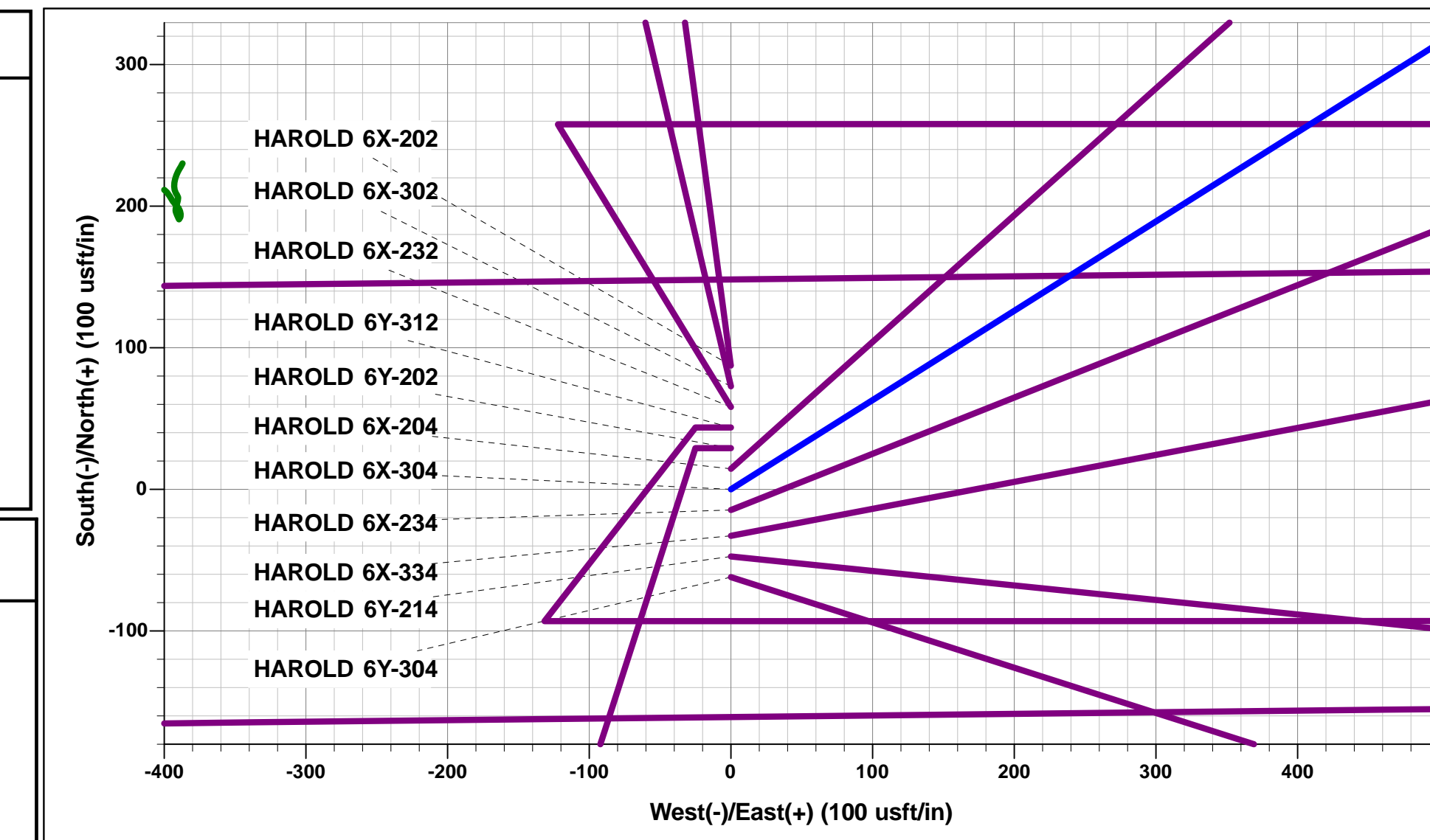




Project: WELD COUNTY, COLORADO
Site: SE SE SEC. 6 T4N R64W 6th P.M.
Well: HAROLD 6X-304
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

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: 547ft FSL & 438ft FEL of Sec 6	
500.0	500.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)	
1172.4	1178.8	13.58	57.76	42.7	67.7	-61.0	80.0	EOB TO 13.58° INC	
5512.4	5643.4	13.58	57.76	601.7	954.1	-859.6	1128.0	END OF TANGENT	
6184.8	6322.2	0.00	0.00	644.4	1021.8	-920.6	1208.0	EOD TO VERTICAL	
6214.8	6352.2	0.00	0.00	644.4	1021.8	-920.6	1208.0	KOP (8°/100ft BUR)	
6920.1	7352.2	80.00	269.37	637.9	430.0	-335.6	1799.9	80° INC: 1182ft FSL & 25ft FEL of Sec 6	
6931.0	7477.2	90.00	269.36	636.5	305.7	-212.7	1924.2	HZ LP *NEW*: 1182ft FSL & 149.3ft FEL of Sec 6	
6931.0	11897.9	90.00	269.35	586.9	-4114.8	4156.4	6344.9	BHL: 1182ft FSL & 500ft FWL of Sec 6	

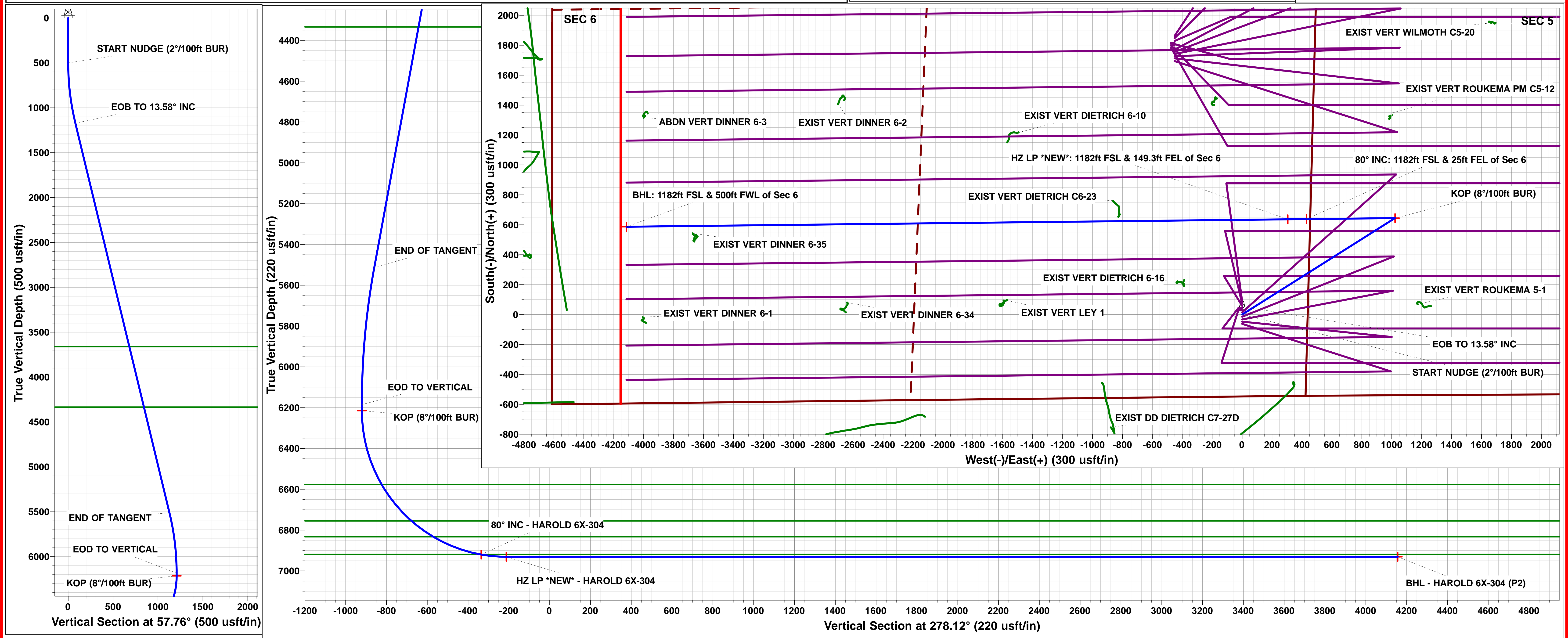
WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - HAROLD 6X-304	6214.8	644.4	1021.8	40.337349	-104.581825
80° INC - HAROLD 6X-304	6920.1	637.9	430.0	40.337331	-104.583948
BHL - HAROLD 6X-304 (P2)	6931.0	586.9	-4114.8	40.337190	-104.600250
HZ LP *NEW* - HAROLD 6X-304	6931.0	636.5	305.7	40.337327	-104.584393



PROPOSED LOCAL COORDINATES:
SHL: 547ft FSL & 438ft FEL of Sec 6
80° INC: 1182ft FSL & 25ft FEL of Sec 6
HZ LP *NEW*: 1182ft FSL & 149.3ft FEL of Sec 6
BHL: 1182ft 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-304**

**ORIGINAL WELLBORE
PROPOSAL #2**

Anticollision Report

26 June, 2017



Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well HAROLD 6X-304
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4811.0usft
Reference Site:	SE SE SEC. 6 T4N R64W 6th P.M.	MD Reference:	KB-EST @ 4811.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	HAROLD 6X-304	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date 26/06/2017			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
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	11,747.2	7,000.0	755.7	623.1	5.699	CC, ES
ABDN VERT DINNER 6-3 - Wellbore #1 - Wellbore #1	11,897.9	6,999.6	770.6	633.8	5.635	SF
ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1	6,296.3	6,036.8	3,535.6	3,518.0	201.603	CC
ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1	6,322.2	6,060.5	3,535.7	3,507.8	126.633	ES
ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1	11,897.9	6,767.7	8,255.4	8,118.7	60.391	SF
ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1	7,947.1	6,900.0	815.6	781.6	23.980	CC, ES
ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1	8,400.0	6,900.0	932.9	889.2	21.336	SF
ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1	6,310.9	6,038.5	8,030.6	8,010.7	402.043	CC
ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1	6,322.2	6,049.6	8,030.7	8,003.9	299.892	ES
ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1	8,700.0	6,751.8	9,964.7	9,913.5	194.651	SF
ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1	6,380.7	6,192.5	2,116.6	2,091.6	84.360	CC, ES
ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1	11,897.9	6,861.6	5,701.6	5,564.9	41.732	SF
EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1	9,701.1	7,100.0	2,676.7	2,582.3	28.356	CC
EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1	9,800.0	7,100.0	2,678.5	2,581.5	27.603	ES
EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1	11,800.0	7,052.4	3,401.2	3,249.5	22.428	SF
EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1	11,053.7	7,030.2	1,552.6	1,422.4	11.928	CC
EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1	11,100.0	7,028.2	1,553.3	1,421.9	11.818	ES
EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1	11,600.0	7,007.0	1,645.7	1,500.6	11.336	SF
EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1	9,739.1	7,069.5	1,484.0	1,389.0	15.618	CC
EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1	9,800.0	7,066.2	1,485.3	1,388.6	15.368	ES
EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1	10,400.0	7,034.8	1,624.2	1,511.4	14.399	SF
EXIST DD BURMAN C4-32D - Wellbore #1 - Wellbore #1	2,842.6	1,690.0	4,748.8	4,738.0	440.165	CC, ES
EXIST DD BURMAN C4-32D - Wellbore #1 - Wellbore #1	11,800.0	7,189.7	9,984.4	9,828.6	64.091	SF
EXIST DD BURMAN C4-33D - Wellbore #1 - Wellbore #1	3,334.5	2,205.4	4,779.2	4,764.6	326.741	CC
EXIST DD BURMAN C4-33D - Wellbore #1 - Wellbore #1	3,600.0	2,432.3	4,779.9	4,763.7	294.212	ES
EXIST DD BURMAN C4-33D - Wellbore #1 - Wellbore #1	11,897.9	6,962.0	9,952.2	9,819.1	74.780	SF
EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1	5,913.6	5,569.0	4,279.9	4,230.1	85.829	CC, ES
EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1	11,897.9	7,217.8	8,947.1	8,790.7	57.200	SF
EXIST DD BURMAN C5-21D - Wellbore #1 - Wellbore #1	6,360.2	6,532.7	2,714.0	2,664.0	54.232	CC, ES
EXIST DD BURMAN C5-21D - Wellbore #1 - Wellbore #1	11,897.9	7,140.6	7,531.8	7,364.1	44.903	SF
EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1	6,298.7	6,238.7	3,641.8	3,602.5	92.743	CC
EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1	6,322.2	6,256.4	3,641.9	3,601.0	88.946	ES
EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1	11,897.9	6,935.8	8,575.7	8,423.2	56.208	SF
EXIST DD BURMAN C5-23D - Wellbore #1 - Wellbore #1	6,307.2	6,161.1	3,393.0	3,358.5	98.108	CC
EXIST DD BURMAN C5-23D - Wellbore #1 - Wellbore #1	6,322.2	6,174.0	3,393.1	3,354.3	87.427	ES
EXIST DD BURMAN C5-23D - Wellbore #1 - Wellbore #1	6,352.2	6,199.8	3,393.3	3,354.4	87.257	SF
EXIST DD BURMAN C5-24D - Wellbore #1 - Wellbore #1	6,352.3	6,449.0	2,165.3	2,108.4	38.018	CC, ES, SF

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

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well HAROLD 6X-304
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4811.0usft
Reference Site:	SE SE SEC. 6 T4N R64W 6th P.M.	MD Reference:	KB-EST @ 4811.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	HAROLD 6X-304	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
NE SE SEC. 6 T4N R64W 6th P.M.						
EXIST DD DIETRICH C7-27 - Wellbore #1 - Wellbore #1	8,732.7	6,942.2	1,080.1	1,028.1	20.800	CC, ES
EXIST DD DIETRICH C7-27 - Wellbore #1 - Wellbore #1	9,300.0	6,941.9	1,220.0	1,153.5	18.367	SF
EXIST DD DIETRICH C8-30D - Wellbore #1 - Wellbore #	7,449.8	7,304.6	1,089.3	1,035.8	20.391	CC
EXIST DD DIETRICH C8-30D - Wellbore #1 - Wellbore #	7,450.0	7,304.6	1,089.3	1,035.8	20.390	ES
EXIST DD DIETRICH C8-30D - Wellbore #1 - Wellbore #	7,900.0	7,303.6	1,178.4	1,118.5	19.660	SF
EXIST DD RUFF C8-27D - Wellbore #1 - Wellbore #1	6,280.1	6,126.3	3,581.8	3,545.0	97.279	CC
EXIST DD RUFF C8-27D - Wellbore #1 - Wellbore #1	6,300.0	6,147.1	3,581.9	3,545.0	97.125	ES
EXIST DD RUFF C8-27D - Wellbore #1 - Wellbore #1	11,897.9	6,833.4	8,588.6	8,438.3	57.139	SF
EXIST DD SLEDGE C9-30D - Wellbore #1 - Wellbore #1	6,352.2	6,458.0	4,719.4	4,676.1	108.889	ES
EXIST DD SLEDGE C9-30D - Wellbore #1 - Wellbore #1	6,372.5	6,458.0	4,719.1	4,678.9	117.487	CC
EXIST DD SLEDGE C9-30D - Wellbore #1 - Wellbore #1	11,897.9	7,133.1	9,787.6	9,632.9	63.256	SF
EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellb	9,933.4	7,274.3	1,282.8	1,162.5	10.667	CC
EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellb	10,000.0	7,270.6	1,284.5	1,162.5	10.526	ES
EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellb	10,300.0	7,253.9	1,333.9	1,203.9	10.259	SF
EXIST HZ COALVIEW G2-63-1HN - Wellbore #1 - Wellb	11,897.9	6,646.0	819.0	738.5	10.178	CC, ES, SF
EXIST HZ COALVIEW G2-64-1HN - Wellbore #1 - Wellb	11,897.9	6,680.9	901.8	772.0	6.948	CC, ES, SF
EXIST HZ COALVIEW G2-65-1HN - Wellbore #1 - Wellb	11,897.9	6,739.0	1,295.6	1,149.4	8.866	CC, ES, SF
EXIST HZ COALVIEW G2-66-1HN - Wellbore #1 - Wellb	11,897.9	6,743.0	1,900.0	1,751.8	12.821	CC, ES, SF
EXIST HZ LOWER LATHAM PC G12-69HN - Wellbore #	11,897.9	12,060.0	1,223.6	934.1	4.227	CC, ES, SF
EXIST HZ NORTHRUP C8-73HN - Wellbore #1 - Wellbo	6,360.6	6,286.1	3,649.6	3,612.9	99.533	CC, ES
EXIST HZ NORTHRUP C8-73HN - Wellbore #1 - Wellbo	11,897.9	6,515.0	8,619.8	8,475.5	59.731	SF
EXIST HZ NORTHRUP C8-75HN - Wellbore #1 - Wellbo	6,287.6	6,199.0	2,413.2	2,375.0	63.215	CC
EXIST HZ NORTHRUP C8-75HN - Wellbore #1 - Wellbo	6,300.0	6,208.9	2,413.2	2,375.0	63.156	ES
EXIST HZ NORTHRUP C8-75HN - Wellbore #1 - Wellbo	11,897.9	6,524.0	7,320.7	7,175.9	50.538	SF
EXIST HZ SCHMIDT PC C6-79HN - Wellbore #1 - Wellb	11,897.9	12,018.4	502.5	394.4	4.648	CC, ES, SF
EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1	10,319.3	6,910.4	2,122.4	2,029.1	22.744	CC
EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1	10,400.0	6,900.0	2,123.9	2,028.4	22.238	ES
EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1	11,700.0	6,848.9	2,531.2	2,400.1	19.301	SF
EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1	11,672.5	6,926.9	2,292.2	2,161.6	17.551	CC
EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1	11,700.0	6,926.5	2,292.4	2,161.0	17.451	ES
EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1	11,897.9	6,923.3	2,303.2	2,166.4	16.833	SF
EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #	6,352.2	6,122.2	6,078.6	6,051.1	220.876	ES
EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #	6,352.9	6,123.2	6,078.6	6,059.9	326.027	CC
EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #	10,700.0	6,800.0	9,933.2	9,829.3	95.647	SF
EXIST VERT CONNELL 14-4 - Wellbore #1 - Wellbore #	6,352.2	6,170.2	5,326.7	5,300.8	206.213	ES
EXIST VERT CONNELL 14-4 - Wellbore #1 - Wellbore #	6,353.1	6,171.3	5,326.7	5,304.9	245.155	CC
EXIST VERT CONNELL 14-4 - Wellbore #1 - Wellbore #	11,400.0	6,800.0	9,957.1	9,835.0	81.577	SF
EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1	6,312.5	6,088.6	5,518.6	5,499.2	285.050	CC
EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1	6,322.2	6,101.7	5,518.6	5,491.9	206.557	ES
EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1	11,200.0	6,840.4	9,934.0	9,816.6	84.639	SF
EXIST VERT CONNELL 3 - Wellbore #1 - Wellbore #1	6,352.2	6,244.6	6,714.5	6,689.4	267.140	ES
EXIST VERT CONNELL 3 - Wellbore #1 - Wellbore #1	6,362.6	6,254.3	6,714.4	6,692.7	309.352	CC
EXIST VERT CONNELL 3 - Wellbore #1 - Wellbore #1	10,000.0	6,800.0	9,934.9	9,850.5	117.776	SF
EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #	6,298.2	6,021.6	5,672.0	5,654.2	317.511	CC
EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #	6,322.2	6,040.9	5,672.1	5,644.2	202.861	ES
EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #	11,200.0	6,800.0	9,921.7	9,804.3	84.502	SF
EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore	6,352.2	6,122.4	6,777.5	6,750.8	254.105	ES
EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore	6,352.5	6,122.6	6,777.5	6,757.9	346.954	CC
EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore	10,000.0	6,800.0	9,995.9	9,911.2	118.019	SF
EXIST VERT CONNELL C4-25 - Wellbore #1 - Wellbore	6,188.0	5,722.7	6,175.0	6,154.8	305.541	CC
EXIST VERT CONNELL C4-25 - Wellbore #1 - Wellbore	6,322.2	5,800.0	6,178.4	6,152.3	236.338	ES
EXIST VERT CONNELL C4-25 - Wellbore #1 - Wellbore	10,500.0	6,200.0	9,952.1	9,902.2	199.418	SF
EXIST VERT DIETRICH 6-10 - Wellbore #1 - Wellbore #	9,347.2	6,950.0	535.2	467.8	7.946	CC, ES

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

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well HAROLD 6X-304
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4811.0usft
Reference Site:	SE SE SEC. 6 T4N R64W 6th P.M.	MD Reference:	KB-EST @ 4811.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	HAROLD 6X-304	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
NE SE SEC. 6 T4N R64W 6th P.M.						
EXIST VERT DIETRICH 6-10 - Wellbore #1 - Wellbore #	9,500.0	6,950.0	556.5	485.2	7.798	SF
EXIST VERT DIETRICH 6-16 - Wellbore #1 - Wellbore #	8,174.3	6,700.0	450.4	414.4	12.531	CC, ES
EXIST VERT DIETRICH 6-16 - Wellbore #1 - Wellbore #	8,300.0	6,700.0	467.6	429.1	12.167	SF
EXIST VERT DIETRICH C6-23 - Wellbore #1 - Wellbore	8,598.8	6,936.0	45.4	-3.1	0.936	Level 1, CC
EXIST VERT DIETRICH C6-23 - Wellbore #1 - Wellbore	8,600.0	6,936.0	45.5	-3.1	0.936	Level 1, ES, SF
EXIST VERT DINNER 6-1 - Wellbore #1 - Wellbore #1	11,775.2	6,949.8	643.5	509.9	4.817	CC
EXIST VERT DINNER 6-1 - Wellbore #1 - Wellbore #1	11,800.0	6,949.4	644.0	509.7	4.796	ES
EXIST VERT DINNER 6-1 - Wellbore #1 - Wellbore #1	11,897.9	6,947.9	655.1	518.1	4.783	SF
EXIST VERT DINNER 6-2 - Wellbore #1 - Wellbore #1	10,433.3	6,967.4	830.6	734.0	8.597	CC, ES
EXIST VERT DINNER 6-2 - Wellbore #1 - Wellbore #1	10,600.0	6,971.2	847.1	746.0	8.377	SF
EXIST VERT DINNER 6-34 - Wellbore #1 - Wellbore #1	10,438.4	6,948.0	587.8	491.0	6.074	CC, ES
EXIST VERT DINNER 6-34 - Wellbore #1 - Wellbore #1	10,500.0	6,947.1	591.0	492.5	6.003	SF
EXIST VERT DINNER 6-35 - Wellbore #1 - Wellbore #1	11,432.9	6,963.3	69.5	-54.3	0.561	Level 1, CC, ES, SF
EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1	6,304.8	6,018.2	7,082.6	7,064.5	390.993	CC
EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1	6,322.2	6,043.1	7,082.6	7,054.8	254.582	ES
EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1	9,700.0	6,800.0	9,930.3	9,853.5	129.229	SF
EXIST VERT HINKLE 23-5 - Wellbore #1 - Wellbore #1	6,352.3	6,159.8	1,609.1	1,580.9	57.026	CC, ES
EXIST VERT HINKLE 23-5 - Wellbore #1 - Wellbore #1	11,897.9	6,724.0	6,608.8	6,473.7	48.901	SF
EXIST VERT HINKLE 24-5 - Wellbore #1 - Wellbore #1	6,300.7	6,113.4	1,431.3	1,407.2	59.405	CC, ES
EXIST VERT HINKLE 24-5 - Wellbore #1 - Wellbore #1	11,897.9	6,600.0	6,521.1	6,402.8	55.133	SF
EXIST VERT LEVI C5-15 - Wellbore #1 - Wellbore #1	6,286.8	6,083.3	3,045.1	3,022.3	134.038	CC
EXIST VERT LEVI C5-15 - Wellbore #1 - Wellbore #1	6,322.2	6,118.5	3,045.2	3,020.9	125.108	ES
EXIST VERT LEVI C5-15 - Wellbore #1 - Wellbore #1	11,897.9	6,793.7	8,169.9	8,036.0	61.023	SF
EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1	9,376.9	6,950.0	527.9	459.8	7.751	CC
EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1	9,400.0	6,950.0	528.4	459.7	7.690	ES
EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1	9,500.0	6,950.0	542.1	470.7	7.597	SF
EXIST VERT MCCLINTOCK C4-15 - Wellbore #1 - Wellb	6,352.2	6,230.2	8,110.8	8,085.3	317.470	ES
EXIST VERT MCCLINTOCK C4-15 - Wellbore #1 - Wellb	6,362.4	6,241.1	8,110.7	8,089.2	376.155	CC
EXIST VERT MCCLINTOCK C4-15 - Wellbore #1 - Wellb	8,600.0	6,700.0	9,943.4	9,898.8	223.139	SF
EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbo	6,301.4	6,081.0	2,883.7	2,865.3	156.392	CC
EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbo	6,322.2	6,100.0	2,883.8	2,856.1	104.131	ES
EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbo	11,897.9	6,600.0	7,970.8	7,839.9	60.882	SF
EXIST VERT REISTAD 5-1 - Wellbore #1 - Wellbore #1	6,286.6	6,058.4	4,065.2	4,042.9	182.315	CC
EXIST VERT REISTAD 5-1 - Wellbore #1 - Wellbore #1	6,322.2	6,089.3	4,065.4	4,040.7	164.812	ES
EXIST VERT REISTAD 5-1 - Wellbore #1 - Wellbore #1	11,897.9	6,850.0	9,186.9	9,050.4	67.272	SF
EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1	6,352.2	6,182.9	3,941.0	3,913.7	144.531	ES
EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1	6,357.3	6,186.7	3,941.0	3,921.4	201.481	CC
EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1	11,897.9	6,775.5	9,060.5	8,924.6	66.670	SF
EXIST VERT ROUKEMA 5-1 - Wellbore #1 - Wellbore #1	5,321.3	5,149.8	613.8	589.1	24.788	CC
EXIST VERT ROUKEMA 5-1 - Wellbore #1 - Wellbore #1	5,400.0	5,226.6	614.1	588.9	24.387	ES
EXIST VERT ROUKEMA 5-1 - Wellbore #1 - Wellbore #1	6,400.0	6,217.9	631.3	603.2	22.525	SF
EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Well	6,400.0	6,217.1	667.7	641.4	25.454	SF
EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Well	6,600.0	6,420.0	665.6	640.0	26.012	ES
EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Well	6,622.6	6,440.4	665.5	640.0	26.145	CC
EXIST VERT SITZMAN 4-714 - Wellbore #1 - Design #1	6,352.2	6,109.8	8,397.0	8,250.6	57.357	CC, ES
EXIST VERT SITZMAN 4-714 - Wellbore #1 - Design #1	8,400.0	6,826.0	9,991.2	9,814.4	56.503	SF
EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore #	6,350.0	6,100.0	8,815.7	8,788.7	326.727	CC
EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore #	6,352.2	6,100.0	8,815.7	8,788.7	326.699	ES
EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore #	7,900.0	6,750.0	9,939.6	9,906.6	300.786	SF
EXIST VERT SLEDGE C9-28 - Wellbore #1 - Design #1	6,352.2	6,141.8	7,458.1	7,315.0	52.112	CC, ES
EXIST VERT SLEDGE C9-28 - Wellbore #1 - Design #1	9,300.0	6,858.0	9,958.5	9,758.8	49.877	SF
EXIST VERT SLEDGE C9-29 - Wellbore #1 - Design #1	6,352.2	6,160.8	6,136.3	5,993.4	42.918	CC, ES
EXIST VERT SLEDGE C9-29 - Wellbore #1 - Design #1	10,600.0	6,877.0	9,910.7	9,675.9	42.219	SF

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

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well HAROLD 6X-304
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4811.0usft
Reference Site:	SE SE SEC. 6 T4N R64W 6th P.M.	MD Reference:	KB-EST @ 4811.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	HAROLD 6X-304	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Summary

Site Name 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 VERT SMITH-REEVES 42-5 - Wellbore #1 - Well	6,352.2	6,160.9	4,701.8	4,673.7	167.088	ES
EXIST VERT SMITH-REEVES 42-5 - Wellbore #1 - Well	6,355.3	6,163.3	4,701.8	4,684.4	269.255	CC
EXIST VERT SMITH-REEVES 42-5 - Wellbore #1 - Well	11,897.9	6,550.0	9,573.7	9,437.8	70.470	SF
EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1	9,113.7	6,900.0	2,065.6	2,004.3	33.703	CC
EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1	9,200.0	6,900.0	2,067.4	2,003.9	32.545	ES
EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1	11,000.0	6,900.0	2,797.4	2,685.4	24.983	SF
EXIST VERT WILMOTH 6-14 - Wellbore #1 - Wellbore #	7,834.4	6,950.0	1,986.3	1,954.7	62.744	CC
EXIST VERT WILMOTH 6-14 - Wellbore #1 - Wellbore #	7,900.0	6,950.0	1,987.4	1,954.6	60.547	ES
EXIST VERT WILMOTH 6-14 - Wellbore #1 - Wellbore #	11,897.9	6,950.0	4,523.1	4,386.6	33.130	SF
EXIST VERT WILMOTH C4-23 - Wellbore #1 - Wellbore	6,352.2	6,245.0	8,712.5	8,686.7	337.537	ES
EXIST VERT WILMOTH C4-23 - Wellbore #1 - Wellbore	6,365.5	6,273.8	8,712.4	8,691.5	417.743	CC
EXIST VERT WILMOTH C4-23 - Wellbore #1 - Wellbore	8,000.0	6,800.0	9,939.3	9,904.1	282.475	SF
EXIST VERT WILMOTH C4-24 - Wellbore #1 - Wellbore	6,316.4	6,071.3	7,487.7	7,466.8	358.717	CC
EXIST VERT WILMOTH C4-24 - Wellbore #1 - Wellbore	6,322.2	6,074.5	7,487.7	7,461.7	288.494	ES
EXIST VERT WILMOTH C4-24 - Wellbore #1 - Wellbore	9,200.0	6,700.0	9,937.5	9,884.9	188.919	SF
EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore	6,277.7	6,062.2	1,463.0	1,442.2	70.232	CC
EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore	6,322.2	6,105.3	1,463.3	1,437.4	56.580	ES
EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore	11,897.9	6,850.0	5,966.2	5,829.6	43.678	SF
EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore #	6,293.4	6,053.2	2,594.6	2,575.2	133.442	CC
EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore #	6,322.2	6,082.7	2,594.8	2,567.9	96.619	ES
EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore #	11,897.9	6,829.3	6,988.0	6,851.3	51.130	SF
EXIST VERT WILMOTH C9-27 - Wellbore #1 - Wellbore	6,352.2	6,112.8	8,659.1	8,634.6	354.364	ES
EXIST VERT WILMOTH C9-27 - Wellbore #1 - Wellbore	6,353.1	6,113.5	8,659.1	8,637.2	394.897	CC
EXIST VERT WILMOTH C9-27 - Wellbore #1 - Wellbore	8,100.0	6,800.0	9,989.2	9,952.5	272.412	SF
JUDY 6D-212 - ORIGINAL WELLBORE - PROPOSAL #	6,800.0	7,574.1	785.3	728.5	13.825	SF
JUDY 6D-212 - ORIGINAL WELLBORE - PROPOSAL #	7,050.0	7,394.4	760.8	708.0	14.415	ES
JUDY 6D-212 - ORIGINAL WELLBORE - PROPOSAL #	7,086.2	7,363.9	760.5	708.4	14.587	CC
JUDY 6D-312 - ORIGINAL WELLBORE - PROPOSAL #	7,000.0	7,534.2	503.4	450.2	9.476	SF
JUDY 6D-312 - ORIGINAL WELLBORE - PROPOSAL #	7,200.0	7,359.2	488.5	438.4	9.754	ES
JUDY 6D-312 - ORIGINAL WELLBORE - PROPOSAL #	7,246.4	7,316.0	488.1	438.7	9.885	CC
JUDY 6S-202 - ORIGINAL WELLBORE - PROPOSAL #1	6,550.0	7,652.2	1,412.4	1,352.5	23.562	SF
JUDY 6S-202 - ORIGINAL WELLBORE - PROPOSAL #1	7,000.0	7,403.0	1,350.1	1,296.5	25.204	ES
JUDY 6S-202 - ORIGINAL WELLBORE - PROPOSAL #1	7,068.6	7,346.8	1,349.4	1,297.0	25.739	CC
JUDY 6S-204 - ORIGINAL WELLBORE - PROPOSAL #2	6,826.9	6,951.5	1,400.7	1,345.9	25.557	CC
JUDY 6S-204 - ORIGINAL WELLBORE - PROPOSAL #2	11,897.9	11,976.9	1,403.9	1,132.2	5.167	ES, SF
JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1	7,000.0	7,411.7	1,822.1	1,768.8	34.216	ES
JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1	7,068.4	7,355.7	1,821.6	1,769.5	34.927	CC
JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1	10,300.0	6,400.0	3,162.7	3,059.3	30.562	SF
JUDY 6S-214 - ORIGINAL WELLBORE - PROPOSAL #2	1,416.3	1,288.6	1,822.1	1,814.5	239.444	CC
JUDY 6S-214 - ORIGINAL WELLBORE - PROPOSAL #2	11,897.9	12,041.6	1,964.9	1,693.4	7.237	ES, SF
JUDY 6S-234 - ORIGINAL WELLBORE - PROPOSAL #2	6,750.9	6,846.7	899.8	844.8	16.354	CC
JUDY 6S-234 - ORIGINAL WELLBORE - PROPOSAL #2	11,897.9	11,957.3	903.4	632.0	3.328	ES, SF
JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1	6,500.0	7,735.5	1,678.6	1,618.5	27.912	SF
JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1	7,100.0	7,391.3	1,591.6	1,540.2	30.955	ES
JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1	7,207.2	7,291.2	1,590.7	1,541.0	31.995	CC
JUDY 6S-314 - ORIGINAL WELLBORE - PROPOSAL #2	6,120.6	6,176.6	1,683.9	1,627.9	30.105	CC
JUDY 6S-314 - ORIGINAL WELLBORE - PROPOSAL #2	11,897.9	12,096.0	1,715.9	1,444.4	6.319	ES, SF
JUDY 6S-332 - ORIGINAL WELLBORE - PROPOSAL #1	6,700.0	7,673.9	1,124.6	1,066.6	19.392	SF
JUDY 6S-332 - ORIGINAL WELLBORE - PROPOSAL #1	7,150.0	7,353.0	1,070.3	1,019.3	21.014	ES
JUDY 6S-332 - ORIGINAL WELLBORE - PROPOSAL #1	7,214.7	7,292.2	1,069.9	1,020.0	21.443	CC
JUDY 6S-334 - ORIGINAL WELLBORE - PROPOSAL #2	7,475.7	7,644.0	1,139.2	1,081.5	19.756	CC
JUDY 6S-334 - ORIGINAL WELLBORE - PROPOSAL #2	11,897.9	12,050.7	1,140.3	868.4	4.193	ES, SF
JUDY 6X-314 - ORIGINAL WELLBORE - PROPOSAL #2	7,410.7	7,527.4	573.9	517.7	10.212	CC

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

Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well HAROLD 6X-304
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4811.0usft
Reference Site:	SE SE SEC. 6 T4N R64W 6th P.M.	MD Reference:	KB-EST @ 4811.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	HAROLD 6X-304	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.1 Single User Db
Reference Design:	PROPOSAL #2	Offset TVD Reference:	Offset Datum

Summary

Site Name 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.						
JUDY 6X-314 - ORIGINAL WELLBORE - PROPOSAL #2	11,897.9	12,008.3	575.6	304.1	2.120	ES, SF
SE SE SEC. 6 T4N R64W 6th P.M.						
HAROLD 6X-202 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	87.4	86.4	81.547	CC, ES
HAROLD 6X-202 - ORIGINAL WELLBORE - PROPOSAL	7,104.5	7,380.0	236.7	189.6	5.030	SF
HAROLD 6X-204 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	14.6	13.1	9.577	CC, ES
HAROLD 6X-204 - ORIGINAL WELLBORE - PROPOSAL	11,897.9	11,897.9	299.3	31.5	1.118	Level 2, SF
HAROLD 6X-232 - ORIGINAL WELLBORE - PROPOSAL	500.0	500.0	58.3	56.3	29.568	CC, ES
HAROLD 6X-232 - ORIGINAL WELLBORE - PROPOSAL	6,950.0	7,463.0	395.2	344.7	7.824	SF
HAROLD 6X-234 - ORIGINAL WELLBORE - PROPOSAL	500.0	499.0	14.6	12.6	7.403	CC
HAROLD 6X-234 - ORIGINAL WELLBORE - PROPOSAL	11,897.9	11,795.2	264.4	4.2	1.016	Level 2, ES, SF
HAROLD 6X-302 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	72.9	71.3	47.880	CC
HAROLD 6X-302 - ORIGINAL WELLBORE - PROPOSAL	7,250.0	7,293.3	80.9	35.8	1.792	SF
HAROLD 6X-302 - ORIGINAL WELLBORE - PROPOSAL	7,284.3	7,261.8	79.7	35.5	1.805	ES
HAROLD 6X-334 - ORIGINAL WELLBORE - PROPOSAL	500.0	499.0	32.8	30.8	16.654	CC, ES
HAROLD 6X-334 - ORIGINAL WELLBORE - PROPOSAL	11,897.9	11,844.4	484.5	214.7	1.796	SF
HAROLD 6Y-202 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	29.1	28.1	27.180	CC
HAROLD 6Y-202 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	29.2	27.7	19.321	ES
HAROLD 6Y-202 - ORIGINAL WELLBORE - PROPOSAL	700.0	699.2	37.6	34.7	13.294	SF
HAROLD 6Y-214 - ORIGINAL WELLBORE - PROPOSAL	400.0	399.0	47.4	45.8	31.170	CC
HAROLD 6Y-214 - ORIGINAL WELLBORE - PROPOSAL	500.0	498.8	47.6	45.6	24.321	ES
HAROLD 6Y-214 - ORIGINAL WELLBORE - PROPOSAL	11,897.9	11,769.8	798.2	529.9	2.976	SF
HAROLD 6Y-304 - ORIGINAL WELLBORE - PROPOSAL	300.0	299.0	61.9	60.9	57.891	CC, ES
HAROLD 6Y-304 - ORIGINAL WELLBORE - PROPOSAL	11,897.9	11,845.5	1,023.7	754.3	3.800	SF
HAROLD 6Y-312 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	43.7	42.6	40.772	CC
HAROLD 6Y-312 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	43.7	42.2	28.955	ES
HAROLD 6Y-312 - ORIGINAL WELLBORE - PROPOSAL	6,850.0	7,636.8	782.2	730.2	15.029	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	6,272.6	5,937.0	9,973.3	9,939.0	290.794	CC
EXIST HZ OREDIGGER C10-69HN - Wellbore #1 - Well	6,322.2	5,937.0	9,973.8	9,938.4	282.321	ES
EXIST HZ OREDIGGER C10-69HN - Wellbore #1 - Well	6,352.2	5,937.0	9,974.4	9,939.0	282.057	SF
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	6,352.2	6,108.4	9,666.4	9,639.2	354.936	ES, SF
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	6,353.2	6,109.7	9,666.4	9,647.6	513.889	CC
EXIST VERT WILMOTH 1 - Wellbore #1 - Wellbore #1	6,352.2	6,138.2	9,282.8	9,257.4	365.858	ES, SF
EXIST VERT WILMOTH 1 - Wellbore #1 - Wellbore #1	6,355.4	6,141.7	9,282.8	9,261.2	429.858	CC
EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore #	6,290.2	5,939.3	9,501.0	9,480.9	472.588	CC
EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore #	6,322.2	5,971.2	9,501.2	9,474.7	358.217	ES
EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore #	6,352.2	6,003.6	9,501.5	9,474.9	357.771	SF
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	6,314.0	6,026.7	9,808.3	9,787.9	481.280	CC
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	6,322.2	6,038.9	9,808.3	9,782.9	386.214	ES
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	6,352.2	6,083.4	9,808.3	9,782.9	385.671	SF

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