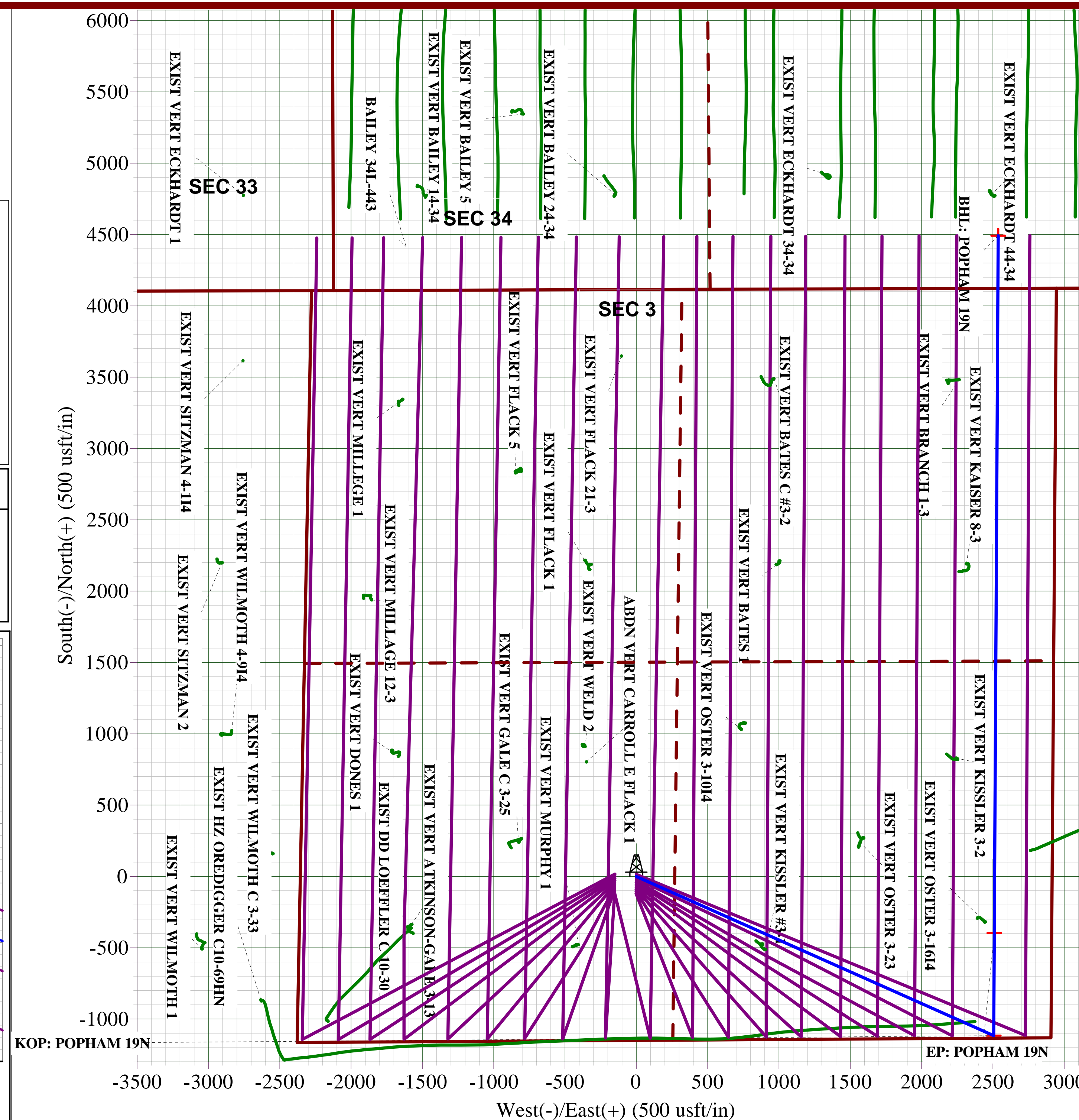
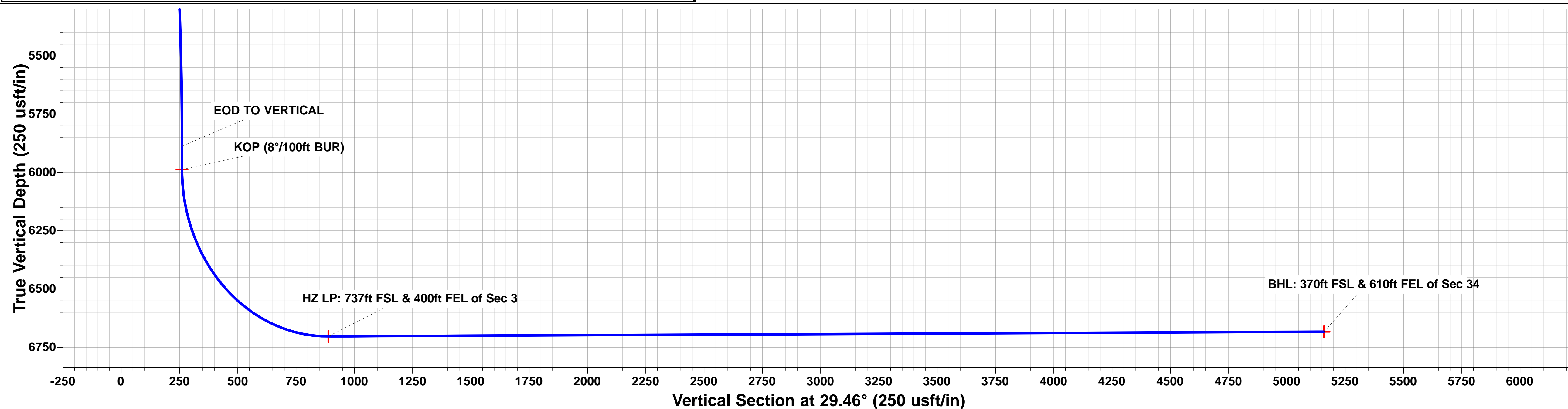
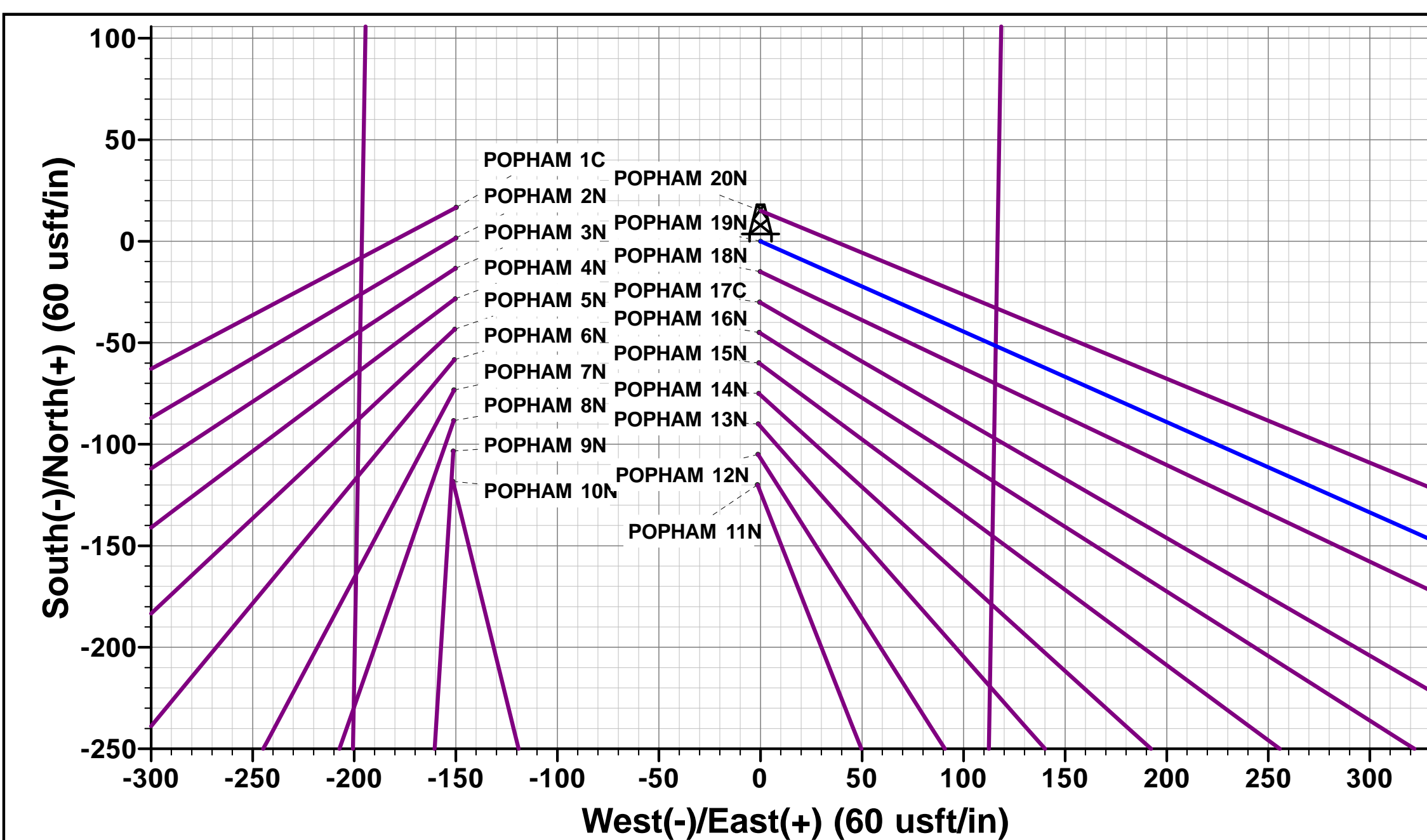
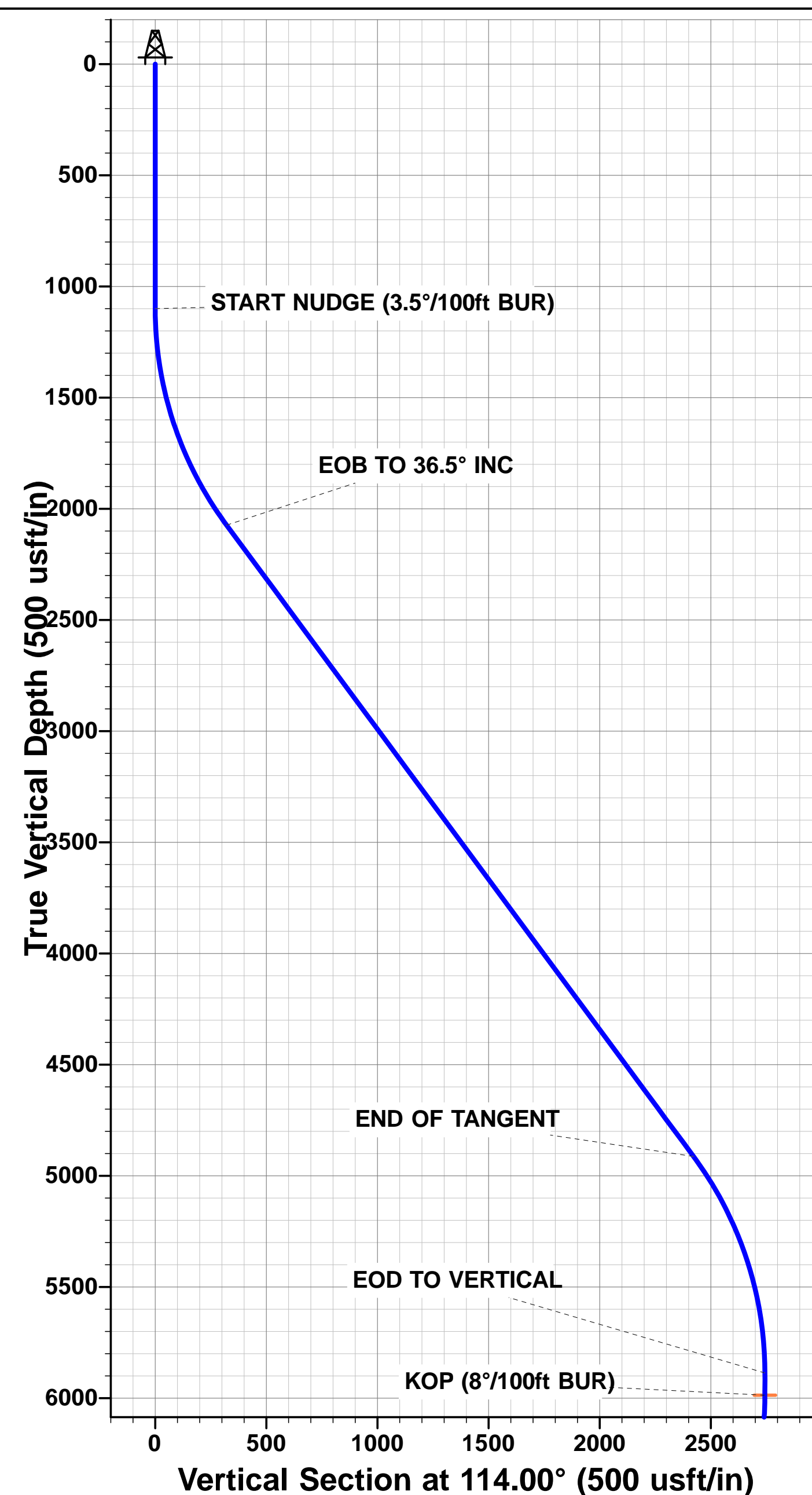


TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Departure	Annotation
0.0	0.0	0.00	0.00	0.0	0.0	0.0	0.0	SHL: 1149ft FSL & 2356ft FWL of Sec 3
1100.0	1100.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (3.5"/100ft BUR)
2073.8	2142.9	36.50	114.00	-130.6	293.4	30.6	321.1	EOB TO 36.5" INC
4913.0	5675.0	36.50	114.00	-985.2	2212.8	230.6	2422.2	END OF TANGENT
5886.8	6718.0	0.00	0.00	-1115.8	2506.2	261.1	2743.4	EOD TO VERTICAL
5986.8	6818.0	0.00	0.00	-1115.8	2506.2	261.1	2743.4	KOP (8"/100ft BUR)
6703.0	7945.8	90.23	0.32	-396.7	2510.2	889.2	3462.4	HZ LP: 737ft FSL & 400ft FEL of Sec 3
6683.0	12835.1	90.24	0.32	4492.4	2537.7	5159.6	8351.6	BHL: 370ft FSL & 610ft FEL of Sec 34

PROPOSED LOCAL COORDINATES:
SHL: 1149ft FSL & 2356ft FWL of Sec 3
HZ LP: 737ft FSL & 400ft FEL of Sec 3
BHL: 370ft FSL & 610ft FEL of Sec 34

Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP: POPHAM 19N	5986.8	-1115.8	2506.2	40.334218	-104.528518
EP: POPHAM 19N	6703.0	-396.7	2510.2	40.336192	-104.528503
BHL: POPHAM 19N	6683.0	4492.4	2537.7	40.349612	-104.528403



PDC ENERGY

**WELD COUNTY, COLORADO
SE SW SEC. 3 T4N R64W 6th P.M.
POPHAM 19N**

**ORIGINAL WELLBORE
PROPOSAL #1**

Anticollision Report

19 September, 2017



Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well POPHAM 19N
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4683.0usft (Original Well Elev)
Reference Site:	SE SW SEC. 3 T4N R64W 6th P.M.	MD Reference:	KB-EST @ 4683.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	POPHAM 19N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 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 100.0usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	19/09/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	12,835.1	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
Offset Well - Wellbore - Design						
SE SW SEC. 3 T4N R64W 6th P.M.						
POPHAM 10N - ORIGINAL WELLBORE - PROPOSAL #	266.0	268.0	192.1	191.2	208.001	CC
POPHAM 10N - ORIGINAL WELLBORE - PROPOSAL #	300.0	301.9	192.1	191.1	178.561	ES
POPHAM 10N - ORIGINAL WELLBORE - PROPOSAL #	12,835.1	12,092.8	2,345.3	2,156.4	12.415	SF
POPHAM 11N - ORIGINAL WELLBORE - PROPOSAL #	300.0	299.0	120.0	118.9	112.138	CC, ES
POPHAM 11N - ORIGINAL WELLBORE - PROPOSAL #	12,835.1	12,141.3	2,112.9	1,916.0	10.731	SF
POPHAM 12N - ORIGINAL WELLBORE - PROPOSAL #	400.0	400.0	104.9	103.4	68.956	CC, ES
POPHAM 12N - ORIGINAL WELLBORE - PROPOSAL #	12,835.1	12,105.2	1,860.3	1,667.4	9.642	SF
POPHAM 13N - ORIGINAL WELLBORE - PROPOSAL #	500.0	499.0	90.0	88.0	45.686	CC, ES
POPHAM 13N - ORIGINAL WELLBORE - PROPOSAL #	12,835.1	12,220.4	1,593.8	1,400.8	8.255	SF
POPHAM 14N - ORIGINAL WELLBORE - PROPOSAL #	600.0	599.0	74.9	72.5	30.988	CC, ES
POPHAM 14N - ORIGINAL WELLBORE - PROPOSAL #	12,835.1	12,216.2	1,350.7	1,162.5	7.178	SF
POPHAM 15N - ORIGINAL WELLBORE - PROPOSAL #	700.0	700.0	60.0	57.1	20.893	CC, ES
POPHAM 15N - ORIGINAL WELLBORE - PROPOSAL #	12,835.1	12,363.3	1,073.9	881.2	5.575	SF
POPHAM 16N - ORIGINAL WELLBORE - PROPOSAL #	800.0	800.0	45.0	41.6	13.543	CC, ES
POPHAM 16N - ORIGINAL WELLBORE - PROPOSAL #	12,835.1	12,419.5	816.4	624.6	4.256	SF
POPHAM 17C - ORIGINAL WELLBORE - PROPOSAL #	900.0	900.0	30.0	26.3	7.965	CC, ES
POPHAM 17C - ORIGINAL WELLBORE - PROPOSAL #	12,835.1	12,647.9	569.9	376.5	2.947	SF
POPHAM 18N - ORIGINAL WELLBORE - PROPOSAL #	1,000.0	1,000.0	15.0	10.8	3.549	CC
POPHAM 18N - ORIGINAL WELLBORE - PROPOSAL #	3,400.0	3,388.0	41.7	-6.4	0.867	Level 1, ES, SF
POPHAM 1C - ORIGINAL WELLBORE - PROPOSAL #1	1,100.0	1,102.0	150.7	146.0	32.246	CC, ES
POPHAM 1C - ORIGINAL WELLBORE - PROPOSAL #1	12,835.1	12,832.6	4,779.3	4,597.4	26.282	SF
POPHAM 20N - ORIGINAL WELLBORE - PROPOSAL #	1,100.0	1,100.0	15.0	10.3	3.215	CC
POPHAM 20N - ORIGINAL WELLBORE - PROPOSAL #	3,100.0	3,125.2	37.4	-4.6	0.890	Level 1, SF
POPHAM 20N - ORIGINAL WELLBORE - PROPOSAL #	3,200.0	3,224.9	39.6	-4.9	0.891	Level 1, ES
POPHAM 2N - ORIGINAL WELLBORE - PROPOSAL #1	1,066.0	1,068.0	149.9	145.4	33.172	CC
POPHAM 2N - ORIGINAL WELLBORE - PROPOSAL #1	1,100.0	1,100.0	149.9	145.3	32.120	ES
POPHAM 2N - ORIGINAL WELLBORE - PROPOSAL #1	12,835.1	12,551.9	4,530.5	4,341.7	23.988	SF
POPHAM 3N - ORIGINAL WELLBORE - PROPOSAL #1	966.0	968.0	150.7	146.7	37.033	CC
POPHAM 3N - ORIGINAL WELLBORE - PROPOSAL #1	1,000.0	1,000.0	150.8	146.5	35.734	ES
POPHAM 3N - ORIGINAL WELLBORE - PROPOSAL #1	12,835.1	12,502.5	4,308.4	4,118.9	22.741	SF
POPHAM 4N - ORIGINAL WELLBORE - PROPOSAL #1	866.0	868.0	152.9	149.3	42.236	CC
POPHAM 4N - ORIGINAL WELLBORE - PROPOSAL #1	900.0	900.0	152.9	149.2	40.576	ES
POPHAM 4N - ORIGINAL WELLBORE - PROPOSAL #1	12,835.1	12,369.5	4,035.7	3,846.8	21.366	SF
POPHAM 5N - ORIGINAL WELLBORE - PROPOSAL #1	766.0	768.0	156.6	153.5	49.386	CC
POPHAM 5N - ORIGINAL WELLBORE - PROPOSAL #1	800.0	800.0	156.6	153.3	47.183	ES
POPHAM 5N - ORIGINAL WELLBORE - PROPOSAL #1	12,835.1	12,319.8	3,762.5	3,572.4	19.793	SF
POPHAM 6N - ORIGINAL WELLBORE - PROPOSAL #1	666.0	668.0	161.6	158.9	59.362	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 POPHAM 19N
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4683.0usft (Original Well Elev)
Reference Site:	SE SW SEC. 3 T4N R64W 6th P.M.	MD Reference:	KB-EST @ 4683.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	POPHAM 19N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 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
Offset Well - Wellbore - Design						
SE SW SEC. 3 T4N R64W 6th P.M.						
POPHAM 6N - ORIGINAL WELLBORE - PROPOSAL #1	700.0	700.0	161.6	158.7	56.297	ES
POPHAM 6N - ORIGINAL WELLBORE - PROPOSAL #1	12,835.1	12,189.4	3,486.9	3,299.7	18.626	SF
POPHAM 7N - ORIGINAL WELLBORE - PROPOSAL #1	566.0	568.0	167.7	165.4	73.807	CC
POPHAM 7N - ORIGINAL WELLBORE - PROPOSAL #1	600.0	600.0	167.7	165.3	69.287	ES
POPHAM 7N - ORIGINAL WELLBORE - PROPOSAL #1	12,835.1	12,204.0	3,224.6	3,033.6	16.878	SF
POPHAM 8N - ORIGINAL WELLBORE - PROPOSAL #1	466.0	468.0	175.0	173.2	95.997	CC
POPHAM 8N - ORIGINAL WELLBORE - PROPOSAL #1	500.0	500.0	175.0	173.0	88.775	ES
POPHAM 8N - ORIGINAL WELLBORE - PROPOSAL #1	12,835.1	12,123.9	2,958.0	2,764.4	15.280	SF
POPHAM 9N - ORIGINAL WELLBORE - PROPOSAL #1	366.3	367.3	183.2	181.8	133.444	CC
POPHAM 9N - ORIGINAL WELLBORE - PROPOSAL #1	400.0	400.0	183.2	181.6	120.370	ES
POPHAM 9N - ORIGINAL WELLBORE - PROPOSAL #1	12,835.1	12,138.8	2,657.8	2,463.2	13.662	SF

Company:	PDC ENERGY	Local Co-ordinate Reference:	Well POPHAM 19N
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4683.0usft (Original Well Elev)
Reference Site:	SE SW SEC. 3 T4N R64W 6th P.M.	MD Reference:	KB-EST @ 4683.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	POPHAM 19N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 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 Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
SE SW SEC. 3 T4N R64W 6th P.M. (OFFSETS FOR POPHAM)						
ABDN VERT HOFF 31-10 - Wellbore #1 - Wellbore #1	4,187.8	3,674.0	1,273.4	1,236.5	34.442	CC
ABDN VERT HOFF 31-10 - Wellbore #1 - Wellbore #1	4,200.0	3,683.7	1,273.5	1,236.3	34.283	ES
ABDN VERT HOFF 31-10 - Wellbore #1 - Wellbore #1	5,200.0	4,461.3	1,417.7	1,368.8	28.982	SF
EXIST DD HOFFMAN C 02-33D - Wellbore #1 - Wellbore	8,528.1	7,470.2	256.2	196.6	4.302	CC, ES, SF
EXIST HZ SUDEN 34M-223 - Wellbore #1 - Wellbore #1	12,835.1	11,092.0	1,576.5	1,398.4	8.852	CC, ES, SF
EXIST HZ SUDEN 34M-423 - Wellbore #1 - Wellbore #1	12,835.1	11,065.0	1,812.0	1,636.3	10.313	CC, ES, SF
EXIST HZ SUDEN 34U-243 - Wellbore #1 - Wellbore #1	12,835.1	11,081.0	873.9	696.4	4.923	CC, ES, SF
EXIST HZ SUDEN 34R-323 - Wellbore #1 - Wellbore #1	12,835.1	11,162.0	326.6	145.9	1.807	CC, ES, SF
EXIST HZ SUDEN 34R-343 - Wellbore #1 - Wellbore #1	12,835.1	11,135.0	1,123.6	945.2	6.297	CC, ES, SF
EXIST HZ SUDEN 34R-423 - Wellbore #1 - Wellbore #1	12,835.1	11,245.0	503.8	326.3	2.837	CC, ES, SF
EXIST HZ SUDEN 34U-243 - Wellbore #1 - Wellbore #1	12,835.1	11,118.0	242.4	62.9	1.350	Level 3, CC, ES, SF
EXIST HZ SUDEN 34U-403 - Wellbore #1 - Wellbore #1	12,835.1	11,309.0	568.3	393.5	3.252	CC, ES, SF
EXIST VERT BATES 1 - Wellbore #1 - Wellbore #1	10,547.4	6,681.8	1,517.0	1,459.7	26.481	CC, ES
EXIST VERT BATES 1 - Wellbore #1 - Wellbore #1	11,300.0	6,679.5	1,693.4	1,623.0	24.037	SF
EXIST VERT BATES C #3-2 - Wellbore #1 - Wellbore #1	11,829.9	6,631.9	1,653.6	1,573.4	20.621	CC, ES
EXIST VERT BATES C #3-2 - Wellbore #1 - Wellbore #1	12,500.0	6,659.2	1,784.0	1,691.2	19.225	SF
EXIST VERT BRANCH 1-3 - Wellbore #1 - Wellbore #1	11,806.6	6,655.8	340.6	261.0	4.275	CC, ES, SF
EXIST VERT ECKHARDT 34-34 - Wellbore #1 - Wellbor	12,835.1	6,475.0	1,326.2	1,229.1	13.654	CC, ES, SF
EXIST VERT ECKHARDT 44-34 - Wellbore #1 - Wellbor	12,835.1	6,300.0	461.5	404.0	8.024	CC, ES, SF
EXIST VERT FLACK 1 - Wellbore #1 - Wellbore #1	1,112.8	1,123.0	2,176.0	2,173.0	718.544	CC, ES
EXIST VERT FLACK 1 - Wellbore #1 - Wellbore #1	12,835.1	6,650.0	3,686.0	3,587.4	37.387	SF
EXIST VERT FLACK 5 - Wellbore #1 - Wellbore #1	0.0	0.0	2,962.3			
EXIST VERT FLACK 5 - Wellbore #1 - Wellbore #1	12,835.1	6,637.3	3,772.5	3,674.0	38.293	SF
EXIST VERT GALE C 3-25 - Wellbore #1 - Wellbore #1	1,102.0	1,090.1	856.9	854.0	290.264	CC, ES
EXIST VERT GALE C 3-25 - Wellbore #1 - Wellbore #1	12,835.1	6,585.6	5,483.2	5,385.0	55.798	SF
EXIST VERT KAISER 8-3 - Wellbore #1 - Wellbore #1	10,478.6	6,653.4	256.4	201.1	4.636	CC, ES
EXIST VERT KAISER 8-3 - Wellbore #1 - Wellbore #1	10,500.0	6,653.4	257.3	201.6	4.622	SF
EXIST VERT KISSLER #3-1 - Wellbore #1 - Wellbore #1	3,275.3	2,953.7	86.0	61.7	3.538	CC, ES, SF
EXIST VERT KISSLER 3-2 - Wellbore #1 - Wellbore #1	9,192.0	6,649.1	333.5	297.0	9.135	CC
EXIST VERT KISSLER 3-2 - Wellbore #1 - Wellbore #1	9,200.0	6,649.4	333.6	297.0	9.112	ES, SF
EXIST VERT MURPHY 1 - Wellbore #1 - Wellbore #1	100.0	76.5	626.4	626.3	3,732.000	CC, ES
EXIST VERT MURPHY 1 - Wellbore #1 - Wellbore #1	12,835.1	6,500.0	5,812.7	5,714.5	59.215	SF
EXIST VERT OSTER 3-1014 - Wellbore #1 - Wellbore #1	1,989.3	1,909.3	1,243.2	1,236.0	173.675	CC
EXIST VERT OSTER 3-1014 - Wellbore #1 - Wellbore #1	2,000.0	1,918.0	1,243.2	1,236.0	171.232	ES
EXIST VERT OSTER 3-1014 - Wellbore #1 - Wellbore #1	10,800.0	6,700.0	2,236.3	2,174.8	36.320	SF
EXIST VERT OSTER 3-1614 - Wellbore #1 - Wellbore #1	8,048.4	6,649.4	118.1	88.2	3.948	CC, ES, SF
EXIST VERT OSTER 3-23 - Wellbore #1 - Wellbore #1	3,805.4	3,358.0	891.2	859.6	28.165	CC, ES
EXIST VERT OSTER 3-23 - Wellbore #1 - Wellbore #1	4,500.0	3,947.6	972.9	933.4	24.619	SF
EXIST VERT WELD 2 - Wellbore #1 - Wellbore #1	0.0	15.0	978.1			
EXIST VERT WELD 2 - Wellbore #1 - Wellbore #1	100.0	113.6	978.1	977.9	4,676.553	ES
EXIST VERT WELD 2 - Wellbore #1 - Wellbore #1	12,835.1	6,700.0	4,603.1	4,504.5	46.692	SF

Company:	PDC ENERGY	Local Co-ordinate Reference:	Well POPHAM 19N
Project:	WELD COUNTY, COLORADO	TVD Reference:	KB-EST @ 4683.0usft (Original Well Elev)
Reference Site:	SE SW SEC. 3 T4N R64W 6th P.M.	MD Reference:	KB-EST @ 4683.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	True
Reference Well:	POPHAM 19N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 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
Offset Well - Wellbore - Design						
SW SW SEC. 34 T5N R64W 6th P.M.						
ABDN VERT CARROLL E FLACK 1 - Wellbore #1 - Desi	1,100.0	1,096.0	877.3	853.9	37.633	CC, ES
ABDN VERT CARROLL E FLACK 1 - Wellbore #1 - Desi	9,900.0	6,691.1	2,967.4	2,789.0	16.634	SF
EXIST DD LOEFFLER C 10-30 - Wellbore #1 - Wellbore	1,103.3	1,116.0	1,639.1	1,635.2	414.680	CC, ES
EXIST DD LOEFFLER C 10-30 - Wellbore #1 - Wellbore	12,835.1	6,754.0	7,238.1	7,123.2	63.026	SF
EXIST HZ CHESNUT 27G-203 - Wellbore #1 - Wellbore	12,835.1	13,736.4	4,557.5	4,321.4	19.307	CC, ES, SF
EXIST HZ CHESNUT 27G-423 - Wellbore #1 - Wellbore	12,835.1	13,972.0	4,195.2	3,957.0	17.616	CC, ES, SF
EXIST HZ CHESNUT 27K-203 - Wellbore #1 - Wellbore	12,835.1	13,900.0	3,511.8	3,275.6	14.872	CC, ES, SF
EXIST HZ CHESNUT 27K-323 - Wellbore #1 - Wellbore	12,835.1	14,120.0	2,901.8	2,676.7	12.891	CC, ES, SF
EXIST HZ CHESNUT 27K-343 - Wellbore #1 - Wellbore	12,835.1	13,920.0	3,870.1	3,632.8	16.310	CC, ES, SF
EXIST HZ CHESNUT 27K-403 - Wellbore #1 - Wellbore	12,835.1	14,160.0	3,212.4	2,987.3	14.269	CC, ES, SF
EXIST HZ CHESNUT 27O-243 - Wellbore #1 - Wellbore	12,835.1	14,066.0	2,554.6	2,329.4	11.343	CC, ES, SF
EXIST HZ CHESNUT 27O-303 - Wellbore #1 - Wellbore	12,835.1	14,196.0	2,231.6	2,005.0	9.851	CC, ES, SF
EXIST HZ OREDIGGER C10-69HN - Wellbore #1 - Well	7,350.0	11,253.0	219.9	90.3	1.697	ES, SF
EXIST HZ OREDIGGER C10-69HN - Wellbore #1 - Well	7,389.7	11,253.0	215.4	90.8	1.728	CC
EXIST VERT ATKINSON-GALE 3-13 - Wellbore #1 - We	508.0	500.0	1,608.3	1,606.9	1,133.196	CC
EXIST VERT ATKINSON-GALE 3-13 - Wellbore #1 - We	600.0	584.9	1,608.5	1,606.9	978.004	ES
EXIST VERT ATKINSON-GALE 3-13 - Wellbore #1 - We	12,835.1	6,700.0	6,382.7	6,284.1	64.687	SF
EXIST VERT BAILEY 14-34 - Wellbore #1 - Wellbore #1	12,835.1	6,525.0	4,091.5	3,993.0	41.547	CC, ES, SF
EXIST VERT BAILEY 24-34 - Wellbore #1 - Wellbore #1	12,835.1	6,500.0	2,800.6	2,702.6	28.554	CC, ES, SF
EXIST VERT BAILEY 5 - Wellbore #1 - Wellbore #1	12,835.1	6,665.7	3,518.8	3,419.6	35.474	CC, ES, SF
EXIST VERT DONES 1 - Wellbore #1 - Wellbore #1	1,100.0	1,098.6	1,866.8	1,863.7	613.079	ES
EXIST VERT DONES 1 - Wellbore #1 - Wellbore #1	1,103.1	1,101.6	1,866.8	1,863.8	621.003	CC
EXIST VERT DONES 1 - Wellbore #1 - Wellbore #1	12,835.1	6,734.3	5,573.3	5,474.5	56.451	SF
EXIST VERT ECKHARDT 1 - Wellbore #1 - Design #1	12,835.1	6,683.0	5,299.8	5,069.6	23.016	CC, ES, SF
EXIST VERT FLACK 21-3 - Wellbore #1 - Design #1	11,977.8	6,678.6	2,636.8	2,422.5	12.306	CC
EXIST VERT FLACK 21-3 - Wellbore #1 - Design #1	12,000.0	6,678.5	2,636.9	2,422.2	12.283	ES
EXIST VERT FLACK 21-3 - Wellbore #1 - Design #1	12,600.0	6,676.0	2,709.2	2,483.4	11.999	SF
EXIST VERT MILLAGE 12-3 - Wellbore #1 - Wellbore #1	0.0	12.6	2,682.2			
EXIST VERT MILLAGE 12-3 - Wellbore #1 - Wellbore #1	12,835.1	6,677.8	5,125.6	5,027.0	51.964	SF
EXIST VERT MILLEGE 1 - Wellbore #1 - Wellbore #1	0.0	0.0	3,723.2			
EXIST VERT MILLEGE 1 - Wellbore #1 - Wellbore #1	1,103.2	1,117.7	3,723.3	3,720.6	1,354.071	ES
EXIST VERT MILLEGE 1 - Wellbore #1 - Wellbore #1	12,835.1	6,665.4	4,367.8	4,269.3	44.324	SF
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	1,100.0	1,113.3	3,643.2	3,640.2	1,233.472	ES
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	1,102.5	1,115.8	3,643.2	3,640.2	1,236.195	CC
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	12,835.1	6,525.0	5,934.4	5,836.1	60.362	SF
EXIST VERT SITZMAN 4-114 - Wellbore #1 - Design #1	1,100.0	1,115.0	4,548.5	4,525.0	193.485	CC, ES
EXIST VERT SITZMAN 4-114 - Wellbore #1 - Design #1	12,835.1	6,698.0	5,367.0	5,136.6	23.293	SF
EXIST VERT WILMOTH 1 - Wellbore #1 - Wellbore #1	0.0	6.9	3,084.2			
EXIST VERT WILMOTH 1 - Wellbore #1 - Wellbore #1	12,835.1	6,760.0	7,452.6	7,353.8	75.389	SF
EXIST VERT WILMOTH 4-914 - Wellbore #1 - Wellbore #	1,100.0	1,119.7	3,013.8	3,010.7	991.989	ES
EXIST VERT WILMOTH 4-914 - Wellbore #1 - Wellbore #	1,106.1	1,125.6	3,013.8	3,010.7	1,002.312	CC
EXIST VERT WILMOTH 4-914 - Wellbore #1 - Wellbore #	12,835.1	6,732.3	6,457.6	6,358.8	65.334	SF
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	1,098.0	1,100.0	2,553.6	2,550.6	861.264	CC
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	1,100.0	1,101.9	2,553.6	2,550.6	859.855	ES
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	12,835.1	6,700.0	6,679.2	6,581.0	67.969	SF