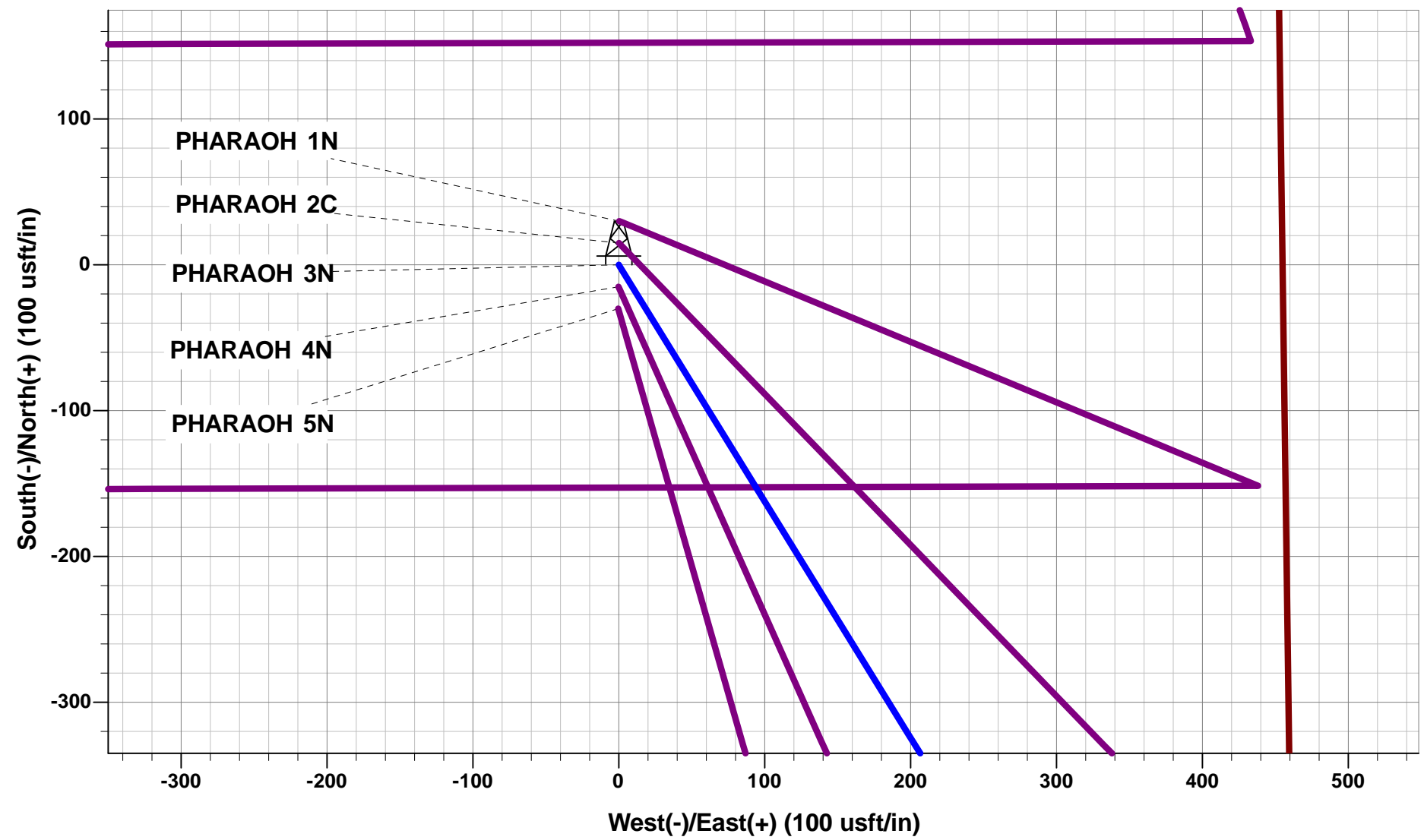




Project: WELD COUNTY, COLORADO (TRUE)
Site: NE SE SEC. 36 T5N R64W 6th P.M. (PHARAOH)
Well: PHARAOH 3N
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

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: 1683ft FSL & 455ft FEL of Sec 36	
500.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDGE (2°/100ft BUR)	
1144.40	1149.96	13.00	148.34	-62.49	38.53	-33.79	73.42	EOB TO 13° INC	
4180.41	4265.82	13.00	148.34	-659.05	406.41	-356.32	774.28	END OF TANGENT	
4824.80	4915.77	0.00	0.00	-721.54	444.94	-390.11	847.70	EOD TO VERTICAL	
5809.80	5900.77	0.00	0.00	-721.54	444.94	-390.11	847.70	KOP (8°/100ft BUR)	
6526.00	7026.52	90.06	269.84	-723.54	-272.00	325.00	1564.64	EP: 960ft FSL & 737ft FEL of Sec 36	
6516.00	16829.37	90.06	269.84	-750.53	-10074.81	10102.72	11367.48	BHL: 960ft FSL & 50ft FWL of Sec 35	

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - PHARAOH 3N (P2)	5809.80	-721.54	444.94	40.351322	-104.488317
EP - PHARAOH 3N (P2)	6526.00	-723.54	-272.00	40.351317	-104.490889
BHL - PHARAOH 3N (P2)	6516.00	-750.53	-10074.81	40.351237	-104.526060

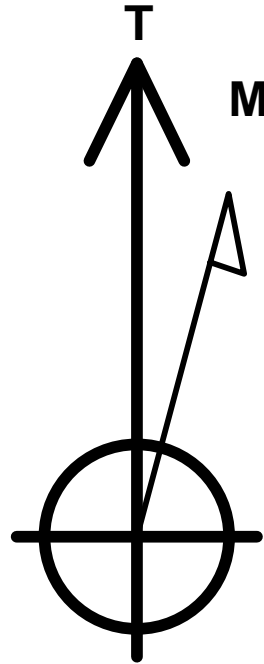


PROPOSED LOCAL COORDINATES:

SHL: 1683ft FSL & 455ft FEL of Sec 36

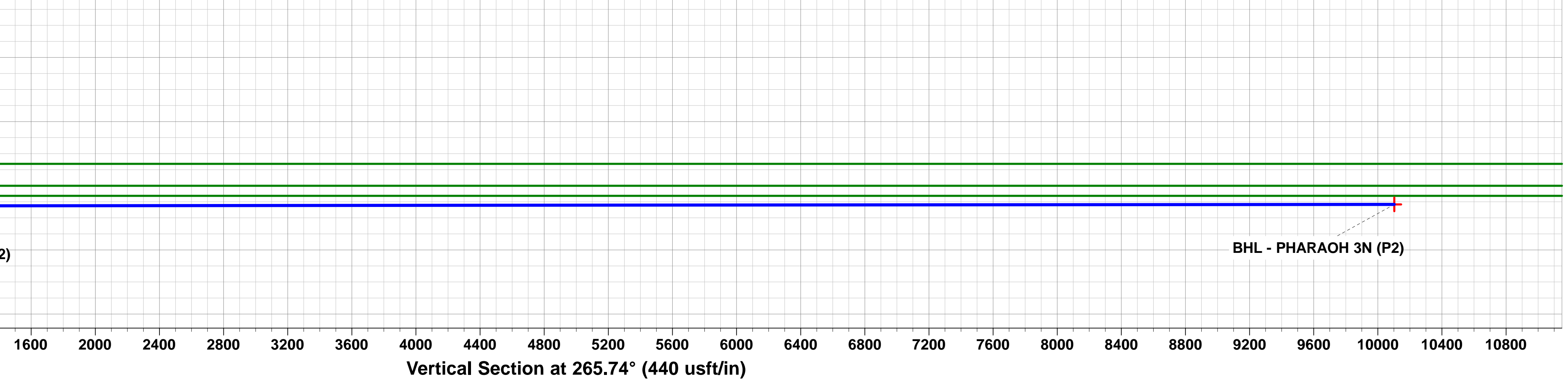
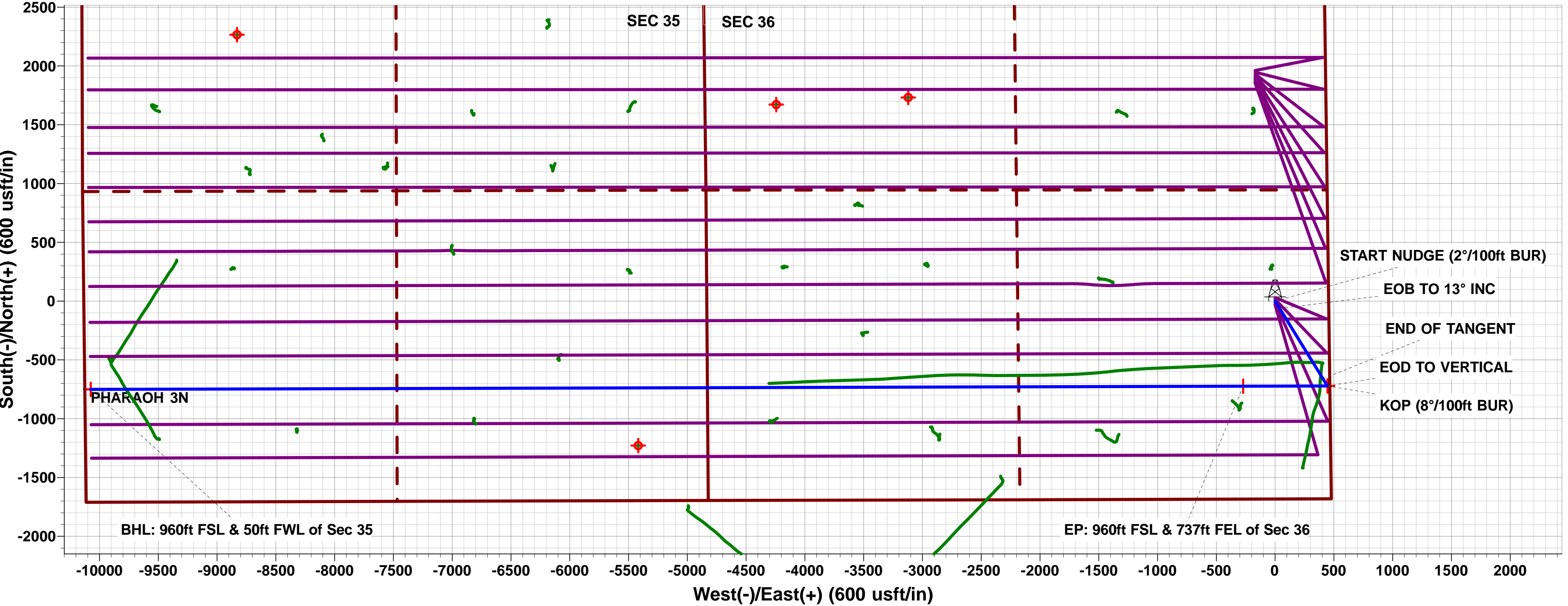
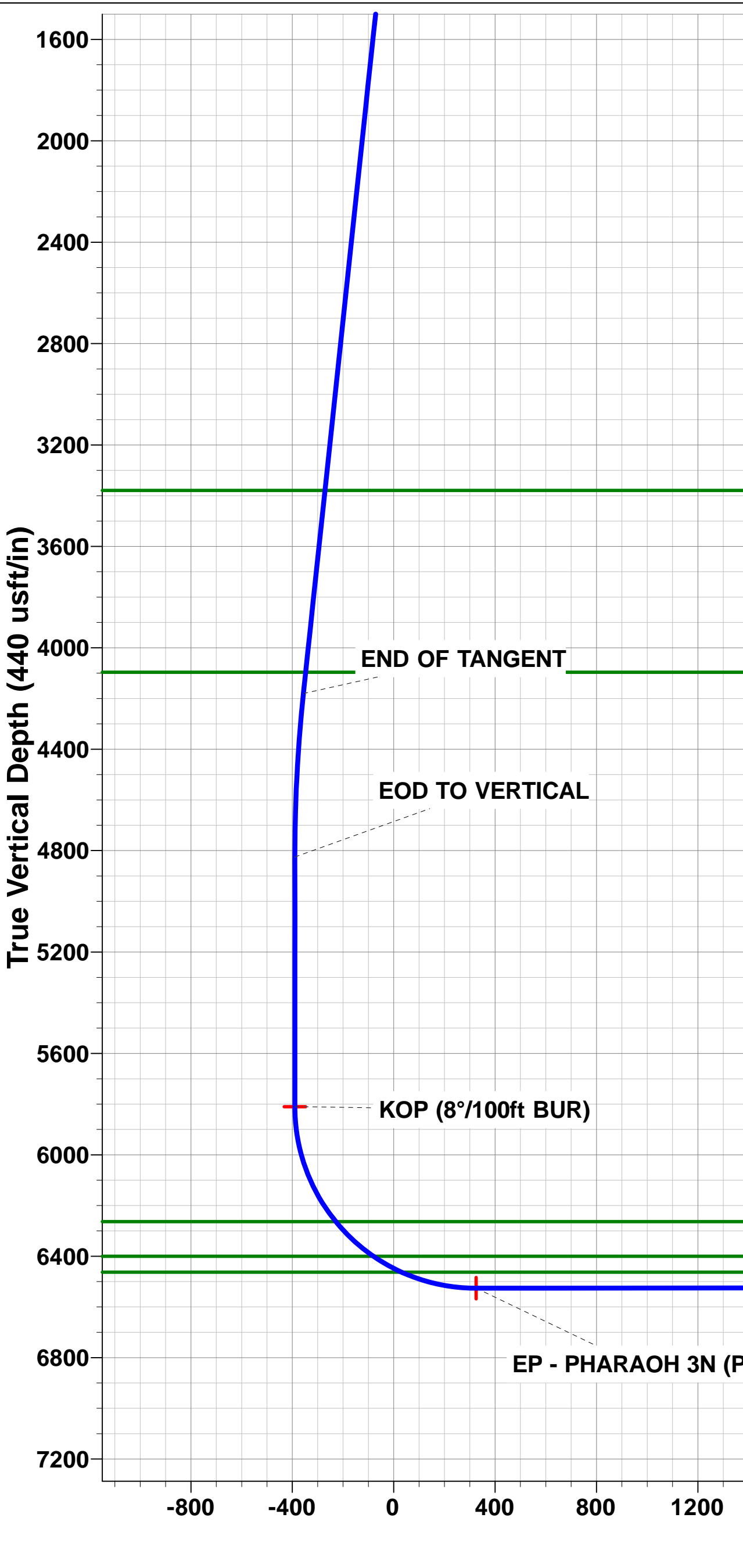
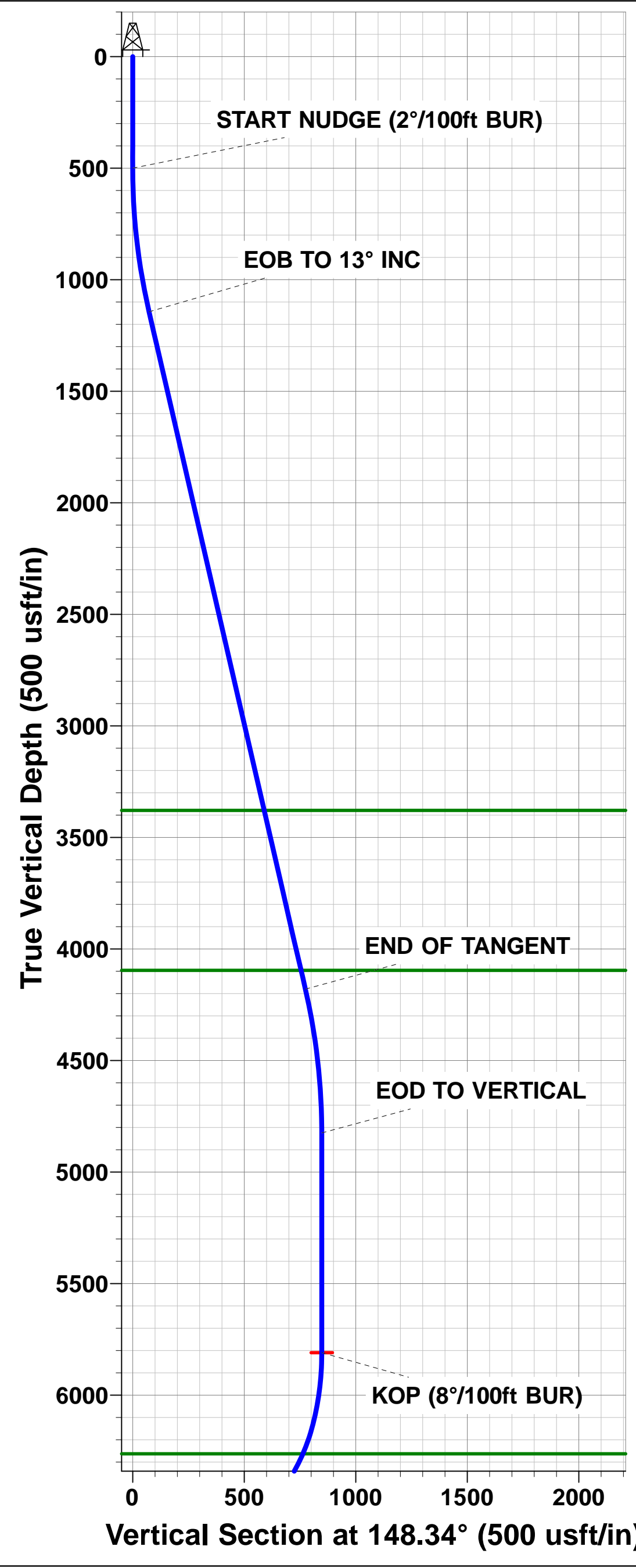
EP: 960ft FSL & 737ft FEL of Sec 36

BHL: 960ft FSL & 50ft 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 3N**

**ORIGINAL WELLBORE
PROPOSAL #2**

Anticollision Report

08 May, 2018



Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well PHARAOH 3N
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 3N	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 #2	Offset TVD Reference:	Offset Datum

Reference	PROPOSAL #2		
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 10,000.00 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	08/05/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	16,829.24	PROPOSAL #2 (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 #	500.00	500.00	29.99	28.02	15.216	CC
PHARAOH 1N - ORIGINAL WELLBORE - PROPOSAL #	16,829.37	16,855.80	573.71	-2.47	0.996	Level 1, ES, SF
PHARAOH 2C - ORIGINAL WELLBORE - PROPOSAL #	500.00	500.00	14.97	13.00	7.596	CC
PHARAOH 2C - ORIGINAL WELLBORE - PROPOSAL #	16,829.37	16,932.40	313.06	-210.24	0.598	Level 1, ES, SF
PHARAOH 4N - ORIGINAL WELLBORE - PROPOSAL #	400.00	400.00	15.01	13.49	9.867	CC
PHARAOH 4N - ORIGINAL WELLBORE - PROPOSAL #	16,829.37	16,937.66	309.02	-253.92	0.549	Level 1, ES, SF
PHARAOH 5N - ORIGINAL WELLBORE - PROPOSAL #	300.00	300.00	30.02	28.95	28.005	CC
PHARAOH 5N - ORIGINAL WELLBORE - PROPOSAL #	16,829.37	16,832.70	585.05	7.68	1.013	Level 2, ES, SF
SE NE SEC. 36 T5N R64W 6th P.M. (PYRAMID)						
ABDN VERT HOSHIKO #1 - Wellbore #1 - Wellbore #1	12,229.39	6,517.48	976.23	814.01	6.018	CC, ES
ABDN VERT HOSHIKO #1 - Wellbore #1 - Wellbore #1	12,400.00	6,517.03	991.03	824.03	5.934	SF
ABDN VERT ROTHE STATE B #36-15 - Wellbore #1 - W	8,084.82	6,533.60	409.12	361.35	8.564	CC
ABDN VERT ROTHE STATE B #36-15 - Wellbore #1 - W	8,100.00	6,532.78	409.40	361.22	8.498	ES
ABDN VERT ROTHE STATE B #36-15 - Wellbore #1 - W	8,200.00	6,527.55	424.98	374.12	8.356	SF
ABDN VERT ROTHE STATE B #36-16 - Wellbore #1 - W	7,038.64	6,503.81	143.52	120.35	6.196	CC, ES, SF
ABDN VERT STATE #1-36 - Wellbore #1 - Design #1	10,991.50	6,495.90	2,406.05	2,150.51	9.415	CC
ABDN VERT STATE #1-36 - Wellbore #1 - Design #1	11,100.00	6,495.79	2,408.49	2,149.93	9.315	ES
ABDN VERT STATE #1-36 - Wellbore #1 - Design #1	11,600.00	6,495.28	2,481.80	2,209.29	9.107	SF
EXIST DD ECKHARDT B #35-12 - Wellbore #1 - Wellbor	16,095.43	6,643.31	1,091.77	819.72	4.013	CC
EXIST DD ECKHARDT B #35-12 - Wellbore #1 - Wellbor	16,100.00	6,643.32	1,091.78	819.60	4.011	ES
EXIST DD ECKHARDT B #35-12 - Wellbore #1 - Wellbor	16,200.00	6,643.65	1,096.77	821.78	3.988	SF
EXIST DD ECKHARDT B #35-13 - Wellbore #1 - Wellbor	16,247.03	6,614.31	421.97	145.98	1.529	CC, ES, SF
EXIST DD MARLEY C #1-28D - Wellbore #1 - Wellbore #	9,088.05	6,704.96	772.50	679.94	8.346	CC
EXIST DD MARLEY C #1-28D - Wellbore #1 - Wellbore #	9,100.00	6,705.03	772.59	679.71	8.318	ES
EXIST DD MARLEY C #1-28D - Wellbore #1 - Wellbore #	9,300.00	6,706.25	801.05	702.68	8.143	SF
EXIST DD MARLEY C #1-30D - Wellbore #1 - Wellbore #	11,748.67	6,608.26	1,005.84	841.93	6.137	CC
EXIST DD MARLEY C #1-30D - Wellbore #1 - Wellbore #	11,800.00	6,608.51	1,007.15	841.81	6.091	ES
EXIST DD MARLEY C #1-30D - Wellbore #1 - Wellbore #	11,900.00	6,608.99	1,017.16	849.03	6.050	SF
EXIST HZ SOONER STATE B #36-63HN - Wellbore #1 -	4,365.66	4,385.22	35.16	2.84	1.088	Level 2, CC
EXIST HZ SOONER STATE B #36-63HN - Wellbore #1 -	11,052.63	11,049.90	44.13	-161.04	0.215	Level 1, ES, SF
EXIST VERT BAKER STATE B #36-11 - Wellbore #1 - W	9,705.96	6,511.78	1,025.83	933.92	11.161	CC, ES
EXIST VERT BAKER STATE B #36-11 - Wellbore #1 - W	10,000.00	6,510.37	1,067.14	967.09	10.666	SF
EXIST VERT BAKER STATE B #36-12 - Wellbore #1 - W	10,902.27	6,515.17	1,025.60	900.44	8.194	CC, ES
EXIST VERT BAKER STATE B #36-12 - Wellbore #1 - W	11,100.00	6,514.72	1,044.49	913.81	7.993	SF
EXIST VERT BAKER STATE B #36-13 - Wellbore #1 - W	10,994.90	6,518.88	264.38	136.60	2.069	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 3N
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 3N	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 #2	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 BAKER STATE B #36-13 - Wellbore #1 - W	11,000.00	6,518.60	264.42	136.51	2.067	ES, SF
EXIST VERT BAKER STATE B #36-14 - Wellbore #1 - W	9,607.63	6,531.28	403.64	314.42	4.524	CC, ES
EXIST VERT BAKER STATE B #36-14 - Wellbore #1 - W	9,700.00	6,529.88	414.07	322.29	4.511	SF
EXIST VERT CLYNCKE STATE B #36-20 - Wellbore #1	10,259.08	6,500.00	1,539.40	1,432.12	14.349	CC
EXIST VERT CLYNCKE STATE B #36-20 - Wellbore #1	10,300.00	6,500.00	1,539.95	1,431.53	14.204	ES
EXIST VERT CLYNCKE STATE B #36-20 - Wellbore #1	10,900.00	6,500.00	1,667.49	1,542.37	13.327	SF
EXIST VERT CLYNCKE STATE B #36-25 - Wellbore #1	10,219.52	6,506.68	468.27	362.06	4.409	CC, ES
EXIST VERT CLYNCKE STATE B #36-25 - Wellbore #1	10,300.00	6,504.52	475.13	366.70	4.382	SF
EXIST VERT CPC-HOSHIKO #35-1 - Wellbore #1 - Well	15,619.46	6,519.28	1,031.62	774.21	4.008	CC, ES
EXIST VERT CPC-HOSHIKO #35-1 - Wellbore #1 - Well	15,700.00	6,518.52	1,034.76	775.09	3.985	SF
EXIST VERT ECKHARDT B #35-33 - Wellbore #1 - Well	16,643.97	6,520.75	242.35	-43.65	0.847	Level 1, CC, ES, SF
EXIST VERT HOSHIKO #2 - Wellbore #1 - Wellbore #1	13,566.89	6,554.29	257.46	57.52	1.288	Level 3, CC, ES, SF
EXIST VERT HOSHIKO #35-10H4 - Wellbore #1 - Wellb	13,737.91	6,544.54	1,141.06	936.31	5.573	CC
EXIST VERT HOSHIKO #35-10H4 - Wellbore #1 - Wellb	13,800.00	6,544.41	1,142.75	936.26	5.534	ES
EXIST VERT HOSHIKO #35-10H4 - Wellbore #1 - Wellb	13,900.00	6,544.18	1,152.52	943.22	5.507	SF
EXIST VERT HOSHIKO #35-16H4 - Wellbore #1 - Desig	12,173.44	6,539.69	490.37	202.40	1.703	CC
EXIST VERT HOSHIKO #35-16H4 - Wellbore #1 - Desig	12,200.00	6,539.67	491.09	202.37	1.701	ES, SF
EXIST VERT HOSHIKO B #35-14 - Wellbore #1 - Wellbo	15,077.43	6,545.34	342.81	100.75	1.416	Level 3, CC, ES
EXIST VERT HOSHIKO B #35-14 - Wellbore #1 - Wellbo	15,100.00	6,545.11	343.55	100.86	1.416	Level 3, SF
EXIST VERT HOSHIKO B #35-23 - Wellbore #1 - Wellbo	12,843.95	6,545.06	241.02	61.39	1.342	Level 3, CC, ES, SF
EXIST VERT LOLOFF #35-6 - Wellbore #1 - Wellbore #1	14,840.43	6,498.24	2,115.18	1,879.60	8.979	CC
EXIST VERT LOLOFF #35-6 - Wellbore #1 - Wellbore #1	14,900.00	6,498.28	2,116.02	1,878.77	8.919	ES
EXIST VERT LOLOFF #35-6 - Wellbore #1 - Wellbore #1	15,400.00	6,498.60	2,187.95	1,936.67	8.707	SF
EXIST VERT LOLOFF #35-8 - Wellbore #1 - Wellbore #1	12,188.97	6,507.47	2,432.12	2,270.99	15.093	CC
EXIST VERT LOLOFF #35-8 - Wellbore #1 - Wellbore #1	12,300.00	6,506.93	2,434.66	2,270.41	14.823	ES
EXIST VERT LOLOFF #35-8 - Wellbore #1 - Wellbore #1	13,200.00	6,502.33	2,633.89	2,444.45	13.904	SF
EXIST VERT LOLOFF #4 - Wellbore #1 - Wellbore #1	13,582.43	6,477.43	2,361.78	2,161.41	11.787	CC
EXIST VERT LOLOFF #4 - Wellbore #1 - Wellbore #1	13,600.00	6,477.35	2,361.85	2,160.98	11.758	ES
EXIST VERT LOLOFF #4 - Wellbore #1 - Wellbore #1	14,400.00	6,473.82	2,499.28	2,276.00	11.193	SF
EXIST VERT LOLOFF B #35-17 - Wellbore #1 - Wellbore	12,940.12	6,518.64	3,060.59	2,878.16	16.777	CC
EXIST VERT LOLOFF B #35-17 - Wellbore #1 - Wellbore	13,000.00	6,518.22	3,061.17	2,877.06	16.627	ES
EXIST VERT LOLOFF B #35-17 - Wellbore #1 - Wellbore	14,400.00	6,507.95	3,390.91	3,167.57	15.183	SF
EXIST VERT LOLOFF B #35-19 - Wellbore #1 - Design #	15,576.79	6,545.25	3,012.93	2,629.55	7.859	CC
EXIST VERT LOLOFF B #35-19 - Wellbore #1 - Design #	15,700.00	6,545.13	3,015.45	2,628.61	7.795	ES
EXIST VERT LOLOFF B #35-19 - Wellbore #1 - Design #	16,200.00	6,544.63	3,076.71	2,675.85	7.675	SF
EXIST VERT LOLOFF B #35-20 - Wellbore #1 - Wellbore	15,467.95	6,525.95	1,824.61	1,571.20	7.200	CC
EXIST VERT LOLOFF B #35-20 - Wellbore #1 - Wellbore	15,500.00	6,525.74	1,824.89	1,570.59	7.176	ES
EXIST VERT LOLOFF B #35-20 - Wellbore #1 - Wellbore	15,800.00	6,523.79	1,854.58	1,591.85	7.059	SF
EXIST VERT LOLOFF B #35-21 - Wellbore #1 - Wellbore	14,299.48	6,459.66	1,914.10	1,694.01	8.697	CC
EXIST VERT LOLOFF B #35-21 - Wellbore #1 - Wellbore	14,400.00	6,459.16	1,916.74	1,693.83	8.599	ES
EXIST VERT LOLOFF B #35-21 - Wellbore #1 - Wellbore	14,800.00	6,457.16	1,978.45	1,744.35	8.451	SF
EXIST VERT LOLOFF B #35-22 - Wellbore #1 - Wellbore	12,875.94	6,469.04	1,906.43	1,726.04	10.569	CC
EXIST VERT LOLOFF B #35-22 - Wellbore #1 - Wellbore	12,900.00	6,468.71	1,906.58	1,725.52	10.530	ES
EXIST VERT LOLOFF B #35-22 - Wellbore #1 - Wellbore	13,400.00	6,461.95	1,977.13	1,782.09	10.137	SF
EXIST VERT ROTHE STATE B #36-10 - Wellbore #1 - W	8,132.95	6,502.52	889.81	840.76	18.139	CC, ES
EXIST VERT ROTHE STATE B #36-10 - Wellbore #1 - W	8,600.00	6,500.23	1,004.94	943.38	16.325	SF
EXIST VERT ROTHE STATE B #36-7 - Wellbore #1 - We	100.00	64.51	2,097.55	2,097.46	10,000.000	CC
EXIST VERT ROTHE STATE B #36-7 - Wellbore #1 - We	500.00	471.77	2,097.95	2,096.56	1,514.295	ES
EXIST VERT ROTHE STATE B #36-7 - Wellbore #1 - We	11,300.00	6,479.32	4,015.40	3,879.19	29.479	SF
EXIST VERT ROTHE STATE B #36-8 - Wellbore #1 - We	100.00	70.49	1,641.89	1,641.80	10,000.000	CC
EXIST VERT ROTHE STATE B #36-8 - Wellbore #1 - We	400.00	365.35	1,642.19	1,641.09	1,493.495	ES
EXIST VERT ROTHE STATE B #36-8 - Wellbore #1 - We	16,600.00	6,500.00	9,928.55	9,643.83	34.871	SF

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 3N
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 3N	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 #2	Offset TVD Reference:	Offset Datum

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
SE NE SEC. 36 T5N R64W 6th P.M. (PYRAMID)						
EXIST VERT ROTHE STATE B #36-9 - Wellbore #1 - We	414.43	389.43	274.76	273.68	253.524	CC
EXIST VERT ROTHE STATE B #36-9 - Wellbore #1 - We	500.00	473.66	274.97	273.65	207.495	ES
EXIST VERT ROTHE STATE B #36-9 - Wellbore #1 - We	9,400.00	6,492.55	2,821.69	2,738.21	33.802	SF
EXIST VERT STATE #22-36 - Wellbore #1 - Design #1	9,868.44	6,511.05	2,463.25	2,239.78	11.023	CC
EXIST VERT STATE #22-36 - Wellbore #1 - Design #1	9,900.00	6,511.02	2,463.45	2,239.11	10.981	ES
EXIST VERT STATE #22-36 - Wellbore #1 - Design #1	10,600.00	6,510.30	2,569.59	2,325.81	10.541	SF
EXIST VERT STROH #1 - Wellbore #1 - Wellbore #1	16,261.89	6,400.00	2,408.71	2,133.73	8.760	CC
EXIST VERT STROH #1 - Wellbore #1 - Wellbore #1	16,300.00	6,400.00	2,409.01	2,132.97	8.727	ES
EXIST VERT STROH #1 - Wellbore #1 - Wellbore #1	16,829.37	6,400.00	2,474.65	2,183.77	8.507	SF
PYRAMID 1N - ORIGINAL WELLBORE - PROPOSAL #1	500.00	495.00	1,968.37	1,966.41	1,004.293	CC, ES
PYRAMID 1N - ORIGINAL WELLBORE - PROPOSAL #1	16,829.37	16,826.33	2,817.99	2,240.41	4.879	SF
PYRAMID 2N - ORIGINAL WELLBORE - PROPOSAL #1	500.00	495.00	1,953.43	1,951.47	996.667	CC, ES
PYRAMID 2N - ORIGINAL WELLBORE - PROPOSAL #1	16,829.37	16,753.01	2,547.05	1,969.18	4.408	SF
PYRAMID 3N - ORIGINAL WELLBORE - PROPOSAL #1	500.00	495.00	1,938.49	1,936.53	989.046	CC
PYRAMID 3N - ORIGINAL WELLBORE - PROPOSAL #1	16,829.37	16,844.86	2,228.11	1,650.63	3.858	ES, SF
PYRAMID 4N - ORIGINAL WELLBORE - PROPOSAL #1	500.00	495.00	1,923.59	1,921.63	981.443	CC
PYRAMID 4N - ORIGINAL WELLBORE - PROPOSAL #1	16,829.37	16,785.80	2,007.06	1,429.53	3.475	ES, SF
PYRAMID 5N - ORIGINAL WELLBORE - PROPOSAL #1	6,069.26	6,100.68	1,693.44	1,659.76	50.283	CC
PYRAMID 5N - ORIGINAL WELLBORE - PROPOSAL #1	16,829.37	16,903.38	1,718.23	1,140.91	2.976	ES, SF
PYRAMID 6N - ORIGINAL WELLBORE - PROPOSAL #1	16,829.37	16,899.70	1,425.10	847.28	2.466	CC, ES, SF
PYRAMID 7N - ORIGINAL WELLBORE - PROPOSAL #1	6,075.99	6,229.50	1,170.05	1,134.97	33.355	CC
PYRAMID 7N - ORIGINAL WELLBORE - PROPOSAL #1	16,829.37	17,033.61	1,171.86	594.57	2.030	ES, SF
PYRAMID 8N - ORIGINAL WELLBORE - PROPOSAL #1	8,133.04	8,374.08	858.91	763.77	9.027	CC
PYRAMID 8N - ORIGINAL WELLBORE - PROPOSAL #1	16,829.37	17,070.99	875.03	296.93	1.514	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 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	0.69	29.99	0.36	29.99					
100.00	100.00	100.00	100.00	0.09	0.09	0.69	29.99	0.36	29.99	29.82	0.17	173.300		
200.00	200.00	200.00	200.00	0.31	0.31	0.69	29.99	0.36	29.99	29.37	0.62	48.174		
300.00	300.00	300.00	300.00	0.54	0.54	0.69	29.99	0.36	29.99	28.92	1.07	27.975		
400.00	400.00	400.00	400.00	0.76	0.76	0.69	29.99	0.36	29.99	28.47	1.52	19.711		
500.00	500.00	500.00	500.00	0.99	0.99	0.69	29.99	0.36	29.99	28.02	1.97	15.216	CC	
600.00	599.98	599.98	599.98	1.19	1.21	-149.33	29.99	0.36	31.48	29.08	2.40	13.128		
700.00	699.84	699.84	699.84	1.38	1.43	-153.53	29.99	0.36	36.08	33.27	2.81	12.824		
800.00	799.45	799.45	799.45	1.60	1.66	-158.53	29.99	0.36	44.06	40.82	3.24	13.597		
900.00	898.70	898.70	898.70	1.85	1.88	-163.06	29.99	0.36	55.58	51.91	3.67	15.135		
1,000.00	997.47	997.47	997.47	2.15	2.10	-166.68	29.99	0.36	70.71	66.60	4.11	17.211		
1,100.00	1,095.62	1,095.62	1,095.62	2.50	2.32	-169.43	29.99	0.36	89.39	84.85	4.55	19.667		
1,149.96	1,144.39	1,144.39	1,144.39	2.70	2.43	-170.53	29.99	0.36	100.05	95.28	4.76	21.000		
1,200.00	1,193.16	1,193.16	1,193.16	2.91	2.54	-171.48	29.99	0.36	111.17	106.18	4.99	22.279		
1,300.00	1,290.59	1,290.59	1,290.59	3.34	2.76	-172.91	29.99	0.36	133.47	128.02	5.45	24.505		
1,400.00	1,388.03	1,388.03	1,388.03	3.79	2.98	-173.93	29.99	0.36	155.82	149.92	5.91	26.372		
1,500.00	1,485.47	1,485.47	1,485.47	4.25	3.20	-174.70	29.99	0.36	178.21	171.84	6.38	27.955		
1,600.00	1,582.91	1,582.91	1,582.91	4.72	3.42	-175.29	29.99	0.36	200.63	193.78	6.84	29.311		
1,700.00	1,680.34	1,685.42	1,685.40	5.19	3.63	-175.57	29.50	1.54	222.14	214.83	7.31	30.385		

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