,469.8	6,472.8	6,472.8	33.0	129.0	-90.00		1,275.1	-1,087.9	1,819.5	1,658.4	161.12	11.293	
8,178.4	6,469.7	6,472.7	6,472.7	33.2	129.0	-90.00		1,275.1	-1,087.9	1,819.5	1,658.2	161.27	11.282	
8,200.0	6,469.6	6,472.6	6,472.6	33.5	129.0	-90.00		1,275.1	-1,087.9	1,819.6	1,658.0	161.62	11.258	
8,267.7	6,469.2	6,472.2	6,472.2	34.7	129.0	-89.98		1,275.1	-1,087.9	1,821.7	1,658.9	162.74	11.194	
8,300.0	6,469.0	6,472.0	6,472.0	35.2	129.0	-89.98		1,275.1	-1,087.9	1,823.5	1,660.3	163.27	11.169	
8,366.1	6,468.6	6,471.6	6,471.6	36.3	129.0	-89.96		1,275.1	-1,087.9	1,829.1	1,664.8	164.38	11.128	
8,400.0	6,468.4	6,471.4	6,471.4	36.9	129.0	-89.96		1,275.1	-1,087.9	1,832.9	1,668.0	164.94	11.112	
8,464.5	6,468.0	6,471.0	6,471.0	38.0	129.0	-89.94		1,275.1	-1,087.9	1,841.8	1,675.8	166.04	11.093	
8,500.0	6,467.8	6,470.8	6,470.8	38.6	129.0	-89.94		1,275.1	-1,087.9	1,847.7	1,681.0	166.64	11.088 SF	
8,563.0	6,467.4	6,470.4	6,470.4	39.6	129.0	-89.93		1,275.1	-1,087.9	1,859.7	1,692.0	167.72	11.088	
8,600.0	6,467.1	6,470.1	6,470.1	40.3	129.0	-89.92		1,275.1	-1,087.9	1,867.7	1,699.3	168.36	11.094	
8,661.4	6,466.8	6,469.8	6,469.8	41.3	128.9	-89.91		1,275.1	-1,087.9	1,882.5	1,713.1	169.42	11.111	
8,700.0	6,466.5	6,469.5	6,469.5	42.0	128.9	-89.90		1,275.1	-1,087.9	1,892.8	1,722.7	170.09	11.128	
8,759.8	6,466.1	6,469.1	6,469.1	43.0	128.9	-89.89		1,275.1	-1,087.9	1,910.1	1,739.0	171.14	11.161	
8,800.0	6,465.9	6,468.9	6,468.9	43.7	128.9	-89.88		1,275.1	-1,087.9	1,922.7	1,750.9	171.84	11.189	
8,858.2	6,465.5	6,468.5	6,468.5	44.8	128.9	-89.87		1,275.1	-1,087.9	1,942.3	1,769.5	172.86	11.236	
8,900.0	6,465.3	6,468.3	6,468.3	45.5	128.9	-89.86		1,275.1	-1,087.9	1,957.3	1,783.7	173.60	11.275	
8,956.7	6,464.9	6,467.9	6,467.9	46.5	128.9	-89.85		1,275.1	-1,087.9	1,978.9	1,804.3	174.60	11.334	
9,000.0	6,464.7	6,467.7	6,467.7	47.3	128.9	-89.84		1,275.1	-1,087.9	1,996.4	1,821.0	175.37	11.384	
9,055.1	6,464.3	6,467.3	6,467.3	48.2	128.9	-89.83		1,275.1	-1,087.9	2,019.7	1,843.3	176.35	11.452	
9,100.0	6,464.0	6,467.0	6,467.0	49.0	128.9	-89.82		1,275.1	-1,087.9	2,039.6	1,862.4	177.16	11.513	
9,153.5	6,463.7	6,466.7	6,466.7	50.0	128.9	-89.81		1,275.1	-1,087.9	2,064.3	1,886.2	178.11	11.590	
9,200.0	6,463.4	6,466.4	6,466.4	50.8	128.9	-89.80		1,275.1	-1,087.9	2,086.7	1,907.7	178.95	11.661	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #43-20 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
9,251.9	6,463.1	6,466.1	6,466.1	51.8	128.9	-89.79	-89.79	1,275.1	-1,087.9	2,112.6	1,932.7	179.88	11.744	
9,300.0	6,462.8	6,465.8	6,465.8	52.6	128.9	-89.78	-89.78	1,275.1	-1,087.9	2,137.4	1,956.6	180.75	11.825	
9,350.4	6,462.5	6,465.5	6,465.5	53.5	128.9	-89.77	-89.77	1,275.1	-1,087.9	2,164.3	1,982.6	181.66	11.914	
9,400.0	6,462.2	6,465.2	6,465.2	54.4	128.9	-89.76	-89.76	1,275.1	-1,087.9	2,191.5	2,009.0	182.56	12.005	
9,448.8	6,461.9	6,464.9	6,464.9	55.3	128.8	-89.75	-89.75	1,275.1	-1,087.9	2,219.1	2,035.7	183.44	12.097	
9,500.0	6,461.5	6,464.5	6,464.5	56.2	128.8	-89.74	-89.74	1,275.1	-1,087.9	2,248.8	2,064.4	184.37	12.197	
9,547.2	6,461.2	6,464.2	6,464.2	57.1	128.8	-89.73	-89.73	1,275.1	-1,087.9	2,276.9	2,091.6	185.23	12.292	
9,600.0	6,460.9	6,463.9	6,463.9	58.1	128.8	-89.72	-89.72	1,275.1	-1,087.9	2,309.0	2,122.8	186.19	12.401	
9,645.6	6,460.6	6,463.6	6,463.6	58.9	128.8	-89.71	-89.71	1,275.1	-1,087.9	2,337.4	2,150.3	187.03	12.498	
9,700.0	6,460.3	6,463.3	6,463.3	59.9	128.8	-89.70	-89.70	1,275.1	-1,087.9	2,371.9	2,183.8	188.02	12.615	
9,744.1	6,460.0	6,463.0	6,463.0	60.7	128.8	-89.69	-89.69	1,275.1	-1,087.9	2,400.4	2,211.5	188.83	12.712	
9,800.0	6,459.7	6,462.7	6,462.7	61.7	128.8	-89.68	-89.68	1,275.1	-1,087.9	2,437.2	2,247.4	189.85	12.838	
9,842.5	6,459.4	6,462.4	6,462.4	62.5	128.8	-89.67	-89.67	1,275.1	-1,087.9	2,465.7	2,275.1	190.63	12.934	
9,900.0	6,459.0	6,462.0	6,462.0	63.6	128.8	-89.66	-89.66	1,275.1	-1,087.9	2,504.9	2,313.2	191.69	13.068	
9,940.9	6,458.8	6,461.8	6,461.8	64.3	128.8	-89.65	-89.65	1,275.1	-1,087.9	2,533.2	2,340.7	192.44	13.163	
10,000.0	6,458.4	6,461.4	6,461.4	65.4	128.8	-89.64	-89.64	1,275.1	-1,087.9	2,574.6	2,381.1	193.53	13.304	
10,039.3	6,458.2	6,461.2	6,461.2	66.1	128.8	-89.63	-89.63	1,275.1	-1,087.9	2,602.6	2,408.3	194.25	13.398	
10,100.0	6,457.8	6,460.8	6,460.8	67.2	128.8	-89.62	-89.62	1,275.1	-1,087.9	2,646.3	2,450.9	195.37	13.545	
10,137.8	6,457.6	6,460.6	6,460.6	67.9	128.8	-89.61	-89.61	1,275.1	-1,087.9	2,673.9	2,477.8	196.07	13.637	
10,200.0	6,457.2	6,460.2	6,460.2	69.1	128.8	-89.60	-89.60	1,275.1	-1,087.9	2,719.8	2,522.6	197.22	13.791	
10,236.2	6,456.9	6,459.9	6,459.9	69.8	128.7	-89.59	-89.59	1,275.1	-1,087.9	2,746.8	2,548.9	197.89	13.881	
10,300.0	6,456.5	6,459.5	6,459.5	70.9	128.7	-89.58	-89.58	1,275.1	-1,087.9	2,794.9	2,595.8	199.07	14.040	
10,334.6	6,456.3	6,459.3	6,459.3	71.6	128.7	-89.57	-89.57	1,275.1	-1,087.9	2,821.3	2,621.6	199.71	14.127	
10,400.0	6,455.9	6,458.9	6,458.9	72.8	128.7	-89.56	-89.56	1,275.1	-1,087.9	2,871.6	2,670.6	200.92	14.292	
10,433.0	6,455.7	6,458.7	6,458.7	73.4	128.7	-89.56	-89.56	1,275.1	-1,087.9	2,897.2	2,695.7	201.53	14.376	
10,500.0	6,455.3	6,458.3	6,458.3	74.7	128.7	-89.54	-89.54	1,275.1	-1,087.9	2,949.6	2,746.8	202.78	14.546	
10,531.5	6,455.1	6,458.1	6,458.1	75.2	128.7	-89.54	-89.54	1,275.1	-1,087.9	2,974.4	2,771.1	203.36	14.626	
10,600.0	6,454.7	6,457.7	6,457.7	76.5	128.7	-89.52	-89.52	1,275.1	-1,087.9	3,028.9	2,824.3	204.64	14.802	
10,629.9	6,454.5	6,457.5	6,457.5	77.1	128.7	-89.52	-89.52	1,275.1	-1,087.9	3,052.9	2,847.7	205.19	14.878	
10,700.0	6,454.0	6,457.0	6,457.0	78.4	128.7	-89.50	-89.50	1,275.1	-1,087.9	3,109.5	2,903.0	206.50	15.058	
10,728.3	6,453.9	6,456.9	6,456.9	78.9	128.7	-89.50	-89.50	1,275.1	-1,087.9	3,132.5	2,925.5	207.02	15.131	
10,800.0	6,453.4	6,456.4	6,456.4	80.3	128.7	-89.48	-89.48	1,275.1	-1,087.9	3,191.1	2,982.7	208.36	15.315	
10,826.7	6,453.2	6,456.2	6,456.2	80.8	128.7	-89.48	-89.48	1,275.1	-1,087.9	3,213.1	3,004.2	208.86	15.384	
10,900.0	6,452.8	6,455.8	6,455.8	82.1	128.7	-89.46	-89.46	1,275.1	-1,087.9	3,273.7	3,063.5	210.23	15.573	
10,925.2	6,452.6	6,455.6	6,455.6	82.6	128.7	-89.46	-89.46	1,275.1	-1,087.9	3,294.7	3,084.0	210.70	15.637	
11,000.0	6,452.1	6,455.1	6,455.1	84.0	128.7	-89.44	-89.44	1,275.1	-1,087.9	3,357.3	3,145.2	212.09	15.830	
11,023.6	6,452.0	6,455.0	6,455.0	84.4	128.7	-89.44	-89.44	1,275.1	-1,087.9	3,377.2	3,164.7	212.53	15.890	
11,023.7	6,452.0	6,455.0	6,455.0	84.4	128.7	-89.44	-89.44	1,275.1	-1,087.9	3,377.3	3,164.8	212.54	15.890	
11,024.4	6,452.0	6,455.0	6,455.0	84.5	128.7	-89.44	-89.44	1,275.1	-1,087.9	3,377.9	3,165.3	212.55	15.892	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #44-30 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis (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	3.0	3.0	0.0	0.0	-90.39	-90.39	-7.3	-1,076.8	1,076.8				
98.4	98.4	101.4	101.4	0.1	0.2	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,076.6	0.27	4,043.714	
100.0	100.0	103.0	103.0	0.1	0.2	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,076.5	0.31	3,483.330	
196.8	196.8	199.8	199.8	0.3	2.7	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,073.8	3.05	352.787	
200.0	200.0	203.0	203.0	0.3	2.8	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,073.7	3.13	344.554	
295.3	295.3	298.3	298.3	0.5	4.8	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,071.5	5.31	202.920	
300.0	300.0	303.0	303.0	0.5	4.9	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,071.4	5.41	198.901	
393.7	393.7	396.7	396.7	0.8	6.8	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,069.3	7.53	143.021	
400.0	400.0	403.0	403.0	0.8	6.9	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,069.2	7.67	140.375	
492.1	492.1	495.1	495.1	1.0	8.8	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,067.1	9.74	110.538	
500.0	500.0	503.0	503.0	1.0	8.9	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,066.9	9.92	108.567	
590.5	590.5	593.5	593.5	1.2	10.7	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,064.9	11.95	90.113	
600.0	600.0	603.0	603.0	1.2	10.9	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,064.7	12.16	88.543	
689.0	689.0	692.0	692.0	1.4	12.7	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,062.7	14.16	76.072	
700.0	700.0	703.0	703.0	1.4	13.0	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,062.4	14.40	74.767	
787.4	787.4	790.4	790.4	1.6	14.7	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,060.5	16.36	65.822	
800.0	800.0	803.0	803.0	1.7	15.0	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,060.2	16.64	64.706	
885.8	885.8	888.8	888.8	1.9	16.7	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,058.3	18.56	58.009	
900.0	900.0	903.0	903.0	1.9	17.0	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,058.0	18.88	57.034	
984.2	984.2	987.2	987.2	2.1	18.7	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,056.1	20.77	51.856	
1,000.0	1,000.0	1,003.0	1,003.0	2.1	19.0	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,055.7	21.12	50.990	
1,025.0	1,025.0	1,028.0	1,028.0	2.2	19.5	-90.39	-90.39	-7.3	-1,076.8	1,076.8	1,055.2	21.68	49.675 CC	
1,082.7	1,082.7	1,085.7	1,085.7	2.3	20.7	139.06	139.06	-7.3	-1,076.8	1,077.3	1,054.3	22.95	46.936	
1,100.0	1,100.0	1,103.0	1,103.0	2.3	21.0	139.07	139.07	-7.3	-1,076.8	1,077.6	1,054.2	23.33	46.182 ES	
1,181.1	1,181.0	1,184.0	1,184.0	2.5	22.6	139.15	139.15	-7.3	-1,076.8	1,080.1	1,055.0	25.10	43.035	
1,200.0	1,199.9	1,202.9	1,202.9	2.5	23.0	139.18	139.18	-7.3	-1,076.8	1,080.9	1,055.4	25.51	42.379	
1,279.5	1,279.2	1,282.2	1,282.2	2.7	24.6	139.32	139.32	-7.3	-1,076.8	1,085.4	1,058.2	27.22	39.873	
1,300.0	1,299.6	1,302.6	1,302.6	2.7	25.0	139.37	139.37	-7.3	-1,076.8	1,086.8	1,059.2	27.66	39.293	
1,377.9	1,377.1	1,380.1	1,380.1	2.9	26.6	139.57	139.57	-7.3	-1,076.8	1,093.3	1,064.0	29.33	37.282	
1,400.0	1,398.9	1,401.9	1,401.9	2.9	27.0	139.64	139.64	-7.3	-1,076.8	1,095.5	1,065.7	29.79	36.770	
1,476.4	1,474.5	1,477.5	1,477.5	3.1	28.5	139.90	139.90	-7.3	-1,076.8	1,103.9	1,072.5	31.41	35.147	
1,500.0	1,497.8	1,500.8	1,500.8	3.2	29.0	139.99	139.99	-7.3	-1,076.8	1,106.8	1,074.9	31.90	34.695	
1,574.8	1,571.4	1,574.4	1,574.4	3.4	30.5	140.29	140.29	-7.3	-1,076.8	1,117.1	1,083.6	33.46	33.384	
1,600.0	1,596.1	1,599.1	1,599.1	3.5	31.0	140.40	140.40	-7.3	-1,076.8	1,120.9	1,086.9	33.98	32.986	
1,673.2	1,667.7	1,670.7	1,670.7	3.7	32.4	140.74	140.74	-7.3	-1,076.8	1,133.0	1,097.5	35.49	31.927	
1,696.9	1,690.8	1,693.8	1,693.8	3.8	32.9	140.86	140.86	-7.3	-1,076.8	1,137.2	1,101.3	35.97	31.619	
1,700.0	1,693.8	1,696.8	1,696.8	3.8	33.0	140.88	140.88	-7.3	-1,076.8	1,137.8	1,101.8	36.03	31.575	
1,771.6	1,763.5	1,766.5	1,766.5	4.1	34.4	141.40	141.40	-7.3	-1,076.8	1,150.9	1,113.3	37.61	30.598	
1,800.0	1,791.0	1,794.0	1,794.0	4.2	34.9	141.60	141.60	-7.3	-1,076.8	1,156.1	1,117.9	38.24	30.235	
1,870.1	1,859.2	1,862.2	1,862.2	4.5	36.3	142.09	142.09	-7.3	-1,076.8	1,169.1	1,129.3	39.79	29.380	
1,900.0	1,888.3	1,891.3	1,891.3	4.6	36.9	142.30	142.30	-7.3	-1,076.8	1,174.6	1,134.2	40.45	29.037	
1,968.5	1,954.9	1,957.9	1,957.9	4.9	38.2	142.76	142.76	-7.3	-1,076.8	1,187.4	1,145.4	41.97	28.290	
2,000.0	1,985.6	1,988.6	1,988.6	5.1	38.8	142.97	142.97	-7.3	-1,076.8	1,193.3	1,150.6	42.67	27.963	
2,066.9	2,050.7	2,053.7	2,053.7	5.4	40.1	143.41	143.41	-7.3	-1,076.8	1,205.8	1,161.7	44.16	27.304	
2,100.0	2,082.8	2,085.8	2,085.8	5.5	40.8	143.63	143.63	-7.3	-1,076.8	1,212.1	1,167.2	44.90	26.995	
2,165.3	2,146.4	2,149.4	2,149.4	5.8	42.1	144.04	144.04	-7.3	-1,076.8	1,224.5	1,178.1	46.36	26.414	
2,200.0	2,180.1	2,183.1	2,183.1	6.0	42.7	144.26	144.26	-7.3	-1,076.8	1,231.0	1,183.9	47.13	26.121	
2,263.8	2,245.1	2,248.1	2,248.1	6.3	44.0	144.66	144.66	-7.3	-1,076.8	1,243.2	1,194.7	48.55	25.606	
2,300.0	2,277.3	2,280.3	2,280.3	6.4	44.7	144.88	144.88	-7.3	-1,076.8	1,250.2	1,200.8	49.36	25.328	
2,362.2	2,337.8	2,340.8	2,340.8	6.7	45.9	145.25	145.25	-7.3	-1,076.8	1,262.1	1,211.4	50.75	24.871	
2,400.0	2,374.6	2,377.6	2,377.6	6.9	46.7	145.48	145.48	-7.3	-1,076.8	1,269.4	1,217.8	51.59	24.606	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #44-30 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INCL													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	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
2,460.6	2,433.6	2,436.6	2,436.6	7.2	47.8	145.83		-7.3	-1,076.8	1,281.1	1,228.2	52.94	24.199	
2,500.0	2,471.9	2,474.9	2,474.9	7.4	48.6	146.06		-7.3	-1,076.8	1,288.8	1,235.0	53.82	23.946	
2,559.0	2,529.3	2,532.3	2,532.3	7.6	49.8	146.39		-7.3	-1,076.8	1,300.3	1,245.2	55.14	23.583	
2,600.0	2,569.1	2,572.1	2,572.1	7.8	50.6	146.62		-7.3	-1,076.8	1,308.3	1,252.2	56.05	23.341	
2,657.5	2,625.0	2,628.0	2,628.0	8.1	51.7	146.94		-7.3	-1,076.8	1,319.6	1,262.2	57.33	23.016	
2,700.0	2,666.4	2,669.4	2,669.4	8.3	52.5	147.17		-7.3	-1,076.8	1,327.9	1,269.6	58.28	22.786	
2,755.9	2,720.8	2,723.8	2,723.8	8.6	53.6	147.47		-7.3	-1,076.8	1,338.9	1,279.4	59.52	22.494	
2,800.0	2,763.7	2,766.7	2,766.7	8.8	54.5	147.70		-7.3	-1,076.8	1,347.7	1,287.2	60.51	22.273	
2,854.3	2,816.5	2,819.5	2,819.5	9.1	55.5	147.98		-7.3	-1,076.8	1,358.4	1,296.7	61.72	22.011	
2,900.0	2,860.9	2,863.9	2,863.9	9.3	56.4	148.22		-7.3	-1,076.8	1,367.5	1,304.8	62.73	21.799	
2,952.7	2,912.2	2,915.2	2,915.2	9.6	57.5	148.48		-7.3	-1,076.8	1,378.0	1,314.1	63.91	21.563	
3,000.0	2,958.2	2,961.2	2,961.2	9.8	58.4	148.72		-7.3	-1,076.8	1,387.5	1,322.5	64.96	21.360	
3,051.2	3,008.0	3,011.0	3,011.0	10.0	59.4	148.97		-7.3	-1,076.8	1,397.7	1,331.6	66.09	21.147	
3,100.0	3,055.4	3,058.4	3,058.4	10.3	60.3	149.21		-7.3	-1,076.8	1,407.5	1,340.3	67.18	20.952	
3,149.6	3,103.7	3,106.7	3,106.7	10.5	61.3	149.44		-7.3	-1,076.8	1,417.5	1,349.2	68.28	20.760	
3,200.0	3,152.7	3,155.7	3,155.7	10.8	62.3	149.68		-7.3	-1,076.8	1,427.7	1,358.3	69.40	20.572	
3,248.0	3,199.4	3,202.4	3,202.4	11.0	63.2	149.90		-7.3	-1,076.8	1,437.4	1,366.9	70.47	20.399	
3,300.0	3,250.0	3,253.0	3,253.0	11.3	64.3	150.14		-7.3	-1,076.8	1,447.9	1,376.3	71.62	20.217	
3,346.4	3,295.1	3,298.1	3,298.1	11.5	65.2	150.35		-7.3	-1,076.8	1,457.4	1,384.7	72.65	20.060	
3,400.0	3,347.2	3,350.2	3,350.2	11.8	66.2	150.59		-7.3	-1,076.8	1,468.3	1,394.4	73.84	19.886	
3,444.9	3,390.9	3,393.9	3,393.9	12.0	67.1	150.79		-7.3	-1,076.8	1,477.4	1,402.6	74.83	19.744	
3,500.0	3,444.5	3,447.5	3,447.5	12.3	68.2	151.03		-7.3	-1,076.8	1,488.7	1,412.6	76.05	19.575	
3,543.3	3,486.6	3,489.6	3,489.6	12.5	69.0	151.21		-7.3	-1,076.8	1,497.5	1,420.5	77.01	19.446	
3,600.0	3,541.8	3,544.8	3,544.8	12.8	70.1	151.45		-7.3	-1,076.8	1,509.2	1,430.9	78.26	19.283	
3,641.7	3,582.3	3,585.3	3,585.3	13.0	70.9	151.63		-7.3	-1,076.8	1,517.8	1,438.6	79.19	19.167	
3,700.0	3,639.0	3,642.0	3,642.0	13.3	72.1	151.86		-7.3	-1,076.8	1,529.8	1,449.3	80.48	19.009	
3,740.1	3,678.1	3,681.1	3,681.1	13.5	72.9	152.03		-7.3	-1,076.8	1,538.0	1,456.7	81.36	18.904	
3,800.0	3,736.3	3,739.3	3,739.3	13.8	74.0	152.27		-7.3	-1,076.8	1,550.4	1,467.7	82.68	18.751	
3,838.6	3,773.8	3,776.8	3,776.8	14.0	74.8	152.42		-7.3	-1,076.8	1,558.4	1,474.9	83.54	18.655	
3,900.0	3,833.5	3,836.5	3,836.5	14.3	76.0	152.66		-7.3	-1,076.8	1,571.1	1,486.2	84.89	18.507	
3,937.0	3,869.5	3,872.5	3,872.5	14.5	76.7	152.80		-7.3	-1,076.8	1,578.8	1,493.1	85.71	18.421	
4,000.0	3,930.8	3,933.8	3,933.8	14.8	77.9	153.04		-7.3	-1,076.8	1,591.9	1,504.8	87.10	18.277	
4,035.4	3,965.3	3,968.3	3,968.3	15.0	78.6	153.17		-7.3	-1,076.8	1,599.3	1,511.4	87.88	18.199	
4,100.0	4,028.1	4,031.1	4,031.1	15.3	79.9	153.41		-7.3	-1,076.8	1,612.8	1,523.5	89.31	18.059	
4,133.8	4,061.0	4,064.0	4,064.0	15.5	80.6	153.54		-7.3	-1,076.8	1,619.9	1,529.8	90.05	17.988	
4,200.0	4,125.3	4,128.3	4,128.3	15.8	81.9	153.78		-7.3	-1,076.8	1,633.7	1,542.2	91.51	17.853	
4,232.3	4,156.7	4,159.7	4,159.7	16.0	82.5	153.89		-7.3	-1,076.8	1,640.5	1,548.3	92.22	17.789	
4,300.0	4,222.6	4,225.6	4,225.6	16.3	83.8	154.13		-7.3	-1,076.8	1,654.7	1,561.0	93.71	17.658	
4,330.7	4,252.4	4,255.4	4,255.4	16.5	84.4	154.24		-7.3	-1,076.8	1,661.2	1,566.8	94.39	17.600	
4,400.0	4,319.8	4,322.8	4,322.8	16.8	85.8	154.48		-7.3	-1,076.8	1,675.8	1,579.9	95.91	17.472	
4,429.1	4,348.2	4,351.2	4,351.2	17.0	86.3	154.57		-7.3	-1,076.8	1,681.9	1,585.4	96.55	17.419	
4,500.0	4,417.1	4,420.1	4,420.1	17.3	87.7	154.81		-7.3	-1,076.8	1,696.9	1,598.8	98.11	17.295	
4,527.5	4,443.9	4,446.9	4,446.9	17.5	88.3	154.90		-7.3	-1,076.8	1,702.7	1,604.0	98.72	17.248	
4,600.0	4,514.4	4,517.4	4,517.4	17.8	89.7	155.14		-7.3	-1,076.8	1,718.0	1,617.7	100.31	17.127	
4,626.0	4,539.6	4,542.6	4,542.6	17.9	90.2	155.22		-7.3	-1,076.8	1,723.5	1,622.7	100.88	17.085	
4,700.0	4,611.6	4,614.6	4,614.6	18.3	91.6	155.46		-7.3	-1,076.8	1,739.2	1,636.7	102.51	16.967	
4,724.4	4,635.4	4,638.4	4,638.4	18.4	92.1	155.54		-7.3	-1,076.8	1,744.4	1,641.4	103.04	16.929	
4,800.0	4,708.9	4,711.9	4,711.9	18.8	93.6	155.77		-7.3	-1,076.8	1,760.5	1,655.8	104.70	16.814	
4,822.8	4,731.1	4,734.1	4,734.1	18.9	94.0	155.84		-7.3	-1,076.8	1,765.4	1,660.2	105.21	16.780	
4,900.0	4,806.2	4,809.2	4,809.2	19.3	95.6	156.08		-7.3	-1,076.8	1,781.8	1,674.9	106.90	16.668	
4,921.2	4,826.8	4,829.8	4,829.8	19.4	96.0	156.14		-7.3	-1,076.8	1,786.4	1,679.0	107.37	16.638	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #44-30 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	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
5,000.0	4,903.4	4,906.4	4,906.4	19.8	97.5	156.38		-7.3	-1,076.8	1,803.2	1,694.1	109.09	16.529	
5,019.7	4,922.6	4,925.6	4,925.6	19.9	97.9	156.43		-7.3	-1,076.8	1,807.4	1,697.9	109.53	16.502	
5,100.0	5,000.7	5,003.7	5,003.7	20.4	99.5	156.67		-7.3	-1,076.8	1,824.6	1,713.3	111.29	16.395	
5,118.1	5,018.3	5,021.3	5,021.3	20.4	99.8	156.72		-7.3	-1,076.8	1,828.5	1,716.8	111.68	16.372	
5,166.2	5,065.0	5,068.0	5,068.0	20.7	100.8	156.86		-7.3	-1,076.8	1,838.8	1,726.0	112.74	16.310	
5,200.0	5,098.0	5,101.0	5,101.0	20.8	101.4	157.01		-7.3	-1,076.8	1,845.9	1,732.2	113.69	16.236	
5,216.5	5,114.1	5,117.1	5,117.1	20.9	101.7	157.08		-7.3	-1,076.8	1,849.2	1,735.1	114.15	16.200	
5,300.0	5,195.9	5,198.9	5,198.9	21.2	103.4	157.40		-7.3	-1,076.8	1,864.7	1,748.3	116.43	16.016	
5,314.9	5,210.6	5,213.6	5,213.6	21.2	103.7	157.45		-7.3	-1,076.8	1,867.3	1,750.4	116.83	15.982	
5,400.0	5,294.4	5,297.4	5,297.4	21.5	105.4	157.72		-7.3	-1,076.8	1,880.4	1,761.3	119.09	15.790	
5,413.4	5,307.7	5,310.7	5,310.7	21.5	105.6	157.75		-7.3	-1,076.8	1,882.3	1,762.8	119.44	15.759	
5,500.0	5,393.5	5,396.5	5,396.5	21.7	107.4	157.97		-7.3	-1,076.8	1,892.9	1,771.3	121.66	15.560	
5,511.8	5,405.2	5,408.2	5,408.2	21.8	107.6	157.99		-7.3	-1,076.8	1,894.2	1,772.3	121.95	15.533	
5,600.0	5,493.0	5,496.0	5,496.0	22.0	109.4	158.15		-7.3	-1,076.8	1,902.3	1,778.1	124.12	15.327	
5,610.2	5,503.2	5,506.2	5,506.2	22.0	109.6	158.17		-7.3	-1,076.8	1,903.0	1,778.7	124.36	15.303	
5,700.0	5,592.8	5,595.8	5,595.8	22.1	111.4	158.27		-7.3	-1,076.8	1,908.4	1,781.9	126.46	15.091	
5,708.6	5,601.4	5,604.4	5,604.4	22.1	111.5	158.28		-7.3	-1,076.8	1,908.7	1,782.1	126.65	15.070	
5,800.0	5,692.7	5,695.7	5,695.7	22.3	113.4	158.32		-7.3	-1,076.8	1,911.2	1,782.5	128.67	14.853	
5,807.1	5,699.8	5,702.8	5,702.8	22.3	113.5	158.33		-7.3	-1,076.8	1,911.3	1,782.5	128.83	14.836	
5,838.1	5,730.8	5,733.8	5,733.8	22.3	114.1	-71.10		-7.3	-1,076.8	1,911.4	1,782.0	129.48	14.762	
5,868.1	5,760.8	5,763.8	5,763.8	22.3	114.8	-71.10		-7.3	-1,076.8	1,911.4	1,781.3	130.14	14.688	
5,900.0	5,792.7	5,795.7	5,795.7	22.4	115.4	-71.14		-7.3	-1,076.8	1,911.2	1,780.4	130.79	14.613	
5,905.5	5,798.2	5,801.2	5,801.2	22.4	115.5	-71.15		-7.3	-1,076.8	1,911.1	1,780.2	130.90	14.600	
5,950.0	5,842.6	5,845.6	5,845.6	22.4	116.4	-71.35		-7.3	-1,076.8	1,909.9	1,778.2	131.76	14.495	
6,000.0	5,892.0	5,895.0	5,895.0	22.4	117.4	-71.74		-7.3	-1,076.8	1,907.6	1,774.9	132.68	14.377	
6,003.9	5,895.8	5,898.8	5,898.8	22.4	117.5	-71.78		-7.3	-1,076.8	1,907.3	1,774.6	132.75	14.368	
6,050.0	5,940.8	5,943.8	5,943.8	22.4	118.4	-72.30		-7.3	-1,076.8	1,904.1	1,770.6	133.56	14.257	
6,100.0	5,988.7	5,991.7	5,991.7	22.3	119.3	-73.04		-7.3	-1,076.8	1,899.7	1,765.3	134.40	14.134	
6,102.3	5,990.9	5,993.9	5,993.9	22.3	119.4	-73.07		-7.3	-1,076.8	1,899.5	1,765.0	134.44	14.128	
6,150.0	6,035.5	6,038.5	6,038.5	22.2	120.3	-73.92		-7.3	-1,076.8	1,894.4	1,759.2	135.24	14.007	
6,200.0	6,081.0	6,084.0	6,084.0	22.2	121.2	-74.95		-7.3	-1,076.8	1,888.3	1,752.2	136.09	13.875	
6,200.8	6,081.7	6,084.7	6,084.7	22.2	121.2	-74.97		-7.3	-1,076.8	1,888.2	1,752.1	136.10	13.873	
6,250.0	6,124.9	6,127.9	6,127.9	22.0	122.1	-76.10		-7.3	-1,076.8	1,881.6	1,744.6	136.96	13.738	
6,299.2	6,166.4	6,169.4	6,169.4	21.9	122.9	-77.33		-7.3	-1,076.8	1,874.5	1,736.6	137.84	13.599	
6,300.0	6,167.0	6,170.0	6,170.0	21.9	122.9	-77.35		-7.3	-1,076.8	1,874.3	1,736.5	137.85	13.597	
6,350.0	6,207.2	6,210.2	6,210.2	21.8	123.7	-78.68		-7.3	-1,076.8	1,866.7	1,728.0	138.77	13.452	
6,397.6	6,243.4	6,246.4	6,246.4	21.6	124.5	-79.99		-7.3	-1,076.8	1,859.3	1,719.7	139.66	13.313	
6,400.0	6,245.2	6,248.2	6,248.2	21.6	124.5	-80.05		-7.3	-1,076.8	1,858.9	1,719.2	139.70	13.307	
6,450.0	6,280.8	6,283.8	6,283.8	21.5	125.2	-81.45		-7.3	-1,076.8	1,851.1	1,710.5	140.62	13.164	
6,496.0	6,311.4	6,314.4	6,314.4	21.3	125.8	-82.72		-7.3	-1,076.8	1,844.1	1,702.6	141.45	13.037	
6,500.0	6,313.9	6,316.9	6,316.9	21.3	125.9	-82.83		-7.3	-1,076.8	1,843.5	1,702.0	141.52	13.027	
6,550.0	6,344.3	6,347.3	6,347.3	21.2	126.5	-84.17		-7.3	-1,076.8	1,836.2	1,693.8	142.36	12.899	
6,594.5	6,368.9	6,371.9	6,371.9	21.0	127.0	-85.30		-7.3	-1,076.8	1,830.1	1,687.1	143.05	12.794	
6,600.0	6,371.8	6,374.8	6,374.8	21.0	127.0	-85.44		-7.3	-1,076.8	1,829.4	1,686.3	143.13	12.782	
6,650.0	6,396.4	6,399.4	6,399.4	20.8	127.5	-86.60		-7.3	-1,076.8	1,823.4	1,679.5	143.81	12.679	
6,692.9	6,415.0	6,418.0	6,418.0	20.7	127.9	-87.49		-7.3	-1,076.8	1,818.8	1,674.5	144.33	12.602	
6,700.0	6,417.9	6,420.9	6,420.9	20.7	128.0	-87.63		-7.3	-1,076.8	1,818.1	1,673.7	144.41	12.590	
6,750.0	6,436.2	6,439.2	6,439.2	20.5	128.3	-88.51		-7.3	-1,076.8	1,813.9	1,669.0	144.93	12.516	
6,791.3	6,448.8	6,451.8	6,451.8	20.4	128.6	-89.10		-7.3	-1,076.8	1,811.3	1,666.0	145.30	12.466	
6,800.0	6,451.1	6,454.1	6,454.1	20.3	128.6	-89.21		-7.3	-1,076.8	1,810.8	1,665.5	145.37	12.457	
6,850.0	6,462.8	6,465.8	6,465.8	20.2	128.9	-89.72		-7.3	-1,076.8	1,809.0	1,663.2	145.75	12.411	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #44-30 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	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
6,889.7	6,469.6	6,472.6	6,472.6	20.1	129.0	-89.97	-89.97	-7.3	-1,076.8	1,808.4	1,662.4	146.03	12.384	
6,895.7	6,470.4	6,473.4	6,473.4	20.1	129.0	-90.00	-90.00	-7.3	-1,076.8	1,808.4	1,662.3	146.07	12.381	
6,900.0	6,471.0	6,474.0	6,474.0	20.0	129.0	-90.02	-90.02	-7.3	-1,076.8	1,808.4	1,662.3	146.09	12.378	
6,950.0	6,475.7	6,478.7	6,478.7	19.9	129.1	-90.10	-90.10	-7.3	-1,076.8	1,809.2	1,662.8	146.39	12.358	
6,988.2	6,477.0	6,480.0	6,480.0	19.8	129.2	-90.02	-90.02	-7.3	-1,076.8	1,810.7	1,664.1	146.60	12.351	
6,997.5	6,477.0	6,480.0	6,480.0	19.8	129.2	-89.98	-89.98	-7.3	-1,076.8	1,811.2	1,664.6	146.65	12.351	
7,000.0	6,477.0	6,480.0	6,480.0	19.8	129.2	-89.98	-89.98	-7.3	-1,076.8	1,811.4	1,664.7	146.66	12.351 SF	
7,086.6	6,476.5	6,479.5	6,479.5	19.6	129.1	-89.96	-89.96	-7.3	-1,076.8	1,818.4	1,671.2	147.20	12.354	
7,100.0	6,476.4	6,479.4	6,479.4	19.6	129.1	-89.96	-89.96	-7.3	-1,076.8	1,819.9	1,672.6	147.28	12.356	
7,185.0	6,475.9	6,478.9	6,478.9	19.7	129.1	-89.94	-89.94	-7.3	-1,076.8	1,831.3	1,683.4	147.95	12.378	
7,200.0	6,475.8	6,478.8	6,478.8	19.8	129.1	-89.94	-89.94	-7.3	-1,076.8	1,833.8	1,685.7	148.07	12.385	
7,283.4	6,475.2	6,478.2	6,478.2	20.4	129.1	-89.92	-89.92	-7.3	-1,076.8	1,849.4	1,700.6	148.85	12.425	
7,300.0	6,475.1	6,478.1	6,478.1	20.6	129.1	-89.92	-89.92	-7.3	-1,076.8	1,853.0	1,704.0	149.00	12.436	
7,381.9	6,474.6	6,477.6	6,477.6	21.5	129.1	-89.91	-89.91	-7.3	-1,076.8	1,872.5	1,722.6	149.89	12.493	
7,400.0	6,474.5	6,477.5	6,477.5	21.8	129.1	-89.90	-89.90	-7.3	-1,076.8	1,877.3	1,727.2	150.08	12.508	
7,480.3	6,474.0	6,477.0	6,477.0	22.8	129.1	-89.89	-89.89	-7.3	-1,076.8	1,900.4	1,749.4	151.04	12.582	
7,500.0	6,473.9	6,476.9	6,476.9	23.0	129.1	-89.88	-89.88	-7.3	-1,076.8	1,906.6	1,755.3	151.28	12.603	
7,578.7	6,473.4	6,476.4	6,476.4	24.1	129.1	-89.87	-89.87	-7.3	-1,076.8	1,933.0	1,780.7	152.29	12.693	
7,600.0	6,473.3	6,476.3	6,476.3	24.4	129.1	-89.86	-89.86	-7.3	-1,076.8	1,940.6	1,788.0	152.57	12.720	
7,677.1	6,472.8	6,475.8	6,475.8	25.5	129.1	-89.85	-89.85	-7.3	-1,076.8	1,969.9	1,816.3	153.62	12.823	
7,700.0	6,472.7	6,475.7	6,475.7	25.8	129.1	-89.84	-89.84	-7.3	-1,076.8	1,979.1	1,825.1	153.93	12.856	
7,775.6	6,472.2	6,475.2	6,475.2	26.9	129.1	-89.83	-89.83	-7.3	-1,076.8	2,010.9	1,855.9	155.02	12.972	
7,800.0	6,472.1	6,475.1	6,475.1	27.3	129.1	-89.82	-89.82	-7.3	-1,076.8	2,021.7	1,866.4	155.37	13.012	
7,874.0	6,471.6	6,474.6	6,474.6	28.4	129.0	-89.81	-89.81	-7.3	-1,076.8	2,055.9	1,899.4	156.48	13.139	
7,900.0	6,471.5	6,474.5	6,474.5	28.8	129.0	-89.80	-89.80	-7.3	-1,076.8	2,068.4	1,911.5	156.86	13.186	
7,972.4	6,471.0	6,474.0	6,474.0	29.9	129.0	-89.79	-89.79	-7.3	-1,076.8	2,104.5	1,946.5	157.98	13.321	
8,000.0	6,470.8	6,473.8	6,473.8	30.3	129.0	-89.78	-89.78	-7.3	-1,076.8	2,118.7	1,960.3	158.41	13.375	
8,070.8	6,470.4	6,473.4	6,473.4	31.4	129.0	-89.77	-89.77	-7.3	-1,076.8	2,156.5	1,997.0	159.53	13.518	
8,100.0	6,470.2	6,473.2	6,473.2	31.9	129.0	-89.76	-89.76	-7.3	-1,076.8	2,172.5	2,012.5	159.99	13.579	
8,169.3	6,469.8	6,472.8	6,472.8	33.0	129.0	-89.75	-89.75	-7.3	-1,076.8	2,211.7	2,050.5	161.11	13.728	
8,200.0	6,469.6	6,472.6	6,472.6	33.5	129.0	-89.74	-89.74	-7.3	-1,076.8	2,229.5	2,067.9	161.61	13.796	
8,267.7	6,469.2	6,472.2	6,472.2	34.7	129.0	-89.73	-89.73	-7.3	-1,076.8	2,269.7	2,107.0	162.72	13.948	
8,300.0	6,469.0	6,472.0	6,472.0	35.2	129.0	-89.73	-89.73	-7.3	-1,076.8	2,289.4	2,126.2	163.26	14.023	
8,366.1	6,468.6	6,471.6	6,471.6	36.3	129.0	-89.71	-89.71	-7.3	-1,076.8	2,330.5	2,166.2	164.36	14.179	
8,400.0	6,468.4	6,471.4	6,471.4	36.9	129.0	-89.71	-89.71	-7.3	-1,076.8	2,352.1	2,187.1	164.93	14.261	
8,464.5	6,468.0	6,471.0	6,471.0	38.0	129.0	-89.69	-89.69	-7.3	-1,076.8	2,393.8	2,227.8	166.02	14.419	
8,500.0	6,467.8	6,470.8	6,470.8	38.6	129.0	-89.69	-89.69	-7.3	-1,076.8	2,417.2	2,250.6	166.63	14.507	
8,563.0	6,467.4	6,470.4	6,470.4	39.6	129.0	-89.67	-89.67	-7.3	-1,076.8	2,459.5	2,291.8	167.71	14.665	
8,600.0	6,467.1	6,470.1	6,470.1	40.3	129.0	-89.67	-89.67	-7.3	-1,076.8	2,484.7	2,316.4	168.34	14.760	
8,661.4	6,466.8	6,469.8	6,469.8	41.3	128.9	-89.65	-89.65	-7.3	-1,076.8	2,527.2	2,357.8	169.41	14.918	
8,700.0	6,466.5	6,469.5	6,469.5	42.0	128.9	-89.65	-89.65	-7.3	-1,076.8	2,554.3	2,384.2	170.07	15.019	
8,759.8	6,466.1	6,469.1	6,469.1	43.0	128.9	-89.63	-89.63	-7.3	-1,076.8	2,596.9	2,425.8	171.12	15.176	
8,800.0	6,465.9	6,468.9	6,468.9	43.7	128.9	-89.63	-89.63	-7.3	-1,076.8	2,625.9	2,454.1	171.82	15.283	
8,858.2	6,465.5	6,468.5	6,468.5	44.8	128.9	-89.61	-89.61	-7.3	-1,076.8	2,668.4	2,495.6	172.85	15.438	
8,900.0	6,465.3	6,468.3	6,468.3	45.5	128.9	-89.61	-89.61	-7.3	-1,076.8	2,699.3	2,525.7	173.58	15.550	
8,956.7	6,464.9	6,467.9	6,467.9	46.5	128.9	-89.59	-89.59	-7.3	-1,076.8	2,741.6	2,567.0	174.59	15.703	
9,000.0	6,464.7	6,467.7	6,467.7	47.3	128.9	-89.59	-89.59	-7.3	-1,076.8	2,774.3	2,599.0	175.36	15.821	
9,055.1	6,464.3	6,467.3	6,467.3	48.2	128.9	-89.58	-89.58	-7.3	-1,076.8	2,816.3	2,640.0	176.34	15.971	
9,100.0	6,464.0	6,467.0	6,467.0	49.0	128.9	-89.57	-89.57	-7.3	-1,076.8	2,850.9	2,673.8	177.14	16.094	
9,153.5	6,463.7	6,466.7	6,466.7	50.0	128.9	-89.56	-89.56	-7.3	-1,076.8	2,892.5	2,714.4	178.10	16.241	
9,200.0	6,463.4	6,466.4	6,466.4	50.8	128.9	-89.55	-89.55	-7.3	-1,076.8	2,928.9	2,750.0	178.93	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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - EXIST VERT ROTHE #44-30 - Wellbore #1 - Design #1													Offset Site Error:	0.0 usft
Survey Program: 0-INC													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	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
9,251.9	6,463.1	6,466.1	6,466.1	51.8	128.9	-89.54	-89.54	-7.3	-1,076.8	2,969.9	2,790.1	179.87	16.512	
9,300.0	6,462.8	6,465.8	6,465.8	52.6	128.9	-89.53	-89.53	-7.3	-1,076.8	3,008.2	2,827.5	180.73	16.645	
9,350.4	6,462.5	6,465.5	6,465.5	53.5	128.9	-89.52	-89.52	-7.3	-1,076.8	3,048.6	2,867.0	181.64	16.783	
9,400.0	6,462.2	6,465.2	6,465.2	54.4	128.9	-89.51	-89.51	-7.3	-1,076.8	3,088.7	2,906.2	182.54	16.921	
9,448.8	6,461.9	6,464.9	6,464.9	55.3	128.8	-89.50	-89.50	-7.3	-1,076.8	3,128.4	2,945.0	183.43	17.055	
9,500.0	6,461.5	6,464.5	6,464.5	56.2	128.8	-89.49	-89.49	-7.3	-1,076.8	3,170.3	2,985.9	184.35	17.197	
9,547.2	6,461.2	6,464.2	6,464.2	57.1	128.8	-89.48	-89.48	-7.3	-1,076.8	3,209.2	3,024.0	185.21	17.327	
9,600.0	6,460.9	6,463.9	6,463.9	58.1	128.8	-89.47	-89.47	-7.3	-1,076.8	3,252.9	3,066.8	186.17	17.472	
9,645.6	6,460.6	6,463.6	6,463.6	58.9	128.8	-89.46	-89.46	-7.3	-1,076.8	3,291.0	3,104.0	187.01	17.598	
9,700.0	6,460.3	6,463.3	6,463.3	59.9	128.8	-89.45	-89.45	-7.3	-1,076.8	3,336.5	3,148.5	188.00	17.747	
9,744.1	6,460.0	6,463.0	6,463.0	60.7	128.8	-89.44	-89.44	-7.3	-1,076.8	3,373.6	3,184.8	188.81	17.868	
9,800.0	6,459.7	6,462.7	6,462.7	61.7	128.8	-89.43	-89.43	-7.3	-1,076.8	3,421.0	3,231.2	189.83	18.021	
9,842.5	6,459.4	6,462.4	6,462.4	62.5	128.8	-89.42	-89.42	-7.3	-1,076.8	3,457.1	3,266.5	190.61	18.137	
9,900.0	6,459.0	6,462.0	6,462.0	63.6	128.8	-89.41	-89.41	-7.3	-1,076.8	3,506.3	3,314.6	191.67	18.293	
9,940.9	6,458.8	6,461.8	6,461.8	64.3	128.8	-89.40	-89.40	-7.3	-1,076.8	3,541.4	3,349.0	192.42	18.404	
10,000.0	6,458.4	6,461.4	6,461.4	65.4	128.8	-89.39	-89.39	-7.3	-1,076.8	3,592.3	3,398.8	193.51	18.564	
10,039.3	6,458.2	6,461.2	6,461.2	66.1	128.8	-89.38	-89.38	-7.3	-1,076.8	3,626.4	3,432.1	194.23	18.670	
10,100.0	6,457.8	6,460.8	6,460.8	67.2	128.8	-89.37	-89.37	-7.3	-1,076.8	3,679.1	3,483.7	195.35	18.833	
10,137.8	6,457.6	6,460.6	6,460.6	67.9	128.8	-89.36	-89.36	-7.3	-1,076.8	3,712.0	3,515.9	196.05	18.934	
10,200.0	6,457.2	6,460.2	6,460.2	69.1	128.8	-89.34	-89.34	-7.3	-1,076.8	3,766.5	3,569.3	197.20	19.100	
10,236.2	6,456.9	6,459.9	6,459.9	69.8	128.7	-89.34	-89.34	-7.3	-1,076.8	3,798.3	3,600.4	197.87	19.196	
10,300.0	6,456.5	6,459.5	6,459.5	70.9	128.7	-89.32	-89.32	-7.3	-1,076.8	3,854.5	3,655.4	199.05	19.365	
10,334.6	6,456.3	6,459.3	6,459.3	71.6	128.7	-89.32	-89.32	-7.3	-1,076.8	3,885.1	3,685.4	199.69	19.456	
10,400.0	6,455.9	6,458.9	6,458.9	72.8	128.7	-89.30	-89.30	-7.3	-1,076.8	3,943.1	3,742.2	200.90	19.627	
10,433.0	6,455.7	6,458.7	6,458.7	73.4	128.7	-89.30	-89.30	-7.3	-1,076.8	3,972.5	3,770.9	201.51	19.713	
10,500.0	6,455.3	6,458.3	6,458.3	74.7	128.7	-89.28	-89.28	-7.3	-1,076.8	4,032.2	3,829.4	202.76	19.887	
10,531.5	6,455.1	6,458.1	6,458.1	75.2	128.7	-89.28	-89.28	-7.3	-1,076.8	4,060.3	3,857.0	203.34	19.968	
10,600.0	6,454.7	6,457.7	6,457.7	76.5	128.7	-89.26	-89.26	-7.3	-1,076.8	4,121.8	3,917.2	204.62	20.144	
10,629.9	6,454.5	6,457.5	6,457.5	77.1	128.7	-89.26	-89.26	-7.3	-1,076.8	4,148.7	3,943.5	205.17	20.221	
10,700.0	6,454.0	6,457.0	6,457.0	78.4	128.7	-89.24	-89.24	-7.3	-1,076.8	4,211.9	4,005.4	206.48	20.399	
10,728.3	6,453.9	6,456.9	6,456.9	78.9	128.7	-89.24	-89.24	-7.3	-1,076.8	4,237.5	4,030.5	207.00	20.471	
10,800.0	6,453.4	6,456.4	6,456.4	80.3	128.7	-89.22	-89.22	-7.3	-1,076.8	4,302.4	4,094.1	208.34	20.651	
10,826.7	6,453.2	6,456.2	6,456.2	80.8	128.7	-89.22	-89.22	-7.3	-1,076.8	4,326.7	4,117.9	208.84	20.718	
10,900.0	6,452.8	6,455.8	6,455.8	82.1	128.7	-89.20	-89.20	-7.3	-1,076.8	4,393.4	4,183.2	210.20	20.900	
10,925.2	6,452.6	6,455.6	6,455.6	82.6	128.7	-89.20	-89.20	-7.3	-1,076.8	4,416.3	4,205.6	210.67	20.963	
11,000.0	6,452.1	6,455.1	6,455.1	84.0	128.7	-89.18	-89.18	-7.3	-1,076.8	4,484.7	4,272.6	212.07	21.147	
11,023.6	6,452.0	6,455.0	6,455.0	84.4	128.7	-89.18	-89.18	-7.3	-1,076.8	4,506.3	4,293.8	212.51	21.205	
11,023.7	6,452.0	6,455.0	6,455.0	84.4	128.7	-89.18	-89.18	-7.3	-1,076.8	4,506.4	4,293.9	212.51	21.205	
11,024.4	6,452.0	6,455.0	6,455.0	84.5	128.7	-89.18	-89.18	-7.3	-1,076.8	4,507.0	4,294.5	212.52	21.207	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-221 - ORIGINAL WELLBORE - PROPOSAL #													Offset Site Error:	0.0 usft
Survey Program: 0-MWDD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis (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
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	-90.00	0.0	-109.8	109.8				
98.4	98.4	98.4	98.4	0.1	0.1	-90.00	-90.00	0.0	-109.8	109.8	109.7	0.19	571.414	
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	-90.00	0.0	-109.8	109.8	109.7	0.20	561.742	
196.8	196.8	196.8	196.8	0.3	0.3	-90.00	-90.00	0.0	-109.8	109.8	109.2	0.63	174.106	
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	-90.00	0.0	-109.8	109.8	109.2	0.65	170.284	
295.3	295.3	295.3	295.3	0.5	0.5	-90.00	-90.00	0.0	-109.8	109.8	108.8	1.07	102.338	
300.0	300.0	300.0	300.0	0.5	0.5	-90.00	-90.00	0.0	-109.8	109.8	108.8	1.09	100.352	
393.7	393.7	393.7	393.7	0.8	0.8	-90.00	-90.00	0.0	-109.8	109.8	108.3	1.52	72.467	
400.0	400.0	400.0	400.0	0.8	0.8	-90.00	-90.00	0.0	-109.8	109.8	108.3	1.54	71.138	
492.1	492.1	492.1	492.1	1.0	1.0	-90.00	-90.00	0.0	-109.8	109.8	107.9	1.96	56.094	
500.0	500.0	500.0	500.0	1.0	1.0	-90.00	-90.00	0.0	-109.8	109.8	107.9	1.99	55.098	
590.5	590.5	590.5	590.5	1.2	1.2	-90.00	-90.00	0.0	-109.8	109.8	107.4	2.40	45.756	
600.0	600.0	600.0	600.0	1.2	1.2	-90.00	-90.00	0.0	-109.8	109.8	107.4	2.44	44.960	
689.0	689.0	689.0	689.0	1.4	1.4	-90.00	-90.00	0.0	-109.8	109.8	107.0	2.84	38.635	
700.0	700.0	700.0	700.0	1.4	1.4	-90.00	-90.00	0.0	-109.8	109.8	107.0	2.89	37.973	
787.4	787.4	787.4	787.4	1.6	1.6	-90.00	-90.00	0.0	-109.8	109.8	106.6	3.29	33.432	
800.0	800.0	800.0	800.0	1.7	1.7	-90.00	-90.00	0.0	-109.8	109.8	106.5	3.34	32.866	
885.8	885.8	885.8	885.8	1.9	1.9	-90.00	-90.00	0.0	-109.8	109.8	106.1	3.73	29.465	
900.0	900.0	900.0	900.0	1.9	1.9	-90.00	-90.00	0.0	-109.8	109.8	106.1	3.79	28.970	
984.2	984.2	984.2	984.2	2.1	2.1	-90.00	-90.00	0.0	-109.8	109.8	105.7	4.17	26.339	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.00	-90.00	0.0	-109.8	109.8	105.6	4.24	25.899	
1,025.0	1,025.0	1,025.0	1,025.0	2.2	2.2	-90.00	-90.00	0.0	-109.8	109.8	105.5	4.35	25.231 CC, ES	
1,082.7	1,082.7	1,082.7	1,082.7	2.3	2.3	139.62	139.62	0.0	-109.8	110.3	105.7	4.60	23.980	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	139.75	139.75	0.0	-109.8	110.6	105.9	4.67	23.668	
1,181.1	1,181.0	1,180.7	1,180.7	2.5	2.5	140.21	140.21	-1.1	-110.0	113.2	108.2	4.98	22.743	
1,200.0	1,199.9	1,199.6	1,199.5	2.5	2.5	140.25	140.25	-1.7	-110.0	114.1	109.1	5.05	22.601	
1,279.5	1,279.2	1,278.6	1,278.5	2.7	2.7	140.17	140.17	-5.5	-110.4	119.0	113.7	5.34	22.304	
1,300.0	1,299.6	1,299.0	1,298.8	2.7	2.7	140.09	140.09	-6.9	-110.6	120.6	115.2	5.41	22.291	
1,377.9	1,377.1	1,376.3	1,375.8	2.9	2.9	139.57	139.57	-13.2	-111.3	127.8	122.1	5.71	22.365	
1,400.0	1,398.9	1,398.1	1,397.5	2.9	2.9	139.37	139.37	-15.4	-111.5	130.1	124.3	5.80	22.443	
1,476.4	1,474.5	1,473.5	1,472.4	3.1	3.1	138.54	138.54	-24.2	-112.4	139.4	133.3	6.12	22.772	
1,500.0	1,497.8	1,496.7	1,495.5	3.2	3.1	138.24	138.24	-27.3	-112.8	142.6	136.4	6.22	22.924	
1,574.8	1,571.4	1,570.2	1,568.1	3.4	3.3	137.22	137.22	-38.3	-113.9	154.0	147.4	6.58	23.406	
1,600.0	1,596.1	1,594.8	1,592.4	3.5	3.3	136.86	136.86	-42.4	-114.4	158.2	151.5	6.70	23.614	
1,673.2	1,667.7	1,666.2	1,662.5	3.7	3.5	135.76	135.76	-55.4	-115.8	171.5	164.4	7.10	24.166	
1,696.9	1,690.8	1,689.1	1,685.0	3.8	3.6	135.39	135.39	-60.0	-116.3	176.2	168.9	7.23	24.378	
1,700.0	1,693.8	1,692.1	1,687.9	3.8	3.6	135.35	135.35	-60.6	-116.3	176.8	169.5	7.24	24.404	
1,771.6	1,763.5	1,762.2	1,756.4	4.1	3.8	134.44	134.44	-75.1	-117.9	191.2	183.5	7.69	24.858	
1,800.0	1,791.0	1,789.9	1,783.6	4.2	3.9	134.12	134.12	-80.8	-118.5	196.9	189.1	7.87	25.020	
1,870.1	1,859.2	1,858.5	1,850.7	4.5	4.2	133.39	133.39	-95.0	-120.0	211.1	202.7	8.34	25.310	
1,900.0	1,888.3	1,887.8	1,879.3	4.6	4.3	133.10	133.10	-101.1	-120.7	217.1	208.6	8.54	25.423	
1,968.5	1,954.9	1,954.8	1,944.9	4.9	4.5	132.51	132.51	-114.9	-122.1	231.0	222.0	9.02	25.612	
2,000.0	1,985.6	1,985.7	1,975.0	5.1	4.6	132.26	132.26	-121.3	-122.8	237.4	228.2	9.25	25.678	
2,066.9	2,050.7	2,051.2	2,039.1	5.4	4.9	131.78	131.78	-134.9	-124.3	251.0	241.3	9.73	25.784	
2,100.0	2,082.8	2,083.5	2,070.8	5.5	5.0	131.56	131.56	-141.6	-125.0	257.7	247.7	9.98	25.829	
2,165.3	2,146.4	2,147.5	2,133.3	5.8	5.3	131.15	131.15	-154.8	-126.4	271.0	260.5	10.47	25.886	
2,200.0	2,180.1	2,181.4	2,166.5	6.0	5.4	130.95	130.95	-161.8	-127.1	278.0	267.3	10.73	25.911	
2,263.8	2,242.1	2,243.8	2,227.6	6.3	5.6	130.61	130.61	-174.7	-128.5	291.0	279.8	11.22	25.934	
2,300.0	2,277.3	2,279.3	2,262.2	6.4	5.8	130.43	130.43	-182.0	-129.3	298.4	286.9	11.50	25.944	
2,362.2	2,337.8	2,340.2	2,321.8	6.7	6.0	130.14	130.14	-194.6	-130.7	311.1	299.1	11.99	25.946	
2,400.0	2,374.6	2,377.2	2,358.0	6.9	6.2	129.98	129.98	-202.3	-131.5	318.8	306.5	12.29	25.944	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-221 - ORIGINAL WELLBORE - PROPOSAL #													Offset Site Error:	0.0 usft
Survey Program: 0-MWDD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
2,460.6	2,433.6	2,436.5	2,416.0	7.2	6.4	129.73	129.73	-214.6	-132.8	331.2	318.4	12.77	25.932	
2,500.0	2,471.9	2,475.0	2,453.7	7.4	6.6	129.58	129.58	-222.5	-133.6	339.2	326.1	13.09	25.922	
2,559.0	2,529.3	2,532.8	2,510.2	7.6	6.8	129.36	129.36	-234.5	-134.9	351.2	337.7	13.56	25.902	
2,600.0	2,569.1	2,572.9	2,549.4	7.8	7.0	129.22	129.22	-242.8	-135.8	359.6	345.7	13.89	25.886	
2,657.5	2,625.0	2,629.1	2,604.5	8.1	7.2	129.04	129.04	-254.4	-137.0	371.4	357.0	14.36	25.860	
2,700.0	2,666.4	2,670.8	2,645.2	8.3	7.4	128.91	128.91	-263.0	-138.0	380.0	365.3	14.71	25.840	
2,755.9	2,720.8	2,725.5	2,698.7	8.6	7.7	128.74	128.74	-274.3	-139.2	391.5	376.3	15.17	25.811	
2,800.0	2,763.7	2,768.6	2,740.9	8.8	7.8	128.62	128.62	-283.2	-140.1	400.5	384.9	15.53	25.788	
2,854.3	2,816.5	2,821.8	2,792.9	9.1	8.1	128.48	128.48	-294.2	-141.3	411.6	395.6	15.98	25.758	
2,900.0	2,860.9	2,866.5	2,836.6	9.3	8.3	128.36	128.36	-303.5	-142.3	420.9	404.6	16.36	25.733	
2,952.7	2,912.2	2,918.1	2,887.1	9.6	8.5	128.24	128.24	-314.2	-143.4	431.7	414.9	16.80	25.702	
3,000.0	2,958.2	2,964.4	2,932.4	9.8	8.7	128.13	128.13	-323.7	-144.4	441.4	424.2	17.19	25.675	
3,051.2	3,008.0	3,014.5	2,981.3	10.0	8.9	128.02	128.02	-334.1	-145.6	451.8	434.2	17.62	25.646	
3,100.0	3,055.4	3,062.3	3,028.1	10.3	9.1	127.92	127.92	-344.0	-146.6	461.8	443.8	18.03	25.618	
3,149.6	3,103.7	3,110.8	3,075.6	10.5	9.3	127.82	127.82	-354.0	-147.7	472.0	453.5	18.44	25.589	
3,200.0	3,152.7	3,160.1	3,123.8	10.8	9.5	127.72	127.72	-364.2	-148.8	482.3	463.4	18.87	25.560	
3,248.0	3,199.4	3,207.1	3,169.8	11.0	9.8	127.64	127.64	-373.9	-149.8	492.1	472.9	19.27	25.533	
3,300.0	3,250.0	3,258.0	3,219.5	11.3	10.0	127.55	127.55	-384.4	-150.9	502.8	483.1	19.71	25.504	
3,346.4	3,295.1	3,303.5	3,264.0	11.5	10.2	127.47	127.47	-393.8	-151.9	512.3	492.2	20.11	25.478	
3,400.0	3,347.2	3,355.9	3,315.3	11.8	10.4	127.38	127.38	-404.7	-153.1	523.2	502.7	20.56	25.449	
3,444.9	3,390.9	3,399.8	3,358.2	12.0	10.6	127.31	127.31	-413.8	-154.1	532.4	511.5	20.94	25.425	
3,500.0	3,444.5	3,453.7	3,411.0	12.3	10.8	127.23	127.23	-424.9	-155.3	543.7	522.3	21.41	25.395	
3,543.3	3,486.6	3,496.1	3,452.5	12.5	11.0	127.17	127.17	-433.7	-156.2	552.6	530.8	21.78	25.373	
3,600.0	3,541.8	3,551.6	3,506.7	12.8	11.3	127.09	127.09	-445.2	-157.4	564.2	541.9	22.26	25.344	
3,641.7	3,582.3	3,592.4	3,546.7	13.0	11.5	127.03	127.03	-453.6	-158.3	572.8	550.1	22.62	25.322	
3,700.0	3,639.0	3,649.5	3,602.5	13.3	11.7	126.96	126.96	-465.4	-159.6	584.7	561.6	23.12	25.293	
3,740.1	3,678.1	3,688.8	3,640.9	13.5	11.9	126.91	126.91	-473.5	-160.5	592.9	569.5	23.46	25.274	
3,800.0	3,736.3	3,747.3	3,698.2	13.8	12.2	126.83	126.83	-485.6	-161.8	605.2	581.2	23.97	25.245	
3,838.6	3,773.8	3,785.1	3,735.1	14.0	12.3	126.79	126.79	-493.4	-162.6	613.1	588.8	24.30	25.227	
3,900.0	3,833.5	3,845.2	3,793.9	14.3	12.6	126.72	126.72	-505.9	-163.9	625.7	600.8	24.83	25.199	
3,937.0	3,869.5	3,881.4	3,829.4	14.5	12.8	126.68	126.68	-513.4	-164.7	633.3	608.1	25.15	25.182	
4,000.0	3,930.8	3,943.1	3,889.7	14.8	13.0	126.61	126.61	-526.1	-166.1	646.2	620.5	25.69	25.154	
4,035.4	3,965.3	3,977.8	3,923.6	15.0	13.2	126.58	126.58	-533.3	-166.9	653.4	627.4	25.99	25.139	
4,100.0	4,028.1	4,041.0	3,985.4	15.3	13.5	126.51	126.51	-546.4	-168.2	666.7	640.1	26.55	25.111	
4,133.8	4,061.0	4,074.1	4,017.8	15.5	13.6	126.48	126.48	-553.2	-169.0	673.6	646.8	26.84	25.097	
4,200.0	4,125.3	4,140.0	4,082.3	15.8	13.9	126.42	126.42	-566.8	-170.4	687.1	659.7	27.40	25.075	
4,232.3	4,156.7	4,174.1	4,115.8	16.0	14.0	126.42	126.42	-573.5	-171.1	693.6	666.0	27.67	25.070	
4,300.0	4,222.6	4,246.0	4,186.4	16.3	14.3	126.52	126.52	-586.2	-172.5	706.9	678.7	28.18	25.085	
4,330.7	4,252.4	4,278.6	4,218.6	16.5	14.4	126.61	126.61	-591.4	-173.1	712.8	684.4	28.40	25.097	
4,400.0	4,319.8	4,352.2	4,291.5	16.8	14.5	126.92	126.92	-601.9	-174.2	725.6	696.7	28.88	25.127	
4,429.1	4,348.2	4,383.1	4,322.2	17.0	14.6	127.09	127.09	-605.7	-174.6	730.8	701.8	29.07	25.139	
4,500.0	4,417.1	4,458.4	4,397.0	17.3	14.8	127.59	127.59	-613.6	-175.4	743.2	713.7	29.52	25.178	
4,527.5	4,443.9	4,487.6	4,426.1	17.5	14.9	127.82	127.82	-616.2	-175.7	747.9	718.2	29.69	25.192	
4,600.0	4,514.4	4,564.3	4,502.6	17.8	15.0	128.51	128.51	-621.4	-176.3	759.9	729.8	30.10	25.245	
4,626.0	4,539.6	4,591.7	4,530.0	17.9	15.1	128.79	128.79	-622.8	-176.4	764.1	733.9	30.24	25.265	
4,700.0	4,611.6	4,669.5	4,607.8	18.3	15.2	129.66	129.66	-625.4	-176.7	775.8	745.2	30.62	25.339	
4,724.4	4,635.4	4,695.1	4,633.3	18.4	15.2	129.98	129.98	-625.7	-176.7	779.6	748.9	30.74	25.364	
4,800.0	4,708.9	4,770.7	4,708.9	18.8	15.3	130.95	130.95	-625.9	-176.7	791.2	760.1	31.08	25.456	
4,822.8	4,731.1	4,792.9	4,731.1	18.9	15.3	131.24	131.24	-625.9	-176.7	794.8	763.6	31.18	25.486	
4,900.0	4,806.2	4,867.9	4,806.2	19.3	15.4	132.18	132.18	-625.9	-176.7	806.9	775.4	31.52	25.599	
4,921.2	4,826.8	4,888.6	4,826.8	19.4	15.5	132.43	132.43	-625.9	-176.7	810.3	778.6	31.61	25.632	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-221 - ORIGINAL WELLBORE - PROPOSAL #													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
5,000.0	4,903.4	4,965.2	4,903.4	19.8	15.6	133.36		-625.9	-176.7	822.9	791.0	31.95	25.758	
5,019.7	4,922.6	4,984.3	4,922.6	19.9	15.6	133.59		-625.9	-176.7	826.1	794.1	32.03	25.791	
5,100.0	5,000.7	5,062.5	5,000.7	20.4	15.7	134.50		-625.9	-176.7	839.3	806.9	32.37	25.929	
5,118.1	5,018.3	5,080.1	5,018.3	20.4	15.7	134.70		-625.9	-176.7	842.3	809.8	32.44	25.962	
5,166.2	5,065.0	5,126.8	5,065.0	20.7	15.8	135.23		-625.9	-176.7	850.3	817.6	32.64	26.049	
5,200.0	5,098.0	5,159.8	5,098.0	20.8	15.8	135.66		-625.9	-176.7	855.8	823.0	32.78	26.109	
5,216.5	5,114.1	5,175.9	5,114.1	20.9	15.8	135.87		-625.9	-176.7	858.4	825.6	32.83	26.145	
5,300.0	5,195.9	5,257.7	5,195.9	21.2	15.9	136.80		-625.9	-176.7	870.7	837.5	33.12	26.290	
5,314.9	5,210.6	5,272.4	5,210.6	21.2	16.0	136.95		-625.9	-176.7	872.7	839.5	33.16	26.314	
5,400.0	5,294.4	5,356.2	5,294.4	21.5	16.1	137.72		-625.9	-176.7	883.2	849.8	33.44	26.413	
5,413.4	5,307.7	5,369.4	5,307.7	21.5	16.1	137.82		-625.9	-176.7	884.7	851.2	33.48	26.426	
5,500.0	5,393.5	5,455.3	5,393.5	21.7	16.2	138.43		-625.9	-176.7	893.3	859.5	33.74	26.475	
5,511.8	5,405.2	5,467.0	5,405.2	21.8	16.2	138.50		-625.9	-176.7	894.3	860.5	33.77	26.479	
5,600.0	5,493.0	5,554.8	5,493.0	22.0	16.3	138.95		-625.9	-176.7	900.8	866.8	34.03	26.476	
5,610.2	5,503.2	5,565.0	5,503.2	22.0	16.4	139.00		-625.9	-176.7	901.5	867.4	34.05	26.473	
5,700.0	5,592.8	5,654.6	5,592.8	22.1	16.5	139.29		-625.9	-176.7	905.8	871.5	34.29	26.415	
5,708.6	5,601.4	5,663.2	5,601.4	22.1	16.5	139.31		-625.9	-176.7	906.1	871.8	34.31	26.407	
5,800.0	5,692.7	5,754.5	5,692.7	22.3	16.6	139.45		-625.9	-176.7	908.1	873.6	34.54	26.292	
5,807.1	5,699.8	5,761.6	5,699.8	22.3	16.6	139.45		-625.9	-176.7	908.2	873.6	34.56	26.281	
5,838.1	5,730.8	5,792.5	5,730.8	22.3	16.7	-89.93		-625.3	-176.7	908.3	873.7	34.62	26.236	
5,868.1	5,760.8	5,822.4	5,760.5	22.3	16.7	-89.81		-623.4	-176.7	908.3	873.7	34.67	26.201	
5,900.0	5,792.7	5,854.0	5,792.0	22.4	16.7	-89.64		-620.1	-176.7	908.3	873.7	34.70	26.181	
5,905.5	5,798.2	5,859.5	5,797.4	22.4	16.7	-89.62		-619.4	-176.7	908.3	873.7	34.69	26.182	
5,950.0	5,842.6	5,903.3	5,840.6	22.4	16.7	-89.38		-612.1	-176.7	908.4	873.7	34.68	26.193	
6,000.0	5,892.0	5,952.3	5,888.4	22.4	16.7	-89.13		-600.9	-176.7	908.4	873.8	34.60	26.253	
6,003.9	5,895.8	5,956.2	5,892.1	22.4	16.7	-89.11		-599.9	-176.7	908.4	873.8	34.59	26.261	
6,050.0	5,940.8	6,001.1	5,934.9	22.4	16.6	-88.88		-586.5	-176.7	908.5	874.0	34.47	26.357	
6,100.0	5,988.7	6,050.0	5,980.6	22.3	16.5	-88.63		-569.0	-176.7	908.6	874.3	34.29	26.501	
6,102.3	5,990.9	6,051.9	5,982.3	22.3	16.5	-88.62		-568.3	-176.7	908.6	874.3	34.28	26.508	
6,150.0	6,035.5	6,097.9	6,024.0	22.2	16.4	-88.39		-548.8	-176.7	908.7	874.6	34.06	26.679	
6,200.0	6,081.0	6,145.9	6,066.1	22.2	16.3	-88.16		-525.7	-176.7	908.8	875.0	33.80	26.888	
6,200.8	6,081.7	6,146.6	6,066.7	22.2	16.3	-88.16		-525.4	-176.7	908.8	875.0	33.79	26.892	
6,250.0	6,124.9	6,193.7	6,106.4	22.0	16.1	-87.94		-500.0	-176.7	908.9	875.4	33.51	27.121	
6,299.2	6,166.4	6,240.6	6,144.1	21.9	16.0	-87.74		-472.2	-176.7	909.0	875.8	33.22	27.365	
6,300.0	6,167.0	6,241.3	6,144.7	21.9	16.0	-87.73		-471.8	-176.7	909.0	875.8	33.21	27.369	
6,350.0	6,207.2	6,288.7	6,180.9	21.8	15.8	-87.53		-441.2	-176.7	909.2	876.3	32.91	27.625	
6,397.6	6,243.4	6,333.7	6,213.3	21.6	15.7	-87.35		-410.0	-176.7	909.3	876.7	32.63	27.868	
6,400.0	6,245.2	6,335.9	6,214.9	21.6	15.7	-87.34		-408.4	-176.7	909.3	876.7	32.62	27.880	
6,450.0	6,280.8	6,383.0	6,246.5	21.5	15.6	-87.17		-373.6	-176.7	909.4	877.1	32.34	28.122	
6,496.0	6,311.4	6,426.2	6,273.5	21.3	15.4	-87.02		-339.8	-176.7	909.6	877.4	32.11	28.323	
6,500.0	6,313.9	6,429.9	6,275.7	21.3	15.4	-87.00		-336.9	-176.7	909.6	877.5	32.10	28.340	
6,550.0	6,344.3	6,476.7	6,302.3	21.2	15.3	-86.86		-298.4	-176.7	909.7	877.8	31.89	28.523	
6,594.5	6,368.9	6,518.1	6,323.8	21.0	15.3	-86.74		-263.0	-176.7	909.8	878.0	31.76	28.646	
6,600.0	6,371.8	6,523.3	6,326.3	21.0	15.3	-86.72		-258.5	-176.7	909.8	878.1	31.75	28.660	
6,650.0	6,396.4	6,569.8	6,347.7	20.8	15.2	-86.60		-217.1	-176.7	909.9	878.3	31.66	28.739	
6,692.9	6,415.0	6,609.6	6,363.7	20.7	15.2	-86.51		-180.7	-176.7	910.0	878.4	31.65	28.754	
6,700.0	6,417.9	6,616.2	6,366.2	20.7	15.2	-86.50		-174.6	-176.7	910.0	878.4	31.65	28.752	
6,750.0	6,436.2	6,662.6	6,381.9	20.5	15.3	-86.41		-131.0	-176.7	910.1	878.4	31.72	28.693	
6,791.3	6,448.8	6,700.0	6,392.6	20.4	15.3	-86.35		-95.1	-176.7	910.2	878.3	31.84	28.588	
6,800.0	6,451.1	6,708.8	6,394.8	20.3	15.3	-86.34		-86.6	-176.7	910.2	878.3	31.87	28.557	
6,850.0	6,462.8	6,755.0	6,404.8	20.2	15.5	-86.28		-41.5	-176.7	910.2	878.1	32.11	28.343	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-221 - ORIGINAL WELLBORE - PROPOSAL #													Offset Site Error:	0.0 usft
Survey Program: 0-MWDD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
6,889.7	6,469.6	6,791.8	6,410.6	20.1	15.6	-86.25	-86.25	-5.2	-176.7	910.3	877.9	32.38	28.115	
6,900.0	6,471.0	6,800.0	6,411.7	20.0	15.6	-86.25	-86.25	2.9	-176.7	910.3	877.8	32.44	28.060	
6,950.0	6,475.7	6,847.4	6,415.9	19.9	15.8	-86.22	-86.22	50.1	-176.7	910.3	877.4	32.87	27.696	
6,988.2	6,477.0	6,882.6	6,417.0	19.8	16.0	-86.22	-86.22	85.3	-176.7	910.3	877.1	33.25	27.377	
6,997.5	6,477.0	6,891.8	6,417.0	19.8	16.1	-86.22	-86.22	94.6	-176.7	910.3	877.0	33.35	27.297	
7,000.0	6,477.0	6,893.6	6,417.0	19.8	16.1	-86.22	-86.22	96.4	-176.7	910.3	876.9	33.37	27.277	
7,003.7	6,477.0	6,897.3	6,417.0	19.8	16.1	-86.22	-86.22	100.1	-176.7	910.3	876.9	33.42	27.240	
7,086.6	6,476.5	6,980.2	6,416.5	19.6	16.7	-86.22	-86.22	183.0	-176.7	910.3	875.8	34.52	26.369	
7,100.0	6,476.4	6,993.6	6,416.4	19.6	16.8	-86.22	-86.22	196.4	-176.7	910.3	875.6	34.70	26.234	
7,185.0	6,475.9	7,078.7	6,415.9	19.7	17.5	-86.22	-86.22	281.4	-176.7	910.3	874.2	36.12	25.203	
7,200.0	6,475.8	7,093.6	6,415.8	19.8	17.7	-86.22	-86.22	296.4	-176.7	910.3	873.9	36.37	25.028	
7,283.4	6,475.2	7,177.1	6,415.3	20.4	18.5	-86.22	-86.22	379.8	-176.7	910.3	872.3	38.02	23.940	
7,300.0	6,475.1	7,193.6	6,415.2	20.6	18.7	-86.22	-86.22	396.4	-176.7	910.3	871.9	38.35	23.734	
7,381.9	6,474.6	7,275.5	6,414.7	21.5	19.7	-86.22	-86.22	478.2	-176.7	910.3	870.1	40.20	22.644	
7,400.0	6,474.5	7,293.6	6,414.6	21.8	19.9	-86.22	-86.22	496.4	-176.7	910.3	869.7	40.61	22.415	
7,480.3	6,474.0	7,373.9	6,414.1	22.8	20.9	-86.23	-86.23	576.7	-176.7	910.3	867.7	42.60	21.368	
7,500.0	6,473.9	7,393.6	6,414.0	23.0	21.2	-86.23	-86.23	596.4	-176.7	910.3	867.2	43.09	21.125	
7,578.7	6,473.4	7,472.4	6,413.5	24.1	22.2	-86.23	-86.23	675.1	-176.7	910.3	865.1	45.19	20.144	
7,600.0	6,473.3	7,493.6	6,413.4	24.4	22.5	-86.23	-86.23	696.4	-176.7	910.3	864.5	45.76	19.893	
7,677.1	6,472.8	7,570.8	6,413.0	25.5	23.6	-86.23	-86.23	773.5	-176.7	910.3	862.4	47.94	18.989	
7,700.0	6,472.7	7,593.6	6,412.8	25.8	24.0	-86.23	-86.23	796.4	-176.7	910.3	861.7	48.58	18.737	
7,775.6	6,472.2	7,669.2	6,412.4	26.9	25.1	-86.23	-86.23	871.9	-176.7	910.3	859.5	50.82	17.914	
7,800.0	6,472.1	7,693.6	6,412.2	27.3	25.5	-86.23	-86.23	896.4	-176.7	910.3	858.8	51.54	17.662	
7,874.0	6,471.6	7,767.6	6,411.8	28.4	26.6	-86.23	-86.23	970.4	-176.7	910.3	856.5	53.81	16.918	
7,900.0	6,471.5	7,793.6	6,411.6	28.8	27.1	-86.23	-86.23	996.4	-176.7	910.3	855.7	54.60	16.671	
7,972.4	6,471.0	7,866.1	6,411.2	29.9	28.2	-86.23	-86.23	1,068.8	-176.7	910.3	853.4	56.89	16.001	
8,000.0	6,470.8	7,893.6	6,411.0	30.3	28.7	-86.23	-86.23	1,096.4	-176.7	910.3	852.5	57.76	15.760	
8,070.8	6,470.4	7,964.5	6,410.6	31.4	29.8	-86.23	-86.23	1,167.2	-176.7	910.3	850.2	60.05	15.159	
8,100.0	6,470.2	7,993.6	6,410.4	31.9	30.3	-86.23	-86.23	1,196.4	-176.7	910.3	849.3	60.99	14.924	
8,169.3	6,469.8	8,062.9	6,410.0	33.0	31.5	-86.24	-86.24	1,265.6	-176.7	910.3	847.0	63.28	14.385	
8,200.0	6,469.6	8,093.6	6,409.8	33.5	32.0	-86.24	-86.24	1,296.4	-176.7	910.3	846.0	64.30	14.158	
8,267.7	6,469.2	8,161.3	6,409.4	34.7	33.1	-86.24	-86.24	1,364.1	-176.7	910.3	843.7	66.57	13.675	
8,300.0	6,469.0	8,193.6	6,409.2	35.2	33.7	-86.24	-86.24	1,396.4	-176.7	910.3	842.6	67.65	13.455	
8,366.1	6,468.6	8,259.8	6,408.9	36.3	34.8	-86.24	-86.24	1,462.5	-176.7	910.3	840.4	69.90	13.022	
8,400.0	6,468.4	8,293.6	6,408.7	36.9	35.4	-86.24	-86.24	1,496.3	-176.7	910.3	839.2	71.06	12.810	
8,464.5	6,468.0	8,358.2	6,408.3	38.0	36.5	-86.24	-86.24	1,560.9	-176.7	910.3	837.0	73.28	12.421	
8,500.0	6,467.8	8,393.6	6,408.1	38.6	37.1	-86.24	-86.24	1,596.3	-176.7	910.3	835.8	74.51	12.218	
8,563.0	6,467.4	8,456.6	6,407.7	39.6	38.2	-86.24	-86.24	1,659.3	-176.7	910.3	833.6	76.70	11.868	
8,600.0	6,467.1	8,493.6	6,407.5	40.3	38.9	-86.24	-86.24	1,696.3	-176.7	910.3	832.3	77.99	11.672	
8,661.4	6,466.8	8,555.0	6,407.1	41.3	40.0	-86.24	-86.24	1,757.7	-176.7	910.3	830.1	80.15	11.357	
8,700.0	6,466.5	8,593.6	6,406.9	42.0	40.7	-86.24	-86.24	1,796.3	-176.7	910.3	828.8	81.50	11.168	
8,759.8	6,466.1	8,653.5	6,406.5	43.0	41.7	-86.24	-86.24	1,856.2	-176.7	910.3	826.6	83.62	10.885	
8,800.0	6,465.9	8,693.6	6,406.3	43.7	42.5	-86.24	-86.24	1,896.3	-176.7	910.3	825.2	85.05	10.703	
8,858.2	6,465.5	8,751.9	6,405.9	44.8	43.5	-86.25	-86.25	1,954.6	-176.7	910.3	823.1	87.13	10.448	
8,900.0	6,465.3	8,793.6	6,405.7	45.5	44.3	-86.25	-86.25	1,996.3	-176.7	910.3	821.7	88.62	10.272	
8,956.7	6,464.9	8,850.3	6,405.3	46.5	45.3	-86.25	-86.25	2,053.0	-176.7	910.3	819.6	90.65	10.042	
9,000.0	6,464.7	8,893.6	6,405.1	47.3	46.1	-86.25	-86.25	2,096.3	-176.7	910.3	818.1	92.20	9.872	
9,055.1	6,464.3	8,948.7	6,404.7	48.2	47.1	-86.25	-86.25	2,151.4	-176.7	910.3	816.1	94.19	9.664	
9,100.0	6,464.0	8,993.6	6,404.5	49.0	47.9	-86.25	-86.25	2,196.3	-176.7	910.3	814.5	95.81	9.500	
9,153.5	6,463.7	9,047.2	6,404.2	50.0	48.9	-86.25	-86.25	2,249.9	-176.7	910.3	812.5	97.75	9.312	
9,200.0	6,463.4	9,093.6	6,403.9	50.8	49.7	-86.25	-86.25	2,296.3	-176.7	910.3	810.8	99.44	9.154	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-221 - ORIGINAL WELLBORE - PROPOSAL #													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
9,251.9	6,463.1	9,145.6	6,403.6	51.8	50.7	-86.25	-86.25	2,348.3	-176.7	910.3	808.9	101.33	8.983	
9,300.0	6,462.8	9,193.6	6,403.3	52.6	51.5	-86.25	-86.25	2,396.3	-176.7	910.3	807.2	103.08	8.831	
9,350.4	6,462.5	9,244.0	6,403.0	53.5	52.5	-86.25	-86.25	2,446.7	-176.7	910.3	805.3	104.92	8.676	
9,400.0	6,462.2	9,293.6	6,402.7	54.4	53.4	-86.25	-86.25	2,496.3	-176.7	910.3	803.5	106.73	8.528	
9,448.8	6,461.9	9,342.4	6,402.4	55.3	54.3	-86.25	-86.25	2,545.1	-176.7	910.3	801.7	108.52	8.388	
9,500.0	6,461.5	9,393.6	6,402.1	56.2	55.2	-86.26	-86.26	2,596.3	-176.7	910.3	799.9	110.40	8.245	
9,547.2	6,461.2	9,440.9	6,401.8	57.1	56.1	-86.26	-86.26	2,643.6	-176.7	910.3	798.1	112.14	8.117	
9,600.0	6,460.9	9,493.6	6,401.5	58.1	57.1	-86.26	-86.26	2,696.3	-176.7	910.3	796.2	114.08	7.979	
9,645.6	6,460.6	9,539.3	6,401.2	58.9	57.9	-86.26	-86.26	2,742.0	-176.7	910.3	794.5	115.76	7.863	
9,700.0	6,460.3	9,593.6	6,400.9	59.9	58.9	-86.26	-86.26	2,796.3	-176.7	910.2	792.5	117.76	7.729	
9,744.1	6,460.0	9,637.7	6,400.6	60.7	59.7	-86.26	-86.26	2,840.4	-176.7	910.2	790.9	119.39	7.624	
9,800.0	6,459.7	9,693.6	6,400.3	61.7	60.8	-86.26	-86.26	2,896.3	-176.7	910.2	788.8	121.46	7.494	
9,842.5	6,459.4	9,736.1	6,400.0	62.5	61.6	-86.26	-86.26	2,938.8	-176.7	910.2	787.2	123.04	7.398	
9,900.0	6,459.0	9,793.6	6,399.7	63.6	62.6	-86.26	-86.26	2,996.3	-176.7	910.2	785.1	125.17	7.272	
9,940.9	6,458.8	9,834.6	6,399.5	64.3	63.4	-86.26	-86.26	3,037.3	-176.7	910.2	783.6	126.69	7.185	
10,000.0	6,458.4	9,893.6	6,399.1	65.4	64.5	-86.26	-86.26	3,096.3	-176.7	910.2	781.4	128.88	7.063	
10,039.3	6,458.2	9,933.0	6,398.9	66.1	65.2	-86.26	-86.26	3,135.7	-176.7	910.2	779.9	130.34	6.983	
10,100.0	6,457.8	9,993.6	6,398.5	67.2	66.4	-86.27	-86.27	3,196.3	-176.7	910.2	777.6	132.60	6.865	
10,137.8	6,457.6	10,031.4	6,398.3	67.9	67.1	-86.27	-86.27	3,234.1	-176.7	910.2	776.2	134.01	6.792	
10,200.0	6,457.2	10,093.6	6,397.9	69.1	68.2	-86.27	-86.27	3,296.3	-176.7	910.2	773.9	136.33	6.677	
10,236.2	6,456.9	10,129.8	6,397.7	69.8	68.9	-86.27	-86.27	3,332.5	-176.7	910.2	772.6	137.68	6.611	
10,300.0	6,456.5	10,193.6	6,397.3	70.9	70.1	-86.27	-86.27	3,396.3	-176.7	910.2	770.2	140.06	6.499	
10,334.6	6,456.3	10,228.3	6,397.1	71.6	70.8	-86.27	-86.27	3,430.9	-176.7	910.2	768.9	141.35	6.439	
10,400.0	6,455.9	10,293.6	6,396.7	72.8	72.0	-86.27	-86.27	3,496.3	-176.7	910.2	766.4	143.80	6.330	
10,433.0	6,455.7	10,326.7	6,396.5	73.4	72.6	-86.27	-86.27	3,529.4	-176.7	910.2	765.2	145.03	6.276	
10,500.0	6,455.3	10,393.6	6,396.1	74.7	73.9	-86.27	-86.27	3,596.3	-176.7	910.2	762.7	147.54	6.169	
10,531.5	6,455.1	10,425.1	6,395.9	75.2	74.5	-86.27	-86.27	3,627.8	-176.7	910.2	761.5	148.72	6.120	
10,600.0	6,454.7	10,493.6	6,395.5	76.5	75.8	-86.27	-86.27	3,696.3	-176.7	910.2	758.9	151.29	6.017	
10,629.9	6,454.5	10,523.5	6,395.3	77.1	76.3	-86.27	-86.27	3,726.2	-176.7	910.2	757.8	152.41	5.972	
10,700.0	6,454.0	10,593.6	6,394.9	78.4	77.6	-86.28	-86.28	3,796.3	-176.7	910.2	755.2	155.04	5.871	
10,728.3	6,453.9	10,622.0	6,394.7	78.9	78.2	-86.28	-86.28	3,824.6	-176.7	910.2	754.1	156.10	5.831	
10,800.0	6,453.4	10,693.6	6,394.3	80.3	79.5	-86.28	-86.28	3,896.3	-176.7	910.2	751.4	158.80	5.732	
10,826.7	6,453.2	10,720.4	6,394.2	80.8	80.0	-86.28	-86.28	3,923.1	-176.7	910.2	750.4	159.80	5.696	
10,900.0	6,452.8	10,793.6	6,393.7	82.1	81.4	-86.28	-86.28	3,996.3	-176.7	910.2	747.7	162.56	5.599	
10,925.2	6,452.6	10,818.8	6,393.6	82.6	81.9	-86.28	-86.28	4,021.5	-176.7	910.2	746.7	163.50	5.567	
11,000.0	6,452.1	10,893.6	6,393.1	84.0	83.3	-86.28	-86.28	4,096.3	-176.7	910.2	743.9	166.32	5.473	
11,019.6	6,452.0	10,913.3	6,393.0	84.4	83.7	-86.28	-86.28	4,115.9	-176.7	910.2	743.2	167.06	5.448	
11,023.6	6,452.0	10,914.1	6,393.0	84.4	83.7	-86.28	-86.28	4,116.7	-176.7	910.2	743.1	167.15	5.446	
11,023.7	6,452.0	10,914.1	6,393.0	84.4	83.7	-86.28	-86.28	4,116.7	-176.7	910.2	743.1	167.15	5.446	
11,024.4	6,452.0	10,914.1	6,393.0	84.5	83.7	-86.28	-86.28	4,116.7	-176.7	910.2	743.1	167.16	5.445 SF	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-321 - ORIGINAL WELLBORE - PROPOSAL #													Offset Site Error:	0.0 usft
Survey Program: 0-MWDD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	-90.00	0.0	-79.2	79.2				
98.4	98.4	98.4	98.4	0.1	0.1	-90.00	-90.00	0.0	-79.2	79.2	79.0	0.19	411.959	
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	-90.00	0.0	-79.2	79.2	79.0	0.20	404.986	
196.8	196.8	196.8	196.8	0.3	0.3	-90.00	-90.00	0.0	-79.2	79.2	78.6	0.63	125.521	
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	-90.00	0.0	-79.2	79.2	78.5	0.65	122.766	
295.3	295.3	295.3	295.3	0.5	0.5	-90.00	-90.00	0.0	-79.2	79.2	78.1	1.07	73.780	
300.0	300.0	300.0	300.0	0.5	0.5	-90.00	-90.00	0.0	-79.2	79.2	78.1	1.09	72.349	
393.7	393.7	393.7	393.7	0.8	0.8	-90.00	-90.00	0.0	-79.2	79.2	77.7	1.52	52.245	
400.0	400.0	400.0	400.0	0.8	0.8	-90.00	-90.00	0.0	-79.2	79.2	77.6	1.54	51.286	
492.1	492.1	492.1	492.1	1.0	1.0	-90.00	-90.00	0.0	-79.2	79.2	77.2	1.96	40.441	
500.0	500.0	500.0	500.0	1.0	1.0	-90.00	-90.00	0.0	-79.2	79.2	77.2	1.99	39.722	
590.5	590.5	590.5	590.5	1.2	1.2	-90.00	-90.00	0.0	-79.2	79.2	76.8	2.40	32.987	
600.0	600.0	600.0	600.0	1.2	1.2	-90.00	-90.00	0.0	-79.2	79.2	76.8	2.44	32.414	
689.0	689.0	689.0	689.0	1.4	1.4	-90.00	-90.00	0.0	-79.2	79.2	76.4	2.84	27.854	
700.0	700.0	700.0	700.0	1.4	1.4	-90.00	-90.00	0.0	-79.2	79.2	76.3	2.89	27.377	
787.4	787.4	787.4	787.4	1.6	1.6	-90.00	-90.00	0.0	-79.2	79.2	75.9	3.29	24.103	
800.0	800.0	800.0	800.0	1.7	1.7	-90.00	-90.00	0.0	-79.2	79.2	75.9	3.34	23.695	
885.8	885.8	885.8	885.8	1.9	1.9	-90.00	-90.00	0.0	-79.2	79.2	75.5	3.73	21.242	
900.0	900.0	900.0	900.0	1.9	1.9	-90.00	-90.00	0.0	-79.2	79.2	75.4	3.79	20.885	
984.2	984.2	984.2	984.2	2.1	2.1	-90.00	-90.00	0.0	-79.2	79.2	75.0	4.17	18.989	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.00	-90.00	0.0	-79.2	79.2	75.0	4.24	18.672	
1,025.0	1,025.0	1,025.0	1,025.0	2.2	2.2	-90.00	-90.00	0.0	-79.2	79.2	74.8	4.35	18.190 CC, ES	
1,082.7	1,082.7	1,082.7	1,082.7	2.3	2.3	139.70	139.70	0.0	-79.2	79.6	75.0	4.60	17.315	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	139.88	139.88	0.0	-79.2	79.9	75.3	4.67	17.108	
1,181.1	1,181.0	1,181.0	1,181.0	2.5	2.5	141.31	141.31	0.0	-79.2	82.5	77.5	5.00	16.487	
1,200.0	1,199.9	1,199.9	1,199.9	2.5	2.6	141.77	141.77	0.0	-79.2	83.3	78.2	5.08	16.408	
1,279.5	1,279.2	1,279.2	1,279.2	2.7	2.7	144.11	144.11	0.0	-79.2	88.1	82.7	5.41	16.295	
1,300.0	1,299.6	1,299.6	1,299.6	2.7	2.8	144.80	144.80	0.0	-79.2	89.6	84.1	5.49	16.329	
1,377.9	1,377.1	1,377.9	1,377.9	2.9	2.9	147.06	147.06	-1.0	-79.0	96.4	90.6	5.79	16.643	
1,400.0	1,398.9	1,400.0	1,400.0	2.9	3.0	147.55	147.55	-1.7	-78.9	98.5	92.7	5.88	16.769	
1,476.4	1,474.5	1,476.8	1,476.7	3.1	3.1	148.77	148.77	-5.4	-78.2	106.7	100.5	6.16	17.317	
1,500.0	1,497.8	1,500.6	1,500.4	3.2	3.2	149.01	149.01	-6.9	-78.0	109.4	103.2	6.25	17.516	
1,574.8	1,571.4	1,575.8	1,575.4	3.4	3.3	149.41	149.41	-13.1	-76.9	118.8	112.2	6.54	18.150	
1,600.0	1,596.1	1,601.2	1,600.6	3.5	3.4	149.44	149.44	-15.6	-76.4	122.2	115.5	6.64	18.387	
1,673.2	1,667.7	1,674.8	1,673.7	3.7	3.5	149.26	149.26	-24.1	-74.9	132.6	125.6	6.96	19.049	
1,696.9	1,690.8	1,698.6	1,697.3	3.8	3.6	149.12	149.12	-27.3	-74.3	136.2	129.1	7.06	19.281	
1,700.0	1,693.8	1,701.7	1,700.4	3.8	3.6	149.11	149.11	-27.7	-74.3	136.6	129.6	7.08	19.307	
1,771.6	1,763.5	1,773.8	1,771.6	4.1	3.7	148.44	148.44	-38.5	-72.3	147.3	139.8	7.44	19.788	
1,800.0	1,791.0	1,802.3	1,799.7	4.2	3.8	148.02	148.02	-43.2	-71.5	151.3	143.8	7.59	19.939	
1,870.1	1,859.2	1,872.8	1,869.0	4.5	4.0	146.66	146.66	-56.2	-69.2	161.0	153.0	8.00	20.134	
1,900.0	1,888.3	1,902.9	1,898.5	4.6	4.1	145.95	145.95	-62.2	-68.1	165.0	156.8	8.17	20.188	
1,968.5	1,954.9	1,970.6	1,964.7	4.9	4.3	144.39	144.39	-76.1	-65.7	174.2	165.6	8.61	20.227	
2,000.0	1,985.6	2,001.8	1,995.2	5.1	4.4	143.73	143.73	-82.5	-64.5	178.4	169.6	8.82	20.234	
2,066.9	2,050.7	2,067.9	2,059.9	5.4	4.6	142.41	142.41	-96.0	-62.1	187.6	178.3	9.28	20.213	
2,100.0	2,082.8	2,100.7	2,091.9	5.5	4.7	141.81	141.81	-102.7	-60.9	192.1	182.6	9.51	20.202	
2,165.3	2,146.4	2,165.3	2,155.1	5.8	4.9	140.70	140.70	-115.9	-58.6	201.1	191.1	9.98	20.149	
2,200.0	2,180.1	2,199.5	2,188.6	6.0	5.1	140.15	140.15	-122.9	-57.3	205.9	195.7	10.23	20.121	
2,263.8	2,242.1	2,262.6	2,250.3	6.3	5.3	139.21	139.21	-135.8	-55.0	214.8	204.1	10.71	20.049	
2,300.0	2,277.3	2,298.4	2,285.3	6.4	5.4	138.70	138.70	-143.2	-53.7	219.9	208.9	10.99	20.011	
2,362.2	2,337.8	2,359.9	2,345.5	6.7	5.7	137.89	137.89	-155.8	-51.5	228.7	217.2	11.47	19.930	
2,400.0	2,374.6	2,397.3	2,382.0	6.9	5.8	137.43	137.43	-163.4	-50.1	234.0	222.2	11.77	19.884	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-321 - ORIGINAL WELLBORE - PROPOSAL #													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
2,460.6	2,433.6	2,457.2	2,440.7	7.2	6.0	136.72		-175.7	-47.9	242.6	230.4	12.25	19.801	
2,500.0	2,471.9	2,496.1	2,478.7	7.4	6.2	136.29		-183.6	-46.5	248.2	235.6	12.57	19.750	
2,559.0	2,529.3	2,554.5	2,535.9	7.6	6.4	135.69		-195.6	-44.4	256.6	243.6	13.05	19.669	
2,600.0	2,569.1	2,595.0	2,575.5	7.8	6.6	135.29		-203.9	-42.9	262.5	249.1	13.38	19.615	
2,657.5	2,625.0	2,651.8	2,631.0	8.1	6.8	134.75		-215.5	-40.8	270.7	256.9	13.86	19.537	
2,700.0	2,666.4	2,693.9	2,672.2	8.3	7.0	134.38		-224.1	-39.3	276.9	262.6	14.21	19.483	
2,755.9	2,720.8	2,749.2	2,726.2	8.6	7.2	133.92		-235.4	-37.3	284.9	270.2	14.68	19.409	
2,800.0	2,763.7	2,792.8	2,768.9	8.8	7.4	133.57		-244.4	-35.7	291.3	276.2	15.05	19.354	
2,854.3	2,816.5	2,846.5	2,821.4	9.1	7.6	133.16		-255.4	-33.8	299.1	283.6	15.51	19.286	
2,900.0	2,860.9	2,891.6	2,865.6	9.3	7.8	132.83		-264.6	-32.1	305.8	289.9	15.90	19.231	
2,952.7	2,912.2	2,943.8	2,916.6	9.6	8.0	132.47		-275.3	-30.2	313.4	297.1	16.35	19.168	
3,000.0	2,958.2	2,990.5	2,962.3	9.8	8.2	132.16		-284.8	-28.5	320.3	303.5	16.76	19.115	
3,051.2	3,008.0	3,041.1	3,011.8	10.0	8.5	131.84		-295.2	-26.7	327.7	310.5	17.20	19.057	
3,100.0	3,055.4	3,089.4	3,059.0	10.3	8.7	131.54		-305.1	-24.9	334.8	317.2	17.62	19.004	
3,149.6	3,103.7	3,138.4	3,107.0	10.5	8.9	131.26		-315.1	-23.1	342.1	324.0	18.05	18.952	
3,200.0	3,152.7	3,188.3	3,155.7	10.8	9.1	130.98		-325.3	-21.3	349.4	330.9	18.49	18.901	
3,248.0	3,199.4	3,235.7	3,202.2	11.0	9.3	130.73		-335.0	-19.6	356.4	337.5	18.91	18.853	
3,300.0	3,250.0	3,287.1	3,252.5	11.3	9.5	130.46		-345.5	-17.7	364.0	344.7	19.36	18.803	
3,346.4	3,295.1	3,333.1	3,297.4	11.5	9.7	130.24		-354.9	-16.0	370.8	351.1	19.77	18.759	
3,400.0	3,347.2	3,386.0	3,349.2	11.8	10.0	129.99		-365.8	-14.1	378.7	358.5	20.24	18.711	
3,444.9	3,390.9	3,430.4	3,392.6	12.0	10.2	129.78		-374.9	-12.5	385.3	364.6	20.63	18.671	
3,500.0	3,444.5	3,484.9	3,445.9	12.3	10.4	129.54		-386.0	-10.5	393.4	372.2	21.12	18.625	
3,543.3	3,486.6	3,527.7	3,487.8	12.5	10.6	129.36		-394.8	-8.9	399.7	378.2	21.50	18.589	
3,600.0	3,541.8	3,583.8	3,542.6	12.8	10.8	129.13		-406.3	-6.9	408.1	386.1	22.01	18.543	
3,641.7	3,582.3	3,625.0	3,582.9	13.0	11.0	128.97		-414.7	-5.4	414.2	391.8	22.38	18.511	
3,700.0	3,639.0	3,682.6	3,639.3	13.3	11.3	128.75		-426.5	-3.3	422.8	399.9	22.89	18.467	
3,740.1	3,678.1	3,722.3	3,678.1	13.5	11.4	128.61		-434.6	-1.9	428.7	405.4	23.25	18.437	
3,800.0	3,736.3	3,781.5	3,736.0	13.8	11.7	128.40		-446.7	0.3	437.5	413.7	23.78	18.395	
3,838.6	3,773.8	3,819.6	3,773.3	14.0	11.9	128.27		-454.5	1.7	443.2	419.1	24.13	18.368	
3,900.0	3,833.5	3,880.4	3,832.7	14.3	12.1	128.07		-467.0	3.9	452.3	427.6	24.68	18.327	
3,937.0	3,869.5	3,917.0	3,868.5	14.5	12.3	127.95		-474.5	5.2	457.7	432.7	25.01	18.303	
4,000.0	3,930.8	3,979.3	3,929.4	14.8	12.6	127.75		-487.2	7.5	467.0	441.4	25.57	18.263	
4,035.4	3,965.3	4,014.3	3,963.7	15.0	12.7	127.65		-494.4	8.8	472.2	446.4	25.89	18.242	
4,100.0	4,028.1	4,078.1	4,026.2	15.3	13.0	127.46		-507.4	11.1	481.8	455.3	26.47	18.203	
4,133.8	4,061.0	4,111.6	4,058.9	15.5	13.2	127.37		-514.3	12.3	486.8	460.0	26.77	18.183	
4,200.0	4,125.3	4,177.0	4,122.9	15.8	13.5	127.19		-527.7	14.7	496.6	469.2	27.37	18.146	
4,232.3	4,156.7	4,208.9	4,154.1	16.0	13.6	127.10		-534.2	15.9	501.4	473.7	27.66	18.128	
4,300.0	4,222.6	4,275.9	4,219.6	16.3	13.9	126.93		-547.9	18.3	511.4	483.1	28.26	18.092	
4,330.7	4,252.4	4,306.2	4,249.3	16.5	14.0	126.85		-554.1	19.4	515.9	487.4	28.54	18.076	
4,400.0	4,319.8	4,374.9	4,316.4	16.8	14.3	126.69		-568.1	21.9	526.2	497.0	29.15	18.049	
4,429.1	4,348.2	4,403.8	4,344.8	17.0	14.4	126.66		-573.7	22.9	530.5	501.1	29.39	18.049	
4,500.0	4,417.1	4,474.4	4,414.2	17.3	14.7	126.71		-586.2	25.1	540.9	511.0	29.91	18.085	
4,527.5	4,443.9	4,501.8	4,441.3	17.5	14.7	126.78		-590.6	25.9	544.9	514.8	30.11	18.101	
4,600.0	4,514.4	4,573.8	4,512.5	17.8	14.9	127.09		-600.9	27.7	555.5	525.0	30.59	18.163	
4,626.0	4,539.6	4,599.6	4,538.1	17.9	15.0	127.24		-604.2	28.3	559.3	528.6	30.75	18.187	
4,700.0	4,611.6	4,672.8	4,610.9	18.3	15.2	127.80		-612.2	29.8	570.1	539.0	31.19	18.278	
4,724.4	4,635.4	4,696.9	4,634.9	18.4	15.2	128.01		-614.5	30.2	573.7	542.4	31.33	18.311	
4,800.0	4,708.9	4,771.3	4,709.1	18.8	15.4	128.80		-620.1	31.2	584.8	553.1	31.72	18.435	
4,822.8	4,731.1	4,793.7	4,731.4	18.9	15.4	129.07		-621.5	31.4	588.2	556.4	31.84	18.476	
4,900.0	4,806.2	4,869.0	4,806.6	19.3	15.6	130.07		-624.7	32.0	599.8	567.6	32.18	18.640	
4,921.2	4,826.8	4,889.7	4,827.3	19.4	15.6	130.37		-625.2	32.1	603.0	570.7	32.26	18.689	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-321 - ORIGINAL WELLBORE - PROPOSAL #													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
5,000.0	4,903.4	4,965.8	4,903.4	19.8	15.7	131.57		-626.0	32.2	615.1	582.6	32.56	18.894	
5,019.7	4,922.6	4,985.0	4,922.6	19.9	15.7	131.88		-626.0	32.2	618.2	585.6	32.63	18.949	
5,100.0	5,000.7	5,063.1	5,000.7	20.4	15.8	133.12		-626.0	32.2	631.0	598.1	32.89	19.184	
5,118.1	5,018.3	5,080.7	5,018.3	20.4	15.9	133.40		-626.0	32.2	634.0	601.0	32.95	19.238	
5,166.2	5,065.0	5,127.5	5,065.0	20.7	15.9	134.11		-626.0	32.2	641.8	608.7	33.11	19.384	
5,200.0	5,098.0	5,160.4	5,098.0	20.8	16.0	134.67		-626.0	32.2	647.2	614.0	33.21	19.490	
5,216.5	5,114.1	5,176.5	5,114.1	20.9	16.0	134.93		-626.0	32.2	649.8	616.6	33.25	19.545	
5,300.0	5,195.9	5,258.3	5,195.9	21.2	16.1	136.12		-626.0	32.2	661.9	628.4	33.45	19.789	
5,314.9	5,210.6	5,273.0	5,210.6	21.2	16.1	136.31		-626.0	32.2	663.9	630.4	33.48	19.829	
5,400.0	5,294.4	5,356.9	5,294.4	21.5	16.2	137.28		-626.0	32.2	674.3	640.6	33.69	20.018	
5,413.4	5,307.7	5,370.1	5,307.7	21.5	16.2	137.42		-626.0	32.2	675.8	642.1	33.72	20.044	
5,500.0	5,393.5	5,455.9	5,393.5	21.7	16.3	138.18		-626.0	32.2	684.4	650.4	33.92	20.175	
5,511.8	5,405.2	5,467.7	5,405.2	21.8	16.4	138.27		-626.0	32.2	685.4	651.4	33.95	20.189	
5,600.0	5,493.0	5,555.4	5,493.0	22.0	16.5	138.83		-626.0	32.2	691.9	657.7	34.15	20.258	
5,610.2	5,503.2	5,565.6	5,503.2	22.0	16.5	138.88		-626.0	32.2	692.5	658.3	34.18	20.263	
5,700.0	5,592.8	5,655.2	5,592.8	22.1	16.6	139.25		-626.0	32.2	696.9	662.5	34.38	20.266	
5,708.6	5,601.4	5,663.8	5,601.4	22.1	16.6	139.28		-626.0	32.2	697.2	662.8	34.40	20.264	
5,800.0	5,692.7	5,755.1	5,692.7	22.3	16.8	139.45		-626.0	32.2	699.2	664.6	34.61	20.201	
5,807.1	5,699.8	5,762.2	5,699.8	22.3	16.8	139.45		-626.0	32.2	699.2	664.6	34.63	20.193	
5,838.1	5,730.8	5,793.2	5,730.8	22.3	16.8	-89.97		-626.0	32.2	699.4	664.7	34.70	20.154	
5,868.1	5,760.8	5,823.2	5,760.8	22.3	16.9	-89.97		-626.0	32.2	699.4	664.6	34.79	20.105	
5,900.0	5,792.7	5,855.1	5,792.7	22.4	16.9	-89.98		-625.5	32.2	699.4	664.5	34.86	20.061	
5,905.5	5,798.2	5,860.6	5,798.2	22.4	16.9	-89.99		-625.3	32.2	699.4	664.5	34.87	20.056	
5,932.0	5,824.6	5,887.1	5,824.6	22.4	16.9	-90.00		-623.6	32.2	699.4	664.5	34.91	20.034	
5,950.0	5,842.6	5,905.1	5,842.6	22.4	16.9	-90.01		-621.9	32.2	699.4	664.4	34.93	20.022	
6,000.0	5,892.0	5,955.2	5,892.0	22.4	16.9	-90.04		-614.8	32.2	699.4	664.4	34.93	20.020	
6,003.9	5,895.8	5,959.1	5,895.8	22.4	16.9	-90.04		-614.1	32.2	699.4	664.4	34.93	20.023	
6,050.0	5,940.8	6,005.2	5,940.8	22.4	16.9	-90.07		-604.2	32.2	699.4	664.5	34.87	20.055	
6,100.0	5,988.7	6,053.3	5,988.7	22.3	16.9	-90.10		-590.3	32.2	699.4	664.6	34.76	20.123	
6,102.3	5,990.9	6,057.6	5,990.9	22.3	16.8	-90.10		-589.6	32.2	699.4	664.6	34.75	20.127	
6,150.0	6,035.5	6,105.4	6,035.5	22.2	16.8	-90.13		-573.0	32.2	699.4	664.8	34.59	20.222	
6,200.0	6,081.0	6,155.5	6,081.0	22.2	16.7	-90.15		-552.5	32.2	699.4	665.0	34.37	20.348	
6,200.8	6,081.7	6,156.3	6,082.5	22.2	16.7	-90.15		-552.2	32.2	699.4	665.0	34.37	20.350	
6,250.0	6,124.9	6,205.6	6,126.0	22.0	16.5	-90.18		-528.8	32.2	699.4	665.3	34.12	20.497	
6,299.2	6,166.4	6,255.0	6,167.8	21.9	16.4	-90.20		-502.6	32.2	699.4	665.5	33.85	20.662	
6,300.0	6,167.0	6,255.8	6,168.4	21.9	16.4	-90.20		-502.1	32.2	699.4	665.5	33.84	20.665	
6,350.0	6,207.2	6,306.0	6,208.9	21.8	16.2	-90.23		-472.5	32.2	699.4	665.8	33.55	20.845	
6,397.6	6,243.4	6,353.8	6,245.5	21.6	16.1	-90.25		-441.7	32.2	699.4	666.1	33.27	21.022	
6,400.0	6,245.2	6,356.2	6,247.2	21.6	16.1	-90.25		-440.1	32.2	699.4	666.1	33.26	21.030	
6,450.0	6,280.8	6,406.4	6,283.2	21.5	15.9	-90.27		-405.0	32.2	699.4	666.4	32.97	21.213	
6,496.0	6,311.4	6,452.7	6,314.1	21.3	15.8	-90.29		-370.6	32.2	699.4	666.7	32.73	21.370	
6,500.0	6,313.9	6,456.6	6,316.6	21.3	15.8	-90.29		-367.5	32.2	699.4	666.7	32.71	21.383	
6,550.0	6,344.3	6,506.9	6,347.4	21.2	15.7	-90.31		-327.8	32.2	699.4	666.9	32.48	21.532	
6,594.5	6,368.9	6,551.6	6,372.3	21.0	15.6	-90.33		-290.7	32.2	699.4	667.1	32.32	21.638	
6,600.0	6,371.8	6,557.2	6,375.3	21.0	15.6	-90.33		-286.0	32.2	699.4	667.1	32.31	21.649	
6,650.0	6,396.4	6,607.5	6,400.2	20.8	15.5	-90.35		-242.3	32.2	699.4	667.2	32.19	21.725	
6,692.9	6,415.0	6,650.6	6,419.0	20.7	15.5	-90.36		-203.5	32.2	699.4	667.2	32.15	21.751	
6,700.0	6,417.9	6,657.8	6,421.9	20.7	15.5	-90.36		-196.9	32.2	699.4	667.2	32.15	21.751	
6,750.0	6,436.2	6,708.1	6,440.5	20.5	15.5	-90.37		-150.2	32.2	699.4	667.2	32.20	21.721	
6,791.3	6,448.8	6,749.7	6,453.3	20.4	15.5	-90.38		-110.6	32.2	699.4	667.1	32.30	21.650	
6,800.0	6,451.1	6,758.4	6,455.7	20.3	15.6	-90.38		-102.2	32.2	699.4	667.1	32.34	21.629	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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		SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29I-321 - ORIGINAL WELLBORE - PROPOSAL #											Offset Site Error:		0.0 usft
Survey Program: 0-MWDD													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		
6,850.0	6,462.8	6,808.8	6,467.5	20.2	15.7	-90.39	-53.3	32.2	699.4	666.8	32.57	21.475			
6,889.7	6,469.6	6,848.8	6,474.4	20.1	15.8	-90.40	-13.9	32.2	699.4	666.6	32.82	21.307			
6,900.0	6,471.0	6,859.1	6,475.8	20.0	15.8	-90.40	-3.7	32.2	699.4	666.5	32.90	21.259			
6,950.0	6,475.7	6,909.4	6,480.7	19.9	16.0	-90.41	46.4	32.2	699.4	666.1	33.33	20.986			
6,988.2	6,477.0	6,947.9	6,482.0	19.8	16.2	-90.41	84.9	32.2	699.4	665.7	33.72	20.742			
6,997.5	6,477.0	6,957.3	6,482.0	19.8	16.3	-90.41	94.2	32.2	699.4	665.6	33.82	20.681			
7,000.0	6,477.0	6,959.8	6,482.0	19.8	16.3	-90.41	96.8	32.2	699.4	665.5	33.85	20.664			
7,086.6	6,476.5	7,046.4	6,481.3	19.6	16.9	-90.40	183.4	32.2	699.4	664.4	35.01	19.979			
7,100.0	6,476.4	7,059.8	6,481.2	19.6	17.0	-90.40	196.8	32.2	699.4	664.2	35.19	19.872			
7,185.0	6,475.9	7,144.8	6,480.6	19.7	17.8	-90.39	281.8	32.2	699.4	662.8	36.60	19.107			
7,200.0	6,475.8	7,159.8	6,480.5	19.8	17.9	-90.39	296.8	32.2	699.4	662.5	36.86	18.972			
7,283.4	6,475.2	7,243.2	6,479.9	20.4	18.8	-90.38	380.2	32.2	699.4	660.9	38.51	18.163			
7,300.0	6,475.1	7,259.8	6,479.8	20.6	18.9	-90.38	396.8	32.2	699.4	660.5	38.84	18.005			
7,381.9	6,474.6	7,341.7	6,479.2	21.5	19.9	-90.37	478.6	32.2	699.4	658.7	40.68	17.193			
7,400.0	6,474.5	7,359.8	6,479.0	21.8	20.1	-90.37	496.8	32.2	699.4	658.3	41.10	17.018			
7,480.3	6,474.0	7,440.1	6,478.4	22.8	21.1	-90.36	577.0	32.2	699.4	656.3	43.08	16.236			
7,500.0	6,473.9	7,459.8	6,478.3	23.0	21.4	-90.36	596.7	32.2	699.4	655.8	43.57	16.051			
7,578.7	6,473.4	7,538.5	6,477.7	24.1	22.4	-90.35	675.5	32.2	699.4	653.7	45.66	15.317			
7,600.0	6,473.3	7,559.8	6,477.6	24.4	22.7	-90.35	696.7	32.2	699.4	653.1	46.23	15.127			
7,677.1	6,472.8	7,636.9	6,477.0	25.5	23.8	-90.34	773.9	32.2	699.4	651.0	48.40	14.449			
7,700.0	6,472.7	7,659.8	6,476.8	25.8	24.2	-90.34	796.7	32.2	699.4	650.3	49.05	14.258			
7,775.6	6,472.2	7,735.4	6,476.3	26.9	25.3	-90.33	872.3	32.2	699.4	648.1	51.28	13.639			
7,800.0	6,472.1	7,759.8	6,476.1	27.3	25.7	-90.33	896.7	32.2	699.4	647.4	52.00	13.449			
7,874.0	6,471.6	7,833.8	6,475.5	28.4	26.8	-90.32	970.7	32.2	699.4	645.1	54.26	12.889			
7,900.0	6,471.5	7,859.8	6,475.3	28.8	27.2	-90.32	996.7	32.2	699.4	644.3	55.06	12.701			
7,972.4	6,471.0	7,932.2	6,474.8	29.9	28.4	-90.31	1,069.2	32.2	699.4	642.0	57.34	12.196			
8,000.0	6,470.8	7,959.8	6,474.6	30.3	28.8	-90.31	1,096.7	32.2	699.4	641.2	58.22	12.013			
8,070.8	6,470.4	8,030.6	6,474.1	31.4	30.0	-90.30	1,167.6	32.2	699.4	638.9	60.50	11.559			
8,100.0	6,470.2	8,059.8	6,473.9	31.9	30.5	-90.30	1,196.7	32.2	699.4	637.9	61.45	11.381			
8,169.3	6,469.8	8,129.1	6,473.4	33.0	31.6	-90.29	1,266.0	32.2	699.4	635.6	63.73	10.974			
8,200.0	6,469.6	8,159.8	6,473.1	33.5	32.1	-90.29	1,296.7	32.2	699.4	634.6	64.75	10.801			
8,267.7	6,469.2	8,227.5	6,472.6	34.7	33.3	-90.28	1,364.4	32.2	699.4	632.4	67.02	10.436			
8,300.0	6,469.0	8,259.8	6,472.4	35.2	33.8	-90.28	1,396.7	32.2	699.4	631.3	68.10	10.269			
8,366.1	6,468.6	8,325.9	6,471.9	36.3	35.0	-90.27	1,462.9	32.2	699.4	629.0	70.35	9.941			
8,400.0	6,468.4	8,359.8	6,471.6	36.9	35.5	-90.27	1,496.7	32.2	699.4	627.9	71.51	9.780			
8,464.5	6,468.0	8,424.3	6,471.2	38.0	36.7	-90.26	1,561.3	32.2	699.4	625.6	73.73	9.485			
8,500.0	6,467.8	8,459.8	6,470.9	38.6	37.3	-90.26	1,596.7	32.2	699.4	624.4	74.96	9.330			
8,563.0	6,467.4	8,522.8	6,470.4	39.6	38.4	-90.25	1,659.7	32.2	699.4	622.2	77.15	9.065			
8,600.0	6,467.1	8,559.8	6,470.2	40.3	39.0	-90.25	1,696.7	32.2	699.4	620.9	78.44	8.916			
8,661.4	6,466.8	8,621.2	6,469.7	41.3	40.1	-90.24	1,758.1	32.2	699.4	618.8	80.60	8.677			
8,700.0	6,466.5	8,659.8	6,469.4	42.0	40.8	-90.24	1,796.7	32.2	699.4	617.4	81.96	8.534			
8,759.8	6,466.1	8,719.6	6,469.0	43.0	41.9	-90.23	1,856.5	32.2	699.4	615.3	84.07	8.319			
8,800.0	6,465.9	8,759.8	6,468.7	43.7	42.6	-90.23	1,896.7	32.2	699.4	613.9	85.50	8.180			
8,858.2	6,465.5	8,818.0	6,468.2	44.8	43.6	-90.22	1,955.0	32.2	699.4	611.8	87.58	7.986			
8,900.0	6,465.3	8,859.8	6,467.9	45.5	44.4	-90.22	1,996.7	32.2	699.4	610.3	89.07	7.852			
8,956.7	6,464.9	8,916.5	6,467.5	46.5	45.4	-90.21	2,053.4	32.2	699.4	608.3	91.10	7.677			
9,000.0	6,464.7	8,959.8	6,467.2	47.3	46.2	-90.21	2,096.7	32.2	699.4	606.7	92.66	7.548			
9,055.1	6,464.3	9,014.9	6,466.8	48.2	47.2	-90.20	2,151.8	32.2	699.4	604.7	94.65	7.389			
9,100.0	6,464.0	9,059.8	6,466.4	49.0	48.0	-90.20	2,196.7	32.2	699.4	603.1	96.27	7.265			
9,153.5	6,463.7	9,113.3	6,466.0	50.0	49.0	-90.19	2,250.2	32.2	699.4	601.2	98.21	7.121			
9,200.0	6,463.4	9,159.8	6,465.7	50.8	49.8	-90.19	2,296.7	32.2	699.4	599.5	99.90	7.001			

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-321 - ORIGINAL WELLBORE - PROPOSAL #													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													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 (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,251.9	6,463.1	9,211.7	6,465.3	51.8	50.8	-90.18		2,348.7	32.2	699.4	597.6	101.79	6.871	
9,300.0	6,462.8	9,259.8	6,464.9	52.6	51.7	-90.18		2,396.7	32.2	699.4	595.8	103.54	6.755	
9,350.4	6,462.5	9,310.2	6,464.6	53.5	52.6	-90.17		2,447.1	32.2	699.4	594.0	105.38	6.637	
9,400.0	6,462.2	9,359.8	6,464.2	54.4	53.5	-90.17		2,496.7	32.2	699.4	592.2	107.20	6.524	
9,448.8	6,461.9	9,408.6	6,463.8	55.3	54.4	-90.16		2,545.5	32.2	699.4	590.4	108.99	6.417	
9,500.0	6,461.5	9,459.8	6,463.4	56.2	55.3	-90.16		2,596.7	32.2	699.4	588.5	110.87	6.308	
9,547.2	6,461.2	9,507.0	6,463.1	57.1	56.2	-90.15		2,643.9	32.2	699.4	586.8	112.60	6.211	
9,600.0	6,460.9	9,559.8	6,462.7	58.1	57.2	-90.15		2,696.7	32.2	699.4	584.8	114.55	6.105	
9,645.6	6,460.6	9,605.4	6,462.4	58.9	58.0	-90.14		2,742.3	32.2	699.4	583.1	116.23	6.017	
9,700.0	6,460.3	9,659.8	6,462.0	59.9	59.0	-90.14		2,796.7	32.2	699.4	581.1	118.24	5.915	
9,744.1	6,460.0	9,703.9	6,461.6	60.7	59.8	-90.13		2,840.8	32.2	699.4	579.5	119.87	5.834	
9,800.0	6,459.7	9,759.8	6,461.2	61.7	60.9	-90.13		2,896.7	32.2	699.4	577.4	121.94	5.735	
9,842.5	6,459.4	9,802.3	6,460.9	62.5	61.7	-90.12		2,939.2	32.2	699.4	575.8	123.51	5.662	
9,900.0	6,459.0	9,859.8	6,460.4	63.6	62.7	-90.12		2,996.7	32.2	699.4	573.7	125.65	5.566	
9,940.9	6,458.8	9,900.7	6,460.1	64.3	63.5	-90.11		3,037.6	32.2	699.4	572.2	127.17	5.499	
10,000.0	6,458.4	9,959.8	6,459.7	65.4	64.6	-90.10		3,096.7	32.2	699.3	570.0	129.36	5.406	
10,039.3	6,458.2	9,999.1	6,459.4	66.1	65.3	-90.10		3,136.0	32.2	699.3	568.5	130.83	5.346	
10,100.0	6,457.8	10,059.8	6,458.9	67.2	66.5	-90.09		3,196.7	32.2	699.3	566.3	133.09	5.255	
10,137.8	6,457.6	10,097.6	6,458.7	67.9	67.2	-90.09		3,234.5	32.2	699.3	564.9	134.50	5.200	
10,200.0	6,457.2	10,159.8	6,458.2	69.1	68.3	-90.08		3,296.7	32.2	699.3	562.5	136.82	5.111	
10,236.2	6,456.9	10,196.0	6,457.9	69.8	69.0	-90.08		3,332.9	32.2	699.3	561.2	138.17	5.061	
10,300.0	6,456.5	10,259.8	6,457.4	70.9	70.2	-90.07		3,396.7	32.2	699.3	558.8	140.56	4.976	
10,334.6	6,456.3	10,294.4	6,457.2	71.6	70.9	-90.07		3,431.3	32.3	699.3	557.5	141.85	4.930	
10,400.0	6,455.9	10,359.8	6,456.7	72.8	72.1	-90.06		3,496.7	32.3	699.3	555.0	144.30	4.847	
10,433.0	6,455.7	10,392.8	6,456.4	73.4	72.7	-90.06		3,529.7	32.3	699.3	553.8	145.54	4.805	
10,500.0	6,455.3	10,459.8	6,455.9	74.7	74.0	-90.05		3,596.7	32.3	699.3	551.3	148.04	4.724	
10,531.5	6,455.1	10,491.3	6,455.7	75.2	74.6	-90.05		3,628.2	32.3	699.3	550.1	149.23	4.686	
10,600.0	6,454.7	10,559.8	6,455.2	76.5	75.8	-90.04		3,696.7	32.3	699.3	547.5	151.80	4.607	
10,629.9	6,454.5	10,589.7	6,455.0	77.1	76.4	-90.04		3,726.6	32.3	699.3	546.4	152.92	4.573	
10,700.0	6,454.0	10,659.8	6,454.4	78.4	77.7	-90.03		3,796.7	32.3	699.3	543.8	155.55	4.496	
10,728.3	6,453.9	10,688.1	6,454.2	78.9	78.3	-90.03		3,825.0	32.3	699.3	542.7	156.62	4.465	
10,800.0	6,453.4	10,759.8	6,453.7	80.3	79.6	-90.02		3,896.7	32.3	699.3	540.0	159.31	4.390	
10,826.7	6,453.2	10,786.5	6,453.5	80.8	80.1	-90.02		3,923.4	32.3	699.3	539.0	160.32	4.362	
10,900.0	6,452.8	10,859.8	6,452.9	82.1	81.5	-90.01		3,996.7	32.3	699.3	536.3	163.08	4.288	
10,925.2	6,452.6	10,885.0	6,452.7	82.6	82.0	-90.01		4,021.8	32.3	699.3	535.3	164.03	4.264	
11,000.0	6,452.1	10,959.8	6,452.2	84.0	83.4	-90.00		4,096.7	32.3	699.3	532.5	166.85	4.191	
11,019.4	6,452.0	10,979.2	6,452.0	84.4	83.7	-90.00		4,116.0	32.3	699.3	531.8	167.58	4.173	
11,023.6	6,452.0	10,979.8	6,452.0	84.4	83.8	-90.00		4,116.7	32.3	699.3	531.7	167.67	4.171	
11,023.7	6,452.0	10,979.8	6,452.0	84.4	83.8	-90.00		4,116.7	32.3	699.3	531.7	167.67	4.171	
11,024.4	6,452.0	10,979.8	6,452.0	84.5	83.8	-90.00		4,116.7	32.3	699.3	531.7	167.68	4.171 SF	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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-MWDD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	1.0	1.0	0.0	0.0	-89.99	-89.99	0.0	-140.5	140.5				
98.4	98.4	99.4	99.4	0.1	0.1	-89.99	-89.99	0.0	-140.5	140.5	140.3	0.19	727.171	
100.0	100.0	101.0	101.0	0.1	0.1	-89.99	-89.99	0.0	-140.5	140.5	140.3	0.20	710.334	
196.8	196.8	197.8	197.8	0.3	0.3	-89.99	-89.99	0.0	-140.5	140.5	139.9	0.63	221.901	
200.0	200.0	201.0	201.0	0.3	0.3	-89.99	-89.99	0.0	-140.5	140.5	139.9	0.65	217.047	
295.3	295.3	296.3	296.3	0.5	0.5	-89.99	-89.99	0.0	-140.5	140.5	139.4	1.08	130.623	
300.0	300.0	301.0	301.0	0.5	0.5	-89.99	-89.99	0.0	-140.5	140.5	139.4	1.10	128.093	
393.7	393.7	394.7	394.7	0.8	0.8	-89.99	-89.99	0.0	-140.5	140.5	139.0	1.52	92.552	
400.0	400.0	401.0	401.0	0.8	0.8	-89.99	-89.99	0.0	-140.5	140.5	139.0	1.55	90.857	
492.1	492.1	493.1	493.1	1.0	1.0	-89.99	-89.99	0.0	-140.5	140.5	138.5	1.96	71.665	
500.0	500.0	501.0	501.0	1.0	1.0	-89.99	-89.99	0.0	-140.5	140.5	138.5	2.00	70.394	
590.5	590.5	591.5	591.5	1.2	1.2	-89.99	-89.99	0.0	-140.5	140.5	138.1	2.40	58.469	
600.0	600.0	601.0	601.0	1.2	1.2	-89.99	-89.99	0.0	-140.5	140.5	138.1	2.45	57.454	
689.0	689.0	690.0	690.0	1.4	1.4	-89.99	-89.99	0.0	-140.5	140.5	137.7	2.85	49.377	
700.0	700.0	701.0	701.0	1.4	1.4	-89.99	-89.99	0.0	-140.5	140.5	137.6	2.89	48.532	
787.4	787.4	788.4	788.4	1.6	1.6	-89.99	-89.99	0.0	-140.5	140.5	137.2	3.29	42.733	
800.0	800.0	801.0	801.0	1.7	1.7	-89.99	-89.99	0.0	-140.5	140.5	137.2	3.34	42.009	
885.8	885.8	886.8	886.8	1.9	1.9	-89.99	-89.99	0.0	-140.5	140.5	136.8	3.73	37.664	
900.0	900.0	901.0	901.0	1.9	1.9	-89.99	-89.99	0.0	-140.5	140.5	136.7	3.79	37.032	
984.2	984.2	985.2	985.2	2.1	2.1	-89.99	-89.99	0.0	-140.5	140.5	136.3	4.17	33.671	
989.4	989.4	990.4	990.4	2.1	2.1	-89.99	-89.99	0.0	-140.5	140.5	136.3	4.20	33.485 CC	
1,000.0	1,000.0	1,001.0	1,001.0	2.1	2.1	-89.99	-89.99	0.0	-140.5	140.5	136.3	4.24	33.111	
1,025.0	1,025.0	1,025.6	1,025.6	2.2	2.2	-90.04	-90.04	-0.1	-140.5	140.5	136.2	4.35	32.323 ES	
1,082.7	1,082.7	1,082.3	1,082.3	2.3	2.3	139.12	139.12	-1.1	-140.9	141.4	136.8	4.58	30.896	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	139.01	139.01	-1.6	-141.1	141.9	137.2	4.64	30.540	
1,181.1	1,181.0	1,178.9	1,178.8	2.5	2.5	138.37	138.37	-5.2	-142.4	145.7	140.8	4.93	29.537	
1,200.0	1,199.9	1,197.4	1,197.2	2.5	2.5	138.19	138.19	-6.4	-142.8	147.0	142.0	5.00	29.393	
1,279.5	1,279.2	1,275.1	1,274.7	2.7	2.6	137.31	137.31	-12.4	-145.0	153.8	148.5	5.30	29.009	
1,300.0	1,299.6	1,295.0	1,294.5	2.7	2.7	137.07	137.07	-14.2	-145.7	155.9	150.6	5.38	28.993	
1,377.9	1,377.1	1,370.7	1,369.7	2.9	2.8	136.06	136.06	-22.5	-148.7	165.6	159.9	5.70	29.065	
1,400.0	1,398.9	1,392.0	1,390.8	2.9	2.9	135.77	135.77	-25.1	-149.7	168.8	163.0	5.79	29.159	
1,476.4	1,474.5	1,465.5	1,463.5	3.1	3.1	134.73	134.73	-35.4	-153.4	181.2	175.1	6.13	29.542	
1,500.0	1,497.8	1,488.1	1,485.8	3.2	3.1	134.40	134.40	-39.0	-154.7	185.5	179.3	6.24	29.724	
1,574.8	1,571.4	1,559.3	1,555.8	3.4	3.3	133.38	133.38	-51.1	-159.2	200.5	193.9	6.62	30.294	
1,600.0	1,596.1	1,583.2	1,579.2	3.5	3.4	133.04	133.04	-55.6	-160.8	206.1	199.3	6.75	30.539	
1,673.2	1,667.7	1,653.8	1,648.2	3.7	3.6	132.18	132.18	-69.3	-165.8	223.3	216.1	7.16	31.178	
1,696.9	1,690.8	1,676.7	1,670.7	3.8	3.7	131.98	131.98	-73.8	-167.4	229.1	221.8	7.30	31.400	
1,700.0	1,693.8	1,679.7	1,673.6	3.8	3.7	131.97	131.97	-74.4	-167.7	229.9	222.6	7.32	31.426	
1,771.6	1,763.5	1,749.1	1,741.5	4.1	4.0	131.74	131.74	-87.9	-172.6	247.8	240.0	7.76	31.913	
1,800.0	1,791.0	1,776.6	1,768.3	4.2	4.1	131.66	131.66	-93.3	-174.6	254.8	246.9	7.94	32.083	
1,870.1	1,859.2	1,844.4	1,834.7	4.5	4.3	131.48	131.48	-106.5	-179.4	272.3	263.9	8.41	32.397	
1,900.0	1,888.3	1,873.4	1,863.0	4.6	4.4	131.40	131.40	-112.2	-181.5	279.8	271.2	8.61	32.513	
1,968.5	1,954.9	1,939.7	1,927.9	4.9	4.7	131.25	131.25	-125.1	-186.2	296.9	287.8	9.08	32.713	
2,000.0	1,985.6	1,970.2	1,957.8	5.1	4.8	131.19	131.19	-131.1	-188.4	304.7	295.4	9.30	32.781	
2,066.9	2,050.7	2,035.0	2,021.1	5.4	5.1	131.07	131.07	-143.7	-193.0	321.4	311.7	9.77	32.898	
2,100.0	2,082.8	2,067.0	2,052.5	5.5	5.2	131.01	131.01	-150.0	-195.3	329.7	319.7	10.01	32.943	
2,165.3	2,146.4	2,130.3	2,114.4	5.8	5.4	130.90	130.90	-162.3	-199.8	346.0	335.5	10.48	33.004	
2,200.0	2,180.1	2,163.9	2,147.2	6.0	5.6	130.85	130.85	-168.9	-202.2	354.7	343.9	10.74	33.029	
2,263.8	2,242.1	2,225.6	2,207.6	6.3	5.8	130.76	130.76	-180.9	-206.6	370.6	359.4	11.21	33.054	
2,300.0	2,277.3	2,260.7	2,241.9	6.4	6.0	130.72	130.72	-187.8	-209.1	379.6	368.1	11.48	33.062	
2,362.2	2,337.8	2,320.9	2,300.8	6.7	6.2	130.64	130.64	-199.5	-213.4	395.1	383.2	11.95	33.063	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-401 - ORIGINAL WELLBORE - PROPOSAL #													Offset Site Error:	0.0 usft
Survey Program: 0-MWDD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
2,400.0	2,374.6	2,357.5	2,336.6	6.9	6.4	130.60		-206.7	-216.0	404.6	392.3	12.24	33.059	
2,460.6	2,433.6	2,416.2	2,394.0	7.2	6.6	130.53		-218.2	-220.1	419.7	407.0	12.70	33.045	
2,500.0	2,471.9	2,454.4	2,431.3	7.4	6.8	130.49		-225.6	-222.9	429.5	416.5	13.00	33.032	
2,559.0	2,529.3	2,511.6	2,487.3	7.6	7.0	130.44		-236.8	-226.9	444.3	430.8	13.46	33.008	
2,600.0	2,569.1	2,551.2	2,526.1	7.8	7.2	130.40		-244.5	-229.8	454.5	440.7	13.78	32.989	
2,657.5	2,625.0	2,606.9	2,580.5	8.1	7.5	130.35		-255.4	-233.7	468.9	454.6	14.23	32.959	
2,700.0	2,666.4	2,648.0	2,620.8	8.3	7.6	130.32		-263.4	-236.7	479.5	464.9	14.56	32.935	
2,755.9	2,720.8	2,702.2	2,673.7	8.6	7.9	130.27		-274.0	-240.5	493.4	478.4	15.00	32.902	
2,800.0	2,763.7	2,744.9	2,715.5	8.8	8.1	130.24		-282.3	-243.6	504.5	489.1	15.34	32.874	
2,854.3	2,816.5	2,797.5	2,766.9	9.1	8.3	130.20		-292.6	-247.3	518.0	502.2	15.77	32.839	
2,900.0	2,860.9	2,841.7	2,810.2	9.3	8.5	130.17		-301.2	-250.5	529.4	513.3	16.14	32.809	
2,952.7	2,912.2	2,892.8	2,860.2	9.6	8.7	130.14		-311.2	-254.1	542.6	526.0	16.56	32.774	
3,000.0	2,958.2	2,938.5	2,904.9	9.8	8.9	130.11		-320.1	-257.4	554.4	537.5	16.93	32.742	
3,051.2	3,008.0	2,988.1	2,953.4	10.0	9.1	130.08		-329.8	-260.9	567.2	549.8	17.34	32.707	
3,100.0	3,055.4	3,035.4	2,999.6	10.3	9.3	130.05		-339.0	-264.3	579.4	561.6	17.73	32.674	
3,149.6	3,103.7	3,083.4	3,046.6	10.5	9.5	130.03		-348.4	-267.7	591.7	573.6	18.13	32.640	
3,200.0	3,152.7	3,132.2	3,094.4	10.8	9.8	130.00		-357.9	-271.2	604.3	585.8	18.53	32.606	
3,248.0	3,199.4	3,178.7	3,139.8	11.0	10.0	129.98		-367.0	-274.5	616.3	597.4	18.92	32.574	
3,300.0	3,250.0	3,229.0	3,189.1	11.3	10.2	129.95		-376.8	-278.1	629.3	610.0	19.34	32.540	
3,346.4	3,295.1	3,274.0	3,233.1	11.5	10.4	129.93		-385.6	-281.3	640.9	621.2	19.71	32.509	
3,400.0	3,347.2	3,325.9	3,283.8	11.8	10.6	129.91		-395.7	-285.0	654.3	634.1	20.15	32.474	
3,444.9	3,390.9	3,369.3	3,326.3	12.0	10.8	129.89		-404.2	-288.1	665.5	645.0	20.51	32.445	
3,500.0	3,444.5	3,422.7	3,378.5	12.3	11.1	129.87		-414.7	-291.9	679.2	658.3	20.96	32.410	
3,543.3	3,486.6	3,464.6	3,419.5	12.5	11.2	129.85		-422.8	-294.9	690.1	668.7	21.31	32.383	
3,600.0	3,541.8	3,519.5	3,473.2	12.8	11.5	129.83		-433.6	-298.8	704.2	682.4	21.77	32.349	
3,641.7	3,582.3	3,559.9	3,512.7	13.0	11.7	129.82		-441.4	-301.7	714.6	692.5	22.11	32.323	
3,700.0	3,639.0	3,616.3	3,567.9	13.3	11.9	129.80		-452.5	-305.7	729.2	706.6	22.58	32.289	
3,740.1	3,678.1	3,655.2	3,606.0	13.5	12.1	129.78		-460.1	-308.5	739.2	716.3	22.91	32.265	
3,800.0	3,736.3	3,713.2	3,662.6	13.8	12.4	129.76		-471.4	-312.6	754.2	730.8	23.40	32.231	
3,838.6	3,773.8	3,750.5	3,699.2	14.0	12.5	129.75		-478.7	-315.3	763.8	740.1	23.71	32.209	
3,900.0	3,833.5	3,810.0	3,757.4	14.3	12.8	129.73		-490.3	-319.5	779.1	754.9	24.22	32.175	
3,937.0	3,869.5	3,845.8	3,792.4	14.5	13.0	129.72		-497.3	-322.0	788.4	763.9	24.52	32.154	
4,000.0	3,930.8	3,906.8	3,852.1	14.8	13.2	129.70		-509.2	-326.4	804.1	779.1	25.03	32.121	
4,035.4	3,965.3	3,941.1	3,885.6	15.0	13.4	129.69		-515.9	-328.8	812.9	787.6	25.32	32.102	
4,100.0	4,028.1	4,003.7	3,946.8	15.3	13.7	129.67		-528.1	-333.3	829.1	803.2	25.85	32.069	
4,133.8	4,061.0	4,036.4	3,978.9	15.5	13.8	129.67		-534.5	-335.6	837.5	811.4	26.13	32.052	
4,200.0	4,125.3	4,100.5	4,041.5	15.8	14.1	129.65		-547.0	-340.2	854.0	827.4	26.67	32.019	
4,232.3	4,156.7	4,131.7	4,072.1	16.0	14.2	129.64		-553.1	-342.4	862.1	835.2	26.94	32.003	
4,300.0	4,222.6	4,197.3	4,136.2	16.3	14.5	129.62		-565.9	-347.1	879.0	851.5	27.49	31.971	
4,330.7	4,252.4	4,231.1	4,169.3	16.5	14.7	129.62		-572.4	-349.5	886.6	858.9	27.74	31.957	
4,400.0	4,319.8	4,310.2	4,247.0	16.8	15.0	129.71		-586.1	-354.5	903.2	874.9	28.30	31.918	
4,429.1	4,348.2	4,343.6	4,279.9	17.0	15.1	129.78		-591.3	-356.4	909.9	881.4	28.51	31.920	
4,500.0	4,417.1	4,425.0	4,360.5	17.3	15.3	130.05		-602.4	-360.4	925.5	896.5	29.00	31.913	
4,527.5	4,443.9	4,456.7	4,391.9	17.5	15.3	130.18		-606.2	-361.8	931.4	902.2	29.19	31.910	
4,600.0	4,514.4	4,540.2	4,475.0	17.8	15.5	130.62		-614.5	-364.9	946.0	916.4	29.66	31.899	
4,626.0	4,539.6	4,570.2	4,504.8	17.9	15.6	130.80		-617.0	-365.7	951.1	921.3	29.82	31.895	
4,700.0	4,611.6	4,655.5	4,590.0	18.3	15.8	131.41		-622.3	-367.7	964.8	934.6	30.26	31.887	
4,724.4	4,635.4	4,683.6	4,618.0	18.4	15.8	131.64		-623.5	-368.1	969.2	938.8	30.40	31.883	
4,800.0	4,708.9	4,770.5	4,704.9	18.8	15.9	132.41		-625.7	-368.9	982.0	951.2	30.81	31.876	
4,822.8	4,731.1	4,796.7	4,731.1	18.9	16.0	132.66		-625.9	-369.0	985.7	954.8	30.93	31.872	
4,900.0	4,806.2	4,872.8	4,807.2	19.3	16.1	133.42		-625.9	-369.0	998.2	966.8	31.31	31.884	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-401 - ORIGINAL WELLBORE - PROPOSAL #													Offset Site Error:	0.0 usft
Survey Program: 0-MWDD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
4,921.2	4,826.8	4,893.4	4,827.8	19.4	16.1	133.62		-625.9	-369.0	1,001.6	970.2	31.41	31.889	
5,000.0	4,903.4	4,970.0	4,904.4	19.8	16.2	134.36		-625.9	-369.0	1,014.5	982.7	31.78	31.922	
5,019.7	4,922.6	4,989.2	4,923.6	19.9	16.2	134.54		-625.9	-369.0	1,017.7	985.9	31.87	31.932	
5,100.0	5,000.7	5,067.3	5,001.7	20.4	16.3	135.27		-625.9	-369.0	1,031.1	998.9	32.25	31.977	
5,118.1	5,018.3	5,084.9	5,019.3	20.4	16.3	135.43		-625.9	-369.0	1,034.1	1,001.8	32.33	31.988	
5,166.2	5,065.0	5,131.6	5,066.0	20.7	16.4	135.86		-625.9	-369.0	1,042.2	1,009.7	32.55	32.020	
5,200.0	5,098.0	5,164.6	5,099.0	20.8	16.4	136.22		-625.9	-369.0	1,047.8	1,015.1	32.71	32.035	
5,216.5	5,114.1	5,180.7	5,115.1	20.9	16.5	136.40		-625.9	-369.0	1,050.5	1,017.7	32.78	32.050	
5,300.0	5,195.9	5,262.5	5,196.9	21.2	16.6	137.18		-625.9	-369.0	1,062.8	1,029.7	33.11	32.099	
5,314.9	5,210.6	5,277.2	5,211.6	21.2	16.6	137.31		-625.9	-369.0	1,064.8	1,031.7	33.17	32.107	
5,400.0	5,294.4	5,361.0	5,295.4	21.5	16.7	137.96		-625.9	-369.0	1,075.4	1,041.9	33.48	32.118	
5,413.4	5,307.7	5,374.3	5,308.7	21.5	16.7	138.05		-625.9	-369.0	1,076.9	1,043.4	33.53	32.118	
5,500.0	5,393.5	5,460.1	5,394.5	21.7	16.8	138.57		-625.9	-369.0	1,085.5	1,051.7	33.83	32.089	
5,511.8	5,405.2	5,471.8	5,406.2	21.8	16.8	138.63		-625.9	-369.0	1,086.5	1,052.7	33.87	32.084	
5,600.0	5,493.0	5,559.6	5,494.0	22.0	16.9	139.02		-625.9	-369.0	1,093.1	1,058.9	34.14	32.014	
5,610.2	5,503.2	5,569.8	5,504.2	22.0	17.0	139.06		-625.9	-369.0	1,093.7	1,059.5	34.17	32.004	
5,700.0	5,592.8	5,659.4	5,593.8	22.1	17.1	139.31		-625.9	-369.0	1,098.1	1,063.6	34.43	31.889	
5,708.6	5,601.4	5,668.0	5,602.4	22.1	17.1	139.33		-625.9	-369.0	1,098.4	1,063.9	34.46	31.877	
5,800.0	5,692.7	5,759.3	5,693.7	22.3	17.2	139.44		-625.9	-369.0	1,100.4	1,065.7	34.70	31.716	
5,807.1	5,699.8	5,766.4	5,700.8	22.3	17.2	139.45		-625.9	-369.0	1,100.5	1,065.7	34.71	31.701	
5,838.1	5,730.8	5,797.4	5,731.8	22.3	17.3	-89.97		-625.9	-369.0	1,100.6	1,065.8	34.79	31.634	
5,868.1	5,760.8	5,827.4	5,761.8	22.3	17.3	-89.97		-625.9	-369.0	1,100.6	1,065.7	34.88	31.558	
5,895.1	5,787.8	5,854.4	5,788.8	22.4	17.3	-90.00		-625.9	-369.0	1,100.6	1,065.6	34.95	31.494	
5,900.0	5,792.7	5,859.3	5,793.7	22.4	17.4	-90.01		-625.9	-369.0	1,100.6	1,065.6	34.96	31.482	
5,905.5	5,798.2	5,864.8	5,799.2	22.4	17.4	-90.02		-625.9	-369.0	1,100.6	1,065.6	34.97	31.471	
5,950.0	5,842.6	5,909.2	5,843.6	22.4	17.4	-90.22		-625.9	-369.0	1,100.6	1,065.5	35.08	31.376	
6,000.0	5,892.0	5,959.2	5,893.6	22.4	17.5	-90.54		-624.7	-369.0	1,100.6	1,065.5	35.16	31.301	
6,003.9	5,895.8	5,963.2	5,897.5	22.4	17.5	-90.57		-624.5	-369.0	1,100.6	1,065.5	35.17	31.299	
6,050.0	5,940.8	6,009.8	5,943.9	22.4	17.5	-90.87		-620.1	-369.0	1,100.7	1,065.5	35.19	31.283	
6,100.0	5,988.7	6,060.8	5,994.3	22.3	17.5	-91.19		-611.8	-369.0	1,100.8	1,065.7	35.14	31.323	
6,102.3	5,990.9	6,063.2	5,996.6	22.3	17.5	-91.21		-611.3	-369.0	1,100.8	1,065.7	35.14	31.327	
6,150.0	6,035.5	6,112.3	6,044.3	22.2	17.5	-91.51		-599.8	-369.0	1,101.0	1,065.9	35.04	31.419	
6,200.0	6,081.0	6,164.3	6,093.9	22.2	17.4	-91.82		-584.1	-369.0	1,101.1	1,066.3	34.88	31.567	
6,200.8	6,081.7	6,165.1	6,094.6	22.2	17.4	-91.83		-583.8	-369.0	1,101.2	1,066.3	34.88	31.570	
6,250.0	6,124.9	6,216.7	6,142.6	22.0	17.3	-92.13		-564.7	-369.0	1,101.4	1,066.7	34.67	31.763	
6,299.2	6,166.4	6,268.8	6,189.4	21.9	17.2	-92.42		-541.9	-369.0	1,101.6	1,067.2	34.43	31.996	
6,300.0	6,167.0	6,269.7	6,190.1	21.9	17.2	-92.43		-541.5	-369.0	1,101.6	1,067.2	34.42	32.000	
6,350.0	6,207.2	6,323.1	6,236.3	21.8	17.0	-92.71		-514.6	-369.0	1,101.8	1,067.7	34.14	32.272	
6,397.6	6,243.4	6,374.4	6,278.6	21.6	16.9	-92.97		-485.6	-369.0	1,102.1	1,068.2	33.85	32.554	
6,400.0	6,245.2	6,376.9	6,280.6	21.6	16.9	-92.99		-484.1	-369.0	1,102.1	1,068.3	33.84	32.568	
6,450.0	6,280.8	6,431.2	6,322.9	21.5	16.7	-93.24		-450.0	-369.0	1,102.4	1,068.8	33.53	32.877	
6,496.0	6,311.4	6,481.7	6,359.8	21.3	16.5	-93.47		-415.6	-369.0	1,102.6	1,069.4	33.25	33.158	
6,500.0	6,313.9	6,486.0	6,362.8	21.3	16.5	-93.49		-412.5	-369.0	1,102.6	1,069.4	33.23	33.183	
6,550.0	6,344.3	6,541.2	6,400.0	21.2	16.3	-93.71		-371.8	-369.0	1,102.9	1,070.0	32.95	33.470	
6,594.5	6,368.9	6,590.6	6,430.5	21.0	16.2	-93.90		-332.9	-369.0	1,103.1	1,070.4	32.74	33.693	
6,600.0	6,371.8	6,596.7	6,434.2	21.0	16.2	-93.92		-328.0	-369.0	1,103.2	1,070.5	32.72	33.720	
6,650.0	6,396.4	6,652.6	6,465.0	20.8	16.0	-94.10		-281.3	-369.0	1,103.4	1,070.9	32.54	33.913	
6,692.9	6,415.0	6,700.9	6,488.6	20.7	15.9	-94.24		-239.3	-369.0	1,103.6	1,071.2	32.44	34.015	
6,700.0	6,417.9	6,708.9	6,492.3	20.7	15.9	-94.26		-232.2	-369.0	1,103.6	1,071.2	32.44	34.026	
6,750.0	6,436.2	6,765.4	6,515.7	20.5	15.8	-94.40		-180.8	-369.0	1,103.8	1,071.4	32.42	34.045	
6,791.3	6,448.8	6,812.3	6,532.0	20.4	15.8	-94.50		-136.8	-369.0	1,104.0	1,071.5	32.49	33.979	

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

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-401 - ORIGINAL WELLBORE - PROPOSAL #													Offset Site Error:	0.0 usft
Survey Program: 0-MWDD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
6,800.0	6,451.1	6,822.2	6,535.1	20.3	15.8	-94.52	-94.52	-127.4	-369.0	1,104.0	1,071.5	32.51	33.957	
6,850.0	6,462.8	6,879.1	6,550.2	20.2	15.8	-94.61	-94.61	-72.5	-369.0	1,104.2	1,071.4	32.71	33.756	
6,889.7	6,469.6	6,924.5	6,559.2	20.1	15.9	-94.66	-94.66	-28.0	-369.0	1,104.2	1,071.3	32.95	33.509	
6,900.0	6,471.0	6,936.3	6,561.0	20.0	16.0	-94.68	-94.68	-16.4	-369.0	1,104.3	1,071.2	33.02	33.440	
6,950.0	6,475.7	6,993.5	6,567.3	19.9	16.1	-94.71	-94.71	40.4	-369.0	1,104.3	1,070.9	33.45	33.014	
6,988.2	6,477.0	7,037.2	6,569.0	19.8	16.3	-94.73	-94.73	84.1	-369.0	1,104.3	1,070.5	33.86	32.618	
6,997.5	6,477.0	7,047.3	6,569.0	19.8	16.4	-94.73	-94.73	94.2	-369.0	1,104.3	1,070.4	33.96	32.520	
7,000.0	6,477.0	7,049.8	6,569.0	19.8	16.4	-94.73	-94.73	96.7	-369.0	1,104.3	1,070.3	33.99	32.492	
7,086.6	6,476.5	7,136.4	6,569.0	19.6	17.0	-94.75	-94.75	183.3	-369.0	1,104.4	1,069.2	35.13	31.436	
7,100.0	6,476.4	7,149.8	6,569.0	19.6	17.1	-94.76	-94.76	196.7	-369.0	1,104.4	1,069.1	35.32	31.268	
7,185.0	6,475.9	7,234.8	6,569.0	19.7	17.8	-94.79	-94.79	281.7	-369.0	1,104.4	1,067.7	36.71	30.083	
7,200.0	6,475.8	7,249.8	6,569.0	19.8	18.0	-94.79	-94.79	296.7	-369.0	1,104.4	1,067.5	36.97	29.872	
7,283.4	6,475.2	7,333.3	6,569.0	20.4	18.8	-94.82	-94.82	380.2	-369.0	1,104.5	1,065.9	38.60	28.615	
7,300.0	6,475.1	7,349.8	6,569.0	20.6	19.0	-94.82	-94.82	396.7	-369.0	1,104.5	1,065.6	38.93	28.368	
7,381.9	6,474.6	7,431.7	6,569.0	21.5	19.9	-94.85	-94.85	478.6	-369.0	1,104.5	1,063.8	40.75	27.104	
7,400.0	6,474.5	7,449.8	6,569.0	21.8	20.2	-94.85	-94.85	496.7	-369.0	1,104.5	1,063.4	41.17	26.830	
7,480.3	6,474.0	7,530.1	6,569.0	22.8	21.2	-94.88	-94.88	577.0	-369.0	1,104.6	1,061.4	43.13	25.611	
7,500.0	6,473.9	7,549.8	6,569.0	23.0	21.4	-94.89	-94.89	596.7	-369.0	1,104.6	1,061.0	43.62	25.321	
7,578.7	6,473.4	7,628.5	6,569.0	24.1	22.5	-94.91	-94.91	675.4	-369.0	1,104.6	1,058.9	45.70	24.174	
7,600.0	6,473.3	7,649.8	6,569.0	24.4	22.8	-94.92	-94.92	696.7	-369.0	1,104.6	1,058.4	46.27	23.875	
7,677.1	6,472.8	7,727.0	6,569.0	25.5	23.9	-94.94	-94.94	773.9	-369.0	1,104.7	1,056.3	48.42	22.815	
7,700.0	6,472.7	7,749.8	6,569.0	25.8	24.2	-94.95	-94.95	796.7	-369.0	1,104.7	1,055.6	49.07	22.514	
7,775.6	6,472.2	7,825.4	6,569.0	26.9	25.3	-94.97	-94.97	872.3	-369.0	1,104.7	1,053.5	51.28	21.545	
7,800.0	6,472.1	7,849.8	6,569.0	27.3	25.7	-94.98	-94.98	896.7	-369.0	1,104.7	1,052.7	52.00	21.246	
7,874.0	6,471.6	7,923.8	6,569.0	28.4	26.9	-95.00	-95.00	970.7	-369.0	1,104.8	1,050.5	54.24	20.367	
7,900.0	6,471.5	7,949.8	6,569.0	28.8	27.3	-95.01	-95.01	996.7	-369.0	1,104.8	1,049.8	55.04	20.073	
7,972.4	6,471.0	8,022.2	6,569.0	29.9	28.4	-95.04	-95.04	1,069.1	-369.0	1,104.8	1,047.5	57.30	19.280	
8,000.0	6,470.8	8,049.8	6,569.0	30.3	28.9	-95.04	-95.04	1,096.7	-369.0	1,104.9	1,046.7	58.17	18.992	
8,070.8	6,470.4	8,120.7	6,569.0	31.4	30.0	-95.07	-95.07	1,167.6	-369.0	1,104.9	1,044.4	60.45	18.279	
8,100.0	6,470.2	8,149.8	6,569.0	31.9	30.5	-95.08	-95.08	1,196.7	-369.0	1,104.9	1,043.5	61.39	17.999	
8,169.3	6,469.8	8,219.1	6,569.0	33.0	31.6	-95.10	-95.10	1,266.0	-369.0	1,104.9	1,041.3	63.66	17.358	
8,200.0	6,469.6	8,249.8	6,569.0	33.5	32.1	-95.11	-95.11	1,296.7	-369.0	1,105.0	1,040.3	64.67	17.087	
8,267.7	6,469.2	8,317.5	6,569.0	34.7	33.3	-95.13	-95.13	1,364.4	-369.0	1,105.0	1,038.1	66.92	16.512	
8,300.0	6,469.0	8,349.8	6,569.0	35.2	33.8	-95.14	-95.14	1,396.7	-369.0	1,105.0	1,037.0	68.01	16.249	
8,366.1	6,468.6	8,415.9	6,569.0	36.3	35.0	-95.16	-95.16	1,462.8	-369.0	1,105.1	1,034.8	70.24	15.732	
8,400.0	6,468.4	8,449.8	6,569.0	36.9	35.5	-95.17	-95.17	1,496.7	-369.0	1,105.1	1,033.7	71.39	15.479	
8,464.5	6,468.0	8,514.3	6,569.0	38.0	36.7	-95.19	-95.19	1,561.3	-369.0	1,105.1	1,031.5	73.60	15.015	
8,500.0	6,467.8	8,549.8	6,569.0	38.6	37.3	-95.20	-95.20	1,596.7	-369.0	1,105.1	1,030.3	74.82	14.771	
8,563.0	6,467.4	8,612.8	6,569.0	39.6	38.4	-95.22	-95.22	1,659.7	-369.0	1,105.2	1,028.2	77.00	14.353	
8,600.0	6,467.1	8,649.8	6,569.0	40.3	39.0	-95.24	-95.24	1,696.7	-369.0	1,105.2	1,026.9	78.29	14.117	
8,661.4	6,466.8	8,711.2	6,569.0	41.3	40.1	-95.26	-95.26	1,758.1	-369.0	1,105.2	1,024.8	80.43	13.741	
8,700.0	6,466.5	8,749.8	6,569.0	42.0	40.8	-95.27	-95.27	1,796.7	-369.0	1,105.2	1,023.5	81.78	13.514	
8,759.8	6,466.1	8,809.6	6,569.0	43.0	41.9	-95.29	-95.29	1,856.5	-369.0	1,105.3	1,021.4	83.89	13.175	
8,800.0	6,465.9	8,849.8	6,569.0	43.7	42.6	-95.30	-95.30	1,896.7	-369.0	1,105.3	1,020.0	85.31	12.957	
8,858.2	6,465.5	8,908.0	6,569.0	44.8	43.6	-95.32	-95.32	1,954.9	-369.0	1,105.3	1,018.0	87.37	12.651	
8,900.0	6,465.3	8,949.8	6,569.0	45.5	44.4	-95.33	-95.33	1,996.7	-369.0	1,105.4	1,016.5	88.86	12.440	
8,956.7	6,464.9	9,006.5	6,569.0	46.5	45.4	-95.35	-95.35	2,053.4	-369.0	1,105.4	1,014.5	90.88	12.163	
9,000.0	6,464.7	9,049.8	6,569.0	47.3	46.2	-95.36	-95.36	2,096.7	-369.0	1,105.4	1,013.0	92.43	11.960	
9,055.1	6,464.3	9,104.9	6,569.0	48.2	47.2	-95.38	-95.38	2,151.8	-369.0	1,105.4	1,011.0	94.41	11.710	
9,100.0	6,464.0	9,149.8	6,569.0	49.0	48.0	-95.40	-95.40	2,196.7	-369.0	1,105.5	1,009.5	96.02	11.513	
9,153.5	6,463.7	9,203.3	6,569.0	50.0	48.9	-95.41	-95.41	2,250.2	-369.0	1,105.5	1,007.6	97.95	11.286	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-401 - ORIGINAL WELLBORE - PROPOSAL #													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
9,200.0	6,463.4	9,249.8	6,569.0	50.8	49.8	-95.43	-95.43	2,296.7	-369.0	1,105.5	1,005.9	99.63	11.097	
9,251.9	6,463.1	9,301.7	6,569.0	51.8	50.7	-95.45	-95.45	2,348.6	-369.0	1,105.6	1,004.1	101.51	10.891	
9,300.0	6,462.8	9,349.8	6,569.0	52.6	51.6	-95.46	-95.46	2,396.7	-369.0	1,105.6	1,002.3	103.25	10.708	
9,350.4	6,462.5	9,400.2	6,569.0	53.5	52.5	-95.48	-95.48	2,447.1	-369.0	1,105.6	1,000.5	105.08	10.522	
9,400.0	6,462.2	9,449.8	6,569.0	54.4	53.5	-95.49	-95.49	2,496.7	-369.0	1,105.6	998.8	106.89	10.344	
9,448.8	6,461.9	9,498.6	6,569.0	55.3	54.3	-95.51	-95.51	2,545.5	-369.0	1,105.7	997.0	108.67	10.175	
9,500.0	6,461.5	9,549.8	6,569.0	56.2	55.3	-95.52	-95.52	2,596.7	-369.0	1,105.7	995.2	110.54	10.003	
9,547.2	6,461.2	9,597.0	6,569.0	57.1	56.2	-95.54	-95.54	2,643.9	-369.0	1,105.7	993.5	112.27	9.849	
9,600.0	6,460.9	9,649.8	6,569.0	58.1	57.1	-95.56	-95.56	2,696.7	-369.0	1,105.8	991.6	114.20	9.683	
9,645.6	6,460.6	9,695.4	6,569.0	58.9	58.0	-95.57	-95.57	2,742.3	-369.0	1,105.8	989.9	115.87	9.543	
9,700.0	6,460.3	9,749.8	6,569.0	59.9	59.0	-95.59	-95.59	2,796.7	-369.0	1,105.8	988.0	117.87	9.382	
9,744.1	6,460.0	9,793.8	6,569.0	60.7	59.8	-95.60	-95.60	2,840.8	-369.0	1,105.9	986.4	119.49	9.255	
9,800.0	6,459.7	9,849.8	6,569.0	61.7	60.8	-95.62	-95.62	2,896.7	-369.0	1,105.9	984.3	121.55	9.098	
9,842.5	6,459.4	9,892.3	6,569.0	62.5	61.6	-95.63	-95.63	2,939.2	-369.0	1,105.9	982.8	123.11	8.983	
9,900.0	6,459.0	9,949.8	6,569.0	63.6	62.7	-95.65	-95.65	2,996.7	-369.0	1,106.0	980.7	125.24	8.831	
9,940.9	6,458.8	9,990.7	6,569.0	64.3	63.5	-95.67	-95.67	3,037.6	-369.0	1,106.0	979.2	126.75	8.726	
10,000.0	6,458.4	10,049.8	6,569.0	65.4	64.6	-95.69	-95.69	3,096.7	-369.0	1,106.0	977.1	128.93	8.578	
10,039.3	6,458.2	10,089.1	6,569.0	66.1	65.3	-95.70	-95.70	3,136.0	-369.0	1,106.0	975.7	130.39	8.483	
10,100.0	6,457.8	10,149.8	6,569.0	67.2	66.4	-95.72	-95.72	3,196.7	-369.0	1,106.1	973.4	132.63	8.339	
10,137.8	6,457.6	10,187.5	6,569.0	67.9	67.1	-95.73	-95.73	3,234.4	-369.0	1,106.1	972.1	134.03	8.252	
10,200.0	6,457.2	10,249.8	6,569.0	69.1	68.3	-95.75	-95.75	3,296.7	-369.0	1,106.1	969.8	136.34	8.113	
10,236.2	6,456.9	10,286.0	6,569.0	69.8	69.0	-95.76	-95.76	3,332.9	-369.0	1,106.2	968.5	137.69	8.034	
10,300.0	6,456.5	10,349.8	6,569.0	70.9	70.2	-95.78	-95.78	3,396.7	-369.0	1,106.2	966.1	140.06	7.898	
10,334.6	6,456.3	10,384.4	6,569.0	71.6	70.8	-95.79	-95.79	3,431.3	-369.0	1,106.2	964.9	141.34	7.827	
10,400.0	6,455.9	10,449.8	6,569.0	72.8	72.0	-95.81	-95.81	3,496.7	-369.0	1,106.3	962.5	143.77	7.694	
10,433.0	6,455.7	10,482.8	6,569.0	73.4	72.6	-95.83	-95.83	3,529.7	-369.0	1,106.3	961.3	145.00	7.629	
10,500.0	6,455.3	10,549.8	6,569.0	74.7	73.9	-95.85	-95.85	3,596.7	-369.0	1,106.3	958.8	147.50	7.501	
10,531.5	6,455.1	10,581.2	6,569.0	75.2	74.5	-95.86	-95.86	3,628.1	-369.0	1,106.4	957.7	148.67	7.442	
10,600.0	6,454.7	10,649.8	6,569.0	76.5	75.8	-95.88	-95.88	3,696.7	-369.0	1,106.4	955.2	151.23	7.316	
10,629.9	6,454.5	10,679.7	6,569.0	77.1	76.3	-95.89	-95.89	3,726.6	-369.0	1,106.4	954.1	152.34	7.263	
10,700.0	6,454.0	10,749.8	6,569.0	78.4	77.7	-95.91	-95.91	3,796.7	-369.0	1,106.5	951.5	154.96	7.140	
10,728.3	6,453.9	10,778.1	6,569.0	78.9	78.2	-95.92	-95.92	3,825.0	-369.0	1,106.5	950.5	156.02	7.092	
10,800.0	6,453.4	10,849.8	6,569.0	80.3	79.5	-95.94	-95.94	3,896.7	-369.0	1,106.5	947.8	158.70	6.973	
10,826.7	6,453.2	10,876.5	6,569.0	80.8	80.0	-95.95	-95.95	3,923.4	-369.0	1,106.5	946.8	159.70	6.929	
10,900.0	6,452.8	10,949.7	6,569.0	82.1	81.4	-95.98	-95.98	3,996.7	-369.0	1,106.6	944.2	162.43	6.813	
10,925.2	6,452.6	10,974.9	6,569.0	82.6	81.9	-95.98	-95.98	4,021.8	-369.0	1,106.6	943.2	163.38	6.773	
11,000.0	6,452.1	11,050.3	6,569.0	84.0	83.3	-96.01	-96.01	4,097.2	-369.0	1,106.6	940.4	166.19	6.659	
11,007.6	6,452.1	11,057.8	6,569.0	84.1	83.5	-96.01	-96.01	4,104.7	-368.9	1,106.6	940.2	166.47	6.648	
11,023.6	6,452.0	11,069.8	6,569.0	84.4	83.7	-96.02	-96.02	4,116.7	-368.9	1,106.6	939.7	167.00	6.627	
11,023.7	6,452.0	11,069.8	6,569.0	84.4	83.7	-96.02	-96.02	4,116.7	-368.9	1,106.6	939.7	167.00	6.627	
11,024.4	6,452.0	11,069.8	6,569.0	84.5	83.7	-96.02	-96.02	4,116.7	-368.9	1,106.7	939.6	167.01	6.626 SF	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.00	-90.00	0.0	-48.5	48.5				
98.4	98.4	98.4	98.4	0.1	0.1	-90.00	-90.00	0.0	-48.5	48.5	48.3	0.19	252.503	
100.0	100.0	100.0	100.0	0.1	0.1	-90.00	-90.00	0.0	-48.5	48.5	48.3	0.20	248.229	
196.8	196.8	196.8	196.8	0.3	0.3	-90.00	-90.00	0.0	-48.5	48.5	47.9	0.63	76.936	
200.0	200.0	200.0	200.0	0.3	0.3	-90.00	-90.00	0.0	-48.5	48.5	47.9	0.65	75.247	
295.3	295.3	295.3	295.3	0.5	0.5	-90.00	-90.00	0.0	-48.5	48.5	47.5	1.07	45.222	
300.0	300.0	300.0	300.0	0.5	0.5	-90.00	-90.00	0.0	-48.5	48.5	47.4	1.09	44.345	
393.7	393.7	393.7	393.7	0.8	0.8	-90.00	-90.00	0.0	-48.5	48.5	47.0	1.52	32.022	
400.0	400.0	400.0	400.0	0.8	0.8	-90.00	-90.00	0.0	-48.5	48.5	47.0	1.54	31.435	
492.1	492.1	492.1	492.1	1.0	1.0	-90.00	-90.00	0.0	-48.5	48.5	46.6	1.96	24.787	
500.0	500.0	500.0	500.0	1.0	1.0	-90.00	-90.00	0.0	-48.5	48.5	46.5	1.99	24.347	
590.5	590.5	590.5	590.5	1.2	1.2	-90.00	-90.00	0.0	-48.5	48.5	46.1	2.40	20.219	
600.0	600.0	600.0	600.0	1.2	1.2	-90.00	-90.00	0.0	-48.5	48.5	46.1	2.44	19.867	
689.0	689.0	689.0	689.0	1.4	1.4	-90.00	-90.00	0.0	-48.5	48.5	45.7	2.84	17.073	
700.0	700.0	700.0	700.0	1.4	1.4	-90.00	-90.00	0.0	-48.5	48.5	45.6	2.89	16.780	
787.4	787.4	787.4	787.4	1.6	1.6	-90.00	-90.00	0.0	-48.5	48.5	45.3	3.29	14.774	
800.0	800.0	800.0	800.0	1.7	1.7	-90.00	-90.00	0.0	-48.5	48.5	45.2	3.34	14.523	
885.8	885.8	885.8	885.8	1.9	1.9	-90.00	-90.00	0.0	-48.5	48.5	44.8	3.73	13.020	
900.0	900.0	900.0	900.0	1.9	1.9	-90.00	-90.00	0.0	-48.5	48.5	44.7	3.79	12.801	
984.2	984.2	984.2	984.2	2.1	2.1	-90.00	-90.00	0.0	-48.5	48.5	44.4	4.17	11.639	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-90.00	-90.00	0.0	-48.5	48.5	44.3	4.24	11.445	
1,025.0	1,025.0	1,025.0	1,025.0	2.2	2.2	-90.00	-90.00	0.0	-48.5	48.5	44.2	4.35	11.149 CC, ES	
1,082.7	1,082.7	1,082.7	1,082.7	2.3	2.3	139.87	139.87	0.0	-48.5	49.0	44.4	4.60	10.650	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	140.17	140.17	0.0	-48.5	49.3	44.6	4.67	10.549	
1,181.1	1,181.0	1,181.0	1,181.0	2.5	2.5	142.45	142.45	0.0	-48.5	51.8	46.8	5.00	10.365	
1,200.0	1,199.9	1,199.9	1,199.9	2.5	2.6	143.16	143.16	0.0	-48.5	52.7	47.6	5.08	10.381	
1,279.5	1,279.2	1,280.1	1,280.1	2.7	2.7	145.78	145.78	-1.0	-48.0	57.0	51.6	5.38	10.580	
1,300.0	1,299.6	1,300.8	1,300.7	2.7	2.8	146.29	146.29	-1.6	-47.7	58.2	52.7	5.46	10.651	
1,377.9	1,377.1	1,379.5	1,379.4	2.9	2.9	147.71	147.71	-5.0	-45.9	63.1	57.4	5.75	10.981	
1,400.0	1,398.9	1,401.8	1,401.6	2.9	3.0	147.97	147.97	-6.3	-45.2	64.6	58.8	5.83	11.088	
1,476.4	1,474.5	1,479.1	1,478.6	3.1	3.1	148.47	148.47	-12.0	-42.2	70.2	64.1	6.13	11.454	
1,500.0	1,497.8	1,503.0	1,502.4	3.2	3.1	148.51	148.51	-14.2	-41.1	72.0	65.8	6.22	11.578	
1,574.8	1,571.4	1,578.7	1,577.6	3.4	3.3	148.35	148.35	-22.1	-36.9	78.1	71.5	6.53	11.949	
1,600.0	1,596.1	1,604.2	1,602.9	3.5	3.4	148.20	148.20	-25.2	-35.3	80.2	73.6	6.64	12.082	
1,673.2	1,667.7	1,678.4	1,676.2	3.7	3.5	147.58	147.58	-35.3	-30.0	86.8	79.8	6.98	12.430	
1,696.9	1,690.8	1,702.5	1,699.9	3.8	3.6	147.32	147.32	-38.9	-28.1	89.0	81.9	7.09	12.549	
1,700.0	1,693.8	1,705.6	1,703.0	3.8	3.6	147.28	147.28	-39.4	-27.9	89.3	82.2	7.11	12.560	
1,771.6	1,763.5	1,778.3	1,774.4	4.1	3.8	146.10	146.10	-51.5	-21.5	95.5	88.0	7.51	12.722	
1,800.0	1,791.0	1,807.0	1,802.4	4.2	3.9	145.43	145.43	-56.7	-18.8	97.7	90.0	7.67	12.738	
1,870.1	1,859.2	1,876.8	1,870.7	4.5	4.1	143.84	143.84	-69.6	-12.0	103.1	95.0	8.11	12.714	
1,900.0	1,888.3	1,906.6	1,899.9	4.6	4.2	143.20	143.20	-75.0	-9.1	105.4	97.1	8.30	12.705	
1,968.5	1,954.9	1,974.8	1,966.6	4.9	4.5	141.86	141.86	-87.6	-2.5	110.8	102.0	8.75	12.652	
2,000.0	1,985.6	2,006.2	1,997.3	5.1	4.6	141.28	141.28	-93.4	0.5	113.2	104.3	8.97	12.623	
2,066.9	2,050.7	2,072.9	2,062.5	5.4	4.8	140.14	140.14	-105.7	6.9	118.6	109.1	9.45	12.550	
2,100.0	2,082.8	2,105.8	2,094.8	5.5	4.9	139.61	139.61	-111.7	10.1	121.2	111.5	9.69	12.513	
2,165.3	2,146.4	2,170.9	2,158.5	5.8	5.2	138.63	138.63	-123.7	16.4	126.4	116.3	10.17	12.430	
2,200.0	2,180.1	2,205.5	2,192.2	6.0	5.3	138.14	138.14	-130.1	19.8	129.2	118.8	10.43	12.387	
2,263.8	2,242.1	2,269.0	2,254.4	6.3	5.6	137.30	137.30	-141.8	25.9	134.4	123.5	10.93	12.302	
2,300.0	2,277.3	2,305.1	2,289.7	6.4	5.7	136.85	136.85	-148.4	29.4	137.3	126.1	11.21	12.255	
2,362.2	2,337.8	2,367.1	2,350.3	6.7	6.0	136.11	136.11	-159.8	35.4	142.4	130.7	11.70	12.171	
2,400.0	2,374.6	2,404.7	2,387.1	6.9	6.1	135.70	135.70	-166.8	39.0	145.5	133.5	12.00	12.123	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
2,460.6	2,433.6	2,465.1	2,446.2	7.2	6.4	135.06	-177.9	44.9	150.5	138.0	12.50	12.043	
2,500.0	2,471.9	2,504.3	2,484.6	7.4	6.5	134.67	-185.1	48.7	153.7	140.9	12.82	11.994	
2,559.0	2,529.3	2,563.2	2,542.1	7.6	6.8	134.11	-195.9	54.3	158.6	145.3	13.31	11.919	
2,600.0	2,569.1	2,604.0	2,582.0	7.8	7.0	133.75	-203.5	58.3	162.0	148.4	13.65	11.870	
2,657.5	2,625.0	2,661.2	2,638.0	8.1	7.2	133.26	-214.0	63.8	166.8	152.6	14.13	11.801	
2,700.0	2,666.4	2,703.6	2,679.5	8.3	7.4	132.91	-221.8	67.9	170.3	155.8	14.49	11.752	
2,755.9	2,720.8	2,759.3	2,733.9	8.6	7.6	132.48	-232.1	73.3	175.0	160.0	14.97	11.689	
2,800.0	2,763.7	2,803.2	2,776.9	8.8	7.8	132.16	-240.2	77.6	178.7	163.3	15.35	11.641	
2,854.3	2,816.5	2,857.3	2,829.8	9.1	8.0	131.78	-250.1	82.8	183.2	167.4	15.82	11.584	
2,900.0	2,860.9	2,902.8	2,874.4	9.3	8.2	131.47	-258.5	87.2	187.0	170.8	16.21	11.538	
2,952.7	2,912.2	2,955.4	2,925.8	9.6	8.5	131.13	-268.2	92.3	191.4	174.8	16.67	11.485	
3,000.0	2,958.2	3,002.5	2,971.8	9.8	8.7	130.84	-276.8	96.8	195.4	178.3	17.08	11.440	
3,051.2	3,008.0	3,053.5	3,021.7	10.0	8.9	130.54	-286.2	101.8	199.7	182.2	17.53	11.393	
3,100.0	3,055.4	3,102.1	3,069.2	10.3	9.1	130.26	-295.2	106.5	203.8	185.9	17.96	11.350	
3,149.6	3,103.7	3,151.5	3,117.6	10.5	9.3	129.99	-304.3	111.2	208.0	189.6	18.40	11.307	
3,200.0	3,152.7	3,201.7	3,166.7	10.8	9.5	129.73	-313.5	116.1	212.3	193.4	18.84	11.265	
3,248.0	3,199.4	3,249.6	3,213.5	11.0	9.8	129.49	-322.3	120.7	216.3	197.0	19.27	11.226	
3,300.0	3,250.0	3,301.3	3,264.1	11.3	10.0	129.24	-331.9	125.7	220.7	201.0	19.73	11.186	
3,346.4	3,295.1	3,347.6	3,309.4	11.5	10.2	129.03	-340.4	130.2	224.6	204.5	20.15	11.151	
3,400.0	3,347.2	3,401.0	3,361.6	11.8	10.4	128.79	-350.2	135.4	229.2	208.5	20.62	11.112	
3,444.9	3,390.9	3,445.7	3,405.3	12.0	10.6	128.59	-358.4	139.7	233.0	211.9	21.03	11.080	
3,500.0	3,444.5	3,500.6	3,459.0	12.3	10.9	128.36	-368.6	145.0	237.6	216.1	21.52	11.043	
3,543.3	3,486.6	3,543.7	3,501.2	12.5	11.1	128.19	-376.5	149.2	241.3	219.4	21.91	11.014	
3,600.0	3,541.8	3,600.2	3,556.5	12.8	11.3	127.97	-386.9	154.6	246.1	223.7	22.42	10.978	
3,641.7	3,582.3	3,641.8	3,597.1	13.0	11.5	127.81	-394.6	158.6	249.7	226.9	22.80	10.952	
3,700.0	3,639.0	3,699.8	3,653.9	13.3	11.8	127.60	-405.3	164.2	254.6	231.3	23.32	10.918	
3,740.1	3,678.1	3,739.8	3,693.1	13.5	12.0	127.46	-412.6	168.1	258.1	234.4	23.69	10.894	
3,800.0	3,736.3	3,799.5	3,751.4	13.8	12.2	127.26	-423.6	173.9	263.1	238.9	24.23	10.861	
3,838.6	3,773.8	3,837.9	3,789.0	14.0	12.4	127.13	-430.7	177.6	266.4	241.9	24.58	10.840	
3,900.0	3,833.5	3,899.1	3,848.8	14.3	12.7	126.94	-441.9	183.5	271.7	246.5	25.14	10.807	
3,937.0	3,869.5	3,936.0	3,884.9	14.5	12.8	126.83	-448.7	187.1	274.8	249.3	25.47	10.788	
4,000.0	3,930.8	3,998.7	3,946.3	14.8	13.1	126.64	-460.3	193.1	280.2	254.1	26.05	10.757	
4,035.4	3,965.3	4,034.0	3,980.8	15.0	13.3	126.53	-466.8	196.6	283.2	256.8	26.37	10.740	
4,100.0	4,028.1	4,098.3	4,043.7	15.3	13.6	126.35	-478.6	202.8	288.7	261.8	26.96	10.710	
4,133.8	4,061.0	4,132.1	4,076.7	15.5	13.7	126.26	-484.8	206.0	291.6	264.3	27.27	10.694	
4,200.0	4,125.3	4,198.0	4,141.2	15.8	14.0	126.09	-497.0	212.4	297.3	269.4	27.87	10.665	
4,232.3	4,156.7	4,230.1	4,172.6	16.0	14.2	126.00	-502.9	215.5	300.0	271.9	28.17	10.651	
4,300.0	4,222.6	4,297.6	4,238.6	16.3	14.5	125.83	-515.3	222.0	305.8	277.0	28.79	10.623	
4,330.7	4,252.4	4,328.2	4,268.5	16.5	14.6	125.76	-520.9	225.0	308.4	279.4	29.07	10.611	
4,400.0	4,319.8	4,397.2	4,336.1	16.8	14.9	125.59	-533.7	231.7	314.4	284.7	29.70	10.583	
4,429.1	4,348.2	4,426.2	4,364.4	17.0	15.1	125.53	-539.0	234.5	316.9	286.9	29.97	10.572	
4,500.0	4,417.1	4,496.9	4,433.5	17.3	15.4	125.37	-552.0	241.3	322.9	292.3	30.62	10.546	
4,527.5	4,443.9	4,524.3	4,460.4	17.5	15.5	125.31	-557.1	244.0	325.3	294.4	30.87	10.536	
4,600.0	4,514.4	4,596.5	4,531.0	17.8	15.8	125.15	-570.4	250.9	331.5	299.9	31.54	10.510	
4,626.0	4,539.6	4,621.7	4,555.7	17.9	15.9	125.11	-574.9	253.3	333.7	302.0	31.74	10.513	
4,700.0	4,611.6	4,693.4	4,626.1	18.3	16.2	125.21	-586.8	259.6	340.4	308.2	32.28	10.545	
4,724.4	4,635.4	4,717.0	4,649.3	18.4	16.2	125.31	-590.4	261.5	342.7	310.3	32.45	10.563	
4,800.0	4,709.9	4,790.0	4,721.4	18.8	16.4	125.79	-600.4	266.7	350.2	317.3	32.92	10.638	
4,822.8	4,731.1	4,812.0	4,743.2	18.9	16.5	125.99	-603.1	268.1	352.6	319.5	33.05	10.668	
4,900.0	4,806.2	4,886.1	4,816.8	19.3	16.7	126.83	-611.1	272.3	360.9	327.5	33.45	10.791	
4,921.2	4,826.8	4,906.4	4,837.0	19.4	16.7	127.10	-613.0	273.3	363.3	329.8	33.55	10.831	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-241 - ORIGINAL WELLBORE - PROPOSAL													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
5,000.0	4,903.4	4,981.5	4,911.7	19.8	16.9	128.28		-618.9	276.4	372.7	338.8	33.86	11.007	
5,019.7	4,922.6	5,000.0	4,930.2	19.9	16.9	128.60		-620.1	277.1	375.2	341.2	33.93	11.057	
5,100.0	5,000.7	5,076.0	5,006.1	20.4	17.1	130.07		-623.9	279.0	385.8	351.6	34.16	11.293	
5,118.1	5,018.3	5,093.0	5,023.0	20.4	17.1	130.42		-624.5	279.4	388.3	354.1	34.21	11.352	
5,166.2	5,065.0	5,137.9	5,068.0	20.7	17.2	131.41		-625.6	280.0	395.3	361.0	34.30	11.523	
5,200.0	5,098.0	5,169.4	5,099.5	20.8	17.2	132.20		-626.1	280.2	400.3	365.9	34.34	11.656	
5,216.5	5,114.1	5,184.8	5,114.8	20.9	17.2	132.57		-626.2	280.2	402.7	368.3	34.35	11.724	
5,300.0	5,195.9	5,265.8	5,195.9	21.2	17.3	134.41		-626.2	280.3	414.3	380.0	34.36	12.057	
5,314.9	5,210.6	5,280.5	5,210.6	21.2	17.3	134.71		-626.2	280.3	416.3	381.9	34.37	12.113	
5,400.0	5,294.4	5,364.4	5,294.4	21.5	17.4	136.20		-626.2	280.3	426.5	392.1	34.41	12.393	
5,413.4	5,307.7	5,377.6	5,307.7	21.5	17.5	136.40		-626.2	280.3	427.9	393.5	34.42	12.433	
5,500.0	5,393.5	5,463.5	5,393.5	21.7	17.6	137.55		-626.2	280.3	436.4	401.9	34.50	12.649	
5,511.8	5,405.2	5,475.2	5,405.2	21.8	17.6	137.69		-626.2	280.3	437.4	402.9	34.51	12.675	
5,600.0	5,493.0	5,563.0	5,493.0	22.0	17.7	138.53		-626.2	280.3	443.9	409.2	34.62	12.821	
5,610.2	5,503.2	5,573.1	5,503.2	22.0	17.7	138.61		-626.2	280.3	444.5	409.8	34.63	12.835	
5,700.0	5,592.8	5,662.7	5,592.8	22.1	17.8	139.15		-626.2	280.3	448.8	414.0	34.77	12.907	
5,708.6	5,601.4	5,671.4	5,601.4	22.1	17.8	139.18		-626.2	280.3	449.1	414.3	34.79	12.911	
5,800.0	5,692.7	5,762.7	5,692.7	22.3	18.0	139.43		-626.2	280.3	451.1	416.2	34.96	12.905	
5,807.1	5,699.8	5,769.8	5,699.8	22.3	18.0	139.44		-626.2	280.3	451.2	416.2	34.97	12.902	
5,838.1	5,730.8	5,800.7	5,730.8	22.3	18.0	-89.90		-625.6	280.3	451.3	416.3	35.02	12.889	
5,868.1	5,760.8	5,830.6	5,760.6	22.3	18.0	-89.66		-623.7	280.3	451.3	416.3	35.02	12.886	
5,900.0	5,792.7	5,862.2	5,792.0	22.4	18.0	-89.32		-620.4	280.3	451.4	416.4	35.00	12.896	
5,905.5	5,798.2	5,867.7	5,797.4	22.4	18.0	-89.26		-619.6	280.3	451.4	416.4	34.99	12.900	
5,950.0	5,842.6	5,911.6	5,840.7	22.4	18.0	-88.80		-612.4	280.3	451.4	416.5	34.91	12.933	
6,000.0	5,892.0	5,960.6	5,888.4	22.4	18.0	-88.28		-601.2	280.3	451.5	416.8	34.75	12.993	
6,003.9	5,895.8	5,964.4	5,892.1	22.4	18.0	-88.24		-600.2	280.3	451.5	416.8	34.74	12.999	
6,050.0	5,940.8	6,009.4	5,935.0	22.4	17.9	-87.78		-586.8	280.3	451.7	417.1	34.55	13.073	
6,100.0	5,988.7	6,057.9	5,980.3	22.3	17.8	-87.28		-569.4	280.3	451.8	417.5	34.30	13.173	
6,102.3	5,990.9	6,060.2	5,982.4	22.3	17.8	-87.26		-568.5	280.3	451.8	417.6	34.29	13.178	
6,150.0	6,035.5	6,106.2	6,024.1	22.2	17.7	-86.80		-549.1	280.3	452.0	418.0	34.02	13.288	
6,200.0	6,081.0	6,154.2	6,066.2	22.2	17.6	-86.34		-526.0	280.3	452.2	418.5	33.71	13.417	
6,200.8	6,081.7	6,155.0	6,066.9	22.2	17.6	-86.33		-525.6	280.3	452.3	418.5	33.70	13.419	
6,250.0	6,124.9	6,202.1	6,106.5	22.0	17.5	-85.90		-500.2	280.3	452.5	419.1	33.38	13.555	
6,299.2	6,166.4	6,250.0	6,145.1	21.9	17.3	-85.47		-471.7	280.3	452.7	419.7	33.05	13.698	
6,300.0	6,167.0	6,250.0	6,145.1	21.9	17.3	-85.47		-471.7	280.3	452.7	419.7	33.05	13.699	
6,350.0	6,207.2	6,297.1	6,181.0	21.8	17.2	-85.07		-441.3	280.3	453.0	420.3	32.72	13.843	
6,397.6	6,243.4	6,342.1	6,213.4	21.6	17.1	-84.71		-410.1	280.3	453.3	420.8	32.43	13.976	
6,400.0	6,245.2	6,344.3	6,215.0	21.6	17.0	-84.69		-408.5	280.3	453.3	420.9	32.42	13.983	
6,450.0	6,280.8	6,391.4	6,246.6	21.5	16.9	-84.34		-373.7	280.3	453.5	421.4	32.13	14.114	
6,496.0	6,311.4	6,434.6	6,273.6	21.3	16.8	-84.04		-339.9	280.3	453.8	421.9	31.91	14.220	
6,500.0	6,313.9	6,438.3	6,275.8	21.3	16.8	-84.01		-337.0	280.3	453.8	421.9	31.89	14.229	
6,550.0	6,344.3	6,485.1	6,302.4	21.2	16.6	-83.71		-298.5	280.3	454.1	422.4	31.70	14.324	
6,594.5	6,368.9	6,526.6	6,323.9	21.0	16.5	-83.47		-263.1	280.3	454.3	422.7	31.58	14.386	
6,600.0	6,371.8	6,531.7	6,326.5	21.0	16.5	-83.44		-258.6	280.3	454.3	422.7	31.56	14.393	
6,650.0	6,396.4	6,578.2	6,347.8	20.8	16.4	-83.20		-217.2	280.3	454.5	423.0	31.50	14.430	
6,692.9	6,415.0	6,618.1	6,363.8	20.7	16.3	-83.02		-180.8	280.3	454.7	423.2	31.50	14.434	
6,700.0	6,417.9	6,624.7	6,366.3	20.7	16.3	-82.99		-174.7	280.3	454.7	423.2	31.50	14.434	
6,750.0	6,436.2	6,671.0	6,382.0	20.5	16.2	-82.82		-131.1	280.3	454.9	423.3	31.59	14.400	
6,791.3	6,448.8	6,709.3	6,392.9	20.4	16.2	-82.69		-94.4	280.3	455.0	423.3	31.73	14.342	
6,800.0	6,451.1	6,717.3	6,394.9	20.3	16.2	-82.67		-86.6	280.3	455.0	423.3	31.76	14.327	
6,850.0	6,462.8	6,763.5	6,404.8	20.2	16.2	-82.56		-41.5	280.3	455.2	423.1	32.02	14.216	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-241 - ORIGINAL WELLBORE - PROPOSAL													Offset Site Error:	0.0 usft
Survey Program: 0-MWDD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
6,889.7	6,469.6	6,800.0	6,410.6	20.1	16.2	-82.49	-82.49	-5.5	280.3	455.2	422.9	32.28	14.102	
6,900.0	6,471.0	6,809.7	6,411.8	20.0	16.3	-82.48	-82.48	4.1	280.3	455.2	422.9	32.36	14.069	
6,950.0	6,475.7	6,855.8	6,415.9	19.9	16.4	-82.44	-82.44	50.1	280.3	455.3	422.5	32.78	13.888	
6,988.2	6,477.0	6,891.0	6,417.0	19.8	16.5	-82.43	-82.43	85.3	280.3	455.3	422.1	33.16	13.728	
6,997.5	6,477.0	6,900.0	6,417.0	19.8	16.6	-82.43	-82.43	94.3	280.3	455.3	422.0	33.26	13.689	
7,000.0	6,477.0	6,902.1	6,417.0	19.8	16.6	-82.43	-82.43	96.4	280.3	455.3	422.0	33.29	13.678	
7,003.5	6,477.0	6,905.7	6,417.0	19.8	16.6	-82.43	-82.43	99.9	280.3	455.3	422.0	33.33	13.659	
7,086.6	6,476.5	6,988.7	6,416.5	19.6	17.1	-82.43	-82.43	183.0	280.3	455.3	420.9	34.41	13.229	
7,100.0	6,476.4	7,002.1	6,416.4	19.6	17.2	-82.43	-82.43	196.4	280.3	455.3	420.7	34.59	13.161	
7,185.0	6,475.9	7,087.1	6,415.9	19.7	18.0	-82.43	-82.43	281.4	280.3	455.3	419.3	36.00	12.648	
7,200.0	6,475.8	7,102.1	6,415.8	19.8	18.1	-82.43	-82.43	296.4	280.3	455.3	419.0	36.25	12.561	
7,283.4	6,475.2	7,185.6	6,415.3	20.4	19.0	-82.43	-82.43	379.8	280.3	455.3	417.4	37.87	12.024	
7,300.0	6,475.1	7,202.1	6,415.2	20.6	19.2	-82.43	-82.43	396.4	280.3	455.3	417.1	38.19	11.922	
7,381.9	6,474.6	7,284.0	6,414.7	21.5	20.1	-82.43	-82.43	478.2	280.3	455.3	415.3	40.00	11.381	
7,400.0	6,474.5	7,302.1	6,414.6	21.8	20.4	-82.44	-82.44	496.4	280.3	455.3	414.9	40.41	11.267	
7,480.3	6,474.0	7,382.4	6,414.1	22.8	21.4	-82.44	-82.44	576.7	280.3	455.3	412.9	42.37	10.746	
7,500.0	6,473.9	7,402.1	6,414.0	23.0	21.6	-82.44	-82.44	596.4	280.3	455.3	412.4	42.85	10.624	
7,578.7	6,473.4	7,480.8	6,413.5	24.1	22.7	-82.44	-82.44	675.1	280.3	455.3	410.4	44.92	10.135	
7,600.0	6,473.3	7,502.1	6,413.4	24.4	23.0	-82.44	-82.44	696.4	280.3	455.3	409.8	45.48	10.009	
7,677.1	6,472.8	7,579.3	6,413.0	25.5	24.1	-82.44	-82.44	773.5	280.3	455.3	407.6	47.64	9.557	
7,700.0	6,472.7	7,602.1	6,412.8	25.8	24.5	-82.44	-82.44	796.4	280.3	455.3	407.0	48.28	9.431	
7,775.6	6,472.2	7,677.7	6,412.4	26.9	25.6	-82.45	-82.45	871.9	280.3	455.3	404.8	50.48	9.018	
7,800.0	6,472.1	7,702.1	6,412.2	27.3	26.0	-82.45	-82.45	896.4	280.3	455.3	404.1	51.20	8.892	
7,874.0	6,471.6	7,776.1	6,411.8	28.4	27.1	-82.45	-82.45	970.3	280.3	455.3	401.8	53.44	8.519	
7,900.0	6,471.5	7,802.1	6,411.6	28.8	27.5	-82.45	-82.45	996.3	280.3	455.3	401.0	54.23	8.395	
7,972.4	6,471.0	7,874.5	6,411.2	29.9	28.7	-82.45	-82.45	1,068.8	280.3	455.3	398.8	56.50	8.058	
8,000.0	6,470.8	7,902.1	6,411.0	30.3	29.1	-82.45	-82.45	1,096.3	280.3	455.3	397.9	57.36	7.937	
8,070.8	6,470.4	7,973.0	6,410.6	31.4	30.2	-82.45	-82.45	1,167.2	280.3	455.3	395.6	59.63	7.635	
8,100.0	6,470.2	8,002.1	6,410.4	31.9	30.7	-82.45	-82.45	1,196.3	280.3	455.3	394.7	60.57	7.517	
8,169.3	6,469.8	8,071.4	6,410.0	33.0	31.9	-82.46	-82.46	1,265.6	280.3	455.3	392.4	62.83	7.246	
8,200.0	6,469.6	8,102.1	6,409.8	33.5	32.4	-82.46	-82.46	1,296.3	280.3	455.3	391.4	63.84	7.131	
8,267.7	6,469.2	8,169.8	6,409.4	34.7	33.5	-82.46	-82.46	1,364.0	280.3	455.3	389.2	66.09	6.888	
8,300.0	6,469.0	8,202.1	6,409.2	35.2	34.1	-82.46	-82.46	1,396.3	280.3	455.3	388.1	67.17	6.778	
8,366.1	6,468.6	8,268.2	6,408.9	36.3	35.2	-82.46	-82.46	1,462.5	280.3	455.3	385.9	69.40	6.560	
8,400.0	6,468.4	8,302.1	6,408.7	36.9	35.8	-82.46	-82.46	1,496.3	280.3	455.3	384.7	70.55	6.453	
8,464.5	6,468.0	8,366.7	6,408.3	38.0	36.9	-82.46	-82.46	1,560.9	280.3	455.3	382.5	72.76	6.257	
8,500.0	6,467.8	8,402.1	6,408.1	38.6	37.5	-82.47	-82.47	1,596.3	280.3	455.3	381.3	73.97	6.155	
8,563.0	6,467.4	8,465.1	6,407.7	39.6	38.6	-82.47	-82.47	1,659.3	280.3	455.3	379.1	76.15	5.979	
8,600.0	6,467.1	8,502.1	6,407.5	40.3	39.3	-82.47	-82.47	1,696.3	280.3	455.3	377.8	77.43	5.880	
8,661.4	6,466.8	8,563.5	6,407.1	41.3	40.3	-82.47	-82.47	1,757.7	280.3	455.3	375.7	79.57	5.721	
8,700.0	6,466.5	8,602.1	6,406.9	42.0	41.0	-82.47	-82.47	1,796.3	280.3	455.2	374.3	80.92	5.626	
8,759.8	6,466.1	8,661.9	6,406.5	43.0	42.1	-82.47	-82.47	1,856.2	280.3	455.2	372.2	83.02	5.483	
8,800.0	6,465.9	8,702.1	6,406.3	43.7	42.8	-82.47	-82.47	1,896.3	280.3	455.2	370.8	84.44	5.392	
8,858.2	6,465.5	8,760.4	6,405.9	44.8	43.8	-82.48	-82.48	1,954.6	280.3	455.2	368.7	86.50	5.263	
8,900.0	6,465.3	8,802.1	6,405.7	45.5	44.6	-82.48	-82.48	1,996.3	280.3	455.2	367.3	87.98	5.174	
8,956.7	6,464.9	8,858.8	6,405.3	46.5	45.6	-82.48	-82.48	2,053.0	280.3	455.2	365.2	90.00	5.058	
9,000.0	6,464.7	8,902.1	6,405.1	47.3	46.4	-82.48	-82.48	2,096.3	280.3	455.2	363.7	91.55	4.973	
9,055.1	6,464.3	8,957.2	6,404.7	48.2	47.4	-82.48	-82.48	2,151.4	280.3	455.2	361.7	93.52	4.868	
9,100.0	6,464.0	9,002.1	6,404.5	49.0	48.2	-82.48	-82.48	2,196.3	280.3	455.2	360.1	95.13	4.785	
9,153.5	6,463.7	9,055.6	6,404.2	50.0	49.2	-82.49	-82.49	2,249.8	280.3	455.2	358.2	97.06	4.690	
9,200.0	6,463.4	9,102.1	6,403.9	50.8	50.0	-82.49	-82.49	2,296.3	280.3	455.2	356.5	98.73	4.611	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-241 - ORIGINAL WELLBORE - PROPOSAL													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													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 (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,251.9	6,463.1	9,154.1	6,403.6	51.8	51.0	-82.49	-82.49	2,348.3	280.3	455.2	354.6	100.61	4.525	
9,300.0	6,462.8	9,202.1	6,403.3	52.6	51.8	-82.49	-82.49	2,396.3	280.3	455.2	352.9	102.35	4.448	
9,350.4	6,462.5	9,252.5	6,403.0	53.5	52.7	-82.49	-82.49	2,446.7	280.3	455.2	351.1	104.18	4.370	
9,400.0	6,462.2	9,302.1	6,402.7	54.4	53.7	-82.49	-82.49	2,496.3	280.3	455.2	349.3	105.98	4.295	
9,448.8	6,461.9	9,350.9	6,402.4	55.3	54.6	-82.49	-82.49	2,545.1	280.3	455.2	347.5	107.76	4.224	
9,500.0	6,461.5	9,402.1	6,402.1	56.2	55.5	-82.50	-82.50	2,596.3	280.3	455.2	345.6	109.63	4.153	
9,547.2	6,461.2	9,449.3	6,401.8	57.1	56.4	-82.50	-82.50	2,643.5	280.3	455.2	343.9	111.35	4.088	
9,600.0	6,460.9	9,502.1	6,401.5	58.1	57.3	-82.50	-82.50	2,696.3	280.3	455.2	341.9	113.28	4.019	
9,645.6	6,460.6	9,547.8	6,401.2	58.9	58.2	-82.50	-82.50	2,742.0	280.3	455.2	340.3	114.96	3.960	
9,700.0	6,460.3	9,602.1	6,400.9	59.9	59.2	-82.50	-82.50	2,796.3	280.3	455.2	338.3	116.95	3.893	
9,744.1	6,460.0	9,646.2	6,400.6	60.7	60.0	-82.50	-82.50	2,840.4	280.3	455.2	336.7	118.57	3.839	
9,800.0	6,459.7	9,702.1	6,400.3	61.7	61.0	-82.51	-82.51	2,896.3	280.3	455.2	334.6	120.62	3.774	
9,842.5	6,459.4	9,744.6	6,400.0	62.5	61.8	-82.51	-82.51	2,938.8	280.3	455.2	333.0	122.19	3.726	
9,900.0	6,459.0	9,802.1	6,399.7	63.6	62.9	-82.51	-82.51	2,996.3	280.3	455.2	330.9	124.31	3.662	
9,940.9	6,458.8	9,843.0	6,399.5	64.3	63.6	-82.51	-82.51	3,037.2	280.2	455.2	329.4	125.82	3.618	
10,000.0	6,458.4	9,902.1	6,399.1	65.4	64.7	-82.51	-82.51	3,096.3	280.2	455.2	327.2	128.00	3.557	
10,039.3	6,458.2	9,941.5	6,398.9	66.1	65.5	-82.51	-82.51	3,135.7	280.2	455.2	325.8	129.45	3.517	
10,100.0	6,457.8	10,002.1	6,398.5	67.2	66.6	-82.52	-82.52	3,196.3	280.2	455.2	323.5	131.70	3.457	
10,137.8	6,457.6	10,039.9	6,398.3	67.9	67.3	-82.52	-82.52	3,234.1	280.2	455.2	322.1	133.10	3.420	
10,200.0	6,457.2	10,102.1	6,397.9	69.1	68.5	-82.52	-82.52	3,296.3	280.2	455.2	319.8	135.40	3.362	
10,236.2	6,456.9	10,138.3	6,397.7	69.8	69.2	-82.52	-82.52	3,332.5	280.2	455.2	318.5	136.74	3.329	
10,300.0	6,456.5	10,202.1	6,397.3	70.9	70.3	-82.52	-82.52	3,396.3	280.2	455.2	316.1	139.11	3.272	
10,334.6	6,456.3	10,236.7	6,397.1	71.6	71.0	-82.52	-82.52	3,430.9	280.2	455.2	314.8	140.40	3.242	
10,400.0	6,455.9	10,302.1	6,396.7	72.8	72.2	-82.53	-82.53	3,496.3	280.2	455.2	312.4	142.83	3.187	
10,433.0	6,455.7	10,335.2	6,396.5	73.4	72.8	-82.53	-82.53	3,529.3	280.2	455.2	311.2	144.06	3.160	
10,500.0	6,455.3	10,402.1	6,396.1	74.7	74.1	-82.53	-82.53	3,596.3	280.2	455.2	308.7	146.55	3.106	
10,531.5	6,455.1	10,433.6	6,395.9	75.2	74.7	-82.53	-82.53	3,627.8	280.2	455.2	307.5	147.72	3.082	
10,600.0	6,454.7	10,502.1	6,395.5	76.5	76.0	-82.53	-82.53	3,696.3	280.2	455.2	304.9	150.28	3.029	
10,629.9	6,454.5	10,532.0	6,395.3	77.1	76.5	-82.54	-82.54	3,726.2	280.2	455.2	303.8	151.39	3.007	
10,700.0	6,454.0	10,602.1	6,394.9	78.4	77.8	-82.54	-82.54	3,796.3	280.2	455.2	301.2	154.01	2.956	
10,728.3	6,453.9	10,630.4	6,394.7	78.9	78.4	-82.54	-82.54	3,824.6	280.2	455.2	300.1	155.07	2.936	
10,800.0	6,453.4	10,702.1	6,394.3	80.3	79.7	-82.54	-82.54	3,896.3	280.2	455.2	297.5	157.74	2.886	
10,826.7	6,453.2	10,728.9	6,394.2	80.8	80.2	-82.54	-82.54	3,923.0	280.2	455.2	296.5	158.74	2.868	
10,900.0	6,452.8	10,802.1	6,393.7	82.1	81.6	-82.55	-82.55	3,996.3	280.2	455.2	293.7	161.48	2.819	
10,925.2	6,452.6	10,827.3	6,393.6	82.6	82.1	-82.55	-82.55	4,021.5	280.2	455.2	292.8	162.42	2.803	
11,000.0	6,452.1	10,902.1	6,393.1	84.0	83.5	-82.55	-82.55	4,096.3	280.2	455.2	290.0	165.22	2.755	
11,019.5	6,452.0	10,921.7	6,393.0	84.4	83.9	-82.55	-82.55	4,115.8	280.2	455.2	289.2	165.96	2.743	
11,023.6	6,452.0	10,922.5	6,393.0	84.4	83.9	-82.55	-82.55	4,116.7	280.2	455.2	289.2	166.05	2.741	
11,023.7	6,452.0	10,922.5	6,393.0	84.4	83.9	-82.55	-82.55	4,116.7	280.2	455.2	289.2	166.05	2.741	
11,024.4	6,452.0	10,922.5	6,393.0	84.5	83.9	-82.55	-82.55	4,116.7	280.2	455.2	289.2	166.06	2.741 SF	

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-301 - JOB #2015-074-135 - SURVEYS													Offset Site Error: 0.0 usft	
Survey Program: 266-MWD													Offset Well Error: 0.0 usft	
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	0.0	0.0	90.00	0.0	10.0	10.0					
98.4	98.4	98.4	98.4	0.1	0.1	88.41	0.3	9.9	9.9	9.7	0.20	49.032		
100.0	100.0	100.0	100.0	0.1	0.1	88.36	0.3	9.9	9.9	9.7	0.21	48.194		
196.8	196.8	196.9	196.9	0.3	0.2	83.50	1.1	9.7	9.7	9.2	0.53	18.447		
200.0	200.0	200.0	200.0	0.3	0.2	83.29	1.1	9.7	9.7	9.2	0.54	18.077		
295.3	295.3	295.3	295.3	0.5	0.3	75.23	2.4	9.3	9.6	8.7	0.88	10.870		
300.0	300.0	300.0	300.0	0.5	0.4	74.80	2.5	9.3	9.6	8.7	0.90	10.623		
313.3	313.3	313.3	313.3	0.6	0.4	73.60	2.7	9.2	9.6	8.6	0.96	9.989 CC		
393.7	393.7	393.7	393.7	0.8	0.5	66.61	3.8	8.9	9.7	8.4	1.31	7.390		
400.0	400.0	400.0	400.0	0.8	0.6	66.09	3.9	8.8	9.7	8.3	1.33	7.247		
492.1	492.1	492.1	492.1	1.0	0.8	58.91	5.1	8.5	9.9	8.1	1.73	5.703		
500.0	500.0	500.0	500.0	1.0	0.8	58.33	5.2	8.4	9.9	8.1	1.76	5.606		
590.5	590.5	590.5	590.5	1.2	1.0	52.18	6.3	8.1	10.2	8.0	2.16	4.729		
600.0	600.0	600.0	600.0	1.2	1.0	51.58	6.4	8.0	10.2	8.0	2.20	4.659 ES		
689.0	689.0	689.0	688.9	1.4	1.2	46.20	7.4	7.7	10.7	8.1	2.58	4.140		
700.0	700.0	700.0	699.9	1.4	1.2	45.58	7.5	7.7	10.8	8.1	2.63	4.090		
787.4	787.4	787.4	787.3	1.6	1.4	41.01	8.6	7.5	11.4	8.3	3.01	3.773		
800.0	800.0	800.0	799.9	1.7	1.4	40.41	8.7	7.4	11.5	8.4	3.06	3.737		
885.8	885.8	885.8	885.7	1.9	1.6	37.00	9.7	7.3	12.1	8.7	3.44	3.525		
900.0	900.0	900.0	899.9	1.9	1.6	36.62	9.8	7.3	12.2	8.7	3.50	3.493		
984.2	984.2	984.2	984.2	2.1	1.8	35.29	10.5	7.4	12.8	8.9	3.87	3.312 SF		
1,000.0	1,000.0	989.0	988.9	2.1	1.8	35.25	10.5	7.4	17.0	13.0	3.92	4.330		
1,025.0	1,025.0	989.0	988.9	2.2	1.8	35.25	10.5	7.4	38.3	34.3	3.97	9.637		
1,082.7	1,082.7	989.0	988.9	2.3	1.8	-89.49	10.5	7.4	94.6	90.5	4.09	23.153		
1,100.0	1,100.0	989.0	988.9	2.3	1.8	-86.72	10.5	7.4	111.8	107.7	4.12	27.126		
1,181.1	1,181.0	989.0	988.9	2.5	1.8	-68.56	10.5	7.4	192.6	188.3	4.27	45.072		
1,200.0	1,199.9	989.0	988.9	2.5	1.8	-63.59	10.5	7.4	211.4	207.1	4.31	49.087		
1,279.5	1,279.2	989.0	988.9	2.7	1.8	-43.87	10.5	7.4	290.8	286.3	4.46	65.218		
1,300.0	1,299.6	989.0	988.9	2.7	1.8	-39.61	10.5	7.4	311.2	306.7	4.50	69.213		
1,377.9	1,377.1	989.0	988.9	2.9	1.8	-27.14	10.5	7.4	389.0	384.4	4.65	83.695		
1,400.0	1,398.9	989.0	988.9	2.9	1.8	-24.53	10.5	7.4	411.0	406.3	4.69	87.644		
1,476.4	1,474.5	989.0	988.9	3.1	1.8	-17.75	10.5	7.4	487.1	482.3	4.84	100.605		
1,500.0	1,497.8	989.0	988.9	3.2	1.8	-16.19	10.5	7.4	510.7	505.8	4.89	104.480		
1,574.8	1,571.4	989.0	988.9	3.4	1.8	-12.38	10.5	7.4	585.1	580.1	5.04	116.045		
1,600.0	1,596.1	989.0	988.9	3.5	1.8	-11.39	10.5	7.4	610.2	605.1	5.09	119.825		
1,673.2	1,667.7	989.0	988.9	3.7	1.8	-9.09	10.5	7.4	682.9	677.7	5.25	130.113		
1,696.9	1,690.8	989.0	988.9	3.8	1.8	-8.50	10.5	7.4	706.5	701.2	5.30	133.359		
1,700.0	1,693.8	989.0	988.9	3.8	1.8	-8.50	10.5	7.4	709.5	704.2	5.30	133.759		
1,771.6	1,763.5	989.0	988.9	4.1	1.8	-8.50	10.5	7.4	780.7	775.2	5.47	142.616		
1,800.0	1,791.0	989.0	988.9	4.2	1.8	-8.50	10.5	7.4	808.9	803.3	5.54	146.049		
1,870.1	1,859.2	989.0	988.9	4.5	1.8	-8.50	10.5	7.4	878.6	872.9	5.71	153.871		
1,900.0	1,888.3	989.0	988.9	4.6	1.8	-8.50	10.5	7.4	908.4	902.6	5.78	157.173		
1,968.5	1,954.9	989.0	988.9	4.9	1.8	-8.50	10.5	7.4	976.6	970.6	5.95	164.218		
2,000.0	1,985.6	989.0	988.9	5.1	1.8	-8.50	10.5	7.4	1,007.9	1,001.9	6.03	167.259		
2,066.9	2,050.7	989.0	988.9	5.4	1.8	-8.50	10.5	7.4	1,074.6	1,068.4	6.19	173.478		
2,100.0	2,082.8	989.0	988.9	5.5	1.8	-8.50	10.5	7.4	1,107.6	1,101.3	6.28	176.424		
2,165.3	2,146.4	989.0	988.9	5.8	1.8	-8.50	10.5	7.4	1,172.8	1,166.3	6.45	181.949		
2,200.0	2,180.1	989.0	988.9	6.0	1.8	-8.50	10.5	7.4	1,207.3	1,200.8	6.53	184.774		
2,263.8	2,242.1	989.0	988.9	6.3	1.8	-8.50	10.5	7.4	1,270.9	1,264.2	6.70	189.699		
2,300.0	2,277.3	989.0	988.9	6.4	1.8	-8.50	10.5	7.4	1,307.1	1,300.3	6.79	192.402		
2,362.2	2,337.8	989.0	988.9	6.7	1.8	-8.50	10.5	7.4	1,369.2	1,362.2	6.96	196.802		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-301 - JOB #2015-074-135 - SURVEYS													Offset Site Error: 0.0 usft	
Survey Program: 266-MWD													Offset Well Error: 0.0 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
2,400.0	2,374.6	989.0	988.9	6.9	1.8	-8.50	10.5	7.4	1,406.9	1,399.8	7.06	199.389		
2,460.6	2,433.6	989.0	988.9	7.2	1.8	-8.50	10.5	7.4	1,467.4	1,460.2	7.22	203.329		
2,500.0	2,471.9	989.0	988.9	7.4	1.8	-8.50	10.5	7.4	1,506.7	1,499.4	7.32	205.806		
2,559.0	2,529.3	989.0	988.9	7.6	1.8	-8.50	10.5	7.4	1,565.7	1,558.2	7.48	209.342		
2,600.0	2,569.1	989.0	988.9	7.8	1.8	-8.50	10.5	7.4	1,606.5	1,599.0	7.59	211.717		
2,657.5	2,625.0	989.0	988.9	8.1	1.8	-8.50	10.5	7.4	1,663.9	1,656.2	7.74	214.896		
2,700.0	2,666.4	989.0	988.9	8.3	1.8	-8.50	10.5	7.4	1,706.4	1,698.6	7.86	217.175		
2,755.9	2,720.8	989.0	988.9	8.6	1.8	-8.50	10.5	7.4	1,762.2	1,754.2	8.01	220.038		
2,800.0	2,763.7	989.0	988.9	8.8	1.8	-8.50	10.5	7.4	1,806.3	1,798.2	8.13	222.228		
2,854.3	2,816.5	989.0	988.9	9.1	1.8	-8.50	10.5	7.4	1,860.6	1,852.3	8.28	224.811		
2,900.0	2,860.9	989.0	988.9	9.3	1.8	-8.50	10.5	7.4	1,906.2	1,897.8	8.40	226.918		
2,952.7	2,912.2	989.0	988.9	9.6	1.8	-8.50	10.5	7.4	1,958.9	1,950.3	8.54	229.250		
3,000.0	2,958.2	989.0	988.9	9.8	1.8	-8.50	10.5	7.4	2,006.1	1,997.4	8.67	231.280		
3,051.2	3,008.0	989.0	988.9	10.0	1.8	-8.50	10.5	7.4	2,057.2	2,048.4	8.81	233.390		
3,100.0	3,055.4	989.0	988.9	10.3	1.8	-8.50	10.5	7.4	2,106.0	2,097.0	8.95	235.346		
3,149.6	3,103.7	989.0	988.9	10.5	1.8	-8.50	10.5	7.4	2,155.6	2,146.5	9.09	237.257		
3,200.0	3,152.7	989.0	988.9	10.8	1.8	-8.50	10.5	7.4	2,205.9	2,196.7	9.22	239.145		
3,248.0	3,199.4	989.0	988.9	11.0	1.8	-8.50	10.5	7.4	2,253.9	2,244.5	9.36	240.877		
3,300.0	3,250.0	989.0	988.9	11.3	1.8	-8.50	10.5	7.4	2,305.8	2,296.3	9.50	242.701		
3,346.4	3,295.1	989.0	988.9	11.5	1.8	-8.50	10.5	7.4	2,352.3	2,342.6	9.63	244.273		
3,400.0	3,347.2	989.0	988.9	11.8	1.8	-8.50	10.5	7.4	2,405.8	2,396.0	9.78	246.037		
3,444.9	3,390.9	989.0	988.9	12.0	1.8	-8.50	10.5	7.4	2,450.6	2,440.7	9.90	247.463		
3,500.0	3,444.5	989.0	988.9	12.3	1.8	-8.50	10.5	7.4	2,505.7	2,495.7	10.06	249.171		
3,543.3	3,486.6	989.0	988.9	12.5	1.8	-8.50	10.5	7.4	2,549.0	2,538.8	10.18	250.466		
3,600.0	3,541.8	989.0	988.9	12.8	1.8	-8.50	10.5	7.4	2,605.7	2,595.3	10.33	252.120		
3,641.7	3,582.3	989.0	988.9	13.0	1.8	-8.50	10.5	7.4	2,647.4	2,636.9	10.45	253.297		
3,700.0	3,639.0	989.0	988.9	13.3	1.8	-8.50	10.5	7.4	2,705.6	2,695.0	10.61	254.901		
3,740.1	3,678.1	989.0	988.9	13.5	1.8	-8.50	10.5	7.4	2,745.7	2,735.0	10.73	255.971		
3,800.0	3,736.3	989.0	988.9	13.8	1.8	-8.50	10.5	7.4	2,805.5	2,794.7	10.89	257.527		
3,838.6	3,773.8	989.0	988.9	14.0	1.8	-8.50	10.5	7.4	2,844.1	2,833.1	11.00	258.499		
3,900.0	3,833.5	989.0	988.9	14.3	1.8	-8.50	10.5	7.4	2,905.5	2,894.3	11.17	260.010		
3,937.0	3,869.5	989.0	988.9	14.5	1.8	-8.50	10.5	7.4	2,942.5	2,931.2	11.28	260.894		
4,000.0	3,930.8	989.0	988.9	14.8	1.8	-8.50	10.5	7.4	3,005.5	2,994.0	11.46	262.362		
4,035.4	3,965.3	989.0	988.9	15.0	1.8	-8.50	10.5	7.4	3,040.9	3,029.3	11.56	263.164		
4,100.0	4,028.1	989.0	988.9	15.3	1.8	-8.50	10.5	7.4	3,105.4	3,093.7	11.74	264.593		
4,133.8	4,061.0	989.0	988.9	15.5	1.8	-8.50	10.5	7.4	3,139.3	3,127.4	11.83	265.320		
4,200.0	4,125.3	989.0	988.9	15.8	1.8	-8.50	10.5	7.4	3,205.4	3,193.4	12.02	266.710		
4,232.3	4,156.7	989.0	988.9	16.0	1.8	-8.50	10.5	7.4	3,237.6	3,225.5	12.11	267.370		
4,300.0	4,222.6	989.0	988.9	16.3	1.8	-8.50	10.5	7.4	3,305.3	3,293.0	12.30	268.724		
4,330.7	4,252.4	989.0	988.9	16.5	1.8	-8.50	10.5	7.4	3,336.0	3,323.6	12.39	269.321		
4,400.0	4,319.8	989.0	988.9	16.8	1.8	-8.50	10.5	7.4	3,405.3	3,392.7	12.58	270.641		
4,429.1	4,348.2	989.0	988.9	17.0	1.8	-8.50	10.5	7.4	3,434.4	3,421.8	12.66	271.180		
4,500.0	4,417.1	989.0	988.9	17.3	1.8	-8.50	10.5	7.4	3,505.3	3,492.4	12.86	272.467		
4,527.5	4,443.9	989.0	988.9	17.5	1.8	-8.50	10.5	7.4	3,532.8	3,519.9	12.94	272.954		
4,600.0	4,514.4	989.0	988.9	17.8	1.8	-8.50	10.5	7.4	3,605.3	3,592.1	13.15	274.209		
4,626.0	4,539.6	989.0	988.9	17.9	1.8	-8.50	10.5	7.4	3,631.2	3,618.0	13.22	274.648		
4,700.0	4,611.6	989.0	988.9	18.3	1.8	-8.50	10.5	7.4	3,705.2	3,691.8	13.43	275.873		
4,724.4	4,635.4	989.0	988.9	18.4	1.8	-8.50	10.5	7.4	3,729.6	3,716.1	13.50	276.267		
4,800.0	4,708.9	989.0	988.9	18.8	1.8	-8.50	10.5	7.4	3,805.2	3,791.5	13.71	277.464		
4,822.8	4,731.1	989.0	988.9	18.9	1.8	-8.50	10.5	7.4	3,828.0	3,814.2	13.78	277.817		
4,900.0	4,806.2	989.0	988.9	19.3	1.8	-8.50	10.5	7.4	3,905.2	3,891.2	14.00	278.986		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-301 - JOB #2015-074-135 - SURVEYS													Offset Site Error:	0.0 usft
Survey Program: 266-MWD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
4,921.2	4,826.8	989.0	988.9	19.4	1.8	-8.50		10.5	7.4	3,926.4	3,912.4	14.06	279.301	
5,000.0	4,903.4	989.0	988.9	19.8	1.8	-8.50		10.5	7.4	4,005.1	3,990.9	14.28	280.444	
5,019.7	4,922.6	989.0	988.9	19.9	1.8	-8.50		10.5	7.4	4,024.8	4,010.5	14.34	280.723	
5,100.0	5,000.7	989.0	988.9	20.4	1.8	-8.50		10.5	7.4	4,105.1	4,090.6	14.57	281.841	
5,118.1	5,018.3	989.0	988.9	20.4	1.8	-8.50		10.5	7.4	4,123.2	4,108.6	14.62	282.088	
5,166.2	5,065.0	989.0	988.9	20.7	1.8	-8.50		10.5	7.4	4,171.3	4,156.5	14.75	282.734	
5,200.0	5,098.0	989.0	988.9	20.8	1.8	-19.47		10.5	7.4	4,205.1	4,189.3	15.79	266.270	
5,216.5	5,114.1	989.0	988.9	20.9	1.8	-47.11		10.5	7.4	4,221.6	4,202.1	19.53	216.147	
5,300.0	5,195.9	989.0	988.9	21.2	1.8	-173.50		10.5	7.4	4,305.1	4,290.2	14.90	289.017	
5,314.9	5,210.6	989.0	988.9	21.2	1.8	-174.58		10.5	7.4	4,320.0	4,305.2	14.89	290.093	
5,400.0	5,294.4	989.0	988.9	21.5	1.8	-177.23		10.5	7.4	4,405.0	4,390.0	15.01	293.458	
5,413.4	5,307.7	989.0	988.9	21.5	1.8	-177.43		10.5	7.4	4,418.3	4,403.3	15.03	293.902	
5,500.0	5,393.5	989.0	988.9	21.7	1.8	-178.25		10.5	7.4	4,504.7	4,489.5	15.18	296.691	
5,511.8	5,405.2	989.0	988.9	21.8	1.8	-178.33		10.5	7.4	4,516.4	4,501.2	15.20	297.096	
5,600.0	5,493.0	989.0	988.9	22.0	1.8	-178.73		10.5	7.4	4,604.1	4,588.8	15.34	300.162	
5,610.2	5,503.2	989.0	988.9	22.0	1.8	-178.77		10.5	7.4	4,614.2	4,598.9	15.35	300.546	
5,700.0	5,592.8	989.0	988.9	22.1	1.8	-179.01		10.5	7.4	4,703.1	4,687.6	15.47	303.984	
5,708.6	5,601.4	989.0	988.9	22.1	1.8	-179.03		10.5	7.4	4,711.6	4,696.2	15.48	304.340	
5,800.0	5,692.7	989.0	988.9	22.3	1.8	-179.19		10.5	7.4	4,801.6	4,786.0	15.58	308.178	
5,807.1	5,699.8	989.0	988.9	22.3	1.8	-179.20		10.5	7.4	4,808.5	4,792.9	15.59	308.479	
5,838.1	5,730.8	989.0	988.9	22.3	1.8	-48.67		10.5	7.4	4,838.9	4,823.3	15.62	309.807	
5,868.1	5,760.8	989.0	988.9	22.3	1.8	-48.67		10.5	7.4	4,868.3	4,852.7	15.67	310.634	
5,900.0	5,792.7	989.0	988.9	22.4	1.8	-40.44		10.5	7.4	4,899.5	4,883.7	15.88	308.562	
5,905.5	5,798.2	989.0	988.9	22.4	1.8	-39.25		10.5	7.4	4,904.9	4,889.0	15.94	307.701	
5,950.0	5,842.6	989.0	988.9	22.4	1.8	-31.49		10.5	7.4	4,947.9	4,931.4	16.49	299.965	
6,000.0	5,892.0	989.0	988.9	22.4	1.8	-25.59		10.5	7.4	4,995.5	4,978.5	17.00	293.824	
6,003.9	5,895.8	989.0	988.9	22.4	1.8	-25.21		10.5	7.4	4,999.2	4,982.1	17.03	293.509	
6,050.0	5,940.8	989.0	988.9	22.4	1.8	-21.50		10.5	7.4	5,042.0	5,024.7	17.29	291.559	
6,100.0	5,988.7	989.0	988.9	22.3	1.8	-18.54		10.5	7.4	5,087.4	5,070.0	17.39	292.609	
6,102.3	5,990.9	989.0	988.9	22.3	1.8	-18.42		10.5	7.4	5,089.5	5,072.1	17.39	292.729	
6,150.0	6,035.5	989.0	988.9	22.2	1.8	-16.32		10.5	7.4	5,131.4	5,114.1	17.31	296.404	
6,200.0	6,081.0	989.0	988.9	22.2	1.8	-14.61		10.5	7.4	5,173.8	5,156.7	17.10	302.591	
6,200.8	6,081.7	989.0	988.9	22.2	1.8	-14.58		10.5	7.4	5,174.5	5,157.4	17.09	302.704	
6,250.0	6,124.9	989.0	988.9	22.0	1.8	-13.26		10.5	7.4	5,214.5	5,197.8	16.77	310.998	
6,299.2	6,166.4	989.0	988.9	21.9	1.8	-12.19		10.5	7.4	5,252.7	5,236.4	16.34	321.389	
6,300.0	6,167.0	989.0	988.9	21.9	1.8	-12.17		10.5	7.4	5,253.3	5,237.0	16.34	321.576	
6,350.0	6,207.2	989.0	988.9	21.8	1.8	-11.29		10.5	7.4	5,290.1	5,274.3	15.82	334.362	
6,397.6	6,243.4	989.0	988.9	21.6	1.8	-10.59		10.5	7.4	5,323.2	5,307.9	15.27	348.670	
6,400.0	6,245.2	989.0	988.9	21.6	1.8	-10.56		10.5	7.4	5,324.8	5,309.5	15.24	349.443	
6,450.0	6,280.8	989.0	988.9	21.5	1.8	-9.95		10.5	7.4	5,357.1	5,342.5	14.60	366.923	
6,496.0	6,311.4	989.0	988.9	21.3	1.8	-9.49		10.5	7.4	5,384.8	5,370.8	13.98	385.205	
6,500.0	6,313.9	989.0	988.9	21.3	1.8	-9.45		10.5	7.4	5,387.1	5,373.1	13.92	386.881	
6,550.0	6,344.3	989.0	988.9	21.2	1.8	-9.03		10.5	7.4	5,414.5	5,401.3	13.23	409.297	
6,594.5	6,368.9	989.0	988.9	21.0	1.8	-8.71		10.5	7.4	5,436.7	5,424.1	12.61	431.103	
6,600.0	6,371.8	989.0	988.9	21.0	1.8	-8.68		10.5	7.4	5,439.3	5,426.8	12.53	433.941	
6,650.0	6,396.4	989.0	988.9	20.8	1.8	-8.38		10.5	7.4	5,461.5	5,449.6	11.87	460.203	
6,692.9	6,415.0	989.0	988.9	20.7	1.8	-8.17		10.5	7.4	5,478.3	5,467.0	11.34	483.083	
6,700.0	6,417.9	989.0	988.9	20.7	1.8	-8.14		10.5	7.4	5,480.9	5,469.6	11.26	486.864	
6,750.0	6,436.2	989.0	988.9	20.5	1.8	-7.94		10.5	7.4	5,497.4	5,486.7	10.74	511.890	
6,791.3	6,448.8	989.0	988.9	20.4	1.8	-7.81		10.5	7.4	5,509.0	5,498.6	10.41	529.255	
6,800.0	6,451.1	989.0	988.9	20.3	1.8	-7.79		10.5	7.4	5,511.1	5,500.8	10.35	532.413	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-301 - JOB #2015-074-135 - SURVEYS													Offset Site Error:	0.0 usft
Survey Program: 266-MWD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
6,850.0	6,462.8	989.0	988.9	20.2	1.8	-7.67		10.5	7.4	5,521.9	5,511.8	10.13	545.209	
6,889.7	6,469.6	989.0	988.9	20.1	1.8	-7.60		10.5	7.4	5,528.3	5,518.2	10.09	548.063	
6,900.0	6,471.0	989.0	988.9	20.0	1.8	-7.59		10.5	7.4	5,529.7	5,519.6	10.10	547.759	
6,950.0	6,475.7	989.0	988.9	19.9	1.8	-7.54		10.5	7.4	5,534.5	5,524.2	10.26	539.410	
6,988.2	6,477.0	989.0	988.9	19.8	1.8	-7.52		10.5	7.4	5,536.1	5,525.6	10.51	526.558	
6,997.5	6,477.0	989.0	988.9	19.8	1.8	-7.52		10.5	7.4	5,536.3	5,525.7	10.59	522.796	
7,000.0	6,477.0	989.0	988.9	19.8	1.8	-7.52		10.5	7.4	5,536.3	5,525.7	10.60	522.231	
7,086.6	6,476.5	989.0	988.9	19.6	1.8	-7.52		10.5	7.4	5,537.8	5,526.8	11.02	502.688	
7,100.0	6,476.4	989.0	988.9	19.6	1.8	-7.52		10.5	7.4	5,538.1	5,527.1	11.08	499.801	
7,185.0	6,475.9	989.0	988.9	19.7	1.8	-7.52		10.5	7.4	5,541.1	5,529.6	11.52	480.928	
7,200.0	6,475.8	989.0	988.9	19.8	1.8	-7.52		10.5	7.4	5,541.8	5,530.2	11.60	477.779	
7,283.4	6,475.2	989.0	988.9	20.4	1.8	-7.52		10.5	7.4	5,546.2	5,534.2	12.06	459.915	
7,300.0	6,475.1	989.0	988.9	20.6	1.8	-7.52		10.5	7.4	5,547.3	5,535.1	12.15	456.548	
7,381.9	6,474.6	989.0	988.9	21.5	1.8	-7.52		10.5	7.4	5,553.1	5,540.4	12.62	439.856	
7,400.0	6,474.5	989.0	988.9	21.8	1.8	-7.52		10.5	7.4	5,554.5	5,541.8	12.73	436.345	
7,480.3	6,474.0	989.0	988.9	22.8	1.8	-7.52		10.5	7.4	5,561.6	5,548.4	13.21	420.905	
7,500.0	6,473.9	989.0	988.9	23.0	1.8	-7.52		10.5	7.4	5,563.6	5,550.2	13.33	417.304	
7,578.7	6,473.4	989.0	988.9	24.1	1.8	-7.52		10.5	7.4	5,571.9	5,558.1	13.82	403.119	
7,600.0	6,473.3	989.0	988.9	24.4	1.8	-7.52		10.5	7.4	5,574.4	5,560.4	13.95	399.473	
7,677.1	6,472.8	989.0	988.9	25.5	1.8	-7.52		10.5	7.4	5,583.9	5,569.5	14.45	386.504	
7,700.0	6,472.7	989.0	988.9	25.8	1.8	-7.52		10.5	7.4	5,587.0	5,572.4	14.59	382.848	
7,775.6	6,472.2	989.0	988.9	26.9	1.8	-7.52		10.5	7.4	5,597.6	5,582.5	15.09	371.030	
7,800.0	6,472.1	989.0	988.9	27.3	1.8	-7.52		10.5	7.4	5,601.3	5,586.1	15.25	367.390	
7,874.0	6,471.6	989.0	988.9	28.4	1.8	-7.52		10.5	7.4	5,613.0	5,597.3	15.74	356.644	
7,900.0	6,471.5	989.0	988.9	28.8	1.8	-7.52		10.5	7.4	5,617.4	5,601.5	15.91	353.042	
7,972.4	6,471.0	989.0	988.9	29.9	1.8	-7.52		10.5	7.4	5,630.1	5,613.7	16.40	343.283	
8,000.0	6,470.8	989.0	988.9	30.3	1.8	-7.52		10.5	7.4	5,635.2	5,618.6	16.59	339.736	
8,070.8	6,470.4	989.0	988.9	31.4	1.8	-7.52		10.5	7.4	5,648.9	5,631.8	17.07	330.881	
8,100.0	6,470.2	989.0	988.9	31.9	1.8	-7.52		10.5	7.4	5,654.7	5,637.5	17.27	327.399	
8,169.3	6,469.8	989.0	988.9	33.0	1.8	-7.52		10.5	7.4	5,669.3	5,651.5	17.75	319.367	
8,200.0	6,469.6	989.0	988.9	33.5	1.8	-7.52		10.5	7.4	5,676.0	5,658.0	17.96	315.959	
8,267.7	6,469.2	989.0	988.9	34.7	1.8	-7.52		10.5	7.4	5,691.3	5,672.8	18.44	308.675	
8,300.0	6,469.0	989.0	988.9	35.2	1.8	-7.52		10.5	7.4	5,698.9	5,680.2	18.66	305.346	
8,366.1	6,468.6	989.0	988.9	36.3	1.8	-7.52		10.5	7.4	5,714.9	5,695.8	19.13	298.739	
8,400.0	6,468.4	989.0	988.9	36.9	1.8	-7.52		10.5	7.4	5,723.4	5,704.0	19.37	295.494	
8,464.5	6,468.0	989.0	988.9	38.0	1.8	-7.52		10.5	7.4	5,740.1	5,720.3	19.83	289.500	
8,500.0	6,467.8	989.0	988.9	38.6	1.8	-7.52		10.5	7.4	5,749.6	5,729.5	20.08	286.340	
8,563.0	6,467.4	989.0	988.9	39.6	1.8	-7.52		10.5	7.4	5,766.9	5,746.4	20.53	280.900	
8,600.0	6,467.1	989.0	988.9	40.3	1.8	-7.52		10.5	7.4	5,777.4	5,756.6	20.79	277.828	
8,661.4	6,466.8	989.0	988.9	41.3	1.8	-7.52		10.5	7.4	5,795.3	5,774.0	21.24	272.888	
8,700.0	6,466.5	989.0	988.9	42.0	1.8	-7.52		10.5	7.4	5,806.8	5,785.3	21.51	269.903	
8,759.8	6,466.1	989.0	988.9	43.0	1.8	-7.52		10.5	7.4	5,825.1	5,803.2	21.95	265.417	
8,800.0	6,465.9	989.0	988.9	43.7	1.8	-7.52		10.5	7.4	5,837.7	5,815.5	22.24	262.517	
8,858.2	6,465.5	989.0	988.9	44.8	1.8	-7.52		10.5	7.4	5,856.5	5,833.8	22.66	258.441	
8,900.0	6,465.3	989.0	988.9	45.5	1.8	-7.52		10.5	7.4	5,870.2	5,847.3	22.96	255.627	
8,956.7	6,464.9	989.0	988.9	46.5	1.8	-7.52		10.5	7.4	5,889.3	5,865.9	23.38	251.923	
9,000.0	6,464.7	989.0	988.9	47.3	1.8	-7.52		10.5	7.4	5,904.2	5,880.5	23.69	249.193	
9,055.1	6,464.3	989.0	988.9	48.2	1.8	-7.52		10.5	7.4	5,923.6	5,899.5	24.10	245.824	
9,100.0	6,464.0	989.0	988.9	49.0	1.8	-7.52		10.5	7.4	5,939.7	5,915.3	24.43	243.177	
9,153.5	6,463.7	989.0	988.9	50.0	1.8	-7.52		10.5	7.4	5,959.3	5,934.5	24.82	240.114	
9,200.0	6,463.4	989.0	988.9	50.8	1.8	-7.52		10.5	7.4	5,976.7	5,951.5	25.16	237.546	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-301 - JOB #2015-074-135 - SURVEYS													Offset Site Error:	0.0 usft
Survey Program: 266-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		
9,251.9	6,463.1	989.0	988.9	51.8	1.8	-7.52	10.5	7.4	5,996.5	5,970.9	25.54	234.760		
9,300.0	6,462.8	989.0	988.9	52.6	1.8	-7.52	10.5	7.4	6,015.1	5,989.2	25.90	232.271		
9,350.4	6,462.5	989.0	988.9	53.5	1.8	-7.52	10.5	7.4	6,035.0	6,008.7	26.27	229.736		
9,400.0	6,462.2	989.0	988.9	54.4	1.8	-7.52	10.5	7.4	6,054.9	6,028.3	26.64	227.323		
9,448.8	6,461.9	989.0	988.9	55.3	1.8	-7.52	10.5	7.4	6,074.8	6,047.8	27.00	225.017		
9,500.0	6,461.5	989.0	988.9	56.2	1.8	-7.52	10.5	7.4	6,096.1	6,068.7	27.38	222.678		
9,547.2	6,461.2	989.0	988.9	57.1	1.8	-7.52	10.5	7.4	6,116.0	6,088.3	27.73	220.581		
9,600.0	6,460.9	989.0	988.9	58.1	1.8	-7.52	10.5	7.4	6,138.6	6,110.5	28.12	218.313		
9,645.6	6,460.6	989.0	988.9	58.9	1.8	-7.52	10.5	7.4	6,158.5	6,130.0	28.46	216.406		
9,700.0	6,460.3	989.0	988.9	59.9	1.8	-7.52	10.5	7.4	6,182.5	6,153.6	28.86	214.207		
9,744.1	6,460.0	989.0	988.9	60.7	1.8	-7.52	10.5	7.4	6,202.2	6,173.0	29.19	212.473		
9,800.0	6,459.7	989.0	988.9	61.7	1.8	-7.52	10.5	7.4	6,227.6	6,198.0	29.61	210.341		
9,842.5	6,459.4	989.0	988.9	62.5	1.8	-7.52	10.5	7.4	6,247.2	6,217.3	29.92	208.765		
9,900.0	6,459.0	989.0	988.9	63.6	1.8	-7.52	10.5	7.4	6,274.1	6,243.7	30.35	206.698		
9,940.9	6,458.8	989.0	988.9	64.3	1.8	-7.52	10.5	7.4	6,293.4	6,262.8	30.66	205.266		
10,000.0	6,458.4	989.0	988.9	65.4	1.8	-7.52	10.5	7.4	6,321.7	6,290.6	31.10	203.262		
10,039.3	6,458.2	989.0	988.9	66.1	1.8	-7.52	10.5	7.4	6,340.8	6,309.4	31.40	201.962		
10,100.0	6,457.8	989.0	988.9	67.2	1.8	-7.52	10.5	7.4	6,370.6	6,338.7	31.85	200.018		
10,137.8	6,457.6	989.0	988.9	67.9	1.8	-7.52	10.5	7.4	6,389.4	6,357.2	32.13	198.839		
10,200.0	6,457.2	989.0	988.9	69.1	1.8	-7.52	10.5	7.4	6,420.7	6,388.1	32.60	196.954		
10,236.2	6,456.9	989.0	988.9	69.8	1.8	-7.52	10.5	7.4	6,439.1	6,406.2	32.87	195.886		
10,300.0	6,456.5	989.0	988.9	70.9	1.8	-7.52	10.5	7.4	6,471.9	6,438.5	33.35	194.057		
10,334.6	6,456.3	989.0	988.9	71.6	1.8	-7.52	10.5	7.4	6,489.9	6,456.3	33.61	193.090		
10,400.0	6,455.9	989.0	988.9	72.8	1.8	-7.52	10.5	7.4	6,524.2	6,490.1	34.10	191.315		
10,433.0	6,455.7	989.0	988.9	73.4	1.8	-7.52	10.5	7.4	6,541.8	6,507.4	34.35	190.441		
10,500.0	6,455.3	989.0	988.9	74.7	1.8	-7.52	10.5	7.4	6,577.7	6,542.8	34.85	188.719		
10,531.5	6,455.1	989.0	988.9	75.2	1.8	-7.52	10.5	7.4	6,594.7	6,559.6	35.09	187.930		
10,600.0	6,454.7	989.0	988.9	76.5	1.8	-7.52	10.5	7.4	6,632.2	6,596.6	35.61	186.259		
10,629.9	6,454.5	989.0	988.9	77.1	1.8	-7.52	10.5	7.4	6,648.7	6,612.9	35.83	185.548		
10,700.0	6,454.0	989.0	988.9	78.4	1.8	-7.52	10.5	7.4	6,687.8	6,651.4	36.36	183.927		
10,728.3	6,453.9	989.0	988.9	78.9	1.8	-7.52	10.5	7.4	6,703.7	6,667.2	36.58	183.287		
10,800.0	6,453.4	989.0	988.9	80.3	1.8	-7.52	10.5	7.4	6,744.4	6,707.3	37.12	181.713		
10,826.7	6,453.2	989.0	988.9	80.8	1.8	-7.52	10.5	7.4	6,759.7	6,722.4	37.32	181.140		
10,900.0	6,452.8	989.0	988.9	82.1	1.8	-7.52	10.5	7.4	6,802.0	6,764.1	37.87	179.611		
10,925.2	6,452.6	989.0	988.9	82.6	1.8	-7.52	10.5	7.4	6,816.7	6,778.6	38.06	179.098		
11,000.0	6,452.1	989.0	988.9	84.0	1.8	-7.52	10.5	7.4	6,860.6	6,822.0	38.63	177.614		
11,023.6	6,452.0	989.0	988.9	84.4	1.8	-7.52	10.5	7.4	6,874.6	6,835.8	38.80	177.157		
11,023.7	6,452.0	989.0	988.9	84.4	1.8	-7.52	10.5	7.4	6,874.6	6,835.8	38.81	177.155		
11,024.4	6,452.0	989.0	988.9	84.5	1.8	-7.52	10.5	7.4	6,875.0	6,836.2	38.81	177.152		

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-441 - ORIGINAL WELLBORE - PROPOSAL													Offset Site Error:	0.0 usft
Survey Program: 0-MWDD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis (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	-89.99	-89.99	0.0	-20.7	20.7				
98.4	98.4	98.4	98.4	0.1	0.1	-89.99	-89.99	0.0	-20.7	20.7	20.5	0.19	107.544	
100.0	100.0	100.0	100.0	0.1	0.1	-89.99	-89.99	0.0	-20.7	20.7	20.5	0.20	105.723	
196.8	196.8	196.8	196.8	0.3	0.3	-89.99	-89.99	0.0	-20.7	20.7	20.0	0.63	32.768	
200.0	200.0	200.0	200.0	0.3	0.3	-89.99	-89.99	0.0	-20.7	20.7	20.0	0.65	32.049	
295.3	295.3	295.3	295.3	0.5	0.5	-89.99	-89.99	0.0	-20.7	20.7	19.6	1.07	19.261	
300.0	300.0	300.0	300.0	0.5	0.5	-89.99	-89.99	0.0	-20.7	20.7	19.6	1.09	18.887	
393.7	393.7	393.7	393.7	0.8	0.8	-89.99	-89.99	0.0	-20.7	20.7	19.2	1.52	13.639	
400.0	400.0	400.0	400.0	0.8	0.8	-89.99	-89.99	0.0	-20.7	20.7	19.1	1.54	13.389	
492.1	492.1	492.1	492.1	1.0	1.0	-89.99	-89.99	0.0	-20.7	20.7	18.7	1.96	10.557	
500.0	500.0	500.0	500.0	1.0	1.0	-89.99	-89.99	0.0	-20.7	20.7	18.7	1.99	10.370	
590.5	590.5	590.5	590.5	1.2	1.2	-89.99	-89.99	0.0	-20.7	20.7	18.3	2.40	8.612	
600.0	600.0	600.0	600.0	1.2	1.2	-89.99	-89.99	0.0	-20.7	20.7	18.2	2.44	8.462	
689.0	689.0	689.0	689.0	1.4	1.4	-89.99	-89.99	0.0	-20.7	20.7	17.8	2.84	7.271	
700.0	700.0	700.0	700.0	1.4	1.4	-89.99	-89.99	0.0	-20.7	20.7	17.8	2.89	7.147	
787.4	787.4	787.4	787.4	1.6	1.6	-89.99	-89.99	0.0	-20.7	20.7	17.4	3.29	6.292	
800.0	800.0	800.0	800.0	1.7	1.7	-89.99	-89.99	0.0	-20.7	20.7	17.3	3.34	6.186	
885.8	885.8	885.8	885.8	1.9	1.9	-89.99	-89.99	0.0	-20.7	20.7	16.9	3.73	5.545	
900.0	900.0	900.0	900.0	1.9	1.9	-89.99	-89.99	0.0	-20.7	20.7	16.9	3.79	5.452	
984.2	984.2	984.2	984.2	2.1	2.1	-89.99	-89.99	0.0	-20.7	20.7	16.5	4.17	4.957	
1,000.0	1,000.0	1,000.0	1,000.0	2.1	2.1	-89.99	-89.99	0.0	-20.7	20.7	16.4	4.24	4.874	
1,025.0	1,025.0	1,025.0	1,025.0	2.2	2.2	-89.99	-89.99	0.0	-20.7	20.7	16.3	4.35	4.749 CC, ES	
1,082.7	1,082.7	1,082.7	1,082.7	2.3	2.3	140.46	140.46	0.0	-20.7	21.1	16.5	4.60	4.592	
1,100.0	1,100.0	1,100.0	1,100.0	2.3	2.3	141.14	141.14	0.0	-20.7	21.4	16.8	4.67	4.586	
1,181.1	1,181.0	1,181.5	1,181.5	2.5	2.5	144.10	144.10	-0.9	-19.9	23.2	18.2	4.98	4.662	
1,200.0	1,199.9	1,200.5	1,200.5	2.5	2.5	144.63	144.63	-1.3	-19.5	23.7	18.6	5.05	4.687	
1,279.5	1,279.2	1,280.5	1,280.4	2.7	2.7	146.29	146.29	-4.3	-16.9	25.7	20.4	5.34	4.817	
1,300.0	1,299.6	1,301.1	1,301.0	2.7	2.7	146.58	146.58	-5.3	-16.0	26.3	20.9	5.42	4.855	
1,377.9	1,377.1	1,379.6	1,379.2	2.9	2.9	147.23	147.23	-10.3	-11.7	28.6	22.9	5.72	4.997	
1,400.0	1,398.9	1,401.8	1,401.2	2.9	2.9	147.31	147.31	-12.0	-10.3	29.2	23.4	5.80	5.041	
1,476.4	1,474.5	1,478.8	1,477.7	3.1	3.1	147.24	147.24	-18.9	-4.3	31.7	25.6	6.11	5.182	
1,500.0	1,497.8	1,502.6	1,501.2	3.2	3.2	147.13	147.13	-21.3	-2.2	32.5	26.3	6.21	5.229	
1,574.8	1,571.4	1,578.0	1,575.8	3.4	3.3	146.56	146.56	-30.0	5.4	35.1	28.5	6.54	5.360	
1,600.0	1,596.1	1,603.4	1,600.8	3.5	3.4	146.30	146.30	-33.3	8.2	36.0	29.3	6.66	5.407	
1,673.2	1,667.7	1,677.3	1,673.4	3.7	3.6	145.39	145.39	-43.8	17.3	38.8	31.7	7.02	5.519	
1,696.9	1,690.8	1,701.2	1,696.8	3.8	3.7	145.05	145.05	-47.5	20.5	39.7	32.5	7.14	5.558	
1,700.0	1,693.8	1,704.3	1,699.8	3.8	3.7	145.00	145.00	-48.0	20.9	39.8	32.7	7.16	5.561	
1,771.6	1,763.5	1,775.9	1,769.8	4.1	4.0	144.10	144.10	-59.2	30.7	42.7	35.1	7.57	5.636	
1,800.0	1,791.0	1,804.2	1,797.5	4.2	4.1	143.77	143.77	-63.6	34.5	43.8	36.1	7.74	5.663	
1,870.1	1,859.2	1,874.2	1,866.0	4.5	4.3	143.03	143.03	-74.6	44.1	46.6	38.5	8.17	5.707	
1,900.0	1,888.3	1,904.1	1,895.3	4.6	4.4	142.74	142.74	-79.3	48.1	47.9	39.5	8.36	5.725	
1,968.5	1,954.9	1,972.5	1,962.2	4.9	4.7	142.14	142.14	-90.1	57.5	50.6	41.8	8.80	5.751	
2,000.0	1,985.6	2,004.0	1,993.0	5.1	4.8	141.88	141.88	-95.0	61.8	51.9	42.9	9.01	5.758	
2,066.9	2,050.7	2,070.9	2,058.4	5.4	5.1	141.37	141.37	-105.5	70.9	54.6	45.1	9.47	5.769	
2,100.0	2,082.8	2,103.9	2,090.7	5.5	5.2	141.14	141.14	-110.7	75.4	55.9	46.3	9.69	5.772	
2,165.3	2,146.4	2,169.2	2,154.6	5.8	5.4	140.71	140.71	-121.0	84.3	58.6	48.4	10.15	5.773	
2,200.0	2,180.1	2,203.8	2,188.5	6.0	5.6	140.49	140.49	-126.4	89.0	60.0	49.6	10.39	5.773	
2,263.8	2,242.1	2,267.6	2,250.8	6.3	5.9	140.13	140.13	-136.4	97.7	62.6	51.7	10.85	5.767	
2,300.0	2,277.3	2,303.8	2,286.2	6.4	6.0	139.93	139.93	-142.1	102.6	64.1	53.0	11.12	5.764	
2,362.2	2,337.8	2,365.9	2,347.0	6.7	6.3	139.62	139.62	-151.8	111.0	66.6	55.0	11.57	5.755	
2,400.0	2,374.6	2,403.7	2,383.9	6.9	6.4	139.44	139.44	-157.8	116.2	68.1	56.3	11.85	5.749	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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		Highside Toolface (°)	Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)					
2,460.6	2,433.6	2,464.2	2,443.2	7.2	6.7	139.17	-167.3	124.4	70.6	58.3	12.31	5.738	
2,500.0	2,471.9	2,503.6	2,481.7	7.4	6.8	139.00	-173.5	129.8	72.2	59.6	12.60	5.731	
2,559.0	2,529.3	2,562.6	2,539.4	7.6	7.1	138.77	-182.7	137.8	74.6	61.6	13.05	5.718	
2,600.0	2,569.1	2,603.5	2,579.4	7.8	7.3	138.61	-189.1	143.4	76.3	62.9	13.36	5.710	
2,657.5	2,625.0	2,660.9	2,635.6	8.1	7.5	138.41	-198.2	151.2	78.6	64.8	13.81	5.697	
2,700.0	2,666.4	2,703.4	2,677.1	8.3	7.7	138.26	-204.8	157.0	80.4	66.3	14.13	5.688	
2,755.9	2,720.8	2,759.3	2,731.8	8.6	8.0	138.08	-213.6	164.6	82.7	68.1	14.57	5.675	
2,800.0	2,763.7	2,803.3	2,774.9	8.8	8.2	137.95	-220.5	170.6	84.5	69.6	14.91	5.665	
2,854.3	2,816.5	2,857.6	2,828.0	9.1	8.4	137.79	-229.0	178.0	86.7	71.4	15.34	5.653	
2,900.0	2,860.9	2,903.3	2,872.6	9.3	8.6	137.66	-236.2	184.2	88.6	72.9	15.70	5.642	
2,952.7	2,912.2	2,956.0	2,924.1	9.6	8.8	137.52	-244.5	191.4	90.7	74.6	16.11	5.630	
3,000.0	2,958.2	3,003.2	2,970.3	9.8	9.0	137.40	-251.9	197.8	92.7	76.2	16.49	5.620	
3,051.2	3,008.0	3,054.3	3,020.3	10.0	9.3	137.27	-259.9	204.8	94.7	77.9	16.89	5.608	
3,100.0	3,055.4	3,103.1	3,068.1	10.3	9.5	137.16	-267.6	211.5	96.7	79.5	17.28	5.598	
3,149.6	3,103.7	3,152.6	3,116.5	10.5	9.7	137.04	-275.4	218.2	98.8	81.1	17.68	5.587	
3,200.0	3,152.7	3,203.0	3,165.8	10.8	9.9	136.93	-283.3	225.1	100.8	82.8	18.08	5.577	
3,248.0	3,199.4	3,251.0	3,212.7	11.0	10.1	136.84	-290.8	231.6	102.8	84.3	18.47	5.567	
3,300.0	3,250.0	3,302.9	3,263.5	11.3	10.4	136.73	-299.0	238.7	104.9	86.0	18.89	5.556	
3,346.4	3,295.1	3,349.3	3,308.9	11.5	10.6	136.64	-306.2	245.0	106.8	87.6	19.26	5.547	
3,400.0	3,347.2	3,402.8	3,361.3	11.8	10.8	136.54	-314.6	252.3	109.0	89.3	19.69	5.536	
3,444.9	3,390.9	3,447.7	3,405.1	12.0	11.0	136.46	-321.7	258.4	110.9	90.8	20.06	5.528	
3,500.0	3,444.5	3,502.7	3,459.0	12.3	11.3	136.37	-330.3	265.9	113.1	92.6	20.50	5.517	
3,543.3	3,486.6	3,546.0	3,501.3	12.5	11.5	136.30	-337.1	271.8	114.9	94.0	20.86	5.509	
3,600.0	3,541.8	3,602.7	3,556.7	12.8	11.7	136.21	-346.0	279.5	117.2	95.9	21.32	5.499	
3,641.7	3,582.3	3,644.3	3,597.5	13.0	11.9	136.14	-352.6	285.2	118.9	97.3	21.66	5.491	
3,700.0	3,639.0	3,702.6	3,654.5	13.3	12.2	136.06	-361.7	293.1	121.3	99.2	22.13	5.481	
3,740.1	3,678.1	3,742.7	3,693.7	13.5	12.4	136.00	-368.0	298.6	123.0	100.5	22.46	5.475	
3,800.0	3,736.3	3,802.5	3,752.2	13.8	12.6	135.91	-377.4	306.7	125.4	102.5	22.95	5.465	
3,838.6	3,773.8	3,841.0	3,789.9	14.0	12.8	135.86	-383.5	312.0	127.0	103.7	23.27	5.458	
3,900.0	3,833.5	3,902.4	3,849.9	14.3	13.1	135.78	-393.1	320.3	129.5	105.8	23.77	5.449	
3,937.0	3,869.5	3,939.4	3,886.1	14.5	13.3	135.73	-398.9	325.4	131.0	107.0	24.08	5.443	
4,000.0	3,930.8	4,002.3	3,947.7	14.8	13.6	135.66	-408.8	333.9	133.6	109.0	24.59	5.433	
4,035.4	3,965.3	4,037.7	3,982.3	15.0	13.7	135.61	-414.3	338.8	135.1	110.2	24.89	5.428	
4,100.0	4,028.1	4,102.2	4,045.4	15.3	14.0	135.54	-424.5	347.5	137.7	112.3	25.42	5.419	
4,133.8	4,061.0	4,136.1	4,078.5	15.5	14.2	135.50	-429.8	352.1	139.1	113.4	25.70	5.414	
4,200.0	4,125.3	4,202.2	4,143.1	15.8	14.5	135.43	-440.2	361.1	141.8	115.6	26.24	5.405	
4,232.3	4,156.7	4,234.4	4,174.7	16.0	14.6	135.40	-445.2	365.5	143.2	116.6	26.51	5.400	
4,300.0	4,222.6	4,302.1	4,240.9	16.3	14.9	135.33	-455.8	374.8	145.9	118.9	27.07	5.391	
4,330.7	4,252.4	4,332.7	4,270.9	16.5	15.1	135.29	-460.7	378.9	147.2	119.9	27.32	5.387	
4,400.0	4,319.8	4,402.0	4,338.6	16.8	15.4	135.23	-471.5	388.4	150.0	122.1	27.90	5.379	
4,429.1	4,348.2	4,431.1	4,367.1	17.0	15.5	135.20	-476.1	392.3	151.2	123.1	28.14	5.375	
4,500.0	4,417.1	4,501.9	4,436.3	17.3	15.9	135.13	-487.2	402.0	154.1	125.4	28.72	5.366	
4,527.5	4,443.9	4,529.4	4,463.3	17.5	16.0	135.11	-491.5	405.7	155.3	126.3	28.95	5.363	
4,600.0	4,514.4	4,601.8	4,534.1	17.8	16.3	135.05	-502.9	415.6	158.2	128.7	29.55	5.355	
4,626.0	4,539.6	4,627.8	4,559.4	17.9	16.4	135.02	-507.0	419.1	159.3	129.5	29.77	5.352	
4,700.0	4,611.6	4,701.7	4,631.8	18.3	16.8	134.96	-518.6	429.2	162.4	132.0	30.38	5.343	
4,724.4	4,635.4	4,726.1	4,655.6	18.4	16.9	134.94	-522.4	432.5	163.4	132.8	30.59	5.341	
4,800.0	4,708.9	4,801.6	4,729.5	18.8	17.2	134.88	-534.3	442.8	166.5	135.2	31.22	5.332	
4,822.8	4,731.1	4,824.5	4,751.8	18.9	17.3	134.86	-537.9	445.9	167.4	136.0	31.41	5.330	
4,900.0	4,806.2	4,901.6	4,827.3	19.3	17.7	134.81	-550.0	456.4	170.6	138.5	32.05	5.322	
4,921.2	4,826.8	4,922.8	4,848.0	19.4	17.8	134.79	-553.3	459.3	171.4	139.2	32.23	5.320	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-441 - ORIGINAL WELLBORE - PROPOSAL													Offset Site Error:	0.0 usft
Survey Program: 0-MWDD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,000.0	4,903.4	5,001.5	4,925.0	19.8	18.2	134.73	-565.7	470.0	174.7	141.8	32.88	5.312		
5,019.7	4,922.6	5,021.1	4,944.2	19.9	18.2	134.72	-568.7	472.7	175.5	142.4	33.05	5.310		
5,100.0	5,000.7	5,100.0	5,021.4	20.4	18.6	134.67	-581.1	483.4	178.8	145.1	33.70	5.306		
5,118.1	5,018.3	5,118.3	5,039.3	20.4	18.7	134.70	-583.9	485.8	179.6	145.8	33.82	5.311		
5,166.2	5,065.0	5,164.6	5,084.7	20.7	18.8	134.89	-590.5	491.6	182.1	148.0	34.11	5.341		
5,200.0	5,098.0	5,197.1	5,116.7	20.8	18.9	135.12	-594.8	495.3	184.1	149.8	34.27	5.371		
5,216.5	5,114.1	5,213.0	5,132.4	20.9	18.9	135.23	-596.8	497.0	185.0	150.6	34.34	5.387		
5,300.0	5,195.9	5,293.1	5,211.7	21.2	19.2	135.81	-605.9	505.0	189.4	154.8	34.65	5.466		
5,314.9	5,210.6	5,307.5	5,225.9	21.2	19.2	135.92	-607.4	506.2	190.2	155.5	34.70	5.481		
5,400.0	5,294.4	5,389.1	5,306.9	21.5	19.4	136.53	-614.6	512.5	194.3	159.4	34.95	5.560		
5,413.4	5,307.7	5,400.0	5,317.8	21.5	19.4	136.61	-615.5	513.2	195.0	160.0	34.99	5.572		
5,500.0	5,393.5	5,484.8	5,402.3	21.7	19.6	137.27	-620.9	518.0	198.8	163.6	35.18	5.651		
5,511.8	5,405.2	5,496.1	5,413.6	21.8	19.6	137.36	-621.5	518.5	199.3	164.1	35.20	5.662		
5,600.0	5,493.0	5,580.5	5,497.8	22.0	19.8	138.04	-624.8	521.3	202.8	167.5	35.32	5.742		
5,610.2	5,503.2	5,590.3	5,507.6	22.0	19.8	138.12	-625.1	521.6	203.2	167.9	35.34	5.752		
5,700.0	5,592.8	5,676.0	5,593.3	22.1	19.9	138.83	-626.3	522.6	206.5	171.0	35.41	5.831		
5,708.6	5,601.4	5,684.2	5,601.5	22.1	19.9	138.90	-626.3	522.6	206.7	171.3	35.41	5.839		
5,800.0	5,692.7	5,775.4	5,692.7	22.3	20.0	139.41	-626.3	522.6	208.8	173.3	35.49	5.883		
5,807.1	5,699.8	5,782.5	5,699.8	22.3	20.0	139.42	-626.3	522.6	208.8	173.3	35.50	5.883		
5,838.1	5,730.8	5,813.5	5,730.8	22.3	20.1	-89.97	-626.3	522.6	209.0	173.4	35.56	5.877		
5,868.1	5,760.8	5,843.5	5,760.8	22.3	20.1	-89.97	-626.3	522.6	209.0	173.3	35.64	5.863		
5,880.0	5,772.7	5,855.4	5,772.7	22.4	20.1	-90.00	-626.3	522.6	209.0	173.3	35.67	5.857		
5,900.0	5,792.7	5,875.4	5,792.7	22.4	20.1	-90.17	-626.3	522.6	209.0	173.2	35.77	5.842		
5,905.5	5,798.2	5,880.9	5,798.2	22.4	20.1	-90.24	-626.3	522.6	209.0	173.2	35.79	5.838		
5,950.0	5,842.6	5,925.3	5,842.6	22.4	20.2	-91.25	-626.3	522.6	209.0	172.9	36.14	5.784		
6,000.0	5,892.0	5,975.4	5,892.7	22.4	20.2	-92.87	-624.8	522.6	209.2	172.6	36.59	5.719		
6,003.9	5,895.8	5,979.4	5,896.6	22.4	20.2	-93.00	-624.6	522.6	209.2	172.6	36.62	5.714		
6,050.0	5,940.8	6,026.0	5,943.0	22.4	20.3	-94.49	-619.8	522.6	209.6	172.7	36.95	5.672		
6,100.0	5,988.7	6,077.0	5,993.3	22.3	20.3	-96.09	-611.2	522.6	210.2	172.9	37.22	5.646		
6,102.3	5,990.9	6,079.5	5,995.6	22.3	20.3	-96.17	-610.7	522.6	210.2	173.0	37.23	5.645		
6,150.0	6,035.5	6,128.5	6,043.3	22.2	20.2	-97.66	-598.8	522.6	210.9	173.5	37.39	5.640		
6,200.0	6,081.0	6,180.5	6,092.6	22.2	20.2	-99.18	-582.8	522.6	211.7	174.3	37.44	5.654		
6,200.8	6,081.7	6,181.3	6,093.4	22.2	20.2	-99.21	-582.5	522.6	211.7	174.3	37.44	5.654		
6,250.0	6,124.9	6,232.8	6,141.1	22.0	20.1	-100.66	-563.0	522.6	212.7	175.3	37.39	5.688		
6,299.2	6,166.4	6,284.8	6,187.7	21.9	20.0	-102.05	-540.0	522.6	213.7	176.5	37.23	5.740		
6,300.0	6,167.0	6,285.7	6,188.5	21.9	20.0	-102.07	-539.5	522.6	213.7	176.5	37.23	5.741		
6,350.0	6,207.2	6,338.9	6,234.3	21.8	19.8	-103.42	-512.4	522.6	214.9	177.9	36.97	5.812		
6,397.6	6,243.4	6,390.1	6,276.3	21.6	19.7	-104.63	-483.2	522.6	216.0	179.4	36.65	5.894		
6,400.0	6,245.2	6,392.6	6,278.3	21.6	19.7	-104.69	-481.7	522.6	216.1	179.4	36.63	5.899		
6,450.0	6,280.8	6,446.8	6,320.2	21.5	19.5	-105.88	-447.5	522.6	217.3	181.1	36.22	6.000		
6,496.0	6,311.4	6,497.0	6,356.7	21.3	19.4	-106.90	-413.0	522.6	218.5	182.6	35.80	6.102		
6,500.0	6,313.9	6,501.3	6,359.7	21.3	19.3	-106.98	-409.9	522.6	218.5	182.8	35.76	6.111		
6,550.0	6,344.3	6,556.2	6,396.5	21.2	19.2	-107.99	-369.2	522.6	219.8	184.5	35.29	6.228		
6,594.5	6,368.9	6,605.3	6,426.7	21.0	19.0	-108.81	-330.4	522.6	220.8	185.9	34.87	6.333		
6,600.0	6,371.8	6,611.4	6,430.3	21.0	19.0	-108.91	-325.4	522.6	220.9	186.1	34.82	6.345		
6,650.0	6,396.4	6,667.0	6,460.7	20.8	18.8	-109.72	-278.9	522.6	222.0	187.6	34.38	6.457		
6,692.9	6,415.0	6,715.0	6,484.0	20.7	18.6	-110.33	-237.1	522.6	222.9	188.8	34.06	6.543		
6,700.0	6,417.9	6,722.9	6,487.6	20.7	18.6	-110.43	-230.0	522.6	223.0	189.0	34.02	6.556		
6,750.0	6,436.2	6,779.1	6,510.7	20.5	18.4	-111.03	-178.8	522.6	223.9	190.1	33.75	6.635		
6,791.3	6,448.8	6,825.6	6,526.7	20.4	18.3	-111.44	-135.1	522.6	224.5	190.9	33.62	6.678		
6,800.0	6,451.1	6,835.4	6,529.8	20.3	18.3	-111.52	-125.8	522.6	224.6	191.0	33.60	6.686		

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-441 - ORIGINAL WELLBORE - PROPOSAL													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	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
6,850.0	6,462.8	6,892.0	6,544.6	20.2	18.1	-111.90		-71.2	522.6	225.2	191.6	33.60	6.703	
6,889.7	6,469.6	6,937.0	6,553.4	20.1	18.0	-112.12		-27.0	522.6	225.6	191.8	33.72	6.690	
6,900.0	6,471.0	6,948.7	6,555.2	20.0	18.0	-112.17		-15.6	522.6	225.6	191.9	33.76	6.684	
6,950.0	6,475.7	7,005.5	6,561.3	19.9	17.8	-112.32		40.9	522.6	225.9	191.8	34.09	6.626	
6,988.2	6,477.0	7,048.8	6,563.0	19.8	17.8	-112.37		84.2	522.6	226.0	191.5	34.46	6.557	
6,997.5	6,477.0	7,058.8	6,563.0	19.8	17.7	-112.37		94.2	522.6	226.0	191.4	34.55	6.539	
7,000.0	6,477.0	7,061.3	6,563.0	19.8	17.7	-112.37		96.7	522.6	226.0	191.4	34.58	6.534	
7,086.6	6,476.5	7,147.9	6,563.0	19.6	17.8	-112.50		183.3	522.6	226.2	190.4	35.72	6.332	
7,100.0	6,476.4	7,161.3	6,563.0	19.6	17.9	-112.52		196.7	522.6	226.2	190.3	35.90	6.301	
7,185.0	6,475.9	7,246.4	6,563.0	19.7	18.6	-112.64		281.7	522.6	226.4	189.2	37.24	6.080	
7,200.0	6,475.8	7,261.3	6,563.0	19.8	18.8	-112.66		296.7	522.6	226.4	188.9	37.48	6.041	
7,283.4	6,475.2	7,344.8	6,563.0	20.4	19.7	-112.78		380.2	522.6	226.6	187.6	39.02	5.808	
7,300.0	6,475.1	7,361.3	6,563.0	20.6	19.9	-112.80		396.7	522.6	226.7	187.3	39.33	5.763	
7,381.9	6,474.6	7,443.2	6,563.0	21.5	20.9	-112.92		478.6	522.6	226.9	185.8	41.03	5.529	
7,400.0	6,474.5	7,461.3	6,563.0	21.8	21.1	-112.95		496.7	522.6	226.9	185.5	41.41	5.479	
7,480.3	6,474.0	7,541.6	6,563.0	22.8	22.1	-113.06		577.0	522.6	227.1	183.9	43.23	5.253	
7,500.0	6,473.9	7,561.3	6,563.0	23.0	22.4	-113.09		596.7	522.6	227.1	183.5	43.69	5.200	
7,578.7	6,473.4	7,640.1	6,563.0	24.1	23.4	-113.20		675.4	522.6	227.3	181.7	45.60	4.986	
7,600.0	6,473.3	7,661.3	6,563.0	24.4	23.7	-113.23		696.7	522.6	227.4	181.3	46.12	4.930	
7,677.1	6,472.8	7,738.5	6,563.0	25.5	24.8	-113.34		773.9	522.6	227.6	179.5	48.10	4.732	
7,700.0	6,472.7	7,761.3	6,563.0	25.8	25.2	-113.37		796.7	522.6	227.6	178.9	48.69	4.675	
7,775.6	6,472.2	7,836.9	6,563.0	26.9	26.3	-113.48		872.3	522.6	227.8	177.1	50.71	4.493	
7,800.0	6,472.1	7,861.3	6,563.0	27.3	26.7	-113.52		896.7	522.6	227.9	176.5	51.37	4.436	
7,874.0	6,471.6	7,935.3	6,563.0	28.4	27.8	-113.62		970.7	522.6	228.1	174.6	53.42	4.269	
7,900.0	6,471.5	7,961.3	6,563.0	28.8	28.2	-113.66		996.7	522.6	228.1	174.0	54.15	4.213	
7,972.4	6,471.0	8,033.7	6,563.0	29.9	29.3	-113.76		1,069.1	522.6	228.3	172.1	56.21	4.061	
8,000.0	6,470.8	8,061.3	6,563.0	30.3	29.8	-113.80		1,096.7	522.6	228.4	171.4	57.01	4.006	
8,070.8	6,470.4	8,132.2	6,563.0	31.4	30.9	-113.90		1,167.6	522.6	228.6	169.5	59.08	3.869	
8,100.0	6,470.2	8,161.3	6,563.0	31.9	31.4	-113.94		1,196.7	522.6	228.6	168.7	59.93	3.815	
8,169.3	6,469.8	8,230.6	6,563.0	33.0	32.5	-114.04		1,266.0	522.6	228.8	166.8	61.99	3.691	
8,200.0	6,469.6	8,261.3	6,563.0	33.5	33.0	-114.08		1,296.7	522.6	228.9	166.0	62.91	3.638	
8,267.7	6,469.2	8,329.0	6,563.0	34.7	34.1	-114.18		1,364.4	522.6	229.0	164.1	64.96	3.526	
8,300.0	6,469.0	8,361.3	6,563.0	35.2	34.7	-114.22		1,396.7	522.6	229.1	163.2	65.95	3.475	
8,366.1	6,468.6	8,427.4	6,563.0	36.3	35.8	-114.32		1,462.8	522.6	229.3	161.3	67.97	3.373	
8,400.0	6,468.4	8,461.3	6,563.0	36.9	36.4	-114.36		1,496.7	522.6	229.4	160.4	69.02	3.324	
8,464.5	6,468.0	8,525.9	6,563.0	38.0	37.5	-114.45		1,561.2	522.6	229.5	158.5	71.02	3.232	
8,500.0	6,467.8	8,561.3	6,563.0	38.6	38.1	-114.50		1,596.7	522.6	229.6	157.5	72.12	3.184	
8,563.0	6,467.4	8,624.3	6,563.0	39.6	39.2	-114.59		1,659.7	522.6	229.8	155.7	74.10	3.101	
8,600.0	6,467.1	8,661.3	6,563.0	40.3	39.8	-114.64		1,696.7	522.6	229.9	154.6	75.26	3.055	
8,661.4	6,466.8	8,722.7	6,563.0	41.3	40.9	-114.73		1,758.1	522.6	230.1	152.9	77.20	2.980	
8,700.0	6,466.5	8,761.3	6,563.0	42.0	41.6	-114.78		1,796.7	522.6	230.2	151.7	78.42	2.935	
8,759.8	6,466.1	8,821.1	6,563.0	43.0	42.6	-114.87		1,856.5	522.6	230.3	150.0	80.32	2.867	
8,800.0	6,465.9	8,861.3	6,563.0	43.7	43.3	-114.92		1,896.7	522.6	230.4	148.8	81.60	2.824	
8,858.2	6,465.5	8,919.6	6,563.0	44.8	44.3	-115.01		1,954.9	522.6	230.6	147.1	83.46	2.762	
8,900.0	6,465.3	8,961.3	6,563.0	45.5	45.1	-115.06		1,996.7	522.6	230.7	145.9	84.80	2.720	
8,956.7	6,464.9	9,018.0	6,563.0	46.5	46.1	-115.14		2,053.4	522.6	230.8	144.2	86.62	2.665	
9,000.0	6,464.7	9,061.3	6,563.0	47.3	46.9	-115.20		2,096.7	522.6	230.9	142.9	88.02	2.624	
9,055.1	6,464.3	9,116.4	6,563.0	48.2	47.8	-115.28		2,151.8	522.6	231.1	141.3	89.79	2.574	
9,100.0	6,464.0	9,161.3	6,563.0	49.0	48.7	-115.34		2,196.7	522.6	231.2	140.0	91.24	2.534	
9,153.5	6,463.7	9,214.8	6,563.0	50.0	49.6	-115.42		2,250.2	522.6	231.4	138.4	92.98	2.488	
9,200.0	6,463.4	9,261.3	6,563.0	50.8	50.5	-115.48		2,296.7	522.6	231.5	137.0	94.48	2.450	

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 R&R FARMS 29L-301 - CONTIGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTIGENCY PLAN	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 SW SW SEC. 29 T5N R63W 6th P.M. - R&R FARMS 29L-441 - ORIGINAL WELLBORE - PROPOSAL													Offset Site Error:	0.0 usft
Survey Program: 0-MWD													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 (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,251.9	6,463.1	9,313.2	6,563.0	51.8	51.4	-115.55		2,348.6	522.6	231.6	135.4	96.17	2.408	
9,300.0	6,462.8	9,361.3	6,563.0	52.6	52.3	-115.62		2,396.7	522.6	231.7	134.0	97.73	2.371	
9,350.4	6,462.5	9,411.7	6,563.0	53.5	53.2	-115.69		2,447.1	522.6	231.9	132.5	99.37	2.334	
9,400.0	6,462.2	9,461.3	6,563.0	54.4	54.1	-115.76		2,496.7	522.6	232.0	131.0	100.98	2.298	
9,448.8	6,461.9	9,510.1	6,563.0	55.3	55.0	-115.83		2,545.5	522.6	232.1	129.6	102.57	2.263	
9,500.0	6,461.5	9,561.3	6,563.0	56.2	55.9	-115.90		2,596.7	522.6	232.3	128.0	104.24	2.228	
9,547.2	6,461.2	9,608.5	6,563.0	57.1	56.8	-115.96		2,643.9	522.6	232.4	126.6	105.78	2.197	
9,600.0	6,460.9	9,661.3	6,563.0	58.1	57.7	-116.04		2,696.7	522.6	232.6	125.1	107.50	2.163	
9,645.6	6,460.6	9,706.9	6,563.0	58.9	58.6	-116.10		2,742.3	522.6	232.7	123.7	108.99	2.135	
9,700.0	6,460.3	9,761.3	6,563.0	59.9	59.6	-116.17		2,796.7	522.6	232.8	122.1	110.77	2.102	
9,744.1	6,460.0	9,805.4	6,563.0	60.7	60.4	-116.23		2,840.7	522.6	233.0	120.7	112.21	2.076	
9,800.0	6,459.7	9,861.3	6,563.0	61.7	61.4	-116.31		2,896.7	522.6	233.1	119.1	114.04	2.044	
9,842.5	6,459.4	9,903.8	6,563.0	62.5	62.2	-116.37		2,939.2	522.6	233.2	117.8	115.43	2.021	
9,900.0	6,459.0	9,961.3	6,563.0	63.6	63.3	-116.45		2,996.7	522.6	233.4	116.1	117.31	1.989	
9,940.9	6,458.8	10,002.2	6,563.0	64.3	64.0	-116.50		3,037.6	522.6	233.5	114.9	118.65	1.968	
10,000.0	6,458.4	10,061.3	6,563.0	65.4	65.1	-116.59		3,096.7	522.6	233.7	113.1	120.58	1.938	
10,039.3	6,458.2	10,100.6	6,563.0	66.1	65.8	-116.64		3,136.0	522.6	233.8	111.9	121.87	1.918	
10,100.0	6,457.8	10,161.3	6,563.0	67.2	67.0	-116.72		3,196.7	522.6	234.0	110.1	123.86	1.889	
10,137.8	6,457.6	10,199.1	6,563.0	67.9	67.7	-116.77		3,234.4	522.6	234.1	109.0	125.09	1.871	
10,200.0	6,457.2	10,261.3	6,563.0	69.1	68.8	-116.86		3,296.7	522.6	234.2	107.1	127.13	1.842	
10,236.2	6,456.9	10,297.5	6,563.0	69.8	69.5	-116.91		3,332.9	522.6	234.3	106.0	128.31	1.826	
10,300.0	6,456.5	10,361.3	6,563.0	70.9	70.7	-117.00		3,396.7	522.6	234.5	104.1	130.40	1.798	
10,334.6	6,456.3	10,395.9	6,563.0	71.6	71.3	-117.04		3,431.3	522.6	234.6	103.1	131.53	1.784	
10,400.0	6,455.9	10,461.3	6,563.0	72.8	72.5	-117.13		3,496.7	522.6	234.8	101.1	133.67	1.757	
10,433.0	6,455.7	10,494.3	6,563.0	73.4	73.2	-117.18		3,529.7	522.6	234.9	100.1	134.75	1.743	
10,500.0	6,455.3	10,561.3	6,563.0	74.7	74.4	-117.27		3,596.7	522.6	235.1	98.2	136.94	1.717	
10,531.5	6,455.1	10,592.7	6,563.0	75.2	75.0	-117.31		3,628.1	522.6	235.2	97.2	137.96	1.705	
10,600.0	6,454.7	10,661.3	6,563.0	76.5	76.3	-117.40		3,696.7	522.6	235.4	95.2	140.20	1.679	
10,629.9	6,454.5	10,691.2	6,563.0	77.1	76.8	-117.44		3,726.6	522.6	235.5	94.3	141.18	1.668	
10,700.0	6,454.0	10,761.3	6,563.0	78.4	78.1	-117.54		3,796.7	522.6	235.7	92.2	143.46	1.643	
10,728.3	6,453.9	10,789.6	6,563.0	78.9	78.7	-117.58		3,825.0	522.6	235.8	91.4	144.39	1.633	
10,800.0	6,453.4	10,861.3	6,563.0	80.3	80.0	-117.67		3,896.6	522.6	236.0	89.2	146.72	1.608	
10,826.7	6,453.2	10,888.0	6,563.0	80.8	80.5	-117.71		3,923.4	522.6	236.0	88.4	147.59	1.599	
10,900.0	6,452.8	10,961.3	6,563.0	82.1	81.9	-117.81		3,996.6	522.6	236.3	86.3	149.98	1.575	
10,925.2	6,452.6	10,986.4	6,563.0	82.6	82.4	-117.84		4,021.8	522.6	236.3	85.5	150.80	1.567	
11,000.0	6,452.1	11,061.3	6,563.0	84.0	83.8	-117.94		4,096.7	522.6	236.5	83.3	153.23	1.544	
11,023.6	6,452.0	11,081.3	6,563.0	84.4	84.1	-117.97		4,116.7	522.6	236.6	82.7	153.94	1.537	
11,023.7	6,452.0	11,081.3	6,563.0	84.4	84.1	-117.97		4,116.7	522.6	236.6	82.7	153.94	1.537	
11,024.4	6,452.0	11,081.3	6,563.0	84.5	84.1	-117.97		4,116.7	522.6	236.7	82.7	153.95	1.537 SF	

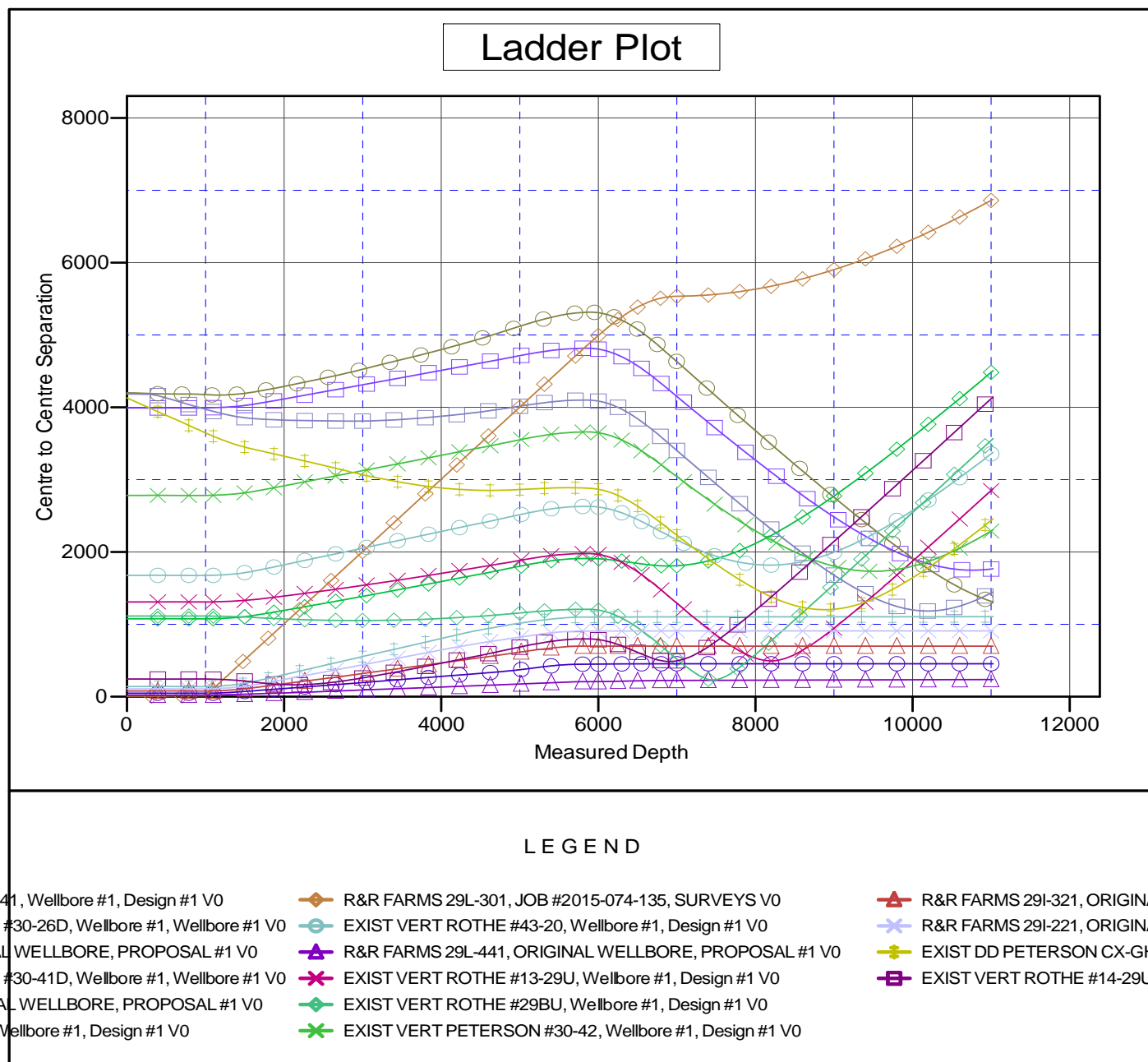
Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTINGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTINGENCY PLAN	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 @ 4587.0usft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000

ECoordinates are relative to: R&R FARMS 29L-301 - CONTINGENCY PLAN
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.67°



Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well R&R FARMS 29L-301 - CONTINGENCY PLAN
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Reference Site:	SW SW SEC. 29 T5N R63W 6th P.M.	MD Reference:	KB-EST @ 4587.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	R&R FARMS 29L-301 - CONTINGENCY PLAN	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 @ 4587.0usft (Original Well Elev)
 Offset Depths are relative to Offset Datum
 Central Meridian is -105.500000
 Coordinates are relative to: R&R FARMS 29L-301 - CONTINGENCY PLAN
 Coordinate System is US State Plane 1983, Colorado Northern Zone
 Grid Convergence at Surface is: 0.67°

