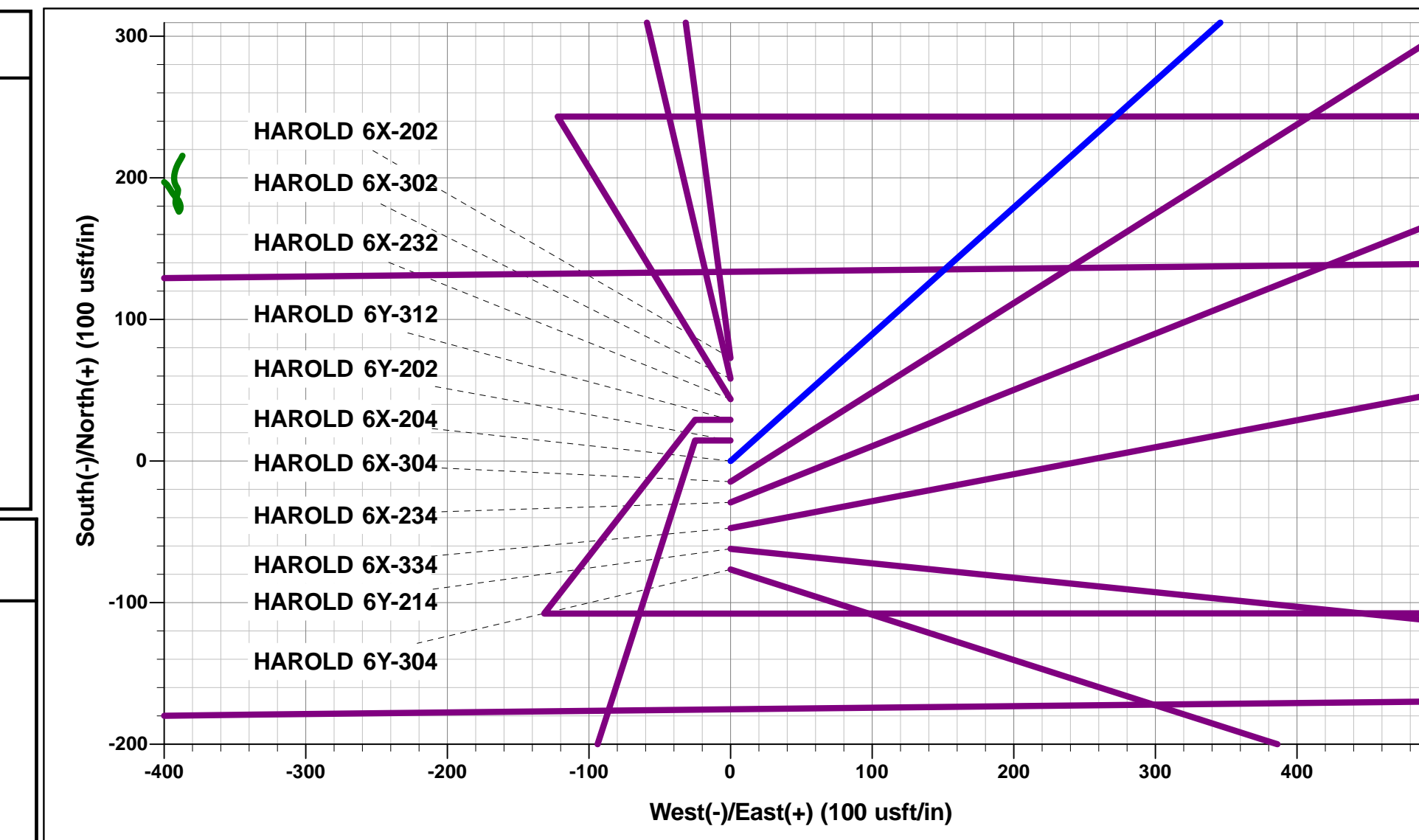




Project: WELD COUNTY, COLORADO  
Site: SE SE SEC. 6 T4N R64W 6th P.M.  
Well: HAROLD 6X-204  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #2

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation	
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 562ft FSL & 438ft FEL of Sec 6	
400.0	400.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)	
1170.4	1180.0	15.60	48.16	70.4	78.6	-62.4	105.5	EOB TO 15.6° INC	
5364.4	5534.4	15.60	48.16	851.5	951.1	-755.0	1276.6	END OF TANGENT	
6134.8	6314.4	0.00	0.00	921.9	1029.7	-817.4	1382.1	EOD TO VERTICAL	
6164.8	6344.4	0.00	0.00	921.9	1029.7	-817.4	1382.1	KOP (8°/100ft BUR)	
6870.1	7344.4	80.00	269.37	915.4	437.9	-239.7	1973.9	80° INC: 1474ft FSL & 25ft FEL of Sec 6	
6881.0	7469.4	90.00	269.39	914.1	313.6	-118.3	2098.3	HZ LP *NEW*: 1474ft FSL & 149.3ft FEL of Sec 6	
6881.0	11897.9	90.00	269.40	867.4	-4114.7	4205.1	6526.8	BHL: 1474ft FSL & 500ft FWL of Sec 6	

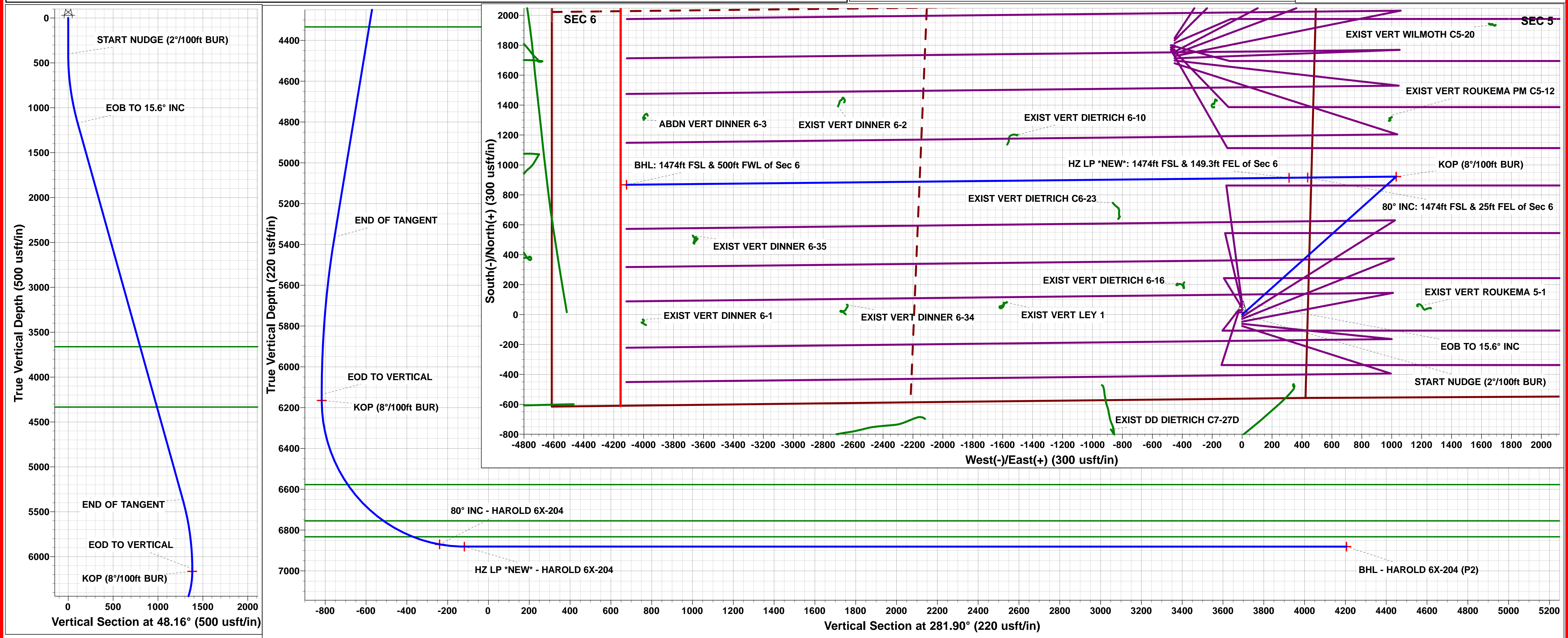
WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - HAROLD 6X-204	6164.8	921.9	1029.7	40.338150	-104.581796
80° INC - HAROLD 6X-204	6870.1	915.4	437.9	40.338133	-104.583919
BHL - HAROLD 6X-204 (P2)	6881.0	867.4	-4114.7	40.338000	-104.600250
HZ LP *NEW* - HAROLD 6X-204	6881.0	914.0	313.6	40.338129	-104.584365



PROPOSED LOCAL COORDINATES:  
SHL: 562ft FSL & 438ft FEL of Sec 6  
80° INC: 1474ft FSL & 25ft FEL of Sec 6  
HZ LP \*NEW\*: 1474ft FSL & 149.3ft FEL of Sec 6  
BHL: 1474ft FSL & 500ft FWL of Sec 6

Azimuths to True North  
Magnetic North: 8.13°

Magnetic Field  
Strength: 52401.0snT  
Dip Angle: 66.84°  
Date: 04/04/2017  
Model: IGRF2015



# **PDC ENERGY**

**WELD COUNTY, COLORADO  
SE SE SEC. 6 T4N R64W 6th P.M.  
HAROLD 6X-204**

**ORIGINAL WELLBORE  
PROPOSAL #2**

## **Anticollision Report**

**26 June, 2017**



## Anticollision Report



<b>Company:</b>	PDC ENERGY	<b>Local Co-ordinate Reference:</b>	Well HAROLD 6X-204
<b>Project:</b>	WELD COUNTY, COLORADO	<b>TVD Reference:</b>	KB-EST @ 4811.0usft
<b>Reference Site:</b>	SE SE SEC. 6 T4N R64W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4811.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HAROLD 6X-204	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	ORIGINAL WELLBORE	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	PROPOSAL #2	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PROPOSAL #2		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD + Stations Interval 100.0usft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 10,000.0 us	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b> 26/06/2017			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	11,897.9	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
NE SE SEC. 6 T4N R64W 6th P.M.						
ABDN VERT DINNER 6-3 - Wellbore #1 - Wellbore #1	11,751.8	6,942.1	462.5	329.2	3.470	CC, ES
ABDN VERT DINNER 6-3 - Wellbore #1 - Wellbore #1	11,800.0	6,941.5	465.0	330.4	3.454	SF
ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1	6,284.9	5,980.8	3,359.2	3,341.0	184.629	CC
ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1	6,314.4	6,014.0	3,359.3	3,328.8	109.986	ES
ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1	11,897.9	6,718.4	8,181.0	8,043.7	59.574	SF
ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1	7,950.6	6,871.9	522.8	488.3	15.153	CC, ES
ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1	8,100.0	6,872.6	543.8	506.2	14.492	SF
ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1	6,305.6	6,000.0	7,996.3	7,972.6	337.192	CC
ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1	6,314.4	6,004.8	7,996.3	7,969.2	294.937	ES
ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1	8,700.0	6,715.2	9,942.2	9,890.4	191.811	SF
ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1	6,344.4	6,109.1	1,824.9	1,799.5	71.730	ES
ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1	6,355.8	6,121.1	1,824.9	1,799.7	72.556	CC
ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1	11,897.9	6,831.0	5,596.0	5,458.7	40.781	SF
EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1	9,707.3	7,047.5	2,384.1	2,289.0	25.082	CC
EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1	9,800.0	7,045.6	2,385.9	2,288.3	24.463	ES
EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1	11,400.0	7,010.5	2,923.5	2,782.4	20.714	SF
EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1	11,060.3	6,980.2	1,258.2	1,127.3	9.612	CC
EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1	11,100.0	6,978.7	1,258.8	1,126.8	9.537	ES
EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1	11,400.0	6,966.9	1,303.2	1,162.9	9.293	SF
EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1	9,746.1	7,012.6	1,191.5	1,095.8	12.451	CC
EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1	9,800.0	7,009.8	1,192.7	1,095.5	12.279	ES
EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1	10,100.0	6,994.4	1,242.8	1,137.6	11.814	SF
EXIST DD BURMAN C4-32D - Wellbore #1 - Wellbore #1	2,962.5	1,734.9	4,701.5	4,688.9	373.779	CC, ES
EXIST DD BURMAN C4-32D - Wellbore #1 - Wellbore #1	11,800.0	7,166.0	9,946.7	9,791.4	64.029	SF
EXIST DD BURMAN C4-33D - Wellbore #1 - Wellbore #1	3,559.7	2,384.0	4,734.5	4,716.7	266.755	CC
EXIST DD BURMAN C4-33D - Wellbore #1 - Wellbore #1	3,600.0	2,407.7	4,734.5	4,716.5	263.046	ES
EXIST DD BURMAN C4-33D - Wellbore #1 - Wellbore #1	11,897.9	6,922.1	9,950.3	9,796.7	64.804	SF
EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1	5,934.7	5,618.7	4,096.6	4,045.2	79.658	CC, ES
EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1	11,897.9	7,175.8	8,855.8	8,698.7	56.393	SF
EXIST DD BURMAN C5-21D - Wellbore #1 - Wellbore #1	6,344.4	6,490.7	2,550.5	2,498.3	48.904	ES
EXIST DD BURMAN C5-21D - Wellbore #1 - Wellbore #1	6,356.8	6,500.6	2,550.4	2,500.4	51.015	CC
EXIST DD BURMAN C5-21D - Wellbore #1 - Wellbore #1	11,897.9	7,093.8	7,472.8	7,304.5	44.394	SF
EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1	6,289.7	6,188.6	3,514.3	3,472.9	84.869	CC
EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1	6,314.4	6,212.3	3,514.4	3,471.8	82.412	ES
EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1	11,897.9	6,905.2	8,522.7	8,369.5	55.631	SF
EXIST DD BURMAN C5-23D - Wellbore #1 - Wellbore #1	6,272.3	6,064.0	3,387.7	3,348.4	86.363	CC
EXIST DD BURMAN C5-23D - Wellbore #1 - Wellbore #1	6,300.0	6,098.9	3,387.7	3,348.4	86.158	ES

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



# Anticollision Report



<b>Company:</b>	PDC ENERGY	<b>Local Co-ordinate Reference:</b>	Well HAROLD 6X-204
<b>Project:</b>	WELD COUNTY, COLORADO	<b>TVD Reference:</b>	KB-EST @ 4811.0usft
<b>Reference Site:</b>	SE SE SEC. 6 T4N R64W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4811.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HAROLD 6X-204	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	ORIGINAL WELLBORE	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	PROPOSAL #2	<b>Offset TVD Reference:</b>	Offset Datum

## Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
NE SE SEC. 6 T4N R64W 6th P.M.						
EXIST DD BURMAN C5-23D - Wellbore #1 - Wellbore #	11,897.9	6,748.9	8,535.3	8,406.0	66.012	SF
EXIST DD BURMAN C5-24D - Wellbore #1 - Wellbore #	6,344.4	6,405.8	2,159.1	2,104.3	39.407	ES, SF
EXIST DD BURMAN C5-24D - Wellbore #1 - Wellbore #	6,346.7	6,407.8	2,159.1	2,115.4	49.443	CC
EXIST DD DIETRICH C7-27 - Wellbore #1 - Wellbore #1	404.4	404.2	1,166.2	1,165.2	1,161.499	CC, ES
EXIST DD DIETRICH C7-27 - Wellbore #1 - Wellbore #1	9,700.0	6,900.0	1,677.7	1,600.1	21.619	SF
EXIST DD DIETRICH C8-30D - Wellbore #1 - Wellbore #	7,453.0	7,254.4	1,380.6	1,326.9	25.694	CC
EXIST DD DIETRICH C8-30D - Wellbore #1 - Wellbore #	7,469.4	7,254.5	1,380.7	1,326.8	25.616	ES
EXIST DD DIETRICH C8-30D - Wellbore #1 - Wellbore #	8,300.0	7,251.6	1,619.6	1,550.9	23.563	SF
EXIST DD RUFF C8-27D - Wellbore #1 - Wellbore #1	6,242.8	6,041.9	3,684.2	3,642.8	89.021	CC, ES
EXIST DD RUFF C8-27D - Wellbore #1 - Wellbore #1	11,897.9	6,797.0	8,632.9	8,481.8	57.120	SF
EXIST DD SLEDGE C9-30D - Wellbore #1 - Wellbore #1	6,367.0	6,424.4	4,780.1	4,736.0	108.488	CC, ES
EXIST DD SLEDGE C9-30D - Wellbore #1 - Wellbore #1	11,897.9	7,098.0	9,819.0	9,663.5	63.137	SF
EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellb	9,938.8	7,225.4	1,575.2	1,454.2	13.026	CC
EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellb	10,000.0	7,221.9	1,576.4	1,453.8	12.862	ES
EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellb	10,500.0	7,192.0	1,671.8	1,535.9	12.299	SF
EXIST HZ COALVIEW G2-63-1HN - Wellbore #1 - Wellb	11,897.9	6,646.0	916.8	788.3	7.138	CC, ES, SF
EXIST HZ COALVIEW G2-64-1HN - Wellbore #1 - Wellb	11,897.9	6,659.0	757.2	658.2	7.650	CC, ES, SF
EXIST HZ COALVIEW G2-65-1HN - Wellbore #1 - Wellb	11,897.9	6,739.0	1,038.5	892.3	7.101	CC, ES, SF
EXIST HZ COALVIEW G2-66-1HN - Wellbore #1 - Wellb	11,897.9	6,743.0	1,618.9	1,470.0	10.867	CC, ES, SF
EXIST HZ LOWER LATHAM PC G12-69HN - Wellbore #	11,897.9	12,060.0	1,509.8	1,219.9	5.208	CC, ES, SF
EXIST HZ NORTHRUP C8-73HN - Wellbore #1 - Wellbo	2,829.8	2,220.5	3,747.7	3,732.9	254.012	CC
EXIST HZ NORTHRUP C8-73HN - Wellbore #1 - Wellbo	6,353.6	6,240.0	3,765.0	3,723.8	91.332	ES
EXIST HZ NORTHRUP C8-73HN - Wellbore #1 - Wellbo	11,897.9	6,515.0	8,670.9	8,523.6	58.860	SF
EXIST HZ NORTHRUP C8-75HN - Wellbore #1 - Wellbo	6,139.7	5,990.5	2,568.6	2,526.4	60.828	CC
EXIST HZ NORTHRUP C8-75HN - Wellbore #1 - Wellbo	6,300.0	6,167.7	2,569.0	2,526.2	60.052	ES
EXIST HZ NORTHRUP C8-75HN - Wellbore #1 - Wellbo	11,897.9	6,492.0	7,371.6	7,223.2	49.660	SF
EXIST HZ SCHMIDT PC C6-79HN - Wellbore #1 - Wellb	11,897.9	11,707.1	559.2	467.4	6.089	CC, ES, SF
EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1	10,326.2	6,867.4	1,828.1	1,734.0	19.425	CC
EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1	10,400.0	6,864.0	1,829.6	1,733.5	19.035	ES
EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1	11,300.0	6,822.6	2,070.8	1,950.0	17.147	SF
EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1	11,678.4	6,881.8	1,996.6	1,865.3	15.197	CC
EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1	11,700.0	6,881.5	1,996.8	1,864.8	15.130	ES
EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1	11,897.9	6,878.5	2,008.7	1,871.2	14.614	SF
EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #	6,301.5	6,000.0	5,998.7	5,977.0	276.193	CC
EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #	6,314.4	6,015.9	5,998.7	5,970.2	210.755	ES
EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #	10,800.0	6,800.0	9,986.7	9,879.6	93.214	SF
EXIST VERT CONNELL 14-4 - Wellbore #1 - Wellbore #	6,345.3	6,120.6	5,347.6	5,321.5	204.903	CC, ES
EXIST VERT CONNELL 14-4 - Wellbore #1 - Wellbore #	11,400.0	6,800.0	9,970.5	9,846.2	80.205	SF
EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1	6,289.3	6,001.4	5,474.5	5,451.4	236.747	CC
EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1	6,314.4	6,034.8	5,474.6	5,447.5	202.228	ES
EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1	11,200.0	6,800.0	9,912.3	9,794.3	84.007	SF
EXIST VERT CONNELL 3 - Wellbore #1 - Wellbore #1	6,355.5	6,211.2	6,734.5	6,708.6	259.697	CC, ES
EXIST VERT CONNELL 3 - Wellbore #1 - Wellbore #1	10,000.0	6,800.0	9,951.8	9,866.4	116.519	SF
EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #	6,292.8	5,981.7	5,555.4	5,535.1	274.598	CC
EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #	6,314.4	6,000.0	5,555.5	5,525.9	188.130	ES
EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #	11,300.0	6,800.0	9,956.1	9,835.4	82.457	SF
EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore	6,344.6	6,071.4	6,735.8	6,708.7	248.723	CC, ES
EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore	10,000.0	6,800.0	9,971.8	9,886.6	117.054	SF
EXIST VERT CONNELL C4-25 - Wellbore #1 - Wellbore	6,176.5	5,700.0	6,158.5	6,134.3	253.847	CC, ES
EXIST VERT CONNELL C4-25 - Wellbore #1 - Wellbore	6,344.4	5,800.0	6,163.1	6,136.9	235.695	SF
EXIST VERT DIETRICH 6-10 - Wellbore #1 - Wellbore #	9,349.9	6,892.2	243.7	175.7	3.585	CC, ES, SF
EXIST VERT DIETRICH 6-16 - Wellbore #1 - Wellbore #	418.3	396.5	478.5	477.4	437.995	CC, ES
EXIST VERT DIETRICH 6-16 - Wellbore #1 - Wellbore #	8,500.0	6,700.0	779.1	733.6	17.134	SF

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

# Anticollision Report



<b>Company:</b>	PDC ENERGY	<b>Local Co-ordinate Reference:</b>	Well HAROLD 6X-204
<b>Project:</b>	WELD COUNTY, COLORADO	<b>TVD Reference:</b>	KB-EST @ 4811.0usft
<b>Reference Site:</b>	SE SE SEC. 6 T4N R64W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4811.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HAROLD 6X-204	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	ORIGINAL WELLBORE	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	PROPOSAL #2	<b>Offset TVD Reference:</b>	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						
NE SE SEC. 6 T4N R64W 6th P.M.						
EXIST VERT DIETRICH C6-23 - Wellbore #1 - Wellbore	8,602.2	6,886.3	247.3	198.1	5.027	CC, ES, SF
EXIST VERT DINNER 6-1 - Wellbore #1 - Wellbore #1	11,778.6	6,897.9	938.1	803.8	6.986	CC
EXIST VERT DINNER 6-1 - Wellbore #1 - Wellbore #1	11,800.0	6,897.7	938.4	803.5	6.957	ES
EXIST VERT DINNER 6-1 - Wellbore #1 - Wellbore #1	11,897.9	6,896.3	945.7	808.1	6.874	SF
EXIST VERT DINNER 6-2 - Wellbore #1 - Wellbore #1	10,435.8	6,905.7	538.8	441.5	5.540	CC, ES
EXIST VERT DINNER 6-2 - Wellbore #1 - Wellbore #1	10,500.0	6,907.1	542.6	443.6	5.481	SF
EXIST VERT DINNER 6-34 - Wellbore #1 - Wellbore #1	10,442.0	6,889.6	881.2	783.8	9.044	CC, ES
EXIST VERT DINNER 6-34 - Wellbore #1 - Wellbore #1	10,700.0	6,883.7	918.2	813.8	8.790	SF
EXIST VERT DINNER 6-35 - Wellbore #1 - Wellbore #1	11,436.7	6,905.3	362.7	238.2	2.914	CC, ES, SF
EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1	6,305.9	6,000.0	6,991.5	6,970.5	333.280	CC
EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1	6,314.4	6,000.0	6,991.5	6,962.5	240.854	ES
EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1	9,800.0	6,764.9	9,968.1	9,888.0	124.437	SF
EXIST VERT HINKLE 23-5 - Wellbore #1 - Wellbore #1	6,313.8	6,078.8	1,483.0	1,462.6	72.692	CC
EXIST VERT HINKLE 23-5 - Wellbore #1 - Wellbore #1	6,344.4	6,109.1	1,483.1	1,453.6	50.321	ES
EXIST VERT HINKLE 23-5 - Wellbore #1 - Wellbore #1	11,897.9	6,680.6	6,577.4	6,444.0	49.318	SF
EXIST VERT HINKLE 24-5 - Wellbore #1 - Wellbore #1	6,250.9	6,016.4	1,535.3	1,505.8	52.013	CC, ES
EXIST VERT HINKLE 24-5 - Wellbore #1 - Wellbore #1	11,897.9	6,600.0	6,542.4	6,410.9	49.758	SF
EXIST VERT LEVI C5-15 - Wellbore #1 - Wellbore #1	6,263.8	6,015.6	3,090.5	3,062.9	112.159	CC, ES
EXIST VERT LEVI C5-15 - Wellbore #1 - Wellbore #1	11,897.9	6,737.8	8,187.3	8,051.4	60.235	SF
EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1	9,380.5	6,914.2	821.8	753.0	11.939	CC
EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1	9,400.0	6,913.8	822.0	752.7	11.855	ES
EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1	9,600.0	6,909.3	850.6	776.0	11.399	SF
EXIST VERT MCCLINTOCK C4-15 - Wellbore #1 - Wellbore #1	6,354.9	6,193.8	8,114.5	8,088.9	316.860	CC, ES
EXIST VERT MCCLINTOCK C4-15 - Wellbore #1 - Wellbore #1	8,600.0	6,700.0	9,950.8	9,902.4	205.575	SF
EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbore #1	6,298.4	6,042.5	2,813.5	2,791.2	126.146	CC
EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbore #1	6,314.4	6,056.4	2,813.6	2,785.5	100.121	ES
EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbore #1	11,897.9	6,600.0	7,944.7	7,817.6	62.505	SF
EXIST VERT REISTAD 5-1 - Wellbore #1 - Wellbore #1	6,280.4	6,019.7	4,101.5	4,074.6	152.587	CC, ES
EXIST VERT REISTAD 5-1 - Wellbore #1 - Wellbore #1	11,897.9	6,850.0	9,204.9	9,067.4	66.967	SF
EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1	6,344.4	6,142.6	3,901.8	3,874.4	142.733	ES
EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1	6,351.3	6,147.8	3,901.7	3,878.1	164.959	CC
EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1	11,897.9	6,737.8	9,044.4	8,911.5	68.087	SF
EXIST VERT ROUKEMA 5-1 - Wellbore #1 - Wellbore #1	3,933.9	3,754.2	778.1	758.7	40.061	CC
EXIST VERT ROUKEMA 5-1 - Wellbore #1 - Wellbore #1	4,000.0	3,818.7	778.3	758.5	39.234	ES
EXIST VERT ROUKEMA 5-1 - Wellbore #1 - Wellbore #1	5,534.4	5,317.7	861.5	833.9	31.207	SF
EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Wellbore #1	6,400.0	6,174.7	377.0	349.6	13.750	SF
EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Wellbore #1	6,600.0	6,373.1	374.1	348.1	14.400	ES
EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Wellbore #1	6,622.7	6,394.9	374.0	348.3	14.557	CC
EXIST VERT SITZMAN 4-714 - Wellbore #1 - Design #1	6,344.4	6,059.8	8,317.0	8,170.5	56.783	CC, ES
EXIST VERT SITZMAN 4-714 - Wellbore #1 - Design #1	8,400.0	6,776.0	9,929.7	9,753.4	56.303	SF
EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore #1	6,344.4	6,071.2	8,761.3	8,733.6	316.614	ES
EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore #1	6,346.0	6,072.3	8,761.3	8,738.7	387.193	CC
EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore #1	8,000.0	6,750.0	9,997.0	9,961.6	282.399	SF
EXIST VERT SLEDGE C9-28 - Wellbore #1 - Design #1	6,344.4	6,091.8	7,511.3	7,369.9	53.129	CC
EXIST VERT SLEDGE C9-28 - Wellbore #1 - Design #1	6,350.0	6,097.4	7,511.3	7,365.7	51.586	ES
EXIST VERT SLEDGE C9-28 - Wellbore #1 - Design #1	9,200.0	6,808.0	9,905.0	9,708.4	50.372	SF
EXIST VERT SLEDGE C9-29 - Wellbore #1 - Design #1	6,344.4	6,110.8	6,199.9	6,058.8	43.954	CC
EXIST VERT SLEDGE C9-29 - Wellbore #1 - Design #1	6,350.0	6,116.4	6,199.9	6,053.7	42.399	ES
EXIST VERT SLEDGE C9-29 - Wellbore #1 - Design #1	6,400.0	6,166.3	6,201.9	6,055.1	42.244	SF
EXIST VERT SMITH-REEVES 42-5 - Wellbore #1 - Wellbore #1	6,344.4	6,123.2	4,567.9	4,537.9	152.327	ES
EXIST VERT SMITH-REEVES 42-5 - Wellbore #1 - Wellbore #1	6,349.5	6,127.3	4,567.9	4,548.5	235.686	CC
EXIST VERT SMITH-REEVES 42-5 - Wellbore #1 - Wellbore #1	11,897.9	6,550.0	9,507.8	9,371.2	69.594	SF
EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1	9,118.2	6,900.0	1,773.5	1,711.7	28.655	CC

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

# Anticollision Report



<b>Company:</b>	PDC ENERGY	<b>Local Co-ordinate Reference:</b>	Well HAROLD 6X-204
<b>Project:</b>	WELD COUNTY, COLORADO	<b>TVD Reference:</b>	KB-EST @ 4811.0usft
<b>Reference Site:</b>	SE SE SEC. 6 T4N R64W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4811.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HAROLD 6X-204	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	ORIGINAL WELLBORE	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	PROPOSAL #2	<b>Offset TVD Reference:</b>	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						
NE SE SEC. 6 T4N R64W 6th P.M.						
EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1	9,200.0	6,900.0	1,775.4	1,711.4	27.735	ES
EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1	10,500.0	6,867.3	2,248.1	2,149.2	22.738	SF
EXIST VERT WILMOTH 6-14 - Wellbore #1 - Wellbore #	7,837.9	6,905.8	1,695.8	1,663.7	52.810	CC, ES
EXIST VERT WILMOTH 6-14 - Wellbore #1 - Wellbore #	10,900.0	6,950.0	3,499.8	3,390.4	31.973	SF
EXIST VERT WILMOTH C4-23 - Wellbore #1 - Wellbore	6,344.4	6,179.4	8,705.5	8,679.7	337.021	ES
EXIST VERT WILMOTH C4-23 - Wellbore #1 - Wellbore	6,355.0	6,188.8	8,705.5	8,680.7	351.222	CC
EXIST VERT WILMOTH C4-23 - Wellbore #1 - Wellbore	8,000.0	6,800.0	9,938.6	9,902.8	278.143	SF
EXIST VERT WILMOTH C4-24 - Wellbore #1 - Wellbore	6,334.1	6,059.9	7,477.0	7,451.0	287.924	CC
EXIST VERT WILMOTH C4-24 - Wellbore #1 - Wellbore	6,344.4	6,065.5	7,477.0	7,451.0	287.786	ES
EXIST VERT WILMOTH C4-24 - Wellbore #1 - Wellbore	9,200.0	6,626.0	9,933.6	9,885.0	204.248	SF
EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore	6,277.3	6,024.1	1,205.6	1,186.5	63.074	CC
EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore	6,314.4	6,060.4	1,205.8	1,175.6	39.845	ES
EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore	6,344.4	6,089.7	1,206.2	1,175.9	39.818	SF
EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore #	6,287.5	6,007.2	2,357.3	2,339.0	128.487	CC
EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore #	6,314.4	6,034.7	2,357.4	2,326.8	76.894	ES
EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore #	11,897.9	6,800.0	6,901.8	6,764.5	50.275	SF
EXIST VERT WILMOTH C9-27 - Wellbore #1 - Wellbore	6,345.4	6,064.6	8,689.2	8,663.2	333.072	CC, ES
EXIST VERT WILMOTH C9-27 - Wellbore #1 - Wellbore	8,000.0	6,800.0	9,922.5	9,887.3	281.778	SF
JUDY 6D-212 - ORIGINAL WELLBORE - PROPOSAL #	7,050.0	7,396.3	474.6	422.3	9.078	SF
JUDY 6D-212 - ORIGINAL WELLBORE - PROPOSAL #	7,150.0	7,308.6	469.9	418.9	9.206	ES
JUDY 6D-212 - ORIGINAL WELLBORE - PROPOSAL #	7,194.1	7,267.7	469.5	419.1	9.310	CC
JUDY 6D-312 - ORIGINAL WELLBORE - PROPOSAL #	7,350.0	7,211.4	197.6	149.6	4.118	SF
JUDY 6D-312 - ORIGINAL WELLBORE - PROPOSAL #	7,373.8	7,189.5	197.4	149.5	4.120	CC, ES
JUDY 6S-202 - ORIGINAL WELLBORE - PROPOSAL #1	6,700.0	7,600.0	1,105.8	1,048.5	19.292	SF
JUDY 6S-202 - ORIGINAL WELLBORE - PROPOSAL #1	7,100.0	7,321.4	1,058.9	1,007.0	20.403	ES
JUDY 6S-202 - ORIGINAL WELLBORE - PROPOSAL #1	7,165.0	7,262.0	1,058.4	1,007.5	20.790	CC
JUDY 6S-204 - ORIGINAL WELLBORE - PROPOSAL #2	11,866.5	11,960.4	1,107.5	836.3	4.085	CC
JUDY 6S-204 - ORIGINAL WELLBORE - PROPOSAL #2	11,897.9	11,976.9	1,107.5	835.1	4.065	ES, SF
JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1	6,450.0	7,690.1	1,629.1	1,568.4	26.844	SF
JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1	7,100.0	7,330.8	1,530.6	1,478.9	29.609	ES
JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1	7,161.2	7,274.3	1,530.3	1,479.5	30.136	CC
JUDY 6S-214 - ORIGINAL WELLBORE - PROPOSAL #2	6,527.6	6,659.6	1,639.3	1,582.6	28.880	CC
JUDY 6S-214 - ORIGINAL WELLBORE - PROPOSAL #2	11,897.9	12,041.6	1,668.7	1,396.5	6.131	ES, SF
JUDY 6S-234 - ORIGINAL WELLBORE - PROPOSAL #2	11,869.4	11,935.3	606.9	336.0	2.240	CC
JUDY 6S-234 - ORIGINAL WELLBORE - PROPOSAL #2	11,897.9	11,957.3	606.9	334.6	2.229	ES, SF
JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1	6,550.0	7,730.1	1,403.5	1,344.4	23.743	SF
JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1	7,250.0	7,245.1	1,299.9	1,250.8	26.489	ES
JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1	7,313.0	7,186.5	1,299.5	1,251.1	26.842	CC
JUDY 6S-314 - ORIGINAL WELLBORE - PROPOSAL #2	6,153.3	6,179.2	1,390.7	1,334.3	24.656	CC
JUDY 6S-314 - ORIGINAL WELLBORE - PROPOSAL #2	11,897.9	12,096.0	1,422.1	1,150.3	5.232	ES, SF
JUDY 6S-332 - ORIGINAL WELLBORE - PROPOSAL #1	6,900.0	7,559.0	812.1	758.4	15.117	SF
JUDY 6S-332 - ORIGINAL WELLBORE - PROPOSAL #1	7,300.0	7,205.2	779.2	730.5	16.012	ES
JUDY 6S-332 - ORIGINAL WELLBORE - PROPOSAL #1	7,331.7	7,175.7	779.0	730.7	16.110	CC
JUDY 6S-334 - ORIGINAL WELLBORE - PROPOSAL #2	11,868.7	12,033.9	847.3	576.7	3.132	CC
JUDY 6S-334 - ORIGINAL WELLBORE - PROPOSAL #2	11,897.9	12,050.7	847.3	575.5	3.118	ES, SF
JUDY 6X-314 - ORIGINAL WELLBORE - PROPOSAL #2	6,357.2	6,410.2	282.1	225.3	4.963	CC
JUDY 6X-314 - ORIGINAL WELLBORE - PROPOSAL #2	11,897.9	12,008.3	284.9	17.0	1.063	Level 2, ES, SF

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

# Anticollision Report



<b>Company:</b>	PDC ENERGY	<b>Local Co-ordinate Reference:</b>	Well HAROLD 6X-204
<b>Project:</b>	WELD COUNTY, COLORADO	<b>TVD Reference:</b>	KB-EST @ 4811.0usft
<b>Reference Site:</b>	SE SE SEC. 6 T4N R64W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4811.0usft
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	HAROLD 6X-204	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	ORIGINAL WELLBORE	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	PROPOSAL #2	<b>Offset TVD Reference:</b>	Offset Datum

## Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SE SE SEC. 6 T4N R64W 6th P.M.						
HAROLD 6X-202 - ORIGINAL WELLBORE - PROPOSAL	7,200.0	7,294.5	55.2	8.2	1.174	Level 2, ES, SF
HAROLD 6X-202 - ORIGINAL WELLBORE - PROPOSAL	7,225.8	7,270.8	54.2	8.8	1.193	Level 2, CC
HAROLD 6X-232 - ORIGINAL WELLBORE - PROPOSAL	624.0	622.2	40.9	38.4	16.203	CC, ES
HAROLD 6X-232 - ORIGINAL WELLBORE - PROPOSAL	6,800.0	7,567.1	721.2	666.6	13.205	SF
HAROLD 6X-234 - ORIGINAL WELLBORE - PROPOSAL	400.0	399.0	29.1	27.6	19.184	CC, ES
HAROLD 6X-234 - ORIGINAL WELLBORE - PROPOSAL	11,897.9	11,791.9	550.4	280.3	2.038	SF
HAROLD 6X-302 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	58.3	56.8	38.303	CC, ES
HAROLD 6X-302 - ORIGINAL WELLBORE - PROPOSAL	7,100.0	7,433.2	393.2	344.5	8.074	SF
HAROLD 6X-304 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	14.6	13.1	9.577	CC, ES
HAROLD 6X-304 - ORIGINAL WELLBORE - PROPOSAL	11,897.9	11,894.5	299.3	31.6	1.118	Level 2, SF
HAROLD 6X-334 - ORIGINAL WELLBORE - PROPOSAL	400.0	399.0	47.4	45.8	31.172	CC, ES
HAROLD 6X-334 - ORIGINAL WELLBORE - PROPOSAL	11,897.9	11,841.0	781.2	511.2	2.893	SF
HAROLD 6Y-202 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	14.6	13.5	13.588	CC
HAROLD 6Y-202 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	14.7	13.2	9.711	ES
HAROLD 6Y-202 - ORIGINAL WELLBORE - PROPOSAL	500.0	499.6	15.7	13.8	8.082	SF
HAROLD 6Y-214 - ORIGINAL WELLBORE - PROPOSAL	400.0	399.0	61.9	60.4	40.760	CC, ES
HAROLD 6Y-214 - ORIGINAL WELLBORE - PROPOSAL	11,897.9	11,766.6	1,089.6	819.6	4.036	SF
HAROLD 6Y-304 - ORIGINAL WELLBORE - PROPOSAL	300.0	299.0	76.5	75.4	71.511	CC, ES
HAROLD 6Y-304 - ORIGINAL WELLBORE - PROPOSAL	11,897.9	11,842.5	1,319.3	1,049.4	4.888	SF
HAROLD 6Y-312 - ORIGINAL WELLBORE - PROPOSAL	477.3	477.0	29.1	27.3	15.742	CC
HAROLD 6Y-312 - ORIGINAL WELLBORE - PROPOSAL	500.0	499.6	29.2	27.2	14.967	ES
HAROLD 6Y-312 - ORIGINAL WELLBORE - PROPOSAL	600.0	598.6	31.9	29.5	13.245	SF
SW SW SEC. 34 T5N R64W 6th P.M.						
BAILEY 34I-223 - ORIGINAL WELLBORE - PROPOSAL						Out of range
BAILEY 34I-303 - ORIGINAL WELLBORE - PROPOSAL						Out of range
EXIST DD LOEFFLER C 10-30 - Wellbore #1 - Wellbore						Out of range
EXIST HZ OREDIGGER C10-69HN - Wellbore #1 - Well						Out of range
EXIST VERT ATKINSON-GALE 3-13 - Wellbore #1 - We						Out of range
EXIST VERT DONES 1 - Wellbore #1 - Wellbore #1						Out of range
EXIST VERT MILLAGE 12-3 - Wellbore #1 - Wellbore #1						Out of range
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	6,344.4	6,061.0	9,596.8	9,568.7	340.628	ES, SF
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	6,345.6	6,062.0	9,596.8	9,574.9	437.348	CC
EXIST VERT WILMOTH 1 - Wellbore #1 - Wellbore #1	6,348.2	6,100.0	9,293.5	9,267.8	362.397	CC, ES
EXIST VERT WILMOTH 1 - Wellbore #1 - Wellbore #1	7,450.0	6,730.3	9,986.6	9,958.9	360.644	SF
EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore #	6,276.5	5,889.9	9,467.3	9,443.5	398.459	CC
EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore #	6,314.4	5,925.1	9,467.5	9,440.5	351.471	ES
EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore #	6,344.4	5,955.0	9,467.8	9,440.8	351.053	SF
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	6,306.4	5,980.6	9,800.5	9,776.2	403.567	CC
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	6,314.4	6,000.0	9,800.5	9,775.0	385.007	ES
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	6,344.4	6,009.8	9,800.6	9,775.1	384.508	SF

Offset Design												Offset Site Error:		0.0 usft
Survey Program: 100-GYD_CT												Offset Well Error:		0.0 usft
Reference		Offset		Semi Major Axis			Distance							
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	50.4	50.4	0.0	0.0	-71.99	1,300.9	-4,000.3	4,206.6					
100.0	100.0	151.5	151.5	0.1	0.0	-71.98	1,301.0	-4,000.1	4,206.4	4,206.3	0.09	N/A		
200.0	200.0	248.7	248.7	0.3	0.0	-71.98	1,301.1	-4,000.0	4,206.3	4,205.9	0.33	N/A		
298.8	298.8	343.8	343.8	0.5	0.1	-71.98	1,301.3	-3,999.8	4,206.2	4,205.5	0.65	6,483.604		

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