

EXTRACTION OIL & GAS

Weld County

Sec 17-T2N-R68W

RINN VALLEY EAST N17-20-3N

ORIGINAL WELLBORE

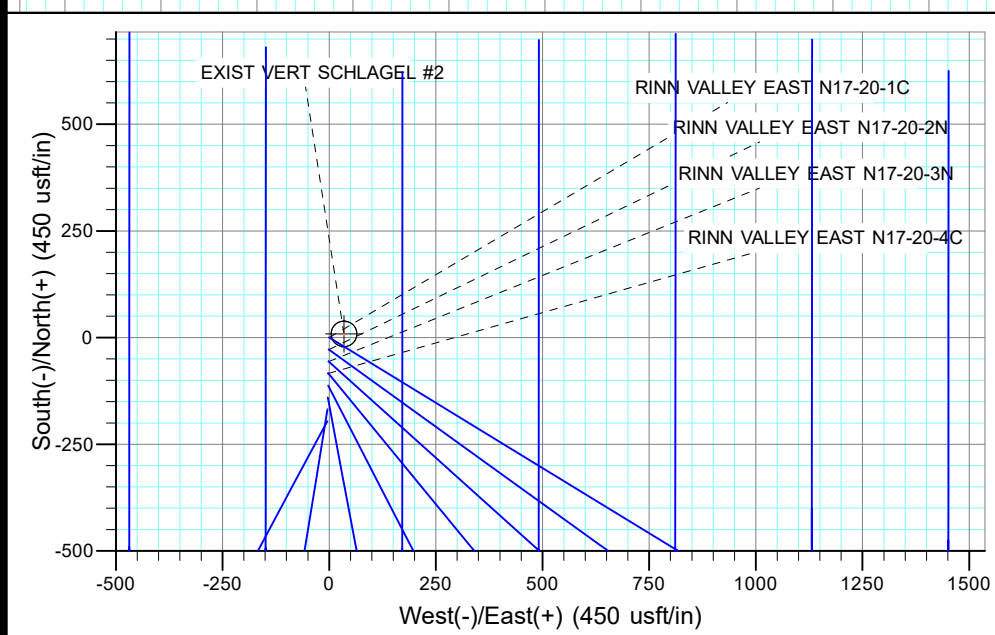
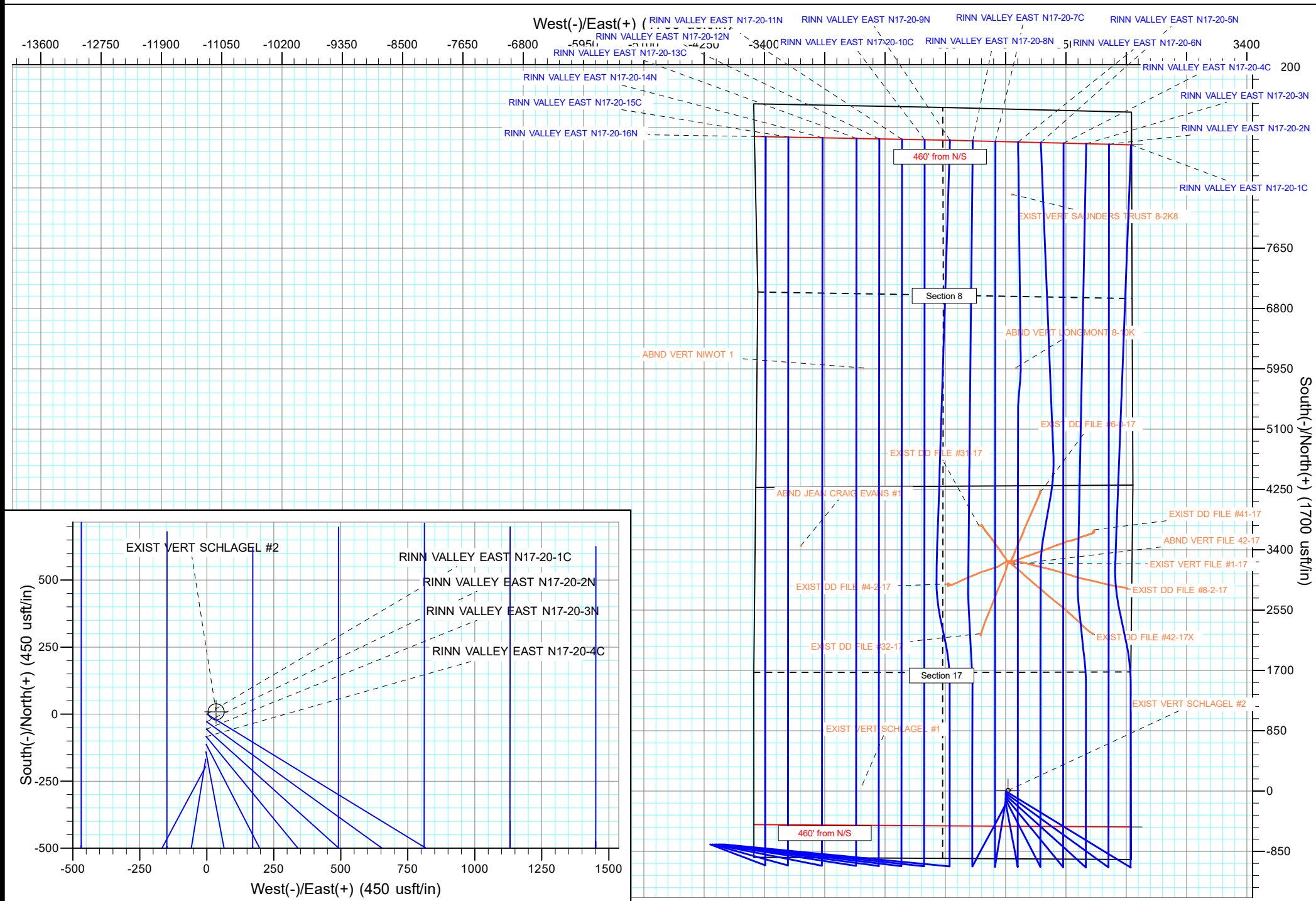
PROPOSAL 1

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 N17-20-3N
Project:	Weld County	TVD Reference:	KB 25' @ 4942.00usft
Reference Site:	Sec 17-T2N-R68W	MD Reference:	KB 25' @ 4942.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	RINN VALLEY EAST N17-20-3N	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	3/14/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	17,430.94	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
Offset Well - Wellbore - Design						
Sec 17-T2N-R68W						
ABND JEAN CRAIG EVANS #1 - Wellbore #1 - Design #	300.00	253.00	4,545.97	4,540.53	835.540	CC
ABND JEAN CRAIG EVANS #1 - Wellbore #1 - Design #	11,800.00	4,838.00	4,585.47	4,436.91	30.867	ES
ABND JEAN CRAIG EVANS #1 - Wellbore #1 - Design #	13,200.00	4,838.00	4,825.83	4,659.99	29.099	SF
ABND VERT FILE 42-17 - Wellbore #1 - Design #1	300.00	253.00	3,249.70	3,244.29	600.674	CC
ABND VERT FILE 42-17 - Wellbore #1 - Design #1	400.00	352.98	3,250.83	3,243.02	415.943	ES
ABND VERT FILE 42-17 - Wellbore #1 - Design #1	15,600.00	1,020.00	7,511.74	7,436.18	99.411	SF
EXIST DD FILE #31-17 - Wellbore #1 - Wellbore #1	12,021.19	7,243.18	1,391.13	1,284.15	13.003	CC, ES
EXIST DD FILE #31-17 - Wellbore #1 - Wellbore #1	12,200.00	7,242.86	1,402.57	1,293.74	12.887	SF
EXIST DD FILE #32-17 - Wellbore #1 - Wellbore #1	10,670.92	7,398.76	1,407.52	1,318.64	15.836	CC, ES
EXIST DD FILE #32-17 - Wellbore #1 - Wellbore #1	10,700.00	7,399.19	1,407.82	1,318.80	15.813	SF
EXIST DD FILE #41-17 - Wellbore #1 - Wellbore #1	11,966.14	7,389.57	216.74	109.33	2.018	CC, ES
EXIST DD FILE #41-17 - Wellbore #1 - Wellbore #1	12,000.00	7,389.05	219.37	110.49	2.015	SF
EXIST DD FILE #4-2-17 - Wellbore #1 - Wellbore #1	11,221.03	7,415.02	1,832.66	1,737.94	19.349	CC, ES
EXIST DD FILE #4-2-17 - Wellbore #1 - Wellbore #1	11,500.00	7,409.50	1,857.04	1,759.89	19.114	SF
EXIST DD FILE #42-17X - Wellbore #1 - Wellbore #1	10,504.69	7,463.44	156.86	67.84	1.762	CC, ES, SF
EXIST DD FILE #6-0-17 - Wellbore #1 - Wellbore #1	12,524.81	7,353.42	549.35	430.32	4.615	CC, ES, SF
EXIST DD FILE #8-2-17 - Wellbore #1 - Wellbore #1	11,150.39	7,481.26	687.88	592.73	7.229	CC, ES
EXIST DD FILE #8-2-17 - Wellbore #1 - Wellbore #1	11,200.00	7,479.50	689.24	593.40	7.192	SF
EXIST VERT FILE #1-17 - Wellbore #1 - Design #1	11,503.14	7,232.97	956.94	859.13	9.784	CC, ES
EXIST VERT FILE #1-17 - Wellbore #1 - Design #1	11,600.00	7,232.97	961.83	863.28	9.761	SF
EXIST VERT SCHLAGEL #1 - Wellbore #1 - Design #1	300.00	268.00	2,020.31	2,014.56	351.206	CC
EXIST VERT SCHLAGEL #1 - Wellbore #1 - Design #1	400.00	367.98	2,021.69	2,013.54	248.007	ES
EXIST VERT SCHLAGEL #1 - Wellbore #1 - Design #1	8,800.00	7,247.99	3,172.85	2,992.58	17.600	SF
EXIST VERT SCHLAGEL #2 - Wellbore #1 - Design #1	300.00	279.00	74.06	68.08	12.383	CC
EXIST VERT SCHLAGEL #2 - Wellbore #1 - Design #1	500.00	478.84	75.94	65.19	7.064	ES
EXIST VERT SCHLAGEL #2 - Wellbore #1 - Design #1	800.00	776.47	94.00	76.11	5.255	SF
RINN VALLEY EAST N17-20-1C - ORIGINAL WELLBOR	486.46	486.62	50.24	47.18	16.396	CC
RINN VALLEY EAST N17-20-1C - ORIGINAL WELLBOR	500.00	500.16	50.26	47.09	15.875	ES
RINN VALLEY EAST N17-20-1C - ORIGINAL WELLBOR	17,430.94	17,819.75	679.72	358.22	2.114	SF
RINN VALLEY EAST N17-20-2N - ORIGINAL WELLBOR	535.44	535.64	24.84	21.47	7.372	CC
RINN VALLEY EAST N17-20-2N - ORIGINAL WELLBOR	17,430.94	17,498.43	320.02	-24.29	0.929	Level 1, ES, SF
RINN VALLEY EAST N17-20-4C - ORIGINAL WELLBOR	639.78	639.32	24.25	20.16	5.932	CC
RINN VALLEY EAST N17-20-4C - ORIGINAL WELLBOR	700.00	699.28	24.45	19.91	5.393	ES
RINN VALLEY EAST N17-20-4C - ORIGINAL WELLBOR	17,430.94	17,607.77	405.41	110.33	1.374	Level 3, SF
RINN VALLEY EAST N17-20-5N - ORIGINAL WELLBOR	701.50	701.24	47.63	43.09	10.491	CC, ES
RINN VALLEY EAST N17-20-5N - ORIGINAL WELLBOR	17,430.94	17,316.64	638.90	294.83	1.857	SF
RINN VALLEY EAST N17-20-6N - ORIGINAL WELLBOR	769.27	767.94	70.11	65.05	13.864	CC

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 N17-20-3N
Project:	Weld County	TVD Reference:	KB 25' @ 4942.00usft
Reference Site:	Sec 17-T2N-R68W	MD Reference:	KB 25' @ 4942.00usft
Site Error:	0.00 usft	North Reference:	True
Reference Well:	RINN VALLEY EAST N17-20-3N	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
Offset Well - Wellbore - Design						
Sec 17-T2N-R68W						
RINN VALLEY EAST N17-20-6N - ORIGINAL WELLBOR	800.00	797.85	70.29	65.01	13.307	ES
RINN VALLEY EAST N17-20-6N - ORIGINAL WELLBOR	17,430.94	17,291.76	959.74	614.12	2.777	SF
RINN VALLEY EAST N17-20-7C - ORIGINAL WELLBOR	846.17	845.53	91.15	85.48	16.087	CC, ES
RINN VALLEY EAST N17-20-7C - ORIGINAL WELLBOR	17,430.94	17,538.57	1,302.87	960.50	3.805	SF
RINN VALLEY EAST N17-20-8N - ORIGINAL WELLBOR	932.81	927.76	111.37	105.01	17.510	CC, ES
RINN VALLEY EAST N17-20-8N - ORIGINAL WELLBOR	17,430.94	17,326.13	1,600.47	1,254.15	4.621	SF
Sec 18-T2N-R68W						
RINN VALLEY EAST N17-20-10C - ORIGINAL WELLBO	11,204.83	11,911.98	2,174.70	2,032.05	15.245	CC
RINN VALLEY EAST N17-20-10C - ORIGINAL WELLBO	17,430.94	18,138.53	2,288.19	1,935.88	6.495	ES, SF
RINN VALLEY EAST N17-20-11N - ORIGINAL WELLBO	11,204.91	11,565.25	2,482.64	2,342.33	17.694	CC
RINN VALLEY EAST N17-20-11N - ORIGINAL WELLBO	17,430.94	17,790.23	2,596.61	2,245.03	7.386	ES, SF
RINN VALLEY EAST N17-20-12N - ORIGINAL WELLBO	11,204.83	11,447.13	2,802.61	2,662.68	20.029	CC
RINN VALLEY EAST N17-20-12N - ORIGINAL WELLBO	17,430.94	17,672.19	2,916.74	2,565.35	8.300	ES, SF
RINN VALLEY EAST N17-20-13C - ORIGINAL WELLBO	11,204.69	11,573.92	3,130.96	2,990.18	22.240	CC
RINN VALLEY EAST N17-20-13C - ORIGINAL WELLBO	17,430.94	17,799.15	3,245.09	2,893.46	9.229	ES, SF
RINN VALLEY EAST N17-20-14N - ORIGINAL WELLBO	11,204.67	11,201.10	3,602.74	3,463.64	25.901	CC
RINN VALLEY EAST N17-20-14N - ORIGINAL WELLBO	17,430.94	17,424.09	3,717.24	3,366.25	10.591	ES, SF
RINN VALLEY EAST N17-20-15C - ORIGINAL WELLBO	11,204.52	11,337.31	4,089.35	3,949.87	29.320	CC
RINN VALLEY EAST N17-20-15C - ORIGINAL WELLBO	17,430.94	17,562.88	4,203.82	3,852.72	11.973	ES, SF
RINN VALLEY EAST N17-20-16N - ORIGINAL WELLBO	300.00	323.00	4,221.58	4,219.80	2,364.782	CC
RINN VALLEY EAST N17-20-16N - ORIGINAL WELLBO	17,430.94	17,268.28	4,518.08	4,167.28	12.880	ES, SF
RINN VALLEY EAST N17-20-9N - ORIGINAL WELLBOR	5,926.79	6,982.94	1,898.98	1,838.52	31.409	CC
RINN VALLEY EAST N17-20-9N - ORIGINAL WELLBOR	17,430.94	18,144.53	1,920.87	1,567.20	5.431	ES, SF
Sec 8-T2N-R68W						
ABND VERT LONGMONT 8-10K - Wellbore #1 - Design	14,257.09	7,213.97	927.15	664.67	3.532	CC, ES
ABND VERT LONGMONT 8-10K - Wellbore #1 - Design	14,300.00	7,213.97	928.15	665.36	3.532	SF
ABND VERT NIWOT 1 - Wellbore #1 - Design #1	14,212.49	7,223.97	3,079.96	2,818.02	11.758	CC
ABND VERT NIWOT 1 - Wellbore #1 - Design #1	14,300.00	7,223.97	3,081.20	2,818.01	11.707	ES
ABND VERT NIWOT 1 - Wellbore #1 - Design #1	14,600.00	7,223.97	3,104.24	2,837.45	11.636	SF
EXIST VERT SAUNDERS TRUST 8-2K8 - Wellbore #1 -	16,697.65	7,309.97	1,032.53	726.15	3.370	CC
EXIST VERT SAUNDERS TRUST 8-2K8 - Wellbore #1 -	16,700.00	7,309.97	1,032.54	726.13	3.370	ES, SF

Offset Design		Sec 17-T2N-R68W - ABND JEAN CRAIG EVANS #1 - Wellbore #1 - Design #1										Offset Site Error:		0.00 usft
Survey Program: 0-INC												Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis			Distance							
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	-39.33	3,516.57	-2,880.90	4,546.21					
100.00	100.00	53.00	53.00	0.13	0.64	-39.33	3,516.57	-2,880.90	4,545.97	4,545.20	0.77	5,907.809		
200.00	200.00	153.00	153.00	0.49	2.41	-39.33	3,516.57	-2,880.90	4,545.97	4,543.06	2.90	1,565.074		
300.00	300.00	253.00	253.00	0.85	4.59	-39.33	3,516.57	-2,880.90	4,545.97	4,540.53	5.44	835.540	CC	
400.00	399.98	352.98	352.98	1.20	6.65	-171.28	3,516.57	-2,880.90	4,547.69	4,539.85	7.85	579.620		
500.00	499.84	452.84	452.84	1.54	8.68	-171.27	3,516.57	-2,880.90	4,552.87	4,542.64	10.23	445.262		
600.00	599.45	552.45	552.45	1.91	10.70	-171.26	3,516.57	-2,880.90	4,561.48	4,548.88	12.60	362.075		
700.00	698.70	651.70	651.70	2.29	12.70	-171.25	3,516.57	-2,880.90	4,573.53	4,558.56	14.96	305.626		
800.00	797.47	750.47	750.47	2.70	14.70	-171.23	3,516.57	-2,880.90	4,588.99	4,571.67	17.32	264.913		
900.00	895.62	848.62	848.62	3.14	16.68	-171.21	3,516.57	-2,880.90	4,607.86	4,588.19	19.67	234.244		
1,000.00	993.06	946.06	946.06	3.62	18.64	-171.18	3,516.57	-2,880.90	4,630.10	4,608.09	22.01	210.379		
1,058.34	1,049.51	1,002.51	1,002.51	3.91	19.78	-171.16	3,516.57	-2,880.90	4,644.63	4,621.26	23.37	198.756		

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