

EXTRACTION OIL & GAS

Weld County

Sec 17-T2N-R68W

RINN VALLEY EAST N17-20-8N

ORIGINAL WELLBORE

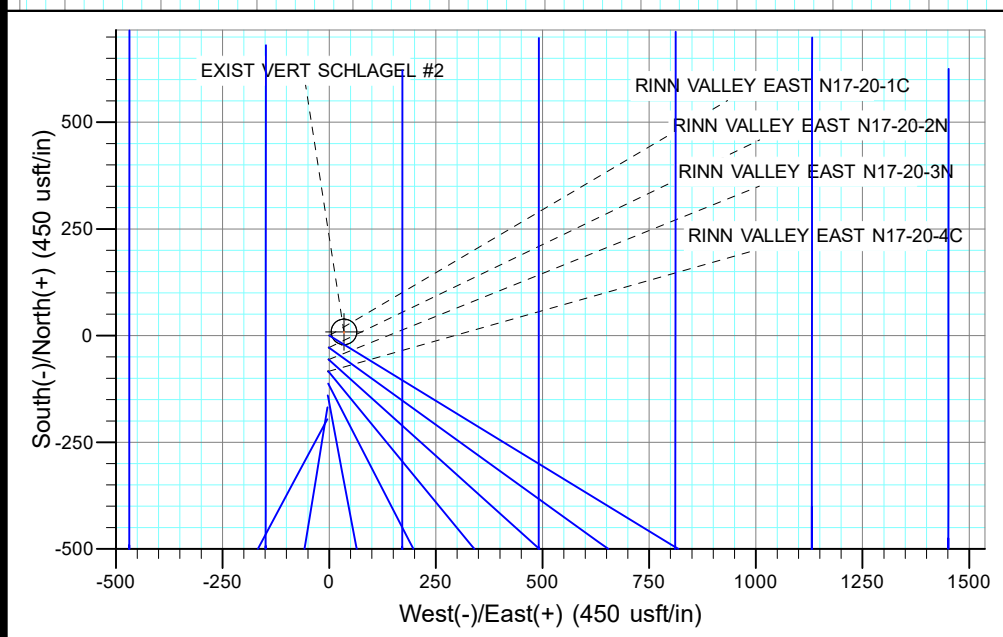
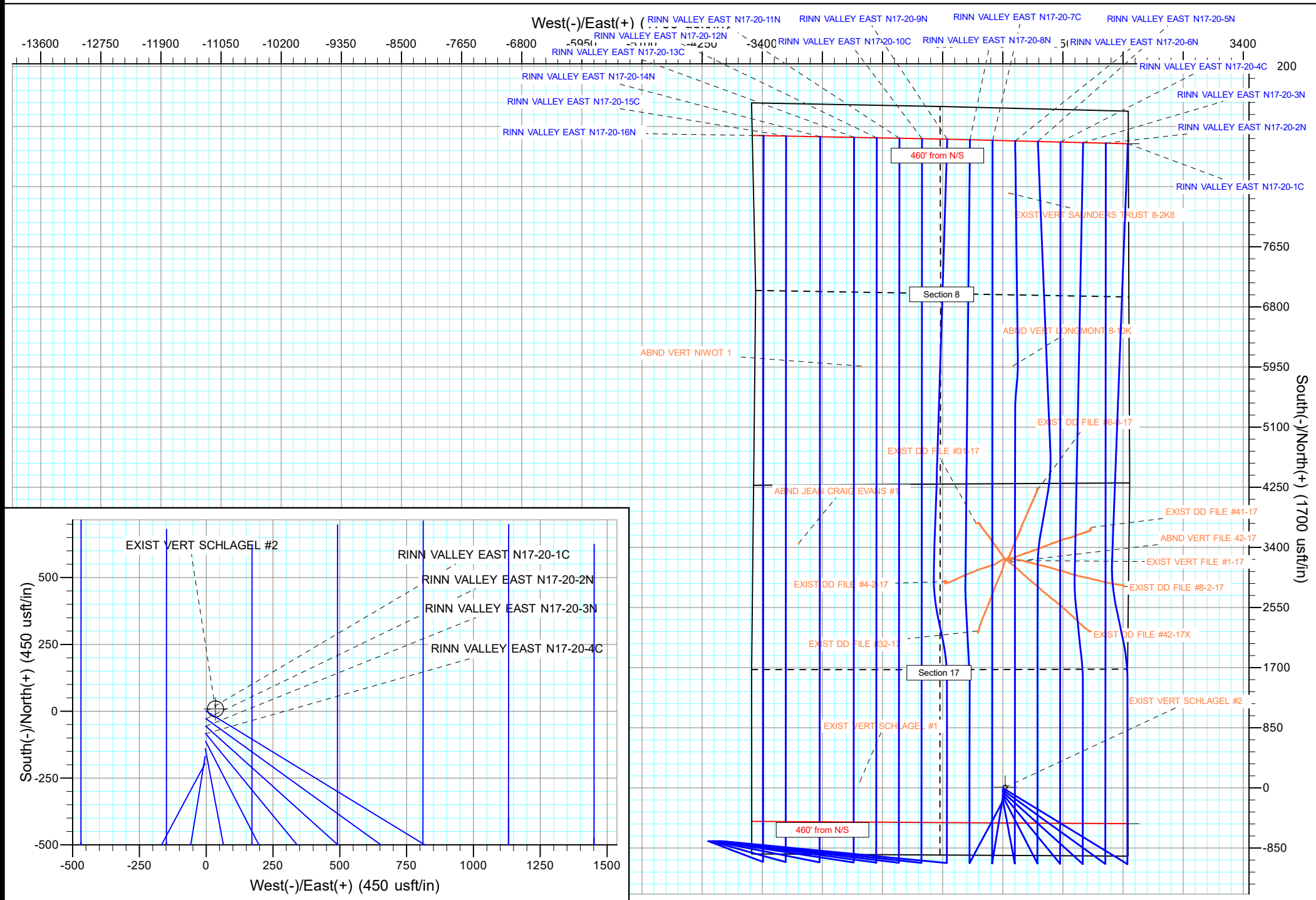
PROPOSAL 1

Anticollision Report

14 March, 2018



Project: Weld County
 Site: Sec 17-T2N-R68W
 Well: RINN VALLEY EAST N17-20-1C
 ORIGINAL WELLBORE
 PROPOSAL 1



Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well RINN VALLEY EAST N17-20-8N
Project:	Weld County	TVD Reference:	KB 25' @ 4947.00usft
Reference Site:	Sec 17-T2N-R68W	MD Reference:	KB 25' @ 4947.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	RINN VALLEY EAST N17-20-8N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDT_32Bit_ODBC
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 9,999.98 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	2/15/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	17,350.32	PROPOSAL 1 (ORIGINAL WELLBORE)	MWD OWSG	OWSG MWD - Standard

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Sec 17-T2N-R68W						
ABND JEAN CRAIG EVANS #1 - Wellbore #1 - Design #	11,623.07	4,838.00	3,359.10	3,229.79	25.978	CC
ABND JEAN CRAIG EVANS #1 - Wellbore #1 - Design #	11,700.00	4,838.00	3,359.98	3,229.52	25.755	ES
ABND JEAN CRAIG EVANS #1 - Wellbore #1 - Design #	12,800.00	4,838.00	3,559.31	3,412.32	24.215	SF
ABND VERT FILE 42-17 - Wellbore #1 - Design #1	800.00	748.00	3,389.62	3,372.36	196.370	CC
ABND VERT FILE 42-17 - Wellbore #1 - Design #1	900.00	847.98	3,391.19	3,371.57	172.844	ES
ABND VERT FILE 42-17 - Wellbore #1 - Design #1	15,500.00	1,020.00	7,473.67	7,400.25	101.803	SF
EXIST DD FILE #31-17 - Wellbore #1 - Wellbore #1	11,929.16	7,283.97	159.74	51.58	1.477	Level 3, CC, ES, SF
EXIST DD FILE #32-17 - Wellbore #1 - Wellbore #1	10,395.92	7,370.77	157.79	70.28	1.803	CC
EXIST DD FILE #32-17 - Wellbore #1 - Wellbore #1	10,400.00	7,370.84	157.84	70.20	1.801	ES, SF
EXIST DD FILE #41-17 - Wellbore #1 - Wellbore #1	11,860.67	7,330.70	1,766.55	1,659.03	16.430	CC
EXIST DD FILE #41-17 - Wellbore #1 - Wellbore #1	11,900.00	7,329.72	1,766.99	1,658.84	16.339	ES
EXIST DD FILE #41-17 - Wellbore #1 - Wellbore #1	12,200.00	7,321.97	1,798.83	1,686.96	16.080	SF
EXIST DD FILE #4-2-17 - Wellbore #1 - Wellbore #1	11,110.51	7,334.75	289.79	195.31	3.067	CC, ES, SF
EXIST DD FILE #42-17X - Wellbore #1 - Wellbore #1	10,312.70	7,429.95	1,728.67	1,640.53	19.613	CC, ES
EXIST DD FILE #42-17X - Wellbore #1 - Wellbore #1	10,500.00	7,427.59	1,738.78	1,649.22	19.414	SF
EXIST DD FILE #6-0-17 - Wellbore #1 - Wellbore #1	12,423.30	7,394.18	1,006.02	885.93	8.377	CC, ES
EXIST DD FILE #6-0-17 - Wellbore #1 - Wellbore #1	12,500.00	7,390.12	1,008.94	887.96	8.340	SF
EXIST DD FILE #8-2-17 - Wellbore #1 - Wellbore #1	11,067.47	7,421.97	2,231.95	2,136.60	23.407	CC
EXIST DD FILE #8-2-17 - Wellbore #1 - Wellbore #1	11,100.00	7,420.63	2,232.19	2,136.48	23.323	ES
EXIST DD FILE #8-2-17 - Wellbore #1 - Wellbore #1	11,500.00	7,412.00	2,273.42	2,173.92	22.848	SF
EXIST VERT FILE #1-17 - Wellbore #1 - Design #1	11,407.27	7,228.00	589.67	491.32	5.995	CC, ES, SF
EXIST VERT SCHLAGEL #1 - Wellbore #1 - Design #1	8,280.75	7,243.00	1,547.07	1,371.22	8.797	CC, ES
EXIST VERT SCHLAGEL #1 - Wellbore #1 - Design #1	8,400.00	7,243.00	1,551.66	1,375.01	8.784	SF
EXIST VERT SCHLAGEL #2 - Wellbore #1 - Design #1	800.00	774.00	208.43	190.62	11.699	CC
EXIST VERT SCHLAGEL #2 - Wellbore #1 - Design #1	900.00	873.98	210.10	189.93	10.414	ES
EXIST VERT SCHLAGEL #2 - Wellbore #1 - Design #1	8,200.00	7,254.00	503.33	327.75	2.867	SF
RINN VALLEY EAST N17-20-1C - ORIGINAL WELLBOR	826.79	829.22	169.79	163.88	28.744	CC, ES
RINN VALLEY EAST N17-20-1C - ORIGINAL WELLBOR	17,350.72	17,798.87	2,246.57	1,903.18	6.542	SF
RINN VALLEY EAST N17-20-2N - ORIGINAL WELLBOR	874.83	878.82	140.31	134.21	22.996	CC, ES
RINN VALLEY EAST N17-20-2N - ORIGINAL WELLBOR	17,350.72	17,489.99	1,920.79	1,574.31	5.544	SF
RINN VALLEY EAST N17-20-3N - ORIGINAL WELLBOR	927.76	932.81	111.37	105.01	17.510	CC, ES
RINN VALLEY EAST N17-20-3N - ORIGINAL WELLBOR	17,350.72	17,430.94	1,600.66	1,253.90	4.616	SF
RINN VALLEY EAST N17-20-4C - ORIGINAL WELLBOR	988.00	993.53	83.02	76.34	12.419	CC
RINN VALLEY EAST N17-20-4C - ORIGINAL WELLBOR	1,000.00	1,005.41	83.07	76.29	12.253	ES
RINN VALLEY EAST N17-20-4C - ORIGINAL WELLBOR	17,350.72	17,618.90	1,305.47	963.62	3.819	SF
RINN VALLEY EAST N17-20-5N - ORIGINAL WELLBOR	1,053.25	1,059.34	55.77	48.70	7.894	CC, ES
RINN VALLEY EAST N17-20-5N - ORIGINAL WELLBOR	17,350.32	17,358.43	960.39	612.65	2.762	SF

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

Anticollision Report

Company:	EXTRACTION OIL & GAS	Local Co-ordinate Reference:	Well RINN VALLEY EAST N17-20-8N
Project:	Weld County	TVD Reference:	KB 25' @ 4947.00usft
Reference Site:	Sec 17-T2N-R68W	MD Reference:	KB 25' @ 4947.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	RINN VALLEY EAST N17-20-8N	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	ORIGINAL WELLBORE	Database:	EDT_32Bit_ODBC
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
Sec 17-T2N-R68W						
RINN VALLEY EAST N17-20-6N - ORIGINAL WELLBOR	1,125.12	1,129.82	30.98	23.48	4.135	CC, ES
RINN VALLEY EAST N17-20-6N - ORIGINAL WELLBOR	17,340.43	17,327.22	640.19	291.84	1.838	SF
RINN VALLEY EAST N17-20-7C - ORIGINAL WELLBOR	1,202.88	1,207.72	11.66	3.68	1.462	Level 3, CC, ES
RINN VALLEY EAST N17-20-7C - ORIGINAL WELLBOR	17,346.32	17,579.31	404.90	110.24	1.374	Level 3, SF
Sec 18-T2N-R68W						
RINN VALLEY EAST N17-20-10C - ORIGINAL WELLBO	10,997.92	11,824.02	660.60	524.56	4.856	CC
RINN VALLEY EAST N17-20-10C - ORIGINAL WELLBO	17,350.72	18,176.88	716.07	373.17	2.088	ES, SF
RINN VALLEY EAST N17-20-11N - ORIGINAL WELLBO	10,997.99	11,477.24	937.58	799.91	6.811	CC
RINN VALLEY EAST N17-20-11N - ORIGINAL WELLBO	17,350.72	17,826.48	996.57	642.35	2.813	ES, SF
RINN VALLEY EAST N17-20-12N - ORIGINAL WELLBO	10,997.91	11,359.17	1,257.53	1,120.21	9.158	CC
RINN VALLEY EAST N17-20-12N - ORIGINAL WELLBO	17,350.72	17,703.24	1,316.65	962.73	3.720	ES, SF
RINN VALLEY EAST N17-20-13C - ORIGINAL WELLBO	10,997.76	11,486.03	1,594.74	1,457.47	11.618	CC
RINN VALLEY EAST N17-20-13C - ORIGINAL WELLBO	17,350.72	17,838.73	1,653.48	1,301.16	4.693	ES, SF
RINN VALLEY EAST N17-20-14N - ORIGINAL WELLBO	10,997.75	11,111.03	2,057.63	1,921.17	15.079	CC
RINN VALLEY EAST N17-20-14N - ORIGINAL WELLBO	17,350.72	17,463.70	2,117.08	1,763.25	5.983	ES, SF
RINN VALLEY EAST N17-20-15C - ORIGINAL WELLBO	10,997.60	11,249.51	2,548.54	2,412.32	18.708	CC
RINN VALLEY EAST N17-20-15C - ORIGINAL WELLBO	17,350.72	17,602.48	2,607.90	2,254.95	7.389	ES, SF
RINN VALLEY EAST N17-20-16N - ORIGINAL WELLBO	10,997.49	10,955.07	2,857.89	2,721.98	21.028	CC
RINN VALLEY EAST N17-20-16N - ORIGINAL WELLBO	17,350.72	17,312.66	2,917.90	2,564.16	8.249	ES, SF
RINN VALLEY EAST N17-20-9N - ORIGINAL WELLBOR	9,864.16	10,617.17	319.91	217.97	3.138	CC
RINN VALLEY EAST N17-20-9N - ORIGINAL WELLBOR	17,350.72	18,146.97	320.42	-34.65	0.902	Level 1, ES, SF
Sec 8-T2N-R68W						
ABND VERT LONGMONT 8-10K - Wellbore #1 - Design	14,160.84	7,209.00	644.49	380.86	2.445	CC, ES, SF
ABND VERT NIWOT 1 - Wellbore #1 - Design #1	14,135.81	7,219.00	1,508.63	1,245.21	5.727	CC, ES
ABND VERT NIWOT 1 - Wellbore #1 - Design #1	14,300.00	7,219.00	1,517.53	1,251.36	5.701	SF
EXIST VERT SAUNDERS TRUST 8-2K8 - Wellbore #1 -	16,602.25	7,305.00	561.30	253.45	1.823	CC, ES, SF

Offset Design													Offset Site Error:	0.00 usft	
Survey Program: 0-INC													Offset Well Error:		0.00 usft
Reference													Reference		Warning
Measured Depth (usft)	Vertical Depth (usft)	Offset		Semi Major Axis			Distance					Warning			
		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		
0.00	0.00	0.00	0.00	0.00	0.00	-38.20	3,656.45	-2,877.55	4,653.24						
100.00	100.00	48.00	48.00	0.13	0.58	-38.20	3,656.45	-2,877.55	4,652.95	4,652.24	0.71	6,557.382			
200.00	200.00	148.00	148.00	0.49	2.30	-38.20	3,656.45	-2,877.55	4,652.95	4,650.16	2.79	1,667.631			
300.00	300.00	248.00	248.00	0.85	4.49	-38.20	3,656.45	-2,877.55	4,652.95	4,647.61	5.34	871.854			
400.00	400.00	348.00	348.00	1.21	6.55	-38.20	3,656.45	-2,877.55	4,652.95	4,645.19	7.76	599.893			
500.00	500.00	448.00	448.00	1.57	8.58	-38.20	3,656.45	-2,877.55	4,652.95	4,642.79	10.15	458.389			
600.00	600.00	548.00	548.00	1.93	10.61	-38.20	3,656.45	-2,877.55	4,652.95	4,640.41	12.54	371.192			
700.00	700.00	648.00	648.00	2.29	12.63	-38.20	3,656.45	-2,877.55	4,652.95	4,638.03	14.91	311.970			
800.00	800.00	748.00	748.00	2.64	14.65	-38.20	3,656.45	-2,877.55	4,652.95	4,635.65	17.29	269.089			
900.00	899.98	847.98	847.98	2.99	16.66	113.64	3,656.45	-2,877.55	4,653.65	4,634.00	19.65	236.833			
1,000.00	999.84	947.84	947.84	3.32	18.68	113.66	3,656.45	-2,877.55	4,655.75	4,633.75	21.99	211.682			
1,100.00	1,099.45	1,047.45	1,047.45	3.66	20.68	113.69	3,656.45	-2,877.55	4,659.26	4,634.92	24.34	191.402			
1,200.00	1,198.70	1,146.70	1,146.70	4.02	22.68	113.74	3,656.45	-2,877.55	4,664.19	4,637.50	26.70	174.713			
1,300.00	1,297.47	1,245.47	1,245.47	4.39	24.67	113.80	3,656.45	-2,877.55	4,670.56	4,641.51	29.06	160.742			
1,320.97	1,318.11	1,266.11	1,266.11	4.47	25.09	113.81	3,656.45	-2,877.55	4,672.08	4,642.53	29.55	158.095			
1,400.00	1,395.83	1,343.83	1,343.83	4.79	26.65	113.97	3,656.45	-2,877.55	4,677.95	4,646.53	31.42	148.862			

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