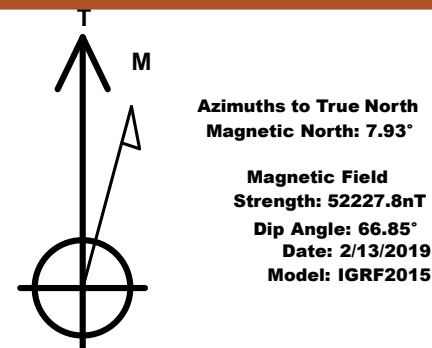




Project: WELD COUNTY, COLORADO (TRUE)
 Site: NW NW SEC. 16 T5N R64W 6th P.M.
 Well: WATERMELON 2N
 Wellbore: ORIGINAL WELLBORE
 Design: PROPOSAL #1

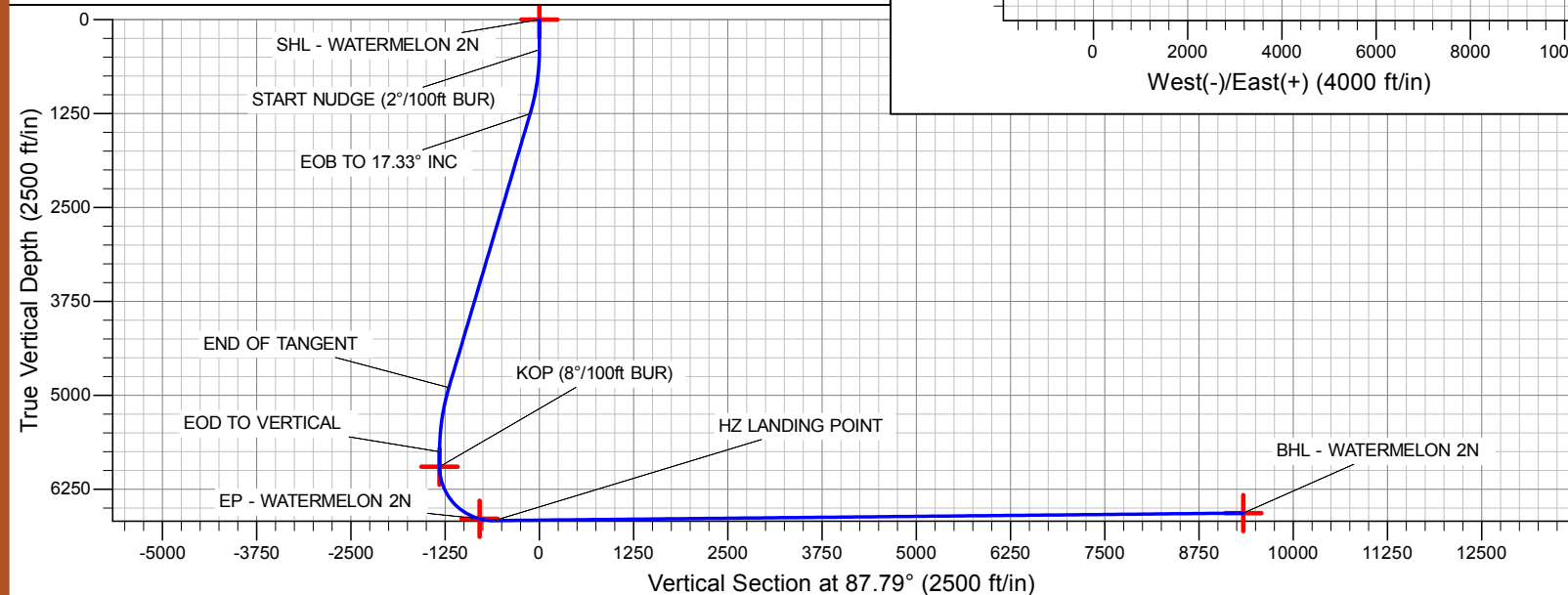
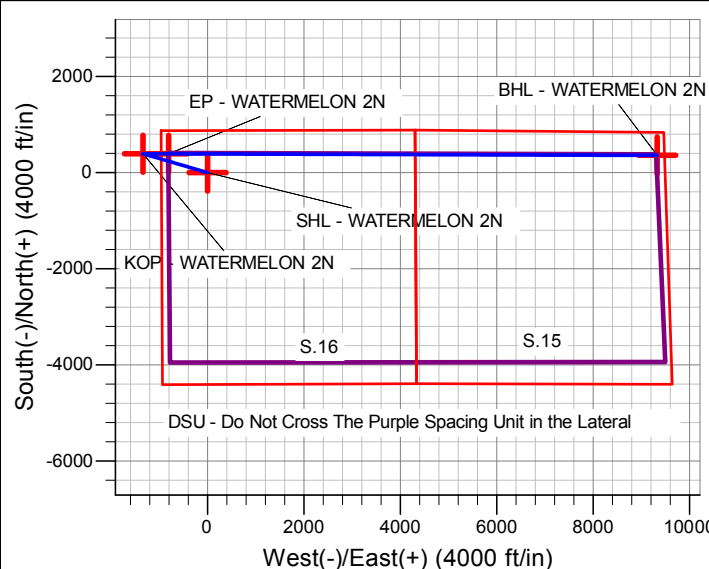
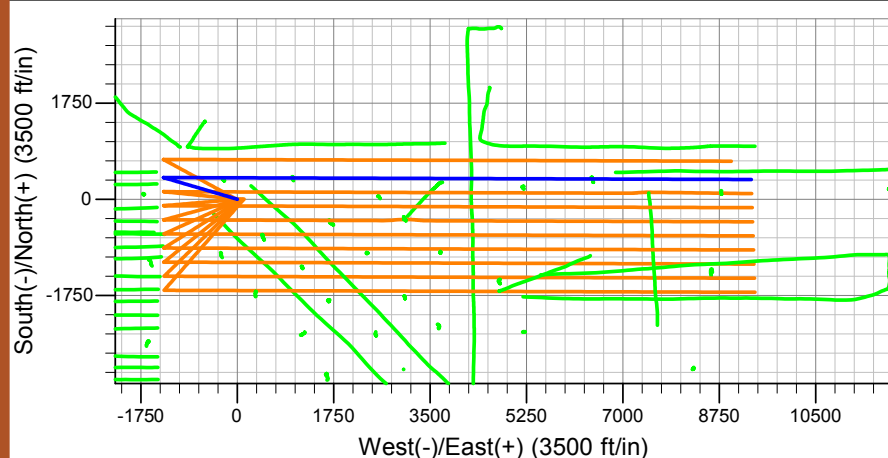


ANNOTATIONS

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 & 958ft FWL of Sec 16
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1266.4	17.33	286.40	1253.3	36.7	-124.7	-123.2	130.0	EOB TO 17.33° INC
5085.0	17.33	286.40	4898.5	357.8	-1215.8	-1201.2	1267.4	END OF TANGENT
5951.5	0.00	0.00	5751.9	394.5	-1340.6	-1324.4	1397.4	EOD TO VERTICAL
6151.5	0.00	0.00	5951.9	394.5	-1340.6	-1324.4	1397.4	KOP (8°/100ft BUR)
7089.0	75.00	90.19	6643.7	392.7	-809.7	-794.0	1928.3	EP: 480ft FNL & 150ft FWL of Sec 16
7283.6	90.57	90.19	6668.0	392.1	-617.3	-601.7	2120.8	HZ LANDING POINT
17230.2	90.58	90.18	6568.0	359.6	9328.8	9335.7	12066.8	BHL: 480ft FNL & 150ft FEL of Sec 15

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
SHL - WATERMELON 2N	0.0	0.0	0.0	1391460.27	3261492.54	40° 24' 14.975 N	104° 33' 39.700 W
KOP - WATERMELON 2N	5951.9	394.5	-1340.6	1391840.51	3260147.90	40° 24' 18.873 N	104° 33' 57.029 W
BHL - WATERMELON 2N	6568.0	359.6	9328.8	1391918.56	3270816.58	40° 24' 18.511 N	104° 31' 39.113 W
EP - WATERMELON 2N	6643.6	392.7	-809.8	1391844.36	3260678.70	40° 24' 18.856 N	104° 33' 50.167 W



PDC ENERGY

**WELD COUNTY, COLORADO (TRUE)
NW NW SEC. 16 T5N R64W 6th P.M. (WATERMELON)
WATERMELON 2N**

**ORIGINAL WELLBORE
PROPOSAL #1**

Anticollision Report

18 March, 2019



PDC Energy
Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well WATERMELON 2N - Slot WATERMELON 2N
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 2N	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	3/6/2019		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
0.0	17,230.2	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	13,105.6	6,557.1	187.2	9.9	1.056	Level 2, CC, ES, SF
ABDN VERT LOUSTALET #15-1 - Wellbore #1 - Wellbor	13,135.5	6,553.1	2,782.4	2,604.5	15.645	CC
ABDN VERT LOUSTALET #15-1 - Wellbore #1 - Wellbor	13,200.0	6,552.4	2,783.1	2,603.6	15.500	ES
ABDN VERT LOUSTALET #15-1 - Wellbore #1 - Wellbor	13,700.0	6,547.5	2,839.1	2,649.6	14.981	SF
ABDN VERT LOUSTALET #21-15 - Wellbore #1 - Wellbc	14,354.4	6,541.8	56.2	-155.7	0.265	Level 1, CC, ES, SF
ABDN VERT LOUSTALET #B15-14 - Wellbore #1 - Desi	14,429.2	6,547.4	4,109.2	3,766.4	11.988	CC
ABDN VERT LOUSTALET #B15-14 - Wellbore #1 - Desi	14,500.0	6,546.7	4,109.8	3,765.1	11.924	ES
ABDN VERT LOUSTALET #B15-14 - Wellbore #1 - Desi	15,200.0	6,539.6	4,180.9	3,821.1	11.620	SF
ABDN VERT LOUSTALET #B15-15 - Wellbore #1 - Desi	15,514.5	6,535.4	4,132.3	3,759.5	11.084	CC
ABDN VERT LOUSTALET #B15-15 - Wellbore #1 - Desi	15,600.0	6,534.5	4,133.2	3,758.1	11.019	ES
ABDN VERT LOUSTALET #B15-15 - Wellbore #1 - Desi	16,200.0	6,528.5	4,188.8	3,800.8	10.795	SF
ABDN VERT LOUSTALET #B15-16 - Wellbore #1 - Wellt	16,705.9	6,384.5	4,228.3	3,950.9	15.245	CC
ABDN VERT LOUSTALET #B15-16 - Wellbore #1 - Wellt	16,800.0	6,386.2	4,229.3	3,949.4	15.111	ES
ABDN VERT LOUSTALET #B15-16 - Wellbore #1 - Wellt	17,230.2	6,400.0	4,260.6	3,971.0	14.711	SF
ABDN VERT LOUSTALET #B15-9 - Wellbore #1 - Desig	16,745.2	6,520.9	2,902.4	2,495.4	7.131	CC
ABDN VERT LOUSTALET #B15-9 - Wellbore #1 - Desig	16,800.0	6,520.4	2,902.9	2,494.5	7.108	ES
ABDN VERT LOUSTALET #B15-9 - Wellbore #1 - Desig	17,100.0	6,517.3	2,924.0	2,509.5	7.054	SF
ABDN VERT PATRIOT #B16-13 - Wellbore #1 - Wellbore	0.0	0.0	3,840.1			
ABDN VERT PATRIOT #B16-13 - Wellbore #1 - Wellbore	100.0	69.0	3,840.2	3,840.1	10,000.000	ES
ABDN VERT PATRIOT #B16-13 - Wellbore #1 - Wellbore	11,000.0	6,634.0	5,439.3	5,346.3	58.486	SF
ABDN VERT PATRIOT #B16-3 - Wellbore #1 - Wellbore	8,916.8	6,611.3	41.5	-22.2	0.651	Level 1, CC, ES, SF
ABDN VERT PATRIOT #B16-9 - Wellbore #1 - Wellbore	11,559.6	6,644.8	2,713.1	2,578.7	20.180	CC
ABDN VERT PATRIOT #B16-9 - Wellbore #1 - Wellbore	11,600.0	6,644.2	2,713.4	2,577.9	20.022	ES
ABDN VERT PATRIOT #B16-9 - Wellbore #1 - Wellbore	12,300.0	6,633.7	2,812.3	2,663.3	18.864	SF
ABDN VERT SOLIS #43-17 - Wellbore #1 - Wellbore #1	3,383.4	3,247.6	2,932.4	2,914.3	161.917	CC
ABDN VERT SOLIS #43-17 - Wellbore #1 - Wellbore #1	3,400.0	3,259.2	2,932.4	2,914.2	160.970	ES
ABDN VERT SOLIS #43-17 - Wellbore #1 - Wellbore #1	9,700.0	5,500.0	4,747.3	4,690.4	83.440	SF
ABDN VERT SOLIS #44-17 - Wellbore #1 - Wellbore #1	2,297.9	2,252.0	3,745.2	3,734.3	342.222	CC
ABDN VERT SOLIS #44-17 - Wellbore #1 - Wellbore #1	2,600.0	2,540.0	3,746.5	3,733.5	289.646	ES
ABDN VERT SOLIS #44-17 - Wellbore #1 - Wellbore #1	10,500.0	6,628.9	5,610.5	5,535.3	74.630	SF
EXIST DD BAUER DEBUS #22JD - Wellbore #1 - Wellbc	13,594.0	6,465.9	4,892.4	4,687.3	23.855	CC
EXIST DD BAUER DEBUS #22JD - Wellbore #1 - Wellbc	13,700.0	6,464.6	4,893.6	4,685.5	23.520	ES
EXIST DD BAUER DEBUS #22JD - Wellbore #1 - Wellbc	15,100.0	6,446.9	5,118.9	4,881.3	21.542	SF
EXIST DD BAUER DEBUS #22MD - Wellbore #1 - Wellb	14,856.9	6,660.9	4,815.5	4,572.8	19.837	CC
EXIST DD BAUER DEBUS #22MD - Wellbore #1 - Wellb	15,000.0	6,658.2	4,817.6	4,571.2	19.550	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 2N - Slot WATERMELON 2N
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 2N	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	16,100.0	6,638.1	4,973.3	4,706.0	18.599	SF
EXIST DD DOUGHMAN #22RD - Wellbore #1 - Wellbore	16,249.4	6,544.0	4,858.7	4,578.7	17.352	CC
EXIST DD DOUGHMAN #22RD - Wellbore #1 - Wellbore	16,400.0	6,544.0	4,861.0	4,576.8	17.102	ES
EXIST DD DOUGHMAN #22RD - Wellbore #1 - Wellbore	17,230.2	6,534.2	4,956.7	4,654.2	16.386	SF
EXIST DD FRENZEL #B15-6 - Wellbore #1 - Wellbore #1	14,313.1	6,912.6	1,395.8	1,178.5	6.424	CC, ES
EXIST DD FRENZEL #B15-6 - Wellbore #1 - Wellbore #1	14,400.0	6,913.0	1,398.5	1,179.5	6.386	SF
EXIST DD GLOVER USX #B15-02CD - Wellbore #1 - W	15,368.9	7,087.8	280.4	42.4	1.178	Level 2, CC, ES, SF
EXIST DD JURGENS STATE #B16-30D - Wellbore #1 -	6,650.0	6,711.8	574.1	511.6	9.177	SF
EXIST DD JURGENS STATE #B16-30D - Wellbore #1 -	6,800.0	6,821.4	560.3	501.2	9.472	ES
EXIST DD JURGENS STATE #B16-30D - Wellbore #1 -	6,827.2	6,837.9	559.9	501.6	9.598	CC
EXIST DD KLEIN #B15-13D - Wellbore #1 - Wellbore #1	12,933.6	6,689.1	4,141.8	3,964.1	23.319	CC
EXIST DD KLEIN #B15-13D - Wellbore #1 - Wellbore #1	13,000.0	6,689.3	4,142.3	3,962.9	23.091	ES
EXIST DD KLEIN #B15-13D - Wellbore #1 - Wellbore #1	14,100.0	6,692.8	4,302.9	4,101.4	21.356	SF
EXIST DD PATRIOT #B16-1 - Wellbore #1 - Wellbore #1	11,622.8	6,682.6	70.9	-66.3	0.517	Level 1, CC, ES, SF
EXIST HZ CECILS KERSEY FARM #17B-212 - Wellbore	6,600.0	11,218.0	3,281.5	3,126.9	21.231	SF
EXIST HZ CECILS KERSEY FARM #17B-212 - Wellbore	6,650.0	11,218.0	3,280.8	3,126.4	21.236	ES
EXIST HZ CECILS KERSEY FARM #17B-212 - Wellbore	6,653.4	11,218.0	3,280.8	3,126.4	21.237	CC
EXIST HZ CECILS KERSEY FARM #17B-302 - Wellbore	6,650.0	11,362.0	3,477.8	3,322.6	22.398	SF
EXIST HZ CECILS KERSEY FARM #17B-302 - Wellbore	6,688.9	11,362.0	3,477.5	3,322.3	22.403	CC, ES
EXIST HZ CECILS KERSEY FARM #17K-232 - Wellbore	6,600.0	11,295.0	2,531.8	2,376.7	16.325	SF
EXIST HZ CECILS KERSEY FARM #17K-232 - Wellbore	6,650.0	11,295.0	2,530.8	2,375.9	16.330	ES
EXIST HZ CECILS KERSEY FARM #17K-232 - Wellbore	6,658.4	11,295.0	2,530.8	2,375.9	16.332	CC
EXIST HZ CECILS KERSEY FARM #17K-332 - Wellbore	6,650.0	11,372.0	2,766.7	2,611.8	17.860	SF
EXIST HZ CECILS KERSEY FARM #17K-332 - Wellbore	6,684.6	11,372.0	2,766.4	2,611.6	17.866	CC, ES
EXIST HZ CECILS KERSEY FARM #17K-402 - Wellbore	6,700.0	11,210.0	2,295.2	2,147.0	15.477	SF
EXIST HZ CECILS KERSEY FARM #17K-402 - Wellbore	6,731.5	11,210.0	2,294.9	2,146.7	15.484	CC, ES
EXIST HZ COCKROFT #B15-69-1HNM - Wellbore #1 - V	14,768.4	11,709.0	120.5	-246.1	0.329	Level 1, CC, ES, SF
EXIST HZ GILLAM #18X-102 - Wellbore #1 - Wellbore #	6,600.0	12,169.0	3,691.9	3,508.4	20.118	SF
EXIST HZ GILLAM #18X-102 - Wellbore #1 - Wellbore #	6,666.1	12,169.0	3,691.1	3,507.7	20.129	CC, ES
EXIST HZ GILLAM #18X-232 - Wellbore #1 - Wellbore #	6,600.0	12,156.0	4,134.9	3,951.3	22.514	SF
EXIST HZ GILLAM #18X-232 - Wellbore #1 - Wellbore #	6,650.0	12,156.0	4,134.4	3,950.8	22.521	ES
EXIST HZ GILLAM #18X-232 - Wellbore #1 - Wellbore #	6,656.3	12,156.0	4,134.4	3,950.8	22.522	CC
EXIST HZ GILLAM #18X-332 - Wellbore #1 - Wellbore #	6,650.0	12,231.0	3,917.1	3,733.7	21.361	SF
EXIST HZ GILLAM #18X-332 - Wellbore #1 - Wellbore #	6,695.6	12,231.0	3,916.7	3,733.4	21.368	CC, ES
EXIST HZ GILLAM #18Y-202 - Wellbore #1 - Wellbore #	6,667.8	12,242.0	4,666.8	4,483.3	25.437	CC, ES, SF
EXIST HZ GILLAM #18Y-312 - Wellbore #1 - Wellbore #	6,650.0	12,233.0	4,445.9	4,262.9	24.298	SF
EXIST HZ GILLAM #18Y-312 - Wellbore #1 - Wellbore #	6,695.3	12,233.0	4,445.5	4,262.6	24.303	CC, ES
EXIST HZ HOLMAN #B15-65HNM - Wellbore #1 - Wellb	13,095.4	13,031.0	2,148.5	1,789.2	5.979	CC
EXIST HZ HOLMAN #B15-65HNM - Wellbore #1 - Wellb	13,100.0	13,031.0	2,148.5	1,789.1	5.977	ES
EXIST HZ HOLMAN #B15-65HNM - Wellbore #1 - Wellb	13,200.0	13,025.6	2,151.1	1,789.7	5.953	SF
EXIST HZ HOLMAN #B15-66HN - Wellbore #1 - Wellbor	17,230.2	8,749.9	1,489.7	1,133.7	4.185	CC, ES, SF
EXIST HZ HOP #18E-232 - Wellbore #1 - Wellbore #1	6,600.0	16,424.0	387.5	290.0	3.976	SF
EXIST HZ HOP #18E-232 - Wellbore #1 - Wellbore #1	6,638.9	16,424.0	384.5	287.9	3.983	CC, ES
EXIST HZ HOP #18E-332 - Wellbore #1 - Wellbore #1	6,650.0	16,442.0	439.4	339.2	4.386	SF
EXIST HZ HOP #18E-332 - Wellbore #1 - Wellbore #1	6,687.0	16,442.0	436.9	338.3	4.433	CC, ES
EXIST HZ HOP #18E-402 - Wellbore #1 - Wellbore #1	6,400.0	15,093.0	1,720.4	1,650.6	24.640	SF
EXIST HZ HOP #18E-402 - Wellbore #1 - Wellbore #1	6,417.5	15,093.0	1,720.1	1,650.3	24.653	CC, ES
EXIST HZ HOP #18F-102 - Wellbore #1 - Wellbore #1	6,617.7	16,506.0	866.1	587.7	3.111	CC, ES, SF
EXIST HZ HOP #18F-212 - Wellbore #1 - Wellbore #1	6,636.1	16,391.0	648.0	394.0	2.551	CC, ES, SF
EXIST HZ KLEIN #19M-402 - Wellbore #1 - Wellbore #1	9,945.4	17,440.0	4,864.2	4,474.6	12.483	CC
EXIST HZ KLEIN #19M-402 - Wellbore #1 - Wellbore #1	10,100.0	17,440.0	4,866.7	4,473.4	12.374	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 2N - Slot WATERMELON 2N
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 2N	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	10,700.0	17,440.0	4,922.4	4,518.6	12.191 SF	
EXIST HZ KLEIN #B16-98HZ - Wellbore #1 - Wellbore #	7,473.5	11,893.0	656.8	525.2	4.992 CC	
EXIST HZ KLEIN #B16-98HZ - Wellbore #1 - Wellbore #	7,600.0	11,893.0	668.8	519.5	4.478 ES	
EXIST HZ KLEIN #B16-98HZ - Wellbore #1 - Wellbore #	7,700.0	11,893.0	694.7	535.3	4.357 SF	
EXIST HZ KLEIN #B16-99HZ - Wellbore #1 - Wellbore #	8,149.8	11,516.0	145.6	14.5	1.110 Level 2, CC	
EXIST HZ KLEIN #B16-99HZ - Wellbore #1 - Wellbore #	8,200.0	11,516.0	154.0	-3.0	0.981 Level 1, ES, SF	
EXIST HZ PATRIOT #B16-69HN - Wellbore #1 - Wellbor	7,545.1	6,958.1	532.9	482.8	10.637 CC	
EXIST HZ PATRIOT #B16-69HN - Wellbore #1 - Wellbor	11,700.0	11,086.0	644.7	382.3	2.457 ES, SF	
EXIST HZ SCHAUMBERG #17F-202 - ORIGINAL WELL	6,724.8	11,867.0	1,067.7	903.7	6.508 CC, ES, SF	
EXIST HZ SCHAUMBERG #17F-202 - SIDETRACK - SI	6,639.7	11,810.0	1,084.2	930.9	7.073 CC, ES, SF	
EXIST HZ SCHAUMBERG #17F-232 - Wellbore #1 - We	6,695.3	11,632.0	1,477.0	1,317.4	9.250 CC, ES, SF	
EXIST HZ SCHAUMBERG #17F-332 - Wellbore #1 - We	6,747.6	11,779.0	1,296.4	1,138.3	8.201 CC, ES, SF	
EXIST HZ SCHAUMBERG #17G-202 - Wellbore #1 - We	6,673.2	11,796.0	2,066.5	1,904.5	12.760 CC, ES, SF	
EXIST HZ SCHAUMBERG #17G-312 - Wellbore #1 - We	6,715.0	11,790.0	1,842.4	1,682.6	11.529 CC, ES, SF	
EXIST HZ SEYLER B #15-69HN - Wellbore #1 - Wellbor	15,646.9	9,764.0	562.2	224.6	1.665 CC	
EXIST HZ SEYLER B #15-69HN - Wellbore #1 - Wellbor	17,230.2	11,346.8	605.6	180.5	1.424 Level 3, ES, SF	
EXIST HZ SEYLER STATE #B15-79HNM - Wellbore #1	12,153.0	9,078.1	0.5	-63.7	0.008 Level 1, CC, ES, SF	
EXIST VERT FRENZEL #B15-25 - Wellbore #1 - Design	13,554.8	6,558.2	3,372.3	3,053.7	10.585 CC	
EXIST VERT FRENZEL #B15-25 - Wellbore #1 - Design	13,600.0	6,557.8	3,372.6	3,052.8	10.546 ES	
EXIST VERT FRENZEL #B15-25 - Wellbore #1 - Design	14,100.0	6,552.7	3,416.1	3,085.3	10.326 SF	
EXIST VERT FRENZEL #B15-5 - Wellbore #1 - Wellbore	12,678.1	6,554.2	1,907.1	1,741.8	11.543 CC	
EXIST VERT FRENZEL #B15-5 - Wellbore #1 - Wellbore	12,700.0	6,554.1	1,907.2	1,741.4	11.503 ES	
EXIST VERT FRENZEL #B15-5 - Wellbore #1 - Wellbore	13,000.0	6,552.7	1,934.0	1,762.5	11.276 SF	
EXIST VERT HOSHIKO #41-17 - Wellbore #1 - Wellbore	6,159.5	5,941.6	476.6	448.4	16.890 CC, ES, SF	
EXIST VERT HOSHIKO #42-17 - Wellbore #1 - Wellbore	4,295.7	4,076.5	1,541.6	1,517.8	64.772 CC	
EXIST VERT HOSHIKO #42-17 - Wellbore #1 - Wellbore	4,400.0	4,171.8	1,542.0	1,517.5	62.897 ES	
EXIST VERT HOSHIKO #42-17 - Wellbore #1 - Wellbore	6,200.0	5,956.5	1,603.7	1,571.8	50.350 SF	
EXIST VERT LOUSTALET #41-15 - Wellbore #1 - Wellbc	16,690.1	6,508.3	208.4	-68.8	0.752 Level 1, CC, ES, SF	
EXIST VERT LOUSTALET #42-15 - Wellbore #1 - Wellbc	16,528.0	6,432.0	1,677.2	1,405.2	6.166 CC	
EXIST VERT LOUSTALET #42-15 - Wellbore #1 - Wellbc	16,600.0	6,432.1	1,678.8	1,405.0	6.133 ES	
EXIST VERT LOUSTALET #42-15 - Wellbore #1 - Wellbc	16,700.0	6,432.3	1,686.0	1,410.8	6.126 SF	
EXIST VERT LOUSTALET #B15-10 - Wellbore #1 - Desi	15,541.2	6,525.1	2,706.3	2,332.8	7.246 CC	
EXIST VERT LOUSTALET #B15-10 - Wellbore #1 - Desi	15,600.0	6,524.5	2,706.9	2,331.9	7.218 ES	
EXIST VERT LOUSTALET #B15-10 - Wellbore #1 - Desi	15,900.0	6,521.5	2,730.0	2,349.0	7.165 SF	
EXIST VERT LOUSTALET #B15-11 - Wellbore #1 - Desi	14,299.2	6,550.7	2,779.9	2,440.7	8.196 CC	
EXIST VERT LOUSTALET #B15-11 - Wellbore #1 - Desi	14,400.0	6,549.7	2,781.7	2,440.0	8.139 ES	
EXIST VERT LOUSTALET #B15-11 - Wellbore #1 - Desi	14,700.0	6,546.6	2,808.6	2,460.9	8.076 SF	
EXIST VERT LOUSTALET #B15-15X - Wellbore #1 - De	15,732.6	6,532.2	4,276.6	3,897.7	11.287 CC	
EXIST VERT LOUSTALET #B15-15X - Wellbore #1 - De	15,800.0	6,531.5	4,277.1	3,896.4	11.235 ES	
EXIST VERT LOUSTALET #B15-15X - Wellbore #1 - De	16,500.0	6,524.4	4,344.9	3,949.2	10.982 SF	
EXIST VERT LOUSTALET #B15-23 - Wellbore #1 - Well	16,194.5	6,600.0	3,446.3	3,183.2	13.099 CC	
EXIST VERT LOUSTALET #B15-23 - Wellbore #1 - Well	16,300.0	6,600.0	3,447.9	3,182.0	12.969 ES	
EXIST VERT LOUSTALET #B15-23 - Wellbore #1 - Well	16,800.0	6,600.0	3,499.1	3,223.5	12.700 SF	
EXIST VERT PATRIOT #B16-10 - Wellbore #1 - Wellbore	10,432.3	6,603.3	2,867.7	2,763.6	27.552 CC	
EXIST VERT PATRIOT #B16-10 - Wellbore #1 - Wellbore	10,500.0	6,602.6	2,868.5	2,762.6	27.096 ES	
EXIST VERT PATRIOT #B16-10 - Wellbore #1 - Wellbore	11,400.0	6,593.4	3,026.6	2,903.2	24.525 SF	
EXIST VERT PATRIOT #B16-11 - Wellbore #1 - Wellbore	0.0	0.0	2,708.7			
EXIST VERT PATRIOT #B16-11 - Wellbore #1 - Wellbore	10,400.0	6,624.5	3,155.4	3,062.0	33.778 SF	
EXIST VERT PATRIOT #B16-12 - Wellbore #1 - Design #	400.0	380.0	2,479.9	2,474.1	421.695 CC	
EXIST VERT PATRIOT #B16-12 - Wellbore #1 - Design #	900.0	877.5	2,485.8	2,468.5	144.211 ES	
EXIST VERT PATRIOT #B16-12 - Wellbore #1 - Design #	8,400.0	6,636.9	2,974.4	2,795.4	16.618 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 2N - Slot WATERMELON 2N
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 2N	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	400.6	364.1	3,979.3	3,978.2	3,627.019	CC, ES
EXIST VERT PATRIOT #B16-14 - Wellbore #1 - Wellbore	11,600.0	6,319.9	5,077.3	4,962.4	44.199	SF
EXIST VERT PATRIOT #B16-15 - Wellbore #1 - Wellbore	10,298.6	6,503.2	4,388.9	4,288.9	43.867	CC
EXIST VERT PATRIOT #B16-15 - Wellbore #1 - Wellbore	10,400.0	6,503.9	4,390.1	4,287.3	42.729	ES
EXIST VERT PATRIOT #B16-15 - Wellbore #1 - Wellbore	12,400.0	6,520.4	4,866.1	4,724.1	34.285	SF
EXIST VERT PATRIOT #B16-16 - Wellbore #1 - Wellbore	11,610.9	6,276.2	4,380.4	4,245.2	32.399	CC
EXIST VERT PATRIOT #B16-16 - Wellbore #1 - Wellbore	11,700.0	6,277.9	4,381.3	4,243.7	31.841	ES
EXIST VERT PATRIOT #B16-16 - Wellbore #1 - Wellbore	13,300.0	6,310.5	4,694.7	4,525.3	27.716	SF
EXIST VERT PATRIOT #B16-17 - Wellbore #1 - Wellbore	10,966.3	6,567.3	776.7	658.7	6.578	CC
EXIST VERT PATRIOT #B16-17 - Wellbore #1 - Wellbore	11,000.0	6,567.0	777.5	658.6	6.543	ES, SF
EXIST VERT PATRIOT #B16-18 - Wellbore #1 - Wellbore	9,646.4	6,609.5	853.6	770.6	10.276	CC, ES
EXIST VERT PATRIOT #B16-18 - Wellbore #1 - Wellbore	9,800.0	6,610.4	867.3	781.7	10.133	SF
EXIST VERT PATRIOT #B16-19 - Wellbore #1 - Wellbore	443.6	426.0	798.4	797.2	681.156	CC, ES
EXIST VERT PATRIOT #B16-19 - Wellbore #1 - Wellbore	8,700.0	6,613.2	1,170.5	1,113.6	20.585	SF
EXIST VERT PATRIOT #B16-2 - Wellbore #1 - Wellbore	10,490.8	6,568.6	365.4	260.3	3.478	CC
EXIST VERT PATRIOT #B16-2 - Wellbore #1 - Wellbore	10,500.0	6,568.6	365.5	260.3	3.473	ES, SF
EXIST VERT PATRIOT #B16-20 - Wellbore #1 - Wellbore	100.0	70.9	1,725.1	1,725.0	10,000.000	CC
EXIST VERT PATRIOT #B16-20 - Wellbore #1 - Wellbore	433.6	420.1	1,725.8	1,724.7	1,502.720	ES
EXIST VERT PATRIOT #B16-20 - Wellbore #1 - Wellbore	9,300.0	6,617.0	2,408.4	2,341.6	36.049	SF
EXIST VERT PATRIOT #B16-21 - Wellbore #1 - Wellbore	9,576.3	6,600.7	2,244.0	2,163.2	27.760	CC
EXIST VERT PATRIOT #B16-21 - Wellbore #1 - Wellbore	9,600.0	6,600.2	2,244.1	2,162.7	27.553	ES
EXIST VERT PATRIOT #B16-21 - Wellbore #1 - Wellbore	10,300.0	6,584.7	2,357.8	2,262.6	24.761	SF
EXIST VERT PATRIOT #B16-22 - Wellbore #1 - Wellbore	10,939.4	6,598.0	2,142.9	2,025.5	18.263	CC
EXIST VERT PATRIOT #B16-22 - Wellbore #1 - Wellbore	11,000.0	6,597.8	2,143.7	2,024.8	18.029	ES
EXIST VERT PATRIOT #B16-22 - Wellbore #1 - Wellbore	11,400.0	6,596.0	2,191.8	2,065.0	17.284	SF
EXIST VERT PATRIOT #B16-23 - Wellbore #1 - Wellbore	10,928.0	6,612.4	3,478.7	3,362.2	29.864	CC
EXIST VERT PATRIOT #B16-23 - Wellbore #1 - Wellbore	11,000.0	6,611.6	3,479.5	3,361.1	29.387	ES
EXIST VERT PATRIOT #B16-23 - Wellbore #1 - Wellbore	12,200.0	6,600.0	3,704.0	3,562.1	26.100	SF
EXIST VERT PATRIOT #B16-24 - Wellbore #1 - Wellbore	402.3	381.2	3,566.0	3,565.0	3,410.608	CC, ES
EXIST VERT PATRIOT #B16-24 - Wellbore #1 - Wellbore	11,300.0	6,521.8	4,069.8	3,955.0	35.461	SF
EXIST VERT PATRIOT #B16-25 - Wellbore #1 - Design #	400.0	391.0	2,979.6	2,973.6	496.659	CC
EXIST VERT PATRIOT #B16-25 - Wellbore #1 - Design #	500.0	491.0	2,980.4	2,972.1	360.731	ES
EXIST VERT PATRIOT #B16-25 - Wellbore #1 - Design #	9,500.0	6,636.9	3,493.2	3,288.9	17.098	SF
EXIST VERT PATRIOT #B16-4 - Wellbore #1 - Wellbore	7,640.4	6,639.4	33.4	-2.7	0.925	Level 1, CC, ES, SF
EXIST VERT PATRIOT #B16-5 - Wellbore #1 - Wellbore	432.8	409.6	1,014.9	1,013.9	993.988	CC
EXIST VERT PATRIOT #B16-5 - Wellbore #1 - Wellbore	800.0	774.5	1,015.0	1,013.0	504.095	ES
EXIST VERT PATRIOT #B16-5 - Wellbore #1 - Wellbore	8,200.0	6,592.8	1,554.3	1,509.5	34.735	SF
EXIST VERT PATRIOT #B16-6 - Wellbore #1 - Wellbore	9,093.9	6,620.7	1,647.8	1,579.3	24.044	CC
EXIST VERT PATRIOT #B16-6 - Wellbore #1 - Wellbore	9,100.0	6,620.7	1,647.9	1,579.2	23.991	ES
EXIST VERT PATRIOT #B16-6 - Wellbore #1 - Wellbore	9,600.0	6,617.3	1,723.8	1,645.8	22.102	SF
EXIST VERT PATRIOT #B16-7 - Wellbore #1 - Wellbore	10,259.1	6,606.4	1,374.7	1,275.9	13.912	CC
EXIST VERT PATRIOT #B16-7 - Wellbore #1 - Wellbore	10,300.0	6,606.4	1,375.3	1,275.5	13.774	ES
EXIST VERT PATRIOT #B16-7 - Wellbore #1 - Wellbore	10,500.0	6,606.4	1,395.6	1,292.0	13.466	SF
EXIST VERT PATRIOT #B16-8 - Wellbore #1 - Wellbore	11,595.6	6,572.4	1,358.2	1,222.8	10.026	CC
EXIST VERT PATRIOT #B16-8 - Wellbore #1 - Wellbore	11,600.0	6,572.4	1,358.3	1,222.7	10.018	ES
EXIST VERT PATRIOT #B16-8 - Wellbore #1 - Wellbore	11,800.0	6,571.8	1,373.5	1,234.2	9.858	SF
WATERMELON 10N - ORIGINAL WELLBORE - PROPO	400.0	400.0	120.0	118.5	78.888	CC, ES
WATERMELON 10N - ORIGINAL WELLBORE - PROPO	17,230.2	17,581.3	2,053.0	1,472.8	3.538	SF
WATERMELON 1N - ORIGINAL WELLBORE - PROPOS	300.0	300.0	14.9	13.8	13.917	CC
WATERMELON 1N - ORIGINAL WELLBORE - PROPOS	16,800.0	16,895.6	337.6	-210.7	0.616	Level 1, SF
WATERMELON 1N - ORIGINAL WELLBORE - PROPOS	16,900.0	16,962.6	339.2	-210.9	0.617	Level 1, ES

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

Company:	PDC ENERGY	Local Co-ordinate Reference:	Well WATERMELON 2N - Slot WATERMELON 2N
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 2N	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 3N - ORIGINAL WELLBORE - PROPOS	400.0	400.0	15.1	13.5	9.892	CC
WATERMELON 3N - ORIGINAL WELLBORE - PROPOS	17,230.2	17,282.7	265.0	-300.0	0.469	Level 1, ES, SF
WATERMELON 4N - ORIGINAL WELLBORE - PROPOS	400.0	400.0	30.0	28.5	19.739	CC
WATERMELON 4N - ORIGINAL WELLBORE - PROPOS	17,230.2	17,218.2	513.2	-67.6	0.884	Level 1, ES, SF
WATERMELON 5N - ORIGINAL WELLBORE - PROPOS	400.0	400.0	45.1	43.6	29.656	CC, ES
WATERMELON 5N - ORIGINAL WELLBORE - PROPOS	17,230.2	17,313.4	772.7	193.7	1.335	Level 3, SF
WATERMELON 6N - ORIGINAL WELLBORE - PROPOS	400.0	400.0	60.0	58.5	39.431	CC, ES
WATERMELON 6N - ORIGINAL WELLBORE - PROPOS	17,230.2	17,270.1	1,027.1	446.1	1.768	SF
WATERMELON 7N - ORIGINAL WELLBORE - PROPOS	400.0	400.0	75.0	73.5	49.291	CC, ES
WATERMELON 7N - ORIGINAL WELLBORE - PROPOS	17,230.2	17,407.4	1,284.6	704.5	2.214	SF
WATERMELON 8N - ORIGINAL WELLBORE - PROPOS	400.0	400.0	90.0	88.5	59.143	CC, ES
WATERMELON 8N - ORIGINAL WELLBORE - PROPOS	17,230.2	17,389.9	1,540.0	959.4	2.652	SF
WATERMELON 9N - ORIGINAL WELLBORE - PROPOS	400.0	400.0	105.1	103.5	69.048	CC, ES
WATERMELON 9N - ORIGINAL WELLBORE - PROPOS	17,230.2	17,544.7	1,798.6	1,218.8	3.102	SF