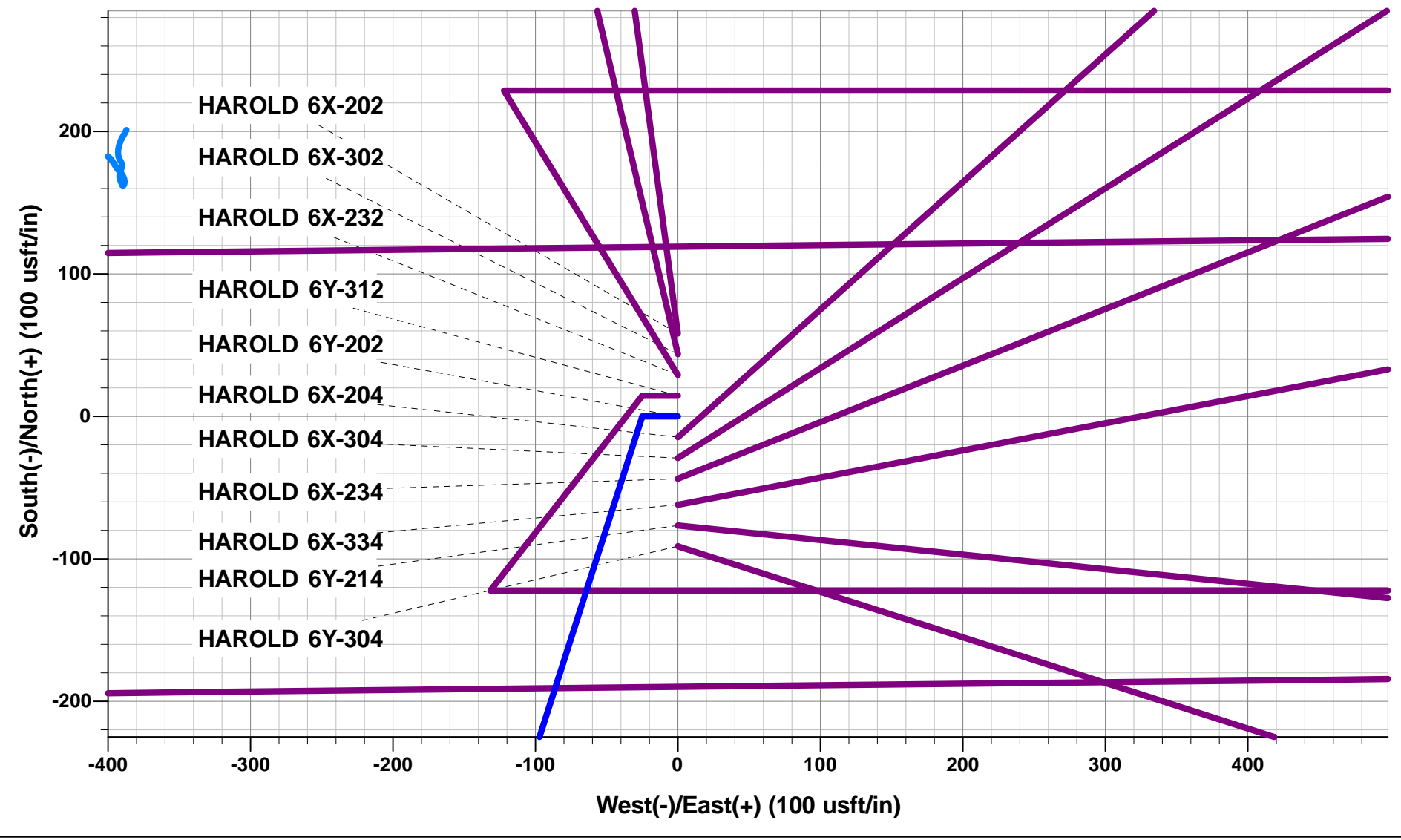




Project: WELD COUNTY, COLORADO
Site: SE SE SEC. 6 T4N R64W 6th P.M.
Well: HAROLD 6Y-202
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

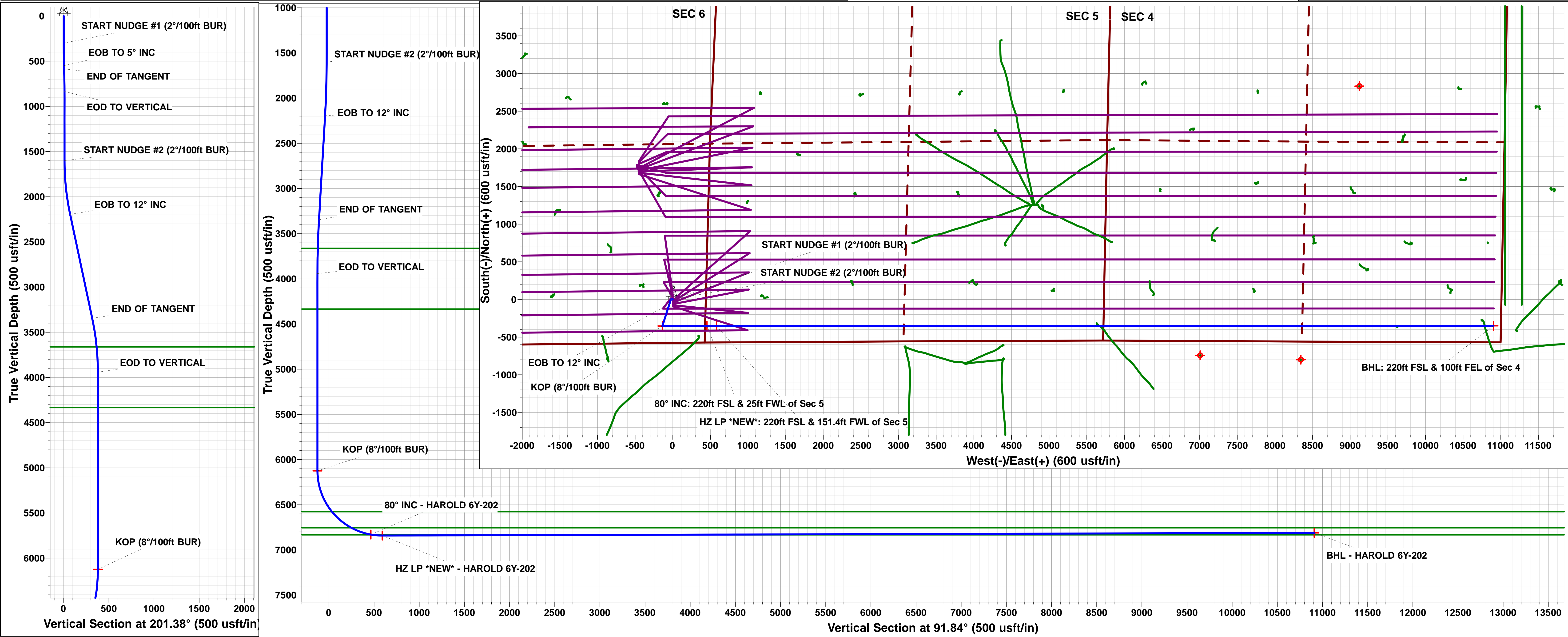
ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Dep	Annotation	
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 577ft FSL & 439ft FEL of Sec 6	
300.0	300.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE #1 (2°/100ft BUR)	
549.7	550.0	5.00	270.00	0.0	-10.9	-10.9	10.9	EOB TO 5° INC	
586.3	586.8	5.00	270.00	0.0	-14.1	-14.1	14.1	END OF TANGENT	
836.0	836.8	0.00	0.00	0.0	-25.0	-25.0	25.0	EOD TO VERTICAL	
1600.0	1600.8	0.00	0.00	0.0	-25.0	-25.0	25.0	START NUDGE #2 (2°/100ft BUR)	
2195.8	2201.0	12.00	197.77	-59.7	-44.1	-42.2	87.7	EOB TO 12° INC	
3346.0	3376.8	12.00	197.77	-292.5	-118.8	-109.3	332.2	END OF TANGENT	
3941.8	3977.1	0.00	0.00	-352.2	-137.9	-126.5	394.9	EOD TO VERTICAL	
6124.8	6160.1	0.00	0.00	-352.2	-137.9	-126.5	394.9	KOP (8°/100ft BUR)	
6830.1	7160.0	80.00	89.99	-352.1	453.9	465.0	986.7	80° INC: 220ft FSL & 25ft FWL of Sec 5	
6841.0	7287.0	90.16	89.99	-352.1	580.3	591.3	1113.0	HZ LP *NEW*: 220ft FSL & 151.4ft FWL of Sec 5	
6811.0	17610.5	90.17	89.99	-349.9	10903.7	10909.3	11436.5	BHL: 220ft FSL & 100ft FEL of Sec 4	

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - HAROLD 6Y-202	6124.8	-352.2	-137.9	40.334693	-104.585985
80° INC - HAROLD 6Y-202	6830.1	-352.1	453.9	40.334693	-104.583862
BHL - HAROLD 6Y-202	6811.0	-349.9	10903.7	40.334693	-104.546379
HZ LP *NEW* - HAROLD 6Y-202	6841.0	-352.1	580.3	40.334693	-104.583409



PROPOSED LOCAL COORDINATES:
SHL: 577ft FSL & 439ft FEL of Sec 6
80° INC: 220ft FSL & 25ft FWL of Sec 5
HZ LP *NEW*: 220ft FSL & 151.4ft FWL of Sec 5
BHL: 220ft FSL & 100ft FEL of Sec 4

Azimuths to True North
Magnetic North: 8.13°
Magnetic Field
Strength: 52401.0snT
Dip Angle: 66.84°
Date: 04/04/2017
Model: IGRF2015



Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well HAROLD 6Y-202
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 6Y-202	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 #1	Offset TVD Reference:	Offset Datum

Reference	PROPOSAL #1		
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	17/04/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	17,610.5	PROPOSAL #1 (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
Offset Well - Wellbore - Design						
NE SE SEC. 6 T4N R64W 6th P.M.						
ABDN VERT DINNER 6-3 - Wellbore #1 - Wellbore #1	2,200.9	2,259.8	4,172.3	4,166.6	743.000	CC
ABDN VERT DINNER 6-3 - Wellbore #1 - Wellbore #1	2,400.0	2,441.8	4,172.8	4,166.5	661.766	ES
ABDN VERT DINNER 6-3 - Wellbore #1 - Wellbore #1	12,500.0	7,000.0	9,907.8	9,742.7	60.028	SF
ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1	10,547.0	6,717.8	3,115.5	3,004.9	28.185	CC
ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1	10,600.0	6,718.1	3,115.9	3,003.9	27.818	ES
ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1	13,000.0	6,727.5	3,965.2	3,786.1	22.141	SF
ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1	826.2	817.9	1,379.6	1,377.5	642.914	CC
ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1	1,300.0	1,289.2	1,380.1	1,376.8	418.231	ES
ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1	16,300.0	6,703.9	9,924.1	9,653.1	36.620	SF
ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1	15,713.8	6,711.6	1,841.5	1,586.0	7.207	CC
ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1	15,800.0	6,711.8	1,843.5	1,585.6	7.147	ES
ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1	16,100.0	6,712.8	1,881.5	1,615.2	7.064	SF
ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1	299.8	241.8	2,980.3	2,979.7	4,580.920	CC
ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1	300.0	242.0	2,980.3	2,979.7	4,576.587	ES
ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1	14,500.0	6,630.6	7,313.4	7,092.6	33.123	SF
EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1	1,532.2	1,555.7	3,667.4	3,661.0	577.025	CC
EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1	1,600.0	1,595.6	3,667.7	3,661.0	550.995	ES
EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1	14,000.0	7,153.5	9,922.1	9,697.5	44.179	SF
EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1	822.9	826.4	3,676.2	3,673.3	1,278.334	CC
EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1	836.8	840.4	3,676.2	3,673.3	1,259.384	ES
EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1	13,100.0	7,261.0	9,987.7	9,790.1	50.544	SF
EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1	6,160.1	6,288.5	3,059.9	3,027.0	93.159	ES
EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1	6,177.5	6,302.7	3,059.7	3,031.4	107.924	CC
EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1	14,400.0	7,302.0	9,958.9	9,724.7	42.510	SF
EXIST DD BURMAN C4-32D - Wellbore #1 - Wellbore #1	12,572.8	6,944.7	2,346.7	2,157.3	12.392	CC
EXIST DD BURMAN C4-32D - Wellbore #1 - Wellbore #1	12,600.0	6,944.7	2,346.9	2,156.7	12.343	ES
EXIST DD BURMAN C4-32D - Wellbore #1 - Wellbore #1	13,400.0	6,944.7	2,488.2	2,275.7	11.707	SF
EXIST DD BURMAN C4-33D - Wellbore #1 - Wellbore #1	12,541.9	6,921.8	1,110.2	922.5	5.916	CC
EXIST DD BURMAN C4-33D - Wellbore #1 - Wellbore #1	12,600.0	6,922.0	1,111.7	922.4	5.873	ES
EXIST DD BURMAN C4-33D - Wellbore #1 - Wellbore #1	12,700.0	6,922.2	1,121.4	929.3	5.838	SF
EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1	11,062.9	7,214.8	3,788.3	3,643.6	26.196	CC
EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1	11,200.0	7,216.0	3,790.7	3,642.3	25.537	ES
EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1	13,800.0	7,238.2	4,673.5	4,452.3	21.128	SF
EXIST DD BURMAN C5-21D - Wellbore #1 - Wellbore #1	9,944.5	7,104.4	2,541.8	2,416.8	20.335	CC
EXIST DD BURMAN C5-21D - Wellbore #1 - Wellbore #1	10,000.0	7,104.7	2,542.4	2,415.8	20.092	ES
EXIST DD BURMAN C5-21D - Wellbore #1 - Wellbore #1	11,400.0	7,113.5	2,929.0	2,763.5	17.694	SF
EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1	11,004.2	6,964.0	2,577.0	2,437.7	18.498	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 6Y-202
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 6Y-202	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 #1	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 DD BURMAN C5-22D - Wellbore #1 - Wellbore #1	11,100.0	6,964.0	2,578.8	2,436.8	18.163	ES
EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1	12,300.0	6,981.0	2,884.4	2,708.9	16.434	SF
EXIST DD BURMAN C5-23D - Wellbore #1 - Wellbore #1	11,127.1	6,849.5	1,073.3	932.7	7.632	CC, ES
EXIST DD BURMAN C5-23D - Wellbore #1 - Wellbore #1	11,400.0	6,852.7	1,107.5	959.2	7.470	SF
EXIST DD BURMAN C5-24D - Wellbore #1 - Wellbore #1	9,897.1	7,071.5	1,101.9	978.7	8.942	CC
EXIST DD BURMAN C5-24D - Wellbore #1 - Wellbore #1	9,900.0	7,071.5	1,101.9	978.6	8.936	ES
EXIST DD BURMAN C5-24D - Wellbore #1 - Wellbore #1	10,200.0	7,074.5	1,142.8	1,011.2	8.681	SF
EXIST DD DIETRICH C7-27 - Wellbore #1 - Wellbore #1	6,019.6	6,000.0	802.4	787.3	53.338	CC, ES
EXIST DD DIETRICH C7-27 - Wellbore #1 - Wellbore #1	11,600.0	6,803.3	5,832.0	5,700.5	44.350	SF
EXIST DD DIETRICH C8-30D - Wellbore #1 - Wellbore #1	7,046.2	7,188.7	128.1	82.0	2.779	CC, ES
EXIST DD DIETRICH C8-30D - Wellbore #1 - Wellbore #1	7,050.0	7,190.0	128.2	82.0	2.778	SF
EXIST DD RUFF C8-27D - Wellbore #1 - Wellbore #1	11,100.4	6,843.5	256.9	116.6	1.831	CC, ES, SF
EXIST DD SLEDGE C9-30D - Wellbore #1 - Wellbore #1	12,342.8	6,918.0	28.6	-150.4	0.160	Level 1, CC, ES, SF
EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellbore #1	6,160.1	6,809.9	2,093.7	2,041.3	39.914	ES, SF
EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellbore #1	6,255.3	6,862.7	2,086.6	2,053.0	62.219	CC
EXIST HZ COALVIEW G2-63-1HN - Wellbore #1 - Wellbore #1	4,962.9	4,980.1	4,667.2	4,645.6	215.623	CC
EXIST HZ COALVIEW G2-63-1HN - Wellbore #1 - Wellbore #1	5,000.0	4,997.4	4,667.3	4,645.6	214.555	ES
EXIST HZ COALVIEW G2-63-1HN - Wellbore #1 - Wellbore #1	11,900.0	6,409.0	9,997.4	9,864.0	74.937	SF
EXIST HZ COALVIEW G2-64-1HN - Wellbore #1 - Wellbore #1	6,171.9	6,268.1	4,773.8	4,744.8	164.725	CC, ES
EXIST HZ COALVIEW G2-64-1HN - Wellbore #1 - Wellbore #1	11,800.0	6,375.0	9,910.0	9,761.9	66.901	SF
EXIST HZ COALVIEW G2-65-1HN - Wellbore #1 - Wellbore #1	6,185.8	6,381.6	4,977.6	4,949.7	178.645	CC, ES
EXIST HZ COALVIEW G2-65-1HN - Wellbore #1 - Wellbore #1	11,800.0	6,549.0	9,984.3	9,828.9	64.253	SF
EXIST HZ COALVIEW G2-66-1HN - Wellbore #1 - Wellbore #1	6,180.5	6,347.4	5,268.4	5,239.2	180.274	CC, ES
EXIST HZ COALVIEW G2-66-1HN - Wellbore #1 - Wellbore #1	11,600.0	6,460.0	9,942.1	9,791.9	66.203	SF
EXIST HZ LOWER LATHAM PC G12-69HN - Wellbore #1 - Wellbore #1	6,160.1	12,060.0	4,414.0	4,246.7	26.385	ES, SF
EXIST HZ LOWER LATHAM PC G12-69HN - Wellbore #1 - Wellbore #1	6,275.2	12,060.0	4,403.3	4,366.2	118.852	CC
EXIST HZ NORTHRUP C8-73HN - Wellbore #1 - Wellbore #1	11,081.2	6,547.0	621.7	500.9	5.146	CC
EXIST HZ NORTHRUP C8-73HN - Wellbore #1 - Wellbore #1	11,100.0	6,547.0	622.0	500.7	5.130	ES
EXIST HZ NORTHRUP C8-73HN - Wellbore #1 - Wellbore #1	11,200.0	6,547.0	632.9	509.3	5.119	SF
EXIST HZ NORTHRUP C8-75HN - Wellbore #1 - Wellbore #1	9,812.4	6,714.0	408.4	312.7	4.265	CC, ES, SF
EXIST HZ SCHMIDT PC C6-79HN - Wellbore #1 - Wellbore #1	6,200.0	12,505.0	4,482.6	4,373.9	41.230	SF
EXIST HZ SCHMIDT PC C6-79HN - Wellbore #1 - Wellbore #1	6,291.0	12,505.0	4,475.9	4,368.1	41.498	CC, ES
EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1	1,705.8	1,771.6	3,732.5	3,728.2	865.847	CC, ES
EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1	13,600.0	7,100.0	9,930.2	9,734.7	50.802	SF
EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1	1,646.0	1,694.4	4,815.8	4,811.6	1,143.192	CC
EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1	1,700.0	1,755.0	4,815.9	4,811.6	1,108.430	ES
EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1	12,200.0	6,962.3	9,939.1	9,782.3	63.381	SF
EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #1	13,580.6	6,740.1	2,601.7	2,406.3	13.312	CC
EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #1	13,700.0	6,739.5	2,604.5	2,405.7	13.102	ES
EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #1	14,600.0	6,734.9	2,794.3	2,570.3	12.473	SF
EXIST VERT CONNELL 14-4 - Wellbore #1 - Wellbore #1	13,041.9	6,766.3	595.9	414.8	3.290	CC, ES
EXIST VERT CONNELL 14-4 - Wellbore #1 - Wellbore #1	13,100.0	6,765.7	598.8	416.0	3.276	SF
EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1	13,185.7	6,760.6	1,787.9	1,603.7	9.707	CC
EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1	13,200.0	6,760.6	1,788.0	1,603.4	9.686	ES
EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1	13,700.0	6,759.3	1,860.4	1,661.8	9.368	SF
EXIST VERT CONNELL 3 - Wellbore #1 - Wellbore #1	14,416.5	6,745.0	493.0	274.1	2.252	CC, ES, SF
EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #1	12,946.3	6,734.4	3,201.2	3,023.7	18.032	CC
EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #1	13,000.0	6,733.8	3,201.7	3,022.6	17.883	ES
EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #1	14,600.0	6,717.3	3,603.1	3,379.2	16.094	SF
EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore #1	14,440.5	6,730.8	1,892.6	1,673.2	8.626	CC
EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore #1	14,500.0	6,730.0	1,893.5	1,672.4	8.566	ES
EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore #1	14,900.0	6,724.9	1,947.5	1,715.3	8.385	SF
EXIST VERT CONNELL C4-25 - Wellbore #1 - Wellbore #1	13,941.3	6,685.0	1,300.2	1,094.8	6.328	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 6Y-202
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 6Y-202	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 #1	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 CONNELL C4-25 - Wellbore #1 - Wellbore	14,000.0	6,687.2	1,301.6	1,094.4	6.284	ES
EXIST VERT CONNELL C4-25 - Wellbore #1 - Wellbore	14,200.0	6,694.7	1,325.7	1,112.9	6.230	SF
EXIST VERT DIETRICH 6-10 - Wellbore #1 - Wellbore #	806.9	792.8	1,891.5	1,889.5	941.012	CC, ES
EXIST VERT DIETRICH 6-10 - Wellbore #1 - Wellbore #	15,000.0	6,728.6	9,970.5	9,735.9	42.509	SF
EXIST VERT DIETRICH 6-16 - Wellbore #1 - Wellbore #	812.7	785.6	451.0	448.9	214.361	CC
EXIST VERT DIETRICH 6-16 - Wellbore #1 - Wellbore #	1,314.1	1,290.4	451.5	448.1	134.434	ES
EXIST VERT DIETRICH 6-16 - Wellbore #1 - Wellbore #	16,300.0	6,700.0	9,995.9	9,729.8	37.569	SF
EXIST VERT DIETRICH C6-23 - Wellbore #1 - Wellbore	1,741.1	1,764.7	1,077.0	1,072.5	235.971	CC, ES
EXIST VERT DIETRICH C6-23 - Wellbore #1 - Wellbore	15,800.0	6,852.9	9,959.3	9,701.5	38.630	SF
EXIST VERT DINNER 6-1 - Wellbore #1 - Wellbore #1	6,175.0	6,243.8	3,874.6	3,858.6	241.904	CC, ES
EXIST VERT DINNER 6-1 - Wellbore #1 - Wellbore #1	12,700.0	7,000.0	9,981.9	9,823.1	62.858	SF
EXIST VERT DINNER 6-2 - Wellbore #1 - Wellbore #1	967.7	971.0	3,009.9	3,007.4	1,216.076	CC
EXIST VERT DINNER 6-2 - Wellbore #1 - Wellbore #1	1,600.8	1,603.2	3,010.8	3,006.7	737.104	ES
EXIST VERT DINNER 6-2 - Wellbore #1 - Wellbore #1	13,800.0	6,768.7	9,907.3	9,705.7	49.150	SF
EXIST VERT DINNER 6-34 - Wellbore #1 - Wellbore #1	3,724.9	3,669.8	2,541.4	2,530.1	226.156	CC, ES
EXIST VERT DINNER 6-34 - Wellbore #1 - Wellbore #1	14,000.0	6,950.0	9,948.3	9,745.5	49.043	SF
EXIST VERT DINNER 6-35 - Wellbore #1 - Wellbore #1	3,971.9	3,969.3	3,615.5	3,603.5	302.170	CC, ES
EXIST VERT DINNER 6-35 - Wellbore #1 - Wellbore #1	13,000.0	7,000.0	9,978.4	9,800.4	56.064	SF
EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1	14,477.8	6,708.1	3,116.2	2,895.6	14.124	CC
EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1	14,600.0	6,707.3	3,118.6	2,894.6	13.918	ES
EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1	15,700.0	6,700.0	3,347.3	3,092.4	13.131	SF
EXIST VERT HINKLE 23-5 - Wellbore #1 - Wellbore #1	9,151.3	6,844.7	1,730.0	1,658.0	24.039	CC
EXIST VERT HINKLE 23-5 - Wellbore #1 - Wellbore #1	9,200.0	6,846.6	1,730.7	1,657.4	23.611	ES
EXIST VERT HINKLE 23-5 - Wellbore #1 - Wellbore #1	10,300.0	6,850.0	2,076.5	1,972.8	20.022	SF
EXIST VERT HINKLE 24-5 - Wellbore #1 - Wellbore #1	9,096.9	6,600.0	573.6	505.9	8.469	CC
EXIST VERT HINKLE 24-5 - Wellbore #1 - Wellbore #1	9,100.0	6,600.0	573.6	505.8	8.459	ES
EXIST VERT HINKLE 24-5 - Wellbore #1 - Wellbore #1	9,200.0	6,600.0	582.8	512.4	8.277	SF
EXIST VERT LEVI C5-15 - Wellbore #1 - Wellbore #1	10,753.6	6,788.9	555.6	439.3	4.779	CC, ES
EXIST VERT LEVI C5-15 - Wellbore #1 - Wellbore #1	10,800.0	6,789.3	557.5	439.9	4.743	SF
EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1	3,900.0	3,888.3	1,508.9	1,497.2	128.231	ES
EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1	4,037.2	4,015.3	1,508.4	1,498.4	151.086	CC
EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1	15,100.0	6,950.0	9,990.3	9,756.5	42.719	SF
EXIST VERT MCCLINTOCK C4-15 - Wellbore #1 - Wellb	15,831.6	6,700.0	817.1	558.7	3.161	CC, ES
EXIST VERT MCCLINTOCK C4-15 - Wellbore #1 - Wellb	15,900.0	6,700.0	820.0	559.6	3.149	SF
EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbo	10,517.9	6,600.0	1,727.1	1,617.6	15.769	CC
EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbo	10,600.0	6,600.0	1,729.0	1,617.2	15.465	ES
EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbo	11,300.0	6,600.0	1,895.9	1,764.7	14.446	SF
EXIST VERT REISTAD 5-1 - Wellbore #1 - Wellbore #1	11,769.8	6,772.7	494.3	349.5	3.415	CC, ES
EXIST VERT REISTAD 5-1 - Wellbore #1 - Wellbore #1	11,800.0	6,772.5	495.2	349.6	3.401	SF
EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1	11,630.6	6,777.6	1,535.9	1,394.7	10.873	CC
EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1	11,700.0	6,778.2	1,537.5	1,394.3	10.737	ES
EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1	12,100.0	6,781.7	1,606.0	1,451.7	10.403	SF
EXIST VERT ROUKEMA 5-1 - Wellbore #1 - Wellbore #1	7,968.6	6,797.4	379.6	339.5	9.473	CC, ES
EXIST VERT ROUKEMA 5-1 - Wellbore #1 - Wellbore #1	8,100.0	6,797.4	401.7	358.2	9.236	SF
EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Wellb	7,688.2	6,800.0	1,632.3	1,599.3	49.444	CC
EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Wellb	7,700.0	6,800.0	1,632.4	1,599.1	49.016	ES
EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Wellb	10,100.0	6,767.2	2,912.1	2,814.0	29.678	SF
EXIST VERT SITZMAN 4-714 - Wellbore #1 - Design #1	15,828.4	6,711.3	3,182.7	2,793.3	8.175	CC
EXIST VERT SITZMAN 4-714 - Wellbore #1 - Design #1	15,900.0	6,711.1	3,183.5	2,792.1	8.135	ES
EXIST VERT SITZMAN 4-714 - Wellbore #1 - Design #1	16,600.0	6,709.0	3,274.9	2,863.9	7.969	SF
EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore #	16,406.4	6,718.0	2,512.9	2,238.3	9.151	CC
EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore #	16,500.0	6,717.7	2,514.7	2,237.4	9.071	ES
EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore #	17,100.0	6,715.3	2,606.9	2,312.8	8.865	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 6Y-202
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 6Y-202	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 #1	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 SLEDGE C9-28 - Wellbore #1 - Design #1	15,051.0	6,745.6	449.6	81.7	1.222	Level 2, CC, ES, SF
EXIST VERT SLEDGE C9-29 - Wellbore #1 - Design #1	13,712.8	6,768.6	391.4	60.8	1.184	Level 2, CC, ES, SF
EXIST VERT SMITH-REEVES 42-5 - Wellbore #1 - Wellbore #1	11,899.1	6,550.0	3,142.9	2,995.0	21.241	CC
EXIST VERT SMITH-REEVES 42-5 - Wellbore #1 - Wellbore #1	12,000.0	6,550.0	3,144.5	2,993.8	20.855	ES
EXIST VERT SMITH-REEVES 42-5 - Wellbore #1 - Wellbore #1	13,800.0	6,550.0	3,673.1	3,472.0	18.265	SF
EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1	826.5	782.8	3,012.8	3,010.7	1,398.927	CC
EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1	1,500.0	1,451.9	3,013.8	3,010.0	796.088	ES
EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1	14,800.0	6,900.0	9,914.2	9,684.7	43.200	SF
EXIST VERT WILMOTH 6-14 - Wellbore #1 - Wellbore #1	487.7	447.7	2,599.7	2,598.6	2,314.892	CC
EXIST VERT WILMOTH 6-14 - Wellbore #1 - Wellbore #1	1,616.8	1,597.8	2,600.9	2,596.9	643.878	ES
EXIST VERT WILMOTH 6-14 - Wellbore #1 - Wellbore #1	16,100.0	6,742.2	9,911.7	9,645.8	37.285	SF
EXIST VERT WILMOTH C4-23 - Wellbore #1 - Wellbore #1	16,430.8	6,664.3	1,116.1	841.0	4.057	CC, ES
EXIST VERT WILMOTH C4-23 - Wellbore #1 - Wellbore #1	16,600.0	6,661.1	1,128.9	849.0	4.034	SF
EXIST VERT WILMOTH C4-24 - Wellbore #1 - Wellbore #1	15,223.6	6,711.3	1,188.7	947.2	4.922	CC, ES
EXIST VERT WILMOTH C4-24 - Wellbore #1 - Wellbore #1	15,400.0	6,713.0	1,201.8	955.3	4.876	SF
EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore #1	8,401.5	6,788.4	2,271.5	2,220.1	44.199	CC
EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore #1	8,500.0	6,787.6	2,273.6	2,219.6	42.075	ES
EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore #1	11,300.0	6,770.9	3,682.4	3,551.0	28.021	SF
EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore #1	9,234.1	6,773.9	3,082.0	3,007.8	41.576	CC
EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore #1	9,300.0	6,773.9	3,082.7	3,006.7	40.592	ES
EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore #1	12,800.0	6,771.9	4,713.2	4,539.7	27.174	SF
EXIST VERT WILMOTH C9-27 - Wellbore #1 - Wellbore #1	16,332.5	6,701.8	14.2	-258.1	0.052	Level 1, CC, ES, SF
JUDY 6D-212 - ORIGINAL WELLBORE - PROPOSAL #1	9,420.6	9,400.0	1,723.9	1,563.4	10.742	CC
JUDY 6D-212 - ORIGINAL WELLBORE - PROPOSAL #1	17,610.5	17,589.7	1,724.2	1,105.9	2.789	ES, SF
JUDY 6D-312 - ORIGINAL WELLBORE - PROPOSAL #1	6,570.2	6,607.6	1,450.0	1,419.5	47.590	CC
JUDY 6D-312 - ORIGINAL WELLBORE - PROPOSAL #1	17,610.5	17,689.1	1,450.1	831.9	2.346	ES, SF
JUDY 6S-202 - ORIGINAL WELLBORE - PROPOSAL #1	698.4	684.2	1,851.4	1,848.6	661.169	CC
JUDY 6S-202 - ORIGINAL WELLBORE - PROPOSAL #1	17,610.5	17,557.7	2,312.8	1,694.6	3.741	ES, SF
JUDY 6S-204 - ORIGINAL WELLBORE - PROPOSAL #1	1,267.0	1,279.6	1,762.8	1,757.1	311.758	CC
JUDY 6S-204 - ORIGINAL WELLBORE - PROPOSAL #1	1,400.0	1,407.4	1,763.1	1,756.6	270.842	ES
JUDY 6S-204 - ORIGINAL WELLBORE - PROPOSAL #1	10,300.0	6,550.0	3,519.6	3,388.2	26.783	SF
JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1	264.2	271.2	1,887.3	1,886.4	2,036.488	CC
JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1	300.0	300.0	1,887.3	1,886.2	1,760.338	ES
JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1	17,610.5	17,564.1	2,812.0	2,194.5	4.554	SF
JUDY 6S-214 - ORIGINAL WELLBORE - PROPOSAL #1	631.2	606.6	1,796.7	1,794.2	721.696	CC, ES
JUDY 6S-214 - ORIGINAL WELLBORE - PROPOSAL #1	11,600.0	6,550.0	4,828.6	4,660.3	28.682	SF
JUDY 6S-234 - ORIGINAL WELLBORE - PROPOSAL #1	1,768.1	1,906.0	1,658.3	1,647.2	149.765	CC
JUDY 6S-234 - ORIGINAL WELLBORE - PROPOSAL #1	1,800.0	1,936.3	1,658.5	1,647.1	146.546	ES
JUDY 6S-234 - ORIGINAL WELLBORE - PROPOSAL #1	9,300.0	6,600.0	2,487.7	2,384.4	24.079	SF
JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1	544.0	512.7	1,872.2	1,870.1	898.566	CC
JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1	586.8	544.4	1,872.3	1,870.1	828.581	ES
JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1	17,610.5	17,626.8	2,579.8	1,962.0	4.176	SF
JUDY 6S-314 - ORIGINAL WELLBORE - PROPOSAL #1	726.4	716.6	1,780.3	1,777.4	607.408	CC, ES
JUDY 6S-314 - ORIGINAL WELLBORE - PROPOSAL #1	10,900.0	6,600.0	4,129.5	3,980.3	27.672	SF
JUDY 6S-332 - ORIGINAL WELLBORE - PROPOSAL #1	582.4	550.0	1,841.1	1,838.8	817.409	CC
JUDY 6S-332 - ORIGINAL WELLBORE - PROPOSAL #1	17,610.5	17,636.4	2,031.6	1,413.0	3.284	ES, SF
JUDY 6S-334 - ORIGINAL WELLBORE - PROPOSAL #1	1,699.7	1,783.4	1,722.9	1,714.0	193.106	CC
JUDY 6S-334 - ORIGINAL WELLBORE - PROPOSAL #1	1,700.0	1,783.7	1,722.9	1,714.0	193.055	ES
JUDY 6S-334 - ORIGINAL WELLBORE - PROPOSAL #1	9,700.0	6,650.0	2,908.1	2,792.5	25.170	SF
JUDY 6X-314 - ORIGINAL WELLBORE - PROPOSAL #1	7,282.7	7,311.1	1,537.0	1,484.0	29.003	CC
JUDY 6X-314 - ORIGINAL WELLBORE - PROPOSAL #1	7,500.0	7,120.6	1,539.7	1,482.1	26.704	ES
JUDY 6X-314 - ORIGINAL WELLBORE - PROPOSAL #1	8,800.0	6,700.0	1,929.8	1,839.8	21.446	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 6Y-202
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 6Y-202	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 #1	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
Offset Well - Wellbore - Design						
SE SE SEC. 6 T4N R64W 6th P.M.						
HAROLD 6X-202 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	58.3	57.2	54.367	CC, ES
HAROLD 6X-202 - ORIGINAL WELLBORE - PROPOSAL	17,610.5	17,621.8	1,200.0	587.2	1.958	SF
HAROLD 6X-204 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	14.6	13.5	13.588	CC
HAROLD 6X-204 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	14.7	13.2	9.712	ES
HAROLD 6X-204 - ORIGINAL WELLBORE - PROPOSAL	500.0	500.0	15.8	13.8	8.077	SF
HAROLD 6X-232 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	29.1	28.1	27.184	CC
HAROLD 6X-232 - ORIGINAL WELLBORE - PROPOSAL	17,610.5	17,579.5	581.6	-30.2	0.951	Level 1, ES, SF
HAROLD 6X-234 - ORIGINAL WELLBORE - PROPOSAL	300.0	299.0	43.7	42.6	40.857	CC
HAROLD 6X-234 - ORIGINAL WELLBORE - PROPOSAL	400.0	399.0	43.7	42.2	29.003	ES
HAROLD 6X-234 - ORIGINAL WELLBORE - PROPOSAL	7,700.0	6,826.1	757.4	704.7	14.385	SF
HAROLD 6X-302 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	43.7	42.6	40.776	CC
HAROLD 6X-302 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	43.8	42.2	28.962	ES
HAROLD 6X-302 - ORIGINAL WELLBORE - PROPOSAL	17,610.5	17,669.6	882.6	270.2	1.441	Level 3, SF
HAROLD 6X-304 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	29.1	28.1	27.180	CC
HAROLD 6X-304 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	29.2	27.7	19.325	ES
HAROLD 6X-304 - ORIGINAL WELLBORE - PROPOSAL	700.0	698.8	37.5	34.7	13.310	SF
HAROLD 6X-334 - ORIGINAL WELLBORE - PROPOSAL	300.0	299.0	61.9	60.9	57.887	CC
HAROLD 6X-334 - ORIGINAL WELLBORE - PROPOSAL	500.0	498.8	62.3	60.4	31.939	ES
HAROLD 6X-334 - ORIGINAL WELLBORE - PROPOSAL	7,600.0	6,900.0	503.1	452.5	9.952	SF
HAROLD 6Y-214 - ORIGINAL WELLBORE - PROPOSAL	300.0	299.0	76.5	75.4	71.503	CC
HAROLD 6Y-214 - ORIGINAL WELLBORE - PROPOSAL	400.0	399.0	76.5	75.0	50.730	ES
HAROLD 6Y-214 - ORIGINAL WELLBORE - PROPOSAL	7,250.0	7,122.7	169.0	125.2	3.861	SF
HAROLD 6Y-304 - ORIGINAL WELLBORE - PROPOSAL	7,368.0	7,059.5	60.5	14.3	1.308	Level 3, CC, ES, SF
HAROLD 6Y-312 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	14.6	13.5	13.592	CC
HAROLD 6Y-312 - ORIGINAL WELLBORE - PROPOSAL	17,610.5	17,684.0	243.4	-338.2	0.419	Level 1, ES, SF
SW SW SEC. 34 T5N R64W 6th P.M.						
BAILEY 34I-223 - ORIGINAL WELLBORE - PROPOSAL	17,610.5	12,385.5	470.6	147.0	1.454	Level 3, CC, ES, SF
BAILEY 34I-303 - ORIGINAL WELLBORE - PROPOSAL	17,610.5	12,476.9	320.4	-5.4	0.984	Level 1, CC, ES, SF
EXIST DD LOEFFLER C 10-30 - Wellbore #1 - Wellbore	17,610.5	6,774.1	320.8	-2.7	0.992	Level 1, CC, ES, SF
EXIST HZ OREDIGGER C10-69HN - Wellbore #1 - Wellbore	17,610.5	6,602.0	448.8	174.0	1.633	CC, ES, SF
EXIST VERT ATKINSON-GALE 3-13 - Wellbore #1 - Wellbore	17,610.5	6,658.0	1,057.9	749.3	3.429	CC, ES, SF
EXIST VERT DONES 1 - Wellbore #1 - Wellbore #1	17,610.5	6,673.8	1,980.9	1,672.1	6.415	CC, ES, SF
EXIST VERT MILLAGE 12-3 - Wellbore #1 - Wellbore #1	17,610.5	6,705.9	2,947.0	2,638.6	9.555	CC, ES, SF
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	17,146.3	6,525.0	3,155.8	2,860.9	10.699	CC
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	17,200.0	6,525.0	3,156.3	2,859.8	10.646	ES
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	17,610.5	6,525.0	3,189.8	2,881.8	10.357	SF
EXIST VERT WILMOTH 1 - Wellbore #1 - Wellbore #1	17,000.9	6,683.4	539.1	247.7	1.850	CC, ES, SF
EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore #	17,190.8	6,727.8	1,940.6	1,644.0	6.541	CC
EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore #	17,200.0	6,728.0	1,940.6	1,643.7	6.536	ES
EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore #	17,500.0	6,733.8	1,965.1	1,659.8	6.436	SF
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	17,536.7	6,681.5	1,103.8	797.9	3.608	CC, ES
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	17,610.5	6,681.2	1,106.3	798.3	3.592	SF

Offset Design											NE SE SEC. 6 T4N R64W 6th P.M. - ABDN VERT DINNER 6-3 - Wellbore #1 - Wellbore #1		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	-72.17	1,286.3	-4,000.3	4,202.1							
100.0	100.0	151.5	151.5	0.1	0.0	-72.17	1,286.4	-4,000.1	4,201.9	4,201.8	0.09	N/A				

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