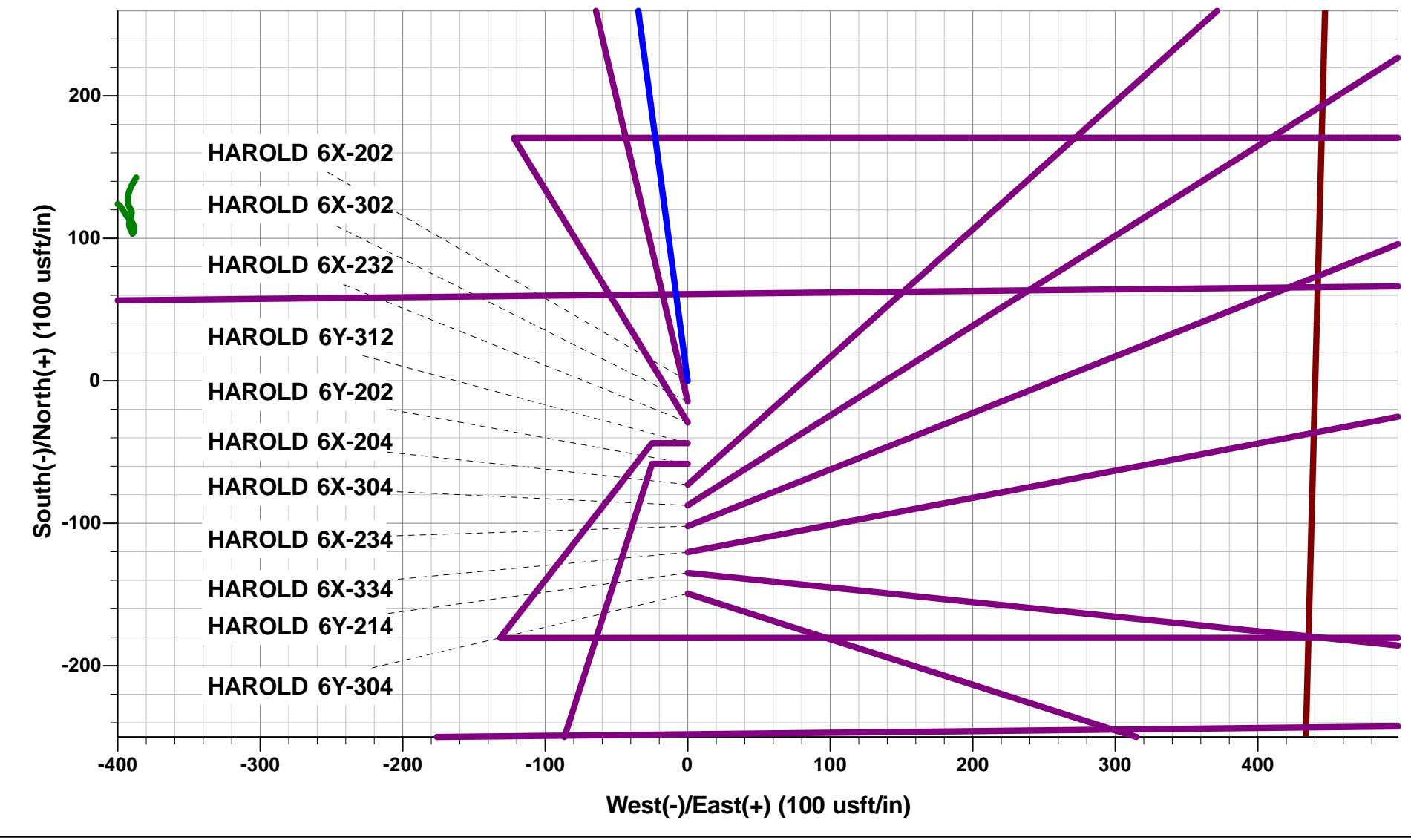




Project: WELD COUNTY, COLORADO
Site: SE SE SEC. 6 T4N R64W 6th P.M.
Well: HAROLD 6X-202
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

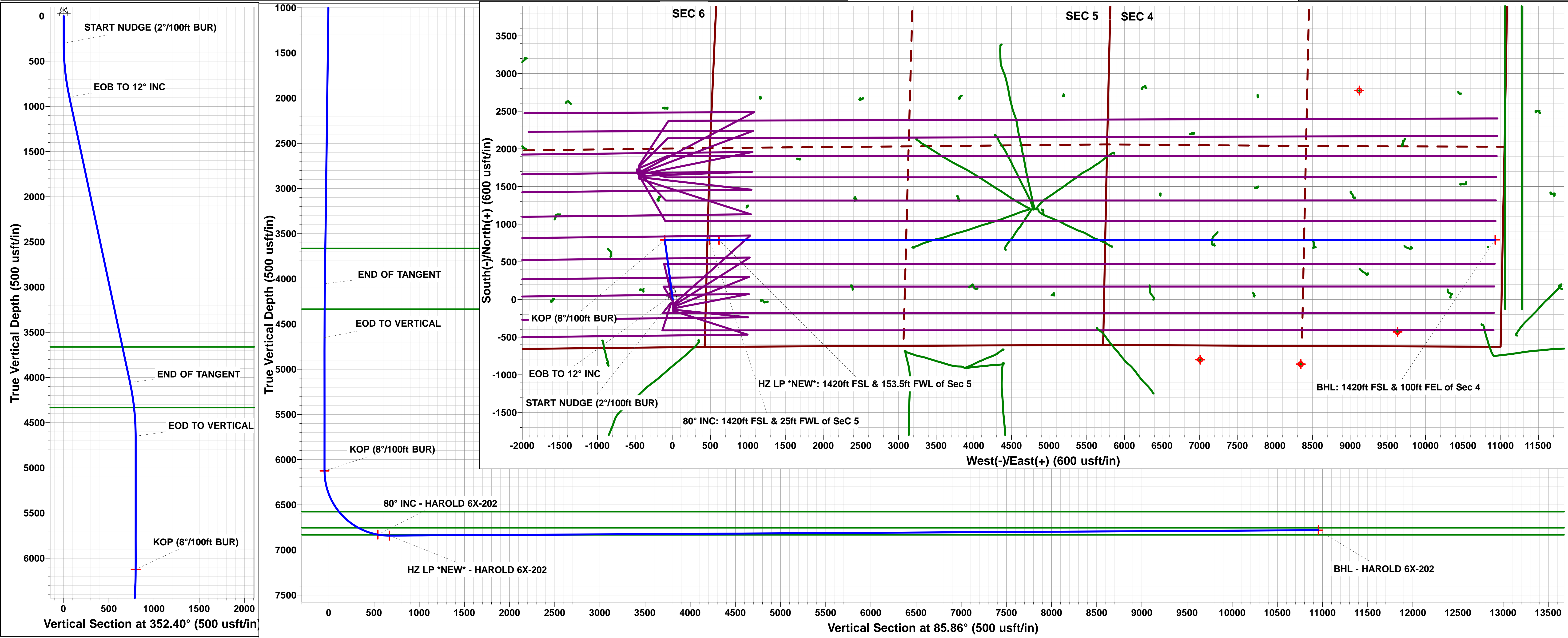
ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation		
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 637ft FSL & 441ft FEL of Sec 6		
300.0	300.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)		
895.6	899.9	12.00	352.40	62.0	-8.3	-3.8	62.6	EOB TO 12° INC		
4054.2	4129.2	12.00	352.40	727.5	-97.1	-44.3	733.9	END OF TANGENT		
4649.8	4729.1	0.00	0.00	789.5	-105.4	-48.1	796.5	EOD TO VERTICAL		
6124.8	6204.1	0.00	0.00	789.5	-105.4	-48.1	796.5	KOP (8°/100ft BUR)		
6830.1	7204.1	80.00	89.99	789.6	486.4	542.2	1388.3	80° INC: 1420ft FSL & 25ft FWL of Sec 5		
6841.0	7333.2	90.33	89.99	789.6	614.9	670.4	1516.8	HZ LP *NEW*: 1420ft FSL & 153.5ft FWL of Sec 5		
6781.0	17644.4	90.34	89.99	791.5	10926.0	10954.6	11827.9	BHL: 1420ft FSL & 100ft FEL of Sec 4		

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - HAROLD 6X-202	6124.8	789.5	-105.4	40.337987	-104.585868
80° INC - HAROLD 6X-202	6830.1	789.6	486.4	40.337987	-104.583745
BHL - HAROLD 6X-202	6781.0	791.5	10926.0	40.337986	-104.546297
HZ LP *NEW* - HAROLD 6X-202	6841.0	789.6	614.9	40.337987	-104.583284



PROPOSED LOCAL COORDINATES:
SHL: 637ft FSL & 441ft FEL of Sec 6
80° INC: 1420ft FSL & 25ft FWL of Sec 5
HZ LP *NEW*: 1420ft FSL & 153.5ft FWL of Sec 5
BHL: 1420ft FSL & 100ft FEL of Sec 4

Azimuths to True North
Magnetic North: 8.13°
Magnetic Field
Strength: 52401.1snT
Dip Angle: 66.84°
Date: 04/04/2017
Model: IGRF2015



Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well HAROLD 6X-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 6X-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	16/04/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	17,644.4	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	6,213.8	6,232.6	3,907.2	3,886.2	186.054	CC, ES
ABDN VERT DINNER 6-3 - Wellbore #1 - Wellbore #1	12,700.0	7,000.0	9,966.2	9,798.6	59.462	SF
ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1	10,558.3	6,717.5	1,915.5	1,805.3	17.378	CC
ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1	10,600.0	6,717.6	1,915.9	1,804.6	17.202	ES
ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1	11,500.0	6,718.8	2,134.4	1,998.0	15.643	SF
ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1	4,677.4	4,581.5	554.5	541.8	43.435	CC
ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1	4,729.1	4,632.0	555.1	535.9	29.021	ES
ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1	6,204.1	6,139.7	575.6	554.2	26.938	SF
ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1	15,725.0	6,685.2	641.7	386.7	2.516	CC, ES
ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1	15,800.0	6,685.2	646.1	388.9	2.513	SF
ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1	7,876.9	6,800.0	1,878.3	1,840.9	50.159	CC
ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1	7,900.0	6,800.0	1,878.5	1,840.5	49.406	ES
ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1	10,600.0	6,767.4	3,308.0	3,196.7	29.724	SF
EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1	4,647.7	4,621.8	3,028.5	2,997.1	96.480	CC, ES
EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1	14,400.0	7,139.1	9,928.0	9,693.3	42.305	SF
EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1	4,172.3	3,828.0	3,374.0	3,346.6	123.418	CC, ES
EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1	13,300.0	7,261.0	9,947.6	9,748.9	50.085	SF
EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1	6,204.1	6,261.2	2,254.0	2,217.5	61.621	ES
EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1	6,211.6	6,267.3	2,254.0	2,222.7	72.062	CC
EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1	14,600.0	7,302.0	9,925.6	9,692.6	42.595	SF
EXIST DD BURMAN C4-32D - Wellbore #1 - Wellbore #1	12,584.1	6,941.1	1,146.7	957.7	6.068	CC
EXIST DD BURMAN C4-32D - Wellbore #1 - Wellbore #1	12,600.0	6,941.0	1,146.8	957.4	6.054	ES
EXIST DD BURMAN C4-32D - Wellbore #1 - Wellbore #1	12,800.0	6,940.7	1,166.9	971.8	5.983	SF
EXIST DD BURMAN C4-33D - Wellbore #1 - Wellbore #1	12,553.2	6,903.1	89.7	-97.6	0.479	Level 1, CC, ES, SF
EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1	11,074.3	7,217.8	2,588.3	2,444.0	17.938	CC
EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1	11,100.0	7,217.9	2,588.4	2,443.4	17.850	ES
EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1	12,400.0	7,226.2	2,908.0	2,726.7	16.041	SF
EXIST DD BURMAN C5-21D - Wellbore #1 - Wellbore #1	9,955.8	7,103.3	1,341.8	1,217.1	10.759	CC
EXIST DD BURMAN C5-21D - Wellbore #1 - Wellbore #1	10,000.0	7,103.5	1,342.5	1,216.6	10.660	ES
EXIST DD BURMAN C5-21D - Wellbore #1 - Wellbore #1	10,400.0	7,104.7	1,413.4	1,276.4	10.315	SF
EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1	11,015.2	6,941.8	1,377.2	1,238.3	9.916	CC, ES
EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1	11,400.0	6,945.2	1,430.0	1,280.4	9.559	SF
EXIST DD BURMAN C5-23D - Wellbore #1 - Wellbore #1	11,138.1	6,824.0	126.4	-13.8	0.902	Level 1, CC, ES, SF
EXIST DD BURMAN C5-24D - Wellbore #1 - Wellbore #1	9,908.3	7,059.6	98.0	-24.9	0.797	Level 1, CC, ES, SF
EXIST DD DIETRICH C7-27 - Wellbore #1 - Wellbore #1	308.3	308.4	1,215.7	1,215.0	1,837.199	CC, ES
EXIST DD DIETRICH C7-27 - Wellbore #1 - Wellbore #1	15,600.0	6,646.3	9,908.5	9,659.9	39.869	SF
EXIST DD DIETRICH C8-30D - Wellbore #1 - Wellbore #1	7,052.3	7,168.9	1,328.0	1,281.1	28.320	CC, 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 HAROLD 6X-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 6X-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)	Between Ellipses (usft)	Separation Factor	Warning
NE SE SEC. 6 T4N R64W 6th P.M.						
EXIST DD DIETRICH C8-30D - Wellbore #1 - Wellbore #	8,100.0	7,217.1	1,685.6	1,615.7	24.102	SF
EXIST DD RUFF C8-27D - Wellbore #1 - Wellbore #1	11,111.5	6,815.9	1,456.7	1,316.8	10.415	CC, ES
EXIST DD RUFF C8-27D - Wellbore #1 - Wellbore #1	11,500.0	6,818.1	1,507.6	1,356.9	10.004	SF
EXIST DD SLEDGE C9-30D - Wellbore #1 - Wellbore #1	12,353.8	6,935.1	1,171.3	992.6	6.556	CC
EXIST DD SLEDGE C9-30D - Wellbore #1 - Wellbore #1	12,400.0	6,934.2	1,172.2	992.2	6.514	ES
EXIST DD SLEDGE C9-30D - Wellbore #1 - Wellbore #1	12,600.0	6,930.3	1,196.9	1,011.3	6.451	SF
EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellb	6,204.1	6,840.0	2,607.8	2,554.9	49.272	ES
EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellb	6,306.8	6,889.6	2,601.1	2,559.6	62.665	CC
EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellb	14,400.0	7,560.0	9,931.8	9,681.0	39.599	SF
EXIST HZ COALVIEW G2-63-1HN - Wellbore #1 - Wellb	4,700.0	4,735.8	4,675.1	4,646.1	161.329	ES
EXIST HZ COALVIEW G2-63-1HN - Wellbore #1 - Wellb	5,379.1	5,353.6	4,671.6	4,647.6	194.647	CC
EXIST HZ COALVIEW G2-63-1HN - Wellbore #1 - Wellb	11,900.0	6,409.0	9,971.0	9,858.3	88.465	SF
EXIST HZ COALVIEW G2-64-1HN - Wellbore #1 - Wellb	6,217.6	6,281.0	4,598.7	4,565.0	136.477	CC, ES
EXIST HZ COALVIEW G2-64-1HN - Wellbore #1 - Wellb	12,000.0	6,375.0	9,999.0	9,924.5	134.157	SF
EXIST HZ COALVIEW G2-65-1HN - Wellbore #1 - Wellb	6,230.7	6,389.2	4,652.3	4,619.4	141.140	CC, ES
EXIST HZ COALVIEW G2-65-1HN - Wellbore #1 - Wellb	12,000.0	6,549.0	9,998.1	9,848.7	66.910	SF
EXIST HZ COALVIEW G2-66-1HN - Wellbore #1 - Wellb	6,224.3	6,346.7	4,800.5	4,767.2	144.193	CC, ES
EXIST HZ COALVIEW G2-66-1HN - Wellbore #1 - Wellb	11,900.0	6,460.0	9,971.3	9,817.8	64.948	SF
EXIST HZ LOWER LATHAM PC G12-69HN - Wellbore #	6,204.1	12,060.0	4,672.6	4,513.0	29.261	ES, SF
EXIST HZ LOWER LATHAM PC G12-69HN - Wellbore #	6,318.5	12,060.0	4,662.6	4,587.5	62.073	CC
EXIST HZ NORTHRUP C8-73HN - Wellbore #1 - Wellbo	11,105.7	6,357.0	1,723.8	1,590.5	12.928	CC, ES
EXIST HZ NORTHRUP C8-73HN - Wellbore #1 - Wellbo	11,700.0	6,357.0	1,823.4	1,674.1	12.214	SF
EXIST HZ NORTHRUP C8-75HN - Wellbore #1 - Wellbo	9,811.8	6,542.1	1,537.2	1,433.3	14.795	CC, ES
EXIST HZ NORTHRUP C8-75HN - Wellbore #1 - Wellbo	10,400.0	6,556.0	1,645.9	1,525.9	13.710	SF
EXIST HZ SCHMIDT PC C6-79HN - Wellbore #1 - Wellb	6,250.0	12,397.5	4,577.3	4,462.8	39.996	SF
EXIST HZ SCHMIDT PC C6-79HN - Wellbore #1 - Wellb	6,333.7	12,399.7	4,571.7	4,458.1	40.253	CC, ES
EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1	5,756.8	5,681.7	3,071.5	3,053.5	170.953	CC
EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1	5,800.0	5,718.3	3,071.6	3,053.5	170.190	ES
EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1	13,900.0	7,100.0	9,912.8	9,710.7	49.050	SF
EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1	6,216.4	6,230.7	4,311.2	4,291.4	218.703	CC, ES
EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1	12,600.0	6,969.8	9,999.9	9,832.8	59.822	SF
EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #	13,592.0	6,715.1	1,402.0	1,207.0	7.190	CC
EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #	13,600.0	6,715.1	1,402.0	1,206.8	7.182	ES
EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #	13,900.0	6,712.6	1,435.4	1,231.8	7.049	SF
EXIST VERT CONNELL 14-4 - Wellbore #1 - Wellbore #	13,053.3	6,763.7	604.1	423.3	3.342	CC, ES
EXIST VERT CONNELL 14-4 - Wellbore #1 - Wellbore #	13,100.0	6,763.2	605.9	423.8	3.328	SF
EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1	13,197.1	6,738.4	588.1	404.3	3.200	CC
EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1	13,200.0	6,738.3	588.1	404.2	3.199	ES
EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1	13,300.0	6,737.7	597.0	410.4	3.199	SF
EXIST VERT CONNELL 3 - Wellbore #1 - Wellbore #1	14,427.9	6,741.8	707.0	488.5	3.236	CC, ES
EXIST VERT CONNELL 3 - Wellbore #1 - Wellbore #1	14,500.0	6,739.5	710.7	490.2	3.223	SF
EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #	12,957.7	6,718.5	2,001.4	1,824.2	11.300	CC
EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #	13,000.0	6,718.0	2,001.8	1,823.5	11.227	ES
EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #	13,600.0	6,710.1	2,101.9	1,906.8	10.773	SF
EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore	14,452.0	6,707.0	692.8	473.9	3.164	CC, ES
EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore	14,500.0	6,706.3	694.5	474.2	3.152	SF
EXIST VERT CONNELL C4-25 - Wellbore #1 - Wellbore	13,954.0	6,724.2	100.9	-104.4	0.491	Level 1, CC, ES, SF
EXIST VERT DIETRICH 6-10 - Wellbore #1 - Wellbore #	4,459.4	4,332.4	1,481.3	1,463.0	81.214	CC, ES
EXIST VERT DIETRICH 6-10 - Wellbore #1 - Wellbore #	14,000.0	6,698.3	8,852.8	8,667.6	47.816	SF
EXIST VERT DIETRICH 6-16 - Wellbore #1 - Wellbore #	1,420.7	1,379.1	416.2	411.1	82.214	CC
EXIST VERT DIETRICH 6-16 - Wellbore #1 - Wellbore #	1,500.0	1,457.2	416.5	411.1	76.634	ES
EXIST VERT DIETRICH 6-16 - Wellbore #1 - Wellbore #	6,204.1	6,118.1	725.6	705.6	36.310	SF
EXIST VERT DIETRICH C6-23 - Wellbore #1 - Wellbore	3,885.7	3,815.5	735.8	719.3	44.353	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-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 6X-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)	Between Ellipses (usft)	Separation Factor	Warning
NE SE SEC. 6 T4N R64W 6th P.M.						
EXIST VERT DIETRICH C6-23 - Wellbore #1 - Wellbore	3,900.0	3,829.4	735.9	719.2	44.178	ES
EXIST VERT DIETRICH C6-23 - Wellbore #1 - Wellbore	6,250.0	6,182.3	746.7	725.4	35.064	SF
EXIST VERT DINNER 6-1 - Wellbore #1 - Wellbore #1	2,373.7	2,350.2	3,979.3	3,969.8	418.783	CC
EXIST VERT DINNER 6-1 - Wellbore #1 - Wellbore #1	2,500.0	2,464.9	3,979.6	3,969.5	394.698	ES
EXIST VERT DINNER 6-1 - Wellbore #1 - Wellbore #1	12,600.0	7,009.9	9,911.1	9,744.3	59.441	SF
EXIST VERT DINNER 6-2 - Wellbore #1 - Wellbore #1	6,219.4	6,199.4	2,621.5	2,600.6	125.548	CC, ES
EXIST VERT DINNER 6-2 - Wellbore #1 - Wellbore #1	14,000.0	6,732.8	9,953.4	9,750.7	49.109	SF
EXIST VERT DINNER 6-34 - Wellbore #1 - Wellbore #1	2,236.0	2,220.1	2,614.9	2,606.2	297.803	CC
EXIST VERT DINNER 6-34 - Wellbore #1 - Wellbore #1	2,300.0	2,275.0	2,615.1	2,606.0	288.083	ES
EXIST VERT DINNER 6-34 - Wellbore #1 - Wellbore #1	14,000.0	6,950.0	9,968.6	9,762.4	48.346	SF
EXIST VERT DINNER 6-35 - Wellbore #1 - Wellbore #1	6,220.2	6,254.4	3,567.7	3,546.3	167.210	CC, ES
EXIST VERT DINNER 6-35 - Wellbore #1 - Wellbore #1	13,000.0	6,990.7	9,937.7	9,763.1	56.924	SF
EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1	14,489.2	6,690.0	1,916.4	1,696.2	8.703	CC
EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1	14,500.0	6,689.9	1,916.4	1,695.9	8.691	ES
EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1	15,000.0	6,684.8	1,983.3	1,748.8	8.457	SF
EXIST VERT HINKLE 23-5 - Wellbore #1 - Wellbore #1	9,161.1	6,792.2	530.9	459.3	7.412	CC, ES
EXIST VERT HINKLE 23-5 - Wellbore #1 - Wellbore #1	9,300.0	6,795.7	548.8	473.3	7.277	SF
EXIST VERT HINKLE 24-5 - Wellbore #1 - Wellbore #1	9,108.8	6,600.0	686.0	618.0	10.083	CC, ES
EXIST VERT HINKLE 24-5 - Wellbore #1 - Wellbore #1	9,300.0	6,600.0	712.2	639.1	9.744	SF
EXIST VERT LEVI C5-15 - Wellbore #1 - Wellbore #1	10,765.0	6,789.8	644.4	528.5	5.559	CC
EXIST VERT LEVI C5-15 - Wellbore #1 - Wellbore #1	10,800.0	6,790.0	645.4	528.5	5.520	ES
EXIST VERT LEVI C5-15 - Wellbore #1 - Wellbore #1	10,900.0	6,790.7	658.4	538.7	5.501	SF
EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1	1,371.5	1,357.9	1,559.5	1,554.8	326.756	CC
EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1	1,400.0	1,382.3	1,559.6	1,554.7	318.066	ES
EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1	15,000.0	6,950.0	9,902.2	9,668.6	42.387	SF
EXIST VERT MCCLINTOCK C4-15 - Wellbore #1 - Wellbore	15,842.9	6,698.6	382.9	124.8	1.484	Level 3, CC, ES, SF
EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbore	10,529.7	6,600.0	542.8	436.1	5.088	CC, ES
EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbore	10,600.0	6,600.0	547.4	438.8	5.042	SF
EXIST VERT REISTAD 5-1 - Wellbore #1 - Wellbore #1	11,781.2	6,769.5	705.7	561.3	4.887	CC
EXIST VERT REISTAD 5-1 - Wellbore #1 - Wellbore #1	11,800.0	6,769.3	705.9	561.0	4.871	ES
EXIST VERT REISTAD 5-1 - Wellbore #1 - Wellbore #1	11,900.0	6,768.4	715.6	567.9	4.845	SF
EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1	11,641.7	6,756.9	336.1	195.2	2.386	CC, ES, SF
EXIST VERT ROUKEMA 5-1 - Wellbore #1 - Wellbore #1	7,979.9	6,786.1	820.3	780.2	20.449	CC
EXIST VERT ROUKEMA 5-1 - Wellbore #1 - Wellbore #1	8,000.0	6,786.1	820.6	780.0	20.200	ES
EXIST VERT ROUKEMA 5-1 - Wellbore #1 - Wellbore #1	8,400.0	6,785.4	921.6	870.6	18.053	SF
EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Wellbore	7,699.6	6,794.6	432.4	399.1	13.017	CC
EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Wellbore	7,700.0	6,794.6	432.4	399.1	13.013	ES
EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Wellbore	7,800.0	6,793.1	443.9	408.2	12.445	SF
EXIST VERT SITZMAN 4-714 - Wellbore #1 - Design #1	15,839.7	6,686.6	1,982.9	1,594.6	5.106	CC
EXIST VERT SITZMAN 4-714 - Wellbore #1 - Design #1	15,900.0	6,686.2	1,983.8	1,593.8	5.086	ES
EXIST VERT SITZMAN 4-714 - Wellbore #1 - Design #1	16,100.0	6,685.1	1,999.9	1,604.3	5.055	SF
EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore #1	16,417.8	6,683.9	1,313.4	1,039.3	4.791	CC, ES
EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore #1	16,600.0	6,682.3	1,326.0	1,046.7	4.749	SF
EXIST VERT SLEDGE C9-28 - Wellbore #1 - Design #1	15,062.5	6,723.1	1,649.3	1,282.4	4.494	CC
EXIST VERT SLEDGE C9-28 - Wellbore #1 - Design #1	15,100.0	6,722.9	1,649.8	1,281.7	4.483	ES
EXIST VERT SLEDGE C9-28 - Wellbore #1 - Design #1	15,300.0	6,721.7	1,666.4	1,292.7	4.460	SF
EXIST VERT SLEDGE C9-29 - Wellbore #1 - Design #1	13,724.2	6,749.9	1,591.2	1,261.4	4.824	CC
EXIST VERT SLEDGE C9-29 - Wellbore #1 - Design #1	13,800.0	6,749.5	1,593.0	1,261.1	4.799	ES
EXIST VERT SLEDGE C9-29 - Wellbore #1 - Design #1	13,900.0	6,748.9	1,600.9	1,266.2	4.783	SF
EXIST VERT SMITH-REEVES 42-5 - Wellbore #1 - Wellbore	11,910.9	6,550.0	1,945.8	1,798.3	13.191	CC
EXIST VERT SMITH-REEVES 42-5 - Wellbore #1 - Wellbore	12,000.0	6,550.0	1,947.8	1,797.8	12.986	ES
EXIST VERT SMITH-REEVES 42-5 - Wellbore #1 - Wellbore	12,600.0	6,550.0	2,064.2	1,897.5	12.384	SF
EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1	6,204.1	6,159.5	2,231.9	2,211.0	107.082	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-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 6X-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 WILMOTH 6-1 - Wellbore #1 - Wellbore #1	6,245.5	6,202.4	2,231.2	2,214.0	129.674	CC
EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1	15,100.0	6,900.0	9,902.4	9,665.5	41.797	SF
EXIST VERT WILMOTH 6-14 - Wellbore #1 - Wellbore #	4,716.6	4,598.1	1,744.3	1,731.4	135.458	CC
EXIST VERT WILMOTH 6-14 - Wellbore #1 - Wellbore #	4,729.1	4,609.6	1,744.3	1,725.4	92.058	ES
EXIST VERT WILMOTH 6-14 - Wellbore #1 - Wellbore #	16,400.0	6,700.0	9,906.8	9,633.5	36.260	SF
EXIST VERT WILMOTH C4-23 - Wellbore #1 - Wellbore	16,441.8	6,675.4	83.8	-190.9	0.305	Level 1, CC, ES, SF
EXIST VERT WILMOTH C4-24 - Wellbore #1 - Wellbore	15,234.8	6,700.7	11.2	-229.9	0.046	Level 1, CC, ES, SF
EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore	8,412.9	6,781.4	1,071.5	1,020.2	20.886	CC, ES
EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore	9,000.0	6,775.5	1,221.8	1,154.7	18.202	SF
EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore #	9,245.3	6,762.0	1,882.0	1,808.2	25.472	CC
EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore #	9,300.0	6,761.8	1,882.8	1,807.4	24.977	ES
EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore #	10,600.0	6,757.0	2,318.9	2,207.5	20.831	SF
EXIST VERT WILMOTH C9-27 - Wellbore #1 - Wellbore	16,344.0	6,672.6	1,213.8	942.0	4.465	CC
EXIST VERT WILMOTH C9-27 - Wellbore #1 - Wellbore	16,400.0	6,672.2	1,215.1	941.7	4.444	ES
EXIST VERT WILMOTH C9-27 - Wellbore #1 - Wellbore	16,500.0	6,671.5	1,223.8	947.6	4.431	SF
JUDY 6D-212 - ORIGINAL WELLBORE - PROPOSAL #	9,421.6	9,389.6	523.9	364.2	3.281	CC
JUDY 6D-212 - ORIGINAL WELLBORE - PROPOSAL #	17,644.4	17,612.4	524.2	-94.8	0.847	Level 1, ES, SF
JUDY 6D-312 - ORIGINAL WELLBORE - PROPOSAL #	6,310.0	6,313.4	250.0	219.9	8.308	CC
JUDY 6D-312 - ORIGINAL WELLBORE - PROPOSAL #	17,644.4	17,711.7	259.5	-337.9	0.434	Level 1, ES, SF
JUDY 6S-202 - ORIGINAL WELLBORE - PROPOSAL #1	17,644.4	17,580.4	1,112.9	493.7	1.797	CC, ES, SF
JUDY 6S-204 - ORIGINAL WELLBORE - PROPOSAL #1	7,187.3	7,401.3	1,162.5	1,110.4	22.322	CC
JUDY 6S-204 - ORIGINAL WELLBORE - PROPOSAL #1	7,333.2	7,263.2	1,163.7	1,109.2	21.367	ES
JUDY 6S-204 - ORIGINAL WELLBORE - PROPOSAL #1	8,200.0	6,786.5	1,317.4	1,243.0	17.724	SF
JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1	6,204.1	6,202.7	1,583.9	1,546.9	42.726	CC
JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1	17,644.4	17,589.9	1,612.1	993.7	2.607	ES, SF
JUDY 6S-214 - ORIGINAL WELLBORE - PROPOSAL #1	2,955.3	2,705.0	1,528.1	1,508.6	78.299	CC
JUDY 6S-214 - ORIGINAL WELLBORE - PROPOSAL #1	3,100.0	2,841.4	1,528.9	1,508.2	73.946	ES
JUDY 6S-214 - ORIGINAL WELLBORE - PROPOSAL #1	9,000.0	6,700.0	2,150.0	2,053.7	22.319	SF
JUDY 6S-234 - ORIGINAL WELLBORE - PROPOSAL #1	7,245.3	7,313.9	662.0	609.4	12.588	CC
JUDY 6S-234 - ORIGINAL WELLBORE - PROPOSAL #1	7,333.2	7,232.4	662.9	608.7	12.230	ES
JUDY 6S-234 - ORIGINAL WELLBORE - PROPOSAL #1	7,700.0	6,965.0	700.9	639.4	11.392	SF
JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1	6,516.0	6,486.1	1,351.3	1,320.1	43.246	CC
JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1	17,644.4	17,652.6	1,381.4	763.3	2.235	ES, SF
JUDY 6S-314 - ORIGINAL WELLBORE - PROPOSAL #1	3,551.0	3,343.9	1,401.1	1,376.7	57.443	CC
JUDY 6S-314 - ORIGINAL WELLBORE - PROPOSAL #1	3,600.0	3,390.0	1,401.2	1,376.4	56.546	ES
JUDY 6S-314 - ORIGINAL WELLBORE - PROPOSAL #1	8,600.0	6,769.0	1,717.9	1,631.9	19.986	SF
JUDY 6S-332 - ORIGINAL WELLBORE - PROPOSAL #1	6,466.2	6,429.5	831.9	801.4	27.296	CC
JUDY 6S-332 - ORIGINAL WELLBORE - PROPOSAL #1	17,644.4	17,659.1	833.9	216.1	1.350	Level 3, ES, SF
JUDY 6S-334 - ORIGINAL WELLBORE - PROPOSAL #1	7,427.1	7,209.6	902.9	846.6	16.044	CC
JUDY 6S-334 - ORIGINAL WELLBORE - PROPOSAL #1	7,500.0	7,148.9	903.7	845.7	15.580	ES
JUDY 6S-334 - ORIGINAL WELLBORE - PROPOSAL #1	8,000.0	6,880.5	989.4	919.8	14.210	SF
JUDY 6X-314 - ORIGINAL WELLBORE - PROPOSAL #1	7,374.7	7,222.3	337.3	282.3	6.130	CC
JUDY 6X-314 - ORIGINAL WELLBORE - PROPOSAL #1	7,400.0	7,200.0	337.5	281.9	6.070	ES
JUDY 6X-314 - ORIGINAL WELLBORE - PROPOSAL #1	7,500.0	7,119.2	343.6	286.0	5.969	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-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 6X-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-204 - ORIGINAL WELLBORE - PROPOSAL	7,270.8	7,225.8	54.2	8.8	1.193	Level 2, CC, ES, SF
HAROLD 6X-232 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	29.1	28.1	27.184	CC
HAROLD 6X-232 - ORIGINAL WELLBORE - PROPOSAL	17,644.4	17,590.6	618.9	6.0	1.010	Level 2, ES, SF
HAROLD 6X-234 - ORIGINAL WELLBORE - PROPOSAL	300.0	299.0	102.0	100.9	95.339	CC, ES
HAROLD 6X-234 - ORIGINAL WELLBORE - PROPOSAL	7,500.0	6,945.7	509.0	461.4	10.699	SF
HAROLD 6X-302 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	14.6	13.5	13.592	CC
HAROLD 6X-302 - ORIGINAL WELLBORE - PROPOSAL	17,644.4	17,685.9	325.6	-275.7	0.542	Level 1, ES, SF
HAROLD 6X-304 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	87.4	86.4	81.547	CC, ES
HAROLD 6X-304 - ORIGINAL WELLBORE - PROPOSAL	7,400.0	7,087.5	236.9	189.6	5.012	SF
HAROLD 6X-334 - ORIGINAL WELLBORE - PROPOSAL	300.0	299.0	120.2	119.2	112.368	CC, ES
HAROLD 6X-334 - ORIGINAL WELLBORE - PROPOSAL	7,800.0	6,792.7	775.5	721.0	14.223	SF
HAROLD 6Y-202 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	58.3	57.2	54.367	CC, ES
HAROLD 6Y-202 - ORIGINAL WELLBORE - PROPOSAL	17,644.4	17,610.5	1,200.2	586.8	1.956	SF
HAROLD 6Y-214 - ORIGINAL WELLBORE - PROPOSAL	300.0	299.0	134.8	133.7	125.985	CC, ES
HAROLD 6Y-214 - ORIGINAL WELLBORE - PROPOSAL	8,100.0	6,650.0	1,178.4	1,117.1	19.220	SF
HAROLD 6Y-304 - ORIGINAL WELLBORE - PROPOSAL	300.0	299.0	149.4	148.3	139.605	CC, ES
HAROLD 6Y-304 - ORIGINAL WELLBORE - PROPOSAL	8,400.0	6,625.8	1,496.2	1,426.0	21.337	SF
HAROLD 6Y-312 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	43.7	42.6	40.776	CC, ES
HAROLD 6Y-312 - ORIGINAL WELLBORE - PROPOSAL	17,644.4	17,687.9	976.1	365.8	1.599	SF
SW SW SEC. 34 T5N R64W 6th P.M.						
BAILEY 34I-223 - ORIGINAL WELLBORE - PROPOSAL	17,644.4	11,465.3	353.5	234.0	2.960	CC, ES, SF
BAILEY 34I-303 - ORIGINAL WELLBORE - PROPOSAL	17,644.4	11,557.0	143.3	24.0	1.201	Level 2, CC, ES, SF
EXIST DD LOEFFLER C 10-30 - Wellbore #1 - Wellbore	17,644.4	6,726.8	1,302.5	978.6	4.021	CC, ES, SF
EXIST HZ OREDIGGER C10-69HN - Wellbore #1 - Wellbore	17,644.4	6,709.7	1,536.9	1,214.4	4.765	CC, ES, SF
EXIST VERT ATKINSON-GALE 3-13 - Wellbore #1 - Wellbore	17,644.4	6,609.4	1,094.4	786.0	3.549	CC, ES, SF
EXIST VERT DONES 1 - Wellbore #1 - Wellbore #1	17,644.4	6,636.6	969.8	660.8	3.139	CC, ES, SF
EXIST VERT MILLAGE 12-3 - Wellbore #1 - Wellbore #1	17,644.4	6,676.1	1,776.9	1,468.3	5.758	CC, ES, SF
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	17,157.8	6,525.0	1,956.7	1,662.3	6.646	CC
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	17,200.0	6,525.0	1,957.1	1,661.6	6.621	ES
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	17,500.0	6,525.0	1,986.4	1,682.4	6.534	SF
EXIST VERT WILMOTH 1 - Wellbore #1 - Wellbore #1	17,012.2	6,682.0	660.9	369.9	2.271	CC, ES, SF
EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore #	17,201.1	6,674.2	741.5	445.4	2.504	CC, ES
EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore #	17,300.0	6,675.7	748.1	449.2	2.503	SF
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	17,548.1	6,655.9	95.9	-209.6	0.314	Level 1, CC, ES, 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								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	50.5	50.5	0.0	0.0	-72.93	1,228.0	-4,000.3	4,184.6				
100.0	100.0	151.5	151.5	0.1	0.0	-72.93	1,228.1	-4,000.1	4,184.4	4,184.3	0.09	N/A	
200.0	200.0	248.8	248.8	0.3	0.0	-72.93	1,228.2	-4,000.0	4,184.3	4,184.0	0.33	N/A	
300.0	300.0	345.1	345.1	0.5	0.1	-72.93	1,228.5	-3,999.8	4,184.2	4,183.6	0.65	6,418.841	
400.0	400.0	442.5	442.5	0.8	0.2	-65.35	1,228.9	-3,999.8	4,183.6	4,182.6	1.00	4,184.422	
500.0	499.8	543.4	543.4	1.0	0.3	-65.45	1,229.3	-3,999.6	4,181.4	4,180.1	1.31	3,190.883	
600.0	599.5	639.3	639.3	1.2	0.4	-65.61	1,229.8	-3,999.6	4,177.9	4,176.3	1.62	2,582.386	
700.0	698.7	740.9	740.8	1.5	0.5	-65.85	1,230.3	-3,999.6	4,172.9	4,171.0	1.95	2,144.482	
800.0	797.5	839.6	839.6	1.8	0.5	-66.15	1,230.8	-3,999.5	4,166.6	4,164.3	2.30	1,810.439	
899.9	895.6	938.4	938.4	2.2	0.6	-66.53	1,231.3	-3,999.4	4,158.9	4,156.2	2.70	1,543.109	

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