

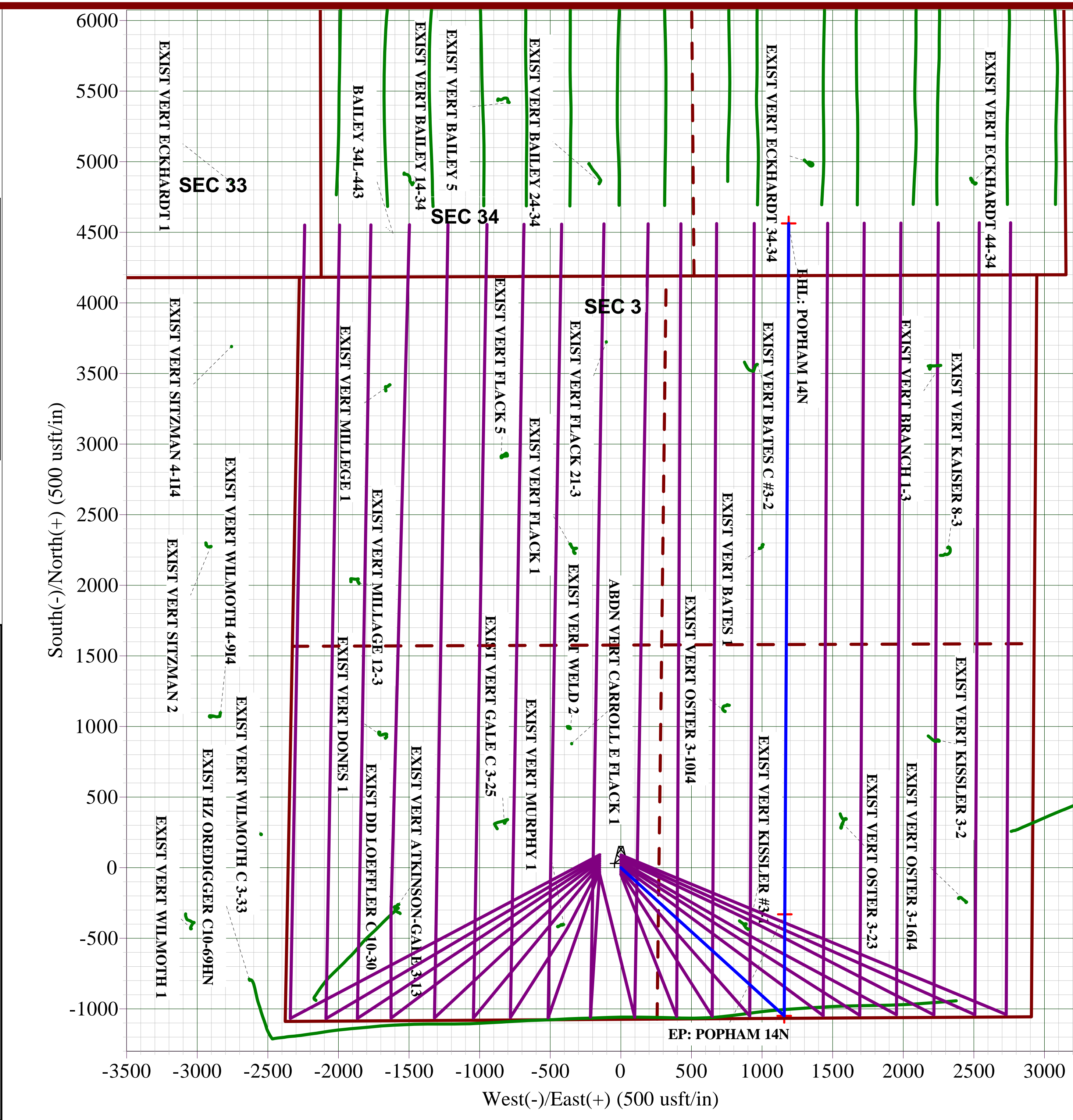
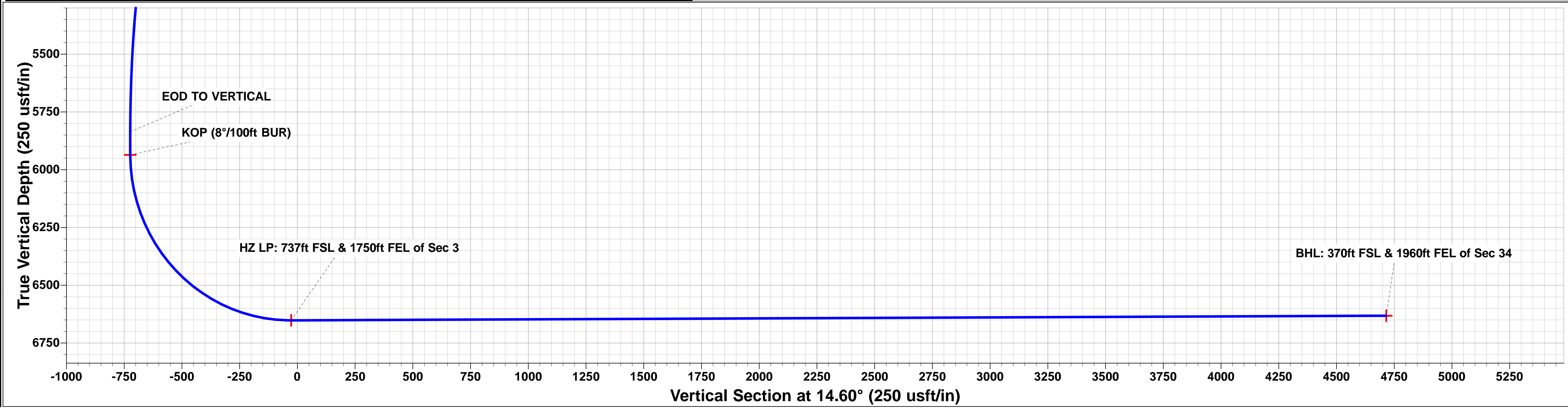
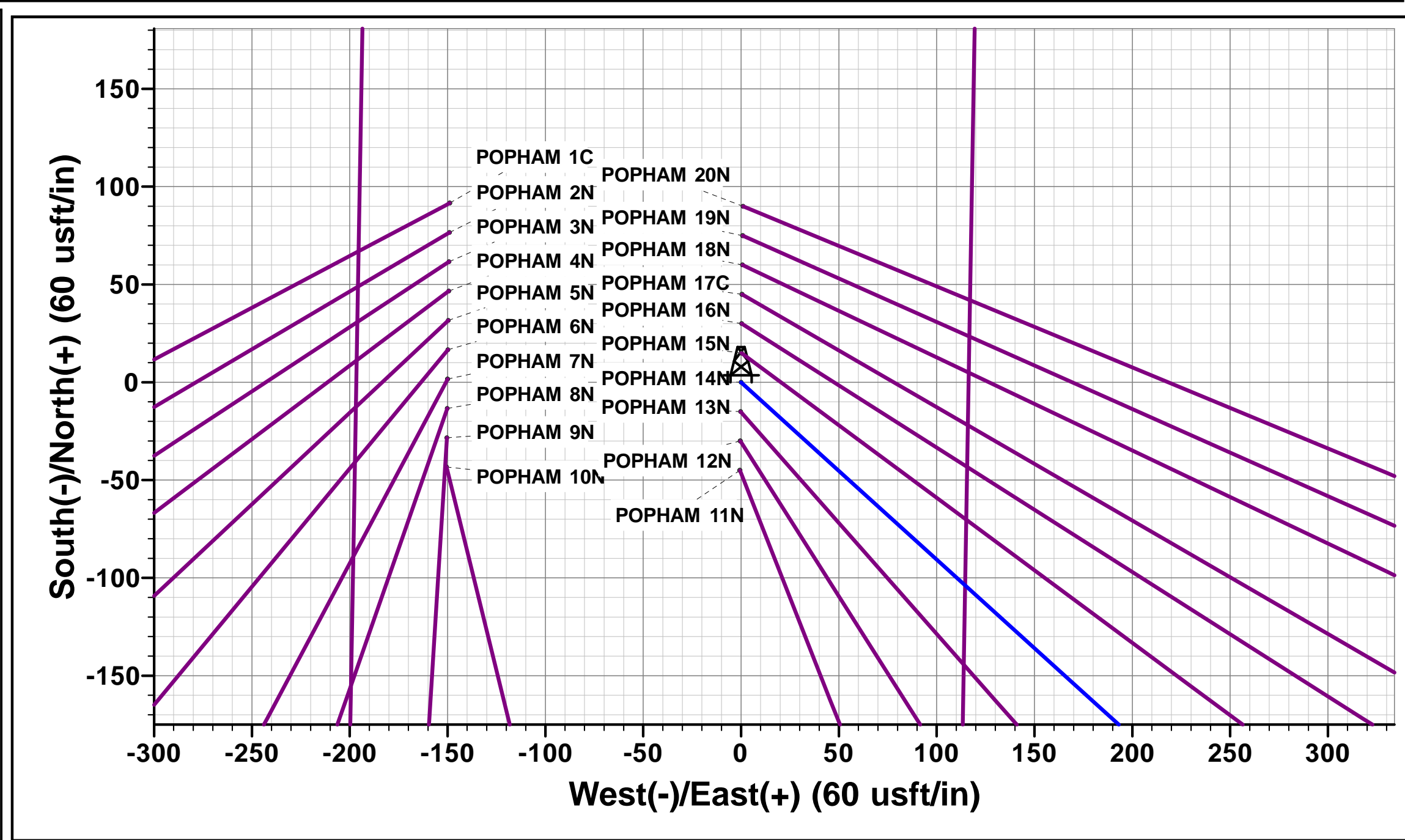
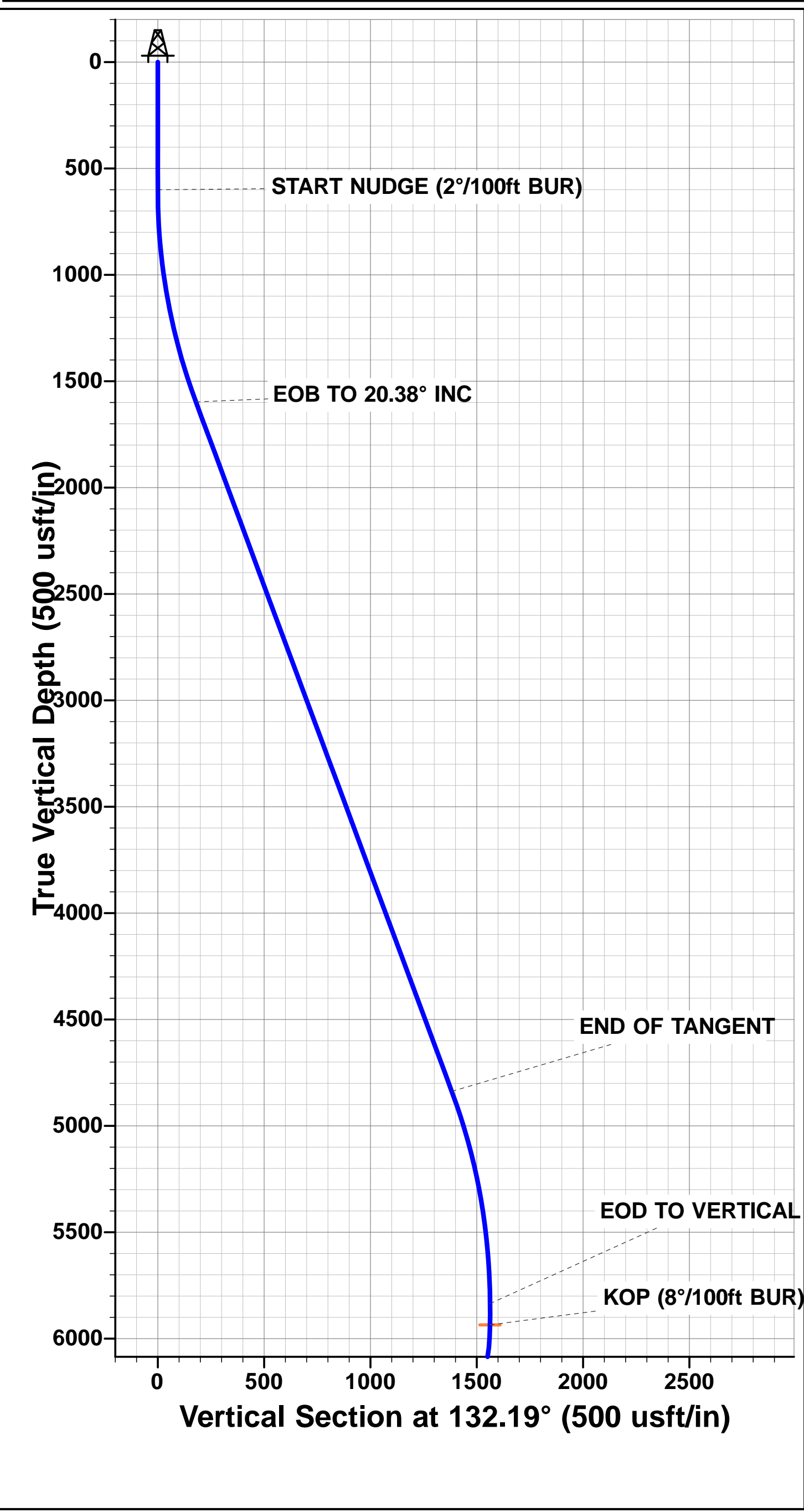


Project: WELD COUNTY, COLORADO  
Site: SE SW SEC. 3 T4N R64W 6th P.M.  
Well: POPHAM 14N  
Wellbore: ORIGINAL WELLBORE  
Design: PROPOSAL #1

ANNOTATIONS								
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: 1074ft FSL & 2356ft FWL of Sec 3
600.0	600.0	0.00	0.00	0.0	0.0	0.0	0.0	START NUDGE (2°/100ft BUR)
1597.4	1618.8	20.38	132.19	-120.4	132.8	-83.0	179.2	EOB TO 20.38° INC
4838.4	5076.0	20.38	132.19	-928.8	1024.6	-640.5	1382.9	END OF TANGENT
5835.8	6094.8	0.00	0.00	-1049.2	1157.4	-723.5	1562.2	EOD TO VERTICAL
5935.8	6194.8	0.00	0.00	-1049.2	1157.4	-723.5	1562.2	KOP (8°/100ft BUR)
6652.0	7322.7	90.23	0.32	-330.1	1161.4	-26.7	2281.3	HZ LP: 737ft FSL & 1750ft FEL of Sec 3
6632.0	12216.2	90.24	0.33	4563.3	1188.8	4715.6	7174.8	BHL: 370ft FSL & 1960ft FEL of Sec 34

PROPOSED LOCAL COORDINATES:	
SHL: 1074ft FSL & 2356ft FWL of Sec 3	
HZ LP: 737ft FSL & 1750ft FEL of Sec 3	
BHL: 370ft FSL & 1960ft FEL of Sec 34	

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP: POPHAM 14N	5935.8	-1049.2	1157.4	40.334195	-104.533359
EP: POPHAM 14N	6652.0	-330.1	1161.4	40.336169	-104.533345
BHL: POPHAM 14N	6632.0	4563.3	1188.8	40.349601	-104.533245



# **PDC ENERGY**

**WELD COUNTY, COLORADO  
SE SW SEC. 3 T4N R64W 6th P.M.  
POPHAM 14N**

**ORIGINAL WELLBORE  
PROPOSAL #1**

## **Anticollision Report**

**19 September, 2017**



## Anticollision Report



<b>Company:</b>	PDC ENERGY	<b>Local Co-ordinate Reference:</b>	Well POPHAM 14N
<b>Project:</b>	WELD COUNTY, COLORADO	<b>TVD Reference:</b>	KB-EST @ 4682.0usft (Original Well Elev)
<b>Reference Site:</b>	SE SW SEC. 3 T4N R64W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4682.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	POPHAM 14N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	ORIGINAL WELLBORE	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	PROPOSAL #1	<b>Offset TVD Reference:</b>	Offset Datum

<b>Reference</b>	PROPOSAL #1		
<b>Filter type:</b>	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
<b>Interpolation Method:</b>	MD + Stations Interval 100.0usft	<b>Error Model:</b>	ISCWSA
<b>Depth Range:</b>	Unlimited	<b>Scan Method:</b>	Closest Approach 3D
<b>Results Limited by:</b>	Maximum center-center distance of 10,000.0 usft	<b>Error Surface:</b>	Elliptical Conic
<b>Warning Levels Evaluated at:</b>	2.00 Sigma	<b>Casing Method:</b>	Not applied

<b>Survey Tool Program</b>	<b>Date</b>	19/09/2017		
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>
0.0	12,216.2	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 #	265.6	268.6	156.6	155.7	169.443	CC
POPHAM 10N - ORIGINAL WELLBORE - PROPOSAL #	500.0	502.2	157.1	155.2	81.542	ES
POPHAM 10N - ORIGINAL WELLBORE - PROPOSAL #	12,216.2	12,092.8	995.0	811.0	5.408	SF
POPHAM 11N - ORIGINAL WELLBORE - PROPOSAL #	300.0	300.0	45.0	44.0	42.002	CC, ES
POPHAM 11N - ORIGINAL WELLBORE - PROPOSAL #	12,216.2	12,141.3	766.3	574.7	4.001	SF
POPHAM 12N - ORIGINAL WELLBORE - PROPOSAL #	366.3	367.3	30.0	28.6	21.846	CC
POPHAM 12N - ORIGINAL WELLBORE - PROPOSAL #	400.0	401.0	30.0	28.5	19.679	ES
POPHAM 12N - ORIGINAL WELLBORE - PROPOSAL #	12,216.2	12,105.2	509.9	321.8	2.711	SF
POPHAM 13N - ORIGINAL WELLBORE - PROPOSAL #	500.0	500.0	15.0	13.0	7.615	CC, ES
POPHAM 13N - ORIGINAL WELLBORE - PROPOSAL #	12,216.2	12,220.4	253.8	69.7	1.378	Level 3, SF
POPHAM 15N - ORIGINAL WELLBORE - PROPOSAL #	600.0	601.0	15.0	12.6	6.180	CC, ES
POPHAM 15N - ORIGINAL WELLBORE - PROPOSAL #	12,216.2	12,361.1	282.4	100.3	1.551	SF
POPHAM 16N - ORIGINAL WELLBORE - PROPOSAL #	600.0	601.0	30.0	27.6	12.375	CC, ES
POPHAM 16N - ORIGINAL WELLBORE - PROPOSAL #	12,216.2	12,414.9	534.9	347.1	2.849	SF
POPHAM 17C - ORIGINAL WELLBORE - PROPOSAL #	600.0	601.0	44.9	42.5	18.540	CC, ES
POPHAM 17C - ORIGINAL WELLBORE - PROPOSAL #	12,216.2	12,641.4	815.0	632.6	4.469	SF
POPHAM 18N - ORIGINAL WELLBORE - PROPOSAL #	600.0	601.0	60.0	57.5	24.750	CC, ES
POPHAM 18N - ORIGINAL WELLBORE - PROPOSAL #	12,216.2	12,649.2	1,059.8	867.6	5.516	SF
POPHAM 19N - ORIGINAL WELLBORE - PROPOSAL #	600.0	601.0	74.9	72.5	30.930	CC, ES
POPHAM 19N - ORIGINAL WELLBORE - PROPOSAL #	12,216.2	12,823.6	1,350.6	1,162.7	7.185	SF
POPHAM 1C - ORIGINAL WELLBORE - PROPOSAL #1	600.0	603.0	174.8	172.4	72.005	CC, ES
POPHAM 1C - ORIGINAL WELLBORE - PROPOSAL #1	12,216.2	12,832.6	3,432.7	3,256.4	19.472	SF
POPHAM 20N - ORIGINAL WELLBORE - PROPOSAL #	600.0	601.0	90.0	87.5	37.108	CC, ES
POPHAM 20N - ORIGINAL WELLBORE - PROPOSAL #	12,216.2	12,927.4	1,571.7	1,382.9	8.327	SF
POPHAM 2N - ORIGINAL WELLBORE - PROPOSAL #1	600.0	603.0	167.5	165.1	69.018	CC, ES
POPHAM 2N - ORIGINAL WELLBORE - PROPOSAL #1	12,216.2	12,551.9	3,180.5	2,996.8	17.311	SF
POPHAM 3N - ORIGINAL WELLBORE - PROPOSAL #1	600.0	603.0	161.5	159.0	66.519	CC, ES
POPHAM 3N - ORIGINAL WELLBORE - PROPOSAL #1	12,216.2	12,502.5	2,959.4	2,775.2	16.067	SF
POPHAM 4N - ORIGINAL WELLBORE - PROPOSAL #1	600.0	603.0	156.5	154.1	64.473	CC, ES
POPHAM 4N - ORIGINAL WELLBORE - PROPOSAL #1	12,216.2	12,369.5	2,685.6	2,501.9	14.614	SF
POPHAM 5N - ORIGINAL WELLBORE - PROPOSAL #1	600.0	603.0	152.9	150.5	62.998	CC, ES
POPHAM 5N - ORIGINAL WELLBORE - PROPOSAL #1	12,216.2	12,319.8	2,413.7	2,228.9	13.058	SF
POPHAM 6N - ORIGINAL WELLBORE - PROPOSAL #1	600.0	603.0	150.7	148.3	62.084	CC, ES
POPHAM 6N - ORIGINAL WELLBORE - PROPOSAL #1	12,216.2	12,189.4	2,136.8	1,954.6	11.732	SF
POPHAM 7N - ORIGINAL WELLBORE - PROPOSAL #1	565.6	568.6	150.0	147.7	65.977	CC
POPHAM 7N - ORIGINAL WELLBORE - PROPOSAL #1	600.0	602.9	150.0	147.5	61.802	ES
POPHAM 7N - ORIGINAL WELLBORE - PROPOSAL #1	12,216.2	12,204.0	1,876.1	1,690.3	10.096	SF

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

<b>Company:</b>	PDC ENERGY	<b>Local Co-ordinate Reference:</b>	Well POPHAM 14N
<b>Project:</b>	WELD COUNTY, COLORADO	<b>TVD Reference:</b>	KB-EST @ 4682.0usft (Original Well Elev)
<b>Reference Site:</b>	SE SW SEC. 3 T4N R64W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4682.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	POPHAM 14N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	ORIGINAL WELLBORE	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	PROPOSAL #1	<b>Offset TVD Reference:</b>	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.						
POPHAM 8N - ORIGINAL WELLBORE - PROPOSAL #1	465.6	468.6	150.7	148.9	82.672	CC
POPHAM 8N - ORIGINAL WELLBORE - PROPOSAL #1	500.0	502.9	150.7	148.8	76.250	ES
POPHAM 8N - ORIGINAL WELLBORE - PROPOSAL #1	12,216.2	12,123.9	1,607.9	1,419.3	8.527	SF
POPHAM 9N - ORIGINAL WELLBORE - PROPOSAL #1	366.0	368.0	153.0	151.6	111.415	CC
POPHAM 9N - ORIGINAL WELLBORE - PROPOSAL #1	400.0	402.0	153.0	151.5	100.290	ES
POPHAM 9N - ORIGINAL WELLBORE - PROPOSAL #1	12,216.2	12,138.8	1,309.8	1,120.5	6.918	SF
SE SW SEC. 3 T4N R64W 6th P.M. (OFFSETS FOR POPHAM)						
ABDN VERT HOFF 31-10 - Wellbore #1 - Wellbore #1	6,200.0	5,912.8	735.4	701.8	21.848	SF
ABDN VERT HOFF 31-10 - Wellbore #1 - Wellbore #1	6,203.2	5,916.0	735.4	701.8	21.848	CC, ES
EXIST DD HOFFMAN C 02-33D - Wellbore #1 - Wellbore	7,920.7	7,460.5	1,606.8	1,554.2	30.549	CC, ES
EXIST DD HOFFMAN C 02-33D - Wellbore #1 - Wellbore	8,600.0	7,451.5	1,744.5	1,685.3	29.481	SF
EXIST HZ SUDEN 34M-223 - Wellbore #1 - Wellbore #1	12,216.2	11,092.0	256.7	83.5	1.482	Level 3, CC, ES, SF
EXIST HZ SUDEN 34M-423 - Wellbore #1 - Wellbore #1	12,216.2	11,065.0	561.7	402.8	3.535	CC, ES, SF
EXIST HZ SUDEN 34U-243 - Wellbore #1 - Wellbore #1	12,216.2	11,081.0	503.4	330.6	2.914	CC, ES, SF
EXIST HZ SUDEN 34R-323 - Wellbore #1 - Wellbore #1	12,216.2	11,162.0	1,062.2	887.7	6.087	CC, ES, SF
EXIST HZ SUDEN 34R-343 - Wellbore #1 - Wellbore #1	12,216.2	11,135.0	278.7	113.7	1.689	CC, ES, SF
EXIST HZ SUDEN 34R-423 - Wellbore #1 - Wellbore #1	12,216.2	11,245.0	910.8	739.4	5.315	CC, ES, SF
EXIST HZ SUDEN 34U-243 - Wellbore #1 - Wellbore #1	12,216.2	11,118.0	1,554.8	1,379.5	8.871	CC, ES, SF
EXIST HZ SUDEN 34U-403 - Wellbore #1 - Wellbore #1	12,216.2	11,309.0	1,901.9	1,727.5	10.906	CC, ES, SF
EXIST VERT BATES 1 - Wellbore #1 - Wellbore #1	9,940.2	6,620.9	167.7	115.9	3.240	CC, ES, SF
EXIST VERT BATES C #3-2 - Wellbore #1 - Wellbore #1	11,221.6	6,610.2	303.1	227.9	4.029	CC, ES, SF
EXIST VERT BRANCH 1-3 - Wellbore #1 - Wellbore #1	11,201.0	6,596.0	1,008.7	934.1	13.516	CC, ES
EXIST VERT BRANCH 1-3 - Wellbore #1 - Wellbore #1	11,500.0	6,585.3	1,052.1	971.9	13.112	SF
EXIST VERT ECKHARDT 34-34 - Wellbore #1 - Wellbor	12,216.2	6,475.0	475.8	396.3	5.989	CC, ES, SF
EXIST VERT ECKHARDT 44-34 - Wellbore #1 - Wellbor	12,216.2	6,300.0	1,356.6	1,263.3	14.548	CC, ES, SF
EXIST VERT FLACK 1 - Wellbore #1 - Wellbore #1	9,936.1	6,635.2	1,536.8	1,485.2	29.775	CC, ES
EXIST VERT FLACK 1 - Wellbore #1 - Wellbore #1	10,800.0	6,629.0	1,762.9	1,695.8	26.261	SF
EXIST VERT FLACK 5 - Wellbore #1 - Wellbore #1	10,544.8	6,606.9	2,026.1	1,963.7	32.484	CC
EXIST VERT FLACK 5 - Wellbore #1 - Wellbore #1	10,600.0	6,606.9	2,026.8	1,963.5	31.983	ES
EXIST VERT FLACK 5 - Wellbore #1 - Wellbore #1	11,800.0	6,606.2	2,383.4	2,297.8	27.846	SF
EXIST VERT GALE C 3-25 - Wellbore #1 - Wellbore #1	609.3	600.0	881.0	879.3	514.718	CC, ES
EXIST VERT GALE C 3-25 - Wellbore #1 - Wellbore #1	12,216.2	6,507.3	4,755.8	4,662.8	51.132	SF
EXIST VERT KAISER 8-3 - Wellbore #1 - Wellbore #1	9,871.1	6,692.6	1,093.8	1,043.7	21.815	CC
EXIST VERT KAISER 8-3 - Wellbore #1 - Wellbore #1	9,900.0	6,692.5	1,094.2	1,043.5	21.606	ES
EXIST VERT KAISER 8-3 - Wellbore #1 - Wellbore #1	10,300.0	6,691.5	1,174.9	1,117.1	20.347	SF
EXIST VERT KISSLER #3-1 - Wellbore #1 - Wellbore #1	3,684.3	3,496.8	294.1	273.1	14.007	CC
EXIST VERT KISSLER #3-1 - Wellbore #1 - Wellbore #1	3,700.0	3,511.6	294.2	273.0	13.925	ES
EXIST VERT KISSLER #3-1 - Wellbore #1 - Wellbore #1	7,273.3	6,617.9	320.2	296.5	13.506	SF
EXIST VERT KISSLER 3-2 - Wellbore #1 - Wellbore #1	8,584.7	6,656.5	1,017.2	987.1	33.801	CC
EXIST VERT KISSLER 3-2 - Wellbore #1 - Wellbore #1	8,600.0	6,657.1	1,017.3	987.0	33.592	ES
EXIST VERT KISSLER 3-2 - Wellbore #1 - Wellbore #1	9,100.0	6,678.2	1,140.1	1,102.7	30.465	SF
EXIST VERT MURPHY 1 - Wellbore #1 - Wellbore #1	100.0	77.5	570.7	570.5	3,373.682	CC, ES
EXIST VERT MURPHY 1 - Wellbore #1 - Wellbore #1	12,216.2	6,500.0	5,243.6	5,150.5	56.317	SF
EXIST VERT OSTER 3-1014 - Wellbore #1 - Wellbore #1	8,800.4	6,621.4	401.9	368.9	12.162	CC, ES
EXIST VERT OSTER 3-1014 - Wellbore #1 - Wellbore #1	8,900.0	6,621.9	414.1	379.6	12.001	SF
EXIST VERT OSTER 3-1614 - Wellbore #1 - Wellbore #1	6,350.0	6,087.7	1,484.1	1,450.1	43.579	SF
EXIST VERT OSTER 3-1614 - Wellbore #1 - Wellbore #1	7,441.3	6,586.6	1,231.1	1,207.8	52.877	CC, ES
EXIST VERT OSTER 3-23 - Wellbore #1 - Wellbore #1	8,036.6	6,500.0	406.2	379.7	15.357	CC, ES
EXIST VERT OSTER 3-23 - Wellbore #1 - Wellbore #1	8,100.0	6,500.0	411.1	384.2	15.271	SF
EXIST VERT WELD 2 - Wellbore #1 - Wellbore #1	100.0	114.8	1,047.9	1,047.7	4,998.712	CC, ES
EXIST VERT WELD 2 - Wellbore #1 - Wellbore #1	10,100.0	6,669.7	2,118.7	2,064.3	38.912	SF

<b>Company:</b>	PDC ENERGY	<b>Local Co-ordinate Reference:</b>	Well POPHAM 14N
<b>Project:</b>	WELD COUNTY, COLORADO	<b>TVD Reference:</b>	KB-EST @ 4682.0usft (Original Well Elev)
<b>Reference Site:</b>	SE SW SEC. 3 T4N R64W 6th P.M.	<b>MD Reference:</b>	KB-EST @ 4682.0usft (Original Well Elev)
<b>Site Error:</b>	0.0 usft	<b>North Reference:</b>	True
<b>Reference Well:</b>	POPHAM 14N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Well Error:</b>	0.0 usft	<b>Output errors are at</b>	2.00 sigma
<b>Reference Wellbore</b>	ORIGINAL WELLBORE	<b>Database:</b>	EDM 5000.1 Single User Db
<b>Reference Design:</b>	PROPOSAL #1	<b>Offset TVD Reference:</b>	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	600.0	597.0	946.1	934.0	77.975	CC
ABDN VERT CARROLL E FLACK 1 - Wellbore #1 - Desi	700.0	697.0	947.7	933.4	66.056	ES
ABDN VERT CARROLL E FLACK 1 - Wellbore #1 - Desi	8,700.0	6,643.4	1,526.5	1,364.0	9.393	SF
EXIST DD LOEFFLER C 10-30 - Wellbore #1 - Wellbore	608.2	622.0	1,626.2	1,624.4	887.146	CC, ES
EXIST DD LOEFFLER C 10-30 - Wellbore #1 - Wellbore	12,216.2	6,705.0	6,440.5	6,330.9	58.751	SF
EXIST HZ CHESNUT 27G-203 - Wellbore #1 - Wellbore	12,216.2	13,769.0	3,209.8	2,978.2	13.862	CC, ES, SF
EXIST HZ CHESNUT 27G-423 - Wellbore #1 - Wellbore	12,216.2	13,972.0	2,851.1	2,618.5	12.258	CC, ES, SF
EXIST HZ CHESNUT 27K-203 - Wellbore #1 - Wellbore	12,216.2	13,900.0	2,163.1	1,932.0	9.358	CC, ES, SF
EXIST HZ CHESNUT 27K-323 - Wellbore #1 - Wellbore	12,216.2	14,120.0	1,555.9	1,336.0	7.074	CC, ES, SF
EXIST HZ CHESNUT 27K-343 - Wellbore #1 - Wellbore	12,216.2	13,920.0	2,522.3	2,290.1	10.865	CC, ES, SF
EXIST HZ CHESNUT 27K-403 - Wellbore #1 - Wellbore	12,216.2	14,160.0	1,870.9	1,651.5	8.528	CC, ES, SF
EXIST HZ CHESNUT 27O-243 - Wellbore #1 - Wellbore	12,216.2	14,066.0	1,208.0	987.7	5.483	CC, ES, SF
EXIST HZ CHESNUT 27O-303 - Wellbore #1 - Wellbore	12,216.2	14,196.0	889.1	667.6	4.014	CC, ES, SF
EXIST HZ OREDIGGER C10-69HN - Wellbore #1 - Well	6,700.0	10,047.0	258.1	159.7	2.623	SF
EXIST HZ OREDIGGER C10-69HN - Wellbore #1 - Well	6,750.0	10,048.9	246.8	154.0	2.660	ES
EXIST HZ OREDIGGER C10-69HN - Wellbore #1 - Well	6,767.5	10,049.6	246.0	155.3	2.711	CC
EXIST VERT ATKINSON-GALE 3-13 - Wellbore #1 - We	507.0	500.0	1,593.5	1,592.1	1,120.713	CC
EXIST VERT ATKINSON-GALE 3-13 - Wellbore #1 - We	600.0	585.9	1,593.7	1,592.1	966.709	ES
EXIST VERT ATKINSON-GALE 3-13 - Wellbore #1 - We	12,216.2	6,648.9	5,607.0	5,513.5	59.969	SF
EXIST VERT BAILEY 14-34 - Wellbore #1 - Wellbore #1	12,216.2	6,525.0	2,748.4	2,655.0	29.403	CC, ES, SF
EXIST VERT BAILEY 24-34 - Wellbore #1 - Wellbore #1	12,216.2	6,500.0	1,480.4	1,387.3	15.913	CC, ES, SF
EXIST VERT BAILEY 5 - Wellbore #1 - Wellbore #1	12,216.2	6,613.2	2,237.5	2,143.5	23.801	CC, ES, SF
EXIST VERT DONES 1 - Wellbore #1 - Wellbore #1	0.0	0.0	1,902.1			
EXIST VERT DONES 1 - Wellbore #1 - Wellbore #1	605.5	605.1	1,902.3	1,900.6	1,124.070	ES
EXIST VERT DONES 1 - Wellbore #1 - Wellbore #1	12,216.2	6,669.4	4,624.8	4,531.3	49.458	SF
EXIST VERT ECKHARDT 1 - Wellbore #1 - Design #1	12,216.2	6,633.0	3,953.0	3,728.9	17.640	CC, ES, SF
EXIST VERT FLACK 21-3 - Wellbore #1 - Design #1	11,370.5	6,628.5	1,287.0	1,078.8	6.180	CC
EXIST VERT FLACK 21-3 - Wellbore #1 - Design #1	11,400.0	6,628.4	1,287.4	1,078.6	6.166	ES
EXIST VERT FLACK 21-3 - Wellbore #1 - Design #1	11,500.0	6,627.9	1,293.5	1,082.9	6.141	SF
EXIST VERT MILLAGE 12-3 - Wellbore #1 - Wellbore #1	0.0	13.4	2,736.3			
EXIST VERT MILLAGE 12-3 - Wellbore #1 - Wellbore #1	12,216.2	6,612.9	4,006.9	3,913.5	42.878	SF
EXIST VERT MILLEGE 1 - Wellbore #1 - Wellbore #1	11,013.5	6,639.6	2,845.6	2,774.7	40.094	CC
EXIST VERT MILLEGE 1 - Wellbore #1 - Wellbore #1	11,100.0	6,639.1	2,847.0	2,774.4	39.229	ES
EXIST VERT MILLEGE 1 - Wellbore #1 - Wellbore #1	12,216.2	6,632.8	3,089.4	2,996.0	33.071	SF
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	605.4	621.5	3,688.6	3,686.9	2,204.134	CC, ES
EXIST VERT SITZMAN 2 - Wellbore #1 - Wellbore #1	12,216.2	6,525.0	4,714.6	4,621.3	50.531	SF
EXIST VERT SITZMAN 4-114 - Wellbore #1 - Design #1	11,322.8	6,651.7	3,940.4	3,732.8	18.981	CC
EXIST VERT SITZMAN 4-114 - Wellbore #1 - Design #1	11,400.0	6,651.4	3,941.1	3,732.1	18.855	ES
EXIST VERT SITZMAN 4-114 - Wellbore #1 - Design #1	12,216.2	6,648.0	4,040.4	3,816.2	18.018	SF
EXIST VERT WILMOTH 1 - Wellbore #1 - Wellbore #1	0.0	7.8	3,071.9			
EXIST VERT WILMOTH 1 - Wellbore #1 - Wellbore #1	12,216.2	6,760.0	6,493.2	6,399.5	69.295	SF
EXIST VERT WILMOTH 4-914 - Wellbore #1 - Wellbore #	0.0	7.7	3,040.3			
EXIST VERT WILMOTH 4-914 - Wellbore #1 - Wellbore #	603.7	616.3	3,041.3	3,039.6	1,803.538	ES
EXIST VERT WILMOTH 4-914 - Wellbore #1 - Wellbore #	12,216.2	6,677.7	5,370.1	5,276.5	57.341	SF
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	578.8	581.8	2,560.6	2,559.0	1,598.538	CC
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	600.0	602.3	2,560.6	2,558.9	1,543.341	ES
EXIST VERT WILMOTH C 3-33 - Wellbore #1 - Wellbore	12,216.2	6,651.9	5,716.2	5,623.1	61.401	SF