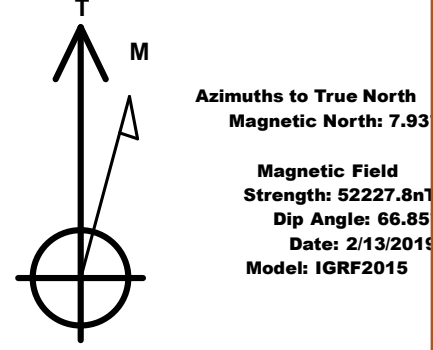




Project: WELD COUNTY, COLORADO (TRUE)
Site: NW NW SEC. 16 T5N R64W 6th P.M.
Well: WATERMELON 4N
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

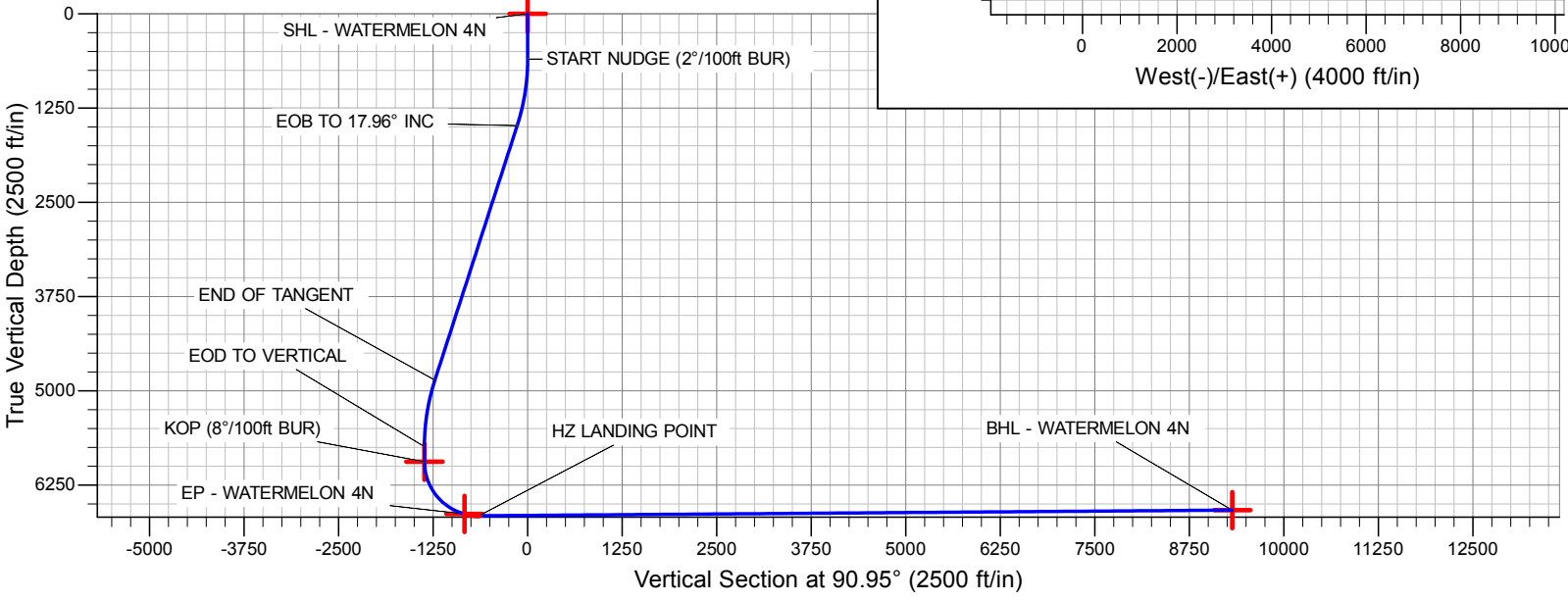
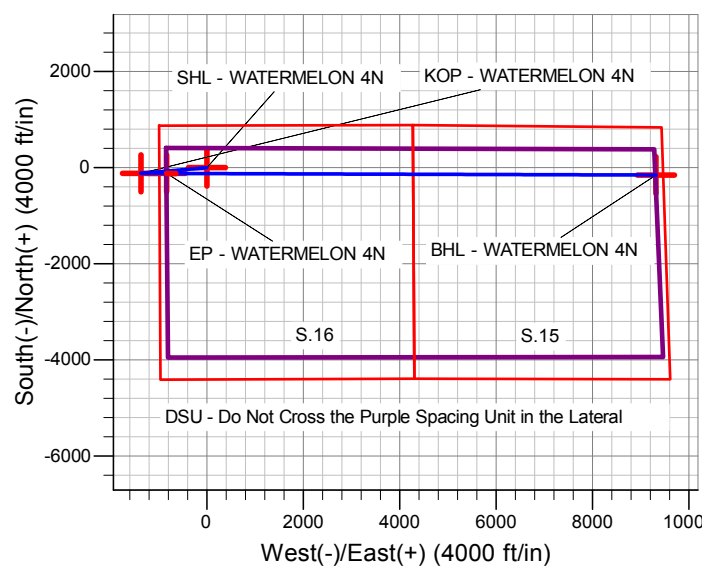
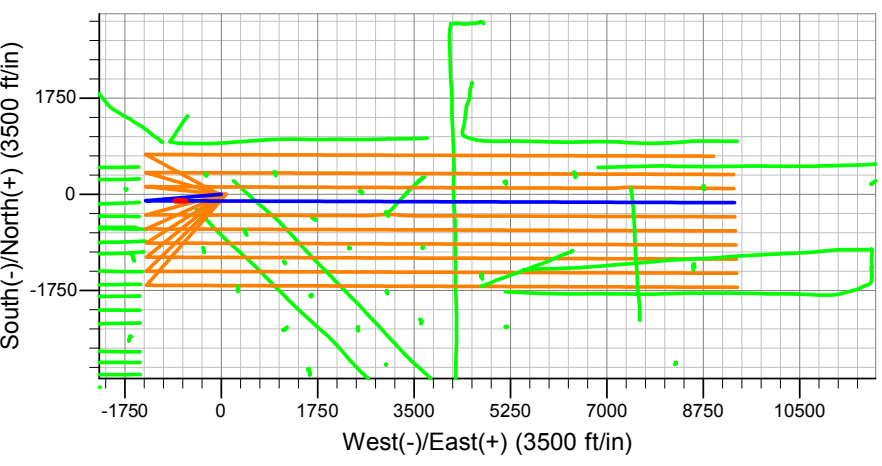


ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	SHL: 874ft FNL & 988ft FWL of Sec 16
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1497.9	17.96	265.04	1483.3	-12.1	-139.0	-138.8	139.6	EOB TO 17.96° INC
5046.1	17.96	265.04	4858.6	-106.6	-1228.9	-1227.0	1233.5	END OF TANGENT
5944.0	0.00	0.00	5741.9	-118.6	-1367.9	-1365.8	1373.1	EOD TO VERTICAL
6144.0	0.00	0.00	5941.9	-118.6	-1367.9	-1365.8	1373.1	KOP (8°/100ft BUR)
7081.5	75.00	90.19	6633.6	-120.4	-837.1	-835.0	1904.0	EP: 993ft FNL & 150ft FWL of Sec 16
7274.3	90.43	90.19	6658.0	-121.0	-646.4	-644.3	2094.6	HZ LANDING POINT
17237.2	90.43	90.19	6583.0	-153.7	9316.1	9317.4	12057.2	BHL: 993ft FNL & 150ft FEL of Sec 15

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL - WATERMELON 4N	0.0	0.0	0.0	1391460.81	3261522.57	40° 24' 14.977 N	104° 33' 39.312 W
KOP - WATERMELON 4N	5941.8	-118.6	-1367.9	1391327.71	3260156.02	40° 24' 13.805 N	104° 33' 56.994 W
BHL - WATERMELON 4N	6583.0	-153.7	9316.1	1391405.74	3270839.41	40° 24' 13.441 N	104° 31' 38.891 W
EP - WATERMELON 4N	6633.6	-120.4	-837.1	1391331.56	3260686.82	40° 24' 13.788 N	104° 33' 50.133 W



PDC ENERGY

**WELD COUNTY, COLORADO (TRUE)
NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)
WATERMELON 4N**

**ORIGINAL WELLBORE
PROPOSAL #1**

Anticollision Report

18 March, 2019



PDC Energy

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well WATERMELON 4N - Slot WATERMELON 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23' @ 4633.0ft (Original Well Elev)
Reference Site:	NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)	MD Reference:	KB 23' @ 4633.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	WATERMELON 4N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	3/18/2019		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	17,237.2	PROPOSAL #1 (ORIGINAL WELLBORE)	MWD	MWD - Standard	

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)						
ABDN VERT DROEGEMULLER #11-5 - Wellbore #1 - W	13,093.7	6,564.6	325.7	148.3	1.836	CC
ABDN VERT DROEGEMULLER #11-5 - Wellbore #1 - W	13,100.0	6,564.6	325.8	148.3	1.835	ES, SF
ABDN VERT LOUSTALET #15-1 - Wellbore #1 - Wellbor	13,123.5	6,557.5	2,269.5	2,091.5	12.756	CC
ABDN VERT LOUSTALET #15-1 - Wellbore #1 - Wellbor	13,200.0	6,557.0	2,270.7	2,090.8	12.618	ES
ABDN VERT LOUSTALET #15-1 - Wellbore #1 - Wellbor	13,500.0	6,554.7	2,300.5	2,114.5	12.367	SF
ABDN VERT LOUSTALET #21-15 - Wellbore #1 - Wellbc	14,342.4	6,540.7	456.8	244.8	2.155	CC, ES, SF
ABDN VERT LOUSTALET #B15-14 - Wellbore #1 - Desi	14,417.3	6,555.3	3,596.2	3,253.3	10.486	CC
ABDN VERT LOUSTALET #B15-14 - Wellbore #1 - Desi	14,500.0	6,554.7	3,597.2	3,252.0	10.420	ES
ABDN VERT LOUSTALET #B15-14 - Wellbore #1 - Desi	15,000.0	6,550.9	3,643.2	3,286.9	10.225	SF
ABDN VERT LOUSTALET #B15-15 - Wellbore #1 - Desi	15,502.6	6,546.1	3,619.4	3,246.3	9.701	CC
ABDN VERT LOUSTALET #B15-15 - Wellbore #1 - Desi	15,600.0	6,545.4	3,620.7	3,245.0	9.637	ES
ABDN VERT LOUSTALET #B15-15 - Wellbore #1 - Desi	16,100.0	6,541.6	3,668.3	3,282.0	9.495	SF
ABDN VERT LOUSTALET #B15-16 - Wellbore #1 - Wellt	16,694.1	6,400.0	3,716.0	3,438.6	13.396	CC
ABDN VERT LOUSTALET #B15-16 - Wellbore #1 - Wellt	16,800.0	6,400.0	3,717.5	3,437.2	13.265	ES
ABDN VERT LOUSTALET #B15-16 - Wellbore #1 - Wellt	17,237.2	6,419.0	3,755.4	3,465.7	12.965	SF
ABDN VERT LOUSTALET #B15-9 - Wellbore #1 - Desig	16,733.2	6,534.8	2,389.4	1,982.1	5.867	CC
ABDN VERT LOUSTALET #B15-9 - Wellbore #1 - Desig	16,800.0	6,534.3	2,390.3	1,981.3	5.844	ES
ABDN VERT LOUSTALET #B15-9 - Wellbore #1 - Desig	17,000.0	6,532.8	2,404.2	1,991.2	5.821	SF
ABDN VERT PATRIOT #B16-13 - Wellbore #1 - Wellbore	7,576.7	6,569.1	3,724.4	3,688.7	104.347	CC
ABDN VERT PATRIOT #B16-13 - Wellbore #1 - Wellbore	7,600.0	6,569.5	3,724.5	3,688.5	103.413	ES
ABDN VERT PATRIOT #B16-13 - Wellbore #1 - Wellbore	10,500.0	6,632.1	4,734.1	4,649.9	56.177	SF
ABDN VERT PATRIOT #B16-3 - Wellbore #1 - Wellbore	8,905.0	6,623.9	471.3	407.3	7.367	CC, ES, SF
ABDN VERT PATRIOT #B16-9 - Wellbore #1 - Wellbore	11,547.8	6,636.8	2,200.3	2,065.8	16.355	CC
ABDN VERT PATRIOT #B16-9 - Wellbore #1 - Wellbore	11,600.0	6,636.1	2,200.9	2,065.0	16.192	ES
ABDN VERT PATRIOT #B16-9 - Wellbore #1 - Wellbore	12,000.0	6,631.1	2,246.3	2,102.2	15.594	SF
ABDN VERT SOLIS #43-17 - Wellbore #1 - Wellbore #1	5,219.7	4,860.7	2,569.2	2,540.5	89.251	CC, ES
ABDN VERT SOLIS #43-17 - Wellbore #1 - Wellbore #1	5,900.0	5,500.0	2,581.8	2,551.0	83.892	SF
ABDN VERT SOLIS #44-17 - Wellbore #1 - Wellbore #1	4,867.5	4,500.0	3,423.6	3,396.5	126.339	CC
ABDN VERT SOLIS #44-17 - Wellbore #1 - Wellbore #1	5,000.0	4,614.6	3,424.2	3,396.2	122.209	ES
ABDN VERT SOLIS #44-17 - Wellbore #1 - Wellbore #1	10,000.0	6,630.5	4,902.8	4,836.4	73.840	SF
EXIST DD BAUER DEBUS #22JD - Wellbore #1 - Wellbc	13,581.4	6,487.5	4,380.1	4,174.9	21.346	CC
EXIST DD BAUER DEBUS #22JD - Wellbore #1 - Wellbc	13,700.0	6,486.3	4,381.7	4,173.1	21.009	ES
EXIST DD BAUER DEBUS #22JD - Wellbore #1 - Wellbc	14,900.0	6,474.0	4,574.3	4,340.5	19.568	SF
EXIST DD BAUER DEBUS #22MD - Wellbore #1 - Wellb	14,845.0	6,668.9	4,302.5	4,059.7	17.720	CC
EXIST DD BAUER DEBUS #22MD - Wellbore #1 - Wellb	15,000.0	6,666.5	4,305.3	4,058.5	17.445	ES

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

PDC Energy

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well WATERMELON 4N - Slot WATERMELON 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23' @ 4633.0ft (Original Well Elev)
Reference Site:	NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)	MD Reference:	KB 23' @ 4633.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	WATERMELON 4N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)						
EXIST DD BAUER DEBUS #22MD - Wellbore #1 - Wellb	15,800.0	6,654.5	4,407.2	4,144.8	16.795	SF
EXIST DD DOUGHMAN #22RD - Wellbore #1 - Wellbore	16,237.3	6,556.3	4,346.0	4,065.9	15.518	CC
EXIST DD DOUGHMAN #22RD - Wellbore #1 - Wellbore	16,400.0	6,555.9	4,349.0	4,064.4	15.278	ES
EXIST DD DOUGHMAN #22RD - Wellbore #1 - Wellbore	17,200.0	6,544.0	4,451.4	4,149.9	14.764	SF
EXIST DD FRENZEL #B15-6 - Wellbore #1 - Wellbore #1	14,301.2	6,915.4	882.8	665.5	4.063	CC, ES, SF
EXIST DD GLOVER USX #B15-02CD - Wellbore #1 - W	15,358.9	6,978.1	221.1	-16.5	0.930	Level 1, CC, ES, SF
EXIST DD JURGENS STATE #B16-30D - Wellbore #1 -	6,500.0	6,591.7	1,092.2	1,030.8	17.800	SF
EXIST DD JURGENS STATE #B16-30D - Wellbore #1 -	6,800.0	6,821.1	1,073.0	1,014.0	18.183	ES
EXIST DD JURGENS STATE #B16-30D - Wellbore #1 -	6,818.4	6,832.0	1,072.9	1,014.1	18.241	CC
EXIST DD KLEIN #B15-13D - Wellbore #1 - Wellbore #1	12,921.3	6,710.0	3,629.6	3,451.9	20.424	CC
EXIST DD KLEIN #B15-13D - Wellbore #1 - Wellbore #1	13,000.0	6,710.0	3,630.5	3,450.6	20.188	ES
EXIST DD KLEIN #B15-13D - Wellbore #1 - Wellbore #1	13,900.0	6,718.1	3,759.2	3,561.5	19.013	SF
EXIST DD PATRIOT #B16-1 - Wellbore #1 - Wellbore #1	11,610.8	6,686.3	442.0	304.6	3.218	CC, ES, SF
EXIST HZ CECILS KERSEY FARM #17B-212 - Wellbore	6,600.0	11,218.0	2,773.2	2,619.3	18.016	SF
EXIST HZ CECILS KERSEY FARM #17B-212 - Wellbore	6,649.1	11,218.0	2,772.5	2,618.7	18.026	CC, ES
EXIST HZ CECILS KERSEY FARM #17B-302 - Wellbore	6,650.0	11,362.0	2,970.0	2,815.4	19.212	SF
EXIST HZ CECILS KERSEY FARM #17B-302 - Wellbore	6,684.1	11,362.0	2,969.7	2,815.2	19.220	CC, ES
EXIST HZ CECILS KERSEY FARM #17K-232 - Wellbore	6,600.0	11,295.0	2,027.2	1,873.6	13.200	SF
EXIST HZ CECILS KERSEY FARM #17K-232 - Wellbore	6,650.0	11,295.0	2,026.1	1,872.7	13.209	ES
EXIST HZ CECILS KERSEY FARM #17K-232 - Wellbore	6,654.0	11,295.0	2,026.1	1,872.7	13.211	CC
EXIST HZ CECILS KERSEY FARM #17K-332 - Wellbore	6,650.0	11,372.0	2,261.8	2,108.3	14.731	SF
EXIST HZ CECILS KERSEY FARM #17K-332 - Wellbore	6,679.9	11,372.0	2,261.5	2,108.1	14.740	CC, ES
EXIST HZ CECILS KERSEY FARM #17K-402 - Wellbore	6,700.0	11,210.0	1,798.8	1,653.7	12.393	SF
EXIST HZ CECILS KERSEY FARM #17K-402 - Wellbore	6,726.2	11,210.0	1,798.5	1,653.5	12.403	CC, ES
EXIST HZ COCKROFT #B15-69-1HNM - Wellbore #1 - V	14,756.4	11,709.0	633.4	266.3	1.726	CC, ES, SF
EXIST HZ GILLAM #18X-102 - Wellbore #1 - Wellbore #	6,600.0	12,169.0	3,182.9	2,999.9	17.395	SF
EXIST HZ GILLAM #18X-102 - Wellbore #1 - Wellbore #	6,650.0	12,169.0	3,182.0	2,999.2	17.406	ES
EXIST HZ GILLAM #18X-102 - Wellbore #1 - Wellbore #	6,661.6	12,169.0	3,182.0	2,999.2	17.410	CC
EXIST HZ GILLAM #18X-232 - Wellbore #1 - Wellbore #	6,550.0	12,156.0	3,626.5	3,443.1	19.769	SF
EXIST HZ GILLAM #18X-232 - Wellbore #1 - Wellbore #	6,650.0	12,156.0	3,624.4	3,441.2	19.781	ES
EXIST HZ GILLAM #18X-232 - Wellbore #1 - Wellbore #	6,652.0	12,156.0	3,624.4	3,441.2	19.782	CC
EXIST HZ GILLAM #18X-332 - Wellbore #1 - Wellbore #	6,600.0	12,231.0	3,409.8	3,226.9	18.639	SF
EXIST HZ GILLAM #18X-332 - Wellbore #1 - Wellbore #	6,690.8	12,231.0	3,407.9	3,225.2	18.651	CC, ES
EXIST HZ GILLAM #18Y-202 - Wellbore #1 - Wellbore #	6,600.0	12,240.7	4,157.0	3,973.7	22.675	SF
EXIST HZ GILLAM #18Y-202 - Wellbore #1 - Wellbore #	6,663.4	12,242.0	4,156.3	3,973.0	22.679	CC, ES
EXIST HZ GILLAM #18Y-312 - Wellbore #1 - Wellbore #	6,600.0	12,233.0	3,937.5	3,754.7	21.549	SF
EXIST HZ GILLAM #18Y-312 - Wellbore #1 - Wellbore #	6,690.5	12,233.0	3,935.9	3,753.3	21.558	CC, ES
EXIST HZ HOLMAN #B15-65HNM - Wellbore #1 - Wellb	13,083.4	13,031.0	1,635.8	1,276.4	4.552	CC
EXIST HZ HOLMAN #B15-65HNM - Wellbore #1 - Wellb	13,100.0	13,031.0	1,635.9	1,276.1	4.547	ES
EXIST HZ HOLMAN #B15-65HNM - Wellbore #1 - Wellb	13,200.0	12,989.1	1,639.4	1,278.6	4.544	SF
EXIST HZ HOLMAN #B15-66HN - Wellbore #1 - Wellbor	17,237.2	8,765.7	976.4	619.9	2.738	CC, ES, SF
EXIST HZ HOP #18E-232 - Wellbore #1 - Wellbore #1	6,634.7	16,424.0	721.8	464.7	2.807	CC, ES, SF
EXIST HZ HOP #18E-332 - Wellbore #1 - Wellbore #1	6,682.2	16,442.0	586.4	377.3	2.804	CC, ES, SF
EXIST HZ HOP #18E-402 - Wellbore #1 - Wellbore #1	6,412.3	15,093.0	1,889.5	1,761.1	14.717	CC, ES, SF
EXIST HZ HOP #18F-102 - Wellbore #1 - Wellbore #1	6,613.8	16,506.0	443.9	245.8	2.241	CC, ES, SF
EXIST HZ HOP #18F-212 - Wellbore #1 - Wellbore #1	6,550.0	16,391.0	375.5	307.7	5.540	SF
EXIST HZ HOP #18F-212 - Wellbore #1 - Wellbore #1	6,600.0	16,391.0	363.9	300.6	5.744	ES
EXIST HZ HOP #18F-212 - Wellbore #1 - Wellbore #1	6,631.9	16,391.0	361.8	301.8	6.024	CC
EXIST HZ KLEIN #19M-402 - Wellbore #1 - Wellbore #1	9,933.8	17,440.0	4,351.8	3,962.1	11.166	CC
EXIST HZ KLEIN #19M-402 - Wellbore #1 - Wellbore #1	10,000.0	17,440.0	4,352.3	3,961.0	11.122	ES
EXIST HZ KLEIN #19M-402 - Wellbore #1 - Wellbore #1	10,500.0	17,440.0	4,388.5	3,987.9	10.957	SF

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

PDC Energy

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well WATERMELON 4N - Slot WATERMELON 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23' @ 4633.0ft (Original Well Elev)
Reference Site:	NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)	MD Reference:	KB 23' @ 4633.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	WATERMELON 4N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)						
EXIST HZ KLEIN #B16-98HZ - Wellbore #1 - Wellbore #	7,461.5	11,893.0	144.0	12.3	1.093	Level 2, CC
EXIST HZ KLEIN #B16-98HZ - Wellbore #1 - Wellbore #	7,500.0	11,893.0	149.0	-2.8	0.982	Level 1, ES, SF
EXIST HZ KLEIN #B16-99HZ - Wellbore #1 - Wellbore #	8,500.0	11,001.8	33.1	-108.1	0.235	Level 1, ES, SF
EXIST HZ KLEIN #B16-99HZ - Wellbore #1 - Wellbore #	8,543.6	10,969.0	16.5	-35.9	0.314	Level 1, CC
EXIST HZ PATRIOT #B16-69HN - Wellbore #1 - Wellbore #	7,377.3	6,796.8	1,044.5	998.4	22.624	CC
EXIST HZ PATRIOT #B16-69HN - Wellbore #1 - Wellbore #	11,700.0	11,080.4	1,157.6	895.0	4.408	ES, SF
EXIST HZ SCHAUMBERG #17F-202 - ORIGINAL WELL	6,720.0	11,867.0	592.4	444.4	4.004	CC, ES, SF
EXIST HZ SCHAUMBERG #17F-202 - SIDETRACK - SI	6,635.3	11,810.0	650.8	527.7	5.286	CC, ES, SF
EXIST HZ SCHAUMBERG #17F-232 - Wellbore #1 - We	6,690.7	11,632.0	985.9	832.6	6.430	CC, ES, SF
EXIST HZ SCHAUMBERG #17F-332 - Wellbore #1 - We	6,742.4	11,779.0	819.7	673.4	5.601	CC, ES, SF
EXIST HZ SCHAUMBERG #17G-202 - Wellbore #1 - We	6,668.7	11,796.0	1,566.4	1,407.1	9.838	CC, ES, SF
EXIST HZ SCHAUMBERG #17G-312 - Wellbore #1 - We	6,710.1	11,790.0	1,347.5	1,191.7	8.653	CC, ES, SF
EXIST HZ SEYLER B #15-69HN - Wellbore #1 - Wellbore #	15,627.9	9,760.2	1,075.1	737.8	3.187	CC
EXIST HZ SEYLER B #15-69HN - Wellbore #1 - Wellbore #	17,237.2	11,362.7	1,118.0	691.3	2.620	ES, SF
EXIST HZ SEYLER STATE #B15-79HNM - Wellbore #1	12,140.8	9,591.3	2.7	-65.0	0.040	Level 1, CC, ES, SF
EXIST VERT FRENZEL #B15-25 - Wellbore #1 - Design	13,542.8	6,563.9	2,859.4	2,540.6	8.970	CC
EXIST VERT FRENZEL #B15-25 - Wellbore #1 - Design	13,600.0	6,563.4	2,860.0	2,539.6	8.928	ES
EXIST VERT FRENZEL #B15-25 - Wellbore #1 - Design	14,000.0	6,560.4	2,895.7	2,566.7	8.802	SF
EXIST VERT FRENZEL #B15-5 - Wellbore #1 - Wellbore #	12,666.2	6,558.3	1,394.2	1,228.9	8.434	CC
EXIST VERT FRENZEL #B15-5 - Wellbore #1 - Wellbore #	12,700.0	6,558.2	1,394.6	1,228.4	8.391	ES
EXIST VERT FRENZEL #B15-5 - Wellbore #1 - Wellbore #	12,800.0	6,558.0	1,400.6	1,232.3	8.323	SF
EXIST VERT HOSHIKO #41-17 - Wellbore #1 - Wellbore #	6,145.7	5,922.1	416.9	393.9	18.151	CC, ES
EXIST VERT HOSHIKO #41-17 - Wellbore #1 - Wellbore #	6,150.0	5,926.4	416.9	393.9	18.146	SF
EXIST VERT HOSHIKO #42-17 - Wellbore #1 - Wellbore #	5,684.1	5,433.4	1,088.0	1,058.1	36.320	CC
EXIST VERT HOSHIKO #42-17 - Wellbore #1 - Wellbore #	5,700.0	5,447.6	1,088.1	1,058.1	36.265	ES
EXIST VERT HOSHIKO #42-17 - Wellbore #1 - Wellbore #	6,150.0	5,913.1	1,097.8	1,067.0	35.700	SF
EXIST VERT LOUSTALET #41-15 - Wellbore #1 - Wellbore #	16,678.3	6,524.9	304.5	27.3	1.098	Level 2, CC, ES, SF
EXIST VERT LOUSTALET #42-15 - Wellbore #1 - Wellbore #	16,516.1	6,473.4	1,166.3	894.2	4.287	CC, ES
EXIST VERT LOUSTALET #42-15 - Wellbore #1 - Wellbore #	16,600.0	6,474.2	1,169.3	895.5	4.271	SF
EXIST VERT LOUSTALET #B15-10 - Wellbore #1 - Design	15,529.2	6,535.9	2,193.3	1,819.6	5.869	CC
EXIST VERT LOUSTALET #B15-10 - Wellbore #1 - Design	15,600.0	6,535.4	2,194.5	1,818.9	5.843	ES
EXIST VERT LOUSTALET #B15-10 - Wellbore #1 - Design	15,700.0	6,534.6	2,200.0	1,822.2	5.824	SF
EXIST VERT LOUSTALET #B15-11 - Wellbore #1 - Design	14,287.2	6,558.3	2,267.0	1,927.6	6.680	CC
EXIST VERT LOUSTALET #B15-11 - Wellbore #1 - Design	14,300.0	6,558.2	2,267.0	1,927.3	6.673	ES
EXIST VERT LOUSTALET #B15-11 - Wellbore #1 - Design	14,500.0	6,556.7	2,276.9	1,932.5	6.611	SF
EXIST VERT LOUSTALET #B15-15X - Wellbore #1 - Design	15,720.6	6,543.5	3,763.6	3,384.4	9.927	CC
EXIST VERT LOUSTALET #B15-15X - Wellbore #1 - Design	15,800.0	6,542.9	3,764.4	3,383.1	9.873	ES
EXIST VERT LOUSTALET #B15-15X - Wellbore #1 - Design	16,300.0	6,539.1	3,807.9	3,415.7	9.708	SF
EXIST VERT LOUSTALET #B15-23 - Wellbore #1 - Design	16,182.9	6,600.0	2,933.1	2,670.0	11.148	CC
EXIST VERT LOUSTALET #B15-23 - Wellbore #1 - Design	16,300.0	6,600.0	2,935.5	2,669.3	11.028	ES
EXIST VERT LOUSTALET #B15-23 - Wellbore #1 - Design	16,600.0	6,600.0	2,962.6	2,690.5	10.887	SF
EXIST VERT PATRIOT #B16-10 - Wellbore #1 - Wellbore #	10,420.3	6,602.4	2,354.8	2,250.6	22.596	CC
EXIST VERT PATRIOT #B16-10 - Wellbore #1 - Wellbore #	10,500.0	6,601.9	2,356.2	2,249.8	22.163	ES
EXIST VERT PATRIOT #B16-10 - Wellbore #1 - Wellbore #	11,100.0	6,597.7	2,450.9	2,332.9	20.759	SF
EXIST VERT PATRIOT #B16-11 - Wellbore #1 - Wellbore #	9,045.3	6,636.1	2,342.6	2,274.8	34.578	CC
EXIST VERT PATRIOT #B16-11 - Wellbore #1 - Wellbore #	9,100.0	6,635.5	2,343.2	2,274.1	33.901	ES
EXIST VERT PATRIOT #B16-11 - Wellbore #1 - Wellbore #	10,000.0	6,624.1	2,529.6	2,443.3	29.308	SF
EXIST VERT PATRIOT #B16-12 - Wellbore #1 - Design	7,502.3	6,636.3	2,326.6	2,162.6	14.192	CC, ES
EXIST VERT PATRIOT #B16-12 - Wellbore #1 - Design	8,000.0	6,632.6	2,379.2	2,207.8	13.879	SF
EXIST VERT PATRIOT #B16-14 - Wellbore #1 - Wellbore #	8,910.6	6,482.6	3,804.4	3,740.2	59.271	CC
EXIST VERT PATRIOT #B16-14 - Wellbore #1 - Wellbore #	9,000.0	6,476.3	3,805.4	3,739.0	57.315	ES

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

PDC Energy

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well WATERMELON 4N - Slot WATERMELON 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23' @ 4633.0ft (Original Well Elev)
Reference Site:	NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)	MD Reference:	KB 23' @ 4633.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	WATERMELON 4N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)						
EXIST VERT PATRIOT #B16-14 - Wellbore #1 - Wellbore	11,100.0	6,354.2	4,387.9	4,281.4	41.233 SF	
EXIST VERT PATRIOT #B16-15 - Wellbore #1 - Wellbore	10,286.5	6,513.9	3,876.1	3,775.9	38.680 CC	
EXIST VERT PATRIOT #B16-15 - Wellbore #1 - Wellbore	10,400.0	6,515.1	3,877.8	3,774.6	37.563 ES	
EXIST VERT PATRIOT #B16-15 - Wellbore #1 - Wellbore	12,000.0	6,533.1	4,238.0	4,103.1	31.411 SF	
EXIST VERT PATRIOT #B16-16 - Wellbore #1 - Wellbore	11,598.7	6,300.0	3,869.0	3,733.7	28.585 CC	
EXIST VERT PATRIOT #B16-16 - Wellbore #1 - Wellbore	11,700.0	6,300.0	3,870.3	3,732.2	28.028 ES	
EXIST VERT PATRIOT #B16-16 - Wellbore #1 - Wellbore	13,000.0	6,340.0	4,114.7	3,950.7	25.091 SF	
EXIST VERT PATRIOT #B16-17 - Wellbore #1 - Wellbore	10,954.3	6,572.8	263.9	145.7	2.233 CC, ES, SF	
EXIST VERT PATRIOT #B16-18 - Wellbore #1 - Wellbore	9,634.5	6,609.3	340.7	257.5	4.094 CC, ES, SF	
EXIST VERT PATRIOT #B16-19 - Wellbore #1 - Wellbore	8,382.0	6,613.3	616.9	565.3	11.953 CC	
EXIST VERT PATRIOT #B16-19 - Wellbore #1 - Wellbore	8,400.0	6,613.5	617.1	565.2	11.874 ES	
EXIST VERT PATRIOT #B16-19 - Wellbore #1 - Wellbore	8,500.0	6,614.3	628.1	574.7	11.777 SF	
EXIST VERT PATRIOT #B16-2 - Wellbore #1 - Wellbore	10,478.8	6,576.6	147.4	42.2	1.401 Level 3, CC, ES, SF	
EXIST VERT PATRIOT #B16-20 - Wellbore #1 - Wellbore	8,225.5	6,623.8	1,648.4	1,600.3	34.225 CC, ES	
EXIST VERT PATRIOT #B16-20 - Wellbore #1 - Wellbore	8,900.0	6,617.5	1,781.1	1,721.4	29.834 SF	
EXIST VERT PATRIOT #B16-21 - Wellbore #1 - Wellbore	9,564.3	6,601.5	1,731.1	1,650.1	21.371 CC	
EXIST VERT PATRIOT #B16-21 - Wellbore #1 - Wellbore	9,600.0	6,600.8	1,731.5	1,649.6	21.136 ES	
EXIST VERT PATRIOT #B16-21 - Wellbore #1 - Wellbore	10,000.0	6,592.9	1,785.1	1,695.2	19.865 SF	
EXIST VERT PATRIOT #B16-22 - Wellbore #1 - Wellbore	10,927.5	6,597.9	1,630.0	1,512.5	13.878 CC	
EXIST VERT PATRIOT #B16-22 - Wellbore #1 - Wellbore	11,000.0	6,597.8	1,631.6	1,512.3	13.675 ES	
EXIST VERT PATRIOT #B16-22 - Wellbore #1 - Wellbore	11,200.0	6,597.5	1,652.6	1,529.4	13.411 SF	
EXIST VERT PATRIOT #B16-23 - Wellbore #1 - Wellbore	10,916.0	6,611.0	2,965.8	2,849.2	25.437 CC	
EXIST VERT PATRIOT #B16-23 - Wellbore #1 - Wellbore	11,000.0	6,610.3	2,967.0	2,848.2	24.966 ES	
EXIST VERT PATRIOT #B16-23 - Wellbore #1 - Wellbore	11,900.0	6,600.0	3,124.8	2,988.3	22.892 SF	
EXIST VERT PATRIOT #B16-24 - Wellbore #1 - Wellbore	9,533.2	6,581.9	3,159.8	3,079.6	39.411 CC	
EXIST VERT PATRIOT #B16-24 - Wellbore #1 - Wellbore	9,600.0	6,579.9	3,160.5	3,078.6	38.586 ES	
EXIST VERT PATRIOT #B16-24 - Wellbore #1 - Wellbore	10,900.0	6,538.1	3,442.4	3,334.8	31.979 SF	
EXIST VERT PATRIOT #B16-25 - Wellbore #1 - Design #	8,412.5	6,640.5	2,810.6	2,629.2	15.491 CC	
EXIST VERT PATRIOT #B16-25 - Wellbore #1 - Design #	8,500.0	6,639.8	2,812.0	2,628.6	15.331 ES	
EXIST VERT PATRIOT #B16-25 - Wellbore #1 - Design #	9,200.0	6,634.6	2,918.9	2,720.7	14.733 SF	
EXIST VERT PATRIOT #B16-4 - Wellbore #1 - Wellbore	1,929.5	1,870.5	393.5	386.0	52.316 CC, ES	
EXIST VERT PATRIOT #B16-4 - Wellbore #1 - Wellbore	7,700.0	6,615.4	484.3	447.0	12.960 SF	
EXIST VERT PATRIOT #B16-5 - Wellbore #1 - Wellbore	7,613.9	6,600.0	931.5	895.1	25.553 CC, ES	
EXIST VERT PATRIOT #B16-5 - Wellbore #1 - Wellbore	7,800.0	6,600.0	949.9	911.2	24.544 SF	
EXIST VERT PATRIOT #B16-6 - Wellbore #1 - Wellbore	9,081.9	6,616.5	1,135.0	1,066.2	16.516 CC	
EXIST VERT PATRIOT #B16-6 - Wellbore #1 - Wellbore	9,100.0	6,616.5	1,135.1	1,065.9	16.414 ES	
EXIST VERT PATRIOT #B16-6 - Wellbore #1 - Wellbore	9,300.0	6,615.7	1,155.7	1,082.8	15.849 SF	
EXIST VERT PATRIOT #B16-7 - Wellbore #1 - Wellbore	10,247.1	6,605.1	861.8	762.9	8.710 CC, ES	
EXIST VERT PATRIOT #B16-7 - Wellbore #1 - Wellbore	10,300.0	6,605.2	863.4	763.2	8.617 SF	
EXIST VERT PATRIOT #B16-8 - Wellbore #1 - Wellbore	11,583.7	6,576.5	845.4	709.8	6.236 CC	
EXIST VERT PATRIOT #B16-8 - Wellbore #1 - Wellbore	11,600.0	6,576.5	845.5	709.5	6.217 ES	
EXIST VERT PATRIOT #B16-8 - Wellbore #1 - Wellbore	11,700.0	6,576.4	853.3	715.8	6.205 SF	
WATERMELON 10N - ORIGINAL WELLBORE - PROPO	600.0	600.0	90.0	87.6	37.181 CC, ES	
WATERMELON 10N - ORIGINAL WELLBORE - PROPO	17,237.2	17,600.2	1,540.2	959.0	2.650 SF	
WATERMELON 1N - ORIGINAL WELLBORE - PROPOS	300.0	300.0	45.0	43.9	41.932 CC, ES	
WATERMELON 1N - ORIGINAL WELLBORE - PROPOS	16,854.8	16,962.2	846.3	286.6	1.512 SF	
WATERMELON 2N - ORIGINAL WELLBORE - PROPOS	400.0	400.0	30.0	28.5	19.739 CC	
WATERMELON 2N - ORIGINAL WELLBORE - PROPOS	17,237.2	17,230.2	513.6	-67.5	0.884 Level 1, ES, SF	
WATERMELON 3N - ORIGINAL WELLBORE - PROPOS	500.0	500.0	15.0	13.0	7.601 CC	
WATERMELON 3N - ORIGINAL WELLBORE - PROPOS	17,227.3	17,294.2	260.8	-310.5	0.457 Level 1, ES, SF	
WATERMELON 5N - ORIGINAL WELLBORE - PROPOS	600.0	600.0	15.1	12.7	6.234 CC	

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

PDC Energy
Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well WATERMELON 4N - Slot WATERMELON 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23' @ 4633.0ft (Original Well Elev)
Reference Site:	NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)	MD Reference:	KB 23' @ 4633.0ft (Original Well Elev)
Site Error:	0.0 ft	North Reference:	True
Reference Well:	WATERMELON 4N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 ft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)						
WATERMELON 5N - ORIGINAL WELLBORE - PROPOS	17,237.2	17,332.3	261.8	-310.2	0.458	Level 1, ES, SF
WATERMELON 6N - ORIGINAL WELLBORE - PROPOS	600.0	600.0	30.0	27.5	12.378	CC
WATERMELON 6N - ORIGINAL WELLBORE - PROPOS	17,237.2	17,289.0	514.6	-66.8	0.885	Level 1, ES, SF
WATERMELON 7N - ORIGINAL WELLBORE - PROPOS	600.0	600.0	45.0	42.5	18.576	CC, ES
WATERMELON 7N - ORIGINAL WELLBORE - PROPOS	17,237.2	17,426.4	771.6	190.9	1.329	Level 3, SF
WATERMELON 8N - ORIGINAL WELLBORE - PROPOS	600.0	600.0	60.0	57.5	24.769	CC, ES
WATERMELON 8N - ORIGINAL WELLBORE - PROPOS	17,237.2	17,408.9	1,027.3	445.7	1.766	SF
WATERMELON 9N - ORIGINAL WELLBORE - PROPOS	600.0	600.0	75.0	72.6	30.996	CC, ES
WATERMELON 9N - ORIGINAL WELLBORE - PROPOS	17,237.2	17,563.6	1,285.4	704.7	2.214	SF