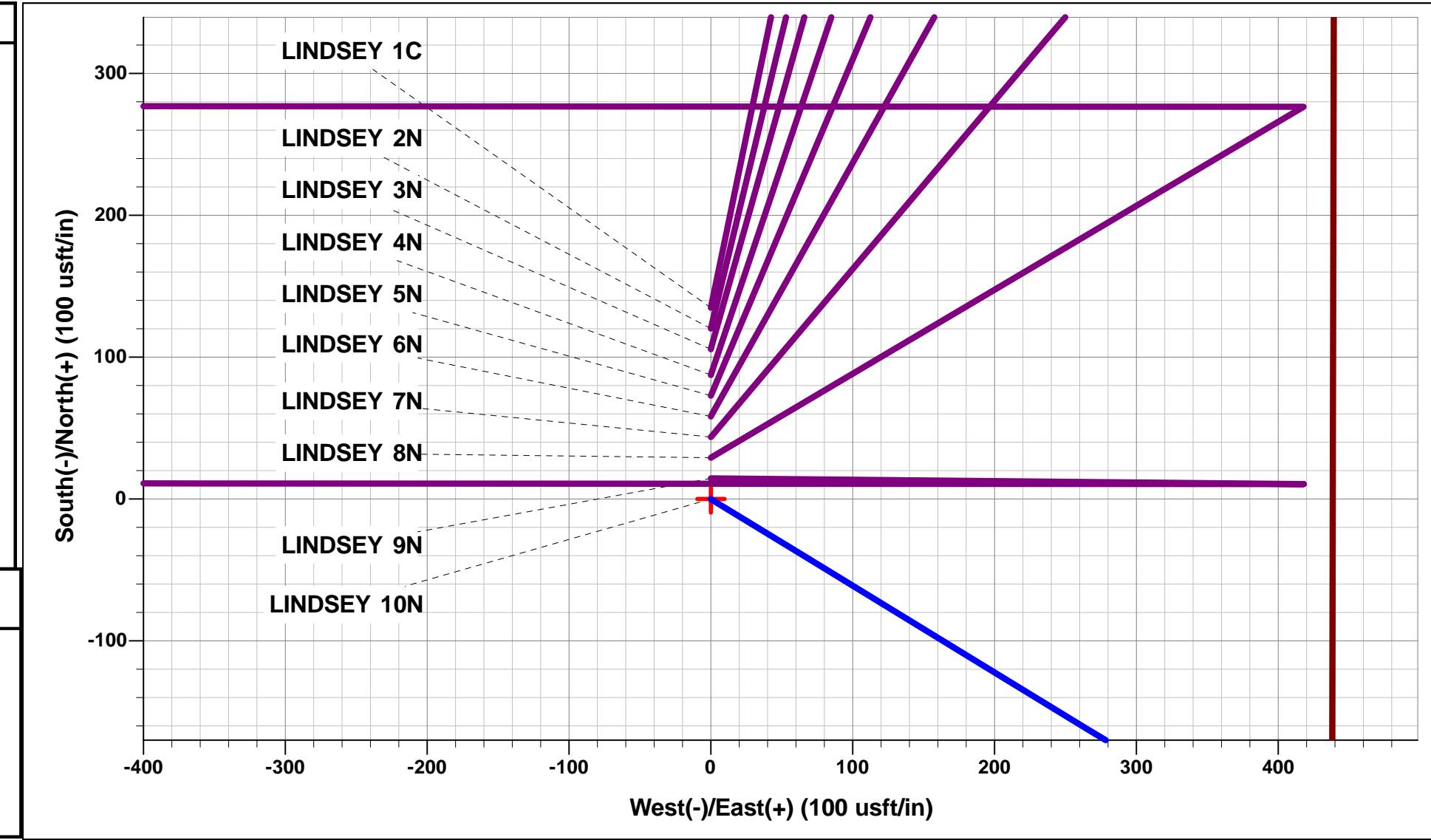




Project: WELD COUNTY, COLORADO (TRUE)
 Site: SE SE SEC. 1 T4N R64W 6th P.M. (LINDSEY)
 Well: LINDSEY 10N
 Wellbore: ORIGINAL WELLBORE
 Design: PROPOSAL #1

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: 329ft FSL & 439ft FEL of Sec 1	
300.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDDGE (2"/100ft BUR)	
895.82	900.00	12.00	121.43	-32.64	53.42	-52.58	62.60	EOB TO 12° INC	
2610.65	2653.34	12.00	121.43	-222.74	364.47	-358.73	427.14	END OF TANGENT	
3206.28	3253.34	0.00	0.00	-255.38	417.89	-411.30	489.75	EOD TO VERTICAL	
5730.80	5777.87	0.00	0.00	-255.38	417.89	-411.30	489.75	KOP (8"/100ft BUR)	
6447.00	6902.87	90.00	270.03	-255.01	-298.31	304.66	1205.94	EP: 75ft FSL & 737ft FEL of Sec 1	
6447.02	11302.87	90.00	270.03	-252.70	-4698.31	4703.19	5605.94	END OF TANGENT	
6447.02	11470.54	90.00	265.00	-259.97	-4865.76	4870.78	5773.61	EOT TO 265° AZ	
6447.02	11500.54	90.00	265.00	-262.58	-4895.65	4900.72	5803.61	END OF TANGENT	
6447.02	11668.20	90.00	270.03	-269.85	-5063.10	5068.30	5971.28	EOT TO 270.03° AZ	
6447.02	12069.20	90.00	270.03	-269.64	-5464.10	5469.17	6372.28	END OF TANGENT	
6447.02	12239.20	90.00	275.13	-261.99	-5633.87	5638.70	6542.28	EOT TO 275.13° AZ	
6447.02	12269.20	90.00	275.13	-259.31	-5663.75	5668.50	6572.28	END OF TANGENT	
6447.02	12439.20	90.00	270.03	-251.66	-5833.53	5838.02	6742.28	EOT TO 270.03° AZ	
6447.01	13645.20	90.00	270.03	-251.03	-7039.53	7043.62	7948.28	END OF TANGENT	
6447.00	13810.87	90.00	275.00	-243.76	-7204.98	7208.84	8113.94	EOT TO 275° AZ	
6447.00	13840.87	90.00	275.00	-241.15	-7234.87	7238.65	8143.94	END OF TANGENT	
6447.00	14006.54	90.00	270.03	-233.88	-7400.32	7403.87	8309.61	EOT TO 270.03° AZ	
6447.00	14170.87	90.00	265.10	-240.86	-7564.46	7568.13	8473.94	EOT TO 265.10° AZ	
6447.00	14200.87	90.00	265.10	-243.42	-7594.35	7598.07	8503.94	END OF TANGENT	
6447.00	14365.11	90.00	270.03	-250.40	-7758.39	7762.24	8668.19	EOT TO 270.03° AZ	
6447.00	16473.16	90.00	270.03	-249.39	-9866.44	9869.59	10776.23	BHL: 75ft FSL & 150ft FWL of Sec 2	

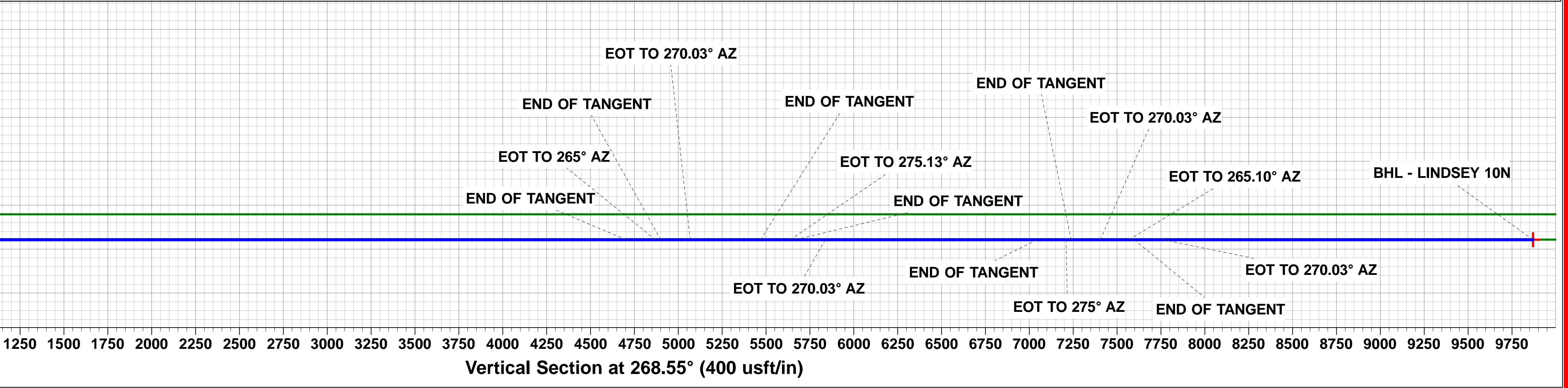
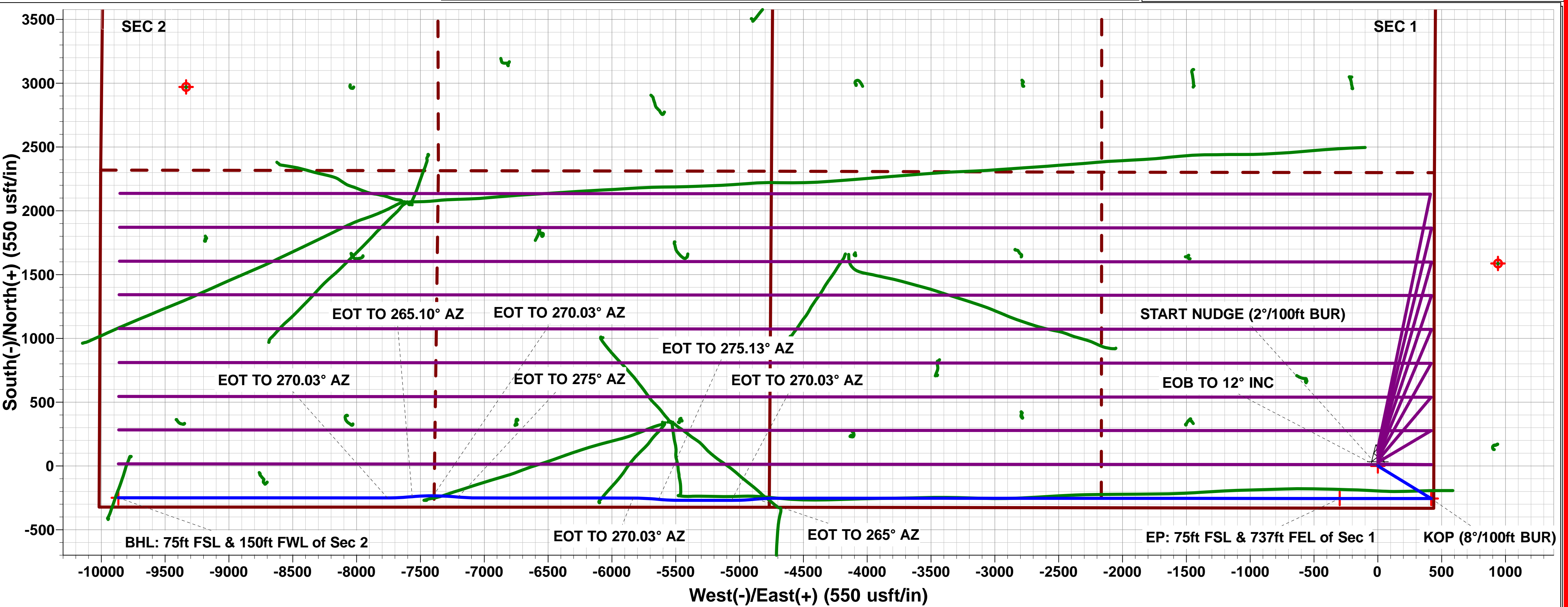
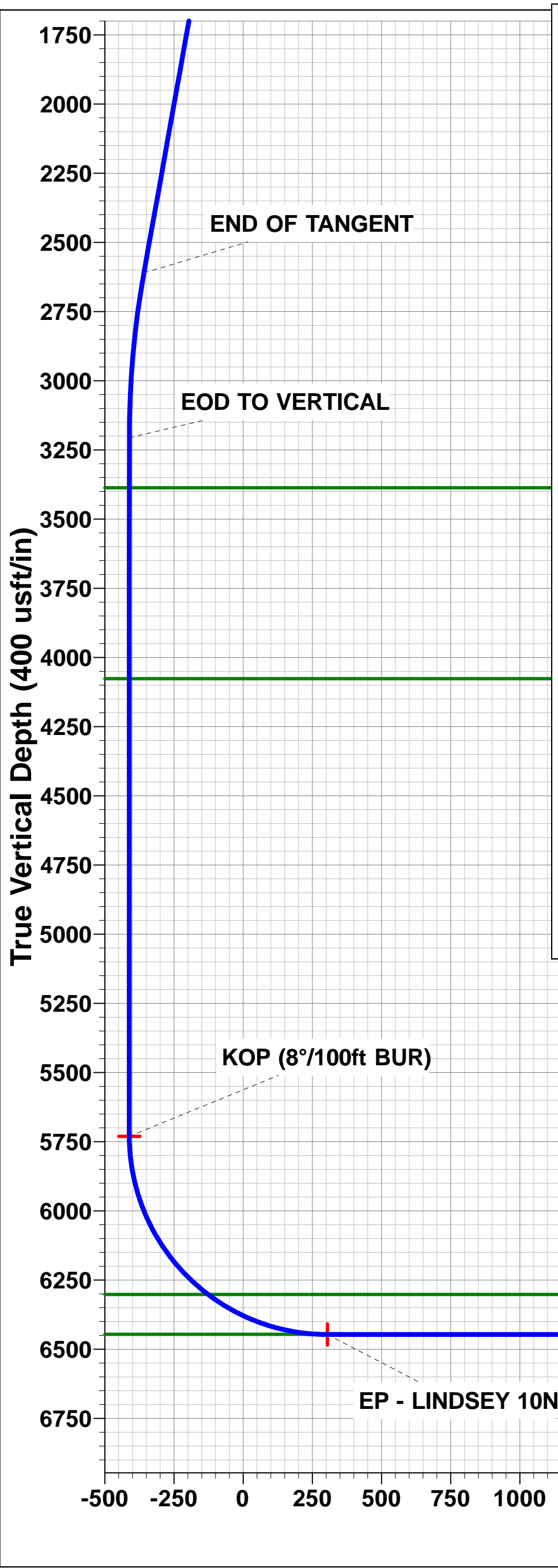
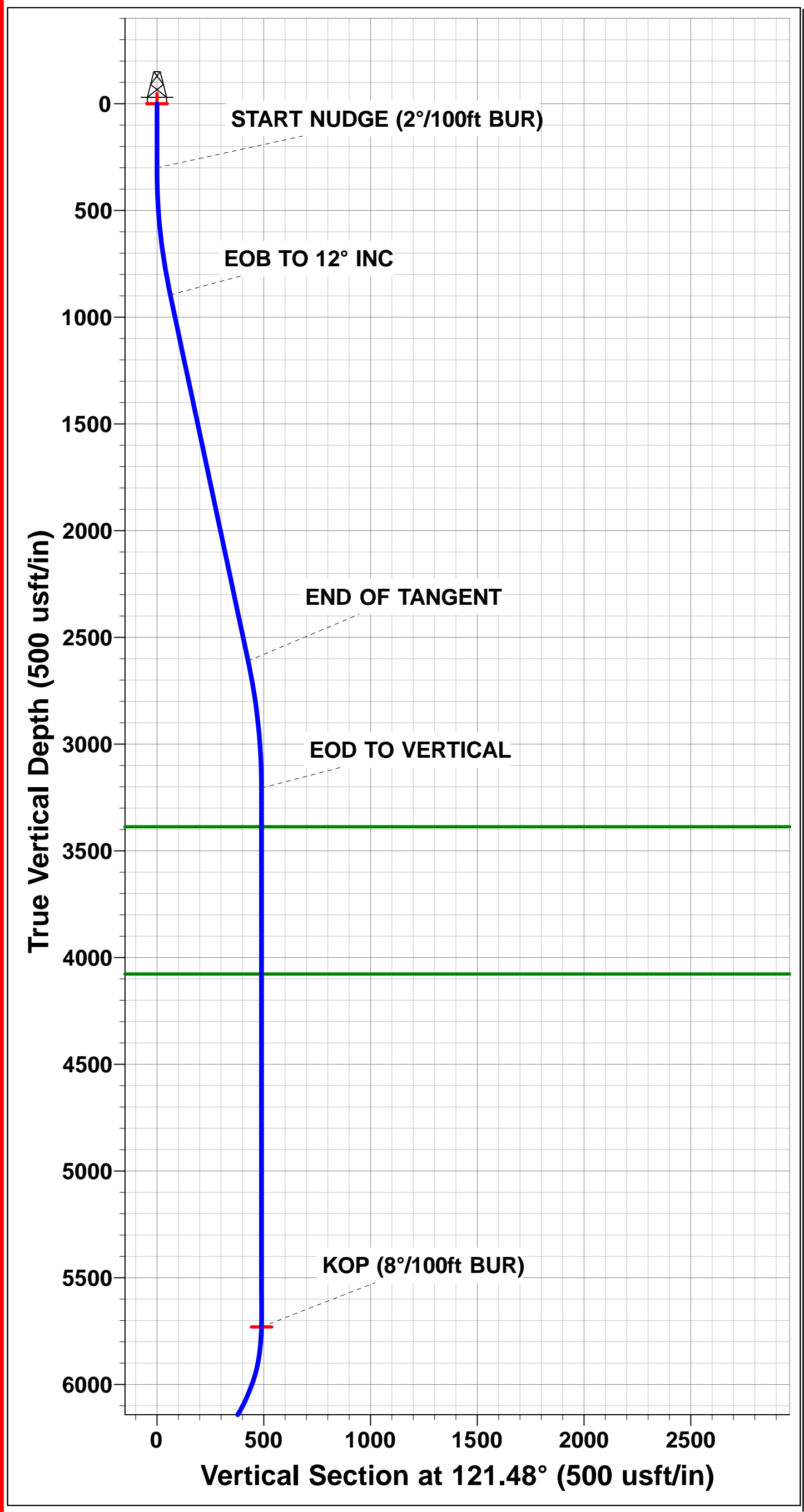
WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - LINDSEY 10N	5730.80	-255.38	417.89	40.334369	-104.489651
EP - LINDSEY 10N	6447.00	-255.01	-298.31	40.334370	-104.492220
BHL - LINDSEY 10N	6447.00	-249.39	-9866.44	40.334380	-104.526540
SHL - LINDSEY 10N	0.00	0.00	0.00	40.335070	-104.491150



PROPOSED LOCAL COORDINATES:
 SHL: 329ft FSL & 439ft FEL of Sec 1
 EP: 75ft FSL & 737ft FEL of Sec 1
 BHL: 75ft FSL & 150ft FWL of Sec 2

Azimuths to True North
 Magnetic North: 7.94°

Magnetic Field
 Strength: 52263.7snT
 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 10N**

**ORIGINAL WELLBORE
PROPOSAL #1**

Anticollision Report

22 July, 2018





Company:	PDC ENERGY	Local Co-ordinate Reference:	Well LINDSEY 10N
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 10N	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	16,473.16	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
SE SE SEC. 1 T4N R64W 6th P.M. (LINDSEY)						
ABDN DD MERCER C #11-30D - Wellbore #1 - Wellbore	16,473.16	6,484.36	185.46	-100.22	0.649	Level 1, CC, ES, SF
ABDN VERT BOOY HILLS FARM #2-12 - Wellbore #1 -	15,788.15	6,375.95	2,044.41	1,778.65	7.693	CC
ABDN VERT BOOY HILLS FARM #2-12 - Wellbore #1 -	15,800.00	6,376.21	2,044.44	1,778.35	7.683	ES
ABDN VERT BOOY HILLS FARM #2-12 - Wellbore #1 -	16,200.00	6,384.47	2,085.46	1,808.11	7.519	SF
ABDN VERT FHA #10-1 - Wellbore #1 - Wellbore #1	8,110.94	6,419.06	1,893.51	1,841.33	36.288	CC
ABDN VERT FHA #10-1 - Wellbore #1 - Wellbore #1	8,200.00	6,420.26	1,895.60	1,841.03	34.739	ES
ABDN VERT FHA #10-1 - Wellbore #1 - Wellbore #1	10,000.00	6,443.72	2,674.55	2,570.52	25.708	SF
ABDN VERT FHA #15-1 - Wellbore #1 - Wellbore #1	8,054.01	6,447.54	590.96	540.31	11.667	CC, ES
ABDN VERT FHA #15-1 - Wellbore #1 - Wellbore #1	8,200.00	6,444.55	608.72	554.16	11.158	SF
ABDN VERT HOSHIKO C #2-8 - Wellbore #1 - Wellbore	12,383.81	6,364.68	3,151.76	2,981.19	18.478	CC
ABDN VERT HOSHIKO C #2-8 - Wellbore #1 - Wellbore	12,439.20	6,366.09	3,153.05	2,980.79	18.304	ES
ABDN VERT HOSHIKO C #2-8 - Wellbore #1 - Wellbore	14,006.54	6,403.23	3,570.53	3,354.29	16.512	SF
ABDN VERT SAND CREEK RANCH C #2-3X - Wellbore	14,495.88	6,337.95	4,603.49	4,373.72	20.035	CC
ABDN VERT SAND CREEK RANCH C #2-3X - Wellbore	14,600.00	6,338.99	4,604.67	4,371.98	19.789	ES
ABDN VERT SAND CREEK RANCH C #2-3X - Wellbore	16,473.16	6,359.20	5,010.12	4,724.83	17.561	SF
ABDN VERT SAND CREEK RANCH CO #2-3 - Wellbore	14,132.83	6,446.00	4,456.56	4,112.00	12.934	CC
ABDN VERT SAND CREEK RANCH CO #2-3 - Wellbore	14,600.00	6,446.00	4,462.69	4,104.70	12.466	ES
ABDN VERT SAND CREEK RANCH CO #2-3 - Wellbore	16,000.00	6,446.00	4,728.48	4,331.19	11.902	SF
ABDN VERT SHAKLEE #1 - Wellbore #1 - Wellbore #1	16,020.14	6,433.58	613.28	340.84	2.251	CC, ES, SF
ABDN VERT SHAKLEE #2 - Wellbore #1 - Wellbore #1	14,682.69	6,434.37	646.09	411.15	2.750	CC
ABDN VERT SHAKLEE #2 - Wellbore #1 - Wellbore #1	14,700.00	6,434.82	646.32	410.90	2.745	ES, SF
ABDN VERT SHAKLEE #3 - Wellbore #1 - Wellbore #1	14,651.50	6,411.07	1,913.76	1,679.77	8.179	CC
ABDN VERT SHAKLEE #3 - Wellbore #1 - Wellbore #1	14,700.00	6,411.43	1,914.38	1,679.02	8.134	ES
ABDN VERT SHAKLEE #3 - Wellbore #1 - Wellbore #1	15,100.00	6,414.26	1,965.61	1,719.02	7.971	SF
EXIST DD HOFFMAN C #2-20D - Wellbore #1 - Wellbore	15,226.37	6,531.61	2,625.42	2,354.82	9.702	CC
EXIST DD HOFFMAN C #2-20D - Wellbore #1 - Wellbore	15,300.00	6,533.22	2,626.46	2,353.78	9.632	ES
EXIST DD HOFFMAN C #2-20D - Wellbore #1 - Wellbore	15,900.00	6,546.11	2,710.43	2,420.88	9.361	SF
EXIST DD HOFFMAN C #2-25D - Wellbore #1 - Wellbore	15,295.55	6,740.42	1,219.50	944.35	4.432	CC
EXIST DD HOFFMAN C #2-25D - Wellbore #1 - Wellbore	15,300.00	6,740.42	1,219.51	944.23	4.430	ES
EXIST DD HOFFMAN C #2-25D - Wellbore #1 - Wellbore	15,400.00	6,740.57	1,223.97	945.88	4.401	SF
EXIST DD HOFFMAN C #2-33D - Wellbore #1 - Wellbore	16,473.16	7,269.13	1,244.66	907.70	3.694	CC, ES, SF
EXIST DD HOFFMAN C 2-21D - Wellbore #1 - Wellbore	14,023.81	6,495.77	2,676.11	2,448.09	11.737	CC, ES
EXIST DD HOFFMAN C 2-21D - Wellbore #1 - Wellbore	14,900.00	6,506.44	2,824.05	2,571.53	11.183	SF
EXIST DD MARLEY C #1-18D - Wellbore #1 - Wellbore #	8,853.30	6,560.64	3,885.44	3,798.77	44.829	CC
EXIST DD MARLEY C #1-18D - Wellbore #1 - Wellbore #	9,000.00	6,560.30	3,888.21	3,797.51	42.869	ES
EXIST DD MARLEY C #1-18D - Wellbore #1 - Wellbore #	14,000.00	6,527.39	6,436.83	6,206.72	27.973	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 10N
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 10N	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 #1-24D - Wellbore #1 - Wellbore #	8,660.15	6,927.00	1,174.16	1,064.41	10.699	CC
EXIST DD MARLEY C #1-24D - Wellbore #1 - Wellbore #	8,700.00	6,926.44	1,174.83	1,064.00	10.600	ES
EXIST DD MARLEY C #1-24D - Wellbore #1 - Wellbore #	9,000.00	6,922.23	1,222.34	1,103.29	10.267	SF
EXIST DD MARLEY C #1-28D - Wellbore #1 - Wellbore #	316.52	328.93	5,119.16	5,118.29	5,853.306	CC, ES
EXIST DD MARLEY C #1-28D - Wellbore #1 - Wellbore #	16,473.16	6,581.00	9,545.60	9,242.95	31.540	SF
EXIST DD MARLEY C #1-30D - Wellbore #1 - Wellbore #	11,255.30	6,495.53	5,155.34	5,001.31	33.468	CC
EXIST DD MARLEY C #1-30D - Wellbore #1 - Wellbore #	11,302.87	6,495.84	5,155.56	5,000.20	33.183	ES
EXIST DD MARLEY C #1-30D - Wellbore #1 - Wellbore #	16,100.00	6,537.77	7,072.41	6,782.65	24.408	SF
EXIST DD MARLEY C #1-31D - Wellbore #1 - Wellbore #	11,372.66	6,620.95	3,760.91	3,599.27	23.267	CC
EXIST DD MARLEY C #1-31D - Wellbore #1 - Wellbore #	11,400.00	6,621.01	3,761.20	3,598.72	23.147	ES
EXIST DD MARLEY C #1-31D - Wellbore #1 - Wellbore #	14,100.00	6,629.81	4,549.92	4,311.98	19.122	SF
EXIST DD MARLEY C #1-33D - Wellbore #1 - Wellbore #	11,209.42	6,513.66	1,266.43	1,114.48	8.334	CC, ES
EXIST DD MARLEY C #1-33D - Wellbore #1 - Wellbore #	11,400.00	6,513.19	1,283.13	1,125.70	8.150	SF
EXIST DD PANTHER C #11-27D - Wellbore #1 - Wellbore #	12,703.41	6,552.20	36.41	-157.53	0.188	Level 1, CC, ES, SF
EXIST DD PANTHER C #11-28D - Wellbore #1 - Wellbore #	14,063.20	6,966.76	35.10	-221.23	0.137	Level 1, CC, ES, SF
EXIST DD PANTHER C #2-23D - Wellbore #1 - Wellbore #	12,681.57	6,562.65	1,254.64	1,061.09	6.482	CC
EXIST DD PANTHER C #2-23D - Wellbore #1 - Wellbore #	12,700.00	6,562.45	1,254.78	1,060.71	6.466	ES
EXIST DD PANTHER C #2-23D - Wellbore #1 - Wellbore #	12,900.00	6,560.30	1,273.51	1,073.84	6.378	SF
EXIST HZ BOBCAT C #12-69HN - Wellbore #1 - Wellbore #	11,584.88	6,708.40	30.41	-134.01	0.185	Level 1, CC, ES, SF
EXIST HZ HOFFMAN C #02-65HN - Wellbore #1 - Wellbore #	14,002.20	6,324.96	2,318.31	2,091.70	10.231	CC
EXIST HZ HOFFMAN C #02-65HN - Wellbore #1 - Wellbore #	14,006.54	6,323.14	2,318.31	2,091.61	10.226	ES
EXIST HZ HOFFMAN C #02-65HN - Wellbore #1 - Wellbore #	14,800.00	6,118.00	2,445.83	2,199.72	9.938	SF
EXIST HZ TOBY C #12-79HN - Wellbore #1 - Wellbore #	11,302.43	6,458.69	283.77	155.73	2.216	CC
EXIST HZ TOBY C #12-79HN - Wellbore #1 - Wellbore #	11,302.87	6,458.71	283.77	155.71	2.216	ES, SF
EXIST VERT AMIGO #1 - Wellbore #1 - Wellbore #1	10,642.08	6,350.00	3,229.67	3,107.77	26.494	CC
EXIST VERT AMIGO #1 - Wellbore #1 - Wellbore #1	10,700.00	6,350.00	3,230.19	3,106.67	26.152	ES
EXIST VERT AMIGO #1 - Wellbore #1 - Wellbore #1	13,000.00	6,350.00	3,997.80	3,810.03	21.292	SF
EXIST VERT AMIGO #2 - Wellbore #1 - Wellbore #1	9,390.18	6,382.10	3,273.31	3,185.83	37.418	CC
EXIST VERT AMIGO #2 - Wellbore #1 - Wellbore #1	9,500.00	6,383.21	3,275.15	3,184.63	36.182	ES
EXIST VERT AMIGO #2 - Wellbore #1 - Wellbore #1	12,800.00	6,416.83	4,725.42	4,542.87	25.885	SF
EXIST VERT AMIGO FARMS #1-12 - Wellbore #1 - Wellbore #	10,699.68	6,402.51	1,922.39	1,798.94	15.572	CC
EXIST VERT AMIGO FARMS #1-12 - Wellbore #1 - Wellbore #	10,800.00	6,401.84	1,925.00	1,798.75	15.248	ES
EXIST VERT AMIGO FARMS #1-12 - Wellbore #1 - Wellbore #	11,400.00	6,397.86	2,048.28	1,905.38	14.334	SF
EXIST VERT FEIT #1 - Wellbore #1 - Wellbore #1	9,238.28	6,325.28	4,530.61	4,447.72	54.659	CC
EXIST VERT FEIT #1 - Wellbore #1 - Wellbore #1	9,400.00	6,322.78	4,533.49	4,446.14	51.897	ES
EXIST VERT FEIT #1 - Wellbore #1 - Wellbore #1	16,200.00	6,236.12	8,303.33	8,026.05	29.945	SF
EXIST VERT FEIT #1-4 - Wellbore #1 - Wellbore #1	10,643.25	6,200.00	4,815.28	4,693.23	39.454	CC
EXIST VERT FEIT #1-4 - Wellbore #1 - Wellbore #1	10,800.00	6,200.00	4,817.83	4,691.41	38.111	ES
EXIST VERT FEIT #1-4 - Wellbore #1 - Wellbore #1	15,900.00	6,126.11	7,126.05	6,857.21	26.507	SF
EXIST VERT FHA #2-1 - Wellbore #1 - Wellbore #1	14,658.53	6,406.30	3,233.76	2,999.55	13.807	CC
EXIST VERT FHA #2-1 - Wellbore #1 - Wellbore #1	14,700.00	6,406.46	3,234.03	2,998.66	13.740	ES
EXIST VERT FHA #2-1 - Wellbore #1 - Wellbore #1	15,900.00	6,411.00	3,463.88	3,194.82	12.874	SF
EXIST VERT FOOS #1-1614 - Wellbore #1 - Wellbore #1	320.97	305.05	875.64	874.82	1,075.052	CC, ES
EXIST VERT FOOS #1-1614 - Wellbore #1 - Wellbore #1	8,100.00	6,460.76	1,298.77	1,246.87	25.029	SF
EXIST VERT FUEGO C #1-19 - Wellbore #1 - Wellbore #	10,052.76	6,354.17	4,037.48	3,931.91	38.246	CC
EXIST VERT FUEGO C #1-19 - Wellbore #1 - Wellbore #	10,200.00	6,355.92	4,040.16	3,930.50	36.842	ES
EXIST VERT FUEGO C #1-19 - Wellbore #1 - Wellbore #	14,006.54	6,400.00	5,637.16	5,421.07	26.087	SF
EXIST VERT HAPPY AMIGO C #1-25 - Wellbore #1 - W	10,055.61	6,420.79	964.44	858.56	9.109	CC
EXIST VERT HAPPY AMIGO C #1-25 - Wellbore #1 - W	10,100.00	6,420.44	965.46	858.35	9.014	ES
EXIST VERT HAPPY AMIGO C #1-25 - Wellbore #1 - W	10,300.00	6,418.86	994.92	882.24	8.830	SF
EXIST VERT HAPPY TALK #1 - Wellbore #1 - Wellbore #	9,447.33	6,422.59	1,950.07	1,860.98	21.888	CC
EXIST VERT HAPPY TALK #1 - Wellbore #1 - Wellbore #	9,500.00	6,422.25	1,950.78	1,860.23	21.544	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 10N
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 10N	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	Offset	Distance		Separation	Warning
	Measured	Measured	Between	Between		
Offset Well - Wellbore - Design	Depth	Depth	Centres	Ellipses	Factor	
	(usft)	(usft)	(usft)	(usft)		
SE SE SEC. 1 T4N R64W 6th P.M. (LINDSEY)						
EXIST VERT HAPPY TALK #1 - Wellbore #1 - Wellbore	10,600.00	6,415.05	2,265.25	2,144.13	18.702	SF
EXIST VERT HAPPY TALK #2 - Wellbore #1 - Wellbore	9,397.35	6,416.52	657.79	570.54	7.538	CC
EXIST VERT HAPPY TALK #2 - Wellbore #1 - Wellbore	9,400.00	6,416.50	657.80	570.47	7.532	ES
EXIST VERT HAPPY TALK #2 - Wellbore #1 - Wellbore	9,500.00	6,415.83	665.75	575.66	7.389	SF
EXIST VERT HOFFMAN C #11-29 - Wellbore #1 - Wellb	15,364.59	6,438.26	191.70	-62.54	0.754	Level 1, CC, ES, SF
EXIST VERT HOSHIKO #1-2 - Wellbore #1 - Design #1	12,309.69	6,438.02	4,780.54	4,487.27	16.301	CC, ES
EXIST VERT HOSHIKO #1-2 - Wellbore #1 - Design #1	14,006.54	6,438.00	5,160.08	4,818.74	15.117	SF
EXIST VERT HOSHIKO #2-2 - Wellbore #1 - Design #1	13,395.34	6,462.01	4,354.20	4,029.75	13.421	CC
EXIST VERT HOSHIKO #2-2 - Wellbore #1 - Design #1	13,500.00	6,462.01	4,355.45	4,028.08	13.304	ES
EXIST VERT HOSHIKO #2-2 - Wellbore #1 - Design #1	15,000.00	6,462.00	4,639.90	4,270.52	12.561	SF
EXIST VERT HOSHIKO #7-2 - Wellbore #1 - Wellbore #1	13,476.24	6,354.06	3,440.72	3,239.61	17.109	CC
EXIST VERT HOSHIKO #7-2 - Wellbore #1 - Wellbore #1	13,600.00	6,355.19	3,442.94	3,238.36	16.829	ES
EXIST VERT HOSHIKO #7-2 - Wellbore #1 - Wellbore #1	15,100.00	6,368.72	3,803.96	3,557.35	15.425	SF
EXIST VERT MCDERMED #1-1 - Wellbore #1 - Design #	300.00	279.00	4,230.67	4,227.14	1,197.767	CC
EXIST VERT MCDERMED #1-1 - Wellbore #1 - Design #	400.00	378.98	4,231.66	4,225.80	721.931	ES
EXIST VERT MCDERMED #1-1 - Wellbore #1 - Design #	10,800.00	6,426.02	5,987.04	5,735.51	23.803	SF
EXIST VERT MCDERMED #2-1 - Wellbore #1 - Wellbore	303.32	275.40	4,515.70	4,514.89	5,580.654	CC
EXIST VERT MCDERMED #2-1 - Wellbore #1 - Wellbore	8,200.00	6,342.17	4,531.13	4,476.47	82.893	ES
EXIST VERT MCDERMED #2-1 - Wellbore #1 - Wellbore	16,473.16	6,383.58	9,524.47	9,239.19	33.387	SF
EXIST VERT MCFERREN #4-2 - Wellbore #1 - Design #	15,935.54	4,629.00	4,868.43	4,533.90	14.553	CC
EXIST VERT MCFERREN #4-2 - Wellbore #1 - Design #	16,100.00	4,629.00	4,871.21	4,532.37	14.376	ES
EXIST VERT MCFERREN #4-2 - Wellbore #1 - Design #	16,473.16	4,629.00	4,898.03	4,549.40	14.050	SF
EXIST VERT MCFERREN #5-2 - Wellbore #1 - Design #	15,943.77	6,466.00	3,220.52	2,937.71	11.388	CC
EXIST VERT MCFERREN #5-2 - Wellbore #1 - Design #	16,000.00	6,466.00	3,221.01	2,936.62	11.326	ES
EXIST VERT MCFERREN #5-2 - Wellbore #1 - Design #	16,473.16	6,466.00	3,263.74	2,966.07	10.964	SF
EXIST VERT MINOR #1 - Wellbore #1 - Wellbore #1	10,726.39	6,400.00	493.45	369.40	3.978	CC, ES
EXIST VERT MINOR #1 - Wellbore #1 - Wellbore #1	10,800.00	6,400.00	498.91	372.81	3.957	SF
EXIST VERT REIN #1 - Wellbore #1 - Wellbore #1	100.00	46.11	3,302.99	3,302.89	10,000.000	CC, ES
EXIST VERT REIN #1 - Wellbore #1 - Wellbore #1	14,006.54	6,373.11	6,829.92	6,613.31	31.530	SF
EXIST VERT REIN #1-8 - Wellbore #1 - Wellbore #1	100.00	63.29	2,964.87	2,964.78	10,000.000	CC, ES
EXIST VERT REIN #1-8 - Wellbore #1 - Wellbore #1	16,200.00	6,334.52	9,946.78	9,669.30	35.846	SF
EXIST VERT ROTHE #1 - Wellbore #1 - Wellbore #1	12,280.99	6,439.21	2,020.73	1,853.80	12.105	CC
EXIST VERT ROTHE #1 - Wellbore #1 - Wellbore #1	12,300.00	6,439.46	2,020.91	1,853.30	12.057	ES
EXIST VERT ROTHE #1 - Wellbore #1 - Wellbore #1	12,800.00	6,446.13	2,121.24	1,939.03	11.642	SF
EXIST VERT ROTHE #2 - Wellbore #1 - Wellbore #1	13,344.09	6,435.57	611.30	413.87	3.096	CC, ES
EXIST VERT ROTHE #2 - Wellbore #1 - Wellbore #1	13,400.00	6,435.25	613.85	414.85	3.085	SF
EXIST VERT ROTHE #2-10 - Wellbore #1 - Wellbore #1	13,207.43	6,400.00	2,020.11	1,826.33	10.425	CC
EXIST VERT ROTHE #2-10 - Wellbore #1 - Wellbore #1	13,300.00	6,400.00	2,022.23	1,825.85	10.298	ES
EXIST VERT ROTHE #2-10 - Wellbore #1 - Wellbore #1	13,900.00	6,400.00	2,122.15	1,909.35	9.972	SF
EXIST VERT ROTHE #3 - Wellbore #1 - Wellbore #1	12,065.32	6,428.60	642.52	480.60	3.968	CC
EXIST VERT ROTHE #3 - Wellbore #1 - Wellbore #1	12,100.00	6,428.59	643.21	480.38	3.950	ES
EXIST VERT ROTHE #3 - Wellbore #1 - Wellbore #1	12,200.00	6,428.56	652.08	486.93	3.948	SF
EXIST VERT SPIKE STATE #CC6-12 - Wellbore #1 - De	300.00	270.00	1,845.17	1,841.74	538.340	CC
EXIST VERT SPIKE STATE #CC6-12 - Wellbore #1 - De	5,850.00	5,772.81	1,916.25	1,787.29	14.859	ES
EXIST VERT SPIKE STATE #CC6-12 - Wellbore #1 - De	6,150.00	6,056.41	1,943.18	1,809.80	14.569	SF
EXIST VERT SPIKE STATE #CC6-13 - Wellbore #1 - We	5,804.10	5,747.09	628.50	611.51	36.987	CC, ES
EXIST VERT SPIKE STATE #CC6-13 - Wellbore #1 - We	5,850.00	5,794.83	629.57	612.53	36.954	SF
LINDSEY 1C - ORIGINAL WELLBORE - PROPOSAL #1	300.00	300.00	134.80	133.73	125.732	CC, ES
LINDSEY 1C - ORIGINAL WELLBORE - PROPOSAL #1	16,473.16	17,061.79	2,409.64	1,849.21	4.300	SF
LINDSEY 2N - ORIGINAL WELLBORE - PROPOSAL #1	300.00	301.00	120.22	119.15	111.898	CC, ES
LINDSEY 2N - ORIGINAL WELLBORE - PROPOSAL #1	16,473.16	16,856.65	2,122.20	1,556.47	3.751	SF
LINDSEY 3N - ORIGINAL WELLBORE - PROPOSAL #1	300.00	301.00	105.65	104.57	98.335	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 10N
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 10N	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)						
LINDSEY 3N - ORIGINAL WELLBORE - PROPOSAL #1	16,473.16	16,822.59	1,860.00	1,295.50	3.295	SF
LINDSEY 4N - ORIGINAL WELLBORE - PROPOSAL #1	300.00	300.00	87.43	86.36	81.551	CC, ES
LINDSEY 4N - ORIGINAL WELLBORE - PROPOSAL #1	16,473.16	16,701.63	1,594.57	1,029.13	2.820	SF
LINDSEY 5N - ORIGINAL WELLBORE - PROPOSAL #1	300.00	301.00	72.86	71.79	67.817	CC, ES
LINDSEY 5N - ORIGINAL WELLBORE - PROPOSAL #1	16,473.16	16,694.71	1,333.99	770.91	2.369	SF
LINDSEY 6N - ORIGINAL WELLBORE - PROPOSAL #1	300.00	301.00	58.29	57.21	54.254	CC, ES
LINDSEY 6N - ORIGINAL WELLBORE - PROPOSAL #1	16,473.16	16,594.46	1,063.96	499.55	1.885	SF
LINDSEY 7N - ORIGINAL WELLBORE - PROPOSAL #1	300.00	301.00	43.72	42.64	40.690	CC, ES
LINDSEY 7N - ORIGINAL WELLBORE - PROPOSAL #1	16,473.16	16,630.53	807.32	249.40	1.447	Level 3, SF
LINDSEY 8N - ORIGINAL WELLBORE - PROPOSAL #1	300.00	301.00	29.14	28.07	27.127	CC
LINDSEY 8N - ORIGINAL WELLBORE - PROPOSAL #1	16,473.16	16,558.58	539.46	-20.05	0.964	Level 1, ES, SF
LINDSEY 9N - ORIGINAL WELLBORE - PROPOSAL #1	300.00	300.00	14.57	13.50	13.592	CC
LINDSEY 9N - ORIGINAL WELLBORE - PROPOSAL #1	16,473.16	16,608.29	302.90	-200.15	0.602	Level 1, ES, SF

Offset Design													Offset Site Error:	0.00 usft
SE SE SEC. 1 T4N R64W 6th P.M. (LINDSEY) - ABDN DD MERCER C #11-30D - Wellbore #1 - Wellbo													Offset Well Error:	0.00 usft
Reference		Offset		Semi Major Axis			Distance						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)	+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	-89.59	70.42	-9,771.80	9,772.06					
100.00	100.00	185.93	185.92	0.09	0.07	-89.58	71.03	-9,770.56	9,771.26	9,771.11	0.16	N/A		
200.00	200.00	282.42	282.41	0.31	0.20	-89.58	71.44	-9,769.63	9,770.31	9,769.80	0.51	N/A		
300.00	300.00	392.89	392.87	0.54	0.31	-89.58	72.09	-9,768.56	9,769.35	9,768.51	0.84	N/A		
327.53	327.53	400.00	399.98	0.59	0.32	148.99	72.14	-9,768.49	9,769.20	9,768.29	0.91	N/A		
400.00	399.98	452.89	452.87	0.74	0.35	148.99	72.56	-9,768.05	9,770.00	9,768.91	1.09	8,942.476		
500.00	499.84	513.01	512.98	0.95	0.39	148.96	73.11	-9,767.80	9,774.08	9,772.74	1.35	7,254.499		
600.00	599.45	600.00	599.97	1.19	0.44	148.91	73.74	-9,767.71	9,781.45	9,779.81	1.64	5,965.028		
700.00	698.70	742.33	742.30	1.47	0.51	148.86	74.27	-9,767.28	9,791.61	9,789.65	1.96	4,995.164		
800.00	797.47	854.21	854.18	1.80	0.56	148.79	74.60	-9,766.59	9,804.43	9,802.13	2.30	4,270.559		
900.00	895.62	928.99	928.95	2.18	0.59	148.66	74.88	-9,766.12	9,820.21	9,817.58	2.64	3,726.594		
1,000.00	993.44	1,000.00	999.96	2.60	0.59	148.71	74.45	-9,766.06	9,837.94	9,834.99	2.95	3,336.855		
1,100.00	1,091.25	1,036.78	1,036.75	3.03	0.60	148.73	74.03	-9,766.19	9,856.04	9,852.77	3.27	3,011.614		
1,200.00	1,189.07	1,100.00	1,099.96	3.47	0.62	148.76	73.43	-9,766.63	9,874.58	9,870.96	3.61	2,732.388		
1,300.00	1,286.88	1,158.79	1,158.75	3.92	0.63	148.80	72.98	-9,767.26	9,893.49	9,889.53	3.95	2,502.173		
1,400.00	1,384.70	1,220.75	1,220.69	4.37	0.65	148.84	72.62	-9,768.12	9,912.75	9,908.46	4.30	2,306.662		
1,500.00	1,482.51	1,300.00	1,299.93	4.83	0.67	148.89	72.81	-9,769.56	9,932.42	9,927.78	4.65	2,137.879		
1,600.00	1,580.33	1,426.72	1,426.62	5.28	0.70	148.98	74.57	-9,771.62	9,951.97	9,946.97	5.00	1,990.146		
1,700.00	1,678.14	1,500.00	1,499.89	5.74	0.73	149.03	75.40	-9,772.79	9,971.48	9,966.14	5.35	1,865.498		
1,800.00	1,775.96	1,611.42	1,611.28	6.20	0.75	149.09	74.78	-9,774.63	9,991.05	9,985.35	5.70	1,753.944		
6,550.00	6,361.81	6,345.72	6,297.72	16.12	2.19	-1.98	-414.91	-9,945.49	9,987.39	9,973.11	14.28	699.422		
6,600.00	6,383.91	6,366.59	6,318.59	16.54	2.20	-2.29	-415.17	-9,945.61	9,942.68	9,928.51	14.16	701.919		
6,650.00	6,402.82	6,384.50	6,336.51	17.07	2.20	-2.72	-415.40	-9,945.71	9,896.52	9,882.42	14.10	701.811		
6,700.00	6,418.46	6,400.00	6,352.00	17.70	2.21	-3.38	-415.62	-9,945.80	9,849.14	9,835.03	14.11	697.959		
6,750.00	6,430.75	6,412.96	6,364.97	18.42	2.21	-4.45	-415.80	-9,945.87	9,800.76	9,786.54	14.23	688.963		
6,800.00	6,439.62	6,422.94	6,374.94	19.22	2.21	-6.52	-415.94	-9,945.93	9,751.63	9,737.11	14.51	671.864		
6,850.00	6,445.05	6,429.14	6,381.14	20.09	2.21	-12.15	-416.03	-9,945.96	9,701.97	9,686.61	15.36	631.569		
6,900.00	6,446.99	6,431.56	6,383.56	21.00	2.21	-60.46	-416.06	-9,945.98	9,652.04	9,629.59	22.45	429.856		
6,902.87	6,447.00	6,431.59	6,383.58	21.06	2.21	-71.54	-416.06	-9,945.98	9,649.17	9,626.18	22.99	419.722		

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