



Project: WELD COUNTY, COLORADO (TRUE)
Site: SW NE SEC. 6 T3N R65W 6th P.M.
Well: ELKHEAD 2N
Wellbore: ORIGINAL PROPOSAL
Design: PROPOSAL #1

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Departure	Annotation	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL: 2419ft FNL & 2200ft FEL of Sec 6	
300.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDGE (2°/100ft BUR)	
895.84	900.23	12.00	171.56	-61.97	9.19	-61.78	62.65	EOB TO 12° INC	
4235.96	4315.02	12.00	171.56	-764.52	113.40	-762.21	772.89	END OF TANGENT	
4831.80	4915.24	0.00	0.00	-826.49	122.60	-823.99	835.54	EOD TO VERTICAL	
6556.80	6640.24	0.00	0.00	-826.49	122.60	-823.99	835.54	KOP (8°/100ft BUR)	
7273.00	7765.24	90.00	0.15	-110.30	124.46	-107.89	1551.73	EP: 2530ft FNL & 2075ft FEL of Sec 6	
7273.05	13199.47	90.00	0.15	5323.91	138.59	5325.59	6985.96	END OF TANGENT	
7273.05	13371.10	90.00	355.00	5495.33	131.33	5496.84	7157.59	EOT TO 355° AZ	
7273.05	13381.10	90.00	355.00	5505.29	130.45	5506.78	7167.59	END OF TANGENT	
7273.05	13552.77	90.00	0.15	5676.75	123.19	5678.07	7339.26	EOT TO 0.15° AZ	
7273.05	13726.77	90.00	5.37	5850.49	131.57	5851.93	7513.26	EOT TO 5.37° AZ	
7273.05	13736.77	90.00	5.37	5860.44	132.51	5861.91	7523.26	END OF TANGENT	
7273.05	13910.62	90.00	0.15	6034.04	140.88	6035.63	7697.11	EOT TO 0.15° AZ	
7273.00	15433.96	90.00	0.15	7557.36	144.99	7558.75	9220.45	BHL: 150ft FNL & 2075ft FEL of Sec 31	

PROPOSED LOCAL COORDINATES:

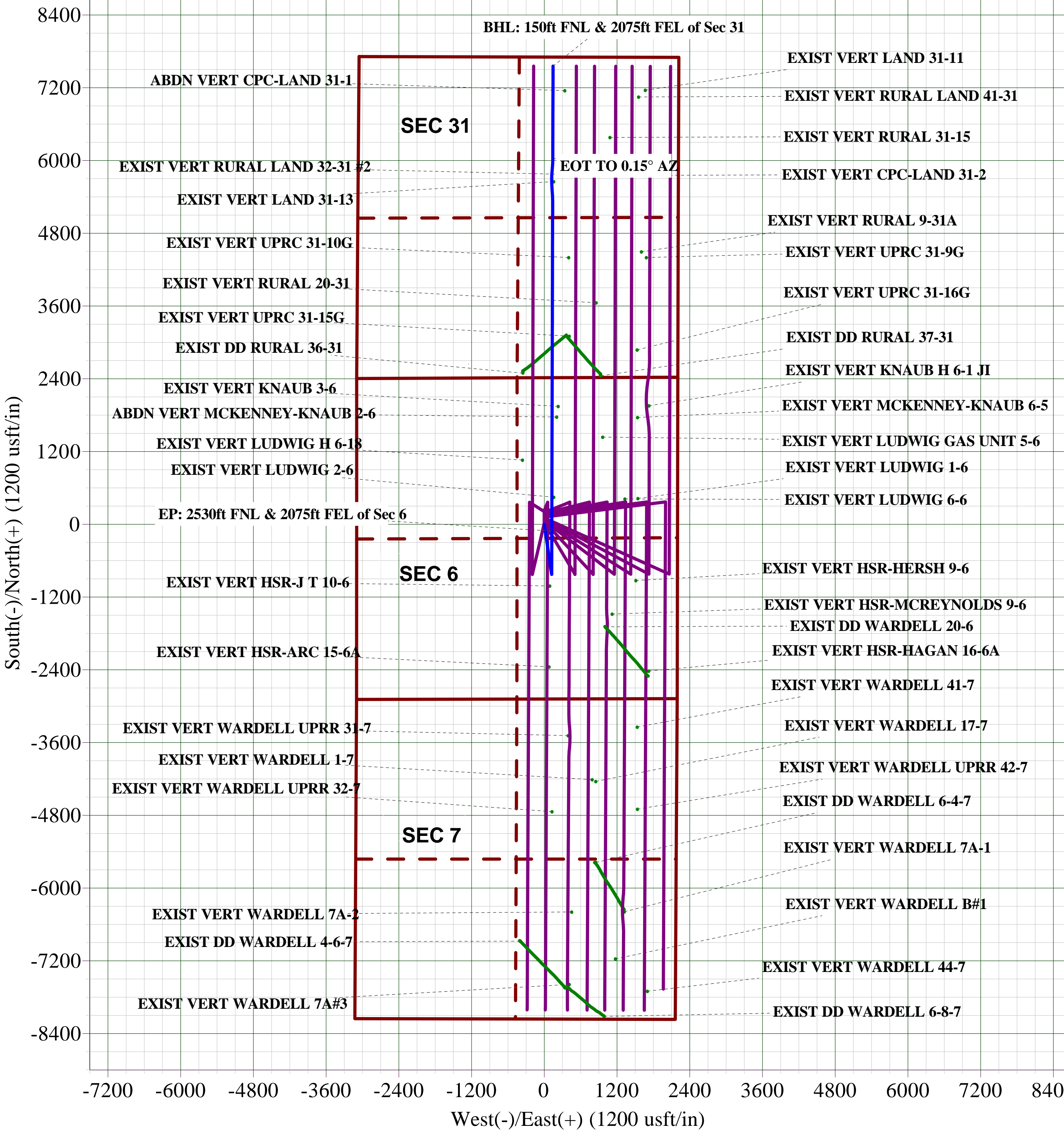
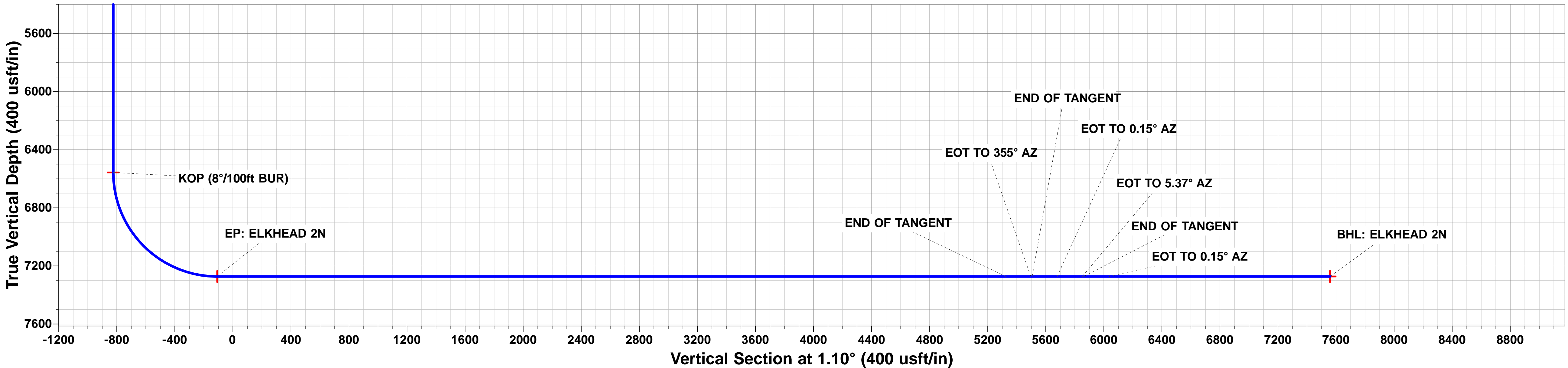
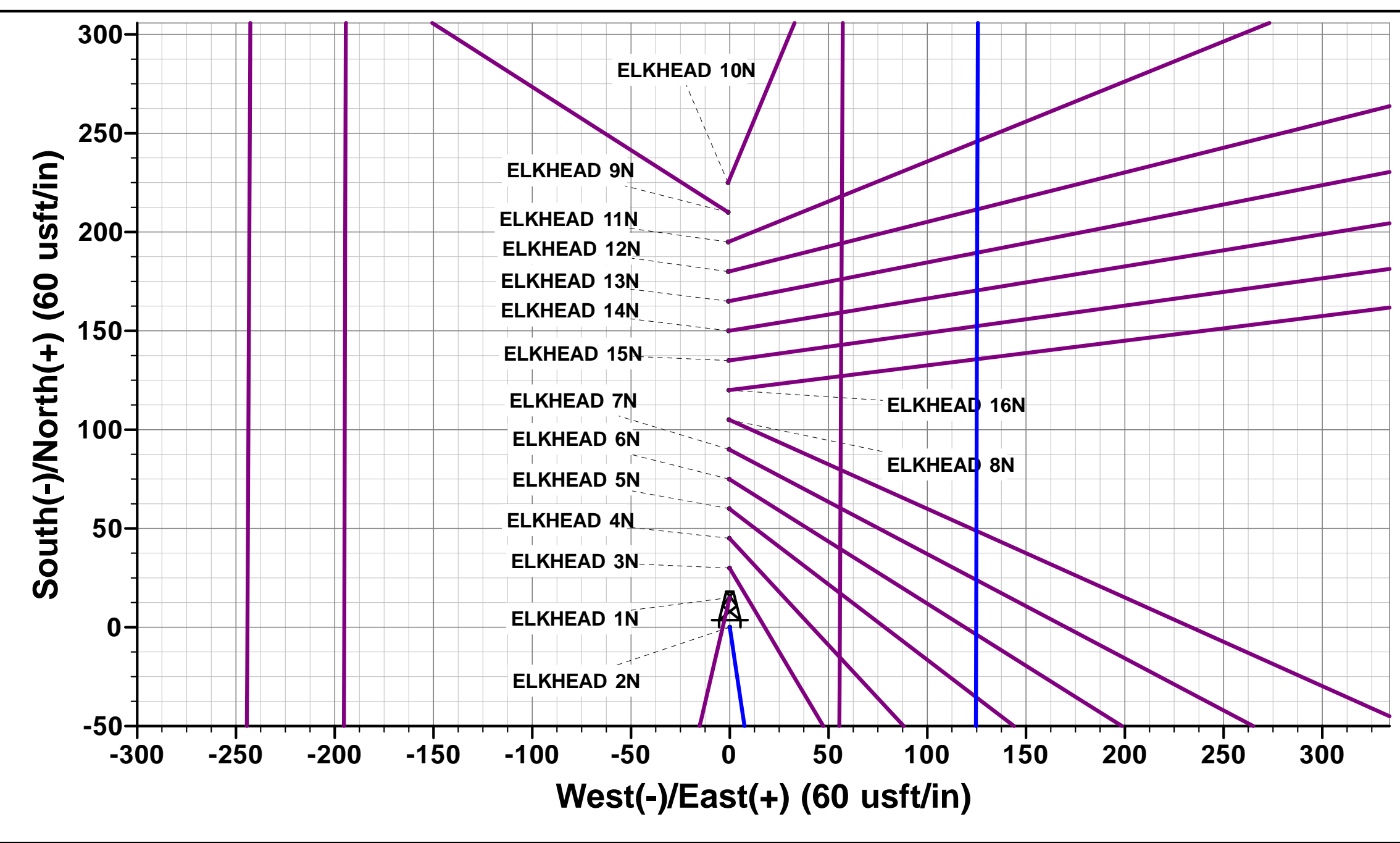
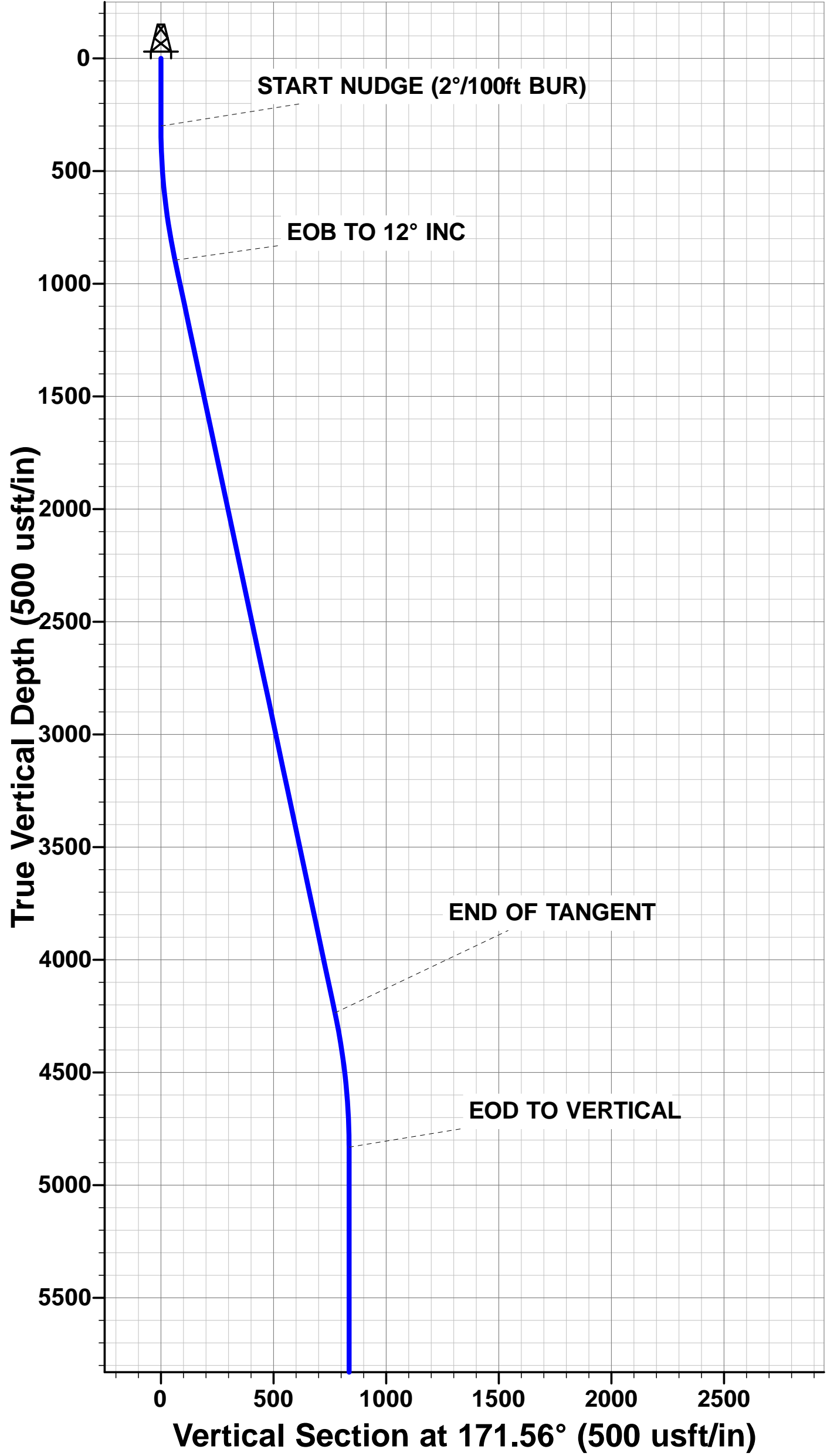
SHL: 2419ft FNL & 2200ft FEL of Sec 6

EP: 2530ft FNL & 2075ft FEL of Sec 6

BHL: 150ft FNL & 2075ft FEL of Sec 31

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP: ELKHEAD 2N	6556.80	-826.49	122.60	40.252771	-104.704125
EP: ELKHEAD 2N	7273.00	-110.30	124.46	40.254737	-104.704118
BHL: ELKHEAD 2N	7273.00	7557.36	144.99	40.275784	-104.704044



PDC ENERGY

**WELD COUNTY, COLORADO (TRUE)
SW NE SEC. 6 T3N R65W 6th P.M. (Elkhead)
ELKHEAD 2N**

**ORIGINAL PROPOSAL
PROPOSAL #1**

Anticollision Report

29 January, 2018



Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well ELKHEAD 2N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	WELL @ 4998.00usft (Original Well Elev)
Reference Site:	SW NE SEC. 6 T3N R65W 6th P.M. (Elkhead)	MD Reference:	WELL @ 4998.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	ELKHEAD 2N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL PROPOSAL	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 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 9,999.98 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	29/01/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	15,433.96	PROPOSAL #1 (ORIGINAL PROPOSAL)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
SW NE SEC. 6 T3N R65W 6th P.M. (Elkhead)						
ABDN VERT CPC-LAND 31-1 - Wellbore #1 - Design #1	15,031.32	7,273.01	195.35	38.09	1.242	Level 2, CC, ES, SF
ABDN VERT MCKENNEY-KNAUB 2-6 - Wellbore #1 - D	300.00	278.00	1,782.39	1,781.34	1,701.711	CC, ES
ABDN VERT MCKENNEY-KNAUB 2-6 - Wellbore #1 - D	11,100.00	4,975.00	2,701.70	2,666.06	75.799	SF
ELKHEAD 10N - ORIGINAL WELLBORE - PROPOSAL	7,600.00	7,605.48	69.74	33.03	1.900	SF
ELKHEAD 10N - ORIGINAL WELLBORE - PROPOSAL	7,615.66	7,590.67	69.55	32.99	1.902	CC, ES
ELKHEAD 11N - ORIGINAL WELLBORE - PROPOSAL #	300.00	300.00	194.96	193.88	181.838	CC, ES
ELKHEAD 11N - ORIGINAL WELLBORE - PROPOSAL #	7,300.00	7,783.48	296.36	256.25	7.390	SF
ELKHEAD 12N - ORIGINAL WELLBORE - PROPOSAL	300.00	300.00	179.97	178.89	167.858	CC, ES
ELKHEAD 12N - ORIGINAL WELLBORE - PROPOSAL	7,350.00	7,904.79	628.95	590.23	16.242	SF
ELKHEAD 13N - ORIGINAL WELLBORE - PROPOSAL	300.00	300.00	164.96	163.89	153.859	CC, ES
ELKHEAD 13N - ORIGINAL WELLBORE - PROPOSAL	7,100.00	8,013.20	925.51	883.18	21.863	SF
ELKHEAD 14N - ORIGINAL WELLBORE - PROPOSAL	300.00	300.00	149.98	148.91	139.893	CC, ES
ELKHEAD 14N - ORIGINAL WELLBORE - PROPOSAL	6,950.00	8,267.29	1,280.17	1,236.61	29.394	SF
ELKHEAD 15N - ORIGINAL WELLBORE - PROPOSAL	300.00	300.00	134.97	133.90	125.894	CC, ES
ELKHEAD 15N - ORIGINAL WELLBORE - PROPOSAL	6,640.24	8,350.69	1,673.57	1,626.12	35.267	SF
ELKHEAD 16N - ORIGINAL WELLBORE - PROPOSAL	300.00	300.00	119.97	118.89	111.894	CC, ES
ELKHEAD 16N - ORIGINAL WELLBORE - PROPOSAL	9,800.00	7,200.00	2,507.27	2,442.26	38.566	SF
ELKHEAD 1N - ORIGINAL WELLBORE - PROPOSAL #	2,757.04	2,811.93	272.19	258.07	19.281	CC
ELKHEAD 1N - ORIGINAL WELLBORE - PROPOSAL #	15,434.29	15,384.95	331.01	45.27	1.158	Level 2, ES, SF
ELKHEAD 3N - ORIGINAL WELLBORE - PROPOSAL #	300.00	300.00	29.98	28.91	27.961	CC, ES
ELKHEAD 3N - ORIGINAL WELLBORE - PROPOSAL #	15,434.29	15,362.58	394.20	105.11	1.364	Level 3, SF
ELKHEAD 4N - ORIGINAL WELLBORE - PROPOSAL #	300.00	300.00	44.99	43.92	41.965	CC, ES
ELKHEAD 4N - ORIGINAL WELLBORE - PROPOSAL #	15,434.29	15,473.79	684.86	391.05	2.331	SF
ELKHEAD 5N - ORIGINAL WELLBORE - PROPOSAL #	300.00	300.00	60.00	58.92	55.960	CC, ES
ELKHEAD 5N - ORIGINAL WELLBORE - PROPOSAL #	15,434.29	15,461.57	1,038.33	744.12	3.529	SF
ELKHEAD 6N - ORIGINAL WELLBORE - PROPOSAL #	300.00	300.00	74.97	73.90	69.930	CC, ES
ELKHEAD 6N - ORIGINAL WELLBORE - PROPOSAL #	15,434.29	15,618.22	1,304.81	1,010.54	4.434	SF
ELKHEAD 7N - ORIGINAL WELLBORE - PROPOSAL #	300.00	300.00	89.98	88.91	83.929	CC, ES
ELKHEAD 7N - ORIGINAL WELLBORE - PROPOSAL #	15,434.29	15,652.63	1,607.00	1,311.78	5.443	SF
ELKHEAD 8N - ORIGINAL WELLBORE - PROPOSAL #	300.00	300.00	104.99	103.92	97.929	CC, ES
ELKHEAD 8N - ORIGINAL WELLBORE - PROPOSAL #	15,434.29	15,873.07	1,939.67	1,644.31	6.567	SF
ELKHEAD 9N - ORIGINAL WELLBORE - PROPOSAL #	300.00	300.00	209.95	208.88	195.823	CC, ES
ELKHEAD 9N - ORIGINAL WELLBORE - PROPOSAL #	7,250.00	7,821.34	375.41	334.66	9.212	SF
EXIST DD RURAL 36-31 - Wellbore #1 - Wellbore #1	10,385.64	7,370.18	484.26	409.20	6.452	CC
EXIST DD RURAL 36-31 - Wellbore #1 - Wellbore #1	10,400.00	7,369.79	484.47	409.15	6.432	ES, SF
EXIST DD RURAL 37-31 - Wellbore #1 - Wellbore #1	10,329.99	7,338.81	797.73	723.46	10.741	CC, ES

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

Company:	PDC ENERGY	Local Co-ordinate Reference:	Well ELKHEAD 2N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	WELL @ 4998.00usft (Original Well Elev)
Reference Site:	SW NE SEC. 6 T3N R65W 6th P.M. (Elkhead)	MD Reference:	WELL @ 4998.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	ELKHEAD 2N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL PROPOSAL	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
SW NE SEC. 6 T3N R65W 6th P.M. (Elkhead)						
EXIST DD RURAL 37-31 - Wellbore #1 - Wellbore #1	10,500.00	7,339.97	815.64	738.29	10.545	SF
EXIST DD WARDELL 20-6 - Wellbore #1 - Wellbore #1	6,546.22	6,582.18	1,228.90	1,196.98	38.494	CC
EXIST DD WARDELL 20-6 - Wellbore #1 - Wellbore #1	6,640.24	6,674.40	1,228.97	1,196.74	38.128	ES
EXIST DD WARDELL 20-6 - Wellbore #1 - Wellbore #1	6,750.00	6,781.49	1,235.09	1,202.54	37.947	SF
EXIST DD WARDELL 4-6-7 - Wellbore #1 - Wellbore #1	6,668.06	6,925.00	6,072.32	6,036.63	170.120	CC, ES
EXIST DD WARDELL 4-6-7 - Wellbore #1 - Wellbore #1	10,900.00	7,275.44	9,905.97	9,821.56	117.354	SF
EXIST DD WARDELL 6-4-7 - Wellbore #1 - Wellbore #1	6,662.28	6,790.60	4,811.22	4,780.49	156.546	CC, ES
EXIST DD WARDELL 6-4-7 - Wellbore #1 - Wellbore #1	12,200.00	7,381.00	9,925.31	9,815.73	90.577	SF
EXIST DD WARDELL 6-8-7 - Wellbore #1 - Wellbore #1	4,625.76	3,848.00	7,096.58	7,076.26	349.288	CC, ES
EXIST DD WARDELL 6-8-7 - Wellbore #1 - Wellbore #1	9,700.00	6,453.00	9,962.43	9,916.00	214.561	SF
EXIST VERT CPC-LAND 31-2 - Wellbore #1 - Design #1	13,755.01	7,268.05	1,457.12	1,323.89	10.937	CC, ES
EXIST VERT CPC-LAND 31-2 - Wellbore #1 - Design #1	13,900.00	7,268.05	1,469.77	1,333.89	10.817	SF
EXIST VERT HSR-ARC 15-6A - Wellbore #1 - Design #1	6,640.24	6,534.80	1,523.80	1,494.19	51.469	CC, ES
EXIST VERT HSR-ARC 15-6A - Wellbore #1 - Design #1	6,650.00	6,544.56	1,523.87	1,494.24	51.436	SF
EXIST VERT HSR-HAGAN 16-6A - Wellbore #1 - Design #1	6,640.24	6,534.80	2,257.89	2,226.06	70.944	CC, ES
EXIST VERT HSR-HAGAN 16-6A - Wellbore #1 - Design #1	15,300.00	7,251.00	9,968.06	9,805.70	61.396	SF
EXIST VERT HSR-HERSH 9-6 - Wellbore #1 - Design #1	6,640.24	6,534.80	1,392.05	1,356.85	39.542	CC
EXIST VERT HSR-HERSH 9-6 - Wellbore #1 - Design #1	6,650.00	6,544.56	1,392.06	1,356.82	39.511	ES
EXIST VERT HSR-HERSH 9-6 - Wellbore #1 - Design #1	6,800.00	6,693.24	1,393.38	1,357.83	39.196	SF
EXIST VERT HSR-J T 10-6 - Wellbore #1 - Design #1	6,640.24	6,534.80	192.55	162.49	6.405	CC, ES
EXIST VERT HSR-J T 10-6 - Wellbore #1 - Design #1	6,650.00	6,544.56	192.62	162.53	6.402	SF
EXIST VERT HSR-MCREYNOLDS 9-6 - Wellbore #1 - D	6,640.24	6,534.80	1,192.19	1,159.15	36.079	CC, ES
EXIST VERT HSR-MCREYNOLDS 9-6 - Wellbore #1 - D	6,700.00	6,594.49	1,193.55	1,160.39	35.989	SF
EXIST VERT KNAUB 3-6 - Wellbore #1 - Design #1	9,821.26	7,251.02	100.12	38.26	1.619	CC, ES, SF
EXIST VERT KNAUB H 6-1 JI - Wellbore #1 - Design #1	9,836.14	7,251.02	1,598.83	1,536.71	25.740	CC, ES
EXIST VERT KNAUB H 6-1 JI - Wellbore #1 - Design #1	10,600.00	7,251.03	1,771.93	1,696.10	23.368	SF
EXIST VERT LAND 31-11 - Wellbore #1 - Design #1	15,041.93	7,268.01	1,522.99	1,365.53	9.672	CC
EXIST VERT LAND 31-11 - Wellbore #1 - Design #1	15,100.00	7,268.01	1,524.10	1,365.53	9.612	ES
EXIST VERT LAND 31-11 - Wellbore #1 - Design #1	15,300.00	7,268.00	1,544.70	1,382.32	9.513	SF
EXIST VERT LAND 31-13 - Wellbore #1 - Design #1	13,527.90	7,268.05	33.21	-96.63	0.256	Level 1, CC, ES, SF
EXIST VERT LUDWIG 1-6 - Wellbore #1 - Design #1	300.00	278.00	1,602.32	1,601.27	1,529.793	CC
EXIST VERT LUDWIG 1-6 - Wellbore #1 - Design #1	400.00	377.98	1,602.53	1,601.06	1,089.111	ES
EXIST VERT LUDWIG 1-6 - Wellbore #1 - Design #1	5,000.00	4,800.00	1,897.51	1,869.63	68.068	SF
EXIST VERT LUDWIG 2-6 - Wellbore #1 - Design #1	8,323.79	7,251.01	31.45	-7.34	0.811	Level 1, CC, ES, SF
EXIST VERT LUDWIG 6-6 - Wellbore #1 - Design #1	8,297.73	7,251.00	1,203.80	1,165.30	31.264	CC
EXIST VERT LUDWIG 6-6 - Wellbore #1 - Design #1	8,300.00	7,251.00	1,203.80	1,165.27	31.245	ES
EXIST VERT LUDWIG 6-6 - Wellbore #1 - Design #1	8,900.00	7,251.01	1,346.06	1,299.52	28.925	SF
EXIST VERT LUDWIG GAS UNIT 5-6 - Wellbore #1 - De	9,316.81	7,251.01	835.47	782.26	15.702	CC, ES
EXIST VERT LUDWIG GAS UNIT 5-6 - Wellbore #1 - De	9,500.00	7,251.02	855.32	799.03	15.195	SF
EXIST VERT LUDWIG H 6-18 - Wellbore #1 - Design #1	8,935.93	7,251.01	487.33	440.24	10.349	CC, ES
EXIST VERT LUDWIG H 6-18 - Wellbore #1 - Design #1	9,000.00	7,251.01	491.52	443.44	10.223	SF
EXIST VERT MCKENNEY-KNAUB 6-5 - Wellbore #1 - D	300.00	278.00	2,340.42	2,339.37	2,234.484	CC, ES
EXIST VERT MCKENNEY-KNAUB 6-5 - Wellbore #1 - D	13,726.77	4,795.00	4,971.67	4,884.59	57.091	SF
EXIST VERT RURAL 20-31 - Wellbore #1 - Design #1	11,531.47	7,268.03	723.58	630.53	7.777	CC, ES
EXIST VERT RURAL 20-31 - Wellbore #1 - Design #1	11,600.00	7,268.03	726.82	632.49	7.706	SF
EXIST VERT RURAL 31-15 - Wellbore #1 - Design #1	14,261.81	7,268.04	941.94	799.34	6.605	CC, ES
EXIST VERT RURAL 31-15 - Wellbore #1 - Design #1	14,400.00	7,268.04	952.02	806.79	6.555	SF
EXIST VERT RURAL 9-31A - Wellbore #1 - Design #1	12,374.99	7,268.04	1,466.47	1,357.63	13.474	CC
EXIST VERT RURAL 9-31A - Wellbore #1 - Design #1	12,400.00	7,268.04	1,466.68	1,357.37	13.418	ES
EXIST VERT RURAL 9-31A - Wellbore #1 - Design #1	12,700.00	7,268.04	1,502.05	1,387.09	13.066	SF
EXIST VERT RURAL LAND 32-31 #2 - Wellbore #1 - De	13,658.47	7,268.05	140.00	8.17	1.062	Level 2, CC, ES, SF
EXIST VERT RURAL LAND 41-31 - Wellbore #1 - Design	14,929.78	7,268.02	1,411.68	1,256.36	9.089	CC, 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 ELKHEAD 2N
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Reference Design:	PROPOSAL #1	Offset TVD Reference:	Offset Datum

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SW NE SEC. 6 T3N R65W 6th P.M. (Elkhead)						
EXIST VERT RURAL LAND 41-31 - Wellbore #1 - Design	15,200.00	7,268.01	1,437.31	1,276.84	8.957	SF
EXIST VERT UPRC 31-10G - Wellbore #1 - Design #1	12,277.10	7,268.04	266.73	159.73	2.493	CC, ES
EXIST VERT UPRC 31-10G - Wellbore #1 - Design #1	12,300.00	7,268.04	267.71	160.28	2.492	SF
EXIST VERT UPRC 31-15G - Wellbore #1 - Design #1	10,980.22	7,268.03	280.73	197.91	3.390	CC, ES
EXIST VERT UPRC 31-15G - Wellbore #1 - Design #1	11,000.00	7,268.03	281.42	198.24	3.383	SF
EXIST VERT UPRC 31-16G - Wellbore #1 - Design #1	10,757.30	7,268.03	1,401.01	1,322.28	17.796	CC
EXIST VERT UPRC 31-16G - Wellbore #1 - Design #1	10,800.00	7,268.03	1,401.66	1,322.15	17.629	ES
EXIST VERT UPRC 31-16G - Wellbore #1 - Design #1	11,200.00	7,268.03	1,469.29	1,382.40	16.911	SF
EXIST VERT UPRC 31-9G - Wellbore #1 - Design #1	12,280.48	7,268.04	1,547.65	1,440.59	14.456	CC
EXIST VERT UPRC 31-9G - Wellbore #1 - Design #1	12,300.00	7,268.04	1,547.77	1,440.34	14.407	ES
EXIST VERT UPRC 31-9G - Wellbore #1 - Design #1	12,700.00	7,268.04	1,603.50	1,488.54	13.948	SF
EXIST VERT WARDELL 1-7 - Wellbore #1 - Design #1	6,640.24	6,534.80	3,449.17	3,419.76	117.255	CC, ES
EXIST VERT WARDELL 1-7 - Wellbore #1 - Design #1	13,600.00	7,251.05	9,956.54	9,825.55	76.010	SF
EXIST VERT WARDELL 17-7 - Wellbore #1 - Design #1	6,640.24	6,534.80	3,490.47	3,461.04	118.608	CC, ES
EXIST VERT WARDELL 17-7 - Wellbore #1 - Design #1	13,600.00	7,251.05	9,990.76	9,859.77	76.272	SF
EXIST VERT WARDELL 41-7 - Wellbore #1 - Design #1	6,640.24	6,534.80	2,885.26	2,854.95	95.189	CC, ES
EXIST VERT WARDELL 41-7 - Wellbore #1 - Design #1	14,400.00	7,251.04	9,963.88	9,818.66	68.617	SF
EXIST VERT WARDELL 44-7 - Wellbore #1 - Design #1	6,640.24	6,534.80	7,052.86	7,023.41	239.519	CC, ES
EXIST VERT WARDELL 44-7 - Wellbore #1 - Design #1	10,000.00	7,251.02	9,949.58	9,884.57	153.052	SF
EXIST VERT WARDELL 7A#3 - Wellbore #1 - Design #1	6,640.24	6,534.80	6,768.05	6,738.58	229.670	CC, ES
EXIST VERT WARDELL 7A#3 - Wellbore #1 - Design #1	10,200.00	7,251.02	9,916.78	9,848.20	144.599	SF
EXIST VERT WARDELL 7A-1 - Wellbore #1 - Design #1	6,640.24	6,534.80	5,691.00	5,661.56	193.368	CC, ES
EXIST VERT WARDELL 7A-1 - Wellbore #1 - Design #1	11,400.00	7,251.03	9,985.08	9,894.50	110.238	SF
EXIST VERT WARDELL 7A-2 - Wellbore #1 - Design #1	6,640.24	6,534.80	5,576.69	5,547.24	189.381	CC, ES
EXIST VERT WARDELL 7A-2 - Wellbore #1 - Design #1	11,400.00	7,251.03	9,922.98	9,832.40	109.553	SF
EXIST VERT WARDELL B#1 - Wellbore #1 - Design #1	6,640.24	6,534.80	6,425.50	6,396.10	218.559	CC, ES
EXIST VERT WARDELL B#1 - Wellbore #1 - Design #1	10,600.00	7,251.03	9,944.58	9,868.76	131.149	SF
EXIST VERT WARDELL UPRR 31-7 - Wellbore #1 - Des	6,640.24	6,534.80	2,671.78	2,642.37	90.851	CC, ES
EXIST VERT WARDELL UPRR 31-7 - Wellbore #1 - Des	14,300.00	7,251.04	9,911.08	9,767.78	69.159	SF
EXIST VERT WARDELL UPRR 32-7 - Wellbore #1 - Des	6,640.24	6,534.80	3,911.91	3,882.37	132.426	CC, ES
EXIST VERT WARDELL UPRR 32-7 - Wellbore #1 - Des	13,100.00	7,251.05	9,962.85	9,840.36	81.338	SF
EXIST VERT WARDELL UPRR 42-7 - Wellbore #1 - Des	6,640.24	6,534.80	4,120.41	4,090.71	138.731	CC, ES
EXIST VERT WARDELL UPRR 42-7 - Wellbore #1 - Des	13,000.00	7,251.05	9,920.29	9,799.68	82.257	SF

Offset Design SW NE SEC. 6 T3N R65W 6th P.M. (Elkhead) - ABDN VERT CPC-LAND 31-1 - Wellbore #1 - Design #												Offset Site Error:	0.00 usft
Survey Program: 0-MWD												Offset Well Error:	0.00 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	2.71	7,154.25	339.25	7,162.29				
100.00	100.00	100.00	100.00	0.09	0.09	2.71	7,154.25	339.25	7,162.29	7,162.11	0.17	N/A	
200.00	200.00	200.00	200.00	0.31	0.31	2.71	7,154.25	339.25	7,162.29	7,161.66	0.62	N/A	
300.00	300.00	300.00	300.00	0.54	0.54	2.71	7,154.25	339.25	7,162.29	7,161.21	1.07	6,680.400	
400.00	399.98	399.98	399.98	0.74	0.76	-168.84	7,154.25	339.25	7,164.00	7,162.50	1.50	4,770.889	
500.00	499.84	499.84	499.84	0.94	0.99	-168.83	7,154.25	339.25	7,169.13	7,167.21	1.93	3,721.857	
600.00	599.45	599.45	599.45	1.17	1.21	-168.81	7,154.25	339.25	7,177.68	7,175.32	2.36	3,035.998	
700.00	698.70	698.70	698.70	1.44	1.43	-168.78	7,154.25	339.25	7,189.64	7,186.83	2.81	2,558.197	
800.00	797.47	797.47	797.47	1.76	1.65	-168.75	7,154.25	339.25	7,204.99	7,201.73	3.26	2,208.024	
900.00	895.62	895.62	895.62	2.14	1.87	-168.70	7,154.25	339.25	7,223.72	7,219.99	3.72	1,940.991	

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