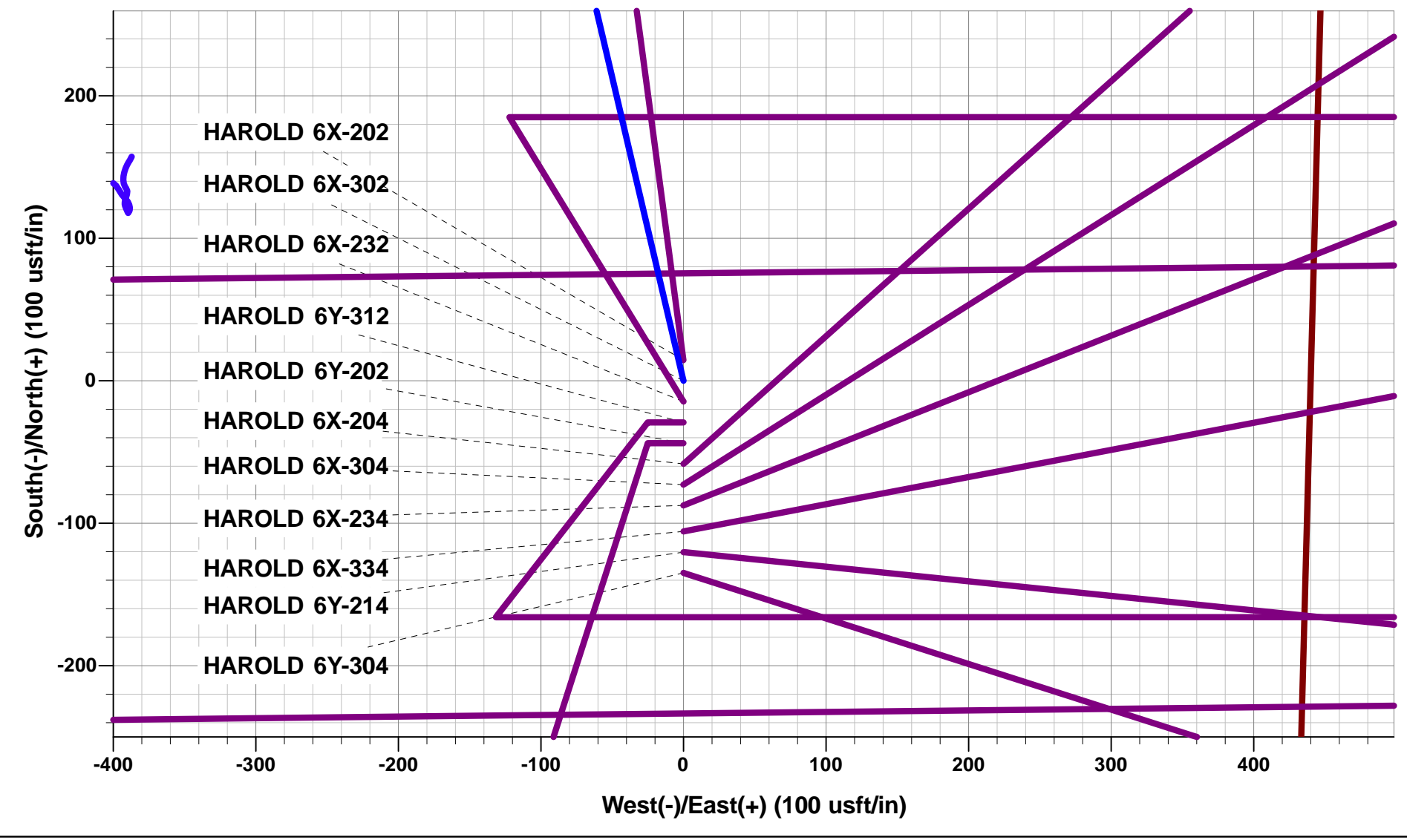




Project: WELD COUNTY, COLORADO
Site: SE SE SEC. 6 T4N R64W 6th P.M.
Well: HAROLD 6X-302
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

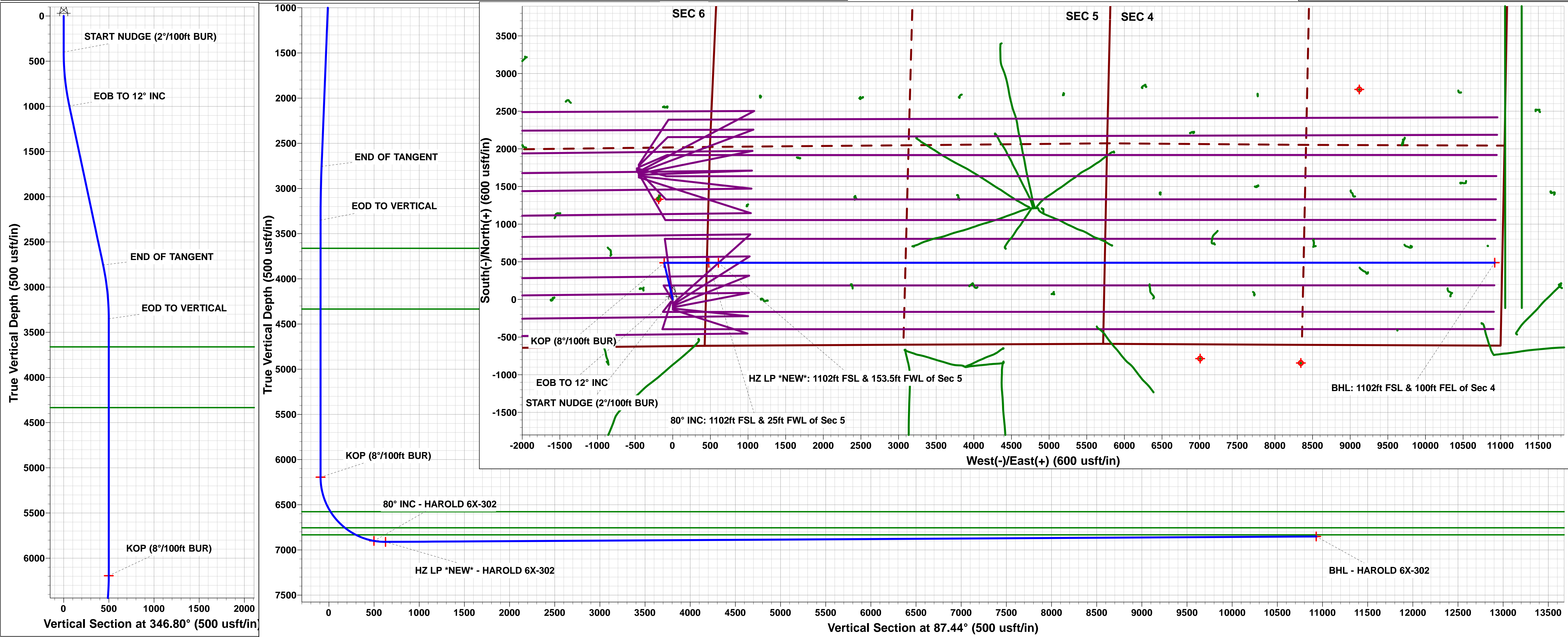
ANNOTATIONS										
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation		
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 622ft FSL & 440ft FEL of Sec 6		
400.0	400.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)		
995.6	1000.0	12.00	346.80	60.9	-14.3	-11.6	62.6	EOB TO 12° INC		
2755.2	2798.9	12.00	346.80	425.1	-99.7	-80.6	436.6	END OF TANGENT		
3350.8	3398.9	0.00	0.00	486.0	-114.0	-92.2	499.2	EOD TO VERTICAL		
6194.8	6242.9	0.00	0.00	486.0	-114.0	-92.2	499.2	KOP (8°/100ft BUR)		
6900.1	7242.8	80.00	89.99	486.1	477.8	499.0	1091.0	80° INC: 1102ft FSL & 25ft FWL of Sec 5		
6911.0	7372.0	90.33	89.99	486.1	606.3	627.4	1219.5	HZ LP *NEW*: 1102ft FSL & 153.5ft FWL of Sec 5		
6851.0	17685.9	90.34	89.99	488.2	10920.1	10931.0	11533.3	BHL: 1102ft FSL & 100ft FEL of Sec 4		

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - HAROLD 6X-302	6194.8	486.0	-114.0	40.337114	-104.585899
80° INC - HAROLD 6X-302	6900.1	486.1	477.8	40.337114	-104.583776
BHL - HAROLD 6X-302	6851.0	488.2	10920.1	40.337113	-104.546319
HZ LP *NEW* - HAROLD 6X-302	6911.0	486.1	606.3	40.337114	-104.583315



PROPOSED LOCAL COORDINATES:
SHL: 622ft FSL & 440ft FEL of Sec 6
80° INC: 1102ft FSL & 25ft FWL of Sec 5
HZ LP *NEW*: 1102ft FSL & 153.5ft FWL of Sec 5
BHL: 1102ft 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-302
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-302	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	17,685.9	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
NE SE SEC. 6 T4N R64W 6th P.M.						
ABDN VERT DINNER 6-3 - Wellbore #1 - Wellbore #1	6,248.8	6,278.1	3,949.6	3,932.2	227.595	CC
ABDN VERT DINNER 6-3 - Wellbore #1 - Wellbore #1	6,250.0	6,279.1	3,949.6	3,932.2	227.573	ES
ABDN VERT DINNER 6-3 - Wellbore #1 - Wellbore #1	12,700.0	7,000.0	9,938.1	9,769.3	58.852	SF
ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1	10,606.2	6,781.2	2,234.1	2,123.8	20.246	CC
ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1	10,700.0	6,781.2	2,236.1	2,123.1	19.796	ES
ABDN VERT KUIS C5-7 - Wellbore #1 - Wellbore #1	11,900.0	6,782.0	2,581.7	2,435.3	17.632	SF
ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1	4,114.6	4,060.0	865.3	851.5	62.865	CC
ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1	4,200.0	4,143.2	865.4	851.5	62.220	ES
ABDN VERT LEY 2 - Wellbore #1 - Wellbore #1	15,500.0	6,779.4	8,951.0	8,705.7	36.486	SF
ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1	15,772.9	6,758.0	959.6	704.4	3.760	CC
ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1	15,800.0	6,758.1	960.0	704.0	3.750	ES
ABDN VERT MCCLINTOCK 1 - Wellbore #1 - Wellbore #1	15,900.0	6,758.3	968.0	709.2	3.741	SF
ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1	7,924.5	6,861.3	2,195.8	2,158.4	58.677	CC
ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1	8,000.0	6,861.2	2,197.1	2,157.8	55.860	ES
ABDN VERT NIKOLORIC C5-5 - Wellbore #1 - Wellbore #1	11,700.0	6,854.7	4,367.6	4,226.9	31.035	SF
EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1	3,354.3	3,350.9	3,248.8	3,228.0	155.710	CC, ES
EXIST DD ARD PC C6-18D - Wellbore #1 - Wellbore #1	14,400.0	7,181.1	9,963.0	9,729.1	42.604	SF
EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1	3,051.0	2,764.0	3,396.4	3,378.9	194.272	CC, ES
EXIST DD ARD PC C6-20D - Wellbore #1 - Wellbore #1	13,300.0	7,306.2	9,944.1	9,744.2	49.757	SF
EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1	6,242.9	6,326.4	2,435.6	2,400.4	69.217	ES
EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1	6,249.2	6,333.0	2,435.6	2,407.1	85.573	CC
EXIST DD ARD PC C6-21D - Wellbore #1 - Wellbore #1	14,600.0	7,302.0	9,920.2	9,683.6	41.916	SF
EXIST DD BURMAN C4-32D - Wellbore #1 - Wellbore #1	12,631.3	7,003.0	1,465.6	1,276.4	7.747	CC
EXIST DD BURMAN C4-32D - Wellbore #1 - Wellbore #1	12,700.0	7,003.0	1,467.2	1,276.1	7.677	ES
EXIST DD BURMAN C4-32D - Wellbore #1 - Wellbore #1	12,900.0	6,995.0	1,490.0	1,293.3	7.575	SF
EXIST DD BURMAN C4-33D - Wellbore #1 - Wellbore #1	12,601.0	6,973.3	228.3	40.8	1.218	Level 2, CC, ES, SF
EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1	11,122.5	7,279.6	2,907.2	2,762.7	20.118	CC
EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1	11,200.0	7,280.0	2,908.2	2,761.5	19.829	ES
EXIST DD BURMAN C5-17D - Wellbore #1 - Wellbore #1	12,800.0	7,288.7	3,356.4	3,165.0	17.540	SF
EXIST DD BURMAN C5-21D - Wellbore #1 - Wellbore #1	10,003.9	7,169.0	1,660.3	1,535.4	13.296	CC, ES
EXIST DD BURMAN C5-21D - Wellbore #1 - Wellbore #1	10,600.0	7,170.6	1,764.0	1,622.6	12.474	SF
EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1	11,063.7	7,015.5	1,694.5	1,555.4	12.178	CC
EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1	11,100.0	7,015.9	1,694.9	1,554.8	12.093	ES
EXIST DD BURMAN C5-22D - Wellbore #1 - Wellbore #1	11,600.0	7,021.0	1,777.3	1,623.3	11.534	SF
EXIST DD BURMAN C5-23D - Wellbore #1 - Wellbore #1	11,186.6	6,897.5	190.8	50.4	1.358	Level 3, CC, ES
EXIST DD BURMAN C5-23D - Wellbore #1 - Wellbore #1	11,200.0	6,897.6	191.3	50.5	1.358	Level 3, SF
EXIST DD BURMAN C5-24D - Wellbore #1 - Wellbore #1	9,956.6	7,130.2	219.9	96.8	1.786	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-302
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-302	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 C7-27 - Wellbore #1 - Wellbore #1	407.4	407.0	1,205.5	1,204.4	1,189.793	CC, ES
EXIST DD DIETRICH C7-27 - Wellbore #1 - Wellbore #1	15,700.0	6,819.3	9,923.9	9,672.1	39.422	SF
EXIST DD DIETRICH C8-30D - Wellbore #1 - Wellbore #	7,099.7	7,239.6	1,010.5	963.9	21.657	CC
EXIST DD DIETRICH C8-30D - Wellbore #1 - Wellbore #	7,100.0	7,239.7	1,010.5	963.9	21.655	ES
EXIST DD DIETRICH C8-30D - Wellbore #1 - Wellbore #	7,600.0	7,287.4	1,123.5	1,067.1	19.921	SF
EXIST DD RUFF C8-27D - Wellbore #1 - Wellbore #1	11,159.8	6,906.3	1,139.1	998.9	8.125	CC
EXIST DD RUFF C8-27D - Wellbore #1 - Wellbore #1	11,200.0	6,906.4	1,139.9	998.5	8.065	ES
EXIST DD RUFF C8-27D - Wellbore #1 - Wellbore #1	11,400.0	6,906.7	1,164.2	1,017.3	7.925	SF
EXIST DD SLEDGE C9-30D - Wellbore #1 - Wellbore #1	12,400.4	6,997.8	851.4	672.6	4.761	CC, ES
EXIST DD SLEDGE C9-30D - Wellbore #1 - Wellbore #1	12,500.0	6,995.8	857.3	675.6	4.720	SF
EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellb	6,242.9	6,866.8	2,415.6	2,363.3	46.218	ES
EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellb	6,334.2	6,920.0	2,409.9	2,372.7	64.665	CC
EXIST DD WRIGHT-GOIN C7-28D - Wellbore #1 - Wellb	14,500.0	7,560.0	9,936.5	9,684.1	39.377	SF
EXIST HZ COALVIEW G2-63-1HN - Wellbore #1 - Wellb	4,989.2	4,994.8	4,640.5	4,618.5	210.878	CC
EXIST HZ COALVIEW G2-63-1HN - Wellbore #1 - Wellb	5,342.9	5,347.8	4,640.9	4,617.5	198.213	ES
EXIST HZ COALVIEW G2-63-1HN - Wellbore #1 - Wellb	6,300.0	6,330.7	4,656.8	4,626.8	155.198	SF
EXIST HZ COALVIEW G2-64-1HN - Wellbore #1 - Wellb	6,246.9	6,281.0	4,614.6	4,584.5	153.157	CC, ES
EXIST HZ COALVIEW G2-64-1HN - Wellbore #1 - Wellb	12,000.0	6,375.0	9,967.2	9,855.6	89.342	SF
EXIST HZ COALVIEW G2-65-1HN - Wellbore #1 - Wellb	6,265.4	6,429.2	4,708.7	4,679.4	160.423	CC, ES
EXIST HZ COALVIEW G2-65-1HN - Wellbore #1 - Wellb	12,000.0	6,549.0	9,985.1	9,833.7	65.957	SF
EXIST HZ COALVIEW G2-66-1HN - Wellbore #1 - Wellb	6,256.2	6,366.0	4,898.7	4,868.7	163.192	CC, ES
EXIST HZ COALVIEW G2-66-1HN - Wellbore #1 - Wellb	11,900.0	6,460.0	9,980.3	9,827.4	65.283	SF
EXIST HZ LOWER LATHAM PC G12-69HN - Wellbore #	6,242.9	12,060.0	4,562.9	4,400.8	28.138	ES, SF
EXIST HZ LOWER LATHAM PC G12-69HN - Wellbore #	6,347.8	12,060.0	4,554.3	4,491.5	72.491	CC
EXIST HZ NORTHROP C8-73HN - Wellbore #1 - Wellbo	11,149.6	6,420.0	1,443.5	1,312.6	11.026	CC
EXIST HZ NORTHROP C8-73HN - Wellbore #1 - Wellbo	11,200.0	6,420.0	1,444.4	1,312.2	10.922	ES
EXIST HZ NORTHROP C8-73HN - Wellbore #1 - Wellbo	11,600.0	6,404.0	1,511.8	1,369.6	10.632	SF
EXIST HZ NORTHROP C8-75HN - Wellbore #1 - Wellbo	9,861.2	6,587.0	1,248.3	1,146.2	12.222	CC
EXIST HZ NORTHROP C8-75HN - Wellbore #1 - Wellbo	9,900.0	6,587.0	1,248.9	1,145.8	12.106	ES
EXIST HZ NORTHROP C8-75HN - Wellbore #1 - Wellbo	10,300.0	6,598.8	1,323.1	1,209.0	11.596	SF
EXIST HZ SCHMIDT PC C6-79HN - Wellbore #1 - Wellb	6,300.0	12,505.0	4,507.6	4,394.9	39.977	SF
EXIST HZ SCHMIDT PC C6-79HN - Wellbore #1 - Wellb	6,350.0	12,505.0	4,504.5	4,392.2	40.117	ES
EXIST HZ SCHMIDT PC C6-79HN - Wellbore #1 - Wellb	6,363.7	12,505.0	4,504.4	4,392.3	40.189	CC
EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1	5,694.2	5,650.2	3,263.4	3,247.4	204.993	CC
EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1	5,700.0	5,654.8	3,263.4	3,247.4	204.838	ES
EXIST VERT COBB 6-1 - Wellbore #1 - Wellbore #1	13,900.0	7,153.6	9,928.9	9,727.4	49.278	SF
EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1	6,242.9	6,286.9	4,459.1	4,442.2	263.648	ES
EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1	6,255.0	6,299.9	4,459.0	4,442.4	267.518	CC
EXIST VERT COBB 6-23 - Wellbore #1 - Wellbore #1	12,500.0	7,031.8	9,924.3	9,761.1	60.794	SF
EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #	13,639.3	6,785.9	1,719.6	1,524.4	8.811	CC
EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #	13,700.0	6,785.4	1,720.7	1,523.8	8.741	ES
EXIST VERT CONNELL C4-20 - Wellbore #1 - Wellbore #	14,100.0	6,782.4	1,780.2	1,572.2	8.556	SF
EXIST VERT CONNELL 14-4 - Wellbore #1 - Wellbore #	13,100.6	6,800.0	286.8	106.7	1.592	CC, ES, SF
EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1	13,244.6	6,812.8	905.8	721.9	4.925	CC, ES
EXIST VERT CONNELL 2 - Wellbore #1 - Wellbore #1	13,400.0	6,812.3	919.0	730.8	4.882	SF
EXIST VERT CONNELL 3 - Wellbore #1 - Wellbore #1	14,473.8	6,800.0	388.1	169.5	1.776	CC, ES
EXIST VERT CONNELL 3 - Wellbore #1 - Wellbore #1	14,500.0	6,800.0	389.0	169.7	1.774	SF
EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #	13,004.5	6,783.0	2,319.4	2,142.1	13.086	CC
EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #	13,100.0	6,781.5	2,321.3	2,141.4	12.902	ES
EXIST VERT CONNELL C 4-5 - Wellbore #1 - Wellbore #	13,900.0	6,769.4	2,486.2	2,283.9	12.288	SF
EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore	14,498.7	6,776.9	1,010.6	791.5	4.613	CC
EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore	14,500.0	6,776.9	1,010.6	791.5	4.612	ES
EXIST VERT CONNELL C4-11 - Wellbore #1 - Wellbore	14,600.0	6,774.9	1,015.7	793.8	4.577	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-302
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-302	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	14,003.6	6,778.8	421.9	216.5	2.054	CC, ES, SF
EXIST VERT DIETRICH 6-10 - Wellbore #1 - Wellbore #	3,324.9	3,254.2	1,552.6	1,541.1	135.754	CC, ES
EXIST VERT DIETRICH 6-10 - Wellbore #1 - Wellbore #	15,100.0	6,739.1	9,919.7	9,692.2	43.601	SF
EXIST VERT DIETRICH 6-16 - Wellbore #1 - Wellbore #	1,857.5	1,812.1	394.1	387.3	57.890	CC
EXIST VERT DIETRICH 6-16 - Wellbore #1 - Wellbore #	1,900.0	1,852.4	394.2	387.2	56.328	ES
EXIST VERT DIETRICH 6-16 - Wellbore #1 - Wellbore #	6,350.0	6,292.8	446.8	429.6	25.943	SF
EXIST VERT DIETRICH C6-23 - Wellbore #1 - Wellbore	6,248.1	6,210.4	714.5	696.9	40.661	CC
EXIST VERT DIETRICH C6-23 - Wellbore #1 - Wellbore	6,250.0	6,212.3	714.5	696.9	40.654	ES
EXIST VERT DIETRICH C6-23 - Wellbore #1 - Wellbore	15,400.0	6,900.0	9,451.4	9,211.3	39.364	SF
EXIST VERT DINNER 6-1 - Wellbore #1 - Wellbore #1	3,177.4	3,127.8	3,933.4	3,921.1	320.791	CC
EXIST VERT DINNER 6-1 - Wellbore #1 - Wellbore #1	6,259.1	6,322.2	3,933.9	3,916.2	221.335	ES
EXIST VERT DINNER 6-1 - Wellbore #1 - Wellbore #1	12,700.0	7,000.0	9,937.8	9,768.9	58.831	SF
EXIST VERT DINNER 6-2 - Wellbore #1 - Wellbore #1	6,262.0	6,286.8	2,699.9	2,682.7	156.848	CC, ES
EXIST VERT DINNER 6-2 - Wellbore #1 - Wellbore #1	14,000.0	6,800.0	9,929.9	9,726.1	48.733	SF
EXIST VERT DINNER 6-34 - Wellbore #1 - Wellbore #1	2,699.2	2,636.7	2,576.4	2,565.8	242.717	CC
EXIST VERT DINNER 6-34 - Wellbore #1 - Wellbore #1	2,900.0	2,835.3	2,577.0	2,565.5	225.270	ES
EXIST VERT DINNER 6-34 - Wellbore #1 - Wellbore #1	14,100.0	6,950.0	9,998.0	9,789.9	48.030	SF
EXIST VERT DINNER 6-35 - Wellbore #1 - Wellbore #1	6,256.5	6,305.6	3,540.9	3,523.2	200.284	CC, ES
EXIST VERT DINNER 6-35 - Wellbore #1 - Wellbore #1	13,100.0	7,000.0	9,983.2	9,836.6	68.131	SF
EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1	14,536.5	6,754.6	2,234.5	2,014.2	10.141	CC
EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1	14,600.0	6,754.2	2,235.4	2,013.3	10.063	ES
EXIST VERT EHRlich 1 - Wellbore #1 - Wellbore #1	15,200.0	6,750.5	2,331.0	2,092.0	9.755	SF
EXIST VERT HINKLE 23-5 - Wellbore #1 - Wellbore #1	9,210.4	6,850.0	846.7	774.9	11.789	CC, ES
EXIST VERT HINKLE 23-5 - Wellbore #1 - Wellbore #1	9,500.0	6,850.0	894.9	815.1	11.218	SF
EXIST VERT HINKLE 24-5 - Wellbore #1 - Wellbore #1	9,156.6	6,600.0	428.0	368.4	7.182	CC, ES
EXIST VERT HINKLE 24-5 - Wellbore #1 - Wellbore #1	9,200.0	6,600.0	430.2	369.7	7.104	SF
EXIST VERT LEVI C5-15 - Wellbore #1 - Wellbore #1	10,813.1	6,850.0	325.9	209.9	2.809	CC, ES, SF
EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1	1,782.8	1,741.5	1,541.0	1,534.6	241.007	CC
EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1	1,900.0	1,850.8	1,541.4	1,534.4	221.923	ES
EXIST VERT LEY 1 - Wellbore #1 - Wellbore #1	15,100.0	6,950.0	9,933.8	9,697.8	42.098	SF
EXIST VERT MCCLINTOCK C4-15 - Wellbore #1 - Wellb	15,890.6	6,700.0	89.8	-105.4	0.460	Level 1, CC, ES, SF
EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbo	10,577.5	6,600.0	867.8	760.5	8.090	CC
EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbo	10,600.0	6,600.0	868.1	760.2	8.048	ES
EXIST VERT OPDYKE/HINKLE 1 - Wellbore #1 - Wellbo	10,800.0	6,600.0	895.9	782.6	7.911	SF
EXIST VERT REISTAD 5-1 - Wellbore #1 - Wellbore #1	11,828.4	6,838.7	386.9	242.4	2.677	CC, ES, SF
EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1	11,689.9	6,828.8	653.7	512.7	4.636	CC
EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1	11,700.0	6,828.8	653.7	512.5	4.627	ES
EXIST VERT REISTAD C5-9 - Wellbore #1 - Wellbore #1	11,800.0	6,829.1	662.9	518.8	4.601	SF
EXIST VERT ROUKEMA 5-1 - Wellbore #1 - Wellbore #1	8,027.4	6,857.8	502.9	462.8	12.543	CC, ES
EXIST VERT ROUKEMA 5-1 - Wellbore #1 - Wellbore #1	8,200.0	6,856.7	531.7	487.1	11.934	SF
EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Wellb	7,746.5	6,859.8	750.3	717.2	22.638	CC, ES
EXIST VERT ROUKEMA PM C5-12 - Wellbore #1 - Wellb	8,200.0	6,854.7	876.7	832.1	19.646	SF
EXIST VERT SITZMAN 4-714 - Wellbore #1 - Design #1	15,887.1	6,756.5	2,300.9	1,911.0	5.901	CC
EXIST VERT SITZMAN 4-714 - Wellbore #1 - Design #1	16,000.0	6,755.9	2,303.6	1,910.6	5.861	ES
EXIST VERT SITZMAN 4-714 - Wellbore #1 - Design #1	16,300.0	6,754.1	2,337.6	1,936.2	5.823	SF
EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore #	16,465.2	6,750.0	1,630.9	1,356.6	5.946	CC
EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore #	16,500.0	6,750.0	1,631.3	1,356.0	5.926	ES
EXIST VERT SITZMAN C4-22 - Wellbore #1 - Wellbore #	16,700.0	6,750.0	1,647.7	1,366.8	5.866	SF
EXIST VERT SLEDGE C9-28 - Wellbore #1 - Design #1	15,109.9	6,793.1	1,331.4	962.8	3.613	CC, ES
EXIST VERT SLEDGE C9-28 - Wellbore #1 - Design #1	15,200.0	6,792.6	1,334.4	963.4	3.596	SF
EXIST VERT SLEDGE C9-29 - Wellbore #1 - Design #1	13,771.6	6,819.9	1,273.2	941.9	3.842	CC
EXIST VERT SLEDGE C9-29 - Wellbore #1 - Design #1	13,800.0	6,819.7	1,273.5	941.4	3.834	ES
EXIST VERT SLEDGE C9-29 - Wellbore #1 - Design #1	13,900.0	6,819.1	1,279.7	944.7	3.820	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-302
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-302	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 SMITH-REEVES 42-5 - Wellbore #1 - Wellbore	11,958.8	6,550.0	2,269.5	2,122.1	15.397	CC
EXIST VERT SMITH-REEVES 42-5 - Wellbore #1 - Wellbore	12,000.0	6,550.0	2,269.9	2,121.3	15.281	ES
EXIST VERT SMITH-REEVES 42-5 - Wellbore #1 - Wellbore	12,900.0	6,550.0	2,456.9	2,283.4	14.156	SF
EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1	6,242.9	6,243.7	2,492.9	2,474.8	137.840	ES
EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1	6,294.3	6,299.5	2,492.0	2,476.3	158.828	CC
EXIST VERT WILMOTH 6-1 - Wellbore #1 - Wellbore #1	15,100.0	6,900.0	9,918.3	9,682.2	42.021	SF
EXIST VERT WILMOTH 6-14 - Wellbore #1 - Wellbore #	4,562.3	4,482.7	2,062.0	2,047.6	143.342	CC, ES
EXIST VERT WILMOTH 6-14 - Wellbore #1 - Wellbore #	16,400.0	6,748.4	9,922.0	9,650.0	36.479	SF
EXIST VERT WILMOTH C4-23 - Wellbore #1 - Wellbore	16,488.1	6,733.3	236.4	-38.4	0.860	Level 1, CC, SF
EXIST VERT WILMOTH C4-23 - Wellbore #1 - Wellbore	16,500.0	6,733.0	236.7	-38.4	0.861	Level 1, ES
EXIST VERT WILMOTH C4-24 - Wellbore #1 - Wellbore	15,283.1	6,766.2	307.6	66.3	1.275	Level 3, CC
EXIST VERT WILMOTH C4-24 - Wellbore #1 - Wellbore	15,300.0	6,766.3	308.0	66.3	1.274	Level 3, ES, SF
EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore	8,459.8	6,849.3	1,389.4	1,338.1	27.074	CC
EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore	8,500.0	6,848.9	1,390.0	1,337.6	26.532	ES
EXIST VERT WILMOTH C5-20 - Wellbore #1 - Wellbore	9,500.0	6,836.8	1,735.6	1,656.0	21.806	SF
EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore #	9,293.0	6,834.9	2,199.7	2,125.7	29.737	CC
EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore #	9,400.0	6,834.9	2,202.3	2,125.4	28.636	ES
EXIST VERT WILMOTH C5-6 - Wellbore #1 - Wellbore #	11,100.0	6,835.3	2,846.7	2,722.7	22.952	SF
EXIST VERT WILMOTH C9-27 - Wellbore #1 - Wellbore	16,391.2	6,742.1	896.1	624.2	3.295	CC
EXIST VERT WILMOTH C9-27 - Wellbore #1 - Wellbore	16,400.0	6,742.0	896.2	624.0	3.292	ES
EXIST VERT WILMOTH C9-27 - Wellbore #1 - Wellbore	16,500.0	6,741.0	902.7	627.7	3.282	SF
JUDY 6D-212 - ORIGINAL WELLBORE - PROPOSAL #1	6,154.4	6,168.0	842.3	811.5	27.347	CC
JUDY 6D-212 - ORIGINAL WELLBORE - PROPOSAL #1	17,685.9	17,605.9	846.5	230.5	1.374	Level 3, ES, SF
JUDY 6D-312 - ORIGINAL WELLBORE - PROPOSAL #1	17,685.9	17,705.4	567.8	-51.2	0.917	Level 1, CC, ES, SF
JUDY 6S-202 - ORIGINAL WELLBORE - PROPOSAL #1	6,154.3	6,151.9	1,431.6	1,402.1	48.480	CC
JUDY 6S-202 - ORIGINAL WELLBORE - PROPOSAL #1	17,685.9	17,573.9	1,433.4	815.4	2.319	ES, SF
JUDY 6S-204 - ORIGINAL WELLBORE - PROPOSAL #1	3,021.2	2,905.1	1,352.6	1,332.1	65.729	CC, ES
JUDY 6S-204 - ORIGINAL WELLBORE - PROPOSAL #1	8,600.0	6,733.4	1,764.8	1,681.9	21.275	SF
JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1	2,912.8	2,629.0	1,723.0	1,707.9	114.446	CC
JUDY 6S-212 - ORIGINAL WELLBORE - PROPOSAL #1	17,685.9	17,582.6	1,931.9	1,314.2	3.127	ES, SF
JUDY 6S-214 - ORIGINAL WELLBORE - PROPOSAL #1	2,787.7	2,530.3	1,574.7	1,556.5	86.845	CC
JUDY 6S-214 - ORIGINAL WELLBORE - PROPOSAL #1	2,800.0	2,541.8	1,574.7	1,556.4	86.358	ES
JUDY 6S-214 - ORIGINAL WELLBORE - PROPOSAL #1	9,700.0	6,650.0	2,811.9	2,698.6	24.822	SF
JUDY 6S-234 - ORIGINAL WELLBORE - PROPOSAL #1	7,084.6	7,525.9	978.0	927.9	19.530	CC
JUDY 6S-234 - ORIGINAL WELLBORE - PROPOSAL #1	7,150.0	7,464.4	978.3	927.6	19.315	ES
JUDY 6S-234 - ORIGINAL WELLBORE - PROPOSAL #1	8,000.0	6,883.0	1,083.3	1,016.5	16.212	SF
JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1	2,976.3	2,743.8	1,635.2	1,619.1	101.949	CC
JUDY 6S-302 - ORIGINAL WELLBORE - PROPOSAL #1	17,685.9	17,645.4	1,698.0	1,079.4	2.745	ES, SF
JUDY 6S-314 - ORIGINAL WELLBORE - PROPOSAL #1	2,914.5	2,730.0	1,467.4	1,448.1	76.180	CC, ES
JUDY 6S-314 - ORIGINAL WELLBORE - PROPOSAL #1	9,100.0	6,750.0	2,236.9	2,139.2	22.898	SF
JUDY 6S-332 - ORIGINAL WELLBORE - PROPOSAL #1	17,685.9	17,652.7	1,149.7	530.4	1.856	CC, ES, SF
JUDY 6S-334 - ORIGINAL WELLBORE - PROPOSAL #1	7,276.6	7,429.5	1,219.2	1,166.7	23.241	CC
JUDY 6S-334 - ORIGINAL WELLBORE - PROPOSAL #1	7,400.0	7,312.0	1,220.0	1,165.3	22.328	ES
JUDY 6S-334 - ORIGINAL WELLBORE - PROPOSAL #1	8,300.0	6,850.0	1,386.4	1,310.7	18.327	SF
JUDY 6X-314 - ORIGINAL WELLBORE - PROPOSAL #1	7,233.7	7,426.0	653.5	601.9	12.665	CC
JUDY 6X-314 - ORIGINAL WELLBORE - PROPOSAL #1	7,300.0	7,364.1	654.0	601.4	12.419	ES
JUDY 6X-314 - ORIGINAL WELLBORE - PROPOSAL #1	7,700.0	7,057.3	689.6	629.6	11.486	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-302
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-302	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	14.6	13.5	13.592 CC	
HAROLD 6X-202 - ORIGINAL WELLBORE - PROPOSAL	17,685.9	17,638.1	325.5	-275.5	0.542 Level 1, ES, SF	
HAROLD 6X-204 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	58.3	56.8	38.303 CC, ES	
HAROLD 6X-204 - ORIGINAL WELLBORE - PROPOSAL	7,400.0	7,181.9	384.8	338.2	8.246 SF	
HAROLD 6X-232 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	14.6	13.1	9.577 CC	
HAROLD 6X-232 - ORIGINAL WELLBORE - PROPOSAL	17,685.9	17,590.6	309.0	-288.4	0.517 Level 1, ES, SF	
HAROLD 6X-234 - ORIGINAL WELLBORE - PROPOSAL	400.0	399.0	87.4	85.9	57.542 CC, ES	
HAROLD 6X-234 - ORIGINAL WELLBORE - PROPOSAL	7,105.8	7,335.4	177.9	135.5	4.194 SF	
HAROLD 6X-304 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	72.9	71.3	47.880 CC	
HAROLD 6X-304 - ORIGINAL WELLBORE - PROPOSAL	7,261.8	7,284.3	79.7	35.5	1.805 ES, SF	
HAROLD 6X-334 - ORIGINAL WELLBORE - PROPOSAL	400.0	399.0	105.6	104.1	69.533 CC, ES	
HAROLD 6X-334 - ORIGINAL WELLBORE - PROPOSAL	7,500.0	7,033.6	417.4	370.8	8.961 SF	
HAROLD 6Y-202 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	43.7	42.6	40.776 CC	
HAROLD 6Y-202 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	43.8	42.2	28.963 ES	
HAROLD 6Y-202 - ORIGINAL WELLBORE - PROPOSAL	17,685.9	17,610.5	882.8	269.9	1.440 Level 3, SF	
HAROLD 6Y-214 - ORIGINAL WELLBORE - PROPOSAL	400.0	399.0	120.2	118.7	79.121 CC, ES	
HAROLD 6Y-214 - ORIGINAL WELLBORE - PROPOSAL	7,700.0	6,866.2	764.4	714.2	15.222 SF	
HAROLD 6Y-304 - ORIGINAL WELLBORE - PROPOSAL	300.0	299.0	134.8	133.7	125.985 CC, ES	
HAROLD 6Y-304 - ORIGINAL WELLBORE - PROPOSAL	8,100.0	6,750.0	1,082.1	1,021.7	17.893 SF	
HAROLD 6Y-312 - ORIGINAL WELLBORE - PROPOSAL	300.0	300.0	29.1	28.1	27.184 CC	
HAROLD 6Y-312 - ORIGINAL WELLBORE - PROPOSAL	400.0	400.0	29.2	27.7	19.328 ES	
HAROLD 6Y-312 - ORIGINAL WELLBORE - PROPOSAL	17,685.9	17,687.9	653.2	40.4	1.066 Level 2, SF	
SW SW SEC. 34 T5N R64W 6th P.M.						
BAILEY 34I-223 - ORIGINAL WELLBORE - PROPOSAL	17,685.9	11,782.8	368.3	247.4	3.048 CC, ES, SF	
BAILEY 34I-303 - ORIGINAL WELLBORE - PROPOSAL	17,685.9	11,874.4	140.5	19.3	1.159 Level 2, CC, ES, SF	
EXIST DD LOEFFLER C 10-30 - Wellbore #1 - Wellbore	17,685.9	6,804.6	998.1	674.0	3.080 CC, ES, SF	
EXIST HZ OREDIGGER C10-69HN - Wellbore #1 - Wellbore	17,685.9	6,701.7	1,237.7	917.9	3.871 CC, ES, SF	
EXIST VERT ATKINSON-GALE 3-13 - Wellbore #1 - Wellbore	17,685.9	6,689.1	948.9	640.8	3.080 CC, ES, SF	
EXIST VERT DONES 1 - Wellbore #1 - Wellbore #1	17,685.9	6,711.6	1,204.9	896.0	3.900 CC, ES, SF	
EXIST VERT MILLAGE 12-3 - Wellbore #1 - Wellbore #1	17,685.9	6,741.7	2,083.6	1,775.0	6.752 CC, ES, SF	
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	17,205.7	6,525.0	2,279.3	1,985.1	7.749 CC	
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	17,300.0	6,525.0	2,281.2	1,984.4	7.687 ES	
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	17,685.9	6,525.0	2,329.3	2,021.7	7.573 SF	
EXIST VERT WILMOTH 1 - Wellbore #1 - Wellbore #1	17,060.0	6,746.8	341.4	50.3	1.173 Level 2, CC, ES, SF	
EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore #	17,250.0	6,756.7	1,058.3	761.9	3.571 CC	
EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore #	17,300.0	6,757.4	1,059.4	761.7	3.558 ES	
EXIST VERT WILMOTH 4-9I4 - Wellbore #1 - Wellbore #	17,400.0	6,758.9	1,068.8	768.3	3.557 SF	
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	17,595.5	6,725.3	222.2	-83.4	0.727 Level 1, CC	
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	17,600.0	6,725.3	222.3	-83.5	0.727 Level 1, 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	-72.74	1,242.6	-4,000.3	4,188.9				
100.0	100.0	151.5	151.5	0.1	0.0	-72.74	1,242.7	-4,000.1	4,188.7	4,188.6	0.09	N/A	
200.0	200.0	248.8	248.8	0.3	0.0	-72.74	1,242.8	-4,000.0	4,188.6	4,188.3	0.33	N/A	
300.0	300.0	345.1	345.1	0.5	0.1	-72.74	1,243.0	-3,999.8	4,188.5	4,187.9	0.65	6,426.156	
300.5	300.5	345.5	345.5	0.5	0.1	-72.74	1,243.0	-3,999.8	4,188.5	4,187.9	0.65	6,407.439	

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