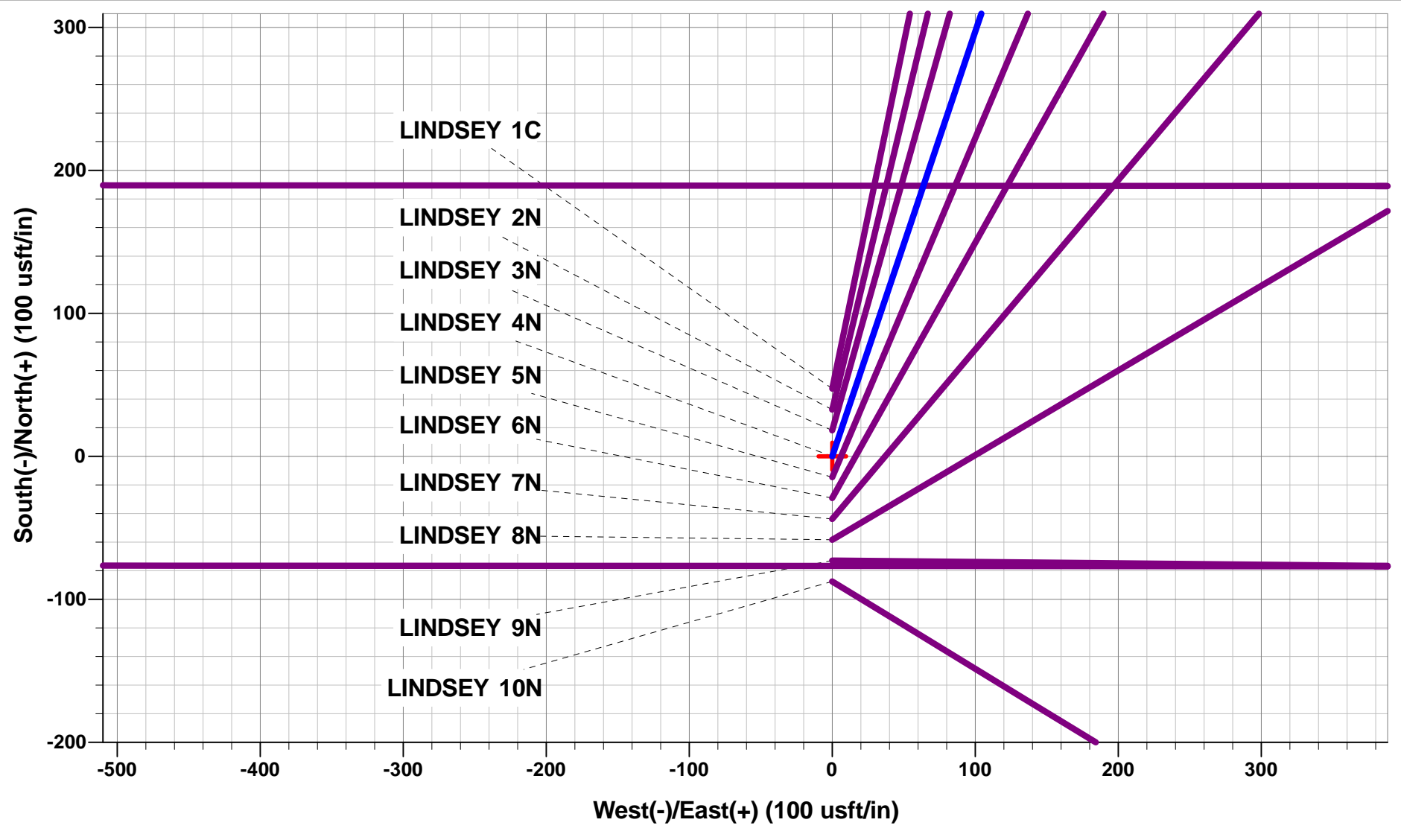




Project: WELD COUNTY, COLORADO (TRUE)
Site: SE SE SEC. 1 T4N R64W 6th P.M. (LINDSEY)
Well: LINDSEY 4N
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1

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: 419ft FSL & 439ft FEL of Sec 1	
600.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDGE (2°/100ft BUR)	
1471.38	1485.41	17.71	18.61	128.64	43.32	-26.73	135.74	EOB TO 17.71° INC	
4749.42	4926.49	17.71	18.61	1120.57	377.38	-232.85	1182.41	END OF TANGENT	
5620.80	5811.90	0.00	0.00	1249.21	420.70	-259.58	1318.15	EOD TO VERTICAL	
5820.80	6011.90	0.00	0.00	1249.21	420.70	-259.58	1318.15	KOP (8°/100ft BUR)	
6537.00	7136.91	90.00	270.03	1249.58	-295.50	450.93	2034.35	EP: 1665ft FSL & 737ft FEL of Sec 1	
6537.00	16701.63	90.00	270.04	1255.19	-9860.23	9939.80	11599.08	BHL: 1665ft FSL & 150ft FWL of Sec 2	

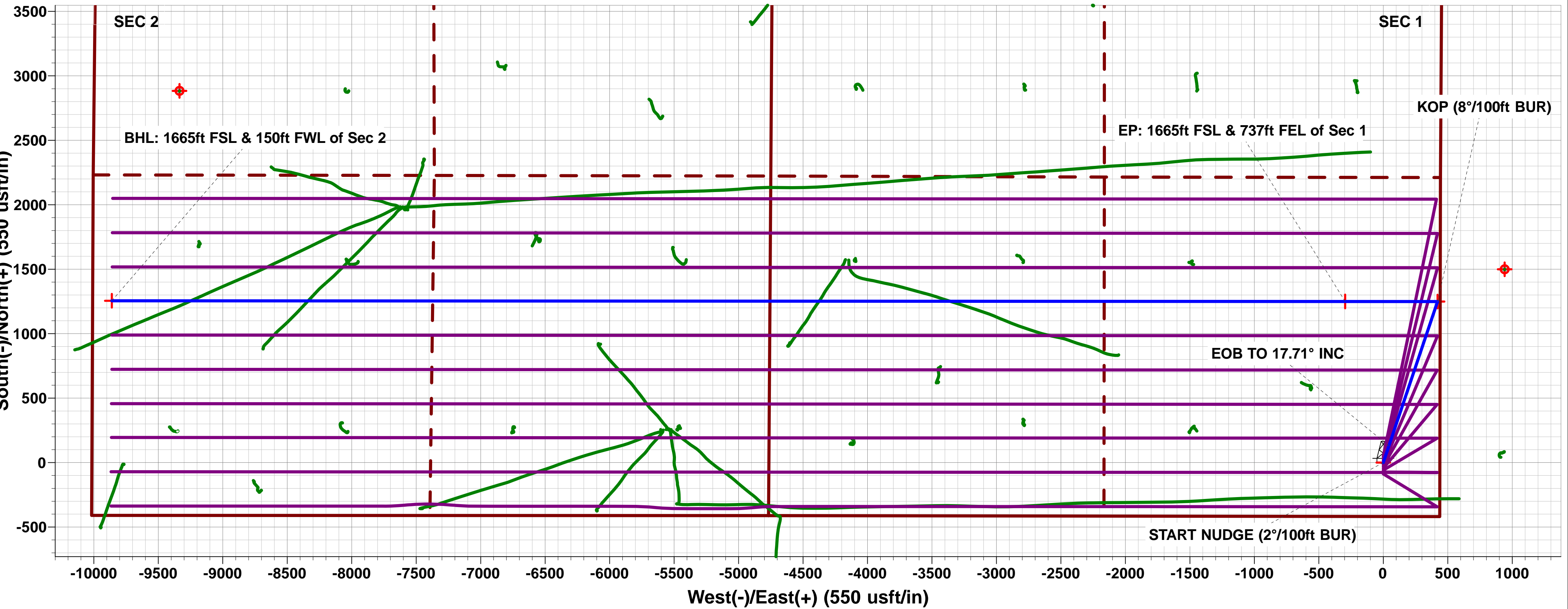
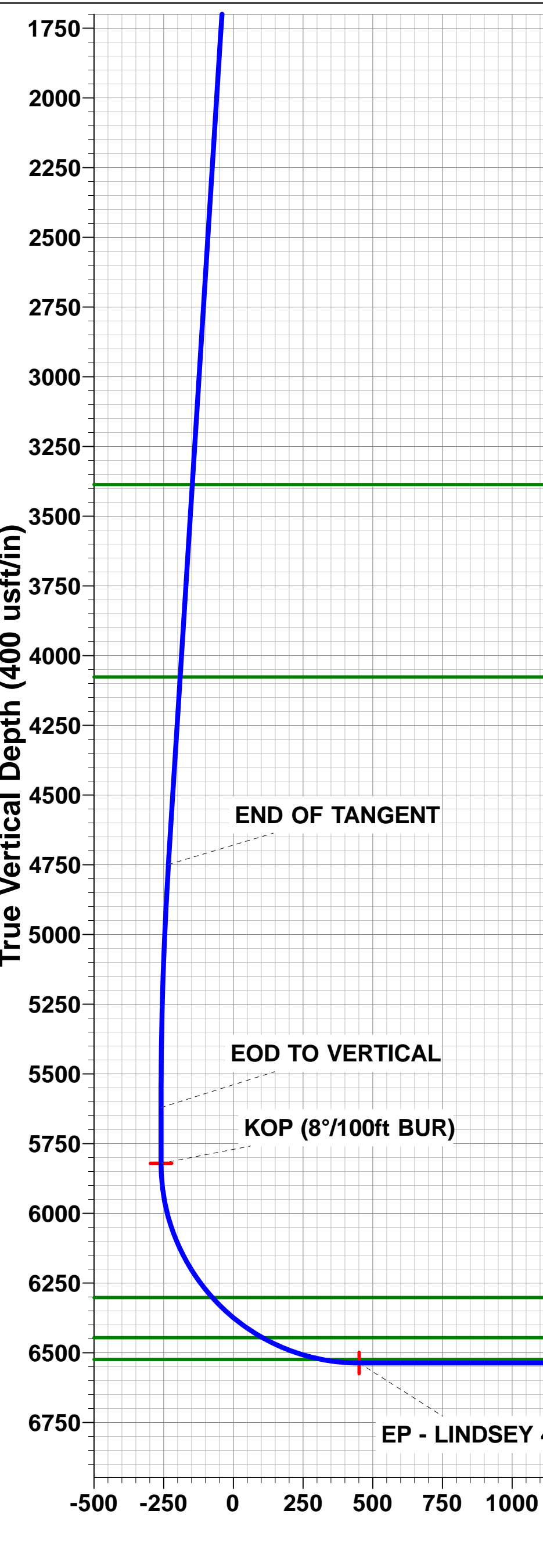
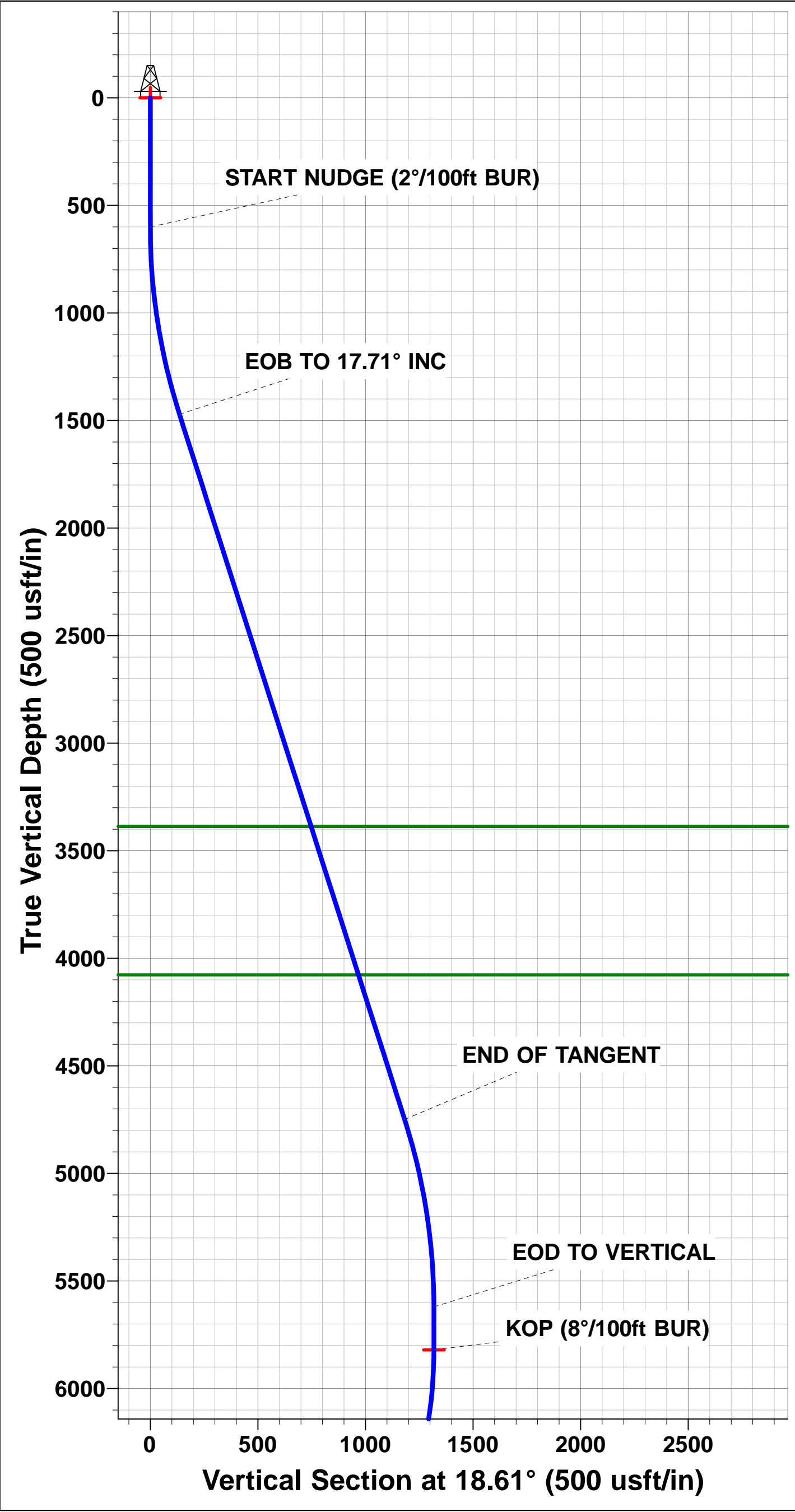
WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - LINDSEY 4N	5820.80	1249.21	420.70	40.338739	-104.489641
EP - LINDSEY 4N	6537.00	1249.58	-295.50	40.338740	-104.492210
BHL - LINDSEY 4N	6537.00	1255.19	-9860.23	40.338750	-104.526520
SHL - LINDSEY 4N	0.00	0.00	0.00	40.335310	-104.491150



PROPOSED LOCAL COORDINATES:
SHL: 419ft FSL & 439ft FEL of Sec 1
EP: 1665ft FSL & 737ft FEL of Sec 1
BHL: 1665ft FSL & 150ft FWL of Sec 2

Azimuths to True North
Magnetic North: 7.94°

Magnetic Field
Strength: 52263.8snT
Dip Angle: 66.82°
Date: 22/07/2018
Model: IGRF2015



PDC ENERGY

**WELD COUNTY, COLORADO (TRUE)
SE SE SEC. 1 T4N R64W 6th P.M. (LINDSEY)
LINDSEY 4N**

**ORIGINAL WELLBORE
PROPOSAL #1**

Anticollision Report

22 July, 2018



Anticollision Report



Company:	PDC ENERGY	Local Co-ordinate Reference:	Well LINDSEY 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB-EST @ 4632.00usft (Original Well Elev)
Reference Site:	SE SE SEC. 1 T4N R64W 6th P.M. (LINDSEY)	MD Reference:	KB-EST @ 4632.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LINDSEY 4N	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 10,000.00 usft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	22/07/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	16,701.63	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 SE SEC. 1 T4N R64W 6th P.M. (LINDSEY)						
ABDN DD MERCER C #11-30D - Wellbore #1 - Wellbore	16,701.63	6,553.14	1,762.60	1,477.53	6.183	CC, ES, SF
ABDN VERT BOOY HILLS FARM #2-12 - Wellbore #1 -	16,025.02	6,519.34	456.52	190.99	1.719	CC, ES, SF
ABDN VERT FHA #10-1 - Wellbore #1 - Wellbore #1	8,348.25	6,513.54	301.99	249.71	5.776	CC, ES
ABDN VERT FHA #10-1 - Wellbore #1 - Wellbore #1	8,400.00	6,514.23	306.39	252.75	5.712	SF
ABDN VERT FHA #15-1 - Wellbore #1 - Wellbore #1	8,289.02	6,491.26	1,003.01	952.44	19.835	CC
ABDN VERT FHA #15-1 - Wellbore #1 - Wellbore #1	8,300.00	6,491.00	1,003.07	952.22	19.725	ES
ABDN VERT FHA #15-1 - Wellbore #1 - Wellbore #1	8,800.00	6,479.64	1,125.60	1,061.47	17.551	SF
ABDN VERT HOSHIKO C #2-8 - Wellbore #1 - Wellbore	12,530.05	6,487.96	1,560.06	1,392.15	9.291	CC
ABDN VERT HOSHIKO C #2-8 - Wellbore #1 - Wellbore	12,600.00	6,489.54	1,561.62	1,391.76	9.193	ES
ABDN VERT HOSHIKO C #2-8 - Wellbore #1 - Wellbore	12,900.00	6,496.43	1,603.30	1,425.04	8.994	SF
ABDN VERT SAND CREEK RANCH C #2-3X - Wellbore	14,731.90	6,462.64	3,014.24	2,784.73	13.133	CC
ABDN VERT SAND CREEK RANCH C #2-3X - Wellbore	14,800.00	6,463.66	3,015.01	2,783.59	13.028	ES
ABDN VERT SAND CREEK RANCH C #2-3X - Wellbore	15,800.00	6,478.52	3,197.85	2,938.37	12.324	SF
ABDN VERT SAND CREEK RANCH CO #2-3 - Wellbore	14,661.89	6,536.00	2,867.66	2,513.10	8.088	CC
ABDN VERT SAND CREEK RANCH CO #2-3 - Wellbore	14,700.00	6,536.00	2,867.92	2,512.28	8.064	ES
ABDN VERT SAND CREEK RANCH CO #2-3 - Wellbore	15,300.00	6,536.00	2,937.80	2,565.34	7.888	SF
ABDN VERT SHAKLEE #1 - Wellbore #1 - Wellbore #1	16,254.21	6,525.23	978.47	706.46	3.597	CC
ABDN VERT SHAKLEE #1 - Wellbore #1 - Wellbore #1	16,300.00	6,525.37	979.54	706.24	3.584	ES
ABDN VERT SHAKLEE #1 - Wellbore #1 - Wellbore #1	16,400.00	6,525.66	989.27	713.17	3.583	SF
ABDN VERT SHAKLEE #2 - Wellbore #1 - Wellbore #1	14,919.36	6,524.85	945.57	710.96	4.030	CC, ES
ABDN VERT SHAKLEE #2 - Wellbore #1 - Wellbore #1	15,000.00	6,527.64	949.00	712.12	4.006	SF
ABDN VERT SHAKLEE #3 - Wellbore #1 - Wellbore #1	14,885.70	6,520.18	323.44	89.80	1.384	Level 3, CC
ABDN VERT SHAKLEE #3 - Wellbore #1 - Wellbore #1	14,900.00	6,520.12	323.75	89.72	1.383	Level 3, ES, SF
EXIST DD HOFFMAN C #2-20D - Wellbore #1 - Wellbore	15,462.67	6,647.68	1,035.01	764.56	3.827	CC
EXIST DD HOFFMAN C #2-20D - Wellbore #1 - Wellbore	15,500.00	6,648.33	1,035.69	764.18	3.815	ES
EXIST DD HOFFMAN C #2-20D - Wellbore #1 - Wellbore	15,600.00	6,650.07	1,044.08	769.77	3.806	SF
EXIST DD HOFFMAN C #2-25D - Wellbore #1 - Wellbore	15,529.50	6,825.92	372.58	97.76	1.356	Level 3, CC, ES, SF
EXIST DD HOFFMAN C #2-33D - Wellbore #1 - Wellbore	16,701.63	7,334.59	468.55	132.43	1.394	Level 3, CC, ES, SF
EXIST DD HOFFMAN C 2-21D - Wellbore #1 - Wellbore	14,283.15	6,577.02	1,100.42	872.05	4.819	CC
EXIST DD HOFFMAN C 2-21D - Wellbore #1 - Wellbore	14,300.00	6,577.08	1,100.55	871.71	4.809	ES
EXIST DD HOFFMAN C 2-21D - Wellbore #1 - Wellbore	14,400.00	6,577.45	1,106.61	874.96	4.777	SF
EXIST DD MARLEY C #1-18D - Wellbore #1 - Wellbore #	9,089.50	6,621.35	2,293.29	2,206.69	26.481	CC
EXIST DD MARLEY C #1-18D - Wellbore #1 - Wellbore #	9,200.00	6,622.00	2,295.95	2,206.33	25.620	ES
EXIST DD MARLEY C #1-18D - Wellbore #1 - Wellbore #	10,800.00	6,631.94	2,860.90	2,727.10	21.381	SF
EXIST DD MARLEY C #1-24D - Wellbore #1 - Wellbore #	8,894.98	7,028.24	417.27	307.58	3.804	CC
EXIST DD MARLEY C #1-24D - Wellbore #1 - Wellbore #	8,900.00	7,028.20	417.30	307.48	3.800	ES, 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 LINDSEY 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB-EST @ 4632.00usft (Original Well Elev)
Reference Site:	SE SE SEC. 1 T4N R64W 6th P.M. (LINDSEY)	MD Reference:	KB-EST @ 4632.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LINDSEY 4N	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
SE SE SEC. 1 T4N R64W 6th P.M. (LINDSEY)						
EXIST DD MARLEY C #1-28D - Wellbore #1 - Wellbore #	8,827.69	6,552.30	3,798.76	3,716.13	45.975	CC
EXIST DD MARLEY C #1-28D - Wellbore #1 - Wellbore #	8,900.00	6,552.30	3,799.45	3,714.87	44.921	ES
EXIST DD MARLEY C #1-28D - Wellbore #1 - Wellbore #	13,800.00	6,609.74	6,256.63	6,035.88	28.343	SF
EXIST DD MARLEY C #1-30D - Wellbore #1 - Wellbore #	11,492.44	6,561.08	3,563.82	3,410.02	23.172	CC
EXIST DD MARLEY C #1-30D - Wellbore #1 - Wellbore #	11,600.00	6,562.61	3,565.44	3,408.64	22.739	ES
EXIST DD MARLEY C #1-30D - Wellbore #1 - Wellbore #	13,800.00	6,584.67	4,245.54	4,027.18	19.443	SF
EXIST DD MARLEY C #1-31D - Wellbore #1 - Wellbore #	11,747.01	6,715.95	2,165.83	2,000.93	13.134	CC
EXIST DD MARLEY C #1-31D - Wellbore #1 - Wellbore #	11,800.00	6,716.68	2,166.48	2,000.10	13.022	ES
EXIST DD MARLEY C #1-31D - Wellbore #1 - Wellbore #	12,500.00	6,726.07	2,292.97	2,107.02	12.331	SF
EXIST DD MARLEY C #1-33D - Wellbore #1 - Wellbore #	11,445.22	6,620.69	324.80	173.04	2.140	CC, ES, SF
EXIST DD PANTHER C #11-27D - Wellbore #1 - Wellbor	12,937.77	6,651.57	1,627.73	1,434.05	8.404	CC
EXIST DD PANTHER C #11-27D - Wellbore #1 - Wellbor	13,000.00	6,651.31	1,628.92	1,433.50	8.335	ES
EXIST DD PANTHER C #11-27D - Wellbore #1 - Wellbor	13,300.00	6,650.06	1,667.55	1,463.73	8.182	SF
EXIST DD PANTHER C #11-28D - Wellbore #1 - Wellbor	14,295.40	7,057.11	1,610.81	1,355.22	6.302	CC
EXIST DD PANTHER C #11-28D - Wellbore #1 - Wellbor	14,300.00	7,057.06	1,610.82	1,355.10	6.299	ES
EXIST DD PANTHER C #11-28D - Wellbore #1 - Wellbor	14,600.00	7,053.69	1,639.36	1,375.23	6.207	SF
EXIST DD PANTHER C #2-23D - Wellbore #1 - Wellbore	12,915.38	6,661.82	336.58	143.31	1.741	CC, ES, SF
EXIST HZ BOBCAT C #12-69HN - Wellbore #1 - Wellbor	6,450.00	12,039.87	1,560.86	1,383.67	8.809	SF
EXIST HZ BOBCAT C #12-69HN - Wellbore #1 - Wellbor	7,444.01	11,107.87	1,515.91	1,352.66	9.286	CC
EXIST HZ BOBCAT C #12-69HN - Wellbore #1 - Wellbor	7,500.00	11,078.00	1,516.23	1,352.59	9.266	ES
EXIST HZ HOFFMAN C #02-65HN - Wellbore #1 - Wellb	13,948.41	6,661.86	757.60	535.95	3.418	CC, ES
EXIST HZ HOFFMAN C #02-65HN - Wellbore #1 - Wellb	14,000.00	6,623.06	758.19	536.16	3.415	SF
EXIST HZ TOBY C #12-79HN - Wellbore #1 - Wellbore #	11,522.58	6,245.00	1,779.70	1,626.82	11.642	CC
EXIST HZ TOBY C #12-79HN - Wellbore #1 - Wellbore #	11,600.00	6,245.00	1,781.38	1,626.41	11.495	ES
EXIST HZ TOBY C #12-79HN - Wellbore #1 - Wellbore #	12,100.00	6,245.00	1,871.03	1,702.54	11.105	SF
EXIST VERT AMIGO #1 - Wellbore #1 - Wellbore #1	10,878.17	6,350.00	1,644.57	1,523.12	13.541	CC
EXIST VERT AMIGO #1 - Wellbore #1 - Wellbore #1	10,900.00	6,350.00	1,644.71	1,522.66	13.475	ES
EXIST VERT AMIGO #1 - Wellbore #1 - Wellbore #1	11,500.00	6,350.00	1,758.20	1,619.50	12.677	SF
EXIST VERT AMIGO #2 - Wellbore #1 - Wellbore #1	9,627.43	6,478.24	1,682.54	1,595.21	19.267	CC
EXIST VERT AMIGO #2 - Wellbore #1 - Wellbore #1	9,700.00	6,479.15	1,684.10	1,594.78	18.854	ES
EXIST VERT AMIGO #2 - Wellbore #1 - Wellbore #1	10,500.00	6,489.35	1,895.30	1,783.86	17.007	SF
EXIST VERT AMIGO FARMS #1-12 - Wellbore #1 - Well	10,935.38	6,513.54	331.39	208.28	2.692	CC, ES, SF
EXIST VERT FEIT #1 - Wellbore #1 - Wellbore #1	9,471.85	6,437.70	2,940.92	2,858.24	35.574	CC
EXIST VERT FEIT #1 - Wellbore #1 - Wellbore #1	9,600.00	6,434.32	2,943.70	2,857.51	34.153	ES
EXIST VERT FEIT #1 - Wellbore #1 - Wellbore #1	12,400.00	6,375.92	4,149.44	3,985.45	25.304	SF
EXIST VERT FEIT #1-4 - Wellbore #1 - Wellbore #1	10,877.18	6,336.14	3,229.81	3,108.02	26.520	CC
EXIST VERT FEIT #1-4 - Wellbore #1 - Wellbore #1	11,000.00	6,335.12	3,232.15	3,106.95	25.816	ES
EXIST VERT FEIT #1-4 - Wellbore #1 - Wellbore #1	13,300.00	6,310.22	4,037.44	3,848.13	21.327	SF
EXIST VERT FHA #2-1 - Wellbore #1 - Wellbore #1	14,893.05	6,521.94	1,643.11	1,409.25	7.026	CC
EXIST VERT FHA #2-1 - Wellbore #1 - Wellbore #1	14,900.00	6,521.95	1,643.13	1,409.07	7.020	ES
EXIST VERT FHA #2-1 - Wellbore #1 - Wellbore #1	15,200.00	6,522.45	1,671.54	1,429.06	6.894	SF
EXIST VERT FOOS #1-1614 - Wellbore #1 - Wellbore #1	7,455.00	6,535.98	641.23	611.02	21.224	CC, ES
EXIST VERT FOOS #1-1614 - Wellbore #1 - Wellbore #1	7,800.00	6,560.51	727.77	689.34	18.939	SF
EXIST VERT FUEGO C #1-19 - Wellbore #1 - Wellbore #	10,290.42	6,449.27	2,447.66	2,342.31	23.233	CC
EXIST VERT FUEGO C #1-19 - Wellbore #1 - Wellbore #	10,400.00	6,451.04	2,450.11	2,341.73	22.605	ES
EXIST VERT FUEGO C #1-19 - Wellbore #1 - Wellbore #	11,900.00	6,478.57	2,929.31	2,779.17	19.511	SF
EXIST VERT HAPPY AMIGO C #1-25 - Wellbore #1 - W	10,290.79	6,530.04	626.54	520.99	5.936	CC
EXIST VERT HAPPY AMIGO C #1-25 - Wellbore #1 - W	10,300.00	6,529.96	626.61	520.80	5.922	ES
EXIST VERT HAPPY AMIGO C #1-25 - Wellbore #1 - W	10,400.00	6,529.14	635.99	527.41	5.857	SF
EXIST VERT HAPPY TALK #1 - Wellbore #1 - Wellbore	9,682.86	6,513.30	357.91	269.09	4.030	CC
EXIST VERT HAPPY TALK #1 - Wellbore #1 - Wellbore	9,700.00	6,513.21	358.32	269.03	4.013	ES, SF
EXIST VERT HAPPY TALK #2 - Wellbore #1 - Wellbore	9,632.72	6,533.44	932.45	845.39	10.711	CC, ES

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 LINDSEY 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB-EST @ 4632.00usft (Original Well Elev)
Reference Site:	SE SE SEC. 1 T4N R64W 6th P.M. (LINDSEY)	MD Reference:	KB-EST @ 4632.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LINDSEY 4N	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
SE SE SEC. 1 T4N R64W 6th P.M. (LINDSEY)						
EXIST VERT HAPPY TALK #2 - Wellbore #1 - Wellbore	9,900.00	6,532.49	969.99	875.57	10.273	SF
EXIST VERT HOFFMAN C #11-29 - Wellbore #1 - Wellb	15,599.84	6,563.91	1,398.13	1,144.23	5.506	CC
EXIST VERT HOFFMAN C #11-29 - Wellbore #1 - Wellb	15,600.00	6,563.92	1,398.13	1,144.22	5.506	ES
EXIST VERT HOFFMAN C #11-29 - Wellbore #1 - Wellb	15,800.00	6,567.50	1,412.39	1,152.87	5.442	SF
EXIST VERT HOSHIKO #1-2 - Wellbore #1 - Design #1	12,220.97	6,528.00	3,173.42	2,887.29	11.091	CC
EXIST VERT HOSHIKO #1-2 - Wellbore #1 - Design #1	12,300.00	6,528.00	3,174.40	2,886.06	11.009	ES
EXIST VERT HOSHIKO #1-2 - Wellbore #1 - Design #1	13,200.00	6,528.00	3,321.00	3,007.48	10.593	SF
EXIST VERT HOSHIKO #2-2 - Wellbore #1 - Design #1	13,630.47	6,552.00	2,762.34	2,436.53	8.478	CC
EXIST VERT HOSHIKO #2-2 - Wellbore #1 - Design #1	13,700.00	6,552.00	2,763.22	2,435.45	8.430	ES
EXIST VERT HOSHIKO #2-2 - Wellbore #1 - Design #1	14,300.00	6,552.00	2,842.32	2,497.74	8.249	SF
EXIST VERT HOSHIKO #7-2 - Wellbore #1 - Wellbore #1	13,712.18	6,477.79	1,851.30	1,650.51	9.220	CC
EXIST VERT HOSHIKO #7-2 - Wellbore #1 - Wellbore #1	13,800.00	6,478.25	1,853.38	1,650.13	9.119	ES
EXIST VERT HOSHIKO #7-2 - Wellbore #1 - Wellbore #1	14,200.00	6,480.31	1,914.49	1,700.03	8.927	SF
EXIST VERT MCDERMED #1-1 - Wellbore #1 - Design #	7,064.11	6,512.30	2,887.90	2,738.35	19.311	CC
EXIST VERT MCDERMED #1-1 - Wellbore #1 - Design #	7,100.00	6,515.05	2,888.12	2,737.96	19.233	ES
EXIST VERT MCDERMED #1-1 - Wellbore #1 - Design #	8,600.00	6,516.00	3,270.85	3,084.89	17.589	SF
EXIST VERT MCDERMED #2-1 - Wellbore #1 - Wellbore	8,328.92	6,445.71	2,939.83	2,887.89	56.602	CC
EXIST VERT MCDERMED #2-1 - Wellbore #1 - Wellbore	8,400.00	6,446.00	2,940.69	2,886.88	54.649	ES
EXIST VERT MCDERMED #2-1 - Wellbore #1 - Wellbore	13,200.00	6,461.56	5,689.35	5,502.81	30.500	SF
EXIST VERT MCFERREN #4-2 - Wellbore #1 - Design #	16,169.95	4,629.00	3,491.09	3,185.41	11.421	CC
EXIST VERT MCFERREN #4-2 - Wellbore #1 - Design #	16,300.00	4,629.00	3,493.51	3,184.72	11.314	ES
EXIST VERT MCFERREN #4-2 - Wellbore #1 - Design #	16,701.63	4,629.00	3,531.34	3,212.97	11.092	SF
EXIST VERT MCFERREN #5-2 - Wellbore #1 - Design #	16,177.97	6,556.00	1,628.58	1,346.00	5.763	CC
EXIST VERT MCFERREN #5-2 - Wellbore #1 - Design #	16,200.00	6,556.00	1,628.73	1,345.54	5.751	ES
EXIST VERT MCFERREN #5-2 - Wellbore #1 - Design #	16,400.00	6,556.00	1,643.65	1,354.84	5.691	SF
EXIST VERT MINOR #1 - Wellbore #1 - Wellbore #1	10,962.35	6,400.00	1,106.02	983.03	8.993	CC
EXIST VERT MINOR #1 - Wellbore #1 - Wellbore #1	11,000.00	6,400.00	1,106.66	982.63	8.923	ES
EXIST VERT MINOR #1 - Wellbore #1 - Wellbore #1	11,200.00	6,400.00	1,131.27	1,001.70	8.731	SF
EXIST VERT REIN #1 - Wellbore #1 - Wellbore #1	8,285.22	6,500.18	1,769.60	1,718.38	34.548	CC
EXIST VERT REIN #1 - Wellbore #1 - Wellbore #1	8,300.00	6,500.09	1,769.66	1,718.06	34.290	ES
EXIST VERT REIN #1 - Wellbore #1 - Wellbore #1	10,000.00	6,491.30	2,464.11	2,366.29	25.192	SF
EXIST VERT REIN #1-8 - Wellbore #1 - Wellbore #1	7,045.49	6,482.47	1,709.87	1,687.42	76.181	CC
EXIST VERT REIN #1-8 - Wellbore #1 - Wellbore #1	7,050.00	6,482.85	1,709.87	1,687.36	75.962	ES
EXIST VERT REIN #1-8 - Wellbore #1 - Wellbore #1	12,700.00	6,400.00	5,903.70	5,731.34	34.253	SF
EXIST VERT ROTHE #1 - Wellbore #1 - Wellbore #1	12,350.28	6,523.23	415.56	252.92	2.555	CC, ES
EXIST VERT ROTHE #1 - Wellbore #1 - Wellbore #1	12,400.00	6,524.08	418.52	254.49	2.552	SF
EXIST VERT ROTHE #2 - Wellbore #1 - Wellbore #1	13,578.46	6,513.27	981.18	784.22	4.982	CC
EXIST VERT ROTHE #2 - Wellbore #1 - Wellbore #1	13,600.00	6,513.15	981.42	783.85	4.968	ES
EXIST VERT ROTHE #2 - Wellbore #1 - Wellbore #1	13,700.00	6,512.55	988.68	788.32	4.934	SF
EXIST VERT ROTHE #2-10 - Wellbore #1 - Wellbore #1	13,442.36	6,400.00	449.50	262.69	2.406	CC, ES
EXIST VERT ROTHE #2-10 - Wellbore #1 - Wellbore #1	13,500.00	6,400.00	453.18	264.83	2.406	SF
EXIST VERT ROTHE #3 - Wellbore #1 - Wellbore #1	12,300.48	6,520.61	966.90	805.37	5.986	CC, ES
EXIST VERT ROTHE #3 - Wellbore #1 - Wellbore #1	12,500.00	6,519.78	987.27	820.16	5.908	SF
EXIST VERT SPIKE STATE #CC6-12 - Wellbore #1 - De	6,011.90	5,790.80	577.74	441.55	4.242	CC, ES
EXIST VERT SPIKE STATE #CC6-12 - Wellbore #1 - De	6,050.00	5,828.88	578.66	441.69	4.225	SF
EXIST VERT SPIKE STATE #CC6-13 - Wellbore #1 - We	2,309.23	2,232.06	856.88	847.30	89.499	CC
EXIST VERT SPIKE STATE #CC6-13 - Wellbore #1 - We	2,400.00	2,317.90	857.34	847.21	84.609	ES
EXIST VERT SPIKE STATE #CC6-13 - Wellbore #1 - We	15,800.00	6,263.81	9,942.48	9,688.18	39.098	SF
LINDSEY 10N - ORIGINAL WELLBORE - PROPOSAL #	300.00	300.00	87.43	86.36	81.551	CC, ES
LINDSEY 10N - ORIGINAL WELLBORE - PROPOSAL #	16,701.63	16,467.71	1,594.57	1,029.27	2.821	SF
LINDSEY 10C - ORIGINAL WELLBORE - PROPOSAL #1	300.00	300.00	47.37	46.30	44.181	CC, ES
LINDSEY 10C - ORIGINAL WELLBORE - PROPOSAL #1	16,701.63	17,061.79	831.14	290.96	1.539	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 LINDSEY 4N
Project:	WELD COUNTY, COLORADO (TRUE)	TVD Reference:	KB-EST @ 4632.00usft (Original Well Elev)
Reference Site:	SE SE SEC. 1 T4N R64W 6th P.M. (LINDSEY)	MD Reference:	KB-EST @ 4632.00usft (Original Well Elev)
Site Error:	0.00 usft	North Reference:	True
Reference Well:	LINDSEY 4N	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
Offset Well - Wellbore - Design						
SE SE SEC. 1 T4N R64W 6th P.M. (LINDSEY)						
LINDSEY 2N - ORIGINAL WELLBORE - PROPOSAL #1	366.33	367.33	32.79	31.42	23.888	CC
LINDSEY 2N - ORIGINAL WELLBORE - PROPOSAL #1	16,701.63	16,856.65	528.25	-37.52	0.934	Level 1, ES, SF
LINDSEY 3N - ORIGINAL WELLBORE - PROPOSAL #1	466.33	467.33	18.22	16.39	9.997	CC
LINDSEY 3N - ORIGINAL WELLBORE - PROPOSAL #1	16,701.63	16,822.59	268.02	-285.28	0.484	Level 1, ES, SF
LINDSEY 5N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	601.00	14.57	12.15	6.014	CC
LINDSEY 5N - ORIGINAL WELLBORE - PROPOSAL #1	16,701.63	16,694.71	271.57	-284.61	0.488	Level 1, ES, SF
LINDSEY 6N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	601.00	29.14	26.72	12.028	CC
LINDSEY 6N - ORIGINAL WELLBORE - PROPOSAL #1	16,701.63	16,594.46	531.89	-34.00	0.940	Level 1, ES, SF
LINDSEY 7N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	601.00	43.72	41.29	18.043	CC, ES
LINDSEY 7N - ORIGINAL WELLBORE - PROPOSAL #1	16,701.63	16,627.95	799.73	234.55	1.415	Level 3, SF
LINDSEY 8N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	601.00	58.29	55.87	24.057	CC, ES
LINDSEY 8N - ORIGINAL WELLBORE - PROPOSAL #1	16,701.63	16,556.06	1,060.14	493.73	1.872	SF
LINDSEY 9N - ORIGINAL WELLBORE - PROPOSAL #1	400.00	400.00	72.86	71.34	47.883	CC
LINDSEY 9N - ORIGINAL WELLBORE - PROPOSAL #1	600.00	599.63	73.26	70.86	30.566	ES
LINDSEY 9N - ORIGINAL WELLBORE - PROPOSAL #1	16,701.63	16,603.13	1,327.22	760.85	2.343	SF

Offset Design SE SE SEC. 1 T4N R64W 6th P.M. (LINDSEY) - ABDN DD MERCER C #11-30D - Wellbore #1 - Wellbo												Offset Site Error:	0.00 usft
Survey Program: 100-GYD_CT												Offset Well Error:	0.00 usft
Reference Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
				Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
0.00	0.00	0.00	0.00	0.00	0.00	-90.10	-17.01	-9,771.80	9,771.82				
100.00	100.00	186.30	186.30	0.09	0.07	-90.10	-16.40	-9,770.55	9,771.02	9,770.86	0.16	N/A	
200.00	200.00	282.82	282.81	0.31	0.20	-90.09	-15.99	-9,769.63	9,770.07	9,769.55	0.52	N/A	
300.00	300.00	393.60	393.58	0.54	0.31	-90.09	-15.34	-9,768.56	9,769.10	9,768.25	0.85	N/A	
400.00	400.00	453.32	453.30	0.76	0.35	-90.09	-14.87	-9,768.04	9,768.25	9,767.14	1.11	8,793.889	
500.00	500.00	513.78	513.75	0.99	0.39	-90.08	-14.32	-9,767.80	9,767.84	9,766.47	1.37	7,118.186	
600.00	600.00	600.00	599.97	1.21	0.44	-90.08	-13.70	-9,767.71	9,767.72	9,766.08	1.65	5,935.205	
606.71	606.71	600.00	599.97	1.23	0.44	-108.69	-13.70	-9,767.71	9,767.72	9,766.07	1.65	5,903.221	
700.00	699.98	744.07	744.04	1.44	0.51	-108.70	-13.16	-9,767.27	9,767.98	9,766.05	1.93	5,071.582	
800.00	799.84	856.98	856.95	1.66	0.57	-108.71	-12.82	-9,766.58	9,769.04	9,766.83	2.21	4,426.324	
900.00	899.45	930.88	930.84	1.90	0.59	-108.70	-12.55	-9,766.11	9,771.24	9,768.77	2.47	3,961.997	
1,000.00	998.70	1,000.00	999.96	2.15	0.59	-108.68	-12.98	-9,766.06	9,775.04	9,772.31	2.73	3,581.856	
1,100.00	1,097.47	1,039.61	1,039.57	2.44	0.60	-108.62	-13.43	-9,766.21	9,780.38	9,777.35	3.03	3,229.784	
1,200.00	1,195.62	1,100.00	1,099.96	2.77	0.62	-108.55	-14.00	-9,766.63	9,787.28	9,783.90	3.38	2,899.918	
1,300.00	1,293.06	1,162.47	1,162.42	3.15	0.63	-108.47	-14.48	-9,767.30	9,795.69	9,791.92	3.77	2,599.715	
1,400.00	1,389.64	1,224.42	1,224.36	3.59	0.65	-108.38	-14.82	-9,768.18	9,805.60	9,801.38	4.21	2,327.175	
1,485.41	1,471.38	1,276.41	1,276.35	4.01	0.66	-108.28	-14.77	-9,769.09	9,815.25	9,810.61	4.64	2,116.264	
1,500.00	1,485.28	1,300.00	1,299.93	4.09	0.67	-108.31	-14.62	-9,769.56	9,817.01	9,812.29	4.72	2,081.030	
1,600.00	1,580.54	1,431.89	1,431.79	4.62	0.71	-108.53	-12.79	-9,771.69	9,828.69	9,823.43	5.26	1,868.338	
1,700.00	1,675.80	1,500.00	1,499.89	5.18	0.73	-108.64	-12.03	-9,772.79	9,840.46	9,834.65	5.80	1,695.440	
1,800.00	1,771.07	1,600.00	1,599.87	5.74	0.75	-108.81	-12.47	-9,774.45	9,852.39	9,846.03	6.36	1,548.906	
1,900.00	1,866.33	1,678.24	1,678.08	6.31	0.77	-108.95	-13.98	-9,775.76	9,864.46	9,857.53	6.93	1,423.821	
2,000.00	1,961.59	1,830.10	1,829.88	6.89	0.81	-109.23	-17.98	-9,777.98	9,876.43	9,868.92	7.52	1,314.005	
2,100.00	2,056.85	1,918.16	1,917.88	7.47	0.83	-109.39	-20.88	-9,779.03	9,888.28	9,880.18	8.09	1,221.791	
2,200.00	2,152.11	2,000.00	1,999.66	8.06	0.85	-109.54	-23.72	-9,780.01	9,900.25	9,891.57	8.67	1,141.489	
2,300.00	2,247.37	2,075.08	2,074.68	8.65	0.87	-109.69	-26.73	-9,781.01	9,912.47	9,903.21	9.25	1,071.134	
2,400.00	2,342.64	2,100.00	2,099.57	9.24	0.88	-109.73	-27.92	-9,781.39	9,925.19	9,915.36	9.83	1,010.107	

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