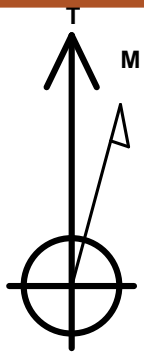
Project: WELD COUNTY, COLORADO (TRUE)
Site: NW NW SEC. 16 T5N R64W 6th P.M.
Well: WATERMELON 1N
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1



Azimuths to True North
Magnetic North: 7.93°

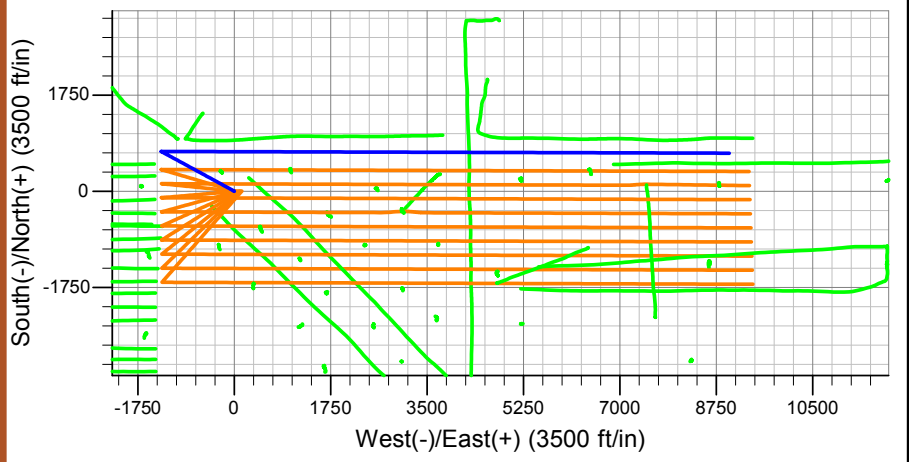
Magnetic Field
Strength: 52228.5nT
Dip Angle: 66.85°
Date: 2/11/2019
Model: IGRF2015

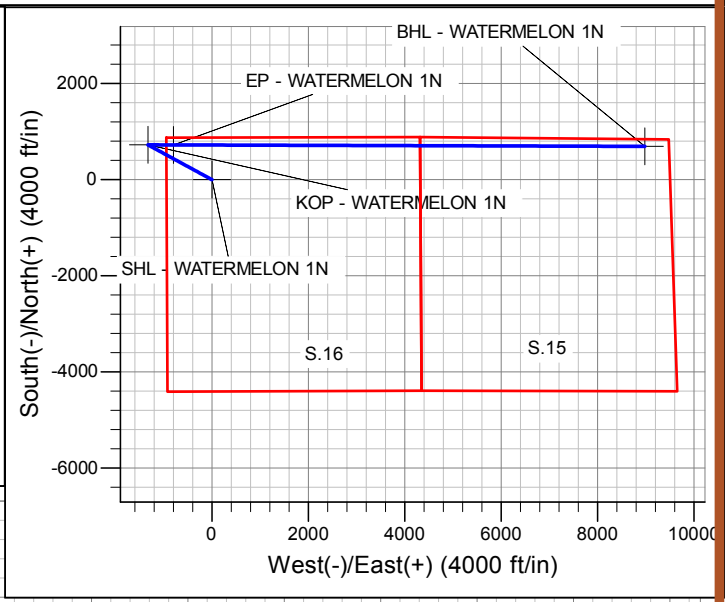
ANNOTATIONS

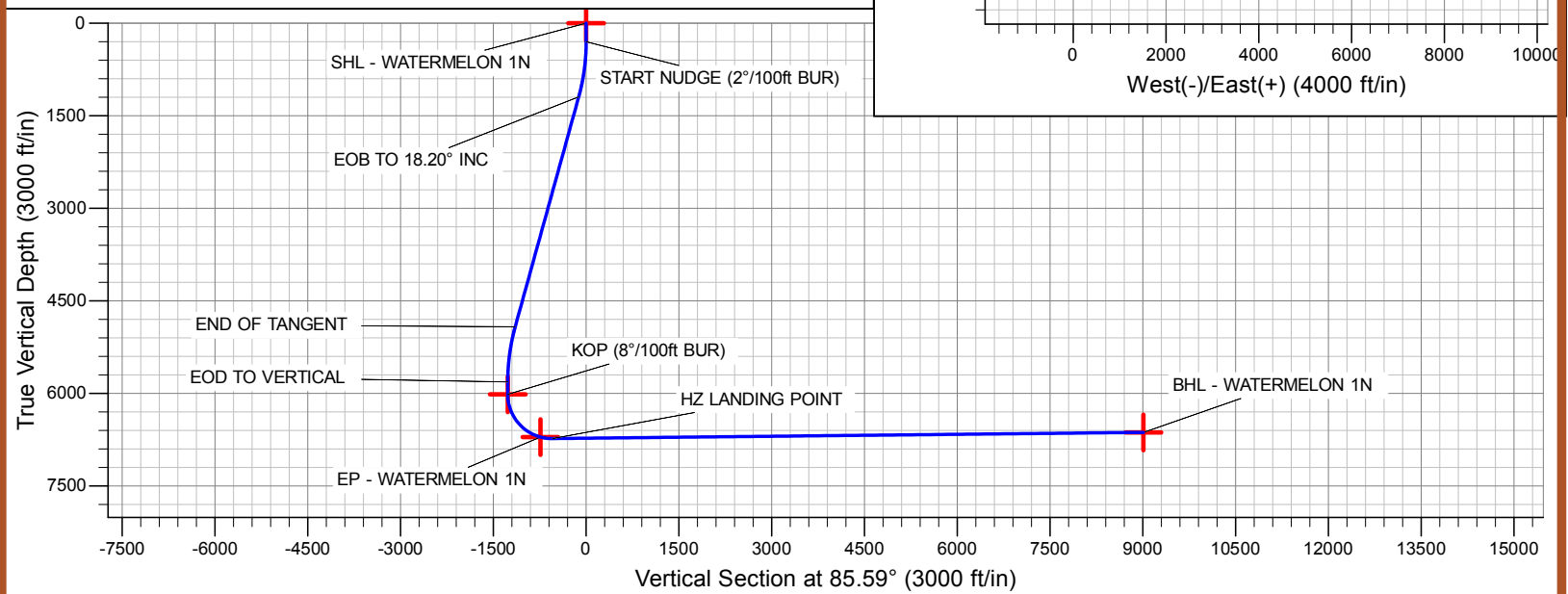
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSect	Departure	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	SHL: 875ft FNL & 943ft FWL of Sec 16
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1210.0	18.20	298.62	1194.8	68.6	-125.8	-120.2	143.3	EOB TO 18.20° INC
5133.6	18.20	298.62	4922.1	655.6	-1201.6	-1147.6	1368.8	END OF TANGENT
6043.6	0.00	0.00	5816.9	724.2	-1327.4	-1267.8	1512.1	EOD TO VERTICAL
6243.6	0.00	0.00	6016.9	724.2	-1327.4	-1267.8	1512.1	KOP (8°/100ft BUR)
7181.1	75.00	90.17	6708.7	722.6	-796.5	-738.6	2042.9	EP: 150ft FNL & 150ft FWL of Sec 16
7376.1	90.60	90.17	6733.0	722.0	-603.7	-546.4	2235.8	HZ LANDING POINT
16962.6	90.60	90.18	6633.0	692.7	8982.3	9008.9	11821.8	BHL: 150ft FNL & 500ft FEL of Sec 15

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL - WATERMELON 1N	0.0	0.0	0.0	1391460.12	3261477.62	40° 24' 14.975 N	104° 33' 39.893 W
KOP - WATERMELON 1N	6016.9	724.2	-1327.4	1392170.20	3260142.70	40° 24' 22.131 N	104° 33' 57.052 W
BHL - WATERMELON 1N	6633.0	692.7	8982.3	1392247.88	3270451.69	40° 24' 21.804 N	104° 31' 43.783 W
EP - WATERMELON 1N	6708.7	722.6	-796.6	1392174.24	3260673.49	40° 24' 22.116 N	104° 33' 50.190 W







PDC ENERGY

WELD COUNTY, COLORADO (TRUE)
NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)
WATERMELON 1N

ORIGINAL WELLBORE
PROPOSAL #1

Anticollision Report

18 March, 2019

PDC Energy
Anticollision Report

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well WATERMELON 1N - Slot WATERMELON 1N
Project:	WELD COUNTY, COLORADO (TRUE)	**TVD Reference:**	KB 23' @ 4633.0ft
Reference Site:	NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)	**MD Reference:**	KB 23' @ 4633.0ft
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	WATERMELON 1N	**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	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 1,000.0 ft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 3/18/2019

From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.0	16,962.2	PROPOSAL #1 (ORIGINAL WELLBORE)	MWD	MWD - Standard

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)						
ABDN VERT DROEGEMULLER #11-5 - Wellbore #1 - W	13,201.2	6,600.0	519.3	341.6	2.922	CC, ES, SF
ABDN VERT LOUSTALET #15-1 - Wellbore #1 - Wellbor	13,229.8	6,613.6	3,113.9	2,935.5	17.454	CC
ABDN VERT LOUSTALET #15-1 - Wellbore #1 - Wellbor	13,300.0	6,612.8	3,114.7	2,934.4	17.279	ES
ABDN VERT LOUSTALET #15-1 - Wellbore #1 - Wellbor	13,900.0	6,606.1	3,185.2	2,993.0	16.572	SF
ABDN VERT LOUSTALET #21-15 - Wellbore #1 - Wellbc	14,448.9	6,607.9	386.9	174.5	1.821	CC, ES, SF
ABDN VERT LOUSTALET #B15-14 - Wellbore #1 - Desi	14,523.5	6,609.4	4,440.9	4,096.3	12.888	CC
ABDN VERT LOUSTALET #B15-14 - Wellbore #1 - Desi	14,600.0	6,608.6	4,441.6	4,095.0	12.815	ES
ABDN VERT LOUSTALET #B15-14 - Wellbore #1 - Desi	15,400.0	6,600.3	4,526.6	4,162.8	12.444	SF
ABDN VERT LOUSTALET #B15-15 - Wellbore #1 - Desi	15,608.9	6,597.1	4,464.2	4,089.6	11.916	CC
ABDN VERT LOUSTALET #B15-15 - Wellbore #1 - Desi	15,700.0	6,596.1	4,465.1	4,088.1	11.843	ES
ABDN VERT LOUSTALET #B15-15 - Wellbore #1 - Desi	16,400.0	6,588.9	4,533.7	4,141.8	11.567	SF
ABDN VERT LOUSTALET #B15-16 - Wellbore #1 - Wellb	16,802.1	6,422.4	4,562.0	4,284.1	16.416	CC
ABDN VERT LOUSTALET #B15-16 - Wellbore #1 - Wellb	16,900.0	6,424.2	4,563.1	4,282.6	16.267	ES
ABDN VERT LOUSTALET #B15-16 - Wellbore #1 - Wellb	16,962.6	6,425.3	4,564.8	4,283.4	16.218	SF
ABDN VERT LOUSTALET #B15-9 - Wellbore #1 - Desig	16,839.9	6,582.3	3,234.4	2,825.6	7.912	CC
ABDN VERT LOUSTALET #B15-9 - Wellbore #1 - Desig	16,900.0	6,581.7	3,234.9	2,824.6	7.884	ES
ABDN VERT LOUSTALET #B15-9 - Wellbore #1 - Desig	16,962.6	6,581.0	3,236.7	2,825.5	7.871	SF
ABDN VERT PATRIOT #B16-13 - Wellbore #1 - Wellbore	0.0	0.0	3,838.9			
ABDN VERT PATRIOT #B16-13 - Wellbore #1 - Wellbore	100.0	69.0	3,838.9	3,838.8	10,000.000	ES
ABDN VERT PATRIOT #B16-13 - Wellbore #1 - Wellbore	11,400.0	6,688.1	5,888.4	5,789.2	59.351	SF
ABDN VERT PATRIOT #B16-3 - Wellbore #1 - Wellbore	9,012.8	6,662.0	374.2	309.9	5.825	CC, ES, SF
ABDN VERT PATRIOT #B16-9 - Wellbore #1 - Wellbore	11,653.4	6,712.4	3,043.2	2,908.2	22.540	CC
ABDN VERT PATRIOT #B16-9 - Wellbore #1 - Wellbore	11,700.0	6,711.7	3,043.6	2,907.3	22.340	ES
ABDN VERT PATRIOT #B16-9 - Wellbore #1 - Wellbore	12,500.0	6,700.0	3,158.7	3,006.8	20.783	SF
ABDN VERT SOLIS #43-17 - Wellbore #1 - Wellbore #1	1,384.5	1,366.5	3,040.9	3,035.3	541.934	CC
ABDN VERT SOLIS #43-17 - Wellbore #1 - Wellbore #1	1,500.0	1,466.9	3,041.3	3,034.9	477.191	ES
ABDN VERT SOLIS #43-17 - Wellbore #1 - Wellbore #1	10,100.0	5,500.0	5,197.1	5,134.1	82.562	SF
ABDN VERT SOLIS #44-17 - Wellbore #1 - Wellbore #1	0.0	0.0	3,762.2			
ABDN VERT SOLIS #44-17 - Wellbore #1 - Wellbore #1	10,900.0	6,660.3	6,060.4	5,979.0	74.418	SF
EXIST DD BAUER DEBUS #22JD - Wellbore #1 - Wellbc	13,688.1	6,511.0	5,226.2	5,020.5	25.409	CC
EXIST DD BAUER DEBUS #22JD - Wellbore #1 - Wellbc	13,800.0	6,511.0	5,227.4	5,018.6	25.037	ES
EXIST DD BAUER DEBUS #22JD - Wellbore #1 - Wellbc	15,400.0	6,486.1	5,499.3	5,257.3	22.726	SF
EXIST DD BAUER DEBUS #22MD - Wellbore #1 - Wellb	14,950.9	6,720.8	5,147.0	4,903.6	21.147	CC
EXIST DD BAUER DEBUS #22MD - Wellbore #1 - Wellb	15,100.0	6,719.0	5,149.1	4,901.9	20.829	ES
EXIST DD BAUER DEBUS #22MD - Wellbore #1 - Wellb	16,300.0	6,703.6	5,320.8	5,050.5	19.687	SF

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

PDC Energy

Anticollision Report

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well WATERMELON 1N - Slot WATERMELON 1N
Project:	WELD COUNTY, COLORADO (TRUE)	**TVD Reference:**	KB 23' @ 4633.0ft
Reference Site:	NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)	**MD Reference:**	KB 23' @ 4633.0ft
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	WATERMELON 1N	**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 DOUGHMAN #22RD - Wellbore #1 - Wellbore	16,344.3	6,581.0	5,191.7	4,911.2	18.503	CC
EXIST DD DOUGHMAN #22RD - Wellbore #1 - Wellbore	16,500.0	6,580.1	5,194.1	4,909.2	18.231	ES
EXIST DD DOUGHMAN #22RD - Wellbore #1 - Wellbore	16,962.6	6,577.6	5,228.4	4,932.8	17.689	SF
EXIST DD FRENZEL #B15-6 - Wellbore #1 - Wellbore #1	14,408.7	6,976.4	1,726.9	1,509.0	7.927	CC, ES
EXIST DD FRENZEL #B15-6 - Wellbore #1 - Wellbore #1	14,600.0	6,977.1	1,737.5	1,516.2	7.852	SF
EXIST DD GLOVER USX #B15-02CD - Wellbore #1 - W	15,462.9	7,175.0	591.3	349.2	2.442	CC, ES
EXIST DD GLOVER USX #B15-02CD - Wellbore #1 - W	15,500.0	7,175.0	592.5	349.8	2.442	SF
EXIST DD JURGENS STATE #B16-30D - Wellbore #1 -	6,850.0	6,855.1	236.1	172.2	3.694	SF
EXIST DD JURGENS STATE #B16-30D - Wellbore #1 -	6,900.0	6,888.1	230.2	169.8	3.808	ES
EXIST DD JURGENS STATE #B16-30D - Wellbore #1 -	6,922.5	6,902.2	229.5	171.1	3.925	CC
EXIST DD KLEIN #B15-13D - Wellbore #1 - Wellbore #1	13,028.5	6,728.3	4,475.8	4,297.7	25.124	CC
EXIST DD KLEIN #B15-13D - Wellbore #1 - Wellbore #1	13,100.0	6,728.5	4,476.4	4,296.4	24.863	ES
EXIST DD KLEIN #B15-13D - Wellbore #1 - Wellbore #1	14,400.0	6,731.0	4,681.2	4,475.5	22.759	SF
EXIST DD PATRIOT #B16-1 - Wellbore #1 - Wellbore #1	11,717.9	6,743.2	402.5	264.7	2.921	CC, ES, SF
EXIST HZ CECILS KERSEY FARM #17B-212 - Wellbore	6,650.0	11,218.0	3,605.9	3,450.6	23.213	SF
EXIST HZ CECILS KERSEY FARM #17B-212 - Wellbore	6,711.3	11,218.0	3,605.2	3,449.9	23.219	CC, ES
EXIST HZ CECILS KERSEY FARM #17B-302 - Wellbore	6,700.0	11,362.0	3,801.5	3,645.5	24.356	SF
EXIST HZ CECILS KERSEY FARM #17B-302 - Wellbore	6,749.5	11,362.0	3,801.1	3,645.0	24.360	CC, ES
EXIST HZ CECILS KERSEY FARM #17K-232 - Wellbore	6,650.0	11,295.0	2,853.8	2,697.5	18.265	SF
EXIST HZ CECILS KERSEY FARM #17K-232 - Wellbore	6,717.0	11,295.0	2,852.6	2,696.5	18.270	CC, ES
EXIST HZ CECILS KERSEY FARM #17K-332 - Wellbore	6,700.0	11,372.0	3,088.4	2,932.4	19.792	SF
EXIST HZ CECILS KERSEY FARM #17K-332 - Wellbore	6,745.3	11,372.0	3,087.9	2,932.0	19.798	CC, ES
EXIST HZ CECILS KERSEY FARM #17K-402 - Wellbore	6,750.0	11,210.0	2,611.1	2,460.9	17.387	SF
EXIST HZ CECILS KERSEY FARM #17K-402 - Wellbore	6,796.2	11,210.0	2,610.5	2,460.4	17.393	CC, ES
EXIST HZ COCKROFT #B15-69-1HNM - Wellbore #1 - V	16,041.6	10,530.6	188.6	-163.0	0.536	Level 1, CC, SF
EXIST HZ COCKROFT #B15-69-1HNM - Wellbore #1 - V	16,600.0	9,973.3	193.9	-164.2	0.541	Level 1, ES
EXIST HZ GILLAM #18X-102 - Wellbore #1 - Wellbore #	6,650.0	12,169.0	4,016.9	3,832.6	21.796	SF
EXIST HZ GILLAM #18X-102 - Wellbore #1 - Wellbore #	6,724.7	12,169.0	4,015.9	3,831.7	21.807	CC, ES
EXIST HZ GILLAM #18X-232 - Wellbore #1 - Wellbore #	6,650.0	12,156.0	4,460.7	4,276.4	24.203	SF
EXIST HZ GILLAM #18X-232 - Wellbore #1 - Wellbore #	6,714.0	12,156.0	4,460.1	4,275.9	24.212	CC, ES
EXIST HZ GILLAM #18X-332 - Wellbore #1 - Wellbore #	6,700.0	12,231.0	4,241.6	4,057.4	23.033	SF
EXIST HZ GILLAM #18X-332 - Wellbore #1 - Wellbore #	6,750.0	12,231.0	4,241.0	4,057.0	23.039	ES
EXIST HZ GILLAM #18X-332 - Wellbore #1 - Wellbore #	6,756.5	12,231.0	4,241.0	4,057.0	23.041	CC
EXIST HZ GILLAM #18Y-202 - Wellbore #1 - Wellbore #	6,703.7	12,187.0	4,992.7	4,810.1	27.346	CC
EXIST HZ GILLAM #18Y-202 - Wellbore #1 - Wellbore #	6,750.0	12,214.4	4,992.9	4,809.7	27.246	ES
EXIST HZ GILLAM #18Y-202 - Wellbore #1 - Wellbore #	6,800.0	12,242.0	4,993.7	4,809.8	27.149	SF
EXIST HZ GILLAM #18Y-312 - Wellbore #1 - Wellbore #	6,700.0	12,233.0	4,771.1	4,587.5	25.985	SF
EXIST HZ GILLAM #18Y-312 - Wellbore #1 - Wellbore #	6,756.0	12,233.0	4,770.6	4,587.1	25.989	CC, ES
EXIST HZ HOLMAN #B15-65HNM - Wellbore #1 - Wellb	13,190.6	13,031.0	2,481.7	2,122.0	6.899	CC
EXIST HZ HOLMAN #B15-65HNM - Wellbore #1 - Wellb	13,200.0	13,031.0	2,481.7	2,121.8	6.895	ES
EXIST HZ HOLMAN #B15-65HNM - Wellbore #1 - Wellb	13,300.0	13,031.0	2,484.1	2,122.1	6.863	SF
EXIST HZ HOLMAN #B15-66HN - Wellbore #1 - Wellbor	16,900.0	9,162.5	1,853.1	1,496.8	5.201	SF
EXIST HZ HOLMAN #B15-66HN - Wellbore #1 - Wellbor	16,962.6	9,083.4	1,849.0	1,493.9	5.207	CC, ES
EXIST HZ HOP #18E-232 - Wellbore #1 - Wellbore #1	6,697.6	16,424.0	401.3	220.5	2.220	CC, ES, SF
EXIST HZ HOP #18E-332 - Wellbore #1 - Wellbore #1	6,749.0	16,442.0	582.9	348.7	2.488	CC, ES, SF
EXIST HZ HOP #18E-402 - Wellbore #1 - Wellbore #1	6,243.6	15,093.0	1,725.5	1,674.9	34.089	SF
EXIST HZ HOP #18E-402 - Wellbore #1 - Wellbore #1	6,491.7	15,093.0	1,665.7	1,618.8	35.504	CC, ES
EXIST HZ HOP #18F-102 - Wellbore #1 - Wellbore #1	6,674.0	16,506.0	1,167.5	876.0	4.006	CC, ES, SF
EXIST HZ HOP #18F-212 - Wellbore #1 - Wellbore #1	6,693.9	16,391.0	927.6	643.8	3.269	CC, ES, SF
EXIST HZ KLEIN #19M-402 - Wellbore #1 - Wellbore #1	10,039.5	17,440.0	5,193.3	4,803.0	13.306	CC
EXIST HZ KLEIN #19M-402 - Wellbore #1 - Wellbore #1	10,200.0	17,440.0	5,195.7	4,801.6	13.183	ES

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

PDC Energy
Anticollision Report

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well WATERMELON 1N - Slot WATERMELON 1N
Project:	WELD COUNTY, COLORADO (TRUE)	**TVD Reference:**	KB 23' @ 4633.0ft
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Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	WATERMELON 1N	**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 #19M-402 - Wellbore #1 - Wellbore #1	10,900.0	17,440.0	5,264.1	4,857.6	12.952	SF
EXIST HZ KLEIN #B16-98HZ - Wellbore #1 - Wellbore #	7,568.8	11,893.0	990.2	858.9	7.544	CC
EXIST HZ KLEIN #B16-98HZ - Wellbore #1 - Wellbore #	7,700.0	11,893.0	998.8	853.7	6.882	ES
EXIST HZ KLEIN #B16-98HZ - Wellbore #1 - Wellbore #	8,000.0	11,893.0	1,080.0	913.0	6.469	SF
EXIST HZ KLEIN #B16-99HZ - Wellbore #1 - Wellbore #	8,245.3	11,516.0	480.4	350.5	3.698	CC
EXIST HZ KLEIN #B16-99HZ - Wellbore #1 - Wellbore #	8,300.0	11,516.0	483.5	342.1	3.419	ES
EXIST HZ KLEIN #B16-99HZ - Wellbore #1 - Wellbore #	8,400.0	11,516.0	504.7	347.2	3.204	SF
EXIST HZ PATRIOT #B16-69HN - Wellbore #1 - Wellbor	7,839.4	7,158.3	212.9	157.5	3.839	CC
EXIST HZ PATRIOT #B16-69HN - Wellbore #1 - Wellbor	11,700.0	11,009.9	315.9	62.0	1.244	Level 2, ES, SF
EXIST HZ SCHAUMBERG #17F-202 - ORIGINAL WELL	6,783.9	11,867.0	1,380.2	1,212.4	8.226	CC, ES, SF
EXIST HZ SCHAUMBERG #17F-202 - SIDETRACK - SI	6,699.9	11,810.0	1,381.5	1,220.8	8.600	CC, ES, SF
EXIST HZ SCHAUMBERG #17F-232 - Wellbore #1 - We	6,754.4	11,632.0	1,792.9	1,630.8	11.060	CC, ES, SF
EXIST HZ SCHAUMBERG #17F-332 - Wellbore #1 - We	6,810.3	11,779.0	1,606.1	1,444.4	9.929	CC, ES, SF
EXIST HZ SCHAUMBERG #17G-202 - Wellbore #1 - We	6,732.6	11,796.0	2,385.7	2,222.1	14.590	CC, ES
EXIST HZ SCHAUMBERG #17G-202 - Wellbore #1 - We	6,750.0	11,796.0	2,385.7	2,222.2	14.590	SF
EXIST HZ SCHAUMBERG #17G-312 - Wellbore #1 - We	6,776.8	11,790.0	2,158.5	1,996.7	13.341	CC, ES
EXIST HZ SCHAUMBERG #17G-312 - Wellbore #1 - We	6,800.0	11,790.0	2,158.7	1,996.8	13.340	SF
EXIST HZ SEYLER B #15-69HN - Wellbore #1 - Wellbor	15,762.6	9,783.8	236.3	-95.2	0.713	Level 1, CC
EXIST HZ SEYLER B #15-69HN - Wellbore #1 - Wellbor	16,200.0	10,211.7	245.5	-113.1	0.685	Level 1, SF
EXIST HZ SEYLER B #15-69HN - Wellbore #1 - Wellbor	16,962.6	10,988.6	277.1	-127.2	0.685	Level 1, ES
EXIST HZ SEYLER STATE #B15-79HNM - Wellbore #1	12,242.1	8,744.7	58.8	-3.9	0.938	Level 1, CC, ES, SF
EXIST VERT FRENZEL #B15-25 - Wellbore #1 - Design	13,649.1	6,620.5	3,703.9	3,383.5	11.560	CC
EXIST VERT FRENZEL #B15-25 - Wellbore #1 - Design	13,700.0	6,620.0	3,704.3	3,382.5	11.512	ES
EXIST VERT FRENZEL #B15-25 - Wellbore #1 - Design	14,300.0	6,613.7	3,760.7	3,425.9	11.233	SF
EXIST VERT FRENZEL #B15-5 - Wellbore #1 - Wellbore	12,773.1	6,612.7	2,238.7	2,072.9	13.502	CC
EXIST VERT FRENZEL #B15-5 - Wellbore #1 - Wellbore	12,800.0	6,612.6	2,238.8	2,072.3	13.446	ES
EXIST VERT FRENZEL #B15-5 - Wellbore #1 - Wellbore	13,200.0	6,610.9	2,279.0	2,104.9	13.093	SF
EXIST VERT HOSHIKO #41-17 - Wellbore #1 - Wellbore	6,259.9	6,018.9	733.8	699.9	21.652	CC, ES, SF
EXIST VERT HOSHIKO #42-17 - Wellbore #1 - Wellbore	3,099.4	2,932.6	1,728.3	1,711.2	101.070	CC
EXIST VERT HOSHIKO #42-17 - Wellbore #1 - Wellbore	3,200.0	3,030.2	1,728.5	1,710.7	97.153	ES
EXIST VERT HOSHIKO #42-17 - Wellbore #1 - Wellbore	6,300.0	6,025.3	1,931.7	1,899.2	59.459	SF
EXIST VERT LOUSTALET #41-15 - Wellbore #1 - Wellbc	16,785.9	6,568.3	540.7	262.9	1.946	CC
EXIST VERT LOUSTALET #41-15 - Wellbore #1 - Wellbc	16,800.0	6,568.3	540.9	262.9	1.945	ES, SF
EXIST VERT LOUSTALET #42-15 - Wellbore #1 - Wellbc	16,623.6	6,464.6	2,012.5	1,740.0	7.386	CC
EXIST VERT LOUSTALET #42-15 - Wellbore #1 - Wellbc	16,700.0	6,465.0	2,014.0	1,739.7	7.342	ES
EXIST VERT LOUSTALET #42-15 - Wellbore #1 - Wellbc	16,800.0	6,465.5	2,020.2	1,744.1	7.317	SF
EXIST VERT LOUSTALET #B15-10 - Wellbore #1 - Desi	15,635.8	6,586.8	3,038.2	2,662.9	8.096	CC
EXIST VERT LOUSTALET #B15-10 - Wellbore #1 - Desi	15,700.0	6,586.1	3,038.8	2,661.9	8.062	ES
EXIST VERT LOUSTALET #B15-10 - Wellbore #1 - Desi	16,000.0	6,583.0	3,059.9	2,676.7	7.985	SF
EXIST VERT LOUSTALET #B15-11 - Wellbore #1 - Desi	14,393.7	6,612.7	3,111.6	2,770.6	9.125	CC
EXIST VERT LOUSTALET #B15-11 - Wellbore #1 - Desi	14,500.0	6,611.6	3,113.4	2,769.7	9.058	ES
EXIST VERT LOUSTALET #B15-11 - Wellbore #1 - Desi	14,900.0	6,607.5	3,152.5	2,800.9	8.965	SF
EXIST VERT LOUSTALET #B15-15X - Wellbore #1 - De	15,827.0	6,593.8	4,608.4	4,227.8	12.106	CC
EXIST VERT LOUSTALET #B15-15X - Wellbore #1 - De	15,900.0	6,593.1	4,609.0	4,226.4	12.046	ES
EXIST VERT LOUSTALET #B15-15X - Wellbore #1 - De	16,700.0	6,584.7	4,690.4	4,290.9	11.740	SF
EXIST VERT LOUSTALET #B15-23 - Wellbore #1 - Well	16,289.7	6,600.0	3,777.1	3,513.3	14.322	CC
EXIST VERT LOUSTALET #B15-23 - Wellbore #1 - Well	16,400.0	6,600.0	3,778.7	3,512.1	14.174	ES
EXIST VERT LOUSTALET #B15-23 - Wellbore #1 - Well	16,900.0	6,600.0	3,826.0	3,549.3	13.827	SF
EXIST VERT PATRIOT #B16-10 - Wellbore #1 - Wellbore	10,526.5	6,665.9	3,198.8	3,094.1	30.565	CC
EXIST VERT PATRIOT #B16-10 - Wellbore #1 - Wellbore	10,600.0	6,665.3	3,199.6	3,093.1	30.021	ES
EXIST VERT PATRIOT #B16-10 - Wellbore #1 - Wellbore	11,700.0	6,655.8	3,407.2	3,279.4	26.651	SF

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

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well WATERMELON 1N - Slot WATERMELON 1N
Project:	WELD COUNTY, COLORADO (TRUE)	**TVD Reference:**	KB 23' @ 4633.0ft
Reference Site:	NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)	**MD Reference:**	KB 23' @ 4633.0ft
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	WATERMELON 1N	**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 #B16-11 - Wellbore #1 - Wellbore	0.0	0.0	2,715.5			
EXIST VERT PATRIOT #B16-11 - Wellbore #1 - Wellbore	10,700.0	6,703.2	3,542.1	3,443.9	36.084	SF
EXIST VERT PATRIOT #B16-12 - Wellbore #1 - Design #	300.0	280.0	2,477.6	2,474.1	701.236	CC
EXIST VERT PATRIOT #B16-12 - Wellbore #1 - Design #	500.0	479.8	2,480.0	2,471.8	304.354	ES
EXIST VERT PATRIOT #B16-12 - Wellbore #1 - Design #	8,700.0	6,699.2	3,352.3	3,167.2	18.111	SF
EXIST VERT PATRIOT #B16-14 - Wellbore #1 - Wellbore	316.1	294.7	3,983.5	3,982.6	4,602.967	CC, ES
EXIST VERT PATRIOT #B16-14 - Wellbore #1 - Wellbore	11,900.0	6,349.3	5,469.6	5,349.9	45.694	SF
EXIST VERT PATRIOT #B16-15 - Wellbore #1 - Wellbore	302.9	283.0	4,601.0	4,600.3	6,143.171	CC, ES
EXIST VERT PATRIOT #B16-15 - Wellbore #1 - Wellbore	12,700.0	6,582.9	5,254.5	5,107.9	35.842	SF
EXIST VERT PATRIOT #B16-16 - Wellbore #1 - Wellbore	11,706.1	6,300.0	4,715.4	4,579.7	34.746	CC
EXIST VERT PATRIOT #B16-16 - Wellbore #1 - Wellbore	11,800.0	6,300.0	4,716.3	4,578.1	34.123	ES
EXIST VERT PATRIOT #B16-16 - Wellbore #1 - Wellbore	13,600.0	6,343.9	5,081.3	4,907.4	29.235	SF
EXIST VERT PATRIOT #B16-17 - Wellbore #1 - Wellbore	11,061.2	6,629.6	1,108.5	989.8	9.341	CC
EXIST VERT PATRIOT #B16-17 - Wellbore #1 - Wellbore	11,100.0	6,629.5	1,109.2	989.6	9.275	ES
EXIST VERT PATRIOT #B16-17 - Wellbore #1 - Wellbore	11,200.0	6,629.0	1,117.2	995.9	9.210	SF
EXIST VERT PATRIOT #B16-18 - Wellbore #1 - Wellbore	9,742.0	6,666.1	1,184.9	1,101.3	14.167	CC, ES
EXIST VERT PATRIOT #B16-18 - Wellbore #1 - Wellbore	10,000.0	6,667.4	1,212.7	1,124.5	13.752	SF
EXIST VERT PATRIOT #B16-19 - Wellbore #1 - Wellbore	323.6	302.5	807.8	807.0	996.799	CC, ES
EXIST VERT PATRIOT #B16-19 - Wellbore #1 - Wellbore	9,000.0	6,673.5	1,547.8	1,486.7	25.303	SF
EXIST VERT PATRIOT #B16-2 - Wellbore #1 - Wellbore	10,586.5	6,625.5	697.5	591.8	6.601	CC
EXIST VERT PATRIOT #B16-2 - Wellbore #1 - Wellbore	10,600.0	6,625.6	697.6	591.6	6.583	ES, SF
EXIST VERT PATRIOT #B16-20 - Wellbore #1 - Wellbore	100.0	71.0	1,728.2	1,728.1	10,000.000	CC, ES
EXIST VERT PATRIOT #B16-20 - Wellbore #1 - Wellbore	9,600.0	6,665.5	2,796.2	2,724.6	39.021	SF
EXIST VERT PATRIOT #B16-21 - Wellbore #1 - Wellbore	0.0	0.0	2,489.5			
EXIST VERT PATRIOT #B16-21 - Wellbore #1 - Wellbore	100.0	66.1	2,489.6	2,489.5	10,000.000	ES
EXIST VERT PATRIOT #B16-21 - Wellbore #1 - Wellbore	10,600.0	6,651.8	2,738.0	2,638.3	27.459	SF
EXIST VERT PATRIOT #B16-22 - Wellbore #1 - Wellbore	11,034.3	6,650.8	2,474.1	2,356.2	20.983	CC
EXIST VERT PATRIOT #B16-22 - Wellbore #1 - Wellbore	11,100.0	6,650.8	2,475.0	2,355.4	20.693	ES
EXIST VERT PATRIOT #B16-22 - Wellbore #1 - Wellbore	11,700.0	6,650.9	2,562.1	2,431.1	19.557	SF
EXIST VERT PATRIOT #B16-23 - Wellbore #1 - Wellbore	11,021.9	6,663.5	3,809.8	3,692.7	32.551	CC
EXIST VERT PATRIOT #B16-23 - Wellbore #1 - Wellbore	11,100.0	6,662.6	3,810.6	3,691.5	31.994	ES
EXIST VERT PATRIOT #B16-23 - Wellbore #1 - Wellbore	12,500.0	6,647.0	4,086.4	3,940.0	27.922	SF
EXIST VERT PATRIOT #B16-24 - Wellbore #1 - Wellbore	310.8	302.8	3,573.1	3,572.3	4,512.403	CC, ES
EXIST VERT PATRIOT #B16-24 - Wellbore #1 - Wellbore	11,700.0	6,559.2	4,503.3	4,382.6	37.313	SF
EXIST VERT PATRIOT #B16-25 - Wellbore #1 - Design #	300.0	291.0	2,982.2	2,978.5	812.403	CC
EXIST VERT PATRIOT #B16-25 - Wellbore #1 - Design #	400.0	391.0	2,983.3	2,977.3	497.690	ES
EXIST VERT PATRIOT #B16-25 - Wellbore #1 - Design #	9,800.0	6,698.7	3,872.1	3,661.6	18.393	SF
EXIST VERT PATRIOT #B16-4 - Wellbore #1 - Wellbore	2,036.3	1,954.7	204.2	194.4	20.861	CC, ES
EXIST VERT PATRIOT #B16-4 - Wellbore #1 - Wellbore	7,800.0	6,709.7	367.8	329.9	9.703	SF
EXIST VERT PATRIOT #B16-5 - Wellbore #1 - Wellbore	330.1	309.3	1,010.7	1,010.0	1,402.018	CC, ES
EXIST VERT PATRIOT #B16-5 - Wellbore #1 - Wellbore	8,600.0	6,642.5	1,982.1	1,931.7	39.274	SF
EXIST VERT PATRIOT #B16-6 - Wellbore #1 - Wellbore	100.0	72.5	1,695.4	1,695.3	10,000.000	CC
EXIST VERT PATRIOT #B16-6 - Wellbore #1 - Wellbore	200.0	170.0	1,695.6	1,695.3	4,467.729	ES
EXIST VERT PATRIOT #B16-6 - Wellbore #1 - Wellbore	9,900.0	6,679.9	2,102.6	2,020.2	25.525	SF
EXIST VERT PATRIOT #B16-7 - Wellbore #1 - Wellbore	10,354.2	6,664.8	1,705.8	1,606.4	17.162	CC
EXIST VERT PATRIOT #B16-7 - Wellbore #1 - Wellbore	10,400.0	6,664.8	1,706.4	1,605.9	16.970	ES
EXIST VERT PATRIOT #B16-7 - Wellbore #1 - Wellbore	10,700.0	6,665.0	1,740.5	1,634.1	16.363	SF
EXIST VERT PATRIOT #B16-8 - Wellbore #1 - Wellbore	11,690.6	6,634.4	1,689.8	1,553.8	12.419	CC
EXIST VERT PATRIOT #B16-8 - Wellbore #1 - Wellbore	11,700.0	6,634.4	1,689.8	1,553.5	12.398	ES
EXIST VERT PATRIOT #B16-8 - Wellbore #1 - Wellbore	12,000.0	6,633.3	1,717.9	1,576.1	12.112	SF
WATERMELON 10N - ORIGINAL WELLBORE - PROPO	300.0	300.0	135.0	133.9	125.881	CC, ES

PDC Energy
Anticollision Report

Company:	PDC ENERGY	**Local Co-ordinate Reference:**	Well WATERMELON 1N - Slot WATERMELON 1N
Project:	WELD COUNTY, COLORADO (TRUE)	**TVD Reference:**	KB 23' @ 4633.0ft
Reference Site:	NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)	**MD Reference:**	KB 23' @ 4633.0ft
Site Error:	0.0 ft	**North Reference:**	True
Reference Well:	WATERMELON 1N	**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 10N - ORIGINAL WELLBORE - PROPO	16,962.6	17,218.2	2,386.0	1,826.4	4.264	SF
WATERMELON 2N - ORIGINAL WELLBORE - PROPOS	300.0	300.0	14.9	13.8	13.917	CC
WATERMELON 2N - ORIGINAL WELLBORE - PROPOS	16,962.6	16,867.1	337.6	-213.8	0.612	Level 1, ES, SF
WATERMELON 3N - ORIGINAL WELLBORE - PROPOS	300.0	300.0	30.0	28.9	27.957	CC
WATERMELON 3N - ORIGINAL WELLBORE - PROPOS	16,962.6	16,916.4	585.3	25.0	1.045	Level 2, ES, SF
WATERMELON 4N - ORIGINAL WELLBORE - PROPOS	300.0	300.0	45.0	43.9	41.932	CC, ES
WATERMELON 4N - ORIGINAL WELLBORE - PROPOS	16,962.6	16,855.3	846.3	286.6	1.512	SF
WATERMELON 5N - ORIGINAL WELLBORE - PROPOS	300.0	300.0	60.0	59.0	56.008	CC, ES
WATERMELON 5N - ORIGINAL WELLBORE - PROPOS	16,962.6	16,950.3	1,102.0	541.6	1.966	SF
WATERMELON 6N - ORIGINAL WELLBORE - PROPOS	300.0	300.0	74.9	73.8	69.881	CC, ES
WATERMELON 6N - ORIGINAL WELLBORE - PROPOS	16,962.6	16,907.0	1,360.8	801.1	2.431	SF
WATERMELON 7N - ORIGINAL WELLBORE - PROPOS	300.0	300.0	89.9	88.9	83.875	CC, ES
WATERMELON 7N - ORIGINAL WELLBORE - PROPOS	16,962.6	17,044.3	1,615.0	1,054.5	2.882	SF
WATERMELON 8N - ORIGINAL WELLBORE - PROPOS	300.0	300.0	104.9	103.8	97.857	CC, ES
WATERMELON 8N - ORIGINAL WELLBORE - PROPOS	16,962.6	17,026.8	1,873.3	1,313.5	3.346	SF
WATERMELON 9N - ORIGINAL WELLBORE - PROPOS	300.0	300.0	120.0	118.9	111.916	CC, ES
WATERMELON 9N - ORIGINAL WELLBORE - PROPOS	16,962.6	17,181.6	2,129.0	1,569.1	3.803	SF