



Project: WELD COUNTY, COLORADO (TRUE)
 Site: SW NE SEC. 8 T4N R64W 6th P.M. (HEN)
 Well: HEN 12NHS
 Wellbore: ORIGINAL WELLBORE
 Design: PROPOSAL #3 U
 Lat: 40° 19' 40.667 N
 Long: 104° 34' 20.436 W
 GL: 4779.0
 KB: KB 23ft @ 4802.0usft

Azimuths to True North
 Magnetic North: 7.76°
 Magnetic Field
 Strength: 51952.4nT
 Dip Angle: 66.63°
 Date: 4/21/2021
 Model: IGRF2000

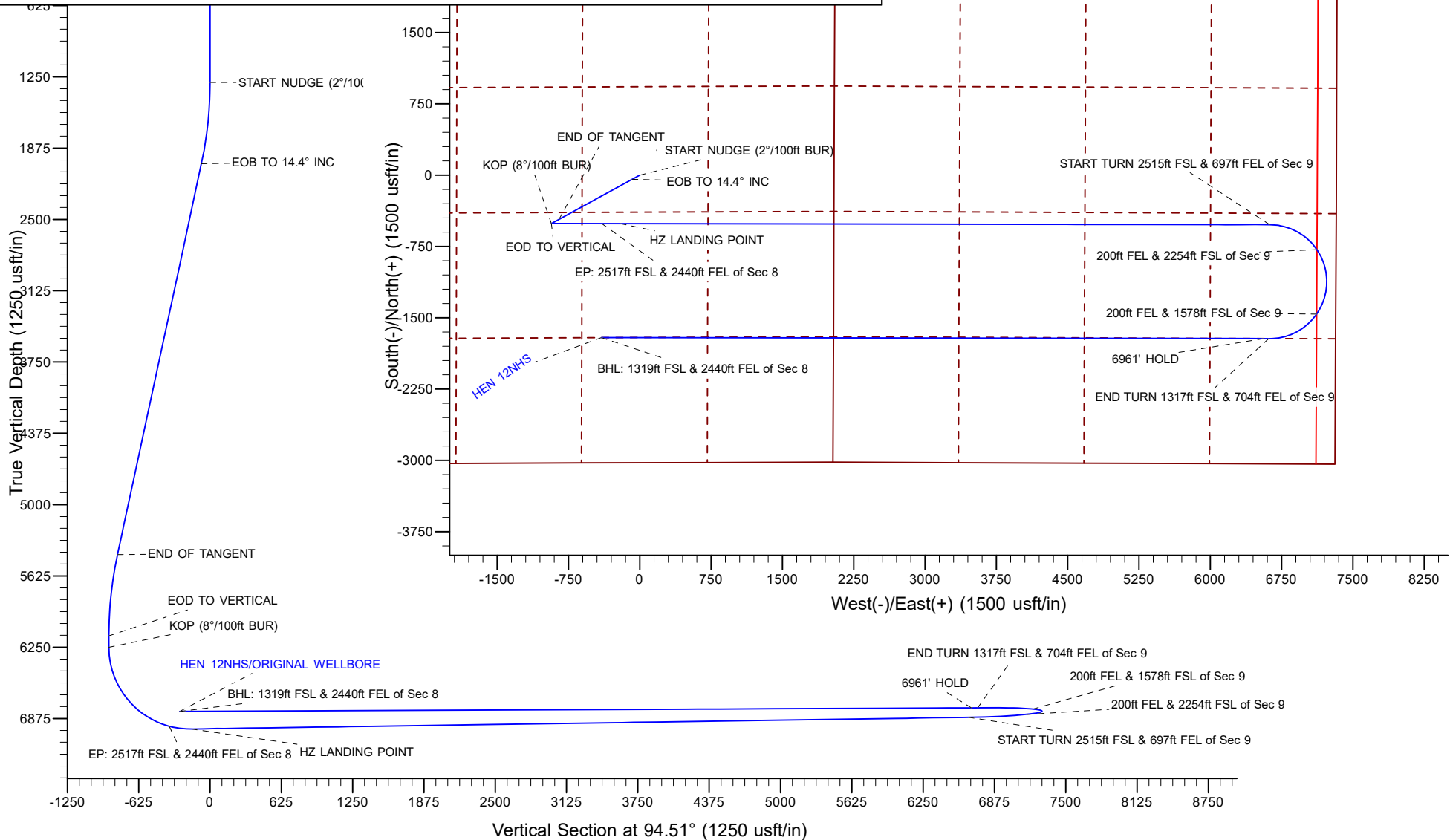
WELL DETAILS: HEN 12NHS

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	1363670.62	3258631.84	40° 19' 40.667 N	104° 34' 20.436 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
1300.0	0.00	0.00	1300.0	0.0	0.0	0.00	0.00	0.0	START NUDDGE (2°/100ft BUR)
2019.8	14.40	241.29	2012.3	-43.2	-78.9	2.00	241.29	-75.3	EOB TO 14.4° INC
5557.2	14.40	241.29	5438.6	-465.7	-850.3	0.00	0.00	-811.1	END OF TANGENT
6277.0	0.00	0.00	6150.9	-508.9	-929.2	2.00	180.00	-886.4	EOD TO VERTICAL
6377.0	0.00	0.00	6250.9	-508.9	-929.2	0.00	0.00	-886.4	KOP (8°/100ft BUR)
7314.6	75.00	90.10	6942.7	-509.8	-398.4	8.00	90.10	-357.1	EP: 2517ft FSL & 2440ft FEL of Sec 8
7512.8	90.86	90.10	6967.0	-510.2	-202.2	8.00	0.00	-161.5	HZ LANDING POINT
14341.9	90.86	90.10	6864.6	-522.2	6626.0	0.00	0.00	6646.6	START TURN 2515ft FSL & 697ft FEL of Sec 9
16238.2	89.08	270.97	6781.0	-1720.6	6613.5	9.54	86.00	6728.2	END TURN 1317ft FSL & 704ft FEL of Sec 9
16293.3	89.74	270.10	6781.6	-1720.0	6558.4	2.00	-52.82	6673.3	6961' HOLD
23254.7	89.74	270.10	6812.6	-1708.3	-402.9	0.00	0.00	-267.4	BHL: 1319ft FSL & 2440ft FEL of Sec 8

Plan: PROPOSAL #3 U (HEN 12NHS/ORIGINAL WELLBORE)
 Created By: Mike Mataalii Date: 8:26, February 13 2023



PDC Energy Inc.
Anticollision Summary Report

Company:	PDC ENERGY Derrick	Local Co-ordinate Reference:	Well HEN 12NHS
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23ft @ 4802.0usft
Reference Site:	SW NE SEC. 8 T4N R64W 6th P.M. (HEN)	MD Reference:	KB 23ft @ 4802.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	HEN 12NHS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.15 Single User Db
Reference Design:	PROPOSAL #3 U	Offset TVD Reference:	Offset Datum

Reference	PROPOSAL #3 U		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 2,500.0 usft	Error Surface:	Ellipsoid Separation
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	2/9/2023		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	23,254.7	PROPOSAL #3 U (ORIGINAL WELLBORE)	MWD+IFR1+SAG+MS	OWSG MWD + IFR1 + Sag + Multi-Station Correction

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SW NE SEC. 8 T4N R64W 6th P.M. (HEN)						
ABDN DD ALTER C 16-28D - Wellbore #1 - Wellbore #1	18,299.9	7,162.5	1,316.6	1,159.6	8.386	CC, ES, SF
ABDN DD ALTER C 16-29D - ORIGINAL WELLBORE - W	19,445.1	6,864.9	1,380.2	1,234.5	9.468	CC, ES, SF
ABDN DD ALTER C 16-29D - SIDETRACK - SIDETRACK	19,735.1	6,828.8	1,117.8	973.1	7.724	CC, ES, SF
ABDN HZ FRANKLIN C08-62HNX - ORIGINAL WELLBO	22,016.1	10,756.0	706.9	435.5	2.605	CC, ES, SF
ABDN HZ FRANKLIN C08-62HNX - SIDETRACK - SIDE	22,005.7	10,803.0	603.9	335.1	2.247	CC, ES, SF
ABDN VERT CONQUEST SWD 1-8 - Wellbore #1 - Desig	21,032.0	6,715.7	791.1	515.0	2.865	CC, ES, SF
ABDN VERT COX 8-1 - Wellbore #1 - Wellbore #1	2,885.4	2,802.4	1,992.1	1,980.9	178.632	CC
ABDN VERT COX 8-1 - Wellbore #1 - Wellbore #1	3,000.0	2,911.9	1,992.3	1,980.7	171.384	ES
ABDN VERT COX 8-1 - Wellbore #1 - Wellbore #1	7,050.0	6,930.0	2,232.7	2,205.4	81.946	SF
ABDN VERT COX PM C 8-4 - Wellbore #1 - Wellbore #1						Out of range
ABDN VERT COX PM C 8-5 - Wellbore #1 - Wellbore #1	6,385.6	6,273.4	2,020.6	1,995.5	80.809	CC, ES
ABDN VERT COX PM C 8-5 - Wellbore #1 - Wellbore #1	6,550.0	6,439.5	2,036.8	2,011.3	79.882	SF
ABDN VERT GEHRING 8-1514 - Wellbore #1 - Wellbore #	22,432.6	6,738.1	264.7	107.6	1.684	CC, ES, SF
ABDN VERT GEHRING C 8-10X - Wellbore #1 - Wellbore	6,949.0	6,927.9	383.3	354.8	13.476	CC, ES
ABDN VERT GEHRING C 8-10X - Wellbore #1 - Wellbore	22,921.7	6,782.0	815.9	654.0	5.039	SF
ABDN VERT HAGEN 9-16 - Wellbore #1 - Design #1	16,395.5	6,650.0	848.4	611.4	3.579	CC, ES, SF
ABDN VERT HEISER 1 - Wellbore #1 - Design #1	7,793.6	6,918.8	535.7	369.7	3.226	CC
ABDN VERT HEISER 1 - Wellbore #1 - Design #1	22,775.3	6,766.5	662.7	368.3	2.251	ES, SF
ABDN VERT LEVI C 5-15 - Wellbore #1 - Wellbore #1						Out of range
ABDN VERT REINICK 1 - Wellbore #1 - Wellbore #1	13,944.6	6,742.5	1,113.4	1,022.2	12.201	CC, ES
ABDN VERT REINICK 1 - Wellbore #1 - Wellbore #1	14,000.0	6,741.5	1,114.8	1,023.0	12.146	SF
ABDN VERT REINICK 2 - Wellbore #1 - Wellbore #1	13,022.1	6,756.5	2,057.1	1,976.5	25.532	CC, ES
ABDN VERT REINICK 2 - Wellbore #1 - Wellbore #1	13,300.0	6,754.6	2,075.8	1,992.8	24.995	SF
ABDN VERT REINICK 9-7 - Wellbore #1 - Design #1	12,897.3	6,787.2	643.2	429.9	3.015	CC
ABDN VERT REINICK 9-7 - Wellbore #1 - Design #1	12,900.0	6,787.1	643.2	429.9	3.015	ES, SF
ABDN VERT RICHARDSON 10-12 - Wellbore #1 - Wellb	15,304.6	6,670.5	792.9	763.8	27.318	CC, ES
ABDN VERT RICHARDSON 10-12 - Wellbore #1 - Wellb	15,700.0	6,659.6	989.1	942.2	21.095	SF
ABDN VERT RUFF 1 - Wellbore #1 - Design #1	100.0	70.3	1,595.6	1,594.6	1,626.871	CC
ABDN VERT RUFF 1 - Wellbore #1 - Design #1	1,400.0	1,370.4	1,596.6	1,564.6	49.940	ES
ABDN VERT RUFF 1 - Wellbore #1 - Design #1	8,000.0	6,930.1	2,106.7	1,939.4	12.591	SF
ABDN VERT RYANN STATE C 16-27 - Wellbore #1 - We	16,953.8	6,710.7	1,527.5	1,418.5	14.008	CC, ES
ABDN VERT RYANN STATE C 16-27 - Wellbore #1 - We	17,000.0	6,710.3	1,528.2	1,419.0	13.994	SF
ABDN VERT RYDGREN 8-1 - Wellbore #1 - Wellbore #1	6,383.3	6,286.6	1,789.1	1,765.0	74.442	CC, ES
ABDN VERT RYDGREN 8-1 - Wellbore #1 - Wellbore #1	23,254.7	6,845.3	2,320.9	2,269.5	45.143	SF
ABDN VERT SLEDGE C 9-28 - Wellbore #1 - Design #1						Out of range
ABDN VERT SLEDGE C 9-29 - Wellbore #1 - Design #1						Out of range
ABDN VERT SMITH 1 - Wellbore #1 - Design #1	10,411.4	6,879.5	2,091.7	1,904.5	11.175	CC, ES

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

PDC Energy Inc.
Anticollision Summary Report

Company:	PDC ENERGY Derrick	Local Co-ordinate Reference:	Well HEN 12NHS
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23ft @ 4802.0usft
Reference Site:	SW NE SEC. 8 T4N R64W 6th P.M. (HEN)	MD Reference:	KB 23ft @ 4802.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	HEN 12NHS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.15 Single User Db
Reference Design:	PROPOSAL #3 U	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
SW NE SEC. 8 T4N R64W 6th P.M. (HEN)						
ABDN VERT SMITH 1 - Wellbore #1 - Design #1	10,600.0	6,876.7	2,100.2	1,911.2	11.113	SF
ABDN VERT SMITH 2 - Wellbore #1 - Design #1	11,744.3	6,846.5	2,061.4	1,860.2	10.245	CC, ES
ABDN VERT SMITH 2 - Wellbore #1 - Design #1	11,900.0	6,844.1	2,067.3	1,864.5	10.195	SF
ABDN VERT SMITH 3 - Wellbore #1 - Design #1	11,732.6	6,834.0	899.3	698.4	4.478	CC, ES
ABDN VERT SMITH 3 - Wellbore #1 - Design #1	11,800.0	6,832.9	901.8	700.4	4.477	SF
ABDN VERT STATE 16-214 - Wellbore #1 - Wellbore #1	17,792.7	6,650.5	2,209.6	2,094.0	19.109	CC
ABDN VERT STATE 16-214 - Wellbore #1 - Wellbore #1	17,800.0	6,650.5	2,209.7	2,094.0	19.102	ES
ABDN VERT STATE 16-214 - Wellbore #1 - Wellbore #1	17,900.0	6,650.4	2,212.2	2,096.1	19.048	SF
ABDN VERT THEA C 09-32 - Wellbore #1 - Wellbore #1	9,870.3	6,868.0	130.2	84.8	2.869	CC, ES, SF
EXIST DD ALTER C 09-24D - Wellbore #1 - Wellbore #1	18,091.4	7,226.5	24.2	-118.4	0.170	Level 1, CC, ES, SF
EXIST DD ALTER C 09-33D - Wellbore #1 - Wellbore #1	20,875.4	6,846.8	18.3	-132.4	0.121	Level 1, CC, ES, SF
EXIST DD BURMAN C 04-33D - Wellbore #1 - Wellbore						Out of range
EXIST DD BURMAN C 05-23D - Wellbore #1 - Wellbore						Out of range
EXIST DD BURMAN C05-24D - Wellbore #1 - Wellbore #						Out of range
EXIST DD NGL C1C - Wellbore #1 - Wellbore #1						Out of range
EXIST DD RUFF C 08-27D - Wellbore #1 - Wellbore #1	700.0	673.0	1,975.5	1,972.5	651.063	CC
EXIST DD RUFF C 08-27D - Wellbore #1 - Wellbore #1	1,000.0	965.0	1,976.6	1,971.9	422.048	ES
EXIST DD RUFF C 08-27D - Wellbore #1 - Wellbore #1	3,200.0	2,818.5	2,467.6	2,449.8	138.081	SF
EXIST DD SLEDGE C 9-30D - Wellbore #1 - Wellbore #1						Out of range
EXIST HZ CHALLENGER 1N - ORIGINAL WELLBORE -	0.0	0.0	1,230.1			
EXIST HZ CHALLENGER 1N - ORIGINAL WELLBORE -	200.0	188.0	1,230.2	1,229.5	1,802.407	ES
EXIST HZ CHALLENGER 1N - ORIGINAL WELLBORE -	5,400.0	4,865.1	2,479.7	2,448.1	78.563	SF
EXIST HZ CHALLENGER 1N - SIDETRACK - SIDETRAC	0.0	0.0	1,230.1			
EXIST HZ CHALLENGER 1N - SIDETRACK - SIDETRAC	200.0	188.0	1,230.2	1,229.5	1,802.407	ES
EXIST HZ CHALLENGER 1N - SIDETRACK - SIDETRAC	5,400.0	4,865.1	2,479.7	2,448.1	78.563	SF
EXIST HZ CHALLENGER 2N - Wellbore #1 - Wellbore #1	306.2	297.7	1,217.7	1,216.4	909.610	CC
EXIST HZ CHALLENGER 2N - Wellbore #1 - Wellbore #1	400.0	377.7	1,218.1	1,216.2	662.982	ES
EXIST HZ CHALLENGER 2N - Wellbore #1 - Wellbore #1	7,000.0	6,976.0	2,413.2	2,371.7	58.146	SF
EXIST HZ CHALLENGER 3N - Wellbore #1 - Wellbore #1	208.0	199.2	1,207.2	1,206.5	1,570.391	CC
EXIST HZ CHALLENGER 3N - Wellbore #1 - Wellbore #1	500.0	481.2	1,207.6	1,205.2	502.155	ES
EXIST HZ CHALLENGER 3N - Wellbore #1 - Wellbore #1	6,950.0	6,703.1	2,160.1	2,120.4	54.338	SF
EXIST HZ CHALLENGER 4N - Wellbore #1 - Wellbore #1	0.0	0.0	1,196.6			
EXIST HZ CHALLENGER 4N - Wellbore #1 - Wellbore #1	300.0	284.6	1,197.7	1,196.4	934.552	ES
EXIST HZ CHALLENGER 4N - Wellbore #1 - Wellbore #1	7,050.0	6,756.0	1,873.3	1,833.8	47.417	SF
EXIST HZ CHALLENGER 5N - Wellbore #1 - Wellbore #1	2,272.4	2,231.0	1,157.6	1,145.2	92.665	CC
EXIST HZ CHALLENGER 5N - Wellbore #1 - Wellbore #1	2,300.0	2,255.3	1,157.7	1,145.0	91.440	ES
EXIST HZ CHALLENGER 5N - Wellbore #1 - Wellbore #1	6,950.0	6,659.0	1,671.7	1,633.0	43.258	SF
EXIST HZ CHALLENGER 6N - Wellbore #1 - Wellbore #1	3,088.1	3,062.1	1,131.5	1,114.3	65.599	CC
EXIST HZ CHALLENGER 6N - Wellbore #1 - Wellbore #1	3,100.0	3,072.6	1,131.5	1,114.2	65.331	ES
EXIST HZ CHALLENGER 6N - Wellbore #1 - Wellbore #1	6,850.0	6,682.6	1,398.5	1,359.8	36.224	SF
EXIST HZ CHALLENGER 7N - Wellbore #1 - Wellbore #1	3,765.0	3,782.4	873.5	851.7	39.953	CC, ES
EXIST HZ CHALLENGER 7N - Wellbore #1 - Wellbore #1	23,254.7	6,577.7	2,376.1	2,201.4	13.601	SF
EXIST HZ CHALLENGER 7N - Wellbore #1 - Wellbore #1	4,233.8	4,261.9	684.8	659.7	27.253	CC, ES
EXIST HZ CHALLENGER 8N - Wellbore #1 - Wellbore #1	23,254.7	6,634.0	2,090.5	1,915.9	11.973	SF
EXIST HZ CHALLENGER 9N - Wellbore #1 - Wellbore #1	4,291.9	4,308.7	483.7	458.0	18.818	CC
EXIST HZ CHALLENGER 9N - Wellbore #1 - Wellbore #1	4,300.0	4,314.7	483.7	457.9	18.782	ES
EXIST HZ CHALLENGER 9N - Wellbore #1 - Wellbore #1	23,254.7	6,595.1	1,883.3	1,710.9	10.922	SF
EXIST HZ FRANKLIN C17-69HN - Wellbore #1 - Wellbor	21,942.4	10,846.0	1,236.7	965.5	4.560	ES, SF
EXIST HZ FRANKLIN C17-69HN - Wellbore #1 - Wellbor	22,578.7	10,207.9	1,228.8	969.1	4.733	CC
EXIST HZ HAROLD 6X-232 - Wellbore #1 - Wellbore #1						Out of range
EXIST HZ HAROLD 6X-302 - Wellbore #1 - Wellbore #1						Out of range
EXIST HZ HAROLD 6Y-202 - Wellbore #1 - Wellbore #1						Out of range
EXIST HZ HAROLD 6Y-312 - Wellbore #1 - Wellbore #1						Out of range

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

PDC Energy Inc.
Anticollision Summary Report

Company:	PDC ENERGY Derrick	Local Co-ordinate Reference:	Well HEN 12NHS
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23ft @ 4802.0usft
Reference Site:	SW NE SEC. 8 T4N R64W 6th P.M. (HEN)	MD Reference:	KB 23ft @ 4802.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	HEN 12NHS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.15 Single User Db
Reference Design:	PROPOSAL #3 U	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
SW NE SEC. 8 T4N R64W 6th P.M. (HEN)						
EXIST HZ JAGGED 10N - Wellbore #1 - Wellbore #1	23,254.7	6,631.1	769.6	625.2	5.332	CC, ES, SF
EXIST HZ JAGGED 11N - Wellbore #1 - Wellbore #1	23,254.7	6,694.7	934.1	769.9	5.686	CC, ES, SF
EXIST HZ JAGGED 12N - Wellbore #1 - Wellbore #1	23,254.7	6,605.5	1,156.6	993.9	7.106	CC, ES, SF
EXIST HZ JAGGED 1N - Wellbore #1 - Wellbore #1	4,335.3	4,299.2	86.3	57.0	2.943	CC, ES, SF
EXIST HZ JAGGED 2N - Wellbore #1 - Wellbore #1	4,569.9	4,519.8	20.0	-9.6	0.675	Level 1, CC, ES, SF
EXIST HZ JAGGED 3N - Wellbore #1 - Wellbore #1	6,731.3	6,677.1	87.7	49.1	2.274	CC, ES, SF
EXIST HZ JAGGED 4N - Wellbore #1 - Wellbore #1	6,694.0	6,597.9	394.7	356.5	10.335	CC, ES
EXIST HZ JAGGED 4N - Wellbore #1 - Wellbore #1	23,254.7	6,625.8	948.4	797.3	6.277	SF
EXIST HZ JAGGED 5N - Wellbore #1 - Wellbore #1	6,759.1	6,690.9	632.0	593.4	16.354	CC
EXIST HZ JAGGED 5N - Wellbore #1 - Wellbore #1	23,254.7	6,594.1	730.1	592.3	5.299	ES, SF
EXIST HZ JAGGED 6N - Wellbore #1 - Wellbore #1	23,254.7	6,633.0	565.5	458.3	5.272	CC, ES, SF
EXIST HZ JAGGED 7N - Wellbore #1 - Wellbore #1	23,254.7	6,592.6	484.2	408.8	6.419	CC, ES, SF
EXIST HZ JAGGED 8N - Wellbore #1 - Wellbore #1	23,254.7	6,651.0	462.4	388.1	6.224	CC, ES, SF
EXIST HZ JAGGED 9N - Wellbore #1 - Wellbore #1	23,254.7	6,674.5	595.7	476.1	4.983	CC, ES, SF
EXIST HZ MARK ALTER C16-79HN - Wellbore #1 - Well	20,682.1	6,366.8	966.6	826.6	6.902	CC, ES
EXIST HZ MARK ALTER C16-79HN - Wellbore #1 - Well	20,700.0	6,366.3	966.8	826.7	6.900	SF
EXIST HZ NORTHROP C 08-73HN - Wellbore #1 - Wellb	8,448.0	9,110.9	63.6	30.5	1.918	CC
EXIST HZ NORTHROP C 08-73HN - Wellbore #1 - Wellb	22,136.9	10,309.6	77.3	-21.7	0.781	Level 1, ES, SF
EXIST HZ NORTHROP C 08-75HN - Wellbore #1 - Wellb	7,139.4	9,429.6	22.2	-11.5	0.658	Level 1, CC
EXIST HZ NORTHROP C 08-75HN - Wellbore #1 - Wellb	7,150.0	9,429.6	24.6	-15.8	0.609	Level 1, ES, SF
EXIST HZ OREDIGGER C10-69HN - Wellbore #1 - Wellb						Out of range
EXIST HZ SANDY HILLS PC C17-67HN - Wellbore #1 - W						Out of range
EXIST HZ STOCKLEY C15-79HN - Wellbore #1 - Wellbo	15,267.9	13,246.4	196.9	49.5	1.336	Level 3, CC, ES, SF
EXIST HZ ZANE ALTER C 09-21 - Wellbore #1 - Wellbor	12,642.8	7,037.2	572.1	486.3	6.669	CC
EXIST HZ ZANE ALTER C 09-21 - Wellbore #1 - Wellbor	17,929.0	6,759.2	615.1	485.5	4.745	ES, SF
EXIST VERT ALTER C 9-23 - Wellbore #1 - Design #1	16,852.6	6,667.2	85.5	-154.7	0.356	Level 1, CC, ES, SF
EXIST VERT ALTER C 9-25 - Wellbore #1 - Design #1	19,510.3	6,701.5	122.7	-139.0	0.469	Level 1, CC, ES, SF
EXIST VERT AMANDA ALTER C 9-20 - Wellbore #1 - De	11,076.5	6,834.4	28.0	-164.9	0.145	Level 1, CC, ES, SF
EXIST VERT BARTON C 15-29 - Wellbore #1 - Design #	15,550.0	6,651.1	1,973.6	1,773.8	9.875	SF
EXIST VERT BARTON C 15-29 - Wellbore #1 - Design #	15,694.0	6,643.8	1,951.3	1,756.5	10.015	CC, ES
EXIST VERT BENNER 1 - Wellbore #1 - Wellbore #1	9,196.2	6,865.0	756.9	718.1	19.496	CC
EXIST VERT BENNER 1 - Wellbore #1 - Wellbore #1	9,200.0	6,864.9	756.9	718.0	19.478	ES
EXIST VERT BENNER 1 - Wellbore #1 - Wellbore #1	21,500.0	6,711.4	1,955.6	1,808.2	13.271	SF
EXIST VERT CONNELL 14-4 - Wellbore #1 - Wellbore #1						Out of range
EXIST VERT CONNELL 3 - Wellbore #1 - Wellbore #1						Out of range
EXIST VERT CONNELL C 4-25 - Wellbore #1 - Wellbore						Out of range
EXIST VERT COX 8-19D - Wellbore #1 - Design #1	6,377.0	6,238.9	1,849.4	1,700.5	12.422	CC
EXIST VERT COX 8-19D - Wellbore #1 - Design #1	6,400.0	6,261.8	1,849.7	1,700.2	12.379	ES
EXIST VERT COX 8-19D - Wellbore #1 - Design #1	6,650.0	6,505.3	1,882.0	1,727.0	12.143	SF
EXIST VERT COX PM C 8-6 - Wellbore #1 - Wellbore #1	5,303.4	5,174.4	954.0	932.7	44.669	CC, ES
EXIST VERT COX PM C 8-6 - Wellbore #1 - Wellbore #1	23,254.7	6,777.3	2,310.1	2,157.4	15.131	SF
EXIST VERT CPC HARLESS 17-1 - Wellbore #1 - Wellbo	21,573.3	6,680.8	1,887.0	1,738.7	12.726	CC
EXIST VERT CPC HARLESS 17-1 - Wellbore #1 - Wellbo	21,600.0	6,680.7	1,887.2	1,738.7	12.706	ES
EXIST VERT CPC HARLESS 17-1 - Wellbore #1 - Wellbo	21,700.0	6,680.2	1,891.3	1,742.1	12.679	SF
EXIST VERT EMBRICK C 10-19 - Wellbore #1 - Wellbore	14,789.3	6,736.0	2,124.7	2,047.4	27.496	CC
EXIST VERT EMBRICK C 10-19 - Wellbore #1 - Wellbore	14,800.0	6,735.8	2,124.8	2,047.1	27.350	ES
EXIST VERT EMBRICK C 10-19 - Wellbore #1 - Wellbore	15,100.0	6,726.7	2,223.1	2,135.7	25.450	SF
EXIST VERT ENGLAND 8-3-17 - Wellbore #1 - Wellbore	6,382.9	6,269.0	1,351.3	1,327.3	56.207	CC, ES
EXIST VERT ENGLAND 8-3-17 - Wellbore #1 - Wellbore	23,254.7	6,846.9	2,141.8	2,060.2	26.249	SF
EXIST VERT ENGLAND 8-35 - Wellbore #1 - Wellbore #1	6,273.9	6,140.8	1,553.5	1,529.9	65.989	CC
EXIST VERT ENGLAND 8-35 - Wellbore #1 - Wellbore #1	23,254.7	6,798.4	1,555.9	1,526.4	52.720	ES, SF
EXIST VERT GEHRING 1 - Wellbore #1 - Wellbore #1	21,513.6	6,727.4	549.6	401.8	3.720	CC, ES, SF
EXIST VERT GEHRING 8-9I4 - Wellbore #1 - Wellbore #	9,186.5	6,900.1	421.8	383.1	10.876	CC, ES

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

PDC Energy Inc.
Anticollision Summary Report

Company:	PDC ENERGY Derrick	Local Co-ordinate Reference:	Well HEN 12NHS
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23ft @ 4802.0usft
Reference Site:	SW NE SEC. 8 T4N R64W 6th P.M. (HEN)	MD Reference:	KB 23ft @ 4802.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	HEN 12NHS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.15 Single User Db
Reference Design:	PROPOSAL #3 U	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						
SW NE SEC. 8 T4N R64W 6th P.M. (HEN)						
EXIST VERT GEHRING 8-9I4 - Wellbore #1 - Wellbore #	21,400.0	6,746.9	774.4	627.8	5.280	SF
EXIST VERT HAGEN 9-10 - Wellbore #1 - Design #1	17,427.5	6,678.2	470.2	225.6	1.923	CC, ES, SF
EXIST VERT HAGEN 9-15 - Wellbore #1 - Design #1	17,702.2	6,669.2	849.5	603.1	3.448	CC, ES, SF
EXIST VERT HAGEN 9-9 - Wellbore #1 - Wellbore #1	16,513.5	6,638.1	526.2	420.2	4.964	CC, ES, SF
EXIST VERT HARLESS PM C 17-2 - Wellbore #1 - Desig	22,816.0	6,746.7	2,162.5	1,868.1	7.344	CC, ES
EXIST VERT HARLESS PM C 17-2 - Wellbore #1 - Desig	22,900.0	6,747.1	2,164.2	1,869.0	7.331	SF
EXIST VERT JOHNSON 9-11 - Wellbore #1 - Design #1	11,738.7	6,807.1	539.7	339.4	2.694	CC, ES
EXIST VERT JOHNSON 9-11 - Wellbore #1 - Design #1	18,830.7	6,696.4	658.4	402.5	2.573	SF
EXIST VERT JOHNSON 9-13 - Wellbore #1 - Wellbore #	20,118.0	6,729.6	644.6	510.0	4.789	CC, ES, SF
EXIST VERT MCCLINTOCK C 4-15 - Wellbore #1 - Wellb						Out of range
EXIST VERT NGL C1A - Wellbore #1 - Design #1	21,127.2	6,720.1	1,080.2	803.1	3.898	CC, ES, SF
EXIST VERT NGL C1B - Wellbore #1 - Design #1	21,232.3	6,726.6	888.0	609.8	3.191	CC, ES, SF
EXIST VERT REINICK 10-5 - Wellbore #1 - Wellbore #1	14,814.2	6,709.8	1,158.7	1,084.6	15.636	CC
EXIST VERT REINICK 10-5 - Wellbore #1 - Wellbore #1	14,850.0	6,710.0	1,160.3	1,083.9	15.183	ES
EXIST VERT REINICK 10-5 - Wellbore #1 - Wellbore #1	15,050.0	6,709.0	1,226.1	1,138.8	14.059	SF
EXIST VERT REINICK 1-10-4-64 - Wellbore #1 - Wellbor						Out of range
EXIST VERT REINICK 3 - Wellbore #1 - Wellbore #1	14,327.5	6,756.6	2,032.8	1,936.9	21.210	CC
EXIST VERT REINICK 3 - Wellbore #1 - Wellbore #1	14,341.9	6,756.7	2,032.8	1,936.8	21.174	ES
EXIST VERT REINICK 3 - Wellbore #1 - Wellbore #1	14,450.0	6,755.9	2,046.1	1,949.0	21.074	SF
EXIST VERT REINICK C 10-31 - Wellbore #1 - Wellbore	14,458.7	6,773.7	1,427.3	1,331.6	14.908	CC, ES
EXIST VERT REINICK C 10-31 - Wellbore #1 - Wellbore	14,550.0	6,772.1	1,437.1	1,339.4	14.704	SF
EXIST VERT REINICK C 9-18 - Wellbore #1 - Design #1	12,443.0	6,816.3	1,346.2	1,137.6	6.453	CC, ES
EXIST VERT REINICK C 9-18 - Wellbore #1 - Design #1	12,500.0	6,815.4	1,347.4	1,138.2	6.441	SF
EXIST VERT REINICK C 9-22 - Wellbore #1 - Design #1	13,729.2	6,766.7	145.8	-76.9	0.655	Level 1, CC, ES, SF
EXIST VERT REISTAD 1 - Wellbore #1 - Wellbore #1						Out of range
EXIST VERT RICHARDSON 10-13 - Wellbore #1 - Desig	15,550.0	6,649.7	1,259.8	1,059.9	6.303	SF
EXIST VERT RICHARDSON 10-13 - Wellbore #1 - Desig	15,650.0	6,644.4	1,240.0	1,045.7	6.381	ES
EXIST VERT RICHARDSON 10-13 - Wellbore #1 - Desig	15,681.2	6,643.0	1,238.8	1,046.2	6.434	CC
EXIST VERT ROHR 15-4I4 - Wellbore #1 - Wellbore #1	15,750.0	6,647.6	2,243.5	2,152.4	24.622	SF
EXIST VERT ROHR 15-4I4 - Wellbore #1 - Wellbore #1	15,921.9	6,642.7	2,212.7	2,124.7	25.119	CC, ES
EXIST VERT ROHR C 15-19 - Wellbore #1 - Wellbore #1						Out of range
EXIST VERT RUFF 8-1I4 - Wellbore #1 - Wellbore #1	1,341.0	1,326.0	1,642.9	1,637.6	307.708	CC, ES
EXIST VERT RUFF 8-1I4 - Wellbore #1 - Wellbore #1	9,300.0	6,901.2	1,877.6	1,838.8	48.306	SF
EXIST VERT RUFF 8-7I4 - Wellbore #1 - Wellbore #1	346.7	324.6	527.0	525.7	398.294	CC
EXIST VERT RUFF 8-7I4 - Wellbore #1 - Wellbore #1	500.0	475.6	527.3	525.4	269.503	ES
EXIST VERT RUFF 8-7I4 - Wellbore #1 - Wellbore #1	22,600.0	6,746.7	2,112.7	1,954.6	13.367	SF
EXIST VERT RUFF C 8-1 - Wellbore #1 - Design #1	9,387.8	6,909.9	2,282.9	2,105.4	12.862	CC
EXIST VERT RUFF C 8-1 - Wellbore #1 - Design #1	9,400.0	6,909.7	2,282.9	2,105.3	12.854	ES
EXIST VERT RUFF C 8-1 - Wellbore #1 - Design #1	9,600.0	6,906.7	2,292.7	2,113.4	12.782	SF
EXIST VERT RYANN STATE C 16-1 - Wellbore #1 - Well	16,404.7	6,523.5	2,042.0	1,936.6	19.364	CC, ES
EXIST VERT RYANN STATE C 16-1 - Wellbore #1 - Well	16,500.0	6,526.2	2,044.2	1,938.5	19.339	SF
EXIST VERT RYDGREN 8-31 - Wellbore #1 - Wellbore #	6,224.0	6,057.0	577.1	553.1	23.992	CC, ES
EXIST VERT RYDGREN 8-31 - Wellbore #1 - Wellbore #	23,254.7	6,771.6	917.1	808.4	8.442	SF
EXIST VERT SLEDGE C 9-31 - Wellbore #1 - Design #1	9,955.8	6,877.0	1,345.1	1,162.7	7.375	CC, ES
EXIST VERT SLEDGE C 9-31 - Wellbore #1 - Design #1	10,000.0	6,876.3	1,345.9	1,163.0	7.362	SF
EXIST VERT SMITH 9-5 - Wellbore #1 - Design #1	10,610.2	6,856.8	603.5	414.7	3.196	CC, ES, SF
EXIST VERT SMITH C 9-19 - Wellbore #1 - Design #1	11,189.9	6,862.8	1,801.7	1,606.4	9.225	CC
EXIST VERT SMITH C 9-19 - Wellbore #1 - Design #1	11,200.0	6,862.7	1,801.7	1,606.3	9.220	ES
EXIST VERT SMITH C 9-19 - Wellbore #1 - Design #1	11,300.0	6,861.2	1,805.1	1,608.7	9.190	SF
EXIST VERT STATE 16-3I4 - Wellbore #1 - Design #1	18,844.3	6,682.2	1,773.0	1,517.3	6.933	CC, ES
EXIST VERT STATE 16-3I4 - Wellbore #1 - Design #1	18,900.0	6,682.4	1,773.9	1,517.8	6.927	SF
EXIST VERT STATE 16-4I4 - Wellbore #1 - Design #1	19,566.4	6,692.9	2,442.4	2,180.3	9.317	CC
EXIST VERT STATE 16-4I4 - Wellbore #1 - Design #1	19,600.0	6,693.0	2,442.7	2,180.3	9.308	ES

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

PDC Energy Inc.
Anticollision Summary Report

Company:	PDC ENERGY Derrick	Local Co-ordinate Reference:	Well HEN 12NHS
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23ft @ 4802.0usft
Reference Site:	SW NE SEC. 8 T4N R64W 6th P.M. (HEN)	MD Reference:	KB 23ft @ 4802.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	HEN 12NHS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.15 Single User Db
Reference Design:	PROPOSAL #3 U	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						
SW NE SEC. 8 T4N R64W 6th P.M. (HEN)						
EXIST VERT STATE 16-414 - Wellbore #1 - Design #1	19,700.0	6,693.5	2,446.1	2,183.0	9.298	SF
EXIST VERT VERN JOHNSON 1-A - Wellbore #1 - Design	18,785.2	6,686.2	703.3	448.0	2.755	CC, ES, SF
EXIST VERT VERN JOHNSON 2 - Wellbore #1 - Design	10,412.4	6,844.5	534.9	348.5	2.869	CC, ES
EXIST VERT VERN JOHNSON 2 - Wellbore #1 - Design	20,156.8	6,719.8	663.3	395.3	2.475	SF
EXIST VERT WILMOTH 1 - Wellbore #1 - Wellbore #1						Out of range
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore						Out of range
EXIST VERT WILMOTH C 4-23 - Wellbore #1 - Wellbore						Out of range
EXIST VERT WILMOTH C 4-24 - Wellbore #1 - Wellbore						Out of range
EXIST VERT WILMOTH C 9-27 - Wellbore #1 - Wellbore						Out of range
HEN 01N - ORIGINAL WELLBORE - PROPOSAL #2	300.0	300.0	165.0	163.3	96.477	CC, ES
HEN 01N - ORIGINAL WELLBORE - PROPOSAL #2	1,100.0	1,043.1	263.3	256.2	36.835	SF
HEN 02N - ORIGINAL WELLBORE - PROPOSAL #2	400.0	400.0	150.0	147.6	61.806	CC, ES
HEN 02N - ORIGINAL WELLBORE - PROPOSAL #2	14,500.0	14,674.4	2,417.0	2,224.3	12.543	SF
HEN 03N - ORIGINAL WELLBORE - PROPOSAL #2	500.0	500.0	135.0	131.8	42.937	CC, ES
HEN 03N - ORIGINAL WELLBORE - PROPOSAL #2	14,500.0	14,542.1	2,179.2	1,986.7	11.316	SF
HEN 04N - ORIGINAL WELLBORE - PROPOSAL #2	600.0	600.0	120.0	116.1	31.075	CC, ES
HEN 04N - ORIGINAL WELLBORE - PROPOSAL #2	14,500.0	14,544.7	1,937.7	1,745.1	10.061	SF
HEN 05N - ORIGINAL WELLBORE - PROPOSAL #2	700.0	700.0	105.0	100.4	22.930	CC, ES
HEN 05N - ORIGINAL WELLBORE - PROPOSAL #2	14,450.0	14,374.0	1,689.5	1,498.3	8.835	SF
HEN 06NHS - ORIGINAL WELLBORE - PROPOSAL #3	716.3	717.3	90.0	85.3	19.148	CC
HEN 06NHS - ORIGINAL WELLBORE - PROPOSAL #3	14,342.6	16,185.0	250.4	68.9	1.379	Level 3, ES, SF
HEN 07N - ORIGINAL WELLBORE - PROPOSAL #2	900.0	900.0	75.0	69.0	12.473	CC, ES
HEN 07N - ORIGINAL WELLBORE - PROPOSAL #2	14,450.0	14,300.7	1,210.9	1,020.0	6.342	SF
HEN 08 - ORIGINAL WELLBORE - PROPOSAL #2	1,000.0	1,000.0	60.0	53.3	8.918	CC
HEN 08 - ORIGINAL WELLBORE - PROPOSAL #2	1,100.0	1,099.1	60.7	53.3	8.162	ES
HEN 08 - ORIGINAL WELLBORE - PROPOSAL #2	14,400.0	14,303.0	961.3	771.3	5.058	SF
HEN 09N - ORIGINAL WELLBORE - PROPOSAL #2	1,100.0	1,100.0	45.0	37.6	6.044	CC
HEN 09N - ORIGINAL WELLBORE - PROPOSAL #2	1,200.0	1,199.7	45.3	37.2	5.561	ES
HEN 09N - ORIGINAL WELLBORE - PROPOSAL #2	14,400.0	14,252.5	726.1	537.2	3.845	SF
HEN 10N - ORIGINAL WELLBORE - PROPOSAL #2	1,300.0	1,300.0	30.0	21.1	3.378	CC, ES
HEN 10N - ORIGINAL WELLBORE - PROPOSAL #2	14,400.0	14,344.1	481.9	291.7	2.534	SF
HEN 11N - ORIGINAL WELLBORE - PROPOSAL #2	1,300.0	1,300.0	15.0	6.1	1.691	CC, ES
HEN 11N - ORIGINAL WELLBORE - PROPOSAL #2	14,350.0	14,247.4	251.2	80.1	1.469	Level 3, SF
HEN 12NHS - ORIGINAL WELLBORE - PROPOSAL #1	1,300.0	1,300.0	0.0	-5.1	0.000	Level 1, CC, SF
HEN 12NHS - ORIGINAL WELLBORE - PROPOSAL #1	14,400.0	14,342.1	2.5	-239.9	0.010	Level 1, ES
HEN 12NHS - ORIGINAL WELLBORE - PROPOSAL #2	1,300.0	1,300.0	0.0	-5.1	0.000	Level 1, CC, SF
HEN 12NHS - ORIGINAL WELLBORE - PROPOSAL #2	14,300.0	14,300.0	0.0	-277.1	0.000	Level 1, ES
HEN 13N - ORIGINAL WELLBORE - PROPOSAL #2	1,200.0	1,200.0	15.0	6.8	1.838	CC
HEN 13N - ORIGINAL WELLBORE - PROPOSAL #2	14,950.0	14,796.7	66.5	-27.4	0.708	Level 1, ES, SF
HEN 14N - ORIGINAL WELLBORE - PROPOSAL #1	1,100.0	1,100.0	30.0	24.0	4.955	CC
HEN 14N - ORIGINAL WELLBORE - PROPOSAL #1	14,950.0	14,856.5	199.2	-69.8	0.740	Level 1, ES, SF
HEN 15N - ORIGINAL WELLBORE - PROPOSAL #2	1,000.0	1,000.0	45.0	38.3	6.686	CC
HEN 15N - ORIGINAL WELLBORE - PROPOSAL #2	15,600.0	14,877.7	181.6	3.8	1.022	Level 2, ES, SF
HEN 16N - ORIGINAL WELLBORE - PROPOSAL #2	900.0	900.0	60.0	53.9	9.974	CC
HEN 16N - ORIGINAL WELLBORE - PROPOSAL #2	15,650.0	14,962.9	63.1	-19.3	0.766	Level 1, ES, SF
HEN 18N - ORIGINAL WELLBORE - PROPOSAL #2	700.0	700.0	90.0	85.4	19.655	CC
HEN 18N - ORIGINAL WELLBORE - PROPOSAL #2	23,254.7	7,555.5	245.5	67.8	1.382	Level 3, ES, SF
HEN 19N - ORIGINAL WELLBORE - PROPOSAL #2	600.0	600.0	105.0	101.1	27.193	CC, ES
HEN 19N - ORIGINAL WELLBORE - PROPOSAL #2	16,228.9	14,596.5	479.4	283.2	2.444	SF
HEN 20NA - ORIGINAL WELLBORE - PROPOSAL #2	500.0	499.0	120.0	116.8	38.201	CC, ES
HEN 20NA - ORIGINAL WELLBORE - PROPOSAL #2	16,228.5	14,618.5	721.2	525.4	3.684	SF
HEN 21N - ORIGINAL WELLBORE - PROPOSAL #2	400.0	399.0	135.0	132.5	55.697	CC, ES
HEN 21N - ORIGINAL WELLBORE - PROPOSAL #2	16,200.0	14,857.8	961.7	766.3	4.921	SF

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

PDC Energy Inc.
Anticollision Summary Report

Company:	PDC ENERGY Derrick	Local Co-ordinate Reference:	Well HEN 12NHS
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23ft @ 4802.0usft
Reference Site:	SW NE SEC. 8 T4N R64W 6th P.M. (HEN)	MD Reference:	KB 23ft @ 4802.0usft
Site Error:	0.0 usft	North Reference:	True
Reference Well:	HEN 12NHS	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDM 5000.15 Single User Db
Reference Design:	PROPOSAL #3 U	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						
SW NE SEC. 8 T4N R64W 6th P.M. (HEN)						
HEN 22N - ORIGINAL WELLBORE - PROPOSAL #2	300.0	298.0	150.0	148.3	88.080	CC, ES
HEN 22N - ORIGINAL WELLBORE - PROPOSAL #2	16,200.0	14,893.8	1,199.2	1,002.9	6.111	SF

