



Project: WELD COUNTY, COLORADO (TRUE)
 Site: SW NE SEC. 6 T3N R65W 6th P.M.
 Well: ELKHEAD 14N
 Wellbore: ORIGINAL WELLBORE
 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: 2269ft FNL & 2201ft FEL of Sec 6
800.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUUDGE (2°/100ft BUR)
1572.21	1581.88	15.64	80.76	17.02	104.66	-0.31	106.04	EOB TO 15.64° INC
5674.59	5841.95	15.64	80.76	201.39	1238.07	-3.70	1254.34	END OF TANGENT
6446.80	6623.82	0.00	0.00	218.42	1342.73	-4.02	1360.38	EOD TO VERTICAL
6546.80	6723.82	0.00	0.00	218.42	1342.73	-4.02	1360.38	KOP (8°/100ft BUR)
7263.00	7848.83	90.00	180.27	-497.77	1339.37	702.69	2076.58	EP: 2530ft FSL & 860ft FEL of Sec 6
7263.00	13464.24	90.00	180.27	-6113.12	1312.97	6243.67	7691.99	END OF TANGENT
7263.00	13655.26	90.00	186.00	-6303.78	1302.53	6430.29	7883.02	EOT TO 186° AZ
7263.00	13665.26	90.00	186.00	-6313.73	1301.49	6439.95	7893.02	END OF TANGENT
7263.00	13856.26	90.00	180.27	-6504.36	1291.05	6626.56	8084.02	EOT TO 180.27° AZ
7263.00	14046.93	90.00	174.55	-6694.75	1299.66	6815.93	8274.68	EOT TO 174.55° AZ
7263.00	14056.93	90.00	174.55	-6704.71	1300.61	6825.91	8284.68	END OF TANGENT
7263.00	14247.70	90.00	180.27	-6895.20	1309.22	7015.38	8475.45	EOT TO 180.27° AZ
7263.00	15515.81	90.00	180.27	-8163.30	1303.18	8266.66	9743.56	BHL: 150ft FSL & 860ft FEL of Sec 7

PROPOSED LOCAL COORDINATES:

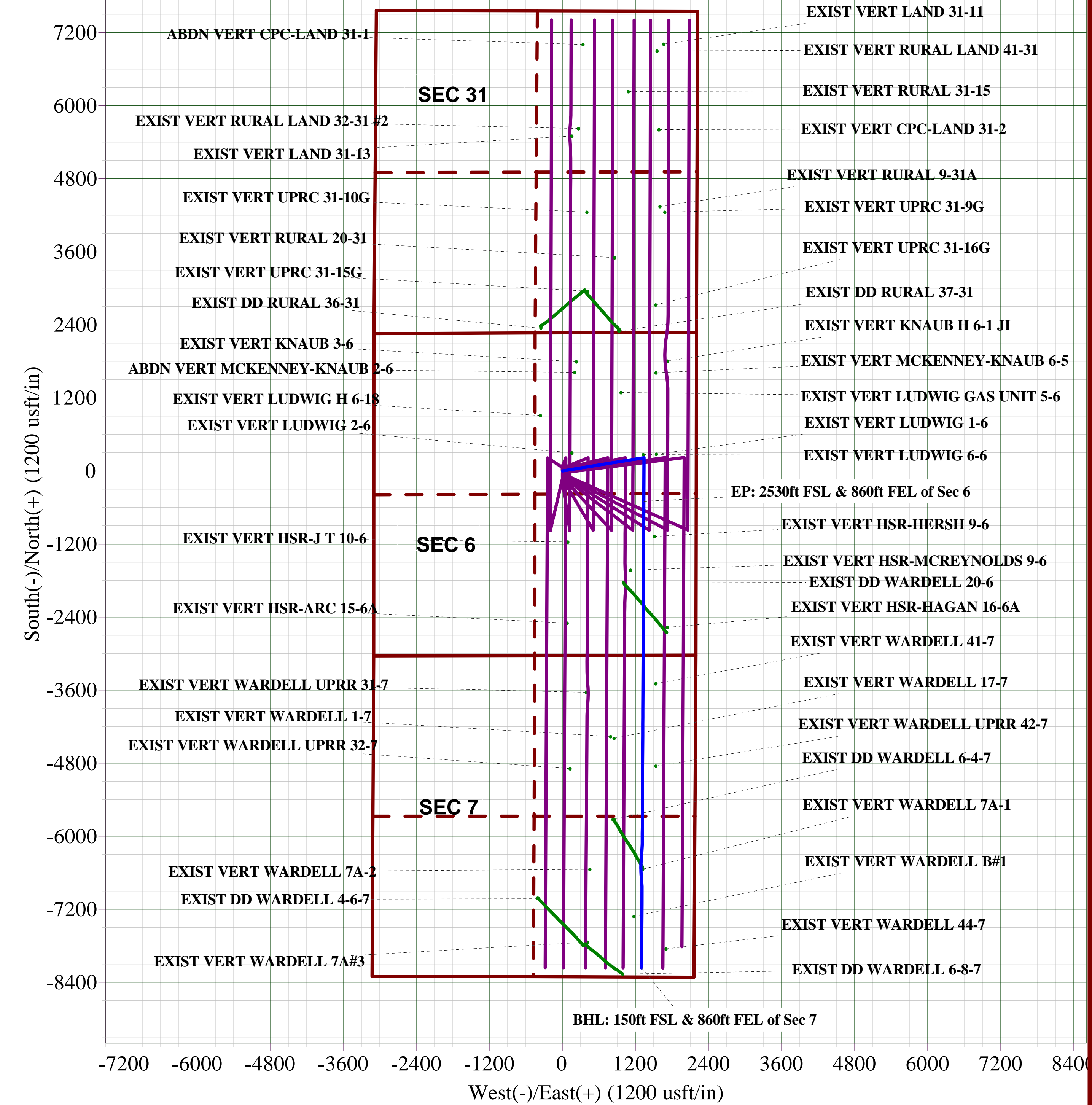
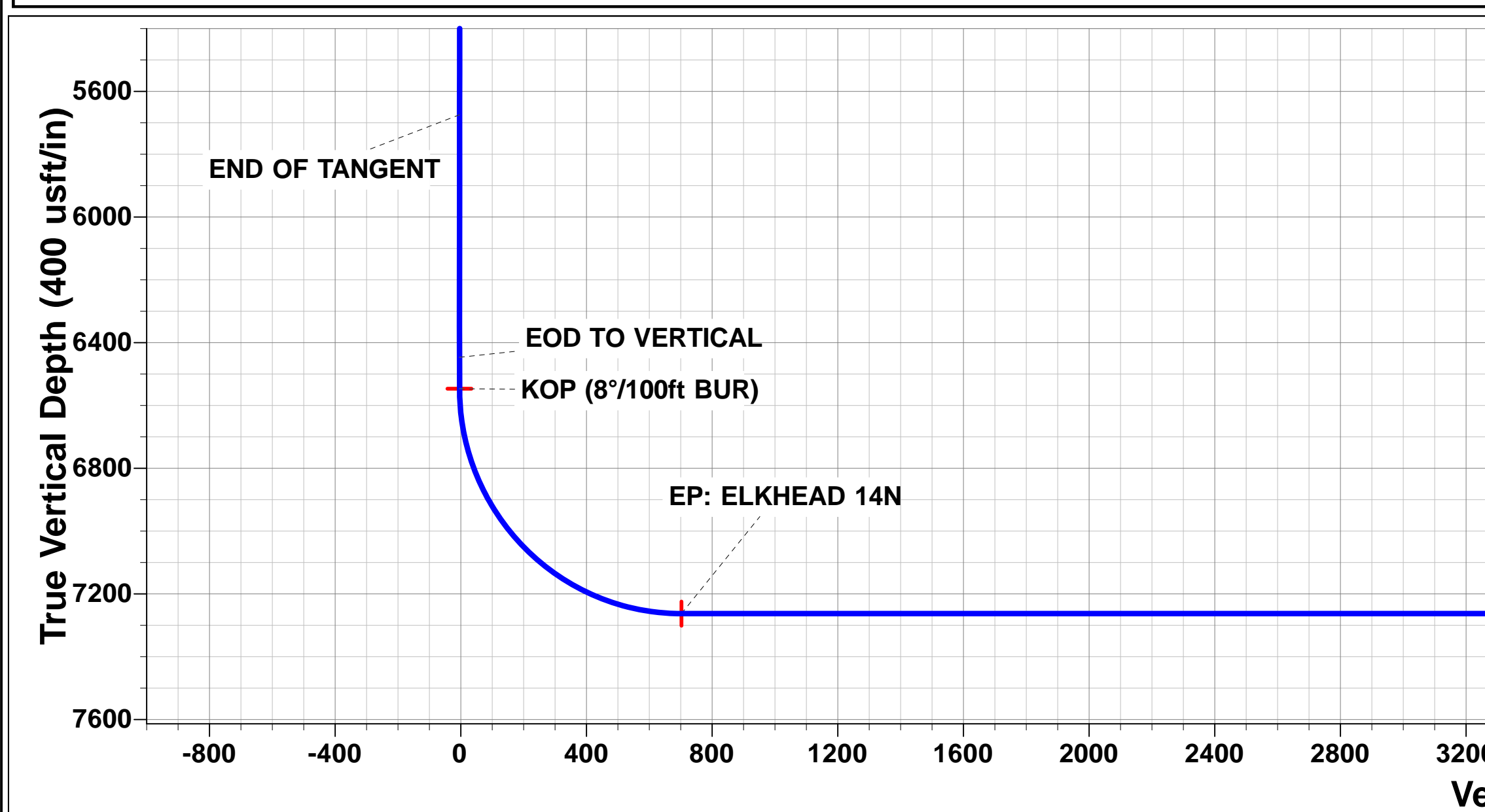
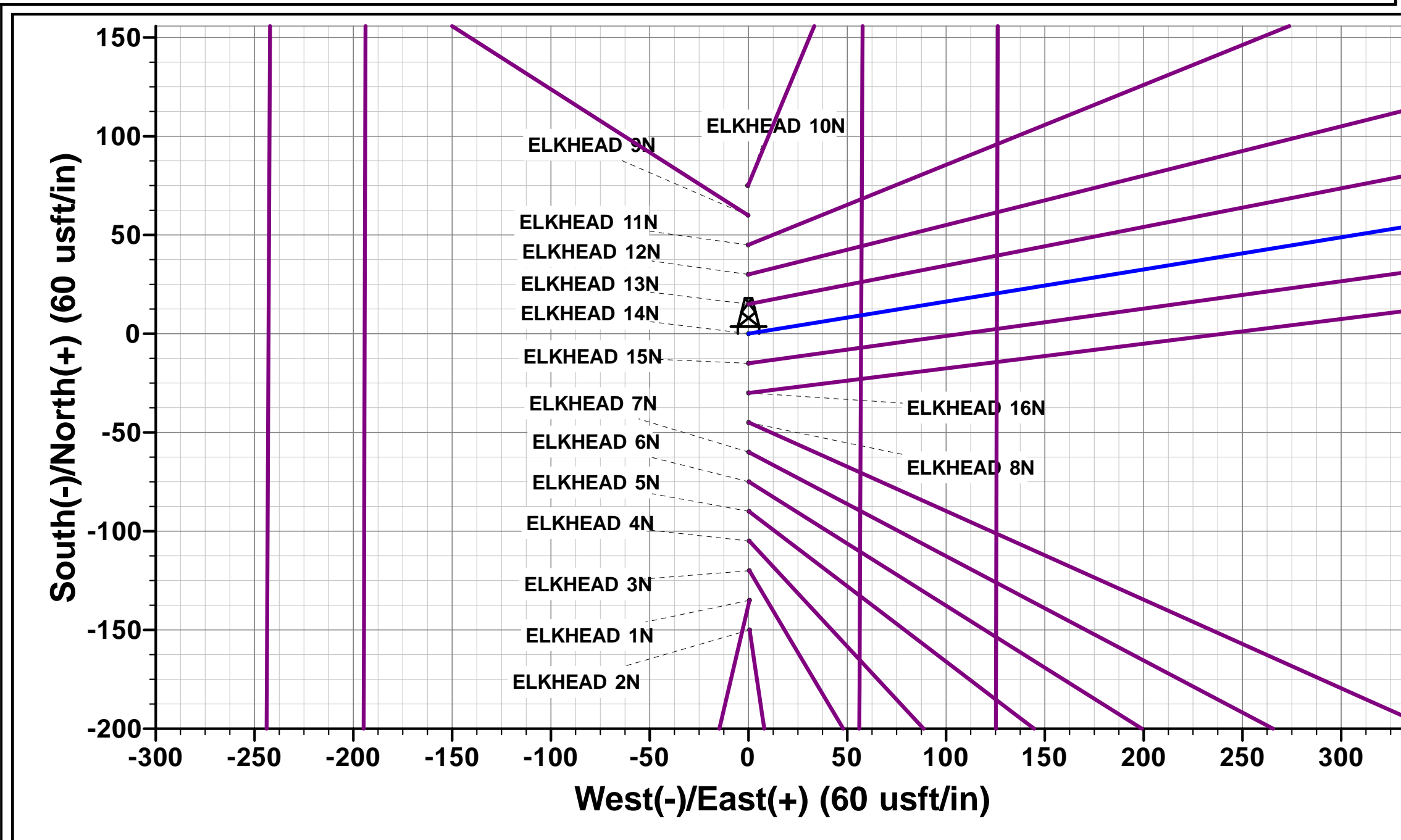
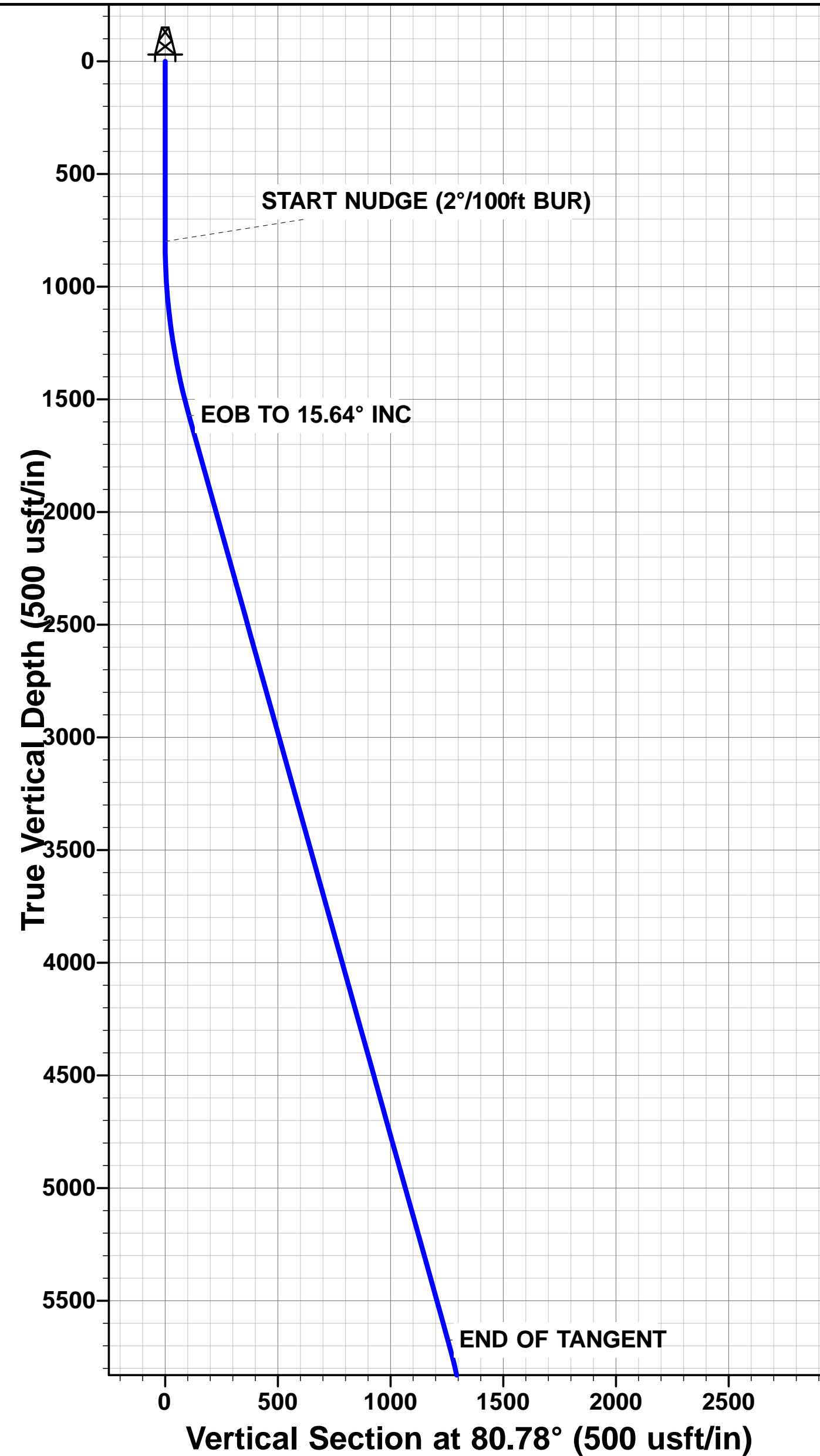
SHL: 2269ft FNL & 2201ft FEL of Sec 6

EP: 2530ft FSL & 860ft FEL of Sec 6

BHL: 150ft FSL & 860ft FEL of Sec 7

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP: ELKHEAD 14N	6546.80	218.42	1342.73	40.256051	-104.699755
EP: ELKHEAD 14N	7263.00	-497.77	1339.37	40.254085	-104.699767
BHL: ELKHEAD 14N	7263.00	-8163.30	1303.18	40.233043	-104.699898



PDC ENERGY

**WELD COUNTY, COLORADO (TRUE)
SW NE SEC. 6 T3N R65W 6th P.M. (Elkhead)
ELKHEAD 14N**

**ORIGINAL WELLBORE
PROPOSAL #1**

Anticollision Report

29 January, 2018





Company:	PDC ENERGY	Local Co-ordinate Reference:	Well ELKHEAD 14N
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 14N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 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 100.00usft	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	15,515.81	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
SW NE SEC. 6 T3N R65W 6th P.M. (Elkhead)						
ABDN VERT CPC-LAND 31-1 - Wellbore #1 - Design #1	6,723.82	6,546.80	6,859.56	6,815.06	154.140	CC, ES
ABDN VERT CPC-LAND 31-1 - Wellbore #1 - Design #1	10,200.00	7,263.00	9,902.64	9,828.52	133.591	SF
ABDN VERT MCKENNEY-KNAUB 2-6 - Wellbore #1 - D	2,905.77	2,825.10	1,566.60	1,549.37	90.883	CC
ABDN VERT MCKENNEY-KNAUB 2-6 - Wellbore #1 - D	3,100.00	3,012.14	1,567.48	1,548.74	83.632	ES
ABDN VERT MCKENNEY-KNAUB 2-6 - Wellbore #1 - D	5,400.00	4,975.00	1,723.30	1,688.25	49.161	SF
ELKHEAD 10N - ORIGINAL WELLBORE - PROPOSAL	300.00	300.00	74.97	73.90	69.930	CC, ES
ELKHEAD 10N - ORIGINAL WELLBORE - PROPOSAL	15,515.81	15,339.70	1,284.73	970.11	4.083	SF
ELKHEAD 11N - ORIGINAL WELLBORE - PROPOSAL #	500.00	500.00	44.97	43.00	22.814	CC, ES
ELKHEAD 11N - ORIGINAL WELLBORE - PROPOSAL #	15,515.81	15,250.39	925.77	616.12	2.990	SF
ELKHEAD 12N - ORIGINAL WELLBORE - PROPOSAL	600.00	600.00	29.98	27.56	12.386	CC, ES
ELKHEAD 12N - ORIGINAL WELLBORE - PROPOSAL	15,515.81	15,409.79	594.88	280.77	1.894	SF
ELKHEAD 13N - ORIGINAL WELLBORE - PROPOSAL	700.00	700.00	14.97	12.10	5.217	CC
ELKHEAD 13N - ORIGINAL WELLBORE - PROPOSAL	1,900.00	1,896.45	20.90	10.08	1.932	ES
ELKHEAD 13N - ORIGINAL WELLBORE - PROPOSAL	15,515.81	15,337.76	322.50	26.44	1.089	Level 2, SF
ELKHEAD 15N - ORIGINAL WELLBORE - PROPOSAL	800.00	800.00	15.01	11.69	4.521	CC
ELKHEAD 15N - ORIGINAL WELLBORE - PROPOSAL	2,100.00	2,105.47	20.68	7.53	1.572	ES
ELKHEAD 15N - ORIGINAL WELLBORE - PROPOSAL	15,515.81	15,531.36	363.34	57.95	1.190	Level 2, SF
ELKHEAD 16N - ORIGINAL WELLBORE - PROPOSAL	800.00	800.00	30.02	26.70	9.042	CC
ELKHEAD 16N - ORIGINAL WELLBORE - PROPOSAL	2,333.04	2,345.34	41.28	25.53	2.620	ES
ELKHEAD 16N - ORIGINAL WELLBORE - PROPOSAL	15,200.00	15,412.93	661.19	361.99	2.210	SF
ELKHEAD 1N - ORIGINAL WELLBORE - PROPOSAL #	1,638.46	1,628.51	146.31	137.62	16.837	CC, ES
ELKHEAD 1N - ORIGINAL WELLBORE - PROPOSAL #	1,700.00	1,684.50	148.52	139.44	16.363	SF
ELKHEAD 2N - ORIGINAL PROPOSAL - PROPOSAL #1	300.00	300.00	149.98	148.91	139.893	CC, ES
ELKHEAD 2N - ORIGINAL PROPOSAL - PROPOSAL #1	8,700.00	7,050.00	1,344.18	1,294.81	27.227	SF
ELKHEAD 3N - ORIGINAL WELLBORE - PROPOSAL #	500.00	500.00	120.01	118.03	60.880	CC, ES
ELKHEAD 3N - ORIGINAL WELLBORE - PROPOSAL #	8,200.00	7,239.38	871.95	829.98	20.775	SF
ELKHEAD 4N - ORIGINAL WELLBORE - PROPOSAL #	600.00	600.00	104.99	102.57	43.372	CC, ES
ELKHEAD 4N - ORIGINAL WELLBORE - PROPOSAL #	8,000.00	7,450.00	537.41	495.85	12.931	SF
ELKHEAD 5N - ORIGINAL WELLBORE - PROPOSAL #	700.00	700.00	89.99	87.12	31.352	CC, ES
ELKHEAD 5N - ORIGINAL WELLBORE - PROPOSAL #	7,500.00	7,894.59	181.09	141.58	4.584	SF
ELKHEAD 6N - ORIGINAL WELLBORE - PROPOSAL #	800.00	800.00	75.01	71.69	22.595	CC
ELKHEAD 6N - ORIGINAL WELLBORE - PROPOSAL #	7,800.00	7,766.38	90.79	47.56	2.100	ES, SF
ELKHEAD 7N - ORIGINAL WELLBORE - PROPOSAL #	800.00	800.00	60.00	56.68	18.074	CC
ELKHEAD 7N - ORIGINAL WELLBORE - PROPOSAL #	900.00	899.98	60.30	56.54	16.042	ES
ELKHEAD 7N - ORIGINAL WELLBORE - PROPOSAL #	7,848.83	7,774.49	405.33	359.87	8.915	SF
ELKHEAD 8N - ORIGINAL WELLBORE - PROPOSAL #	800.00	800.00	44.99	41.67	13.553	CC

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 14N
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 14N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 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
SW NE SEC. 6 T3N R65W 6th P.M. (Elkhead)						
ELKHEAD 8N - ORIGINAL WELLBORE - PROPOSAL #	900.00	899.98	45.30	41.54	12.051	ES
ELKHEAD 8N - ORIGINAL WELLBORE - PROPOSAL #	1,100.00	1,099.22	50.14	45.52	10.846	SF
ELKHEAD 9N - ORIGINAL WELLBORE - PROPOSAL #	400.00	400.00	59.96	58.44	39.407	CC, ES
ELKHEAD 9N - ORIGINAL WELLBORE - PROPOSAL #	15,515.81	15,246.80	1,588.13	1,274.42	5.062	SF
EXIST DD RURAL 36-31 - Wellbore #1 - Wellbore #1	3,567.87	3,725.83	2,504.28	2,473.14	80.411	CC
EXIST DD RURAL 36-31 - Wellbore #1 - Wellbore #1	3,600.00	3,749.51	2,504.34	2,472.91	79.679	ES
EXIST DD RURAL 36-31 - Wellbore #1 - Wellbore #1	6,750.00	6,696.68	2,741.59	2,692.42	55.767	SF
EXIST DD RURAL 37-31 - Wellbore #1 - Wellbore #1	6,732.68	6,646.33	2,130.21	2,083.93	46.035	CC, ES
EXIST DD RURAL 37-31 - Wellbore #1 - Wellbore #1	6,750.00	6,660.00	2,130.41	2,084.09	45.990	SF
EXIST DD WARDELL 20-6 - Wellbore #1 - Wellbore #1	9,190.71	7,386.14	325.57	264.34	5.317	CC
EXIST DD WARDELL 20-6 - Wellbore #1 - Wellbore #1	9,200.00	7,386.21	325.70	264.31	5.305	ES, SF
EXIST DD WARDELL 4-6-7 - Wellbore #1 - Wellbore #1	14,378.14	7,363.29	1,715.64	1,560.53	11.061	CC
EXIST DD WARDELL 4-6-7 - Wellbore #1 - Wellbore #1	14,400.00	7,363.64	1,715.78	1,560.25	11.032	ES
EXIST DD WARDELL 4-6-7 - Wellbore #1 - Wellbore #1	14,700.00	7,368.34	1,745.56	1,584.32	10.826	SF
EXIST DD WARDELL 6-4-7 - Wellbore #1 - Wellbore #1	13,080.02	7,317.60	482.82	350.88	3.660	CC, ES
EXIST DD WARDELL 6-4-7 - Wellbore #1 - Wellbore #1	13,100.00	7,317.42	483.23	350.92	3.652	SF
EXIST DD WARDELL 6-8-7 - Wellbore #1 - Wellbore #1	15,515.81	7,312.27	327.60	153.91	1.886	CC, ES, SF
EXIST VERT CPC-LAND 31-2 - Wellbore #1 - Design #1	6,723.82	6,541.80	5,393.22	5,349.08	122.168	CC, ES
EXIST VERT CPC-LAND 31-2 - Wellbore #1 - Design #1	11,700.00	7,258.00	9,958.56	9,856.63	97.695	SF
EXIST VERT HSR-ARC 15-6A - Wellbore #1 - Design #1	9,856.61	7,241.00	1,250.16	1,182.28	18.416	CC
EXIST VERT HSR-ARC 15-6A - Wellbore #1 - Design #1	9,900.00	7,241.00	1,250.92	1,182.25	18.218	ES
EXIST VERT HSR-ARC 15-6A - Wellbore #1 - Design #1	10,300.00	7,241.00	1,326.46	1,250.54	17.470	SF
EXIST VERT HSR-HAGAN 16-6A - Wellbore #1 - Design #1	9,918.04	7,241.00	394.31	325.32	5.716	CC, ES
EXIST VERT HSR-HAGAN 16-6A - Wellbore #1 - Design #1	10,000.00	7,241.00	402.74	332.27	5.715	SF
EXIST VERT HSR-HERSH 9-6 - Wellbore #1 - Design #1	8,425.42	7,241.00	175.05	131.18	3.990	CC, ES, SF
EXIST VERT HSR-J T 10-6 - Wellbore #1 - Design #1	800.00	778.00	1,169.85	1,166.56	355.031	CC
EXIST VERT HSR-J T 10-6 - Wellbore #1 - Design #1	900.00	877.98	1,170.00	1,166.27	313.328	ES
EXIST VERT HSR-J T 10-6 - Wellbore #1 - Design #1	9,100.00	7,241.00	1,372.36	1,317.74	25.127	SF
EXIST VERT HSR-MCREYNOLDS 9-6 - Wellbore #1 - D	8,981.01	7,241.00	213.10	160.48	4.050	CC, ES
EXIST VERT HSR-MCREYNOLDS 9-6 - Wellbore #1 - D	9,000.00	7,241.00	213.94	161.01	4.042	SF
EXIST VERT KNAUB 3-6 - Wellbore #1 - Design #1	3,101.90	3,013.97	1,735.17	1,716.40	92.456	CC
EXIST VERT KNAUB 3-6 - Wellbore #1 - Design #1	3,300.00	3,204.73	1,735.99	1,715.68	85.488	ES
EXIST VERT KNAUB 3-6 - Wellbore #1 - Design #1	6,750.00	6,550.97	1,930.21	1,887.81	45.524	SF
EXIST VERT KNAUB H 6-1 JI - Wellbore #1 - Design #1	6,723.82	6,524.80	1,634.39	1,591.35	37.971	CC, ES, SF
EXIST VERT LAND 31-11 - Wellbore #1 - Design #1	6,723.82	6,541.80	6,800.59	6,756.45	154.081	CC, ES
EXIST VERT LAND 31-11 - Wellbore #1 - Design #1	10,300.00	7,258.00	9,965.95	9,890.01	131.223	SF
EXIST VERT LAND 31-13 - Wellbore #1 - Design #1	5,040.95	4,898.25	5,405.65	5,371.61	158.832	CC
EXIST VERT LAND 31-13 - Wellbore #1 - Design #1	5,600.00	5,436.60	5,407.75	5,369.32	140.719	ES
EXIST VERT LAND 31-13 - Wellbore #1 - Design #1	11,700.00	7,258.00	9,919.71	9,817.77	97.314	SF
EXIST VERT LUDWIG 1-6 - Wellbore #1 - Design #1	5,105.85	4,800.00	533.82	510.06	22.466	CC, ES, SF
EXIST VERT LUDWIG 2-6 - Wellbore #1 - Design #1	1,944.38	1,899.29	268.96	259.08	27.240	CC, ES
EXIST VERT LUDWIG 2-6 - Wellbore #1 - Design #1	2,500.00	2,434.35	307.85	294.41	22.912	SF
EXIST VERT LUDWIG 6-6 - Wellbore #1 - Design #1	6,467.96	6,269.02	52.01	8.40	1.193	Level 2, CC
EXIST VERT LUDWIG 6-6 - Wellbore #1 - Design #1	6,723.82	6,524.80	52.18	7.81	1.176	Level 2, ES, SF
EXIST VERT LUDWIG GAS UNIT 5-6 - Wellbore #1 - De	5,488.16	5,311.90	1,117.52	1,079.97	29.765	CC
EXIST VERT LUDWIG GAS UNIT 5-6 - Wellbore #1 - De	5,600.00	5,419.60	1,117.93	1,079.51	29.104	ES
EXIST VERT LUDWIG GAS UNIT 5-6 - Wellbore #1 - De	6,750.00	6,550.97	1,135.97	1,091.81	25.723	SF
EXIST VERT LUDWIG H 6-18 - Wellbore #1 - Design #1	800.00	778.00	979.90	976.61	297.385	CC
EXIST VERT LUDWIG H 6-18 - Wellbore #1 - Design #1	900.00	877.98	980.28	976.54	262.534	ES
EXIST VERT LUDWIG H 6-18 - Wellbore #1 - Design #1	6,850.00	6,650.32	1,841.93	1,805.99	51.250	SF
EXIST VERT MCKENNEY-KNAUB 6-5 - Wellbore #1 - D	5,157.39	4,795.00	1,533.40	1,500.77	46.982	CC, ES
EXIST VERT MCKENNEY-KNAUB 6-5 - Wellbore #1 - D	5,500.00	4,795.00	1,571.21	1,536.77	45.623	SF

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



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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 NE SEC. 6 T3N R65W 6th P.M. (Elkhead)						
EXIST VERT RURAL 20-31 - Wellbore #1 - Design #1	6,723.82	6,541.80	3,321.15	3,276.65	74.638	CC, ES
EXIST VERT RURAL 20-31 - Wellbore #1 - Design #1	13,800.00	7,258.00	9,961.62	9,821.53	71.107	SF
EXIST VERT RURAL 31-15 - Wellbore #1 - Design #1	6,723.82	6,541.80	6,019.83	5,975.43	135.583	CC, ES
EXIST VERT RURAL 31-15 - Wellbore #1 - Design #1	11,100.00	7,258.00	9,984.49	9,893.77	110.056	SF
EXIST VERT RURAL 9-31A - Wellbore #1 - Design #1	6,723.82	6,541.80	4,135.45	4,091.37	93.825	CC, ES
EXIST VERT RURAL 9-31A - Wellbore #1 - Design #1	13,000.00	7,258.00	9,998.68	9,872.24	79.077	SF
EXIST VERT RURAL LAND 32-31 #2 - Wellbore #1 - De	5,515.22	5,354.96	5,508.50	5,470.72	145.815	CC
EXIST VERT RURAL LAND 32-31 #2 - Wellbore #1 - De	6,723.82	6,541.80	5,511.92	5,467.45	123.960	ES
EXIST VERT RURAL LAND 32-31 #2 - Wellbore #1 - De	11,600.00	7,258.00	9,929.40	9,829.34	99.234	SF
EXIST VERT RURAL LAND 41-31 - Wellbore #1 - Design	6,723.82	6,541.80	6,684.38	6,640.18	151.249	CC, ES
EXIST VERT RURAL LAND 41-31 - Wellbore #1 - Design	10,400.00	7,258.00	9,950.94	9,873.16	127.940	SF
EXIST VERT UPRC 31-10G - Wellbore #1 - Design #1	5,197.92	5,049.41	4,130.94	4,095.66	117.115	CC
EXIST VERT UPRC 31-10G - Wellbore #1 - Design #1	5,600.00	5,436.60	4,132.36	4,093.93	107.527	ES
EXIST VERT UPRC 31-10G - Wellbore #1 - Design #1	13,000.00	7,258.00	9,941.64	9,815.20	78.626	SF
EXIST VERT UPRC 31-15G - Wellbore #1 - Design #1	4,464.33	4,342.97	2,849.14	2,819.65	96.624	CC
EXIST VERT UPRC 31-15G - Wellbore #1 - Design #1	4,800.00	4,666.21	2,850.58	2,818.46	88.759	ES
EXIST VERT UPRC 31-15G - Wellbore #1 - Design #1	6,750.00	6,567.97	2,889.31	2,845.08	65.331	SF
EXIST VERT UPRC 31-16G - Wellbore #1 - Design #1	6,723.82	6,541.80	2,516.97	2,472.95	57.176	CC, ES
EXIST VERT UPRC 31-16G - Wellbore #1 - Design #1	6,750.00	6,567.97	2,517.45	2,473.41	57.164	SF
EXIST VERT UPRC 31-9G - Wellbore #1 - Design #1	6,723.82	6,541.80	4,046.95	4,002.97	92.011	CC, ES
EXIST VERT UPRC 31-9G - Wellbore #1 - Design #1	13,000.00	7,258.00	9,906.69	9,780.25	78.350	SF
EXIST VERT WARDELL 1-7 - Wellbore #1 - Design #1	11,713.72	7,241.00	528.99	426.82	5.177	CC, ES
EXIST VERT WARDELL 1-7 - Wellbore #1 - Design #1	11,800.00	7,241.00	535.98	432.19	5.164	SF
EXIST VERT WARDELL 17-7 - Wellbore #1 - Design #1	11,743.68	7,241.00	470.78	368.05	4.582	CC, ES
EXIST VERT WARDELL 17-7 - Wellbore #1 - Design #1	11,800.00	7,241.00	474.14	370.35	4.568	SF
EXIST VERT WARDELL 41-7 - Wellbore #1 - Design #1	10,842.80	7,241.00	209.73	123.80	2.441	CC, ES, SF
EXIST VERT WARDELL 44-7 - Wellbore #1 - Design #1	15,200.70	7,241.00	398.42	232.07	2.395	CC, ES, SF
EXIST VERT WARDELL 7A#3 - Wellbore #1 - Design #1	15,095.06	7,241.00	892.03	727.69	5.428	CC
EXIST VERT WARDELL 7A#3 - Wellbore #1 - Design #1	15,100.00	7,241.00	892.04	727.61	5.425	ES
EXIST VERT WARDELL 7A#3 - Wellbore #1 - Design #1	15,200.00	7,241.00	898.18	731.85	5.400	SF
EXIST VERT WARDELL 7A-1 - Wellbore #1 - Design #1	13,892.06	7,241.00	30.98	-111.68	0.217	Level 1, CC, ES, SF
EXIST VERT WARDELL 7A-2 - Wellbore #1 - Design #1	13,886.14	7,241.00	838.12	695.62	5.882	CC
EXIST VERT WARDELL 7A-2 - Wellbore #1 - Design #1	13,900.00	7,241.00	838.28	695.42	5.868	ES
EXIST VERT WARDELL 7A-2 - Wellbore #1 - Design #1	14,000.00	7,241.00	849.17	703.82	5.842	SF
EXIST VERT WARDELL B#1 - Wellbore #1 - Design #1	14,668.46	7,241.00	132.40	-23.81	0.848	Level 1, CC, ES, SF
EXIST VERT WARDELL UPRR 31-7 - Wellbore #1 - Des	10,989.91	7,241.00	930.22	841.56	10.493	CC
EXIST VERT WARDELL UPRR 31-7 - Wellbore #1 - Des	11,000.00	7,241.00	930.27	841.43	10.471	ES
EXIST VERT WARDELL UPRR 31-7 - Wellbore #1 - Des	11,200.00	7,241.00	953.65	861.08	10.302	SF
EXIST VERT WARDELL UPRR 32-7 - Wellbore #1 - Des	12,245.08	7,241.00	1,190.35	1,078.19	10.613	CC, ES
EXIST VERT WARDELL UPRR 32-7 - Wellbore #1 - Des	12,500.00	7,241.00	1,217.34	1,100.37	10.407	SF
EXIST VERT WARDELL UPRR 42-7 - Wellbore #1 - Des	12,196.84	7,241.00	217.85	106.60	1.958	CC
EXIST VERT WARDELL UPRR 42-7 - Wellbore #1 - Des	12,200.00	7,241.00	217.87	106.56	1.957	ES, 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	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)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)		Minimum Separation (usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.78	7,004.26	339.81	7,012.50		

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