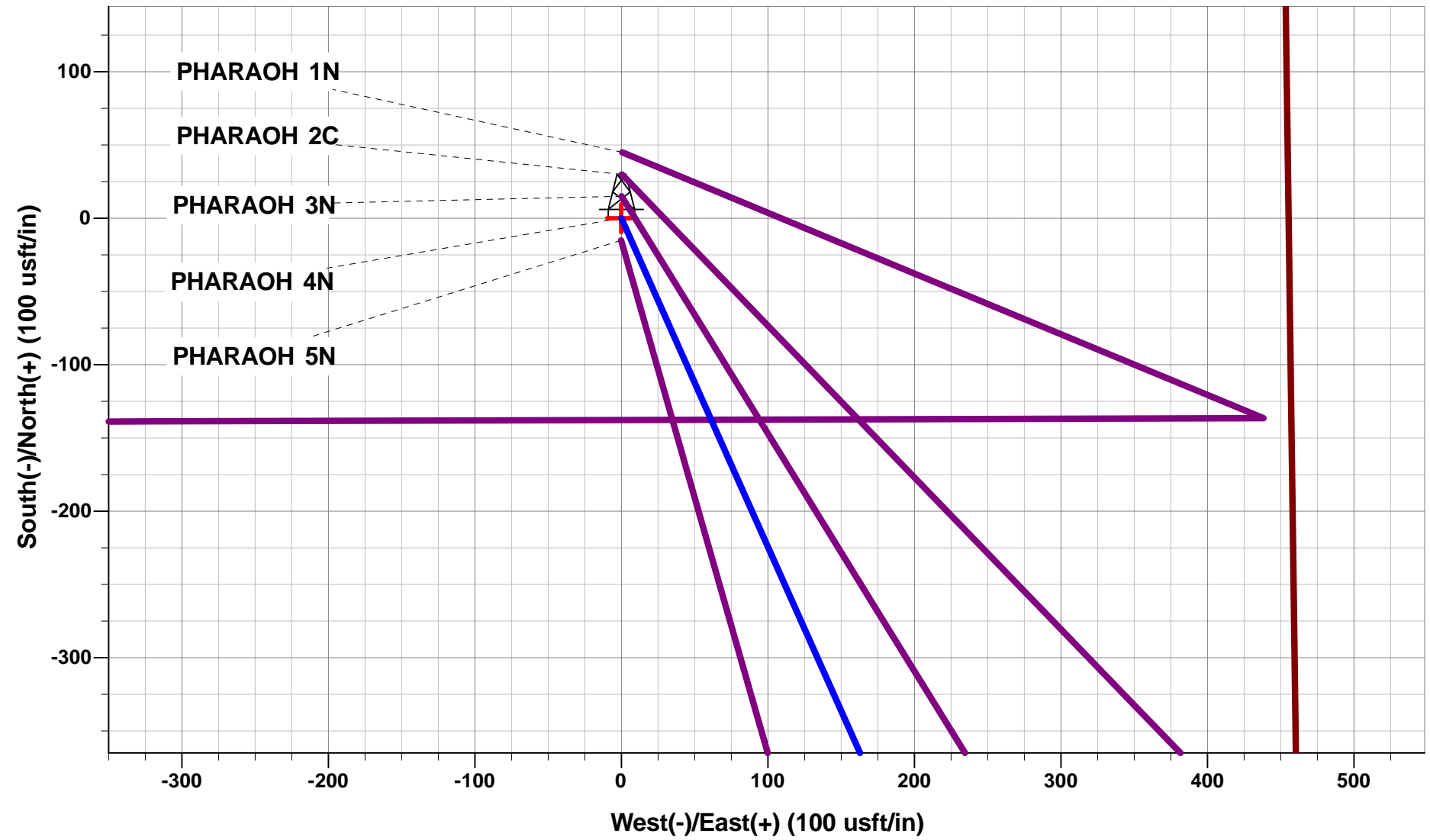




Project: WELD COUNTY, COLORADO (TRUE)
Site: NE SE SEC. 36 T5N R64W 6th P.M. (PHARAOH)
Well: PHARAOH 4N
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #4

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Dep	Annotation	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL: 1668ft FSL & 456ft FEL of Sec 36	
400.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDGE (2°/100ft BUR)	
1066.22	1072.38	13.45	155.95	-71.73	32.00	-24.43	78.54	EOB TO 13.45° INC	
5018.58	5136.15	13.45	155.95	-934.78	417.08	-318.33	1023.60	END OF TANGENT	
5684.80	5808.53	0.00	0.00	-1006.51	449.08	-342.76	1102.15	EOD TO VERTICAL	
5884.80	6008.53	0.00	0.00	-1006.51	449.08	-342.76	1102.15	KOP (8°/100ft BUR)	
6601.00	7134.27	90.06	269.84	-1008.50	-267.85	370.55	1819.08	EP: 660ft FSL & 737ft FEL of Sec 36	
6590.00	16837.62	90.07	269.85	-1035.05	-9971.16	10024.74	11522.42	BHL: 660ft FSL & 150ft FWL of Sec 35	

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - PHARAOH 4N (P4)	5884.80	-1006.51	449.08	40.350499°N	104.488303°W
EP - PHARAOH 4N (P4)	6601.00	-1008.50	-267.86	40.350493°N	104.490875°W
BHL - PHARAOH 4N (P4)	6590.00	-1035.05	-9971.16	40.350415°N	104.525688°W
SHL - PHARAOH 4N	0.00	0.00	0.00	40.353262°N	104.489914°W

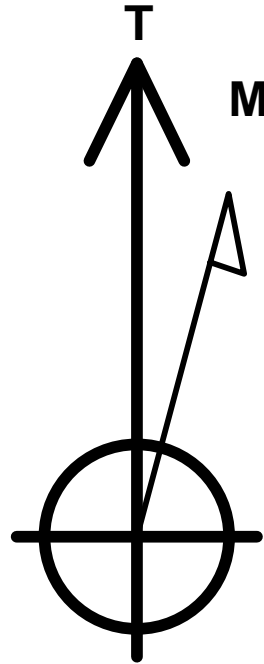


PROPOSED LOCAL COORDINATES:

SHL: 1668ft FSL & 456ft FEL of Sec 36

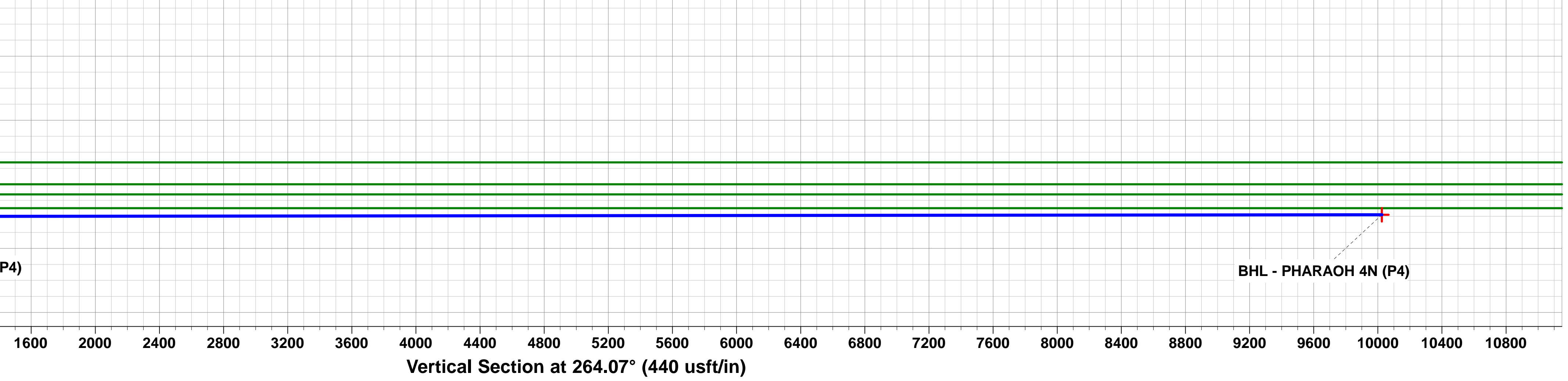
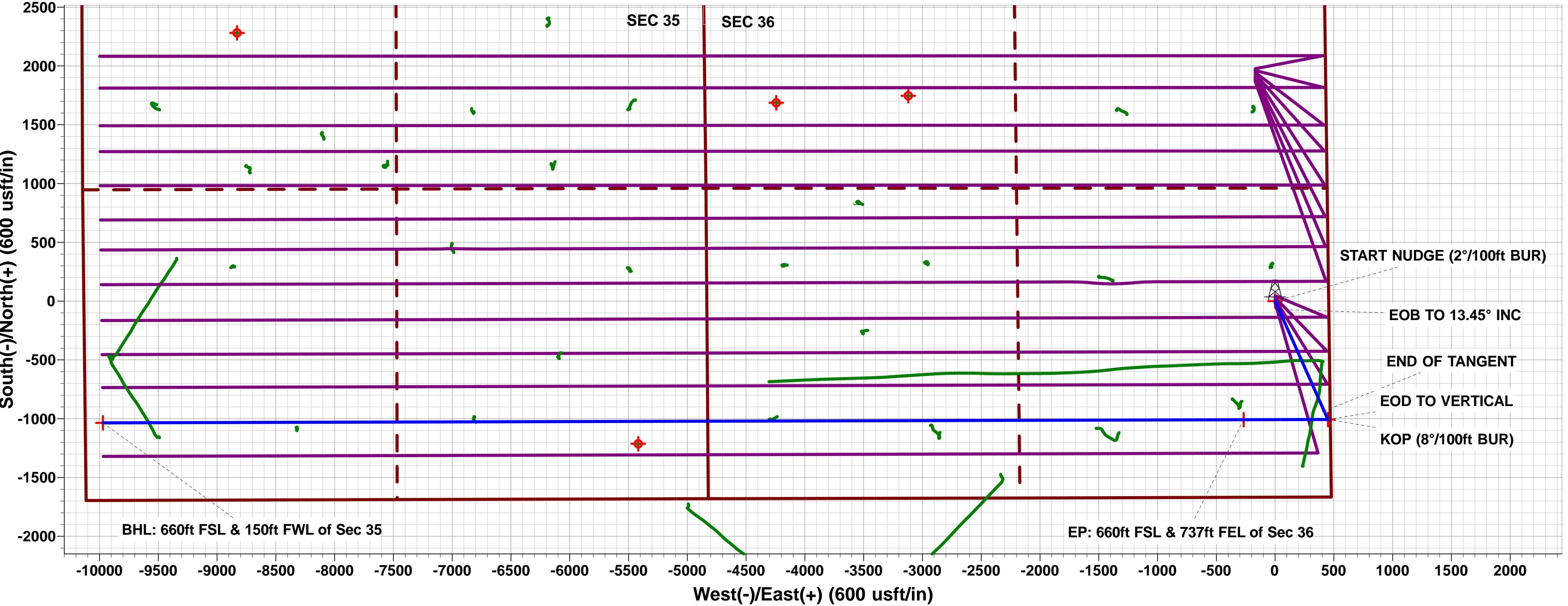
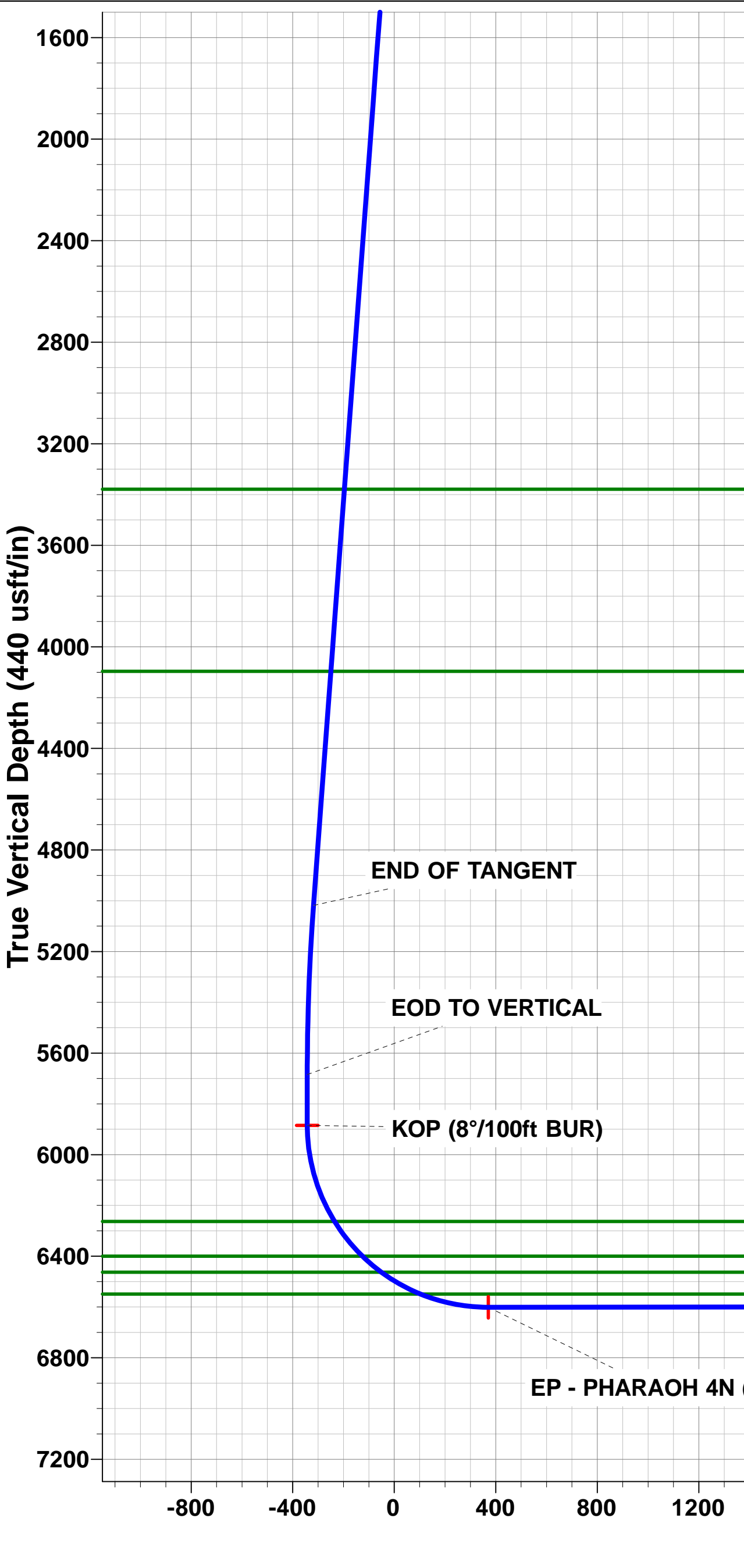
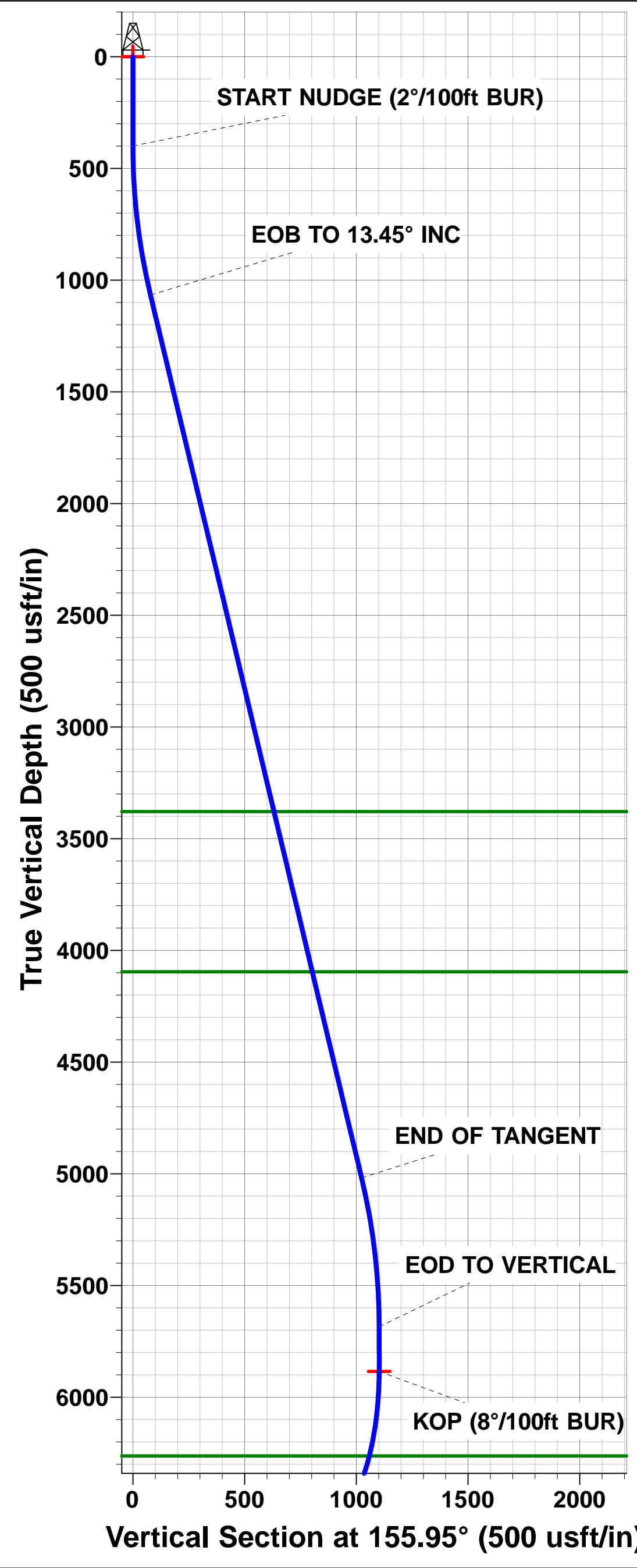
EP: 660ft FSL & 737ft FEL of Sec 36

BHL: 660ft FSL & 150ft FWL of Sec 35



Azimuths to True North
Magnetic North: 7.99°

Magnetic Field
Strength: 52321.3snT
Dip Angle: 66.84°
Date: 19/02/2018
Model: IGRF2015



PDC ENERGY

WELD COUNTY, COLORADO (TRUE)

NE SE SEC. 36 T5N R64W 6th P.M. (PHARAOH)

PHARAOH 4N

ORIGINAL WELLBORE

PROPOSAL #4

Anticollision Report

01 February, 2019



Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well PHARAOH 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB-EST @ 4616.00usft (Original Well Elev)
Reference Site:	NE SE SEC. 36 T5N R64W 6th P.M. (PHARAOH)	MD Reference:	KB-EST @ 4616.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	PHARAOH 4N	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 #4	Offset TVD Reference:	Offset Datum

Reference	PROPOSAL #4		
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	01/02/2019		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	16,837.62	PROPOSAL #4 (ORIGINAL WELLBORE)	MWD	MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
NE SE SEC. 36 T5N R64W 6th P.M. (PHARAOH)						
PHARAOH 1N - ORIGINAL WELLBORE - PROPOSAL #	400.00	400.00	45.01	43.49	29.578	CC, ES
PHARAOH 1N - ORIGINAL WELLBORE - PROPOSAL #	16,837.62	16,752.94	870.04	296.33	1.517	SF
PHARAOH 2C - ORIGINAL WELLBORE - PROPOSAL #	400.00	400.00	29.99	28.47	19.708	CC
PHARAOH 2C - ORIGINAL WELLBORE - PROPOSAL #	16,837.62	16,829.68	583.74	13.29	1.023	Level 2, ES, SF
PHARAOH 3N - ORIGINAL WELLBORE - PROPOSAL #	400.00	400.00	15.01	13.49	9.867	CC
PHARAOH 3N - ORIGINAL WELLBORE - PROPOSAL #	16,837.62	16,726.62	308.83	-248.56	0.554	Level 1, ES, SF
PHARAOH 5N - ORIGINAL WELLBORE - PROPOSAL #	300.00	300.00	15.01	13.94	14.001	CC
PHARAOH 5N - ORIGINAL WELLBORE - PROPOSAL #	16,837.62	16,732.69	294.71	-260.83	0.530	Level 1, ES, SF
SE NE SEC. 36 T5N R64W 6th P.M. (PYRAMID)						
ABDN VERT HOSHIKO #1 - Wellbore #1 - Wellbore #1	12,340.20	6,588.29	1,276.31	1,114.10	7.868	CC
ABDN VERT HOSHIKO #1 - Wellbore #1 - Wellbore #1	12,400.00	6,588.12	1,277.71	1,113.83	7.797	ES
ABDN VERT HOSHIKO #1 - Wellbore #1 - Wellbore #1	12,600.00	6,587.57	1,302.48	1,133.01	7.685	SF
ABDN VERT ROTHE STATE B #36-15 - Wellbore #1 - W	8,194.83	6,550.00	110.45	62.27	2.292	CC
ABDN VERT ROTHE STATE B #36-15 - Wellbore #1 - W	8,200.00	6,550.00	110.57	62.26	2.289	ES, SF
ABDN VERT ROTHE STATE B #36-16 - Wellbore #1 - W	7,148.34	6,550.00	159.07	135.79	6.834	CC, ES, SF
ABDN VERT STATE #1-36 - Wellbore #1 - Design #1	11,102.44	6,570.75	2,705.98	2,448.92	10.527	CC
ABDN VERT STATE #1-36 - Wellbore #1 - Design #1	11,200.00	6,570.64	2,707.73	2,447.96	10.423	ES
ABDN VERT STATE #1-36 - Wellbore #1 - Design #1	11,900.00	6,569.85	2,821.06	2,541.77	10.101	SF
EXIST DD ECKHARDT B #35-12 - Wellbore #1 - Wellbor	16,206.68	6,710.12	1,392.51	1,120.49	5.119	CC, ES
EXIST DD ECKHARDT B #35-12 - Wellbore #1 - Wellbor	16,400.00	6,710.68	1,405.87	1,128.42	5.067	SF
EXIST DD ECKHARDT B #35-13 - Wellbore #1 - Wellbor	16,357.49	6,691.05	123.05	-152.90	0.446	Level 1, CC, ES, SF
EXIST DD MARLEY C #1-28D - Wellbore #1 - Wellbore #	9,199.46	6,761.59	470.05	377.29	5.068	CC
EXIST DD MARLEY C #1-28D - Wellbore #1 - Wellbore #	9,200.00	6,761.59	470.05	377.28	5.067	ES
EXIST DD MARLEY C #1-28D - Wellbore #1 - Wellbore #	9,300.00	6,762.35	480.68	385.18	5.033	SF
EXIST DD MARLEY C #1-30D - Wellbore #1 - Wellbore #	11,859.66	6,678.84	705.19	541.17	4.299	CC, ES
EXIST DD MARLEY C #1-30D - Wellbore #1 - Wellbore #	11,900.00	6,678.82	706.34	541.19	4.277	SF
EXIST HZ SOONER STATE B #36-63HN - Wellbore #1 -	4,167.51	4,172.56	57.59	25.89	1.817	CC, ES
EXIST HZ SOONER STATE B #36-63HN - Wellbore #1 -	11,170.80	11,055.00	337.69	83.84	1.330	Level 3, SF
EXIST VERT BAKER STATE B #36-11 - Wellbore #1 - W	9,816.47	6,589.55	1,325.36	1,233.38	14.410	CC, ES
EXIST VERT BAKER STATE B #36-11 - Wellbore #1 - W	10,300.00	6,585.87	1,410.80	1,305.45	13.391	SF
EXIST VERT BAKER STATE B #36-12 - Wellbore #1 - W	11,013.05	6,597.29	1,324.73	1,199.53	10.582	CC, ES
EXIST VERT BAKER STATE B #36-12 - Wellbore #1 - W	11,400.00	6,596.00	1,380.08	1,244.11	10.150	SF
EXIST VERT BAKER STATE B #36-13 - Wellbore #1 - W	11,101.89	6,586.30	37.33	-90.34	0.292	Level 1, CC, ES, SF
EXIST VERT BAKER STATE B #36-14 - Wellbore #1 - W	9,717.88	6,593.97	100.77	11.55	1.129	Level 2, CC, ES, SF
EXIST VERT CLYNCKE STATE B #36-20 - Wellbore #1	10,370.21	6,550.00	1,839.71	1,732.42	17.147	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 PHARAOH 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB-EST @ 4616.00usft (Original Well Elev)
Reference Site:	NE SE SEC. 36 T5N R64W 6th P.M. (PHARAOH)	MD Reference:	KB-EST @ 4616.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	PHARAOH 4N	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 #4	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
SE NE SEC. 36 T5N R64W 6th P.M. (PYRAMID)						
EXIST VERT CLYNCKE STATE B #36-20 - Wellbore #1	10,400.00	6,550.00	1,839.96	1,731.84	17.018	ES
EXIST VERT CLYNCKE STATE B #36-20 - Wellbore #1	11,300.00	6,550.00	2,061.32	1,928.16	15.480	SF
EXIST VERT CLYNCKE STATE B #36-25 - Wellbore #1	10,329.21	6,550.00	769.04	662.98	7.251	CC, ES
EXIST VERT CLYNCKE STATE B #36-25 - Wellbore #1	10,500.00	6,550.00	787.78	676.98	7.110	SF
EXIST VERT CPC-HOSHIKO #35-1 - Wellbore #1 - Well	15,729.89	6,591.83	1,332.16	1,074.79	5.176	CC
EXIST VERT CPC-HOSHIKO #35-1 - Wellbore #1 - Well	15,800.00	6,591.32	1,334.00	1,074.67	5.144	ES
EXIST VERT CPC-HOSHIKO #35-1 - Wellbore #1 - Well	15,900.00	6,590.60	1,342.97	1,080.84	5.123	SF
EXIST VERT ECKHARDT B #35-33 - Wellbore #1 - Well	16,756.61	6,588.87	542.49	256.51	1.897	CC, ES
EXIST VERT ECKHARDT B #35-33 - Wellbore #1 - Well	16,800.00	6,589.78	544.22	257.01	1.895	SF
EXIST VERT HOSHIKO #2 - Wellbore #1 - Wellbore #1	13,678.21	6,630.75	41.84	-158.09	0.209	Level 1, CC, ES, SF
EXIST VERT HOSHIKO #35-10H4 - Wellbore #1 - Wellb	13,848.73	6,600.00	1,440.79	1,236.08	7.038	CC
EXIST VERT HOSHIKO #35-10H4 - Wellbore #1 - Wellb	13,900.00	6,600.00	1,441.70	1,235.55	6.994	ES
EXIST VERT HOSHIKO #35-10H4 - Wellbore #1 - Wellb	14,100.00	6,600.00	1,462.53	1,250.78	6.907	SF
EXIST VERT HOSHIKO #35-16H4 - Wellbore #1 - Desig	12,284.34	6,614.41	190.46	-99.00	0.658	Level 1, CC, ES, SF
EXIST VERT HOSHIKO B #35-14 - Wellbore #1 - Wellbo	15,187.62	6,617.81	42.41	-199.58	0.175	Level 1, CC, ES, SF
EXIST VERT HOSHIKO B #35-23 - Wellbore #1 - Wellbo	12,955.14	6,619.58	540.85	361.24	3.011	CC, ES
EXIST VERT HOSHIKO B #35-23 - Wellbore #1 - Wellbo	13,000.00	6,619.76	542.71	361.84	3.000	SF
EXIST VERT LOLOFF #35-6 - Wellbore #1 - Wellbore #1	14,951.43	6,564.21	2,416.01	2,180.49	10.258	CC
EXIST VERT LOLOFF #35-6 - Wellbore #1 - Wellbore #1	15,000.00	6,564.12	2,416.50	2,179.61	10.201	ES
EXIST VERT LOLOFF #35-6 - Wellbore #1 - Wellbore #1	15,600.00	6,562.93	2,501.55	2,247.84	9.860	SF
EXIST VERT LOLOFF #35-8 - Wellbore #1 - Wellbore #1	12,300.00	6,585.74	2,731.74	2,570.60	16.953	CC
EXIST VERT LOLOFF #35-8 - Wellbore #1 - Wellbore #1	12,400.00	6,585.59	2,733.58	2,569.64	16.675	ES
EXIST VERT LOLOFF #35-8 - Wellbore #1 - Wellbore #1	13,600.00	6,583.68	3,025.39	2,827.87	15.317	SF
EXIST VERT LOLOFF #4 - Wellbore #1 - Wellbore #1	13,693.20	6,548.95	2,662.67	2,462.31	13.289	CC
EXIST VERT LOLOFF #4 - Wellbore #1 - Wellbore #1	13,800.00	6,548.67	2,664.81	2,461.46	13.104	ES
EXIST VERT LOLOFF #4 - Wellbore #1 - Wellbore #1	14,700.00	6,546.12	2,846.65	2,618.08	12.454	SF
EXIST VERT LOLOFF B #35-17 - Wellbore #1 - Wellbore	13,050.70	6,597.43	3,360.29	3,177.87	18.421	CC
EXIST VERT LOLOFF B #35-17 - Wellbore #1 - Wellbore	13,100.00	6,597.17	3,360.65	3,176.85	18.284	ES
EXIST VERT LOLOFF B #35-17 - Wellbore #1 - Wellbore	14,800.00	6,587.54	3,788.32	3,556.90	16.369	SF
EXIST VERT LOLOFF B #35-19 - Wellbore #1 - Design #	15,687.77	6,619.41	3,312.77	2,927.95	8.608	CC
EXIST VERT LOLOFF B #35-19 - Wellbore #1 - Design #	15,800.00	6,619.27	3,314.67	2,926.70	8.544	ES
EXIST VERT LOLOFF B #35-19 - Wellbore #1 - Design #	16,500.00	6,618.42	3,410.89	3,003.29	8.368	SF
EXIST VERT LOLOFF B #35-20 - Wellbore #1 - Wellbore	15,578.41	6,610.97	2,124.55	1,871.19	8.386	CC
EXIST VERT LOLOFF B #35-20 - Wellbore #1 - Wellbore	15,600.00	6,610.85	2,124.66	1,870.70	8.366	ES
EXIST VERT LOLOFF B #35-20 - Wellbore #1 - Wellbore	16,100.00	6,607.78	2,187.64	1,919.65	8.163	SF
EXIST VERT LOLOFF B #35-21 - Wellbore #1 - Wellbore	14,410.23	6,515.23	2,216.85	1,996.84	10.076	CC
EXIST VERT LOLOFF B #35-21 - Wellbore #1 - Wellbore	14,500.00	6,514.82	2,218.67	1,996.14	9.970	ES
EXIST VERT LOLOFF B #35-21 - Wellbore #1 - Wellbore	15,000.00	6,512.49	2,293.96	2,057.44	9.699	SF
EXIST VERT LOLOFF B #35-22 - Wellbore #1 - Wellbore	12,986.05	6,532.82	2,207.95	2,027.61	12.244	CC
EXIST VERT LOLOFF B #35-22 - Wellbore #1 - Wellbore	13,000.00	6,532.62	2,207.99	2,027.27	12.217	ES
EXIST VERT LOLOFF B #35-22 - Wellbore #1 - Wellbore	13,700.00	6,523.02	2,320.48	2,120.19	11.585	SF
EXIST VERT ROTHE STATE B #36-10 - Wellbore #1 - W	8,243.73	6,550.00	1,190.47	1,141.27	24.199	CC
EXIST VERT ROTHE STATE B #36-10 - Wellbore #1 - W	8,300.00	6,550.00	1,191.80	1,141.12	23.520	ES
EXIST VERT ROTHE STATE B #36-10 - Wellbore #1 - W	9,000.00	6,550.00	1,410.37	1,340.90	20.302	SF
EXIST VERT ROTHE STATE B #36-7 - Wellbore #1 - We	100.00	64.55	2,108.99	2,108.89	10,000.000	CC
EXIST VERT ROTHE STATE B #36-7 - Wellbore #1 - We	402.31	376.96	2,109.40	2,108.29	1,901.496	ES
EXIST VERT ROTHE STATE B #36-7 - Wellbore #1 - We	12,400.00	6,500.00	5,008.76	4,845.00	30.586	SF
EXIST VERT ROTHE STATE B #36-8 - Wellbore #1 - We	100.00	70.49	1,656.79	1,656.69	10,000.000	CC
EXIST VERT ROTHE STATE B #36-8 - Wellbore #1 - We	400.00	365.31	1,657.09	1,655.99	1,508.308	ES
EXIST VERT ROTHE STATE B #36-8 - Wellbore #1 - We	16,700.00	6,500.00	9,992.41	9,708.17	35.155	SF
EXIST VERT ROTHE STATE B #36-9 - Wellbore #1 - We	402.34	377.57	289.57	288.52	275.026	CC, ES
EXIST VERT ROTHE STATE B #36-9 - Wellbore #1 - We	11,900.00	6,550.00	5,189.98	5,040.12	34.631	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 PHARAOH 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB-EST @ 4616.00usft (Original Well Elev)
Reference Site:	NE SE SEC. 36 T5N R64W 6th P.M. (PHARAOH)	MD Reference:	KB-EST @ 4616.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	PHARAOH 4N	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 #4	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
SE NE SEC. 36 T5N R64W 6th P.M. (PYRAMID)						
EXIST VERT STATE #22-36 - Wellbore #1 - Design #1	9,979.38	6,585.98	2,763.20	2,538.17	12.279	CC
EXIST VERT STATE #22-36 - Wellbore #1 - Design #1	10,100.00	6,585.85	2,765.83	2,537.46	12.111	ES
EXIST VERT STATE #22-36 - Wellbore #1 - Design #1	10,900.00	6,584.97	2,912.52	2,661.96	11.624	SF
EXIST VERT STROH #1 - Wellbore #1 - Wellbore #1	16,372.99	6,400.00	2,712.73	2,438.18	9.881	CC
EXIST VERT STROH #1 - Wellbore #1 - Wellbore #1	16,400.00	6,400.00	2,712.87	2,437.56	9.854	ES
EXIST VERT STROH #1 - Wellbore #1 - Wellbore #1	16,837.62	6,400.00	2,752.23	2,464.68	9.571	SF
PYRAMID 1N - ORIGINAL WELLBORE - PROPOSAL #2	400.00	395.00	1,983.31	1,981.80	1,313.081	CC, ES
PYRAMID 1N - ORIGINAL WELLBORE - PROPOSAL #2	16,837.62	16,722.91	3,116.68	2,544.75	5.449	SF
PYRAMID 2N - ORIGINAL WELLBORE - PROPOSAL #2	400.00	395.00	1,968.37	1,966.86	1,303.187	CC, ES
PYRAMID 2N - ORIGINAL WELLBORE - PROPOSAL #2	16,837.62	16,649.55	2,847.85	2,276.06	4.981	SF
PYRAMID 3N - ORIGINAL WELLBORE - PROPOSAL #2	400.00	395.00	1,953.43	1,951.92	1,293.297	CC, ES
PYRAMID 3N - ORIGINAL WELLBORE - PROPOSAL #2	16,837.62	16,741.53	2,526.51	1,954.65	4.418	SF
PYRAMID 4N - ORIGINAL WELLBORE - PROPOSAL #2	400.00	395.00	1,938.53	1,937.02	1,283.431	CC
PYRAMID 4N - ORIGINAL WELLBORE - PROPOSAL #2	16,837.62	16,682.47	2,307.99	1,736.71	4.040	ES, SF
PYRAMID 5N - ORIGINAL WELLBORE - PROPOSAL #2	400.00	395.00	1,923.59	1,922.08	1,273.542	CC
PYRAMID 5N - ORIGINAL WELLBORE - PROPOSAL #2	16,837.62	16,800.05	2,016.49	1,444.71	3.527	ES, SF
PYRAMID 6N - ORIGINAL WELLBORE - PROPOSAL #2	4,673.04	5,100.00	1,666.06	1,635.16	53.911	CC
PYRAMID 6N - ORIGINAL WELLBORE - PROPOSAL #2	16,837.62	16,796.90	1,727.00	1,155.73	3.023	ES, SF
PYRAMID 7N - ORIGINAL WELLBORE - PROPOSAL #2	4,816.27	5,251.74	1,434.06	1,401.62	44.213	CC
PYRAMID 7N - ORIGINAL WELLBORE - PROPOSAL #2	16,837.62	16,930.80	1,470.06	897.97	2.570	ES, SF
PYRAMID 8N - ORIGINAL WELLBORE - PROPOSAL #2	4,834.00	5,300.00	1,134.32	1,100.51	33.548	CC
PYRAMID 8N - ORIGINAL WELLBORE - PROPOSAL #2	16,837.62	16,968.27	1,177.26	606.29	2.062	ES, SF

Offset Design NE SE SEC. 36 T5N R64W 6th P.M. (PHARAOH) - PHARAOH 1N - ORIGINAL WELLBORE - PROPO												Offset Site Error:	0.00 usft
Survey Program: 0-MWD												Offset Well Error:	0.00 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.00	0.00	0.67	45.00	0.53	45.01				
100.00	100.00	100.00	100.00	0.09	0.09	0.67	45.00	0.53	45.01	44.83	0.17	260.054	
200.00	200.00	200.00	200.00	0.31	0.31	0.67	45.00	0.53	45.01	44.38	0.62	72.289	
300.00	300.00	300.00	300.00	0.54	0.54	0.67	45.00	0.53	45.01	43.94	1.07	41.979	
400.00	400.00	400.00	400.00	0.76	0.76	0.67	45.00	0.53	45.01	43.49	1.52	29.578	CC, ES
500.00	499.98	499.98	499.98	0.96	0.99	-156.16	45.00	0.53	46.60	44.65	1.95	23.905	
600.00	599.84	599.84	599.84	1.16	1.21	-158.49	45.00	0.53	51.43	49.06	2.37	21.715	
700.00	699.45	699.45	699.45	1.38	1.43	-161.51	45.00	0.53	59.63	56.83	2.80	21.294	
800.00	798.70	798.70	798.70	1.64	1.66	-164.55	45.00	0.53	71.29	68.05	3.24	22.008	
900.00	897.47	897.47	897.47	1.95	1.88	-167.24	45.00	0.53	86.48	82.80	3.68	23.482	
1,000.00	995.62	995.62	995.62	2.32	2.10	-169.47	45.00	0.53	105.18	101.05	4.13	25.475	
1,072.38	1,066.23	1,066.23	1,066.23	2.62	2.26	-170.80	45.00	0.53	120.90	116.45	4.45	27.150	
1,100.00	1,093.09	1,093.09	1,093.09	2.74	2.32	-171.26	45.00	0.53	127.25	122.67	4.58	27.788	
1,200.00	1,190.34	1,190.34	1,190.34	3.19	2.54	-172.61	45.00	0.53	150.29	145.25	5.04	29.817	
1,300.00	1,287.60	1,287.60	1,287.60	3.66	2.76	-173.59	45.00	0.53	173.39	167.88	5.51	31.485	
1,400.00	1,384.86	1,384.86	1,384.86	4.14	2.97	-174.35	45.00	0.53	196.52	190.54	5.98	32.877	
1,500.00	1,482.12	1,482.12	1,482.12	4.62	3.19	-174.95	45.00	0.53	219.68	213.23	6.45	34.052	
1,600.00	1,579.38	1,579.38	1,579.38	5.11	3.41	-175.43	45.00	0.53	242.86	235.93	6.93	35.056	
1,700.00	1,676.64	1,681.74	1,681.73	5.60	3.63	-175.66	44.56	1.61	265.31	257.91	7.40	35.848	
1,800.00	1,773.89	1,786.45	1,786.32	6.09	3.83	-175.29	42.68	6.13	285.44	277.57	7.87	36.290	
1,900.00	1,871.15	1,891.98	1,891.47	6.59	4.04	-174.43	39.31	14.26	303.18	294.84	8.34	36.333	

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