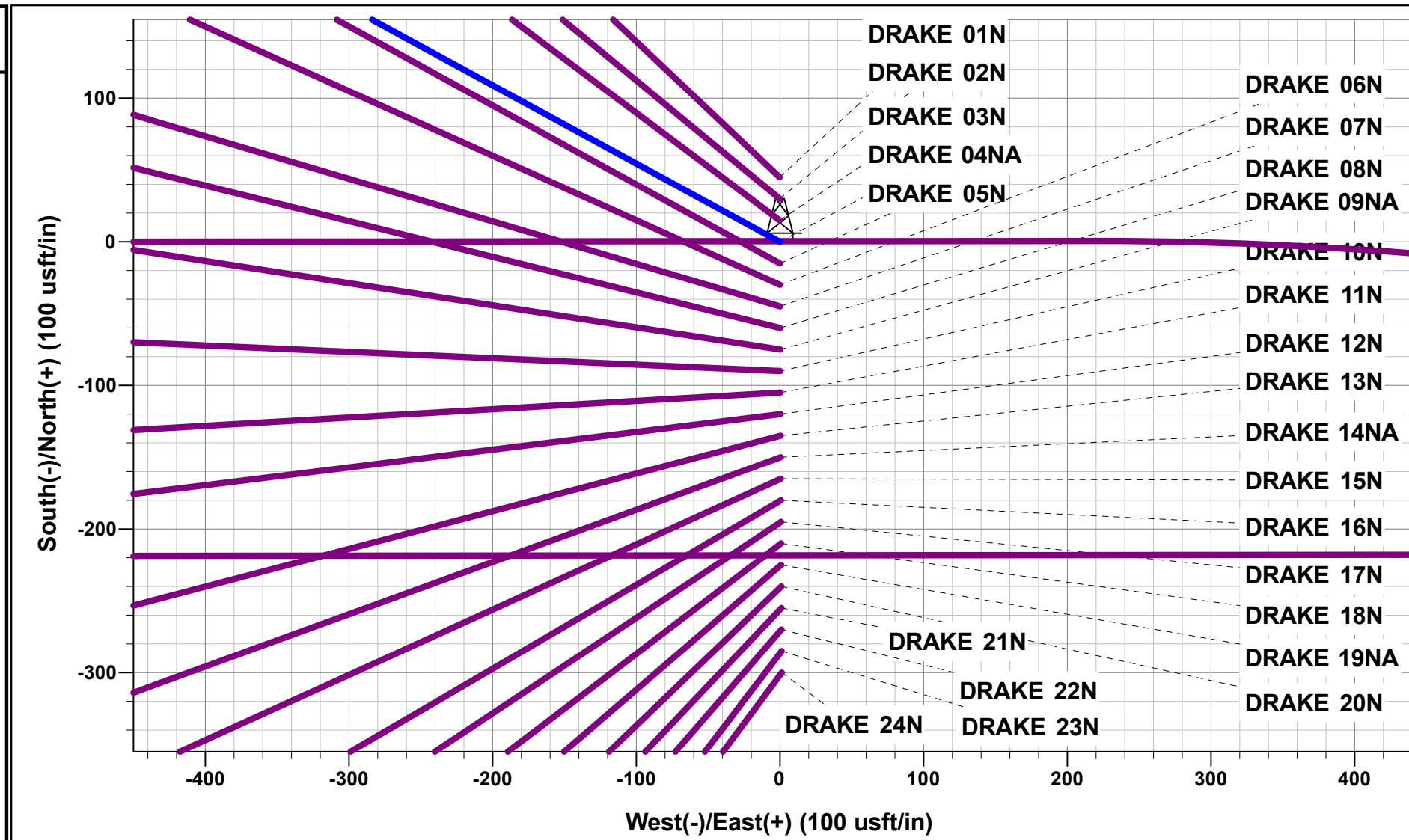




Project: WELD COUNTY, COLORADO (TRUE)
 Site: SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)
 Well: DRAKE 04NA
 Wellbore: ORIGINAL WELLBORE
 Design: PROPOSAL #1

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Vsect	Dep	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL: 2101ft FNL & 1016ft FWL of Sec 17
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	START NUDGE (2.5°/100ft BUR)
1824.00	30.60	298.60	1766.64	152.78	-280.21	-257.00	319.16	EOB TO 30.6° INC
2429.00	30.60	298.60	2287.39	300.20	-550.61	-504.99	627.13	END OF TANGENT
2552.66	30.60	304.68	2393.85	333.18	-604.14	-553.57	690.04	EOT TO 304.68° AZ
5307.53	30.60	304.68	4765.06	1131.03	-1757.44	-1588.48	2092.42	END OF TANGENT
6531.56	0.00	0.00	5931.73	1312.61	-2019.92	-1824.01	2411.59	EOD TO VERTICAL
6634.65	0.00	0.00	6034.82	1312.61	-2019.92	-1824.01	2411.59	KOP (8°/100ft BUR)
7572.15	75.00	89.96	6726.61	1312.98	-1489.09	-1298.00	2942.42	EP: 777ft FNL & 450ft FEL of Sec 18
7764.65	90.40	89.96	6751.00	1313.11	-1298.73	-1109.37	3132.79	HZ LANDING POINT
10536.65	90.40	89.96	6731.64	1315.04	1473.20	1637.40	5904.72	END OF TANGENT
10867.17	90.40	83.35	6729.32	1334.31	1802.97	1966.74	6235.23	EOT TO 83.35° AZ
10967.17	90.40	83.35	6728.62	1345.89	1902.30	2066.73	6335.23	END OF TANGENT
11297.67	90.40	89.96	6726.30	1365.16	2232.04	2396.04	6665.72	EOT TO 89.96° AZ
11629.66	90.40	96.60	6723.99	1346.17	2563.29	2721.69	6997.70	EOT TO 96.6° AZ
11729.66	90.40	96.60	6723.29	1334.68	2662.63	2818.56	7097.70	END OF TANGENT
12061.65	90.41	89.96	6720.96	1315.70	2993.88	3144.22	7429.68	EOT TO 89.96° AZ
16936.65	90.41	89.96	6686.36	1319.10	7868.76	7974.83	12304.56	END OF TANGENT
17271.14	90.41	96.65	6683.98	1299.83	8202.49	8302.91	12639.04	EOT TO 96.65° AZ
17371.14	90.41	96.65	6683.26	1288.25	8301.82	8399.75	12739.04	END OF TANGENT
17705.63	90.41	89.96	6680.86	1268.98	8635.56	8727.83	13073.52	EOT TO 89.96° AZ
18377.70	90.41	89.96	6676.00	1269.42	9307.61	9393.77	13745.57	BHL *NEW*: 826.47ft FNL & 200ft FEL of Sec 16



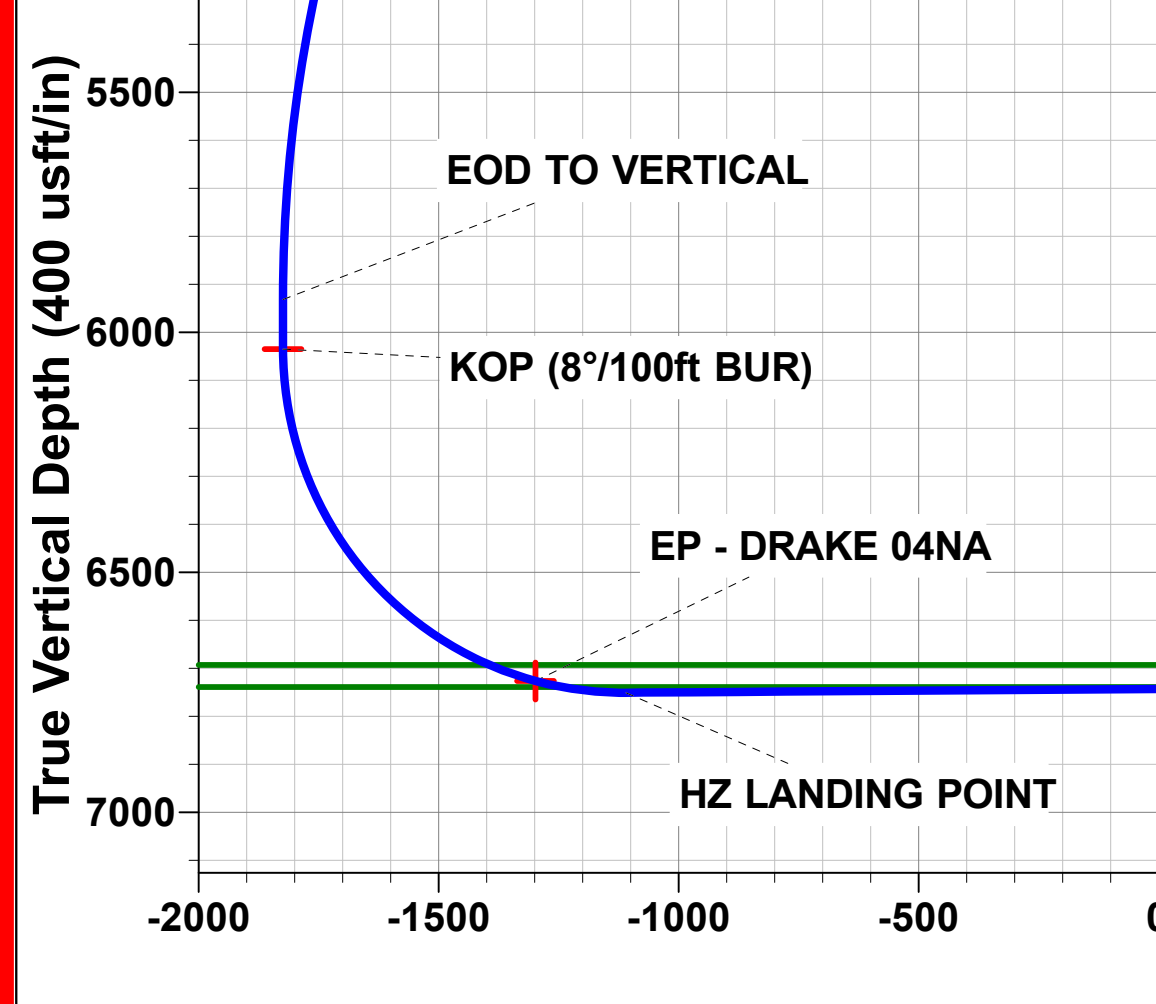
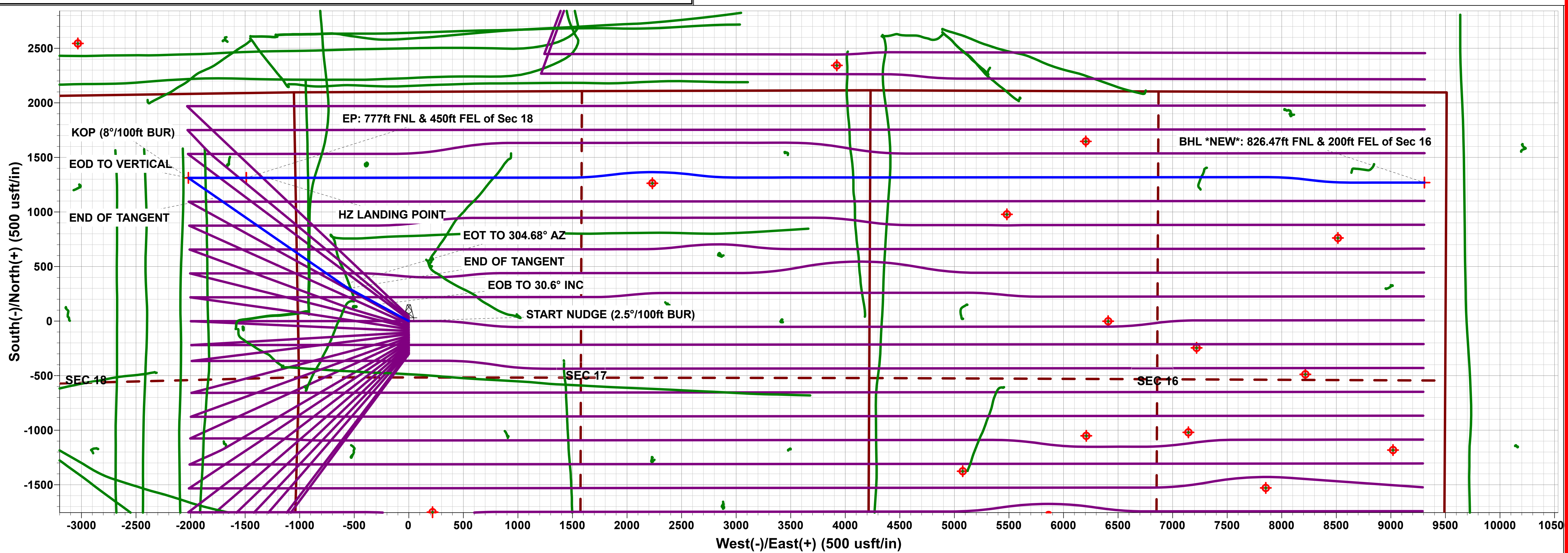
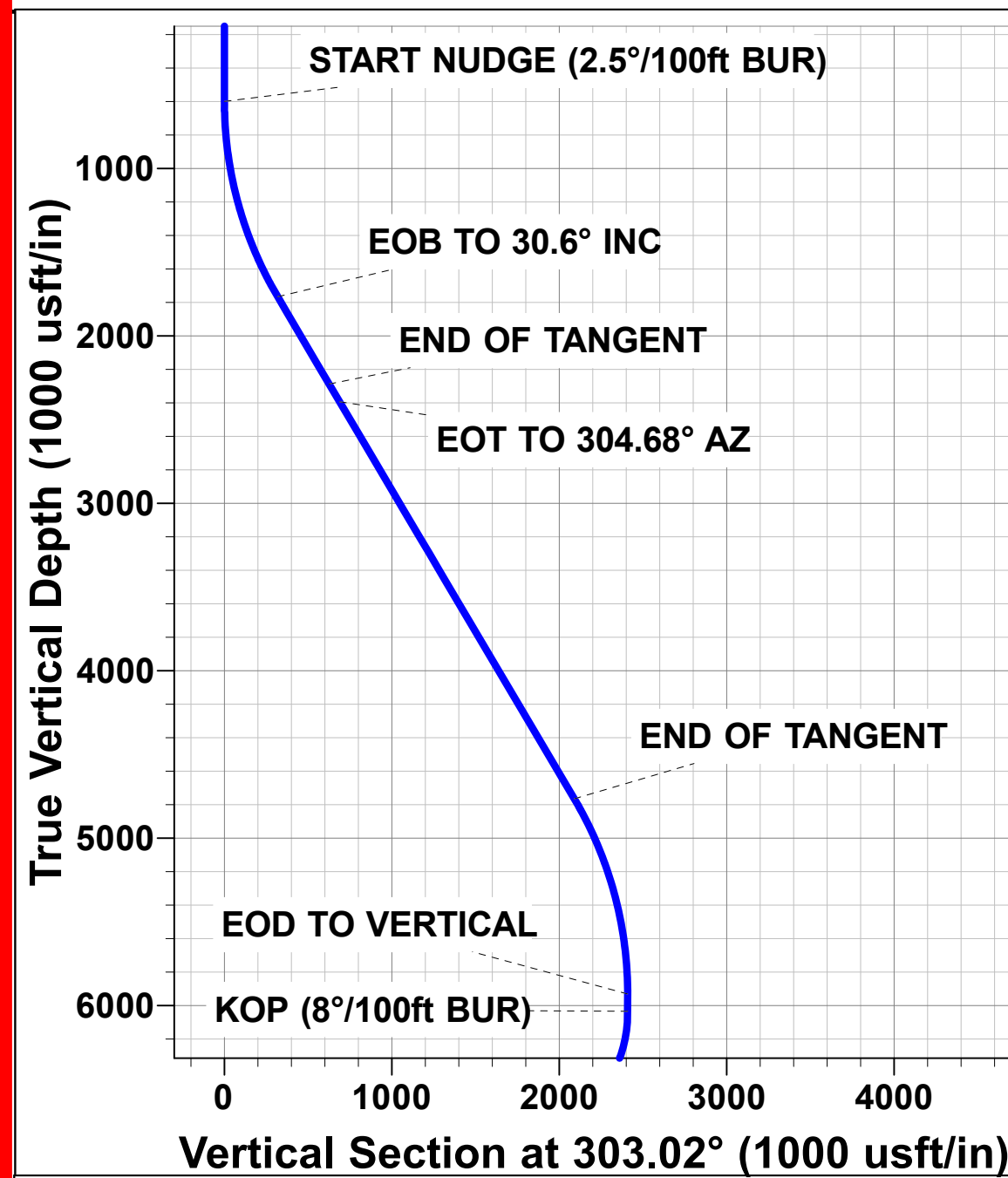
PROPOSED LOCAL COORDINATES:
 SHL: 2101ft FNL & 1016ft FWL of Sec 17
 EP: 777ft FNL & 450ft FEL of Sec 18
 BHL *NEW*: 826.47ft FNL & 200ft FEL of Sec 16

Azimuths to True North
 Magnetic North: 7.75°

Magnetic Field
 Strength: 51935.8nT
 Dip Angle: 66.61°
 Date: 2021-05-21
 Model: IGRF2020

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BHL *NEW* - DRAKE 04NA	6676.00	1269.42	9307.61	1359879.15	3265779.26	40.317348	-104.546855
EP - DRAKE 04NA	6726.61	1312.98	-1489.09	1359810.72	3254983.15	40.317472	-104.585572
KOP - DRAKE 04NA	6034.82	1312.61	-2019.92	1359804.85	3254452.38	40.317471	-104.587476



PDC ENERGY

**WELD COUNTY, COLORADO (TRUE)
SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)
DRAKE 04NA**

**ORIGINAL WELLBORE
PROPOSAL #1**

Anticollision Report

26 May, 2021

Anticollision Report

Company:	PDC ENERGY	Local Co-ordinate Reference:	Well DRAKE 04NA
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23ft @ 4761.00usft
Reference Site:	SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)	MD Reference:	KB 23ft @ 4761.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	DRAKE 04NA	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
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 98.43usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 9,999.98usft	Error Surface:	Ellipsoid Separation
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	2021-05-26		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	18,377.63	PROPOSAL #1 (ORIGINAL WELLBORE)	MWD	MWD - Standard

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Summary						
Offset Well - Wellbore - Design						
SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE)						
GEORGE 01N - ORIGINAL WELLBORE - PROPOSAL #	17,704.95	8,605.31	4,564.51	4,210.24	12.884	CC
GEORGE 01N - ORIGINAL WELLBORE - PROPOSAL #	17,900.00	8,500.00	4,566.36	4,208.20	12.750	ES
GEORGE 01N - ORIGINAL WELLBORE - PROPOSAL #	18,377.70	7,896.50	4,579.10	4,209.51	12.390	SF
GEORGE 02N - ORIGINAL WELLBORE - PROPOSAL #	18,377.70	7,812.73	4,782.16	4,412.45	12.935	CC, ES, SF
SW NE SEC. 8 T4N R64W 6th P.M. (HEN)						
ABDN DD ALTER C 16-28D - Wellbore #1 - Wellbore #1	15,817.60	7,057.79	781.53	501.68	2.793	CC, ES, SF
ABDN DD ALTER C 16-29D - ORIGINAL WELLBORE - W	14,671.08	6,772.94	721.62	494.18	3.173	CC, ES
ABDN DD ALTER C 16-29D - ORIGINAL WELLBORE - W	14,700.00	6,773.35	722.20	494.56	3.173	SF
ABDN DD ALTER C 16-29D - SIDETRACK - SIDETRAC	14,379.16	6,663.79	979.73	764.12	4.544	CC
ABDN DD ALTER C 16-29D - SIDETRACK - SIDETRAC	14,400.00	6,664.05	979.96	763.89	4.536	ES, SF
ABDN HZ FRANKLIN C08-62HNX - ORIGINAL WELLBO	8,232.78	6,865.73	1,318.16	1,250.16	19.385	CC
ABDN HZ FRANKLIN C08-62HNX - ORIGINAL WELLBO	11,318.88	9,939.29	1,319.59	1,104.18	6.126	ES
ABDN HZ FRANKLIN C08-62HNX - ORIGINAL WELLBO	12,200.00	10,756.00	1,405.93	1,144.97	5.388	SF
ABDN HZ FRANKLIN C08-62HNX - SIDETRACK - SIDE	8,848.55	7,532.00	1,273.08	1,182.44	14.046	CC
ABDN HZ FRANKLIN C08-62HNX - SIDETRACK - SIDE	11,297.64	9,905.00	1,371.38	1,159.94	6.486	ES
ABDN HZ FRANKLIN C08-62HNX - SIDETRACK - SIDE	12,303.13	10,791.74	1,525.03	1,264.43	5.852	SF
ABDN VERT RYANN STATE C 16-27 - Wellbore #1 - We	17,122.92	6,591.39	574.02	297.09	2.073	CC
ABDN VERT RYANN STATE C 16-27 - Wellbore #1 - We	17,125.95	6,591.52	574.03	296.83	2.071	ES, SF
ABDN VERT STATE 16-214 - Wellbore #1 - Wellbore #1	16,322.79	6,619.31	109.83	-144.47	0.432	Level 3, CC, ES, SF
EXIST DD NGL C1C - Wellbore #1 - Wellbore #1	13,193.55	6,745.08	793.91	618.42	4.524	CC
EXIST DD NGL C1C - Wellbore #1 - Wellbore #1	13,200.00	6,745.14	793.93	618.23	4.519	ES
EXIST DD NGL C1C - Wellbore #1 - Wellbore #1	13,287.38	6,745.93	799.43	621.68	4.497	SF
EXIST HZ FRANKLIN C17-69HN - Wellbore #1 - Wellbor	11,150.72	9,780.72	834.15	632.88	4.144	CC
EXIST HZ FRANKLIN C17-69HN - Wellbore #1 - Wellbor	12,173.69	10,845.02	879.33	620.12	3.392	ES
EXIST HZ FRANKLIN C17-69HN - Wellbore #1 - Wellbor	12,200.00	10,846.00	879.68	620.22	3.390	SF
EXIST HZ JAGGED 11N - Wellbore #1 - Wellbore #1	7,300.00	10,176.44	1,164.31	1,034.01	8.936	SF
EXIST HZ JAGGED 11N - Wellbore #1 - Wellbore #1	7,450.00	10,037.55	1,158.55	1,030.44	9.043	ES
EXIST HZ JAGGED 11N - Wellbore #1 - Wellbore #1	7,496.24	9,990.51	1,158.31	1,031.09	9.105	CC
EXIST HZ JAGGED 12N - Wellbore #1 - Wellbore #1	7,300.00	10,097.62	926.18	796.60	7.148	SF
EXIST HZ JAGGED 12N - Wellbore #1 - Wellbore #1	7,750.00	9,652.57	902.85	782.32	7.491	ES
EXIST HZ JAGGED 12N - Wellbore #1 - Wellbore #1	8,324.42	9,092.99	897.95	786.48	8.055	CC
EXIST HZ MARK ALTER C16-79HN - Wellbore #1 - Well	13,475.90	7,817.05	75.33	10.13	1.155	Level 3, CC, ES, SF
EXIST HZ SANDY HILLS PC C17-67HN - Wellbore #1 -	2,418.42	2,293.34	30.32	13.91	1.848	CC
EXIST HZ SANDY HILLS PC C17-67HN - Wellbore #1 -	2,429.00	2,303.15	30.57	13.34	1.774	ES, SF
EXIST HZ STOCKLEY C15-79HN - Wellbore #1 - Wellbo	18,377.70	10,480.81	368.05	256.14	3.289	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 DRAKE 04NA
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23ft @ 4761.00usft
Reference Site:	SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)	MD Reference:	KB 23ft @ 4761.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	DRAKE 04NA	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
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
SW NE SEC. 8 T4N R64W 6th P.M. (HEN)						
EXIST VERT CPC HARLESS 17-1 - Wellbore #1 - Wellb	12,542.95	6,682.55	221.45	69.40	1.456	Level 3, CC, ES, SF
EXIST VERT HARLESS PM C 17-2 - Wellbore #1 - Desi	11,297.62	6,703.40	101.72	-145.48	0.411	Level 3, CC
EXIST VERT HARLESS PM C 17-2 - Wellbore #1 - Desi	11,300.00	6,703.38	101.74	-146.10	0.411	Level 3, ES, SF
EXIST VERT NGL C1A - Wellbore #1 - Design #1	12,991.14	6,672.36	1,026.75	730.17	3.462	CC
EXIST VERT NGL C1A - Wellbore #1 - Design #1	13,000.00	6,672.30	1,026.78	729.99	3.460	ES
EXIST VERT NGL C1A - Wellbore #1 - Design #1	13,090.53	6,671.66	1,031.54	733.30	3.459	SF
EXIST VERT ROHR 15-414 - Wellbore #1 - Wellbore #1	18,377.70	6,572.36	931.82	863.80	13.699	CC, ES, SF
EXIST VERT ROHR C 15-19 - Wellbore #1 - Wellbore #1	18,377.70	6,568.52	1,483.48	1,409.11	19.947	CC, ES, SF
EXIST VERT RYANN STATE C 16-1 - Wellbore #1 - Wel	17,712.00	6,596.20	104.71	-169.82	0.381	Level 3, CC, ES, SF
EXIST VERT STATE 16-314 - Wellbore #1 - Design #1	15,272.44	6,628.43	328.70	-28.85	0.919	Level 3, CC, ES, SF
EXIST VERT STATE 16-414 - Wellbore #1 - Design #1	14,548.75	6,641.05	339.10	0.89	1.003	Level 3, CC, ES, SF
HEN 21N - ORIGINAL WELLBORE - PROPOSAL #1	11,303.55	8,281.92	1,086.25	937.98	7.326	CC
HEN 21N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	15,352.50	1,193.24	669.66	2.279	ES, SF
HEN 22N - ORIGINAL WELLBORE - PROPOSAL #1	16,942.72	13,960.10	899.97	451.84	2.008	CC
HEN 22N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	15,392.99	947.56	419.99	1.796	ES, SF

Anticollision Report

Company:	PDC ENERGY	Local Co-ordinate Reference:	Well DRAKE 04NA
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23ft @ 4761.00usft
Reference Site:	SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)	MD Reference:	KB 23ft @ 4761.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	DRAKE 04NA	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
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
SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)						
ABDN DD SH C17-24D - Wellbore #1 - Wellbore #1	98.43	76.50	1,465.05	1,464.88	8,593.353	CC
ABDN DD SH C17-24D - Wellbore #1 - Wellbore #1	400.00	374.49	1,465.61	1,464.43	1,241.636	ES
ABDN DD SH C17-24D - Wellbore #1 - Wellbore #1	11,900.00	6,942.72	3,405.97	3,262.58	23.753	SF
ABDN DD STATE C 16-20D - Wellbore #1 - Wellbore #1	14,516.13	6,707.45	1,924.42	1,704.26	8.741	CC
ABDN DD STATE C 16-20D - Wellbore #1 - Wellbore #1	14,566.90	6,707.33	1,925.09	1,703.74	8.697	ES
ABDN DD STATE C 16-20D - Wellbore #1 - Wellbore #1	14,700.00	6,707.02	1,933.18	1,709.43	8.640	SF
ABDN HZ FRICK C #17-79HN - ORIGINAL WELLBORE	8,139.97	7,773.48	33.43	5.63	1.202	Level 3, CC, ES, SF
ABDN HZ FRICK C #17-79HN - SIDETRACK - SIDETRA	8,100.00	7,756.04	133.76	88.00	2.923	SF
ABDN HZ FRICK C #17-79HN - SIDETRACK - SIDETRA	8,196.18	7,781.07	96.38	67.22	3.306	CC, ES
ABDN VERT ANGELA C17-25 - Wellbore #1 - Design #1	600.00	584.00	1,764.79	1,752.19	140.093	CC
ABDN VERT ANGELA C17-25 - Wellbore #1 - Design #1	688.98	672.95	1,765.79	1,751.20	121.033	ES
ABDN VERT ANGELA C17-25 - Wellbore #1 - Design #1	10,100.00	6,718.69	3,173.44	2,952.03	14.332	SF
ABDN VERT CHENOWETH 21-4 - Wellbore #1 - Wellbo	14,193.33	6,720.71	5,206.70	5,009.50	26.403	CC
ABDN VERT CHENOWETH 21-4 - Wellbore #1 - Wellbo	14,300.00	6,715.64	5,207.79	5,007.72	26.029	ES
ABDN VERT CHENOWETH 21-4 - Wellbore #1 - Wellbo	15,846.43	6,600.00	5,462.34	5,231.46	23.658	SF
ABDN VERT CHENOWETH #1 - Wellbore #1 - Design #1	15,214.90	6,666.58	5,458.63	5,101.26	15.274	CC
ABDN VERT CHENOWETH #1 - Wellbore #1 - Design #1	15,354.30	6,665.59	5,460.41	5,099.30	15.121	ES
ABDN VERT CHENOWETH #1 - Wellbore #1 - Design #1	16,500.00	6,657.46	5,607.86	5,222.49	14.552	SF
ABDN VERT CLEMONS 13-15 - Wellbore #1 - Wellbore #1	18,377.70	6,583.34	2,570.40	2,276.62	8.749	CC, ES, SF
ABDN VERT FRICK #32-18 - Wellbore #1 - Wellbore #1	6,215.32	5,622.91	1,691.20	1,638.94	32.361	CC, ES
ABDN VERT FRICK #32-18 - Wellbore #1 - Wellbore #1	6,650.00	6,059.81	1,695.50	1,642.50	31.994	SF
ABDN VERT FRICK C18-2 - Wellbore #1 - Wellbore #1	6,461.92	5,874.25	1,004.29	968.18	27.808	CC, ES
ABDN VERT FRICK C18-2 - Wellbore #1 - Wellbore #1	6,650.00	6,061.16	1,008.32	971.92	27.704	SF
ABDN VERT FRICK C18-8 - Wellbore #1 - Wellbore #1	3,610.82	3,300.96	838.74	810.72	29.935	CC
ABDN VERT FRICK C18-8 - Wellbore #1 - Wellbore #1	3,641.73	3,327.58	838.89	810.50	29.550	ES
ABDN VERT FRICK C18-8 - Wellbore #1 - Wellbore #1	4,200.00	3,802.65	890.52	857.10	26.647	SF
ABDN VERT HARLESS PM C17-8 - Wellbore #1 - Wellb	12,492.51	6,661.30	1,326.41	1,175.44	8.786	CC
ABDN VERT HARLESS PM C17-8 - Wellbore #1 - Wellb	12,500.00	6,661.33	1,326.43	1,175.25	8.774	ES
ABDN VERT HARLESS PM C17-8 - Wellbore #1 - Wellb	12,696.83	6,661.97	1,342.05	1,187.23	8.669	SF
ABDN VERT MARY MILLS #41-18 - Wellbore #1 - Wellb	7,350.00	6,650.44	160.46	110.88	3.236	SF
ABDN VERT MARY MILLS #41-18 - Wellbore #1 - Wellb	7,381.88	6,666.68	156.18	110.03	3.384	ES
ABDN VERT MARY MILLS #41-18 - Wellbore #1 - Wellb	7,395.43	6,673.23	155.74	111.47	3.518	CC
ABDN VERT OCOMA C17-10 - Wellbore #1 - Wellbore #	98.43	40.02	2,559.31	2,559.19	10,000.000	CC
ABDN VERT OCOMA C17-10 - Wellbore #1 - Wellbore #	11,700.00	6,696.63	2,640.40	2,511.57	20.495	ES
ABDN VERT OCOMA C17-10 - Wellbore #1 - Wellbore #	12,007.85	6,697.99	2,681.42	2,547.37	20.004	SF
ABDN VERT OCOMA C17-11 - Wellbore #1 - Wellbore #	607.21	564.34	1,400.09	1,398.40	826.766	CC, ES
ABDN VERT OCOMA C17-11 - Wellbore #1 - Wellbore #	10,629.90	6,713.90	2,428.92	2,328.66	24.226	SF
ABDN VERT OCOMA C17-13 - Wellbore #1 - Design #1	600.00	590.00	2,590.92	2,578.26	204.682	CC
ABDN VERT OCOMA C17-13 - Wellbore #1 - Design #1	800.00	789.75	2,593.17	2,576.04	151.357	ES
ABDN VERT OCOMA C17-13 - Wellbore #1 - Design #1	9,744.08	6,727.18	4,044.57	3,831.61	18.992	SF
ABDN VERT OCOMA C17-16 - Wellbore #1 - Wellbore #	12,609.15	6,845.89	3,754.83	3,600.57	24.341	CC
ABDN VERT OCOMA C17-16 - Wellbore #1 - Wellbore #	12,700.00	6,848.20	3,755.93	3,599.23	23.969	ES
ABDN VERT OCOMA C17-16 - Wellbore #1 - Wellbore #	13,700.00	6,873.68	3,909.98	3,733.36	22.138	SF
ABDN VERT OCOMA C17-23 - Wellbore #1 - Wellbore #	12,005.33	6,733.32	2,980.66	2,842.27	21.538	CC
ABDN VERT OCOMA C17-23 - Wellbore #1 - Wellbore #	12,061.63	6,732.72	2,981.75	2,841.89	21.319	ES
ABDN VERT OCOMA C17-23 - Wellbore #1 - Wellbore #	12,795.25	6,724.94	3,097.98	2,944.08	20.130	SF
ABDN VERT OCOMA C17-9 - Wellbore #1 - Wellbore #1	12,544.29	6,666.75	2,496.42	2,344.14	16.394	CC
ABDN VERT OCOMA C17-9 - Wellbore #1 - Wellbore #1	12,600.00	6,666.06	2,497.04	2,343.25	16.238	ES
ABDN VERT OCOMA C17-9 - Wellbore #1 - Wellbore #1	13,090.53	6,660.05	2,555.47	2,392.07	15.639	SF
ABDN VERT OCOMA-UPRR C7-15 - Wellbore #1 - Desi	6,634.65	6,103.82	1,594.88	1,448.09	10.865	CC
ABDN VERT OCOMA-UPRR C7-15 - Wellbore #1 - Desi	6,650.00	6,119.16	1,594.98	1,447.88	10.842	ES
ABDN VERT OCOMA-UPRR C7-15 - Wellbore #1 - Desi	6,800.00	6,267.70	1,607.01	1,457.16	10.724	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 DRAKE 04NA
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23ft @ 4761.00usft
Reference Site:	SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)	MD Reference:	KB 23ft @ 4761.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	DRAKE 04NA	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name Offset Well - Wellbore - Design	Reference	Offset	Distance		Separation Factor	Warning
	Measured Depth (usft)	Measured Depth (usft)	Between Centres (usft)	Between Ellipses (usft)		
SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)						
ABDN VERT OCOMA-UPRR C7-16 - Wellbore #1 - Well	6,531.56	5,938.13	1,320.65	1,269.60	25.871	SF
ABDN VERT OCOMA-UPRR C7-16 - Wellbore #1 - Well	7,350.00	6,670.38	1,287.15	1,241.86	28.418	ES
ABDN VERT OCOMA-UPRR C7-16 - Wellbore #1 - Well	7,361.72	6,676.34	1,287.11	1,241.99	28.524	CC
ABDN VERT RITER C18-10 - Wellbore #1 - Wellbore #1	4,359.89	3,936.17	2,531.26	2,494.83	69.472	CC
ABDN VERT RITER C18-10 - Wellbore #1 - Wellbore #1	4,500.00	4,058.07	2,532.33	2,494.26	66.509	ES
ABDN VERT RITER C18-10 - Wellbore #1 - Wellbore #1	6,650.00	6,051.22	2,655.10	2,603.03	50.992	SF
ABDN VERT RITER C18-16 - Wellbore #1 - Wellbore #1	394.00	400.00	2,994.32	2,993.21	2,697.541	CC
ABDN VERT RITER C18-16 - Wellbore #1 - Wellbore #1	1,476.38	1,467.15	2,998.37	2,993.10	568.870	ES
ABDN VERT RITER C18-16 - Wellbore #1 - Wellbore #1	10,334.63	6,842.98	4,782.04	4,699.66	58.052	SF
ABDN VERT RYANN STATE C16-22 - Wellbore #1 - Des	17,445.77	6,602.73	1,775.36	1,358.93	4.263	CC, ES
ABDN VERT RYANN STATE C16-22 - Wellbore #1 - Des	17,500.00	6,602.34	1,776.70	1,359.86	4.262	SF
ABDN VERT RYANN STATE C16-24 - Wellbore #1 - We	16,062.17	6,633.92	3,121.91	2,873.09	12.547	CC
ABDN VERT RYANN STATE C16-24 - Wellbore #1 - We	16,141.70	6,633.17	3,122.92	2,872.02	12.447	ES
ABDN VERT RYANN STATE C16-24 - Wellbore #1 - We	16,535.40	6,629.49	3,157.57	2,899.03	12.213	SF
ABDN VERT SANDY HILLS FARM C17-4 - Wellbore #1	8,661.40	6,745.77	129.63	72.35	2.263	ES, SF
ABDN VERT SANDY HILLS FARM C17-4 - Wellbore #1	8,666.06	6,745.87	129.55	72.91	2.287	CC
ABDN VERT SCHNEIDER #43-18 - Wellbore #1 - Wellbo	2,694.64	2,545.64	1,830.75	1,813.19	104.255	CC
ABDN VERT SCHNEIDER #43-18 - Wellbore #1 - Wellbo	2,755.90	2,598.30	1,831.02	1,812.75	100.228	ES
ABDN VERT SCHNEIDER #43-18 - Wellbore #1 - Wellbo	8,562.98	6,763.47	2,698.36	2,639.63	45.947	SF
ABDN VERT SCHNEIDER/DIC/COLTON #34-18 - Wellb	3,279.04	3,070.07	3,779.40	3,694.80	44.677	CC
ABDN VERT SCHNEIDER/DIC/COLTON #34-18 - Wellb	3,700.00	3,432.41	3,785.47	3,688.87	39.189	ES
ABDN VERT SCHNEIDER/DIC/COLTON #34-18 - Wellb	7,350.00	6,688.02	4,111.35	3,928.06	22.431	SF
ABDN VERT STATE 16-1214 - Wellbore #1 - Design #1	14,142.38	6,643.19	2,693.05	2,365.61	8.225	CC
ABDN VERT STATE 16-1214 - Wellbore #1 - Design #1	14,200.00	6,642.78	2,693.66	2,364.70	8.188	ES
ABDN VERT STATE 16-1214 - Wellbore #1 - Design #1	14,500.00	6,640.65	2,716.69	2,381.36	8.102	SF
ABDN VERT STATE 16-614 - Wellbore #1 - Design #1	15,476.40	6,623.72	1,319.14	955.46	3.627	CC
ABDN VERT STATE 16-614 - Wellbore #1 - Design #1	15,500.00	6,623.56	1,319.36	955.08	3.622	ES
ABDN VERT STATE 16-614 - Wellbore #1 - Design #1	15,551.15	6,623.19	1,321.26	956.01	3.617	SF
ABDN VERT STATE 16-714 - Wellbore #1 - Design #1	16,286.74	6,603.97	1,563.94	1,178.20	4.054	CC
ABDN VERT STATE 16-714 - Wellbore #1 - Design #1	16,338.55	6,603.61	1,564.79	1,177.83	4.044	ES
ABDN VERT STATE 16-714 - Wellbore #1 - Design #1	16,400.00	6,603.17	1,568.03	1,180.05	4.042	SF
ABDN VERT STATE 16-814 - Wellbore #1 - Wellbore #1	18,022.59	6,580.56	971.79	668.64	3.206	CC, ES, SF
ABDN VERT STATE 16-914 - Wellbore #1 - Design #1	18,088.27	6,609.10	2,450.94	2,015.06	5.623	CC
ABDN VERT STATE 16-914 - Wellbore #1 - Design #1	18,110.20	6,608.94	2,451.03	2,014.56	5.616	ES
ABDN VERT STATE 16-914 - Wellbore #1 - Design #1	18,300.00	6,607.58	2,460.06	2,019.65	5.586	SF
ABDN VERT STATE A 14-16 - Wellbore #1 - Design #1	14,290.43	4,414.00	4,168.00	3,926.21	17.239	CC
ABDN VERT STATE A 14-16 - Wellbore #1 - Design #1	14,400.00	4,414.00	4,169.44	3,925.09	17.064	ES
ABDN VERT STATE A 14-16 - Wellbore #1 - Design #1	15,300.00	4,414.00	4,288.52	4,027.33	16.419	SF
ABDN VERT STATE A 14-16X - Wellbore #1 - Wellbore #	14,289.60	6,640.76	3,567.50	3,367.50	17.837	CC
ABDN VERT STATE A 14-16X - Wellbore #1 - Wellbore #	14,370.05	6,640.34	3,568.41	3,366.25	17.652	ES
ABDN VERT STATE A 14-16X - Wellbore #1 - Wellbore #	15,100.00	6,636.56	3,658.39	3,441.94	16.902	SF
ABDN VERT UPRR 36 PAN AM B #1 - Wellbore #1 - De	600.00	593.00	2,541.01	2,528.22	198.682	CC
ABDN VERT UPRR 36 PAN AM B #1 - Wellbore #1 - De	787.40	780.19	2,543.65	2,526.66	149.780	ES
ABDN VERT UPRR 36 PAN AM B #1 - Wellbore #1 - De	10,000.00	6,728.39	4,046.47	3,828.10	18.530	SF
ABDN VERT UPRR OCOMA C17-12 - Wellbore #1 - We	211.56	189.60	1,350.62	1,350.11	2,632.573	CC
ABDN VERT UPRR OCOMA C17-12 - Wellbore #1 - We	300.00	277.15	1,350.66	1,349.87	1,703.581	ES
ABDN VERT UPRR OCOMA C17-12 - Wellbore #1 - We	9,700.00	6,757.34	2,718.31	2,641.09	35.200	SF
DRAKE 01N - ORIGINAL WELLBORE - PROPOSAL #1	296.00	297.00	44.97	43.91	42.567	CC
DRAKE 01N - ORIGINAL WELLBORE - PROPOSAL #1	300.00	300.99	44.97	43.89	41.857	ES
DRAKE 01N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,630.71	717.49	135.45	1.233	Level 3, SF
DRAKE 02N - ORIGINAL WELLBORE - PROPOSAL #1	400.00	400.00	29.95	28.43	19.683	CC
DRAKE 02N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,516.63	489.89	-78.77	0.861	Level 3, 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 DRAKE 04NA
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23ft @ 4761.00usft
Reference Site:	SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)	MD Reference:	KB 23ft @ 4761.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	DRAKE 04NA	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
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
SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)						
DRAKE 03N - ORIGINAL WELLBORE - PROPOSAL #1	500.00	500.00	14.97	13.00	7.596	CC
DRAKE 03N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,537.06	296.78	-53.85	0.846	Level 3, ES, SF
DRAKE 05N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	599.00	15.01	12.59	6.204	CC
DRAKE 05N - ORIGINAL WELLBORE - PROPOSAL #1	18,314.78	18,300.54	175.49	-197.54	0.470	Level 3, ES, SF
DRAKE 06N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	599.00	29.95	27.53	12.382	CC
DRAKE 06N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,392.23	405.10	-38.05	0.914	Level 3, ES, SF
DRAKE 07N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	598.00	44.99	42.57	18.619	CC
DRAKE 07N - ORIGINAL WELLBORE - PROPOSAL #1	18,362.03	18,283.87	607.71	3.30	1.005	Level 3, ES, SF
DRAKE 08N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	598.00	60.00	57.58	24.831	CC, ES
DRAKE 08N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,352.08	831.62	223.24	1.367	Level 3, SF
DRAKE 09NA - ORIGINAL WELLBORE - PROPOSAL #1	600.00	597.00	74.97	72.56	31.057	CC, ES
DRAKE 09NA - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,207.35	1,042.98	420.33	1.675	SF
DRAKE 10N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	597.00	89.94	87.53	37.259	CC, ES
DRAKE 10N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,252.80	1,262.30	640.27	2.029	SF
DRAKE 11N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	597.00	104.99	102.58	43.492	CC, ES
DRAKE 11N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,346.24	1,484.44	862.99	2.389	SF
DRAKE 12N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	596.00	119.96	117.55	49.741	CC, ES
DRAKE 12N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,278.62	1,699.53	1,077.03	2.730	SF
DRAKE 13N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	596.00	134.97	132.56	55.965	CC, ES
DRAKE 13N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,359.72	1,920.91	1,300.38	3.096	SF
DRAKE 14NA - ORIGINAL WELLBORE - PROPOSAL #1	600.00	596.00	149.98	147.57	62.188	CC, ES
DRAKE 14NA - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,279.88	2,136.42	1,514.82	3.437	SF
DRAKE 15N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	596.00	164.92	162.51	68.382	CC, ES
DRAKE 15N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,367.16	2,355.54	1,735.48	3.799	SF
DRAKE 16N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	596.00	179.96	177.55	74.620	CC, ES
DRAKE 16N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,470.78	2,576.38	1,956.72	4.158	SF
DRAKE 17N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	596.00	194.97	192.56	80.844	CC, ES
DRAKE 17N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,285.41	2,786.98	2,173.97	4.546	SF
DRAKE 18N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	595.00	209.95	207.54	87.133	CC, ES
DRAKE 18N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,584.07	3,013.56	2,394.74	4.870	SF
DRAKE 19NA - ORIGINAL WELLBORE - PROPOSAL #1	600.00	595.00	224.92	222.51	93.348	CC, ES
DRAKE 19NA - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,523.56	3,231.91	2,613.00	5.222	SF
DRAKE 20N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	595.00	239.93	237.52	99.577	CC, ES
DRAKE 20N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,629.88	3,449.00	2,829.58	5.568	SF
DRAKE 21N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	596.00	254.98	252.57	105.725	CC, ES
DRAKE 21N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,755.39	3,669.39	3,051.16	5.935	SF
DRAKE 22N - ORIGINAL WELLBORE - PROPOSAL #1	500.00	496.00	269.91	267.95	137.556	CC, ES
DRAKE 22N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,786.52	3,886.42	3,268.53	6.290	SF
DRAKE 23N - ORIGINAL WELLBORE - PROPOSAL #1	400.00	395.00	284.96	283.45	188.661	CC, ES
DRAKE 23N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,757.30	4,106.68	3,491.91	6.680	SF
DRAKE 24N - ORIGINAL WELLBORE - PROPOSAL #1	300.00	295.00	299.97	298.91	282.750	CC, ES
DRAKE 24N - ORIGINAL WELLBORE - PROPOSAL #1	18,377.70	18,931.07	4,248.45	3,630.94	6.880	SF
EXIST DD CRICKET C22-30D - Wellbore #1 - Wellbore #	18,377.70	6,710.00	4,528.84	4,200.58	13.796	CC, ES, SF
EXIST DD FRANKLIN #C18-27D - Wellbore #1 - Wellbor	6,516.70	6,107.20	771.88	718.72	14.520	CC, ES
EXIST DD FRANKLIN #C18-27D - Wellbore #1 - Wellbor	6,634.65	6,219.06	773.02	719.68	14.490	SF
EXIST DD NEI C17-33D - Wellbore #1 - Wellbore #1	4,372.41	4,697.87	2,641.06	2,571.39	37.906	CC
EXIST DD NEI C17-33D - Wellbore #1 - Wellbore #1	4,400.00	4,715.02	2,641.16	2,571.03	37.660	ES
EXIST DD NEI C17-33D - Wellbore #1 - Wellbore #1	9,000.00	7,481.40	3,407.55	3,285.61	27.945	SF
EXIST DD NEI C18-21D - Wellbore #1 - Wellbore #1	6,657.01	6,256.13	2,237.75	2,172.41	34.246	CC, ES
EXIST DD NEI C18-21D - Wellbore #1 - Wellbore #1	6,700.00	6,297.47	2,238.59	2,173.17	34.221	SF
EXIST DD NEI C18-22D - Wellbore #1 - Wellbore #1	5,176.50	5,204.12	1,729.57	1,658.58	24.366	CC
EXIST DD NEI C18-22D - Wellbore #1 - Wellbore #1	5,216.53	5,233.65	1,729.75	1,658.12	24.146	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 DRAKE 04NA
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23ft @ 4761.00usft
Reference Site:	SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)	MD Reference:	KB 23ft @ 4761.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	DRAKE 04NA	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
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
SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)						
EXIST DD NEI C18-22D - Wellbore #1 - Wellbore #1	6,750.00	6,512.68	1,812.45	1,732.36	22.633	SF
EXIST DD NEI C18-23D - Wellbore #1 - Wellbore #1	4,214.90	4,161.93	2,808.97	2,749.17	46.977	CC
EXIST DD NEI C18-23D - Wellbore #1 - Wellbore #1	4,300.00	4,193.00	2,809.98	2,748.93	46.031	ES
EXIST DD NEI C18-23D - Wellbore #1 - Wellbore #1	8,366.13	7,406.37	3,630.39	3,532.70	37.161	SF
EXIST DD NEI C18-24D - Wellbore #1 - Wellbore #1	4,523.73	3,971.66	3,214.28	3,162.93	62.588	CC
EXIST DD NEI C18-24D - Wellbore #1 - Wellbore #1	4,600.00	4,009.86	3,214.88	3,162.45	61.321	ES
EXIST DD NEI C18-24D - Wellbore #1 - Wellbore #1	6,750.00	6,431.18	3,384.85	3,311.86	46.375	SF
EXIST DD OSTER C19-27D - Wellbore #1 - Wellbore #1	3,746.13	3,478.49	3,202.66	3,169.66	97.050	CC
EXIST DD OSTER C19-27D - Wellbore #1 - Wellbore #1	3,800.00	3,500.00	3,202.79	3,169.12	95.118	ES
EXIST DD OSTER C19-27D - Wellbore #1 - Wellbore #1	11,318.88	7,283.17	6,352.63	6,250.14	61.979	SF
EXIST DD PLUSS C17-32D - Wellbore #1 - Wellbore #1	2,128.03	1,985.04	246.61	233.33	18.576	CC, ES
EXIST DD PLUSS C17-32D - Wellbore #1 - Wellbore #1	2,263.78	2,089.41	260.21	244.79	16.878	SF
EXIST DD SH FARMS C17-3 - Wellbore #1 - Wellbore #1	10,000.60	6,897.18	209.13	103.53	1.980	CC, ES, SF
EXIST DD SH FARMS C17-6 - Wellbore #1 - Wellbore #1	1,552.59	1,571.27	546.76	538.77	68.453	CC, ES
EXIST DD SH FARMS C17-6 - Wellbore #1 - Wellbore #1	10,334.63	6,871.92	1,293.49	1,178.89	11.287	SF
EXIST HZ COLLINS 18Q-221 - Wellbore #1 - Wellbore #	6,904.69	11,228.39	1,397.60	1,297.63	13.980	CC, ES
EXIST HZ COLLINS 18Q-221 - Wellbore #1 - Wellbore #	7,050.00	11,230.06	1,419.65	1,315.76	13.665	SF
EXIST HZ COLLINS 18Q-301 - Wellbore #1 - Wellbore #	6,894.23	11,229.58	1,659.42	1,556.52	16.127	CC
EXIST HZ COLLINS 18Q-301 - Wellbore #1 - Wellbore #	6,900.00	11,230.12	1,659.46	1,556.42	16.106	ES
EXIST HZ COLLINS 18Q-301 - Wellbore #1 - Wellbore #	7,050.00	11,243.58	1,683.37	1,577.32	15.873	SF
EXIST HZ COLLINS 18T-201 - Wellbore #1 - Wellbore #	7,069.53	11,035.73	636.74	548.86	7.245	CC
EXIST HZ COLLINS 18T-201 - Wellbore #1 - Wellbore #	7,100.00	11,035.42	638.11	547.40	7.035	ES
EXIST HZ COLLINS 18T-201 - Wellbore #1 - Wellbore #	7,200.00	11,034.09	661.44	562.80	6.706	SF
EXIST HZ COLLINS 18T-221 - ORIGINAL WELLBORE -	1,051.42	1,034.26	3,522.60	3,518.34	826.830	CC
EXIST HZ COLLINS 18T-221 - ORIGINAL WELLBORE -	1,082.68	1,046.95	3,522.67	3,518.28	801.891	ES
EXIST HZ COLLINS 18T-221 - ORIGINAL WELLBORE -	9,940.93	7,227.00	4,664.40	4,575.03	52.191	SF
EXIST HZ COLLINS 18T-221 - SIDETRACK - SIDETRAC	7,313.61	10,956.17	242.80	182.53	4.029	CC
EXIST HZ COLLINS 18T-221 - SIDETRACK - SIDETRAC	7,350.00	10,955.82	246.42	177.30	3.565	ES
EXIST HZ COLLINS 18T-221 - SIDETRACK - SIDETRAC	7,450.00	10,954.73	289.46	197.19	3.137	SF
EXIST HZ COLLINS 18T-321 - Wellbore #1 - Wellbore #	7,228.33	11,206.03	411.56	340.65	5.804	CC
EXIST HZ COLLINS 18T-321 - Wellbore #1 - Wellbore #	7,283.45	11,204.93	417.33	337.55	5.231	ES
EXIST HZ COLLINS 18T-321 - Wellbore #1 - Wellbore #	7,381.88	11,203.10	454.26	361.16	4.879	SF
EXIST HZ COLLINS 18T-341 - Wellbore #1 - Wellbore #	7,022.36	11,134.00	884.96	792.27	9.548	CC
EXIST HZ COLLINS 18T-341 - Wellbore #1 - Wellbore #	7,050.00	11,134.00	885.93	791.54	9.386	ES
EXIST HZ COLLINS 18T-341 - Wellbore #1 - Wellbore #	7,185.03	11,134.00	917.63	816.28	9.053	SF
EXIST HZ FRICK PC C17-65HN - Wellbore #1 - Wellbor	3,114.34	2,956.55	922.25	892.32	30.809	CC
EXIST HZ FRICK PC C17-65HN - Wellbore #1 - Wellbor	3,149.60	2,981.29	922.58	892.15	30.318	ES
EXIST HZ FRICK PC C17-65HN - Wellbore #1 - Wellbor	12,992.10	11,373.00	2,012.80	1,710.52	6.659	SF
EXIST HZ STOCKLEY C22-79HN - Wellbore #1 - Wellbo	18,377.70	6,050.00	4,392.27	4,072.44	13.733	CC, ES, SF
EXIST VERT CHENOWETH #21-2 - Wellbore #1 - Desig	16,570.60	6,638.96	5,200.56	4,806.32	13.191	CC
EXIST VERT CHENOWETH #21-2 - Wellbore #1 - Desig	16,700.00	6,638.04	5,202.17	4,804.47	13.081	ES
EXIST VERT CHENOWETH #21-2 - Wellbore #1 - Desig	17,705.61	6,630.86	5,273.01	4,854.57	12.602	SF
EXIST VERT CLEMONS #15-1 - Wellbore #1 - Wellbore	18,377.70	6,572.83	3,946.37	3,641.17	12.930	CC, ES, SF
EXIST VERT CPC-HARLESS #17-2 - Wellbore #1 - Well	11,521.33	6,713.28	1,202.91	1,077.98	9.629	CC, ES
EXIST VERT CPC-HARLESS #17-2 - Wellbore #1 - Well	11,629.64	6,709.53	1,205.73	1,079.16	9.526	SF
EXIST VERT MORIAH #17-15 - Wellbore #1 - Wellbore #	11,934.89	6,675.60	716.98	580.90	5.269	CC, ES
EXIST VERT MORIAH #17-15 - Wellbore #1 - Wellbore #	12,000.00	6,676.04	720.66	583.83	5.267	SF
EXIST VERT OCOMA C17-15 - Wellbore #1 - Wellbore #	493.40	441.40	3,444.89	3,443.60	2,671.738	CC
EXIST VERT OCOMA C17-15 - Wellbore #1 - Wellbore #	600.00	542.83	3,444.99	3,443.40	2,165.612	ES
EXIST VERT OCOMA C17-15 - Wellbore #1 - Wellbore #	12,795.25	6,847.01	4,277.87	4,129.16	28.766	SF
EXIST VERT RYANN STATE C16-21 - Wellbore #1 - Des	16,210.84	6,628.51	2,338.05	1,953.91	6.086	CC
EXIST VERT RYANN STATE C16-21 - Wellbore #1 - Des	16,240.13	6,628.30	2,338.24	1,953.33	6.075	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 DRAKE 04NA
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB 23ft @ 4761.00usft
Reference Site:	SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)	MD Reference:	KB 23ft @ 4761.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	DRAKE 04NA	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	Database 1
Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference		Distance		Separation Factor	Warning
	Measured Depth (usft)	Offset Measured Depth (usft)	Between Centres (usft)	Between Ellipses (usft)		
SW NW SEC. 17 T4N R64W 6th P.M. (DRAKE)						
EXIST VERT RYANN STATE C16-21 - Wellbore #1 - Des	16,436.98	6,626.91	2,348.96	1,960.03	6.039	SF
EXIST VERT RYANN STATE C16-23 - Wellbore #1 - Des	17,656.87	6,610.21	3,165.68	2,741.85	7.469	CC
EXIST VERT RYANN STATE C16-23 - Wellbore #1 - Des	17,705.61	6,609.86	3,166.47	2,741.42	7.450	ES
EXIST VERT RYANN STATE C16-23 - Wellbore #1 - Des	18,000.00	6,607.74	3,189.61	2,758.82	7.404	SF
EXIST VERT RYANN STATE C16-25 - Wellbore #1 - Des	14,928.69	6,633.61	3,094.52	2,745.70	8.871	CC
EXIST VERT RYANN STATE C16-25 - Wellbore #1 - Des	15,000.00	6,633.11	3,095.35	2,744.63	8.826	ES
EXIST VERT RYANN STATE C16-25 - Wellbore #1 - Des	15,354.30	6,630.59	3,123.65	2,765.47	8.721	SF
EXIST VERT RYANN STATE C21-27 - Wellbore #1 - We	17,564.27	6,604.34	4,360.92	4,070.66	15.024	CC
EXIST VERT RYANN STATE C21-27 - Wellbore #1 - We	17,600.00	6,604.35	4,361.29	4,070.16	14.981	ES
EXIST VERT RYANN STATE C21-27 - Wellbore #1 - We	18,208.63	6,604.58	4,436.16	4,133.76	14.670	SF
EXIST VERT SANDY HILLS FARM C17-5 - Wellbore #1	2,143.92	2,022.09	112.92	101.06	9.514	CC, ES
EXIST VERT SANDY HILLS FARM C17-5 - Wellbore #1	2,165.35	2,040.38	113.47	101.39	9.393	SF
EXIST VERT SH FARMS C17-19 - Wellbore #1 - Wellbo	1,212.60	1,184.06	602.73	599.12	166.990	CC
EXIST VERT SH FARMS C17-19 - Wellbore #1 - Wellbo	1,279.53	1,248.32	603.01	599.06	152.453	ES
EXIST VERT SH FARMS C17-19 - Wellbore #1 - Wellbo	9,448.80	6,726.66	833.08	758.50	11.170	SF
EXIST VERT STATE 16-1014 - Wellbore #1 - Design #1	16,919.60	6,627.48	2,848.00	2,444.22	7.053	CC
EXIST VERT STATE 16-1014 - Wellbore #1 - Design #1	17,300.00	6,624.77	2,850.50	2,439.05	6.928	ES
EXIST VERT STATE 16-1014 - Wellbore #1 - Design #1	17,400.00	6,624.05	2,854.07	2,441.51	6.918	SF
EXIST VERT STATE 16-1114 - Wellbore #1 - Design #1	15,274.86	6,630.16	2,369.35	2,011.04	6.613	CC
EXIST VERT STATE 16-1114 - Wellbore #1 - Design #1	15,354.30	6,629.59	2,370.68	2,010.35	6.579	ES
EXIST VERT STATE 16-1114 - Wellbore #1 - Design #1	15,500.00	6,628.56	2,380.02	2,016.72	6.551	SF
EXIST VERT STATE 16-1414 - Wellbore #1 - Design #1	15,120.70	6,639.25	4,052.37	3,698.13	11.440	CC
EXIST VERT STATE 16-1414 - Wellbore #1 - Design #1	15,200.00	6,638.69	4,053.15	3,696.78	11.374	ES
EXIST VERT STATE 16-1414 - Wellbore #1 - Design #1	15,846.43	6,634.10	4,116.84	3,746.74	11.124	SF
EXIST VERT STATE 16-1514 - Wellbore #1 - Design #1	16,760.80	6,614.61	3,827.19	3,428.14	9.591	CC
EXIST VERT STATE 16-1514 - Wellbore #1 - Design #1	16,830.68	6,614.11	3,827.83	3,426.92	9.548	ES
EXIST VERT STATE 16-1514 - Wellbore #1 - Design #1	17,500.00	6,609.34	3,855.04	3,441.25	9.317	SF
EXIST VERT STATE 16-1614 - Wellbore #1 - Design #1	18,076.67	6,604.19	3,787.93	3,352.53	8.700	CC
EXIST VERT STATE 16-1614 - Wellbore #1 - Design #1	18,200.00	6,603.30	3,789.94	3,351.30	8.640	ES
EXIST VERT STATE 16-1614 - Wellbore #1 - Design #1	18,377.70	6,602.00	3,799.85	3,357.19	8.584	SF
EXIST VERT STATE 16-514 - Wellbore #1 - Wellbore #1	14,185.27	6,632.33	1,167.56	970.44	5.923	CC
EXIST VERT STATE 16-514 - Wellbore #1 - Wellbore #1	14,200.00	6,632.26	1,167.65	970.14	5.912	ES
EXIST VERT STATE 16-514 - Wellbore #1 - Wellbore #1	14,271.63	6,631.96	1,170.75	971.86	5.887	SF
EXIST VERT STATE A 41-16 - Wellbore #1 - Design #1	17,600.00	6,581.62	509.38	88.07	1.209	Level 3, ES, SF
EXIST VERT STATE A 41-16 - Wellbore #1 - Design #1	17,602.71	6,581.60	509.37	88.10	1.209	Level 3, CC
EXIST VERT THOUTT #1 - Wellbore #1 - Wellbore #1	17,871.25	6,575.36	5,196.50	4,897.62	17.386	CC
EXIST VERT THOUTT #1 - Wellbore #1 - Wellbore #1	18,011.78	6,577.21	5,198.40	4,895.72	17.174	ES
EXIST VERT THOUTT #1 - Wellbore #1 - Wellbore #1	18,377.70	6,582.00	5,221.09	4,909.67	16.765	SF
EXIST VERT UPRR OCOMA C17-4 - Wellbore #1 - Desi	600.00	570.00	2,761.99	2,749.64	223.564	CC
EXIST VERT UPRR OCOMA C17-4 - Wellbore #1 - Desi	688.98	658.95	2,763.31	2,748.97	192.605	ES
EXIST VERT UPRR OCOMA C17-4 - Wellbore #1 - Desi	10,900.00	6,699.09	4,001.48	3,761.03	16.642	SF

Offset Design:	SW NE SEC. 21 T4N R64W 6th P.M. (GEORGE) - GEORGE 01N - ORIGINAL WELLBORE - PROPOSAL #1										Offset Site Error:	0.00 usft
Survey Program:	0-MWD										Offset Well Error:	0.00 usft
Reference	Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)		Offset (usft)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)			
0.00	0.00	17,190.26	6,852.97	0.00	268.23	179.08	-3,297.47	53.23	7,624.15			
98.43	98.43	17,191.00	6,852.98	0.08	268.25	179.09	-3,297.47	52.49	7,535.52	7,393.37	142.15	53.009

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